Cletrac
CRAWLER TRACTORS

MAINTENANCE MANUAL

CLETRAC MODEL MG1

BUILT FOR
UNITED STATES WAR DEPARTMENT
U. S. ARMY AIR CORPS.

ORDNANCE MODEL—MEDIUM M2

CONTRACT No.—W-303-ORD.- 932
W-303-ORD.-1045
W-303-ORD.-1091

THE CLEVELAND TRACTOR COMPANY
CLEVELAND, OHIO, U. S. A.

PART NO. 127547

Litho. in U. S. A.

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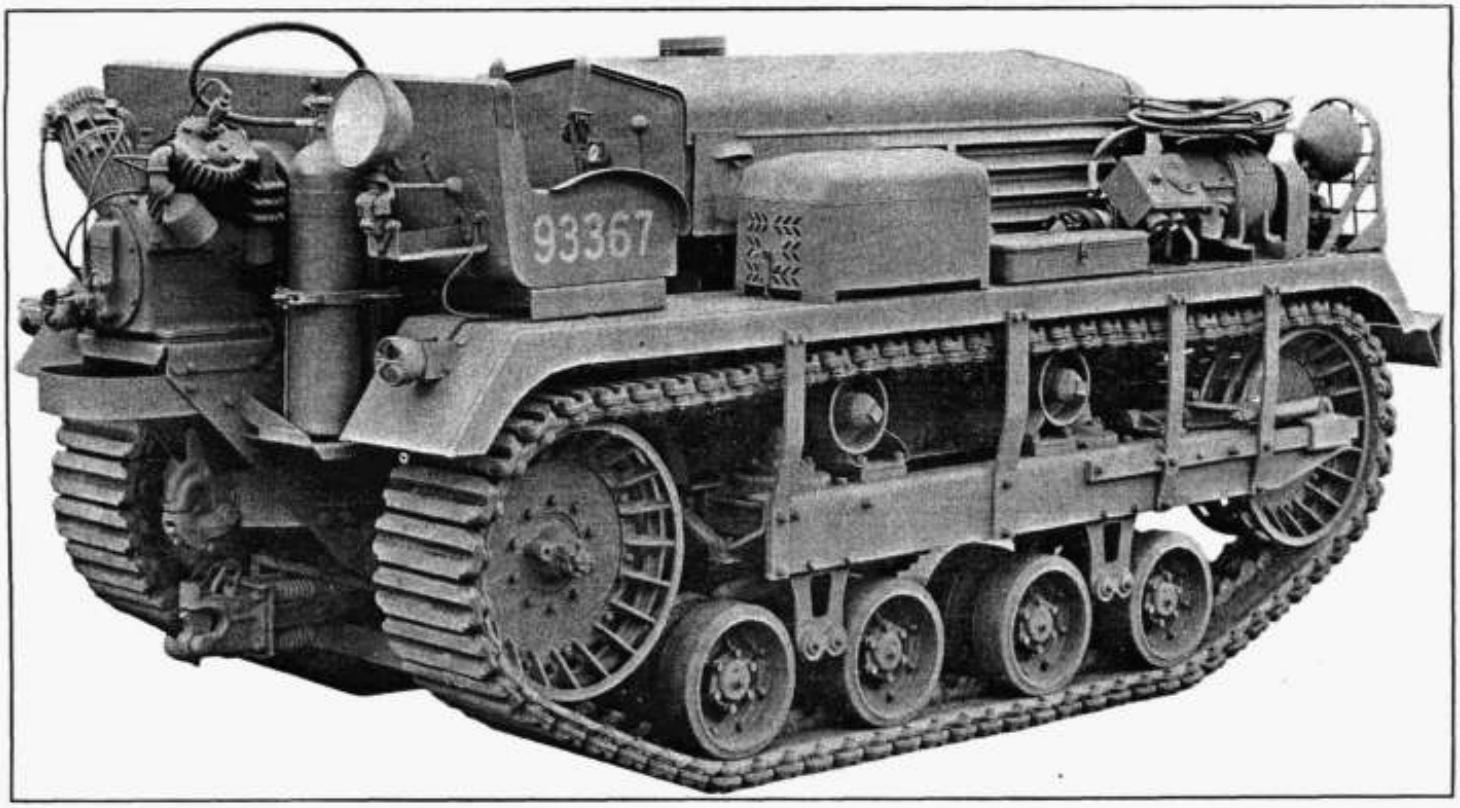
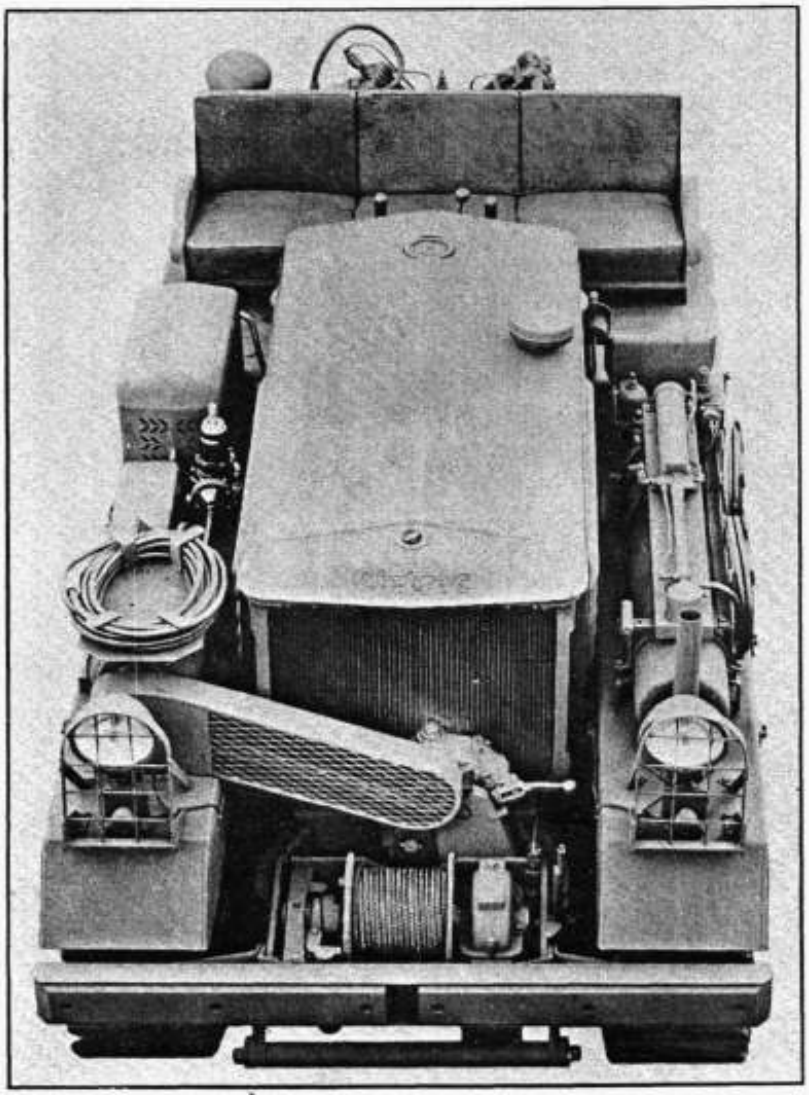
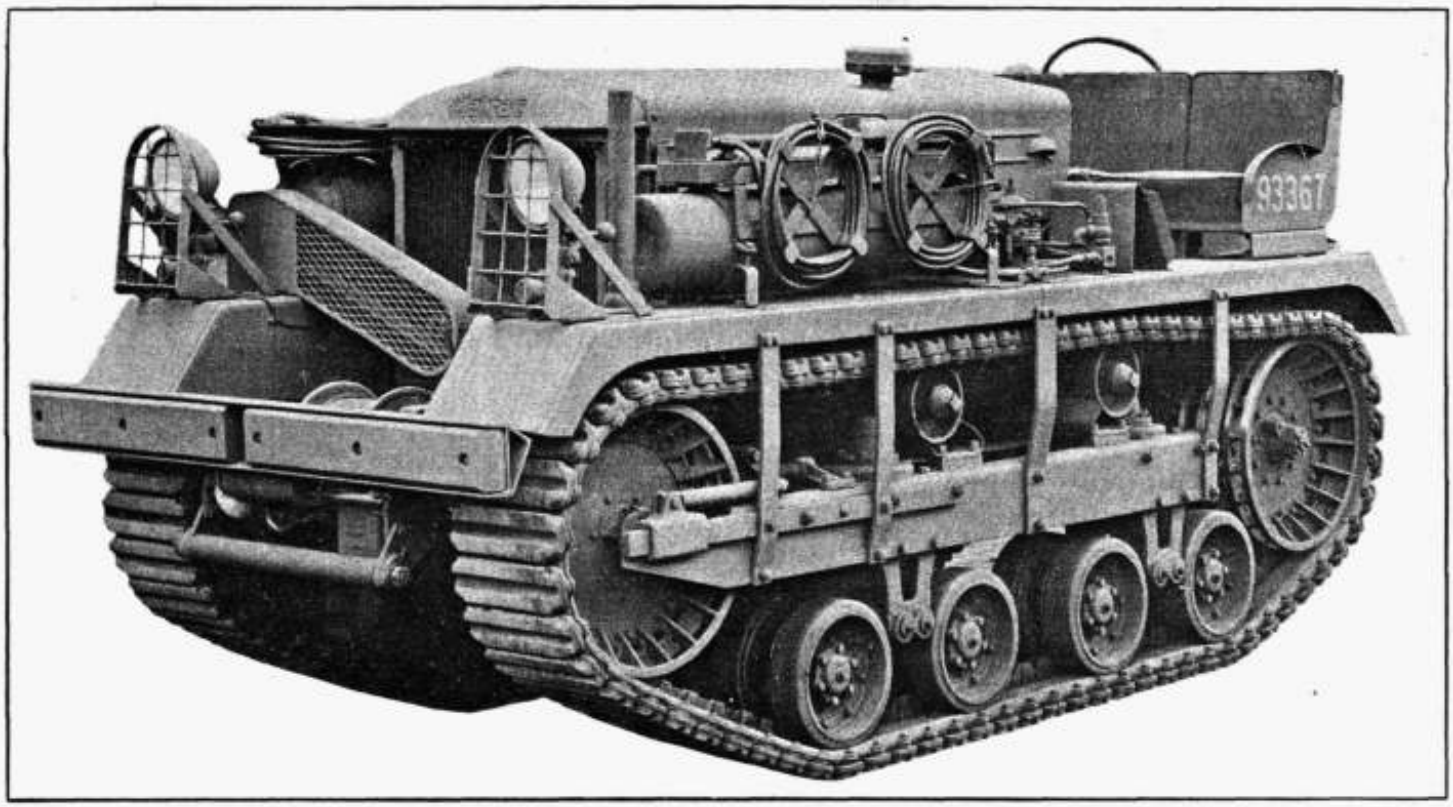


