

TM 9-1795D

WAR DEPARTMENT

TECHNICAL MANUAL



**ORDNANCE MAINTENANCE
BODY AND CHASSIS FOR
HEAVY WRECKING TRUCK M1**

JANUARY 27, 1943

ORDNANCE MAINTENANCE

BODY AND CHASSIS FOR HEAVY WRECKING TRUCK M1

Prepared under direction of
Chief of Ordnance
(with the cooperation of the Ward La France Truck Corporation)

CONTENTS

	Paragraphs	Pages
CHAPTER 1 INTRODUCTION	1-5	3-15
CHAPTER 2 SERVICE BRAKES		
SECTION I. General	6-9	16
II. Trouble shooting	10	17-19
III. Front service brake removal	11-12	20-23
IV. Front service brake inspection	13-14	24-25
V. Front service brake installation	15-17	26-30
VI. Rear service brake removal	18-19	31-39
VII. Rear service brake inspection and repair	20-21	40
VIII. Rear service brake installation	22-24	41-46
CHAPTER 3 PARKING BRAKES		
SECTION I. General	25-28	47-48
II. Trouble shooting	29	49-50
III. Parking brake assembly removal	30-31	51-57
IV. Parking brake disassembly	32-35	58-62
V. Parking brake assembly inspec- tion and repair	36-37	63-65
VI. Assembly of parking brake	38-41	66-69
VII. Parking brake assembly instal- lation	42-44	70-74
CHAPTER 4 AIR SYSTEM		
SECTION I. General	45-51	75-81
II. Trouble shooting	52	82-84
III. Air compressor	53-64	85-108
IV. Governor	65-71	109-118
V. Safety valve	72-78	119-121
VI. Air pressure gage	79-81	122-123
VII. Floor foot air valve	82-88	124-130
VIII. Front brake cylinders	89-95	131-137

TM 9-1795D

**ORDNANCE MAINTENANCE
BODY AND CHASSIS FOR HEAVY WRECKING TRUCK M1**

	Paragraphs	Pages
SECTION IX.	Rear brake air diaphragms..... 96-102	138-140
X.	Slack adjusters 103-109	141-145
XI.	Quick-release valve 110-116	146-149
XII.	Relay valve 117-123	150-155
XIII.	Air reservoirs 124-127	156-158
XIV.	Trailer air connections..... 128-138	159-168
XV.	Air pipes and fittings..... 139-141	169-173
XVI.	Cab double check valve..... 142-148	174-177
XVII.	Clutch air cylinder..... 149-152	178-180
XVIII.	Winch air controls..... 153-159	181-185
CHAPTER 5 FRAME		
SECTION I.	General 160-163	186
II.	Trouble shooting 164	187
III.	Frame inspection and repair.... 165-166	188-191
IV.	Pintle hook 167-170	192
V.	Transfer case cross shaft and linkage (to frame)..... 171-174	193-195
CHAPTER 6 SPRINGS AND SHOCK ABSORBERS		
SECTION I.	General 175-178	196-197
II.	Trouble shooting 179	198
III.	Springs and shock absorbers... 180-195	199-214
CHAPTER 7 STEERING GEAR AND DRAG LINK		
SECTION I.	General 196-199	215-216
II.	Trouble shooting 200	217
III.	Steering gear assembly..... 201-207	218-230
IV.	Drag link assembly..... 208-214	231-234
CHAPTER 8 BODY AND SHEET METAL		
SECTION I.	General 215-218	235-237
II.	Trouble shooting 219	238
III.	Body assembly 220-223	239-246
IV.	Cab assembly 224-234	247-286
V.	Windshield wiper motor..... 235-241	287-295
VI.	Tachometer 242-247	296-303
VII.	Sheet metal 248-280	304-319
CHAPTER 9 CLEARANCES AND TOLERANCES 281-282		
CHAPTER 10 PREPARATION FOR USE IN COLD CLIMATE 283		
CHAPTER 11 PAINTING 284-289		
CHAPTER 12 SHIPPING AND STORAGE		
SECTION I.	Domestic shipment 290-292	326-330
II.	Overseas shipment 293-294	331-339
III.	Storage 295-296	340
CHAPTER 13 SPECIAL TOOLS 297-298		
CHAPTER 14 REFERENCES 299-301		
INDEX		344

CHAPTER 1

INTRODUCTION

	Paragraph
Purpose and scope	1
Description and nature of materiel.....	2
Differences among models, specifications, data and U.S.A. registration numbers	3
Organization maintenance	4
Periodic maintenance operations	5

1. PURPOSE AND SCOPE.

a. The instructions contained in this manual are for the information and guidance of the personnel charged with the maintenance and repair of the Heavy Wrecker M1, series 2. Information on the detailed construction of the unit, disassembly and assembly procedure, inspection, maintenance and repair is contained in four Technical Manuals—TM 9-1795A, TM 9-1795B, TM 9-1795C and TM 9-1795D—of which this is the fourth—TM 9-1795D. This manual covers a description of and procedure for, the disassembly, inspection, repair and assembly of the brakes, frame, springs, shock absorbers, steering, body and sheet metal. It also contains instructions for packing, shipping and storage, as well as instructions for preparing the vehicle for use in cold climates. Detailed information concerning general decontamination of the unit is contained in TM 9-795. TM 9-1795A covers a description of the Heavy Wrecking Truck M1, series 2; including differences between series 1 and series 2; U.S.A. registration numbers of the vehicle, a description of, and procedure for, the disassembly, inspection, repair and assembly of the front axle, rear axle, universal joints and propeller shafts, transmission, transfer case, wheels and tires. TM 9-1795B covers a description of, and procedure for, the disassembly, inspection, repair and assembly of the engine cooling system, electrical system, engine components, fuel and exhaust system, lubrication and clutch. TM 9-1795C covers a description of, and procedure for, the disassembly, inspection, repair and assembly of the crane, power take-off, drive lines, winches and cables.

2. DESCRIPTION AND NATURE OF MATERIEL.

a. In addition to the description and nature of this materiel as contained in TM 9-1795A, this book contains a detailed description of, and procedure for, the disassembly, inspection, repair and assembly of the brakes, frame, springs, shock absorbers, steering, body and sheet metal. It also contains instructions for packing, shipping and storage.

3. DIFFERENCES AMONG MODELS, SPECIFICATIONS, DATA AND U.S.A. REGISTRATION NUMBERS.

(Contained in TM 9-1795A.)

TM 9-1795D

4

ORDNANCE MAINTENANCE BODY AND CHASSIS FOR HEAVY WRECKING TRUCK M1

4. ORGANIZATION MAINTENANCE.

a. **Scope.** The scope of maintenance and repair by the crew and other units of the using arm is determined by the availability of suitable tools, availability of necessary parts, capabilities of the mechanics, time available and the tactical situation. All of these are variable and no exact system of procedure can be prescribed.

b. **Allocation of Maintenance.** Indicated below are the maintenance duties for which tools and parts have been provided for the using arm personnel. Other replacements and repairs are the responsibility of ordnance maintenance personnel but may be performed by using arm personnel when circumstances permit, within the discretion of the commander concerned. Echelons and words as used in this list of maintenance allocations are defined as follows:

- | | |
|---|---|
| (1) SECOND
ECHELON: | Line organization regiments, battalions, companies, detachments and separate companies (first and second echelons). |
| (2) THIRD
ECHELON: | Ordnance light maintenance companies, ordnance medium maintenance companies, ordnance divisional maintenance battalions and post ordnance shops. |
| (3) FOURTH
ECHELON: | Ordnance heavy maintenance companies and service command shops. |
| (4) FIFTH
ECHELON: | Ordnance base regiments, ordnance bases, arsenals and manufacturers' plants. |
| (5) SERVICE (including preventive maintenance, par. 23 a. (1) and (2), AR 850-15.): | Consists of servicing, cleaning, lubricating, tightening bolts and nuts and making external adjustments of subassemblies or assemblies and controls. |
| (6) REPLACE (par. 23 a. (4), AR 850-15): | Consists of removing the part, subassembly or assembly from the vehicles and replacing it with a new or reconditioned or rebuilt part, subassembly or assembly, whichever the case may be. |
| (7) REPAIR (par. 23 a. (3) and (5) in part, AR 850-15): | Consists of making repairs to, or replacement of, the part, subassembly or assembly that can be accomplished without completely disassembling the subassembly or assemblies, and does not require heavy welding, or riveting, machining, fitting and/or alining or balancing. |

INTRODUCTION

- (8) **REBUILD** (par. 23 a. (5) in part and (6) AR 850-15): Consists of completely reconditioning and replacing in serviceable condition any unserviceable part, subassembly or assembly of the vehicle, including welding, riveting, machining, fitting, alining, balancing, assembling and testing.

ABSORBERS, SHOCK AND LINKAGE

	ECHELONS			
	2nd	3rd	4th	5th
Absorber assembly, shock and linkage—replace	X			
Absorber assembly, shock and linkage—repair		X		
Absorber assembly, shock and linkage—rebuild			E	X

AXLE, FRONT

Alinement, wheel, camber and caster			E	X
Alinement, wheel, toe-in—adjust	X			
Arm, steering—replace	X			
*Axle, front assembly—service and replace	*	X		
Axle, front assembly—repair		X		
Axle, front assembly—rebuild			E	X
Bearings, wheel—adjust and replace	X			
Carrier, differential, with cross shaft and pinion cage assembly—replace and repair		X		
Carrier, differential, with cross shaft and pinion cage assembly—rebuild			E	X
Retainers, grease—replace	X			
Rod, tie—replace	X			
Rod, tie—repair		X		
Seals, oil—replace	X			
Shaft, axle—replace	E	X		
Stop, steering knuckle—adjust and replace		X		

AXLE, REAR (TANDEM UNIT)

*Axle assembly, rear or intermediate—replace	*	X		
Axle assembly, rear or intermediate—repair		X		
Axle assembly, rear or intermediate—rebuild			E	X
*Axles, rear assembly (tandem unit)—replace	*	X		
Axles, rear assembly (tandem unit)—repair		X		
Axles, rear assembly (tandem unit)—rebuild			E	X
Bearings, wheel or connecting tube—replace	X			
Carrier, differential with cross shaft assembly (rear or intermediate)—replace and repair		X		
Carrier, differential with cross shaft assembly (rear or intermediate)—rebuild			E	X
Retainers, grease—replace	X			
Rods, torque—replace	X			
Rods, torque—rebuild			X	

See explanatory notes on page 13.

TM 9-1795D

4

**ORDNANCE MAINTENANCE
BODY AND CHASSIS FOR HEAVY WRECKING TRUCK M1**

AXLE, REAR (TANDEM UNIT) (Cont'd)

	ECHELONS			
	2nd	3rd	4th	5th
Seals, oil—replace	X			
Shaft, axle—replace	X			
Shaft, propeller, intermediate with universal joints— replace	X			
Shaft, propeller, intermediate with universal joints— repair		X		
Shaft, propeller, intermediate with universal joints— rebuild			E	X
Tube, connecting, bogie—replace	E	X		

BRAKE GROUP

Adjuster, slack—adjust and replace	X			
Adjuster, slack—repair		X		
Adjuster, slack—rebuild			X	
Brakes—adjust	X			
Chamber, air brake assembly—replace	X			
Chamber, air brake assembly—repair		X		
Chamber, air brake assembly—rebuild			X	
Connections, trailer, front and rear, air brake—re- place	X			
Connections, trailer, front and rear, air brake—repair		X		
Diaphragm, air brake chamber—replace	X			
Drum, brake—replace	X			
Governor, air pressure assembly—adjust and replace	X			
Governor, air pressure assembly—repair		X		
Governor, air pressure assembly—rebuild			X	
Lines and connections, air—replace	E	X		
Reservoir, air—service and replace	X			
Reservoir, air—repair		X		
Shoe assemblies, brake—adjust and replace	X			
Shoe assemblies, brake—repair (reline)		X		
Shoe assemblies, brake—rebuild			X	
Valves, air brake assembly—replace	X			
Valves, air brake assembly—repair		X		
Valves, air brake assembly—rebuild			X	

BRAKE GROUP (HAND OR EMERGENCY)

Controls and linkage, hand brake—adjust and replace	X			
Controls and linkage, hand brake—repair		X		
Shoe, hand brake assembly—replace	X			
Shoe, hand brake assembly—repair (reline)		X		

See explanatory notes on page 13.

INTRODUCTION**BODY**

	ECHELONS			
	2nd	3rd	4th	5th
Bumper—replace	X			
Bumper—repair		X		
Cab assembly—replace and repair		E	X	
Cab assembly—rebuild			E	X
Glass, doors—replace		X		
Grill, protective—replace	X			
Grill, protective—repair		X		
Hoods and doors—replace	X			
Seat assembly—replace	X			
Seat assembly—repair		X		
Seat assembly—rebuild			X	
Windshield assembly—replace glass		X		
Windshield assembly—rebuild			X	
Wipers, windshield assembly—replace	X			
Wipers, windshield assembly—rebuild		X		

CASE, POWER TAKE-OFF

Case, power take-off assembly—replace	X			
Case, power take-off assembly—repair		X		
Case, power take-off assembly—rebuild			E	X

CASE, TRANSFER

*Case, transfer assembly—replace	*	X		
Case, transfer assembly—repair		X		
Case, transfer assembly—rebuild			E	X
Controls and linkage—replace	X			
Controls and linkage—repair		X		
Disk, hand brake—replace	X			

CLUTCH

Clutch assembly—replace	E	X		
Clutch assembly—repair		X		
Clutch assembly—rebuild			E	X
Cylinder, air (winch operation)—adjust and replace	X			
Cylinder, air (winch operation)—repair		X		
Cylinder, air (winch operation)—rebuild			X	
Housing, clutch—replace	E	X		
Housing, clutch—rebuild (recondition)			E	X

CRANE AND BOOM ASSEMBLY

Boom and jack leg assembly—replace	X			
Boom and jack leg assembly—repair		X		
Boom and jack leg assembly—rebuild			E	X

See explanatory notes on page 13.

TM 9-1795D

4

**ORDNANCE MAINTENANCE
BODY AND CHASSIS FOR HEAVY WRECKING TRUCK M1**

CRANE AND BOOM ASSEMBLY (Cont'd)

	ECHELONS			
	2nd	3rd	4th	5th
*Boom pivot assembly—replace	*	X		
Boom pivot assembly—repair		X		
Boom pivot assembly—rebuild			E	X
Cables—replace	X			
Cables—repair		X		
Chains, drive—service, replace and repair	X			
*Crane and boom assembly—replace	*	X		
Crane and boom assembly—repair		X		
Crane and boom assembly—rebuild			E	X
Jack assembly—replace	X			
Jack assembly—repair		X		
Pulleys and lifting hook—replace	X			
Pulleys and lifting hook—repair		X		
Sprockets, chain drive—replace	X			
Sprockets, chain drive—repair		X		
Topping pivot assembly—replace	X			
Topping pivot assembly—repair		X		
Topping pivot assembly—rebuild			X	
Winches, hand assembly—replace	X			
Winches, hand assembly—repair		X		
Winches, hand assembly—rebuild			E	X

CRANE AND WINCH DRIVE

Bearings and oil seals—replace	X			
Chains, drive—service, replace and repair	X			
Chain tightener assembly—replace and adjust	X			
Chain tightener assembly—repair		X		
Chain tightener assembly—rebuild			X	
Clutch assembly (front winch)—service and replace ..	X			
Clutch assembly (front winch)—repair		X		
Clutch assembly (front winch)—rebuild			X	
Sprockets, chain drive—replace	X			
Sprockets, chain drive—repair		X		
Transmission, auxiliary (rear and crane winch)— service and replace	X			
Transmission, auxiliary (rear and crane winch)— repair		X		
Transmission, auxiliary (rear and crane winch)— rebuild			E	X

ELECTRICAL SYSTEM

Battery—charge and service	X
Battery—replace	X

See explanatory notes on page 13.

INTRODUCTION

ELECTRICAL SYSTEM (Cont'd)

	ECHELONS			
	2nd	3rd	4th	5th
Battery—repair		X		
Battery—rebuild			E	X
Box, apparatus assembly (generator control)—re- place	X			
Box, apparatus assembly (generator control)—repair and adjust		X		
Box, apparatus assembly (generator control)—rebuild			X	
Cables, battery—replace	X			
Horn assembly—service and replace	X			
Horn assembly—repair		X		
Lamps assembly—replace	X			
Lamps assembly—repair		X		
Siren assembly—replace	X			
Siren assembly—repair		X		
Switch assemblies—replace	X			
Switch assemblies—repair		X		
Wiring—replace and repair	X			

ENGINE

Arm, rocker assembly—replace	X			
Arm, rocker assembly—repair		X		
Bearings, connecting rod—replace		E	E	X
Bearings, crankshaft—replace		E	E	X
Belt, fan—adjust and replace	X			
Carburetor assembly—replace	X			
Carburetor assembly—repair		X		
Carburetor assembly—rebuild			X	
Chain case cover assembly—replace	E	X		
Chain timing—replace		E	X	
Compressor, air assembly—replace and service	X			
Compressor, air assembly—repair		X		
Compressor, air assembly—rebuild			E	X
Crankshaft, rebuild (recondition)			E	X
*Engine assembly—replace	*	X		
Engine assembly—repair		X		
Engine assembly—rebuild			E	X
Fan assembly—replace	X			
Fan assembly—repair		X		
Filter, fuel—replace and clean	X			
Filter, oil—service, replace	X			
Filter, oil—repair		X		
Flywheel assembly—replace		E	X	
Flywheel assembly—rebuild (recondition)			E	X

See explanatory notes on page 13.