

TECHNICAL MANUAL

**UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT
MAINTENANCE REPAIR PARTS AND
SPECIAL TOOLS LISTS**

**TRUCK, FORKLIFT: EMD, SOLID RUBBER TIRED
WHEELS, 2000 LB CAPACITY, 144 IN. LIFT
ARMY MODEL MHE-219
(NSN 3930-00-151-4432)**

ALLIS-CHALMERS MODEL FE20-24EE

**This manual supersedes TM 10-3930-628-20P, 30 August 1984, and
TM 10-3930-628-34P, 24 August 1984, and all changes.**

Approved for public release, distribution is unlimited

HEADQUARTERS, DEPARTMENT OF THE ARMY MARCH 1992

**UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT
MAINTENANCE REPAIR PARTS
AND SPECIAL TOOLS LISTS**

**TRUCK, FORKLIFT: EMD, SOLID RUBBER TIRED
WHEELS, 2000 LB CAPACITY, 144 IN. LIFT
ARMY MODEL MHE 219
(NSN 3930-00-151-4432)
ALLIS-CHALMERS MODEL FE20-24EE**

Current as of 13 August 1991

REPORTING ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this manual. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2, located in the back of this manual, direct to: Commander, U.S. Army Tank-Automotive Command, ATTN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

Approved for public release; distribution is unlimited.

TABLE OF CONTENTS

	Page	Illus Fig
SECTION I. INTRODUCTION	1	
SECTION II. REPAIR PARTS LIST	1-1	
GROUP 06 ELECTRICAL SYSTEM		
0607 - INSTRUMENT OR ENGINE CONTROL PANEL	1-1	
INSTRUMENT PANEL AND RELATED PARTS	1-1	1
0608 - MISCELLANEOUS ITEMS	2-1	
LIMIT SWITCH AND MOUNTING PARTS	2-1	2
BRAKE INTERLOCK ASSEMBLY	3-1	3
0609 - LIGHTS	4-1	
HEADLIGHT AND MOUNTING PARTS	4-1	4
STOP AND TAILLIGHT EXPLODED VIEW	5-1	5
0611 - HORN, SIREN.....	6-1	
HORN AND BUTTON ASSEMBLY	6-1	6
0612 - BATTERIES, STORAGE.....	7-1	
BATTERY CONNECTOR	7-1	7

*** This manual supersedes TM 10-3930-628-20P, dated 30 August 1984 and TM 10-3930-628-34P, dated 24 August 1984, and all changes.**

TABLE OF CONTENTS (Con't)

	Page	Illus Fig
0613 - HULL OR CHASSIS WIRING HARNESS	8-1	
WIRING HARNESS	8-1	8
GROUP 10 FRONT AXLE		
1000 - FRONT AXLE ASSEMBLY	9-1	
DRIVE AXLE HOUSING	9-1	9
DRIVE AXLE	10-1	10
1002 - DIFFERENTIAL	11-1	
DIFFERENTIAL	11-1	11
DIFFERENTIAL CARRIER HOUSING AND RELATED PARTS ...	12-1	12
GROUP 11 REAR AXLE		
1100 - REAR AXLE ASSEMBLY	13-1	
STEERING AXLE ASSEMBLY	13-1	13
1104 - STEERING, SIDESHIFT AND WHEEL LEANING MECHANISM..	14-1	
AXLE SPINDLE AND ARM	14-1	14
GROUP 12 BRAKES		
1201 - HANDBRAKES.....	15-1	
SEAT SWITCH BRAKE AND BRACKET	15-1	15
PARKING BRAKE EXPLODED VIEW	16-1	16
1202 - SERVICE BRAKES	17-1	
SERVICE BRAKE ASSEMBLY	17-1	17
1204 - HYDRAULIC BRAKE SYSTEM.....	18-1	
WHEEL CYLINDER	18-1	18
MASTER CYLINDER ASSEMBLY	19-1	19
1206 - MECHANICAL BRAKE SYSTEM.....	20-1	
BRAKE PEDAL AND ASSOCIATED PARTS.....	20-1	20
GROUP 13 WHEELS AND TRACKS		
1311 - WHEELASSEMBLY	21-1	
DRIVE WHEEL ASSEMBLY	21-1	21
REAR WHEEL ASSEMBLY	22-1	22
1313 - TIRES, TUBES, TIRE CHAINS.....	23-1	
DRIVE WHEEL AND STEERING WHEEL TIRE	23-1	23
GROUP 14 STEERING		
1401 - MECHANICAL STEERING GEAR ASSEMBLY.....	24-1	
STEERING WHEEL AND MOUNTING PARTS.....	24-1	24
STEERING GEAR ASSEMBLY AND LINKAGE	25-1	25
TIE-ROD ASSEMBLY	26-1	26
DRAG LINK ASSEMBLY	27-1	27
GROUP 15 FRAME, TOWING ATTACHMENTS, DRAWBARS, AND ARTICULATION SYSTEMS		
1502 - COUNTERWEIGHTS	28-1	
COUNTERWEIGHTS	28-1	28

