LUBRICATION ORDER

29 September 1995

LO 9-2350-272-12

(Supersedes LO 9-2350-272-12 March 1994)

CARRIER, CARGO, TRACKED, 1 ½ TON, M973 SMALL UNIT SUPPORT VEHICLE (SUSV) (NSN 2350-01-132-9099)

TM 9-2350-272-10, -20, LO 9-2350-272-12 cards 1, 2, 3, 4, 5, 6, 7, 8, 9 and 10.

Interval (on-condition or hard time) 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. On-condition (OC) oil sample intervals shall be applied unless changed by the Army Oil Analysis Program (AOAP) 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 AOAP laboratory support is not available.

On-condition (OC) AOAP Laboratory determined oil changer intervals shall be applied instead of hard time intervals such as hourly, calendar, or mileage, unless otherwise notified. The services will be required when directed by an Army Oil Analysis Program (AOAP) Laboratory which has analyzed the oil for serviceability.

*The time specified is the time required to perform all services at the particular interval (on-condition or hard times). Relubricate after cleaning, fording or swimming. Times indicated in the total man-hours chart does not include time to access equipment.

WARNING

Dry cleaning solvent, P-D-680 "Type II" used to clean parts, is potentially dangerous to personnel and property. Do not use near open flame or excessive heat. Flash point of solvent is 138°F (58.8°C).

Clean parts with dry cleaning solvent P-D-680, "Type II" or equivalent. Dry before lubricating.

Dotted arrow points indicate lubrication on both sides of the equipment. The lowest level of maintenance authorized to lubricate a point is indicated by one of the following symbols Operator/Crow (C); and Organizational Maintenance (O).

Reporting errors and recommending improvements. You con help improve this publication. If you find my 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 Publication and Blank Forms) direct to: US Army Tank-automotive and Armaments Command, ATTN: AMSTA-IM-MMAA, Warren, MI 49397-5000. A reply will be furnished to you.

*TOTAL MAN-HOURS	
INTERVAL	MAN-HR
D	0.3
M	2.2
Q	3.2
S	2.8
A	2.4
B	0.8

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TA259915

LUBRICANT • INTERVAL

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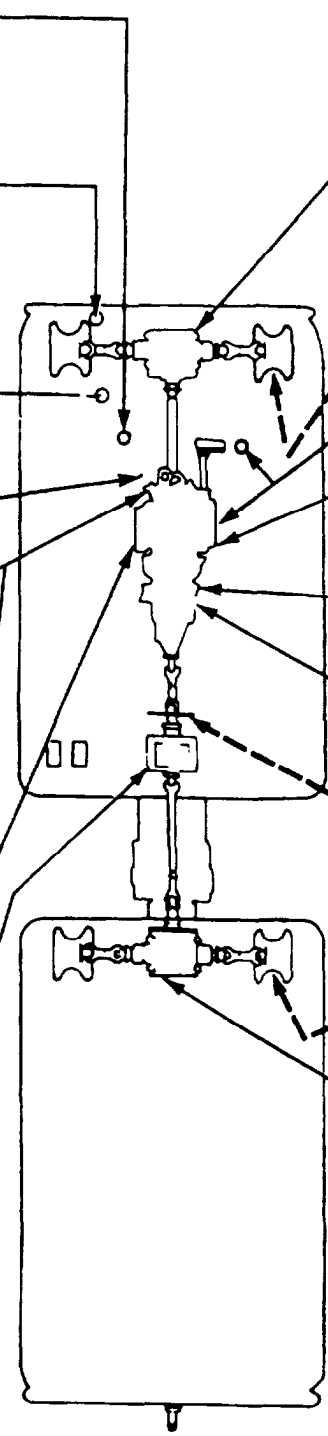

Steering System Hydraulic Oil Filter (See note 21 and view S)(O)

B

Steering Hydraulic Fluid Tank (Check level and fill) (See key)(See note 11 and view A)(C)

DEXTRON II ATF or OEA — D

Brake Master Cylinder (Check level and fill) (See key)(See note 12 and view B)(C)

BFS — D

In-Line Fuel Filter See note 22 and view D)(O)

S

Crankcase Oil (Check level and fill) (See note 4 and view C)(C)

OE/HDO or OEA — D

Crankcase Oil On-condition AOAP Analysis (See note 5 and 6)(O)

OE/HDO or OEA — OC/S

Engine Oil Filter On-condition AOAP Analysis (See note 3 and view D)(O)

OC/S

Transfer (Check level and fill) (See key)(See note 7 and view E)(C)

GO — M

M — GO — **Differential** (Check level and fill) (See key)(See note 8 and view F)(C)

M — GAA — **Drive Sprocket Bearing** (See note 15a and view G)(C)

None — GAA — **Starter and Alternator** (See note 24)

D — DEXTRON II ATF or OEA — **Transmission** (Check level and fill) (See note 10 and view D)(C)

B — DEXTRON II ATF or OEA — **Transmission** (Drain and fill)(See key)(See note 10)(O)

B — **Transmission Oil Filter** (See note 10)(O)

S — GAA — **Brake Caliper** (See note 13 and view I)(O)

M — GAA — **Drive Sprocket Bearing** (See note 15a and view G)(C)

M — GO — **Differential** (Check level and fill) (See key)(See note 8 and view F)(C)

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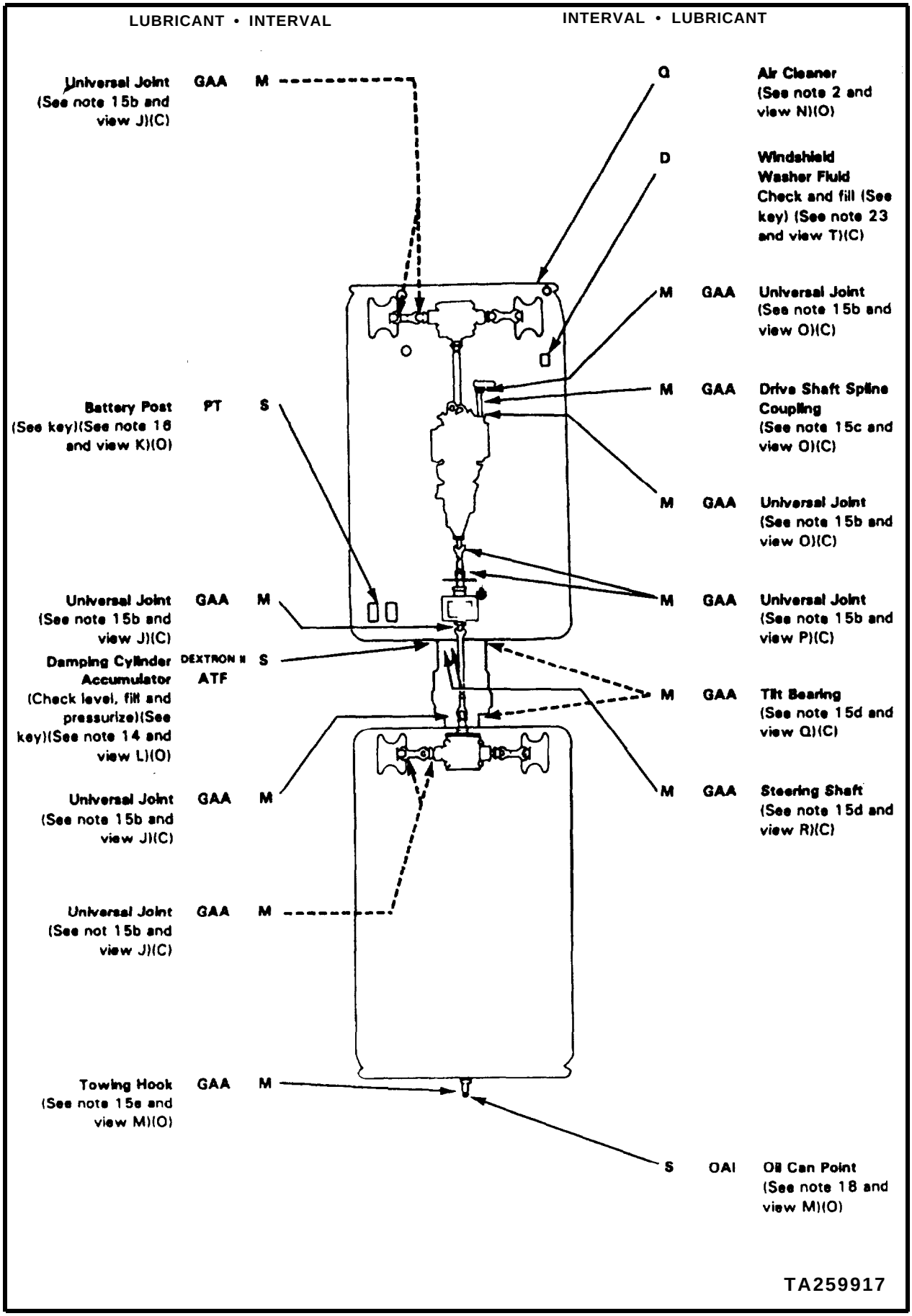
LUBRICANT • INTERVAL
INTERVAL • LUBRICANT
Universal Joint (See note 15b and view J)(C) GAA M
Battery Post (See key)(See note 16 and view K)(O) PT S
Universal Joint (See note 15b and view J)(C) GAA M
Damping Cylinder Accumulator (Check level, fill and pressurize)(See key)(See note 14 and view L)(O) DEXTRON II ATF S
Universal Joint (See note 15b and view J)(C) GAA M
Universal Joint (See not 15b and view J)(C) GAA M
Towing Hook (See note 15e and view M)(O) GAA M
Q Air Cleaner (See note 2 and view N)(O)
D Windshield Washer Fluid Check and fill (See key) (See note 23 and view T)(C)
M GAA Universal Joint (See note 15b and view O)(C)
M GAA Drive Shaft Spline Coupling (See note 15c and view O)(C)
M GAA Universal Joint (See note 15b and view O)(C)
M GAA Universal Joint (See note 15b and view P)(C)
M GAA Tilt Bearing (See note 15d and view Q)(C)
M GAA Steering Shaft (See note 15d and view R)(C)
S OAI Oil Can Point (See note 18 and view M)(O)
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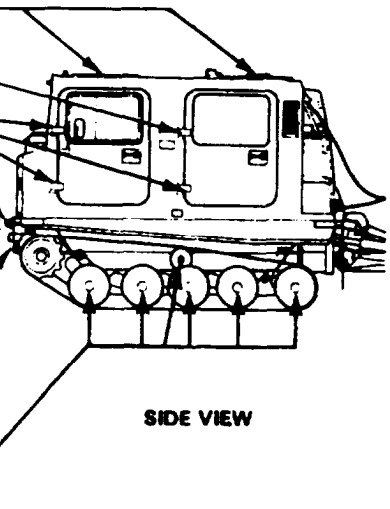
LUBRICANT	•	INTERVAL
Roof Hatch and Side Window Locks (See note 17)(O)	GAA	S
Oil Can Points (See note 18)(O)	OAI	S
Winch (Check level and fill) (See note 19 and view H)(O)	OE/HDO	S
Winch (Drain and fill) (See note 19 and view H)(O)	OE/HDO	A
Winch Cable (See note 20)(O)	CW-IIA	A
Wheel Bearings (See note 9)	GAA	None



SIDE VIEW

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KEY (SEE NOTE 1, 25 AND 26)

LUBRICANTS		CAPACITIES	EXPECTED TEMPERATURES: Above +15°F Above −9°C	EXPECTED TEMPERATURES: +40°F to −15°F +4° to −26°C	EXPECTED TEMPERATURES: +40°F to −65°F +4°C to −54°C	INTERVAL
OE/HDO MIL-L-2104 or OEA MIL-L-46167	- OIL, Lubricating, ICE Tactical Service - OIL, Lubricating, ICE Arctic	7 QUARTS (6.5 LITERS)	OE/HDO 15/40*	OE/HDO 10	OEA	Intervals given are by calendar days and normal mileage
	Engine Crankcase (Add one additional quart for filter)					
	Winch	0.7 QUART (0.7 LITER)	OE/HDO 15/40	OE/HDO 15/40		
DEXTRON II ATF or OEA MIL-L-46167	DEXTRON II ATF		DEXTRON II ATF	DEXTRON II ATF	OEA	OC- As directed by AOAP Laboratory
	OIL, Lubricating, ICE Arctic					D-Daily
	Transmission	7.5 QUARTS (7 LITERS)				M-Monthly or 500 miles** (804 Km)
	Steering System	7.2 QUARTS (6.8 LITERS)				S-Semiannual, 6 months or 3,000 miles** (9654 Km)
	Damping Cylinder Expansion Tank	0.5 QUART (0.5 LITER)				
GO MIL-L-2105	Lubricating Oil, Gear		GO 80W/90	GO 80W/90	GO 75	A-Annual. 12 months or 6,000 miles** (9654 Km)
	Differential (Each)	3 QUARTS (2.8 LITERS)				
