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NUMBER D2-11713-2

TITLE ASSEMBLY AND CHECKOUT EQUIPMENT CATALOG

MODEL NO. WS-133A CONTRACT NO. AF 04(647)-580

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This volume contains ACO forms 400-999

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SUPERVISED BY	<u>W. H. Bartoo</u>	<u>3-18-63</u>
APPROVED BY	<u>D. G. Bernsten</u>	_____
APPROVED BY	<u>D. G. Bernsten</u>	<u>3-18-63</u>
CLASS & DISTR	<u>D. G. Bernsten</u>	_____
APPROVED BY	<u>D. G. Bernsten</u>	<u>3-18-63</u>
		(DATE)

DOCUMENT CHANGE RECORD

ACTIVE		CHANGE						ACTIVE		CHANGE					
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CHANGE SYMBOLS A=ADDED R=REVISION D=DELETED

2-6351-C-6

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2-6251-C-6

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REVISION SUMMARY		
DATE	DESCRIPTION	APPROVED
4-4-63	Pages Added 487a, 555, 555a, 556 Pages Deleted None Pages Revised 422, 427, 435, 487, 490, 491, 538, 541, 552, 553, 652, 735, 774	

1-0037-0-1

2

WS 133A
**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 402
 APPROVAL DATE 1-16-62
 REVISION _____ DATE _____

EQUIPMENT TITLE: Tester, Cable
(State Noun First)

RESPONSIBLE DEPT. BT-134 EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. N. A.
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X 			

PURPOSE & JUSTIFICATION:
 A requirement exists for a means to rapidly conduct continuity and insulation effectiveness tests on raceway cables that are suspected of being faulty.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:
 It is recommended that a California Technical Industries Model 165A test set, or equivalent, be provided to fulfill this requirement.

This test set is to be used in conjunction with SFA 7715, adapter cables.

 One unit procured by Manufacturing Engineering on EAMR MEFT/663-1 Revision "B."

NOTE: Use form UD-4871-1000 if other special forms are required.

ORIGINATING GROUP SUPERVISOR: P. A. P. P.
 TELEPHONE: 2-4152

SHT 1 OF 1

ENGINEERING DEPT. <i>A. H. Koster</i>	BASE INSTALLATION DEPT. <i>A. C. Lewis</i>	MANUFACTURING DEPT. <i>A. C. Lewis</i>
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2-6340-0-1

REV. 1-27-62 MAR 18 1963
 4-6-62

ENGINEERING NO. D2-11713-2
 PAGE 1108 

WS 133A

ACO NUMBER 404

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-22-67

EQUIPMENT REQUIREMENTS

REVISION D DATE 11-30-62

EQUIPMENT TITLE MOTOR GENERATOR, 400 Cycle
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. none

TO BE USED AT:

BASE	MAFB	EA FB	VA FB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

This motor generator is required to furnish 400 cycle power for checks of the LF and LCF data processing and cable termination equipment, the sequence and monitor, the GFC coupler, the auto collimator and other equipment in the CSA during tests to detect and isolate faulty components during equipment checkout.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The motor generator set should operate with 60cps, 120/208 volt, 3 phase input and outputs having the following characteristics:

- Frequency - 400 cps
- Voltage - 120/208
- Phase - 3
- regulation - $\pm 2\%$ steady state, $\pm 7\%$ transient
- Output voltage - variable, $\pm 2\%$ - 7% minimum variation.
- Power - 7.5 KVA

The following equipment is acceptable to fulfill this requirement:

1. Leach Corp. (3KVA for VA FB only)
2. Leach Corp. 21007 BIJK
3. Electric Machine Mfg. Co. Serial 3Q13487273
4. Electric Machine Mfg. Co. Serial 1Q12387273
5. Ideal Electric Co. Serial 238382

Note - (1) The power rating is specified for MAFB. The power requirements may change with each Base, but the other parameters will remain constant.

(2) The distribution system for the power from this MG set will be provided by Facilities as a part of the "Brick and Motar" facilities.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M.H. Burt</i>	<i>A. J. ...</i>	<i>R.E. ...</i>	<i>R. ...</i>

2-6340-0-1

REV. 12-12-2

NOTE: Use form UD-4071-1100 if additional sheets are required

Rev. D 3-07-63

ORIGINATING GROUP SUPERVISOR: M. J. ... TELEPHONE: 5-6713

WS 133A

ACO NUMBER 405

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-24-61

REVISION F DATE 11-30-62

EQUIPMENT TITLE HOIST, PORTABLE
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	X	X	X

PURPOSE & JUSTIFICATION

- To lift and move the G&C section within the G&C section test area at the CSA.
- To lift and move the G&C section from its container to the Autonavigator Hand Truck (ACO 0565) in the Component Processing Area, (Bldg. 1265) at AF Plant 77.
- To install NCU G&C Battery Power Supplies (Fig. A 6209 or 6210) at the CSA prior to installation of G&C section on missile.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The G&C section weighs approximately 350 pounds, is approximately 31 inches high and 37 1/2 inches in diameter.

The H73 transfer fixture in which the G&C section is positioned for test at the CSA is approximately 30 inches high. The autonavigator hand truck is approximately 36 inches high.

The portable hoist will be used in conjunction with the G&C Assembly and Hoisting Adapter, ACO 4023, to lift the G&C section from the shipping container, and position it on the transfer fixture in the CSA.

The portable hoist will be used in conjunction with the Hoisting Sling and Cover (H6A) (ACO 0608), to lift the G&C section from the shipping container, and position it on the Autonavigator Hand Truck at AF Plant 77 and at the CSA.

To be capable of performing the above task, the portable hoist must (1) not exceed in over all height of 8 feet 11 inches (2) be equipped with hard rubber castors which will prevent damage to the test area floor tile (3) be capable of being disassembled to enter the test area through the door provided.

The following equipment is acceptable to fulfill this requirement:

- Ruger Model HP 18A
- Stratton Model AITH
- Shaw-Box LC 555 (avail. @ Plant 77)
- Chisholm-Moore FW (avail. @ Plant 77)

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Benton</i>	<i>A. J. ...</i>	<i>A. C. ...</i>	<i>R. ...</i>

2-6340-0-1

REV. 132-10-1

MAR 18 1963

BOEING NO. D2-11713-2
PAGE 405

NOTE: Use form U3-4071-1000 if additional sheets are required
 O. Severide RWV. Wgu - E. Colling
 2-2050 ORG. 3-0368 phone
 TELEPHONE: 5-5022
 ORIGINATING GROUP SUPERVISOR:

R. Collins for L. Hall

WS 133A

ACO NUMBER 407

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-1-61

EQUIPMENT REQUIREMENTS

REVISION A DATE 6-6-62

EQUIPMENT TITLE Breathing Apparatus, Self-Contained
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFG/OII

DESIGN REQMTS DOCUMENT None DWG. NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

For the protection of personnel while using gas testers in the Launch Facility and the Launch Control Facility. This device is to be used in conjunction with ACO items 410, 413, and 414, portable gas testers. Protection is provided against noxious gases and/or oxygen deficiency when ventilation has been inoperative, after a fire, and other cases as described on the ACO 410, 413, and 414 sheets.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a self-contained breathing apparatus be provided and carried with the portable gas testing devices ACO 410, Combustible Gas Tester, ACO 413 Oxygen Deficiency Tester, and ACO 414, Carbon Monoxide Gas Tester. This breathing apparatus will be worn by the person who will enter the Launch Facility or the Launch Control Facility prior to maintenance to test for dangerous ambient conditions and provide approximately a 30-minute supply of air and include a low air supply safety alarm. Reference: Safety Memo 2-1886-8-1675 (4-6-62).

The following equipment will satisfy this requirement: Scott Air - Pak 6000 A2SIT with (Scott Air Pak 21900 Alarm included).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Burton</i>	<i>W. J. ...</i>	<i>G. E. ...</i>	<i>R. ...</i>

2-6340-0-1 Rev 6-12-62

REV.

MAR 18 1963

BOEING NO. D2-11713-2
PAGE -407

NOTE: Use form US-4071-1000 if additional sheets are required.
Rev. P. ... AT 4-586C
Charles Carr
5-3508
ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER ACO-409
 APPROVAL DATE 6-13-61
 REVISION B DATE 3-8-62

EQUIPMENT TITLE: Cable Tester, Portable
(See Main File)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT none DWG NO. N/A
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION:

Used in conjunction with cable adapter kits ACO-104 and ACO-105 for conducting continuity and insulation testing of LF and LCF intra-site cables following initial installation of cables within the facilities.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Special Note: Design of the cable adapter kits ACO-104 and ACO-105 is dependent upon the particular make and model of automatic circuit analyzer chosen. It is necessary to specify a particular circuit analyzer at this time in order that the design and fabrication of the cable adapters may proceed. The item chosen as most suitable for the purpose was the DIT-MCO Model 144, Military Circuit Analyzer, the specifications of which are presented below.

Manufactured by DIT-MCO, Inc., Kansas City, Missouri

1. Test Circuit Capacity - 144 Circuits
2. Automatic Test Selection Low Voltage Continuity
 - a. Voltage - 28 VDC
 - b. Continuity Current - 1 amp
 - c. Continuity Resistance Range - 0-10 ohms

Low Voltage Short

- a. Voltage - 28 VDC
- b. Short Resistance Range - from 0 to 1 meg.

High Voltage Insulation Leakage Test

- a. Voltage - 500 VDC
- b. Short Resistance - Up to 20 megohms

3. Power Requirements

- a. Voltage - 95-125 volts, 50-65 cps, approx. 100 watts

Before ordering these items, schedule status of STP-III should be reviewed to insure work has not already been accomplished by other means. SHT 1 Of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A.H. Burt</i>	<i>A.H. Burt</i>	<i>A.E. Reiser</i>

2-6340-0-1 Rev 3-20-62

REV.

MAR 18 1963

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NOTE: Use form 13-4071-100 if additional sheets are required.
 ORIGINATING GROUP SUPERVISOR: N.E. BLAIR
 TELEPHONE: 5-4747

ACC-409 (Continued)

4. Ohmmeter (MIL-M-10304 - Class C)

a. Range - 0 to 200 megohms $\pm 3\%$

5. Physical Dimension

- a. Length 26 inches
- b. Width 24 inches
- c. Height 24 inches
- d. Net Weight 185 pounds

6. Meets requirements of MIL-T-945A

Additional Revision to the DIT-MCO 144

a. The toggle for the 200 megohms test control should be changed from momentary to normal switching action.

R

b. Optional - Cheaper case may be used.

c. J1, J2, J4, and J5 should have W, X, Y, Z clockings respectively, J3, and J6 normal.

ACC 409
Sheet 2 of 2

U1-4891-100*

Rev. 1/27/62

4-6-62

MAR 17 1963

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WS 133A

ACO NUMBER 410

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-1-61

REVISION 0 DATE _____

EQUIPMENT TITLE Tester, Combustible Gases
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION:

A requirement exists to provide a means for sampling the air in the Launch Facility or the Launch Control Center for the presence of combustible gases. An explosive gas may be present from battery cells, or it is remotely possible that methane may be present in the area. This tester will always be used in conjunction with ACO 407, Self-contained Breathing Apparatus, and ACO 413 Oxygen Deficiency Tester.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a portable tester be provided to detect the presence of combustible gases. This device will be a hand carried, direct reading type with a capability of taking samples at least 20 ft. below the operator.

The following equipment is acceptable to fulfill this requirement:

1. Davis Vapotester - Model M-6 with 20' probe hose and probe. (A calibration kit, Davis code number #11-435, is required for field calibration of the Davis Vapotester).
2. MSA DM74711 Model 40 with humidity stabilizing sampling line and MSA DM11913 synthetic rubber sampling line complete with couplings.

NOTE: Use form US-071-1000 if additional sheets are required.

Rev. C
S. Baker
2-2060
3-1021

ORIGINATING GROUP SUPERVISOR: R. Ester
TELEPHONE: MA 4-5320

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 12-12-2

MAR 18 1963

BOEING

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ACO NUMBER 411

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 6/27/51

REVISION B DATE _____

EQUIPMENT TITLE TELEPHONE SET, FIELD
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFG/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

To communicate between launch facilities during line equalization verification.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A standard signal corps field telephone set.

The phone set has a self-contained power source (battery), a ringer type incoming signaling device and hand generator (magneto) outgoing signaling device. It will be used on a spare line pair in the hardened cable during line equalization verification.

The following equipment is acceptable to fulfill this requirements:

1. Government Type No. EE-8, Federal Stock No. 5805-503-2772.
2. Communications Equip. & Engr. Co. - GB301A-1G.
3. Government Type TA-312, Federal Stock No. 5805-543-0012.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>C. W. Mann</i>	<i>C. E. Brewer</i>	<i>R. E. Eden</i>

U2-4071-1000

3-18-3

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NOTE: Use form U2-4071-1000 if additional sheets are required.

Rev. "B" - R. E. Colling
2-2060 - Org.
3-0368 - Phone

ORIGINATING GROUP SUPERVISOR: _____
TELEPHONE: _____

WS 133A

ACO NUMBER 412

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-25-61

EQUIPMENT REQUIREMENTS

REVISION C DATE 6-6-62

EQUIPMENT TITLE Camera, Polaroid, Flash
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG. NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION

To photographically record damage to shipping containers and equipment during receiving inspection.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A "Polaroid" Land Camera with flash attachment and carrying case. This type camera produces black-and-white photographs in 60 seconds without the necessity for processing laboratories, and can be operated successfully by inexperienced personnel.

The following equipment is acceptable to fulfill this requirement:

1. Polaroid J66
2. Polaroid 110B
3. Polaroid 150
4. Polaroid 800
5. Polaroid 850
6. Polaroid 900

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4940-0-1 Rev 6-12-62

REV. MAR 10 1963

ORDING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required.

R. Estep Rev. "C" J. Altenburger
5-6696
R. Estep for B. Moran

ORIGINATING GROUP SUPERVISOR: R. Estep
TELEPHONE: MA 4-5320

b1

R
C
C

WS 133A

ACO NUMBER 413

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-1-61

REVISION B DATE 11-20-62

EQUIPMENT TITLE Tester, Oxygen Deficiency
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

A requirement exists to provide a means for maintenance crews to sample the air in the Launch Facility and the Launch Control Facility for oxygen deficiency. An oxygen deficient condition may be caused by a fire, displacement by an inert gas, or some other unforeseen usage of oxygen. This tester will always be used in conjunction with ACO 407, Breathing Apparatus, and either ACO 414, Carbon Monoxide Tester or ACO 410, Combustible Gas Tester.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a portable tester be provided to detect an oxygen deficient condition. This device will be a hand carried, direct reading type with a capability for taking samples at least 20 ft. below the operator.

The following equipment is acceptable to fulfill this requirement:

- MSA, Portable, Oxygen Indicator #DF-77600,
With the following accessories:

- MSA #DF-11913 Sampling Line with Coupling
- MSA #DF-11961 Probe
- MSA #DF-58095 Cartridge (ISO-Butane)
- MSA #DF-79554 Cartridge Discharge Device

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W.H. Barton</i>	<i>W.D. Mann</i>	<i>A.C. Brewer</i>	<i>R. Estep</i>

2-6340-0-1

REV. 12-12-2
MAR 13 1963

BOEING NO. D2-11713-2
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NOTE: Use form UD-4071-1000
if additional sheets are required.

Rev. B
S. Baker
2-2060
JU 3-1021

ORIGINATING GROUP SUPERVISOR: R. Estep
TELEPHONE: MA 4-5320

TELEPHONE: MA 4-5320

WS 133A

ACO NUMBER 414

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-1-61

EQUIPMENT REQUIREMENTS

REVISION A DATE 5-18-62

EQUIPMENT TITLE Tester, Gas, Carbon Monoxide
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG. NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

A requirement exists to provide a means for sampling the air in the LF equipment room or the Launch Control Center for the presence of carbon monoxide. Hazardous concentrations of carbon monoxide may exist in these closed areas following a fire. This tester will always be used in conjunction with ACO 407, Breathing Apparatus, and ACO 413, Oxygen Deficiency Tester.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a portable tester be provided to detect the presence of carbon monoxide. This detector will be a hand carried, direct reading type.

The following equipment is acceptable to fulfill this requirement:

1. MSA BY47133, Calometric Carbon Monoxide Tester

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Baston</i>	<i>R.P. Chelling</i>	<i>A.E. Brewer</i>	<i>M. Tatum / R. B. Stip</i>

2-6340-0-1 Rev 5-25-62

REV.

MAR 13 1963

BRING NO. D2-11713-2
PAGE

NOTE: Use form UD-4071-1000 if additional sheets are required.

Rev. R. Estep B M/Exo
ORIGINATING GROUP SUPERVISOR: Y.A. 4-5320
TELEPHONE:

R

WS 133A
**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 415
 APPROVAL DATE 12-12-61
 REVISION _____ DATE _____

EQUIPMENT TITLE: Jack, Leveling Support
(State Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. None
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

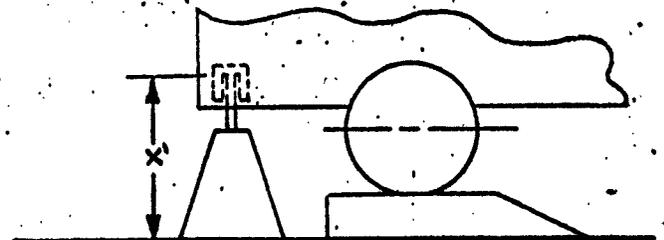
PURPOSE & JUSTIFICATION:

A requirement exists for a means of stabilizing a 2nd or 3rd stage engine transporter while on portable ramps 11 1/2' high, by raising the aft end off of its suspension and supporting it rigidly in the proper position relative to the engine storage rails during engine transfer.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Leveling support jacks shall have approximately 12,000 pounds capacity and be either manually or hydraulically operated. The internal pressure shall not exceed 5,000 PSI. A minimum jacking stroke of 4 inches is required.

The operating range of jacks (X' for the 2nd or 3rd stage) shall be 43.50 to 51.50 or 41.50 to 49.50, respectively, if jacked from ground level while highway transporters are located on portable ramps.



SHT 1 OF 1

ENGINEERING DEPT. <i>A. N. Barton</i>	BASE INSTALLATION DEPT. <i>A. J. Moore</i>	MANUFACTURING DEPT. <i>A. E. Brewer</i>
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2-6340-0-1

MAR 10 1962

REV. 1/27/62

4-6-62

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NOTE: Use form US-407-100 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. ROQUET
 TELEPHONE: 5-4797

WS 133A

ACO NUMBER 416

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-5-62

REVISION C DATE 2-26-3

EQUIPMENT TITLE Camera, Oscilloscope
(Basic Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	X	X	X

PURPOSE & JUSTIFICATION

The camera will be used during pre-assembly testing of the LF/SCN and the LCF/SCN equipment to check command message formats by photographing the entire coded message as displayed on an oscilloscope.

The camera will be used during Wing II compatibility testing in the MAB to photograph voltage excursions displayed on an oscilloscope.

A camera is required because of the short duration of the coded pulses on the oscilloscope and the large number of 'bits' which must be checked for accuracy.

DESCRIPTION, REQUIREMENTS&& RECOMMENDATIONS:

This unit consists of a 'Polaroid' camera having a special focal length lens, and the necessary adapters to mount the camera on an oscilloscope and to exclude outside light from the oscilloscope face. The camera must adapt to the ACO 4004 Oscilloscope, and should also adapt to the ACO 367 Oscilloscope if possible.

The following equipment is acceptable to fulfill this requirement:

- Tlktronix - Model C-12
- Hewlett-Packard - Model 196A
- Dumont - Model 302
- Beattie-Coleman Inc. Model K-5 with carrying Case Model 14556 and Tek. Adapter Model 12389-3.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES, DEPT.
<i>H. H. Butler</i>	<i>W. J. Neenan</i>	<i>G. E. ...</i>	<i>W. H. ...</i>

2-6340-0-1
REV. MAR 10 1963
2-28-3

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NOTE: Use form UP-4071-1000 if additional sheets are required.

Rev. C: Don Lunnay

ORIGINATING GROUP SUPERVISOR: R. E. ...
TELEPHONE: 3-0768

WS 133A

ACO NUMBER 120

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-24-2

REVISION C DATE 2-1-3

EQUIPMENT TITLE TRUCK, 9' VAN, W/HOIST AND HEAT
(Basic Name First)

RESPONSIBLE DEPT. BT-M EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT Facilities Dept. SPEC DWG NO. 2290-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To transport personnel and equipment for predelivery maintenance from acceptance of the facility from the Corp of Engineers to delivery to the Air Force.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: Trucks, 9' Van, w/hoist and heat with all normally standard equipment and features listed by the manufacturer.

- Engine: 292 V-8
- Transmission: Four-speed Synchro-Silent
- Body: Dimensions 9' long x 88" inside width x 74" inside height, with rear doors, double, full body width and height.
- Hoist: Minimum capacity 500# with a minimum swing of 225°, and a swing radius of 60". Hoist to be manually operated and have a hook fall of 30' below ground level.
- Heater: Capacity of 5000 to 15,000 BTU/hr. and capable of maintaining the temperature in the van body above freezing.

Note: Dimensions above are nominal unless otherwise stated.

CSA Vehicular Standard Components

Special shelving, racks and tie down provisions to be provided in the field as required.

The following items of equipment are acceptable to fulfill this requirement:

- (1) Make and model of truck: Ford F-350
- (2) Make and model of heater: Hunter UH 47-3, 12 volt
- (3) Make and model of van: Brown LC-9
- (4) Make and model of hoist: Stratton JBN-10 (modified)

Other Manufacturer's equipment meeting the above specifications are acceptable.
Material Handling Capability:

Tools and supplies may be lowered to the facility equipment rooms with the hoist provided; the hoist will operate without disturbing the safety barrier around the LF Personnel Access Hatch.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. J. Banta</i>	<i>A. D. ...</i>	<i>A. C. ...</i>	<i>George K. ...</i>

2-6340-0-MAR 18 1963

REV. 2-14-3

BOEING NO. D2-11713-3
PAGE 1 OF 1

NOTE: Use form US-4071-1000 if additional sheets are required.

Rev. C C. Harold

2-4166

68-35

JU3-C768

ORIGINATING GROUP SUPERVISOR: R. McBeath

TELEPHONE: 5-9917

h/c

ACO 420 Continued

Tools and supplies may be lowered to the facility equipment rooms with the hoist provided, the hoist will operate without disturbing the safety barrier around the LF Personnel Access Hatch.

ACO-420
SHT 2 OF 2

U3-4871-1000 Added 4-24-62

MAR 18 1963

BOEING

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ACO NUMBER 421

ASSEMBLY & CHECKOUT

APPROVAL DATE April 24, 1961

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE: Repair Kit, Vapor Seal Envelope

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SEC/GR

DESIGN REQMS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	Y	Y	Y	Y				

PURPOSE:

To maintain environmental control of Minuteman electronic equipment during transit by:

1. Resealing vapor-seal envelopes covering electronic equipment following inspection and test at the CSA in preparation for shipment to the site.
2. Repairing damaged envelopes.

DESCRIPTION:

An electrically heated hand tool capable of bonding the plastic covering by fusion. The tool is to be capable of sealing in any position and can be used on small size patches.

A stock of patching material is to be supplied as part of the kit.

NOTE: "Electric Sealing Gun", produced by M&R Manufacturing Co. will fill the above requirement. It employs heated jaws that grip and seal the plastic without imparting heat to the contents.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A. H. Barton</i>	<i>R. E. Callaway</i>	<i>Robert ...</i>

1-27-62
4-6-62
3-18-63

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ACO NUMBER 422

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 6-23-61

REVISION H DATE 3-26-3

EQUIPMENT TITLE Voltmeter, Differential AC-DC
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT: Rev. H result from PRR 20,001.

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	X	X	X	X

PURPOSE & JUSTIFICATION A precision AC-DC differential Voltmeter is required at CSA where during pre-installation testing. This instrument is also required as a calibration standard for Plant 77. Among items which require precision voltage measurements are: Fig. A's 695, 4490, 1296, 3092, 4169, 1201, 1282, 3013, 1288, 599, 4018, 1379, ACO 129. This requirement also exists for F/T of CTLI Ground Power Equipment Fig. A's 9112, 9157, 9219, and 9233, per D2-10811 Vol. 1 for F/T of Plant 77 Ground Power Equipment Fig. A's 7717, 7729, 7744 per D2-7828, and for Testing at CSA of ACO 136 per D2-13970.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: In addition to the above requirements, this item is required for precision measurement of voltages supplied by various figure A's during assembly and Checkout of CTLI Ground Equipment at VAFB and of OGE and MGE at STP III and on. (Added as a result of PRR 20,001) Ref. D2-9833, D2-9835, D2-9834, D2-13076, D2-7826, D2-7830, D2-7871, D2-7832, D2-11356, D2-11357, D2-11358, D2-11359, D2-14204.

It is recommended that a portable voltmeter capable of measuring 0-500 volts AC and DC, with an accuracy of .05% on DC ranges and .2% on AC ranges be provided.

The following equipment will satisfy this requirement.

John Fluke Model 803
Cal. Standards Model AC-100A
Non Linear Systems - NLS 35-B with 125E converter

NOTE: ACO - 543 (John Fluke Model 801) may be used to measure DC voltage where documents and M&IR paper calls for use of ACO 422. ACO 543 is not an equivalent for ACO 422, for measurement, or other than DC voltages.

SHT. 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W. R. Blair</i>	<i>W. H. Bartoo</i>	<i>A. C. ...</i>	<i>C. H. ...</i>

2-0340-0-1

REV. 4-4-3

BOEING D2-11718-2
PACFVL-422

NOTE: Use form U3-4071-1000 if additional sheets are required

Rev. F - R. L. Hauser

Rev. H - W. H. Bartoo 5-6696

W. R. Blair

TELEPHONE:

ORIGINATING GROUP SUPERVISOR:

o/c

WS 133A

ACO NUMBER ACO 424

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 6-23-61

REVISION F DATE 1-4-63

EQUIPMENT TITLE METER, FREQUENCY
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

Permit Frequency measurements of motor-generator set 400 CPS output voltage during checkout of electrical power system at LF and LCF. The frequency of the M-G set must be maintained between 380-435 CPS from zero to full load conditions and the frequency meter is required to verify this capability. This meter is also used at the CSA during checkout of the Programmer Group using document D2-7817, volume 4 section 1.

DOC REF: D2-7817-4 D2-7819-5
D2-7818-5 D2-7832-4
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This meter is required to measure frequency at the end points of the M-G set tolerance range (380 and 435 CPS) with as small a meter tolerance as feasible, so the meter tolerance does not allow passing a faulty M-G set.

The following equipment is acceptable to fulfill this requirement:

1. FRAHM MF-21, 6098 (portable unit test leads & probes).

Note (The 5098 meter when put in a case becomes a 6098.)

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J. H. Burtco</i>	<i>C. M. Pearson</i>	<i>R. C. ...</i>	<i>R. Estep</i>

-6340-0-1

REV MA 7-163 1963

BOEING NO. D2-11713-2
PAGE 424

NOTE: Use form US-4971-100 if additional sheets are required

Rev. F R. Colling
JU 3-0368

ORIGINATING GROUP SUPERVISOR: W. Z. Hudson
TELEPHONE: 5-4518

WS 133A

ACO NUMBER 426

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-29-61

EQUIPMENT REQUIREMENTS

REVISION F DATE 7-4-63

EQUIPMENT TITLE TACHOMETER, HAND HELD
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

This item is required for periodic maintenance checks of Blower Speed on the Transporter-Erector. It can also be used for general purpose trouble shooting.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A hand held Tachometer accurate to within $\pm 2\%$ over the speed range of 0 to 5000 RPM is required.

The following equipment is acceptable to fulfill this requirement:

1. Electro-Mechano T103-A
2. Stewart Warner 757AA
3. James Biddle Co. 9920

SHT 1 of 1

ENGINEERING/ DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 1-16-63
MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1 of 1

NOTE: Use form D3-4711-100 if additional sheets are required

Rev. F R. Collins
JU 3-0368

ORIGINATING GROUP SUPERVISOR: R. Ertter
TELEPHONE: MA 4-5320

WS 133A

ACO NUMBER ACO 427

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-29-1

REVISION F DATE 3-19-3

EQUIPMENT TITLE PUMP, CENTRIFUGAL PORTABLE
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	1 > X	None	None		None	None	None

PURPOSE & JUSTIFICATION

- Will be used to remove coolant from the G&C coolant supply tank during cleaning or repair operations
 - Will be used to pump coolant from the demineralized water source through the ACO 311 filter for G&C cooling purposes; REF: D2-20633
- DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: Work Around Program-Base Installation, Minuteman

A standard, commercially available centrifugal pump capable of delivering five GPM of water at 50 psig.

The pump discharge port will be fitted with an adjustable relief valve (5 to 50 psig). The pump, valves and piping shall be constructed of stainless steel or a non-metallic material to prevent adverse corrosion.

Calibrate and certify relief valve as per D2-12075. The relief valve will be calibrated accurate to 5% of its full scale reading.

Prior to delivery, the pump shall be cleaned thoroughly and flushed with clean tap water until no residue is left within. The pump shall then be dried with hot compressed air and all openings shall be sealed with polyethylene caps or plugs. The drying air shall in no way contaminate the pump.

NOTE: After delivery, Boeing shall flush and clean the pump in accordance with D2-13915. Prior agreement with the vendor should be reached so he will accept rejections from this test.

The following equipment is acceptable to fulfill this requirement:

- Worthington - Model 3/4 - DMG 42

1 > Required as a work-around until ACO 696 becomes available. 1 of 1
Ref. Work Around Plan # 308 Of D2-20633.

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 4-4-3

BOEING NO. D2-11713-2
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NOTE: Use for 13-4071-103
If additional sheets are required

REV. "F" - A. D. NURN

5-2854

W. Blair

5-4744

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:

66

WS 133A

ACO NUMBER 430

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-16-61

REVISION D DATE 1-11-63

EQUIPMENT TITLE Heater, Portable
(Basic Noun First)

RESPONSIBLE DEPT. BI-101 EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. N. A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To preheat launch and launch control facilities at all operational bases at which average ground temperatures prevent the installed environmental control systems from establishing the ambient temperatures within the facilities to model specifications requirements.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A 7.5 kw 208 volt 3-phase portable heater equipped with thermostat controls which monitor and control heater inlet air temperature over a range of 55 F to 90 F. The temperature monitor is not required to be located in the inlet air stream; but must be close enough to the air stream to accurately represent ambient air temperature. The thermostat shall also present an ambient temperature scale which can be observed by maintenance personnel.

A 4-wire service cord shall be supplied with the heater to attach the heater to the power outlet provided by ACO 672. Description of the required service cord is shown on the following page.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barto</i>	<i>A. W. ...</i>	<i>A. E. ...</i>	<i>George K. ...</i>

2-6340-0-1

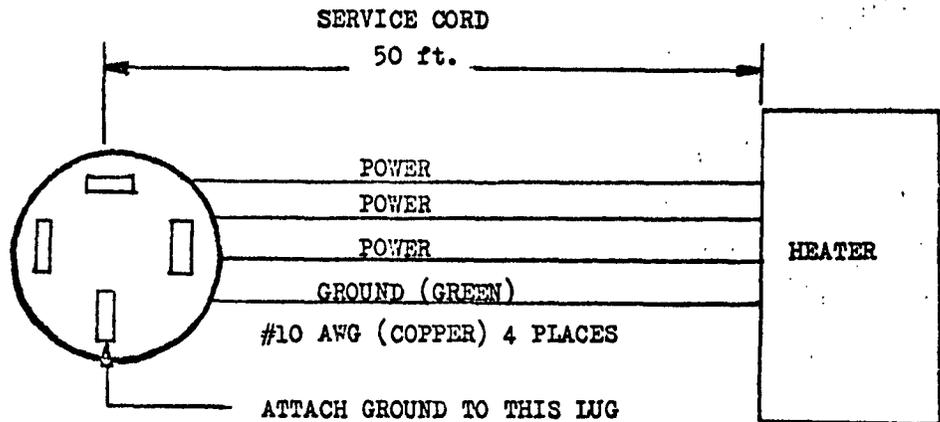
REV. MAR 18 1963

BOEING NO. D2-11713-2
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NOTE: Use form US-071-1029 if additional sheets are required

Rev. S. R. R. 2-2060 34-53 3-1021

ORIGINATING GROUP SUPERVISOR: W. B. Blair
TELEPHONE: 5-6696



HUBBELL PLUG
No. 7302

The ground shall be attached to the existing framework of the heater. The ground wire shall be green in compliance with the National Electrical Code, Article 210, item 211.2. All wires will be of size #10 AWG copper, with rubber outside insulation.

The following equipment will satisfy this requirement:

1. Chromalox UBF-751MM-1 Portable Heater with top handle, WR-90 thermostat & Hubbell 7302 plug (no substitute allowed) to mate with ACO 672.
2. Chromalox UB-752MM-1 Portable Heater (plus same accessories as item (1)).

NOTE: UB-752MM-1 replaces UBF-751MM-1 which is no longer in production.

ACO 430
SHT 2 OF 2

WS 133A

ACO NUMBER 431

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION B DATE 2-1-3

EQUIPMENT TITLE Truck, 9' Van, w./Hoist, Ordinance Handling and Support
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ ~~8286~~ NO. 2291-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION: To transport ordinance devices (parts of Figure "A" 1202, 1208 and 1248) from the CSA to the LF during the Assembly and Checkout operation. The unit must be capable of lowering the ordinance devices 30' below ground level. Equipment will be protected from the Elements, but no heat or temperature control will be furnished. Secondary usage of the unit will be to provide predelivery maintenance of the ordinance devices. One (1) unit will be required per squadron team, an additional unit will be required at the CSA when three Assembly and Checkout squadron teams are operating at a base.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: Standard 9' Van Truck with all normally standard equipment and features listed by the manufacturer for the latest model and including the following:

- Engine: V-8
- Transmission: Four-speed, Synchro-Silent
- Rear Axle: Locking differential
- Rear Doors: Double, full body width and height
- Hoist: Manually operated and removable, 500# capacity (minimum), 225° swing, swing radius 60" and 30' of hook fall below ground level.
- Rear Hitch: Similar to Holland Model 400-C
- CSA Standard Vehicular Components

The following items of equipment are acceptable to fulfill this requirement;

- (1) Make and model of truck: Ford F-350
- (2) Make and model of van: Brown LC-9
- (3) Make and model of hoist: Stratton JBW-10 (modified)

Other Manufacturer's equipment meeting the above specification are acceptable. No heating provisions are required in the van compartment. Special shelving, racks and tie-down provisions for holding and securing equipment to be provided in the field as required.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 2 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W. H. Burton</i>	<i>W. J. Mason</i>	<i>A. E. Anderson</i>	<i>George K. Tolson</i>

2-6340-0-MAR. 18. 1963

REV.

2-14-3

BOEING NO. D2-11713-2
1963 431

NOTE: Use form U1-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: R. G. Smith

J13-6763

Rev. B. 2-1-60

TELEPHONE: _____

2

ACO 431 Continued - Page Two

Material Handling Capability:

Equipment will be loaded in unit by a fork lift truck. After transportation to the LF the hoist is able to remove the gas generator from its carrying case and lower the generator to the proper equipment room. The other gear transported in the van can be handled in the same manner.

ACO 431
Page 2 of 2

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MAR 18 1963

BOEING NO. D2-11713-2
PAGE 431-a

WS 133A

ACO NUMBER 432

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-9-61

REVISION E DATE 2-15-63

EQUIPMENT TITLE TANK, DEIONIZED WATER STORAGE
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFO/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for providing adequate deionized water storage in the CSA area. Deionized water is required to: 1. Maintain storage batteries, 2. Mix inhibitor solution for G&C Coolant, 3. Use in the ACO 9278 (G&C Cooler), 4. Miscellaneous cleaning and flushing, and 5. F/T the Figure A/ACO 3035 Test Set. Control Circuitry Temperature.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A tank with a capacity of 50 gallons minimum and 100 gallons maximum mounted on a skid capable of receiving a forklift truck will meet the requirement. The tank shall be lined with rubber, glass or PVC Plastic to prevent contamination of the water. One internally threaded outlet fitted with a noncorrosive positive action valve shall be located on the end of the tank.

The tank should also be provided with a suitable cover to facilitate internal cleaning. This cover should be fitted with a suitable atmospheric vent which incorporates a filter to maintain water cleanliness.

Prior to use in the CSA, the tank shall be cleaned and flushed in accordance with D2-13915 specifications.

MAFB requirements for this item will be permanently satisfied by interim and work-around equipment on hand (2-15-63). No additional provisioning of ACO 432 for MAFB is required.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 2-28-63
MAR 18 1963

BOEING NO. D2-11713-2
PAGE

WIFE!
 NOTE: Use form US-4071-1000 if additional sheets are required.
 REV. "E" - R. E. Colling 5-2854
 W. J. DeVos
 ORIGINATING GROUP SUPERVISOR: JU. 3-1840
 TELEPHONE:

3

WS 133A

ACO NUMBER ACO 433

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 11-16-61

REVISION A DATE 12-11-62

EQUIPMENT TITLE Fan, Circulating
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

To assist portable heating equipment (ACO 430) in preheating the hardened Launch and Launch Control Facilities by circulating warm air within the facilities thereby reducing the resistance to heat flowing from the air through the concrete walls.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A standard 115 volt single phase 60VA powered 16" diameter portable fan complete with finger guard and 50 ft. extension. The extension will be equipped with a 3-wire grounding type plug connector which will fit a standard grounding type convenience outlet.

Recommended Equipment:

1. General Electric 16" portable fan (no longer available)
Catalog No. V164
Equipped with
Hubbell plug No. 5275
2. Graybar DA205
Equipped with
50 ft., 3-wire grounding cord
and Hubbell plug 5275

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Butler</i>	<i>C. D. Quinn</i>	<i>A. E. Brewer</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963

REV. 12-12-62

BOEING NO. D2-11713-3
PAGE 1 433

NOTE: Use form UB-4071-1000 if additional sheets are required.

Rev. A
R. Colling
3-0368

W. B. Blair
5-4744

ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER ACO 435
 APPROVAL DATE 11-16-61
 REVISION B DATE 3-29-63

EQUIPMENT TITLE MONITOR, CURRENT RECORDING
(Basic Noun First)

RESPONSIBLE DEPT. BI-MMI EQUIP. CLASSIFICATION SPC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLI 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	X	X	X

PURPOSE & JUSTIFICATION

- (1) To monitor preheat equipment operation to determine the point in time at which preheat equipment should be removed.
- (2) To monitor preheat equipment operation in isolating and analysing preheat and/or environmental control problems during final stages of A & C/O.
Ref. Doc. D2-10027
- (3) Used at VAFB in cooling air flow adjustment tests to record amperage between the air conditioner fan circuit breaker and the motor starter in the air conditioner control panel. Ref. Doc. D2-14652-2

A probe and recording instrument which will monitor the flow of current in a 3 ϕ , 208 volt 45 ampere electrical cable for periods of 3 to 4 days and form a record of that current flow. The record formed will be used to determine the actual number of hours per day in which power was being drawn thru the line. The instrument will operate from a 115 volt single phase power source. It will be combined with a remote probe to permit the recorder to be placed away from the cable yet still perform its intended function by inputs from the probe.

Recommended Equipment:

Rustrack Portable AC current Recorder, Model 107, Clamp on type with a 115 volt AC Chart Drive Motor, rated 0 to 50 amps, chart speed one inch/hr. Local Source Arva, Inc.

NOTE: Use form U3-071-1000 if additional sheets are required

REV. "A"
W. Swift
5-1522

ORIGINATING GROUP SUPERVISOR: W.R. Blair
TELEPHONE: 5-4744

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>	FACILITIES DEPT. <i>[Signature]</i>
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FORM 340-11-1

REV. 4-4-63

BOEING NO. D2-11713-3
 435

WS 133A

ACO NUMBER ACO 139

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-18-61

REVISION C DATE 5-1-62

EQUIPMENT TITLE Kit, pH Meter
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None Available

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP '11	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	X			

PURPOSE & JUSTIFICATION

To measure the pH of the coolant in the G&C Cooling System. The pH of the coolant will be controlled to a limited range in order to prevent corrosion in the system.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A portable, self-contained pH meter with a pH range of 2-12 and a minimum accuracy of 0.2 pH.

The kit shall come complete with all equipment required to make a pH measurement with this meter.

The following equipment is acceptable to fulfill this requirement:

Beckman, pocket pH meter.

TESTING REQUIREMENTS

Periodic calibration and certification will be performed as per D2-12075

DOCUMENTATION REQUIREMENTS

An operations and maintenance manual shall be supplied with this kit.

NOTE: Use form U3-2071-1030 if additional sheets are required

11/16/61
5-6695

ORIGINATING GROUP SUPERVISOR
TELEPHONE

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>E. J. Sullivan</i>	<i>D. J. Mann</i>	<i>A. C. Brewer</i>	<i>R. E. [unclear]</i>

2-634-0-1 Rev. 5-11-62
REV. MAR 18 1963

BOEING No. D2-11713-2
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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 441
APPROVAL DATE 1-16-62
REVISION B DATE 2-1-63

EQUIPMENT TITLE Bus, Travel-all
(Basic Name First)

RESPONSIBLE DEPT. BI-M1 EQUIP. CLASSIFICATION SFC/OH
DESIGN REQMTS DOCUMENT None SFGG NO. 2278-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

To transport all A&CO crew personnel, tool boxes, and light equipment between the LF, LCF, dispatch area, and the CSA.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a standard 9-passenger, four-door bus be provided to satisfy this requirement. The bus shall contain all normally standard equipment and features in addition to the following:

Make and model - International Model C-100

Engine - Six-cylinder

Transmission - Manual 4-speed

Rear Axle - Power Lock Differential

Rear Door - Panel Type

Suspension - Heavy duty Rear Springs

Regular CSA vehicle equipment shall be included.

Other Manufacturer's equipment meeting the above specifications are acceptable.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 10 1963

REV. 2-14-3

BOEING NO. D2-11213-2
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NOTE: Use form US-071-1000 if additional sheets are required.

G. Reynolds
2-1186
CG-35

Rev. B

ORIGINATING GROUP SUPERVISOR: R. S. Malley

TELEPHONE:

J13-0768

47

WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 446
 APPROVAL DATE 1-23-62
 REVISION A DATE 11-9-62

EQUIPMENT TITLE METER, FREQUENCY
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

Permit 60 CPS output frequency measurements of motor generator set at the LCF and the diesel generators at LF and LCF during checkout of electrical power system. The frequency of the M-G set and diesel generators must be maintained between 54 to 62 cps from zero to full load conditions and the frequency meter is required to verify this capability.

Ref: D2-7819 VOL. V.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This meter is required to measure frequency at the end points of the M-G set and diesel generators tolerance range (54 and 62 cycles) with as small a meter tolerance as feasible, so the meter tolerance does not allow passing a faulty M-G set or diesel generator.

Range of the FRAHM Meter is 50-70 cps \pm 0.3% accuracy.

The following equipment will satisfy this requirement:

1. FRAHM MF-21 Catalog Number 6067
 50-70 CPS range
 \pm 0.3% accuracy

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Butler</i>	<i>W. M. ...</i>	<i>R. C. ...</i>	<i>R. ...</i>

2-6340-0-1

REV. MAR 18 1963 *11-13-62*

BOEING NO. D2-11713-2
446

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. Blair
 REV. "A" - R. ... Colling
 JU 3-0368, 2-2060

TELEPHONE: 5-4744

b6

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 450
 APPROVAL DATE 3-9-62
 REVISION _____ DATE _____

EQUIPMENT TITLE: Hoist, Lever (Come-Along)
(Safe Non Fire)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION:

A requirement exists for a means of repositioning the engines longitudinally along the Missile Joining Rails during missile assembly, see D2-11162-1, Section B, Function 7.4.1.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A standard lever hoist (come-along) shall be used, capable of providing a minimum of 1500 lbs. force.

NOTE: Use of this form is optional.

ORIGINATING GROUP SUPERVISOR: O. A. Severide
 TELEPHONE: 5-5022

SHT 1 OF 1

ENGINEERING DEPT. <i>A. H. Burton</i>	BASE INSTALLATION DEPT. <i>C. D. Munn</i>	MANUFACTURING DEPT. <i>A. C. Greiner</i>
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2-6340-0-1 Add 3-20-62

REV. 4-6-62

MAR 18 1963

D2-11713-2

BOEING NO. _____
 PAGE 450

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 453
 APPROVAL DATE 3-23-62
 REVISION _____ DATE _____

EQUIPMENT TITLE: Truck, Lift - Fork
(State Main Firm)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION:

A requirement exists for a means of moving Airborne & Handling Equipment, in the Receiving, CPA, MAB and storage Areas. See D2-11162-1, Section B, Functions 1.1.1, 2.1.1, 2.2.1, 3.1.1 and 4.1.2.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A fork lift truck of standard manufacture is recommended with principal nomenclature as listed below:

Make and Model - Clark CFY-20 or equal
 Capacity - 2000 lbs. at 24" load center.
 Transmission - Manual 2-speed
 Equipped with pneumatic tires for operation on hard-surfaced roads, warehouse floors and unsurfaced yards.
 Lift - 108 inches approximately.
 Trailer hitch.

ORIGINATING GROUP SUPERVISOR: O. A. Severide
 TELEPHONE: 5-5022

NOTE: Use form 12-407-1000
 if additional sheets are required.

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>
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2-6340-0-1

REV. 4-6-62

MAR 18 1963

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Handwritten notes:
 1. *Revised*
 2. *Wenger*
 3. *5-3395*
 4. *5-5022*
 5. *5-15-62*
 6. *5-25-62*
 7. *18 MAR 1963*

NOTE: Use form US-4971-1000
 if additional sheets are required.

Revised
 M. Wenger
 5-3395

ORIGINATING GROUP SUPERVISOR: O.A. Severide
 TELEPHONE: 5-5022

WS 133A

**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 454
 APPROVAL DATE 2-20-62
 REVISION A DATE 5-15-62

EQUIPMENT TITLE Sling, (4 drop) - Standard, Factory
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

A requirement exists for a Sling capable of handling miscellaneous equipment:

- To and from R&I area.
- In the "high bay area" of the Missile Assembly Building (MAB).

See D2-11162, Section B, Functions 1.1, 5.1, 7.4, and 9.1.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A standard 4 Cable Drop Sling is required, with an attach point for the hoisting unit, and shackles for attaching the Cable Drop Ends of the Sling to the miscellaneous equipment. The Cables shall be five (5) feet long.

The Sling is to have a rated capacity of 3400 lbs. with legs at 45° to the vertical.

It must be proof loaded to 6800 lbs. and periodically load tested.

The following equipment shall be acceptable to satisfy this requirement:
 Roebling Sling Type 14-4, 1/4" diameter, 5 ft long. John A. Roebling Corp., Trenton 2, New Jersey.

SHT 1 OF 1

ENGINEERING DEPT. <i>H. H. Boston</i>	BASE INSTALLATION DEPT. <i>R. E. Collins</i>	MANUFACTURING DEPT. <i>G. C. Brewer</i>	FACILITIES DEPT. <i>R. Estep</i>
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2-6340-0-1 Rev 5-25-62
 REV. MAR 18 1963

BOEING NO. D2-11713-2
 PAGE 2 of 4

WS 133A

ACO NUMBER 456

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-18-62

REVISION _____ DATE _____

EQUIPMENT TITLE Bench, Electronic, 6'
(Basic Non First)

RESPONSIBLE DEPT. RT-MM

EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMTS DOCUMENT _____

DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAPB	VAPB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

A requirement exists for a work table for electronic testing of NCU's in the component processing area: See D2-11162-1, Section B, Functions 3.1.1.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This bench is to be constructed of wood with an equipment shelf, one or more three-drawer base sections and pedestal base sections. The top and the base shall be independent modules.

The bench is to be completely finished with all wiring and hardware as outlined in Spec. No. 1684-P.

NOTE: All other descriptions are outlined in Facilities Equipment Engineering Spec. No. 1684-P.

NOTE: Use form US-0371-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. Estep
TELEPHONE: NA 4-5320

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. B...</i>	<i>A. M...</i>	<i>A. C. B...</i>	<i>R. Estep</i>

2-630-0-1 Added 4-24-62
REV. MAR 10 1963

REVISION NO. 10-11162-1

WS 133A

ACO NUMBER 457

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-2-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 1-25-3

EQUIPMENT TITLE CONTAINER, RACEWAY CABLES, STAGE III
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. ME 25-27524

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

During the missile repair and rework phase at Plant 77, a requirement exists for a container which can be used to transport the Stage III raceway cable from the missile assembly building to the component processing area for fault isolation testing. It is also required that this container be provided with adapter cut-outs to allow connecting the SFA 7715 cable adapters to the cable connectors for testing without removing the raceway cable from the container.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that the container be built from the Autonetics Drawings NX 13186 and sketches. BAC No. for parts fabricated to the autonetics drawings. no actual Boeing drawing prepared.

1. Container will have a mounting bulkhead for attachment of breakaway receptacles, umbilical receptacle and special G&C connector. The bulkhead shall be open to the exterior of the container when the container cover is removed, so that connectors other than those listed in item 1 above will be exposed for connection of test equipment.
2. Space will be provided for connecting test cable adapters to the raceway cable connectors other than those listed in item 1 above.
3. Raceway cables will be free of any obstructions above the level of the cable after the cover is removed.
4. Container will have fork lift brackets for transporting.
5. Container will have four (4) list handles and hoist hooks.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boston</i>	<i>W. J. Mann</i>	<i>G. E. Palmer</i>	<i>George Tuttle</i>

2-6340-0 MAR 18 1963

REV. 1-30-3

BOEING NO. D2-11713-2
PAGE 1-457

NOTE: Use form UD-4071-1000 if additional sheets are required.

J. A. Roquet REV. "A" - R. E. Colling 3-0367
5-4797

TELEPHONE:

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 458
 APPROVAL DATE 2-2-2
 REVISION A DATE 1-25-3

EQUIPMENT TITLE CONTAINER, RACEWAY CABLE, STAGE II
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG. NO. 3 ME 25-275M *11*

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

During the missile repair and rework phase at Plant 77, a requirement exists for a container which can be used to transport the Stage II raceway cable from the missile assembly building to the component processing area for fault isolation testing. It is also required that this container be provided with adapter out-puts to allow connecting the SFA 7715 cable adapters to the cable connectors for testing without removing the raceway cable from the container.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that the container be built from the Autonetics Drawings NX-13135 and sketches. *△* BAC no. for parts fabricated to the autonetics drawing. No actual Boeing drawing prepared.

1. Container will have a mounting bulkhead for attachment of breakout receptacles, umbilical receptacle and special G&C connector. Bulkhead will open to exterior of container when container cover is removed, so that connectors can be directly attached.
2. Space will be provided for connecting test cable adapters to the raceway cable connectors other than those listed in item 1 above.
3. Raceway cables will be free of any obstructions above the level of the cable after the cover is removed.
4. Container will have fork lift brackets for transporting.
5. Container will have four (4) lift handles and hoist hooks.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION D.T.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Benton</i>	<i>C. M. ...</i>	<i>P. C. ...</i>	<i>George K. ...</i>

2-4340-0-1 MAR 18 1963

REV. 1-30-3

BOEING NO. 25-11162-2
 MSB FL58

NOTE: Use form US-4071-1000 if additional sheets are required.
 WEP
 ORIGINATING GROUP SUPERVISOR: J. Rouquet
 REF. "A" - R. E. Colling
 3-0367
 TELEPHONE:

WS 133A

ACO NUMBER 459

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 2-2-2

REVISION A DATE 1-25-3

EQUIPMENT TITLE CONTAINER, RACEWAY CABLE, STAGE I
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 2 ME 25-27521

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

During the missile repair and rework phase at Plant 77, a requirement exists for a container which can be used to transport the Stage I raceway cable from the missile assembly building so the component processing area for fault isolation testing. It is also required that this container be provided with adapter cutouts to allow connecting the SFA 7715 cable adapters to the cable connectors for testing without removing the raceway cable from the container.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that the container be built from the Autonetics Drawings 19289-204, NX-10014 and NX-13184. BAC No. for parts fabricated to the autonetics drawing. No actual Boeing dwg. prepared.

1. Container will have a mounting bulkhead for attachment of breakaway receptacles, umbilical receptacle and special G&C connector. Bulkhead will open to exterior of container when container cover is removed, so that connectors can be directly attached.
2. Space will be provided for connecting test cable adapters to the raceway cable connectors other than those listed in item 1 above.
3. Raceway cables will be free of any obstructions above the level of the cable after the cover is removed.
4. Container will have fork lift brackets for transporting.
5. Container will have four (4) lift handles and hoist hooks.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Burt</i>	<i>W. J. ...</i>	<i>A. E. ...</i>	<i>George ...</i>

2-6340-0-1 MAR 18 1963

REV. 1-30-3

BOEING NO. 82-1173
MFG 459

NOTE: Use form US-071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. J. Request REV. "A" - R. E. Colling 3-0367

TELEPHONE:

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 463
 APPROVAL DATE 3-16-62
 REVISION A DATE _____

EQUIPMENT TITLE: Power Supply - DC
(State Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION:

A requirement exists for providing 42 volts DC to the BGS 140 (PSE 7675) during its functional test.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

- 0-60 volts dc
- 0-5 amps
- 50 microseconds recovery time
- ± 0.1 % regulation
- Output terminal isolated

The following pieces of equipment are acceptable to satisfy these requirements:

1. Kepco SC-60-5 Power Supply
2. Hewlett Packard 722 AR

ORIGINATING GR OUP SUPERVISOR: O. A. Sevrade
 TELEPHONE: 5-5022

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>
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2-6340-0-1

REV. MAR 18 1963

BOEING NO. D2-11713-2
 463

SHT. 1 OF 1

NOTE: Use form 15-471-1000 if additional space is required.

WS 133A

ACO NUMBER 466

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION B DATE 7-27-62

EQUIPMENT TITLE: Kit, Purging and Drying, G&C Section
(Build From File)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____
TO BE USED AT:

BASE	MAF3	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION:

To provide a means of purging the liquid coolant from the Guidance and Control Section after the section has been turned off, and provide a means of drying the cooling compartment after being purged. (Wing I only)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that the following equipment be utilized with the installed 90 psi facilities air supplies in the MAB's and the CPA to provide air for purging and drying: (Note, no equivalents due to on-dock requirements., see BDD TRX B30AP 2-3-7, dated 3-2-62)

- a. Wilkerson Model 1300-4 Line Filter with an automatic piston drain and filtering capacity to 5 microns.
- b. Wilkerson Model 5706-4 Line Filter.
- c. Wilkerson Model 2001-4 Tamper proof air pressure regulator (to be set at 20 psi maximum). (contains Wilkerson Model 6001 Tamper Proof Kit)
- d. Wilkerson Model 2001-4 Adjustable air pressure regulator with gage.
- e. Wilkerson Model 4001-2 Line Filter
- f. Wilkerson Model 4001-2X Line Filter.
- g. Hansen Model 3500 Quick Disconnect air hose coupling.
- h. Snap-Type Model AVEN-8-56 Quick disconnect hose coupling (hose end to mate with standard air hose used).
- i. Snap-Type Model AVEC-8-56 Quick disconnect air hose coupling (hose end to mate with standard air hose from air supply).
- j. Bucket - 1 gallon capacity.
- k. Air hose - Standard 1/2" hi-pressure; length to be determined by facilities using interface requirements in MAB.

SHT. 1 OF 2

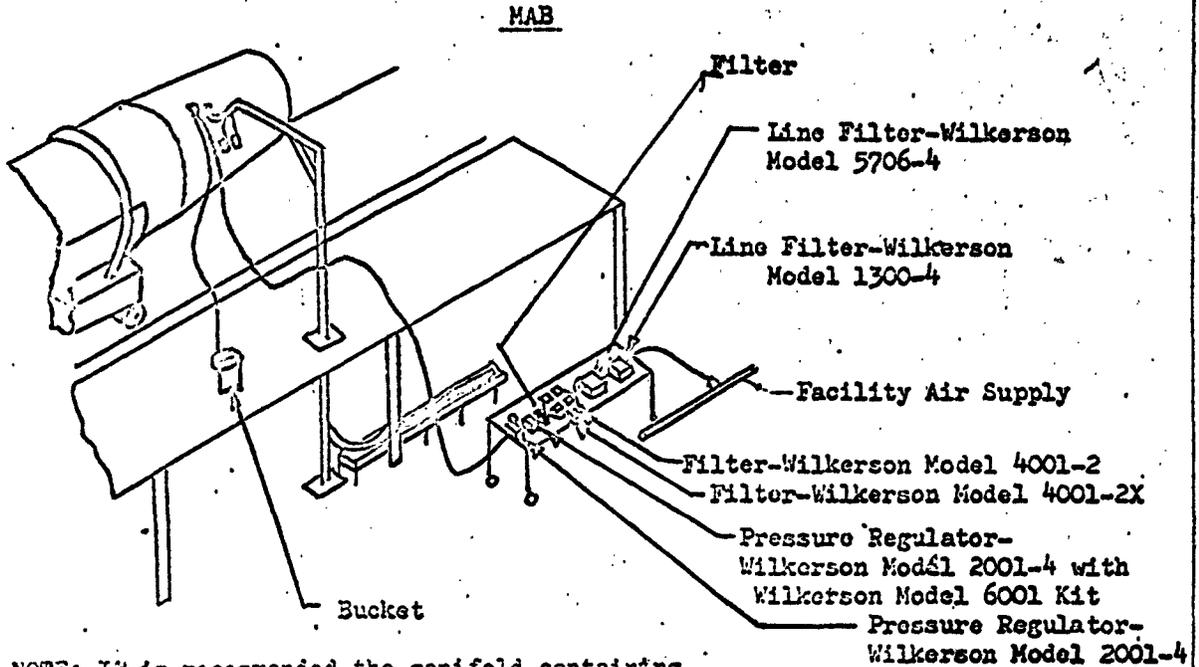
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 R v 8-3-62

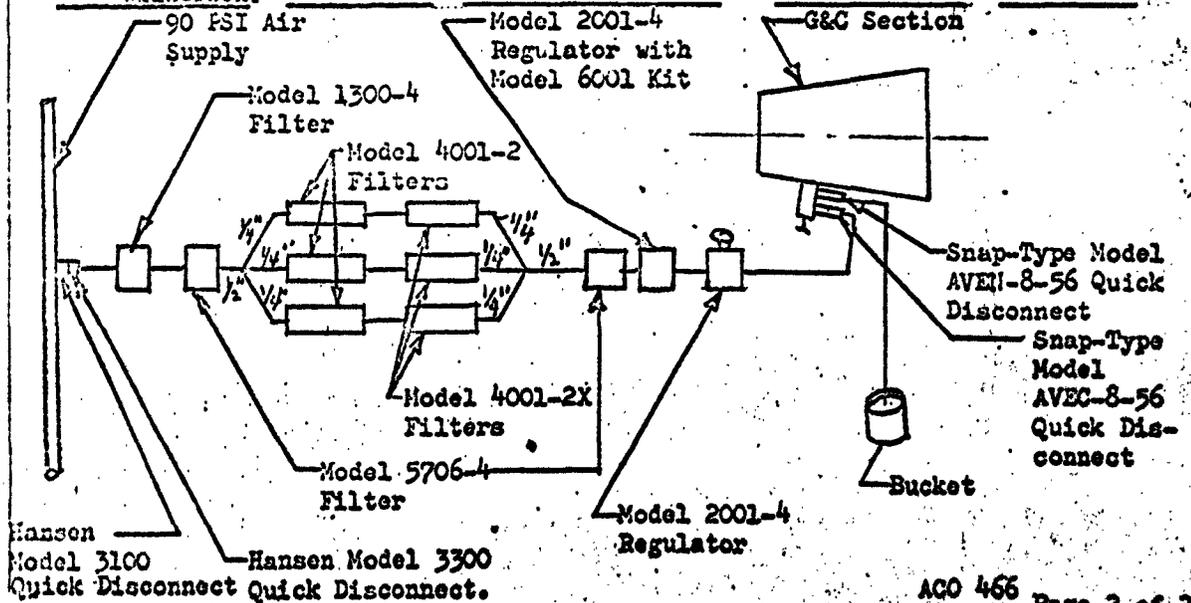
REV. MAR 18 1963

ORIGINATING G&C SUPERVISOR: SA. C. S. ... TELEPHONE: ...

The filters which are capable of being changed shall be changed every six (6) months and the system certified to indicate the change of filters.



NOTE: It is recommended the manifold containing the three 4001-2 and three 4001-2X filters with 1/2" lines be procured as a unit from Wilkerson.



WS 133A

ACO NUMBER 467

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-16-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 12-11-62

EQUIPMENT TITLE Heater Assembly, LF Preheat
(Basic Name First)

RESPONSIBLE DEPT. BI-EM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

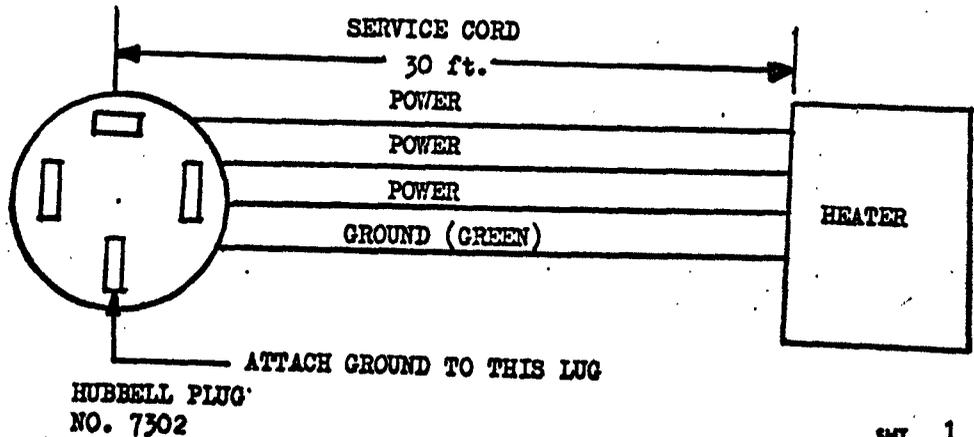
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7671	92-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION To preheat the launchers at all operational bases at which average ground temperatures prevent the installed environmental control systems from establishing the ambient temperatures within the facilities to model specifications. To be used concurrently with ACO 430 heaters.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: A 4.0 Kw, 208 volt 3-phase portable heater equipped with thermostat controls which monitor and control heater inlet air temperature over a range of 55°F to 90°F. The temperature monitor is not required to be located in the inlet air stream, but must be close enough to the air stream to accurately represent ambient air temperature. The thermostat will also present an ambient temperature scale which can be observed by maintenance personnel. A high temperature shut-off device will be provided which will prevent the outlet temperature from exceeding 140°F.

A 4-wire service cord will be supplied with the heater to attach the heater to the power outlet provided by ACO-672. Description of the required service cord is as follows:



SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. T. Barton</i>	<i>W. J. ...</i>	<i>A. C. ...</i>	<i>R. Estep</i>

2-4340-0-1
REV. 12-12-2
MAR 18 1963

BOEING MOD-11713-2
PAGE 1/1

NOTE: Use form US-4071-100 if additional sheets are required

Rev. 4
S. Blain
2-2060
3-1021

ORIGINATING GROUP SUPERVISOR: W. Blair
TELEPHONE: 4-7630

ACO-467

The ground shall be attached to the existing framework of the heater. The ground wire shall be green in compliance with the National Electrical Code, Article 210, item 2112. All wires will be of size #10 AWG copper, with rubber outside insulation.

The heater shall be suspended from a 6112.5 beam by a bracket which will clamp to the beam. The center of the heater shall be 10 inches below the bottom of the beam. When suspended from the beam the heater shall be capable of rotating in a horizontal plane.

A flexible duct, 48 inches long, is required, which will attach to the heater outlet and which can be clamped to a pipe flange of 1/8" thickness, 12 1/2" O.D., 9 3/4" I.D. All clamps required shall be provided with the duct.

Acceptable Equipment:

*Chromalox UB-40 MM-2 portable heater with attached WR-90 thermostat. Hubbell No. 7302 plug (no substitution permitted, must mate ACO 672).

Duct, Montgomery Brothers part #BS1.

Bracket assembly, Montgomery Brothers part #BS2.

No substitution allowed - See note.

When used, this heater will suspend from the rail above the installed batteries at the LF and will attach by the 48" duct to the permanently installed launch tube heater. The heater, launch tube heater and launch tube fan will be connected in series with respect to airflow but only the fan and ACO heater will be energized.

A switch shall be provided to allow the heater fan to be shut off independently of the heater. The switch shall be identified by a placard which states "SWITCH NORMALLY OFF DURING LAUNCHER HEATING". A master switch shall be provided which will energize only the heater when the fan switch is off.

The heater assembly shall be delivered with the fan blades disconnected and attached to the side of the heater by a bracket.

NOTE: The above equipment has been reviewed and approved by STL/AMERICAN AIR FILTER on TWX UNCLASS/62-9716.3-287, from I. M. Holliday, to The Boeing Company.

*NOTE: Chromalox UB-40MM-2 is same as UB-40NS with modifications as noted on page 1.

ACO- 467
Sheet 2 of 2

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03-4871-1000 (with SAC) (Rev. 1-63)

MAR 18 1963

12-12-2

BOEING NO. D2-11713-2

PAGE 2 OF 2

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 474
APPROVAL DATE 4-18-62
REVISION A DATE _____

EQUIPMENT TITLE Truck, 9' Van
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ Spec
NO. 2284-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION To transport personnel along with tools, instruments and material from the dispatch area to LF, during the Assembly and Checkout operation. The following squadron crews require one of the vehicles; #2 and #3 LF Assembly crews. Total vehicles required per squadron team two (2).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Standard 9' Van Truck with all normally standard equipment and features listed by the manufacturer and including the following:

- Make and Model: Ford F-350 or similar
 - Engine: V-8
 - Transmission: Four-speed, Synchro-Silent
 - Rear Axle: Locking differential
 - Rear Doors: Double, full body width and height
 - Rear Hitch: Similar to Holland 400-C
 - CSA Vehicular Standard Components
 - Other Manufacturer's equipment meeting the above specifications are acceptable.
- The following items are acceptable to fulfill this requirement:
- (1) Make and model of truck: Ford, F-350
 - (2) Make and model of body: Brown, LC49

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 2
MAR 10 1963

BOEING NO. D2-11723-2
187L

NOTE: Use form US-4071-1000 if additional sheets are required.

C. Herald
2-4166
05-35

REV. A

ORIGINATING GROUP SUPERVISOR: R. S. Colley

TELEPHONE: 5-1017

J03-0768

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WS 133A

ACO NUMBER 475

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-18-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-1-3

EQUIPMENT TITLE Truck, 9' V.n, w/Heat
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMS DOCUMENT Facilities Dept. SPEC NO. 2289-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION: To transport personnel along with tools, instruments and material requiring a heated environment from the dispatch area to the LF, during the Assembly and Checkout operation. The following squadron crews require one of the vehicles: #3, 4, and 6 LF Checkout. Total vehicles required per squadron team three (3).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Standard 9' Van Truck with all normally standard equipment and features listed by the manufacturer for the latest model and including the following:

- Make and Model: Ford F-350 or similar
- Engine: V-8
- Transmission: Four-speed Synchro-Silent
- Rear Axle: Locking differential
- Rear Doors: Double, full body width and height
- Heater: Hunter UH-47-3 12-Volt with electric fuel pump and thermostat or similar
- Insulation: 2" of ultralite or equal in all other surfaces
- Rear Hitch: Similar to Holland Model 400C
- CSA Vehicular Standard Components

The following items are acceptable to fulfill this requirement:

- (1) Make and model of truck: Ford, F-350
 - (2) Make and model of body: Brown, LC-9
 - (3) Make and model of heater: Hunter, UH 47-3, 12 volt
- Other Manufacturer's equipment meeting the above specifications are acceptable.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. L. Bartoo</i>	<i>W. M. ...</i>	<i>A. E. ...</i>	<i>George K. ...</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

BOEING NO. 02-11713-3
PAGE 475

NOTE: Use form DS-4071-1000 if additional sheets are required.

Rev. A G. Kermid
2-4-66
08-35

ORIGINATING GROUP SUPERVISOR: R. Shelley
TELEPHONE: _____

J 3-0763

WS 133A

ACO NUMBER 176

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 4-18-62

REVISION B DATE 2-1-63

EQUIPMENT TITLE Truck, 12' Van, w/Hoist and Heat
(Basic Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. 2292-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To transport personnel along with tools, instruments, and material from the Dispatch Area to LF and LCF during the Assembly and Checkout and O&M (Operation and Maintenance) operation. The following squadron or crews require one of the vehicles: #2 LF Assembly and the LCF Assembly. Total vehicles required per squadron team, two (2).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Truck, 12' Van w/hoist and heat with all normally standard equipment and features listed by the manufacturer.

Engine: 292 V-8

Transmission: Four-speed, Synchro-Silent

Body: Approximate dimensions 12' long x 68" inside width x 79" inside height, with rear doors, double, full body width and height

Hoist: Capacity 1000 lbs., 225' swing, 60" swing radius hook fall to reach 30' below ground level.

CSA Vehicular Standard Components

The following items of equipment are acceptable to fulfill this requirement:

- (1) Make and Model of truck; Ford, F-500
- (2) Make and Model of body; Brown, LC-12
- (3) Make and Model of Hoist; Stratton, JBW-10 (modified)

Other Manufacturer's equipment meeting the above specifications are acceptable.
NOTE: Heater requirement is Hunter heater No. UH-47-3, 12 volt with electrical fuel pump and remote type thermostat; output 5,000 to 15,000 BTU/hr. Unit will operate while vehicle is stopped and excessive condensation is prevented by an enclosed flame and venting exhaust to the outside atmosphere.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

BOEING NO. D2-1173-2
PAGE 176

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. Shelley
Rev. B C. Herald
2-4166
03-35
TELEPHONE: _____
JUB-0768

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WS 133A

ACO NUMBER 477

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-18-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-1-3

EQUIPMENT TITLE Truck, 7¹/₂' Panel w/Heat
(Basic Nom First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. 2288-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To transport personnel along with tools, instruments and material requiring a heated environment from the dispatch area to the LF and LCF, during the assembly and checkout operation. The following squadron crews require one of the vehicles: #1, 2 and 5 LF Checkout and Targeting Tests. Total vehicles required per squadron team four (4).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Standard panel truck with all normally standard equipment and features listed by the manufacturer and including the following:
 The following items of equipment are acceptable to fulfill this requirement.
 Make and Model: Chevrolet C-1405 Panel or similar
 Engine: 235 six-cylinder
 Transmission: Manual, four-speed synchro-mesh
 Rear Axle: Positraction
 Bulkhead: Install a ply od or metal bulkhead behind drivers seat.
 Heater: Hunter heater No. UH-47-3, 12 volt with electric fuel pump and remote type thermostat; output 5,000 to 15,000 BTU/hr. Unit will operate while vehicle is stopped and excessive condensation is prevented by an enclosed flame and venting exhaust to the outside atmosphere.
 CSA Vehicular Standard Components
 Other Manufacturer's equipment meeting the above specifications are acceptable.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>P. J. Quinn</i>	<i>G. E. Collins</i>	<i>George K. Tatum</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

BOBING NO. D2-11713-2
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NOTE: Use form U3-4071-1000 if additional sheets are required.

JU3-0768

ORIGINATING GROUP SUPERVISOR: R. Shelley Rev. A C. Her Id 2-4166 08-35
TELEPHONE: _____

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6

WS 133A

ACO NUMBER 478

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-18-62

REVISION A DATE 2-1-3

EQUIPMENT TITLE Truck, 7 1/2' Panel
(Basic Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SEC/OIL

DESIGN REQMTS DOCUMENT Facilities SpecNO. 2274-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To transport personnel, tools, instruments and material from the Dispatch Area to the LF and LCF, during the Assembly and Checkout operation. The following squadron crews require one of the vehicles: #1, 2, and 4 LF Assembly, LCF Assembly, LCF Checkout, and 3 Welding and Cleanup crews. Total vehicles required per squadron team eight (8).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Standard panel truck with all normally standard equipment and features listed by the manufacturer and including the following:

- Make and Model: Chevrolet C-1405 Panel or similar
- Engine: 2.35 six-cylinder
- Transmission: Manual, four-speed Synchro-mesh
- Rear Axle: Positraction
- CSA Vehicular Standard Components

The following items are acceptable to fulfill this requirement:

- (1) Make and model of truck: Chevrolet, C-1405 Panel

Other Manufacturer's equipment meeting the above specifications are acceptable.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burton</i>	<i>A. D. Quinn</i>	<i>R. C. Bennett</i>	<i>George K. Taylor</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

BOEING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required.

JU3-6763

Rev. A C. H. Hald
2-11-60
08-35

ORIGINATING GROUP SUPERVISOR: R. S. Shalley
TELEPHONE:

59

Stoddart Aircraft Radio Company, Inc.

Radio Interference- Field Intensity Meter
Model NM-20B with following accessories

90780-2 Power Supply, AC
90305-7 Matching Impedance 50 ohms
91258-1 AC Power Cable
91487-1 Power Supply Cable
90303-2 Accessory Case
90731-2 Transit Case
10796 Headphone

Empire Devices Products Corp.

Noise and Field Intensity Meter
Model BA-105/with T-A/NF-105 Tuning Unit.

Ref: ACO 482
Sht 2 of 2

MAR 18 1963

REVISED 10-16-2

US 4286 2000

BOEING

VOL

SEC

NO D2-11713-2

MSG 482a

WS 133A

ACO NUMBER 483

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-7-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Impedance Bridge, HF
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFO/OH

DESIGN REQMTS DOCUMENT D2-14053 DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION This instrument shall be used to measure the input impedance of the HF soft antenna system, Figure A 1425. This bridge is used in conjunction with ACO 482, Receiver, High Frequency, and ACO 321 Signal Generator, to determine impedance of the Fig. A 1425 soft HF transmitter antenna at two frequencies.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Bridge Requirements:

Frequency Range	2 - 30 megacycles
Resistance Range	0 - 1000 ohms
Reactance Range	0 - ± 5000 ohms at 1 megacycles

The following equipment is acceptable to fulfill the above requirements:

General Radio Company - Bridge type 1606 A and accessories as listed.

