

(Supersedes LO 55-2210-223-12/ LO 45A2-2-14-31 LC-1, 30 December 1986)

LOCOMOTIVE, DIESEL-ELECTRIC
56-1/2-INCH GAGE, 60-TON, 500 HP
0-4-4-0 WHEEL, MODEL RS-4-TC-1A
NSN 2210-01-158-2978

References: TM 55-210-223-12 and FEDERAL SUPPLY CATALOG C9100-1L

REPORTING OF 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, DA Form 2028 (Recommended Changes to Publications and Forms), directly to: US Army Troop Support Command, ATTN: AMSTR-MMTS, 4300 Goodfellow Blvd., St. Louis, MO 63120-1798. A reply will be furnished directly to you.

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NOTES

This LO is for crew (C) or unit (0) maintenance. Lube intervals (on-condition or hard-time) and the related task-hour times are based on normal operation. The task-hour time specified is the time you need to do all the services prescribed for a particular interval. On-condition (OC) oil sample intervals shall be applied unless changed by Joint Oil Analysis Program (JOAP) laboratory. 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. Hard time intervals will be applied in the event JOAP laboratory support is not available.

WARNING - Drycleaning 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 fittings before lubricating. Clean parts and around filler hoses with drycleaning SOLVENT(SD), type II or equivalent. Dry before lubricating.

Lubricate points indicated by dotted arrow shaft on both sides of equipment.

Lubricate after washing.

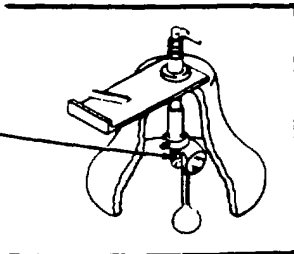
Normally drain crankcase when hot. Fill and check level.

The lowest level of maintenance authorized to lubricate a point is indicated by one of the following. (C) Operator/Crew, (0) Unit Maintenance, or (F) Intermediate Direct Support Maintenance.

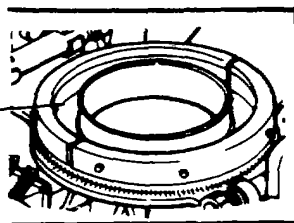
TOTAL TASK-HR		TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
D	1.0	Q	1.5
W	0.5	S	0.2
2W	0.2	B	10.0
M	2.0		

LUBRICANT ● INTERVAL

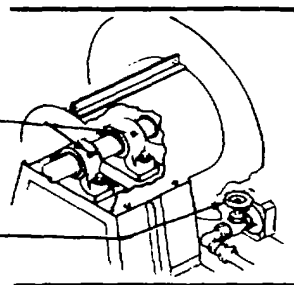
Bell Ringer (O) **GPS**
 (Apply a light coat of grease)



Truck Centerplates (C) **DD**
 (1 each truck)
 (See note 6)



Fan Pillow Block Bearing **GAA**
 (O) (2 fittings)



Engine Crankcase Drain (O)
 (Open drain valve and
 drain oil.)
 (See notes 4 & 5)

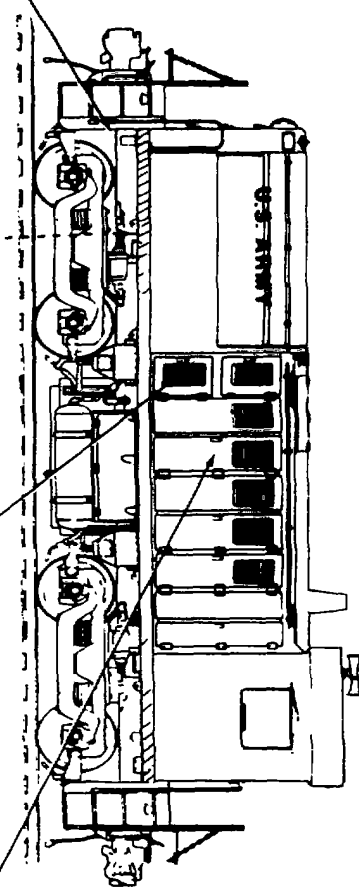
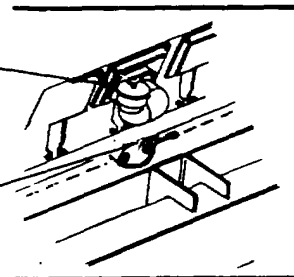
OC
 or
O

Engine Crankcase Fill (O) **OE/**
 (Add oil as needed to main- **HDO**
 tain level at FULL mark.)

