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**REPORT**

**COUNTRY** Czechoslovakia

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**SUBJECT** Czechoslovak Mine Layer Vehicle

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**PLACE ACQUIRED**

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**THIS IS UNEVALUATED INFORMATION**

ARMY review completed.

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## CZECHOSLOVAK MINE LAYER VEHICLE

### 1. General Information

at a summer training area, known as the DOUPOV (NFO-15, K13-09) (UR-6791) Training Area

12 or 15 unidentified mechanical mine layers. Each mine layer was in an unidentified half-track with specially equipped bed.<sup>2</sup>

the mine layer may be used in conjunction with many unidentified Czechoslovakian half-tracks or trucks; but since these did not have the mine handling features of the half-track with specially equipped beds,<sup>2</sup> the operation would slow down somewhat.

the mine layer in the half-track with the specially equipped bed lay, bury, and cover two rows of PT-MI-K AT mines (according to pattern) two kilometers long, in not more than 30 minutes.<sup>3</sup> In the 6th Bn, 6th Engr Regt there were two of the mine layers but none of the half-tracks with the specially equipped beds.<sup>2</sup> In his battalion they used the mine layers with trucks or regular half-tracks. The mine layer operated satisfactorily with the Praga RN gas operated 3 $\frac{1}{2}$ -ton and the Praga RND diesel operated 3 $\frac{1}{2}$ -ton trucks but unsatisfactorily with the Praga TOS truck.

### 2. Half-track with Specially Equipped Bed<sup>5</sup>

half-tracks with specially equipped beds would be organic equipment of so-called "Obstacle Construction Battalions" (Zatrasovací prapor).

it was powered by an improved Tatra-III diesel engine. The tracks were not cleeted but had rubber composition plates which permitted it to travel on pavement. The tracks were approximately 30 cm wide, with four bogie wheels and three idler wheels. The bogie wheels were connected in pairs (see Annex A). There was a permanent heavy metal shield extending from the bottom edge of the bed to just above the bogie wheels and along the entire length of the tracks. The bed was approximately 2.20 meters wide and four meters long. It had a removable metal side that attached to the metal shield below the bed. The bed floor was of steel.

### 3. Half-track Bed and Loading Operation Details

Sunk into each side of the half-track bed steel floor and extending longitudinally were two rubber composition conveyor belts. They were endless and approximately 30 cm wide and three meters long. In the center of the bed floor, at the rear, was another endless rubber composition belt or roller (see Annex A). These conveyor belts transported the mines into the trip device of the mine layer. Each of the side conveyor belts was controlled by EM operators standing in the wells located at the rear of the half-track bed (see Annex A). The soldier-operators could stop the conveyors by a foot pedal which was located on the floor of the well. There was also another pedal there for signalling the half-track driver.

the soldier-operators had prearranged signals with the driver for starting and stopping the entire operation. The mines were loaded in cases of 12.

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An unknown number of cases were stacked crossways and several cases high in the bed center between the two side conveyor belts on slanting metal benches. An additional unknown number of mines were stacked lengthwise. 600 to 700 mines could be placed in the half-track in this manner. With one man standing in the center of the bed and feeding the mines individually from the crates onto both conveyor belts, four men including the driver were necessary for the entire operation.

#### 4. The Mine Layer

The mine layer itself was an inverted "V" with a circular section at the apex. This circular section connected to the rear of the half-track by means of an integral hinge or connector. The hollow trough-like legs of the layer were approximately 2.5 m long and 32 or 33 cm wide and tapered from 12 cm high at the bottom to eight centimeters high at the top where they connected to the circular section. The legs and the circular section were not covered. The circular section and leg trough bottoms were approximately one-half centimeter thick, rounded on the bottom edges and curved outward at the top. Along the sides and top edge the metal was thicker, the rolled top edge being almost one centimeter thick. The bottom section of the legs from just forward of the plow attached to the ground end was reinforced.

When in transport or not in use, these legs could be folded up inside of the half-track bed by means of another integral hinge located on the legs approximately 10 centimeters below the circular section. A hook on each side of the legs held this folding section rigid when in operation (see Annex A). The ground edges of the legs were purposely cut in a jagged manner to permit easier exit of the mine.

