

TECHNICAL MANUAL

DIRECT SUPPORT AND GENERAL SUPPORT

MAINTENANCE MANUAL

PUMPING ASSEMBLY, FLAMMABLE LIQUID,
BULK TRANSFER, GASOLINE ENGINE DRIVEN,
350 GPM CAPACITY, 275 FEET TOTAL

DYNAMIC HEAD,

WHEEL MOUNTED (PEABODY BARNES, INC.

MODEL US37ACG)

FSN 4320-195-4914

HEADQUARTERS, DEPARTMENT OF THE ARMY

FEBRUARY 1974

TECHNICAL MANUAL }
No. 5-4320-272-34

HEADQUARTERS,
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 18 February 1974

DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE MANUAL

PUMPING ASSEMBLY, FLAMMABLE LIQUID, BULK TRANSFER, GASOLINE ENGINE DRIVEN, 350 GPM CAPACITY, 275 FEET TOTAL DYNAMIC HEAD, WHEEL MOUNTED

(PEABODY BARNES, INC. MODEL US37ACG)

FSN 4320-195-4914

Page

CHAPTER	1.	INTRODUCTION	
Section	I.	General..	1-1
Paragraph	1-1.	Scope	1-1
	1-2.	Maintenance forms and records	1-1
	1-3.	Reporting of errors.	1-1
	1-4.	Equipment serviceability criteria..	1-1
	1-5.	Destruction of army materiel to prevent enemy use	1-1
	1-6.	Administrative storage	1-1
Section	II.	Description and data.	1-1
Paragraph	1-7.	Description	1-1
	1-8.	Differences between models... ..	1-3
	1-9.	Tabulated data	1-5
Chapter	2.	DIRECT SUPPORT AND GENERAL SUPPORT MAINTENANCE INSTRUCTIONS	
Section	I.	Repair parts, special tools, and equipment	2-1
Paragraph	2-1.	Special tools and equipment	2-1
	2-2.	Maintenance repair parts	2-1
Section	II.	Troubleshooting	2-1
Paragraph	2-3.	General	2-1
	2-4.	Direct support and general support maintenace troubleshooting..	2-1
Section	III.	General maintenance	2-1
Paragraph	2-5.	General	2-2
	2-6.	Cleanliness	2-2
	2-7.	Care of bearings	2-2
	2-8.	Seals and gaskets	2-2
Secton	IV.	Removal and installation of major components and assemblies	2-2
Paragraph	2-9.	Centrifugal pump	2-2
	2-10.	Engine	2-2
	2-11.	Axle assembly	2-2
CHAPTER	3.	REPAIR OF ENGINE	
Section	I.	General	3-1
Paragraph	3-1.	Introduction	3-1
	3-2.	Description of engine and components	3-1
	3-3.	Engine fits, tolerances, and wear limits	3-1

		Page
Section	II. Engine overhaul and repair	3-2
Paragraph	3-4. Oil filter	3-2
	3-5. Flywheel	3-3
	3-6. Flywheel alternator	3-3
	3-7. Air shrouding	3-6
	3-8. Cylinder head	3-8
	3-9. Governor and control	3-8
	3-10. Gear cover	3-10
	3-11. Idler gear and shaft	3-10
	3-12. Oil can	3-11
	3-13. Oil filler and level gage	3-11
	3-14. Engine oil pump	3-11
	3-15. Pistons and connecting rods	3-13
	3-16. Cylinder blocks	3-15
	3-17. Intake and exhaust valves	3-17
	3-18. Main bearings and crankshaft.	3-18
	3-19. Cam shaft	3-20
	3-20. Engine block	3-23
Section	II. Radio interference suppression	3-24
	3-21. General methods used to attain proper suppression	3-24
	3-22. Replacement of suppression components	3-24
C H A P T E R	4 . REPAIR OF CENTRIFUGAL PUMP	
Paragraph	4-1. Description	4-1
	4-2. Pump fits, tolerances, and wear limits	4-1
	4-3. Pump repair	4-1
C H A P T E R	5 . REPAIR OF TRAILER	
Paragraph	5-1. Description	5-1
	5-2. Axle	5-1
	5-3. Trailer frame	5-2
APPENDIX	A. References	A-1

LIST OF ILLUSTRATIONS

<i>Number</i>	<i>Title</i>	<i>Page</i>
1-1.	Pumping assembly, right three-quarter front view.	1-2
1-2.	Pumping assembly, left three-quarter front view.	1-3
1-3.	Wiring diagram.	1-5
3-1.	Engine oil filter, exploded view	3-2
3-2.	Flywheel alternator, exploded view	3-5
3-3.	Air shroudng, exploded view	3-7
3-4.	Cylinder head capscrew tightening sequence	3-8
3-5.	Governor and controls, exploded view	3-9
3-6.	Idler gear and shaft removal	3-11
3-7.	Engine oil pump, exploded view	3-12
3-8.	Piston ring installation	3-14
3-9.	Piston ring placement	3-14
3-10.	Cylinder block, exploded view.	3-16
3-11.	Crankshaft and piston, exploded view	3-19
3-12.	Camshaft, exploded view.....	3-20
3-13.	Engine block and related parts, exploded view	3-22
4-1.	Centrifugal pump, exploded view	4-2
4-2.	Internal pump tolerance	4-4
5-1.	Axle, exploded view	5-1
5-2.	Trailer frame, exploded view.. . . .	5-3

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual is for your use while providing direct and general support maintenance of the Pumping Assembly. Flammable Liquid, Bulk Transfer, Gasoline Engine Driven, 350 GPM Capacity, 275 Feet Total Dynamic Head, Wheel Mounted, (Peabody Barnes, Inc. Model US37ACG). You are instructed to perform the maintenance allocated by the Maintenance Allocation Chart.