OC
 or
O

Engine Oil Dipstick **OE/**
 Gage (C) **HDO**
 (With engine running, check
 and maintain at FULL mark.)
 (See note 11)

D

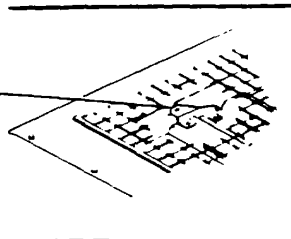


LEFT SIDE

LUBRICANT • INTERVAL

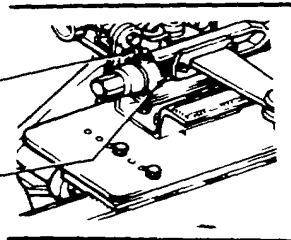
Shutter Mechanism (O)
 (Apply few drops to pin,
 linkage, and bearings.)

OE/ M
 HDO



Brake Slack Adjusters (O)
 (2 each truck) (1 or 2 pumps
 from grease gun each fitting.)
 (Apply few drops to exposed
 threads.)

GAA M
 OE/ M
 HDO

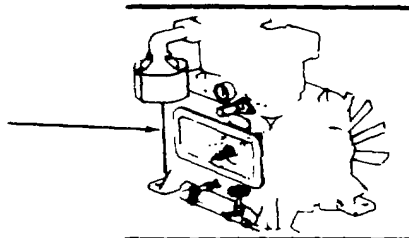


Exciter-Auxiliary Generator
 Bearing (O)
 (2 points) (Apply 1 or 2
 pumps from grease gun
 each fitting)

BB S

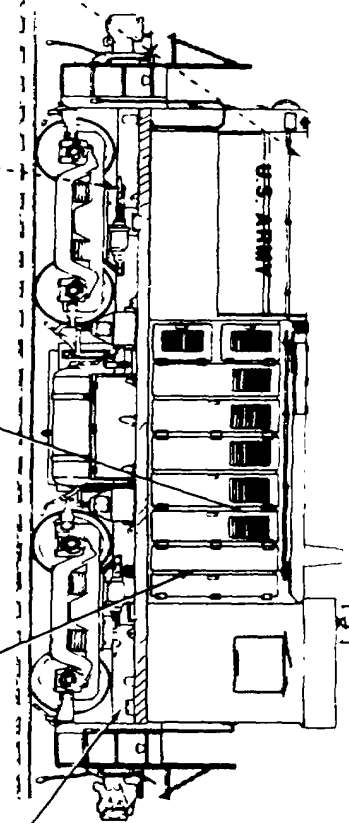
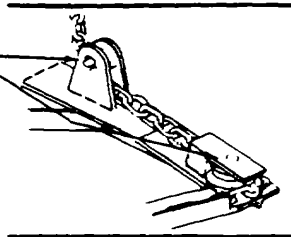


Air Compressor (O)
 (See note 7)
 (See detail A.)



Handbrake Chain Roller
 Guides (O)
 (2 points) (Add 2 or 3
 drops each point)

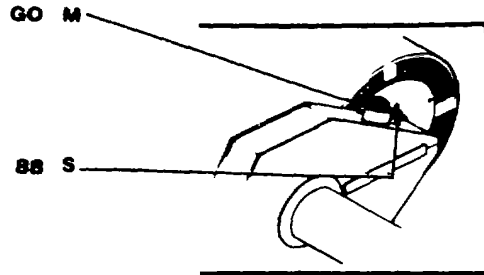
OE/ M
 HDO



LEFT SIDE

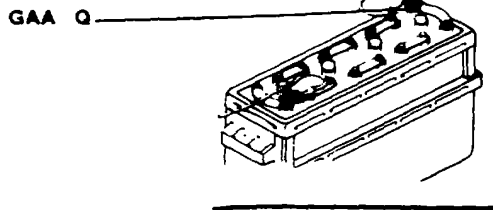
LUBRICANT • INTERVAL

Traction Motor Gears (0)
(2 motors each truck) (Add
lubricant as needed to
cover bottom gear teeth.)
(See note 9)