TABLE OF CONTENTS (Con't)

		Page	Illus Fig
GROUP 18	BODY, CAB, HOOD, AND HULL		
1801 -	BODY, CAB, HOOD, AND HULL ASSEMBLIES	29-1	
	OVERHEAD GUARD ASSEMBLY	29-1	29
	BATTERY FILTER COVER AND ASSOCIATED PARTS.....	30-1	30
	BATTERY COVER AND SIDE PANELS	31-1	31
1805 -	FLOORS, SUBFLOORS, AND RELATED COMPONENTS	32-1	
	FLOOR PLATE AND ASSOCIATED PARTS.....	32-1	32
1806 -	UPHOLSTERY, SEATS, AND CARPETS	33-1	
	SEAT ASSEMBLY.....	33-1	33
	SEAT HINGE ASSEMBLY AND RELATED PARTS.....	34-1	34
GROUP 24	HYDRAULIC AND FLUID SYSTEMS		
2401 -	PUMP AND MOTOR	35-1	
	HYDRAULIC PUMP ASSEMBLY	35-1	35
	HYDRAULIC PUMP MOTOR ASSEMBLY	36-1	36
2402 -	MANIFOLD AND/OR CONTROL VALVES	37-1	
	VALVE CONTROL ASSEMBLY.....	37-1	37
	RELIEF VALVE AND TILT PLUNGER SECTION ASSEMBLY	38-1	38
	PLUNGER SECTION ASSEMBLY.....	39-1	39
2403 -	HYDRAULIC CONTROLS AND/OR MANUAL CONTROLS	40-1	
	CONTROL VALVE LINKAGE AND SWITCH	40-1	40
2404 -	TILT CYLINDERS AND TILT CRANK.....	41-1	
	TILT CYLINDER AND ASSOCIATED PARTS.....	41-1	41
2405 -	MAST COLUMN.....	42-1	
	OUTER MAST ASSEMBLY	42-1	42
	INNER MAST ASSEMBLY.....	43-1	43
	CYLINDER CLUSTER ASSEMBLY.....	44-1	44
	LIFT CYLINDER ASSEMBLY	45-1	45
	LIFTING FORKS	46-1	46
	BACKREST AND CARRIAGE.....	47-1	47
2406 -	STRAINERS, FILTERS, LINES, AND FITTINGS, ETC	48-1	
	HYDRAULIC LINES AND ASSOCIATED PARTS	48-1	48
	HYDRAULIC HOSE ASSEMBLIES AND RELATED PARTS	49-1	49
	HYDRAULIC FILTER AND ASSOCIATED PARTS	50-1	50
2408 -	LIQUID TANKS OR RESERVOIRS	51-1	
	HYDRAULIC OIL RESERVOIR ASSEMBLY	51-1	51
GROUP 40	ELECTRIC MOTORS AND GENERATORS		
4000 -	MAJOR ASSEMBLAGE: MOTOR GENERATOR AND ROTATING EXCITER ASSEMBLIES	52-1	
	DRIVE MOTOR	52-1	52
4001 -	ROTOR ASSEMBLIES.....	53-1	
	DRIVE MOTOR ARMATURE ASSEMBLY	53-1	53
4003 -	BRUSH HOLDERS	54-1	
	DRIVE MOTOR BRUSHES AND ASSOCIATED PARTS.....	54-1	54
4004 -	VENTILATING SYSTEM	55-1	
	DRIVE MOTOR FAN.....	55-1	55
4005 -	FRAME SUPPORT AND HOUSING.....	56-1	
	DRIVE MOTOR HOUSING, BEARINGS, AND RELATED PARTS	56-1	56
4009 -	CONTROL PANELS, HOUSING, CUBICLES.....	57-1	
	CONTROL BOARD ASSEMBLY.....	57-1	57

TABLE OF CONTENTS (Con't)

	Page	Illus Fig
4010 - MASTER OR AUXILIARY CONTROL ASSEMBLY	58-1	
SPEED CONTROL BOX ASSEMBLY.....	58-1	58
POWER SWITCH ASSEMBLY	59-1	59
POWER SWITCH MODULE ASSEMBLY	60-1	60
CONTACTOR BOX ASSEMBLY AND ASSOCIATED PARTS	61-1	61
CONTACTOR ASSEMBLY EMERGENCY CUTOFF SWITCH ...	62-1	62
FORWARD AND REVERSE CONTACTOR ASSEMBLY	63-1	63
PUMP CONTACTOR ASSEMBLY.....	64-1	64
DIODE AND CAPACITOR ASSEMBLY	65-1	65
SHUNT ASSEMBLY.....	66-1	66
CONTROL UNIT ASSEMBLY	67-1	67
PROTECTIVE CIRCUIT BOARD ASSEMBLY	68-1	68
4012 - SWITCHES	69-1	
EMERGENCY CUTOFF SWITCH.....	69-1	69
FORWARD AND REVERSE SWITCH ASSEMBLY EXPLODED VIEW	70-1	70
GROUP 94		
REPAIR KITS		
9401 - REPAIR KITS.....	KITS-1	
REPAIR KITS.....	KITS-1	KITS
SECTION III.		
SECTION IV.		
SPECIAL TOOLS LIST (NOT APPLICABLE)		
CROSS-REFERENCE INDEXES		
NATIONAL STOCK NUMBER INDEX	I-1	
PART NUMBER INDEX	I-10	
FIGURE AND ITEM NUMBER INDEX.....	I-39	

UNIT, DIRECT SUPPORT, AND GENERAL SUPPORT MAINTENANCE REPAIR PARTS AND SPECIAL TOOLS LISTS

SECTION I. INTRODUCTION

1. Scope.

This Repair Parts and Special Tools List (RPSTL) lists and authorizes spares and repair parts; special tools; special Test, Measurement, and Diagnostic Equipment (TMDE); and other special support equipment required for performance of Unit, Direct Support, and General Support Maintenance of the Forklift Truck. It authorizes the requisitioning, issue, and disposition of spares, repair parts and special tools as indicated by the Source, Maintenance and Recoverability (SMR) codes.

2. General.

In addition to Section I. Introduction, this Repair Parts and Special Tools List is divided into the following sections:

a. *Section II. Repair Parts List.* A list of spares and repair parts authorized by this RPSTL for use in the performance of maintenance. The list also includes parts which must be removed for replacement of the authorized parts. Parts lists are composed of functional groups in ascending numeric sequence, with the parts in each group listed in ascending figure and item number sequence. Bulk materials are listed in item name sequence. Repair kits are listed separately in their own functional group within Section II. Repair parts for reparable special tools are also listed in the section. Items listed are shown on the associated illustration(s)/figure(s).

b. *Section III. Special Tools List.* A list of special tools, special TMDE, and other special support equipment authorized by this RPSTL (as indicated by Basis of Issue (BOI) information in DESCRIPTION AND USABLE ON CODE column) for the performance of maintenance.

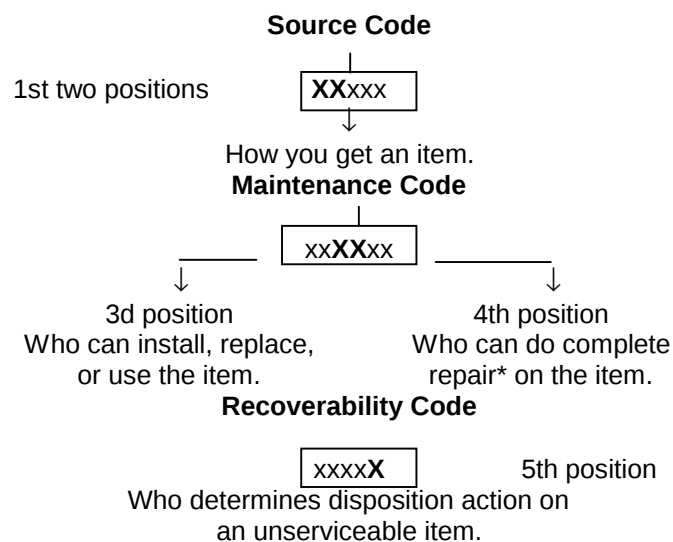
c. *Section IV Cross-reference Indexes.* A list, in National Item Identification Number (NIIN) sequence, of all National Stock Numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are cross-referenced to each illustration/figure and item number appearance. The fig-

ure and item number index lists figure and item numbers in alphanumeric sequence and cross-references NSNs, CAGES, and part numbers.

3. Explanation of Columns (Sections II and III).

a. *ITEM NO. (Column (1)).* Indicates the number used to identify items called out in the illustration.

b. *SMR CODE (Column (2)).* The Source, Maintenance, and Recoverability (SMR) code is a 5-position code containing supply/requisitioning information, maintenance category authorization criteria, and disposition instructions, as shown in the following breakout:



**Complete Repair.* Maintenance capacity, capability, and authority to perform all corrective maintenance tasks of the "Repair" function in a use/user environment in order to restore serviceability to a failed item.

(1) *Source Code.* The source code tells you how to get an item needed for maintenance, repair, or overhaul of an end item/equipment. Explanations of source codes follows: