

TM 5-4320-237-15

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR, ORGANIZATIONAL, DIRECT AND GENERAL
SUPPORT AND DEPOT MAINTENANCE MANUAL

PUMP, CENTRIFUGAL GASOLINE ENGINE DRIVEN; 50 GPM,
100-FOOT HEAD, FLAMMABLE LIQUID, BULK TRANSFER
(BARNES MODEL-(QM-2-28002) FSN 4320-913-7131

This copy is a reprint which includes current pages from Changes 6 through 8.
--

HEADQUARTERS, DEPARTMENT OF THE ARMY
APRIL 1967

TECHNICAL MANUAL

No. 5-4320-237-15

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., 19 April 1967

Operator, Organizational, Direct and General
Support and Depot Maintenance Manual
PUMP, CENTRIFUGAL: GASOLINE ENGINE DRIVEN;
50 GPM, 100-FOOT HEAD, FLAMMABLE LIQUID,
BULK TRANSFER [BARNES MODEL-QM-2-28002)
FSN 4320-913-7131

	Paragraph	Page
CHAPTER 1. INTRODUCTION		
Section I. General	1,2	3
II. Description and data	3-5	4-7
CHAPTER 2. INSTALLATION AND OPERATING INSTRUCTIONS		
Section I. Service upon receipt of equipment	6-9	9
II. Movement to a new worksite	10,11	10
III. Controls	12,13	11
IV. Operation of equipment	14-24	11-14
CHAPTER 3. OPERATOR AND ORGANIZATIONAL MAINTENANCE		
Section I. Operator and organizational maintenance tools and equipment	25,26	15
II. Lubrication	27,28	15
III. Preventive maintenance services	29-31	17
IV. Operator's maintenance	32,33	21
V. Troubleshooting	34-48	22-24
VI. Fuel system	49-53	24-27
VII. Engine electrical system	54-56	28
VIII. Starting pulley, shroud, and flywheel	57-60	29-31
IX. Exhaust and crankcase breather systems	61-63	31,32
X. Cylinder head and tappet systems	64-66	32,33
XI. Hoses, nozzles, and fittings	67-69	34,35
XII. Pump assembly	70,71	35
XIII. Engine	72,73	36
XIV. Tool boxes, base, and box assembly	74-77	37,38
CHAPTER 4. FIELD MAINTENANCE INSTRUCTIONS		
Section I. General	78	41
II. Description and data	79,80	41
CHAPTER 5. GENERAL MAINTENANCE INSTRUCTIONS		
Section I. Special tools and equipment	81-83	43
II. Troubleshooting	84-88	43
CHAPTER 6. ENGINE REPAIR INSTRUCTIONS		
Section I. Magneto	89,90	45
II. Valves and valve springs	91,92	46
III. Engine base and oil pump	93,94	50-52
IV. Piston and connecting rod	95,96	53

	Paragraph	Page
Section V. Crankshaft	97,98	53
VI. Camshaft and governor	99,10	55
VII. Crankcase	101,102	57
APPENDIX I REFERENCES		59
II. BASIC ISSUE ITEMS AND MAINTENANCE AND OPERATING SUPPLIES		61
III. MAINTENANCE ALLOCATION CHART		67
INDEX		71

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1. Scope

a. These instructions are published for the use of the personnel to whom pumping assembly, flammable liquid, 50 gpm (gallons per minute), Barnes Model QM-2-28002, is issued. Chapters 1 through 5 provide information on the operation, preventive maintenance services, and organizational maintenance of the equipment, accessories, components, and attachments. Chapter 6 provides information for direct and general support and depot maintenance. Also included are descriptions of main units and their functions in relationship to other components.

b. Appendix I contains a list of publications applicable to this manual. Appendix II contains the maintenance allocation chart. Appendix III contains the list of basic issue items authorized the operator of this equipment and the list of maintenance and operating supplies required for initial operation.

c. Numbers in parentheses on illustrations indicate quantity. Numbers preceding nomen-

clature callouts on illustrations indicate the preferred maintenance sequence.

d. DA Form 2028 (Recommended changes to DA Publication) will be used for reporting discrepancies and recommendations for improving this equipment publication. This form will be completed by the individual using the manual and forwarded direct to Commanding General, U. S. Army Mobility Equipment Command, ATTN: AMSME-MPD, 4300 Goodfellow Blvd., St. Louis, Mo. 63120.

e. Report all equipment improvement recommendations as prescribed by TM 38-750.

2. Record and Report Forms

a. DA Form 2258 (Depreservation Guide of Engineer Equipment).

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

Note. Applicable forms shall be kept in a canvas bag mounted on the equipment.

