

**TECHNICAL MANUAL**

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

**TRUCK, FORK LIFT, GASOLINE ENGINE  
DRIVEN, SOLID RUBBER TIRES,  
4,000 LB CAPACITY  
ARMY MODEL MHE-203  
NSN 3930-00-935-7866 (100 IN.)  
NSN 3930-00-935-7865 (180 IN.)**

**HYSTER MODEL S40CP**

**This manual supersedes TM 10-3930-607-20P, 9 February 1984 and  
TM 10-3930-607-34P, 30 December 1983 and all changes.**

**Approved for public release; distribution is unlimited.**

---

**HEADQUARTERS, DEPARTMENT OF THE ARMY**

**SEPTEMBER 1990**

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

TRUCK, FORK LIFT, GASOLINE ENGINE  
DRIVEN, SOLID RUBBER TIRES,  
4,000 LB CAPACITY  
ARMY MODEL MHE-203  
NSN 3930-00-935-7866 (100 IN.)  
NSN 3930-00-935-7865 (180 IN.)  
HYSTER MODEL S40CP

Current as of 12 January 1990

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

|            |                                               | Illus<br>Page | Fig |
|------------|-----------------------------------------------|---------------|-----|
| SECTION I  | INTRODUCTION                                  | 1             |     |
| SECTION II | REPAIR PARTS LIST                             | 1-1           |     |
| GROUP 01   | ENGINE                                        |               |     |
| 0100 -     | ENGINE ASSEMBLY .....                         | 1-1           |     |
|            | ENGINE. ENGINE MOUNTS, AND LIFTING EYES ..... | 1-1           | 1   |
| 0101 -     | CRANKCASE, BLOCK, CYLINDER HEAD.....          | 2-1           |     |
|            | CRANKCASE, BLOCK, AND CYLINDER HEAD .....     | 2-1           | 2   |
| 0102 -     | CRANKSHAFT .....                              | 3-1           |     |
|            | CRANKSHAFT .....                              | 3-1           | 3   |
| 0103 -     | FLYWHEEL ASSEMBLY.....                        | 4-1           |     |
|            | FLYWHEEL ASSEMBLY AND HOUSING .....           | 4-1           | 4   |
| 0104 -     | PISTONS, CONNECTING RODS.....                 | 5-1           |     |
|            | PISTONS AND CONNECTING RODS .....             | 5-1           | 5   |
| 0105 -     | VALVES, CAMSHAFTS, AND TIMING SYSTEM .....    | 6-1           |     |
|            | CAMSHAFT, VALVES, AND TIMING GEAR .....       | 6-1           | 6   |

\*This manual supersedes TM 10-3930-607-20P, 9 February 1984 and TM 10-3930-607-34P, 30 December 1983 and all changes.

