

SECTION II WEAPON SYSTEM DESCRIPTION

D. MISSILES

1. MK 3 MLF MISSILE PHYSICAL DESCRIPTION

The Mk 3 MLF missile (Figure II-33) is a three-stage solid propellant missile. The missile consists of a first stage rocket motor assembly, interstage section, second stage rocket motor assembly, equipment section, exit nose fairing, and re-entry system. Stowage/launch adapters (resilient segmented bands supporting the missile at three levels) are considered part of the missile. The stowage/launch adapters are not integral components of the missile, but are hooked or placed around the outer structure of the missile to support and protect the missile while it is in the launcher tube. Specific physical characteristics of the missile are listed in Tables II-13 and II-14.

TABLE II-13 POLARIS MK 3 PHYSICAL CHARACTERISTICS

Assembly or Component	Length (in.)	Diameter (in.)	Weight (lb)
Missile	387.8	54	34,821
Launch Configuration (max)	387.8	57	35,421*
First Stage Rocket Motor Assembly	171.3	54	
Interstage Section	34.3	54	177
Second Stage Flight Configuration	182.2	54	
Second Stage Rocket Motor Assembly	55.3	54	
Equipment Section	31.2	54	120**
Third Stage Flight Configuration	105.7***	54.0	904***

\*With stowage/launch adapters installed and compressed in launcher tube.

\*\*Guidance, flight control, and electrical subsystem components not included.

\*\*\*Subsequent to second separation and nose fairing ejection.

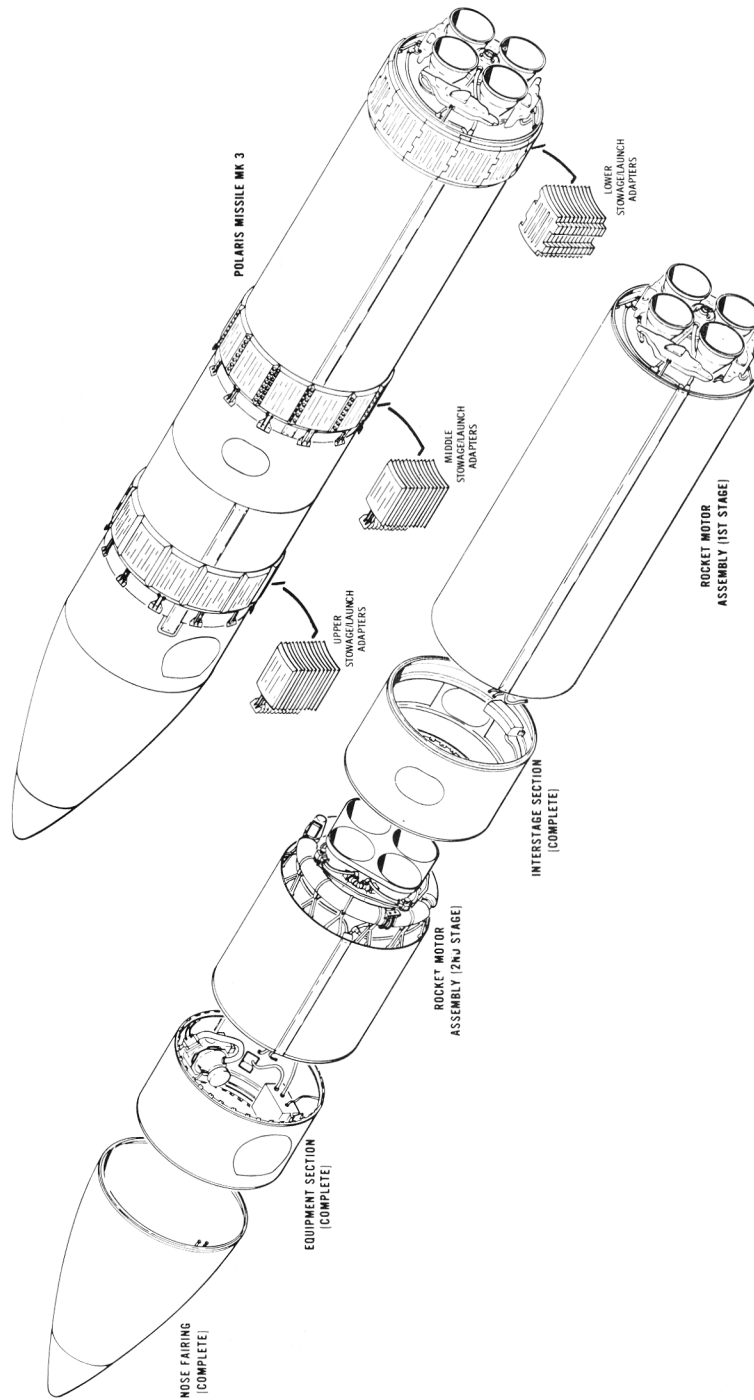


Figure II-33. POLARIS Missile Mk 3

SECTION II WEAPON SYSTEM DESCRIPTION (Continued)

TABLE II-14 POLARIS MK 3 PHYSICAL DESCRIPTION

Item	Mk 3	Item	Mk 3
<b>MISSILE</b>		Weight (lb)	
Length (ft)	32.32	Shell Material	Fiberglas
Diameter (ft)	4.5	Propellant Type	Solid
Launch Gross Weight (lb) With Adapters	36,796	Propellant ICC Classification	Explosive
<b>FIRST STAGE ROCKET MOTOR ASSEMBLY</b>		Nozzles	4
Length (in.)	182	Method of Thrust Deflection	Fluid injection
Weight (lb), Minus Actuator Package		Actuation of Thrust Deflection	Gas pressure
Shell Material	Fiberglas	Thrust Termination	None
Propellant Type	Solid	<b>EQUIPMENT SECTION</b>	
Propellant ICC	Explosive	Shape	Cylinder
Nozzles	4	Shell Material	Magnesium
Method of Thrust Deflection	Rotatable nozzle	Length (in.)	31
Activation of Thrust Deflection	4 hyd pack (Mk 5)	Separation Method	Detonating fuze
<b>INTERSTAGE SECTION</b>		Guidance System Weight (lb)	Inertial 75
Shape	Cylinder	<b>EXIT NOSE FAIRING</b>	
Shell Material	Magnesium	Shell Material	Laminated wood
Length (in.)	34	Length (in.)	95.7
Separation Method	Detonating Fuze	Base Diameter (in.)	54
<b>SECOND STAGE ROCKET MOTOR ASSEMBLY</b>		Separation Method	Jettison rocket and detonating fuze
Length (in.)	90	Umbilical Connections	2