#### 5. The Plow

The plow was detachable and adjustable. the adjustment facilitated achieving the desired depth in different types of soil. In grassy terrain, or brushy areas, the plow was removed and the mines were laid on the surface. The cover-up attachment consisted of two metal plates approximately one centimeter thick. The plates were angled to refill the furrow and cover the mines. The angle of the plates could be changed to achieve the best cover-up in different soils. This adjustment was achieved by a simple one-bolt-in-a-slot device, located where the two plates joined in the rear. The circular section or head of the planter was approximately 60 cm in diameter and made of metal one-half centimeter thick. In the apex of the "V" was located a "stop" for the three-pronged regulating trip device. The three-pronged trip device was geared to the differential of the half-track (or truck) and did the work of regulating and spacing of mines, dropping a mine first into one leg and then into the other every 2½ m. The trip device worked with the left-right motion, picking up a mine with each motion and allowing it to slide down the leg at the completion of its motion. This mine layer planted or laid mines in two rows 2½ meters apart, spacing mines in individual rows five meters apart. The resulting pattern is shown below:

0	5m	0	0
0	2½ m	0	0

this pattern was the only one attainable with the planter.

#### 6. Use of Layer in Vehicle Other Than Half-Track with Specially Equipped Bed

the layer part alone could be utilized with other unspecified Czechoslovakian vehicles. During instructions at the training area,

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the layer could be manually loaded, i.e. without the conveyor belts, but using the unknown linkage to the truck differential. The speed of mine laying was reduced in such cases.

#### 7. The Mine Crate

The collapsible mine crate consisted of four slats evenly placed around the sides and held 12 PT-MI-K circular mines. The mines were fitted into the case edgeways. The rim around the bottom edge of the mines fitted into grooves cut into the slats of the case. The mines were placed bottom to bottom and two mines fitted into the same groove. There were two slats across each end. These were fastened at each end to a longitudinal slat, and in the center by a single pin. At the edge, where the end slats and the longitudinal slats were connected, there was a hasp and pin fastening on each slat (see Annex A). Two adjacent slats could be unfastened to permit opening the end of the case for the removal of mines. There was a two-inch wide metal band around the center of the crate, fastened only on opposite sides of the crate, permitting the crate to be collapsed without removal of the band. The band was approximately three millimeters thick. The collapsibility and the easy removal of either end of the crate greatly facilitated feeding the mines to the conveyors.

1.  Comment :  both layer and half-track were made from an original Czechoslovakian design. 25X1  
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2.
3.  Comment :  maximum capability for a two row, two kilometer strip was theoretically 20 minutes without stoppages, and 10 minutes was added as a maximum safety factor. 25X1
4.  Comment :  if desired, only one leg could be operated, i.e., only one plow digging with the other riding the surface.  could not explain how torque or undue pressure on the working leg was avoided. 25X1  
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5.  Comments: Where bed is referred to in the report it means the cargo space of the truck, not the frame. 25X1