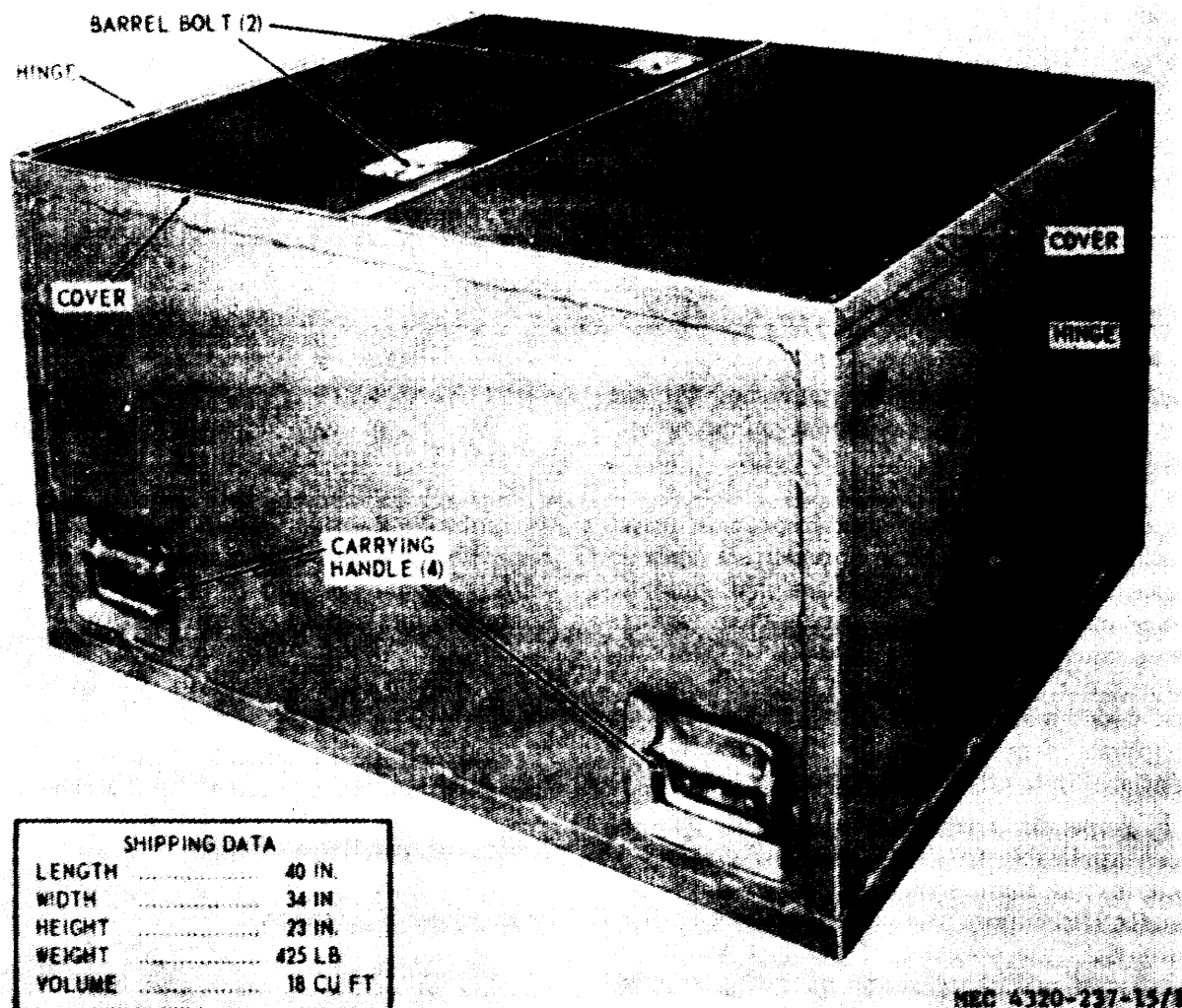


Figure 1. Carrying box for pumping assembly, model QM-2-28002, w/complete shipping dimensions, weight and volume.

Section II. DESCRIPTION AND DATA

3. Description

a. *General* Pumping assembly, flammable liquid, 50 gpm, Barnes Model QM-2-28002, consists of a gasoline engine driven, centrifugal pump, mounted on a frame, and packed in a carrying box along with two servicing hoses, nozzles, suction hoses, and a drum unloader. Figure 1 shows the unit completely packed in its box and provides shipping dimensions for the assembly. Figure 2 shows

the pumping assembly with covers of the box opened to show shipping positions of components.

b. *Engine*. The Wisconsin engine, Model MBKND, is a single-cylinder, four-cycle, air-cooled, gasoline driven model, with a 2 7/8 inch bore and 2 3/4 inch stroke. The displacement is 17.8 cu in. (cubic inches). The engine develops 5.75 horsepower at 2,800 rpm (revolutions per minute) governed speed.