

N 5590.4

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LAUNCHER, ROCKET, MULTIPLE, 10.75 INCH, T59

#111075



DECEMBER • 1944

Introduction

Work has been started on the development of a rocket mine field clearance device which will clear a safe path for a tank through a field of antitank mines. Tests of the first model indicate that this device will be effective in clearing a sufficiently wide path in a mine field to permit a tank to proceed through the field without danger from mines.

Although no service models have as yet been produced it is expected that final characteristics and performance will approximate those of the test unit described in this booklet.

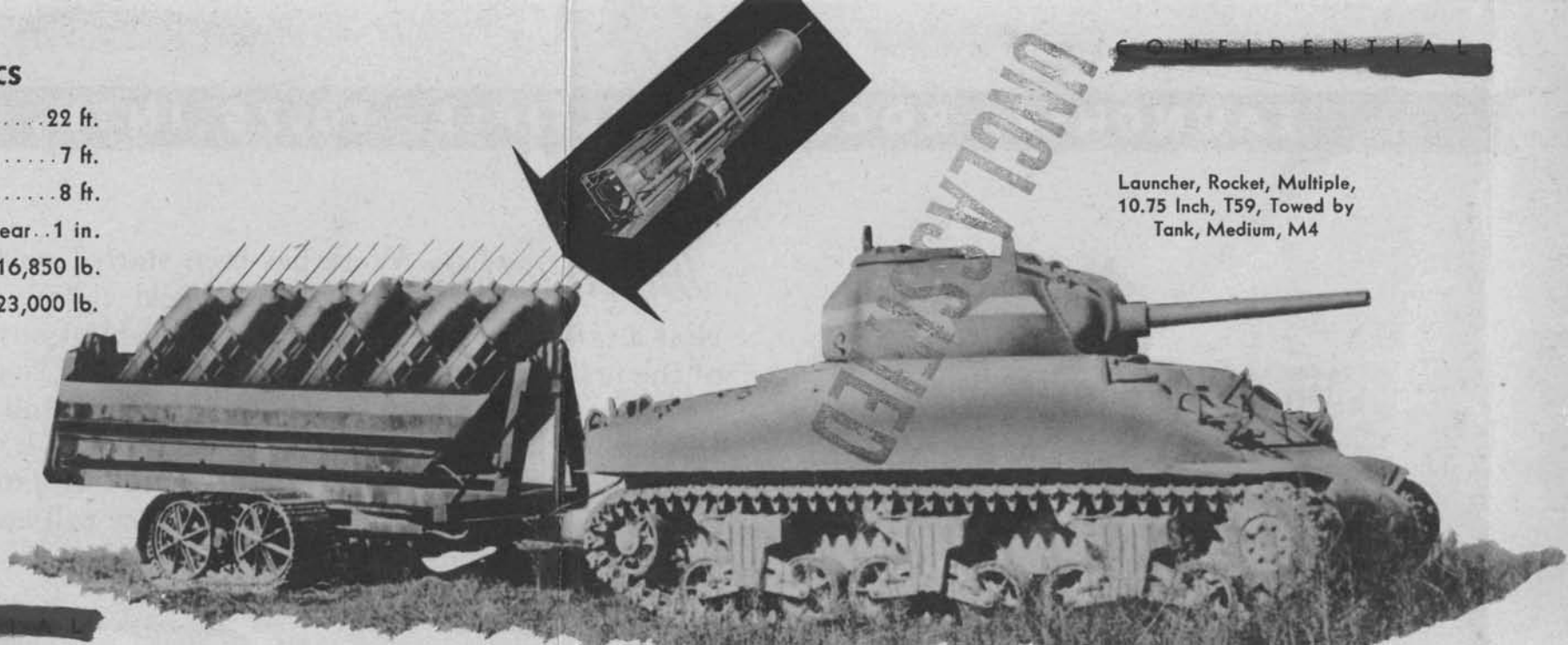
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CHARACTERISTICS

Length.....22 ft.
Width.....7 ft.
Height loaded.....8 ft.
Armor belt, sides, front and rear...1 in.
Weight, empty.....16,850 lb.
Weight, loaded.....23,000 lb.