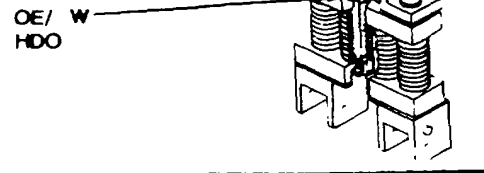


Traction Motor Armature
Bearing (0)
(2 points) (Apply 1 or 2
pumps from grease gun
each fitting.)

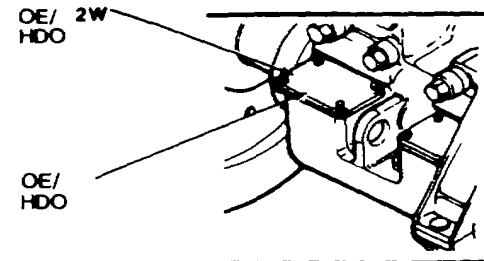
Battery Terminals (0)
(Clean off corrosion and
apply a light coat of
grease)



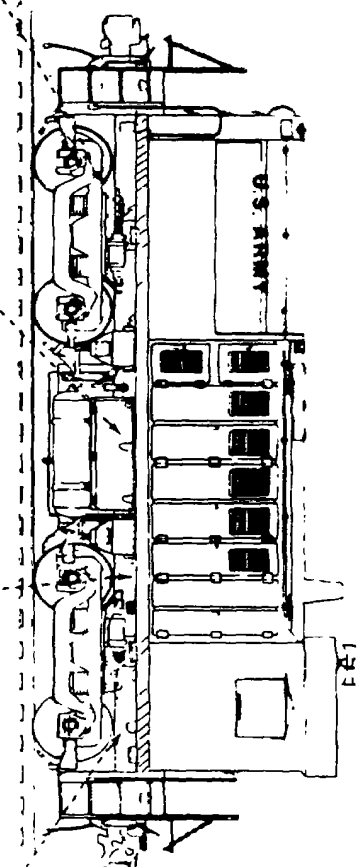
Traction Motor Suspension
Guide Pins (0)
(Add few drops to each
pin) (4 each truck.)



