DEPARTMENT OF THE ARMY TECHNICAL MANUAL

TECHNICAL MANUAL

DIRECT AND GENERAL SUPPORT

MAINTENANCE MANUAL

TRUCK, FORK LIFT, GASOLINE,

PNEUMATIC TIRES, 4,000 POUND CAPACITY

ARMY MODEL MHE 221

BAKER MODEL FJF-040

FSN 3930-151-4428

HEADQUARTERS, DEPARTMENT OF THE ARMY
OCTOBER 1971

TECHNICAL MANUAL
NO. 10-3930-627-34

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON D.C., *12 October 1971*

DIRECT AND GENERAL SUPPORT MAINTENANCE MANUAL
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LIST OF ILLUSTRATIONS

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope
These instructions constitute the direct and general support maintenance instructions for the gasoline engine powered fork lift truck, pneumatic tires, Baker model FJF-040.

1-2. Maintenance Forms and Records
Maintenance forms, records and reports to be used by maintenance personnel at all levels of maintenance are listed in and prescribed by TM 38-750, Army Equipment Record Procedures.

1-3. Reporting of Errors
Report of errors, omissions, and recommendations for improving this publication by the user is encouraged. Reports should be submitted on DA Form 2028, Recommended Changes to Publications, and forwarded direct to Commanding General, U. S. Army Mobility Equipment Command, 4300 Goodfellow Boulevard, St. Louis, Mo. 63120, ATTN: AMSME-MP.

Section II. DATA

1-4. Tabulated Data
The tables in this section supplement the general data given in TM 10-3930-627-12. This information covers the critical wear limits, fits and tolerances to be checked during overhaul of the fork lift truck. Table 1-1 lists standard tightening torques for screws and nuts used on the truck. Use this table as a guide unless a different tightening torque is called out in text. Table 1-1 to 1-4 list component wear limits, fits and tolerances. Some press or drag fits do not lend themselves to tabulation, but require narrative explanation. Such fits are discussed in text at the point where they are needed.

Table 1-1. Torque Values

The following table lists screw torque specifications recommended for all applications where specific torque requirements are not stated

Screw grade	Coml low-carb SAE-2	SAE-5	SAE-7	SAE-8
Head Marking	None			
Screw size	in.-lb.			
4-40	8			
6-32	12			
8-32	20			
10-24	25			
10-32	30			
12-24	35			
	ft.-lb.	ft.-lb.	ft.-lb.	ft.-lb.
1/4-20	4	7	9	11
1/4-28	5	9	11	13
5/16-18	9	15	19	23
5/16-24	10	17	21	26
3/8-16	15	27	35	42
3/8-24	18	33	42	50
7/16-14	25	45	60	70
9/16-20	30	55	70	80
1/2-13	40	75	90	105
1/2-20	45	85	105	120
9/16-12	60	110	135	150
9/16-18	65	120	150	165

Table 1-1. Torque Values-Continued

Screw grade	Coml low-carb SAE-2	SAE-5	SAE-7	SAE-8
Head Marking	None			
	ft.-lb.	ft.-lb.	ft.-lb.	ft.-lb.
5/8-11	80	140	170	200
5/8-18	90	155	200	230
3/4-10	125	240	300	350
3/4-16	140	275	350	400
7/8-9	175	375	500	575
7/8-14	200	400	550	625
1-8	250	575	750	850
1-12	275	650	825	950

Table 1-2. Engine Limits and Clearances

Point of measurement	Manufacturer's specifications		Wear limits
	Minimum Inches	Maximum Inches	Inches
Valve Guide			
Bore diameter, exhaust	0.3452	0.3460	0.3475
Bore diameter, intake	0.3432	0.0.3440	0.3455
Top of guide to cylinder block	1-15/32	1-15-32	
Valve Seat Angle			
Intake	30 deg.	30 deg.	
Exhaust	45 deg.	45 deg.	
Valve			
Face angle intake	30 deg.	30 deg.	
Face angle exhaust	45 deg.	45 deg.	
Stem diameter, exhaust	0.3405	0.3415	0.3385
Stem diameter, intake	0.3405	0.3415	0.3385
Valve Springs			
Note: **Effort in pounds required to compress spring length specified.**			
Valve closed, length 1-45/64	47 pounds	53 pounds	42 pounds
Valve open, length 1-27-6/	96 pounds	104 pounds	91 pounds
Camshaft			
Journal diameter			
Front	1.8715	1.8725	1.8745
Intermediate	1.7457	1.7465	1.7485
Rear	1.2465	1.2475	1.2495
Bushing Inside Diameter			
Front	1.8745	1.8755	0.004
Intermediate	1.7495	1.7502	0.004
Rear	1.2495	1.2505	0.004
Journal to Bushing Clearance			
Front, rear	0.002	0.004	0.006
Intermediate	0.003	0.0045	0.0065
End Play	0.003	0.007	0.009
Connecting Rod			
Bearing insert thickness	0.0625	0.0628	0.0618
Crank pin diameter	2.0600	2.0607	2.0590
Crank pin clearance	0.0002	0.0020	0.0030
Side play	0.006	0.010	0.0030
Crankshaft journal fillet radii	5/64	7/64	
Main Bearings			
Insert thickness	0.0950	0.0953	0.0943
Crankshaft journal diameter	2.2448	2.2457	2.2438
Journal Radii			
All except rear	5/64	7/64	
Rear (flywheel end)	7/64	9/64	