## TABLE OF CONTENTS

|                                                                         | Page | Illus<br>Fig |
|-------------------------------------------------------------------------|------|--------------|
| 0105 - VALVES, CAMSHAFTS, AND TIMING SYSTEM (CON'T)                     |      |              |
| TIMING GEAR COVERS .....                                                | 7-1  | 7            |
| VALVE COVERS.....                                                       | 8-1  | 8            |
| 0106 - ENGINE LUBRICATION SYSTEM.....                                   | 9-1  |              |
| OIL PUMP AND FILTER .....                                               | 9-1  | 9            |
| OIL PAN, GASKET, AND FILTER BLOCKS.....                                 | 10-1 | 10           |
| OIL GAGE, CAP, BREATHER VALVE, AND PRESSURE PLUG .....                  | 11-1 |              |
| 0108- MANIFOLDS .....                                                   | 12-1 |              |
| INTAKE MANIFOLD.....                                                    | 12-1 | 12           |
| GROUP 03 FUEL SYSTEM                                                    |      |              |
| 0301 - CARBURETOR, FUEL INJECTOR.....                                   | 13-1 |              |
| CARBURETOR .....                                                        | 13-1 | 13           |
| 0302 - FUEL PUMPS .....                                                 | 14-1 |              |
| FUEL PUMP.....                                                          | 14-1 | 14           |
| 0304 - AIR CLEANER .....                                                | 15-1 |              |
| AIR CLEANER .....                                                       | 15-1 | 15           |
| 0306 - TANKS, LINES, FITTINGS, HEADERS .....                            | 16-1 |              |
| FUEL TANK.....                                                          | 16-1 | 16           |
| 0308 - ENGINE SPEED GOVERNOR AND CONTROLS.....                          | 17-1 |              |
| ENGINE GOVERNOR AND LINKAGE .....                                       | 17-1 | 17           |
| 0309 - FUEL FILTERS .....                                               | 18-1 |              |
| FUEL FILTER, SHUTOFF VALVE, AND FITTINGS.....                           | 18-1 | 18           |
| 0312 - ACCELERATOR, THROTTLE OR CHOKE CONTROLS .....                    | 19-1 |              |
| THROTTLE CONTROL PEDAL.....                                             | 19-1 | 19           |
| GROUP 04 EXHAUST SYSTEM                                                 |      |              |
| 0401 - MUFFLER AND PIPES .....                                          | 20-1 |              |
| MUFFLER AND PIPES .....                                                 | 20-1 | 20           |
| GROUP 05 COOLING SYSTEM                                                 |      |              |
| 0501 - RADIATOR, EVAPORATIVE COOLER, OR HEAT EXCHANGER .....            | 21-1 |              |
| RADIATOR.....                                                           | 21-1 | 21           |
| 0503 - WATER MANIFOLD, HEADERS, THERMOSTATS AND<br>HOUSING GASKET ..... | 22-1 |              |
| THERMOSTAT .....                                                        | 22-1 | 22           |
| RADIATOR HOSES, CLAMPS, AND FITTINGS .....                              | 23-1 | 23           |
| 0504 - WATER PUMP .....                                                 | 24-1 |              |
| WATER PUMP, HOSE, AND FITTINGS .....                                    | 24-1 | 24           |
| 0505 - FAN ASSEMBLY .....                                               | 25-1 |              |
| FAN .....                                                               | 25-1 | 25           |
| GROUP 06 ELECTRICAL SYSTEM                                              |      |              |
| 0601 - GENERATOR, ALTERNATOR .....                                      | 26-1 |              |
| GENERATOR.....                                                          | 26-1 | 26           |
| 0602 - GENERATOR REGULATOR .....                                        | 27-1 |              |
| VOLTAGE REGULATOR.....                                                  | 27-1 | 27           |
| 0603 - STARTING MOTOR.....                                              | 28-1 |              |
| STARTER RELAY.....                                                      | 28-1 | 28           |
| STARTING MOTOR.....                                                     | 29-1 | 29           |

## TABLE OF CONTENTS

|                                                                                                 | Page | Illus<br>Fig |
|-------------------------------------------------------------------------------------------------|------|--------------|
| 0605 - IGNITION COMPONENTS .....                                                                | 30-1 |              |
| IGNITION COMPONENTS .....                                                                       | 30-1 | 30           |
| DISTRIBUTOR .....                                                                               | 31-1 | 31           |
| DISTRIBUTOR DRIVE .....                                                                         | 32-1 | 32           |
| 0607 - INSTRUMENT OR ENGINE CONTROL PANEL .....                                                 | 33-1 |              |
| INSTRUMENT PANEL .....                                                                          | 33-1 | 33           |
| 0609- LIGHTS .....                                                                              | 34-1 |              |
| HEADLIGHT .....                                                                                 | 34-1 | 34           |
| TAILLIGHT .....                                                                                 | 35-1 | 35           |
| 0610 - SENDING UNITS AND WARNING SWITCHES .....                                                 | 36-1 |              |
| FUEL SENDER, OIL PRESSURE SWITCH, OIL PRESSURE<br>TRANSMITTER, AND MASTER CYLINDER SWITCH ..... | 36-1 | 36           |
| 0611 - HORN, SIREN .....                                                                        | 37-1 |              |
| HORN AND RELAY .....                                                                            | 37-1 | 37           |
| HORN BUTTON .....                                                                               | 38-1 | 38           |
| 0612 - BATTERIES, STORAGE .....                                                                 | 39-1 |              |
| BATTERY .....                                                                                   | 39-1 | 39           |
| 0613 - HULL OR CHASSIS WIRING HARNESS .....                                                     | 40-1 |              |
| WIRING HARNESS .....                                                                            | 40-1 | 40           |
| <br>GROUP 07      TRANSMISSION                                                                  |      |              |
| 0705 - TRANSMISSION SHIFTING COMPONENTS .....                                                   | 41-1 |              |
| INCHING CONTROLS .....                                                                          | 41-1 | 41           |
| 0708 - TORQUE CONVERTER OR FLUID COUPLING .....                                                 | 42-1 |              |
| TORQUE CONVERTER AND TORQUE CONVERTER HOUSING .....                                             | 42-1 | 42           |
| 0710 - TRANSMISSION ASSEMBLY AND ASSOCIATED PARTS .....                                         | 43-1 |              |
| TRANSMISSION ASSEMBLY .....                                                                     | 43-1 | 43           |
| 0713 - INTERMEDIATE CLUTCH .....                                                                | 44-1 |              |
| CLUTCH PACK ASSEMBLY .....                                                                      | 44-1 | 44           |
| 0714 - SERVO UNIT .....                                                                         | 45-1 |              |
| TRANSMISSION CONTROL VALVE .....                                                                | 45-1 | 45           |
| 0721 - COOLERS, PUMPS, MOTORS .....                                                             | 46-1 |              |
| TORQUE CONVERTER PUMP AND OIL TEMPERATURE<br>TRANSMITTER .....                                  | 46-1 | 46           |
| TRANSMISSION OIL FILTER .....                                                                   | 47-1 | 47           |
| <br>GROUP 08      TRANSFER, FINAL DRIVE, PLANETARY AND DROP GEARBOX ASSEMBLIES                  |      |              |
| 0801 - POWER TRANSFER, FINAL DRIVE, PLANETARY OR<br>DROP GEARBOX ASSEMBLIES .....               | 48-1 |              |
| FINAL DRIVE, RIGHT SIDE .....                                                                   | 48-1 | 48           |
| FINAL DRIVE, LEFT SIDE .....                                                                    | 49-1 | 49           |
| <br>GROUP 10      FRONT AXLE                                                                    |      |              |
| 1002 - DIFFERENTIAL .....                                                                       | 50-1 |              |
| DIFFERENTIAL ASSEMBLY .....                                                                     | 50-1 | 50           |
| <br>GROUP 11      REAR AXLE                                                                     |      |              |
| 1100 - REAR AXLE ASSEMBLY .....                                                                 | 51-1 |              |
| REAR AXLE ASSEMBLY .....                                                                        | 51-1 | 51           |