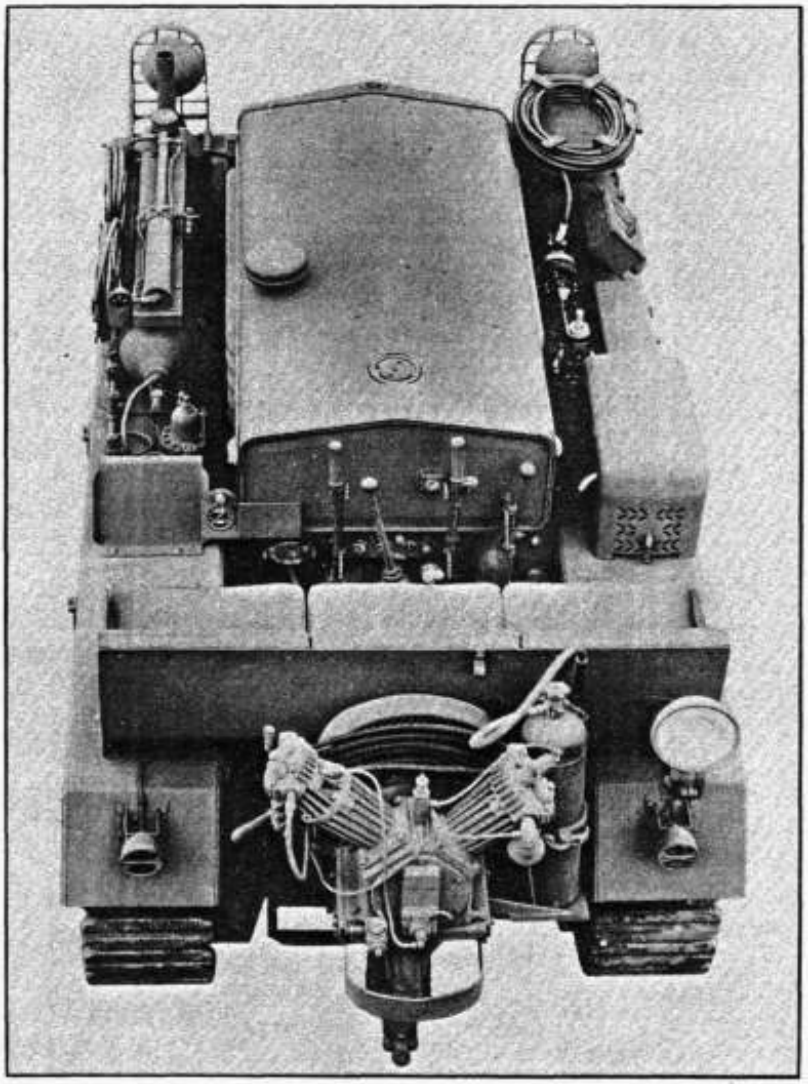
Right side rear three-quarter view.



