SUPPLEMENT to /TRECOM TECHNICAL REPORT 63-81

CRASH INJURY EVALUATION
PERSONNEL RESTRAINT SYSTEMS STUDY
UH-1A AND UH-1B BELL IROQUOIS HELICOPTERS

Contract DA 44-177-AMC-888(T)
March 1964

prepared by:

AVIATION SAFETY ENGINEERING AND RESEARCH
Phoenix, Arizona

A Division Of
Flight Safety Foundation, Inc.
New York, New York
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TRECOM Technical Report 63-81
March 1964

SUPPLEMENT

to

PERSONNEL RESTRAINT SYSTEMS STUDY
UH-1A AND UH-1B BELL IROQUOIS HELICOPTERS

Crash Injury Evaluation
AvSFR 62-27

Prepared by
Aviation Safety Engineering and Research
2871 Sky Harbor Blvd.
Phoenix, Arizona
A Division of
Flight Safety Foundation, Inc.

for
U. S. ARMY TRANSPORTATION RESEARCH COMMAND
FORT EUSTIS, VIRGINIA
## CONTENTS

<table>
<thead>
<tr>
<th>Page</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Installation of Personnel Restraint System</td>
</tr>
<tr>
<td>2</td>
<td>Installation of Lap Belt Tie-Down Strap (Pilot's and Copilot's Seat)</td>
</tr>
<tr>
<td>3</td>
<td>Modification of Aft Carriage Attachment (Crew Seat)</td>
</tr>
<tr>
<td>4</td>
<td>Guide Rod Assembly (Seat Back and Pilot's Shoulder Harness)</td>
</tr>
<tr>
<td>5</td>
<td>Doubler--Inertia Reel Installation</td>
</tr>
<tr>
<td>6</td>
<td>Dust Cover--Inertia Reel Strap</td>
</tr>
<tr>
<td>7</td>
<td>Installation of Inertia Reel and Access Through Lower Panel</td>
</tr>
<tr>
<td>8</td>
<td>Floor Modification (Left-Hand Side)</td>
</tr>
<tr>
<td>9</td>
<td>Floor Modification (Right-Hand Side)</td>
</tr>
<tr>
<td>10</td>
<td>Control Cable Installation and Bolt Replacement (Crew Seat)</td>
</tr>
<tr>
<td>11</td>
<td>Detail and Installation of Reinforcement Tube (Seat Rail (Front))</td>
</tr>
<tr>
<td>12</td>
<td>Detail and Installation of Reinforcement Tube (Seat Rail (Back))</td>
</tr>
<tr>
<td>13, 14, 15</td>
<td>Reinforcement and Replacement of Rear Tracks</td>
</tr>
<tr>
<td>16</td>
<td>Modification of Troop Lap Belt Attachment Fittings</td>
</tr>
<tr>
<td>17</td>
<td>Installation of Personnel Restraint System</td>
</tr>
<tr>
<td>18</td>
<td>Lap Belt Tie-Down Strap</td>
</tr>
<tr>
<td>19</td>
<td>Pilot's Tie-Down Strap</td>
</tr>
</tbody>
</table>
ADDITIONAL RESTRAINT FOR MEDICAL ATTENDANT SEAT CAN BE OBTAINED BY USE OF 5/32 DIA. STAINLESS STEEL CABLES & AN TURNBUCKLES ATTACHED TO 2000# FLOOR TIEDOWNS.
.3/16 DRILL THRU EXISTING RIVET HOLES

8 PILOTS SEAT APPROX. (R)

AVCIR-15 TIE BAR
CIR-10

FRAME & BUCKET
PILOT & CO-PILOT SEAT
204-070-70G (REF.)

INSTALLED THIS SIDE UP

CHAMFER IF NECESSARY

BOLT & EXISTING

SECTION A
DOUBLE SIZE

ROD SEE DETAIL "B"
Cement rod to webbing in several spots before clamping

Detail B

AN 23-9aclevis bolt
AN 365-1032 nut
2 req. ea.