## TABLE OF CONTENTS

|                                                                        | Page | Illus<br>Fig |
|------------------------------------------------------------------------|------|--------------|
| 1104 - STEERING, SIDESHIFT AND WHEEL LEANING MECHANISM.....            | 52-1 |              |
| REAR AXLE STEERING MECHANISM.....                                      | 52-1 | 52           |
| GROUP 12 BRAKES                                                        |      |              |
| 1201 - HANDBRAKES.....                                                 | 53-1 |              |
| HANDBRAKE .....                                                        | 53-1 | 53           |
| 1202 - SERVICE BRAKES .....                                            | 54-1 |              |
| DRIVE AXLE BRAKE ASSEMBLY .....                                        | 54-1 | 54           |
| 1204 - HYDRAULIC BRAKE SYSTEM.....                                     | 55-1 |              |
| WHEEL CYLINDER ASSEMBLIES AND FITTINGS .....                           | 55-1 | 55           |
| MASTER CYLINDER ASSEMBLY AND MOUNTING PARTS.....                       | 56-1 | 56           |
| BRAKE LINES.....                                                       | 57-1 | 57           |
| 1206 - MECHANICAL BRAKE SYSTEM.....                                    | 58-1 |              |
| BRAKE PEDAL .....                                                      | 58-1 | 58           |
| INCHING PEDAL .....                                                    | 59-1 | 59           |
| GROUP 13 WHEELS AND TRACKS                                             |      |              |
| 1311 - WHEEL ASSEMBLY .....                                            | 60-1 |              |
| FRONT WHEEL ASSEMBLY .....                                             | 60-1 | 60           |
| REAR WHEEL ASSEMBLY .....                                              | 61-1 | 61           |
| 1313 - TIRES, TUBES, TIRE CHAINS .....                                 | 62-1 |              |
| TIRES.....                                                             | 62-1 | 62           |
| GROUP 14 STEERING                                                      |      |              |
| 1401 - MECHANICAL STEERING GEAR ASSEMBLY.....                          | 63-1 |              |
| STEERING GEAR.....                                                     | 63-1 | 63           |
| STEERING TIE ROD .....                                                 | 64-1 | 64           |
| STEERING LINKAGE .....                                                 | 65-1 | 65           |
| GROUP 15 FRAME, TOWING ATTACHMENTS, DRAWBARS, AND ARTICULATION SYSTEMS |      |              |
| 1501 - FRAME ASSEMBLY.....                                             | 66-1 |              |
| FRAME ASSEMBLY.....                                                    | 66-1 | 66           |
| 1502 - COUNTERWEIGHTS .....                                            | 67-1 |              |
| COUNTERWEIGHT .....                                                    | 67-1 | 67           |
| 1503 - PINTLES AND TOWING ATTACHMENTS .....                            | 68-1 |              |
| TOWING PIN .....                                                       | 68-1 | 68           |
| GROUP 18 BODY, CAB, HOOD AND HULL                                      |      |              |
| 1801 - BODY, CAB, HOOD, AND HULL ASSEMBLIES .....                      | 69-1 |              |
| OVERHEAD GUARD, HOOD, AND TANK COVER .....                             | 69-1 | 69           |
| HOOD LINKAGE .....                                                     | 70-1 | 70           |
| 1805 - FLOORS, SUBFLOORS, AND RELATED COMPONENTS .....                 | 71-1 |              |
| FLOOR PLATES .....                                                     | 71-1 | 71           |
| 1806 - UPHOLSTERY, SEATS, AND CARPETS.....                             | 72-1 |              |
| SEAT ASSEMBLY.....                                                     | 72-1 | 72           |
| GROUP 24 HYDRAULIC AND FLUID SYSTEMS                                   |      |              |
| 2401 - PUMP AND MOTOR.....                                             | 73-1 |              |
| HYDRAULIC PUMP .....                                                   | 73-1 | 73           |