1-2. Maintenance Forms and Records

Maintenance forms, records, and reports that you are required to use are explained in TM 38-750.

1-3. Reporting of Errors

You can improve this manual by calling attention to errors and by recommending improvements, using DA Form 2028 (Recommended Changes to Publications), or by a letter, and mail directly to Commander, U.S. Army Troop Support Command, ATTN: AMSTS-MPP, 4300 Goodfellow Boulevard, St. Louis, Missouri 63120. A reply will be furnished directly to you.

1-4. Equipment Serviceability Criteria

This equipment is not covered by an ESC.

1-5. Destruction of Army Materiel to Prevent Enemy Use

For instructions regarding destruction of equipment to prevent enemy use, refer to TM 750-244-3.

1-6. Administrative Storage

You must prepare the pumping assembly for storage according to procedures given in TM 740-90-1.

Section II. DESCRIPTION AND DATA

1-7. Description

a. Model US37ACG Two-Wheel Mounted Pumping Assembly consists primarily of gasoline engine,

centrifugal pump, and welded frame. The pump is coupled directly to the engine and the pump impeller is mounted on the extended engine crankshaft.

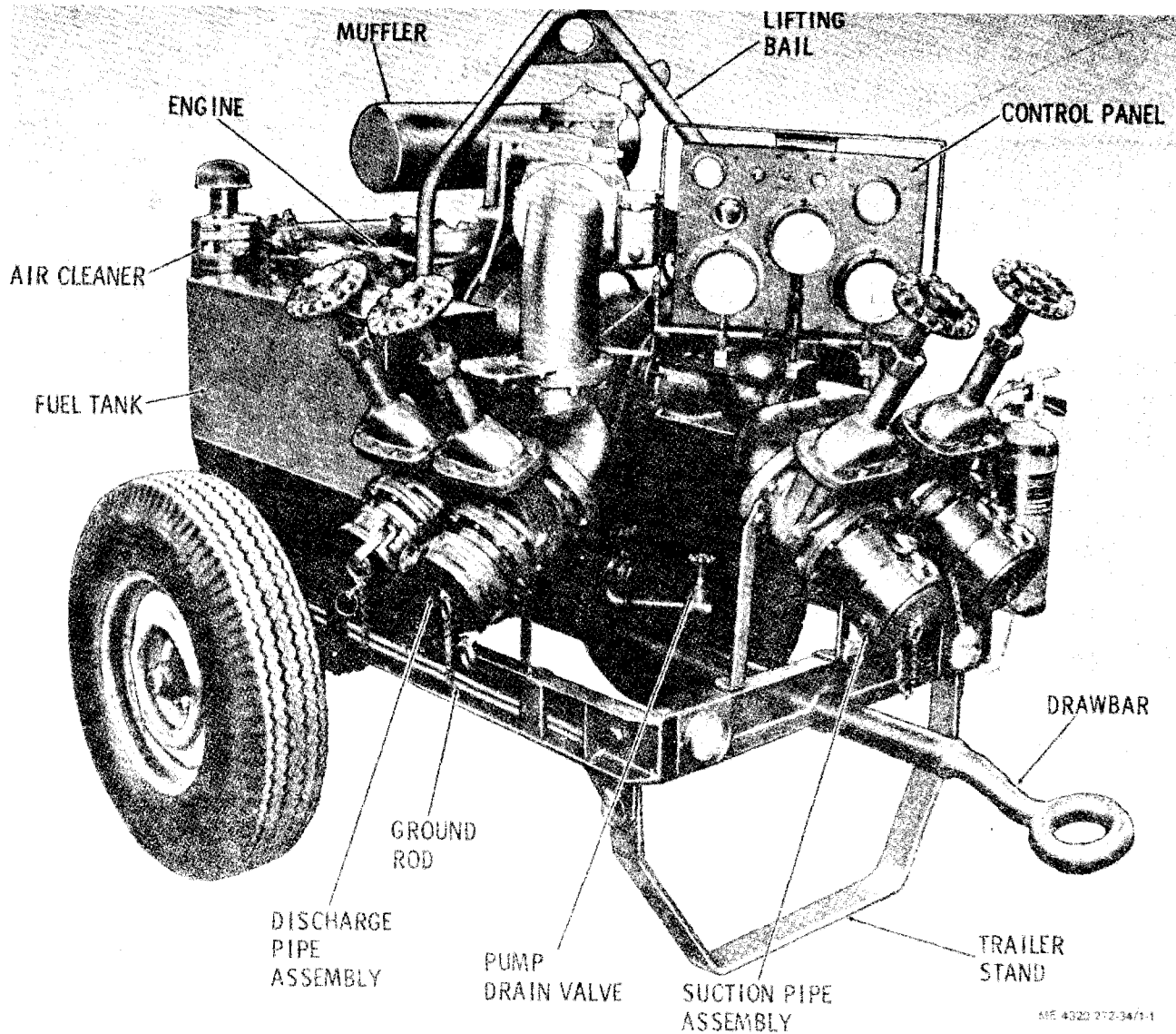


Figure 1-1. Pumping assembly, right three-quarter front view.