Frame & bucket (ref.)
SAWCUT THRU CENTER OF EXISTING BOLT HOLE, PERPENDICULAR TO BOTTOM OF -742 FITTING, CUT THRU -742 FITTING ONLY

204-070-713-13 CARRIAGE ASSEMBLY (REF)

TYPICAL SECTION AT SAWCUT

8. REASSEMBLE SIMILAR TO EXISTING ARRANGEMENT
7. INSTALL NEW AN3 BOLTS AND WASHERS. GRIND AN970-3 U TO
6. DRILL THRU CARRIAGE CHANNEL 0.191 DIA. AS SHOWN, 2 PLAS
5. DRILL OUT EXISTING ROLLER TO .468 DIA.
4. DRILL NEW .191 DIA. HOLE THRU TUBE AND FITTING AS SHOWN
3. SAWCUT FITTING AS SHOWN
2. REPLACE EXISTING SPACER WITH NAS43-5-53 SPACER.
1. REMOVE. FITTING, 1.25" STEEL TUBE AND CARRIAGE MODIFICATION PROCEDURE.
SECTION A-A

TUBE 204-070-7C

FITTING 204-070-74

DRILL THRU .191 (NO. 11 DRILL)
AN3-13 BOLT 1 REQ
AN970-3 WASHER 2 REQ
AN 960PD10 WASHER 2 REQ
NAS 43-3-42 Spacer (Existing)
AN365-1032 NUT 1 REQ

EXISTING AN4 B

DRILL OUT

AN 960-716 WASHER 2

NAS43-5-53 Spacer
DRILL 29/64 (.453) THRU CARRIAGE ONLY FOR SPACER

LINE DRILL THRU AND REPLACE EXISTING BOLT WITH ANS-16A BOLT 1 REQ
AN 365-5 NUT 1 REQ
AN960 PD516L WASHER 2 REQ

WASHERS AS NECESSARY TO CLEAR -742 FITTINGS

TAKE OUT AND INSTALL AN3-15A BOLT

CHANNEL FROM SEAT
R TO EXISTING ARRANGEMENT
BOLTS AND WASHERS. GRIND AN970-3 WASHERS AS NECESSARY TO CLEAR
BE CHANNEL 0.191 DIA. AS SHOWN, 2 PLACES
ROLLER TO .468 DIA.
HOLE THRU TUBE AND FITTING AS SHOWN AND INSTALL AN3-15A BOLT
5 SHOWN
SPACER WITH NAS43-5-53 SPACER
1.25" STEEL TUBE AND CARRIAGE CHANNEL FROM SEAT

PROCEDURE:
SECTION A-A

TUBE 204-070-706-11 (REF.)

FITTING 204-070-742 (REF)

[DRILL THRU .191 DIA. (NO. 11 DRILL)]
AN3-15A BOLT
AN365-1032 NUT

EXISTING AN4 BOLT (REF)

EXISTING ROLLER 204-070-711-21 (REF)
DRILL OUT TO 15/32 (.468) DIA.

AN 960-716 WASHER 2 REQ.

NAS43-5-53 SPACER

DRILL 29/64 (.453) THRU
CARRIAGE ONLY FOR SPACER

DRILL THRU AND REPLACE
EXISTING BOLT WITH
-16A BOLT 1 REQ
AN65-5 NUT 1 REQ
60 PD516L WASHER 2 REQ

2 - 742 FITTINGS
2. AFTER HEAT TREAT, DIP ENTIRE ASSEMBLY CHROMATE PRIMER - SPEC. MIL-P-6889

1. HEAT TREAT ENTIRE ASSEMBLY AFTER WELD
Screw

Support Assem. (Ref.)
3/4 x .065 STL Tube

.08 x 45° Fillet Weld

Existing Guide Bar (Ref.)

-13 Channel Assem
204-070-708 (Ref.)

End Note:
- Guide Bar

- Base
  Make 2 parts from 7/8 OD. tube by band saw cut along E

* Seat Sym.

This surface to be free of burrs & slag.
DETAIL - 1
DOUBLER (.050 THICK SHEET)

<table>
<thead>
<tr>
<th>HOLE</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1/8 DRILL (.125 DIA) THRU</td>
</tr>
<tr>
<td>B</td>
<td>#11 DRILL (.193 DIA) THRU</td>
</tr>
</tbody>
</table>
DETAIL - 2
DOUBLER (.063 THICK SHEET)
DETAIL - 2
DOUBLER (.063 THICK SHEET)
DETAIL -3-

DOUBLER (0.063 THICK SHEET)
NOTE: -1 GUIDE MUST PERMIT ASSEMBLY USING SHOULDER HARNES STRAP WITH END FITTING AS SHOWN (t = .25 in; W = 1.75 in)

8.32 Dia screws, self-tapping - Pk or equivalent as req.

GASKET - MATL. .13 thick sponge rubber next to floor plate

TOP OF COCKPIT FLOOR (REF)