Top front view.



Left side front three-quarter view.



Top rear view.

Index

Introduction

The Cletrac MG-1 has been designed for a wide variety of work for the Army Air Corps.

It is equipped with a spring drawbar and pintle hook at the rear which can be used for towing planes or other heavy equipment. In addition, a front-mounted winch permits the handling or hoisting of heavy materials.

A power generator provides current for the operation of an electrical energizer, flood lights, grinders, drills, and other small electrically operated tools.

A compressed air system provides high pressure air for the servicing of aircraft shock absorber struts.

Other equipment includes front bumper, front and rear white lights, blackout lights, fire extinguisher, and flagstaff holder.

Each tractor is given a rigid operating test and final inspection by the Ordnance Department at the factory before shipment. Altho simple to operate and care for it is important that the operator be thoroly instructed in the proper use and care of the tractor.

While every precaution is taken to see that the tractor and all units of equipment are in perfect working order before leaving the factory, it is the responsibility of the operating and maintenance personnel to be able to interpret difficulties which might damage additional parts or units if tractor is operated without correcting these difficulties. Any unusual noises or conditions which may develop that are not normal should be investigated and corrected immediately before operation is continued.

Complete instructions regarding daily care, adjustment, and maintenance of the tractor are found in this book and should be thoroly studied by the operator and maintenance personnel. Following the Lubrication and Maintenance Schedule will maintain the care essential to satisfactory performance.

The manner in which a tractor is operated and cared for during the first 100 working hours determines its future life, freedom from unnecessary troubles and delays, etc.

After the first 100 hours' operation, tighten all nuts, bolts, and cap screws. Then keep all bolts, nuts, and connections tight at all times.

Before removing inspection covers, plugs, etc., from any part of the tractor, thoroly clean away all dirt from these parts. Keep oil and grease containers clean and well covered when not in use. Keep all breather caps in place, except when servicing.

When capitalized words; such as, "TRACKS," "COOLING SYSTEM," etc., appear in this book, they are "key" words to subjects in another part of the book and should be referred to for detailed instructions.

Whenever the words "right" or "left" are used to designate direction, they refer to the right hand side or left hand side of tractor, as viewed from the operator's seat, unless otherwise noted in the text.

Numbers pointing to particular objects on illustrations or drawings are arranged in numerical order following the outline of text referring to the illustration.

Specifications Cletrac MG-1

Engine Make	Hercules WXLC-3
Number of Cylinders	6
Bore	4-1/4 inch
Stroke	4-3/4 inch
Number of Main Bearings	7
Number of Camshaft Bearings	4
R.P.M. Governed Speed	2500 and 3280
Ignition	Battery
Clutch Diameter (Double Plate)	10 inches
Fuel Tank Capacity	33 gallons
Engine Crankcase Capacity	11 quarts
Differential, Transmission and Final Drive Oil Capacity	15 gallons
Cooling System Capacity	9 gallons, 1 quart
Length Overall	13 feet, 9 inches
Width Overall	68 inches
Height	63 inches
Weight (approximate)	13,520 pounds
Ground Clearance (under tractor)	19 inches
Track Width	13-5/8 inches

Tractor Speed at Governed Engine Speed

	Engine 2500 R.P.M.	Engine 3280 R.P.M.
First Gear	3.44	4.51
Second Gear	7.05	9.24
Third Gear	10.22	13.40
Fourth Gear	16.75	22.0
Reverse Gear	4.26	5.58

Important

Study this "Maintenance Manual" and the following "Lubrication and Maintenance Schedule".