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Launcher, Rocket, Multiple,
10.75 Inch, T59, Towed by
Tank, Medium, M4



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LAUNCHER, ROCKET, MULTIPLE, 10.75 INCH, T59

The multiple rocket launcher was designed to permit quick clearance of a tank path through a field of antitank mines. This is effected by projecting rockets into the mine field ahead of the moving tank where their explosion will detonate the mines in a sufficiently wide and deep path for the tank to proceed safely.

Six three-rail clusters, each containing three 10 $\frac{3}{4}$ inch rockets, are placed in line at an angle of 45° in an armored launcher box on a 6-ton Athey track-trailer chassis. The launcher box is fastened to the chassis by a cradle-type mounting which provides automatic and continual lateral leveling up to a 15° angle of tilt.

The rocket shell consists of a 10 $\frac{3}{4}$ inch diameter cylindrical body with a hemispherical ogive and a conical base. Its length is approximately 4 feet. Wall thickness is 1/10 inch. The shell is equipped with a bomb nose fuze, AN, M120A1, which is modified by decreasing the arming time from 2.5 seconds to 1.6 seconds. A further modification is the addition of an 18 inch nose extension rod which provides an air burst of the ammunition, thereby greatly reducing the cratering effect. Tests indicated craters about 6 inches deep and 10 feet in diameter. A 4.5 inch T22 Rocket Motor is fastened to the conical base of the shell. A large cylindrical fin is attached to the nozzle end of the motor.

Rockets are fired electrically while the tank and launcher are in motion by a mechanism mounted on the launcher. This mechanism fires one rocket every 15 feet of travel. A manual safety switch is mounted inside the tank. It is possible for the launcher to be jettisoned at any time by a remotely controlled explosive link that can be detonated from within the tank.

It is calculated that the equipment in its present form will have more than 85% probability of clearing a straight tank path with a minimum width of 12 feet. A test firing of 18 rounds was conducted in a cratered field mined with indicator mines similar to German Teller Mines and buried to a minimum depth of 4 inches. Cratering by explosive charges further buried the mines to a total depth of 5 to 7 inches. The rounds were fired in sequence at 15 foot intervals and the tank and launcher proceeded through the field without encountering a live mine. The depth of the mine field was 270 feet. At two successive intervals the rockets failed to fire due to one mechanical and one operational malfunction. This resulted in a gap in the path that narrowed the cleared area to a width of approximately 15 feet. With the exception of the narrowed gap the cleared path had a minimum width of 54 feet.

It is estimated that with the best design of materiel and ammunition the maximum depth of mine field through which a path can be cleared by all rockets from one launcher is 500 feet.

Rocket, H. E.,
10.75 Inch, T91



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ROCKET, H. E., 10.75 IN., T91

CHARACTERISTICS

Caliber.....10³/₄ in.
Length.....78 in.
Explosive charge
and weight.....Cast TNT, 240 lb.
Total weight.....320 lb.

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PERFORMANCE DATA—MATERIEL AND AMMUNITION

Effective radius of 1 rd. on German Teller Mines 4" deep.....20 ft.
Maximum range of rocket (launcher stationary).....125 ft.
Angle of departure, launcher traveling on cratered ground.....45°±8°
Travel between launching of successive rounds.....15 ft.
Speed of tank and launcher on cratered ground.....3 m.p.h.
Standard deviation, range and deflection, of impacts when ammunition
is fired from trailer towed over cratered ground.....5 ft.
Number of rounds fired for pattern.....18
Depth of mine field cleared, approximately.....310 ft.

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CONFIDENTIAL PATH CLEARED THROUGH MINE FIELD BY LAUNCHER, ROCKET, MULTIPLE, 10.75 INCH, T59

