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ETO ORDNANCE TECHNICAL INTELLIGENCE REPORT NO. 303

SUBJECT: German Medium Full-Track Tractor with Producer Gas Generator.

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Intell.Team No.15

1. General:

A German medium tracked tractor, "Mittlerer Kettenschlepper (O)", fitted with an Imbert producer gas generator has been examined.

2. Description of Tractor:

a. The following data was taken from a nameplate on the engine:

Make.....	Famo
Year.....	1944
Model.....	Fubezahl
Chassis No.....	25640
Weight, empty.....	5,500 Kg. (12,100 lbs.)
Engine piston displacement.....	8,531 cc. (520 cu.in.)

b. Overall dimensions of the vehicle are:

Length.....	17 ft. 3 ins.
Width.....	5 ft. 4 ins.
Height.....	7 ft. 3 ins.

c. Engine:

The tractor is powered by a four-cylinder, water-cooled, valve-in-head engine with a piston displacement of 520 cu.in. The engine and radiator are mounted at the front of the chassis (Photo 3, Appendix "A"). A priming unit for starting the engine on gasoline is located on the right front on the engine. Controls are provided for the driver to regulate the fuel mixture and ignition timing.

d. Suspension:

The front idler, bogie wheels and track return roller are mounted in a frame pivoted to the chassis by a rear axle ahead of the rear drive sprocket. (Photo 1). An articulated cross-member located five feet ahead of the rear axle connects the two suspension frames. The weight of the chassis is carried on two transverse semi-elliptical springs located directly behind the cross-member. The rubber-tired idler is adjustable for regulating track tension. The track is made up of cast steel plates, center connected and center guided (Photo 2). There are five equally spaced pressed-steel bogie wheels and one track return roller.

Measurements of the suspension are as follows:

No. of sprocket teeth.....	12
Pitch circle diameter of sprocket.....	23 ins.
Diameter of idler.....	22 ins.
" " bogie wheels.....	5 ins.
Width of bogie wheels.....	15 ins.
Diameter of return roller.....	6 ins.
Width of return roller.....	15 2/6 ins.
" " track.....	14-1/2 ins.
Track pitch.....	6 ins.
Center of sprocket to center of idler.....	6 ft. 4 ins.

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e. Power Train:

The power train is of normal design with a three-speed transmission and track brake steering controlled by a steering wheel.

3. Producer Gas Generator:

The producer gas system is manufactured by Imbert-koln and is the type GMR 15/16/14. The manufacturer's number is 44-154. The system consists of five main parts: (a) producer (b) condensation cylinders (c) scrubber (d) cooler (e) filter.

a. The producer is 4 ft. 8 ins. high and 2 ft. 2 ins. in diameter, consisting of the fuel chamber and combustion chamber. It is mounted on brackets at the front of the vehicle.

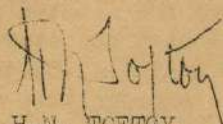
b. Two cast condensation cylinders 5 ft. 7 ins. long and 8 ins. in diameter are mounted alongside the engine over the tracks (Photo 3). The cylinders are mounted at a slight angle and are provided with drain cocks at the lower end.

c. The scrubber is 4 ft. 7 ins. long and 1 ft. 4 ins. in diameter and is located in a transverse position below the producer and radiator (Photo 1). Drain cocks are provided at each end.

d. The cooler is mounted in front of the engine radiator between the radiator and producer (Photo 3). It is 2 ft. 4½ ins. high and 2 ft. 1 in. wide.

e. The filter is mounted in front of the driver's position (Photos 2 and 3). It is cylindrical in shape, 1 ft. 4 ins. in diameter and 2 ft. 6 ins. long. A hand operated blower mounted on the left is connected into the output line from the filter (Photos 1 and 3).

FOR THE CHIEF ORDNANCE OFFICER,


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Inclosure:

Appendix "A"... Photos 1 thru 3



Photo 1: Left side view.



Photo 2: Right rear view.



Photo 3: Engine and left condensation cylinder. Blower is at the rear of the cylinder.





