

LUBRICATION ORDER

LO 10-3930-618-12'

22 February 84 (Supersedes LO 10-3930-618-12-1 and -2, 3 DECEMBER 1971)

**TRUCK, LIFT, FORK; GASOLINE ENGINE DRIVEN:
PNEUMATIC TIRED WHEELS; 6,000 LB CAPACITY
168 INCH LIFT (ALLIS-CHALMERS MODEL FP60-24PS)
(ARMY MODEL MHE 213) (NSN 3930-00-935-7979)**

Reference: TM 10-3930-618-10 and -20, and FEDERAL SUPPLY CATALOG C9100-IL.

Hard time intervals and the related man hour times are based on normal operation. The man-hour time specified is the time you need to do all the services prescribed for a particular Interval. Change the hard time Interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer than-usual operating hours. The hard time interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

WARNING

Dry cleaning fluid is flammable. Do not use near a flame or excessive heat. Use only with adequate ventilation. Avoid prolonged breathing of vapors and minimize skin contact.

Clean parts or fittings with dry cleaning solvent (SD), Type II or equivalent. Dry before lubricating. Dotted arrow shafts indicate lubrication on both sides of equipment. A dotted circle Indicates a drain below. Relubricate all items found contaminated after fording or washing.

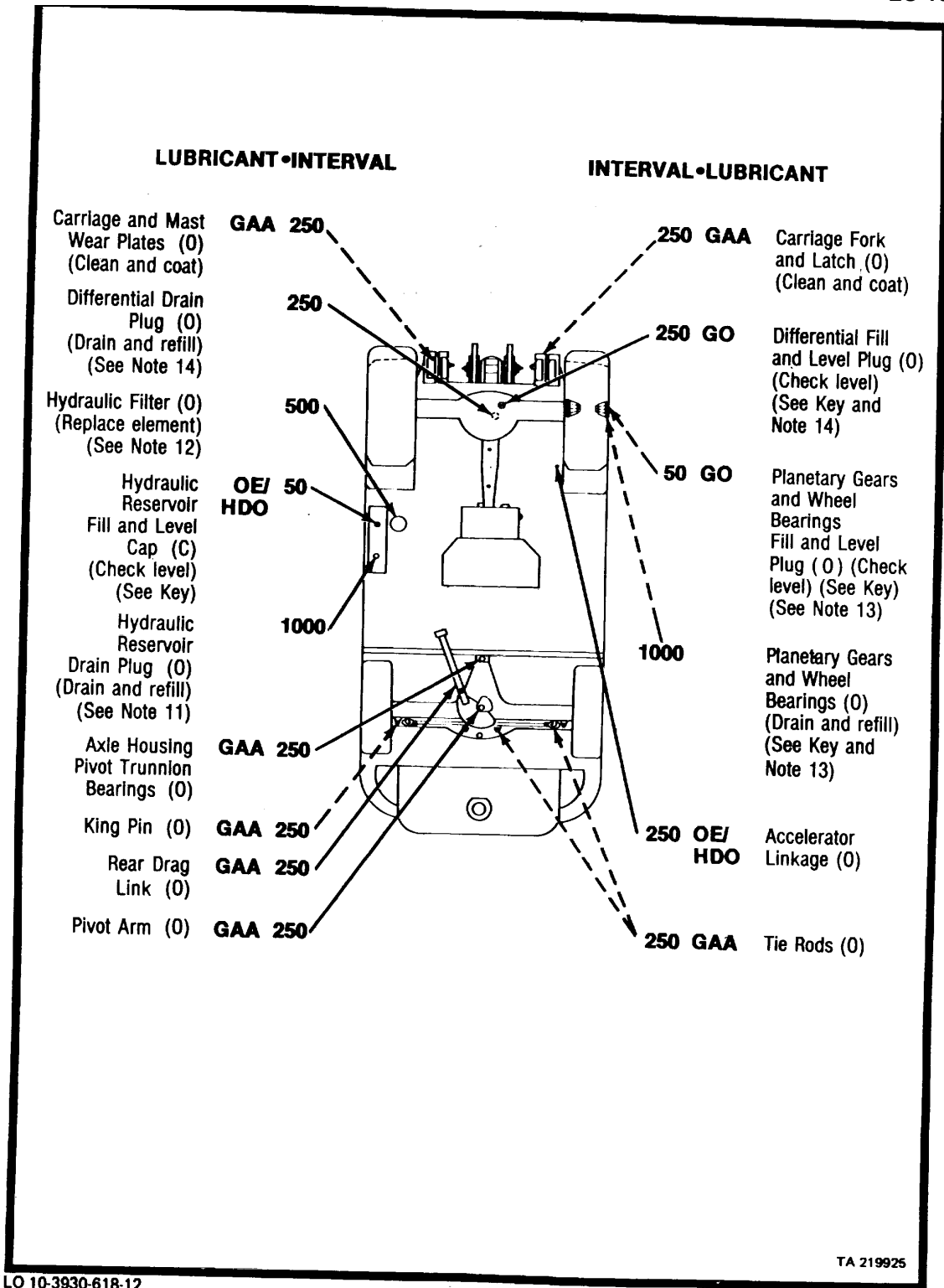
The lowest level of maintenance authorized to lubricate a point is Indicated by one of the following symbols as appropriate: Operator/Crew (C); and Organizational Maintenance (O).

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 or DA Form 2028 (Recommended Changes to Publications and Blank Forms) direct to: Commander, US Army Tank-Automotive Command, ATTN: DRSTA-MB, Warren, MI 48090. A reply will be furnished to you.

*The time specified is the time required to perform all services at the particular interval.

*TOTAL MAN-HOURS		*TOTAL MAN-HOURS	
INTERVAL	MAN-HOURS	INTERVAL	MAN-HOURS
10	0.2	500	2.6
50	0.7	1000	4.1
250	2.7		

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LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

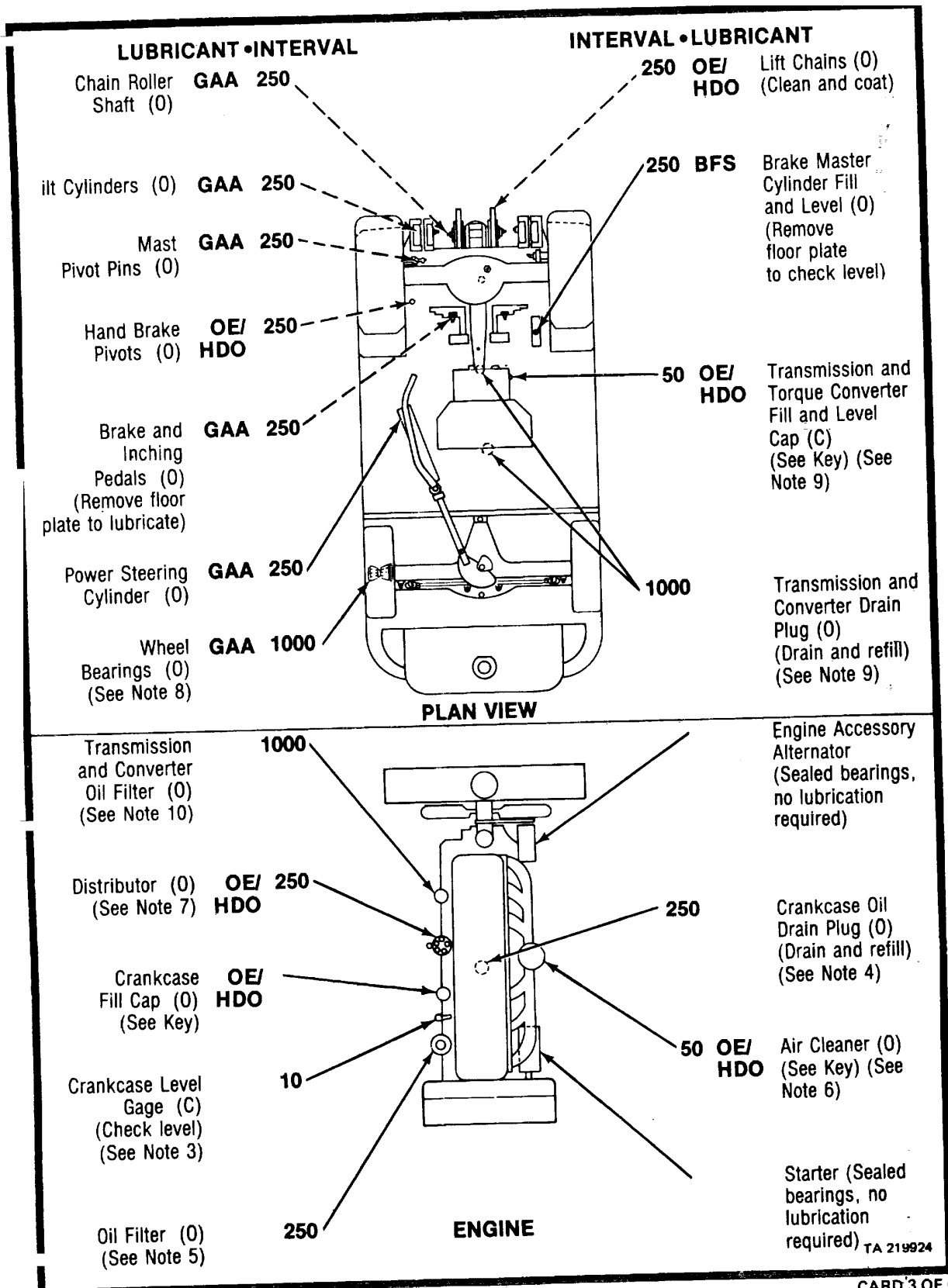
- Carriage and Mast Wear Plates (0)
(Clean and coat)
- Differential Drain Plug (0)
(Drain and refill)
(See Note 14)
- Hydraulic Filter (0)
(Replace element)
(See Note 12)
- Hydraulic Reservoir Fill and Level Cap (C)
(Check level)
(See Key)
- Hydraulic Reservoir Drain Plug (0)
(Drain and refill)
(See Note 11)
- Axle Housing Pivot Trunnion Bearings (0)
- King Pin (0)
- Rear Drag Link (0)
- Pivot Arm (0)