Additional accessories required:

Carrying Case	Type 1606-P1
Adapter	Type 874-Q2
Adapter	Type 874-QBP

(Use of this ACO item allows deletion of HF part of ACO 157, Meter, Field Strength, HF, UHF)

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: LA Beizen

TELEPHONE: 5-6653

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

MAR 18 1963

REV. 8-23-62

NO. D2-11713-2
183

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 485
APPROVAL DATE 6-14-62
REVISION A DATE 1-12-7-2

EQUIPMENT TITLE DECADE, Capacitance
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X*	X	X*					

PURPOSE & JUSTIFICATION

A requirement exists to perform pre-assembly functional tests on ACO-127 (D2-13513).* These tests, in part, consist of properly loading the output signal circuits with particular values of capacitance.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a decade capacitance box be provided with values of 0.53 mf and 0.78 mf, \pm 3% tolerance.

The following equipment will fulfill this requirement:

Cornell-Dubilier CDB-3

* D2-13513, Vol. IV prepared and released under PRR 10572.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. E. Suttler</i>	<i>A. M. ...</i>	<i>A. C. ...</i>	<i>R. E. ...</i>

2-6340-0 MAR 18 1963
REV. 12-12-2

NO. D2-11713-3
PAGE -485

NOTE: Use form US-4071-1000 if additional sheets are required.

W. R. Blair
6-19-62

ORIGINATING GROUP SUPERVISOR: H. E. Suttler
TELEPHONE: 5-3176

WS 133A

ACO NUMBER 486

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 9-7-62

REVISION _____ DATE _____

EQUIPMENT TITLE GENERATOR, FREQUENCY
(Books Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ None _____ DWG NO. _____ None _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X	X	X				

PURPOSE & JUSTIFICATION Used with ACO 284 (Panoramic Sweep Frequency Test Set) to check loaded lines for faults after hardened cable (Fig. "A" 1339) repair during predelivery maintenance.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A Frequency Generator capable of the following:

Frequency range 200-4000CPS

Auto/Manual Sweep

Scanning time 1.2 sec.

Impedance level 600-900 ohms.

Frequency Response ± 0.1 DB

Frequency Accuracy 1%

The following listed equipment will satisfy this requirement:

1. Panoramic SGT-2

SHT 1 of 1

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<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-19-28-2
REV 414R 18 1963

BOEING NO. DR-11713-4
PAGE 486

NOTE: Use form US-4071-1000 if additional sheets are required.
A. D. Nun

ORIGINATING GROUP SUPERVISOR: A. D. Nun
TELEPHONE: 3-0368

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 487
APPROVAL DATE 8-28-2
REVISION B DATE 3-29-3

EQUIPMENT TITLE VARIAC
(Basic Name First)
RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH
DESIGN REQMTS DOCUMENT None DWG NO. None
TO BE USED AT:

BASE	MAPB	EAPB	VAPB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	X	X	X

PURPOSE & JUSTIFICATION

A requirement exists to vary the AC line voltage within specified limits during:

1. Functional test of Fig. A 7783 and 7699 at Plant 77.
2. Troubleshooting and post-maintenance testing of power supply drawers from Fig. A/ACO 4018 and Fig. A 4252 at the CSA (in conjunction with ACO 4152).

REF. DOC: D2-7832-2, D2-10825

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A commercially available variac will be provided to satisfy this requirement.

The variac shall be adjustable over a minimum range of 90 to 125 volts and must be capable of a minimum of 20 amperes output.

An adapter will be made on site to adapt the variac to the plug configuration at the using site.

The following equipment will satisfy this requirement:

1. A. Variac, General Radio W20MT3 Modified as shown on sheet 2.
B. Plug, Graybar 9965G
C. Outlet, Graybar 5252
D. Wire, #12 3 Wire Stranded (any source)
E. Box, 5" x 7" x 4", Mini - Box
- } Items B through E are non-critical standard hardware and substitution may be made as required.

NOTE: Use form UI-4071-1000 if additional sheets are required

Use 8

ORIGINATING GROUP SUPERVISOR: J. H. Keim REV. "B" - R. E. Colling
TELEPHONE: 5-3405 5-2854

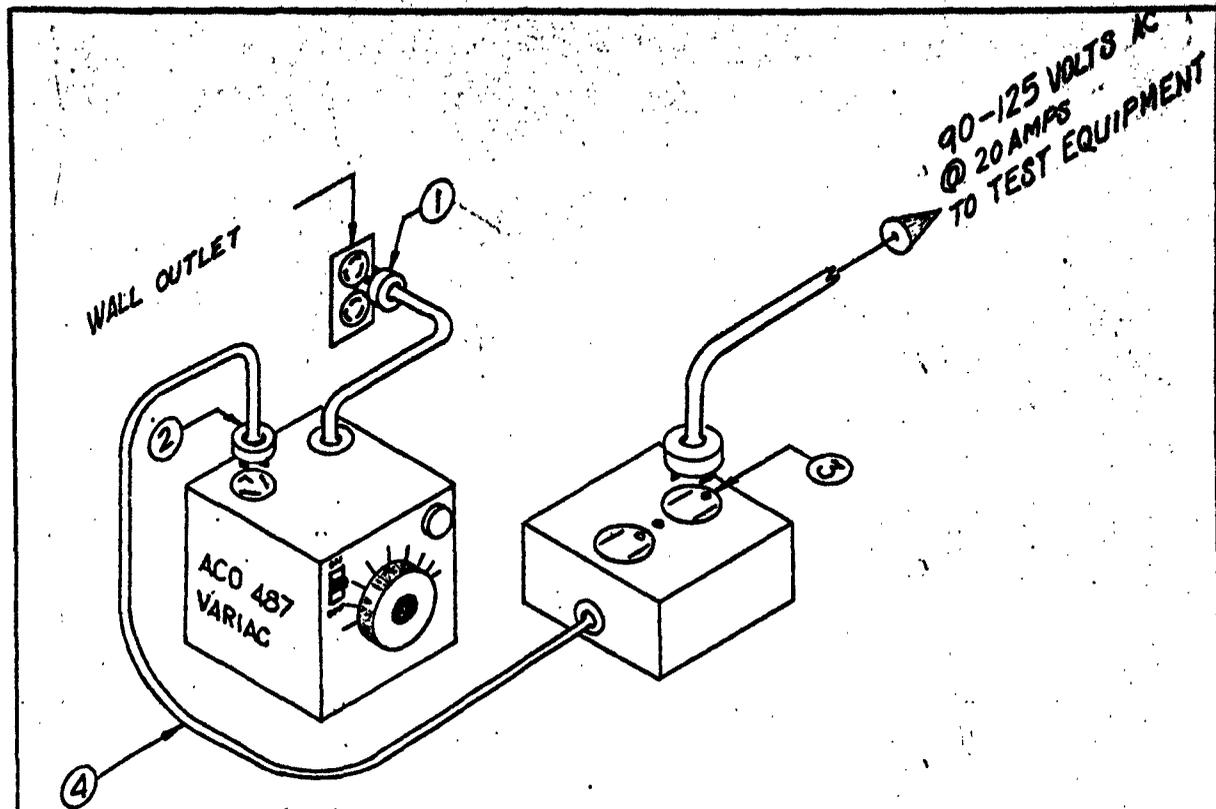
ENGINEERING DEPT. <i>Ch. H. Boster</i>	BASE INSTALLATION DEPT. <i>W. J. Perry</i>	MANUFACTURING DEPT. <i>A. C. Brewer</i>	FACILITIES DEPT. <i>W. J. Derald</i>
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2-4340-0-1

REV. 4-6-3

SHT 1 OF 2

BOEING NO. D2-11713-2
PAGE 1 OF 1



- ① GRAYBAR 3321 PLUG - 3 WIRE TWIST-LOCK OR PLUG TO MATCH EXISTING OUTLET. (Modification of purchased Variac)
- ② GRAYBAR 9332 PLUG - TO MATCH OUTLET ON VARIAC.
- ③ GRAYBAR 5252 OUTLET - TO MATCH TEST EQUIPMENT PLUGS. INSTALL IN MINI-BOX OR EQUAL.
- ④ WIRE - #12 3 WIRE STRANDED (ANY SOURCE).

ACO 487 PG. 2 OF 2

U3-471-1000

4-4-3

A

BOEING

NO. D2-11719-2

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WS 133A

ACO NUMBER 488

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 9-28-2

REVISION _____ DATE _____

EQUIPMENT TITLE Interrupter, Circuit 
(Basic Item First)

RESPONSIBLE DEPT. BI/MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

NOTE: Use form U2-6071-1000
if additional sheets are required.

PURPOSE & JUSTIFICATION A requirement exists to provide an intermittent tone source for identification of conductor pairs during fault location and isolation of the SCN Intersite Hardened Cable, Fig. "A" 1339. This unit will be used in setting-up a "Talk-Circuit" and detecting opens and shorts during fault isolation by applying an intermittent tone to each pair of conductors. Detection of this tone at the other end of the cable will verify continuity of the conductor pair.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The requirement can be satisfied by utilizing a circuit Interrupter, suitably packaged, to interrupt the output of an audio oscillator (200CPS - 20KC), ACO 4006, thus producing the required intermittent tone. As this equipment may be used where there is no commercial AC power available, a DC-AC Inverter, ACO _____ would be required to furnish power.

The following equipment, used in the manner depicted in the attached drawing, is capable of satisfying this requirement.

- McMahon 22-01 Circuit Interrupter packaged in a "Mini-Box", BUD Co. #91F707, Type CU 2107-A 6" x 5" x 4"

 This item must be used with ACO 4006, Audio Oscillator

ORIGINATING GROUP SUPERVISOR: R. Collins

TELEPHONE: 3-0368 — R. Eaton

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Burton</i>	<i>W. M. Mann</i>	<i>R. E. Greiner</i>	<i>R. Eaton</i>

2-6340-0-19-28-2

REV. MAR 18 1963

SHT 1 OF 1

NO. D2-11713-2

ISSUED | NO. _____ | PAGE 105

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**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 489
 APPROVAL DATE 8-31-2
 REVISION A DATE 11-9-2

EQUIPMENT TITLE MEGOhMMETER
(Scale Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SRG/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11142			
	X	X	X					

PURPOSE & JUSTIFICATION

A requirement exists for a megger to check the Hardened Cable (Figure "A" 1339) for insulation breakdown during cable maintenance and repair. Also required to periodically test wiring to the sump pump at the LP.

REF: Doc. D2-13452

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A portable, hand crank megger, 500 VDC, 0-1000 megohms.

The following equipment will satisfy this requirement:

1. Biddle #7679
0-100 megohms
2. Biddle #7689-1
0-5000 megohms

NOTE: Use form US-4071-1000 if additional sheets are required.
 REV. "A" - H. E. Colling 3-0368, Org. 2-2060
 ORIGINATING GROUP SUPERVISOR: R. Colling
 TELEPHONE: 3-0368

SHT 1 OF 1

ENGINEERING DEPT. <i>H. H. Baiter</i>	BASE INSTALLATION DEPT. <i>W. M. ...</i>	MANUFACTURING DEPT. <i>R. ...</i>	FACILITIES DEPT. <i>R. ...</i>
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2-4340-0-1 MAR 18 1963

REV. 11-13-2

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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 490
APPROVAL DATE 8-31-62
REVISION A DATE 3-29-63

EQUIPMENT TITLE ANEMOMETER
(Basic Name First)

RESPONSIBLE DEPT. BT-MM EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	X	X	X
			A			A	A	A

PURPOSE & JUSTIFICATION:

To measure the velocity of the air discharging from the LF environmental control system (ECS) to cool the LF motor generator set. This measurement must be taken when balancing the total air discharge from the ECS to all forced air cooled electronic equipment and to the motor generator set.

Ref. Doc.: VAFB D2-14652-2
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This anemometer must be capable of measuring airflow in the range of 1000-1500 feet per minute with a 10% accuracy. The following equipment will satisfy this requirement:

Taylor Bayram Anemometer No. 3132 (Seattle Scientific Supply #10650)

Flo Rite Model MRF 6001 (Seattle Scientific Supply #10655) (preferred)

NOTE: Use form U3-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: W. R. Blair REV. "A" - R. E. Colling

5-2854

TELEPHONE: 5-6786

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boster</i>	<i>A. J. ...</i>	<i>J. C. ...</i>	<i>C. H. ...</i>

2-6340-17-1

REV. 4-6-63

NO D2-11713-2
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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 491
APPROVAL DATE 8-31-5
REVISION A DATE 3-29-5

EQUIPMENT TITLE PITOT TUBE
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

A

PURPOSE & JUSTIFICATION:

Used with ACO-492 to monitor the environmental control system (ECS) main supply duct discharge air pressure when balancing the air flow to the LF or LCF electronic equipment. The supply duct must be kept at constant pressure during the airflow adjustment. In so doing, each rack may be adjusted for correct air flow without affecting the air flow to adjacent racks.

Ref. Doc.: VAFB D2-14652-2
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This tube must be capable of insertion into the main supply duct of the Launch Facility and Launch Control Facility Environmental Control system. It must be able to transmit the duct pressure to ACO-492 Draft Gauge for recording. The following equipment satisfies these requirements:

Dwyer Pitot Tube Model 160-18-P

NOTE: Use form US-071-1000 if additional sheets are required

REV. "A"
W. Swift
5-1522

ORIGINATING GROUP SUPERVISOR: W.R. Blair
TELEPHONE: 5-6786

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boster</i>	<i>M. J. ...</i>	<i>C. E. ...</i>	<i>C. H. ...</i>

2-0340-0-1

REV. 4-4-3

NO. D2-11733-2
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ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

ACO NUMBER 492
APPROVAL DATE 8-31-62
REVISION _____ DATE 8-31-62

EQUIPMENT TITLE Draft Gauge
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION Used in conjunction with ACO-491 to monitor main supply duct discharge air pressure when balancing the air flow to the LP forced air cooled electronic equipment. The main supply duct from the environmental control system must be kept at constant pressure when balancing the discharge air flow. This equipment is also required for the same function at the LCF.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This equipment is required as a result of data obtained in balancing the air flow at the first six LP's and first LCF at MAFB. It must be capable of attaching to ACO-491 Pitot Tube and record pressures in the range of 0-5 inches of water. The following equipment satisfies these requirements:

Dwyer Draft Gauge Model 104-6
Meriam Instrument Co. Model 35-JA 10
Reference: D2-9262, Volumes III and IV.

NOTE: Use form UJ-4071-1000 if additional sheets are required.

E. Schmitt for
ORIGINATING GROUP SUPERVISOR: W.R. Blair
TELEPHONE: 5-6786

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

MAR 18 1963
REV. 9-6-62

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ACO NUMBER 493

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 9-11-2

REVISION A DATE 1-16-3

EQUIPMENT TITLE AMMETER, DC, WESTON
(Scale Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N.A.

TO BE USED AT:

BASE	MAFB	EAPB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for a means of monitoring the DC output current of Fig. A/ ACO 4523, Common Portable Power Supply during acceptance testing, maintenance and periodic functional testing in the CSA.

Ref: D2-11344 Volume 4

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A commercially available ammeter is recommended for this purpose. This instrument is to be calibrated for readings for 1.5, 3 and 15 amperes DC full scale with 1% minimum accuracy.

The following equipment will fulfill this requirement:

Weston Ammeter Model 281
Calibrated for 1.5, 3 and 15 ADC

NOTE: Use form UD-4071-1000 if additional sheets are required.

WSP

REV. "B" - R. E. Colling
3-0368

ORIGINATING GROUP SUPERVISOR: W. Hudson
TELEPHONE: 5-2880

SHT 1 OF 1

ENGINEERING/DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-MAR 18 1963

REV. 1-16-3

WORKING NO. D2-1173-2
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ACO NUMBER

494

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE

8-21-62

REVISION

DATE 8-21-62

EQUIPMENT TITLE Detector, Land Line
(Book Name First)

RESPONSIBLE DEPT. BTD

EQUIP. CLASSIFICATION

/SFC/OH

DESIGN REQMS DOCUMENT

None

DWG NO.

N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

A requirement exists for a means of locating the hardened land lines (Fig. A 1339) for maintenance and repair.

REF: Document D2-13452, D2-7400

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A unit capable of transmitting a signal to the buried cable by 1 from above ground and then detecting the signal visually and aurally. The unit must be battery-powered, portable (for use by one man) and capable of detecting cables at a depth of four feet.

The following listed equipment will satisfy this requirement:

1. Fisher "M" Scope, Fisher Research Lab., Palo Alto, Calif.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Estim J. Hallen</i>	<i>W. M. ...</i>	<i>C. C. ...</i>	<i>Ray Syers</i>

2-4340-0-1
REV. 9-6-62
MAR 18 1963

ENGINEERING NO. D2-11162

NOTE: Use form UJ-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. Colling
TELEPHONE: 3-0368

14

R. Colling for Est. J. Hallen

WS 133A

ACO NUMBER 195

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 11-9-62

REVISION A B DATE 12-8-62

EQUIPMENT TITLE Generator, Pulse
(Basic Name First)

RESPONSIBLE DEPT. BI-MI

EQUIP. CLASSIFICATION SFG/OH

DESIGN REQMS DOCUMENT None

DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	None	X	None	None	None	None	None

PURPOSE & JUSTIFICATION A requirement exists for a pulse generator that is used to provide the pulse which will compare electrical (transmission time) lengths of two cables simultaneously. The two transmit antenna cables must be cut to a length electrically equal to each other; and the same is true for the two receive antenna cables to achieve optimum sensitivity of the Security System. The test is as specified in D2-11276 using ACO-4004, ACO-4172, and ACO-294 as part of the setup.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A commercially available self-contained pulse generator is recommended to satisfy this requirement.

Pulse Repetition Rate 1 KC
 Pulse Width 100 nanoseconds to 135±15 microsec @ 90% amplitude point
 Pulse Width Resolution 0.5 microsec @ 100 microsecs.
 Amplitude 1 - 25±2 VDC
 Rise Time 20 nanoseconds maximum
 Pulse Delay 0.20 microsecs

The following equipment will satisfy this requirement:

- Datapulse Model 102
- Rutherford Model B-7B
- American Electronic Labs Model 318
- E. H. Research Lab. Model 132A
- ACO-189

NOTE: The only difference between ACO-189 and this ACO is the resolution. The Electropulse has 0.2 microseconds resolution, while the Datapulse and Rutherford will only resolve at 0.5 microseconds. This item will not satisfy the requirements of ACO 189.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Boston</i>	<i>A. W. Meern</i>	<i>A. C. Cramer</i>	<i>C. H. Hurd</i>

2-6340-0-1

REV. 12-12-62
3-18-63

FOR INFO NO. D2-11713-2

PAGE 1 OF 1

Rev/ B
Wayne Johnson

NOTE: Use form US-0371-1000
if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: P. A. Estep
TELEPHONE: 3-0763

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 497

APPROVAL DATE 9-28-2

REVISION _____ DATE _____

EQUIPMENT TITLE Adapter
(Book Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

These Adapters are required to convert from Modified SC connectors to Type N connectors during the Acceptance Functional Test of Fig. A 3109 per ^{COMPTON} to D2-7830. (2 required)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Cannon CA 51396-2 (no substitute)
(2 required)

NOTE: Use form US-4071-1000
If additional sheets are required.

8-30-2
W. H. Benton
TELEPHONE: 5-2228

ORIGINATING GROUP SUPERVISOR

TELEPHONE:

SHT 1 of 1

ENGINEERING DEPT. <i>W. H. Benton</i>	BASE INSTALLATION DEPT. <i>W. H. Benton</i>	MANUFACTURING DEPT. <i>G. E. ...</i>	FACILITIES DEPT. <i>R. Estep</i>
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3-4340-0-1 MAR 18 1963

REV. 9-28-2

NO. D2-11713-2
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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 512

APPROVAL DATE 10-26-62

REVISION A DATE 11-2-2

EQUIPMENT TITLE Handling Kit, Rocket Motor Carriages
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION RATE

DESIGN REQMS DOCUMENT _____ DWG NO. ME 25-36911

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION

To provide a means of hoisting the empty stage 1, 2 & 3 rocket motor carriages and remove them from or place them in a SSCCM or TE. This equipment will permit the removal of empty carriages from a TE so it can accept a missile from a loaded SSCCM.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This equipment shall be capable of the following:

1. Adapting to the tongs of ACO 4184 fork lift truck. The adapter shall be capable of hoisting and removing from or replacing the empty rocket motor carriages in the SSCCM or the TE.
2. Hoisting the first, second and third stage rocket motor carriages by attachment to the lift points on the carriages.

NOTE: The adapter and lift assembly shall be designed to provide maximum clearance between the hoisting equipment and the inside of the SSCCM and/or TE.

NOTE: Use form U3-4071-1000 if additional sheets are required.
 SIGNATING GROUP SUPERVISOR: P. WINGMAN, Revision A; R. JOLLING Orig. 3-3068
 TELEPHONE: 5-2563

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Butler</i>	<i>P. W. Wingman</i>	<i>J. E. Quinn</i>	<i>R. Estep</i>

2-430-0-1

MAR 18 1963

REV. 11-6-2
11-11-2

NO. 10-11715-2
DATE

WS 133A

ACO NUMBER 513

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 9-28-2

REVISION _____ DATE _____

EQUIPMENT TITLE Inverter, DC to AC
(Basic Name First)

RESPONSIBLE DEPT. EL/MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION:

The DC-AC Inverter supplies power to the Audio Oscillator (ACO-4006) and motor of the Circuit Interrupter (ACO-488) when the equipment is used in the field.

Also, can be used as a power source for the Impedance Bridge, (ACO-10702)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Self-contained batteries

Output: 120 Volts; 60 cycle AC at 100 watts

The following equipment is acceptable to fulfill this requirement:

1. ATR 12W-RSF Universal Inverter and Battery

Note: This equipment is not required when a source of commercial AC power is available.

NOTE: Use form UP-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. Stalley

TELEPHONE: 5-2017

R. Stalley

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>W. M. ...</i>	<i>C. E. ...</i>	<i>R. ...</i>

2-4340-0-1
REV. 9-28-2
MAR 18 1963

NO. 12-11713-2
MAG 913

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 514
APPROVAL DATE 11-30-62
REVISION B DATE 3-5-63

EQUIPMENT TITLE VACUUM TUBE VOLTMETER
(Basic Mount First)

RESPONSIBLE DEPT. RT-MM EQUIP. CLASSIFICATION SRG/OH

DESIGN REQMTS DOCUMENT None DWG. NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLJ 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	<u>Y</u>	<u>X</u>	<u>X</u>	<u>None</u>	<u>None</u>	<u>Y</u>	<u>Y</u>	<u>Y</u>

Ref: PRR 11500

PURPOSE & JUSTIFICATION Required to adjust fault locator, alarm set (25-26827) power supply.

- To insure 10 megohm or greater resistance before applying 500 VDC during pin isolation tests of protective device, ignition (CTLI) Fig. "A" 9232.

Ref: D2-12599

- It is also required at the CSA to support functional test of Primary Alert System (PAS) monitor panel. Ref: D2-14056, Functional Test Document DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS; Ref: PRR 20005

A compact precision DC voltmeter, ohmmeter, ammeter, capable of making all normal DC measurements.

Accuracy: 1% voltage (1MV-1,000V)
2% current (1 microamp-1 amp)

As Ohmmeter: 1 OHM - 100 megohms

The following equipment will satisfy this requirement:

- Hewlett-Packard 412 A

Rev. B
R. Shelley
5-4917

NOTE: Use form U3-4071-1000
if additional sheets are required.

Rev. A
T. J. Uno
5-3508

ORIGINATING GROUP SUPERVISOR: R. Colling
TELEPHONE: 3-0368

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>C. B. Mason</i>	<i>C. C. Collins</i>	<i>A. H. Weald</i>

2-4340-0-1

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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 516

APPROVAL DATE 10-16-2

REVISION A DATE 12-18-2

EQUIPMENT TITLE TEMPLATE, DRILL, ESA PANEL
(Base Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. 2DJ25-29016

TO BE USED AT:

BASE	MAFB	EAPB	VAFB	STP III	PLI 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION:

A requirement exists for a tool to locate pilot holes in the site structure which interfaces with the electrical surge arrester panels in the Launch Control Facility.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a drill jig plate of lightweight material, approximate dimensions 3/4 x 32 x 43, be used. The drill plate to contain (13) pilot size drill bushings. This tool is to be of a dual configuration tool, to drill the hole patterns for the large and small surge arrester panels in the LCF and LCC.

The A&E contractor will provide these holes for Minot and on as required.

NOTE: Use form UD-071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. Nothhaft REV. "A" - R. E. Colling
TELEPHONE: 5-4505 3-0568

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burton</i>	<i>W. Nothhaft</i>	<i>R. E. Colling</i>	<i>R. Estep</i>

2-6340-0-1

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MAR 18 1963

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ACO NUMBER 517
APPROVAL DATE 12-18-2
REVISION A DATE 1-11-3

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE ADAPTER, SIN REMOTE RINGING
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC-OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To provide a means for personnel in the Launch Facility equipment room to signal personnel in the Launch Control Facility requesting them to man the SIN system for testing.

The bell will provide Launch Control Facility personnel a method of signaling Launch Facility personnel for the same purpose.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

An adapter consisting of a cable, switch, plug and bell (or buzzer) similar to sketch shown on page two shall be provided.

The plug must mate with the test plug on the front panel of Figure "A" 1303 (repeater, telephone set).

The cable must be about 150 feet long permitting the switch and bell located in the LF equipment room to be hooked up to the test plug on Figure "A" 1303 located in the LF support building.

▽ Will be fabricated on site using Expendable Material.

NOTE: Use form UD-4071-1000 if additional sheets are required.

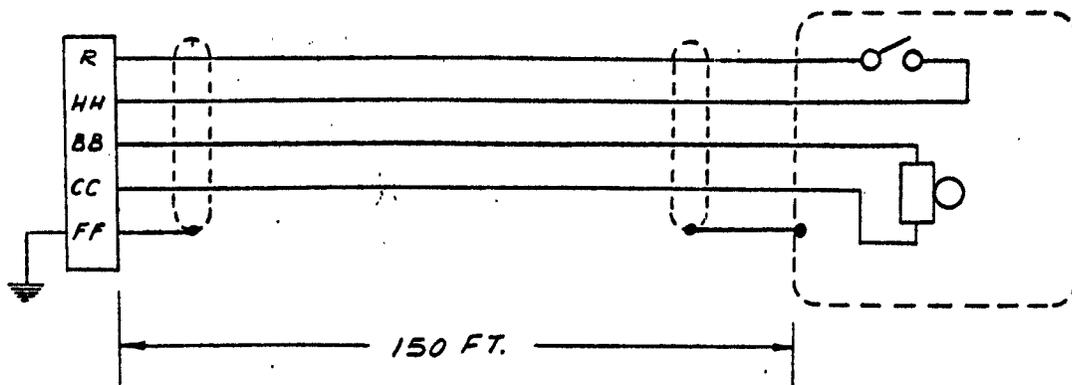
ORIGINATING GROUP SUPERVISOR: R. E. Colling REV. "A" - R. E. Colling
TELEPHONE: 3-0368 *WES*

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-01 MAR 12 1963

REV. 2-16-3

BOEING NO. D2-11713-2
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- * (1) PLUG - BP-06CE-22-55PW (Scintilla) (Ref: RCA Dwg. 1274154)
- * (2) BELL - 115 Volt 60 Cycle (Graybar 592BW) or (Suitable Buzzer)
- * (3) SWITCH - Single Pole Single Throw (MS-35058-30 or equal)
- * (4) CABLE - Shielded, 4 Conductor, #16 Wire (Alpha 1452/16 Pacific Electronics Sales Co., Inc.)
- * (5) BOX - MINI-BOX CU 1099B or Equiv. Western Electronics - Seattle

* NOTE: Non-critical parts - these are suggested parts only. Substitution may be made as required.

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U3-4871-1000

Rev. 1-16-3

MAR 18 1963

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ACO NUMBER 518

ASSEMBLY & CHECKOUT

APPROVAL DATE 10-12-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-1-3

EQUIPMENT TITLE Truck, Cable Maintenance
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT Facilities Dept. SPOO DWG NO. 2293-L

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

A need exists for a heavy duty 3/4 ton vehicle to transport personnel and equipment both on and off the highway during the cable maintenance portion of Assembly and Checkout;

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A vehicle meeting the following specifications:

- 1) 8,000 lbs. GW.
- 2) 7 1/2 foot pickup box
- 3) 4 wheel drive
- 4) Warn hubs
- 5) Locking differential
- 6) Heavy duty winch and cable powered by transmission power takeoff (PTO)
- 7) 4 speed transmission with PTO
- 8) Seat Belts
- 9) Alternator electrical system
- 10) Fresh air heater
- 11) Windshield washers
- 12) 200 HP V8 engine

The following equipment will satisfy this requirement:

1. Dodge 8,000 GW power wagon

Other Manufacturer's equipment meeting the above specifications are acceptable.

NOTE: Some facility modification is necessary to make vehicle operational.

NOTE: Dimensions above are nominal unless otherwise stated.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

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MAR 18 1963

BOEING NO. D2-11713-3
PAGE 1-518

NOTE: Use form US-071-1000 if additional sheets are required.

Rev. A G. Herald 2-1466

ORIGINATING GROUP SUPERVISOR: R. Collins

TELEPHONE:

JU3-0768

08-35

WS 133A
ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 501
 APPROVAL DATE 11-6-2
 REVISION _____ DATE _____

EQUIPMENT TITLE POWER CABLE SET, CSA POWER EQUIPMENT MAINTENANCE AREA
(Basic Noun First)

RESPONSIBLE DEPT. ENGINEERING EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT NONE DWG. NO. 25-35650

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

A set of cables is required to connect ACO 4152 to the 400 cycle power drop, and a cable set to connect ACO 4152 to the 60 cycle power drop at the CSA.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A pair of cables will carry 400 cycle power from the power drop to ACO 4152, and another pair will carry 60 cycle power to ACO 4152. See sketch on page two for part numbers, wire sizes and dimensions.

NOTE: This item used in conjunction with ACO 151 is functionally equivalent to Figure "A" 4540.

SHT 1 OF 2

ENGINEERING DEPT. <i>H. H. Burton</i>	BASE INSTALLATION DEPT. <i>W. J. ...</i>	MANUFACTURING DEPT. <i>R. E. ...</i>	FACILITIES DEPT. <i>R. Estep</i>
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2-6340-0-1
 REV. MAR 13 1963

BOEING NO. DE-11713-2
 PAGE 921

NOTE: Use form D3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. D. ...

TELEPHONE:

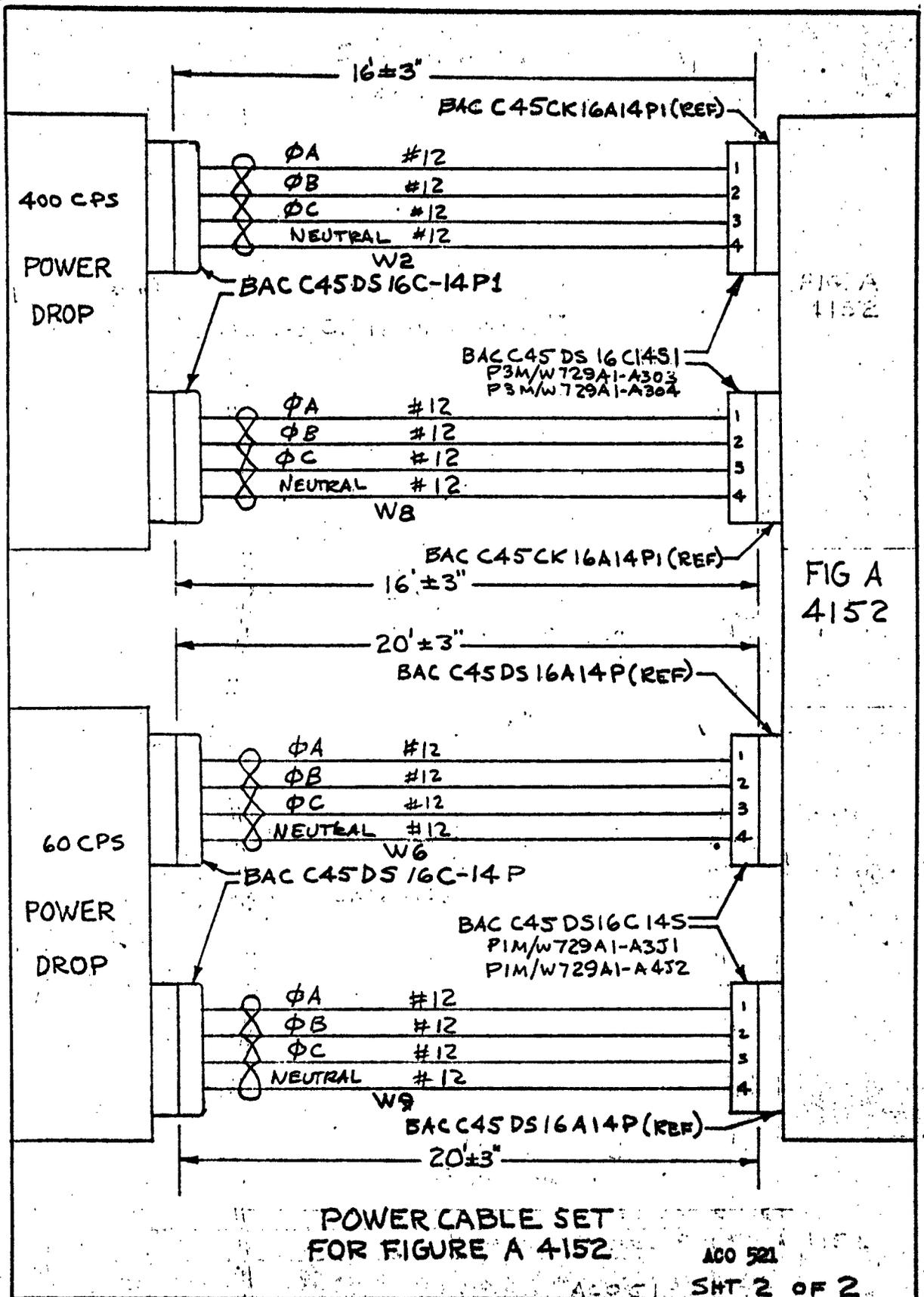


FIG A
4152

FIG A
4152

03-487-1000 MAR 12 1963
11-13-2

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PAGE 321a

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ACO NUMBER 523

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-20-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 1-17-63

EQUIPMENT TITLE Cutoff Device High Voltage G & C Power Supply
(Basic Non First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-37729

TO BE USED AT: Ref: PRR 11378

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

Required for protecting the G&C System loads from destruction, in case of power supply overvoltage. Existing G&C (36 ampere power supply, 25-22622, part of Figure A 1284) does not have an overvoltage protection device. The G&C system is subject to possible destruction without this item. It is recommended that this item be given an emergency priority.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

An overvoltage cutoff device to include a Zener and SCR circuitry. When an overvoltage condition exists, the Zener will break down and fire the SCR unit, which causes an overcurrent and blows a fuse. Blowing of the fuse causes a capacitor to discharge which opens contacts and gives a visual alarm. See sketch below.

NOTE: Use form UD-4071-1000
If additional sheets are required.

REV. R.W. ORR. 3FE
5-6-66

ORIGINATING GROUP SUPERVISOR: F.L. SIMON
TELEPHONE: 5-4521

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 1-30-3

MAR 18 1963

BOEING NO. D2-11713-2
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ACO NUMBER 524

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-27-2

REVISION A DATE 3-15 3

EQUIPMENT TITLE Cable, Interim Outer Zone Security
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. None

TO BE USED AT: Results from Interim Security System Contract

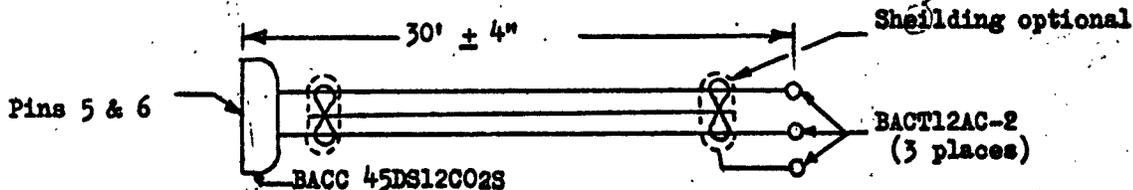
BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

To provide a means to monitor the outer zone switches during site activation when classified and/or high valued equipment is installed but this security system is not yet in operation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The cable shall connect between the ESA, Fig. A 1374, and appropriate connection points in the Security J-Box, Fig. A 1331.



Any suitable two or more conductor wire, such as BAC 3100-100

Note: This cable shall be fabricated in the field using expendable supplies.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

REV. 3-18-3

REVISION NO. D2-11713-2

NOTE: Use form US-4371-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: R. V. Omsbee
TELEPHONE: 5-6696

128

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ACO NUMBER 525

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-27-2

REVISION B DATE 3-15-3

EQUIPMENT TITLE PLUG, SAFETY CONTROL SWITCH
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 29-29624

TO BE USED AT: Results from Interim Security System Contract

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 	X 	X	X		X	X	X
	B	B						

PURPOSE & JUSTIFICATION

To prevent the arm motor of the LF Safety Control Switch (SCS) from burning out when SCS is pinned safe and an arm signal is sent to SCS by:

1. Removal of safing tone by LCF
2. Removal of power to LF SCN equipment
3. Disconnection of cable W529 between SCN and distribution box. Cable W529 is disconnected when ACO 187 cable is connected to provide the interim LF security system which is utilized until operational LF security is checked out and activated.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A receptacle is required for correction at the SCN end of cable W529. This receptacle is to provide continuity simulating continuous application of a safe signal to the SCS.



Parts per drawing 29-29104 are acceptable for Boeing use at MAFB and EAFB

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. W. Ormsbee

REV. "B" - R. E. Colling

TELEPHONE: 5-6696

5-2854

SHT 1 OF 1

ENGINEERING DEPT. <i>E. J. Schmitt</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>	FACILITIES DEPT. <i>[Signature]</i>
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2-6300-0-1

REV. 3-18-3

BOEING NO. D2-11713-3
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ACO NUMBER 526

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-27-2

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE TRIPOD, THEODOLITE
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION:

A means is required to mount the theodolite (part of ACO 0642) at the new marker "A". This will permit sighting down the sight tube which is part of the procedure for alignment of the primary and secondary reference mirrors on the auto-collimator bench.

Ref: D2-9262

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A standard wood constructed tripod is recommended to fulfill this requirement. The tripod must be compatible with a Wild-T3A-M theodolite, which is called out as part of ACO 0642.

The following equipment is acceptable to fulfill this requirement:

1. K&E Model 5192-8

NOTE: Use form JD-0371-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: A. D. Murn

TELEPHONE: 3-0368

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burt</i>	<i>A. D. Murn</i>	<i>A. C. Brewer</i>	<i>R. Estep</i>

2-6340-0-1

REV. 12-12-2
MAR 18 1963

BOEING NO. D2-11713-2
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ACO NUMBER 527

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-14-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 12-14

EQUIPMENT TITLE Kit, Chuck and Foot Adapter - Weld Stud Gun
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG NO. ME 25-36917

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLI 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 1	X				X	X	X

NOTE: Use form LP-6371-1000 if additional sheets are required.

PURPOSE & JUSTIFICATION

For flash welding ring studs (BACR12AW20 & BACR12AW35) within the LP & LCP. A kit is to be provided that will adapt to the "Nelson Stud Gun" and will be used for emplacing the weld studs for the intrasite cabling system in the LP & LCP. This kit is to be used with Nelson Stud Gun Model No. NS-10

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The kit will consist of the following components to be attachments to the Nelson Stud Gun.

- a. One straight chuck and one adapter assembly (for use with existing stud gun leg).
- b. One offset chuck and one offset leg with adapter assembly.

The chuck and adapter assembly must permit removal from ring studs after welding operation.

The chuck must have means of clamping onto ring stud to hold the stud in place during welding operation.

The offset chuck should have approximately a 5" offset to enable proper welding of BACR12AW35 studs.

1 All MAFB requirements were fabricated on site.

SHT 1 of 1

ORIGINATING GROUP SUPERVISOR: V. W. WATSON
TELEPHONE: 5-5735

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M. H. Burton</i>	<i>C. P. Mann</i>	<i>A. E. Collins</i>	<i>R. Estep</i>

2-6340-0-1MAR 18 1963

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BOEING NO. D2-11713-2
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ACO NUMBER 528

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 11-30-62

REVISION _____ DATE _____

EQUIPMENT TITLE Kit, Installation, Launcher Closure Actuator
(Base Non First)

RESPONSIBLE DEPT. _____ BIS EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	FLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for a tool to emplace the launcher closure ballistic actuator support plates. It will be used to support the launcher closure ballistic actuator support plates (25-26706-1 and 25-25957-1) while a person in the upper equipment room drops emplacement bolts and washers into position and a person in the lower equipment room attaches the nuts and washers.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a kit be provided which will have the following capabilities:

1. Hold support plates 25-26706-1 and 25-25957-1 into position for bolting.
2. Lightweight, flat, holding plate with cutout for clearance of the piston and access to the attach bolts. This plate may be omitted if a chain hoist from the hook in the ceiling of the first level is used.
3. Attaching chains capable of reaching from floor to ceiling of the second level, plus 2 feet.
4. "I" Bolts, nuts and washers for attachment to the 25-25957-1 plate (see attached sketch).
5. Proof load for maximum of 200 pounds.

Make on site from MRO stock.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Buxton</i>	<i>C. M. Mann</i>	<i>R. E. Greiner</i>	<i>R. Estep</i>

2-6340-0-1

REV. 12-12-62
MAR 18 1963

BOEING NO. D2-11713-2
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NOTE: Use form D2-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: _____
TELEPHONE: _____

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ACO NUMBER 529

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-30-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 3-15-3

EQUIPMENT TITLE Generator, Gasoline - Driven
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None Fac. Spec. No. 2404-P
DWG NO.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X	None	None	None	None	None	None

B B

PURPOSE & JUSTIFICATION

A gasoline driven generator is required to supply power to ACO test equipment during LF start-up tests. If not incorporated into the system, the loss of power to the test equipment during changeover from commercial to stand-by power should result in a No-Go shutdown. This item results from differences in basic facility designs, between Wing I and Wing II.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This gasoline driven generator shall meet the following requirements:

- 1) Power output 120 volts \pm 10 volts, 60 cycle \pm 3 cycles, single phase, 2 KVA minimum
- 2) Self-sufficient for a minimum of one-half hour
- 3) The unit must be portable and suitable for outdoor use without special environmental protection
- 4) Output power connector shall be a standard single phase, 3 terminal power connector with one terminal grounded

The following equipment will satisfy this requirement:

- 1) ONAN Electric Generating Plant Model 205 AJ-IP
- 2) Kohler Electric Plants Model 2.5 M25

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>E. J. Halliday</i>	<i>A. J. McLean</i>	<i>R. E. Greiner</i>	<i>C. H. Neuld</i>

REV. 3-18-3

NO. D2-11713-2
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NOTE: Use form U3-3071-1000 if existing sheet are required
 C. H. Herald
 2-4166
 08-35
 JU3-0768
 Rev. B
 R. H. Oxtsbee
 5-6696
 TELEPHONE:

WS 133A

ACO NUMBER 530

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-16-62

REVISION _____ DATE _____

EQUIPMENT TITLE Wrench, "T" Handle
(Basic Name First)

RESPONSIBLE DEPT. BT-Mf EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	X	X	X	X

PURPOSE & JUSTIFICATION

A "T" Handle Wrench is required for connecting the raceway cable plug between the 3rd stage engine and the G&C Section during pre-delivery maintenance and for regular assembly functions at Wing II and on.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A "T" Handle Wrench which can be inserted into the raceway connector to connect or disconnect the raceway cable plugs.

The following equipment will satisfy this requirement:

1. LAVDEL #50456 Single Acting Pin

2. Amphenol #200X-375-55

NOTE: This item is delivered to Plant 77 as part of the raceway cabling and is an expendable item at Plant 77. Excess "T" handles are available at Plant 77 and can be salvaged for ACO usage. All requirements for this item shall be fulfilled by use of surplus Plant 77 parts.

NOTE: Use form UJ-4771-1000 if additional sheets are required.

W.R. BLAIR

ORIGINATING GROUP SUPERVISOR:

TELEPHONE: 5-6286

SHT 1 OF 1

ENGINEERING DEPT. <i>Ch. B. Burt</i>	BASE INSTALLATION DEPT. <i>Ch. B. Burt</i>	MANUFACTURING DEPT. <i>Ch. B. Burt</i>	FACILITIES DEPT. <i>R. Estep</i>
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2-6340-0-MAR 18 1963
REV. 12-12-2

BOEING NO. D2-11713-2
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ACO NUMBER 531

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-7-2

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE RAMP, PORTABLE, ACCESS SHAFT TO TUNNEL JUNCTION
(Basic Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT: Results from Facilities Change, Wing III & On.

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None				X	X	X

PURPOSE & JUSTIFICATION

To enable movement of heavy equipment on dollies, from the service lift to the threshold of the tunnel pressure door during assembly and check out period.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Access Equipment is required which shall:

1. Provide a ramp area in front of the tunnel junction.
2. Have a hard non-slip surface.
3. Be readily portable.
4. Be securely anchored to prevent movement when in use.
5. Support loads up to a maximum of 2300# on dollies.
6. Be constructed for ease of installation, removal and transport.

This ACO to be made on site from expendable MRO material.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J.H. Bester</i>	<i>W. Munn</i>	<i>A.C. Brewer</i>	<i>R. Estep</i>

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NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. T. Holland
3-1930
TELEPHONE: _____

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WS 133A

ACO NUMBER 532

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-11-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE RECORDER, TEMPERATURE, PORTABLE
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
					X			

PURPOSE & JUSTIFICATION

A requirement exists to record the ambient temperature within the transporting vehicle during transportation of missiles and motors at A.F. Plant 77, when the Alarm Set (MGE 4187, FSE 7787 or FSE 7788) is not used.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The following equipment is acceptable to satisfy this requirement:

BRISTOL Model 4069TH, Thermo-Humid Graph

(These units are available at Plant 77 stores)

This unit is required to record temperature in a permanent form for future reference. Range required is 30°F to 130°F ± °F. It must be self-powered for a period up to 24 hours.

NOTE: Use for - U3-4071-1330 if additional sheets are required.

MANUFACTURING GROUP SUPERVISOR: D. P. LUANNY

TELEPHONE: 51796

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. B. Boston</i>	<i>M. J. Jones</i>	<i>A. E. Cressend</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963
REV. 12-12-2

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ACO NUMBER 533

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-11-62

REVISION _____ DATE _____

EQUIPMENT TITLE CABLE ASSEMBLY
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 29-29165

TO BE USED AT:

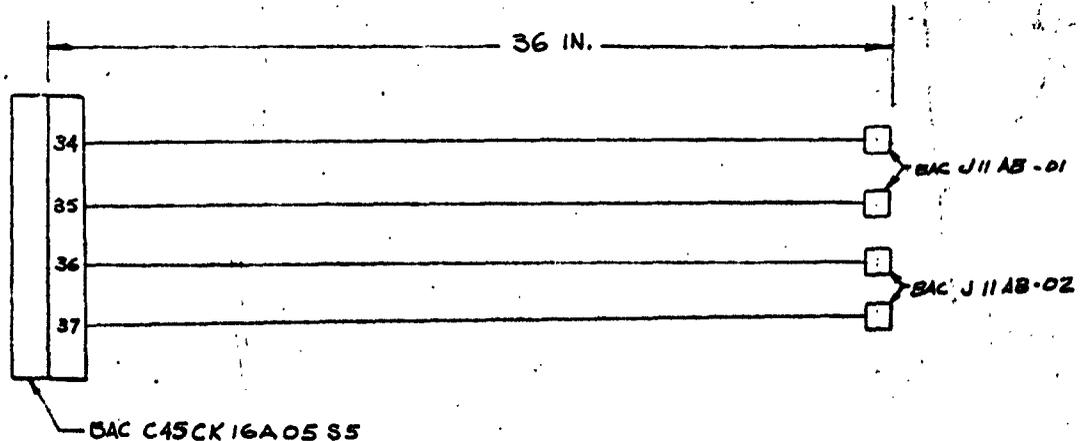
BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	None	X					

PURPOSE & JUSTIFICATION

To permit connections to the Antenna Control Cable in the Launch Control Facility for antenna switch operation during the post assembly functional test of the HF Soft Transmit-Receive Antenna System, Figure A 1425, per D2-14053, Vol V, Sec. 2.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that four, three-foot unshielded wires be soldered to a BACC45CK16A05S5 connector at one end and two each BACJ11AB-01 and BACJ11AB-02 jacks be attached at the other end as shown below:



SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burt</i>	<i>A. M. Jones</i>	<i>A. C. Greiner</i>	<i>R. Estep</i>

2-6340-0 MAR 18 1963
REV. 12-12-2

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NOTE: Use form U2-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. T. Holland
TELEPHONE: 3-1930

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WS 133A

ACO NUMBER 535

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 1-7-3

REVISION A DATE 3-15-3

EQUIPMENT TITLE HF Breakout Box
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-37960

TO BE USED AT: Resulted from ECP 441

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X	None	None	None	X	X	X

PURPOSE & JUSTIFICATION

This HF Breakout Box is required to simulate antenna control function of the Figure A 1368, RF Radio Set, and is used in acceptance functional testing of the SAC HF Antenna, Figure A 1425. This HF Breakout Box changes the antenna mode "Discone" or "Cage" according to the operating frequency. Antenna "Discone" mode is used for the frequencies 6 mcs to 30 mcs. Antenna "Cage" mode is used for the frequencies 3.5 mcs to 6 mcs. Antenna impedance is measured at frequencies of 3.5 mcs and 12.00 mcs with ACO 321 (HF signal generator) ACO 483 (RF impedance bridge) and ACO 482 (communication receiver). Reference: D2-14053, Vol.5, Sec. 2

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A box with adapter cable is required, constructed to the following design.

Schematic diagram is shown in Sheet 2.

Following parts are required:

Breakout Box		
Designation	Nomenclature	Part Number
L1, L2	Indicator Light	BAC-L15Y-1
S1	Switch	MS 25306-27
S2	Switch	MS 25307-26
TB1	Terminal Block	BAC-C42B-2A-6
TB2	Terminal Board	BAC-C42C-24A-1
CB1	Circuit Breaker	BAC-C18K1501
R1, R2	Resistor	BAC 443-0152-069
J1	Connector	BAC-C45K16A055 5
J2	Plug	BAC-C45GB1

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>E. J. Walcott</i>	<i>C. J. ...</i>	<i>A. C. ...</i>	<i>H. ...</i>

2-6340-0-1

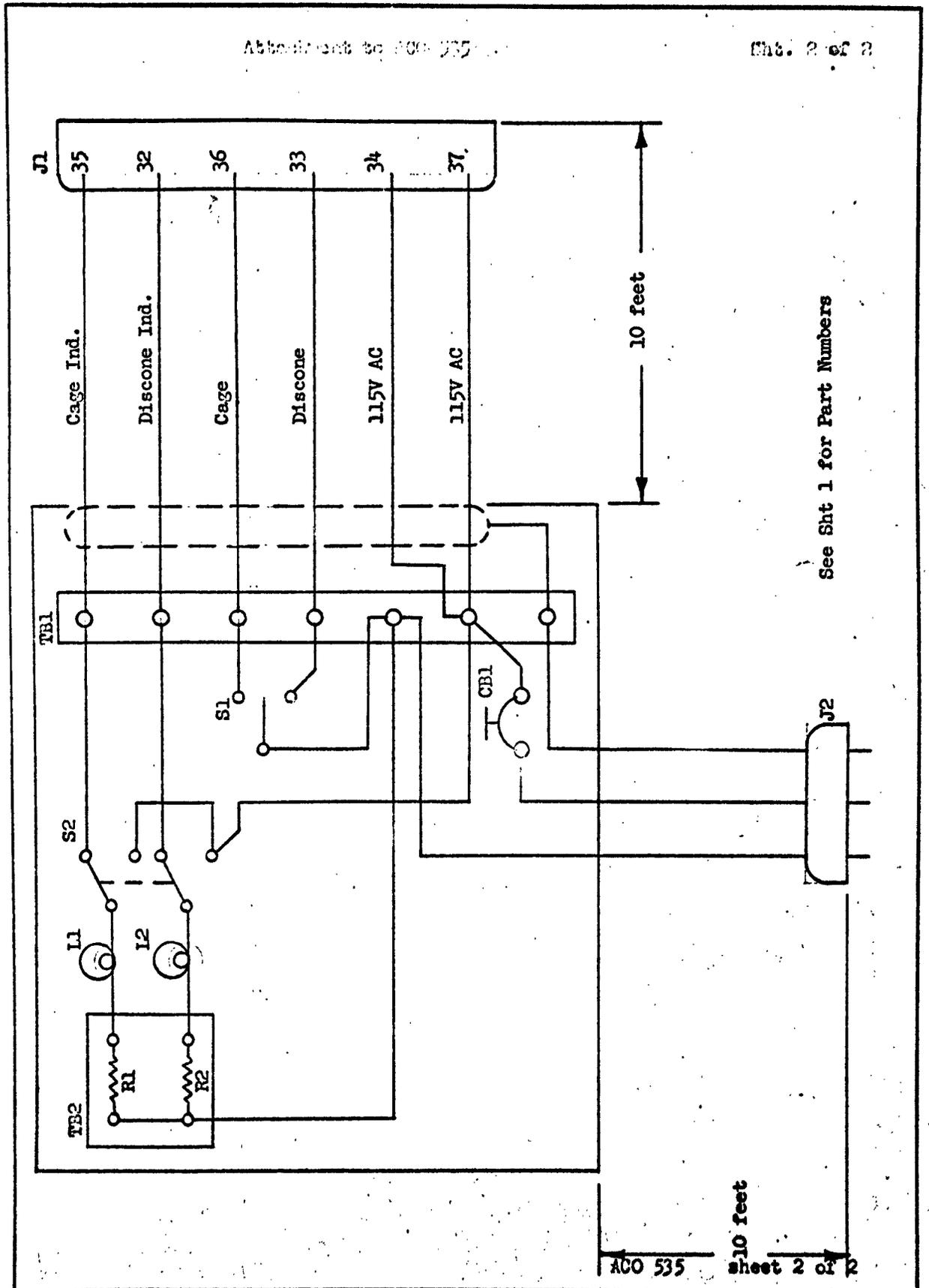
REV. 3-18-3

NOTE: Use form D2-4071-1000 if this manual sheets are required

ORIGINATING GROUP SUPERVISOR: L. A. Patten (T. H. H. H.)

TELEPHONE: 5-4281

hb



See Sht 1 for Part Numbers

ACO 535

10 feet
sheet 2 of 2

50
3-18-3

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ACO NUMBER 536

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-7-3

REVISION B DATE 3-5-3

EQUIPMENT TITLE Electronic Counter
(Basic Noun First)

RESPONSIBLE DEPT. RTD EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	X	X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for an electronic counter, capable of making measurements of variable frequency, of time intervals and periods, in the CSA, IF, LCF and Plant #77 during assembly and checkout of Figure "A"s 603, 604, 1283, 1302, 1303, 1367, 4012 and in part on Figure "A"s 623, 1201. This electronic counter can be used to reduce the total quantity of the present ACO 3140.

DOCUMENT REFERENCE

D2 -11356, -11357, -11358, -11359
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A 1 megacycle counter which has a stability of 3 parts in 10^7 per week, and a sensitivity of 100 millivolts will satisfy this requirement. Measurements include 60 cps, 400 cps, 2.6 KC and 1 MC.

The following equipment is acceptable to fulfill this requirement:

1. Beckman Berkeley Model 7360j DC-1.0MC
2. Beckman Berkeley Model 7370 10- Cycle-10MC
3. Beckman Berkeley Model 5390 DC-25MC
4. Beckman Berkeley Model 5360 DC-25MC
5. Beckman Berkeley Model 5340 DC-2.5MC
6. Beckman Berkeley Model 5320 DC-2.5MC
7. Beckman Berkeley Model 8360 DC-1.0MC
8. ACO 3140
9. HP523D or HP523DR* 10 Cycles-1.2MC
10. Transistor Specialist Inc. #361 0.1 cycle - 1.0MC

*HP523DR is a rack mounted item which becomes HP523D when contained in HPAC44L cabinet. Cabinet may be provided separately.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burtis</i>	<i>Ch. Quinn</i>	<i>P. C. Brewer</i>	<i>H. H. Burtis</i>

2-6340-0-1

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NOTE: Use form U3-071-1000 if additional sheets are required.

C. H. Herald
2-4166
JU3-0763

Rev. ACB

R. Shelley
5-1917

ORIGINATING GROUP SUPERVISOR:

dlb

WS 133A

ACO NUMBER 537

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-9-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE 1-14-3

EQUIPMENT TITLE Fixture, Locating, LF Access Centerline
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT NR DWG NO. 3037-1016 N/A

TO BE USED AT: Results from ECP 215.

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing #3	Wing #4	Wing #5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-7648	D2-7648	D2-7648
	X	X				X	X	X

PURPOSE & JUSTIFICATION

Required during installation of Figure A 1610 Guide Rail Assembly. Used in conjunction with ACO 697 to properly align the secondary door guide rails and to position the lock ring for the secondary door. This item is required to locate the centerline of the LF personnel access shaft in order to properly position ACO 697.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The following equipment is acceptable to fulfill this requirement:

R. M. Parsons drawing No. 3037-1016

This fixture consists of a flat reinforced plate matching the contour of the inner upper edge of the personnel access hatch. When positioned at the entrance of the access hatch sufficient clearance is allowed to permit centering and locking of the fixture by adjustable bolts which are a part of the fixture. A small hole drilled in the center of the fixture locates a guide line in the center of the access which is used as a center reference by ACO 697 in positioning the Guide Rail Assembly and locking ring for the secondary door.

1 Locating fixtures have been provided to HI-MM base personnel at MAFB by the GIS contractor which retrofitted flights A & B with the button-up system (TIDE BAY).

2 Assigned to Engineering for technical coordination only. BID will procure under normal organizational responsibilities.

SH 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 MAR 18 1963

REV. 1-16-3

NO. 12-11715-3
PAGE 1-3

NOTE: Use form UD-4971-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W.R. BARR
TELEPHONE: 5-6226

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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 538

APPROVAL DATE 1-11-5

REVISION A DATE 3-28-3

EQUIPMENT TITLE JIG, DRILL, INTRASITE CABLE FEED THROUGH
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-36920

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11142			
	X	X				X	X	X

PURPOSE & JUSTIFICATION

To provide a means of locating and drilling the four hole pattern in the LP and/or ICF Bulkheads (only) common to the cable feed through adapter plates (25-31420) supplied as part of the intrasite cables.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A light weight drill jig capable of the following:

1. Indexing from hole provided for cable entry into LP/ICF.
2. Provide drill bushings for drilling four holes each at the LP (Ref. 24-2230) and the ICF (Ref. 24-2225). These are the four holes required to install the 25-31420-6, -7, -8, -9, and -10 plates.
3. Provide a means to orient jig horizontally and vertically during installation.
4. Provide a means of clamping jig securely in place.
5. There must be coordination between the drill jig and the 25-31420-6, -7, -8, -9, and -10 plates to insure fit of plates onto bulkheads.



Some units fabricated on site at MAFB. The quantity on hand should be determined before programming additional quantities.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burton</i>	<i>W. H. ...</i>	<i>C. E. ...</i>	<i>C. H. Herald</i>

2-6340-0-1

REV. 4-4-3

~~SECRET~~ NO. 02-11713-2
PAGE 538

NOTE: Use form UD-071-000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: M. Wenger REV. "A" - A. D. Munn 5-2854
TELEPHONE: 5-3395

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WS 133A

ACO NUMBER 539

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-11-53

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE JIG, LOCATING, LF AUTOCOLLIMATOR MIRROR MOUNT
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 3DT 24-2227

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				None		

PURPOSE & JUSTIFICATION

A requirement exists for a means to accurately locate and provide for drilling the Mounting Bolt Hole pattern for the Autocollimator Mirror Mounts, Figure "A" 631. (N.A.A. Engineering Part 66181-107). The close tolerance of the hole pattern was such that an ECR was processed to relieve the A & E contractor of responsibility for providing the holes.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A special purpose template with the following provisions:

1. To be a template type tool with (3) drill bushings of tap size for 3/8" -24UNF threads.
2. To have scribed vertical and horizontal center lines.
3. To be built as light weight as practical

NOTE: Use form WS-4271-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: D. Murn
TELEPHONE: 3-0368

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>A. H. Murn</i>	<i>P. E. Calisher</i>	<i>George K. Tutman</i>

2-6340-0-1 MAR 18 1953
REV. 1-16-3

REWORK NO. D2-11713-3

66-

WS 133A

ACO NUMBER 540

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-17-63

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE DECK, REMOVABLE, PERSONNEL ACCESS SHAFT
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 1

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X				X	X	X

Results from ECP 245.

PURPOSE & JUSTIFICATION

A temporary floor is required during assembly and checkout of the LF. This item will be installed at the upper equipment room level in the personnel access shaft. It will be removed upon installation of the secondary barrier (button-up).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

ACO will be fabricated on site from MRO stock. Modifications will be made as required to make the deck plate compatible with the minor differences that may be found when moving from site to site. This item will be fabricated only in such quantities as necessary to supplement deck plates obtainable from the C.I.S. The plate shall be notched to fit around the "guide rails" shall accommodate tolerances from site to site, and shall withstand a proof load of 5000 pounds.

1 SK-ELM-21 revised to conform to the above requirements.

2 Accomplished by Base liason Engineering.

NOTE: Use form U3-071-1030 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. E. Colling
TELEPHONE: 3-0367

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 MAR 18 1963
REV. 1-30-3

BOEING NO. D2-1173-2
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ACO NUMBER 541

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-17-3

REVISION A DATE 3-29-3

EQUIPMENT TITLE Jig. Locating, LF Main "J-Box"
(Basic Main First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 2DT 24-2227

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7643	D2-7648	D2-7371	D2-9942	D2-11162			
	X	X	None	None	None	X	None	None

PURPOSE & JUSTIFICATION

A requirement exists for a means to accurately locate and drill the mounting bolt hole pattern for the LF Main Junction box, Fig. A 1337 in the Launcher Equipment Room floor.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a special purpose template be provided to satisfy the requirements:

1. Provide for drilling (8) holes in the first level launcher equipment room floor.

MAFB hole size shown on drawing 24-2227 sht 3.
 EAFB hole size shown on drawing 24-2409 sht 16.
 Minot hole size shown on drawing 24-3209 sht 14.

2. Provide means of drilling the (8) holes in the correct relationship to cutout.
3. Provide handles for lifting.
4. Be light weight enough to be handled by one man.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boston</i>	<i>D. Myers</i>	<i>A. C. Brewer</i>	<i>C. H. Oswald</i>

2-6340-0-1

REV. 4-4-3

NOTE: Use for US-11713CO if this hole is required

R. Durdon
 R. Durdon
 TELEPHONE: 5-6865

ORIGINATING GROUP SUPERVISOR:

WS 133A

ACO NUMBER 542

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-17-3

REVISION A DATE 2-19-3

EQUIPMENT TITLE VARIATOR, PRESSURE - VACUUM
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for a portable low pressure source, during acceptance functional testing and calibration and adjustment of the dummy load electrical pressure switches (Part of Figure A/ACO-4152) at the CSA. This item is used to apply pressure to the pressure switches in order to check their operating point.

REF. DOC: D2-13794, Vol. IV

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended a hand operated pressure-vacuum pump be made available to satisfy this requirement. This instrument is needed to work in conjunction with ACO 308 and ACO 4001 in performing the test of above equipment. Minimum requirements: 0 - 2" Water Range, \pm .05" Water Stability.

The following equipment will satisfy this requirement:

Meriam Pressure-Vacuum Variator Model A646 RB

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. A. Burt</i>	<i>W. De Vos</i>	<i>A. E. Greiser</i>	<i>W. De Vos</i>

2-6340-0-1 MAR 13 1963

REV. 2-28-3

BOEING NO. D2-11713-2
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NOTE: Use form U2-4071-1000 if additional sheets are required.
ORIGINATING GROUP SUPERVISOR: W. De Vos 5-3518
REV. "A" - R. E. Colling/Wes 5-2054
TELEPHONE:

WS 133A

ACO NUMBER 543

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE _____

REVISION _____ DATE 1/18/63

EQUIPMENT TITLE VOLTMETER, PRECISION, DC
(Basic Noun First)

RESPONSIBLE DEPT. ETD EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	X	X	X	X

PURPOSE & JUSTIFICATION

A voltmeter is required to measure precise DC voltages in the CSA LF, LFC and for IGE trouble shooting during Assembly and Checkout Operation on Fig. A 1213, 1228, 1251, 1265, 1282, 1320, 1364, 1365, 3092, and in part of Fig. A 624, 3109, and 4018, 10709.
Ref. Doc.

D2-10065	D2-10361	D2-11357	D2-11359	D2-7830	D2-11326
D2-10066	D2-11356	D2-11358	D2-11294	D2-7832	

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A DC voltmeter with an accuracy of 0.05% of reading, with a voltage range of 0 to 50 volts DC.

The following equipment will satisfy the above requirements.

1. John Fluke Model 801
2. Cal. Stds. Corp. Mod. DC-100A
3. ACO 422.

NOTE: Use form U3-4371-1000 if additional sheets are required.

T. J. Jno
5-3503

ORIGINATING GROUP SUPERVISOR: R. Wally
TELEPHONE: 5-4917

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>R. Wally</i>	<i>A. C. Brewer</i>	<i>W. H. Reed</i>

2-6340-0-1 MAR 18 1963

REV. 1-30-3

BOEING NO. D2-11713-2
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ACO NUMBER ACO- 544

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-25-3

REVISION A DATE 3-12-3

EQUIPMENT TITLE _____
(Basic Noun First) Placard, LF Shut-Down/Start-Up Procedure

RESPONSIBLE DEPT. Engr. [unclear] EQUIP. CLASSIFICATION BATEH

DESIGN REQMTS DOCUMENT NONE DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-7648	D2-7648	D2-7648
	X	None	X	X	None	None	None	None

PURPOSE & JUSTIFICATION

Improper start-up and shut-down procedure by base personnel has resulted in numerous cases of damage to launcher electrical power equipment. A placard is required to be placed in each launcher equipment room which presents proper procedures for (1) Emergency Shut-Down, (2) Normal Shut-Down, and (3) Normal Start-Up.

Ref: PRR 11646 authorized relevant changes to ACO documentation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The placard is to present the procedures below and shall be made from heavy paper or cardboard and following printing, be encased in clear plastic or fiber-glass for protection against the elements.

Placard is to be installed in the facilities in accordance with instructions contained in D2-9262, Vol. 4, Sec. 0.

Attachment hardware is to be supplied with and considered a part of the placard. attachment shall be by means of Magnetic Hook, #MS 2-004, Magnet Sales, 3935 South Vermont, LA 37

ACO-544

LF SHUTDOWN/RESTART PROCEDURE

WING I POWER SYSTEM

COMPLIANCE WITH THIS PROCEDURE IS MANDATORY. OPERATIONS MUST BE PERFORMED IN THE ORDER LISTED, OR EQUIPMENT DAMAGE MAY RESULT.

EMERGENCY SHUTDOWN (Fire, loss of cooling air, or similar emergency)

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Baxter</i>	<i>R.D. Collins</i>	<i>A.E. [unclear]</i>	<i>A. [unclear]</i>

2-6-40-11-1

REV 3-18-3

BOEING NO. D2-11713-2
PAGE 544

NOTE: Use form U3-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: *W.R. Blair*
TELEPHONE: *5-6726*

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on the DC circuit breaker panel, and then on the AC circuit breaker panel.
2. LWS PANEL - Turn off circuit breaker 5 (M-G set) and circuit breaker 1 (battery charger).
3. M-G SET - Disconnect cable W715 (Plug PO2).
4. DISTRIBUTION BOX - Open (pull out) circuit breaker 6 (VRSA Emergency Power).
5. TEST EQUIPMENT - Turn off all power switches.

NORMAL SHUTDOWN

1. PROGRAMMER GROUP - Depress SHUTDOWN LAUNCH FACILITY button.
2. TEST EQUIPMENT - Turn off all power switches. (ACO-101 - LCF CONTROL-MANUAL switch placed in LCF CONTROL position. ACO-100 - LOCAL-REMOTE switch placed in REMOTE position prior to power removal.)
3. STATUS-COMMAND MESSAGE PROCESSING GROUP - Place -9V and both +28V switches in down (off) position, and then depress main power shutoff button.
4. DIGITAL DATA GROUP - Place -9V and both +28V switches in down (off) position, and then depress main power shutoff button.
5. DISTRIBUTION BOX - Open (pull out) all circuit breakers except CB2 (G&C cooling power.)
6. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on the DC and then on the AC circuit breaker panels.

NOTE: DO NOT DISCONNECT CABLES OR REMOVE POWER TO M-G SET.

M-G SET START-UP

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on DC circuit breaker panel and then on the AC circuit breaker panel,
2. LWS PANEL - Turn on circuit breaker 5 (M-G set) and circuit breaker 1 (battery charger).
3. M-G SET - When M-G comes up to speed (approx. 5 sec.), connect cable W715 (Plug PO2) to M-G Set.

CAUTION: M-G MUST BE UP TO SPEED BEFORE CONNECTING CABLE, OR DAMAGE WILL RESULT.

ACO-544
Sheet 2 of 3

ELECTRONIC EQUIPMENT START-UP

1. ENVIRONMENTAL CONTROL SYSTEM - Check that air is being discharged from the exhaust plenum of any of the racks requiring forced air cooling.
2. LOWER EQUIPMENT ROOM TEMPERATURE GAGE - Check for a reading of $55 \pm 2^{\circ}\text{F}$.
3. EMERGENCY FAN CONTROL PANEL - Check that key operated switch is on. (This panel is in lower equipment room mounted on upper floor, 180° from entrance.)
4. ELECTRONIC EQUIPMENT - Power may be reapplied to the electronic equipment in accordance with Site Acceptance Test Procedures as required for acceptance testing.

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WS 133A

ACO NUMBER 544.2

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-15-63

EQUIPMENT REQUIREMENTS

REVISION A DATE _____

EQUIPMENT TITLE Placard, LF Shut-Down/Start-Up Procedure
(Basic Noun First)

RESPONSIBLE DEPT. W-3 Engr. EQUIP. CLASSIFICATION ENG/CM RATE _____

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-7648	D2-7648	D2-7648
	None	X	X	X	None	None	None	None

PURPOSE & JUSTIFICATION

Improper start-up and shut-down procedure by base personnel has resulted in numerous cases of damage to launcher electrical power equipment. A placard is required to be placed in each launcher equipment room which presents proper procedures for (1) Emergency Shut-Down, (2) Normal Shut-Down, (3) Normal Start-Up.

Ref: PRR 11646 authorized relevant changes to ACO documentation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The placard is to present the procedures below and shall be made from heavy paper or cardboard and following printing, be encased in clear plastic or fiber-glass for protection against the elements.

Placard is to be installed in the facilities in accordance with instructions contained in D2-9262, Vol. XI.

Attachment hardware is to be supplied with and considered a part of the placard. Attachment be by means of Magnetic Hook #MS2-004, Magnet Sales, 3935 South Vermont, LA37,

ACO - 544.2

LF SHUTDOWN/RESTART PROCEDURE, WING II
POWER SYSTEM

COMPLIANCE WITH THIS PROCEDURE IS MANDATORY. OPERATIONS MUST BE PERFORMED IN THE ORDER LISTED, OR EQUIPMENT DAMAGE MAY RESULT.

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Boston</i>	<i>R. C. Canning</i>	<i>R. E. Brewer</i>	<i>W. H. Wood</i>

2-6340-0-1

REV. 3-18-3

BOEING NO. D2-11713-2
PAGE 544.2

NOTE: Use form UD-4071-1000 if additional sheets are required.

7/11/2/7
W. R. Blair
5-6786

ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

EMERGENCY SHUTDOWN (Fire, loss of cooling air, or similar emergency)

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on the DC circuit breaker panel, and then on the AC circuit breaker panel.
2. LWS PANEL - Turn off circuit breaker 1, 3, 5 (M-G set) and circuit breaker 14 (battery charger).
3. M-G SET - Disconnect cable W715 (Plug PO2).
4. DISTRIBUTION BOX - Open (pull out) circuit breaker 6 (VRSA Emergency Power).
5. TEST EQUIPMENT - Turn off all power switches.

NORMAL SHUTDOWN

1. PROGRAMMER GROUP - Depress SHUTDOWN LAUNCH FACILITY button.
2. TEST EQUIPMENT - Turn off all power switches. (ACO-101- LCF CONTROL - MANUAL switch placed in LCF CONTROL position. AGG LOG - LOCAL-REMOTE switch placed in REMOTE position prior to power removal.)
3. STATUS-COMMAND MESSAGE PROCESSING GROUP - Place -9V and both +28V switches in down (off) position, and then depress main power shutoff button.
4. DIGITAL DATA GROUP - Place -9V and both +28V switches in down (off) position, and then depress main power shutoff button.
5. DISTRIBUTION BOX - Open (pull out) all circuit breakers except CB2 (G&C Cooling Power).
6. POWER SUPPLY GROUP - Open (Pull out) all circuit breakers on the DC and then on the AC circuit breaker panels.

NOTE: DO NOT DISCONNECT CABLES OR REMOVE POWER TO M-G SET.

M-G SET STARTUP

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on DC circuit breaker panel and then on the AC circuit breaker panel.
2. LWS PANEL - Turn on circuit breaker 1, 3, 5, (M-G set) and circuit breaker 14 (battery charger).

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Sheet 2 of 3

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ACO 544.2 (Continued)

3. M-G SET - When M-G comes up to speed (approx. 5 sec.), connect cable W715 (Plug PO2) to M-G set.

CAUTION: M-G MUST BE UP TO SPEED BEFORE CONNECTING CABLE, OR DAMAGE WILL RESULT.

ELECTRONIC EQUIPMENT START-UP

1. Environmental Control System - Check that air is being discharged from the exhaust plenum of any of the racks requiring forced air cooling.
2. Lower Equipment Room Temperature Gage - Check for a reading of 55+ 2°F.
3. EMERGENCY FAN CONTROL PANEL - Check that key operated switch is on. (This panel is in lower equipment room mounted on upper floor, 180° from entrance.)
4. ELECTRONIC EQUIPMENT - Power may be reapplied to the electronic equipment in accordance with Site Acceptance Test Procedures as required for acceptance testing.

ACO 544.2 b
Sheet 3 of 3

WS 133A

ACO NUMBER ACO- 545

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-25-3

REVISION A DATE 3-12-3

EQUIPMENT TITLE _____
(Basic Name First) PLACARD, LCF SHUT-DOWN/START-UP PROCEDURE

RESPONSIBLE DEPT. Engr. [unclear] EQUIP. CLASSIFICATION SBATEH

DESIGN REQMS DOCUMENT NONE DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X	None	X	X	None	None	None

PURPOSE & JUSTIFICATION Improper start-up and shut-down procedure by base personnel may result in damage to LCF electrical power equipment. A placard is required to be placed in the launch control capsule which presents proper procedures for (1) Emergency Shut-Down, (2) Normal Shut-Down, and (3) Normal Start-Up.

Ref: PRR 11646 authorized relevant changes to ACO documentation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS.

The placard is to present the procedures below and shall be made from heavy paper or cardboard and following printing, be encased in clear plastic or fiber-glass for protection against the elements.

Placard is to be installed in the facilities in accordance with instructions contained in D2-9262, Vol. 4, Sec. 0.

Attachment hardware is to be supplied with and considered a part of the placard. Attachment be by means of Magnetic Hook, #MS 2-004, Magnet Sales, 3935 South Vermont, LA 37,

ACO - 545

LCF SHUTDOWN/RESTART PROCEDURE WING I POWER SYSTEM

COMPLIANCE WITH THIS PROCEDURE IS MANDATORY. OPERATIONS MUST BE PERFORMED IN THE ORDER LISTED, OR EQUIPMENT DAMAGE MAY RESULT.

SHT 1 of 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

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03-4371-1030
... are req. used
ORIGINATING GROUP SUPERVISOR: V.P. [unclear]
TELEPHONE: 5-5776

110

EMERGENCY SHUTDOWN (Fire, loss of cooling air, or similar emergency)

1. POWER SUPPLY GROUP NO.1 - Open (pull out) all circuit breakers on the DC circuit breaker panel and then on the AC circuit breaker panel.
2. DISTRIBUTION BOX - Open (pull out) all circuit breakers on the 60-cycle AC power panel.
3. LCDB PANEL - Turn off circuit breaker 20, 22, 24 (M-G set) and circuit breaker 26 (battery charger).
4. M-G SET - Disconnect DC power input cable W020 or W026 plug P3. (Cable number depends on LCF type.)
5. TEST EQUIPMENT - Turn off all power switches.

NORMAL SHUTDOWN

1. POWER SUPPLY GROUP NO. 1 - Open (pull out) both COMMAND CONTROL CONSOLE circuit breakers.
2. COMMAND MESSAGE PROCESSING GROUP - Place -9V and both +28V switches in down (off) position and then depress main power shutoff button on power supply drawer.
3. DIGITAL DATE GROUP - Turn off power switch on "Missile-Away" indicator drawer.
4. STATUS MESSAGE PROCESSING GROUP - Place -9V and both +28V switches in down (off) position and then depress main power shutoff button on power supply drawer.
5. POWER SUPPLY GROUP NO. 1 - Open (pull out) all circuit breakers on DC power panel, and then on the AC power panel.
6. DISTRIBUTION BOX - Open (pull out) all circuit breakers on 60-cycle AC power panel.

NOTE: DO NOT DISCONNECT CABLES OR REMOVE POWER TO M-G SET.

M-G SET START UP

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on DC circuit breaker panel, and then all circuit breakers on the AC circuit breaker panel.
2. DISTRIBUTION BOX - Open (pull out) all circuit breakers.
3. LCDB PANEL - Turn on circuit breaker 20, 22, 24 (M-G set) and circuit breaker 26 (battery charger).
4. M-G SET - When M-G comes up to speed (approx. 5 sec.), connect plug P3 of DC power input cable W020 or W236 (depending upon LCF type) to M-G set.

ACO 545 Sht 2 of 3

**CAUTION: M-G MUST BE UP TO SPEED BEFORE CONNECTING CABLE, OR
DAMAGE WILL RESULT**

ELECTRONIC EQUIPMENT START-UP

1. ENVIRONMENTAL CONTROL SYSTEM - Check that air is being discharged from the exhaust plenum of any of the racks requiring forced air cooling.
2. MAIN PLENUM TEMPERATURE GAGE - Check for a reading of $55 \pm 2^{\circ}F$. (Located in launch control support building.)
3. EMERGENCY AIR CONDITIONER CONTROL PANEL - Check that the following switches are on:

Emergency Fan Manual Switch (upper key operated)
Electric Heating Coil Manual Switch (lower key operated)
AC Pump Manual Switch (push button)
Emergency System On-Off Manual Switch (push button)
Heating Unit Circuit Breaker

4. ELECTRONIC EQUIPMENT - Power may be reapplied to the electronic equipment in accordance with Site Acceptance Test Procedures as required for acceptance testing.

ACC 545
Sht. 3 of 3

WS 133A

ACO NUMBER 545.2

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-15-3

EQUIPMENT REQUIREMENTS

REVISION A DATE 3-12-3

EQUIPMENT TITLE Placard, LCF Shut-Down/Start-Up Procedure
(Basic Non Print)

RESPONSIBLE DEPT. SI-EE Engr. EQUIP. CLASSIFICATION SEC/OH RATE

DESIGN REQMTS DOCUMENT None DWG NO. None N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7671	D2-9942	D2-11162	D2-7648	D2-7648	D2-7648
	None	X	X	X	None	None	None	None

PURPOSE & JUSTIFICATION

Improper start-up and shutdown procedure by base personnel may result in damage to LCF electrical power equipment. A placard is required to be placed in the launch control capsule which presents proper procedures for (1) Emergency Shut-Down, (2) Normal Shut-Down, and (3) Normal Start-Up.

Ref: PRR 11646 authorized relevant changes to ACO documentation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The placard is to present the procedures below and shall be made from heavy paper or cardboard and following printing, be encased in a clear plastic or fiberglass for protection against the elements.

Placard is to be installed in the facilities in accordance with instructions contained in D2-9262, Vol. XI.

Attachment hardware is to be supplied with and considered a part of the placard. Attachment be by means of Magnetic Hook MS2-004, Magnet Sales, 3935 South Vermont, IA 37,

ACO - 545.2

LCF SHUTDOWN/RESTART PROCEDURE

WING II POWER SYSTEM

COMPLIANCE WITH THIS PROCEDURE IS MANDATORY. OPERATIONS MUST BE PERFORMED IN THE ORDER LISTED, OR EQUIPMENT DAMAGE MAY RESULT.

EMERGENCY SHUTDOWN (Fire, loss of cooling air, or similar emergency)

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M.H. Butler</i>	<i>R.C. Gallenring</i>	<i>G.E. Conroy</i>	<i>D.H. Newell</i>

2-6340-0-1

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NOT: 1113 from US-4071-1000
if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W.R. Blair
TELEPHONE: 5-6786

1. POWER SUPPLY GROUP NO. 1 - OPEN (pull out) all circuit breakers on the DC circuit breaker panel and then on the AC circuit breaker panel.
2. DISTRIBUTION BOX - OPEN (pull out) all circuit breakers on the 60-cycle AC power panel.
3. LCPA PANEL - Turn off circuit breaker 14, 16, 18 (M-G set) and circuit breaker 20 (battery charger).
4. M-G SET - Depress DC power switch to the OFF position.
5. TEST EQUIPMENT - Turn off all power switches.

NORMAL SHUTDOWN

1. POWER SUPPLY GROUP NO. 1 - Open (pull out) both COMMAND CONTROL CONSOLE circuit breakers.
2. COMMAND MESSAGE PROCESSING GROUP - Place -9V and both 28V switches in down (off) position and then depress main power shutoff button on power supply drawer.
3. DIGITAL DATA GROUP - Turn off power switch on "Missile - Away" indicator drawer.
4. STATUS MESSAGE PROCESSING GROUP - Place -9V and both 28V switches in down (off) position and then depress main power shutoff button on power supply drawer.
5. POWER SUPPLY GROUP NO. 1 - Open (pull out) all circuit breakers on DC power panel, and then on the AC power panel.
6. DISTRIBUTION BOX - Open (pull out) all circuit breakers on 60-cycle AC power panel.

NOTE: DO NOT DISCONNECT CABLES OR REMOVE POWER TO M-G SET.

M-G SET START UP

1. POWER SUPPLY GROUP - Open (pull out) all circuit breakers on DC circuit breaker panel, and then all circuit breakers on the AC circuit breaker panel.
2. DISTRIBUTION BOX - Open (pull out) all circuit breakers.
3. LCPA PANEL - Turn on circuit breaker 14, 16, 18 (M-G set) and circuit breaker 20 (battery charger).
4. M-G SET - When M-G comes up to speed (approx. 5 sec), depress DC power switch to the ON position.

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PAGE 545.2a

ELECTRONIC EQUIPMENT START-UP

1. Environmental Control System - Check that air is being discharged from the exhaust plenum of any of the racks requiring forced air cooling.
2. MAIN PLENUM TEMPERATURE GAGE - Check for reading of $55 \pm 2^{\circ} \text{F}$. (Located in launch control support building).
3. EMERGENCY AIR CONDITIONER CONTROL PANEL - Check that the following switches are on:

Emergency Fan Manual Switch (upper key operated)
Electric Heating Coil Manual Switch (lower key operated).
AC Pump Manual Switch (push button)
Emergency System On-Off Manual Switch (push button)
Heating Unit Circuit Breaker

4. ELECTRONIC EQUIPMENT - Power may be reapplied to the electronic equipment in accordance with Site Acceptance Test Procedures as required for acceptance testing.

WS 133A

ACO NUMBER 546

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-29-3

REVISION A DATE 3-15-3

EQUIPMENT TITLE POWER SUPPLY
(Basic Main First)

RESPONSIBLE DEPT. RTD EQUIP. CLASSIFICATION STC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. None

TO BE USED AT: Results from ECP 293

BASE	MAFB	EAFB	VAFB	STP III	FLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X	X			X	X	X

PURPOSE & JUSTIFICATION

To provide a method of certification and maintenance of Figure A 2950 Portable Fault Locator for the Security System. A power supply is needed to check readings on Fault Locator meters. Ref: D2-14790

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A DC regulated high voltage power supply with the following specifications:

Output Voltage 0 to 500 volts, 100 ma max. DC

Regulation for Line Voltage 115/220 volts ± 10%
.5% no load to full load

Ripple 1.0 mv RMS or less

Metering Current Voltage 0-100 ma, 0-10 ma
0-500 V, 0-50 V

Power 115 volt ± 10%, 50/1,000 ops

The following equipment is acceptable to fulfill this requirement:

- Hewlett Packard 711A
- Krohn-Hite UHR 220
- Hewlett Packard 712B
- Universal Electric. 520A
- " " 520AT
- " " UP520B

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES/DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-1

REV. 3-18-3

NO. D2-11713-3
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NOTE: Use form US-4871-1000
If additional sheets are required.

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ORIGINATING GROUP SUPERVISOR: R. W. Ormsbee REV. "A" - R. E. Colling 5-2854
TELEPHONE: 5-6696

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WS 133A

ACO NUMBER 547

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-5-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Line, Adjustable
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT: Results from ECP 237, ECP 162, and CCP 582-2

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	None	None	X	None	None		

PURPOSE & JUSTIFICATION

A requirement exists to measure the input impedance of the command destruct amplifier during preinstallation alignment and tests. The adjustable line is placed in the test cable between the VHP bridge and the test article to establish a null point.

Reference Document: D2-9934 Vol. II

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency range - 400 MC - 425 MC

Minimum length - 58 CM

Maximum length - 80 CM

VSWR 1.03 @ 500 MC

Characteristic impedance - 50 ohms.

The following equipment will satisfy this requirement:
General Radio -874-LK20 (available at VAFB).

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Barton</i>	<i>C. D. Munro</i>	<i>A. E. Brewer</i>	<i>W. H. Kidd</i>

2-4340-0-MAR 18 1963
REV. 2-14-63

BOEING NO. 27-2272-2
PAGE 1 OF 1

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: M. S. Leach
TELEPHONE: 6-6327

WS 133A

ACO NUMBER 548

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 2-5-3

REVISION _____ DATE _____

EQUIPMENT TITLE Load, Coaxial
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT: Results from ECP 237, ECP 162, and CCP582-2

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	X	None	None			

PURPOSE & JUSTIFICATION

A coaxial load is required during preinstallation-alignment and test of the C/D repeater amplifier. If the item under test is a transmission type device, it must be terminated with a coaxial load.

Reference Document: D2-9934 Vol. II

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

50 ohm load

Average power - 5 watts

Frequency range - 350 to 450 MC

VSWR - 1.1:1 maximum

Type N' male connector

The following equipment will satisfy this requirement:

Bird model 80M Termaline Coaxial Resistor.

Micro Lab TB-5MN

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Ch. H. Boston</i>	<i>W. J. ...</i>	<i>E. ...</i>	<i>...</i>

2-6340-0 MAR 18 1963

REV. 2-14-3

ENGINEERING NO. D2-11713
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NOTE: Use form US-6077-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: M. S. Leach
TELEPHONE: 6-6327

9113

WS 133A

ACO NUMBER 5/9

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-5-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Test Kit, G&C Cooler Test Bench
(Basic Room First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT: Results from PRR 11082

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

This item is required at the CSA for post-installation checkout of Figure "A" 4150, "Test Repair Set, G&C Cooler". The test kit will supply test points and dummy electrical loads when checking the electrical positions of the test bench section of the Figure "A".

REF. D2-12646 Reference: CDP 535

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The test kit is a portable piece of BATE consisting of a combination breakout box - dummy load unit and a set of adapter cables.

The breakout box - dummy load unit shall provide connectors and banana jack test points as shown on the following pages. Detail design of the unit shall not be limited to that shown but all wire routing, connectors, and test point labeling shall be as shown.

Two adapter cables shall be designed to provide continuity between any two test point banana jacks on the breakout box. The other adapter cables shall be designed to adapt the following items for connection with any two breakout box banana jacks:

- ACO 422 voltmeter
- ACO 463 power supply
- ACO 774 resistance bridge
- 115 VAC 60 cycle power source

Since the Test Kit is classified as BATE, the components used in fabrication need not comply with military specifications.

Dissipation of heat from the power resistors should be considered. The unit should be designed for intermittent power applications of 20 minutes duration followed by two hours of cooling time.

SHT 1 of 2

ENGINEERING DEPT. <i>C. R. Sengsall</i>	BASE INSTALLATION DEPT. <i>W. H. ...</i>	MANUFACTURING DEPT. <i>G. E. ...</i>	FACILITIES DEPT. <i>C. H. ...</i>
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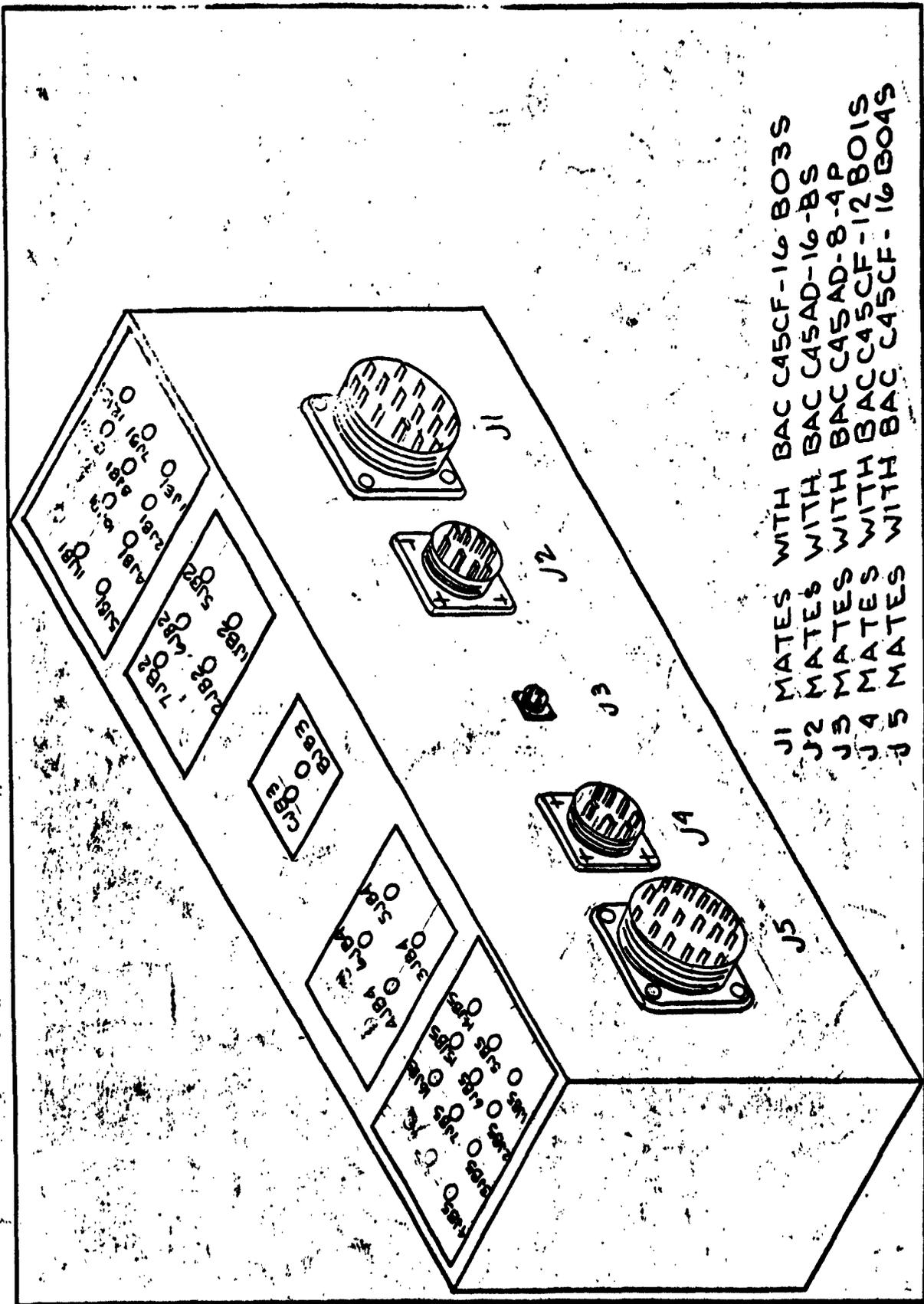
REV. 2-14-3

ENGINEERING NO. D2-11719-2
PAGE 1 of 2

NOTE: Use form UD-4071-1000
If additional sheets are required.

DRAWING GROUP SUPERVISOR: C. R. Sengsall
TELEPHONE: 5-6678

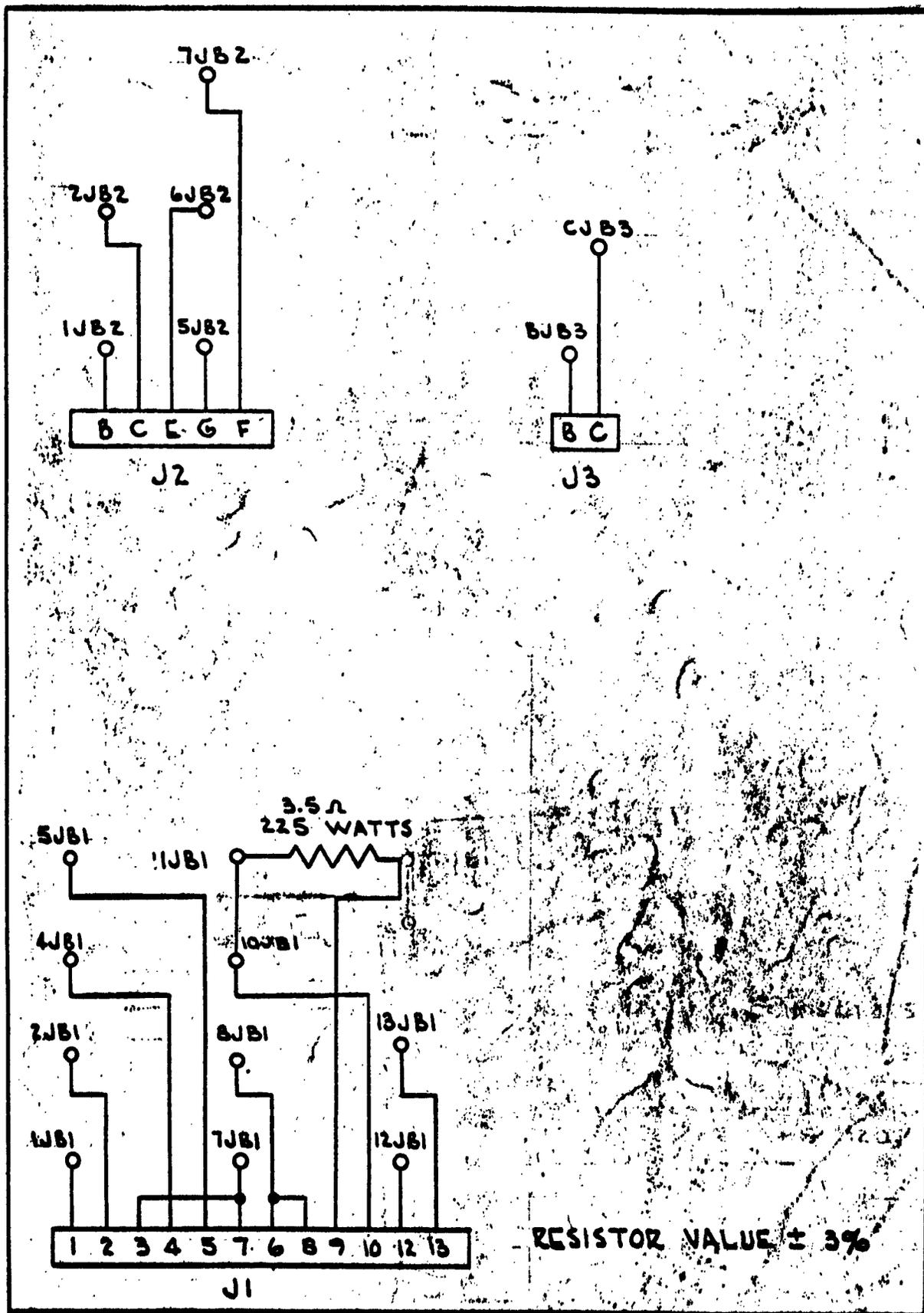
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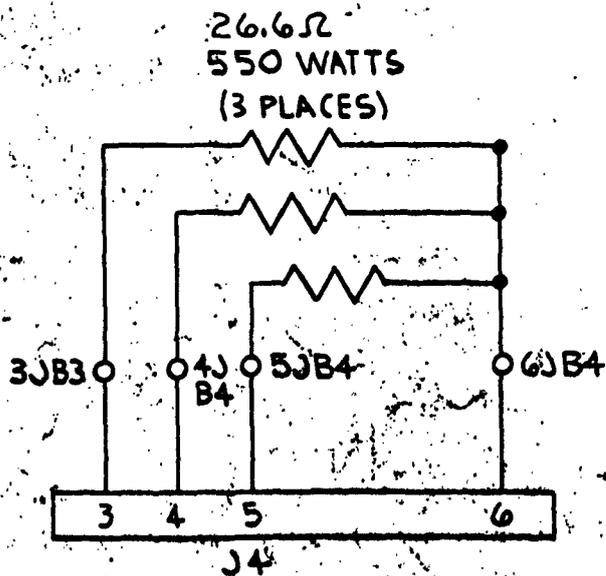
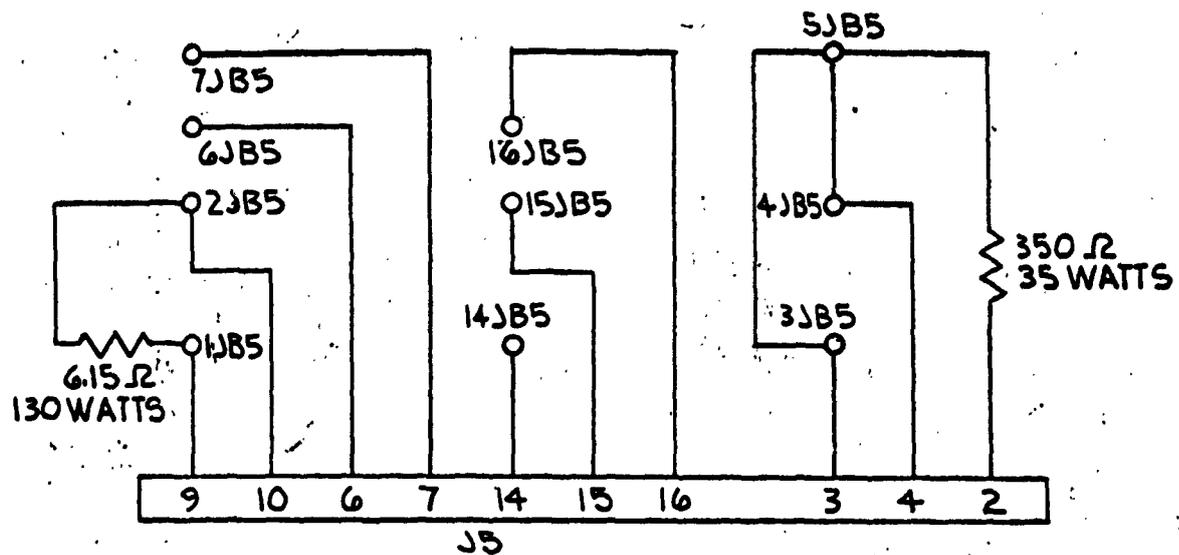
J1 MATES WITH BAC C45CF-16 B03S
 J2 MATES WITH BAC C45AD-16-B5
 J3 MATES WITH BAC C45AD-8-4P
 J4 MATES WITH BAC C45CF-12 B01S
 J5 MATES WITH BAC C45CF-16 B04S

U2-401-1000
 2-14-3
 MAR 1953

120
 170
 11713-2
 1953



15-
 00-071-100
 2-14-B
 MAR 17 1963



ALL WIRES TO CONNECTORS
 J4 AND J5 SHALL BE AWG
 #12, UNLESS OPTIMIZED
 RESISTOR VALUE $\pm 3\%$

WS 133A

ACO NUMBER 550

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-15-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Auto Transformer, Variable
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	X	X	X

This results from PRR 11631
PURPOSE & JUSTIFICATION

To insure availability of regulated and controlled power input to motor or M-C Set at the Shielded Room (Encoder/Decoder Room). Test data will not be valid if the input power is not regulated per vendor specifications.

Ref: D2-11955

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Three ganged 1/0/120V -- Voltage 0-120 vac -- 5.4 kva each, Total 16.2 kva powerstat.

The following equipment will satisfy this requirement:

Superior Electric CO (Bristol, Connecticut)
Catalogue No. 1156-3P, Powerstat, Ganged 30

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

3-430-0 MAR 1 8 1963

REV. 2-28-3

NO. D2-11713-3
PAGE 1 OF 1

NOTE: Use form US-6971-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. S. Joseph
TELEPHONE: 5-6947

WS 133A

ACO NUMBER 551

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-15-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Load Bank, Electrical Power
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	X	X	X

This results from PRR 11631.
PURPOSE & JUSTIFICATION

In order to obtain valid test data on Motor-Generator performance characteristics, as installed in the Encoder/Decoder Shielded Room of SMSB, it is mandatory that a controlled load, in the form of three individual load banks, be connected to the load side of Motor-Generator Set.

Ref: D2-14955

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

cycle

Temperature **stabilized 2500 W/120 vac, 60amp resistive load bank.** Variation of their resistance due to temperature should be within 10%. Three similar banks are required. **Each bank will be equipped with a single throw 2 pole, 30 amp, 120 vac switch.**

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. S. Yoseph

7-0947

TELEPHONE:

SMT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H.A. Barton</i>	<i>C.P. Meany</i>	<i>G.E. Reising</i>	<i>W.H. Neuld</i>

2-0340-1 MAR 18 1963

REV. 2-28-3

"REVA" Bartoo (G KIRSC)

NOTE: Use form 13-471-1000 if original sheet is required

WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 552
 APPROVAL DATE 3-1-3
 REVISION A DATE 3-29-3

EQUIPMENT TITLE Cable Adapter, ACO-181 to Fig. A 1379 Interconnecting
 (Basic Noun First)

RESPONSIBLE DEPT. BE-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-7648	D2-7648	D2-7648
	None	X	X		None	X	X	X

PURPOSE & JUSTIFICATION

To provide a means of supplying 120 volt, 60 cycle power to Fig. A 1379 in tests utilizing ACO-4523. If not incorporated the LF will be shutdown every time a Launch or Test message is initiated or the system is operated on emergency power. This condition exists only when ACO-4523 is in use. The system is operated on emergency power during LF startup tests.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Make on site from MRO or locally procured stock.

Plug A

BACC 45EEL2C13S

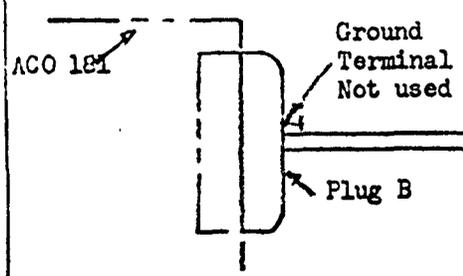
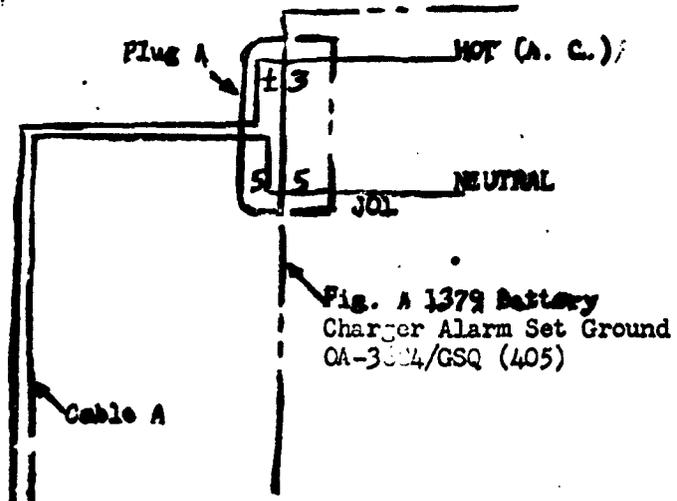
Plug B

BACC 45GB1

Cable A

BAC3100-42 - At least ten feet.

The Ground Terminal of Plug B is left unconnected.



ORIGINATING GROUP SUPERVISOR: M. H. Bartoo
TELEPHONE: 5-6555

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

4-4-3

WS 133A

ACO NUMBER 553

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-12-3

EQUIPMENT REQUIREMENTS

REVISION A DATE 3-22-3

EQUIPMENT TITLE Breakout Box, Dummy Load, R/V
(Basic Hour First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 25-38358

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X	X	None	None	X	X	X

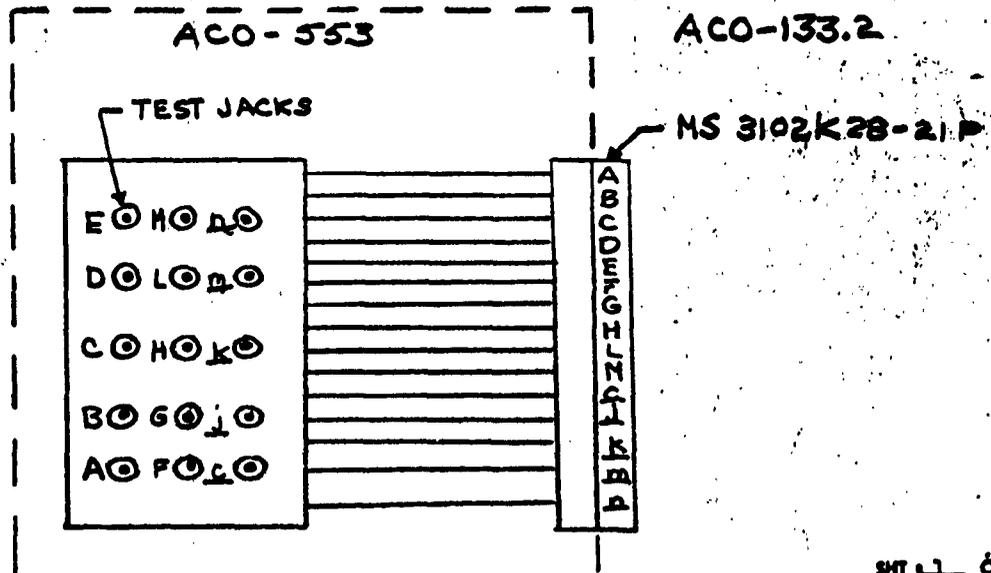
Results from AVCO ECP-43R1 and Boeing ECP 188 PURPOSE & JUSTIFICATION

The Breakout Box is required during functional Test of ACO 133.2 at the CSA to demonstrate that the characteristics comply with design criteria.

Assembly & Checkout use for this equipment is to functionally test ACO 133.2 after field modification changing ACO 133 to ACO 133.2 and to retest ACO 133.2 units received from the AF for reuse in delivering completed LP's.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Breakout Box shall consist of a small junction box with Test Jacks and an attached cable for all functions required during F/T of ACO 133.2. The attached cable will mate with ACO 133.2. ACO 133.2 load resistor measurements shall be made utilizing a resistance bridge and the Test Fixture Breakout Box Jacks.



SHT 11 of 1

REV. A
J. Keim (W. Thompson)
X5-3405

NOTE: Use form US-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: J. Keim (W. Thompson)
TELEPHONE: X5-3405

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 4-4-3

WS 133A

ACO NUMBER 554

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-15-63

REVISION None DATE 3-4-63

EQUIPMENT TITLE Fixture, Bottom, Locating Centerline
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION Basic

DESIGN REQMTS DOCUMENT None DWG NO. 25-39201

TO BE USED AT:

						WING	WING	WING
BASE	MAFB	EAFB	VAFB	STP III	PLT 77	III	IV	V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	None	None	None	X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for a tool to be supplied to the GIS to locate geometric centerline of Personnel Access Shaft and Stud Locations for Anchor Plate, Figure A 1612.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This fixture is to be used prior to installation of Anchor Plate, Figure A 1612. It consists of a Round Plate 25 inches in diameter with (6) six holes located 60 degrees apart and 11 inches from centerline of plate. These holes will be used for Stud Locating. Three adjustable centering lugs hold tool in place while center punching.

NOTE: Use form US-077-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: D. A. Martin

TELEPHONE: 5-6324

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>	FACILITIES DEPT. <i>[Signature]</i>
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2-6340-1-1

REV. 3-18-63

~~REVISION~~ NO. D2-11713-2
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ACO NUMBER 555

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 3-22-3

REVISION _____ DATE _____

EQUIPMENT TITLE COVER, ENVIRONMENTAL CONTROL SYSTEM VENT
(Basic Non Flot)

RESPONSIBLE DEPT. Mfg. EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. MR 25-36921

REF: BIAR 65M-1

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	X	X	X

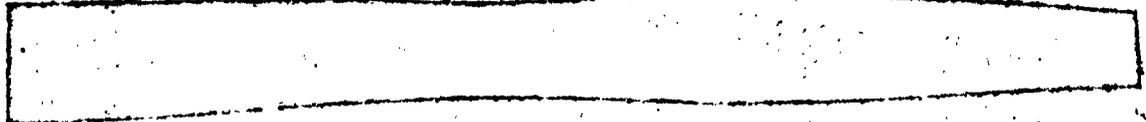
PURPOSE & JUSTIFICATION

A requirement exists for a means of preventing welding slag and sparks from entering the launch facility Environmental Control System (ECS) air filters. Combustion in these filter bags spreads soot and other unburned material throughout the LF electronic racks.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A metal cover fitting over the ECS vent opening allowing circulation of air but preventing direct entry of contaminants.

A suggested configuration is shown on page 2.



SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1

REV. 4-4-3

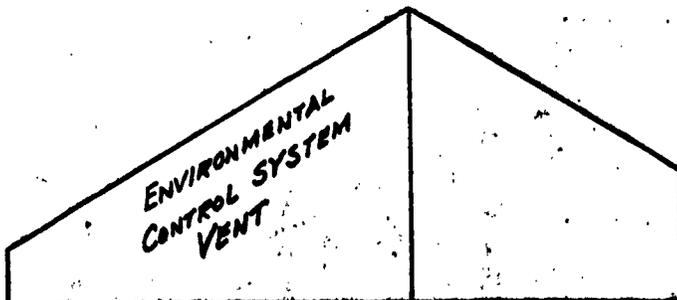
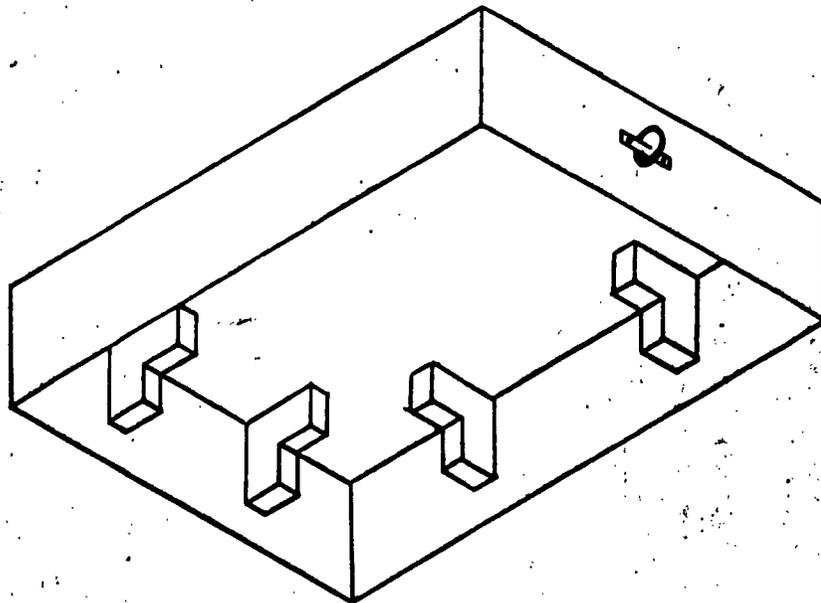
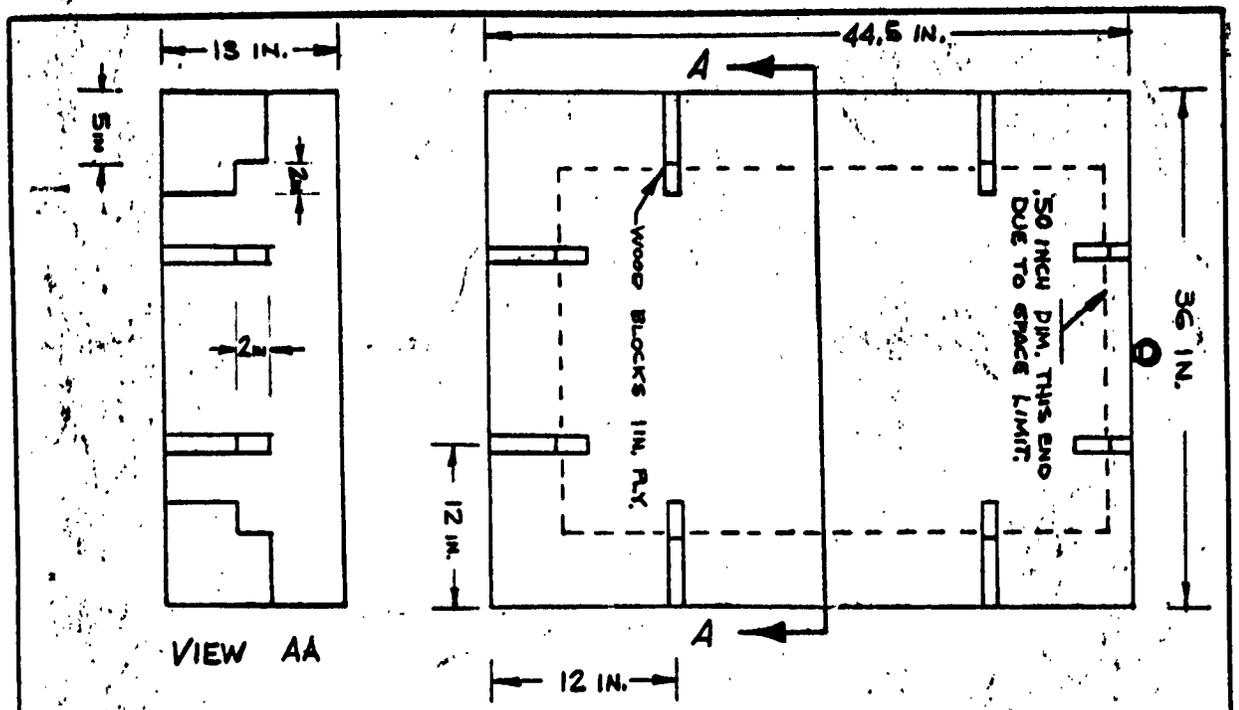
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BOEING | NO. D2-11713-2
PAGE XXX

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. E. Collins
TELEPHONE: 5-2854

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129
4-4-53
A

WS 133A

ACO NUMBER 556

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-26-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Kit, Test Cables; AN/DJM-20 (C-153)
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 29-30313

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	X	X	X

NOTE: Use form UD-4071-1000 if additional sheets are required

PURPOSE & JUSTIFICATION

A requirement exists to adapt calibration and test equipment to Fig. A/ACO-10709 Missile Control Group Test Set AN/DJM-20 for calibration and alignment testing. These cables and adapter are required to connect the ACO 10709 Test Set to Reference: D2-14279 standard Test equipment. Without this item, connections cannot be made to the Missile Downstage Test Set.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The kit will consist of the following items:

1. Cable "A" 29-30313-1
2. Cable "B" 29-30313-2
3. Cable "C" 29-30313-3
4. "Adapter," Hewlett Packard AC-76 29-30313-4.

The cables shall mate with the following equipment, and be of the approximate length shown:

Cable	Approx. Length	Mate With	Mate With
"A"	5'	ACO 0590	ACO 0555
"B"	5'	Cable A	ACO 10709
"C"	5'	ACO 3140	ACO 10709
"Adapter"	-	Adapte cable "C" to ACO 3140	ACO 10709

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 4-4-3
A

NO. 29-30313-2
PAGE 556

ORIGINATING GROUP SUPERVISOR: R. W. Ormsbee
TELEPHONE: 5-6696

130

William H. Johnson

NOTE: Use form US-4871-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: A.D. Munn
 TELEPHONE: JU 3-0368

WS 133A

ACO NUMBER 601

ASSEMBLY & CHECKOUT

APPROVAL DATE April 18, 1961

EQUIPMENT REQUIREMENTS

REVISION B DATE 7-31-62

EQUIPMENT TITLE Alignment Pin - Rocker Arm to Upper Bracket
(Basic Name First)

Manufacturing

RESPONSIBLE DEPT. _____ EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 24-2107

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162
	X		X	X	

PURPOSE & JUSTIFICATION

To accelerate the assembly of the Missile Base Support Suspension and Alignment System (Fig. A-1204) to the launcher. Its function will be to align the rocker arms (3 places) to the upper brackets attached to the launcher wall to permit insertion of the rocker arm pivot pins (the tie rod, connecting rod spring, spring, spring retainer and leveling jack assy will be attached to the rocker arm during this assembly).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A hardened steel taper pin will be utilized. Its surface will be finished to the standards of the bearings with which it is used. The leading end will taper at a fixed angle not greater than 20 degrees from the pin centerline. The minimum diameter will not be less than 25% of the rocker arm pivot pin diameter. The maximum diameter will equal the rocker arm pivot pin diameter.

When in use, the alignment pin will enter the first bearing of the upper bracket, pass thru the rocker arm and out the second bearing of the upper bracket. The permanently installed rocker arm pivot pin will follow the alignment pin forcing it completely thru the bearings and out the side opposite its point of entry. The alignment pin will be of sufficient length to align the rocker arm exactly before the permanent pin enters the upper bracket first bearing.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edward J. Hollister</i>	<i>William H. Johnson</i>	<i>A.E. Reiser</i>	<i>R. Sykes</i>

2-4340-1 Rev 8-3-62
 REV. 1/27/62 MAR 18 1963
 4/6/62

WS 133A

ACO NUMBER 603

ASSEMBLY & CHECKOUT

APPROVAL DATE April 19, 1961

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE: Scaffolding, Portable, LF Launcher

RESPONSIBLE DEPT. Manufacturing Engineering EQUIP. CLASSIFICATION BATE

DESIGN RQMTS DOCUMENT None DWG NO. None Available

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE:

To provide a stable work platform from which all components of the Missile Base Support Suspension and Alignment System (Fig. A-1204) may be assembled.

DESCRIPTION:

A metal framework which quickly assembles on the launch tube floor to form stable work platforms at the required levels when assembling Figure A-1204. These levels will be at the upper bracket mounts and at the permanently installed lower brackets. The scaffolding will follow the contour of the launcher walls but will permit the rocker arm, tie rod, connecting rod, spring, spring retainer and leveling jack assembly to be positioned as one unit. It will also offer a work platform from which two workmen can attach the pendulum rods, with the base support ring attached, to the exposed end of the rocker arms. It will afford a platform at the lower brackets for attaching the connecting rod inside the slot of the lower bracket (connecting rod still part of the above listed assembly). When assembled, the scaffolding will provide adequate guard railing and safety belt attachments to protect workmen at all times. It will provide ladders between work platforms and the launcher floor. The scaffolding will break down and form a compact unit for transporting in the assembly van. Commercially available scaffolding should be incorporated wherever possible to minimize the design effect. The step by step procedures of function 4.1.1.6 should be reviewed in preparation for this design. (D2-7648)

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A. H. Benton</i>	<i>R. C. Colony</i>	<i>Paul R. ...</i>

1-27-62
1-6-62
MAR 18 1963

BOEING NO. D2-11713-2
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ACO NUMBER 604

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-19-61

EQUIPMENT REQUIREMENTS

REVISION B DATE 11-20-68

EQUIPMENT TITLE Sling, Base Support Assembly Missile Suspension System
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. OME 25-18015

TO BE USED AT:

BASE	MAPB	EAPB	VAPB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

To lower the Missile Support Base Ring assembly (Figure A 1204 or 1322) into the launch tube, and hold it in a horizontal position while installing the pins through the pendulum arm trunion blocks and the rocker arms.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A three-drop sling (chain or cable) of approximately 10,000 pounds capacity, with adapters suitable for attaching it to the Missile Base Ring. It shall have a spreader device between the three drops to provide clearance for ACO 603 (FME 25-26162). Cable lengths are limited by the available "lift" on the crane (Figure A 4054). (See Mil-C-26882A - USAP - for crane specifications).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W.H. Burt</i>	<i>W. M. ...</i>	<i>A.C. ...</i>	<i>R. ...</i>

2-4340-0-1

REV. 12-12-2
MAR 18 1963

ENGINEERING NO. D2-11713-2
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NOTE: Use form UG-877-1000 if additional sheets are required.

2-3890

M. Wenger

ORIGINATING GROUP SUPERVISOR:

TELEPHONE: 5-2563

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WS 133A

ACO NUMBER 606

ASSEMBLY & CHECKOUT

APPROVAL DATE April 19, 1961

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE: Cover, Protective, Electronic Rack

RESPONSIBLE DEPT. Manufacturing Engineering EQUIP. CLASSIFICATION BATT

DESIGN RQMTS DOCUMENT None DWG NO. None Available

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE:

To physically protect the equipment in standard C60B Minuteman racks during transportation and handling. Protection required from the time the equipment leaves the CSA until it is positioned inside the operational facility.

DESCRIPTION:

A quilted slip-on cover to encase the standard C60B racks on four sides and the top. It is to utilize fiberglass* angle strips for protection at the corners and will require tie-down straps to be used to draw it tightly to the corners. The cover is to be lined with a soft material to prevent scratching and marring. Openings for the upper lift points on the racks will be provided. The cover will open and remove from the side without lifting over the rack.

Primary protection is afforded during transportation in the vans and in installation operations where the racks are subjected to bumping and scratching.

This protective cover is to be compatible with components of the C60B Minuteman rack shipping container. It is to be installable over the vapor seal envelope which seals around the rack lifting eyes and mounting lugs. When the cover and vapor seal envelope are installed on the rack, all lift and attach points are exposed.

This item will be recycled to the CSA.

* Suggested material

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A. H. Buxton</i>	<i>R. P. Cullum</i>	<i>Robert Sullivan</i>

1-27-62
1-5-62
MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1-606

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ACD NUMBER 608

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-19-1

EQUIPMENT REQUIREMENTS

REVISION 0 DATE 1-4-2

EQUIPMENT TITLE ENVIRONMENTAL ENCLOSURE - LCP
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing Engr. EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME25-26182

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	None	X					

PURPOSE & JUSTIFICATION

To provide an enclosed area, which will be environmentally controlled, between the LCSB entrance shaft room door and the environmentally controlled vehicle for the protection of electronic cabinets during installation. The enclosure may also be used for the protection of equipment and personnel against inclement weather.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A protective enclosure is required which shall:

1. Be readily portable and easily installed.
2. Encompass the LCSB entrance shaft room door, loading platform (ACO 643), and unloading opening of the conditioned delivery vehicle.
3. Be of sufficient size such that the enclosure will not interfere with:
 - a. Unloading and loading operations at the vehicle.
 - b. Handling and transferring operations on the loading platform.
 - c. Passage of equipment through the door.
4. Be of weatherproof material and construction.
5. Be capable of withstanding winds up to a maximum of 40 mph.

The enclosure will be conditioned by air from the entrance shaft and the auxiliary environmental control unit (Fig. A 4133) used for the delivery vehicle.

NOTE: This item is good for Wing I only.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1

REV. 1-16-3
MAR 18 1963

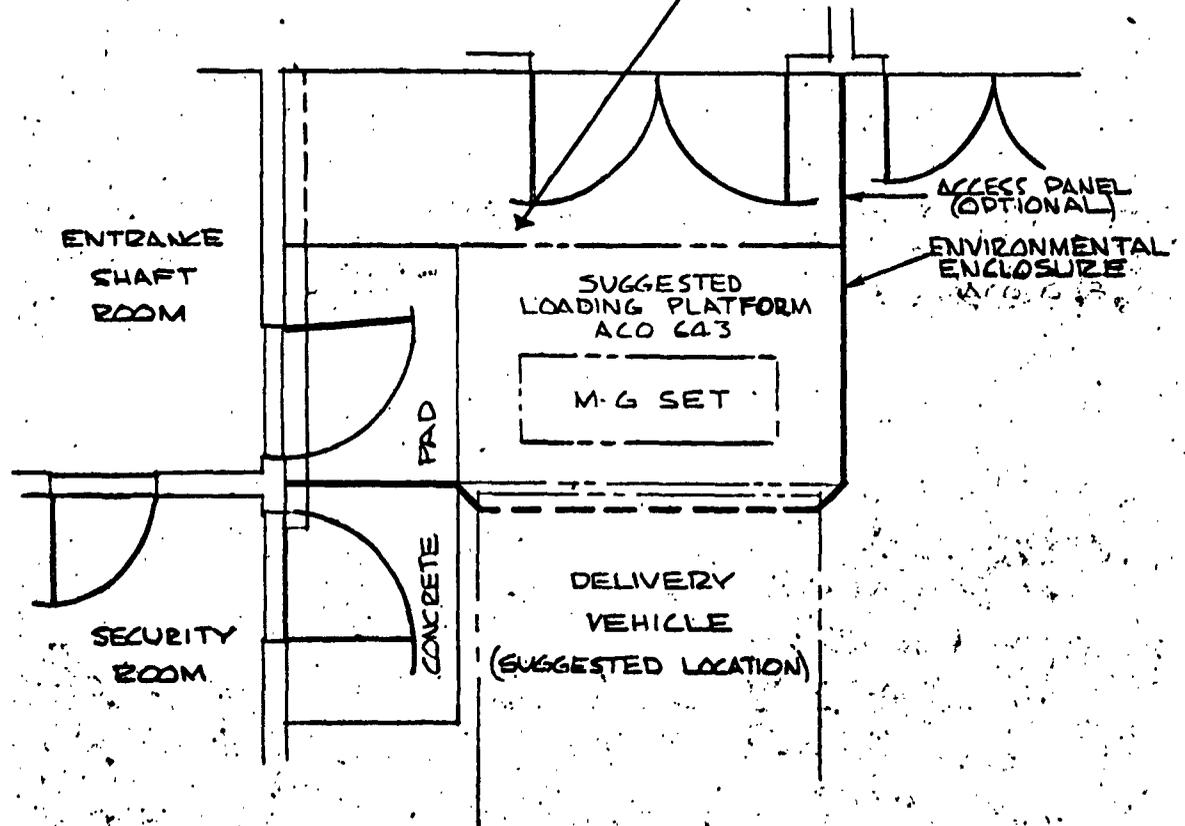
ISSUED NO. D2-11713-2
PAGE 1608

NOTE: Use form ID-6771-1000 if additional sheets are required.

REV. "B" - R. E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: W. Blair 2-4744
TELEPHONE: 2-4744

NOTE: ENCLOSURE WILL ENCOMPASS THIS ENTIRE AREA



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US-871-1000 (Use SAC 1044-L-01)
3-27-62
4-6-62

MAR 18 1963

ACO-608 Sht. 2

BOBINO

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ACO NUMBER 608.2

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 1-4-2

REVISION 1 DATE 2-1-63

EQUIPMENT TITLE ENVIRONMENTAL ENCLOSURE - ICF
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing Engr. EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME25-26182

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X				NONE	X	X

PURPOSE & JUSTIFICATION

To provide an enclosed area, which will be environmentally controlled, between the LCSB entrance shaft room door and the environmentally controlled vehicle for the protection of electronic cabinets during installation. The enclosure may also be used for the protection of equipment and personnel against inclement weather.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A protective enclosure is required which shall:

1. Be readily portable and easily installed.
2. Encompass the LCSB entrance shaft room door, loading platform (ACO 643), and unloading opening of the conditioned delivery vehicle.
3. Be of sufficient size such that the enclosure will not interfere with:
 - a. Unloading and loading operations at the vehicle.
 - b. Handling and transferring operations on the loading platform.
 - c. Passage of equipment through the door.
4. Be of weatherproof material and construction.
5. Be capable of withstanding winds up to a maximum of 40 mph.

The enclosure will be conditioned by air from the entrance shaft and the auxiliary environmental control unit (Fig. A 4133) used for the delivery vehicle.

NOTE: This item is good for Wing II only.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>A. M. Mann</i>	<i>R. E. Brewer</i>	<i>R. Estep</i>

2-6340-0-MAR 18 1963
REV. 1-16-3

RECORD NO. D2-11713
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NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Praiser
TELEPHONE: 5-4505

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ACO NUMBER 608.3

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-25-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE ENVIRONMENTAL ENCLOSURE - LCF
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG. NO. ME25-26182

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	None	None	None	X	y	y

PURPOSE & JUSTIFICATION

To provide an enclosed area which will be environmentally controlled between the LCSB entrance shaft room door and the environmentally controlled vehicle for the protection of electronic cabinets during installation. The enclosure may also be used for the protection of equipment and personnel against inclement weather. The LCSB door for Wing III is changed from previous wings.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A protective enclosure is required which shall:

1. Be readily portable and easily installed.
2. Encompass the LCSB entrance shaft room door, _____ and unloading opening of the conditioned delivery vehicle.
3. Be of sufficient size such that the enclosure will not interfere with:
 - a. Unloading and loading operations at the vehicle.
 - b. Passage of equipment through the door.
4. Be of weatherproof material and construction.
5. Be capable of withstanding winds up to a maximum of 40 mph.

The enclosure will be conditioned by air from the entrance shaft and the environmental control unit used in the delivery vehicle.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M. H. Burton</i>	<i>W. D. ...</i>	<i>R. C. ...</i>	<i>George K. ...</i>

2-6340-0-1 MAR 18 1963

REV 2-30-3

BOEING NO. D2-11713 -2
PAGE 608.3

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Del. Munn

TELEPHONE: 5-2854

61
9

WS 133A

ACO NUMBER 610

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-23-61

EQUIPMENT REQUIREMENTS

REVISION B DATE 7-24-62

EQUIPMENT TITLE Marker, Azimuth Indicator
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-26181

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

To aid in the installation of the Autocollimator Bench Rail Protractor by providing a target directly above the west azimuth marker located inside the steel ring at the top of the launcher (Illustrated in D2-7648).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A metal frame and adjustable pointer as illustrated on the attached sheet. The frame will fit snugly around the azimuth marker plates located inside the top steel ring in the launcher and will be held in this position by a permanent magnet. The adjustable pointer attached to the frame will align with the vertical groove cut in the face of the marker plate and project this groove approximately 2 inches above the edge of the launcher to be viewed by a transit (ACO-392).

A suitable protective carrying container shall be provided.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 REV 8-3-62
REV. MAR 10 1963

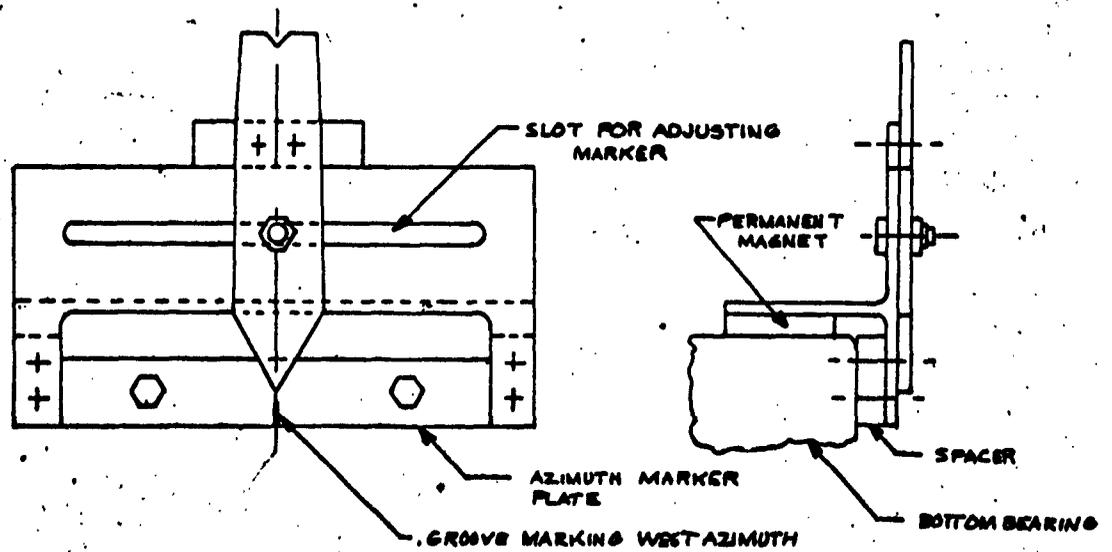
NO. 12-11713-2
PAGE 610

NOTE: Use form US-4971-1000
if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W.R. BLAIR rev. B J. Allenburger
56696
TELEPHONE: 5-559

61

AZIMUTH INDICATOR MARKER, ACO-610



AZIMUTH INDICATOR
IN CORRECT POSITION

ACO-610 Page 2

DT-4871-100 (Rev. SAC 1946-LR3)

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4-6-62

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ACO NUMBER 612

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-18-61

REVISION F DATE 1-25-3

EQUIPMENT TITLE Lift Basket, General Purpose
(Basic Noun First)

RESPONSIBLE DEPT. BI/MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. 1

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X*		X	X	X

PURPOSE & JUSTIFICATION

To implement handling of equipment through the personnel access shaft and the launcher at the launch facility. Some of the equipment to be handled is listed under the following description.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A woven, webbed or strap-like container (basket) of sufficient strength to raise and lower 300 lbs. The container will be pliable and tend to adapt to the shape of the article contained inside. When forced to its full open position the container will measure 28" x 28" at its opening and 36" deep. Openings in the basket shall be small enough to prevent small parts and hand tools from dropping through. It shall provide protection to delicate parts to cushion them against shock and to prevent damage from the basket swinging into the sides of the shaft. The basket shall be designed for use with hoists built into the equipment vans.

Design and test of the lift basket will be in agreement with operating procedure 2-4200-61, "General Safety Requirements for the Design, Fabrication and Maintenance of Overhead Handling Equipment". Typical equipment to be handled by the Lift Basket:

- Suspension System Pins (Part of Fig. A-1204)
- Support Fixture ACO-648
- Leveling Frame ACO-655
- Chain Hoist Fig. A 4104
- Toxic Gas Tester Fig. A 4041
- Compresses Gas Cyl/Valve Fig. A-4305
- ACO-107 Mechanical Decoder
- ACO-102 Missile Electric Simulation Kit
- Fig. A-4012 SCN Portable Test Set
- Voltmeter and Oscilloscopes

*See BATE item DWG OME
24-2209 designed by Mfg.
for STP-III

The following equipment is acceptable to fulfill this requirement:

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 MAR 18 1963

REV. 1-30-3

BOEING NO. D2-11715-2
PAGE 1-612

NOTE: Use form US-4871-1000
if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. Rothhaft

TELEPHONE: 5-4505

1. Consolidated Net and Twine Co. Model 612 (Co in Seattle)
2. A bag, ME 25-26225, made of Herculite #80. All seams to be machine sewn with heavy nylon thread. The top edge of the bag will be of double thickness Herculite #80 with metal gromets inserted approximately 6 inches apart. A 3/16 inch diameter nylon draw cord 10 ft. long laced through the gromets with the ends tied together will close the bag and be used as a lifting medium. One gromet is also to be installed in the center of the bottom of the bag to drain any rain water that might collect in the bag. (Continued below)
3. Seattle Tent & Awning Model #5436-8OHR
4. Broadway Splicing and Supply (Spokane, Wash.) Model #1000-1

No drawing prepared under this number. Parts fabricated under this number are "Non-design tools." Further fabrication by Boeing as a BATE item remembered because of cost.

ACO 612
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1-30-3

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ACO NUMBER 613

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE April 19, 1962

REVISION B DATE 6-19-62

EQUIPMENT TITLE Alignment Pin, Pendulum Rod to Rocker-Arm
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ZME 24-2107

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	FLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

To accelerate the assembly of the Missile Base Support Suspension and Alignment System (Fig. A-1204) to the launcher. Specifically, to align the pendulum rods (attached to the Base Support Ring) to the rocker arms (3 places) which are already attached to the upper brackets during the installation of the Base Support ring and pendulum rod assembly.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A hardened steel taper pin with its surface finished to the standards of the bearings with which it is used. The pin will be a bullet-nose type with a knurled handle on the opposite end for ease of installation and removal. The handle end will have provisions for attachment of a strap. The alignment pin will be of sufficient length to align the pendulum rod exactly before the production pin enters the first bearing of the rocker arm.

NOTE: Use form US-4071-1000 if additional sheets are required.

Rev. by R. Colling

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

MAR 18 1963

REV. 1-27-62
6-29-62

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ACO NUMBER 614

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-19-2

EQUIPMENT REQUIREMENTS

REVISION H DATE 3-8-3

EQUIPMENT TITLE GUARD RAIL, PORTABLE, LP PERSONNEL, ACCESS SHAFT
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-26203

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	1	X *		X	X	X

PURPOSE & JUSTIFICATION

To prevent personnel from accidentally falling into the Personnel access shaft.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A light-weight, portable fence using tubular type supports approximately 3 1/2 feet high, which when assembled, will prevent prevent personnel from accidentally falling into the personnel access shaft. The fence will be attached securely to the personnel ladder. Additional stabilization of the Guard Rail will be accomplished through the use of sandbags.

It is to be dis-assembled quickly and easily into a compact unit for transportation in the A&CO vans.

The fence shall have one top rail removable to permit clearance of ACO 420, ACO 658 and ACO 659 and all equipment to be lowered into the personnel access shaft.

* Use BATE item PME 24-2076 for STP III

1 Use ME 25-26202-1 Cover in conjunction with ACO 614 for VAFB only

ACO 614 is approved to grant coverage for the units already manufactured for the above use. Additional orders for this item are not allowed.

Additional items are to be covered under ACO 4800.

ACO 4800 supersedes ACO 614 for procurement after 10-5-2. Existing units of ACO 614 maybe used at any wing. Replacement of existing ACO 614 units by ACO 4800 units is not required.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1

REV. 3-18-3

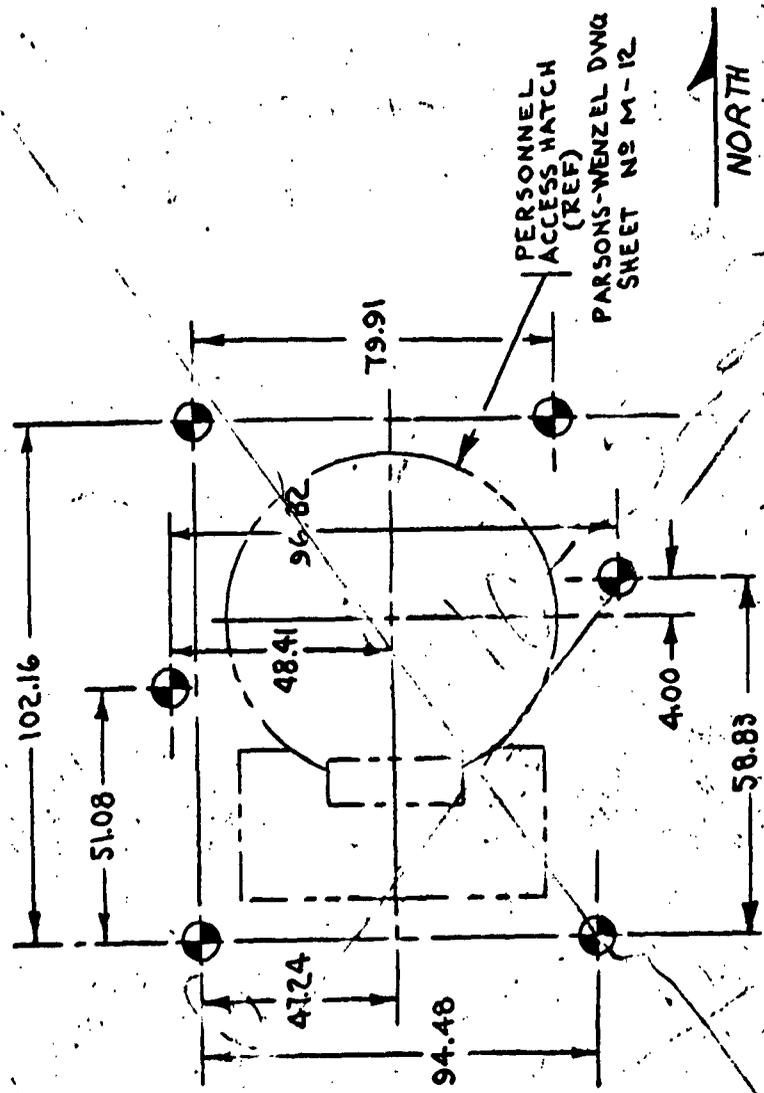
BOEING NO. D2-11713-2
PAGE 614

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: D. Lytle REV. "H" - R. E. Colling 5-2854
TELEPHONE: 5-8801

hp

Duck good HCU



TIE DOWN LOCATION'S
DWG. NO ME 25-26203

PHILIPS M&F-12 FLUSH SHELL
ANCHORS & FASTENERS TO WITH-
STAND 4000 LBS. EACH

TOLERANCE ±.06 EXCEPT AS SHOWN.

ACO-614
SHT 2 OF 2

Rev 6-12-62
MAR 18 1963

BOEING NO. D2-11713-2
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ACO NUMBER 615

ASSEMBLY & CHECKOUT

APPROVAL DATE April 25, 1961

EQUIPMENT REQUIREMENTS

REVISION B DATE 4-27-62

EQUIPMENT TITLE Sling, Spring Assy., Suspension System
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. OME 23-5785

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

(Used in conjunction with the Assembly of Fig. A-1204). To enable the spring suspension assy. (consisting of the leveling jack assy, connecting rod, tie rod, rocker arm, and spring) to be emplaced with the truck mounted crane, Fig. A-4054.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A clamp type jaw will be utilized to secure the tie rod, above the connecting rod coupling enabling the entire assembly to be lowered into a position where the pin can be installed through the rocker arm and the upper mounting bracket. The clamp is designed for use with a conventional cable hook on the hoisting equipment.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Banton</i>	<i>R.C. Chong</i>	<i>P.E. ...</i>	<i>R. Ester</i>

2-4340-0-1 REV 5-11-62

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NOTE: Use form U2-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: *W. Ritzhoff*
TELEPHONE: *5-4505*

df

R

WS 133A

ACO NUMBER 617

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-28-61

EQUIPMENT REQUIREMENTS

REVISION A DATE 8-29-61

EQUIPMENT TITLE: Dolly, Battery Handling R

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION RATE

DESIGN REQMS DOCUMENT None DWG NO. ME 10-20811

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE:

To be used in conjunction with the Ballistic Actuator Assembly Cradle (Fig. A-4096) in transporting the Launch Closure Ballistic Actuator in the confines of the CSA at MAFB, VAFB, and for Testing purposes at STP III.

Also to be used without the Ballistic Actuator Cradle for handling batteries. R

DESCRIPTION:

A four-wheeled, castored dolly capable of easily transporting the Launch Closure Ballistic Actuator (in conjunction with Fig. A-4296). The dolly will be designed to withstand the proof load testing requirements of TBC operating procedure 2-4200-60.

NOTE: Ballistic Actuator Assembly Cradle to be provided in WS ECL 258.

ACO-617 is approved to grant coverage to Manufacturing Engineering for (17) units constructed for the usage indicated above. The requirements for these items was established in the December 1, 1960 revision of D2-7648 but has since been deleted from the Assembly and Checkout Requirements. Therefore, additional orders for this item are not allowed.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A. H. Baxter</i>	<i>R. O. Collins</i> 8-29-61	<i>Thomas Hall</i>

1/27/62 MAR 18 1963
4-6-62

REVISION NO. D2-11723-2
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WS 133A

ACO NUMBER ACO-619

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-20-61

EQUIPMENT REQUIREMENTS

REVISION A DATE 9-14-2

EQUIPMENT TITLE Holding Fixture, Pendulum Arm (Set)
(Basic Non First)

RESPONSIBLE DEPT. Mfg. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. ME 25-26191

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

To support components of the Missile Base Support, Suspension & Alinement system (Fig. A-1204) during their subassembly, transport and installation. Specifically: To hold the pendulum arms at the correct angle to the base ring while cementing their common attach point. Also, to maintain this angle during transit and installation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A set of three (3) metal brackets which attach firmly to the base ring and to the pendulum arms. Each bracket will provide a limited length adjustment to accurately control the angle between the pendulum and the base ring. The brackets will not interfere with the attachment and usage of the Missile Base Support Ring Sling (ACO-604) during installation at the launch facility.

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. M. Wright
TELEPHONE: 5-4505

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<u>W. H. Barten</u>	<u>W. Messin</u>	<u>A. E. Greiser</u>	<u>R. Estep</u>

2-4340-0-1 9-28-62
REV. MAR 18 1963

BOEING NO. DC-21713-2
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ACO NUMBER 624
APPROVAL DATE 10-2-62
REVISION A DATE 10-30-2

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE Jig, Locating, Launch Control Console Seat Track
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. ME 25-36909

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION

The Locating Jig is to locate and drill attachment holes in the LCC floor for the Launch Control Console Seat Tracks per layout shown on Eng. Dwg. 24-2206, Sheet 8.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is to be a lightweight drill template having (26) full size (Eng. Ref.) drill bushings for .342 Dia. holes at all points of seat rail attachment. The drill template is to be indexed to the existing Launch Control Console mounting locations. Index location is to be coordinated to MHLT 25-21700-95.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J. T. Holland</i>	<i>W. Notari</i>	<i>R. Hudock</i>	<i>R. Estep</i>

2-6340-0-1

MAR 18 1963

REV. 11-6-2

11-13-2

BOEING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required.

Rev. "A": R. Hudock 5-2563

W. Notari 5-4505

ORIGINATING GROUP SUPERVISOR: J. T. Holland
TELEPHONE: JU 3-1930

WS 133A

ACO NUMBER 625

ASSEMBLY & CHECKOUT

APPROVAL DATE 10-2-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 10-30-2

EQUIPMENT TITLE Jig, Locating, Communication, Control Console Seat Track
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG. NO. ME 25-36910

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION

This Jig is to locate and drill .342 Dia. attachment holes in the LCC floor for the Communication Control Console Seat Tracks as shown on Eng. Dwg. 24-2206, Sheet 8.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This tool is to be a lightweight drill template having (62) full size (Eng. Ref.) drill bushings for .342 Dia. holes at all points of seat rail attachment to the floor. The drill template is to be indexed to the existing Communications Control Console mounting locations. See HCT 25-21700-117 for Communication Control Console Dimensions.

NOTE: Use form UJ-4071-1000 if additional sheets are required.
Rev. "A": R. Hudock 5-2563

W. Nothard 5-4505

ORIGINATING GROUP SUPERVISOR: J. T. Holland 3-1930
TELEPHONE:

SHT 2 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J.H. Burton</i>	<i>W. Nothard</i>	<i>A.E. Gieser</i>	<i>R. Hudock</i>

2-6340-0-1 MAR 18 1963

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ACO NUMBER 629
APPROVAL DATE April 25, 1961

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

REVISION A DATE 1-29-3

EQUIPMENT TITLE COVER, PROTECTIVE, LCC FLOOR
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None Available

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

To protect the floor surface (vinyl tile) of the LCC during installation and checkout of heavy equipment. (i.e. M-G set, batteries etc.)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A light weight thin gauge metal panel (hard board optional) to cover the walking surface of the LCC shock mounted floor. The panels will be segmented to agree with the access panels in the floor to allow installation of the M-G set and the batteries. The panels will be coated to prevent scratching the vinyl tile and can be combined into a single packet for ease in handling, and transportation in the assembly and checkout ~~vaag~~.

▷ ACO 629 is approved to grant coverage to **Manufacturing Engineering** for (18) units constructed for the usage indicated above. Additional orders for this item are not allowed. Future requirements will be made on site using expendable material.

FME 24-2206 is the optional item to be used until replacement or repair is necessary.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. A. Buxton</i>	<i>A. P. Munn</i>	<i>R. E. Grier</i>	<i>C. H. Newell</i>

2-6340-0-1 MAR 18 1963

REV. 1-30-3

BOEING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISORS: A. P. Munn
TELEPHONE: 5-2854

Used

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ACO NUMBER ACO 632

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 4-18-61

REVISION F DATE 3-12-3

EQUIPMENT TITLE RAMP - PORTABLE, LCC BLAST DOOR THRESHOLD
(Basic Non First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X	None	None	None	None

NOTE: Use form U3-4571-100 if additional sheets are required

PURPOSE & JUSTIFICATION

To enable movement of heavy equipment on dollies, from the service lift to the threshold of the LCC pressure door during the assembly and checkout period.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Access equipment is required which shall:

1. Provide a ramp area in front of the LCC threshold
2. Have a hard non-slip surface
3. Be readily portable
4. Be securely anchored to prevent movement when in use
5. Support loads up to a maximum of 2300# on dollies
6. Be constructed for ease in installation, removal and transport

This ACO will be made on site from expendable MRO material.



ME 25-26170 may be used at STP III Mockup



ME 25-26232 is an optional item to be used until replacement of repair is necessary. All additional requirements for this ACO are to be made on site from MRO stock.

SHT 1 OF 1

ORIGINATING GROUP SUPERVISOR: J. T. Holland

TELEPHONE: JU 6-8842

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burtan</i>	<i>W. M. Munn</i>	<i>A. E. Brisson</i>	<i>W. H. Neale</i>

7-6340-0-1

REV. 3-18-3

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ACO NUMBER 632.3

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION _____ DATE 3-12-3

EQUIPMENT TITLE RAMP - PORTABLE, LCC BLAST DOOR THRESHOLD
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	None	None	None	X	X	X

PURPOSE & JUSTIFICATION

To enable movement of heavy equipment on dollies from the service lift to the threshold of the LCC pressure door during the assembly and checkout period.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Access equipment is required which shall:

1. Provide a ramp area in front of the **LCC threshold**
2. Have a hard non-slip surface
3. Be readily portable
4. Be securely anchored to prevent movement **when in use**
5. Support loads up to a maximum of 3000# on **dollies**
6. Be constructed for ease in installation, **removal and transport**

This ACO will be made on site from expendable MRO material.

NOTE: Use form UD-6071-1300 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. T. Holland
TELEPHONE: JU 6-8842

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boston</i>	<i>W. M. ...</i>	<i>A. E. ...</i>	<i>C. H. ...</i>

2-6340-0-1

REV. 3-18-3

BOEING NO. D2-11713-3
PAGE 632.3

WS 133A

ACO NUMBER 633

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE May 26, 1961

REVISION A DATE 4-3-62

EQUIPMENT TITLE: Cover, Protective LCC Support Building Floor
(Bolt Down Fire)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. MIT 24-2074
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION:

To protect the vinyl covered floor in the security room (#105) of the LCC Support Building, until delivery to the using command.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

3/8" plywood floor panels, made in sections to cover the entire floor of the security room.

ORIGINATING GROUP SUPERVISOR: J. T. Holland
TELEPHONE: 4-2840

NOTE: Use form IS-407-1-62
if official sheets are received.

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>
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2-6340-0-1 4-5-62

REV. MAR 18 1963

BOEING NO. D2-11713-2
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ACO NUMBER 634

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-23-62

REVISION A DATE 3-30-62

EQUIPMENT TITLE Cover, Personnel, Access Shaft, L. F.
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	1 X	X				

PURPOSE & JUSTIFICATION

To provide weather protection whenever the hatchway is opened and is not protected by the cover provided in the assembly trucks.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The cover must satisfy the following requirements:

1. Cover the access hatch (with the hinged section of ladder in place).
2. Have a lid or door permitting personnel entry or exit without lifting the entire cover.
3. Be made of light-weight material.
4. Wind, rain, and and snow resistant. Lead water away from poorly sealed areas.
5. The cover shall be easily disassembled for transportation.
6. The cover opening shall be so constructed as to allow personnel to open and close it from the equipment room, from outside the access hatch, and/or while standing on platform of the hinged section of ladder.

This item shall be designed and fabricated, on site, from expendable materials.

This item replaces cover on ACO 614.

OPTION:

1 Use ME 25-26202-1 cover in conjunction with ACO 614, for VAFB only. SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M. R. Carter</i>	<i>D. Weaver</i>	<i>R. E. Guisard</i>	<i>R. Carter</i>

NOTE: Use form U1-4071-1030 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. Kothaft

TELEPHONE: 5-4505

2-6340-0-1 L-6-62
REV. MAR 18 1963

BOEING NO. D2-11713 -2
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ACO NUMBER 636

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 7-5-62

REVISION C DATE 1-22-63

EQUIPMENT TITLE Dummy G & C Section
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION RATS

DESIGN REQMS DOCUMENT None DWG NO. Me25-36925

TO BE USED AT: 2 Rev. B and on results from CCP 1007 (MAFB)

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X <u>2</u>	None	X <u>1</u>	None				

PURPOSE & JUSTIFICATION

VAFB To be used in place of the Operational G&C Section when it is necessary to remove a missile from the launch tube after mating of the G&C Section and the CTLI Wafer. The missile will not fit in the Transporter-Erector with a CTLI Wafer installed.

MAFB A dummy G&C Section is required for Interim use to allow emplacement of missiles furnished without G&C Sections when ACO 4053.2 is not available. Use of a dummy G&C allows emplacement using ACO 4053. Work-around authorized by CCP 1007. See IP-298.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Dummy G&C section shall be physically interchangeable with the Operational G&C Section. The aft face shall conform to Master Gage MG 25-15555 to interface with the third stage engine. External dimensions shall conform to Autonetics Drawing 4533-300001. The design shall be compatible with use of the Adapter, Hoisting, Stabilizing Ring, Fig. A 4053. The forward face shall conform to Master Gage MG 25-15553 to the extent necessary to interface with the Adapter, Hoisting, G&C Assembly, Fig. A 4028.

1 Weight of the Dummy G&C Section shall be the same as the Operational Section within 0% and -10%. The lateral and vertical location of the C.G. shall be within .75 inches, in any direction, of the Operational Location. The Horizontal location of the C.G. shall be within 2.00 inches, in any direction, of the Operational Location. Structural stiffness shall equal or exceed that of the Operational Section.

The design shall be such that no operational or maintenance equipment is damaged or deteriorated by repeated use of this item.

1 One item only is required for emergency use at VAFB. Dwg. No. SE 25-26171 for VAFB usage only.

2 For interim MAFB usage as noted in the purpose, it is not required that this Dummy G&C Section simulate the weight of the operational G&C Section. When installed on a missile, these light weight Interim Dummy G&C Sections shall be sealed sufficiently so that a separate dust cover is not required to protect the 3rd stage engine. Parts fabricated to ME 25-36925 will satisfy this Interim requirement for MAFB.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boston</i>	<i>W. H. Mann</i>	<i>G. E. Carver</i>	<i>J. H. Herald</i>

2-4340-04 MAR 18 1963

REV. 1-30-3

ROKING NO. D2-11773-2
PAGE 636

NOTE: Use form US-071-1000
If additional sheets are required.

Revised C
Walt Moothaft
Extension 5-4505

ORIGINATING GROUP SUPERVISOR: D. Munn
TELEPHONE: 3-0368

15
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WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 639

APPROVAL DATE 9-8-61

REVISION _____ DATE _____

EQUIPMENT TITLE: Jig, Drill, Mounting Provision, MG Set, IF

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION Eate

DESIGN RQMTS DOCUMENT None DWG NO. *

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE: To provide a Drill Jig to locate mounting holes for the Motor Generator Set in the Launch Facility at VAFB. Template to have the A&E contractor do this work.

DESCRIPTION: A simple light weight metal drill jig (Template) properly indexed to locate 6, 13/16" mounting holes in the "H" channels on the second level floor of the Launch Facility.

Dwg Ref: VAFB R&S 6011-4 S-17
MAFB P&W 1785-1 S-16
EAFB P&S 1889-1 S-23
FCR-71

For Mounting provision sketch see sht. 2

*NOTE: This tool should have an Interface Tool # for MAFB & on & should coordinate with MHLT 25-21700-12

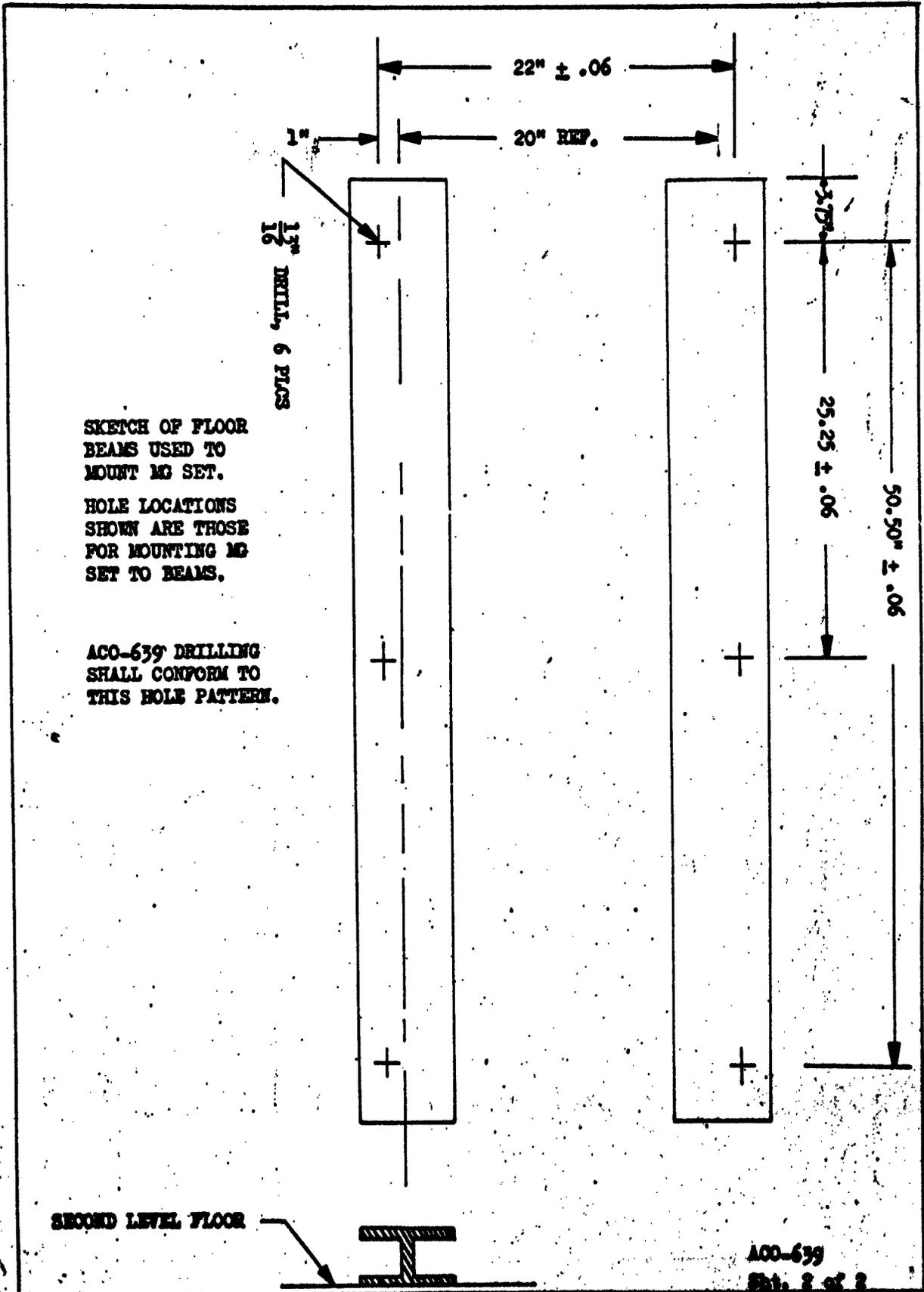
Wes Davies 2-2092

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

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11-4071409
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ACO-639
Sht. 2 of 2
BOEING NO. D252713-2
PAGE 1

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**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER ACO-641
APPROVAL DATE 11-22-61
REVISION A DATE 3-6-62

EQUIPMENT TITLE: Platform, Missile Harness Storage
(See Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION RATE

DESIGN REQMS DOCUMENT None DWG NO. ME "25-26198"
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION:

To provide a means of storing engine handling harnesses at the missile transfer area, in order to enable a T-E to unload empty harnesses upon return from a missile emplacement, thus enabling it to receive a missile from a BMT*. This will reduce the need for precise scheduling of T-E's and BMT's* during missile transfer and will enable this equipment to remain in service.

*BMT - Ballistic Missile Trailer (carries SCEM)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A level platform is required which shall:

1. Contain one set of storage rails meeting the same specifications and tolerances for configuration and gage as those rails used in the T-E.
 2. Have provisions for being securely attached to a facility which will be provided at the missile transfer area. This facility shall consist of a level surface on which to position and attach the storage platform, and shall have paved approach areas for maneuvering the T-E's and BMT's.
- The storage rails, when attached to the facility, shall be of such a height as to allow the rails in the BMT to align with the storage rails to ± 1.25 inches in the vertical plane, and to allow the T-E rails to align with the storage rails to ± 1.25 inches in the vertical plane, when the BMT and T-E are properly positioned on their respective approach areas.
3. Be of sufficient length to accommodate one set of engine handling harnesses.
 4. Be capable of supporting the weight of one set of engine handling harnesses.
 5. Have provisions for securing the harnesses to the platform.
 6. Have provisions for securing standard MRO tarpaulin covers over the harnesses.

SHT. 1 OF 1

ENGINEERING DEPT. <i>H. H. Burton</i>	BASE INSTALLATION DEPT. <i>M. M. M...</i>	MANUFACTURING DEPT. <i>A. C. ...</i>
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2-6340-0-1 Rev 3-20-62

4-6-62

REV. MAR 18 1963

ISSUING NO. 12-11713

ORIGINATING GROUP SUPERVISOR: MAX WENGAR
TELEPHONE: 5-3395

FORM 10-62 (REV. 1-62)

(Description)

7. Have attach points for optional usage of block and tackle, (or other types of hoist equipment).

A set of bridge rails shall be provided to connect the storage rails with the T-E or EMT rails. When the EMT or T-E rails are aligned to ± 1.25 inches in the vertical plane and ± 1.00 inches in the horizontal plane with the storage rails, the bridge rails will permit a roll transfer of harnesses.

The rails may be similar to those developed for use with the in-plant transporter (ref. 25-16275).

The bridge rails shall:

1. Be capable of being easily and securely attached to either the T-E rails or EMT rails and to the storage rails.
2. Be capable of supporting the weight of the engine handling harnesses.
3. Meet the same specifications and tolerances with respect to rolling surface and wheel clearances, as the rails used on the T-E.
4. Bridge rails will be retained and kept as part of the Missile Harness platform and can be attached by a flexible coupling if desired.

Signs shall be provided clearly indicating that harnesses containing missiles are not to be transferred onto the storage platform.

NOTE: A facility shall be provided at the missile transfer area, which shall consist of a level paved surface on which to secure the storage platform, and of paved approach areas for maneuvering T-E's and EMT's. Platform tie-down requirements are shown on sheet # 3.

400 642
Sheet 2 of 2

REVISED

MAR 18 1963

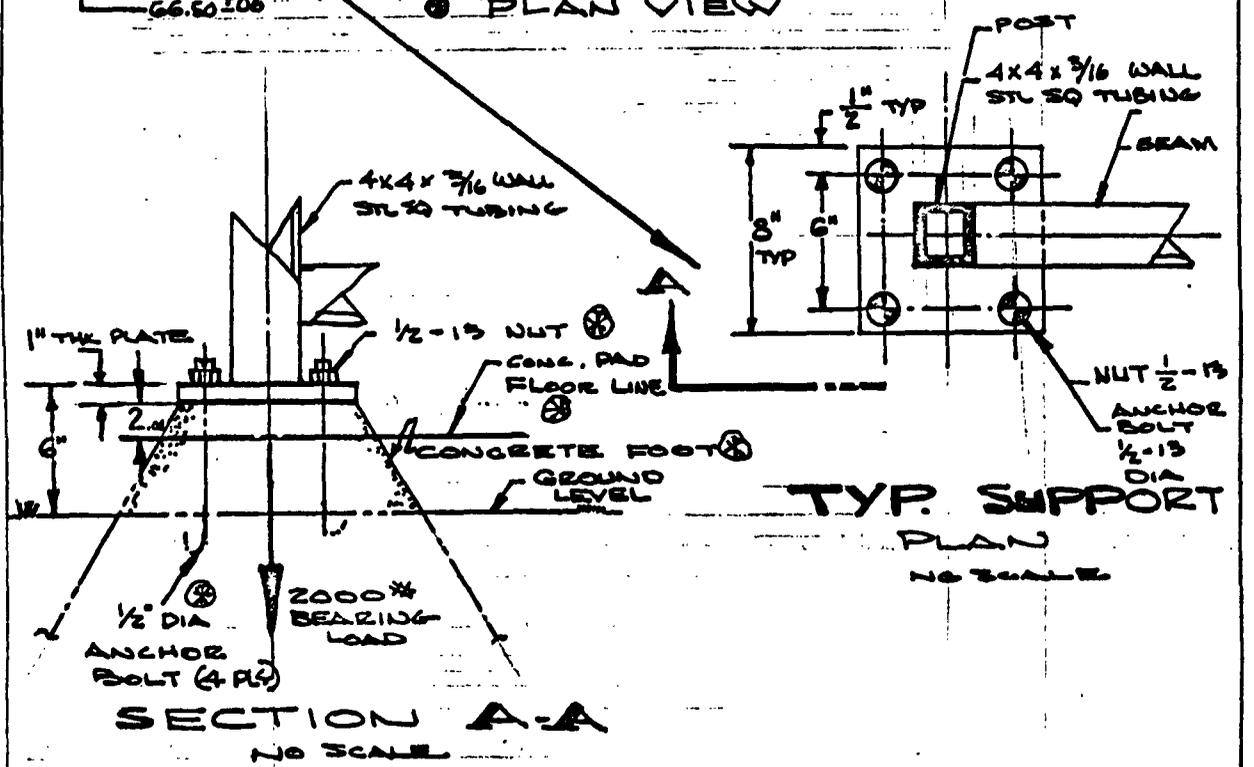
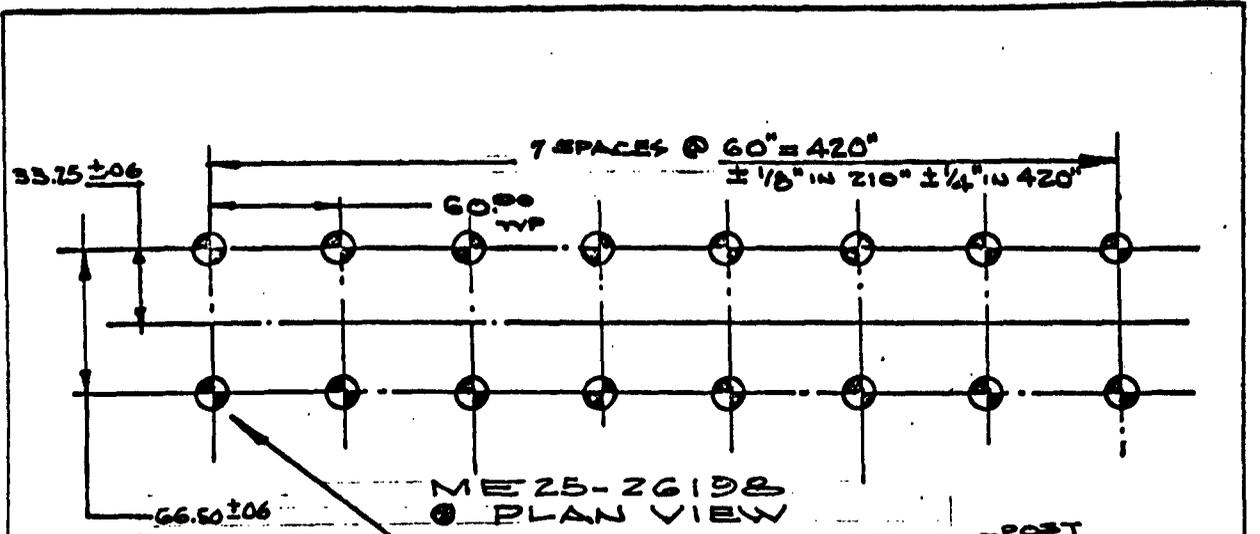
US GPO 2000 (RAS) SAC 317

BOEING

BOEING

NO. 12-11713-2

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NOTE: LOCATION LAYOUT OF CONCRETE SUPPORTS & TIE FACILITY - TO BE PROVIDED BY FACILITIES DEPT.

ACO 641 PLATFORM MISSILE HARNESS STORAGE
ME25-26198

FACILITIES: CONCURRENCE

DEPT 2-2890-34 H. WENGER SUPV
W. ANHONY LEAD WSA
PHONE 6-5595 BEN FRANKLIN CENTER

161

Added 3-20-62
4-MAR 18 1963

REVISED
US 4200 2000 (WAS SAC 4131D)

BOEING | BOEING | NO. D2-11713-2
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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 643
 APPROVAL DATE 4-19-1
 REVISION D DATE 12-7-2

EQUIPMENT TITLE LOADING PLATFORM - PORTABLE, LCF
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. 1 2

TO BE USED AT:

BASE	MAFB	EAPB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To provide access, for equipment being transferred on dollies, (loading or unloading) between the LCSB entrance shaft room door and the delivery vehicle only. (ACO 658 & ACO 659). No requirement exists to move equipment from delivery vehicle to the Equipment Room on this platform.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A loading platform is required which will:-

1. Be readily portable.
2. Have a hard non-slip surface.
3. Be of such width that all equipment handling operations between the delivery vehicle and entrance shaft room door will be accommodated.
4. Support loads up to a maximum of 3,000# including dollies (ACO's 617 and 645).
5. Be securely anchored to prevent excessive movement when in use, but will not be attached to the facility. Sandbags may be used.
6. Be designed to be used on the finished asphalt grade.
7. Platform must be compatible with ACO 608 (environmental enclosure LCSB entrance to vehicle).

This ACO will be made on site from expendable MRO material

ME 25-26208 is an optional item to be used until replacement or repair is necessary. All additional requirements for this ACO are to be made on site

Wing III thru V configuration different than items and optional ME 25-26208 ramps will not interchange.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>A. D. Munn</i>	<i>A. C. Brewer</i>	<i>R. Eatery</i>

2-4340-0-1

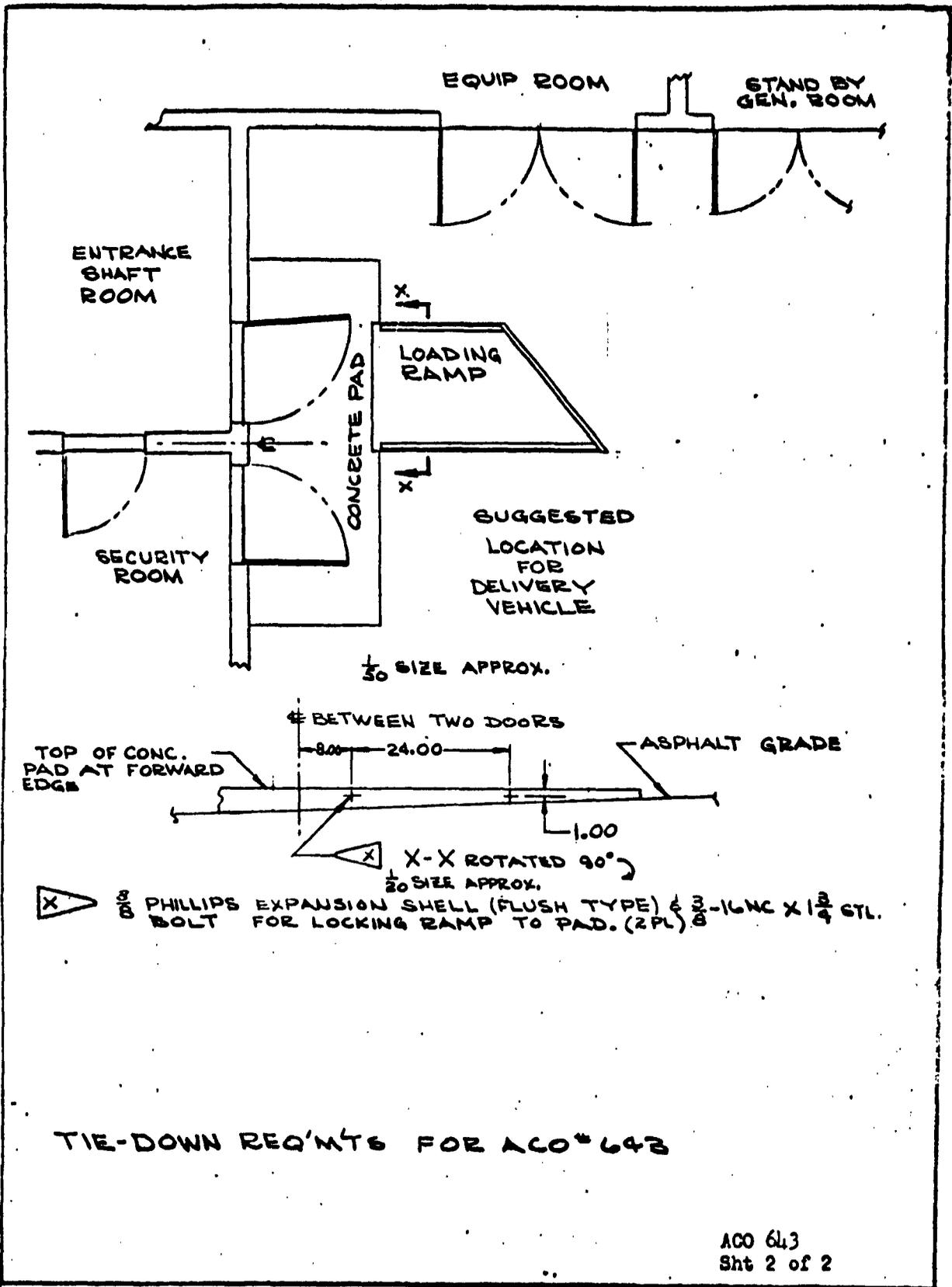
REV 12-12-2
 MAR 18 1963

BOEING NO. D2-11713-2
 PAGE 643

NOTE: Use form U2-4071-1000
 If additional sheets are required.

REV. "D" - A. D. Munn
 3-0368

ORIGINATING GEAR SUPERVISOR: Venger
 TELEPHONE: 5-3395



REVISED 1/27/62
4-6-62
MAR 18 1963

BOEING

BOEING

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ACO NUMBER 645

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION C DATE 7-3-62

EQUIPMENT TITLE Dolly - Lift, Tilting, LCF
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-26209

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

1. To provide a mechanical means of handling the electronic racks and consoles at the LCF between the unloaded position at the delivery vehicle and the final installed position in the LCC.
2. To provide a mechanical means of handling the bedplate and control panel of the M-G set (Fig. A 1367) at the LCF between the unloaded position at the delivery vehicle and the position for re-assembly on the LCC floor.

~~DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS~~

NOTE: The M-G set (Fig. A 1367) is disassembled into major components for transporting into the LCC and then re-assembled before positioning into final installed position.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A tilting lift dolly is required which shall be capable of performing the following functions:

1. Transfer the rack, or CCC top, in a vertical position, from the delivery vehicle to the service lift, down to the LCC level and off.
2. Rotate the cabinet into a horizontal position, transfer it through the LCC entry and onto the LCC floor.

NOTE: At this point the CCC top may be removed for assembly to its other components.

3. Rotate the rack back into a vertical position, position it over and lower it on the mounting brackets provided.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 Rev 7-13-62
REV. MAR 18 1963

BOEING | NO. D2-11713-2
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NOTE: Use form UD-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: *B. V. Ozmstoe*

TELEPHONE: *5-6725*

ACO-645 (Continued)

4. Transfer the M-G set bedplate (approx. 89" x 26" x 8") to the service lift, tilt the bedplate approximately 30 degrees from vertical to clear the elevator entrance, and rotate to horizontal for transfer through the LCC entry and on to the LCC floor.
5. Transfer the M-G set control panel to the service lift, down to the LCC level and through the LCC entry on to the LCC floor.

In addition, the dolly shall meet the following requirements:

1. It shall be capable of supporting and holding the cabinets at the jack and lift points provided.

NOTE: Provisions shall be made to accommodate the vapor seal envelope and protective cover in which the cabinets are delivered.

2. In the vertical position, it shall be capable of movement:

- a. Over the loading platform, ACO-643
- b. Through the LCSB entrance shaft room door
- c. Through the service lift gate openings.
- d. Over and on to the mounting brackets on the LCC floor.

3. In the horizontal position, it shall be capable of movement:

- a. Up or down the LCC access ramp, ACO-632

NOTE: Provisions shall be made on the dolly for the attachment of the ramp winch cable.

- b. Through the short LCC entry tunnel.
- c. Through the acoustic enclosure opening in the LCC.

4. It shall be capable of supporting a load up to a maximum of 2000 #.

ACO 645
Sheet 2 of 2

WS 133A

ACO NUMBER 648

ASSEMBLY & CHECKOUT

APPROVAL DATE May 23, 1961

EQUIPMENT REQUIREMENTS

REVISION B (check date) DATE 6-19-62

EQUIPMENT TITLE Spring Lifting Fixture, Missile Suspension System
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. *ME 25-24344

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

To support the spring suspension assembly in a position such that the rocker arm at the upper bracket is positioned to allow connection of the pendulum and base support ring assembly.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A metal fixture which will attach to lower support bracket 25-18727-6 with cables or chains suspended downward on two sides. The cables or chains will be attached on the downward ends to adjusting screws. A metal plate will be required to nest up against the 25-18728-1 leveling jack assembly and allow the adjusting screws to suspend through a hole drilled in each side. Two adjusting nuts will also be required.

* To use existing design ME 25-24344-1

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 18 1963
REV. † 1-27-62
6-29-62

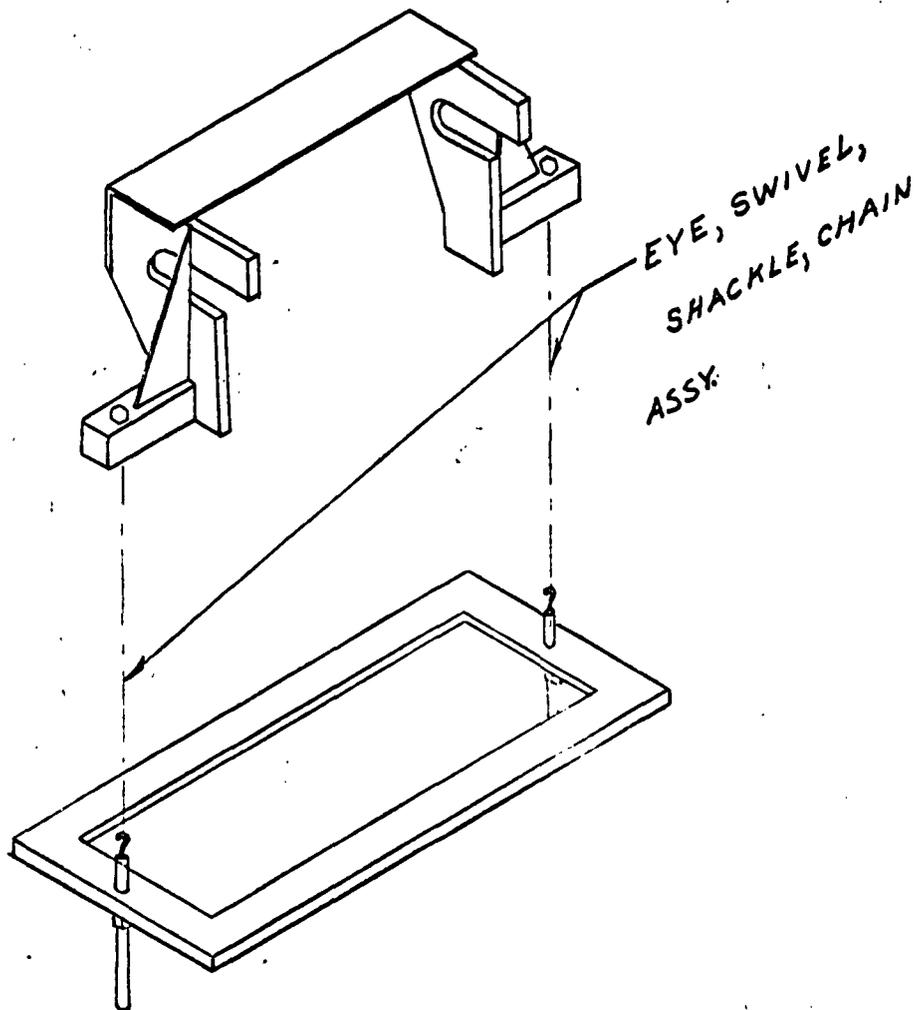
NO. D2-11713-2
PAGE 2

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: _____ Rev. by R. Coaling

TELEPHONE: _____

William for E. Johnson



REVISED
ACO 648 A
SHT 2 OF 2

167

1963 MAR 18

1/27/62
4-6-62

BOEING NO. 32-11713-2
PAGE 648a



WS 133A

ACO NUMBER 652

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-20-62

EQUIPMENT REQUIREMENTS

REVISION 0 DATE 3-22-3

EQUIPMENT TITLE Railing, Guard, Support Building Access (Portable Handrails)
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. ME 25-36912

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	WING III	WING IV	WING V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

To prevent personnel stepping into the access shaft to the launcher support building when the grating is lifted or removed. To provide an above-ground level handgrip to personnel descending to the below-ground level ladder at the launcher support building. This item has been requested by Minuteman Safety Manager, N. E. Classon, in memo 2-1881-10-523, dated February 23, 1962; N. E. Classon to D. D. Lyttle.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This safety guard railing shall consist of a frame work installed around the personnel access shaft of the launcher support building. This frame work will provide an opening at the end directly above the existing ladder for personnel entry.

A pair of handrails shall be provided. These handrails shall be detachable from the body of the guard railing to permit the guard railing to be used alone.

The attachment of this guard rail to the facility shall not require modification of the AGE and/or RPIE.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Bartoo</i>	<i>A. H. Bartoo</i>	<i>A. H. Bartoo</i>	<i>A. H. Bartoo</i>

2-6340-0-1

REV. 4-4-3

BOEING NO. D2-11713-2 PAGE 652

NOTE: Use form UD-4071-1000 if additional sheets are required.

Rev. C: M. E. Wenger 5-3395

ORIGINATING GROUP SUPERVISOR: D. Lyttle
TELEPHONE: AT. 4-1260

151
85

WS 133A

ACO NUMBER 653

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 1-16-62

REVISION D DATE 10-30-62

EQUIPMENT TITLE Railing, Hand LCC Entrance
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-26249 

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X 	X					

PURPOSE & JUSTIFICATION

To prevent personnel from falling from the floorplate, leading into the LCC, to the bottom of the capsule during assembly and checkout operations.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a hand railing be provided to satisfy this requirement.

The railing must be attachable to the sides of the floorplate at the entrance to the LCC capsule, however, permanent attachments, such as welding or drilling and bolting, should not be used.

The railing must be constructed to allow raising the floorplate for access beneath it and may be of chain, cable, or solid material.

The railing must not unduly interfere with the transporting of equipment into or out of the LCC capsule.

Because of the work platform (ACO 232) on the right, a railing for the left side only of the entrance way is required.

NOTE: The design of this item must be approved by Safety.

- 1 EAFB parts are a different configuration than MAFB parts. See drawing for correct usage. Parts shall be physically labeled as to bases on which they are useable.

SHT OF

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Banton</i>	<i>A. J. Moore</i>	<i>A. C. Greiner</i>	<i>R. Estep</i>

NOTE: Use form US-4071-1000
If additional sheets are required

ORIGINATING GROUP SUPERVISOR: Wenger Revision D Wal Lothaft
Ext. 5-4505
TELEPHONE: 5-2563

2-4340-0-1
REV. 11-6-2
11-13-2
M 19 1963

WS 133A

ACO NUMBER 654

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-18-2

REVISION D DATE 2-19-3

EQUIPMENT TITLE KIT, PURGE AND DRY, N10
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. Not Available

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

- This kit is required at LF to purge the trapped coolant in the G&C SECTION during the removal of a malfunctioned G&C section or missile.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This kit will consist of the following:

- A two wheeled cart which shall mount two standard cylinders of compressed nitrogen in a vertical position. A formed steel bracket shall anchor the cylinders to the cart frame. A manifold bolted to the cart structure shall accept attachment of high-pressure supply line from each cylinder outlet, and shall have a threaded provision to accomodate pressure regulator mounting. The manifold shall permit the selective use of either supply cylinder, or unloading an exhausted cylinder without the necessity of remounting the regulator. Mounted height of the manifold shall be of a level convenient for regulator adjustment and pressure gauge visual reference during use.

NOTE: The nitrogen cylinders will not be supplied as a part of this kit.

- A commercially available, two stage pressure regulator which shall be adjustable to regulate the pressure in a standard cylinder of compressed nitrogen to any desired pressure between 0 and 15 psig \pm 2.0 psig. Regulator must incorporate safety pressure limiting devices.
- A tee connection, attached to the discharge side of the pressure regulator, and a bleed valve mounted in the tee section.
- A line shut-off valve attached to the discharge side of the tee section.

SHT 1 of 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Banta</i>	<i>A. D. Mann</i>	<i>A. E. Brewer</i>	<i>C. H. Wood</i>

2-4340-0 MAR 18 1963

REV. 2-28-3

ENGINEERING NO. D2-11713-2
PAGE 1654

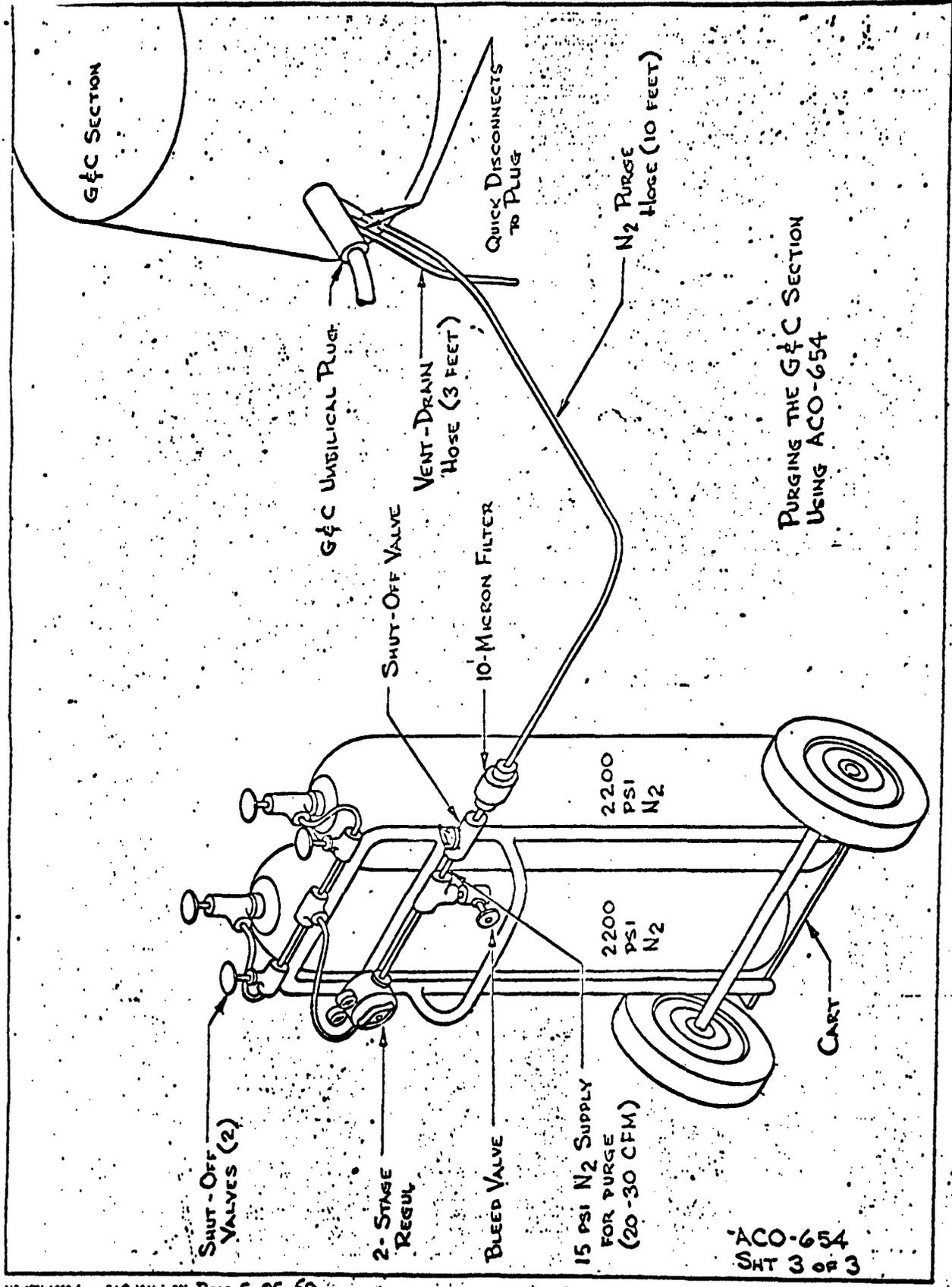
W. Blair
 ORIGINATING GROUP SUPERVISOR: 5-6696
 REV. "D"
 E. Colling
 5-2854
 NOTE: Use form US-4071-1000 if additional sheets are required.

5. A 10 micron filter, with a replaceable filter cartridge suitable for the pressure and flow specified for the regulating valve, attached to the line shut-off valve and provided with hose coupling facilities.
6. A set of hoses as follows:
 - a. One hose, 10 feet long, polyethylene, minimum 30 psig and 30CFM capability with standard screw fitting at one end, compatible with filter. Fitting at the opposite end will be a quick disconnect - identical to fittings and AN number for hoses of Figure A 1318, drawings 25-25572 and 29-18684.
 - b. One hose, 3 feet long, one fitting only. Fitting is the same as the quick disconnect above. (This hose will bleed to atmosphere).
 - c. One hose, 50 feet long, minimum 30 psig and 30 cfm capability, with end fittings which will allow it to be connected in line between the 10 micron filter and the 10 foot hose described above.

This hose will allow the G&C section to be purged at the LF before removal of the umbilical plug, when removing a malfunctioned G&C section or missile.

NOTE: August 7, 1962, Item c. which has been added by revision C will have to be retrofitted to items already existing in the field.

Revision C incorporates a 50 foot hose which will permit the G&C section to be purged at the launch facility.



U1-0714-000 (Rev. SAC 164423) Rev 5-25-62

3-18-3

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ACO NUMBER 655

ASSEMBLY & CHECKOUT

APPROVAL DATE April 18, 1961

EQUIPMENT REQUIREMENTS

REVISION C DATE 6-19-62

EQUIPMENT TITLE Leveling Frame, Support & Suspension System Upper Brackets
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. LJ 25-18724

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

To provide a positive means of locating the upper brackets of Figure A-1204 Support Suspension & Alignment System in a level plane during assembly.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A machined light weight metal (Al, Mg. etc.) frame consisting of two main center sections and two end adapters as shown on the attached sheet. The frame will extend from the rocker arm pivot pin inserted in an upper bracket to a rocker arm pivot pin inserted in a second bracket when the brackets are assembled in the launcher. The frame will present a smooth straight surface parallel to the surfaces making contact with the rocker arm pivot pins and shall have a leveling instrument permanently attached to indicate the horizontal attitude of a plane passing through the centerline of the rocker arm pivot pins.

Both center sections and the end adapters will be separated and stowed in a padded carrying case for transportation. The carrying case will be included as part of ACO-655.

NOTE: Formerly named straight-edge, 11 ft. with adapters.

This cancels the requirement for ACO 408.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 18 1963

REV. 1-27-62
6-29-62

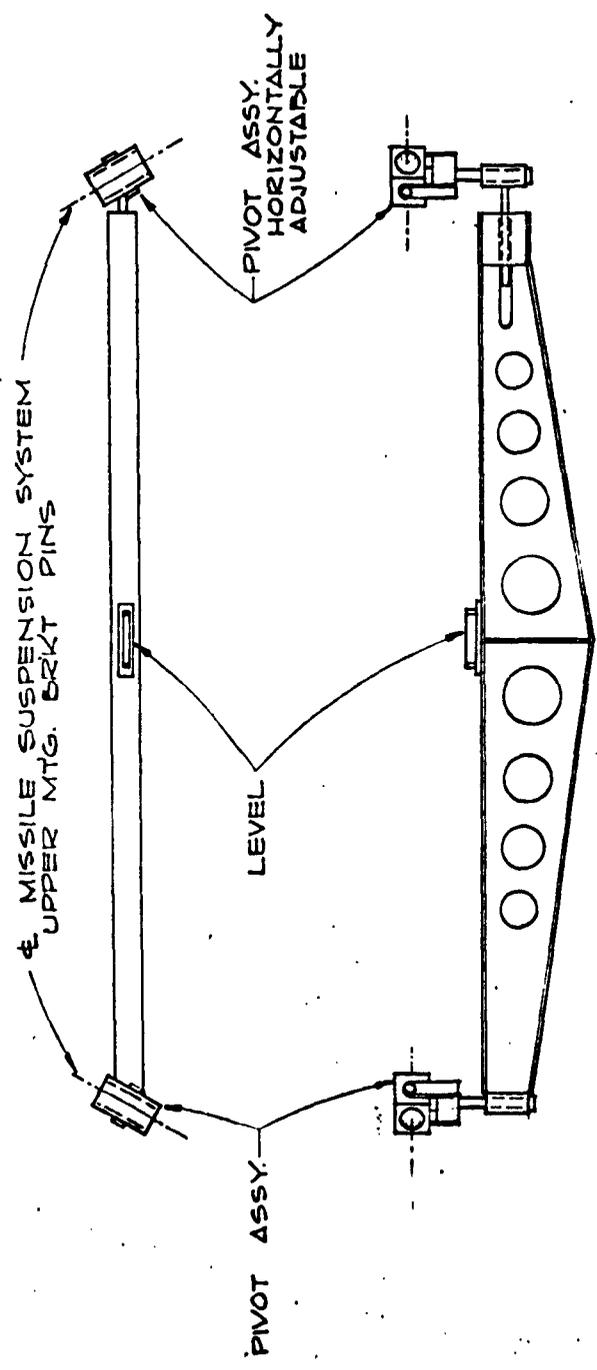
BOEING NO. D2-11713 -2
PAGE 655

NOTE: Use form U3-4071-1000 if additional sheets are required

Rev. by R. Colling

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:



ACO - 655
 LOCATING JIG, UPPER BRACKET
 ASSEMBLY, MISSILE SUSPENSION
 SYSTEM

ACO 655
 Sht 2 of 2

U3-4071-1000 (was BAC 1544-L-13)
 MAR 18 1963 11/27/62
 4-6-62

BOEING NO. D2-11713-2
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ACO NUMBER 656

ASSEMBLY & CHECKOUT

APPROVAL DATE May 23, 1961

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-16-61

EQUIPMENT TITLE: Adapter, Hoist to Beam

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. ME 25-26164

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	*				

PURPOSE:

To permit installation of the skirt umbilical (Part of Fig. A -1248). Specifically to provide an attaching point for a hand operated chain (Fig. A-4104) which will pull the skirt umbilical through the Launch tube skirt umbilical slot.

DESCRIPTION:

An adapter which attaches to a fixed I - Beam located in the ceiling of the lower level equipment room radially outward from the launch tube skirt umbilical. The adapter will have provisions for attaching a chain hoist (Fig. A 4104). It will be capable of safely sustaining a maximum pull of 400 lbs. at any angle from the horizontal to the vertical (downward) when applied in a plane perpendicular to the longitudinal axis of the I-Beam. It will not slide along the I-Beam as a result of any component of the imposed load parallel to the longitudinal axis of the I-Beam.

This item has been reviewed for operational use (MGE) and is not required as an MGE item because of its limited use.

*Use BATE Item drawing number ME 24-2108 for STP III requirement only.

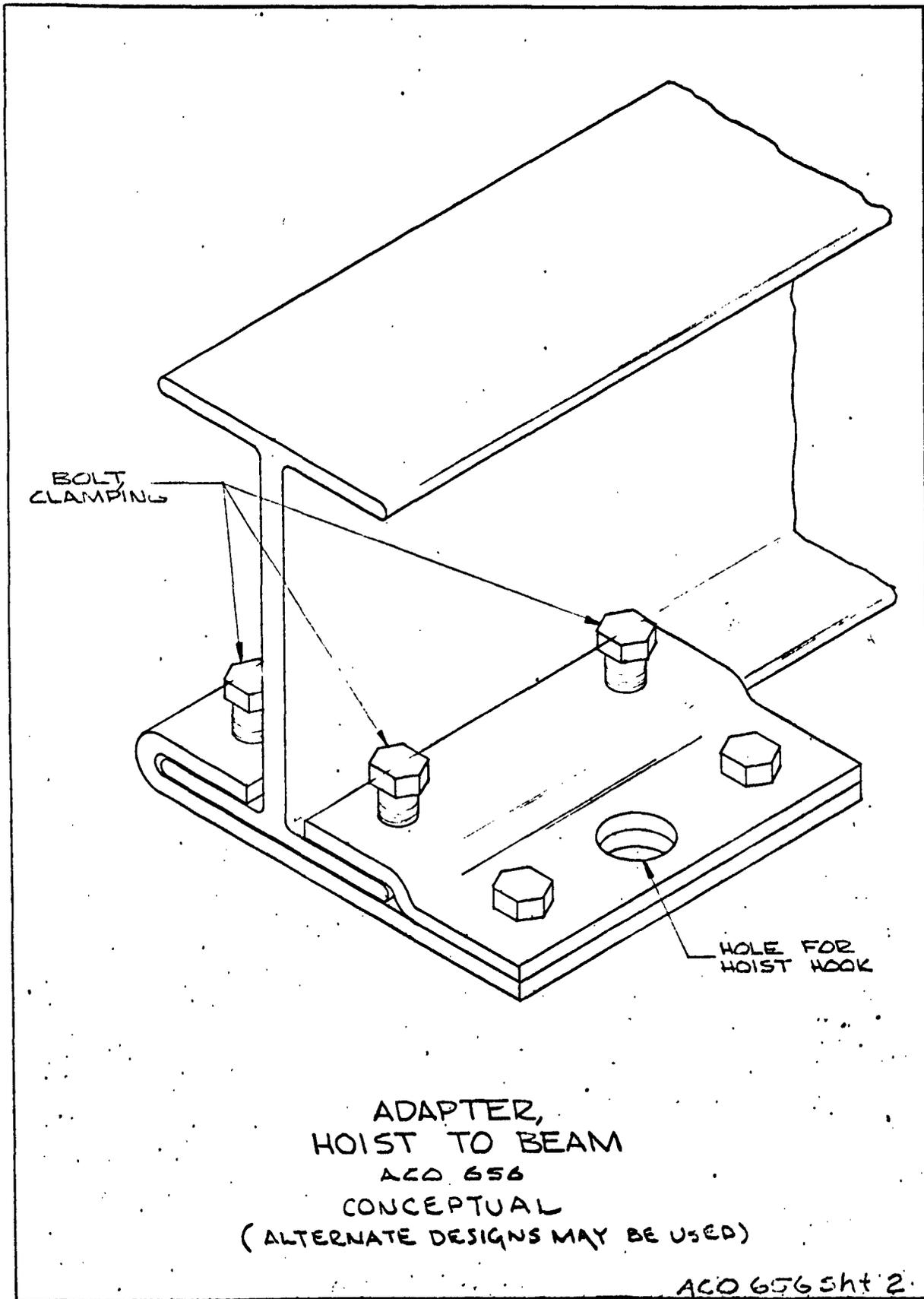
*W. M. ...
S-4505*

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>A. H. Baston</i>	<i>...</i>	<i>A. C. ...</i>

MAR 18 1963
2-6318-1
1/27/62
4-6-62

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ADAPTER,
HOIST TO BEAM
ACO 656
CONCEPTUAL
(ALTERNATE DESIGNS MAY BE USED)

ACO 656 sht 2

U1-4071 1000 (was SAC 1544-LR3)
MAR 18 1962
1-6-62

BOEING

NO. D2-11713-2

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NOTE: Use form US-4071-1000 if additional sheets are required

R. Estep for B. ...

ORIGINATING GROUP SUPERVISOR: R. M. BEATH
TELEPHONE: 5-4917

WS 133A

ASSEMBLY & CHECKOUT

EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE Trailer, Semi-, 40' Lowbed Van
(Basic Noun First)

RESPONSIBLE DEPT. _____ Mfg. _____ EQUIP. CLASSIFICATION _____ DATE _____

DESIGN REQMTS DOCUMENT None DWG. NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X						

PURPOSE & JUSTIFICATION

To transport mechanical support equipment requiring a heated environment from the CSA to the operational facilities. Transportation to be performed during the assembly phase of base activation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Lowbed Van, Semi-Trailer 40', tandem axle, dual wheels with all normally standard equipment and features listed by manufacturer for the latest make and model and including the following:

Make and Model - Utility SW-5 Warehouseman or similar
Capacity - 20,000# approx.
Weight - 13,500# approx. w/heating unit and hoist
Dimensions: - Length - 40'
 Width - 8'
 Height - 12' 6"
 Deck Height - 27"
 Fifth Wheel Height - 48" to 58"

Trailer - mounted King pin
Swing clearance radius from King pin - 6' minimum
Electrical Connection - 12 volt, 7-print ATA type receptacle, Berg Model No. 702 or similar
Airbrake Connection - Gladhand couplings
Trailer to operate with a two or three axle tractor
Heater - 30,000 BTU/hr. capacity (Minimum)
Trolley Crane (Longitudinal and lateral movement) - 2000# capacity electrically operated, and rails will extend over launch facility access hatch to permit the lowering of equipment into LF equip. room.
Interior Dimensions (Lowbed deck) - 90" wide x 120" high x 375" plus long minus wheel well size
Standard Spring Suspension

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. ...</i>	<i>Wes Davies</i>	<i>R. Angel</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963
REV. 8-23-62

BOEING NO. D2-11713-2
PART - 658

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS (Continued)

Material Handling Capability of Van:

Equipment can be loaded with a 4000# fork truck with pneumatic tires or with the hoist in the unit. Three strips of aerequip logistic rail series "E" Part. #2674 will be provided on each side wall of the van. The lower rail to be at a center line height of 6" above the lowbed deck and run from the wheel well to the step in the front of the lowbed deck. Rails 2 and 3 will be at center line heights of 40" and 72" respectively and run from the front wall to the rear doors of the van. Approximately 15 recessed tie down rings will be provided in the floor between the wheel boxes. The wheel boxes can be removed for the loading and unloading operation.

All equipment will be loaded in the van in its original shipping containers. The equipment will be secured to the walls or floor by means of straps and airplane type fastenings (24 provided with the van) or rope. Positioning of equipment in the van can be done with the van's hoist.

Upon arrival at the LF the van will be backed into position at the north side of the access hatch with the rear doors open 90°. The curb side rear door will pass through the ladder opening in the safety barrier and the deck bumper will touch the north end of the barrier. With the canvas drop curtain providing environment control the side rails of the hoist will be pinned to the rear doors, and a 60 amp 120/208V, 3 phase, 60 cycle power line plugged into the van. A frame assembly for Canopy Environment ACO 690 (Snood) will be attached to the side rails. When ACO 690 is secured to the van and to Shelter, Environmental, LF access hatch ACO 691, the canvas drop curtain is removed.

House jacks (provided with the van) will be placed under the rear door posts (where pads are provided) and the van leveled on the jacks and landing gear. Enough of the van weight should be supported by the jacks to prevent spring bounce from interfering with the operation of the hoist. Personnel Safety belts (not provided) can be attached to rings in the rear of the van; for added safety the rear 10' of van deck is covered with a non-skid surface. If necessary, the tool box, wheel boxes, and spare tire can be removed during the loading and unloading operation. After attaching the hoist control pendant reel and unlocking the hoist, the van is ready for unloading.

Unloading procedures will be similar at the LCF. ACO 608 environmental enclosure LCF will be used to maintain environmental control, deleting the requirement for the frame assembly and the additional control pendant will not be needed to lower equipment to ground level.

Heater (capacity 30,000 BTU/hour) to maintain 60°F.
Required to maintain 60°F with outside temperature varying to -40°F.
Unit will operate on its own gasoline power unit. The units blower (capacity 1250cfm), nailing strips and false bulkhead will provide air circulation.
Vapor seals will be furnished on the inner and outer surfaces of the van along with a minimum of 2" of insulation.

Trolley Crane and Hoist

Capacity - 2000#

Transverse motion - Electric 8'/minute, hook travel to within a minimum of 20" of van walls.

ACO-658, SHT 2 OF 3

U1-4071-1000

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PAGE 658-a

Longitudinal Motion - electric 8'/min., hook travel from within 48" of front wall of van to a minimum 48" beyond the rear of van.

Hoist motion - electric 2-speed 4' and 12'/min. (approximated) hook travel to be 44'

Hoist and crane to operate on 208V, 3 phase commercial power at CSA, LF, LCF. Control pendants for hoist will be available at ground level and at the LF equipment room level. The control in the equipment room is the master control.

Lighting:

Two lighting systems will be provided with the van. A 12 volt DC system of 4 lights flush mounted in roof will operate on truck tractor power.

Flush mounted in the wall will be a 110 volt AC system of eight incandescent lights designed to operate on commercial power available at the LF, LCF, and CSA.

Space has been provided for the following:

- (a) *Set of wrenches necessary for removing packaging (ACO-602) and attach slings.
- (b) *Sling, ACO 3041
- (c) *Lift Basket, General Purpose ACO-612 collapsible fabric
- (d) Set of tie lines for holding or supporting transported equipment
- (e) *An ample supply of shipping pads to protect loose equipment

*Not provided with this van.

Equipment to be transported:

The van will be used to haul the following equipment: Kit "A" LF 42 pieces with a volume of 1,135,800 cubic inches and a weight of 22,700# and Kit "B" LCF 46 pieces with a volume of 1,097,290 and a weight of 25,000#. Volumes, weights and number of pieces are approximate. Payload capacity of van is approximately 30,000# and the volume of useful space 4,000,000 cubic inches approximately.

Security:

Provision will be made to secure all access to the van with combination padlocks.

ACO-658, SHT 3 OF 3

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971-1000

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BOEING

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ACO NUMBER 659

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-25-62

EQUIPMENT REQUIREMENTS

REVISION G DATE 8-11-62

EQUIPMENT TITLE Trailer, Semi-, 40' Lowbed Van
(Basic Name First)

RESPONSIBLE DEPT. AF Mfg. EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG. NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X	X					

PURPOSE & JUSTIFICATION

To transport high value electronic equipment requiring a heated environment from the CSA to the operational facilities. Transportation to be performed during the assembly phase of base activation.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Lowbed Van, Semi-Trailer 40', tandem axle, single wheels with all normally standard equipment and features listed by manufacturer for the latest make and model and including the following:

Make and Model - Utility SW-5 Warehouseman or similar

Capacity - 20,000# approx.

Weight - 13,500# approx. w/heating unit and hoist

Dimensions: Length - 40'

Width - 8'

Height - 12'6"

Deck Height - 27"

Fifth Wheel Height - 48" to 58"

Trailer - mounted King pin

Swing clearance radius from King pin - 6' minimum

Electrical Connection - 12 volt, 7-print ATA type receptacle, Berg Model

No. 702 or similar

Airbrake Connection - Gladhand couplings

Trailer to operate with a two or three axle tractor

Heater - 30,000 BTU/hr. capacity (Minimum)

Trolley Crane (Longitudinal and lateral movement) - 2,000# capacity

electrically operated, and rails will extend over launch facility access

hatch to permit the lowering of equipment into LF equip. room. Interior

Dimensions (Lowbed deck) - 90" wide x 120" high x 375" plus long minus

wheel well size

Standard Spring Suspension

SHT 1 of 5

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Arthur Panton</i>	<i>Wesley Wallace</i>	<i>Rangel</i>	<i>R. Estep</i>

2-4340-0-1 MAR 11 1962

REV. 8-23-62

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NOTE: Use form US-4971-1000 if additional sheets are required.

R. Estep for B. Moore

R. Estep
Mo 4-5320

ORIGINATING GROUP SUPERVISOR: *R. Estep*
TELEPHONE: *Mo 4-5320*

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS Continued

Material Handling Capability of Van:

Equipment can be loaded with a 4000# fork truck with pneumatic tires or with the hoist in the unit. Three strips of aeroquip logistic rail series "E" Part. #2674 will be provided on each side wall of the van. The lower rail to be at a center line height of 6" above the lowbed deck and run from the wheel well to the step in the front of the lowbed deck. Rails 2 and 3 will be at center line heights of 40" and 72" respectively and run from the front wall to the rear doors of the van. Approximately 15 recessed tie down rings will be provided in the floor between the wheel boxes.

All equipment will be loaded in the van in its original shipping containers. The equipment will be secured to the walls or floor by means of straps and airplane type fastenings (24 provided with the van) or rope. Positioning of equipment in the van can be done with the van's hoist.

Upon arrival at the LF the van will be backed into position at the north side of the access hatch with the rear doors open 90°. The curb side rear door will pass through the ladder opening in the safety barrier and the deck bumper will touch the north end of the barrier. With the canvas drop curtain providing environment control the side rails of the hoist will be pinned to the rear doors, and a 60 amp 120/208V, 3 phase, 60 cycle power line plugged into the van. A frame assembly for Canopy Environment ACO 690 (Snood) will be attached to the side rails. When ACO 690 is secured to the van and to Shelter, Environmental, LF access hatch ACO 691, the canvas drop curtain is removed.

House jacks (provided with the van) will be placed under the rear door posts (where pads are provided) and the van leveled on the jacks and landing gear. Enough of the van weight should be supported by the jacks to prevent spring bounce from interfering with the operation of the hoist. Personnel Safety belts (not provided) can be attached to rings in the rear of the van; for added safety the rear 10' of van deck is covered with a non-skid surface. If necessary, the tool box and spare tire can be removed during the loading and unloading operation. After attaching the hoist control pendant reel and unlocking the hoist, the van is ready for unloading.

Unloading procedures will be similar at the LCF. ACO 608 environmental enclosure LCF will be used to maintain environmental control, deleting the requirement for the frame assembly and the additional control pendant will not be needed to lower equipment to ground level.

Heater (capacity 30,000 BTU/hour) to maintain 60°F.
Required to maintain 60°F with outside temperature varying to -40°F.
Unit will operate on its own gasoline power unit. The units blower (capacity 1250cfm), nailing strips and false bulkhead will provide air circulation.
Vapor seals will be furnished on the inner and outer surfaces of the van along with a minimum of 2" of insulation.

Trolley Crane and Hoist

Capacity - 2000#

Transverse motion - Electric 8'/minute, hook travel to within a minimum of 20" of van walls.

01-071-1000

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BOEING

NO. D2-11713-2

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Longitudinal Motion - electric 8'/min., hook travel from within 48" of front wall of van to a minimum 48" beyond the rear of van.

Hoist motion - electric 2-speed 4' and 12'/min. (approximated) hook travel to be 44', with 2 part line

Hoist and crane to operate on 208V, 3 phase commercial power at CSA, LF, LCF. Control pendants for hoist will be available at ground level and at the LF equipment room level. The control in the equipment room is the master control. Lightings:

Two lighting systems will be provided with the van. A 12 volt DC system of 4 lights flush mounted in roof will operate on truck tractor power. Flush mounted in the wall will be a 110 volt AC system of eight incandescent lights designed to operate on commercial power available at the LF, LCF, and CSA.

Space has been provided for the following:

- (a) *Set of wrenches necessary for removing packaging (ACO-602) and attach-slings.
- (b) *Sling, ACO 3041
- (c) *Lift Basket, General Purpose ACO-612 collapsible fabric
- (d) Set of tie lines for holding or supporting transported equipment
- (e) *An ample supply of shipping pads to protect loose equipment

*Not provided with this van.

The van will be used to transport the following equipment:

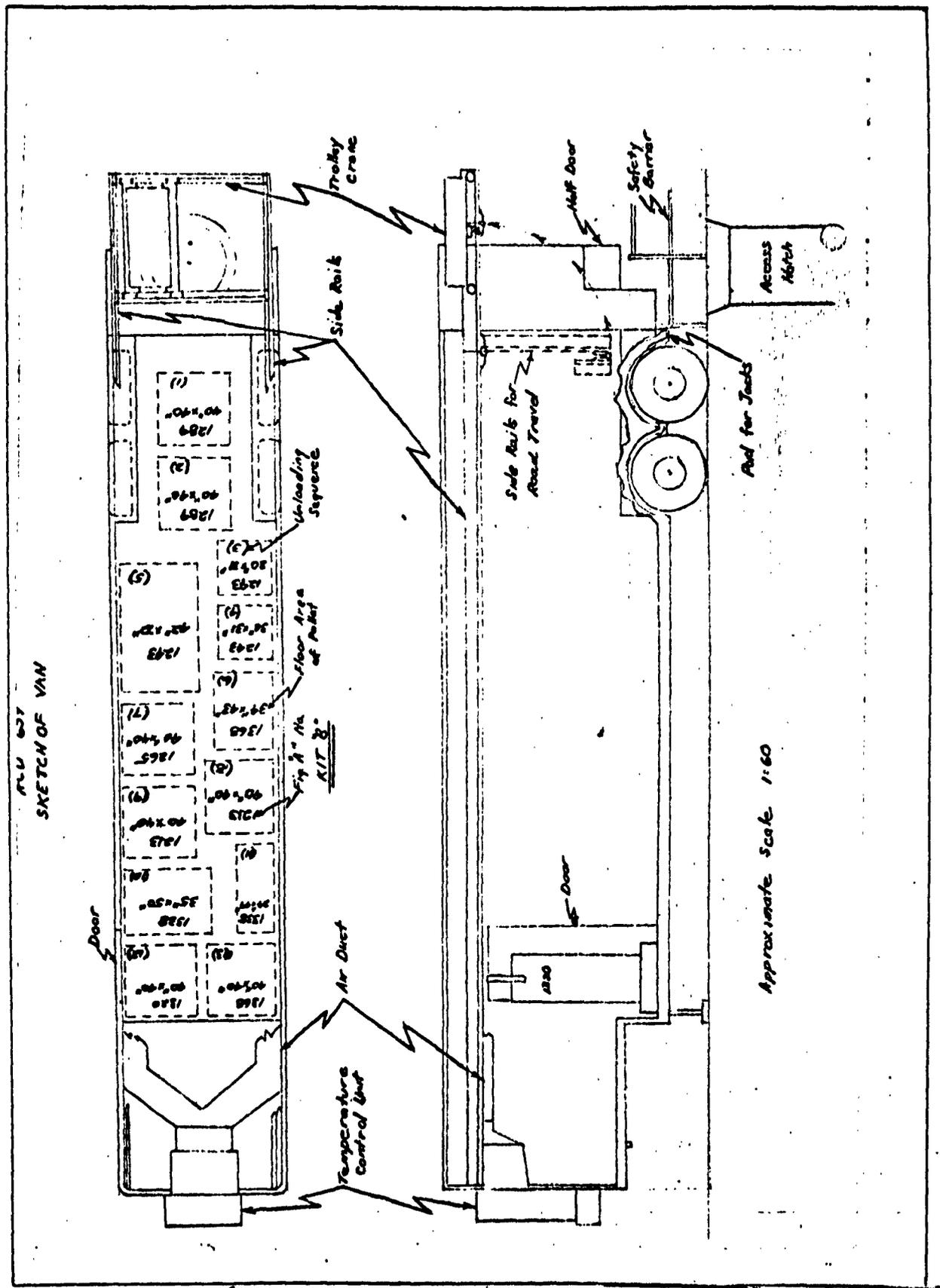
<u>Kit A LF</u>		<u>Quantity</u>
1214	G & C compartment cooling unit	1
604	G & C Coupler	1
1201	Sequences and Monitor	1
1228	Data Processing Equipment, Digital, SCN/LF	1
1251	Cable Termination Equipment, SCN/LF	1
1296	Security Electronics System (Also contains power equipment)	1
1284	Power Supply Set, DC/LF	1
602	C-21 Missile Alinement Group	1
631	C-92 Azimuth Alinement Mirror	2
 <u>KIT B LCF</u>		
1213	Data Processing Equipment, Digital, SCN/LCF	2
1243	Console, Command Control	1
1265 & 1340	Termination Equipment, Hardened Cable SCN/LCF	1
	Coil Assy, Telephone Repeating, SIN/LCF	1
1271 & 1273	Receiving Equipment, Radio HF; Communications Equipment, Radio UHF	1
1277	Terminal Equipment, Primary Alert System (Req'd only in the alternate command post)	1
1289	Power Supply Set, DC, LCF	2
1300 & 1301	Handset, Control Panel, Communications SIN/LCF	1
	Headset, Control Panel, Communications SIN/LCF (use on or the other)	1

Figure A

		<u>Quantity</u>
1320	Cable Termination, Equipment, LCC (465L)	1
1321	Transmitting Equipment, Radio, HF (Installed in the same rack as 1271 and 1273 and required at the alternate command post only)	1
1338	Console, Second Operator's LCC	1

Security:

Provision will be made to secure all access to the van with combination padlocks. When the van is actively engaged in transporting kits "A" and "B", one of the van personnel is required to remain with the van during stops. It is assumed some kind of security watch is available at the LF, LCF, or CSA to guard the van, while it is loaded, in these areas.



RVU 607
 SKETCH OF VAN

U3-4071-1000 Added 3-20-62
 MAR 18 1963 4-6-62.

WS 133A

ACO NUMBER ACO 664

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-12-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-27-62

EQUIPMENT TITLE Adapter, Test, Air Flow Meter Kit
(Basic Neon First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-26219

TO BE USED AT:

BASE	HAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE & JUSTIFICATION

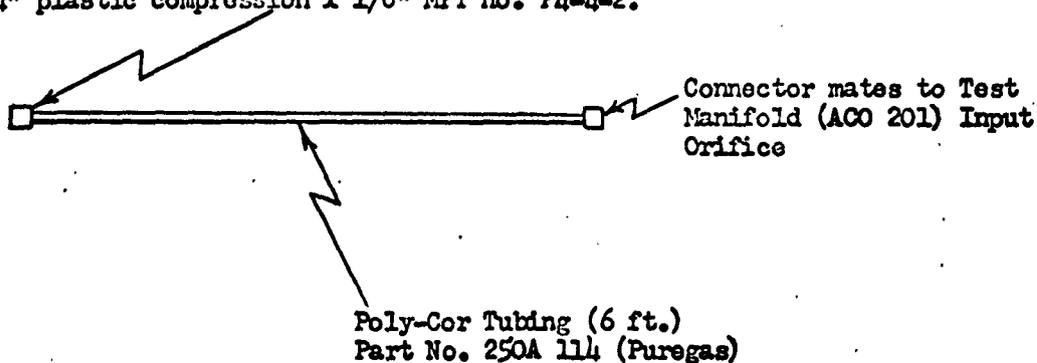
1. A Test Adapter is needed for sealing the air outlet orifice on each of the five Puregas MP25A-5 Flow Meters on the air flow meter panel (Fig A 1264), BC part no. 10-21327-1, so that Air Flow Meter Panel can be functionally tested.
2. A Test Adapter is needed to enable connection of the test manifold ACO 201 to each flow meter on the Flow Meter Panel (Fig A 1264), so that the Air Flow Meter can be functionally tested. Ref. Test Procedure D2-11146, Acceptance Functional Test Procedure, Panel Meter Air Flow SCM./LCF Pre Assembly.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

1. The Test Adapter required for checking leakage should be a threaded plug to seal the outlets. Five (5) are required per test set-up.
2. The Test Adapter required to check the flow meter will connect at one end to the Puregas MP25A-5 Meter and at the other end to the ACO 201 test manifold.

Connector and tubing specifications are shown below.

Connector mates to Puregas model MP 25A-5 Flow Meter threaded outlet orifice (1/4" plastic compression x 1/8" MPT no. P4-4-2.



SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banta</i>	<i>W. Z. Hudson</i>	<i>A. E. Buisson</i>	<i>J. T. Hays</i>

2-6340-0-1 Rev 2-27-62
REMAR 18 1964-6-62

BEIJING NO. D2-11713-2
PAGE -664

NOTE: Use form U3-4071-1000 if additional sheets are required.

W. Z. Hudson
5-4548

ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

51

WS 133A
**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 666
APPROVAL DATE 1-30-62
REVISION _____ DATE _____

EQUIPMENT TITLE: Carrier, Cable Ferrule
(Bolt Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG NO. 25-32706.1
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE & JUSTIFICATION:

To allow test assembly functional test of winch set, missile transfer, CTL, Fig A 9220. This item provides a coupling for the winch cables to allow the winches to be tested in opposition.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that part number 25-32706-1, cable carrier ferrule assy., as shown in Document D2-13416 "Post Assembly Test Procedures, Winch Set, Missile Transfer, CTL" Figure 1, be provided.

NOTE: Use Form 13-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: G. Bickford
TELEPHONE: 5-5338

SHT. _____ OF _____

ENGINEERING DEPT. <i>A.H. Sauter</i>	BASE INSTALLATION DEPT. <i>W. H. ...</i>	MANUFACTURING DEPT. <i>A.E. ...</i>
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2-6340-0-1 Added 2-9-62
REV. 18-1963-6-62

DOING NO. D2-11713 -2
PAGE 666

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ACO NUMBER 667

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-13-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-9-2

EQUIPMENT TITLE Adapter, Manometer, CTLI Section Hood
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834		
						X		

NOTE: Use form US-4071-1000 if additional sheets are required.

PURPOSE & JUSTIFICATION

To enable static pressure measurements to be made on the CTLI Cooling Hood, Figure A 9203, part no. 25-27776, when balancing the airflow at VAFB SMSB.

This item is required to record air pressure during cooling airflow measurement of Figure A 9203.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The manometer adapter for the CTLI Cooling Hood shall consist of the components shown on sheet 2, and the 3/4" pipe thread adapter shall mate with the thermometer pad on the inlet duct of the CTLI Cooling Hood, Figure A 9203, and the static pressure pick-up spigot shall be able to be adjusted to line up with inside contour of duct.

NOTE

This item will be assembled locally at the base from expendable stock.

REVISOR
G.A. SPA. -> 9/25
5-645A

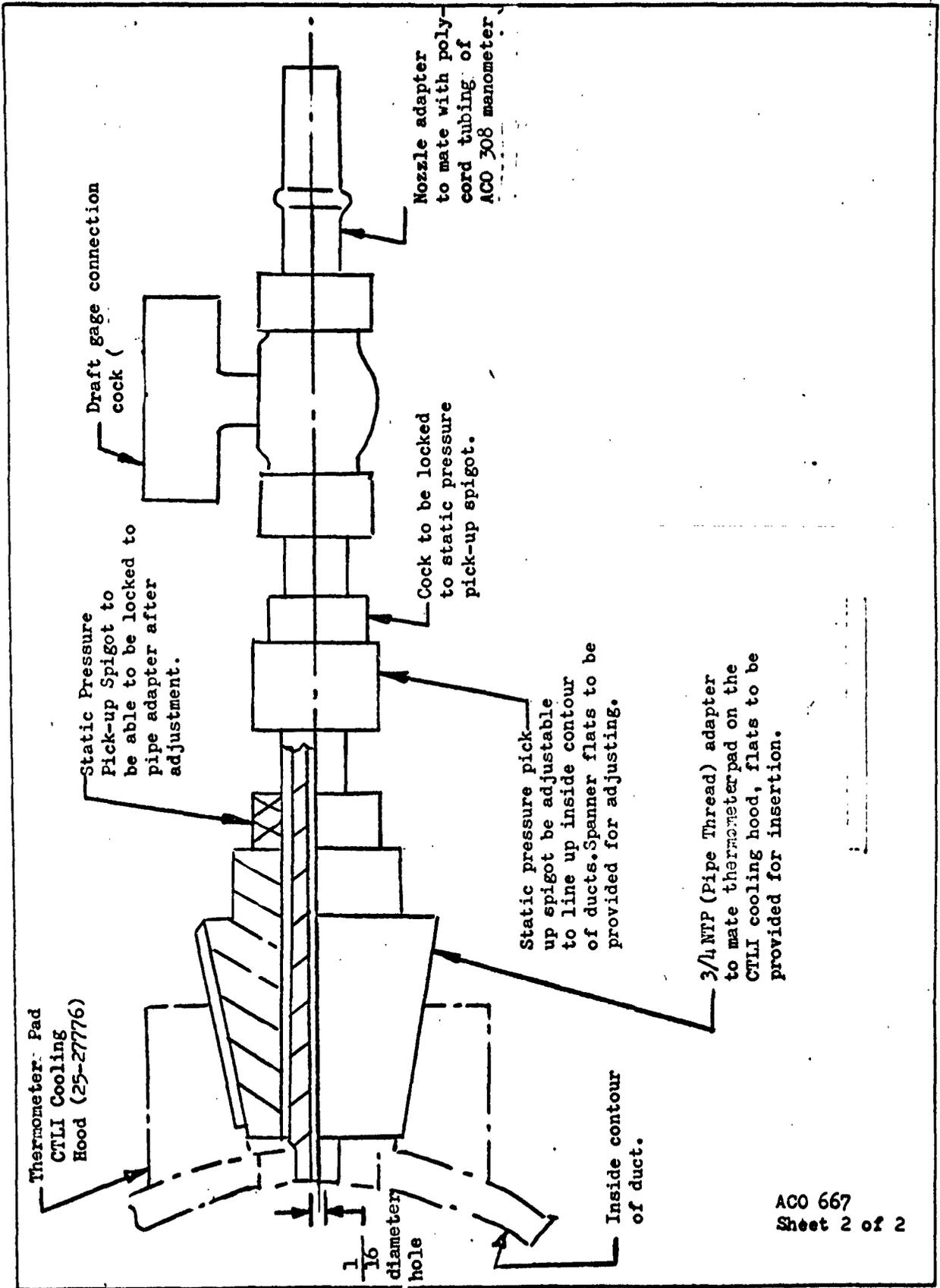
ORIGINATING GROUP SUPERVISOR: J. FICKLE
TELEPHONE: 5-7195

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H.H. Burt</i>	<i>A. W. ...</i>	<i>A.C. Brewer</i>	<i>R. Estep</i>

2-6340-0-1 11-31-2

REV. 11-31-63



ACO 667
Sheet 2 of 2

Added 4-24-62

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REVISED

11-13-2

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-667-a

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ACO NUMBER 669

ASSEMBLY & CHECKOUT

APPROVAL DATE 1-17-3 5-15-2

EQUIPMENT REQUIREMENTS

REVISION D DATE 1-17-3

EQUIPMENT TITLE Cover, Protective, Umbilical Cable Head
(Basic Name First)

RESPONSIBLE DEPT. Engineering Design EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT ----- DWG NO. 25-37814

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

Reference: PRR-11546

PURPOSE & JUSTIFICATION

Protection of the Umbilical Head terminal face, coolant outlets and ejection squib receptacle during assembly, installation and air-rigging of the G&C Umbilical Cable Assy (10-20954-10) is the particular function of this device. The rubber edged plug furnished by the vendor is suitable for protection during shipping and storage but is an impediment during air-rigging for A&CO operations.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A welded alum. alloy bonnet, fitted to cover the terminal face of the head and attached by the handwheel screw will be provided. This cover will index on the swivel bolt lugs and include an extended skirt to cover the coolant outlets and squib receptacle. Rubber pads on inside of cover will distribute impact loads on the head. Clearance for rotation of retraction cable yoke will be provided. A cable and snap-hook will be attached to provide retention against dropping in the silo.

It is recommended that this cover be applied to the head immediately after removal from the shipping box before any handling of the cable & head to the Equipment Room floor or into the silo for air-rigging operation. No provisions for preventing contact with the missile are included as it is not scheduled to be in place during this A&CO operation. Furthermore, the bulk of any plastic cover over all of the retraction mechanism on the head would be too great an impediment to the air-rigging operation.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES/DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

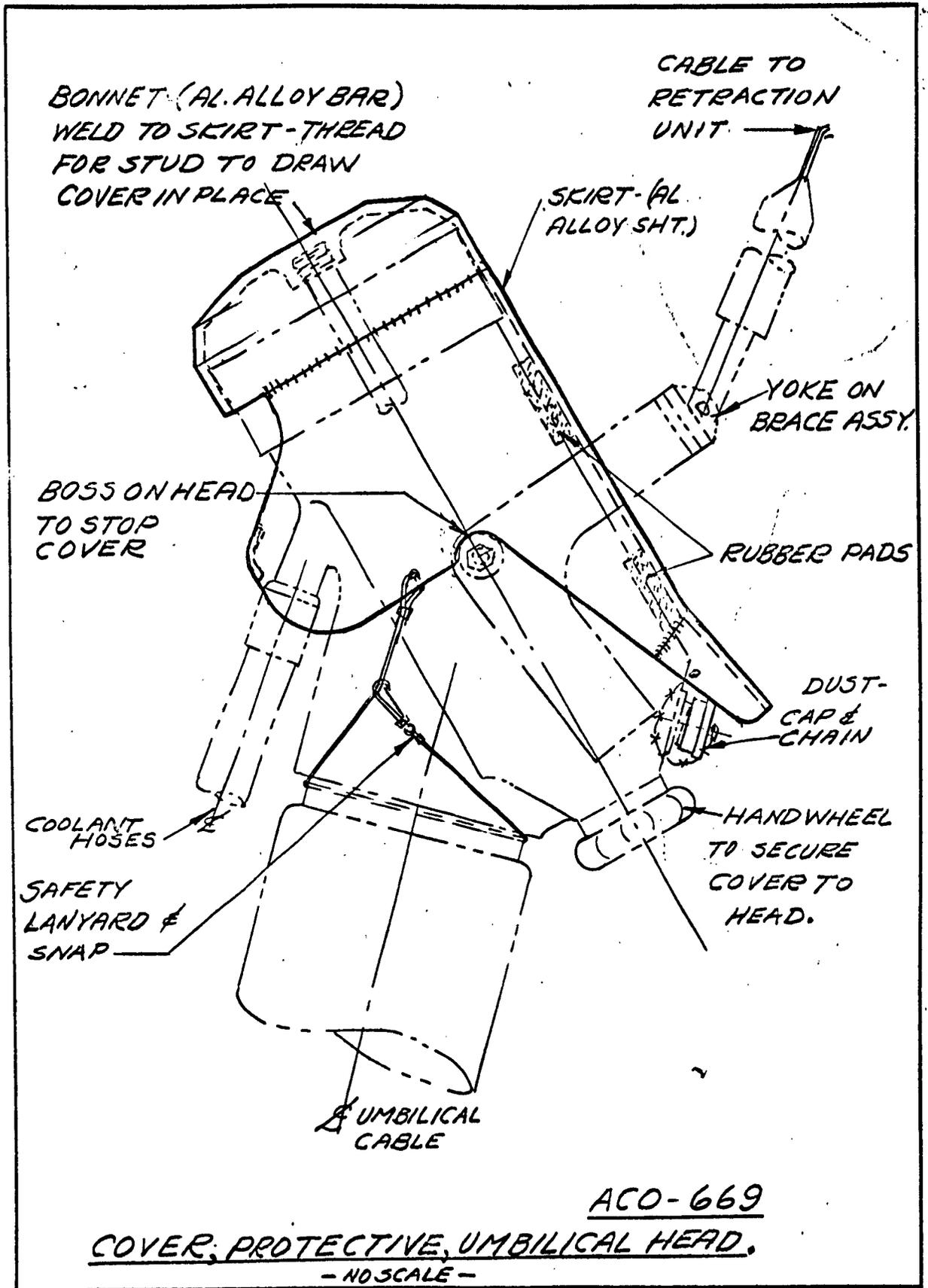
2-6340-0-1 MAR 18 1963

REV. 1-30-3

NOTE: Use form U2-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: C. E. McCumber
TELEPHONE: 5-6773

D --- COMPLETE REVISION



1/10

U3-4871-1000
 47398 1963

WS 133A

ACO NUMBER ACO-670

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-9-61

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-22-61

EQUIPMENT TITLE: Container, Ordnance Storage

RESPONSIBLE DEPT. Manufacturing

EQUIP. CLASSIFICATION BATE

DESIGN RQMTS DOCUMENT - - -

DWG NO. ME 25-26197

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE:

- (1) To store ballistic cartridges (10-20844-1 and 10-20954-9) and gas generator (10-20969-5) for transport to the Launch Facility.
- (2) To provide a test chamber for the items listed when performing pre-assembly tests at the Contractor Support Area Ordnance storage facility.

DESCRIPTION:

This container is similar to ordnance test chamber TSJ10-20969-1, except a wooden pallet of minimum thickness will also be provided to allow the test chamber to be handled with a fork lift truck.

Theory of Usage

Rotary Actuator Cartridge 10-20844-1, Squib & Jumper cable assembly 10-20954-9 and Gas Generator 10-20969-5 will all be assembled to ordnance test chamber ME 25-26197 at the CSA ordnance facility. Each device will then be tested in turn while installed in the test chamber. The total package (4 parts) will then be removed from the test facility and placed in the storage compartment on the ordnance handling and storage truck ACO 431 and then transported to the site. Each device will then be removed individually from the truck and assembled in the Launch Facility. One ordnance storage container will provide the necessary ordnance devices to implement one Launch Facility (LESS MISSILE).

WALT. NOTHAFT
5-4505

WMC

SHT 1 OF 1

ENGINEERING DEPT. <i>A.H. Bartoo</i>	BASE INSTALLATION DEPT. <i>A.H. Bartoo</i>	MANUFACTURING DEPT. <i>J.C. Pelier</i>
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2-6310-0-1
MAR 18 1963

1-27/62
1-6-62

BOEING NO. D2-11713 -2
PAGE -670

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WS 133A
**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER ACO 671
APPROVAL DATE 11-19-61
REVISION A DATE 2-16-62

EQUIPMENT TITLE: Hoist & Support Assy. Gas Generator
(State Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. ME 25-26196
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION:

To permit the assembly of the Gas Generator, 10-20969-5, to the Launch Closure Actuator, 10-20969-4 (both part of Fig. A 1280) during final stages of A&CO. The Launch Closure Actuator will be assembled to the Launch Facility during the normal assembly period.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A derrick-type hoist which will lift the gas generator from its horizontal position on the truck dolly, (Fig. A 3022), to a vertical position at the required height for assembly to the actuator and will provide sufficient vertical, horizontal and tilting adjustments to engage the gas generator and actuator brackets. The derrick will clamp to an existing support column near the actuator for stability. For design of handling equipment, the gas generator will be rated at 200 lbs. Safety factors must be in accord with ordnance equipment handling requirements. (T.O. 11A-1-40, AFM 32-6, and Talley Industries Report No. 9011, dated December 5, 1961.)

NOTE: Use form US-471-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: MAX WENGER
TELEPHONE: 5-3395

SHT. OF

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.
<i>H. H. Barton</i>	<i>W. J. ...</i>	<i>A. E. ...</i>

2-6340-07 rev 2-27-62
4-6-62

REV. MAR 18 1963

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ACO NUMBER 672

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-16-61

REVISION G DATE 11-27-62

EQUIPMENT TITLE CABLE ASSEMBLY, LF & LCF PREHEAT
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N.A. ** VAFB 229-224

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X **					

PURPOSE & JUSTIFICATION

To transfer 15 KW of 208 volt 3 ϕ power from the main power distribution panel at either the LF or LCF to the ACO 430 heaters located in the hardened facilities during the preheat phase of assembly and checkout. To supply power to the ACO launch tube heater used in the launch facilities.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A movable ruggedized outlet box, which provides three receptacles for distribution of power, will be attached to a 150 ft., 4-wire conductor. The box will have independent covers attached for each receptacle to permit independent usage.

The cable will be composed of 4 - #6 AWG hard drawn copper wires. As this cable will be pulled through a 2" conduit, the outer insulation must be water resistant and inert to most lubricants used in cable pulling. In compliance with item 2112 of article 210 of the National Electrical Code, the designated ground wire will be coated with green insulation and attached as indicated on the following sketch.

The following equipment will satisfy this requirement:

1. Part No. 17924; Skyline Electric and Manufacturing Company, Incorporated, Seattle, Washington.
- **2. Parts fabricated to VAFB drawing noted above.

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>W. M. Mason</i>	<i>A. E. Brewer</i>	<i>R. Estep</i>

2-6340-0-1
REV. 12-12-2
MAR 18 1963

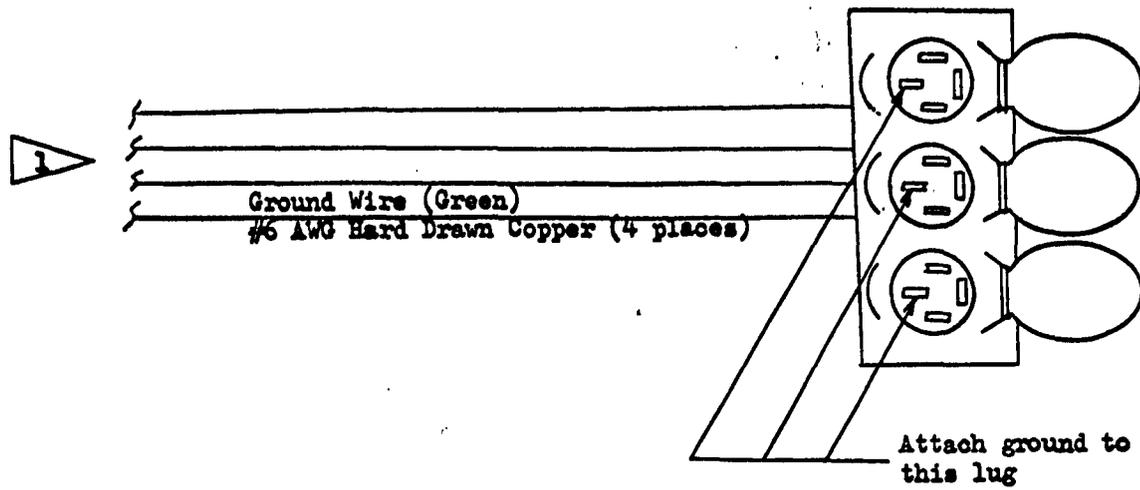
BOEING NO. D2-11713 -2
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NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: V. Griswold REV. "C" - A. D. NUNN
TELEPHONE: 3-1005 3-0368

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The outlet box shall be clearly marked to restrict a current drain in excess of 53 amps at 208 volts.

1 When used, this end of cable will tie directly to the 3 ϕ circuit breakers in the main power distribution panel in either the LCF or LF soft support building.

Receptacles to be used: (3 required per assembly)

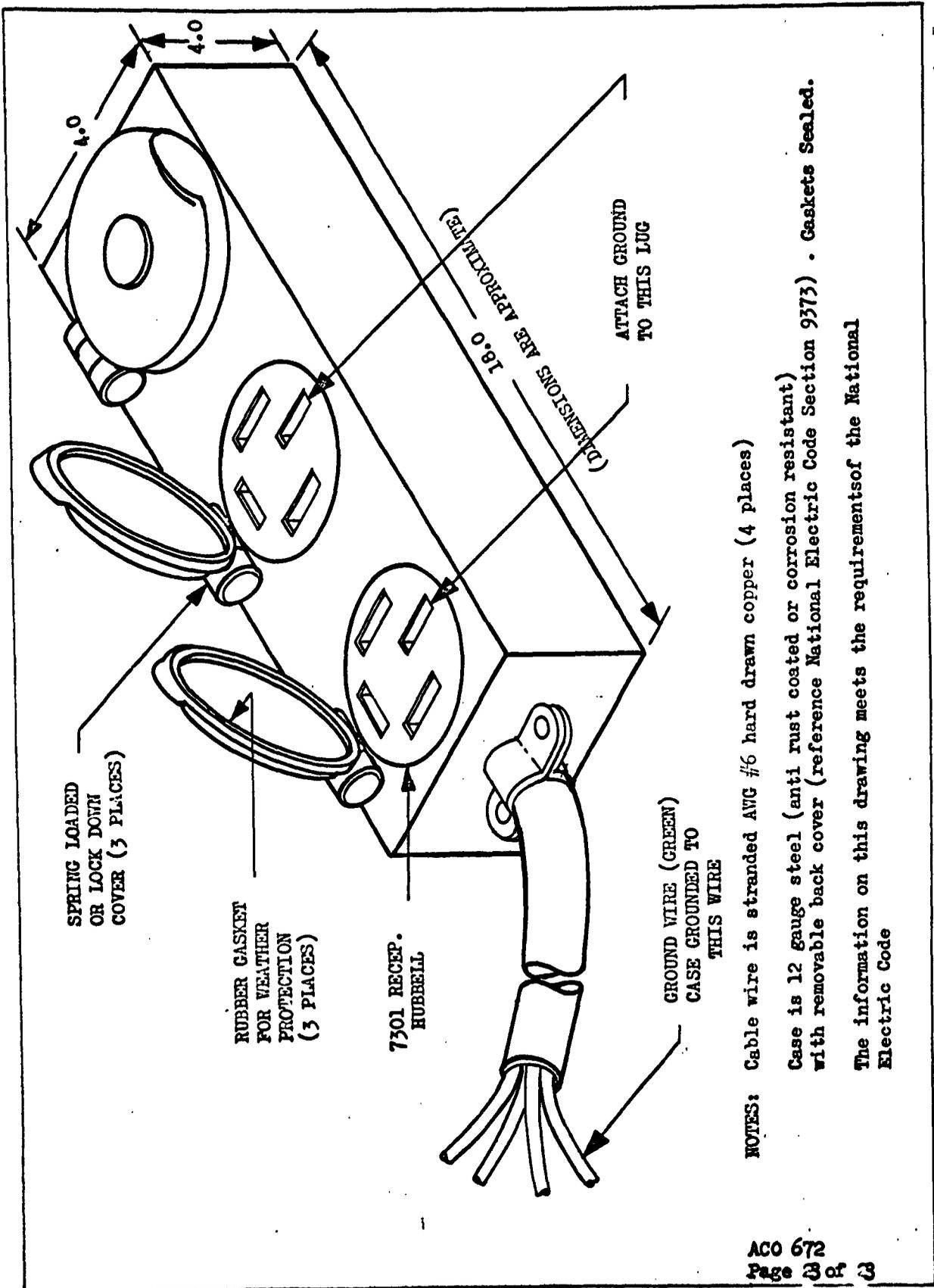
Hubbel Receptacle No. 7301 (No substitution permitted, must mate ACC 430)

ACO 672
SET 2 of 3

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4-6-62 MAR 18 1963
4-24-62
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BOEING NO. D2-11713 -2
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SPRING LOADED
OR LOCK DOWN
COVER (3 PLACES)

RUBBER GASKET
FOR WEATHER
PROTECTION
(3 PLACES)

7301 RECEPT.
HUBBELL

GROUND WIRE (GREEN)
CASE GROUNDED TO
THIS WIRE

ATTACH GROUND
TO THIS LUG

(DIMENSIONS ARE APPROXIMATE)
18.0

NOTES: Cable wire is stranded AWG #6 hard drawn copper (4 places)

Case is 12 gauge steel (anti rust coated or corrosion resistant)
with removable back cover (reference National Electric Code Section 9373) . Gaskets Sealed.

The information on this drawing meets the requirements of the National
Electric Code

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U2-4971-1000 Added 4-24-62
MAR 18 1963

WS 133A

ACO NUMBER 674

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-12-61

EQUIPMENT REQUIREMENTS

REVISION D DATE 1-25-63

EQUIPMENT TITLE Conductivity Cell, G&C Cooling System
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFG/OH

DESIGN REQMTS DOCUMENT None DWG NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	X	X	X

PURPOSE & JUSTIFICATION

To measure the amount of dissolved solids in the G&C cooling system during the final flushing of the system. The measurements taken will be used in determining the acceptability of the system.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A conductivity cell which can be attached to the Umbilical Flow Adapter, ACO-200, and to either the umbilical exhaust or return coolant line quick disconnects. It shall have a self-indicating dial with a range of 0 - 30 parts per million of dissolved solids.

A carrying case shall be provided to contain the conductivity cell, its attached fittings and their closures.

The following equipment will satisfy these requirements:

1. Type RD-D103 Solu-bridge (line powered) with a Type CEL-VS01S Conductivity Cell.
2. Type RB-64 Solu-bridge (battery powered) with a Type CEL-VS01S Conductivity Cell (with a RD200 carrying case).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0 MAR 18 1963

REV. 1-30-63

BOEING NO. D2-11713-2
PAGE ..674

NOTE: Use form UD-571-1000 if additional sheets are required

W.E.F.

Rev. D
S.J. Baker
3-1021

W.R. Blair
5-6786

ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

451

WS 133A
**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER ACO-675
APPROVAL DATE 1-2-62
REVISION _____ DATE _____

EQUIPMENT TITLE: Lift Plate, UHF Antenna
(State Main First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. ME25-26211
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION:

To provide an attach point on the center section of the UHF Antenna which will permit the truck mounted crane (Figure A-4054) to lift and emplace the section in a recess provided in the cast shell which forms the lower portion of the above-ground UHF Antenna assembly. This function to be performed during assembly and checkout of the UHF Antenna.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A flat plate which provides bolt-thru holes which accurately align to the lift points provided on the machined metal center section of the UHF Antenna assembly is required. The plate will provide (4) lift points alternately spaced with the bolt-thru holes which will attach (4) cables, chains or rods which join above the center section to form a common lift point. The center of the plate will be relieved and the attachments extending from the plate lift points will be long enough to permit handling of the Antenna center section with the radiating element (stub) installed. See the attached drawing for a possible configuration of the UHF Antenna lift plate.

Bolts used to attach the plate to the UHF Antenna center section will be included as part of ACO-675.

Periodic proof load testing of ACO-675 will be required. The drawing prepared for the manufacture of this item will show the correct method and load to be applied during proof load testing which will be in compliance with Operating Procedure 2-4200-60 and 538-002.

SHT 1 OF 2

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>
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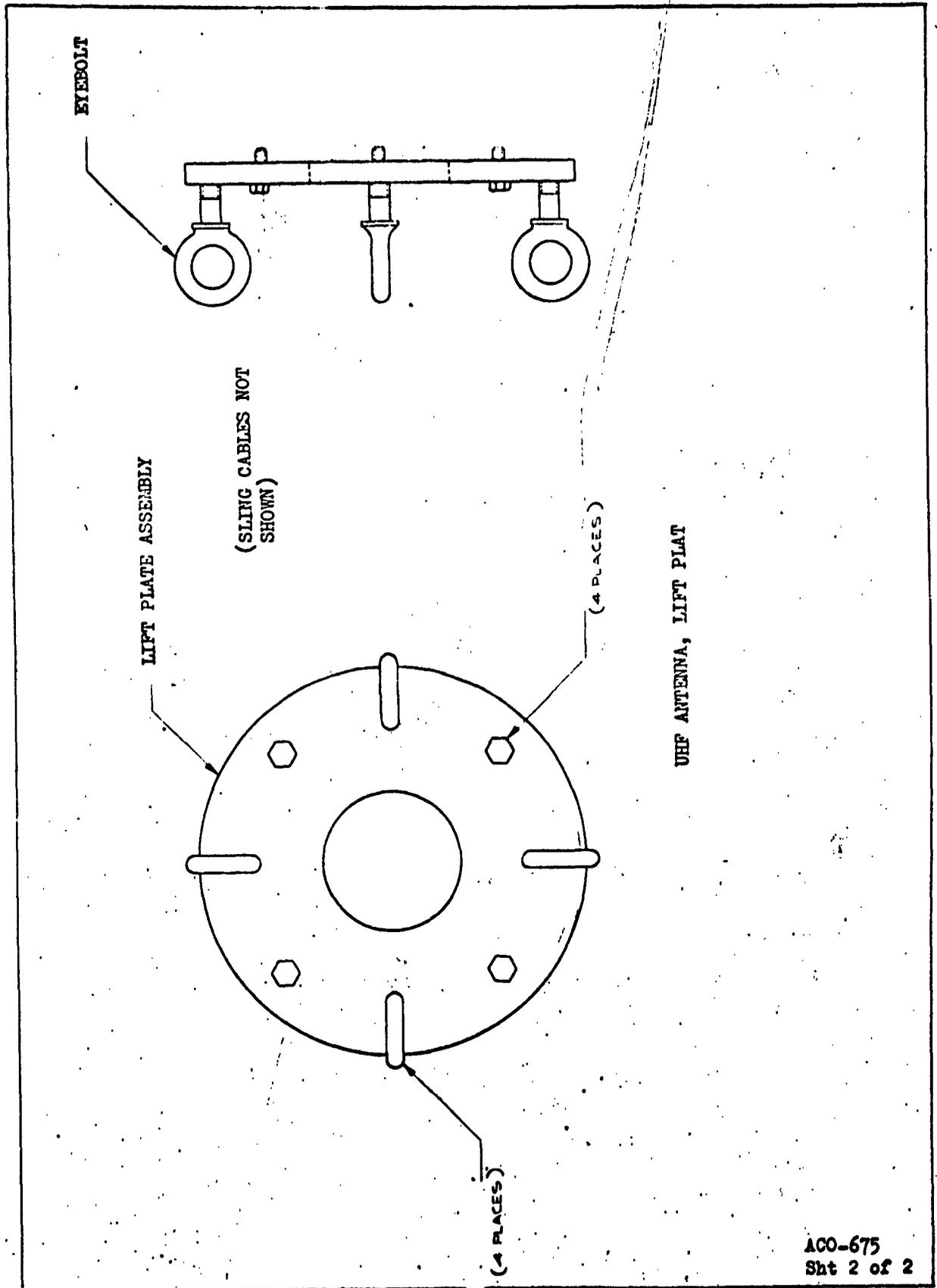
REV. 1/27/62
4-6-62

BOEING NO. D2-11713-2
PAGE. -675

NOTE: Use Form 10-6071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: [Signature] TELEPHONE: 5-0000

167



ACO-675
Sht 2 of 2

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4-6-62

BOEING

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WS 133A
**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER ACO-676
APPROVAL DATE: 1-2-62
REVISION _____ DATE _____

EQUIPMENT TITLE: Sling, Cast Shell, UHF Antenna
(Base Non Firm)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE
DESIGN RQMTS DOCUMENT - - - DWG NO. ME25-26213
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION:

To provide a single attach point at which the truck mounted crane (Fig. A-4054) may lift the cast shell of the UHF Antenna and position it on the base plate previously installed by an A&C/O sub-contractor.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The sling will consist of (4) threaded adapters attached by (4) wire cables which rise to a common lift point above the center of the cast shell. The threaded adapters will attach directly to the threaded lift points provided in the shell. When the cast shell is suspended by the sling from a single line of the truck mounted crane the plane occupied by the base surface of the cast shell will be perpendicular to the suspending line to an accuracy of $\pm 10^\circ$ at all locations at which the angle can be measured.

Periodic proof load testing of the sling will be performed in compliance with the requirements of Operating Procedures 2-4200-60 and 538-002. The drawing prepared for the manufacture of the sling will show the correct method and load to be applied during proof load testing. Proof load testing will include a check of the angular control required above.

ORIGINATING GROUP SUPERVISOR: CLB
 TELEPHONE: 5-9744

NOTE: Use form 10-4871-100 if additional sheets are required.

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>
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REV. 1/27/62
4-6-62

BOEING NO. D2-11713-2
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W.P.
 R. Colling for R. Colling
 NOTE: Use form UD-4071-1000 if additional sheets are required.

WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 680

APPROVAL DATE 7-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE SUPPORT, HOIST, EMP RACK EMPLACEMENT
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. ▶

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

A requirement exists to support a chain hoist during emplacement of the Electro-Magnetic Pulse (ESA) racks in the LCF.

Special handling precautions are required due to limited clearance for hoisting and delicate nature of ESA racks.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The racks weigh approximately 280 pounds each and must be lifted about four feet.

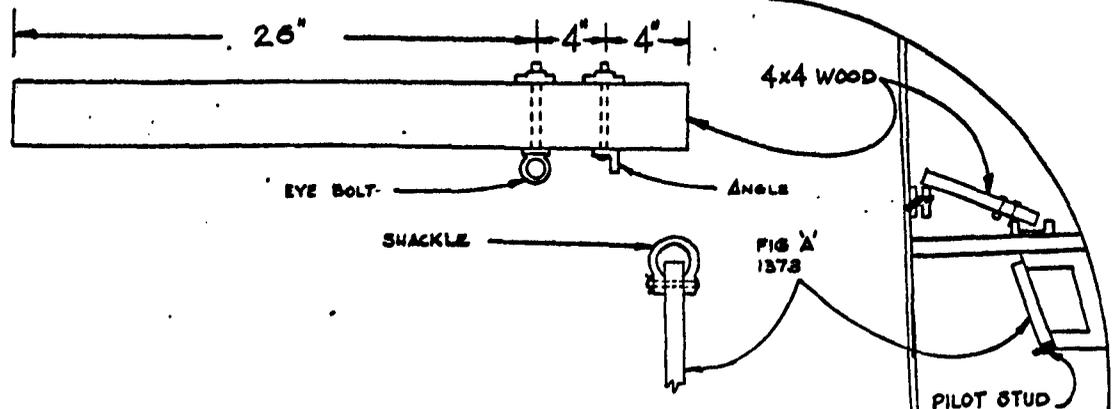
The support (ACO 680) will be supported by the cable tray in the EMP enclosure and contain an eye for attaching a hoist (ACO 4104 or equivalent). The support (ACO 680) shall be usable at any ESA rack location by sliding along cable tray.

▶ Fabricate on site using expendable material.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

ORIGINATING GROUP SUPERVISOR: R. Colling
 TELEPHONE: 3-0368



QTY.	PART	DESCRIPTION
1	3/8" dia. x 4 1/2" LG (UT 7131-6L)	Eye Bolt with nut, Eye I.D. 3/4" or equal
1	4" x 4" x 34"	Wood
1	1 1/2" x 1 1/2" x 3 3/4"	Angle Iron
2	3/8" dia. x 4 1/2" LG	Bolt with Nut
4	3/8" I.D. x 1 1/2" O.D.	Washer, Flat
1		Anchor Shackle with 1/2" D Rivet OR PIN
2	1/2" dia.-13 UNC x 4" LG	Pilot Stud, Thread One End

Proof Load to 600 # Working Load prior to usage.

Method of use:

1. Set up as shown on sketch;
Place 4" x 4" x 34" wood between two "I" beam.
Screw (2) pilot studs into the location for the lower outside holes of Figure A 1373.
2. Lift Figure A 1373 using a block and tackle or single rope and pulley or ACO 4104 (chain hoist).
3. Raise to proper height and slide onto the pilot studs.
4. Start lower center cap screw.
5. Remove anchor shackle while holding unit in place and install upper cap screws.
6. Remove pilot studs and complete installation.

This method was used at STP III and proved to be satisfactory.

ACO 680 2 OF 2

U3-4071-1000 Added 8-3-62
MAR 18 1963

BOEING | NO. D2-11713-2
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WS 133A

ACO NUMBER 683

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-9-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Cradle Ballistic Gas Generator
(Basic Nom First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG. NO. ME 25-26216

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

This cradle is required to secure the ballistic gas generator to a dolly (Fig A 3022) and to the mechanical maintenance van (Fig A 4031) during scheduled maintenance at the launch facility.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The cradle shall be of simple wood construction cut out for nesting of the ballistic gas generator. Approximate size 23" long x 14" wide by 4" high. The approximate weight of the ballistic gas generator is 200 #.

This item replaces ACO 4295. This item is furnished for ACO use to perform the same function as Fig. A. 4295. Figure A 4295 is on the ECL-258 list for the Operational System.

NOTE: Use form U3-4071-1000 if additional sheets are required.

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2-4340-0-1 Added 3-20-62
REV. 18 1963-6-62

BOEING NO. D2-11713-2
PAGE 683

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ACO NUMBER 689

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-24-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Flaring Tool
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OE

DESIGN REQMS DOCUMENT None DWG NO. CA 53495-1

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162
	X		X		

PURPOSE & JUSTIFICATION

During checkout of the security system, the electrical length of transmitter cables and both RF receiver cables must be equal. cables physical length must be altered and the flaring tool is to install new connectors.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Flaring tool for 1/2 inch foamflex cable.

The following equipment is acceptable to fulfill this requirement: Cannon tool CA 53495-1. The above tool was designed to mate special connectors designed Electric to the transmission cable used by Boeing in the security

NOTE: Use form US-4071-1000 if additional sheets are required

Handwritten signature and date 6/17/62

ORIGINATING GROUP SUPERVISOR: R. W. Cross
TELEPHONE: 5-6786

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2-6340-0-1 Added 8-3-62
REV. MAR 18 1963

U.M. H. ...
 P. Minnehan
 5-2563
 TELEPHONE:

WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 690
 APPROVAL DATE 6-29-62
 REVISION A DATE 7/20/62

EQUIPMENT TITLE Canopy, Environmental, IF Access Hatch
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE
 DESIGN REQMTS DOCUMENT _____ DWG. NO. ME 25-26246

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

A requirement exists for an insulated canvas type canopy, to serve as a transition from the ACO 658 and 659 vans to the dome-type shelter over the personnel access hatch.

To maintain environmental control during the installation and/or removal of equipment from the van to the launcher equipment room.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Canopy must be capable of being transported in ACO 658 and 659 vans.

Canopy must provide:

1. A means of connecting to ACO 658 and 659 vans and the dome shaped shelter (ACO 691). Using support structure provided with ACO 658 and 659.
2. Clearance for 4' hoist rails beyond LCC hole.
3. Adequate clearance between hoist arm and canopy for unhampered use of the hoist.
4. Proper clearance of van wheels and leveling jacks to prevent any interference in their use.
5. The ability to withstand winds up to 60 M.P.H. and maintain launcher environmental condition.

ACO's 690 and 691 replace ACO 4267 which replaced 644.

SHT ____ of ____

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2-6340-0-1 Rev 8-3-62
 REV. 11/18/63

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 1-600 →

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ACO NUMBER 691

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 6-29-62

REVISION A DATE 7-13-62

EQUIPMENT TITLE Shelter, Environmental, LF Access Hatch
(Basic Name First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG. NO. ME 25-26247

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

A requirement exists for a rigid shelter to protect the Launch Facility Personnel Hatch from adverse weather during all phases of Assembly and Checkout.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a rigid shelter, of hemishperical shape be provided to satisfy this requirement.

The shelter shall be constructed of light weight, insulated, removable panels with weather tight joints to prevent wind, snow, rain and dust from entering the access shaft and to prevent loss of Launcher controlled environment. A weather tight door shall be included for convenient entry and exit of personnel, it also will provide non-brittle translucent panels for entrance of light. The shelter shall include an overhead eyebolt capable of carrying loads up to 400 pounds for lowering equipment into the access shaft.

Individual panels of the shelter shall be removable to provide for the entrance of the equipment hoist beam from the rear of ACO 658 and ACO 659 Assembly Vans. Eyebolts shall be provided in the shelter to be used to attach a canopy, ACO 690, to maintain environment between the shelter and the Assembly Vans. The shelter shall be constructed to withstand winds up to 60 M.P.H. A suitable seal shall be provided around the bottom of the shelter to prevent entry of rain, snow, or dust. Hole must be provided for hatch tie down cables to pass thru.

The shelter must be portable to the extent of being carriable, when disassembled, in the Assembly Vans; and of being erected or disassembled by two men, under normal conditions and four men under most adverse conditions.

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2-6340-0-1 Rev 7-13-62
REV. MAR 18 1963

U.S. ...

ORIGINATING GROUP SUPERVISOR: P. Minneman
TELEPHONE: 5-2563

WS 133A

ACO NUMBER 692

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-29-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-22-3

EQUIPMENT TITLE BRUSH, ELECTROPLATING, POWER UNIT
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	None				None	None	None

PURPOSE & JUSTIFICATION

Required for brush cadmium plating of ESA protective frame per BAC 5701 method 3, prior to emplacement of Figure A 1248 cable flanges to ESA protective frame. Required to meet RFI specifications per the Engineering drawings for intrasite cabling and cabling equipment assembly at the Launch Facility.

REF: DWG. No. 24-2162, 24-2230

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Brush, Electroplating, Power Unit is used to apply .0003 Min. thickness of cadmium plating to the ESA protective frame in the Launch Facility. A cadmium plate is required between existing flange on cable assy's. and protective frame.

REF: BAC 5701 Method 3.

The unit shall meet the following requirements:

- 115 Volts AC 50-60 Cycle
- Output of 2-10 Volts DC
- 1 to 20 AMPS Intermittent

The following listed equipment will satisfy this requirement:

1. (a) Brush, Electroplating, Power Unit
Consolidated Equipment Inc., Chicago, Ill.
- (b) Dalic Unit
Piddington Asso., Foothills Blvd., Pasadena, Calif.

SHT 1 of 1

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2-6340-0-MAR 18 1963

REV. 2-28-3

NOTE: Use form U3-4071-1000 if additional sheets are required.

Uucp

REV. "A" - R. E. Collins 5-2854

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TELEPHONE: _____

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WS 133A

ACO NUMBER 694

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION _____ DATE _____

EQUIPMENT TITLE Strap Wrench
(Basic Item First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OE

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

NOTE: Use form 12-4071-1000
if additional sheets are required.

PURPOSE & JUSTIFICATION

Required to mate angle connectors in both LP's and LCP's.

ACO-4386 does not include angle connector adapters to torque the angle connectors accurately.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The strap only of a strap wrench used with the torque wrench included in ACO-4386 will be used to meet the torque requirements for angle connectors.

The strap will match the 3/8 inch square drive stud of the ACO-4386 torque wrench.

The following equipment will fulfill this requirement:

Snap-On Tools Type A91.

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TELEPHONE: 5-6696

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REV. 3-18-63
8-23-62

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ACO NUMBER 696

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-16-2

EQUIPMENT REQUIREMENTS

REVISION C DATE 3-12-3

EQUIPMENT TITLE Demineralizing Unit, Ion Exchange, Truck Mounted
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMTS DOCUMENT None Facilities Spec DWG NO. 2190-1

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	X	None	None	None	X	X	X

PURPOSE & JUSTIFICATION

To furnish cooling water for flushing and initially charging the G&C cooling unit Fig. A 1214, and the G&C Storage Tanks Fig. A 1317 at the LF during Assembly and checkout. The deionizer will be transported to the site and water will be circulated through cooling system and deionizer until the cooling water meets the cleanliness requirements of D2-13915 (Definition and Associated Requirements - G&C coolant).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

I Description: This item will consist of a heated van body truck of sufficient size and GVW capacity to house a deionizer unit and deionized water storage tank.

II Requirements:

1. Truck:
 - (a) Minimum GVW 21,000#
 - (b) Engine - V-8, 175 HP approximate
 - (c) Electrical - 60 amp
 - (d) Body - insulated van type; minimum inside dimensions 7' - 6" clear height, 7' 0" clear width, 15' - 10" long with full opening rear doors & minimum 44" wide x 72" high side door.
 - (e) Heater - minimum size to insure 40°F interior temperature when outside temperature is -40°F.
 - (f) Fuel Capacity 50 gallons
2. Tank:
 - (a) Construction - Steel - Chemical proof lined.
 - (b) Capacity - approximately 850 gallons
 - (c) Connections - inlet, outlet, fill, drain and vent of appropriate size.
 - (d) Manhole-large enough for man to enter to clean
 - (e) Skid-mounted with slight slope to drain.

SHT 1 OF 3

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2-6340-0-1

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BOEING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required

C. Herald
2-4160
08-35

Rev. A, B & C

W. R. Blair

ORIGINATING GROUP SUPERVISOR:

TELEPHONE: 5-5726

JU 3-0768

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS (Continued)

II Requirements: (Continued)

3. Plumbing: (a) Valve - Saunders type, PVC, of appropriate size
(b) Fittings - Stainless steel of appropriate size
(c) Hose - two 100' lengths of 3/4" I.D. sanitary type
(d) Pump (included or attached to deionizer) self priming centrifugal, gas driven, 2950 rpm. Cap. 60 gpm, head 78', weight less than 100 lbs.
(e) Pump (portable and mounted on wheels) electrical, 3500 rpm. cap. 60 gpm, 50 psi, weight approx. 150 lbs.
4. Deionizer: (a) Input - approximately 2300 gallons of 300 PPM, total dissolved solids, purity water per regeneration cycle.
(b) Output - minimum 300 gallons, per operating hour of 1 to 5 PPM total dissolved solids, purity water.
(c) Procedures for operating and regenerating the deionizer shall be provided with this unit.

III The following equipment is acceptable to meet this requirement.

1. Truck: (a) Make: Ford
(b) Model: C-600
(c) Body: Brown or Williamson
(d) Heater: Hunter, gasoline powered from truck fuel supply
2. Tank: (a) Make: Union Tank Works; chemical-proof
3. Deionizer: (a) Make: Illinois Water Treatment Co.
(b) Model: HB-455 Deionizer w/RD-2-64 solu bridge
CC-20 activated carbon filter RC-600 oxygen removal column
4. Pumps: Make: Worthington
(portable) Model: 1 1/2 PC 4
(attached) Model: 1 1/2 PE 5

Other Manufacturer's equipment meeting the above specifications are acceptable.

IV Method of Operation:

1. CSA This item will provide a source of deionized water for filling containers used at various CSA locations.
2. LCF ACO 3046 (container, 5 gallon) will be used to transport deionizer water from the source of supply to the LCF
3. LF This item will provide deionized water to fill the G&C Cooling System. A pump in conjunction with a filter will be used to circulate deionized water through a circuit consisting of a pump, a filter, the deionizer and G&C Cooling System until purity is sufficient to meet

ACO 696

Sheet 2 of 3

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS (Continued)

IV Method of Operation: (Continued)

3. LF

(Continued)

requirements. When required purity is obtained, the G&C Cooling System shall be disconnected and left in a pure, full condition.

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Sheet 3 of 3

REVISED

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ACO NUMBER 697

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-16-62

REVISION B DATE 2-12-63

EQUIPMENT TITLE FIXTURE, TRACK ALIGNMENT
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT NONE DWG NO. Parsons 3037-1018

TO BE USED AT: Results from ECP 245

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

Required during installation of Figure "A" 1610, Guide Rail Assembly, to obtain proper alignment of the Guide Rail during installation at Launch Facility.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The following equipment is acceptable to fulfill this requirement:

1. R. M. Parsons Drawing No. 3037-1018

This fixture consists of a centering plate with adjustable slotted guides to simulate the Guide Rail slots of Figure "A" 1604. This holds the Guide Rails in correct position during installation so that the rails will fit the Figure "A" 1604 when it is installed.

Assigned to Engineering for technical coordination only. BID will procure under normal organizational responsibilities.

Existing R. M. Parsons proto type tools number 303762-376 are also acceptable. Three of the above items are available on site at MAFB.

SHT 1 OF 1

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2-6340-0-1 MAR 18 1963

REV. 2-14-63

BOEING NO. D2-11713-2
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NOTE: Use form UB-4071-1000 if additional sheets are required.

Rev. B
D. A. Martin
x5-6324

ORIGINATING GROUP SUPERVISOR: V. Grigold
TELEPHONE: 3-1005

116

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ACO NUMBER 698

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-16-2

REVISION B DATE 3-12-3

EQUIPMENT TITLE CHECKING TOOL, SIGHT TUBE
(Basic Noun First)

RESPONSIBLE DEPT. ENGINEERING EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 1 25-39200

TO BE USED AT: Results from ECP 245

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	1	X	X	None	None	X	X	X

PURPOSE & JUSTIFICATION

A requirement exists for a tool to be supplied to the GIS to properly position and align the sight tube in the launcher wall.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Wing I tool (SK-ELM-20) consists of the following parts and is used as follows: A tripod type frame with adjustable legs will be mounted over the geodetic survey marker "point A". A piano wire is stretched from the tripod through the new sight tube and anchored to a point on a holding arm which is located by the sighting mirrors. Two balsa wood plugs are centered on the wire and fit into each end of the sight tube which align and hold it in position during installation and grouting. The wire is held taut by a tension spring. The holding arm is fastened to the autocollimator bench. This tool also assists in locating marker "A".

The marker "A" will be properly positioned prior to the sight tube installation at Wing II and on, and therefore only the holding arm portion of the above described tool will be required. This portion of the tool is a weldment made up of channels, angles and blocks and has self-clamping features.

1 Accomplished by Base Liaison Engineering per SK-ELM-20 at MAFB.

SHT 1 OF 1

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2-6340-0-1

REV. 3-18-3

BOEING NO. D2-11713-2
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NOTE: Use form U2-4071-1000 if additional sheets are required.

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WS 133A

ACO NUMBER 699

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 11-20-2

REVISION A DATE 12-14-2

EQUIPMENT TITLE COVER, END - G&C SECTION, EMLACED MISSILE
(Basic Nom First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

A dust protection cover for the G&C Section is required on emplaced (vertical position) missiles. In the vertical missile position, the design requirements are sufficiently different to allow use of a much lower cost cover. Use of this cover at delivery of sites allows reducing the quantity of the more expensive MRCN/ACO 7600.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The cover is to be similar to 25-21693-1 (Figure A 7600) with the zipper omitted and the metal ring and turnbuckle replaced with an elastic band, shockcord or drawstring.

The cover side, which will make up the drawstring loop corresponding to 25-23045-4, should be hypalon (rubber) coated for gripping the machined G&C Interface Ring. The cover, corresponding to 25-23045-2 should be vinyl coated for economy.

The following equipment is acceptable to fulfill this requirement:

1. Seattle Tent and Awning Co. P/N 699

SHT 1 OF 1

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2-6340-0-1 MAR 18 1963

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BOEING NO. D2-11713-2
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NOTE: Use form U1-4071-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: Nothhaft Rev. "A" - A. D. Nunn 3-0367

TELEPHONE:

613

WS 133A

ACO NUMBER 700

ASSEMBLY & CHECKOUT

APPROVAL DATE 10-27-61

EQUIPMENT REQUIREMENTS

REVISION B DATE 2-12-63

EQUIPMENT TITLE Analyzer, Portable Test Set
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT: Rev. A (MAFB & VAFB use) results from PRR 10396 and OSB-301

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X/D	X/D	X/D			None	None	None

NOTE: Use form US-4071-1000 if additional sheets are required.

PURPOSE & JUSTIFICATION

The Dynamic Tester will be used to provide simulated signals, test sequence controls and format of ones and zeroes at the CSA to calibrate and functional test the SCN Portable Test Set.

This item is required to support the Figure A 4018 work-around, Plan #43, to D2-20633.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The analyzer will consist of the following items: (1) Signal Simulator (2) Auxiliary Format Plug (3) Diphas Termination Simulator (4) SCN Power Supply Adapter Cable (5) Patch Board.

- The signal simulator is capable of simulating level, pulse and timing signals and is connected to the patchboard. The selector switches are all marked UP and DOWN and numbered S1 thru S11 for control of level, S12 thru S21 for control of Pulses, and S22 thru S30 for control of Timing.
- The Auxiliary Format Plug is capable of, in conjunction with the removable cord patchboard, setting up a message format of alternate Ones and Zeros. The plug is a 55-pin pygmy connector with jumper wires as designated.
- The Diphas Termination Simulator is capable of simulating conditions of the operational digital data group. This unit is to properly terminate the diphas generator internal to the Portable Test Set, SCN Equipment. It will supply a 600 ohm resistive termination of an equalizer as in the DDG of use in monitoring the cable simulator effect on a diphas signal. The Line Selector switch S9 - A & B selects the numbers of miles of wire hooked into the repeat coil. The repeat coil can be connected for 16GA or 19GA cable by Gauge switch S8. Termination switch S10 is used for terminating in 600 ohms resistance, unequalized, or in an equalizer and switches S1 thru S7.
- The SCN Power Supply Adapter Cable is capable of connecting DC voltages, normally supplied by the SCN, to Case No. 2.

SHT 1 OF 2

ORIGINATING GROUP SUPERVISOR: W. E. Lucey TELEPHONE: 5-6795
Rev. B
W. R. Blair
5-6786

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<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-MAR 18 1963

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5. The Patch Board is capable of containing information to control the test sequence, test points and routing of signals and also provides comparison logic. The Patch Board has removable leads to facilitate changes in the information it provides.

The above equipment has been designed and developed as In-Plant Equipment (PSE) 8325729 -301 by RCA for calibration and checkout of Figure A 4012 end items. To meet the Figure A 4018 work-around requirements, the Portable Test Set Analyzer (BGS-73), Part number 8325729 -301 will be procured from RCA.



This item is to be provided until

ACO 4018 becomes available.

ACO 700
Sht 2 of 2

REVISED 2-14-2
MAR 18 1967
US 4788 2000

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ACO NUMBER 706

ASSEMBLY & CHECKOUT

APPROVAL DATE 10-31-61

EQUIPMENT REQUIREMENTS

REVISION D DATE 10-30-2

EQUIPMENT TITLE Generator, Ringing
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X					

PURPOSE & JUSTIFICATION

To provide a ringing signal to the Signaling Unit of the SIN/LCF Telephone Terminal Equipment during the Acceptance Functional Test (Pre-Assembly) at the CSA.

Ref: D2-10063, Vol. 4.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Ringing Generator shall have an output of 20 cps, 90 volts rms, terminated in 600 ohms.

The following equipment is acceptable to fulfill this requirement:

1. Lorain Model BC-20X with a 6000 ohm resistor in series with the output terminals.
2. Lorain Model M75-60.
3. Lorain Model G, input 20-26 VDC, output 100-115 V 60 cycles; and Battery Charger, Ratelco Model 1479.

SHT 1 OF 1

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11-6-2

MAR 18 1963

1-13-2

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BOEING NO. _____
PAGE _____ -706

NOTE: Use form U3-4071-1000
If additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. Collins
TELEPHONE: 2-0368 Rev. D L. Apperson. 5-1625

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WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 707

APPROVAL DATE 12-7-1

REVISION C DATE 2-1-3

EQUIPMENT TITLE ELEVATOR & WORK CAGE
(Basic Noun First)

RESPONSIBLE DEPT. MANUFACTURING EQUIP. CLASSIFICATION DATE

DESIGN REQMTS DOCUMENT N/A DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

A requirement exists to provide access to all levels of the launch tube for Operations and Maintenance (O&M) of Real Property Installed Equipment (RPIE) and Assembly and Checkout (ACO). Use of this item prior to missile emplacement will allow a reduction in quantity of ACO 4043 with a resulting cost saving.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A commercially available portable elevator is recommended. The elevator shall include all necessary controls and safety features.

The following listed equipment will satisfy this requirement:

1. ST-19 Spider Staging Co.

Use with ACO 708 (Support Frame, Rolling).

NOTE: This item is to be provisioned in conjunction with ACO 708 to supplement ACO 4043, and used in as many instances as possible. The more expensive ACO 4043 is to be used when automatic circumferential travel is required, or when a missile is in place in the silo.

SHT 1 of 1

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<i>H. H. Barton</i>	<i>A. W. Mann</i>	<i>R. E. Greiner</i>	<i>George K. ...</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

BOEING NO. D2-11713-2
PAGE 707

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ORIGINATING GROUP SUPERVISOR: D. Lyttle Rev. B A. D. Mann
TELEPHONE: 4-5860 3-0367

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WS 133A

ACO NUMBER 708

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 12-7-1

REVISION B DATE _____

EQUIPMENT TITLE SUPPORT FRAME, ROLLING
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG NO. 25-21505

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		X	X	X

PURPOSE & JUSTIFICATION

A requirement exists to provide support for the Interim Launch Tube Elevator and Work Cage (ACO 707) during Operations and Maintenance (O&M) of Real Property Installed Equipment (RPIE) and during Assembly and Checkout (ACO). Use of this item prior to missile emplacement will allow a reduction in quantity of ACO 4043 with a resulting cost saving.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A specially designed rolling support frame is recommended. The rolling support frame will provide support for Elevator and Work Cage (ACO 707). Rollers on the support frame will provide the mobility required to obtain access to any spot around the launch tube.

Used with ACO 707, (Elevator and Work Cage)

NOTE: This item is to be provisioned in conjunction with ACO 707, and used in as many instances as possible. The more expensive ACO 4043 is to be used only when automatic circumferential travel is required.

or when a missile is in place in the silo.

WE
 NOTE: Use form US-4071-1000
 Colling additional sheets are required.
 REV. "B" - R. E. Colling
 D. Lyttle
 3-0367
 4-5860
 TELEPHONE:
 ORIGINATING GROUP SUPERVISOR:

SHT 1 OF 1

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2-6340-0-1 MAR 18 1963

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ACO NUMBER ACO 711

ASSEMBLY & CHECKOUT

APPROVAL DATE 11-27-61

EQUIPMENT REQUIREMENTS

REVISION C DATE 2-12-63

EQUIPMENT TITLE Power Supply, Programmer Group, Test Set
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 1	X 1	X 1	X 1		None	None	None

PURPOSE & JUSTIFICATION

A power supply is required to furnish the Programmer Group Test Set, Figure A 3092, with the necessary DC levels for its operation, until ACO 4523 becomes available. See Work Around Plan No. 6 and 13.

Ref. Doc: D2-7817-5, D2-7834-4, D2-20633

Required until ACO 4523 becomes available.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This portable power supply shall be supplied through a single connector, input voltages and provided through a single output connector:

Voltage	Current	Regulation	Ripple (Max)
-30 VDC	5A	+ 1%	50 mv PP
28 VDC	8A	+ 3%	300 mv PP
10 VDC	3A	+ 1%	50 mv PP
-10 VDC	5A	+ 1%	50 mv PP

120 VAC
(60 cps, 1 ϕ)

The power supply shall have a multi-conductor jacketed input cable approximately 20 ft. in length terminated in each in a single connector, and output cable about 4 ft. long which will mate with the input connector of the Programmer Group Test Set, Figure A 3092.

Overload protection devices shall be installed as required to prevent damage to the Power Supply from internal or external fault.

It shall be capable of being easily lowered down the personnel access hatch at the launch facility.

SHT 1 OF 1

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2-6340-0-1 MAR 18 1963

REV. 2-14-63

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Rev. C
W. R. Blair
5-6786

ORIGINATING GROUP SUPERVISOR:
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66

ACO-711 (Continued)



This is interim equipment which may be substituted in conjunction with ACO-712, and ACO-713, for Figure A/ACO 4523. Replacement by 4523 is not technically required.

ACO 711
Sht 2 of 2

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ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

ACO NUMBER ACO-712

APPROVAL DATE 11-27-62

REVISION A DATE 12-4-2

EQUIPMENT TITLE Power Supply, Portable, SCN Test Set
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 8532641 (RCA)

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	1		1	1				

PURPOSE & JUSTIFICATION

A power supply is required to furnish the SCN Equipment, Portable Test Set, Figure A-4012, with the necessary DC levels for its operation, until ACO 4523 becomes available.

Ref. Doc: D2-10071, D2-14194, D2-10066, D2-20633

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This power supply is identical to the item described by RCA Drawing number P/N 8532641-1

Ref. IP-6

SHT 1 OF 1

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2-6340-0-1

MAR 18 1963

REV. 12-12-2

D2-11717 -2

NOTE: Use form UJ-4071-1000 if additional sheets are required

REV. W. J. DeVos 3-1840

ORIGINATING GROUP SUPERVISOR: _____
TELEPHONE: _____

WS 133A

ACO NUMBER 713

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION B DATE 12-4-2

EQUIPMENT TITLE Cable, Adapter, G&C Coupler, 400 cps
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 29-24254

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	1		1	1				

PURPOSE & JUSTIFICATION

A cable adapter is required to connect the G&C Coupler to the DC Power Supply Set, Fig. A 1284 in such a manner that the 400 cps power input to the coupler can be turned on and off without energizing and de-energizing the Programmer Group. This connection configuration will be utilized during maintenance of the G&C Coupler at the LF.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

To accomplish this requirement, a short adapter cable is required that will connect between the G&C Coupler input power cable, W519 and the DC Power Set (Fig. A 1284) connector which normally mates with the Programmer Group input power cable.

This cable is normally supplied as part of Fig. A 4523 and is required for use with the interim G&C Coupler Test Set, ACO 10704, since Fig. A 4523 will not be delivered in time. This cable is also required for use with ACO 777, "Power Supply, Portable, G&C Coupler Test Set" when used for fault isolation of Fig. A 604, "G&C Coupler".

1 This is interim equipment which may be substituted in conjunction with ACO 777 or 10704, for Fig. A/ACO 4523 until replaced by Figure A/ACO 4523. Replacement is not technically required.

Ref: I.P. #6 in D2-20633.

SHT 1 OF 1

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NOTE: Use form UJ-4071-1000 if additional sheets are required.

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ORIGINATING GROUP SUPERVISOR: W. R. Blair
TELEPHONE: 5-4744

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WS 133A

ACO NUMBER 717

ASSEMBLY & CHECKOUT

APPROVAL DATE 12-15-61

EQUIPMENT REQUIREMENTS

REVISION B DATE 2-22-63

EQUIPMENT TITLE Barrier, Safety, Launcher Opening
(Basic Non First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. N.A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	▷	▷	None	None	None	▷	None	None
						B	B	B

PURPOSE & JUSTIFICATION

A requirement exists for a means to protect personnel and/or equipment from falling into an open Launcher Tube.

To be provided as interim equipment until ACO 4038 is available during the O & M period prior to start of assembly operations.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a portable lightweight safety barrier be provided that can be placed around the Launcher Tube whenever the closure is opened.

This item to be designed and fabricated or procured locally at the using site.

NOTE: This barrier must be approved by Safety Engineering Group.

▷ This item is to be provisioned only until ACO 4038 becomes available. (Ref. IP-28)

COPIES OF THIS DOCUMENT ARE TO BE MAINTAINED AT THE FOLLOWING OFFICES: (List of offices)

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2-6340-0-1 MAR 18 1963

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NOTE: Use form US-4071-1000 if additional sheets are required

REV B: W. R. BLAIR X 5-6786

ORIGINATING GROUP SUPERVISOR: R. E. Colling TELEPHONE: 3-0368

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WS 133A

ACO NUMBER 718

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-6-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 3-13-62

EQUIPMENT TITLE Adapter, Power Supply
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT NONE DWG NO. ▷

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X	X	X				

PURPOSE & JUSTIFICATION

A requirement exists for resistors to provide loads and an adapter to connect to P5 on cable 29-22718 on the ACO 711, Interim Power Supply for Figure A 3092. The Adapter will be used to bring out pins from the cable. The Adapter and resistors will be used during receiving and inspection tests and calibration and certification test at CSA.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that an Adapter be used that will have a connector which will mate with P5 on cable 29-22718. It will also have a DPST power switch and 21 banana jacks going to mating pins on the connector.

NOTE: This item will be identical to MISC 25-29980 called out in Paragraph 6.2.1 of D2-13076, Vol. 3, Sect. 1, Acceptance Functional Test Procedure - ACO 711, Interim Power Supply for Figure A 3092.

For resistance loads, it is recommended that the following resistors be used:

Quantity	Type	Resistance	Wattage
1	Ohmite 2402	10 ohms ± 10%	160 W
1	Ohmite 1356	5 ohms, ± 10%	200 W
1	Ohmite 1356A	1 ohm, ± 10%	200 W
2	Ohmite 1356B	2 ohms, ± 10%	200 W

▷ Adapter drawing number is 25-32314. The Adapter and resistors listed above together will constitute ACO 718.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
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2-4340-0-1 Rev 3-20-62
REV. 4-6-62
MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1-518

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: J. C. Darby
TELEPHONE: 6-8721

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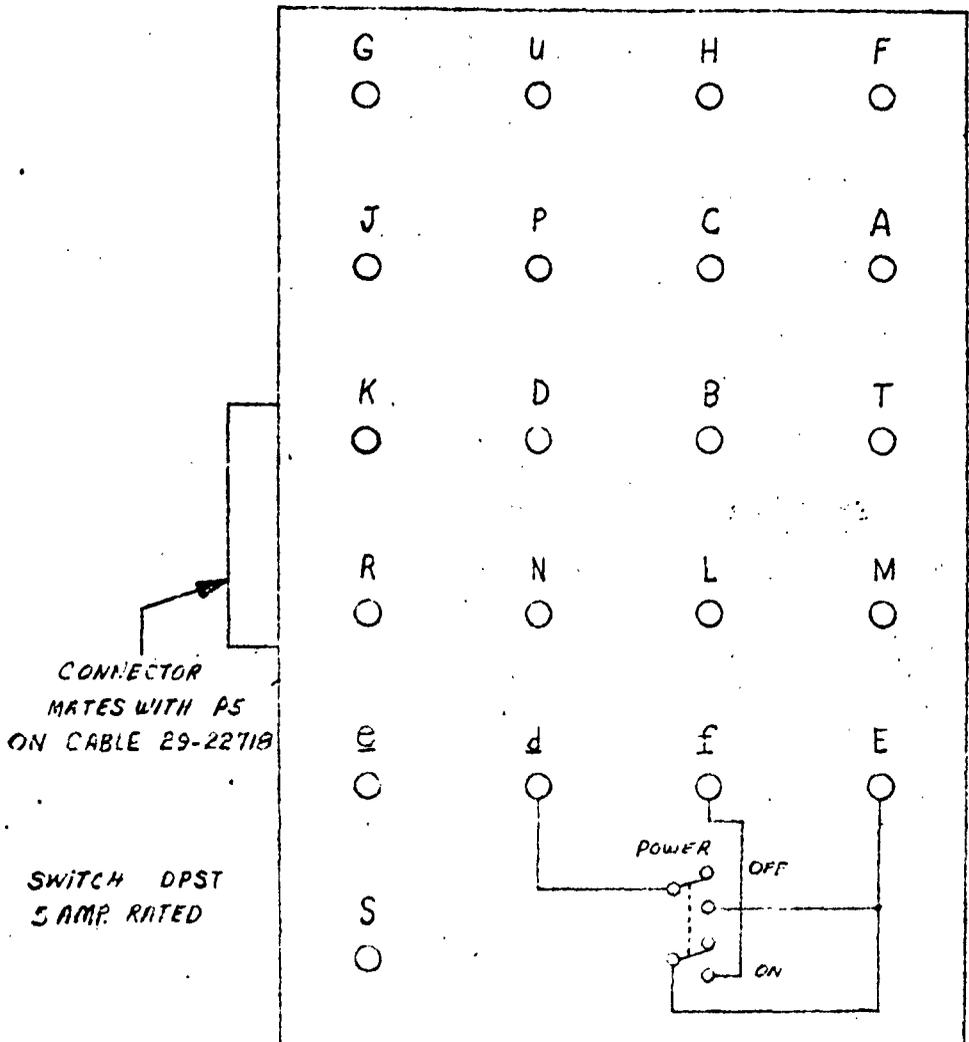
R

R

R

R

R



CONNECTOR
MATES WITH P5
ON CABLE 29-22718

SWITCH DPST
5 AMP. RATED

NOTE: ADAPTER WILL BE REQUIRED AS AN ACD ITEM. IT WILL BE BUILT TO MIL SPECIFICATIONS.
ALL BANANA JACKS WILL CONNECT TO THE MATING PINS ON THE CONNECTOR

FIG. 2 ADAPTER, MISC. 25-29980

ACO 718
Sht 2 of 2

NEW 2-1-62 Added 2-9-62

REVISED 4-6-62

U3 4288 2000 (WAS BAC 41210)

MAR 18 1963

BOEING **BOEING**

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WS 133A
**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 719
 APPROVAL DATE 2-20-62
 REVISION _____ DATE _____

EQUIPMENT TITLE: Valve
(State Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	▷		▷		▷			

PURPOSE & JUSTIFICATION:

To permit flow regulation in the simulated G&C Cooler circuit used for pre-assembly testing on the G&C Liquid Cooler (Figure A 1214) at the CSA.

Ref: D2-10735, "FTP - Cooler, Liquid, Guidance Section"

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Nominal 1-inch, stainless steel, throttling valve.

Recommnd Marsh type 1936 FFG Globe Pattern.

▷ This is interim equipment which may be substituted in conjunction with ACO's 752, 754, 719, 769, 4461, 0593, 749, 753, 747, 748, until ACO 4150, G&C Cooling Test Bench is available.

NOTE: Prior to use, this item shall be flushed with deionized water until the effluent contains less than 5 ppm of dissolved solids.

This item results from GSB-3.

SHT 1 OF 1

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2-6340-0-1

Added 2-27-62

REV.

4-6-62

MAR 18 1963

BOEING

NO. D2-11713-2

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ORIGINATING GROUP SUPERVISOR: C. R. SIMPSON
 TELEPHONE: 5-6670

NOTE: Use Form UD-807-100 if additional sheets are required.

WS 133A

ACO NUMBER 721

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 2-20-62

REVISION A DATE 12-18-2

EQUIPMENT TITLE ADAPTER, MGS-OGE DRAWER TEST WORK AROUND(4152)
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. MISC 25-32318

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	1		1				

PURPOSE & JUSTIFICATION

The adapters provide a means for supplying cooling air, electrical interconnections, and test points during drawer testing and maintenance on the following Figure A's: 1201, 1243, 1284, 1289, 3013, 3113 and 4018. These adapters are required as an interim work around for Figure A 4152 and work results from OSB 301. The following functional test documents prescribe the operation of these adapters: D2-6901, Volume 3; D2-6913, Volume 2; D2-7817, Volume 2; D2-7818, Volume 2; D2-9383, Volume 3 and D2-10076, Volume 2. The purpose of the individual parts of this set is noted with each part listed below.

▷ Required until 4152 becomes effective. The requirements of one (1) unit each for MAFB and VAFB will be fabricated in EDL.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

- A. Drawer, Cooling Chamber Sequencer and Monitor Functional Test (TSJ25-23037-30) - The Cooling Chamber is required to provide cooling air to the drawer while it is being tested. The Chamber also provides structural support and alignment for connector adapters.
- B. Test Adapter, Front Panel Drawer, Power Number 1 and 2 (2MISC25-22042-12) - The Power Drawer test adapter mates the drawer test connector to an external test panel which is included as a part of this drawing. This panel provides accessible connecting points for drawer testing.
- C. Test Adapter, Regulator Assembly Voltage Drawer (MISC25-22042-36) - The Regulator Assembly Test Adapter provides mating rack and panel connectors for Drawer Number 25-22042 and brings out the connector pins to a patch panel to allow application of signals, loads, and metering for performing electrical tests on the drawer.
- D. Drawer, Test Panel Regulator Assembly Voltage Drawer (5MISC25-22042-36) The Test Panel Regulator provides all switching controls and loads to be used in performing the functional test of drawer 25-22042.

SHT 1 OF 2

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2-6340-0-1

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NOTE: Use form UB-4071-1050 if additional sheets are required

Rev. A R. E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: J. Darby
TELEPHONE: 6-8721

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- E. Same as B. above except drawing number 2MISC25-22043-6 and drawer number 25-22043.
- F. Test Adapter, Power Supply Drawer (MISC25-22043-40), used for testing drawer number 25-22043. Description is the same as C. above.
- G. Drawer, Test Panel, Power Supply Drawer (5MISC25-22043-40), used for testing drawer number 25-22043. Description is the same as D. above.
- H. Test Panel, 28 VDC Power Supply - 12 Ampere Adapter (MISC25-22620-10) - The Test Panel Adapter provides mating connectors, test loads, input power leads, switching controls, and metering for functional testing of drawer number 25-22620.
- I. Same as H. above except drawing number MISC25-22622-10 and drawer number 25-22622.
- J. Same as H. above except drawing number MISC25-22623-1 and drawer number 25-22623.
- K. Dummy Card Test Adapter (MIT29-14482-1) - The adapter connects internal test points in the Figure A 1284 drawers to an external test panel for functional testing of each drawer.
- L. Test Fixture, Relay Assembly Dummy Decoder (TSJ25-26839-35) - The test fixture simulates the mounting cavity of the dummy decoder from Figure A 1201. The fixture provides connection for each active pin on the dummy decoder to a special selector switch box.
- M. Test Fixture, Relay Assembly Dummy Decoder (TSJ25-26839-26) - The test fixture provides ganged selector switches for energizing relay coils of the item being tested. The fixture also provides attachment points for testing continuity across the relay contacts in the dummy decoder.
- N. Cable Adapter Assembly L.C.C. Test Set, Functional Test (TS25-25980-1) - The adapter assembly provides mating connectors, loads, switching, test jacks and input power connections for functional testing of the Communications - Launch Control Consoles Test Set.
- O. Test Adapter, D.C. Filter Assembly (MIT25-24179-1) - The mating cables on the adapter provide a means for connecting the commercial test equipment to the D.C. filter assembly of the Launch Control Console for functional testing.
- P. Alarm Driver, Assembly Test Adapter (MIT25-24180-1) - Same description as O. above except for the alarm driver.
- Q. Test Adapter, Audible Alarm Assembly (MIT25-24181) - Same description as O. above except for the Audible Alarm Assembly.
- R. Test Adapter, Display Module Assembly (MIT25-24175-1) - The adapter provides mating cables and terminals for connecting commercial test equipment to the Display Module Assembly for functional testing.

S. (deleted)

ACO - 721
Sheet 2 of 2

MAR 18 1963

REVISED 12-31-2

U3 4288 2000

BOEING

VOL.

SEC.

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ACO NUMBER 722

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 2-27-62

REVISION B DATE 2-12-3

EQUIPMENT TITLE Tester, Hipot
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X		X	NONE	NONE	NONE
		B			B	B	B	B

PURPOSE & JUSTIFICATION

1. A requirement exists to provide a means for supplying an adjustable 0 - 1500 volts AC (RMS) for performing a high potential test on drawers in Figure A's 1201, 3113, 1284, and 1289. The model specifications for the above mentioned Figure A's specify an AC high potential test for certification. This requirement is part of the Figure A 4152 work-around which is scheduled by OSB-301. This tester is used as permanent requirement at Plant 77 for testing uncoiled cable assemblies (Fig. A 7720).
2. A requirement exists for a means to make a high voltage insulation test of the security antenna cables for Figure "A" 1248 for the LF.
Ref. Dwg. Nos. 25-37564 and 25-37563.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a portable AC Hipot Tester, capable of delivered adjustable 0 - 1500 volts, alternating-current (RMS) at 58 to 62 cps, rated at 500 VA for at least 5 seconds, be provided.

The following equipment will satisfy this requirement:

- Westinghouse model 1294 012
- Westinghouse model 1317 130F
- Peschel Electronics Model P2

⚠ This is interim equipment, to be provided only until Fig. A 4152 becomes available. (Work-Around Plan Nos. IR-12 and IP-13) D2-20633.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J. Darby</i>	<i>W. Slager</i>	<i>G. E. Brewer</i>	<i>W. R. ...</i>

2-6340-0-1 MAR 18 1963

REV. 2-14-3

NOTE: Use form US-4071-1000 if additional sheets are required

Rev. B
W. Slager
5-3508

J. Darby
6-8721
ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

650

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 724
APPROVAL DATE 2-27-62
REVISION _____ DATE _____

EQUIPMENT TITLE: Multimeter
(State Power First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. None
TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X		X			

PURPOSE & JUSTIFICATION:

An electrical measurement instrument is required for: (1) use in the Component Processing Area during checkout of missile battery squibs for GTM 077 and eight VAFB missiles only; (2) use at VAFB to check the missile battery squibs in the DPIF.