	Transfer Case	2.2 QUARTS (2.1 LITERS)				B-Bi-Annual 24 months or 12,000 miles** (19,308 Km)
ANTIFREEZE MIL-A-46153 or MIL-A-11755	Engine	***	MIL-A-46153	MIL-A-46153	MIL-A-11755	
EFS MIL-B-46176	Silicone Brake Fluid Hydraulic Brakes	0.5 QUART (0.5 LITER)	ALL TEMPERATURES			
GAA MIL-L-10924	Grease Automotive and Artillery All grease points	AS REQUIRED				
CW-IIA VV-L-751	Lubricant Exposed Wire Rope and Gears	AS REQUIRED				
PT S-743VV-P-236	Petrolatum Technical Battery Post	AS REQUIRED				
Windshield Washer Fluid or Ethanol Denatured MIL-O-E-00760	Windshield Washer	AS REQUIRED				
OAI MIL-L-6085	OIL, Lubricant, Instrument, Aircraft Oil Can Points	AS REQUIRED				

FOR ARCTIC OPERATION REFER TO FM9-207

*Could be used down to 5°F (-15°C)

** Whichever occurs first.

*** Refer to TB 750-651, use of antifreeze solution and cleaning compounds for the correct water-antifreeze mixture for a 26.5 Quart (25 Liter) capacity cooling system.

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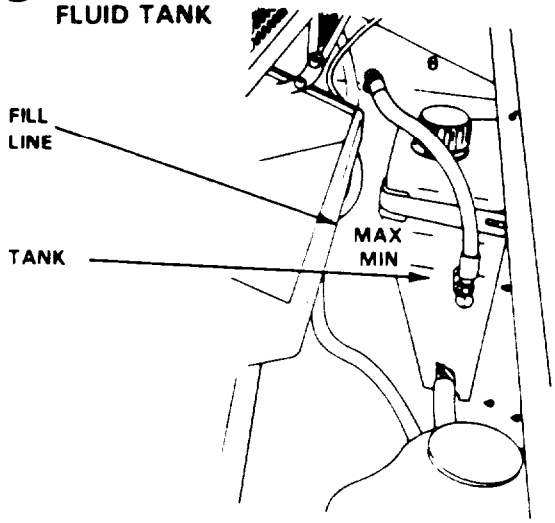
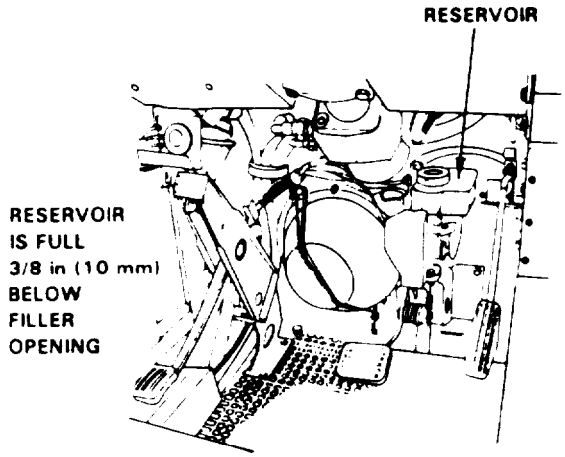
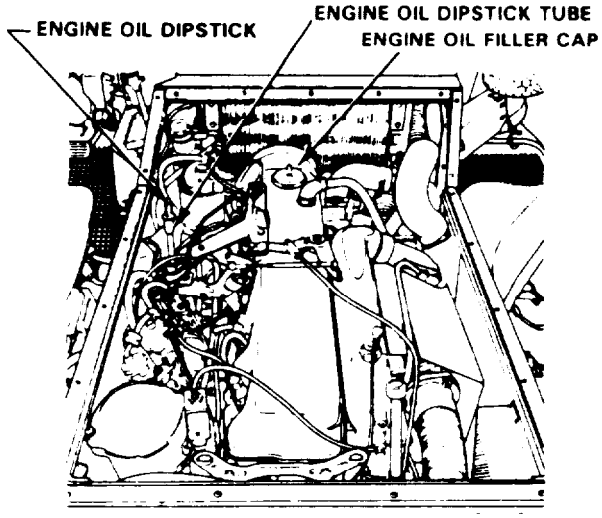
Ⓐ STEERING HYDRAULIC FLUID TANK