Clean away all dirt before removing inspection covers or oil plugs.

Use clean oil and containers and always keep containers covered.

When removing parts always inspect gaskets and replace at once if they appear torn or otherwise damaged.

The Maintenance Schedule is divided into three separate periodic service requirements. It is important that the operating and maintenance personnel acquaint themselves with these requirements as outlined on Pages 3 and 4 which follow.

Cletrac MG-1 Lubrication and Maintenance Schedule

Time	*Chart Number*	*Lubricate tractor or equipment on mileage or hourly basis according to whichever may occur first.*	*Page Number*
STARTING EACH DAY	1	*COOLING SYSTEM* (Capacity 9 gallons, 1 quart) - Keep filled with clean, soft water or anti-freeze.	8-144
	2-3	*AIR CLEANER* (Capacity 2-1/2 pints) - Also at intervals varying from 1 to 10 hours, remove intake pipe and cup, clean cup, and refill to circular mark on baffle in cup. Use engine crankcase grade oil. Keep intake pipe precleaner screen clean.	16
	4-5	*BREATHERS - CRANKCASE, CLUTCH, TRANSMISSION, and DIFFERENTIAL* - Clean, dip in oil, allow to drain, and replace.	10-64-72
	6	*ENGINE CRANKCASE* (Capacity 11 quarts) - Also at 5 to 10 hour intervals, check oil level immediately after engine has been stopped. Keep to 4/4 mark on bayonet gauge. Above 90° F. use S.A.E. 40 motor oil. 32° to 90° F. use S.A.E. 30. Below 32° F. use S.A.E. 20-W. In sub-zero temperatures use S.A.E. 10-W.	9-10
	7	*UPPER, LOWER, and FRONT IDLER TRACK WHEELS, TRACK WHEEL PIVOT SHAFTS, and PIVOT BRACKET PLUNGERS* (13 fittings each side) - Clean Alemite fittings. With gun supplied, oil every 10 working hours. Above 32° F. use S.A.E. 50 motor oil. Below 32 F. use S.A.E. 30. When operating in mud or water, oil every 5 hours and at end of day.	89-145
	8	*FUEL STRAINER* - Check for water or sediment and clean if necessary.	26
	9	*BOOSTER PUMP* - When using booster pump, shut inlet cock, remove pipe plug, add several drops of crankcase grade oil, using oil can. Reinstall plug.	120
	10	*CLUTCH* - Also every 5 hours, give clutch release grease cup one full turn down. Check free pedal travel. Use medium grade wheel bearing grease.	64
EVERY 500 MILES OR 30 TO 50 WORKING HOURS	11	*TRANSMISSION and DIFFERENTIAL CASE, and FINAL DRIVES* - (Capacity 15 gallons) - With oil hot and with engine running at idle speed, check oil level at final drive plugs. If low, add oil thru transmission breather hole. Above 32° F. use motor oil S.A.E. 50. Below 32° F. use motor oil S.A.E. 30. In sub-zero temperatures use S.A.E. 20.	72-145
	12-13	*CRANKCASE and OIL FILTERS* - Change Oil. Remove drain plugs from crankcase and oil filters. Replace plugs and refill with 11 quarts. Replace filter elements when oil discolors between regular oil changes.	10-11
	14	*DISTRIBUTOR* - Give grease cup one complete turn. Use medium grade wheel bearing grease.	32
	15	*GENERATOR* - (12 volt) - Turn grease cups down one-half turn. Use medium grade wheel bearing grease.	35
	16	*STARTING MOTOR* - Add 8 to 10 drops of oil. Use same oil as used in crankcase.	43
	17	*FRONT POWER TAKEOFF GEAR CASE* (Capacity 1 pint) - Keep filled to level plug. Use same grade as in transmission.	105