= M13 Multiple Gun Motor Carriage =

The M13 Multiple Gun Motor Carriage (MGMC) , otherwise known as the M13 Half @-@ track , was a self @-@ propelled anti @-@ aircraft gun used by the U.S. Army during World War II that was armed with two .50 caliber M2HB heavy @-@ barrel Browning machine guns . Developed in response to a requirement for a mobile anti @-@ aircraft (AA) vehicle , the vehicle was produced by the White Motor Company between July 1942 and May 1943 . The only time it was ever used in combat was when the Americans landed at Anzio in January 1944 . It was replaced by the more heavily armed M16 Multiple Gun Motor Carriage in April 1944 .

The M13 evolved from a series of several unsuccessful prototypes that were trialed from 1940 to 1942 . Of these , the T1E4 was selected and given the official name of the M13 MGMC , before being placed into production . Half of the M13s produced were converted into M16s on the production lines .

= = Specifications = =

The M13 Half @-@ track was 21 feet 4 inches (6 @.@ 50 m) long , 7 feet 1 inches (2 @.@ 16 m) wide , and 7 feet 8 inches (2 @.@ 34 m) high with a wheelbase of 135 @.@ 5 inches (3 @.@ 44 m) . It had bogie suspension for the wheels and vertical volute springs for the tracks . It had a 60 US gallon (230 l) fuel capacity and a range of 175 miles (282 km) . The vehicle was powered by a six @-@ cylinder White 160AX , 128 horsepower (95 kW) , 386 cubic inches (6 @,@ 330 cc) gasoline engine , with a compression ratio of 6 @.@ 3 : 1 . It had a power @-@ to @-@ weight ratio of 15 @.@ 8 horsepower per ton and weighed nine tons . The armor across most of the vehicle was 0 @.@ 25 inch (6 mm) thick with a 0 @.@ 5 inch (12 mm) thick windscreen visor . The vehicle was armed with two 0 @.@ 5 inch M2 Browning heavy machine guns placed on an M33 Maxson mount . The two machine guns were fired remotely and powered by a small electrical motor near the back of the turret . The guns were aimed with a Mark 9 reflector sight . Each vehicle had a crew of five (commander , driver , gunner , and two ammunition loaders) .

= = Development = =

= = = Early experiments = = =

In October 1940 , development began to produce a vehicle in response to a long @-@ standing requirement for an anti @-@ aircraft vehicle to protect the U.S. Army 's mechanized troop convoys from aerial attack . The first vehicle produced in the development of a half track with an anti @-@ aircraft armament was the T1 , which had two M2 machine guns on a Bendix machine gun mount ? as used on jeeps ? on a 4 × 4 truck . The T1E1 had a power @-@ operated Bendix mount , and the T1E2 a Maxson mount . The T1E3 had an electro @-@ dynamic Glenn L. Martin Company aircraft @-@ type turret . Evaluation of these test vehicles led to the T1E2 design being preferred . The T1E2 became the M16 Half @-@ track by replacing the M33 with the M45 mount and the M2 Half @-@ track chassis with the M3 Half @-@ track chassis .

= = = T1E4 and M13 = = =

The next stage of development was to use the T1E2 configuration on the longer chassis of the M3 Half @-@ track , since it could store more ammunition . This vehicle , originally designated as the T1E4 , was accepted into production as the M13 Multiple Gun Motor Carriage on 27 July 1942 . A total of 1 @,@ 103 examples of this variant were produced from 27 July 1942 to 15 May 1943 . Half of them (583) were converted into M16s by the White Motor Company before reaching the army . Deliveries began in late 1943 .

= = Service history = =

The M13 served at the landing at Anzio with the VI Corps of the Fifth United States Army in January 1944 . It was used as an anti @-@ aircraft weapon during the initial landing and then later as a ground support weapon to repel heavy German panzer attacks on the beachhead . It was replaced three months later by the M16 Multiple Gun Motor Carriage in April 1944 . Only 139 examples were deployed overseas by the U.S. Army .
Ten were transferred to the United Kingdom under Lend @-@ Lease .

= = Prototypes = =

T1 ? This variant used two M2 Browning heavy machine guns on a Bendix mount on a 4 × 4 truck . This model , like most of the others , was a prototype . It was tested in June ? July 1941 at the Aberdeen Proving Grounds , but was rejected because of the " excessive dispersion of ammunition " .
T1E1 ? Another prototype that used the Bendix mount on a M2 Half @-@ track Car . It was cancelled in April 1942 .
T1E2 ? This variant was essentially the same as the T1E1 except the Bendix mount was replaced with the M33 Maxson mount . After the M33 was replaced with the M45 Quadmount it was accepted as the M16 Half @-@ track .
T1E3 ? A T1E1 with a Martin turret designed for use on bombers .

= = Derivatives = =

T1E4 / M13 ? The Martin turret was replaced by the M33 and was based on the M3 Half @-@ track . It was accepted as the M13 Half @-@ track in July 1942 . A total of 139 examples of this variant saw action at Anzio as a ground support weapon used to repel heavy German attacks . It was replaced by the M16 in April 1944 .
M14 Half @-@ track ? This variant had the same armament as the M13 but used the slightly different M5 Half @-@ track chassis built by International Harvester for the Lend @-@ Lease Program . The M14 was mostly supplied to Britain , where they were converted back to regular half @-@ tracks . A total of 1602 were produced by International Harvester .
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