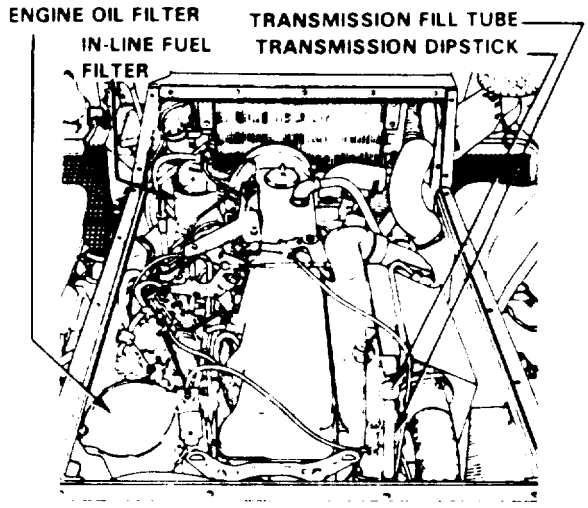
Ⓑ BRAKE MASTER CYLINDER RESERVOIR



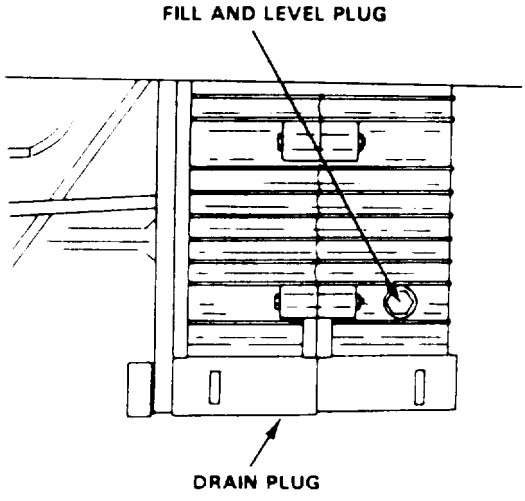
Ⓒ CRANKCASE OIL



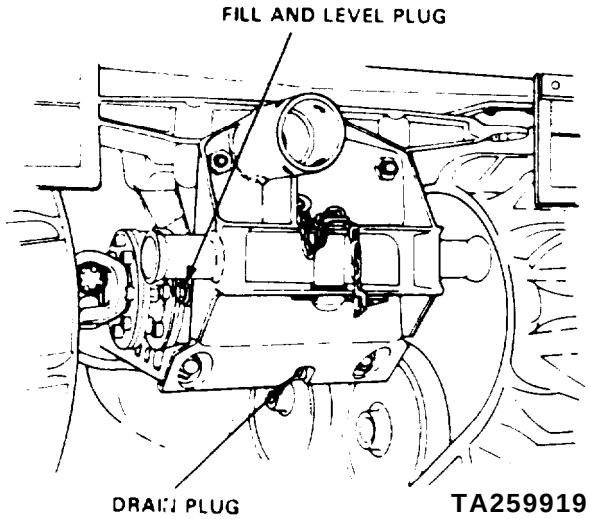
Ⓓ ENGINE OIL FILTER, IN-LINE FUEL FILTER AND TRANSMISSION FILL-LEVEL TUBE



Ⓔ TRANSFER



Ⓕ DIFFERENTIAL



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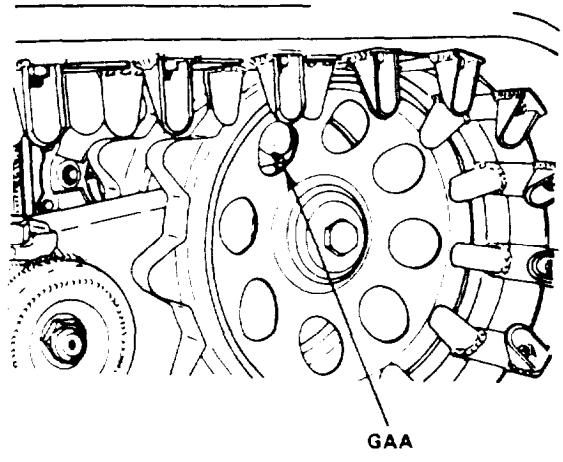
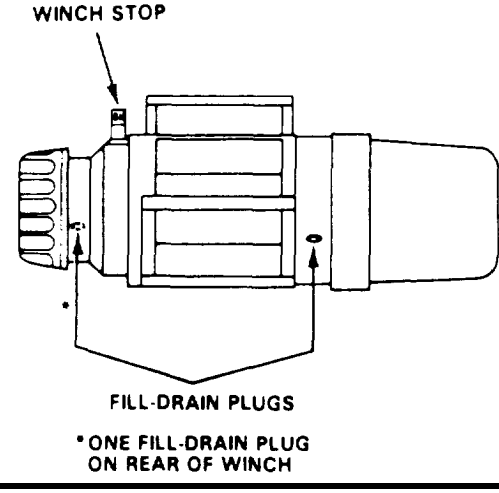
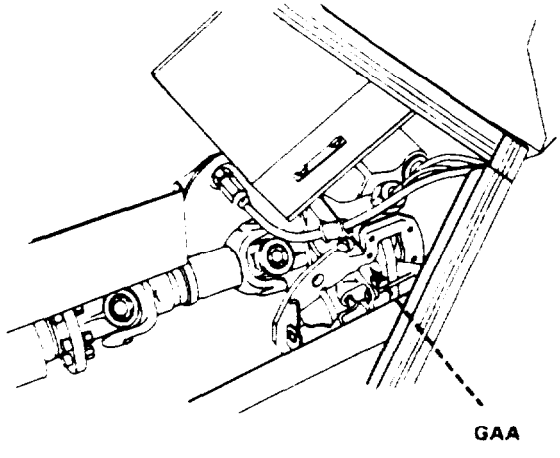
Ⓖ DRIVE SPROCKET BEARING



