

ORGANIZATIONAL MAINTENANCE MANUAL

CRANE-SHOVEL BASIC UNIT

TRUCK MOUNTED: 20 TON, 3/4

CU YD; GASOLINE DRIVEN, 6x6

(QUICKWAY MODEL M-200)

NON-WINTERIZED

CRANE SERIAL NUMBERS 20-026 THROUGH 20-500

CARRIER SERIAL NUMBERS 59-026C THROUGH 59-500C

FSN 3810-542-4982

WINTERIZED TO MINUS 65 DEGREES

CRANE SERIAL NUMBERS 20-001 THROUGH 20-025

CARRIER SERIAL NUMBERS 59--001C THROUGH 59-025C

FSN 3810-542-4980



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ORGANIZATIONAL MAINTENANCE MANUAL

CRANE-SHOVEL, BASIC UNIT TRUCK MOUNTED: 20 TON, 3/4 CU YD; GASOLINE DRIVEN, 6x6 (QUICKWAY MODEL M-200) NON-WINTERIZED (FSN 3810-542-4982) CRANE SERIAL NUMBERS 20-026 THROUGH 20-500 CARRIER SERIAL NUMBERS 59-026C THROUGH 59-500C WINTERIZED TO-65° (FSN 3810-542-4980) CRANE SERIAL NUMBERS 20-001 THROUGH 20-025 CARRIER SERIAL NUMBERS 59-001C THROUGH 59-025C

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*This manual supersedes TM 5-3810-207-20, 10 December 1959, including C 1, 9 October 1961.

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CHAPTER 1 INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personnel to whom the Quickway Model M-200 Crane-shovel and the M-1200 KW Dart Carrier are issued. They provide information on organizational maintenance of the equipment, its accessories, and auxiliaries. This manual also includes instructions for shipment and limited storage.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the maintenance allocation chart. The organizational maintenance repair parts and special tools lists are in TM 5-3810-207-20P.

c. Numbers in parentheses on illustrations indicate quantity. Numbers preceding nomenclature callouts on illustrations indicate the preferred maintenance sequence.

d. Report all deficiencies in this manual on DA Form 2028. Submit recommendations for changes, additions, or deletions to commanding officer, U.S. Army Engineer Maintenance Center, Corps of Engineers, ATTN: EMCDM-S, P. O. Box 119, Columbus 16, Ohio. Direct communication is authorized.

e. Report unsatisfactory equipment performance and suggestions for equipment improvement as specified in AR 750-5.

2. Record and Report Forms

For record and report forms applicable to organizational maintenance, refer to TM 38-750.

Note.

Applicable forms, excluding Standard Form 46 which is carried by the operator, shall be kept in a canvas bag mounted on the equipment.

Section II. DESCRIPTION AND DATA

3. Description

TM 5-3810-207-10 provides a general description of the Quickway Crane-shovel. Specific and detailed descriptions of the components of the Quickway Crane-shovel are provided in the applicable maintenance paragraphs of this manual.

4. Identification and Tabulated Data

a. Identification.

(1) Crane-shovel.

(a) *Starter identification plate.* This plate is attached to the starter on the left-rear side of the engine and gives the name of the manufacturer, model, serial number, voltage, and amperage of the starter.

(b) *Generator identification plate.* This plate is attached to the generator on the left-front side of the engine. The plate states the name of the manufacturer, model, serial number, voltage, and amperage of the generator.

(c) *Clutch identification plate.* This plate is attached to the clutch assembly on the top side and is located at the rear of the engine. This plate names the manufacturer and gives the model, serial number, and type of clutch assembly.

(d) *Fuel pump identification plate.* This plate is attached to the side of the fuel pump and is mounted on the top of the clutch housing at the

rear of the engine. The plate gives manufacturer's name and model number only.

- (e) *Heater identification plate.* This plate is attached to the top side of the heater and gives the manufacturer's name, model, serial number, and size of the heater. The heater is mounted on the floor of the revolving frame at the left-rear side of the engine..
- (f) *Ignition unit distributor identification plate.* This plate is mounted on the ignition unit and states the manufacturer's model and serial number. The ignition unit is mounted on the top center of the engine.
- (g) *Windshield wiper motor identification plate.* This plate is located on the windshield wiper body and states the voltage and the manufacturer's number. The windshield wiper is mounted on the left-upper side of the operator's cab.
- (h) *Generator regulator identification plate.* This plate is mounted on the generator regulator cover. It gives the manufacturer's name, model, ordnance number, serial number, specification number, voltage, amperage, type of ground, and military standard number. The generator regulator is mounted on top of the engine.

(2) *Carrier.*

- (a) *Engine governor identification plate.* This plate is mounted on the side of the engine governor housing. It lists the manufacturer's name, model, and serial number.
- (b) *Air compressor identification plate.* This plate is mounted on the left side of the air compressor crankcase. It lists the manufacturer's name, compressor plate number, type, and serial number. The air compressor is mounted on the right side of the engine.

- (c) *Generator regulator identification plate.* This plate is mounted on the generator regulator cover. It gives the manufacturer's name, model, ordnance number, serial number, specification number, voltage, amperage, type of ground, and military standard number. The generator regulator is mounted on the carrier engine hood.
- (d) *Generator identification plate.* This plate is mounted on the side of the generator. It gives the name of the manufacturer, model, serial number, voltage, and amperage. The generator is located on the left side of the engine.
- (e) *Starter identification plate.* This plate is attached to the starter. This plate gives the name of the manufacturer, model, serial number, voltage, and the amperage of the starter.
- (f) *Ignition unit identification plate.* This plate is attached to the ignition unit. It gives the manufacturer's model and serial number. The ignition unit is mounted on the left side of the engine on top of the auxiliary drive housing.
- (g) *Personnel heater identification plate.* This plate is attached to the side of the heater and gives the manufacturer's name, model and serial numbers, voltage, and capacity output. This heater is mounted on the outside rear of the operator's cab.
- (h) *Engine heater identification plate.* This plate is attached to the heater door on the side of the heater and gives the manufacturer's name, model and serial numbers, voltage, and capacity output. This heater is mounted on the rear of the engine compartment.
- (i) *Windshield wiper motor identification plate.* This plate is located on the windshield wiper motor body

and gives the manufacturer's name, model number, and voltage.

b. Tabulated Data. This listing contains information pertinent to organizational maintenance.

(1) *Crane.*

(a) *General.*

Manufacturer Quick-Way Truck Shovel Company
Model number M-200
Designed use Trench hoe, crane, clam-shell, dragline, shovel, and piledriver

(b) *Engine.*

Manufacturer Continental Motors Corporation
Model number BS 415
Type Gasoline
Serial numbers 20-001 through 20-600
Number of cylinders 6
Firing order 12-4
Oil pressure 40 psi (pounds per square inch)
Governed speed 1,800 rpm (revolutions per minute)
Horsepower 110 at 1,800 rpm
Cooling Liquid cooled
Bore 4-1/4 in. (inches)
Stroke 4-7/8 in.
Compression at cranking 80 to 85 psi speed.

(c) *Starting motor.*

Make Delco-Remy, Division of General Motors Corporation
Model 1113822
Volts 24

(d) *Battery charging generator.*

Make DelcoRemy, Division of General Motors Corporation
Model 1117478
Volts 24

(e) *Generator regulator.*

Make Delco-Remy, Division of General Motors Corporation
Model 1118558
Type Fungus and corrosion resistant
Amperes 40

(f) *Distributor.*

Make Delco-Remy, Division of General Motors Corporation
Model 1111647
Volts 24

(g) *Air cleaner.*

Make Donaldson Company, Inc.
Model P-11112
Type Oil bath

(h) *Lubrication oil filter.*

Make Fram Corporation
Model F-40
Cartridge C-30P

(i) *Battery.*

Make Western Battery and Supply Company
Type 6 TN
Volts 12
Ampere hours 100

(j) *Engine heater.*

Make Perfection Industries, Inc.
Model E 510 A
Volts 24
Btu (British thermal units). 60,000

(k) *Windshield wiper motor.*

Manufacturer American Bosch Arma Corporation
Drawing number WWC
Volts 24
Type of control Remote or manual

(l) *Engine governor.*

Manufacturer Novi Equipment Company, Inc.
Model 54670A
Type Flyball

(2) *Carrier.*

(a) *General.*

Manufacturer KW Dart Truck Company
Model number M-1200
Designed use Carrier for crane

(b) *Engine.*

Manufacturer Continental Motors Corporation
Model number QPL-SS6749
Type Gasoline
Serial numbers 59001-C through 59500-C
Number of cylinders 6
Firing order 1-5-3-6-2-4
Governed speed 160 rpm
Horsepower 227 hp (horsepower) at 2,600 rpm
Cycle 4
Cooling Liquid
Bore 5-3/8 in.
Stroke 5 1/2 in.
Total displacement 749 cu in. (cubic inches)
Compression at cranking 80 to 85 psi speed.
Rotation at flywheel end Counterclockwise

(c) *Starting motor.*

Make Delco-Remy, Division of
General Motors
Corporation
Model number 1113816
Volts 24
Rotation Clockwise at drive end
Brush tension, new 24 to 28 oz (ounces)
brushes.

(d) *Battery charging generator.*

Make Delco-Remy, division of
General Motors
Corporation
Model 1117478
Volts - 24

(e) *Generator regulator.*

Make Delco-Remy, Division of
General Motors
Corporation
Model 1118558
Volts 24
Type..... Fungus and corrosion
resistant
Amperes 40

(f) *Distributor.*

Make Delco-Remy, Division of
General Motors
Corporation
Model 1111561
Volts 24

(g) *Air cleaner.*

Make Donaldson Company, Inc.
Model..... E-79754
Type..... Oil bath

(h) *Lubrication oil filter.*

Make Fram
Model..... 5267
Cartridge..... -F-36-P

(i) *Battery.*

Model..... Delco-Remy, Division of
General Motors
Corporation
Type 6 TN
Volts 12
Ampere hours 100

(j) *Personnel heater.*

Manufacturer Perfection Industries, Inc.
Model MH 15 B2
Volts 24
Type of control Remote
Temperature selection Thermostatic

(k) *Engine heater.*

Manufacturer Perfection Industries, Inc.
Model E510A
Volts 24
Type of control Remote
Temperature selection Manual

(l) *Windshield wiper motor.*

Manufacturer..... American Bosch Arma
Corporation
Drawing number WWC
Volts 24
Type of control Remote or manual

(m) *Carrier engine governor.*

Manufacturer..... Piercece Governor Company
Model MA-1818A
Type..... Balanced weight

(n) *Carrier hydraulic pump.*

Manufacturer..... Eaton Mfg. Co., Pump
Division

(o) *Nut and bolt torque data.* The nut and bolt torque wrench tension is a general guide to indicate foot-pounds of torque to be applied to various sizes of common hardware.

<i>Diameter in inches</i>	<i>Foot-pounds</i>
3/8	60-70
7/16	75-85
1/2	95-105
9/16	125-135
5/8	150-160
11/16.....	195-200
3/4	210-230
13/16	230-250
7/8	245-275
1	285-315
1 1/8	325-350

(3) *Adjustments.*

(a) *Carrier valve adjustment.*

Tappet clearance, intake 0.020 in.
exhaust 0.024 in.

(b) *Crane valve adjustment.*

Tappet clearance, intake 0.017 in.
exhaust 0.022 in.

(c) *Distributor point adjustment.*

Points-(carrier and
crane engine) . 0.020 in.

(d) *Spark plug adjustment.*

Carrier engine, clearance ... 0.025 in.
Crane engine, clearance 0.035 in.

(e) *Generator regulator adjustment.*

Mechanical adjustments.

Cutout relay air gap 0.048 in.
Contact points 0.035 in.
Voltage regulator 0.084 in.
airgap.

Electrical adjustments

Cutout relay closing 26 volts
voltage.
Voltage regulator 29.2 volts
opening voltage.
Current regulator 40 amp (amperes)
maximum amperage.

(4) *Wiring diagrams.* See figure 1.