WEB (REF) STA 98 BLD

SECTION A-A FULL SIZE

VIEW LOOKING FORWARD & R HAND SIDE
< ACCESS DOOR ON COCKPIT FLOOR 204-051-327 (REF) (L.H. SIDE ONLY)

BASE PLATE
MATERIAL: COG. AL. AL
7075-T6 BONDED TO BOOT

HOLE MUST BE FREE OF ROUGH EDGES TO PERMIT EASY MOVEMENT OF NYLON OR DACRON WEBBING WITHOUT FRAYING

GUIDE - BONDED TO BOOT MAY BE MADE OF ALUM. ALLOY, PLASTIC OR PHENOLIC FIBRE MATERIAL
-1 GUIDE - ALTERNATE NO. 1 SINGLE PIECE
-1 GUIDE - ALTERNATE NO. 2 SHEET STOCK

BOOT - MATERIAL: 1/32 INCH APPROX. MOULDED NEOPRENE RUBBER OR FABRIC BONDED WITH BASE PLATE AND GUIDE

TYPE MA-G INERTIA REEL INSTALLED BENEATH FLOOR - L & R HAND SIDE ART SIDE OF STA 66 BLKD

FWD 1/4 SECTION XE-8 BL 22 APPROX
Harness - Aircraft Safety Shoulder Adjustable
Specific Co. Part No. OIL1533-78 in length

Dust Cover - Hu-1-15

Aft Side - STA GG Blkd (Ref.)

STA 78 (Ref.)

New Access Door Thru Lower Skin Panel
See Detail A

Outer Skin Gage .040 Lower Panel
204-03-007 (Ref.)

This part replaces shoulder harness part No. 5GD377C (Type A) and inertia reel strap part No. C40214 (EAC Scient Co.) This change results in .00 lb wt decrease for each seat.
HARNESS - AIRCRAFT SAFETY SHOULDER, ADJUSTABLE
PACIFIC SCIENTIFIC CO. PART NO. 0101533-78 IN LENGTH

DUST COVER - HU-1-15

AFT SIDE: STA GG BLKD (REF)

STA GG (REF)

STA 70

STA 78 (REF)

NEW ACCESS DOOR THRU LOWER SKIN PANEL
SEE DETAIL A

OUTER SKIN GAGE .040
LOWER PANEL
204-024-007 (REF)

OUTBOARD

FORWARD

ISOMETRIC VIEW LOOKING DOWN
L H. SIDE OF AIRCRAFT
SCALE: 1/4 APPROX

F)
DETAIL A  FULL SIZE
VIEW LOOKING UP ON BOTTOM PANEL
ACCESS DOOR INSTALL
L.H SIDE SHOWN
R.H SIDE IDENTICAL EXCEPT AS NOTED

REPLACES SHOULDER HARNESS 5084-10 AT 500-3770 (REG)
1 REEL STRAP PART NO 0104120 (MAC SCIENT CO). THIS
SULTS IN 10 LB WT DECREASE FOR EACH SEAT
SUPPORT INSTALL 234-050-393, (REF)

- 20 STIFFENER (REF)

PLAN VIEW
FLOOR PLATE NOT SHOWN
HU-1A AIRCRAFT ONLY

HOLE THRU CAP ANGLE & FLOOR PLATE FOR STRAP.
REMOVE ALL BURRS AROUND HOLE.

$" PLOT SEAT (REF)

$" STRAP (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

VIEW LOOKING FORWARD
LH SIDE STA GG BLK
HU-1B AIRCRAFT ONLY
SAME AS HU-1A EXCEPT AS NOTED

3 SYMBOL INDICATES REPLACING EXISTING RIVETS WITH AN 470AD4, DRILL THRU DOUBLER HU-1-14-1 & 2.

2 SYMBOL INDICATES REPLACING EXISTING RIVETS WITH AN 435AD5, DRILL THRU (CSK, NEAR SIDE) OF DOUBLER HU-1-14 -2.

1 SYMBOL INDICATES NEW AN 470AD4 RIVET, DRILL
THRU DOUBLER HU-1-4-1

NOTES:

- REMOVAL OF EXISTING RIVETS TO EXPOSE HOLE:
- NO MARKING RECOMMENDED.
- ADDITIONAL HOLE MARKING TO BE UNDERSTOOD AS:
- "M" FOR HOLE IN MANUFACTURER'S MATERIAL.
- "H" FOR HOLE IN ACCEPTANCE SPECIFICATION.
- "D" FOR HOLE IN DOUBLER HU-1-14-1.

- TO MAINTAIN HOLE IN MANUFACTURER'S MATERIAL, MEASURE AND SELECT RIVET TO BE USED BASED ON: 0.01875 BOLTING CLEARANCE.

- TO MAINTAIN HOLE IN ACCEPTANCE SPECIFICATION, RIVET SELECTION IS NOT APPLICABLE.

- TO MAINTAIN HOLE IN DOUBLER HU-1-14-1, RIVET SELECTION IS NOT APPLICABLE.

- MEASURE HOLE IN MANUFACTURER'S MATERIAL USING ACCEPTANCE SPECIFICATION.

- MEASURE HOLE IN ACCEPTANCE SPECIFICATION USING MANUFACTURER'S MATERIAL.

- MEASURE HOLE IN DOUBLER HU-1-14-1 USING MANUFACTURER'S MATERIAL.

- MEASURE HOLE IN MANUFACTURER'S MATERIAL USING ACCEPTANCE SPECIFICATION.

- MEASURE HOLE IN ACCEPTANCE SPECIFICATION USING MANUFACTURER'S MATERIAL.

- MEASURE HOLE IN DOUBLER HU-1-14-1 USING MANUFACTURER'S MATERIAL.

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- MEASURE HOLE IN DOUBLER HU-1-14-1 USING MANUFACTURER'S MATERIAL.

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- MEASURE HOLE IN MANUFACTURER'S MATERIAL USING ACCEPTANCE SPECIFICATION.

- MEASURE HOLE IN ACCEPTANCE SPECIFICATION USING MANUFACTURER'S MATERIAL.

- MEASURE HOLE IN DOUBLER HU-1-14-1 USING MANUFACTURER'S MATERIAL.
- INDICATES REPLACING EXISTING RIVETS WITH AD5, DRILL THRU DOUBLERS HU-1-14-1 & 2.
- INDICATES REPLACING EXISTING RIVETS WITH AD5, DRILL THRU & CSK (NEAR SIDE) OF R HU-1-14-2.
- INDICATES NEW AN 410 AD4 RIVET, DRILL DOUBLER HU-1-14-1

Indicates replacing existing rivets with AD5, drill thru doublers HU-1-14-1 & 2.
- Indicates replacing existing rivets with AD5, drill thru & CSK (near side) of R HU-1-14-2.
- Indicates new AN 410 AD4 rivet, drill doubler HU-1-14-1
CUT OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WED (REF)

OMIT THIS RIVET

3碗符号 INDICATES REPLACING EXISTING RIVETS WITH AN 4
DRILL THRU DOUBLERS. MU-1-14-1 # 3.

2碗符号 INDICATES REPLACING EXISTING RIVETS WITH AN 4
DRILL THRU G5K NEAR SIDE OF DOUBLER. MU-1-14-3.

1碗符号 INDICATES NEW AN TO AD RIVET, DRILL THRU
DOUBLER MU-1-14-1 (AS SHOWN).

NOTES:
VIEW LOOKING FORWARD
R.H. SIDE ONLY
HU-1A AIRCRAFT ONLY

NOTES:

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

HU-1-14-1 DOUBLER
HU-1-14-1 DOUBLER

204-030-780 REF SHT#1

SUPPORT BRACKET
204-030-395 (REF)

HU-1-14-3 (REF)

CUT-OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPROX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WEB (REF)

OFFSET (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

AN 3-25 BOLT
AN 6G0PD416 WASHER

2.70

3.50 SPAC

0.25

75

75

90

25

HU-1-14-1 DOUBLER

STA. GG BLKD R.H. SIDE
204-030-780 REF SHT#1

LIGHTENING HOLE

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

HU-1-14-1 DOUBLER
HU-1-14-1 DOUBLER

204-030-780 REF SHT#1

SUPPORT BRACKET
204-030-395 (REF)

HU-1-14-3 (REF)

CUT-OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPROX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WEB (REF)

OFFSET (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

AN 3-25 BOLT
AN 6G0PD416 WASHER

2.70

3.50 SPAC

0.25

75

75

90

25

HU-1-14-1 DOUBLER

STA. GG BLKD R.H. SIDE
204-030-780 REF SHT#1

LIGHTENING HOLE

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

3. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

3. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

204-030-780 REF SHT#1

SUPPORT BRACKET
204-030-395 (REF)

HU-1-14-3 (REF)

CUT-OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPROX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WEB (REF)

OFFSET (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

AN 3-25 BOLT
AN 6G0PD416 WASHER

2.70

3.50 SPAC

0.25

75

75

90

25

HU-1-14-1 DOUBLER

STA. GG BLKD R.H. SIDE
204-030-780 REF SHT#1

LIGHTENING HOLE

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

3. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

204-030-780 REF SHT#1

SUPPORT BRACKET
204-030-395 (REF)

HU-1-14-3 (REF)

CUT-OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPROX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WEB (REF)

OFFSET (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

AN 3-25 BOLT
AN 6G0PD416 WASHER

2.70

3.50 SPAC

0.25

75

75

90

25

HU-1-14-1 DOUBLER

STA. GG BLKD R.H. SIDE
204-030-780 REF SHT#1

LIGHTENING HOLE

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

3. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

Hu-1-14-1 DOUBLER
Hu-1-14-1 DOUBLER

204-030-780 REF SHT#1

SUPPORT BRACKET
204-030-395 (REF)

HU-1-14-3 (REF)

CUT-OUT IN CAP ANGLE AND FLOOR PLATE FOR STRAP

APPROX LEFT SIDE

THIS BOLT TO BE LOCATED IN EXISTING RIVET HOLE

FLANGED LIGHTENING HOLE THRU DOUBLER & WEB (REF)

OFFSET (REF)

OMIT THIS RIVET

HU-1-14-1 DOUBLER

AN 3-25 BOLT
AN 6G0PD416 WASHER

2.70

3.50 SPAC

0.25

75

75

90

25

HU-1-14-1 DOUBLER

STA. GG BLKD R.H. SIDE
204-030-780 REF SHT#1

LIGHTENING HOLE

1. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:

3. SYMBOL INDICATES DOUBLE
   SYMBOL INDICATES DRILL THRU & C5K
   SYMBOL INDICATES DOUBLER HU-1-14-

NOTES:
NOTE 2

NOTE 3

NOTE 1

R.H. SIDE ONLY
HU-1B AIRCRAFT ONLY
(MOUNTING HARDWARE SAME AS HU-1A)

VAOUE MONUTC, SACE 0-160)
SEAT ASSEM & INSTALL
PILOT & CO-PILOT
204-070-700 (REF)

SEAT- POSITION
(REF) FULL FWD- FULL UP

AN5-10A BOLT (2),
AN362-1032 NUT (2),
AN3D0PDIO WASHER(3)
THRU EXISTING HOLE
IN SEAT BUCKET

RELOCATE THIS BOLT
TO POSITION SHOWN

SEAT- POSITION
FULL DOWN- FULL FWD (REF)

TOP OF COCKPIT FLOOR
(REF)

STA 4122 APPROX (REF)
SEAT FULL FWD
AGAINST STOP

CHANNEL ASSEM (1REF)

CLAMP

SEAT BUCKET (REF)

VIEW A
MOVE EXISTING CLAMP TO THIS LOCATION
AN742 - 4 CLAMP
AN520 - 10G SCREW
AN360 - PD10 WASHER
AN363 - 10S2 NUT
(REF)

RELOCATE EXISTING INERTIA CONTROL ASSEM.
TO POSITION SHOWN
PART NO 0101369-09 (REF)
(PACIFIC SCIENTIFIC CO)

SCALE - \(\frac{1}{32}\)
(REPLACES EXISTING HARDWARE)
LOOKING FWD

VIEW B-B

S-TYP FOR BL 30-R, 148, 14L & 30-L

MS20004-28 BOLT (4 REQD)

AN960-41G WASHER (8 REQD)

AN960-41G WASHER (REF)

EWSN26-4 LOCKNUT (4 REQD)

- AFT LEG CREW SEAT (204-0706-706-11)
  MU-1119 (REF)

INERTIA REEL INSTALLATION
AND FLOOR MODIFICATION
MU-1116 SHEETS 1, 2 & 3
(REF)

BULKHEAD - 1A 20
204-0730-780 (REF)
ZINC CHROMATE REINFORCEMENT TUBE (DETAIL -1)
ALL OVER BEFORE DRILLING. SPRAY PAINT DRILLED HOLES.
DRILL (2 HOLEs IN LINE) THRU 9048-108 (PIN-SPRING) (2 PLACES)
FWD

31.31 (REF)

21.1

1/8 DRILL (2 HOLES IN LINE) THRU MS 9048-108 (PIN-SPRING) (2 PLACES)

TUBE (DETAIL -1)
PRAY PAINT DRILLED HOLES.
FRONT TUBE
204-070-706-9 (REF)

C OF REAR TUBE
204-070-706-11 (REF)

B
ALIGN HOLE "x" 
WITH EXISTING 
MATING HOLE

FITTING HU-1-12 
(REF, MODIF. OF 
204-070-742-1)