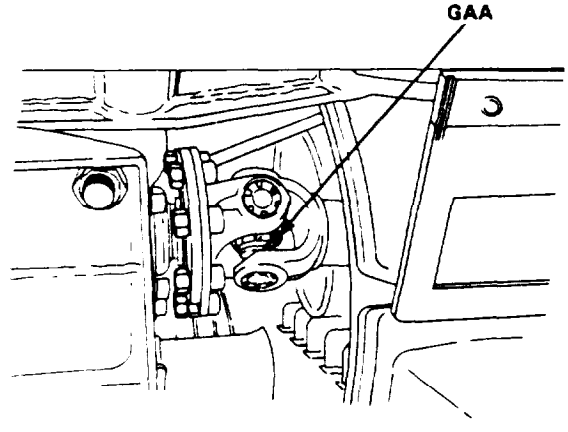
Ⓗ WINCH



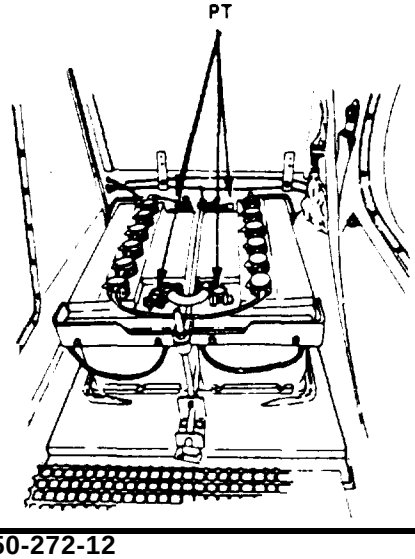
Ⓘ BRAKE CALIPER



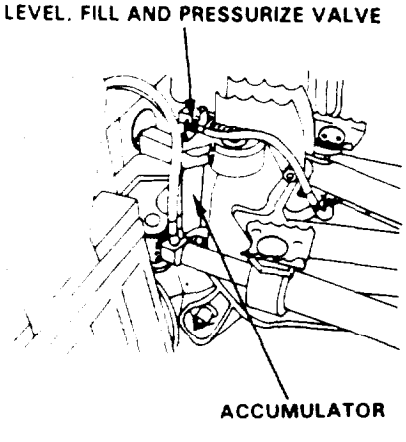
Ⓙ *UNIVERSAL JOINT*
(TRACK DRIVE SPROCKETS AND DRIVE SHAFT FRONT TO REAR CARRIER THROUGH STEERING ASSEMBLY)



Ⓚ BATTERY POST



Ⓛ DAMPING CYLINDER ACCUMULATOR



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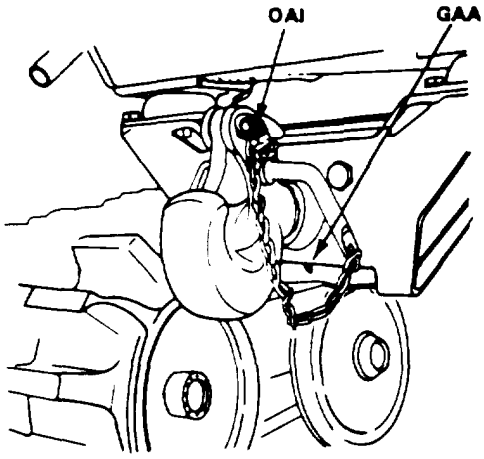
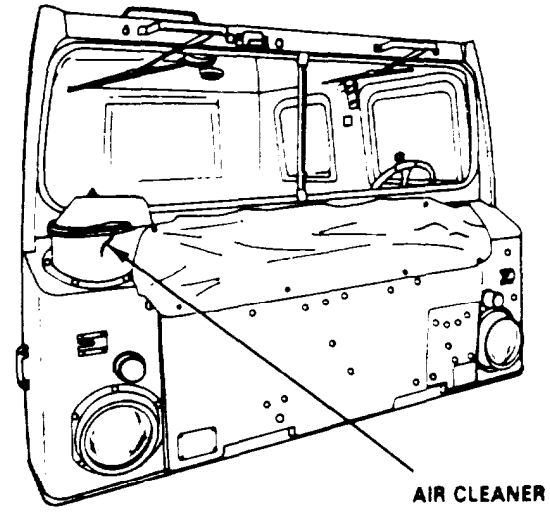
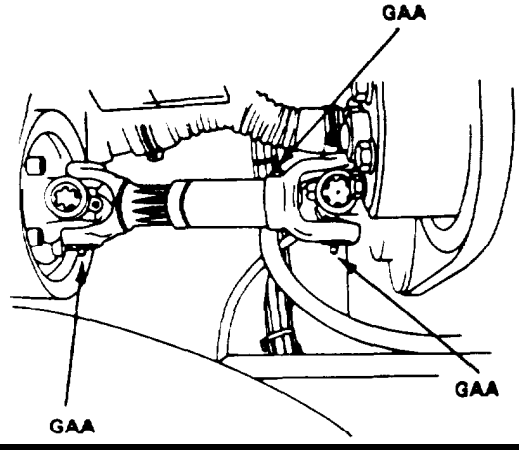
Ⓜ TOWING HOOK