- GAA 250
- 250
- 500
- OE/ HDO 50
- 1000
- GAA 250
- GAA 250
- GAA 250
- GAA 250

- 250 GAA
- 250 GO
- 50 GO
- 1000
- 250 OE/ HDO
- 250 GAA

- Carriage Fork and Latch (0)
(Clean and coat)
- Differential Fill and Level Plug (0)
(Check level)
(See Key and Note 14)
- Planetary Gears and Wheel Bearings Fill and Level Plug (0)
(Check level)
(See Key)
(See Note 13)
- Planetary Gears and Wheel Bearings (0)
(Drain and refill)
(See Key and Note 13)
- Accelerator Linkage (0)
- Tie Rods (0)

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- KEY -

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES			INTERVALS
		Above +15°F (Above -9°C)	+40° to -15°F (+4° to -26°C)	+40° to -65°F (+4° to -54°C)	
OE/ HDO - Lubricating Oil, Internal Combustion Engine, Tactical Service OEA - Lubricating Oil, Internal Combustion, Arctic - Crankcase - Oil Can Points (See Note 2)	8 qts. (7.56 L)	OE/HDO 30	OE/HDO 10	OEA (See Note 1)	Intervals given are in hours of normal operation. For Arctic operation refer to FM 9-207
- Transmission and Converter - Hydraulic Reservoir w/Filters - Air Cleaner	11 qts. (10.4 L) 28 qts. (26.48 L) 1/2 qt. (0.473 L)				
GO - Lubricating Oil, Gear Multipurpose - Differential Axle - Planetary Gears	3 qts. (2.83 L) 3/4 qt. ea (0.8 L) ea	GO 85W/140	GO 80W/90	GO 75W	
BFS - Brake Fluid, Silicone, Automotive - Brake Master Cylinder	5/16 qt. (0.3 L)	ALL TEMPERATURES			
GAA - Grease, Automotive and Artillery		ALL TEMPERATURES			

*See Note 15 for lubricant specification number.

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NOTES

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -15°F (-260C). Remove lubricants prescribed in Key for temperatures above -150F (-260C). Relubricate with lubricants specified in Key for temperatures below -150F (-260C). If OEA lubricant is required to meet the temperature ranges prescribed in the Key, OEA lubricant is to be used in place of OE/HDO-10 lubricant for all temperature ranges where OE/HDO-10 is specified in the Key.

2. OIL CAN POINTS. Each 250 hours, lubricate shift and accelerator linkage, control valve linkage, brake linkage and all exposed adjusting threads with OE/HDO.

3. ENGINE OIL LEVEL HOT OR COLD CHECK. Cold engine, oil level should be at high level mark on dipstick. Hot engine, oil level must be between high and low marks on dipstick (allow to set 5 minutes before checking).

4. ENGINE. Oil is to be changed each 250 hours. Drain when lubricant is warm.

5. ENGINE OIL FILTER. Each 250 hours, remove filter element, clean housing and install new filter element. After installing new filter element, fill crankcase, operate engine for 5 minutes, check housing for leaks, check crankcase oil level and bring to "FULL" mark.

6. AIR CLEANER. Each 50 hours disassemble entire unit, clean, assemble, re-oil to level mark.

7. DISTRIBUTOR. Each 250 hours, lubricate rotor wick with 3 or 4 drops of OE/HDO 10. Apply very light coat of GAA to breaker cam.

8. WHEEL BEARINGS. Each 1000 hours, remove wheels, clean and inspect all parts, replace damaged or worn parts, repack bearings, and assemble.

9. TRANSMISSION AND TORQUE CONVERTER. Check oil level each 50 hours with engine running at idle speed, oil at operating temperature and transmission in neutral. Maintain oil level to "FULL" mark. Change oil each 1000 hours. Access to converter drain plug is gained through timing cover opening on engine flywheel housing. Rotate until drain plug is in opening, remove plug and rotate flywheel until plug opening is aligned with opening at bottom of flywheel housing. Fill transmission to low mark. Run engine at idle speed to fill converter and lines. With engine running at idle speed, oil at operating temperature and transmission in neutral, add oil to bring oil level to "FULL" mark. Operate for 5 minutes and check for leaks.

10. TRANSMISSION OIL FILTER. Each 1000 hours remove filter element, clean filter housing, install new filter element and seal. Fill transmission to low mark. With engine running at idle speed, oil at operating temperature and transmission in neutral, add oil to bring oil level to "FULL" mark. Operate for 5 minutes and check filter housing for leaks.

11. COMPATIBILITY OF HYDRAULIC OIL. Spectrum analysis of hydraulic oil and OE/HDO 10 indicates these oils are compatible and can be intermixed without concealed harmful effect.

12. HYDRAULIC OIL FILTER. Each 1000 hours, remove element, clean filter housing and install new element. After replacement, operate hydraulic system for 5 minutes, check for leaks, check level and bring to "FULL" mark.

13. PLANETARY GEARS AND WHEEL BEARINGS. Check oil level each 50 hours. TO check level, turn drive wheels until oil plugs are in position 90 degrees from bottom dead center. Remove plugs, check oil level and add oil as necessary.

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NOTES CONTINUED:

Each 1000 hours drain and refill. To drain, turn wheels until oil plugs are at the bottom. Remove plugs and drain all oil. Turn drive wheels until filler openings are at the top. Fill each housing with 314 quart of GO. Install plug. After refill operate for 5 minutes, check for leaks and bring oil level to level plug opening.

NOTE

Drive wheel bearings are incorporated in drive system and are self lubricating.

Copy of this Lubrication Order will remain with the equipment at all times, instructions contained herein are mandatory.

By order of the Secretary of the Army:

JOHN A. WICKHAM, JR.
General, United States Army
Chief of Staff

OFFICIAL:

ROBERT M. JOYCE
Major General, United States Army
The Adjutant General

DISTRIBUTION:

To be distributed in accordance with DA Form 12-25A, Operator and Organizational maintenance requirements for Fork Lift Truck.

14. DIFFERENTIAL. Check level each 250 hours. Change gear lubricant each 250 hours. After refill, operate for five minutes, check for leaks and bring oil level to level plug.

15. LUBRICANTS. The following is a list of lubricants with military symbols and applicable specification numbers.

OE/HDO	MIL-L-2104	
GO	MIL-L-2105	
GAA	MIL-G-10924	
OEA	MIL-L-46167	
BFS	MIL-B-46176	
		(SD), Type II P-D-680

* U.S. GOVERNMENT PRINTING OFFICE: 1984-420-903/219

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RECOMMENDED CHANGES TO EQUIPMENT TECHNICAL PUBLICATIONS



THEN... JOT DOWN THE DOPE ABOUT IT ON THIS FORM, CAREFULLY TEAR IT OUT, FOLD IT AND DROP IT IN THE MAIL!

SOMETHING WRONG WITH THIS PUBLICATION?

FROM: (PRINT YOUR UNIT'S COMPLETE ADDRESS)

DATE SENT

PUBLICATION NUMBER

PUBLICATION DATE

PUBLICATION TITLE

BE EXACT... PIN-POINT WHERE IT IS

PAGE NO.

PARA-GRAPH

FIGURE NO.

TABLE NO.

IN THIS SPACE TELL WHAT IS WRONG AND WHAT SHOULD BE DONE ABOUT IT:

TEAR ALONG PERFORATED LINE

PRINTED NAME, GRADE OR TITLE, AND TELEPHONE NUMBER

SIGN HERE:

DA FORM 2028-2
1 JUL 79

PREVIOUS EDITIONS ARE OBSOLETE.

P.S.—IF YOUR OUTFIT WANTS TO KNOW ABOUT YOUR RECOMMENDATION MAKE A CARBON COPY OF THIS AND GIVE IT TO YOUR HEADQUARTERS.

PIN 000-054930