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LEGEND TO ANNEX A

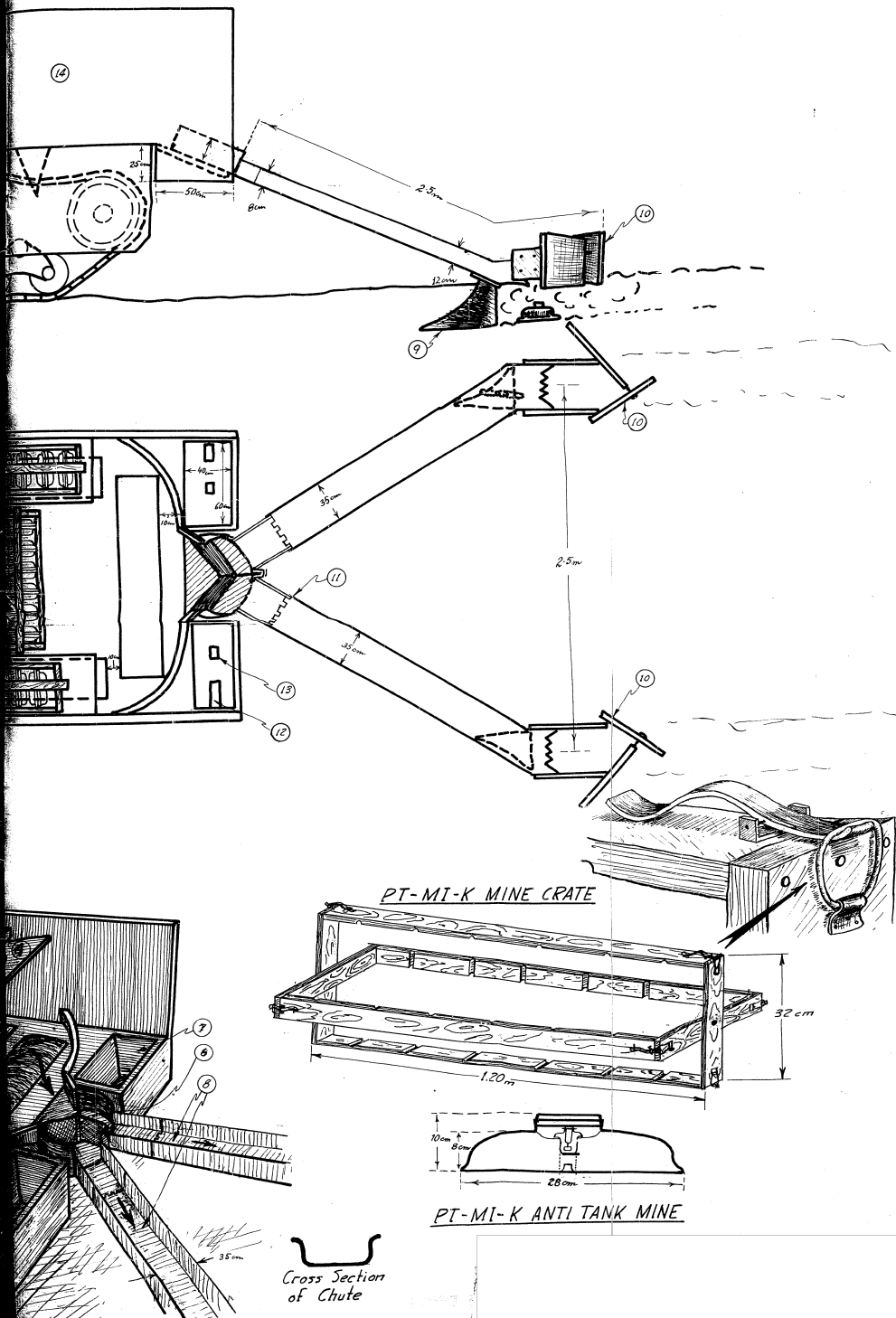
1. Longitudinal conveyors.
2. Rear conveyor roller.
3. Slanted metal benches.
4. Mine crate (see detail) .
5. Metal slide
6. Trip device (gear housing directly underneath).
7. Wells for conveyor operators.
8. Legs.
9. Plow attachment (adjustable and removable).
10. Cover-up attachment.
11. Hinge and hook for folding of legs inside of truck.
12. Control pedal for stopping conveyor belt.
13. Control pedal for signalling driver of half-track.
14. Removable metal side.
15. Permanently attached metal side.

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# CZECHOSLOVAKIA

(scale)