## TABLE OF CONTENTS

|                                                          | Page                                    | Illus<br>Fig |
|----------------------------------------------------------|-----------------------------------------|--------------|
| 2402 - MANIFOLD AND/OR CONTROL VALVE .....               | 74-1                                    |              |
| HYDRAULIC CONTROL VALVE ASSEMBLY .....                   | 74-1                                    | 74           |
| 2403 - HYDRAULIC CONTROLS AND/OR MANUAL CONTROLS .....   | 75-1                                    |              |
| HYDRAULIC CONTROL LEVERS .....                           | 75-1                                    | 75           |
| 2404 - TILT CYLINDERS AND TILT CRANK .....               | 76-1                                    |              |
| TILT CYLINDER .....                                      | 76-1                                    | 76           |
| 2405 - MAST COLUMN .....                                 | 77-1                                    |              |
| UPRIGHT, OUTER (100) .....                               | 77-1                                    | 77           |
| THREE-STAGE UPRIGHT (180) .....                          | 78-1                                    | 78           |
| THREE-STAGE UPRIGHT, CENTER (180) .....                  | 79-1                                    | 79           |
| THREE-STAGE UPRIGHT, LOWER (180) .....                   | 80-1                                    | 80           |
| FREE LIFT UPRIGHT (100) .....                            | 81-1                                    | 81           |
| THREE-STAGE HOIST (180) .....                            | 82-1                                    | 82           |
| FREE LIFT HOIST (100) .....                              | 83-1                                    | 83           |
| HYDRAULIC LIFT CYLINDER .....                            | 84-1                                    | 84           |
| CARRIAGE ASSEMBLY .....                                  | 85-1                                    | 85           |
| FORK ASSEMBLY AND LOAD GUARD .....                       | 86-1                                    | 86           |
| 2406 - STRAINERS, FILTERS, LINES AND FITTINGS, ETC. .... | 87-1                                    |              |
| HYDRAULIC OIL FILTER .....                               | 87-1                                    | 87           |
| HYDRAULIC TANK LINES AND FITTINGS .....                  | 88-1                                    | 88           |
| HYDRAULIC LIFT CYLINDER LINES AND FITTINGS (180) .....   | 89-1                                    | 89           |
| HYDRAULIC LIFT CYLINDER LINES AND FITTINGS (100) .....   | 90-1                                    | 90           |
| HYDRAULIC VALVE LINES .....                              | 91-1                                    | 91           |
| HYDRAULIC LINES .....                                    | 92-1                                    | 92           |
| HYDRAULIC PUMP LINES .....                               | 93-1                                    | 93           |
| 2408 - LIQUID TANKS OR RESERVOIRS .....                  | 94-1                                    |              |
| HYDRAULIC TANK .....                                     | 94-1                                    | 94           |
| <br>GROUP 94                                             | <br>REPAIR KITS                         |              |
| 9401 - REPAIR KITS .....                                 | KIT-1                                   |              |
| REPAIR KITS .....                                        | KIT-1                                   | KIT          |
| <br>GROUP 95                                             | <br>GENERAL USE STANDARDIZED PARTS      |              |
| 9401 - BULK MATERIEL .....                               | BULK-1                                  |              |
| BULK MATERIEL .....                                      | BULK-1                                  | BULK         |
| <br>SECTION III                                          | <br>SPECIAL TOOLS LIST (NOT APPLICABLE) |              |
| <br>SECTION IV                                           | <br>CROSS-REFERENCE INDEXES             |              |
| NATIONAL STOCK NUMBER INDEX .....                        | I-1                                     |              |
| PART NUMBER INDEX .....                                  | I-10                                    |              |
| FIGURE AND ITEM NUMBER INDEX .....                       | I-40                                    |              |

v/(vi Blank)

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

### SECTION I. INTRODUCTION

#### 1. Scope.

This 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 Fork Lift 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 alphanumeric 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.

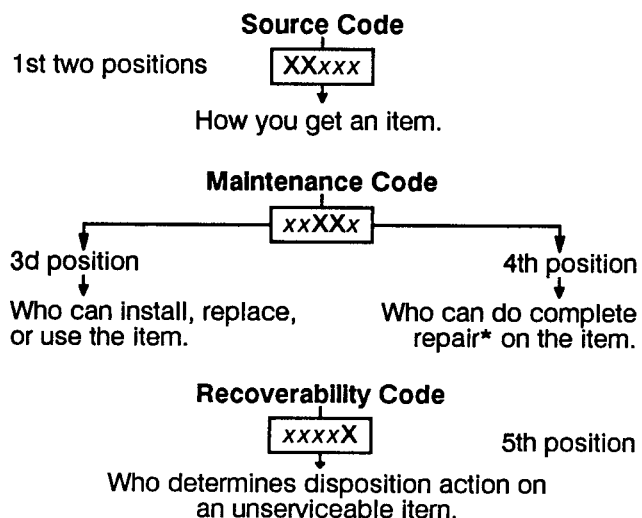
c. Section IV Cross-reference Indexes. A list, in National Item Identification Number (NIIN) sequence, of all National stock numbered items appearing in the listing, followed by a list in alphanumeric sequence of all part numbers appearing in the listings. National stock numbers and part numbers are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

figure and item number index lists figure and item numbers in alphanumeric sequence and crossreferences NSN, FSCM or CAGE, 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 5position 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: