

SMALL ARMS UPDATE



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USAIC**

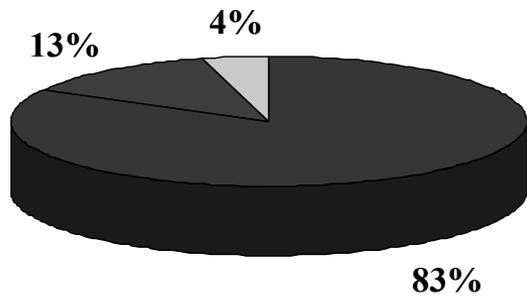


Current Programs

- OICW
- OCSW
- Long Range Sniper Rifle
- Joint Service Combat Shotgun
- Rifle Launch Entry Munition
- M203 Rail System

Soldier System of Systems (SoS) STOs

STO Breakdown by Quantity



■ Non-Soldier STOs = 196

■ Soldier SoS STOs (Non-Infantry) = 30

■ Soldier SoS STOs (Infantry) = 10

Less than 5%

SOLDIER AS A SYSTEM DEFINITION

SOLDIER AS A SYSTEM INCLUDES ALL SOLDIERS AND THOSE ITEMS OF EQUIPMENT THAT ARE WORN CARRIED, OR CONSUMED BY THE SOLDIER. IT INCLUDES ALL ITEMS IN THE SOLDIER'S LOAD AND THOSE ITEMS OF EQUIPMENT REQUIRED TO ACCOMPLISH UNIT MISSIONS THAT MUST BE CARRIED BY THE SOLDIER (E.G. CREW-SERVED WEAPONS, UNIT RADIOS)

SOLDIER SYSTEM MNS DEC 2000

CURRENT / PROPOSED PROCESS

REQUIREMENTS

M4MWS
JAVELIN
TWS
PVS-7/14
PEQ-4C
INTERCEPTOR
MOLLE
PRC-126

CHALLENGES:

INTEGRATION AND ANALYSIS OF REQUIREMENTS TO MAXIMIZE SOLDIER CAPABILITY

BALANCING PERFORMANCE
STANDARDIZATION
POWER
WEIGHT
COST

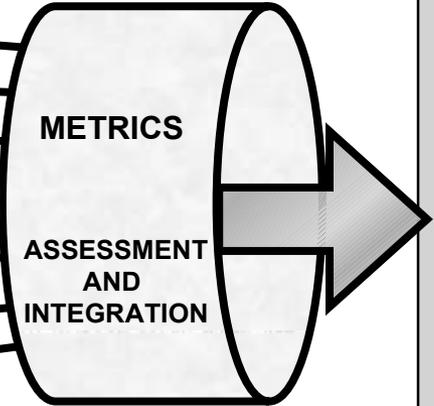
2000

2010

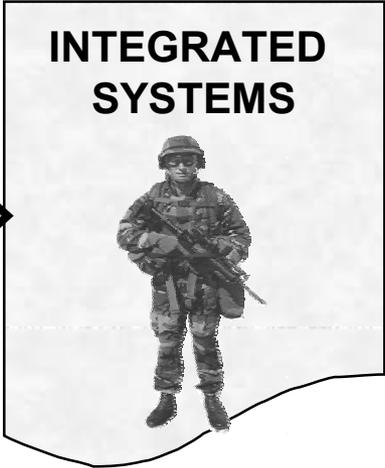
2015

20XX

REQUIREMENTS



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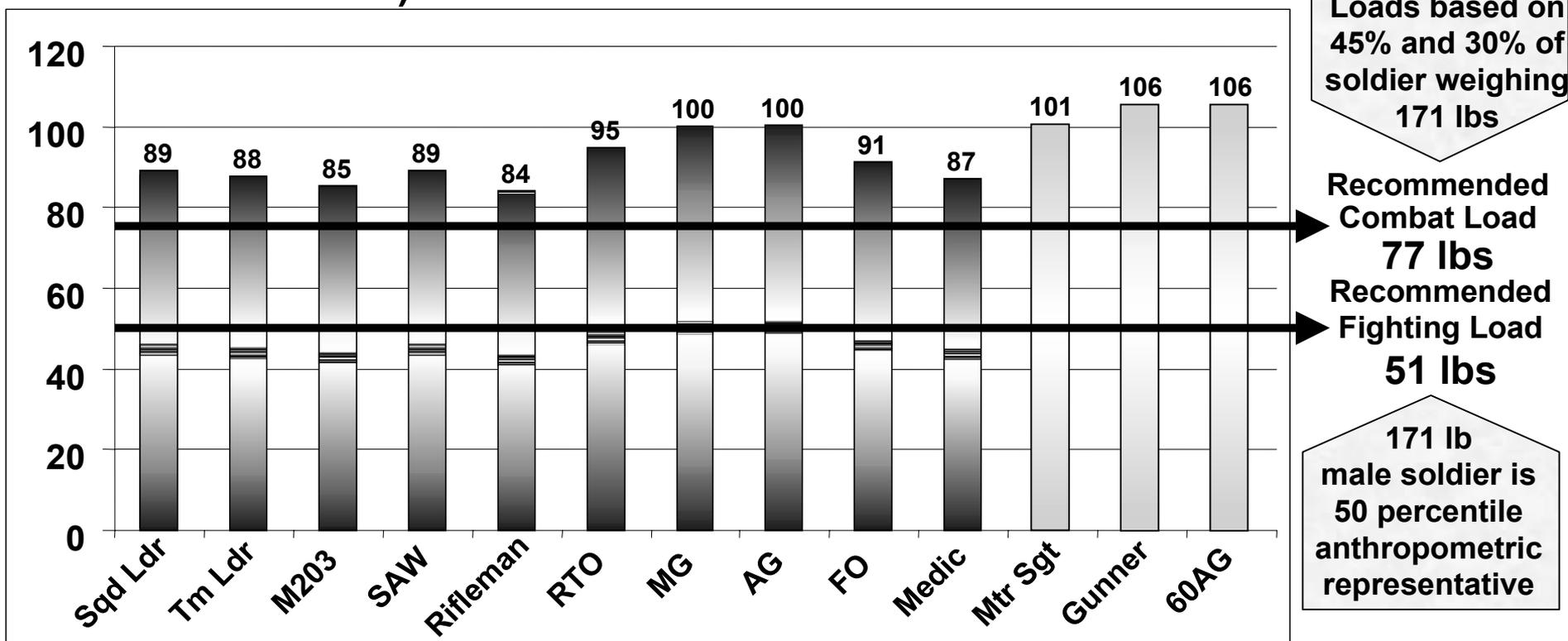


ILLITY METRIC

	METRIC	DOCTRINE
LETHALITY	POINT TARGET - 500 METERS AREA TARGET - 600 METERS SUSTAINED RATE OF FIRE - 80-90 RPM	FIREPOWER IS THE CAPACITY OF A UNIT TO DELIVER EFFECTIVE FIRES ON A TARGET. FIREPOWER KILLS OR SUPPRESSES THE ENEMY IN HIS POSITIONS, DECEIVES THE ENEMY, AND SUPPORTS MANEUVER. (FM 7-8)
SURVIVABILITY	INDIVIDUAL PROTECTION FROM FRAGMENTATION: - HAND GRENADES / MORTARS BALLISTICS: 5.56 / 7.62	PROTECTION IS THE PRESERVATION OF THE FIGHTING POTENTIAL OF A FORCE SO THAT IT CAN BE APPLIED AT THE DECISIVE TIME AND PLACE (FM 7-8)
MOBILITY	50TH PERCENTILE MALE - 171 LBS MAX COMBAT LOAD - 77 LBS MAX FIGHTING LOAD - 51 LBS	THE MOVEMENT OF TROOPS AND EQUIPMENT MAINLY BY FOOT WITH LIMITED SUPPORT BY VEHICLES (FM 21-28) (FM 7-8)
SUSTAINABILITY	BATTERY REQUIREMENTS PVS14 - 72 HR. REQMT: 4 JAVELIN - 72 HR. REQMT: 4 TWS(L) - 72 HR. REQMT: 24	COMBAT LOAD 72 HOURS OF BATTERIES. RESUPPLY WOULD OCCUR EVERY OTHER DAY WITH 72 HR OF BATTERIES (GIVES A 24 HOUR BUFFER) OR EVERY DAY WITH A 24 HR SUPPLY (IBCT) O&O
C²	INDIVIDUAL RANGE: 700 METERS	COMMUNICATIONS SUPPORT MISSION REQUIREMENTS

LOAD OBSERVATIONS

Combat Load should not exceed 45% and Fighting Load should not exceed 30% of body weight (Technology Demonstration for Lightening the Soldier's Load, Natick, 1988 -- basis for load limits in FMs 7-8 & 21-18)



Average Soldier Load at the Platoon Level is 91 lbs.

*JRTC Training Trends Analysis, Soldiers Load, 30 MAR 00

SOLDIER AS A SYSTEM EMPLOYMENT CONCEPT METRIC / "ILLITY" ASSESSMENT

DESCRIPTION:

5.56mm Shoulder Fired
Weapon, Gas Operated, Air
Cooled, Magazine Fed, with
a Collapsible Buttstock
Fire in Either Semi, Three
Round Burst or
Automatic(M4A1)



M4 CARBINE

WEIGHT: 7.5 lb. W/30 rd mag.

POWER: N/A

COST: \$615.00

REFERENCES: TM 9-1005-319-10
OPERATORS MANUAL FOR THE
CARBINE, 5.56 MM M4, OCT 1998
FM 23-9 RIFLE MARKSMANSHIP

LETHALITY:

MAX EFFECTIVE RANGE:

POINT 500 METERS
AREA 600 METERS
FROM PRONE
SUPPORTED
POSITON

MAX RANGE:
3600 METERS

RATES OF FIRE:

SUSTAINED 12-15 RPM

MAX EFFECTIVE RATE OF FIRE:

SEMI - 45 RPM

BURST - 90 RPM

CYCLIC - 700-970 RPM (M4A1)

SURVIVABILITY: N/A

MOBILITY:

REDUCED WEIGHT

M16A2 - 8.79 lbs

M4 - 7.5 lbs

SUSTAINABILITY:

N/A

C² : N/A