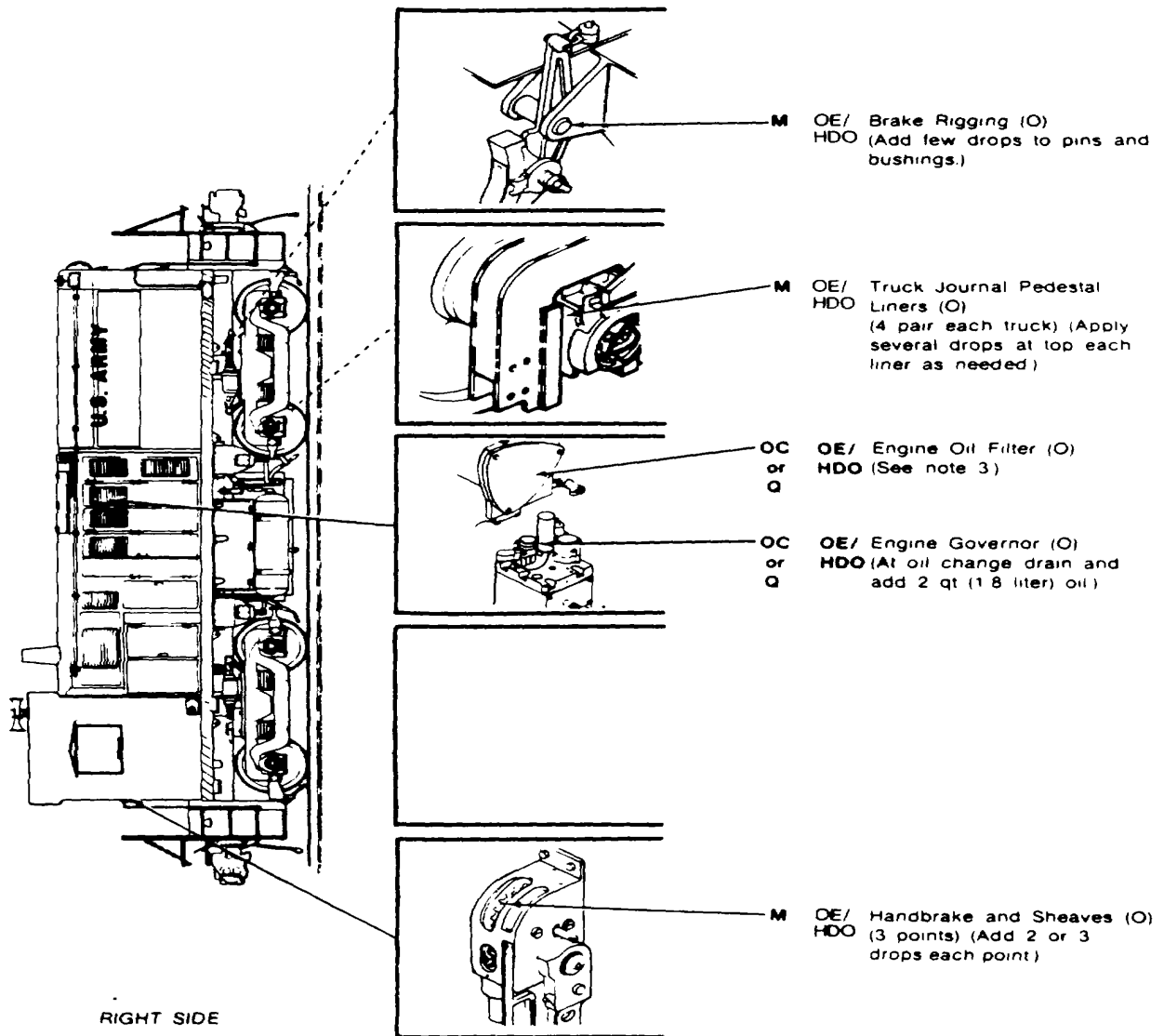
Traction Motor Support
Bearing (0)
(2 each motor) (Check and
maintain level 3/4 to 2-1/4
inches) (See note 8)



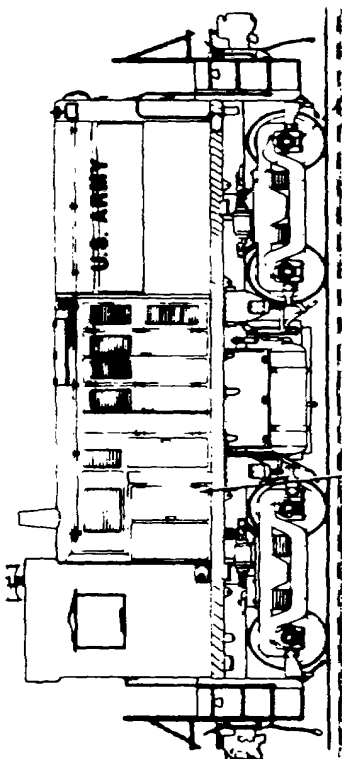
Traction Motor Support
Bearing Wicks (0)
(Remove, clean, test
tension, lubricate, and
replace)



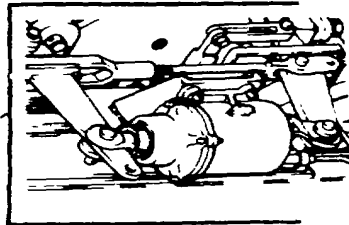
INTERVAL LUBRICANT



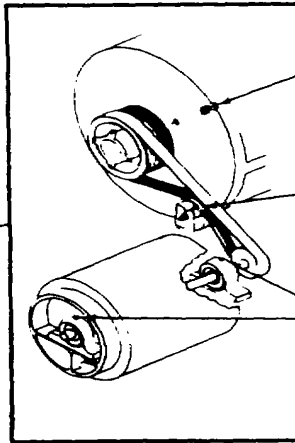
INTERVAL LUBRICANT



RIGHT SIDE



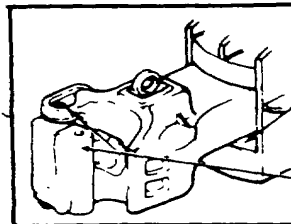
M OE/HDO Brake Cylinder Lever (0)
(Add few drops to pins)