"F" DRILL (.257) FAR SIDE, 
THRU DETAIL -1 ONLY 
MATCH EXISTING HOLES 
(6 PLACES)

INSTALLATION PROCEDURE

(a) ALIGN HOLE "x" AS SHOWN 
(b) PIN IN PLACE (2 PLACES). 
(c) MATCH DRILL 6 HOLES AS SHOWN. 
(d) ZINC CHROMATE ALL EXPOSED SURFACES (DUE TO DRILLING)

FINISH: 
ZINC CHROMATE REINFORCEMENT TUBE 
ALL OVER BEFORE DRILLING.
-18.0
FWD
.5 (REF, TYP)

9.8
PAINTED AREA (REF)

1/8 LINE DRILL
MS 9048-110
(2 PLACES

57) FAR SIDE ONLY (HOLE 'X')
-1 DETAIL

20.7
27.27 (REF)

-18.0

9.2

FWD

9.8

PAINTED AREA (REF)

.40

"F" DRILL (.257) FAR SIDE ONLY (HOLE 'Y')

20.7

ES (DUE TO DRILLING)

NT TUBE
UP

0.5 (REF, TYP)

\[ \text{OF FRONT TUBE (204-070-706-9 REF)} \]

FITTING (204-070-711-9 REF)

\[ \text{1/8 LINE DRILL (.125) THRU MS 9048-110 (PIN - SPRING) (2 PLACES)} \]

REAR TUBE 204-070-706-11 (REF)

-1 DETAIL

\[ E \]
-4 RADIUS BLOCK
(6 REQD)
(2 AT THIS LOCATION)

-45° CHAMFER AS REQD (TYP)

-5 (BLOCK)
(4 AT THIS LOCATION)

STA 57.43
(APPROX)

-5 (BLOCK)
(4 AT THIS LOCATION)

BL 30 (LEFT)

WA 22.00

-3 RADIUS BLOCK
(4 REQD)
(4 AT THIS LOCATION)

STA 59.22
(APPROX)

-3 (BLOCK)
(4 AT THIS LOCATION)

BL 14 (RIGHT)

-3 (BLOCK)
(4 AT THIS LOCATION)

STA 59.22
(APPROX)

-3 (BLOCK)
(4 AT THIS LOCATION)

B

-4 (BLOCK)
(4 AT THIS LOCATION)

BL 14 (LEFT)

-3 (BLOCK)
(4 AT THIS LOCATION)

BL 50 (RIGHT)

HOLE TO NEW TRACK - 1 OF - 2
& Holes Marked

REPLACE WITH AN3-5A BOLTS (REF)

No 11 DRILL (1/8 DIA)
& HOLES MARKED
AN3-5A BOLT (REF)

STA 52.00

AN3-5A BOLT
AN 9/40 D/9L WASHER
AN 3/8-10 NUT
(32 PLACES)

DRILL OUT EXISTING RIVET (THRU FLOOR
DOUBLER & BEAM TYP) AND TRANSFER
3/32 HOLE TO NEW TRACK - 1 OF - 2
8 PLACES, MARKED
REPLACE WITH AN3-5A BOLTS (REF)

SHIM AS REQD
(USING 204-030-321-113) TYP

-1 TR2
(2 R

EDGE OF DOUBLER
(204-030-321-28)

SAME - EXCEPT

DOOR, MA
AFTER LOCATING HOLES AS SHOWN
DRILL 1/8 PILOT HOLES IN TRACK.
POSITION TRACK IN PLACE (USING
AT LEAST 4 BOLTS ON EACH TRACK)
THEN DRILL THRU TRACK, FLOOR,
DOUBLER & BEAM USING NO. 11 DRILL
(.191 Dia) 26 PLACES MARKED

EXISTING BOLTS
USE AT LEAST 4
TO LOCATE TRACK
BEFORE FINAL
MATCH DRILLING.
(EACH TRACK)

-3 TRACK
(2 REQD)

EDGE OF FLOOR (204-030-321-25)

-3 TRACK
(2 REQD)

EXISTING PARTS
(AN3-5A BOLT, 4 REQD,
AN960PD2OL WASHER, 9 REQD,
AN963-1032 NUT, 4 REQD)

MAKE FROM 204-030-321-53 OR -45
PT 5.05 WAS 4.02)

DASH NO. | DIM 'C' | DIM 'D' | DIM 'E' | DIM 'F'
---|---|---|---|---
-3 | .66 | .33 | .65 | .35
-4 | .66 | .33 | .65 | .40
-5 | .66 | .33 | .75 | .45