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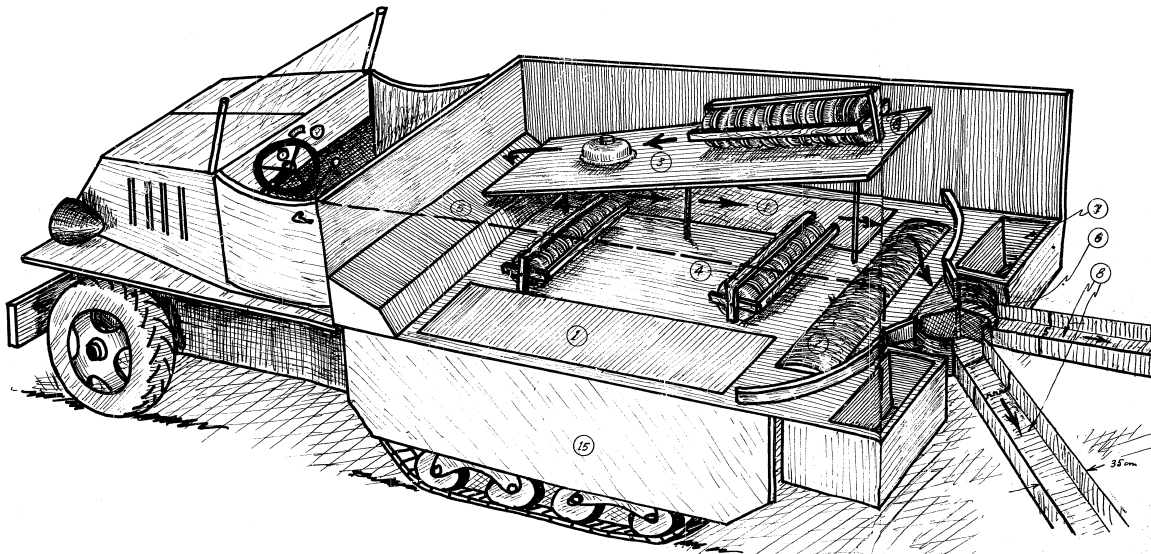
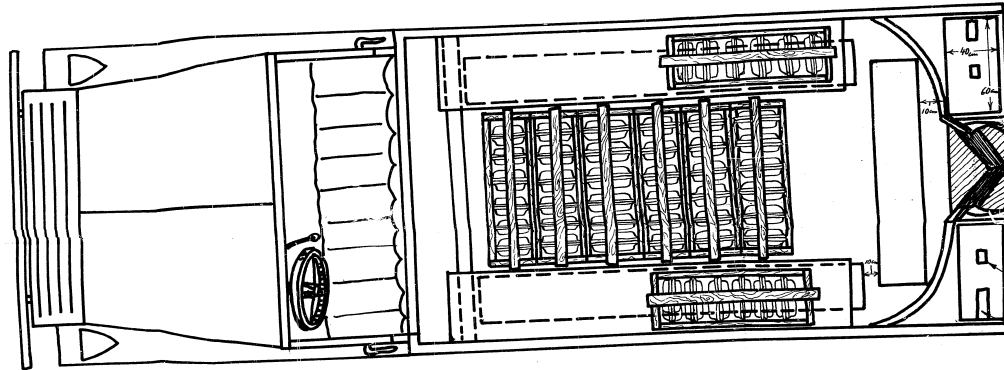
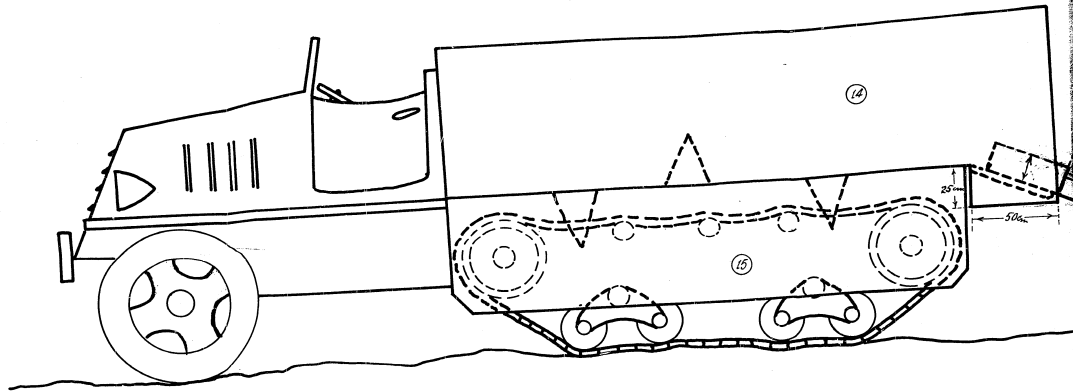
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ANNEX-A

# MINE-LAYER, CZECHOSLOVAKIA

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\*(Not to Scale)



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