S BB Main Generator Armature Bearing (0)
(2 points) (Apply 1 or 2 pumps from grease gun each fitting)

S BB Blower Belt Tightener (0)
(2 Places) (2 or 3 pumps from grease gun)
(See note 10)

S BB Traction Motor Blower (0)
(2 points) (Add 1 or 2 pumps each fitting)

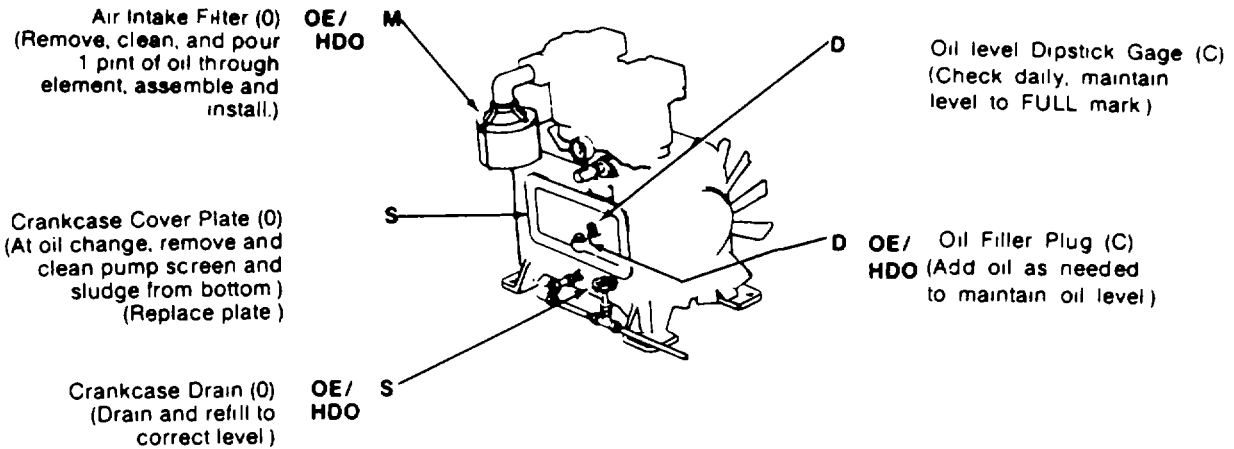


M GG-1 Coupler Carrier and Striker Plate (0)
(1 each end) (Apply light coat of grease as needed)

M GAA Knuckle and Knuckle Pin and Locking Head and Pin (0)
(Apply light coat of grease as needed)

LUBRICANT ● INTERVAL

INTERVAL ● LUBRICANT



DETAIL A
AIR COMPRESSOR

Table 1. Lubricant Table for Locomotive

Temperature Range	Lubricant MIL. Symbol (NATO CODE) Specification	Capacity	Interval	Task-hour
Above 0° F (-18° C)	OE/HDO-15/40 (0-1236) MIL-L-2104	ENG. CRKC 59 gal (227 L)	Q	2.5
Above 0° F (-18° C)	OE/HDO-15/40 (0-1236) MIL-L-2104	AIR CPRSR CRKC 14-3/4 qt (13.94 L)	S	0.5
-65° to 0° F (-50° to -18° C)	OEA (0-183) MIL-L-46167	ENG CRKC 59 gal (227 L)	Q	2.5
-65° to 0° F (-50° to -18° C)	OEA (0-183) MIL-L-46167	AIR CPRSR CRKC 14-3/4 qt (13.94 L)	S	0.5
Above 0° F (-18° C)	OE/HDO-15/40 (0-1236) MIL-L-2104	ENG. GOV 2 qt (1.8 L)	Q	1.5
-65° to 0° F (-50° to -180 C)	OEA (0-183) MIL-L-46167	ENG. GOV 2 qt (1.8 L)	Q	1.5

Table 1. Lubricant Table for Locomotive (cont)

Temperature Range	Lubricant MIL. Symbol (NATO CODE) Specification	Capacity	Interval	Task-hour
Above 0° F (-18° C)	GO - 80/90 (0-226) MIL-L-2105	•	•	•
-65° to 0° F (-50° to -18° C)	GO-75 (0-186) MIL-L-2105	•	•	•
ALL TEMPERATURES	GAA MIL-G-10924	•	•	•
ALL TEMPERATURES (G-408)	GG-1 VV-G-671	•	•	•
ALL TEMPERATURES (G-392) MIL-G4343	GPS	•	•	•
ALL TEMPERATURES	BB SHELL-RA-71005	•	•	•
ALL TEMPERATURES	DD SHELL 72777	•	•	•
●●●ARCTIC OPERATION				

NOTES:

- Refer to specific lubrication procedure.
- For arctic operation, refer to FM 9-207.

NOTES:

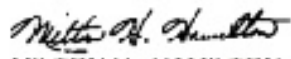
INTERVALS						
Intervals given are for normal operation						
D-Daily (10 hr)	W-Weekly (50 hr)	2W-2 Weeks (75 hr)	M-Monthly (100 hr)	Q-Quarterly (3 months) (250 hr)	S-Semi-annually (6 months) (500 hr)	B-Bi-annually (24 months) (2000 hr)

1. **FOR OPERATIONS OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW -4° F (-20° C).** Remove lubricants prescribed in the key for temperatures above -4 F (-20° C). Lubricate with lubricants specified in the key for temperatures 0° to -65° F (-18° to 500 C).
2. **OIL CAN POINTS.** Monthly lubricate all exterior hinges, latches, pins, clevises, springs, and exposed threaded surfaces with OE/HDO oil, excepting similar parts requiring other lubrication as shown on charts.
3. **ENGINE OIL FILTER.** Oil filter replacement interval shall align with on-condition JOAP or hard time oil change requirements. See notes 4 and 5. Remove filter elements, clean housings, install new elements, fill crankcase, operate engine for 5 minutes, check for leaks, check crankcase oil level and bring to FULL mark.
4. **ENGINE OIL.** A sample of the oil shall be sent to a JOAP laboratory for analysis at an interval of 25 hours or 30 days, as prescribed by DA PAM 738-750 or TB 43-106. Refer to AR 700-132 for sampling requirements.
5. **JOAP LABORATORY SUPPORT.** When JOAP laboratory support is not available, drain and refill crankcase oil at 250 hours/quarterly.
6. **TRUCK CENTERPLATE.** When condition of graphite lubricant indicates, replace lubricator.
7. **AIR COMPRESSOR.** Semi-annually drain and refill. Bring to FULL mark on compressor oil level dipstick gage. Operate compressor for 5 minutes, check for leaks, recheck oil level, and bring to proper level.
8. **TRACTION MOTOR SUPPORT BEARINGS.** Use a flexible gage to check and maintain every 2 weeks (2W) lubricant level to 2-1/4 inches (57 mm).
9. **TRACTION MOTOR GEAR TEETH.** Monthly inspect condition of teeth through gear case lid. If teeth appear dry or bright, replenish lubricant supply GO sufficient to cover bottom gear teeth.
10. **BLOWER MOTOR TIGHTENER.** There is a grease fitting on each side of the inner hub of the idler wheel. Pump until grease is visible. It may be necessary to remove the belt guard to reach the fittings.
11. **ENGINE OIL DIPSTICK GAGE.** Engine oil level can be checked with engine running or stopped. When checking oil level use appropriate side of gage, ENGINE RUNNING or ENGINE STOPPED.

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:

Official:


MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
0D47

GORDON R. SULLIVAN
General, United States Army
Chief of Staff

MERRILL A. McPEAK,
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