The instrument is used for a workaround due to limited capabilities of the Ordnance Circuit Test Set (FSE 7679 and MGE 3007) on the above nine missiles.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The instrument selected must be capable of overcoming the forward breakdown voltage of the diodes contained in the missile battery assemblies, but must not supply a current sufficient to provide a hazardous current in the squib.

A Simpson Model 269 meter is required and will be modified by installing a 100 ma fuse in the output leads and removing the 22 1/2 volt battery. The meter shall be so marked to provide adequate identification and specify restricted usage. This meter shall not be used in the MAB's. The meter will be modified on site.

This workaround results from OSB 665.

No equivalent meters are acceptable.

This instrument is used in conjunction with ACO 725.

NOTE: Use form 15-407-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: O. A. Severide
TELEPHONE: 5-5022

SHT 1 OF 1

ENGINEERING DEPT. <i>H. H. Bartoo</i>	BASE INSTALLATION DEPT. <i>W. J. ...</i>	MANUFACTURING DEPT. <i>G. E. ...</i>
--	---	---

2-4340-0-1 Added 2-27-62
4-6-62

REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 724

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WS 133A
**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 725
 APPROVAL DATE 2-27-62
 REVISION _____ DATE _____

EQUIPMENT TITLE: Adapter Cable, Simpson 269 to FSE 7679 and MGE 3007 Cables
(Base Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____
 TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X		X			

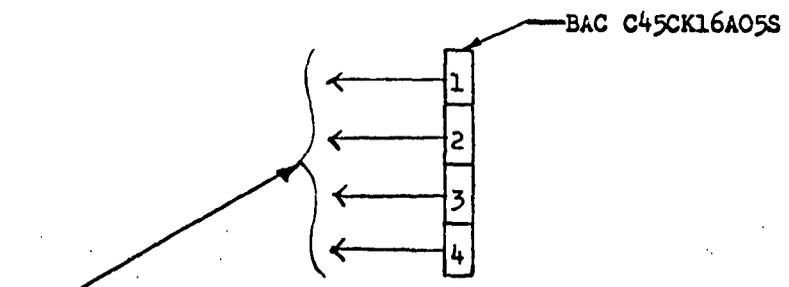
PURPOSE & JUSTIFICATION:

Provide an adapter cable to connect the FSE 7679 and MGE 3007 cables to the Simpson 260 Multimeter. The work around equipment is required to provide missile battery squib measurements in the CPA and DPIF. The Ordnance Circuit Test Set (FSE 7679 and MGE 3007) is not adequate for GTM 077 and eight Vandenberg missiles.

This item is used in conjunction with ACO 724.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The adapter shall be shown on the sketch below. The cable shall be 5 feet long.



Bananna Pins to connect to Simpson 269 meter.

This work around results from OSB 665

SHT. 1 OF 1

ENGINEERING DEPT. <i>M.H. Boston</i>	BASE INSTALLATION DEPT. <i>A.E. Brewer</i>	MANUFACTURING DEPT. <i>A.E. Brewer</i>
---	---	---

2-6340-0-1 Added 2-27-62
 REV. MAR 18 1963 4-6-62

ORIGINATING GROUP SUPERVISOR: O. A. Severide
 TELEPHONE: 5-5022

NOTE: Use form US-407-1000 if additional items are required.

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ACO NUMBER 727

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-6-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Decoder, Electronic, SCN
(Basic Item First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. RCA 8321660-501

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

This decoder is required as a work-around item since the BC-1 originated volatile decoder will not be available in time for use during much of the ACO testing. The decoder will provide the LF/SCN with the capability of properly responding to test launch and test inhibit launch messages as is required throughout Assembly and Checkout operations.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The work-around decoder shall be of the same configuration as the decoder (RCA part #8321660-501) which was to be provided with the Figure A 1228 SCN rack prior to the BC-1 requirement for a volatile decoder. Code cards shall be provided as a part of the decoder which shall program the decoder to accept only the test launch message as a valid launch message and to accept only the test inhibit launch message as a valid inhibit launch message. The structure of the test launch and inhibit launch messages is presented on drawing 29-24771, "AGE/ACO Master Test Codes" as the test codes which will be utilized in the Status Command Message Processing Group.

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: M. R. Blair
TELEPHONE: 5-4744

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>W. H. Kern</i>	<i>A. E. Greiser</i>	<i>J. Thane</i>

2-6340-0-1 Added 3-20-62

REV. 4-6-62
MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1 OF 1

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ACO NUMBER 728

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-6-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Cards, Programming, SCN Test Set
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION F EATP

DESIGN REQMTS DOCUMENT None DWG NO. N.A. N. A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	X				

PURPOSE & JUSTIFICATION

Due to the fact that a work-around decoder, the "SCN Electronic Decoder", is to be used within the IF/SCN equipment during Assembly and Checkout operations, it is necessary that special programming cards be provided for use with the SCN Portable Test Set, Figure A 4012, to permit on site checkout and pre-delivery maintenance of the IF/SCN equipment when the work-around is installed.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The SCN Test Set Programming Cards shall be a set of cards which shall be used in conjunction with the programming cards normally supplied with the SCN Test Set to permit on site checkout, fault isolation to the drawer level and repair confirmation of IF SCN equipment with the SCN electronic decoder installed.

Note: To be procured from RCA.

This set of cards is to be physically identified as interim parts

NOTE: Use form UT-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. R. Blair

TELEPHONE: 5-1724

PM 2/23

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Burt</i>	<i>A.H. Burt</i>	<i>A.E. Preiser</i>	<i>J. Thomas</i>

2-6340-0-1 Add. 3-20-62
REV. 4-6-62

MAR 18 1963

BOEING NO. D2-11713-2
PAGE 728

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ACO NUMBER 729

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-3-2

EQUIPMENT REQUIREMENTS

REVISION B DATE 2-22-3

EQUIPMENT TITLE TEST ADAPTER, PROGRAMMER TEST SET
(Basic Noun First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-33642

TO BE USED AT: Result of OSB 301 and PRR 10396

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	None	None	None	None	None
						B	B	B

PURPOSE & JUSTIFICATION

The test adapter is required to facilitate functional testing and calibration of the Programmer Test Set (Figure A 3092), as prescribed in D2-7834, Volume 3 and 4.

This item is required to support the Figure A 4018 work-around Plan #13, D2-20633

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The test adapter shall connect to the Programmer Test Set by means of the test set cabling and shall provide the following:

1. Test jacks for input and output signals as specified in D2-7834, Volume 3 and 4.
2. Test jacks as required for calibration of the test set evaluators.
3. A pulse shaping circuit used in calibration of the test set evaluators.

The unit shall be packaged at the factory as a console mounted on casters.

Notes:

1. ACO 729 and related ACO equipment will be required to support work-around plan I.P. 13 until ACO 4018 is available to support VAFB and operational bases.
2. A numbered document with all data and instructions for use of ACO 729 will be provided. (D2-13836)

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 18 1963
REV. 2-28-3

BOEING NO. D2-11713-2
PAGE 700

U.F.S.
 NOTE: Use form U3-4071-1000 if additional sheets are required.
 REV. "B" - R. E. Colling 5-2854
 W. Lucey 5-6795
 ORIGINATING GROUP SUPERVISOR:

fcc

WS 133A

ACO NUMBER 730

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-8-3

REVISION G DATE 3-5-3

EQUIPMENT TITLE Power Supply, DC
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMS DOCUMENT None DWG NO. NA

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing 3	Wing 4	Wing 5
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

A requirement exists at the CSA for a power source to be used in conjunction with ACO 4152 during functional test and maintenance testing of the following items:

1. 25-22040 drawer part of Figure A 1201
2. 25-24179 drawer part of Figure A 1243
3. 25-26859 drawer part of Figure A/ACO 4018
4. 25-33861 part of Figure A/ACO 4018
5. 25-32987 part of Figure A 4252

Ref: Documents D2-13971-4, D2-13794, D2-7817

DESCRIPTION, REQUIREMENTS AND RECOMMENDATIONS:

The power supply must meet the following specifications:

1. Output voltage 20-150 VDC
2. Output current 0-2.0 amperes minimum
3. Regulation - line $\pm 0.25\%$; load $\pm 0.5\%$
4. Ripple - 1% (RMS) maximum

The following equipment will satisfy this requirement:

1. Sorenson MR 150-7.5
2. Trygon MS160 - 2AM

NOTE: This item originated in support of ACO 4018 and 4152 work arounds resulting from PRR 10396. It has since become a permanent requirement to be used in conjunction with ACO 4152.

Ref: OSB-301

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Banta</i>	<i>W. H. ...</i>	<i>G. C. ...</i>	<i>C. H. Herald</i>

2-6340-0-1

REV. 3-18-3

NOTE: Use form U3-4071-1000 if additional sheets are required.

Rev. B R. C. Colling
Rev. C C. H. Herald

ORIGINATING GROUP SUPERVISOR: J. M. Herrity

TELEPHONE: 5-3524

JU3-0768

08-35

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ACO NUMBER 731

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-23-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-16-62

EQUIPMENT TITLE Cable Adapter, Error Indication Test
(Basic Name First) G&C Ground Cooling Equipment

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. TE 25-32335

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			

PURPOSE & JUSTIFICATION

A requirement exists for a means to monitor Bridge Balance, Error Indication and Control Valve Movement during post installation testing of Fig. A 1214, G&C Liquid Cooler. Also required for test and maintenance of Fig A/ACO 9278 in CSA and MAB.

Ref: D2-10752 Document

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Cable assemblies as shown on sheet 2 replaces the cable that connects the Electronic Control Amplifier with the pumping assembly. This cable allows monitoring of the Guidance Compartment Temperature Error.

This cable is interim equipment which may be substituted in conjunction with ACO's 749, 337 and 3023 until ACO 3035 or ACO 4150 is available.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Ellen J. Halliwell</i>	<i>W. J. Mason</i>	<i>A. C. Brewer</i>	<i>R. Estep</i>

2-6340-0-1, MAR 18 1963

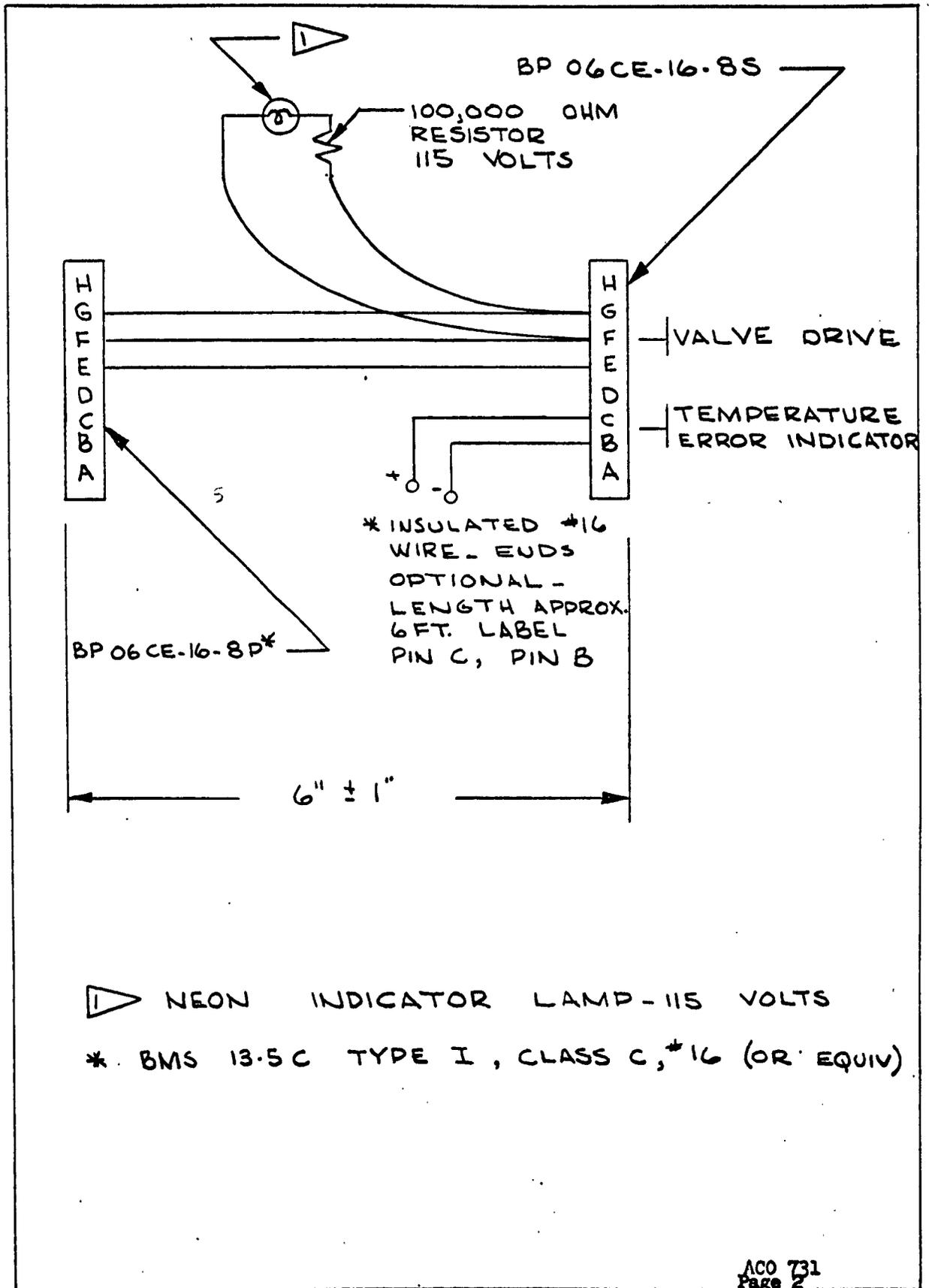
REV. 12-12-2

NOTE: Use form US-471-1000 if additional sheets are required.

E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: *G. Swanson* Rev. "A" TELEPHONE: *5-6678*

66



▷ NEON INDICATOR LAMP - 115 VOLTS

* BMS 13.5C TYPE I, CLASS C, #16 (OR EQUIV)

ACO 731
Page 2

U2-4871-1000 (was BAC 1544-L-83) 4-6-62

4 1R 1-8 1963

BOEING NO. D2-11713-2
PAGE 731a

WS 133A

ACO NUMBER 732

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-23-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 6-15-62

EQUIPMENT TITLE Cable Adaptor, No-Go and Gross Temp. Test, G&C Ground Cooling
(Basic Non First) Equipment

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	▷		▷		▷			

PURPOSE & JUSTIFICATION

To provide work-around means to monitor No-Go and Gross Temperature alarm signals when conducting acceptance tests on the G&C Cooling Equipment, Fig. A 9278, at Plant 77 and VAFB (CTLI) as requested by Action Assignment No. OSB-3. Reference D2-10752, FTP Fig. A 9278.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A test cable assembly is required to provide access to test points, for monitoring the No-Go gross temperature alarm signals and to put a simulated thermister signal into the amplifier. Cable Assembly is as shown on sheet 2.



This is interim equipment which may be substituted in conjunction with ACO's 749, 337 and 3023 until ACO 3035 or ACO 4150 is available; Ref: IP-#3 in D2-20633, WS-133 work-around plan.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Boster</i>	<i>M. W. ...</i>	<i>G. E. ...</i>	<i>R. ...</i>

2-6340-0-1 Rev 6-29-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 732 →

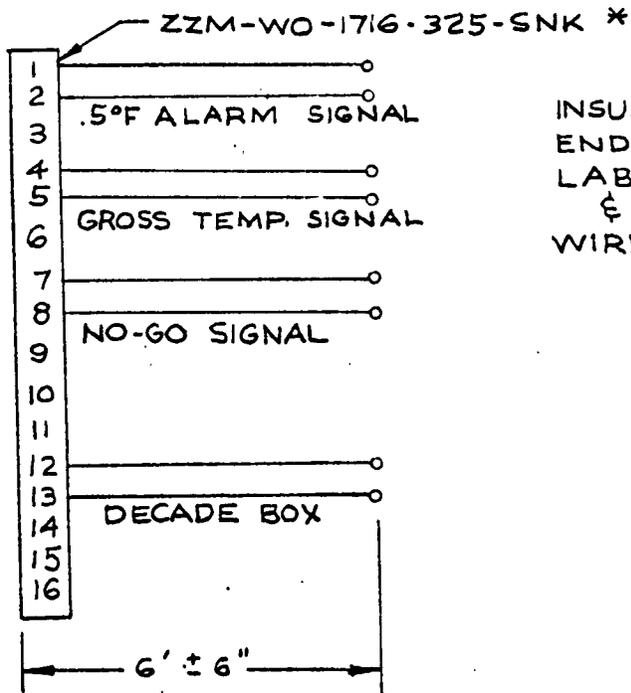
NOTE: Use form U3-4071-1000 if additional sheets are required

Handwritten signature/initials

Rev. J. J. Stasny
AF-4-5860

ORIGINATING GROUP SUPERVISOR: G. R. Stinson
TELEPHONE: 5-6678

936



INSULATED #16 WIRE
 ENDS OPTIONAL
 LABEL WITH PIN NUMBERS
 & FUNCTION AS NOTED
 WIRE CLASS OPTIONAL

* OR EQUIVALENT

ACO 732
 Page 2 of 2

US-4871-1000

MAR 18 1963 4-6-62

BOEING

NO D2-11713-2

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64-732a



WS 133A

ACO NUMBER 733

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-8-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE PULSE GENERATOR, MEGACYCLE
(Basic Noun First)

RESPONSIBLE DEPT. DI-131 EQUIP. CLASSIFICATION SFC/OT

DESIGN REQMTS DOCUMENT NONE DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

A requirement exists to provide both a positive and a negative going pulse during the functional testing of the Test Set, Programmer Group, Figure A 3092 and Filter, DC Power, Figure A 1243. This item is required to support the Figure A 4152 Work-Around which is authorized by OSB-301.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The pulse generator must have the following characteristics:

1. Output Impedance -- equal to or less than 150 ohms.
2. Output Amplitude -- ± 50 volts into 50 ohms minimum.
3. Pulse Width -- Continuously variable from 1 to 10,000 u sec.
4. Waveform -- rise and fall times shall be less than 0.15 u sec. Overshoot and sag less than 6%.
5. Pulse Spacing -- Continuously variable from 4 u sec to 0.5 seconds.
6. Pulse Delay -- Continuously variable from 1 u sec to 10 m sec.

It is recommended that the Electro-Pulse, Model 34500 or equivalent be used. One equivalent is American Electronic Laboratories, Model 138 pulse generator.

Pr 1

SHT 1 OF 1

ENGINEERING DEPT.,	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 Add 3-20-62
REV. 1-6-62
MAR 18 1963

NOTE: Use form U3-4071-1000 if additional sheets are required

JIM DARBY

5-6795

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:

abc

WS 133A

ACO NUMBER 734

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-27-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 2-8-3

EQUIPMENT TITLE Test Adapter, Electronic Control Amplifier
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-37868

TO BE USED AT: Results from ECP 500

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	Y	X	Y	None	None	None

PURPOSE & JUSTIFICATION

Electronic Control Amplifier drawers (part of Fig. A's 1214, 3038, 9278) are being modified per ECP-500 to increase the margin of controller stability. After this modification is incorporated, additional testing will be required on all units being retrofitted with this change.

This testing will not be required at Wing III and on since ECP-500 modifications will be incorporated and checked during production at the factory. ACO-4150, is being revised to include the capability of performing this testing during predelivery and field level maintenance.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

To facilitate testing mentioned above, an adapter is required which will provide access to all test points of the Electronic Control Amplifier drawer. Access points shall permit connection of the ACO-4127 Power Supply and the ACO-0593 Decade Box which will simulate thermistor inputs to the Control Amplifier.

A valve drive motor identical to the valve drive motor on the Fig. A 1214 Cooler is required as part of this test adapter to simulate the Fig. A 1214 Cooler and provide a means of indicating the response time of the Control Amplifier during this testing. Detailed test procedures are contained in D2-10735, Section 2.

NOTE: Engineering will furnish ___ parts per ECP-500 commitments

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burton</i>	<i>W. J. Mann</i>	<i>A. E. Greiser</i>	<i>W. K. ...</i>

2-6340-0-MAR 18 1963

REV. 2-14-3

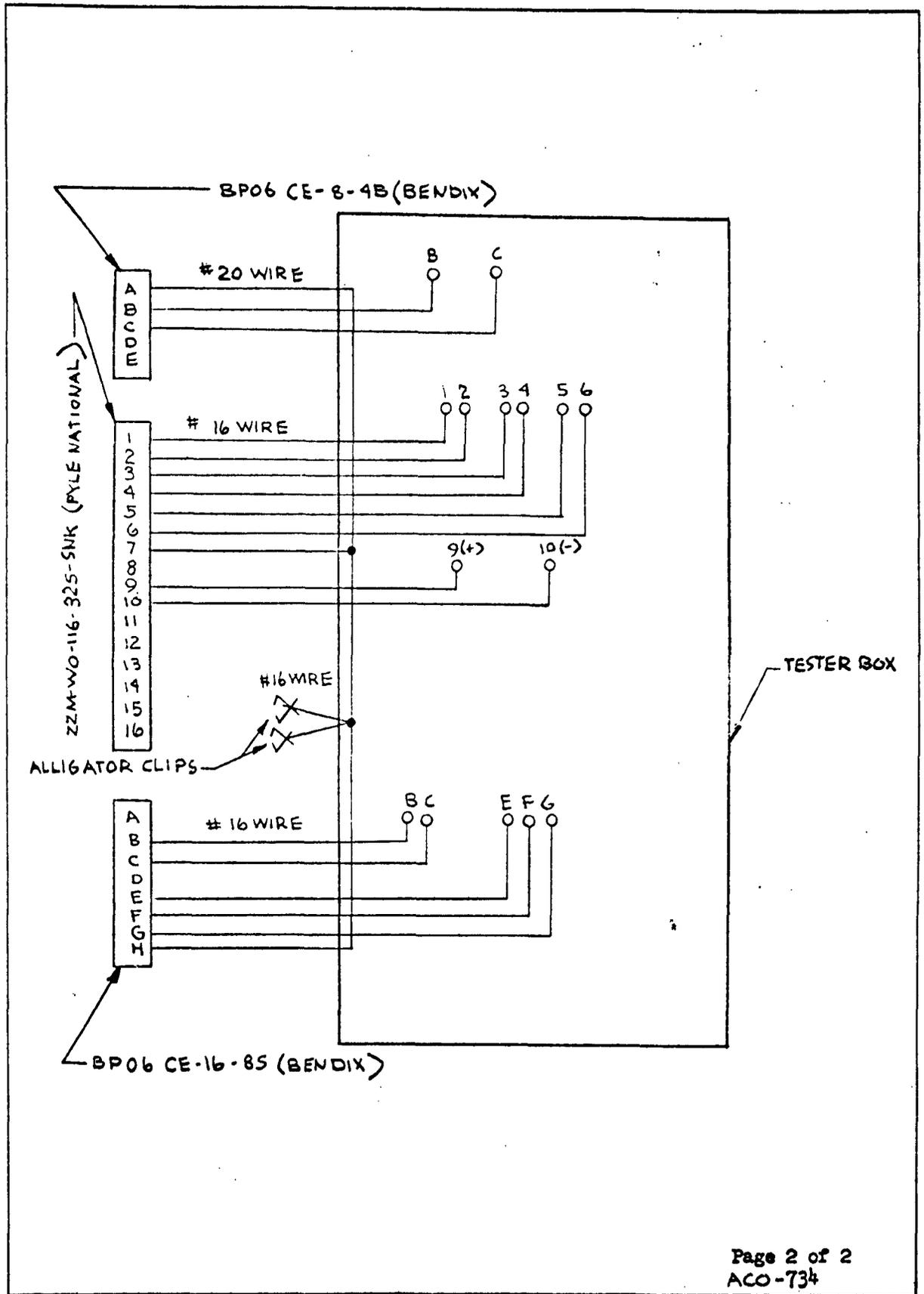
BOEING | NO. D2-1173-2 | PAGE 734

NOTE: Use for UB-401, etc. if additional sheets are required

ORIGINATING GROUP SUPERVISOR: W. R. Blair

TELEPHONE: 5-6786

119



apc

U3-4071-1000 (was BAC 1546-L-83)
 Added 5-11-62
 MAR 18 1963

WS 133A

ACO NUMBER 735

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-10-2

REVISION B DATE 3-19-3

EQUIPMENT TITLE SET, LOGIC DRAWER TEST FOR FIGURE A 1201
(Basic Noun First) 1

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. 25-33926

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 2	None	X 2			None	None	None

PURPOSE & JUSTIFICATION

A requirement exists to provide work-around to test logic drawers from Figure A 1201, Programmer Group.

This item is required to support the Figure A 4018 work-around which results from QSB-301. This item is part of PRR 10396 (for MAFB)
(Ref. Work-Around Plan IP-13, D2-20633)

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The "Work-Around for Figure A 4018 to Test Logic Drawers from Figure A 1201" shall consist of the following test tools:

- A. ETSJ25-23037-30 - Drawer, Cooling Chamber S & M Functional Test. The cooling chamber is required to provide cooling air to the drawer while it is being tested. The chamber also provides structural support and alignment for connector adapters.
- B. EMISC25-22037-43 - Test Adapter, Timer Sequential Drawer, S & M. The test adapter provides mating for the rear panel connectors of the timer sequential drawer for application of signals, loads and monitors during functional test.
- C. E2MISC25-22037-12 - Test Adapter, Front Panel, S & M Timer Sequential. The test adapter provides mating for the front panel test connector of the timer sequential drawer for signal monitoring purposes.
- D. E5MISC25-22037-43 - Test Panel, S & M Timer Sequential. The test panel provides all switching controls and loads to be used in performing the functional test of the timer sequential drawer.
- E. E2MIT25-23000-1 - Clock Phase Power Supply, provides a clock phase signal for functional testing of the Timer Sequential drawer.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. S. Burt</i>	<i>A. J. ...</i>	<i>A. E. ...</i>	<i>A. H. ...</i>

2-6340-0-1

REV. 4-4-3

NOTE: Use for U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. E. Incey REV. "B" R. E. Colling
TELEPHONE: 5-6795 5-2854

epc

- F. EMISC25-22038-38 - Test Adapter, Programmer Launch Sequence. Functions are the same as (b) above except for Programmer Launch Sequence drawer.
- G. E2MISC25-22038-10 - Test Adapter, Front Panel, Programmer Launch Sequence. Functions are the same as (c) above except for 25-22038 drawer.
- H. E5MISC25-22038-38 - Test Panel, Programmer Launch Sequence. Functions are the same as (d) above except for 25-22038 drawer.
- I. EMISC25-22039-39 - Same as (b) above except for 25-22039 drawer.
- J. E2MISC25-22039-9 - Same as (c) above except for 25-22039 drawer.
- K. E5MISC25-22039-39 - Same as (d) above except for 25-22039 drawer.
- L. EMISC25-22040-40 - Same as (b) above except for 25-22040 drawer.
- M. E2MISC25-22040-9 - Same as (c) above except for 25-22040 drawer.
- N. E5MISC25-22040-40 - Same as (d) above except for 25-22040 drawer.

Drawing 25-33926 is the next assembly drawing for items A thru N above.

NOTES:

1. A data package, D2-13834, will be provided by Engineering for operation, testing, and calibration of ACO 735.
2. Responsibilities and fabrication arrangements are outlined in memo 2-6527-1-29 dated March, 15, 1962. (Fabrication to be by Experimental Manufacturing).
3. Equipment drawings (listed above) will be released and maintained by Engineering.
- 1 The title "Work-around for Figure A 4018 to Test Logic Drawers from Figure A 1201" has been used on PRR 10396 and other engineering data.
4. See D2-20633 for work-around plan.

ACO 735
Sheet 2 of 2

U1-0071-1000
2-28-3
MAR 18 1963

BOEING | NO. D2-11713-2
PAGE 735 &

WS 133A

ACO NUMBER 736

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-10-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Set, Drawer Test for Fig. A 4018
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG. NO. 25-33927

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

A requirement exists to provide work-around to test all drawers from Figure A 4018.

This item is required to support the Figure A 4018 work-around which results from OSB-301. This item is part of PRR 10396.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The "Work-Around for Figure A 4018 to Test Drawers from Figure A 4018" shall consist of the following test tools:

- A. EMIT25-26857-1 - Test Adapter, Logic Module Assembly. The test adapter provides mating for the rear panel connectors of the Logic Module drawer for application of signals, loads and monitors during functional test.
- B. E2MIT25-26857-1 - Test Panel, Logic Module Assembly, - The test panel provides all switching controls and loads to be used in performing the functional test of the logic module drawer.
- C. EMIT25-26858-1 - Same as (a) above except for power supply assembly.
- D. E2MIT25-26858-1 - Same as (b) above except for power supply assembly.
- E. EMIT25-26859-1 - Same as (a) above except for Voltage Regulator Assembly #1.
- F. E2MIT25-26859-1 - Same as (b) above except for Voltage Regulator Assembly #1.
- G. EMIT25-26860-1 - Same as (a) above except for Voltage Regulator Assembly #2.
- H. E2MIT25-26860-1 - Same as (b) above except for Voltage Regulator Assembly #2.
- I. EMIT25-26861-1 - Same as (a) above except for Fault Locator - Test Adapter Group drawer.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. N. Banton</i>	<i>R. E. Colburn</i>	<i>A. E. ...</i>	<i>R. Estep</i>

2-4340-1 Added 4-24-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
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NOTE: Use form U3-4071-1000 if additional sheets are required.

W.E. LUCEY 52-15
TELEPHONE: 5-6795

ORIGINATING GROUP SUPERVISOR:

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Drawing 25-33927 is the next assembly drawing for items A thru I above.

Notes:

1. A data package, D2-13835, will be provided by Engineering for operation, testing, and calibration of ACO 736.

2. Responsibilities and fabrication arrangements are outlined in memo 2-6527-1-29 dated, March 15, 1962. (Fabrication to be by Experimental Manufacturing).

3. Equipment drawings (listed above) will be released and maintained by Engineering.

1. The title, "Work-around for Figure A 4018 to Test Drawers from Figure A 4018", has been used on PRR 10396 and other Engineering data.

4. See D2-20633 for work-around plan.

ACO 736
Page 2 of 2

U3-4071 1000 (was SAC 1546-L-23) , Added 4-24-62
MAR 18 1963

BOEING | NO. D2-11713-2
PAGE | 736-a

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ACO NUMBER 741

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-8-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 8-24-62

EQUIPMENT TITLE Test Set, Programmer Group (Interim Model)
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-29278

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		1	1				

PURPOSE & JUSTIFICATION

The ACO-741 is required to fault isolate the Programmer Group to a drawer level and to verify the functional integrity of the Programmer Group in an end to end test until ACO/Figure A 3092 is available. This equipment is required at the Launch Facility for maintenance and at the CSA for Acceptance testing.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The ACO-741 will consist of four (4) portable assemblies: (1) Logic Case; (2) Cables and Cable Carrying Case; (3) Power Supply and Self Test; (4) Calibration Adapter and a deck of Remington Rand punched Program cards.

The ACO-741 will simulate all inputs and evaluate outputs of the Programmer Group to fault isolate and verify operation of the Programmer Group. The equipment design features include: (1) Solid State logic; (2) Punch card Programming; (3) Self test capability; (4) Self included power supply; (5) Packaged for portability. The power requirements for ACO-741 will consist of standard 120V AC 60 cps.

The ACO-741 is functionally identical to the Figure A 3092 with power supply (ACO-711) or Figure A 4523) except it includes a calibration adapter assembly.

See Interim Procedures Plan IP-1, D2-20633.

⚠ This item is to be provisioned only until ACO/Figure A 3092 equipment is available.

Interim Procedures Group Approval WR Blair

SHT 1 OF 1

ENGINEERING DEPT. <i>E. L. Hall</i>	BASE INSTALLATION DEPT. <i>Wes Davis</i>	MANUFACTURING DEPT. <i>A. E. ...</i>	FACILITIES DEPT. <i>R. Estep</i>
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2-6340-0-1 MAR 18 1963

REV. 9-6-62

BOEING NO. D2-11713-2
PAGE 742

NOTE: Use form U2-4071-1000 if additional sheets are required.
W. Alexander for E. Johnson

ORIGINATING GROUP SUPERVISOR: W. Alexander REV. 3-0368
TELEPHONE: 6-8721

Lnc

WS 133A

ACO NUMBER 742

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-8-62

REVISION A DATE 2-12-3

EQUIPMENT TITLE Adapter Group, Test
(Basic Non Flrst)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 25-26630

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			None	None	None

PURPOSE & JUSTIFICATION

A requirement exists to provide a test adapter which will operate in conjunction with an Autonetics C91 Programming Test Set to permit CSA pre-delivery maintenance of electronic drawers from the following Figure A equipment:

- Figure A 1201 (Programmer Group)
- Figure A's 1213, 1228, 1251, 1265, 1279 (Sensitive Command Network)

MEM 650 outlines the justification for Adapter Group, Test to support the CSA at VAFB and MAFB.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Adapter Group, Test is a bench type rack eight feet wide, approximately forty-two inches high, and thirty-six inches deep, and will contain four bays of electronic equipment. The bench will include two test fixtures whereby electronic drawers can be inserted for testing. One fixture will serve Boeing drawers and a second fixture will serve RCA drawers.

The Test Adapter will include stimuli generators, response conditioners, loads, special circuits, switching components, power supplies and a patch panel.

The Adapter Group, Test (Dwg. #25-26630) is presently configured as a Procedure B, Figure A 4018 item. Each drawing carries a note identifying it as follows: "Unprogrammed Drawing per Procedure B, Memo 2-6400-3, dated 4-10-61".

This item is required in addition to ACO's 700, 729, and 736 (PRR 10396) to provide a total interim capability in the absence of the Procedure C, ACO-4018.

Work Around Plan IP-13 (D2-20633) presents the plan for interim ACO-4018 equipment and procedures.

SHT 1 OF 1

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2-6340-0-1 MAR 19 1963

REV. 2-14-3

BOEING NO. D2-11713-2
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NOTE: Use form U3-4071-1000 if additional sheets are required.

Rev. A
W. R. Blair
5-6786

ORIGINATING GROUP SUPERVISOR: W. Lucey
TELEPHONE: 5-6795

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ACO NUMBER 743

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-22-2

REVISION A DATE 2-1-3

EQUIPMENT TITLE OPERATIONAL DECODER SIMULATOR
(Basic Non First)

RESPONSIBLE DEPT. ENGINEERING EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. RCA

TO BE USED AT: Rev. A (Make Permanent) Results from PRR 10618

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X		X		X	X	X

Ref: PRR 10618

PURPOSE & JUSTIFICATION The Operational Decoder Simulator, ACO-743, shall be capable of performing those procedural tasks required of ACO-107/4487 during assembly and checkout of the WS-133A Minuteman Weapon System. The Operational Decoder Simulator, ACO 743, shall have system input/output characteristics identical to those of ACO-107/4487. The ACO-743 is required as interim equipment for the ACO-107/4487 units because the procurement rate of ACO-107/4487 units cannot support the assembly and checkout program at the operational bases. ACO 743 is required for the following tests throughout the ACO Program at the operational bases, per IP 106: 1. Launch Facility End to End Test, 2. Launch Facility Pair Test, 3. Launch Facility Pair Integration Test

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

ACO-743 shall be designed to meet the following requirements:

1. Upon receipt of a valid EMD Message output from the L/DDPE the Operational Mechanical Decoder Simulator shall, when installed in the P/G, act in the same manner as the Operational Decoder to cause the P/G to initiate a launch sequence; and shall, when installed in ACO-101, cause the illumination of an indicator lamp on the ACO-101 front panel. A valid EMD Message shall be coded as follows: (101010101010101010). The first 18 bits of the EMD Message are identical to the valid B3 (activate) portion of a test launch message identified in Boeing drawing 29-24771.
2. Toggle switches A through F shall be provided as specified on the attached schematic. The toggle switches are used during checkout operations to check the decoder fault monitoring provisions of the P/G. The toggle switches shall be mounted such that they are accessible while the decoder simulator is in the decoder cavity of the P/G.
3. ACO-743 shall exhibit electrical load characteristics to the L/DDPE identical to those exhibited to the L/DDPE by the operational mechanical decoder.
4. ACO-743 shall be capable of being manually reset from the activated to the non-activated condition while installed in the decoder cavity of the P/G. This reset shall be on the front panel of the decoder simulator.

Engineering responsibility is for technical coordination only. BI-MM is responsible for provisioning under normal organizational responsibilities.

SHT 1 OF 4

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 MAR 18 1963

REV. 2-14-3

BOEING NO D2-11713-2
PAGE 743

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. R. Blair
TELEPHONE: 5-6696

use

bje

ACO-743 (Continued)

5. ACO-743 shall include a safety interlock which consists of a relay that shall be provided as specified on the attached schematic. The interlock relay shall interrupt only 4 of the decoder output lines; the fifth output line shall not be interrupted in order that a P/G Launch Acceptance Alarm may occur independently of the interlock relay position if the decoder simulator is not reset prior to a startup.
6. ACO-743 shall have dimensions such that it may be properly installed in the decoder cavity of the P/G Launch Drawer #1.

ACO-743 shall have a projection on its envelope such that the cavity door of the P/G Launch Drawer #1 may not be closed while ACO-743 is in the cavity.

ACO-743 shall be secured within the P/G decoder cavity in the same manner as the Operational Mechanical Decoder. The projection and toggle switches (Item 2) shall not interfere with the operation of the decoder simulator securing mechanism. The mechanical envelope and securing mechanism of the decoder simulator shall be as specified in Boeing drawing 29-21380.

7. A carrying case suitable for transporting the decoder simulator shall be provided with the decoder simulator.
8. The Operational Mechanical Decoder Simulator shall be designed for compliance with document GM 07-59-2617A, "Electro Interference Control Requirements for Minuteman (WS-133A)."
9. ACO-743 shall automatically reset upon receipt of a EMD Message not identical to that specified in item 1.
10. ACO-743 shall receive its power for the interlock relay from the 28 volt DC power supplied to the decoder simulator on pins 32 and 34 of connector J2 (See attached schematic).
11. The decoding mechanism for ACO-743 shall consist of stepping switches, relays, and solenoids; whereas, the decoding mechanism for the ACO-107/4487 units is a mechanical device identical in construction to the Command Signals Decoder, Fig. A 1268.
12. The ACO-743 shall receive its power to drive the decoding mechanism from a power supply internal to the ACO-743; the internal power supply shall operate from 108 to 132 volt rms 58 to 62-cycle facility power. The ACO-743 shall receive facility power via a power cable that is supplied with and considered a part of ACO-743.

NOTE: The major design effort on ACO-743 has already been accomplished by RCA; the ACO-743 design was developed during the preliminary design on the ACO-107. RCA has committed to timely delivery of the quantity of ACO-743 units required to support the assembly and checkout program.
(Ref. PRR-10618)

Sht 2 of 4

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ACO-743 (Continued)

The STP III requirement for ACO-743 shown on this sheet is for a first unit compatibility test.

The usage of the ACO-743 during assembly and checkout at the operational bases is identified by Interim Procedure 106, IP-106; this interim procedure is documented in D2-20633.

ACO-743 may be used in lieu of the ACO-107/4487 units during A&C/O as specified on IP-106 of D2-20633.

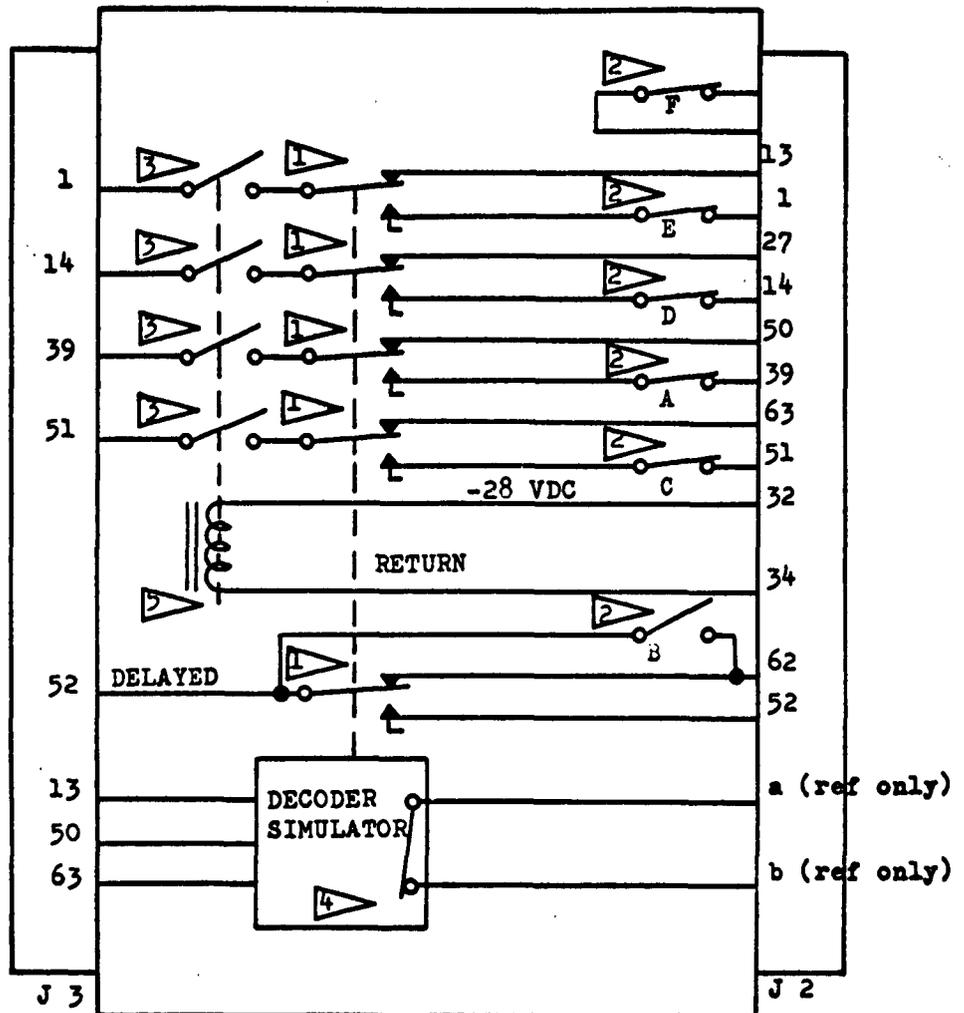
ACO-743 design requirements 1 through 10 are identical to those specified on ACO-107.

Sht 3 of 4

U3-4971-1000 (was SAC 1046-L-R3)
MAR 18 1963

Added 5-25-62

BOEING NO. D2-1173-2
PAGE 743-b



-  SWITCH CONTACTS CLOSED BY DECODER SIMULATOR UPON RECEIPT OF A VALID INITIATE CODE. SHOWN DE-ENERGIZED.
-  MANUALLY OPERATED FAULT SIMULATION TOGGLE SWITCH. SHOWN IN LAUNCH POSITION.
-  INTERLOCK RELAY CONTACTS. SHOWN WITH INTERLOCK RELAY DE-ENERGIZED.
-  DECODING MECHANISM WHICH UPON RECEIPT OF A VALID EMD MESSAGE FROM THE L/DDPE WILL SIMULTANEOUSLY CLOSE SWITCH CONTACTS LABELED WITH FLAG NOTE 1. ALSO CONTAINS CIRCUITRY TO ALLOW DETERMINATION OF DECODER "HOME" (RESET) POSITION - CONTINUITY BETWEEN PINS a and b VERIFIES TRUE "HOME" POSITION.
-  INTERLOCK RELAY

ACO 743
Sht. 4 of 04

U3-4071-1000 (Rev. SAC 1946-L-83) Added 5-25-62

MAR 18 1963

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PAGE .743-c

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ACO NUMBER 7 744

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-1-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Test Kit, Test Set, VRSA
(Basic Noun First)

RESPONSIBLE DEPT. Engineering 2 EQUIP. CLASSIFICATION BATE 2

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X	<u>1</u>				

PURPOSE & JUSTIFICATION

The VRSA TS Test Kit will be used as an interim method for CSA testing, calibration, certification, and maintenance of the VRSA Test Set, Figure A 4539, prior to acquisition of the Maintenance Test Table, Figure A 4152. The described use of this test kit is contained in Receiving Acceptance Test Procedure D2-11360.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The VRSA TS Test Kit consists of nine test fixtures used to gain access to pins on VRSA TS connectors. The test fixtures are identical to the following items built by Nortronics for testing the VRSA TS.

<u>Nomenclature</u>		<u>Nortronics P/N</u>	<u>Nortronics Dwg. No.</u>
		<u>P/N</u>	<u>Dwg. No.</u>
VRSA Fixture, Self Test	#1	09627017	Same
Test Fixture, Input Signal Converter	#2	09627018	Same
Test Fixture, Input Signal Converter	#3	09627019	Same
Test Fixture, Input Signal Converter	#4	09627020	Same
Test Fixture, Input Signal Converter	#5	09627021	Same
Test Fixture, Interrugation Control	#6	09627022	Same
Test Fixture, Audio Amplifier	#7	09627023	Same
Test Fixture, Step Down Seq. Control	#8	09627024	Same
Test Fixture, Audio Reproducer	#9	09627025	Same

Note: This equipment is not included as part of ACO-721 since it is a post BC-1 requirement for Fig. A 4152 and a different ACO number is necessary for separate PRR coverage. Reference, work-around plan presented in D2-20663, IP-12.

Note: Acceptance test of ACO 744 will be a continuity test per drawing and will be identified as such in D2-9262, D2-7648, and D2-7871. No further documentation is necessary to cover ACO 744 acceptance test.

1 One ACO 744 required to support maintenance and test of Fig. A 4539 for STP III, EDIT, and EDL.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
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REV. MAR 18 1963

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NOTE: Use form UB-4071-1000
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ORIGINATING GROUP SUPERVISOR: W. Z. Hudson

TELEPHONE: 5-2880

WRP/Doc 5-4-62

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Engineering responsible for technical coordination only. BI-MM is responsible for procurement under normal organizational responsibilities.

ACO 744
SHT 2 of 2

U2-4071-1000 Added 6-12-62
MAR 18 1963...

BOEING

NO. D2-11713-2

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ACO NUMBER 745

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-6-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 2-5-3

EQUIPMENT TITLE Work Platform Assembly - Launch Tube

(Basic Non First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION RAFT

DESIGN REQMTS DOCUMENT None DWG NO. 25-32515

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	None	None	X 	*			

B

PURPOSE & JUSTIFICATION

Interim equipment is required at VAFB in lieu of the ACO-4043 Elevator & Work Cage which is not available to support testing and A & CO, i.e., assemble and disassemble G&C to 3rd stage engine, and the R/V to G&C.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A light weight, metal platform is required which will position in the operational launchers at a level which will permit from one to three workmen to assemble or disassemble the Re-entry Vehicle and the Guidance and Control section from the Minuteman missile. The platform will attach to the existing brick and mortar facility provided. It must be capable of working jointly with the R/V - G&C Van (Fig. A 4024). It should be easily removable and be transportable in the maintenance vehicles.

The platform developed will be clearly marked to show its rated load and will be proof load tested according to local state requirements imposed on lift and support equipment which handle personnel.

It is recommended that the platform developed be similar to that presented on drawing 25-21273 which has been used successfully at STP III.

 Base design and fabrication is permissible at VAFB.

* Work Platform 25-21273-2 has been provided for STP-III only.

Reference: W/A Plan No. IP-61

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Barton</i>	<i>C.D. Meyer</i>	<i>A.E. Brewer</i>	<i>A.H. Reed</i>

2-4340-MAR 18 1963

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NOTE: Use form UD-4071-1000 if additional sheets are required.

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ORIGINATING GROUP SUPERVISOR:

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WS 133A

ACO NUMBER 749

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-30-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 11-20-62

EQUIPMENT TITLE Bimetal Thermometer
(Basic Non First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834	
	1		1		2	X	

PURPOSE & JUSTIFICATION

To determine the temperature of the water in the reservoir during checkout of the Guidance Section Liquid Cooler (Figure A 9278), at CSA.

This is "work around" equipment resulting from Action Assignment OSB-3.*

This item is required during acceptance test of the liquid cooling equipment, G&C Figure A 9278.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Range 25 degrees to 125 degrees F.

Accuracy ±1% of full range.

The following equipment will satisfy this requirement:

Weston Bimetal Thermometer, Model 4310, stem length: 9 inches;

1/2" NPT, stainless steel connection nut.

1 This is interim equipment until 4150 becomes available. This is also interim equipment that may be substituted in conjunction with ACO's 337, 731, 732, 0593, 749, 752, 753, 754, and 755 until ACO 3035, Test Set, Control Circuitry Temperature is available.

2 Plant 77 will use this equipment permanently in conjunction with the equipment noted above, in lieu of ACO 4150 per IP-3.

* Refer to IP-3.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
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2-6340-0-1

REV. 12-12-2
MAR 18 1963

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NOTE: Use form US-4071-1000 if additional sheets are required.

REVISION
6.A. STAPLES 9/25
5-6674

ORIGINATING GROUP SUPERVISOR: G. R. SWANSON
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WS 133A

ACO NUMBER 752

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-20-62

EQUIPMENT REQUIREMENTS

REVISION E DATE 10-12-2

EQUIPMENT TITLE FLOW METER ASSEMBLY
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. NA

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	1		1		2			

PURPOSE & JUSTIFICATION

To provide means to measure water flow in the heat load circuit when conducting Acceptance Tests on the Guidance Section Liquid Cooler, Figure A 1214, at the CSA.

Ref: D2-10735, "AFTP-Cooler, Liquid, Guidance Section."
D2-9834; D2-10752; D2-20633

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Range: 0 to 3.85 gal. of water per minute.

Accuracy: $\pm 2\%$ maximum flow

The following equipment is acceptable to satisfy these requirements:

- 1) Fisher Porter 2735C2941
- 2) " " 27351141



This is interim equipment which may be substituted in conjunction with ACO's 754, 719, 4461, 0593, 753, 748, 747 until ACO 4150, G&C Cooling Test Bench is available; also 731 and 732.

Previous number for 2735C2941

This is also interim equipment that may be substituted in conjunction with ACO's 337, 731, 732, 0593, 753, 749, 752, 754 and 755 until ACO 3035, Test Set, Control Circuitry temperature is available.

All components in contact with fluid shall be stainless steel, glass or PVC.

NOTE: Prior to use, this item shall be flushed with deionized water until the effluent contains less than 5 ppm of dissolved solids.

This item results from OSB-3, and IP-3



Plant 77 will use this equipment permanently in conjunction with the equipment noted above in lieu of ACO 4150 per IP-3.

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Benton</i>	<i>A. D. Mann</i>	<i>A. E. Precourt</i>	<i>R. Estep</i>

2-6340-0-1

REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 752

USE: Use form US-4071-1000 if additional sheets are required.

Collins 3-0366

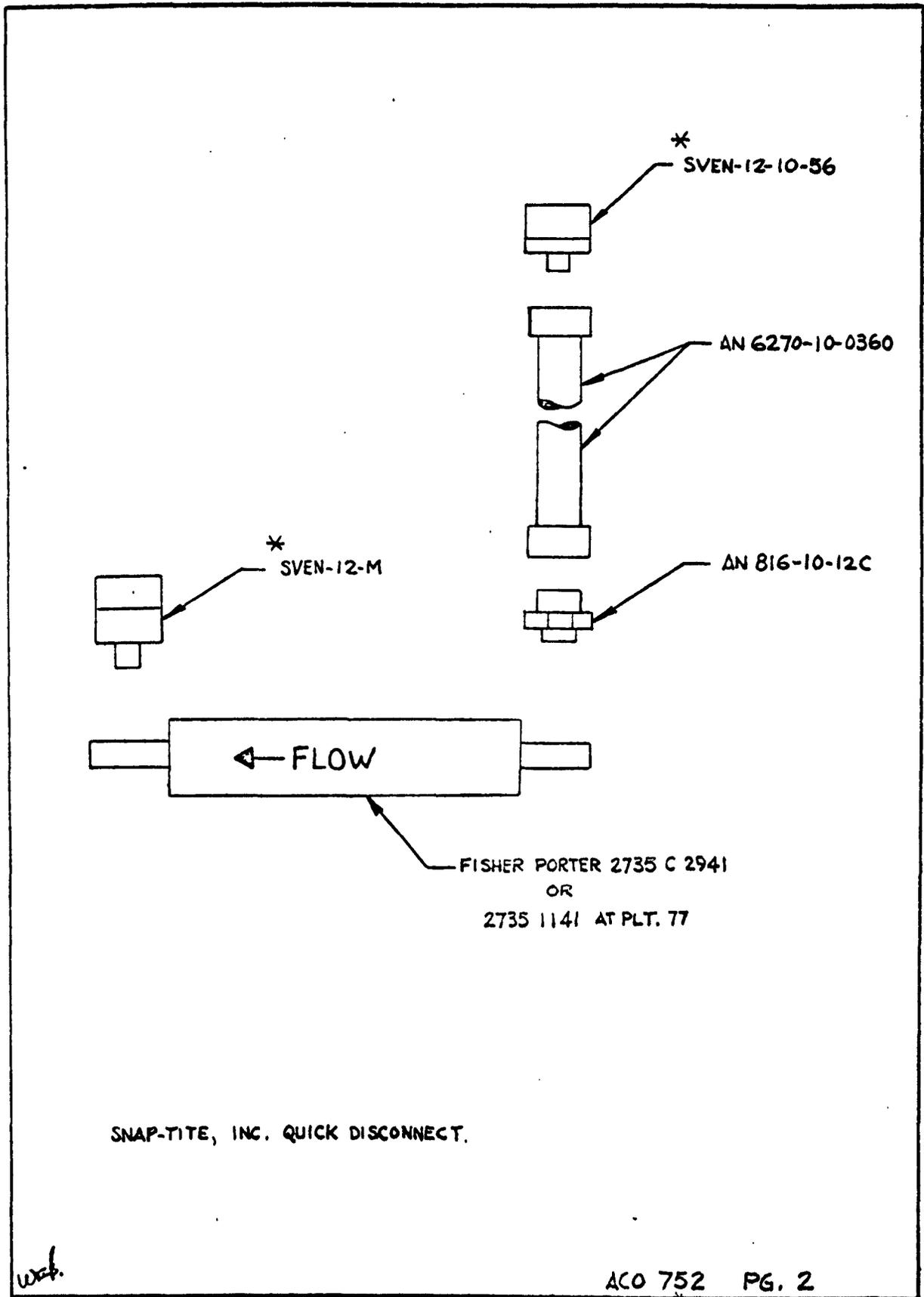
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G. R. Swanson 5-6678

ORIGINATING GROUP SUPERVISOR: TELEPHONE:

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U3-4971-1000

Rev. 10-16-2
MAR 18 1963

ACO 752 PG. 2

E

K. Colony 100 N. V. ILL

UWP
NOTE: Use form US-4071-1000 if additional sheets are required.

Rev. F. Stasny
AT-4-5860

ORIGINATING GROUP SUPERVISOR: G. R. Swanson
TELEPHONE: 5-6678

bse

WS 133A

ASSEMBLY & CHECKOUT

EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE: Pressure Sensor
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			

PURPOSE & JUSTIFICATION

To measure the outlet ("to missile") side of water pump package to Guidance Section when trouble shooting or conducting Acceptance Tests on Guidance Section Liquid Cooler (Figure A 1214).

Ref: D2-10735, "AFTP - Cooler, Liquid, Guidance Section."

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Range: 0-30 PSIG

Accuracy: ± 1 PSIG

Marsh, Type I, 30 lb. Range 3-1/2" Dia. CP Case or equivalent
Pattern AND10050-4 connection is recommended.

▷ This is interim equipment which may be substituted in conjunction with ACO's 752, 754, 719, 769, 4461, 0593, 749, 753, 747, 748 until 4150, G&C Cooling Test Bench is available.

This is also interim equipment that may be substituted in conjunction with ACO's 337, 731, 732, 0593, 749, 752, 753, 754, and 755 until ACO 3035, Test Set, Control Circuitry temperature is available.

All components in contact with fluid shall be stainless steel, glass or PVC.

NOTE: Prior to use, this item shall be flushed with deionized water until the effluent contains less than 5 ppm of dissolved solids.

This item is a result of OSB-3, and IP-3

▷ Plant 77 will use this equipment permanently in conjunction with the equipment noted above in lieu of ACO 4150 per IP-3

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banta</i>	<i>A. W. Mann</i>	<i>G. E. Reiser</i>	<i>R. Eastup</i>

2-6340-0-1
REV. MAR 18 1963

WS 133A

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

ACO NUMBER 754
APPROVAL DATE 2-20-62
REVISION E DATE 11-20-62

EQUIPMENT TITLE Flow Meter Assembly
(Basic Name First)

RESPONSIBLE DEPT. HI-MM EQUIP. CLASSIFICATION SFC/OK

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-OTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834		
	1	3	1		2	X		

PURPOSE & JUSTIFICATION
To provide means to measure water flow in the "to missile" circuit when conducting Acceptance Tests on the Guidance Section Liquid Cooler, Figure A (1214), at the CSA and to the water chiller when trouble-shooting.

This is "work around" equipment required by Action Assignment OSB-3 and IP-3.

Ref: D2-10735 "AFTP - Cooler, Liquid, Guidance Section."

A requirement exists to measure water-flow within the G&C Liquid Cooler Fig. A 9278 during Acceptance Tests at VAFB-CSA.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Range: 0 to 1.19 Gal. of water per minute.

Accuracy: ± 2% maximum flow

Fisher Porter 27351134 is recommended. **3**

1 This is interim equipment which may be substituted in conjunction with ACO's 752, 719, 769, 4461, 0593, 749, 753, 747, 748 until ACO 4150, G&C Cooling Test Bench is available; also 731 and 732.

This is also interim equipment that may be substituted in conjunction with ACO's 337, 731, 732, 0593, 749, 752, 753, 754, and 755 until ACO 3035, Test Set, Control circuitry temperature is available.

All components in contact with fluid shall be stainless steel, glass or PVC.

NOTE: Prior to use, this item shall be flushed with deionized water until the effluent contains less than 5 ppm of dissolved solids.

2 Plant 77 will use this equipment permanently in conjunction with the equipment noted above in lieu of ACO 4150 per IP-3.

3 Brooks, Model 8-1110 may be used as optional equipment (there are a few model 8-1110 units available at Malmstrom. It is recommended that no future purchases be made).

SHT 1 of 2

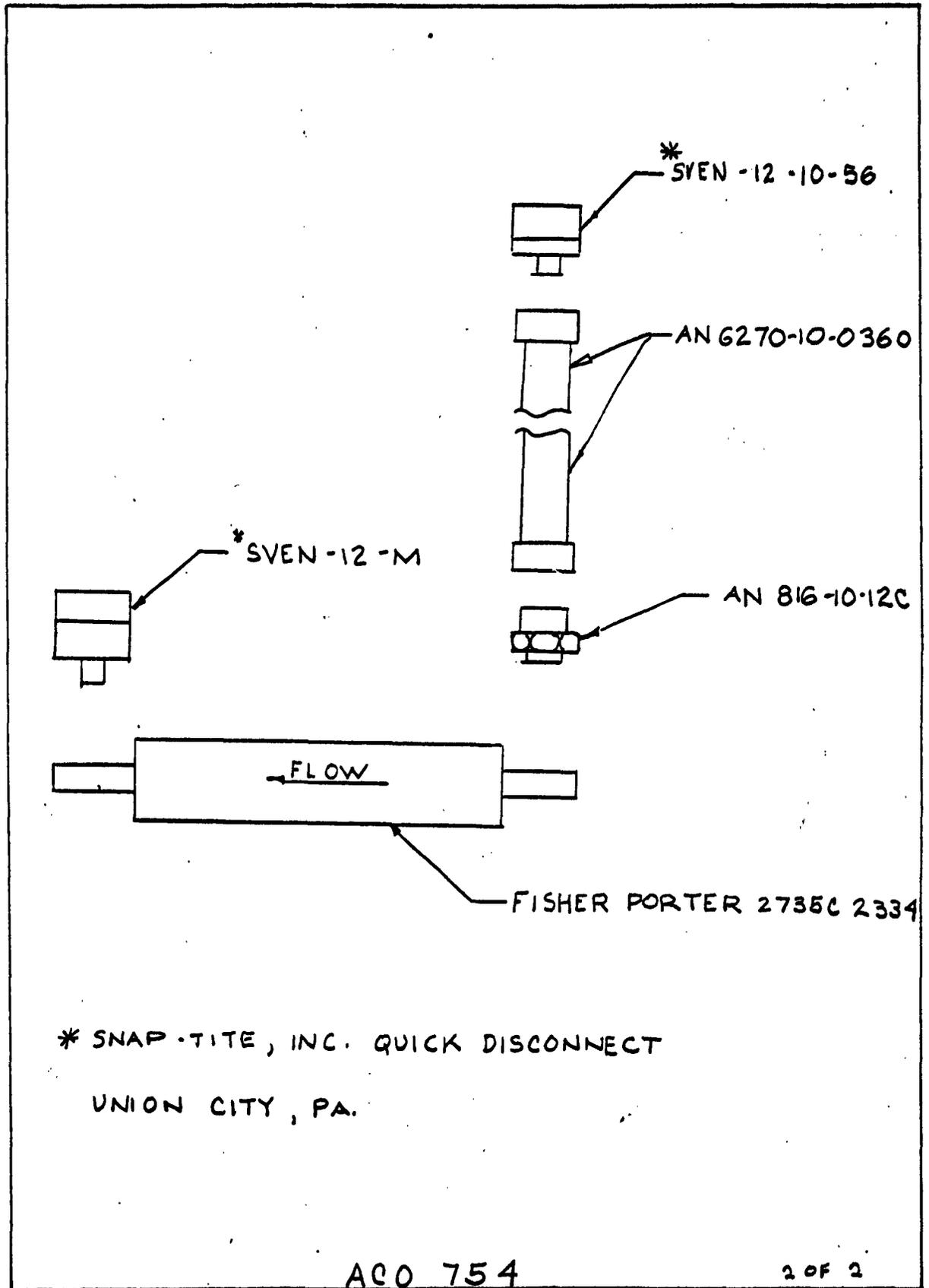
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-MAR 18 1963
REV. 12-12-2

BOEING NO. 7
PAGE 754

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W.P. BLAIR REVISION
6. A. STAPLES 9/25
5-6434
TELEPHONE: 5-6692



* SNAP-TITE, INC. QUICK DISCONNECT
 UNION CITY, PA.

ACO 754

2 OF 2

U2-4071-1000 Rev 6-29-62
 MAR 18 1963

BOEING NO. D2-11713-2
 PAGE 754-a

WS 133A

ACO NUMBER 755

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-30-62

REVISION _____ DATE _____

EQUIPMENT TITLE Bimetal Thermometer
(Basic Item First)

RESPONSIBLE DEPT. BI/M/1117 EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 1		X 1	X 1				

NOTE: Use form U2-4071-1000 if additional sheets are required.

PURPOSE & JUSTIFICATION

To determine the temperature of the water in the reservoir (Fig. A 1317) during checkout of the Guidance Section Liquid Cooler, Fig. A 1214), at LF.

This is "work around" equipment results from Action Assignment OSB-3.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Range 25° to 125°F

Accuracy ± 1% of full scale.

Recommend Weston Bimetal Thermometer, Model 4310; stem length: 24 inches; 1/2" NPT, stainless steel connection nut.

1 Interim equipment until 3035 becomes available.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Boston</i>	<i>A. M. Keen</i>	<i>A. E. Greiser</i>	<i>R. Eastep</i>

2-4340-0-MAR 18 1963 4-6-62
REV.

BOEING NO. DE-11713-2
PAGE 155

ORIGINALING GROUP SUPERVISOR: G. R. SWANSON
TELEPHONE: 506678

WS 133A

ACO NUMBER 756

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-29-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 2-1-3

EQUIPMENT TITLE Breakout Box, Explosive Set Circuitry Test Set
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 25-27919

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			None	None	None
						B	B	B

PURPOSE & JUSTIFICATION

To provide the capability of testing the hazardous current test leads of the Fig. A 3007 test set. This test must be performed with an interim breakout box until a self test capability is incorporated into the Fig. A 3007 test set, per ECP 111.

Reference: Document D2-12054

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A breakout box containing the following equipment will satisfy this requirement:

One Connector MS3102R-14S-2S/MS3102E-14S-2S

One Connector BACC4,5CM28AO6S

One Connector BACC4,5CK16AO5S

One Connector BACC4,5CK24A27S

One Connector BACC4,5DS12BO2S

34 Standard Banana Jacks

Each Jack shall be identified with the same nomenclature as the connector pin to which it is wired.

Each section of the Breakout Box shall be identified by the large connector designation, as shown on sheet 2.

The above equipment generated by work-around plan IP-198 and PRR 10796 for VAFB, MAFB and EAFB. PRR 10 for BATE.

SHT 1 of 2

ENGINEERING DEPT. <i>H. H. Boston</i>	BASE INSTALLATION DEPT. <i>W. R. Blair</i>	MANUFACTURING DEPT. <i>G. E. ...</i>	FACILITIES DEPT. <i>...</i>
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2-4340-0-1 MAR 18 1963

REV. 2-14-3

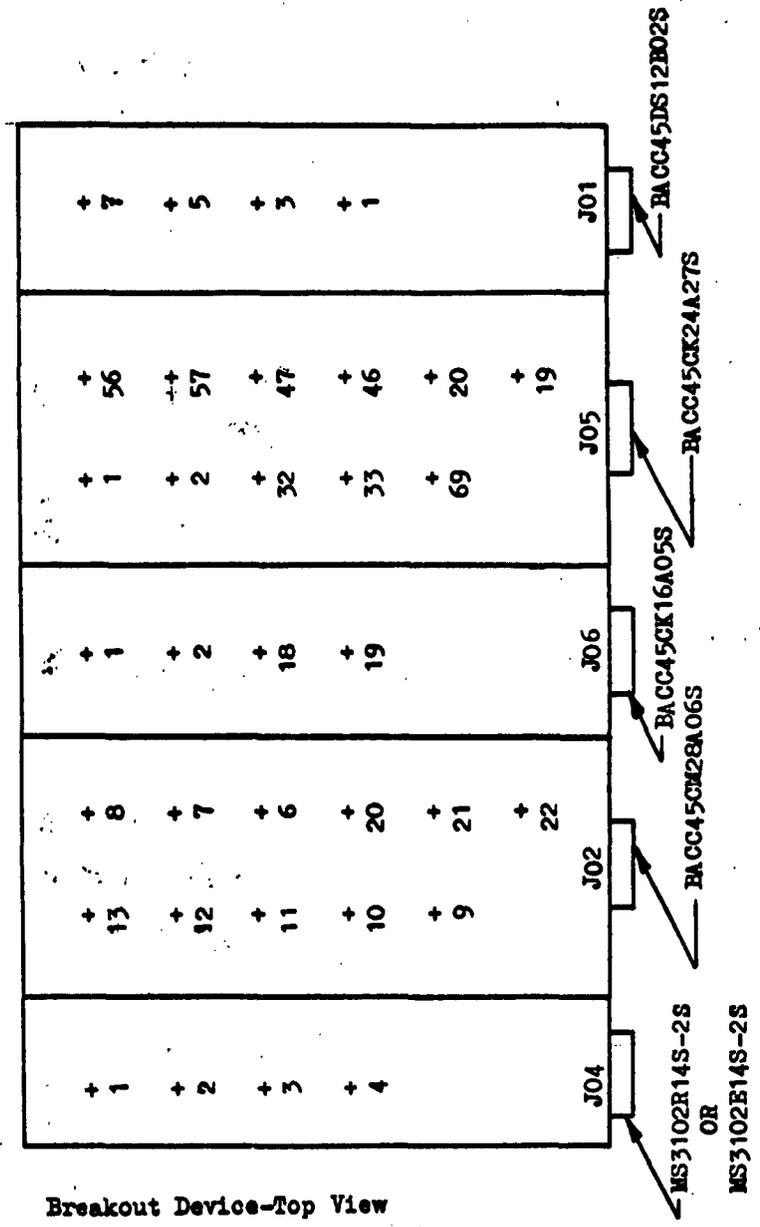
BOEING NO. D2-11713-2
PAGE 756

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. Blair Rev. B

TELEPHONE: 5-6696 W. R. Blair 5-6786

col



Breakout Device-Top View

NOTE: Physical arrangement may be revised to facilitate connector installation

POC

WS 133A

ACO NUMBER 759

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-3-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Kit, Test Adapter, Command Signal Decoder Drawer
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-32171-25, 25-32172-25

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION The BC-1 Volatile Decoder Drawer will be phased into Malmstrom near the end of the A&CO program. Prior to this incorporation, the pre-BC-1 Decoder Drawer (ACO-727 - RCA P/N 8321660-501) will be used to support system checkout requirements. The Command Signal Decoder Drawer Test Adapter Kit is required for CSA maintenance and checkout of ACO-727.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The above requirement shall be satisfied by means of an Adapter Kit. Two components comprise the Adapter Kit, as follows:

- (1) Tape (For C-91 Console) BAC P/N 25-32171-25
- (2) Patch Board (For ACO-4018) BAC P/N 25-32172-25

The above components had been developed for pre BC-1 SCM equipment and are identified by Boeing P/N as indicated.

NOTE: ACO 759 will be used in conjunction with ACO 760 for performing automatic checkout and maintenance of ACO-727 units with the ACO-4018 (Adapter, Electronic Programming Test Center).

This item was generated as a result of the work around required for the Command Signals Decoder, part of Fig. A 1228 (Ref. IP-14, D2-20633 item 3).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

[Handwritten notes] Added 7-3-62

MAR 18 1963

BOEING NO. D2-11713-2
PAGE 759

NOTE: Use form UJ-4071-1000 if additional sheets are required.

W.R. Blair WR Blair 4/19

ORIGINATING GROUP SUPERVISOR:

TELEPHONE: 5-6696

596

WS 133A
**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 760
APPROVAL DATE 7-3-62
REVISION _____ DATE _____

EQUIPMENT TITLE Adapter, Test MX-3769/GYK-2
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 8622833-501 (RCA)

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

The BC-1 Volatile Decoder Drawer will be phased into Malmstrom near the end of the A&CO program. Prior to this incorporation, the pre-BC-1 Decoder Drawer (ACO-727 - RCA P/N 8321660-501) will be used to support system checkout requirements. The Test MX-3769/GYK-2 Adapter is required for CSA maintenance and checkout of ACO-727.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The above requirement shall be satisfied by means of a Test Adapter. This adapter had been developed for the pre-BC-1 SCN configuration and is identified as RCA P/N 8622833-501. This item and its controlling documentation will be procured from RCA.

NOTE: ACO 760 will be used in conjunction with ACO 759 (Kit, Test Adapter, Command Signal Decoder Drawer) for performing Automatic checkout and maintenance of ACO-727 units with the ACO-4018 (Adapter, Electronic Programming Test Center).

This item was generated as a result of the work around required for the Command Signals Decoder, part of Fig. A 1228 (ref. IP-14, D2-20633 item 3).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

REVISED 18 1963
Added 7-13-62

NOTE: Use form U2-4071-1000 if additional sheets are required.

4119
 W.R. BLAIR
 ORIGINATING GROUP SUPERVISOR:
 TELEPHONE: 566916
 6096

WS 133A

ACO NUMBER ACO 761

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-24-63

EQUIPMENT REQUIREMENTS

REVISION A DATE 10-5-2

EQUIPMENT TITLE Adapter Kit, Pull Down T.E. Proof Load VAFB Launch Tube
(Basic Mount Firing) Installation

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT N/R DWG NO. ME 25-36905

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE & JUSTIFICATION An Adapter Kit is required to proof load test the transporter erector and its emplacement sling at launcher No. 6 at VAFB. The kit items will adapt ACO 216 missile suspension loading fixture components for use in fulfilling requirements of test procedure identified on interim procedure No. 29.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The kit components shall be used in conjunction with existing functional components of ACO 216 fixture in so far as is possible. Installation of Fig. "A" 1322 high over pressure mount system, which limits downward movement of the T.E. sling ends to a low enough level to adequately test the hoist system with the existing ACO 216 configuration, will require application of test load in two stages. Kit items are identified in their installed test position on sht. 3 and 4 and are described below.

The same load test shall be performed at MAFB where the launcher configuration is different than that of VAFB launcher No. 6. This difference precludes the use of an intact kit of ACO 761 items at MAFB; but where similarities exist in the two test set ups the kit items of ACO 761 will be identical to those of MAFB kit ACO 762. The kit items are to be as follows:

Item No. 1 The T. E. Sling Adapter shall transmit the applied single point load imposed upon it by ACO 216 actuator through an extension cable assy. (item 2) to the terminal ends of tie sling rods. The sling rod attach fittings shall consist (A) A set of (4) four attach points corresponding to the location of the (2) two pairs of T. E. lower sling rods. (B) A set of (2) two attach points corresponding to the location of the junction point of the upper hoist rods and pairs of lower hoist rods. The adapter will first attach to the four lower missile emplacement sling rod end attachments with the T.E. hoist partially extended and the adapter installed in test position as shown on sht. 3. Following this test, the four lower rods of the sling will be removed and the lowering cables with the adapter attached to the emplacement sling will be fully extended as shown on sht. 4. SHT 1 of 4

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edmond Hollister</i>	<i>W. H. ...</i>	<i>A. E. ...</i>	<i>R. Estep</i>

2-6340-1

REV. 10-16-2
MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1 of 761

NOTE: Use form US-4071-1000
If additional sheets are required.

Vertical handwritten notes on the left margin, including "P. Mineman" and "3-11-63".

Item No. 2 The extension cable assy. connects the sling adapter to ACO 216 hydraulic actuator rod end through adapter clevis (Item 3).