BLOCK - RADIUS
DETAILS -3 THRU -7

VIEW A - A
(LOOKING INBOARD)
ROTATED 90° CCW

VIEW B - B
(LOOKING OUTBOARD)
ROTATED 90° CCW

DETAIL - 6

HOLES 'A' = .196 Dia
HOLES 'B' = .196 Dia
EXISTING HOLE AS SHOWN
IN TRACK
BOLTS ON EACH TRACK
THRUG TRACK, FLOOR, BEAM USING NO. 11 DRILL
PLACES MARKED - 86

EXISTING BOLTS
USE AT LEAST 4
TO LOCATE TRACK
BEFORE FINAL
MATCH DRILLING.
(EACH TRACK)

EXISTING PARTS
_AN3-5A BOLT, 4 REQD.
_AN960PDIOI WASH., 9 REQD.
_AN363-1092 NUT, 4 REQD.

TABLE

<table>
<thead>
<tr>
<th>DASH NO.</th>
<th>DIM 'C'</th>
<th>DIM 'D'</th>
<th>DIM 'E'</th>
<th>DIM 'F'</th>
</tr>
</thead>
<tbody>
<tr>
<td>- 3</td>
<td>66</td>
<td>33</td>
<td>65</td>
<td>35</td>
</tr>
<tr>
<td>- 4</td>
<td>66</td>
<td>33</td>
<td>65</td>
<td>40</td>
</tr>
<tr>
<td>- 5</td>
<td>66</td>
<td>33</td>
<td>75</td>
<td>45</td>
</tr>
</tbody>
</table>

BLOCK - RADIUS

DETAILS - 3 THRU
VIEW A-A
(LOOKING INBOARD)
ROTATED 90° CCW

VIEW B-B
(LOOKING OUTBOARD)
ROTATED 90° CCW

DIMS: (DIM 'C'  |  DIM 'D'  |  DIM 'E'  |  DIM 'F')
| 66  | .33  | .65  | .35 |
| 66  | .33  | .65  | .40 |
| 66  | .33  | .75  | .45 |

SHIM AS REQD (SEE INSTALLATION PROCEDURE SHEETS 2 & 3)

45° + .31
CHAMFER
(-2 DETAIL ONLY)

RADIUS BLOCK

-9 R, TYP

TOTAL LENGTH OF NEW REAR TRACKS WEIGH .807 LBS
EXISTING REAR TRACKS WEIGH .573 LBS

LH/SSHW AS READ (SEE SHEETS 1 & 3)

VIEW A-A
BL 30 (RIGHT)
STA
56.55
FWD

VIEW B-B
BL 14 (LEFT)

DETAILS -3 THRU -5

HOLE 'A' = .196 DIA THRU ON DETAIL
HOLE 'B' = .190 DIA THRU, MATCH DRILL AT ASSY

E - K RADIUS
DETAILS -3 THRU -8
( FOR INSTALLATION PROCEDURE )
SEE SHEETS 2 & 3.
1. Installation Procedure - Aft Seat Tracks (Bell Std. Extrusion 40-033)
   Identify and remove existing tracks (Extrusion 55E157) and match drill new tracks (Extrusion 40-033) as illustrated:

   The above sketch illustrates one method of match drilling the parts. Any method which ensures a perfect match of the hole pattern is acceptable. This step is very important since it will guarantee that the new tracks are located in the identical position of the existing tracks.

2. Identify each newly drilled track, for its intended location, for example: B. L. 30L and

3. Drill out existing rivets in floor beams in the locations indicated by the symbol of pilot holes.

4. (a) Drill out and remove existing nutplate (22 NA-17A-02) and radius block (204-030-165-9) at B. L. 14 (left), Station 61.86.

   (b) Drill out and remove existing nutplate (NAS 680 A3) and radius block (204-030-165-5) at B. L. 30 (right), Station 56.55.

5. Position new tracks and secure snugly with at least four existing bolts and nutplates. Holes marked to be located from beam to track and holes marked to be checked for clearance under the beam caps.

6. Remove tracks, and pilot drill (.125 dia.) all eight new holes in each track as shown.
7. a. Due to the increased length of the new tracks, about .75 inch will overhang the embossed flooring. This may require insertion of laminated aluminum shims (0.8 x 1.5) between flooring and track to insure tracks will be straight after tightening all bolts.

b. The new tracks are .085 higher than existing tracks. The shims and fillers may be removed from under the existing rear tracks to adjust the new tracks to the same height of forward tracks, if feasible. A suggested method is the removal of the phenolic spacers (.062 thick) and .023 of the laminated shims at B, L, 30 R, 14 R, and 30 L. At B, L, 14L remove the phenolic spacer (.093 thick) and add .008 of laminated shims.

If this method is not feasible (due to clearance of floor sheet cut-outs around the tracks), the adjustment can be made by removing some spacers from the rear tracks and adding similar spacers to the forward tracks. The top of all tracks must be in the same plane within .020 in. to insure that the seat will move without binding.

8. Reposition tracks and shims and drill eight No. 11 (.191) dia. holes through the track pilot holes and underfloor beam caps.

9. Remove track, deburr and clean, dip bottom portion of track in zinc chromate solution (cover all machined surfaces). Also spray paint the drilled holes in the underfloor beam caps.

10. Install tracks using necessary shims and spacers as noted. Caution! Do not overtorque the .19 dia. bolts.
HONEYCOMB PANEL (REF)
HU-IA 204:030-177 LH, 204:030-118 LH
HU-IB 204:031-217 LH, 204:031-178 LH

FIBERGLASS TOW 2>

1) LOCATE CENTRALLY OVER HEADS OF EXISTING FAST.

SECTION A-A

1 ANSORCIO 2C BOLT (6 PLACES)
ANNEAL WASHING NUT (6 PLACES)
SHORTEN NUT (6 PLACES)

REF: TRANSPORTATION RESEARCH COMMAND REPORT #15-48 FOR REPLACEMENT OF EXISTING LUG

100 * 0.25 (TYPICAL)

TOTAL WEIGHT CHANGE
HU-IA +156 LB
HU-IB +158 LB

USE ANY AVAILABLE FIBERGLASS MATERIAL
IMPREGNATE CLOTH AND BOND TO BULKHEAD
USING EPOXY RESIN.

4 BOND 4 REINFORCING PLATE AND BOND 2 WASHER 1
USE EPOXY ADHESIVE

1 MODIFY HU-IA 6 PLACE
AND 6 L. 99 FA R.A.

1 MODIFY HU-IB 2 PLACE
AND L. 320 E.
AIRCRAFT

ADDITIONAL RESTRAINT FOR MEDICAL ATTENDANT SEAT CAN BE OBTAINED BY USE OF 5/32 DIA. STAINLESS STEEL CABLES & AN TURNBUCKLES ATTACHED TO 2000* FLOOR TIEDOWNS

MEDICAL ATTENDANT SEATS ONLY WITH LITTERS
5. DACRON WEBBING TYPE II PER SPEC. .065-.085 THICK X 1.72 WIDE MAX.
   WT. 2.10 OZ./YD. MAX.

4. STITCHING SHALL BE WITH NYLON CORE NO. 3 SIZE TYPE I OR II, CLASS I, AND NOT LESS THAN 6 NOR MORE THAN 8 IN ACCORDANCE WITH SPEC. DDD-S-7

3. ENDS OF STITCHING SHALL BE BACK STITCHED.

2. SEAR ENDS OF ALL WEBBING TO PREVENT

1. STITCHING INDICATED BY DOTTED LINE

NOTES!
FACTORS K\AL-W-2.5ÄI JD, MIL-T-7607&
SMA.LL COKJT^^

2> STICVAES PEC iKiCW 751 T/P^ '20\nITCWD 0.5 \U. wuvi.

FITTİNG
RAFT FACTORY

MIL-W-25361

D, MIL-T-7807B
JD SHALL CONTAIN
3 STITCHES PER INCH
751 TYPE 301
ITCHED 0.5 IN MIN.
ENT FRAYING
IES -----

DETAIL A
HALF SIZE

SECTION B

STITCH
WEBBING
SEE NOTE #5

.5361

7807B
CONTAIN
3 PER INCH
301
.5 IN. MIN.
1G

DETAIL A
HALF SIZE

STITCH .02

SECTION B
<table>
<thead>
<tr>
<th>AIRCRAFT</th>
<th>&quot;L&quot; DIM.</th>
<th>NEXT ASSEMBLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>HC-1</td>
<td>18.1</td>
<td>HC-1-14</td>
</tr>
<tr>
<td>HU-1</td>
<td>16.5</td>
<td>HU-1-11</td>
</tr>
<tr>
<td>AC-1</td>
<td>20.8</td>
<td>AC-1-10</td>
</tr>
</tbody>
</table>
DRILL THRU 3/16 DIA. 2 HOLES

BREAK SHARP EDGES .02 R.