

4.5" Rocket Launcher (M-10)



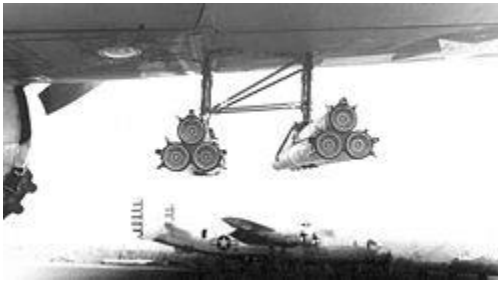
The launcher M-10 consists of a cluster of three 1-foot tubes of $\frac{1}{4}$ inch plastic which are attached by steel strapping to a slide bar, and by two mounts to the underside of the wing of the plane. The straps are tightened around the tube by turnbuckle screws tightened and wired in place.

The front mount consists of a T-shaped hangar attached to the plane, a front mount strap on which are mounted two hooks, and a deflector assembly. Two set screws are provided to fasten the strap in position on the slide bar. The deflector assembly consists of two 18-inch arms attached to a deflector strap and bearing on the front hangar. When the launcher is dropped, the arms served to direct the nose of the launcher downward as air pressure pushes the tubes to the rear.

The rear mount consist of a hangar containing the release mechanism and a socket for electrical connections, and a V-shaped sway brace. The rear mount strap has a suspension lug and two L-shaped detainer supports. When the launcher is

dropped, the detainer supports engage the arms of the stay brace and prevent the rear end dropping until the deflector pushes the front end downward. The rear mount strap is positioned on the slide bar by a clevis pin.

In addition to the front and rear mount straps, there is a center strap riveted to the slide bar and tightened to proper tension by the manufacturer. One inch ahead of the rear end there is a deflector strap to protect the release mechanisms from flying links and fired cases from the plane's guns.



4.5" Rocket Launcher M14.

This model differs from the M10 in that the material of the tubes is $\frac{1}{2}$ inch steel. The tube assembly has sufficient weight to insure its dropping when released and, as a consequence, the deflector arms and straps are omitted. In addition, the center strap is welded to the tubes.

4.5" Rocket Launcher M15.

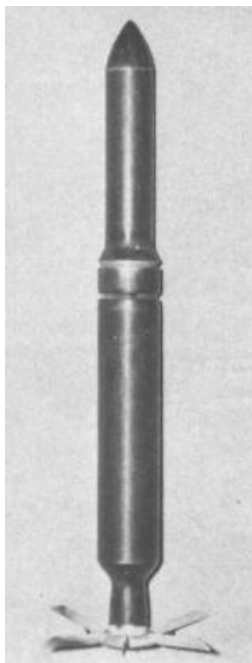
This model differs from the M10 in that the material of the tubes is $\frac{3}{16}$ inch magnesium alloy.

4.5" Aircraft Rocket

The 4.5-in. aircraft rocket was among the first air-launched rockets developed for the U.S. military in World War II. The

program was conducted primarily by the National Defense Research Committee (NDRC) and Army Ordnance. The first ground tests of the solid-propellant rocket motors occurred in May 1941, and in July 1942, the rocket was air-launched for the first time from a P-40 fighter.

The initial and most common model of 4.5-inch rocket was the **M8**. It was stabilized by four tail fins, which were fixed on initial M8s and folding on later ones. The **M8A3** was a variant with a stronger motor containing a different type of propellant. The **T22** was a further improved rocket, which was safer and more reliable than the M8. All these rockets flew at high subsonic speed and had an effective range of about 1600-3200 m (1-2 miles). M8-type rockets were also used as ground-launched 4.5-inch barrage rockets.



4.5-Inch Rocket **M8**

The USAAF used the 4.5-in. rockets with good results, especially in the 1943/44 winter against Japanese forces in Burma. However, the rockets were ineffective against many of the sturdier ground targets, and therefore the so-called "Super M8" was developed. It had four fixed fins and a larger and improved rocket motor, giving higher speed, range and destructive power. Its 18 kg (40 lb.) warhead section was either a solid armor-piercing type or contained 3.9 kg (8.5 lb.) of high-explosive. The "Super M8" was ready by December 1944, but was not used in combat.

Other models of the M8 family of rockets include the **T46** practice rocket, the **T78** with a SAP (Semi Armor Piercing) warhead, the **T86** practice round for the T78, the **T83** with a HE (High Explosive) warhead, and the **T87** practice round for the T83.



Specifications

Data for **M8**, **T22**, "Super M8":

	M8	T22	"Super M8"
Length	91 cm (36 in)	84 cm (33 in)	1.78 m (5 ft. 10 in)
Diameter	11.4 cm (4.5 in)		
Weight	17 kg (38 lb.)		47 kg (104 lb.)
Speed	960 km/h (600 mph)		1450 km/h (900 mph)
Range	3.2 km (2 miles)		6.4 km (4 miles)
Propulsion	4.5-inch solid-fueled rocket		