Item No. 3 The cylinder rod clevis will adapt the threaded cylinder piston rod end of ACO 216 hydraulic actuator to the terminal end of cable assy. (Item 2). Existing ACO 216 fitting is not suitable for this operation. (This item shall be used in ACO 762 kit for MAFB).

Item No. 4 The cylinder anchor assy. adapts the clevised end of ACO 216 cylinder to the ACO 746 attach plate for purpose of reacting the test load. (This item will be used for ACO 762 kit for MAFB).

Item No. 5 The ACO 216 cylinder will be supported by the stabilizer assy. after it is attached to the installed anchor assy. (Item 4) to permit the removal of the installation sling from the cylinder rod clevis (Item 3) prior to attachment of Item 2 (The cylinder stabilizer assy. will also be used in ACO 726 kit for MAFB test set-up).

The load pulling elements of the kit, Item No.'s 1, 2, 3, & 4 shall be capable of transmitting a normal load of 120 kips.

Maintenance required to support kit on site - none.

Proof load testing - recommend factory test only.

ACO 761
Sht. 2

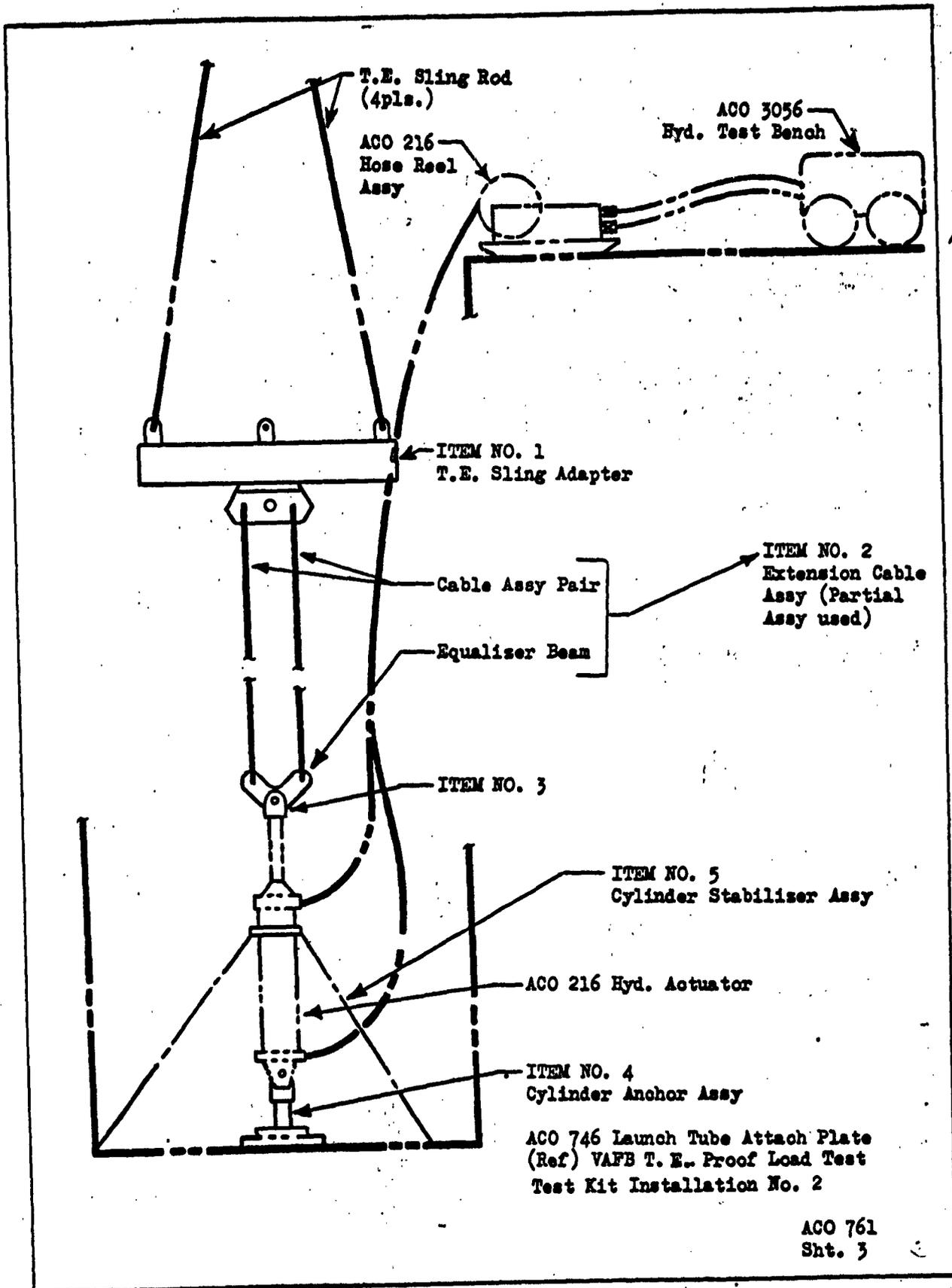
MAR 18 1963

REVISED 10-16-2

US 4300 2000 (WAS BAG 41310)

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| SEC.

NO D2-11713-2
PAGE 761a



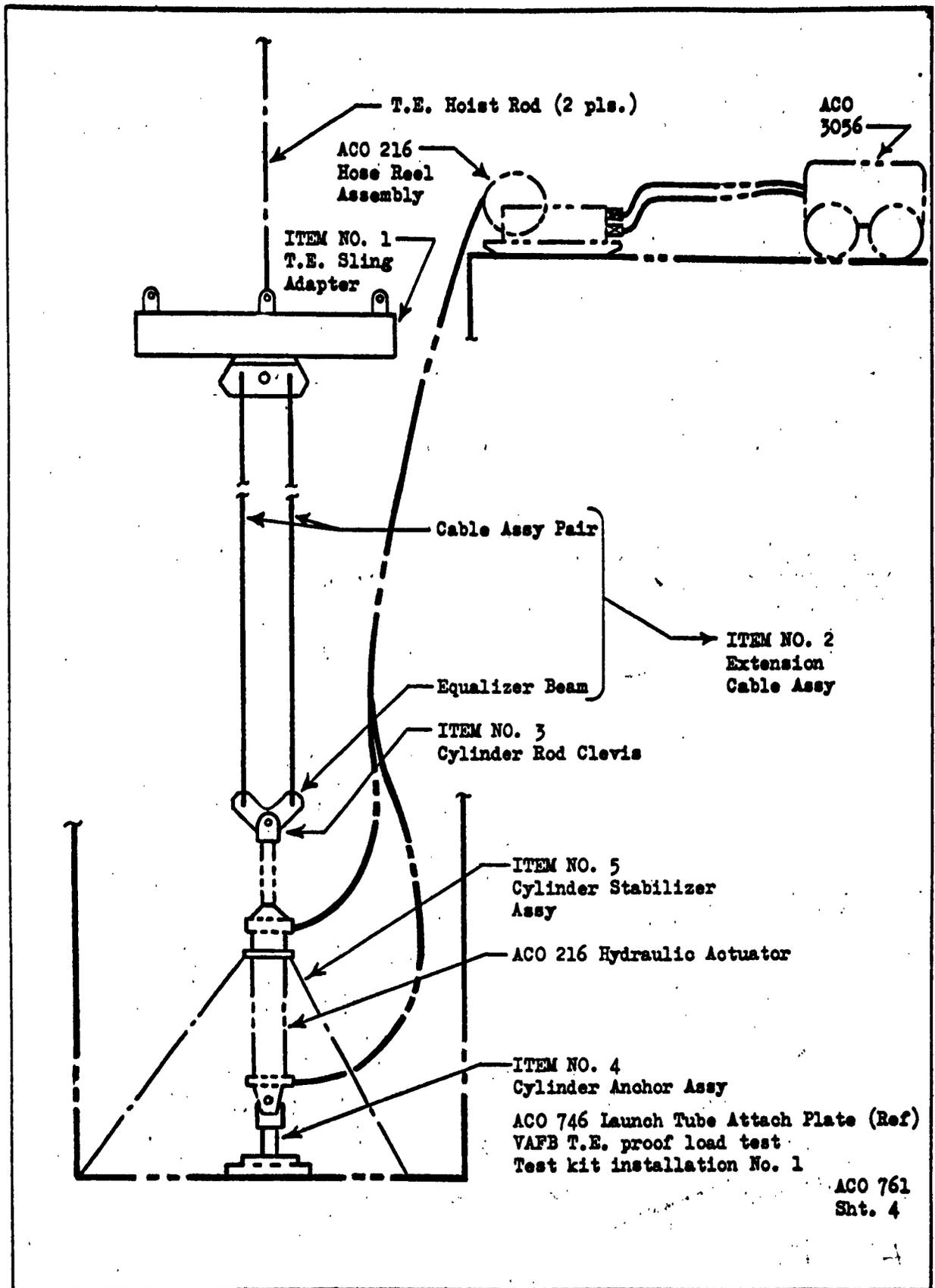
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 MAR 18 1963

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 SEC

NO D2-11713.2

PAGE 761b



dlc-370

REVISED 10-16-2
 MAR 18 1963
 U3 4200 2000

WS 133A

ACO NUMBER 762

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-24-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 10-5-2

EQUIPMENT TITLE Adapter Kit, Pull Down T.E. Proof Load MAFB Launch Tube
(Basic Non First) Installation

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT N/R DWG NO. MTE 25-36906-954

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X							

NOTE: Use form UP-4871-1000 if additional sheets are required.

PURPOSE & JUSTIFICATION An adapter kit is required to proof load test the transporter erector and its emplacement sling at vacated launcher at MAFB by adapting ACO 216 missile suspension loading fixture components to test requirements of test procedure (IP-29).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The kit components shall suit the configuration of a vacated launcher at MAFB in which Figure "A" 1362 brackets are installed.

Existing components of ACO 216 fixture should be used in so far as practical. Component item designs shall be identical to those utilized in ACO 761 wherever possible.

The kit components shall be comprised of the items depicted on sht. 3 and described below.

Item No.'s 1, 3, 4, & 5 shall be identical to the corresponding item no.'s described on ACO 761 equipment requirement shts.

Item No. 8 The restraint beam will be bolted temporarily to the Fig. "A" 1362 brackets. ACO 216 hydraulic actuator will then be attached to the restraint beam by utilizing item No. 4, the cylinder anchor assy. The adapter shall be capable of being lowered into the launcher by a conventional truck with an attached boom and be positioned to attach to the installed Fig. "A" 1362 brackets. The adapter shall provide a central attach point similar to ACO 746, for Item No. 4. When in position it shall lock to the installed Fig. "A" 1362 brackets thereby holding its correct position for T. E. proof load testing.

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Estes J. Hallinan</i>	<i>W. M. ...</i>	<i>G. E. ...</i>	<i>R. Estep</i>

2-6340-0-1

REV. MAR 18 1963

BOEING NO. D2-11713-2 PAGE 762

ORIGINATING GROUP SUPERVISOR: TELEPHONE:

Sheet no 751

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When ACO cylinder is attached, through item No. 4, the adapter shall also provide the support to hold ACO 216 cylinder in the correct position for attachment of the T.E. hoist cables or missile emplacement sling at the upper end. The restraint adapter shall transmit the load applied by the ACO 216 Missile Suspension System Loading Fixture to the installed Fig. "A" 1362 brackets. The load shall be applied to the bracket at a distance from the launcher wall not exceeding that at which the Fig. "A" 1204 Suspension System Spring Load is normally applied. The interface between the adapter and the brackets shall be such that only negligible loads will be transmitted to the bracket in any direction other than the vertical. Further, tolerance shall be provided to prevent the restraint adapter from interfering with and applying a load to the leading or inner edge of the Fig. "A" 1362 bracket as the adapter deflects upward when subjected to a proof test load.

The restraint adapter shall be capable of transmitting a normal test load of 120 kips.

Field maintenance required - none required.

Load testing required - recommend factory test only.

ACO 762
Sht. 2

MAR 18 1963

10-15-2

REVISED

US 4328 2000 (WAS SAC 4131D)

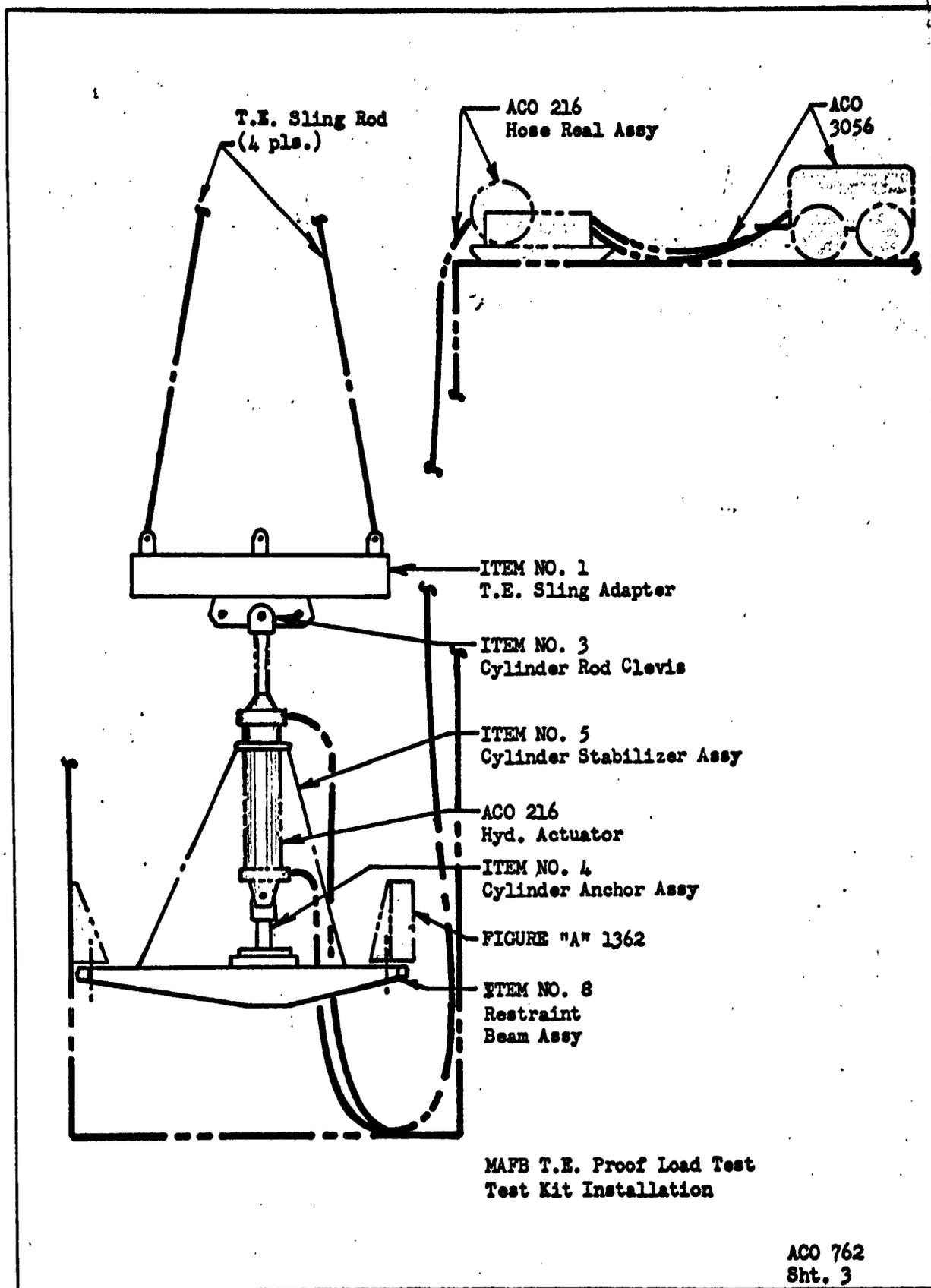
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NO D2-11713-2

SEC.

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MAFB T.E. Proof Load Test
Test Kit Installation

ACO 762
Sht. 3

52

REVISIONS
 MAR 10 1963
 10-16-62
 U3 4200 2000

WS 133A

ACO NUMBER 769
APPROVAL DATE 4-20-62
REVISION A DATE 7/20/62

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE Reservoir
(Basic Mean First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OE

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	▷		▷		▷			

PURPOSE & JUSTIFICATION

The reservoir will be used as a water supply and sump during acceptance tests on the Guidance Section Liquid Cooler (Fig. A 1214) at the CSA.

Ref: D2-10735, "AFTP - Cooler, Liquid, Guidance Section"

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The reservoir must have a 15-20 gallon capacity. It shall be made of PVC, normal impact, rigid, Van Cor plastic. A PVC plastic tee, 3/4" diameter I.D., shall be located on the top at the side opposite the water outlet, to provide for a water inlet. A PVC plastic nipple, 1/2" I.D., shall be located 2" from the bottom on one side of the reservoir to provide a water outlet. A 1/2" NPT.D. PVC plastic Boss shall be located near the water outlet so a temperature sensor (ACO-749) shall be installed in the reservoir.

NOTE: Prior to use, this item shall be flushed with deionized water until the effluent contains less than 5 ppm of dissolved solids.

▷ This is interim equipment which may be substituted in conjunction with ACO's 752, 754, 719, 750, 751, 749, and 753 until ACO 4150 G&C Cooling Test Bench is available.

The following equipment will satisfy this requirement:

1. Griffith's Plastics
4001 7th South
Seattle 8, Washington
2. Cat. No. - 24-AY

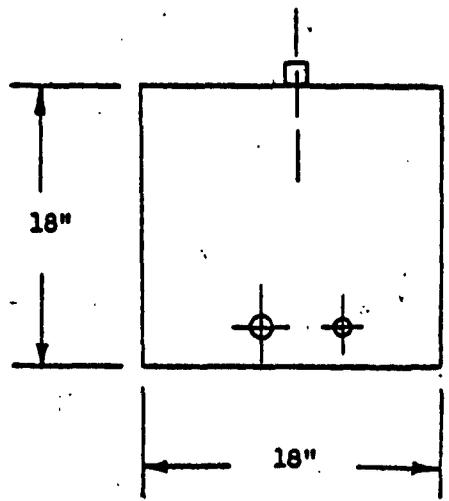
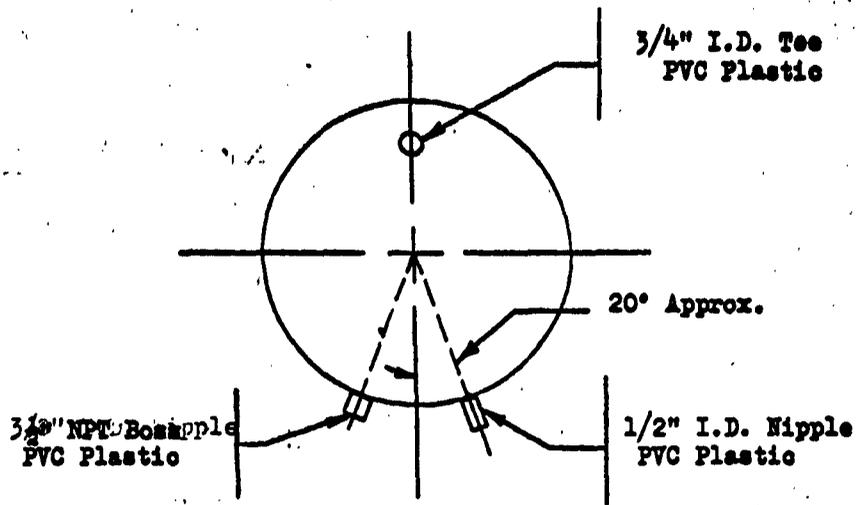
SHT 1 of 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Barton</i>	<i>W. Munn</i>	<i>A.E. Brewer</i>	<i>R. Estep</i>

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U.S. Defense for E. Europe
 NOTE: Use form U2-0071-1000 if additional sheets are required.
 Rev. *Stasny* 2-18-60
 ORIGINATING GROUP SUPERVISOR: G. R. Swenson, TELEPHONE: 5-6670
 hvc



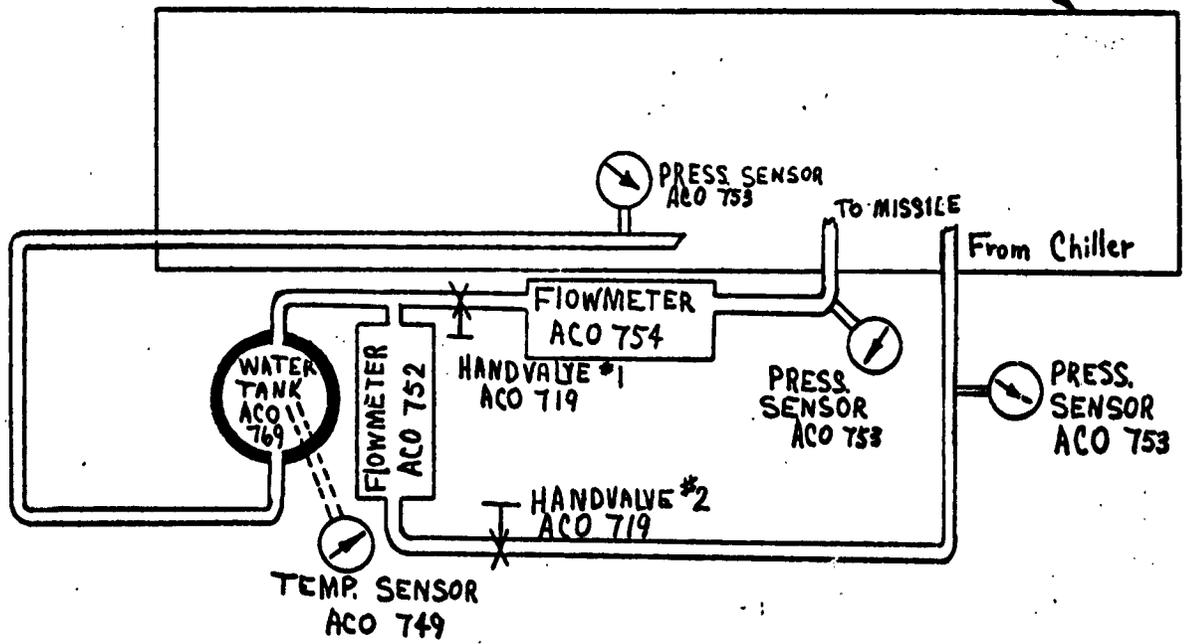
- NOTES: 1. Material: PVC, Rigid, Normal Impact, VanCor (or equivalent) Plastic.
2. Cap all fittings with appropriate plastic caps for cleanliness.

ACO-769
Page 2 of 3

Rev 8-3-62
REVISOR MAR 18 1963
U3 4200 2000

2075

Guidance Section Liquid Cooler



Schematic showing water tank, ACO 769, in the circuit used to conduct functional test on the Guidance Section Liquid Cooler.

ACO-769 Sht 3 of 3

Rev 8-3-62
 REVISED MAR 18 1963
 U3 4200 2000

ACO

WS 133A

ACO NUMBER 773

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-30-62

REVISION _____ DATE _____

EQUIPMENT TITLE PROBE, AC CURRENT
(Book Name First)

RESPONSIBLE DEPT. BI-MR 12 EQUIP. CLASSIFICATION SFC/OH / CM

DESIGN REQMS DOCUMENT NONE DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

A requirement exists to measure AC peak transient current (1-500 ma) during functional testing of all the Figure A 1201 logic drawers. This item is required to support the Figure A 4018 Work-Around which results from PRR 10396 and OSB-301.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The AC current probe must have the following characteristics:

1. Measure peak transient current in a loop without physically interrupting the loop. The output of the probe must be a voltage function suitable for presentation on an oscilloscope or a VTVM.
2. Accuracy and Sensitivity - 1 mv/ma \pm 1% at 1KC.
3. Frequency response - \pm 2%, 100 CPS to 3 MC.
4. Pulse response - Rise-time less than 20 nsec, sag less than 16%/msec.
5. Output Impedance - less than 1K from 100 CPS to 3 MC.
6. Range - 1ma to 1 ampere rms.
7. Effect of DC current - No appreciable effect from DC current up to 0.5 amperes.

The following test equipment will meet the requirement for Figure A 4018 Work-Around:

1. Hewlett Packard Model HP456A
2. Tektronix Model P6016 with Type 131 Amplifier SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Baxter</i>	<i>D. W. Moore</i>	<i>J. C. Bulsant</i>	<i>D. Coster</i>

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PAGE 1773

NOTE: Use form UD-4071-1000 if additional sheets are required.

52/15

ORIGINATING GROUP SUPERVISOR: W. E. Incey

TELEPHONE: 5-6795

L.C.

Revision C
R. E. Shelley
5-4917

NOTE: Use form D2-4071-1000
if additional sheets are required

ORIGINATING GROUP SUPERVISOR: J. N. Herrity
TELEPHONE: JU 5-5324

WS 133A		ACO NUMBER <u>776</u>						
ASSEMBLY & CHECKOUT		APPROVAL DATE <u>3-30-62</u>						
EQUIPMENT REQUIREMENTS		REVISION <u>C</u> DATE <u>3-26-3</u>						
EQUIPMENT TITLE <u>BRIDGE, RESISTANCE</u> <small>(Basic Name First)</small>								
RESPONSIBLE DEPT. <u>BID</u>	EQUIP. CLASSIFICATION <u>SEC/OH</u>							
DESIGN REQMTS DOCUMENT <u>NONE</u>	DWG NO. <u>NONE</u>							
TO BE USED AT:								
BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
X	X	X	X			X	X	X
<p>PURPOSE & JUSTIFICATION</p> <p>A requirement exists to measure precision resistors, $\pm 0.02\%$, 1 ohm to 200 K, during functional testing of Logic Module Assembly and Fault Locator Assembly of Figure "A" 4018.</p> <p>This item is required to support the Figure "A" 4018 work-around which results from PRR 10396 and OSB-301.</p> <p>DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:</p> <p>The resistance bridge must have the following characteristics:</p> <ol style="list-style-type: none"> 1. Over-all accuracy $\pm 0.01\% \pm 1$ dial division. 2. Resistance range - 1 ohm to 200 K minimum. 3. Stability - long term stability $\pm 0.003\%$. <p>The following equipment will meet this requirement.</p> <ol style="list-style-type: none"> 1. Electro Scientific Industries Model 231. 								
SHT <u>1</u> OF <u>1</u>								
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.					
<i>A. H. Baxter</i>		<i>C. D. Mann</i>		<i>G. E. Brewer</i>		<i>A. H. Nerald</i>		

2-6346-0-1

REV. 4-4-3

678

WS 133A

ACO NUMBER 775

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 3-3#2

REVISION A B DATE 10-5-2

EQUIPMENT TITLE ATTENUATOR, VIDEO
(Basic Nom Plot)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SPC/OH

DESIGN REQMTS DOCUMENT NONE DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X1	X	X1				

PURPOSE & JUSTIFICATION

A requirement exists to perform transmission loss and gain measurements during functional test of RCA portable test set, Figure A 4012.

△ This item is required to support Figure A 4018 work-around which results from PRR 10396 and OSB-301.

A requirement exists to attenuate the signal from Audio Oscillator ACO-368 to a -45 dbm during integration testing of the 465L line equalization tests.

Ref: D2-9262 Vol. V

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The video attenuator must have the following characteristics:

1. Input and output impedances - 600 ohms.
2. Attenuation - 111 db in 0.1 db steps.
3. Number of dials - 3.
4. Attenuation accuracy - ± 0.1 db at 100 CPS when terminated by a pure resistance.
5. Frequency response - ± 0.5 db error maximum from 0 to 0.5 mc at any attenuation.

The following equipment will meet the requirement for Figure A 4018 work-around:

1. Daven attenuator network type VT-795-G.
2. General Radio Type 1450-TB.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edwin J. Hollister</i>	<i>W. M. ...</i>	<i>A. E. ...</i>	<i>R. Estep</i>

2-6340-1

REV. 10-16-22

MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1 OF 1 775

NOTE: Use form D2-4071-1000 if additional sheets are required.

Rev. B: J. J. Fibrel

ORIGINATING GROUP SUPERVISOR: M. LAEY

TELEPHONE:

WS 133A

ACO NUMBER 776

ASSEMBLY & CHECKOUT

APPROVAL DATE 3-30-2

EQUIPMENT REQUIREMENTS

REVISION B DATE 12-7-2

EQUIPMENT TITLE PLUG-IN UNIT, OSCILLOSCOPE
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION STC/OE

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X			X	X	X

PURPOSE & JUSTIFICATION

There is a requirement for a means of displaying very low voltages on an oscilloscope for use in conjunction with Test Bench ACO 4152 during test and maintenance of many items of Figure A/ACO equipment. It also is needed to support Figure A 4018 Work-Around (Ref. PRR 10396). Required also for test of Figure A/ACO 3109 and for test of the Sylvania Security System.

Ref. Doc: D2-7830-4, D2-13794 and D2-10825

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that a commercially available plug-in unit, with the following characteristics, be provided for use with ACO 4004, Oscilloscope:

1. AC-Coupled Deflection - 0.005 V/CM minimum
2. DC-Coupled Deflection - 0.05 V/CM minimum
3. Risetime, AC Coupled - 0.015 USEC maximum
4. Risetime, DC Coupled - 0.012 " "
5. Input - Single or Double
6. Compatible with ACO 4004 Oscilloscope

The following equipment will satisfy this requirement:

1. Tektronix Type "L" Plug-In unit

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

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REV. 12-12-2

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PAGE 776

NOTE: Use form UD-8071-1000 if additional sheets are required.

10-1

REV. "B" - R. E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: _____ TELEPHONE: _____

[Handwritten initials]

WS 133A
 NOTE: Use form UD-071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. BLAIR
 TELEPHONE: 5-6696
 Rev B' A.D. No. 3-036-B

WS 133A						ACO NUMBER <u>777</u>
ASSEMBLY & CHECKOUT						APPROVAL DATE <u>6-8-62</u>
EQUIPMENT REQUIREMENTS						REVISION <u>B</u> DATE <u>7-24-62</u>
EQUIPMENT TITLE <u>Power Supply, Portable, G&C Coupler Test Set</u> (Basic Name First)						
RESPONSIBLE DEPT. <u>Engineering</u>			EQUIP. CLASSIFICATION RATE <u>2</u>			
DESIGN REQMTS DOCUMENT _____			DWG. NO. <u>Automatics</u>			
TO BE USED AT:						
BASE	MAFB	EAFB	VAFB	STP III	PLT 77	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	
	▶		▶	▶		
PURPOSE & JUSTIFICATION						
<p>A work-around power supply is required at MAFB to satisfy the power requirements of the G&C Coupler Test Set until the Portable Common Power Supply, ACO-4523, is available. The work-around plan for the use of this item is contained in IP-6.</p>						
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:						
<p>It is recommended that commercially available power supplies with suitable adapter cables for mating with ACO-695 and power outlets in CSA and the LF be provided.</p> <p>ACO-777 shall be capable of providing the G&C Coupler test set with the following voltages:</p> <ul style="list-style-type: none"> a. 28 VDC ± 4.2 V, 1.0 ampere, 2.8 V pp ripple, maximum b. 18 VDC ± 2.7 V, 1.5 ampere, 1.8 V pp ripple, maximum c. 10 VDC ± 5% 1.25 ampere, 100 mv pp ripple, maximum d. -10 VDC ± 5% 3.0 ampere, 100 mv pp ripple, maximum e. 120 VAC ± 10%, 0.5 ampere, maximum 60 cycles, single phase <p>▶ This is interim equipment which may be substituted for Fig. A/ACO 4523. Replacement by 4523 is not technically required.</p> <p>Reference: Interim Procedure Plan No. IP-6, D2-20633.</p> <p>Interim Requirements Group Approval <u>W. Bantoo</u> for W. E. Blair</p> <p>▶ This item is OFP to Boeing. Engineering responsibility is for technical coordination only. BI-MM is responsible for procurement under normal organizational responsibilities (Prior to initiating procurement action BI-MM should coordinate with PMO).</p>						
SHT <u>1</u> OF <u>1</u>						
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.			
<u>W. Bantoo</u>	<u>W. Bantoo</u>	<u>A. E. Collier</u>	<u>T. Lyons</u>			

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 REV. MAR 18 1963

WS 133A

ACO NUMBER 780

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-20-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Cover, Environmental, T-E to Launcher
(Basic Non First)

RESPONSIBLE DEPT. Engr. EQUIP. CLASSIFICATION BATA

DESIGN REQMTS DOCUMENT _____ DWG NO. 25-36342

TO BE USED AT: Reference PRR 10,925

BASE	MAFB	EAPB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X 1							

PURPOSE & JUSTIFICATION To provide environmental protection of the launcher equipment and Minuteman missile during missile emplacement or replacement at MAFB. This cover restricted to launchers which have not been modified to include the ECP 99 and 199 hardware changes.

This equipment required in lieu of ACO 4278 as stated on interim procedure No. 218.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: This assembly is to be constructed from the following basic components:

- 25-36342-1 cover assembly
- A plywood adapter which attaches the 25-36342-1 cover assembly to the T-E.
- Adapters which attach the 25-36342-1 cover assembly to the tie downs provided around the launch tube. These adapters are required to adjust the out-of-tolerance condition of the launcher tie downs which are not within the specified tolerance of the A-E drawings.

Design and Manufacture of Items two and three above permitted at MAFB. Item 1 of ACO 780 was formerly operational units thru 8 of 25-27407-1. No additional 25-27407 -1 should be fabricated to satisfy Item 1 requirements of ACO 780.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Barton</i>	<i>W.D. ...</i>	<i>A.E. ...</i>	<i>M. ...</i>

2-4340-0-1 Added 8-3-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 1780

NOTE: Use form UD-4071-1000 if additional sheets are required.
Mr. P.B. ...
P.D. ...
for ...
ORIGINATING GROUP SUPERVISOR: _____
TELEPHONE: 5-6696

WS 133A

ACO NUMBER 781

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 9-11-2

REVISION B DATE 11-13-2

EQUIPMENT TITLE Kit, Manual VCP Setter
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. 29-25585-6

TO BE USED AT: Ref: PRR 10521 R1

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X				

PURPOSE & JUSTIFICATION

The Manual Volatile Code Pack Setter is required to facilitate Volatile Code Pack (Part of Fig. A 1228), Code Setting as required by IP-244 (Ref: D2-20633).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended, a Manual Code Setter as shown on 29-25585-6 Assembly, be provided to fill this requirement.

A readily available commercial carrying case shall be provided to house the above components.

IP-244 Rev. A (9-21-2) has been released to show ACO 781 as a basic item to be used throughout Assembly and Checkout - PRR 10521 R1 incorporates the change.

Designed under ECP 101.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1
REV. MAR 1 R 1953 11-13-2

ENGINEERING NO. D2-11713-2
PAGE 1 781

NOTE: Use form 13-4871-1000 if additional sheets are required.

Rev "B" R. E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: _____
TELEPHONE: _____

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WS 133A

ACO NUMBER 782

ASSEMBLY & CHECKOUT

APPROVAL DATE 9-11-2

EQUIPMENT REQUIREMENTS

REVISION A DATE 10-2-2

EQUIPMENT TITLE Shutter, Code Pack
(Basic Item First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT NA DWG NO. 29-28806-1

TO BE USED AT: Ref: PRR 10521R1

BASE	MAFB	EAFB	VAFB	STP III	PLT 77		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162		
	X	X	X	X			

PURPOSE & JUSTIFICATION

The code pack shutter is required to facilitate Volatile Code Pack, VCP (part of Fig. A 1228), code setting and VCP assembly to the Command Signals Decoder, CSD (part of Fig. A 1228), as required by IP-244 (ref. D2-20633). The code pack shutter is also required to permit removal of VCP units from Fig. A 1228 after it is received at the CSA - initial Fig. A 1228 units (Command Signal Decoders) are being delivered with VCP's assembled to the CSD; the code pack shutter provides the only mechanism for removing the VCP's from the CSD's.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The code pack shutter shall be similar to the shutters provided with Fig. A 4584, and identified by P/N 29-28806-1.

Procurement and disposition of the code pack shutters shall be in accord with work around plan IP-244, D2-20633.

IP-244 Rev. A (9-21-62) has been released to show ACO-782 as a basic item to be used throughout assembly and checkout - PRR 10521-R1 incorporates the change.

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: W. R. Blair
TELEPHONE: 5-6786

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W. R. Blair</i>	<i>W. R. Blair</i>	<i>A. C. Brewer</i>	<i>R. Estep</i>

2-4340-0-1

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MAR 18 1963

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WS 133A

ACO NUMBER 783

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 10-2-8

REVISION _____ DATE _____

EQUIPMENT TITLE Tester, Alarm Set Test Set
(Basic Non First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. 25-36108

TO BE USED AT: Ref: PRR 11116, Results from ECP 176

BASE	MAFB	EAPB	VAPB	STP III	PLY 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X		X					

PURPOSE & JUSTIFICATION

This tester will be used in a work-around test procedure which will be in affect until ACO 4152 is available. Ref: PRR 254.
 This tester is required to breakout connector terminals on Fig. A 3109 to allow connection of test equipment without probing pins.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The following equipment will satisfy the requirement:

1. An Engineering mockup of the tester for the Alarm Set Test Set, Fig. 3109, is available and suitable for use at MAFB as a substitute for that portion of ACO 4152 which will not be available to meet on dock dates for Fig. A 3109. This tester, consists of a breakout box and an etched circuit card. It is used to test the fault locator of Fig. A 3109.
2. Two Adapter Cables.
(see sheet 2 for requirements)

Ref: IP 254.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>M. J. ...</i>	<i>A. C. ...</i>	<i>R. ...</i>

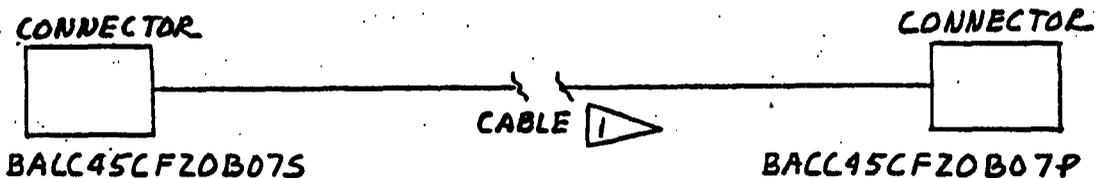
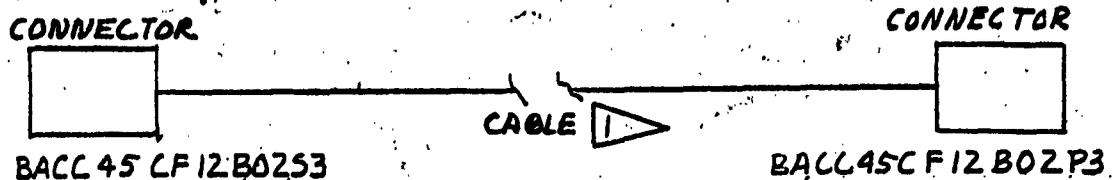
NOTE: Use form UD-8071-1000 if additional sheets are required.

INITIATING GROUP SUPERVISOR: W. Z. HUDSON
TELEPHONE: 5-2880

2-6340-0-1
REV. 10-16-2
MAR 18 1963

BOEING NO. D2-11713-2

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS: (CONT.)



ADAPTER CABLES

▶ CABLE WIRES ARE CONNECTED TO LIKE NUMBER SOCKETS & PINS IN CONNECTORS.

ACO-783
SHT 2 OF 2

REVISED 10-16-2
MAR 18 1963
US 4200 2000

BOEING

VOL.
SEC.

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PAGE 783a

WS 133A

ACO NUMBER 784

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION A DATE 1-22-63

EQUIPMENT TITLE Sling, Dummy G&C Section
(Basic Non First)

RESPONSIBLE DEPT. Manufacturing EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. ME 25-36926

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-7942	D2-11162			
	X	None	None	None				

Results from CCP 1007. See IP-298

PURPOSE & JUSTIFICATION

A sling is required to raise and hold dummy G&C Sections (ACO 636) to position for attachment to missiles when the missile is in the horizontal position in an SSCBM. The sling is required because of the weight of the dummy G&C Section and the restricted access to attach points which would result if the dummy G&C were held in position manually.

The need for this equipment results from receipt of missiles at MAFB without G&C Sections, prior to availability of ACO 4053.2.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This item is a strap type sling compatible with ACO 636, (light weight interim, MAFB version) with sufficient strength to handle the light weight ACO 636, (approximately 130 pounds). It shall be a spreader bar type sling with strap type attachments to the Dummy G&C Section. The sling shall be stenciled or labeled "For use with ME 25-36925 only" to avoid the possibility of using it with the full weight ACO 636.

The sling shall be sized so it may be used to install the dummy G&C Sections while the missile is still in the SSCBM.

NOTE: Use form UD-8971-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: V. Rothhaft

TELEPHONE: 5-4505

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Barton</i>	<i>R. D. Mann</i>	<i>G. E. Greiner</i>	<i>C. H. Stead</i>

2-6340-0-MAR 18 1963

REV. 1-30-63

BOEING NO. D2-11713-3
PAGE -784-

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 900
APPROVAL DATE 4-18-62
REVISION A DATE 5-22-62

EQUIPMENT TITLE Simulator, Interval Timer
(Basic Non First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG. NO. EDG 3-208

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE & JUSTIFICATION

A test fixture is required to be used in functionally checking the MRCN 9152, Test Set, Interval Timer (CTLI) for periodic recertification. This test fixture simulates the overall voltage drop of the Interval Timer at known currents when connected to the Interval Timer test set in order to verify the operating point of the Test Set (go-no go lights).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The Test Fixture will be connected to electrical connector, J1, the MRCN 9152 Test Set. The Test Fixture must contain the following:

- Two (2) 1 ohm, 100 watt potentiometer
- One (1) 500 ohm, 5 watt potentiometer
- Two (2) single pole double throw electrical switches
- One (1) single pole triple throw electrical switch.
- One (1) triple pole double throw electrical switch.
- One (1) double pole triple throw electrical switch.
- Bananna jacks or provisions for connecting two (2) ammeters, two (2) voltmeters and an electrical counter.

It is recommended that Electro Development Corporation Part Number 3-208 be used for the following reasons:

- The Electro Development Corporation supplies the MRCN 9152, Test Set, SCD 10-21338.
- The Test Fixture has been designed and fabricated for use during the Vendor Acceptance Test of the MRCN 9152, Test Set, EDC P/N 3-180, Boeing P/N 10-21338-1.
- No substitutions are acceptable as this item is not a standard off the shelf item and the procurement schedule is critical.

1 This item assigned to Engineering for technical control of vendor-supplied part only. BI-M4 will procure under normal organizational responsibility.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>W. H. Burt</i>	<i>W. H. Burt</i>	<i>W. H. Burt</i>	<i>W. H. Burt</i>

2-4340-0-1 Rev 5-25-62
REV. MAR 18 1963

BOEING NO. D2-11713 -2
PAGE 1900

NOTE: Use form LD-4071-1000
 If additional sheets are required.
 5/15
 R. Collins for L. Hall
 Rev. R. Bril.
 AT-4-5860
 INMATING GROUP SUPERVISOR: _____
 TELEPHONE: JV-5-6174

WS 133A

ACO NUMBER 901

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-11-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 8-14-62

EQUIPMENT TITLE Lead Set, Test
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT N.A. DWG NO. 29-27410

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
			X					

PURPOSE & JUSTIFICATION

A requirement exists to perform continuity tests without damaging the wiring or connectors on the CTLI* "Cable Assembly, Special Purpose, Branched, CX-7608/U (2' 3")" prior to installation on the missile.

*Fig. A 6307

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that test leads be fabricated using pins and sockets of same type connectors that are used on equipment (cable assembly).

The test lead set will be used in conjunction with a multimeter (ACO-1001).

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Boston</i>	<i>Wes Davies</i>	<i>Rangel</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963

REV. 8-23-62

BOEING NO. D2-11713-2
PAGE 901

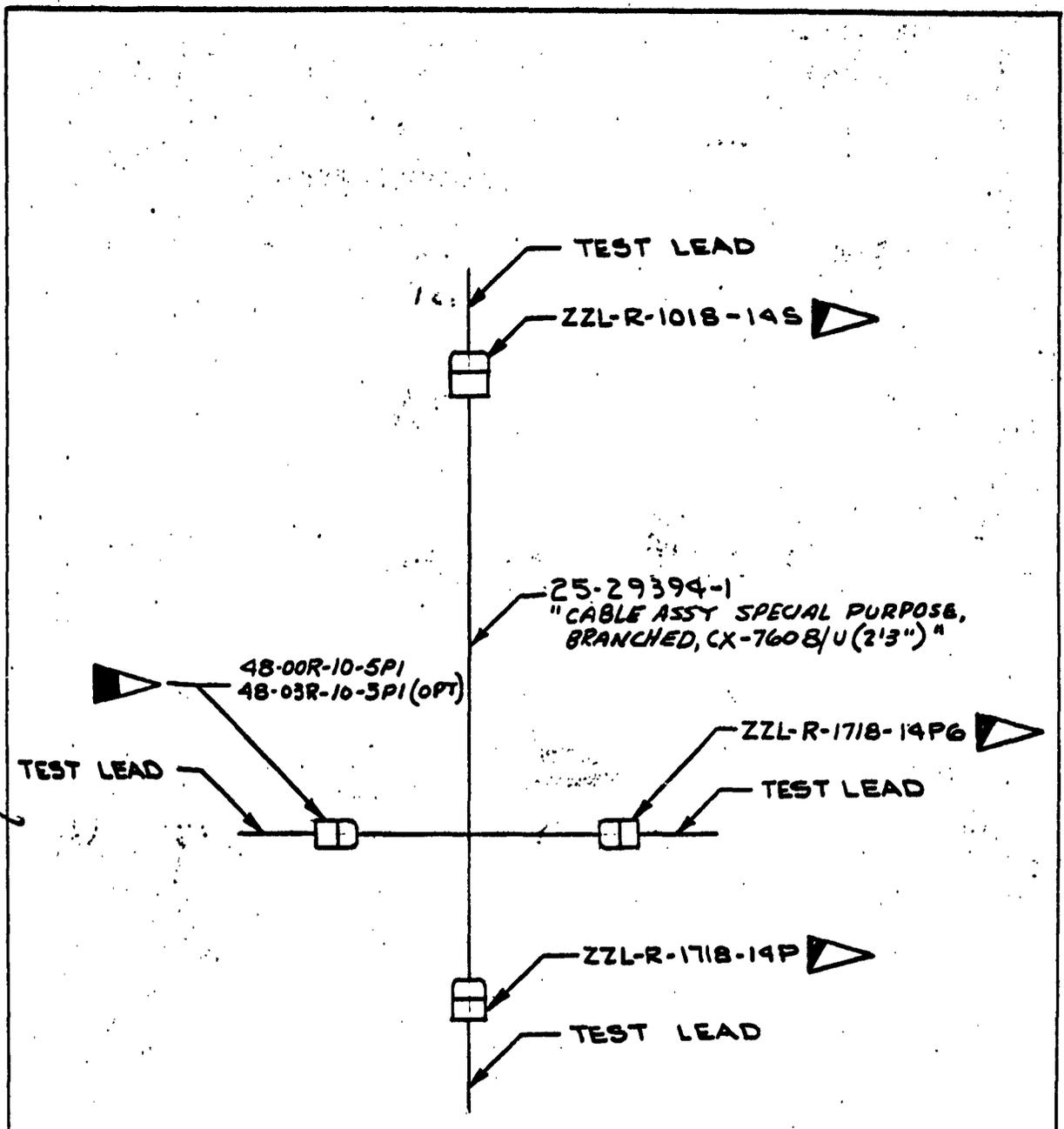
NOTE: Use form UD-4071-1000 if additional sheets are required.

Rev. A
W. S. Zumbirumbun

ORIGINATING GROUP SUPERVISOR: Y. S. Zumbirumbun

TELEPHONE: 5-5062

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TEST LEADS TO BE APPROXIMATELY 1 FOOT LONG

▷ PYLE NATIONAL CO., CHICAGO, ILL. (CODE 49367)

▷ AMPHENOL-BORG ELECTRONICS CORP., CHICAGO, ILL. (CODE 02660)

ACO- 901
SH 2 OF 2

US-4971-1000 Added 5-11-62
MAR 18 1963

cable

WS 133A

ACO NUMBER 902

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE Ammeter, AC, Clamp-ON
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Make current measurements without disturbing circuit wiring during checkout of the CTLI test van and the equipment it contains.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Accuracy $\pm 3\%$ of full scale.

Current Ranges

- 0 to 25-30 amp
- 0 to 60-100 amp
- 0 to 150-250 amp
- 0 to 250-300 amp

The following listed equipment will satisfy this requirement.

Weston 633-9901001 or Weston 749-2901001.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 Added 4-24-62

REV. MAR 18 1963

ENGINE NO. D2-11713-2
902

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Staples
TELEPHONE: 5-6434

15c

WS 133A

ACO NUMBER 7903

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE Pulse Generator
(Base Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SP/OX

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Provide pulses to instantaneously vary the voltage controlled oscillator during checkout of the CTLI test van and the equipment it contains.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Pulse width 0.5 to 10,000 microseconds.

Repetition rate - 20 to 200 cps

Output 0.5 to 10 volts peak-to-peak operating into a 600 ohm load.

Pulse rise and fall time less than 0.5 microseconds.

The following listed equipment will satisfy this requirement.

Retherford Model B7

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Butler</i>	<i>A. M. ...</i>	<i>G.E. ...</i>	<i>A. ...</i>

2-6340-0-1 Added 4-24-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE -903

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Staples
TELEPHONE: 5-6434

WS 133A

ACO NUMBER 904

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-20-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 7/20/62

EQUIPMENT TITLE Voltmeter - True RMS
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SPC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Used to measure true RMS values in synchronizer during checkout of the CTLI test van and the equipment it contains.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency Range - 10 cps to 400 KC/S

Voltage Range - 1 millivolt to 15 volts

Accuracy within 5%

Crest Factor greater than 10

The following listed equipment will satisfy this requirement.

Balentine 320

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Bill Barton</i>	<i>W. M. ...</i>	<i>R. E. ...</i>	<i>W. H. ...</i>

2-4340-0-1 Rev'd 8-3-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 904

NOTE: Use form UD-4071-1000 if additional sheets are required.
William ...

ORIGINATING GROUP SUPERVISOR: B. Collins
TELEPHONE: 3-0368

356

WS 133A

ACO NUMBER 905

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 4-20-62

REVISION A DATE 8-24-62

EQUIPMENT TITLE Filter, Band Pass
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Minimize triggering of oscilloscope which would interfere with readings of static and dynamic skew during checkout of the CTLI test van and the equipment it contains.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Pass band ranges from 100 cps to 250 KC/S.

The following listed equipment will satisfy this requirement.

- 1) Spencer Kennedy Laboratory SKL-302 band pass filters.
- 2) Krohn-Hite 315A

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Walter J. Hallister</i>	<i>Wes R. Vance</i>	<i>A.E. ...</i>	<i>R. Ester</i>

2-6310-6-1 9-6-62
REV. MAR 18 1963

D2-11723-2

BOEING NO. _____
PAGE -905 →

NOTE: Use form UD-4071-1000 if additional sheets are required.

REV A R. ESTER

ORIGINATING GROUP SUPERVISOR: SIAPLES
TELEPHONE: 5-6134

hbc

WS 133A

ACO NUMBER 906

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION A DATE 8-24-62

EQUIPMENT TITLE Load Coaxial (Female)
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION -SFC/GE

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

Revision A results from ECP 582-1
PURPOSE & JUSTIFICATION



1. A coaxial load is required to simulate equipment loads during assembly and checkout of the repeater antenna subsystem during checkout of the CTLI test van and the equipment it contains.
2. A coaxial load is required for the Assembly and Checkout of the C-Band Repeater Antenna System, Figure 9245. Ref D2-13049. This load provided a termination load during VSWR measurements.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

50 ohm coaxial load
 Average power rating - 1 watt minute
 Frequency Range - 225 - 450 mc
 5000 - 6000 mc
 VSWR - 1.1:1 maximum

The following listed equipment will satisfy this requirement.

- (1) Microlab TA5-FN
- (2) Weinschel 535-FN Load.

 This item has been furnished to VAFB. No procurement required.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edmond Hallister</i>	<i>Wes Davies</i>	<i>G.E. Greiser</i>	<i>R. Estey</i>

2-6346-0-1 MAR 18 1963

REV. 9-6-62

BOEING NO. D2-11713-2
PAGE -906

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If additional sheets are required.

Staples 5-1334
 A. C. Osborne
 REVA
 5-1901

ORIGINATING GROUP SUPERVISOR:
TELEPHONE:

SBC

WS 133A

ACO NUMBER 907

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-2

REVISION C DATE 3-12-3

EQUIPMENT TITLE Resistor Decade
(Basic Noun First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT: _____

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	None	X		X	None	None	None

PURPOSE & JUSTIFICATION

The decade resistor is required to furnish simulated loads for separate functional tests of the following items:

- A. Safety and Arming Device Test Set (Figure A 13) Ref. D2-12206
ACO 907 is used in conjunction with ACO 4368 to perform these tests.
- B. CTLI Downstage Electrical System Test Set (Figure A 9116) Ref. D2-9833
- C. Alarm Test Set, Alarm Set, AN/GSM-59 (Fig. A 3109) Ref: D2-9833, D2-7830, Vol. 4.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Accuracy: 10 ohms and above $\pm 0.1\%$ 0.1 ohm $\pm 1.0\%$ Power Rating 1/2 watt/
 1 ohms $\pm 0.25\%$ 0.01 ohm $\pm 5.0\%$

Range: 0.01 ohms to 1000 ohms in 0.01 ohm steps

The following listed equipment will satisfy this requirement:

Shall cross Manufacturing Co., P/N 817B.
 Gray Instrument Model E1144A
 General Radio Model 1432-T

SHT 11 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-0340-0-1

REV. 3-18-3

BOEING NO. D2-11713-2
 PAGE 907

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Rev. C: T.J. Uno 5-5508

Rev. B: R. E. Colling 3-0368

ORIGINATING GROUP SUPERVISOR: TELEPHONE:

[Handwritten initials]

WS 133A

ACO NUMBER 909

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE Bolometer Mount
(Scale Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OE/

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	VAFB-CTLI
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	D2-9834
						X	X

PURPOSE & JUSTIFICATION

Required as a detection device in RF power level and attenuation measurements during assembly and checkout of the repeater antenna subsystem.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Coaxial bolometer mount with high thermal stability

Frequency Range - 225 to 450 mc

VSWR - 1.35:1 or less

Power Rating - 16 MW minimum

Resistance - 200 ohms

Temperature Coefficient - positive

The following listed equipment will satisfy this requirement.

- Narda 560 bolometer mount with (2) 610B-100
- Hewlett Packard 476A
- Hewlett Packard 477B

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Butler</i>	<i>P. M. ...</i>	<i>R. E. ...</i>	<i>R. ...</i>

2-430-0-1 Added 4-24-62

REV. MAR 18 1963

BOEING | NO. D2-11713-62
PAGE 909

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Stanley

TELEPHONE: 5-6434

UC

WS 133A

ACO NUMBER 911

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-20-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Cable Assembly
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFO/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

PURPOSE & JUSTIFICATION

A requirement exists to connect the New London Instrument Co. model 257A FM Monitor to the ACO 3140 counter during the testing of the Figure 1 9187 and 9123 C/D Test Sets.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A Pomona Electronics P/N 2BC-BNC-36 Cable Assembly is recommended.

Cable shall consist of 3 feet of RG-58 C/U Coaxial Cable with a BNC Connector, type UG-88/U, on one end and a double banana plug on the other end.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. N. Barton</i>	<i>A. W. ...</i>	<i>A. E. ...</i>	<i>R. ...</i>

2-630-0-1 Added 4-24-62

REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 911

NOTE: Use form UB-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Staples
TELEPHONE: 5-6434

b3c

WS 133A

ACO NUMBER 912

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE Detector, VHF
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Required in assembly and checkout of repeater antenna subsystem to measure equipment and land line impedances. Used as a detector in conjunction with a VHF Bridge, signal generator and earphones.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Super Regenerative AM Receiver

Frequency range - 225 to 450 mc

Sensitivity - 5 microvolt

The following listed equipment will satisfy this requirement.

Hewlett Packard 417A.

NOTE: Use form US-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Staples
TELEPHONE: 5-6434

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M.H. Baxton</i>	<i>W.D. Verner</i>	<i>A.E. Corison</i>	<i>R. Estep</i>

2-6340-0-1 Added 4-24-62

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WS 133A

ACO NUMBER 913

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION B DATE 11-20-62

EQUIPMENT TITLE Bridge, VHF
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SPC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	TELETYPE
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	D2-771
			X			X	

PURPOSE & JUSTIFICATION

Required in assembly and checkout of repeater antenna subsystem to measure equipment and land line impedances (used in conjunction with signal generator, VHF detector and earphones).

Required in preinstallation alignment and test of the C/D repeater amplifier to measure the input impedance. (Ref: D2-9835).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Direct readings VHF impedance bridge frequency range - 225 to 450 mc

Accuracy - $\pm 5\%$

The following listed equipment will satisfy this requirement:

Hewlett Packard 803A & General Radio 1602B

General Radio 1602B

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Banton</i>	<i>A. D. Quinn</i>	<i>A. E. Collins</i>	<i>R. Estep</i>

2-6340-0-1

REV. 12-12-62

MAR 18 1963

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PAGE 1-913

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Rev. b D. O. Love 5-9366

G. A. Staples
ORIGINATING GROUP SUPERVISOR: 5-6434
TELEPHONE:

100

WS 133A

ACO NUMBER 914

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-2

REVISION D DATE 2-12-3

EQUIPMENT TITLE PROBE, AC CURRENT
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT NONE DWG NO. NONE

TO BE USED AT: Ref. ECP 111

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	Wing III	WING IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	X	X	X	X		NONE	NONE	NONE

PURPOSE & JUSTIFICATION

An AC current probe is required in determining amplitude of test currents applied during compatibility test of Explosive Set Circuitry Test Set Fig. A 3007 & test leads. This test is to be conducted to determine the function of all components after shipping at VAFB and Wing I per sections 2, 3, and 7 D2-12054, and ECP 111.

This item is required during functional tests demonstrating model specification requirement of CTLI Ground Equipment at the VAFB-DPIF and VAFB Launch Area. Ref. D2-9835, and D2-9833

△ An AC current probe is required to accomplish functional test at MAFB as specified by work around procedure IP-198 for VAFB, MAFB, and EAFB.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A probe capable of measuring a maximum of 150 MA at frequencies of 25 cps to 15 KC is required.

The following listed equipment will satisfy this requirement;

Hewlett Packard Model 456A

△ EAFB requirements for interim use only.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Boston</i>	<i>A. D. Nunn</i>	<i>R. E. Sullivan</i>	<i>W. H. Reed</i>

2-6340-0-1 MAR 18 1963
REV. 2-14-3

BOEING NO. D2-11713-2
PAGE 914

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Rev. 3-0367
A. D. Nunn

ORIGINATING GROUP SUPERVISOR: G. A. Staples
TELEPHONE: 5-6234

2030

WS 133A

ACO NUMBER 915

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-20-62

REVISION _____ DATE _____

EQUIPMENT TITLE Analyzer - Wave
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC// OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

Measure pickup in one channel of input to another channel. Must filter out all unwanted frequencies. Low DB levels prohibit use of voltmeter for this test. This equipment is used during checkout of the CTLI test van and the equipment it contains.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Voltage accuracy within $\pm 5\%$ on all ranges.

Frequency Range - 300 cps to 3000 cps

Voltage Range - 300 microvolts full scale to 10 volts full scale.

Direct-reading decibel scale.

Automatic Frequency Control desired.

The following listed equipment will satisfy this requirement

Hewlett Packard 302A or General Radio 736 (does not have automatic frequency control).

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burton</i>	<i>R. D. ...</i>	<i>A. E. ...</i>	<i>R. ...</i>

2-430-0-1 Added 4-24-62

REV. MAR 18 1963.

BOEING NO. D2-11713 -2
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NOTE: Use form UD-4071-1000
If additional sheets are required.

ORIGINATING GROUP SUPERVISOR: Staples
TELEPHONE: 5-6474

692
11/1

WS 133A

ACO NUMBER 916

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 4-20-62

REVISION A DATE 7/20/62

EQUIPMENT TITLE HEADPHONES
(Basic Item First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFG/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAPB	VAFB	STP III	PLT 77	VAFB-CTL	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

PURPOSE & JUSTIFICATION

Required as an audio detection device for use with a VHF detector in making impedance measurements during assembly and checkout of the repeater antenna subsystem.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Commercial grade headphones
Impedance - 2000 ohms or better

The following equipment will fulfill this requirement;

1. Western Electric Model ANB-H-1
2. TRIMM "Featherweight" model 104-2K (with the $\frac{1}{4}$ inch phone jack).

SHT 1 of 1

ENGINEERING DEPT. <i>A. H. Bostad</i>	BASE INSTALLATION DEPT. <i>R. D. Mann</i>	MANUFACTURING DEPT. <i>R. E. Brewer</i>	FACILITIES DEPT. <i>W. K. ...</i>
--	--	--	--------------------------------------

2-6340-0-1 Rev 8-3-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE -916

NOTE: Use form UD-877-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: C. STAPLES
TELEPHONE: 5-6734

R. Entep for B. Moore

R
R

WS 133A

ACO NUMBER 917

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 5-11-62

REVISION A DATE 11-20-62

EQUIPMENT TITLE BREAKOUT BOX, EXPLOSIVE SET CIRCUITRY TEST SET
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG. NO. 25-27909

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9833		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to connect jumpers and loads across the connector pins of the Explosive Set Circuitry Test Set* during assembly and checkout of this equipment.

*Figure A 3007 with Figure A 9207

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A breakout box containing the following equipment will satisfy this requirement:

- One Connector MS 24266-R10T-5S
- One Connector MS 24266-R18T-14S
- One Connector MS 24264-R18T-14P
- One Connector 10-20469-9
- One Connector MS-24264-R18T-7P
- 43 Standard Banana Jacks

Each jack shall be identified with the same nomenclature as the connector pin to which it is wired.

The following listed equipment will satisfy this requirement.

Boeing P/N 25-27909

SHT 1 of 2

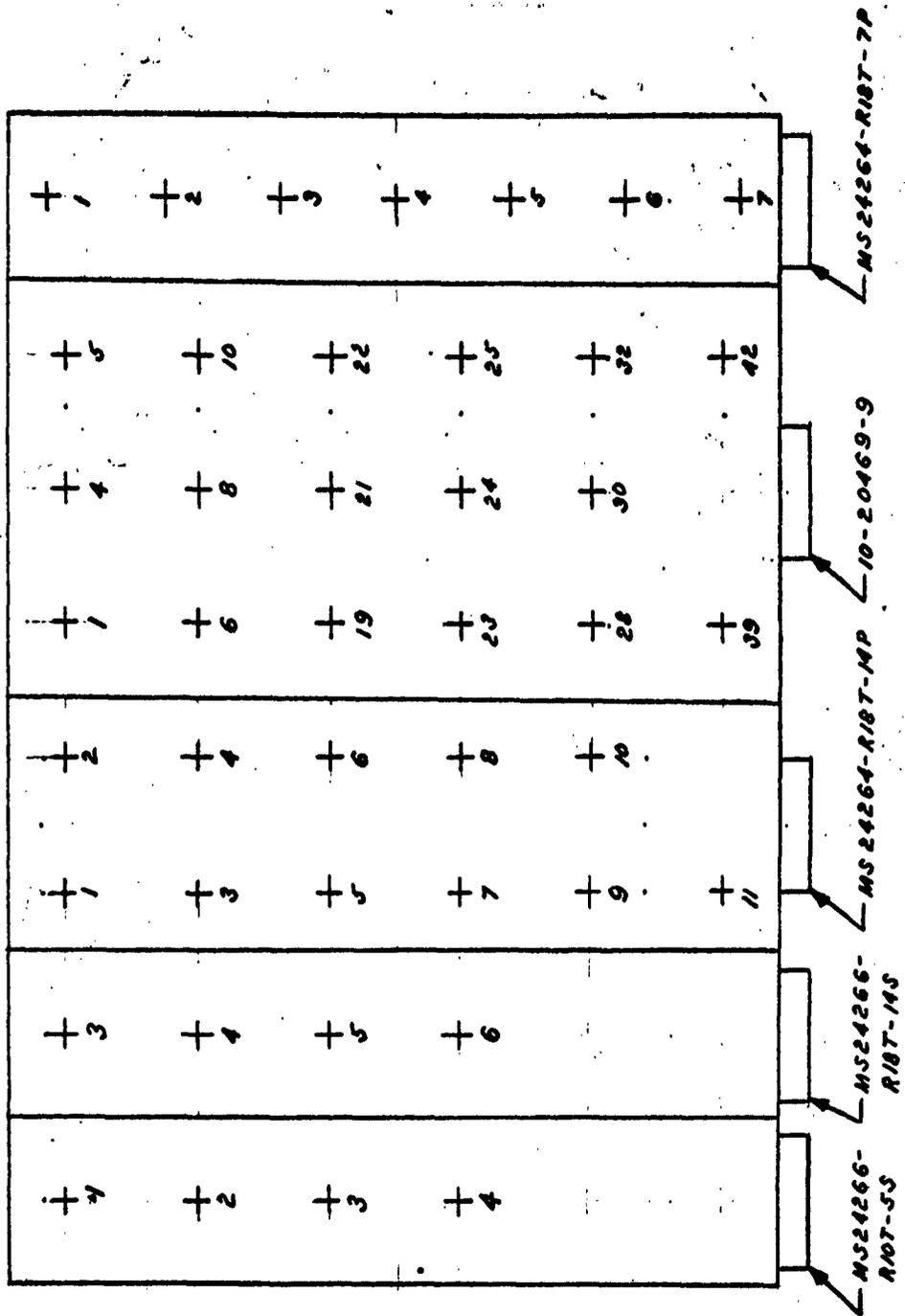
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>W. J. Newman</i>	<i>G. E. Brewer</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963

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BOEING NO. D2-11713-2
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NOTE: Use form US-4071-1000 if additional sheets are required.
 REV. A (5) STAPLES
 G. A. Staples
 TELEPHONE: 5-6434
 ORIGINATING GROUP SUPERVISOR:



BREAKOUT DEVICE - TOP VIEW

(NOTE - PHYSICAL ARRANGEMENT MAY BE REVISED TO FACILITATE CONNECTOR INSTALLATION) ACO 917

SHT 2 OF 2

Added 5-11-62

REVISED MAR 18 1963
US 4300 2000

WS 133A

ACO NUMBER 919

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-11-62

EQUIPMENT REQUIREMENTS

REVISION A / 1 DATE 11-20-69

EQUIPMENT TITLE BOX, BREAKOUT, CTTI DOWNSTAGE CABLE TEST SET
(Basic Non First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMS DOCUMENT None DWG NO. 25-27910

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTTI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9833		
						X		

PURPOSE & JUSTIFICATION

During the assembly and checkout of the Downstage Cable Test Set (Figure A 9116) a requirement exists to apply various loads and jumpers between various connector pins of the Downstage Cable Set cables.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A breakout device containing the following items will satisfy this requirement:

- One Connector P11 - MS 24266-R18T-31S
- One Connector P12 - MS 24266-R22T-19S
- One Connector P13 - MS 24266-R22T-19S8
- Two Connector P44 and P48 - MS 24266-R10T-5S1
- One Connector P45 - MS 24266-R12T-12S1
- One Connector P47 - MS 24266-R18T-14S6
- Two Connector P49 and P53 - MS 24266-R18T-14S
- One Connector P57 - 10-20469-9

166 Standard Banana Jacks

Each jack shall be identified with the same nomenclature as the connector. pin to which it is wired.

The following listed equipment will satisfy this requirement.

Using P/N 25-27910

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burt</i>	<i>W. M. Mason</i>	<i>G. E. Reiser</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963

REV. 12-12-2

NO. D2-11713-2

BOEING PAGE 919

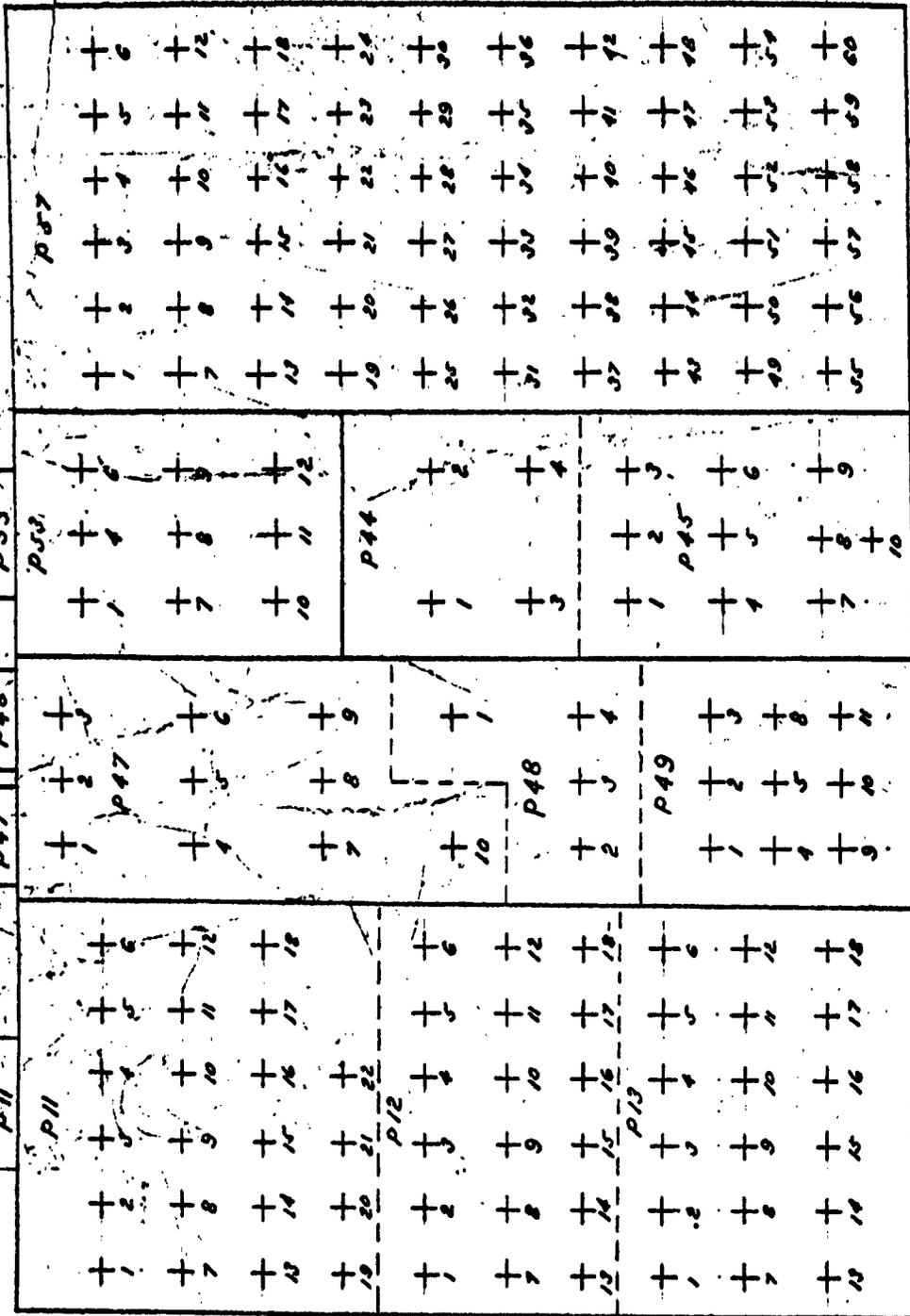
NOTE: Use form US-9071-100 if additional sheets are required.

Rev A

INATING GROUP SUPERVISOR: G. A. Staples

TELEPHONE: 5-6434

100



BREAKOUT DEVICE - TOP VIEW

(NOTE - PHYSICAL ARRANGEMENT MAY BE MODIFIED TO FACILITATE CONNECTOR INSTALLATION)

ACO-919

SHEET 2 OF 2

Added 5-11-62

REVISED MAR 10 1963

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BOEING

VOL

NO D2-11713-2

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ACO NUMBER 920

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-11-62

REVISION A DATE 11-20-62

EQUIPMENT TITLE BREAKOUT BOX, SAFETY AND ARMING DEVICE TEST SET
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-27907

TO BE USED AT:

BASE	MAPB	EAPB	VAPB	STP III	PLT 77	VAPB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9833		
						X		

PURPOSE & JUSTIFICATION

A breakout box is required during functional test of the Safety and Arming Device Test Set.* The breakout boxes are required to facilitate application of test resistances during simulation of airborne component characteristics. Ref: D2-9833, revision 3-28-62

*Figure A 13

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

It is recommended that the breakout boxes be wired as described on the following sheets and contain those parts listed on the illustrations. Each jack shall be identified with the same nomenclature as the connector to which it is wired.

The following listed equipment will satisfy this requirement.

Design P/N 25-27907

SHT 1 OF 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A. H. Burt</i>	<i>P. W. ...</i>	<i>G. E. ...</i>	<i>R. Estep</i>

2-6340-0-1

REV. 12-12-2

MAR 18 1966

D2-11713-2

BRIND NO. PAGE 920

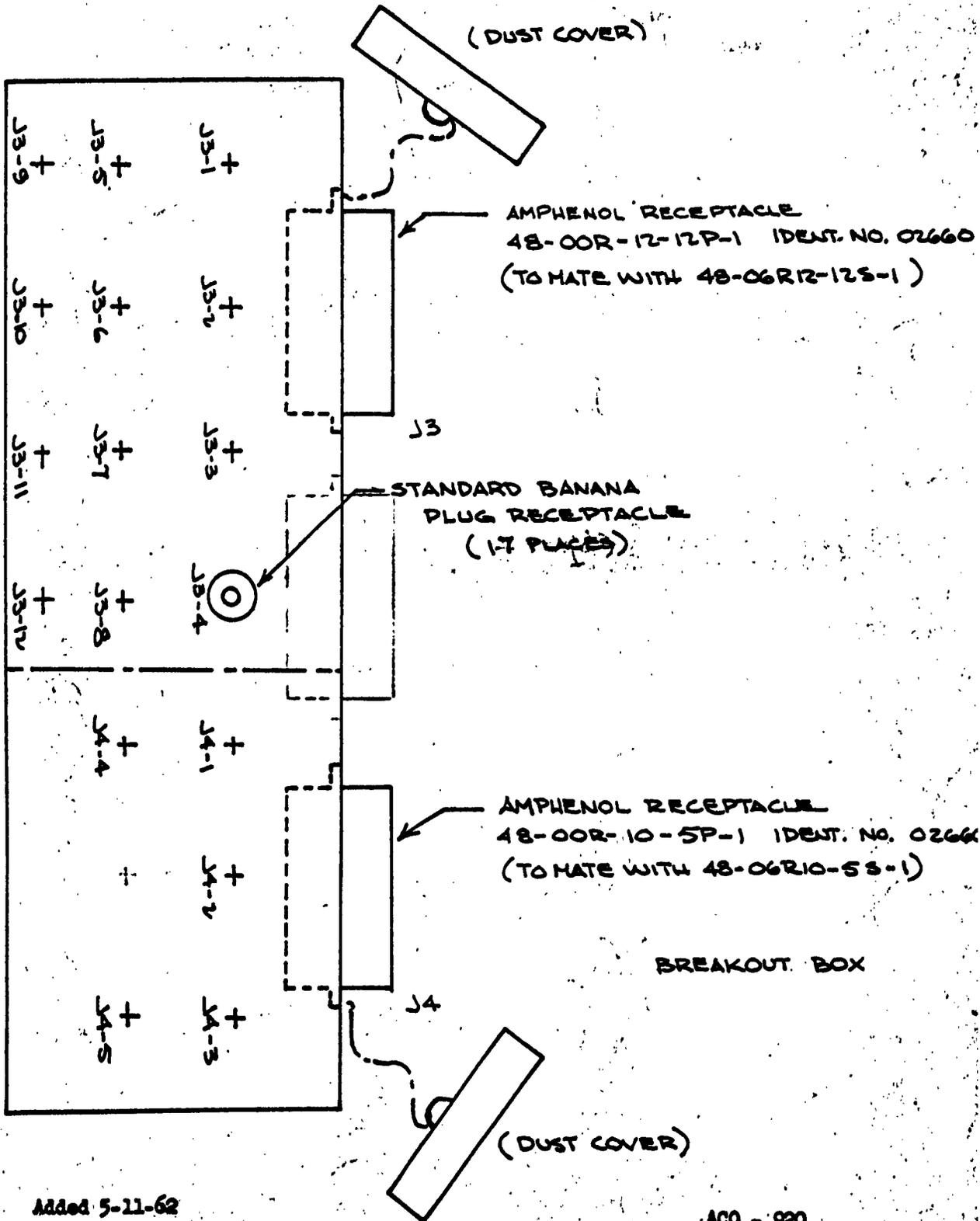
NOTE: Use form UB-4071-1000 if additional sheets are required.

REVA: G. A. STAPLES

ORIGINATING GROUP SUPERVISOR: G. A. Staples

TELEPHONE: 5-6434

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Added 5-11-62
MAR 18 1963

ACO - 920
SMT 2 OF 2
DR-1173 -2
-920-8

R. Colling for [unclear]

NOTE: Use form U3-4071-1000 if additional sheets are required.

Rev. A.
 G.A. Staples
 R. Colling
 3-0368
 ORIGINATING GROUP SUPERVISOR:
 TELEPHONE: 5-6434

WS 133A

ASSEMBLY & CHECKOUT

EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE Load Bank, C55C Functional Test
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-27903

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834		
						X		

PURPOSE & JUSTIFICATION

This equipment is required to perform the acceptance functional test of the Autonetics C55C test set.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This load bank will consist of twelve (12) resistive loads with each load connected to a separate pair of jacks on the load bank panel. The load values will be as listed below:

R1	1.87 ohms + 5%	500 watts
R2	3.61 ohms + 5%	250 watts
R3	28.0 ohms + 5%	25 watts
R4	8.33 ohms + 5%	75 watts
R5	5.0 ohms + 5%	20 watts
R6	1.33 ohms + 5%	3 watts
R7	4.0 ohms + 5%	2.25 watts
R8	8.0 ohms + 5%	4.5 watts
R9	1.67 ohms + 5%	15 watts
R10	35 ohms + 5%	35 watts
R11	300 ohms + 5%	75 watts
R12	250 ohms + 5%	245 watts

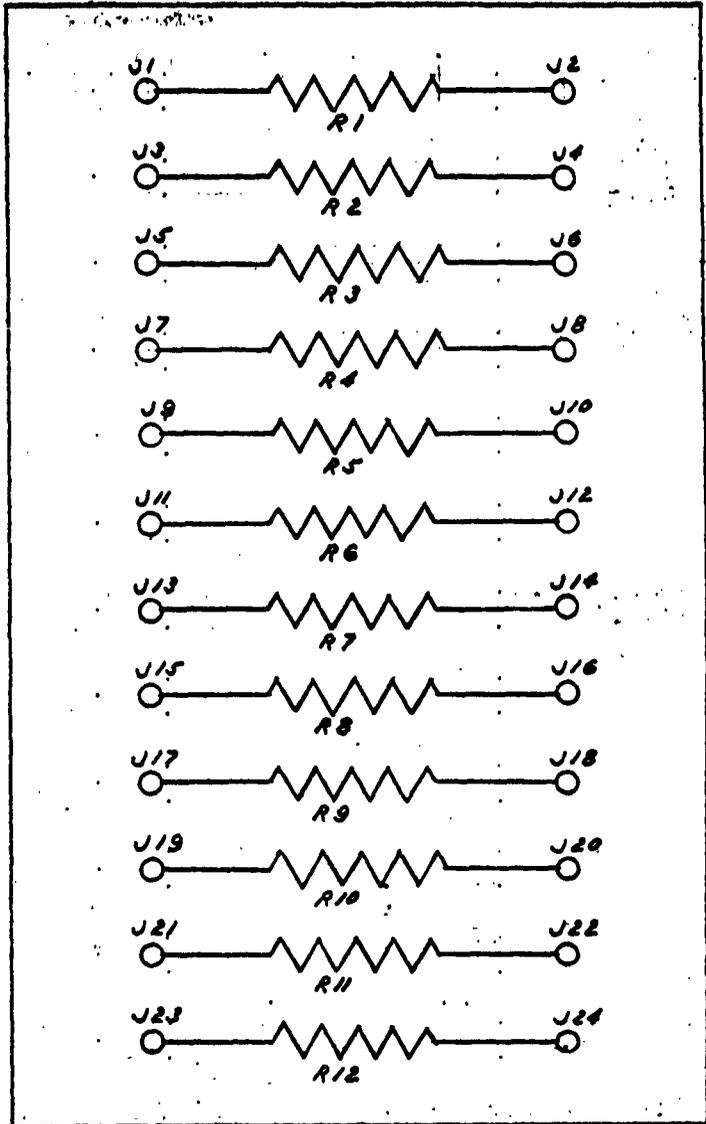
It is recommended that this load bank be constructed as a portable piece of equipment to facilitate its use in both the CSA and SMSA.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edna J. Halliwell</i>	<i>W. W. [unclear]</i>	<i>R. E. [unclear]</i>	<i>R. [unclear]</i>

Rev 8-3-62
 2-6340-0-1
 REV. MAR 18 1963

BOEING NO. D2-11713-3
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ELECTRICAL SCHEMATIC OF LOAD BANK ASSEMBLY

ACO-921
Sheet, 2 of 2

210

US-4871-1000 Added 4-24-62

MAR 18 1963

BOEING NO. D2-11713.2
PAGE 921-a



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ACO NUMBER 922

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-18-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE BOX ASSEMBLY, CABLE BREAKOUT, C55C
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-28790

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834		
						X		

PURPOSE & JUSTIFICATION

This equipment is required to perform the C55C Test Set Acceptance Functional Test, in conjunction with ACO 921. It is used to supply test points to which the loads of ACO 921 load bank can be connected, and to supply test points for monitoring the voltage across these loads without the ACO 921. The C55C Test Set is Figure A 10,900.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This equipment consists of the following items:

- 1 Chassis
- 2 MS 3102A-36-8S connectors
- 47 SPST switches
- 94 Jacks, Tip, Low Voltage

For Wiring Information see Bobbin Drawing 25-28790

This item is a covered metal chassis approximately 15 x 9 x 1-1/2 inches with switches and jacks mounted on the cover and a connector on each side. Internal wiring provides a separate circuit from each terminal of one connector to the corresponding terminal of another connector with a switch in each circuit and a break-out jack on each side of each switch.

NOTE: Use form LD-4071-1000 additional sheets are required.
 G.A. STALLS
 TELEPHONE: 5-6111
 5/8
 613

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Burton</i>	<i>R. Collins</i>	<i>A.E. Brewer</i>	<i>R. Carter</i>

2-6340-0-1 Added 5-25-62
REV. MAR 18 1963

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PAGE 1-922

NOTE: Use form UD-4071-1000 if additional sheets are required.

Order for E. Adams

Rev. F. Stasny "B" 3-1840

COORDINATING GROUP SUPERVISOR: R. Ormsbee TELEPHONE: 5-6786

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WS 133A

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

ACO NUMBER 923
 APPROVAL DATE 5-11-62
 REVISION B DATE 7-17-62

EQUIPMENT TITLE Load, Coaxial, 50 Ohm Male
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH
 DESIGN REQMTS DOCUMENT None DWG. NO. NA

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835
	X					X

PURPOSE & JUSTIFICATION

A coaxial load is required to simulate equipment loads during assembly and checkout of the CTLI Test Van and the equipment it contains at VAFB.

This load is also required to simulate the RF antenna load during checkout of the security system RF surveillance.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

50 ohm coaxial load

Average Power Rating - 1 watt minute

Frequency Range - 225-450 mc

VSWR - 1.1:1 maximum

The following listed equipment will satisfy this requirement:

Microlab TA5-MN
Weinschel 535-MN Load

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>M.H. Burt</i>	<i>A. Mann</i>	<i>G.C. Brown</i>	<i>R. Estep</i>

2-6340-0-1 Rev 8-3-62
 REY. MAR 18 1963

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ACO NUMBER 924

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

APPROVAL DATE 4-23-62

REVISION A DATE 11-20-62

EQUIPMENT TITLE Cable Assembly, Power Meter to Bolometer
(Basic Noun First)

RESPONSIBLE DEPT. BT-NM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG. NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTL
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	

PURPOSE & JUSTIFICATION

A requirement exists to match impedance correctly between the ACO 4471 Power Meter and the HP 476A Bolometer Mount during tests of the Fig. A 9187 and 9123 C/D Test Sets. Ref: D2-9834 & D2-4835

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The following equipment will satisfy this requirement:

- Four (4) feet of RG-58CU 50 ohms coaxial cable with 2 UG-88/ U type BNC male connectors.
- HP-AC-16K Cable Assembly

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1

REV. 12-12-2

MAR 18 1963

BOEING NO. D2-117132
PAGE -924

NOTE: Use form U3-4071-1000 if additional sheets are required.

Rev A: G.A. STRASS

ORIGINATING GROUP SUPERVISOR: G. A. Staples

TELEPHONE: 5-6434

518

WS 133A

ACO NUMBER 925

ASSEMBLY & CHECKOUT

APPROVAL DATE 4-23-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Monitor, FM, 600 MC
(Basic Name First)

RESPONSIBLE DEPT. _____ BI-124 EQUIP. CLASSIFICATION _____ SFC/OR

DESIGN REQMTS DOCUMENT _____ None DWG NO. _____ N. A.

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to monitor the RF Carrier displacement, Modulation, and Signal Strength during the testing of the Fig. A 9187 & 9123 C/D test sets.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

An instrument capable of monitoring & measuring signals of frequencies up to 600MC is required. A Model 257A, New London Instrument Co., is acceptable.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Buntor</i>	<i>M. J. ...</i>	<i>A. E. ...</i>	<i>R. D. ...</i>

2-6340-0-1, Added 4-24-62

REV. MAR 18 1962

BOEING NO. D2-11713-2
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NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: *[Signature]*
TELEPHONE: 5-6234

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 926
APPROVAL DATE 4-23-62
REVISION 1 DATE 7-24-62

EQUIPMENT TITLE Oscillator, Transfer
(Basic Name First)

RESPONSIBLE DEPT. SI-MM EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to measure frequencies higher than the range of the ACO 3140 (HP 524D) counter with ACO 4456 (HP 525C) plug in unit. This oscillator will be used during test of Fig. A's 9187 and 9123 to extend the frequency range of ACO 3140.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This unit will be used to extend the frequency range of ACO 3140 to 550mc which is the maximum frequency required during Functional Test of the above Figure A's.

The following equipment is acceptable to fulfill this requirement:

- 1. Hewlett-Packard 540B
- 2. Beckman/Berkley 7580

VAFB has two (2) units on board. These units are acceptable to fulfill this ACO requirement but new units should not be procured because this oscillator is more difficult to use, requires an adapter for use with Hewlett-Packard equipment, and is considerably more expensive. Beckman/Berkley adapter 18-3115 is required for use of the Beckman 7580 with ACO 3140.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>J. B. Macellari</i>	<i>A. J. ...</i>	<i>A. C. ...</i>	<i>Ray Syers</i>

REV. MAR 18 1963 Rev 8-3-62

NO. D2-11713-2
MAR 2 1962

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: G. L. Staples - Rev. "A" J. Altenburger 5-6596
TELEPHONE: 5-6131A

112

WS 133A

ACO NUMBER 928

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-11-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE ANALYZER, SPECTRUM
(Basic Non First)

RESPONSIBLE DEPT. BID 17 EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT None DWG NO. NA

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to measure the RF signal level and frequency of the Command Destruct portion of the Repeater Antenna System (Figure A 9201) during the assembly and checkout of this system.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency Range 300 mc to 550 mc
Sweep Width 0 mc to 10 mc continuously variable
Sensitivity -100 dbm

The following listed equipment will satisfy this requirement:

- 1. Panoramic Electronics, Inc. Model SPA-1 with RF-3 tuning head.

NOTE: Use form UD-4071-1000 if additional sheets are required.

[Handwritten signature]

ORIGINATING GROUP SUPERVISOR: G.A. STAPLES

TELEPHONE: 5-6434

SHT 1 OF 1

ENGINEERING DEPT. <i>[Signature]</i>	BASE INSTALLATION DEPT. <i>[Signature]</i>	MANUFACTURING DEPT. <i>[Signature]</i>	FACILITIES DEPT. <i>[Signature]</i>
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2-6340-0-1/ Added 5-11-62
REV. MAR 18 1963

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ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 929
APPROVAL DATE 5-22-2
REVISION D DATE 3-12-3

EQUIPMENT TITLE TEST SET, POWER SUPPLY
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-32507

TO BE USED AT: Ref: ECP-111

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	X	None	X	None	None	None

PURPOSE & JUSTIFICATION It is required that a power supply test set be provided to facilitate functional testing of the portable batteries supplied with the Explosive Set Circuitry Test Set (Figure "A" 3007, 7679 and ACO 3007). This test set shall have the capability of simulating no-load and full load condition and shall provide points by which the battery performance can be monitored during load testing. This test is to be conducted at Plant 77, and VAFB per Section 2, 5, and 7, D2-12054 Document.

It is required for acceptance test of DPIF assembly and test subsystems, per D2-9833.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Tooling drawing MISC 10-20994 has been provided for use to satisfy this same requirement during in-plant testing. A part similar to MISC 10-20994 will satisfy this requirement.

This item is a small portable metal box containing switches, jacks, and resistors as shown on sheet 2 and 3 of this ACO. A switch connects Jack "A" to jack "B" through either a 100 or a 400 resistor and an "on-off" switch.

This drawing prepared at VAFB

NOTE: Section 2 and 5 of Document D2-12054 apply to acceptance test requirements at Plt. 77 only. Section 7 of D2-12054 applies to VAFB. There are no requirements for operational bases as testing will be performed at PMEL per applicable T.O.

SHT 1 of 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. B. Butler</i>	<i>P. M. Moore</i>	<i>P. C. ...</i>	<i>W. ...</i>

2-6340-0-1

REV. 3-18-3

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NOTE: Use form 13-4771-1000 if additional sheets are required

ORIGINATING GROUP SUPERVISOR: R. Omshee

TELEPHONE: 5-6696

3819

WS 133A

ACO NUMBER 930

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-18-62

EQUIPMENT REQUIREMENTS

REVISION B DATE 11

EQUIPMENT TITLE Load, Simulated, Destruct S&A Device, Figure A 77
(Basic Name First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-27917

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CENT
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9833
						X

PURPOSE & JUSTIFICATION

A requirement exists to perform the tests of Aerojet-General document 8 during the assembly and checkout of the Destruct S&A Device Test Set. testing requires the application of a simulated squib load and a short to the output of the Test Set.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The simulated load should contain the following items:

One 0.17 ohm \pm 1%, 5 watt resistor

One MS3106K16S-1S connector

The following listed equipment will satisfy this requirement.

Being 2/11 25-27917

NOTE: Use form UB-4071-1000 if additional sheets are required.

REV 2.5. STAPLES

G. A. Staples

5-6434

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:

SHT

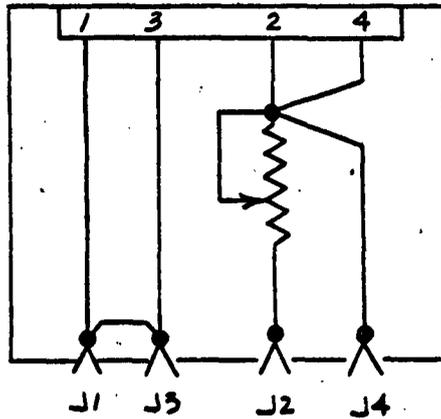
ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 MAR 18 1963

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WIRING DIAGRAM

ACO 930

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NO. -----

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WS 133A

ACO NUMBER 931

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 6-15-6

REVISION A DATE 11-20-62

EQUIPMENT TITLE Meter, Noise & Field Intensity
(Basic Name First)

RESPONSIBLE DEPT. E/D EQUIP. CLASSIFICATION SFC/QH

DESIGN REQMTS DOCUMENT none DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB - C/D	...
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	...
			X			X	

PURPOSE & JUSTIFICATION

A requirement exists to measure the noise level in the output of the C/D and T/M amplifiers during assy. and checkout of the repeater antenna system (fig A 9201). It is required that the noise level be checked up to a freq. of 550 MC.

A noise and field intensity meter is required for input impedance and noise figure measurements during preinstallation alignment and tests of the C/D repeater amplifier. ~~(D2-9835)~~

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency range - 200 to 1000 MC continuous

Input impedance - 50 ohms

Spectrum - Flat to 1000 MC within $\pm \frac{1}{2}$ db.

Peak amplitude - Variable from 37 to 97 db above 1 microvolt per MC bandwidth.

The following listed equipment will satisfy this requirement.

Empire devices BE-105 with T-3/NF.05 tuning unit.

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: S.A. Taylor REV A: D. O. LOVE

TELEPHONE: 5-6434

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Butler</i>	<i>C.P. Mann</i>	<i>R. Brewer</i>	<i>R. Estep</i>

2-6340-0-1
REV. 12-12-2
MAR 18 1963

BOEING NO. D2-11713-2
PAGE -931

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ACO NUMBER 932

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-11-62

REVISION B DATE 11-20-62

EQUIPMENT TITLE Millivoltmeter, R.F.
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT none DWG NO. N/A

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLI	VAFB-CTLI
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	D2-9835
			X			X	X

PURPOSE & JUSTIFICATION

A requirement exists to measure the RF power output of the C/D and T/M amplifiers during the Assembly and Checkout of the Repeater Antenna System (Figure "A" 9201).

A requirement exists to measure the RF power output of the C/D repeater amplifier during preinstallation alignment and test.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Full scale reading 0-10 MV and 0-3 volts.

Frequency range 200 MC to 600 MC.

The following listed equipment will satisfy this requirement.

1. Boonton 91CA. This Boonton is available at VAFB.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. A. Burton</i>	<i>W. M. ...</i>	<i>G. E. Greiser</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963
REV. 12-12-2

NOTE: Use form UD-4071-1000 if additional sheets are required.
 Rev. B D. O. Love 5-9366
 Gary Williams 5-4917
 G. A. Staples Rev. A
 TELEPHONE: 5-6434

WS 133A

ACO NUMBER 934

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-11-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE GENERATOR, NOISE
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG. NO. NA

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to introduce a known amount of noise into the input of the C/D and T/M amplifiers during the assembly and checkout of the Repeater Antenna System (Figure A 9201).

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency Range 30 to 1000 mc

Noise Factor Range 0 to 20 db

Maximum VSWR 1.3

Impedance 50 ohms unbalanced

The following listed equipment will satisfy this requirement:

PRD Electronics 904

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>A.H. Barton</i>	<i>R.E. Chilling</i>	<i>A.E. Brewer</i>	<i>R. Estep</i>

2-4340-0-Added 5-11-62

REV. MAR 18 1963

D2-11713-2

BOEING NO. _____
PAGE 1 of 934

NOTE: Use form UD-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: G.A. STAPLES
 TELEPHONE: 5-6031
5/11/62

WS 133A

ACO NUMBER 935

ASSEMBLY & CHECKOUT

APPROVAL DATE 5-22-2

EQUIPMENT REQUIREMENTS

REVISION F DATE 3-22-3

EQUIPMENT TITLE TEST TOOL - TEST SET, EXPLOSIVE SET CIRCUITRY
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-27800

TO BE USED AT: Ref: ECP-111

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	Wing III	Wing IV	Wing V
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	X	None	X	None	None	None

NOTE: Use form US-4071-1000 if additional sheets are required

PURPOSE & JUSTIFICATION

It is required that test tool for the Test Set, explosive Set Circuitry (Fig. A 3007 and 7679 be provided to facilitate the periodic calibration of the test set. This test tool shall have the capability of providing the input and out-pu measuring equipment access to monitor any pair combination of pins on the test set connectors. This test will be conducted at Plant 77 and VAFB per Section 2, 5, and 7, D2-12054.

Ref. Documents: D2-12054 - D2-9833
DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Tooling drawing TSJ 10-20994 has been provided for use to satisfy this same requirement during in-plant testing.

A part similar to TSJ 10-20994 will satisfy this requirement.

This item is a small portable metal box with two connectors, four selector switches and six jacks, as shown on sheets 2 and 3. It is wired to jacks E and F which are connected to pins 36 and 37 respectively of P1. Jacks A and B can be connected through switches S4 and S3 respectively, to any other pin on P1, and similarly jacks C and D can be connected through S2 and S1 to any pin on P2.

NOTE: Sections 2 and 5 of Document D2-12054 apply to acceptance functional testing at Plt. 77 only. Section 7 of D2-12054 applies to VAFB. There are no requirements for operational bases as testing will be performed at PMEL per applicable T.O.

ORIGINATING GROUP SUPERVISOR: R. Ormsbee
TELEPHONE: 5-6696

SHT 1 OF 3

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-1-1
REV. 3-18-3

BOEING NO. D2-11713-2
PAGE 935

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WS 133A

ACO NUMBER 936

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE 5-25-62

REVISION A DATE 6-29-62

EQUIPMENT TITLE LOAD ASSEMBLY
(Basic Noun First)

RESPONSIBLE DEPT. ENG. EQUIP. CLASSIFICATION DATE

DESIGN REQMTS DOCUMENT None DWG NO. VAFB 29-24504

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to load the output circuits during the assembly and checkout of the C55C Test Set.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This equipment consists of the following components:

One Chassis P/N 13B20 5" x 9.5" x 2.5"

One Terminal Board P/N BAC-Th2C-4-3

Six Resistors 100 ohm ± 5% ½ watt P/N 3A364

Six Resistors 200 ohm ± 5% ½ watt P/N 3A378

One Banana Jack, Green, E. F. Johnson Co., P/N 108-904

One Banana Jack, Yellow, E. F. Johnson Co., P/N 108-907

Six Banana Jacks, Red, E. F. Johnson Co., P/N 108-902

The following listed equipment will satisfy this requirement:

Boeing Tool P/N 3SE-25-25402 is similar to the requirements of this ACO.

△ Local base procured. Built on site from base tool drawings. Parts have been completed.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>WR Blair</i>	<i>W. H. Hume</i>	<i>A. C. Breiser</i>	<i>R. Ester</i>

2-4340-0-1 Rev 6-29-62

REV. MAR 18 1962

BOEING NO. D2-11713-2
PAGE .936

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: STAPLES
TELEPHONE: 5-6434

LSE

RTN

R

WS 133A

ACO NUMBER 937

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-19-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-20-82

EQUIPMENT TITLE Breakout Device, Figure A 9271 Testing
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-27918

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-GTII		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

A requirement exists to check the continuity of cables and Test Set during the Assembly and Checkout of Figure A 9271 Cable Assembly and Figure A 3007 Explosive Set Circuitry Test Set. The Breakout Box provides electrical access to individual wires of Figure A 9271 cables so checks can be made to assure signals and voltages originating in the Figure A 3007 Test Set appear on the correct cable connector pins. This check must be made prior to connecting the cable to Explosive Circuits for safety.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

A breakout device containing the following listed components will satisfy this requirement.

One Chassis

One Connector MS 24266-R22T-19S

One Connector MS 24264-R22T-19P

One Connector CA 22260-23 Cannon Elec.

One Connector CA 22510-2 Cannon Elec.

One Connector MS 24266-R12T-12S1

One Connector MS 24266-R10T-5S1

65 Standard Banana Jacks

Each Banana Jack is to be wired to the pin corresponding to the nomenclature shown on Sheet 2.

SHT 1 of 2

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Banton</i>	<i>W. Munn</i>	<i>R. E. Reivers</i>	<i>R. Estep</i>

2-6340-0-1 MAR 18 1963

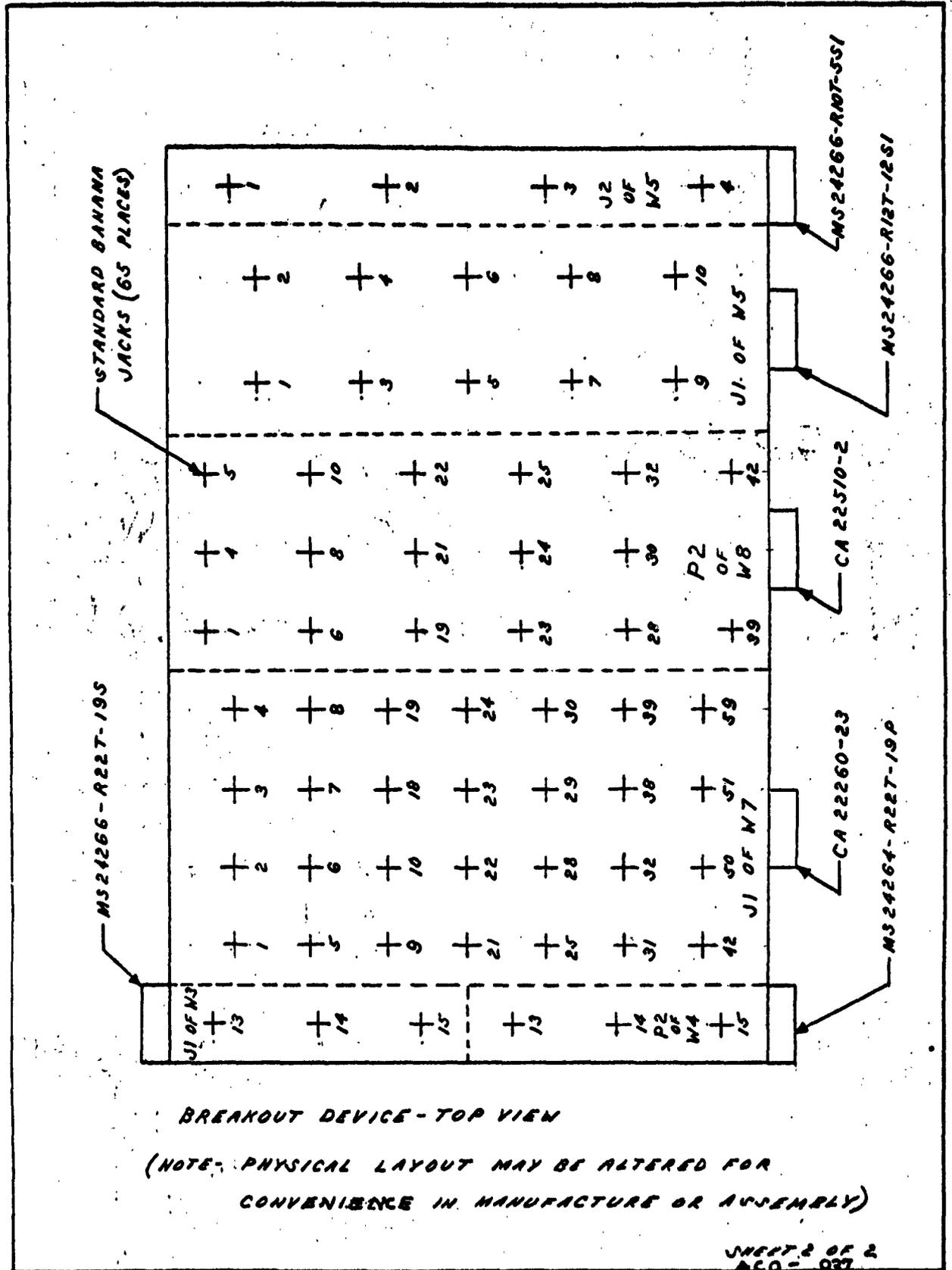
REV. 12-12-62

BOEING NO. D2-11713-2
PAGE -937

NOTE: Use form UD-071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: G. A. Staples
TELEPHONE: 5-6434

92
67



BREAKOUT DEVICE - TOP VIEW

(NOTE: PHYSICAL LAYOUT MAY BE ALTERED FOR CONVENIENCE IN MANUFACTURE OR ASSEMBLY)

SHEET 2 OF 2
ACO-937

Added 6-29-62

REVISED MAR 1 A 1963

U3 4286 2000

BOEING

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WS 133A

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

ACO NUMBER 939

APPROVAL DATE 6-19-62

REVISION R DATE 11-30-62

EQUIPMENT TITLE Test Set, Ground Power Equipment - CTLI
(Basic Non Flt)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG NO. 1

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLI	VAFB-CTLI
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9834	D2-9835
			X			X	X

PURPOSE & JUSTIFICATION

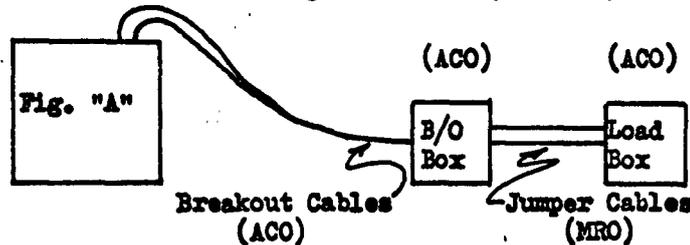
Set is required to checkout CTLI Ground Power Equipment (Figure "A"'s 9112, 9233, 9157 and 9219) per D2-10811 and D2-9835.

Set will simulate and switch loads, provide for attachment of counters and meters, etc. Set is required to checkout the following Ground Power functions: Visual/Aural Warning, Command Destruct, PCM Telemetry, Battery Emergency Power, and Power Monitor and Control.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Set will be portable and consist of:

- (1) Load box containing resistors, switches, light and jacks
- (2) Two breakout boxes
- (3) Six cables to facilitate attachment of breakout boxes to Figure "A" output connectors
- (4) Container for storage of items 1, 2 and 3



Note: Jumper Cables and Load Box are used with Breakout Box 25-34760-1 only.

1 ACO Equipment consists of items shown above. Existing Engineering Drawings of these items are as follows:

Breakout Cables	25-35832
Breakout Box	25-35760
Breakout Box	25-35541
Load Box	25-34573

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-6340-0-1 MAR 18 1963
REV. 12-12-2

D2-11713-2
PAGE -939

NOTE: Use form US-4071-1000
If additional sheets are required.

W. T. RAHSEY
ORIGINATING GROUP SUPERVISOR: 5-6675
TELEPHONE: 5-6834
REMARKS
4. A. STAPLES 9/25
5-6834

330

WS 133A

ACO NUMBER 940

ASSEMBLY & CHECKOUT

APPROVAL DATE 6-19-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE COUPLER, DIRECTIONAL
(Basic Noun First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION BFC/OF

DESIGN REQMS DOCUMENT _____ DWG NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION This item is required for use in monitoring the test frequency supplied by a signal generator to the system under test. The directional coupler extracts a small fraction of the energy flowing in a coaxial line to be used as an input to a frequency meter used to determine the applied frequency to an accuracy of better than .05%. The system Model Specifications require accuracies of .05% and signal generator accuracies are nominally 0.5% to 1%.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Coaxial, Type N connectors, 20 decibel coupling insertion loss 0.2 decibels maximum excluding coupled power, 240 to 425 mc frequency. The following equipment will satisfy this requirement:
Narda Microwave Corporation Model 3000-20

SHT 1 OF 1

ENGINEERING DEPT. <i>A. H. Burton</i>	BASE INSTALLATION DEPT. <i>W. H. ...</i>	MANUFACTURING DEPT. <i>G. E. ...</i>	FACILITIES DEPT. <i>R. ...</i>
--	---	---	-----------------------------------

2-6340-0-1 Added 6-29-62

REV. MAR 13 1963

BOEING NO. D2-11713-2
PAGE 940

NOTE: Use form UD-4971-1000 if additional sheets are required.

122
 C.D.O. 682
 ORIGINATING GROUP SUPERVISOR: *[Signature]*
 TELEPHONE: 505-5137
[Signature]

WS 133A

ACO NUMBER 941

ASSEMBLY & CHECKOUT

APPROVAL DATE 7-24-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE BREAKOUT DEVICE, CTLI UMBILICAL CONNECTOR & LAUNCH COMPLEX

(Boeing Form 1-1-57)
SAFETY CONSOLE

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT _____ DWG. NO. 25-32523 

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

PURPOSE & JUSTIFICATION

During the assembly and checkout of the CTLI Power and Control Subsystem, specification S-133-2110-1, a breakout device (a) is required between the Test Set, Umbilical Loads and Signals, Figure A 9219, and the CTLI Umbilical, Figure A 9195. This breakout device will apply or remove Test Set Loads.

A breakout device (b) is required to simulate the CTLI Launch Complex Safety Console. This device is used prior to the integration of this console with the Power and Control Subsystem.

Both breakout devices are required to accomplish testing which demonstrates requirements of specifications S-133-2110-1 and S-133-2110-2, Launch Safety Subsystem.

A device containing the following listed components will satisfy the requirement of breakout device (a), Boeing P/N 25-32523-1:

- One Chassis 11 SPST toggle switches, 20 ampere DC
- One Terminal Board with 60 terminals 9 DPST toggle switches, 20 ampere DC
- 60 Standard Banana Jacks

The device should be wired as shown on sheets 3, 4, and 5.

A device containing the following listed components will satisfy the requirements of breakout device (b), Boeing P/N 25-32523-2:

- One Chassis
- 174 Standard Banana Jacks
- One each connector which will mate with the following:
 - BAC C45C F12C02S BAC C45C F2C07P2
 - BAC C45C F12C01S BAC C45C F2C07P3
 - BAC C45C F16C03P3 BAC C45C F2C07P
 - BAC C45C F16C03P2
 - BAC C45C F16C03P1

The device should be wired as shown on sheet 6.

 This item will be designed and fabricated at VAFB and incorporates the functions of ACO 918. SHT 1 of 6

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>	<i>[Signature]</i>

2-4340-0-1 Added 8-3-62

REV. MAR 18 1963

BOEING NO. D2-11713 ²
PAGE 941

NOTE: Use form U3-4071-1000 if additional sheets are required

1-16-2

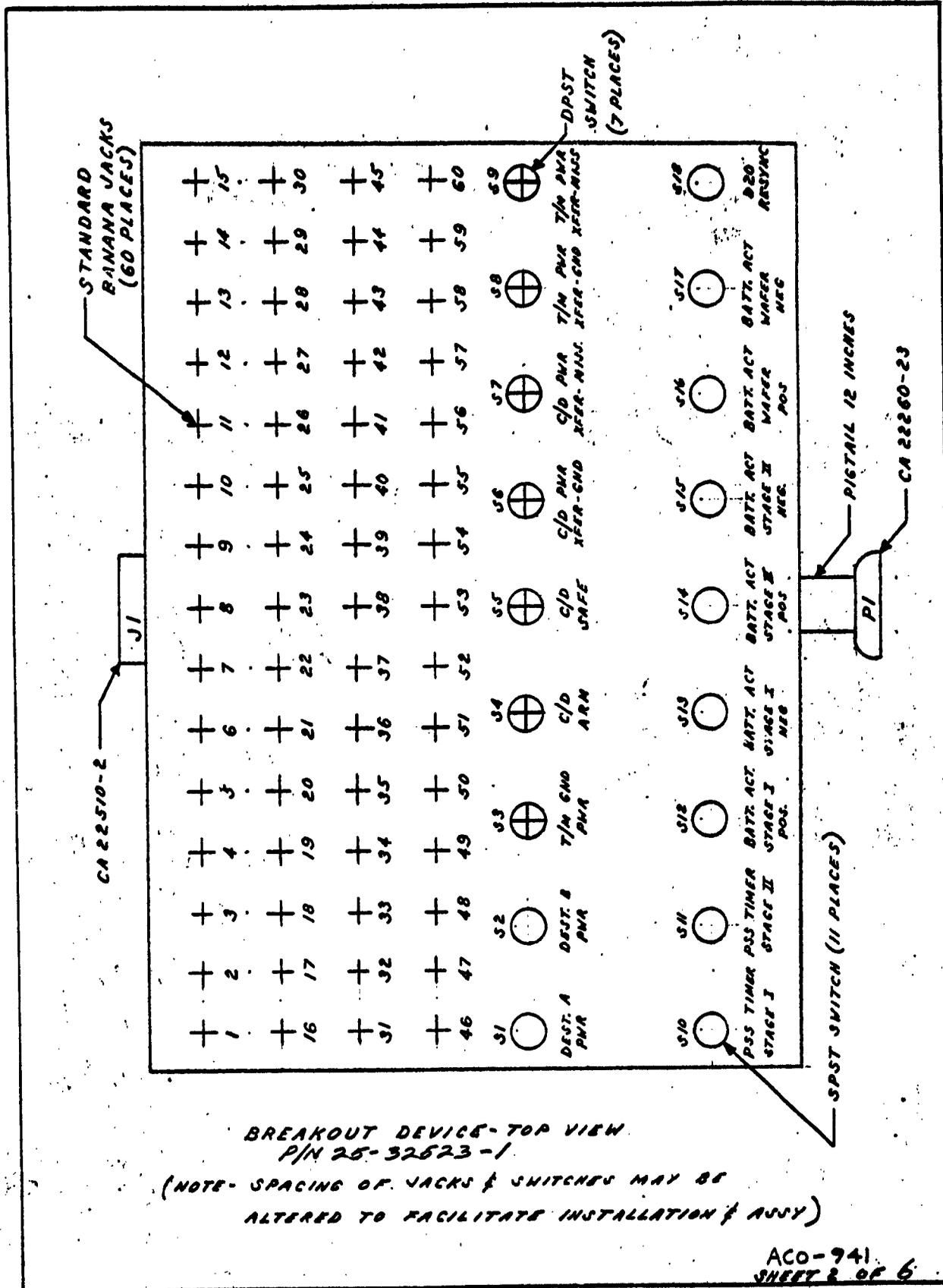
G. A. Staples

5-6434

ORIGINATING GROUP SUPERVISOR:

TELEPHONE:

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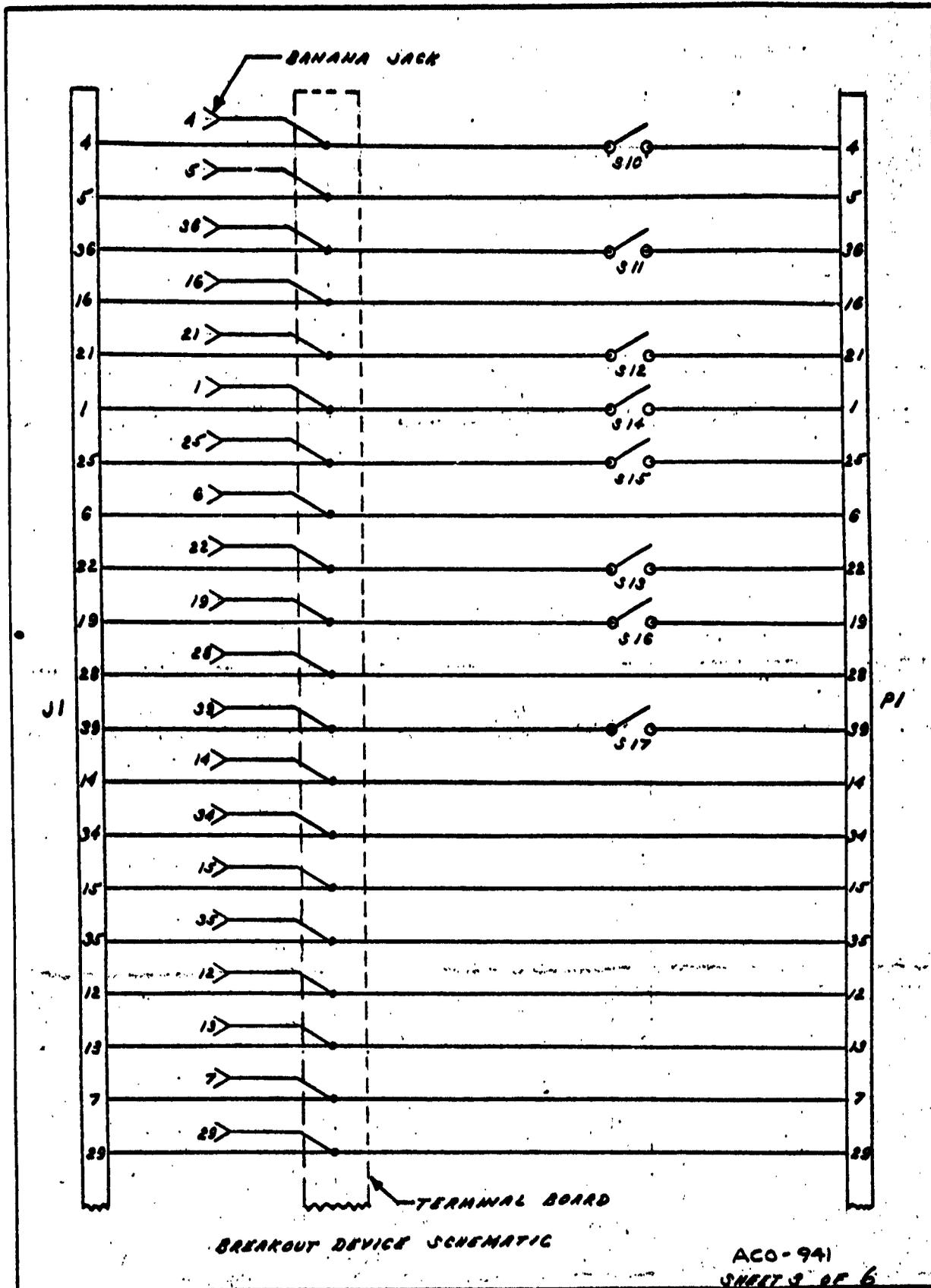


BREAKOUT DEVICE - TOP VIEW
 P/N 25-32523-1

(NOTE - SPACING OF JACKS & SWITCHES MAY BE ALTERED TO FACILITATE INSTALLATION / ASSY)

ACO-941
 SHEET 2 OF 6

Added 8-3-62
 REVISED MAR 5 1963
 U3 4200 2000



BREAKOUT DEVICE SCHEMATIC

ACO-941
SHEET 3 OF 6

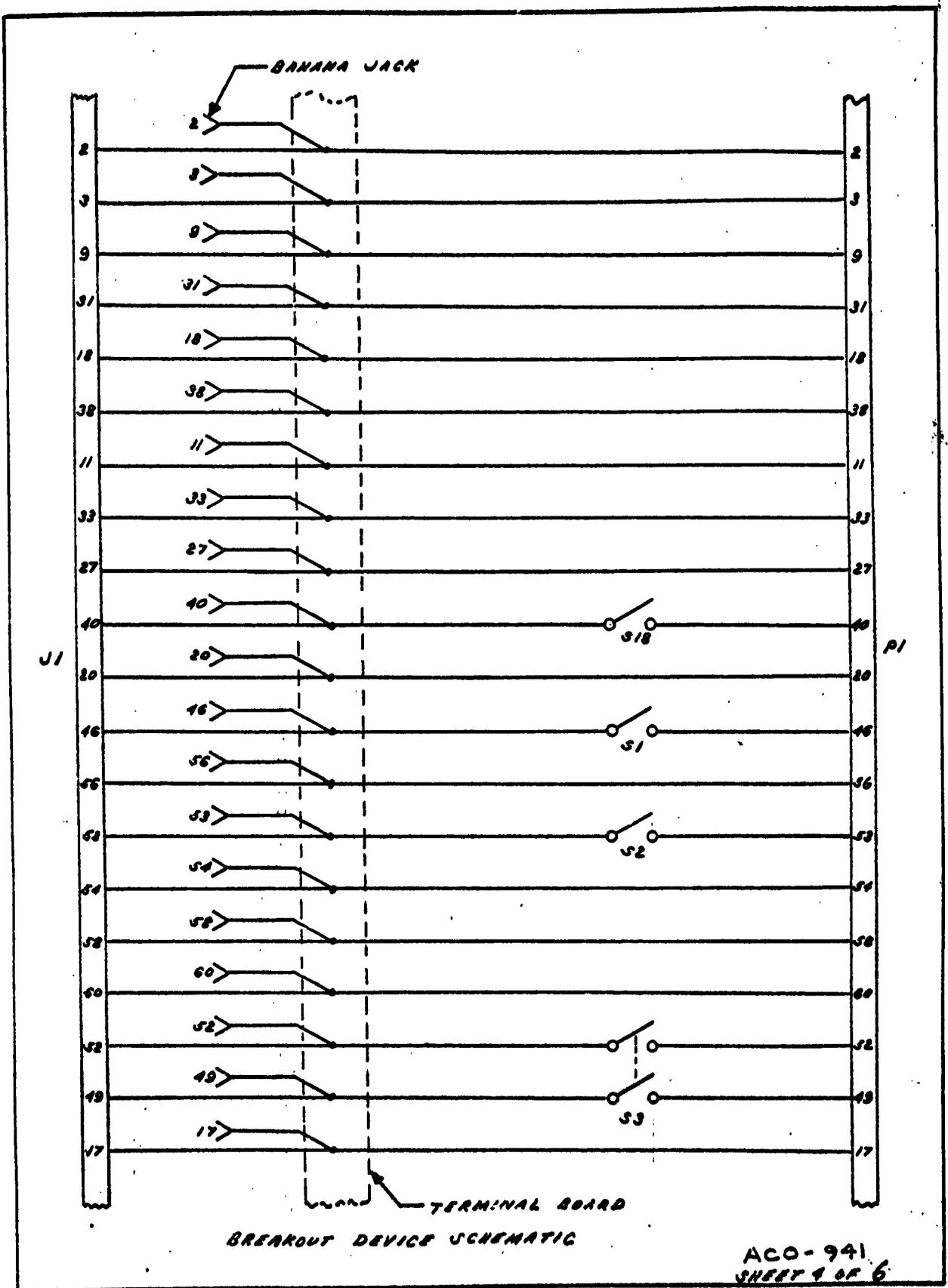
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MAR 18 1963
REVISED
US 4200 2000

BOEING

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PAGE 941-b

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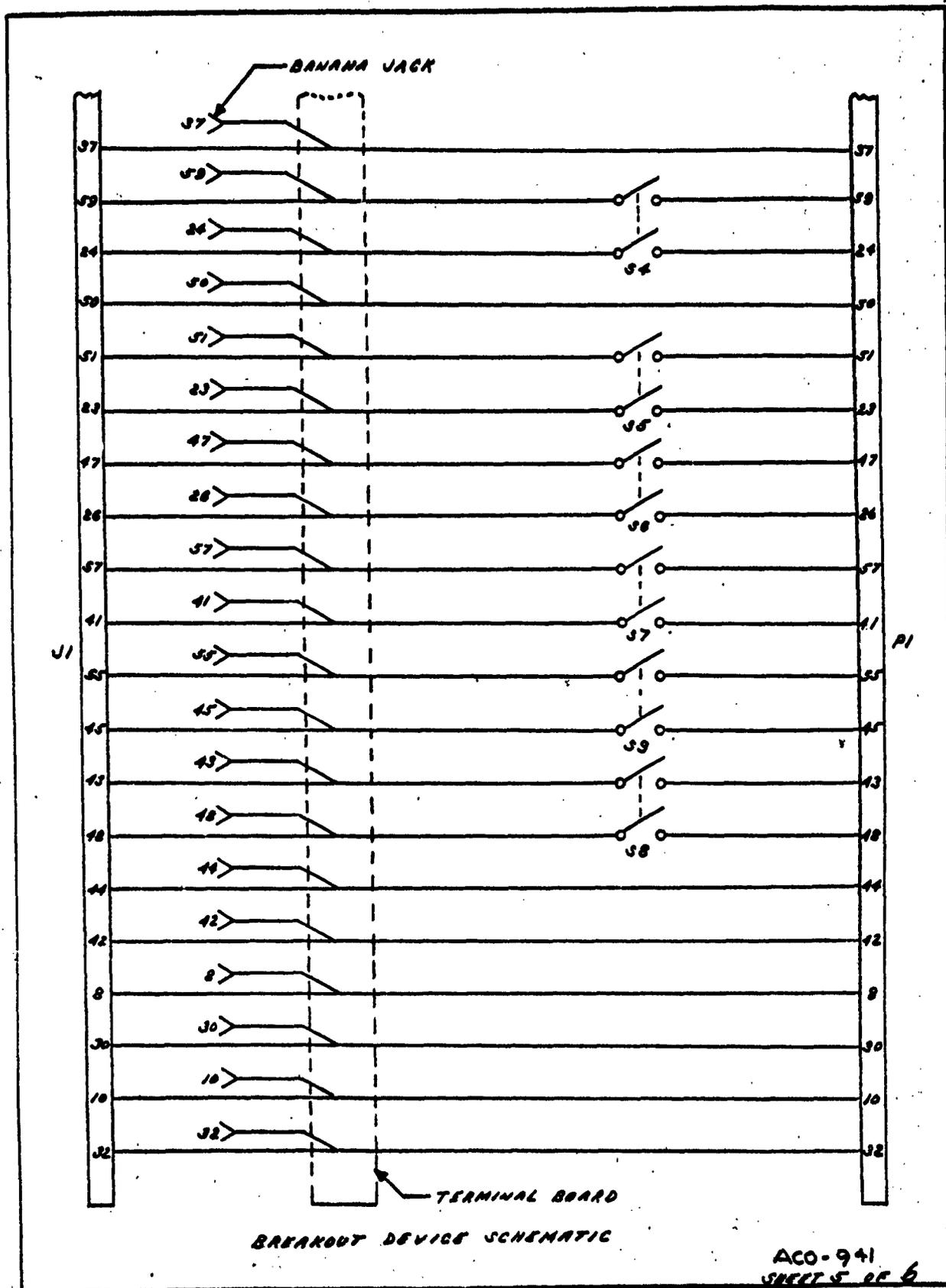
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BREAKOUT DEVICE SCHEMATIC

ACO-941
SHEET 4 OF 6

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Added 8-3-62
REVISED MAR 18 1963
U3 4286 2000

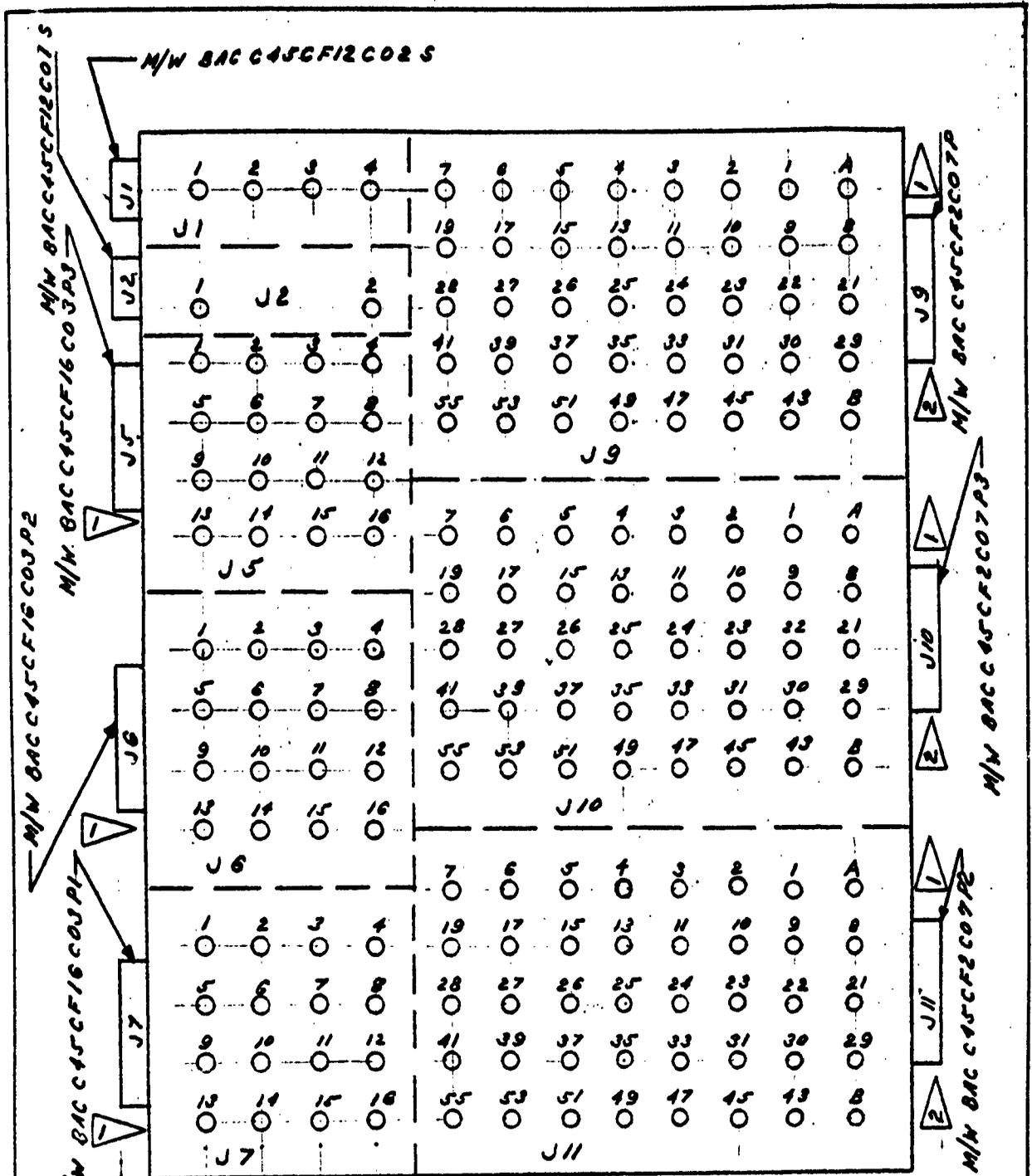


ACO-941
SHEET 5 OF 6

Added 8-3-62
REVISED MAR 18 1963
U3 4288 2000

BOEING	VOL.	NO. D2-11713-2
	SEC.	PAGE 4941-d

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UNLESS NOTED, CONNECTOR PINS ARE TO BE CONNECTED TO JACK OF SAME NUMBER.

M/W = MATE WITH
 P/N 25-32573-2

IF INSERT ON DETAIL IS USED IN LIEU OF CONNECTOR ONLY ONE SET OF EACH TYPE OF BREAKOUT IS REQUIRED

PINS 12, 14, 16, 18, 20, 42, 44, 46 & 48 TO BE CONNECTED TO JACK A. PINS 32, 34, 36, 38, 40, 50, 52, 54 & 56 TO JACK B.

LAUNCH SAFETY CONSOLE BREAKOUT DEVICE ACO-941

Added 8-3-62

REVISED MAR 12 1963

U3 4288 2000

BOEING

VOL

NO D2-11713-2

SEC

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SHEET 6 OF 6

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ACO NUMBER 942
APPROVAL DATE 8-24-62
REVISION _____ DATE _____

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

EQUIPMENT TITLE CARRIAGE, UNIVERSAL PROBE
(Basic Name First)

RESPONSIBLE DEPT. EID EQUIP. CLASSIFICATION OFC/OE

DESIGN REQMTS DOCUMENT None DWG NO. None

TO BE USED AT: Ref. PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	X	

Results from CCP 582-1 PURPOSE & JUSTIFICATION

Universal Probe Carriage is required for Assembly and Checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Reference D2-13049. This item is used in conjunction with ACO 946, Mount, Detector; ACO 949 Slotted Section, Coaxial to detect an R. F. signal during VSWR measurements.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Mount required to support Coaxial Slotted Section Hewlett-Packard 806B. This equipment must be physically and functionally compatible with the equipment noted in the "purpose above".

The following listed equipment will satisfy the requirement:

Hewlett-Packard 809B.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edna J. Walker</i>	<i>Wes Davis</i>	<i>G.E. Greiner</i>	<i>R. Estep</i>

2-4340-1 MAR 18 1963
REV. 9-6-62

BOEING NO. D2-11713-2
PAGE 942

NOTE: Use form US-4071-1000 if additional sheets are required.

Handwritten signature

ORIGINATING GROUP SUPERVISOR: A. C. Osborne
5-1901
TELEPHONE: _____

Handwritten initials

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 943
APPROVAL DATE 8-24-62
REVISION _____ DATE _____

EQUIPMENT TITLE COUPLER - DIRECTIONAL
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT _____ DWG NO. _____

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAPB	VAFB	STP III	PLT 77	VAFB-CTLT	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

Results from CCP 582-1

PURPOSE & JUSTIFICATION

A directional coupler is required for Assembly and Checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Ref. D2-13049. This coupler is used to divert energy from ACO 945, Signal generator to allow measurement of input energy being supplied by the Signal generator during System loss testing.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

- COUPLING: 10 db
- ACCURACY: ±0.4 db (mean coupling)
- CALIBRATION ACCURACY: ±0.2 db at 5 frequencies
- FREQUENCY SENSITIVITY: ±1.2 db over entire range
- FREQUENCY RANGE: 5,000 to 16,000 Mc
- CALIBRATION FREQUENCIES: 4.0, 5.5, 7.0, 8.5, 10.0 kmc

The following equipment will satisfy this requirement:

- Narda Model 3004-10 ✓

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edmond Halliatt</i>	<i>Wes Davies</i>	<i>A.E. Greiser</i>	<i>R. Foster</i>

REV. 9-6-62
MAR 18 1963

BOEING NO. D2-11713-2
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NOTE: Use form DD-471-1000 if additional sheets are required.

J. Paulsen

ORIGINATING GROUP SUPERVISOR: A. G. Osborne
TELEPHONE: 5-1901

653
1329

WS 133A
**ASSEMBLY & CHECKOUT
 EQUIPMENT REQUIREMENTS**

ACO NUMBER 944
 APPROVAL DATE 8-24-62
 REVISION _____ DATE _____

EQUIPMENT TITLE COUPLER - DIRECTIONAL
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION -SEC/OH

DESIGN REQMS DOCUMENT _____ DWG. NO. _____

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTLI	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

Results from CCB 592-1
 PURPOSE & JUSTIFICATION

Directional coupler is required for assembly and checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Reference D2-13049. This coupler is used to divert energy from the ACO 945, Signal Generator to allow measurement of input frequency during VSWR and System loss tests.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

COUPLING: 30 db.

ACCURACY: ±0.4 db (mean coupling)

CALIBRATION ACCURACY: ±0.2 db at 5 frequencies.

FREQUENCY RANGE: 5,000 to 16,000 Mc

FREQUENCY SENSITIVITY: ±1.2 db over entire range

CALIBRATION FREQUENCIES: 4.0, 5.5, 7.0, 8.5, 10.0 Mc

Must be calibrated at not less than 4 points within its frequency range.

The following listed equipment will satisfy the requirement:

Narda Model 3004-30

This item has been furnished to VAFB. No procurement required.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edna J. Hollister</i>	<i>Way Davies</i>	<i>A.E. Brewer</i>	<i>R. Estep</i>

2-6340-6-1 MAR 18 1963

REV. 9-6-62

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 PAGE 944

NOTE: Use form 15-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: A. C. Osborne

TELEPHONE: 5-1901

Richard D 8/13

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WS 133A

ACO NUMBER 945

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-24-62

EQUIPMENT REQUIREMENTS

REVISION A DATE 11-2-217

EQUIPMENT TITLE Generator, SHF RF Signal
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SEC/OH

DESIGN REQMS DOCUMENT _____ DWG. NO. _____

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLE	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

Results From CCP 582-1

PURPOSE & JUSTIFICATION

SHF RF signal source required for assembly and checkout of the C-Band Repeater Antenna System, Figure "A" 9245, Ref: D2-13049. This generator is used to provide an input signal source at C-Band frequencies to measurements of VSWR and insertion loss.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

FREQUENCY RANGE: 5000 to 6000 MC covered in a single band. Repeller voltage automatically tracked and proper mode automatically selected. CALIBRATION: Direct reading. Frequency calibration accuracy better than 1%.

FREQUENCY STABILITY: Frequency variation less than 0.006% per degree centigrade change in ambient temperature. Line voltage change ± 10 volts causes less than 0.02% frequency change.

OUTPUT RANGE: 1 milliwatt or 0.223 volt to 0.1 microvolt (0 dbm to -127 dbm) into 50 ohms. Directly calibrated in microvolts and db (coaxial Type N connector).

OUTPUT ACCURACY: Within ± 2 db -7 dbm to -127 dbm into 50 ohms.

INTERNAL IMPEDANCE: 50 OHMS nominal. SWR less than 2.

MODULATION: Internal or external pulse, square wave.

The following listed equipment will satisfy the requirements:

1. Hewlett-Packard 618B
2. Bay State Electronics, #SQ-152

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. H. Burt</i>	<i>W. H. Mann</i>	<i>A. E. Reeves</i>	<i>R. Estep</i>

2-6340-0-1 MAR 1 R 1963

REV. 11-6-2
11-13-2

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PAGE 015

NOTE: Use form UD-071-1000 if additional sheets are required.

Rev. A: R. Estep
2-4160
08-35

ORIGINATING GROUP SUPERVISOR: A. C. Osborne
TELEPHONE: 5-1901

17C

JU 3-0768

WS 133A

ACO NUMBER 916

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-21-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE MOUNT, DETECTOR
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION -SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTL	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835	
						X	

Results from CCP 582-1
PURPOSE & JUSTIFICATION

A detector mount is required for the assembly and checkout of the C-Band Repeater Antenna System, Figure "A" 9245 This mount is used in conjunction with ACO 942 Carriage, ACO 949 Probe, and ACO 950 Slotted Section on to detect an R. F. signal during VSWR measurements.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

FREQUENCY: 5 to 6 EMCs

TUNER: Single stub (preferred)

INPUT CONNECTOR: Type N

OUTPUT CONNECTOR: Type BNC

This equipment must be compatible with the equipment listed above.

The following listed equipment will satisfy the requirement:
Hewlett-Packard Model 440A

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Elton J. Schmitt</i>	<i>Wes Davis</i>	<i>G.E. Greiner</i>	<i>R. Easton</i>

2-6340-1 MAR 1 R 1963
REV. 9-6062

BOEING | MOD 2-11713 -2
PAGE 846

NOTE: Use form U3-6871-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: A. C. Osborne

TELEPHONE: 5-1901

J. Fisher 8/13

ape

WS 133A

ACO NUMBER 947
8-24-62

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

APPROVAL DATE _____

REVISION _____ DATE _____

EQUIPMENT TITLE METER, COAXIAL FREQUENCY
(Basic Name First)

RESPONSIBLE DEPT. BID EQUIP. CLASSIFICATION SFC/OR

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

Results from CCP582-1
PURPOSE & JUSTIFICATION

Frequency meter is required for Assembly and Checkout of the C-Band Repeater Antenna System, Figure "A" 9245 Ref: D2-13049. This meter is used to measure input frequency from a signal generator during insertion loss measurements.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

FREQUENCY RANGE: 455 to 569 KMC

ACCURACY: ± 0.02%

The meter must be a resonant cavity type.

The following listed equipment will satisfy the requirement:

- Waveline Incorporated Model 953 CR
- Sperry Microline Model 27B
- Sperry Microline Model 27C

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>E. J. Sullivan</i>	<i>W. S. Davies</i>	<i>A. E. Preiser</i>	<i>R. Estep</i>

2-6340-04 8-6-62
REV. MAR 18 1963

BOEING NO. D2-11713-2
PAGE 947 →

NOTE: Use form IS-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: A. C. Osborne
TELEPHONE: 5-1901

8/13
[Signature]

SPC

WS 133A

ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS

ACO NUMBER 949

APPROVAL DATE 8-21-62

REVISION _____ DATE _____

EQUIPMENT TITLE PROBE, RF BROADBAND
(Basic Name First)

RESPONSIBLE DEPT. RT-111 EQUIP. CLASSIFICATION SPC/OH

DESIGN REQMS DOCUMENT None DWG NO. None

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTLI		
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-9835		
						X		

Results from CCP 582-1
PURPOSE & JUSTIFICATION

A RF Broadband Probe is required for assembly and checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Ref D2-13049
This item is used in conjunction with ACO 942 Carriage, Universal Probe ACO 956 Mount, Detector, and ACO 950, Slotted Section, Coaxial to measure VSWR on the C-Band antenna.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

This item must be compatible with the equipment noted above.

Connector: Female, Type "N"

The following equipment will satisfy the requirement:
Hewlett-Packard 442B.

NOTE: Use form US-4071-1000
Additional sheets are required.

J. Richardson
8/13

ORIGINATING GROUP SUPERVISOR: A. C. Osborne
TELEPHONE: 5-1901

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>William J. Halliwell</i>	<i>W. Davis</i>	<i>A.E. Brewer</i>	<i>R. Estey</i>

2-6340-1
REV. 9-6-62

MAR 7 1963

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File

WS 133A

ASSEMBLY & CHECKOUT EQUIPMENT REQUIREMENTS

ACO NUMBER 950
APPROVAL DATE 8-24-62
REVISION _____ DATE _____

EQUIPMENT TITLE SLOTTED SECTION, COAXIAL
(Basic Noun First)

RESPONSIBLE DEPT. ETD EQUIP. CLASSIFICATION SFC/CP

DESIGN REQMTS DOCUMENT _____ DWG. NO. _____

TO BE USED AT: Ref. PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLY 77	VAFB-CTL
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11142	D2-9835
						X

Results from CCP 582-1
PURPOSE & JUSTIFICATION

Slotted section required for assembly and checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Ref: D2-13049. This slotted section is used in conjunction with ACO 942 carriage, ACO 946 Mount, and ACO 949 Probe in measuring the C-Band antenna VSWR.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

CARRIAGE: Fits Hewlett-Packard 809B Universal Probe Carriage. This section must be compatible with the items noted above.

FREQUENCY RANGE: 3 to 6 KMc.

CONNECTIONS: Type N, one male, one female.

RESIDUAL SWR: Less than 1.04, 3 to 6 GMc

PICKUP ERROR: Probe pickup variation along line is less than 0.1 db except at extreme ends where variation is less than 0.4 db.

The following listed equipment will satisfy the requirement:
Hewlett-Packard 806B

△ This item has been furnished to VAFB. No procurement required.

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edna J. Schmitt</i>	<i>Miss Davis</i>	<i>A.C. Greiser</i>	<i>R. Estep</i>

2-4340 MAR 18 1963

REV. 9-6-62

NO. D2-11713-2
PAGE 950

NOTE: Use form US-4871-1000 if additional sheets are required.

J. R. ...

ORIGINATING GROUP SUPERVISOR: A. G. Osborne
TELEPHONE: 5-1901

WS 133A

ACO NUMBER 951

ASSEMBLY & CHECKOUT

APPROVAL DATE 8-21-62

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE Adapter, Wave Guide to Coaxial Cable
(Basic Noun First)

RESPONSIBLE DEPT. BTD EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMTS DOCUMENT _____ DWG NO. _____

TO BE USED AT: Ref: PRR 10823

BASE	MAFB	EAFB	VAFB	STP III	PLT 77	VAFB-CTU	
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162	D2-7035	
						X	

Results from CCP-582-1
 PURPOSE & JUSTIFICATION
 A waveguide to Coaxial Cable adapter is required for Assembly and Checkout of the C-Band Repeater Antenna System, Figure "A" 9245. Ref. D2-13049. This adapter is used during insertion loss measurements, to connect the wave guide under test to the test equipment.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

1. Transition from RG-49/U to a type "N" coaxial line connector.
2. VSWR not more than 1.25:1.

The following listed equipment will satisfy the requirement:

1. UG-399/U (preferred)
2. Hewlett-Packard G281A
3. Narda 613A

SHT _____ OF _____

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>E. J. Schmitt</i>	<i>W. Navils</i>	<i>G. E. Preiser</i>	<i>R. Estep</i>

2-6340-1 MAR 18 1963
REV 9-6-62

NOTE: Use form UD-4071-1000
if additional sheets are required.

J. Paulson
8/13

ORIGINATING GROUP SUPERVISOR: A. C. Osborne

TELEPHONE: 5-1901

9/16

WS 133A

ACO NUMBER 952

**ASSEMBLY & CHECKOUT
EQUIPMENT REQUIREMENTS**

APPROVAL DATE 10-30-2

REVISION A DATE 3-15-3

EQUIPMENT TITLE SET, TEST, G&C POWER SUPPLY SET
(Basic Noun First)

RESPONSIBLE DEPT. Engineering EQUIP. CLASSIFICATION BATE

DESIGN REQMTS DOCUMENT None DWG NO. 25-14849

TO BE USED AT:

BASE	MAFB	EAFB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	None	None	X					

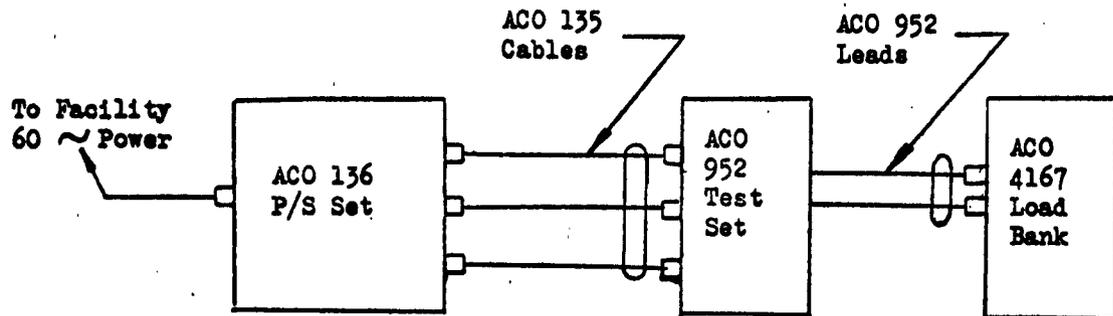
PURPOSE & JUSTIFICATION

To test ACO-136 functionally upon installation and periodically thereafter, in conjunction with cable set ACO-135 and load bank ACO-4167 at the CSA, VAFB.

REF: D2-9834, Vol. 1

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

The test set consists of connectors, test jacks, a switch and connecting leads contained in a small portable cabinet. Test power is supplied by the power supply set under test.



This item was formerly ACO-9329.

SHT 1 of 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>Edmond J. Hollister</i>	<i>McMurray</i>	<i>A.E. Brewer</i>	<i>W. H. Herald</i>

2-6340-0-1

REV. 3-18-3

NOTE: Use form U3-4071-1000 if additional sheets are required.

ORIGINATING GROUP SUPERVISOR: R. L. Hayle REV. "A" - R. E. Colling 5-2854

TELEPHONE:

WS 8

LP 2

WS 133A

ACO NUMBER 953

ASSEMBLY & CHECKOUT

APPROVAL DATE 2-12-3

EQUIPMENT REQUIREMENTS

REVISION _____ DATE _____

EQUIPMENT TITLE SIGNAL GENERATOR, FM MODULATED
(Basic Name First)

RESPONSIBLE DEPT. BI-MM EQUIP. CLASSIFICATION SFC/OH

DESIGN REQMS DOCUMENT None DWG NO. None

TO BE USED AT:

BASE	MAFB	EAPB	VAFB	STP III	PLT 77			
DOC	D2-7648	D2-7648	D2-7871	D2-9942	D2-11162			
	NONE	NONE	X					

Results from CCP 582-2, ECP 162 and ECP 237.
PURPOSE & JUSTIFICATION

An FM Modulated Signal Generator is required for use in testing the RF open loop telemetry transmission system and the RF closed loop telemetry transmission system from launch facilities O2 through O7 to a semi-permanently located PCM/FM telemetry checkout test set, CTII.

Reference Document: D2-9934, Vol. II.

DESCRIPTION, REQUIREMENTS & RECOMMENDATIONS:

Frequency Range: 215-260 MC.

Type of Modulation: Frequency Modulation (Internal).

Modulation Frequency: Internal generated 70 KC sine wave.

Frequency Deviation: 140 KC peak.

RF Output: 0.5 to 200,000 microvolts.

RF Stability: No more than 0.04% per hour after one hour warm-up.

The following equipment will satisfy this requirement:

Boonton 202J

Boonton 202G

SHT 1 OF 1

ENGINEERING DEPT.	BASE INSTALLATION DEPT.	MANUFACTURING DEPT.	FACILITIES DEPT.
<i>H. L. Boston</i>	<i>A. D. Munn</i>	<i>A. E. Crisler</i>	<i>C. W. ...</i>

2-6340-0-1 MAR 18 1963
REV. 2-14-3

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NOTE: Use form U3-4071-1000 if additional sheets are required.

INATING GROUP SUPERVISOR: M.S. Leach
TELEPHONE: 6-6327

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