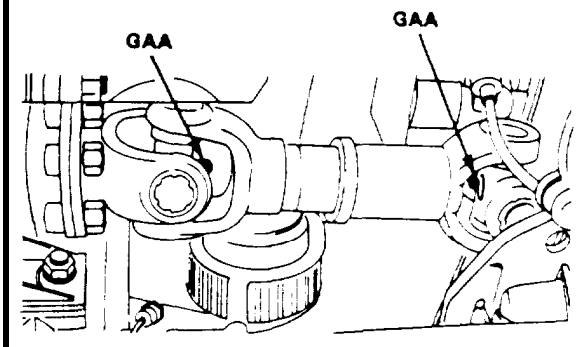
Ⓝ AIR CLEANER



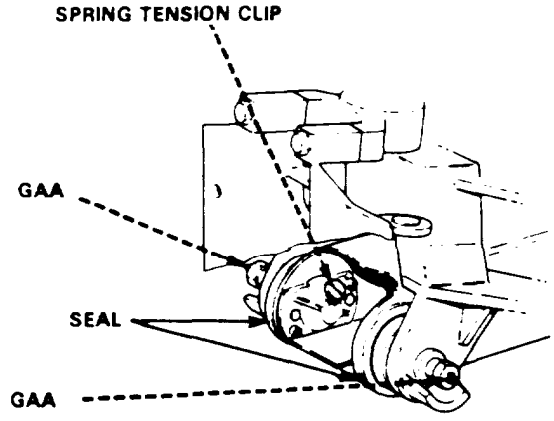
Ⓞ UNIVERSAL JOINT
(DRIVE SHAFT, SPLINE COUPLING ENGINE-HYDRAULIC PUMP)



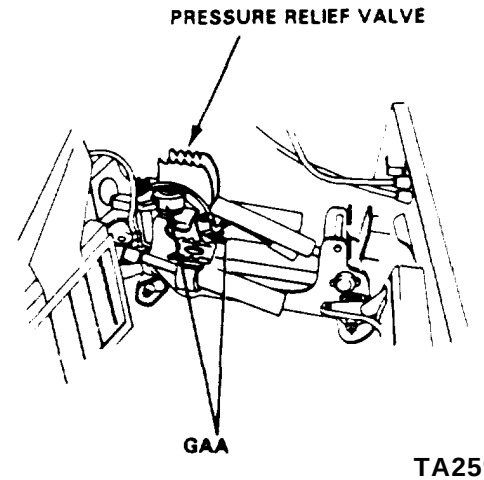
Ⓟ UNIVERSAL JOINT
(DRIVE SHAFT, TRANSMISSION-BRAKE UNIT-TRANSFER CASE)



Ⓠ TILT BEARING PRESSURE RELIEF VALVE



Ⓡ STEERING SHAFT



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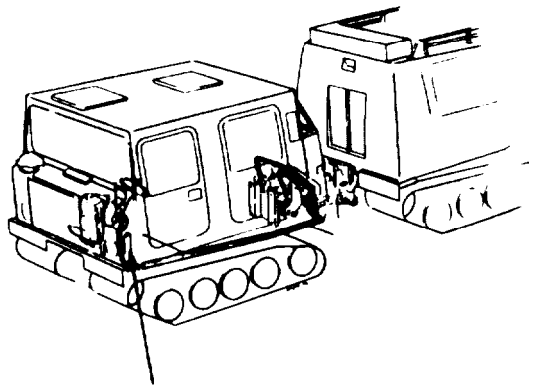
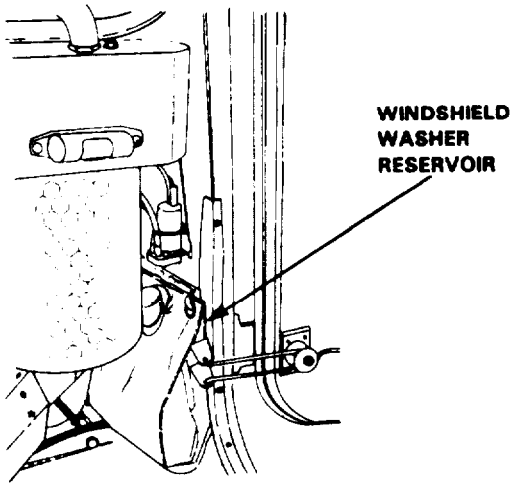
Ⓢ STEERING SYSTEM HYDRAULIC OIL FILTER



STEERING SYSTEM HYDRAULIC OIL FILTER

Ⓣ WINDSHIELD WASHER RESERVOIR



NOTES

1. FOR OPERATION OF EQUIPMENT IN PROTRACTED COLD TEMPERATURES BELOW - 15 °F (-26 °C). Remove lubricants prescribed in the key for temperatures above - 15 °F (- 26 °C). Clean parts with dry cleaning SOLVENT. Relubricate with lubricants specified in the key for temperatures 0 °F to -65 °F (-18°C to -50 °C).

2. AIR CLEANER. Check quarterly, 3 months or 1,500 miles (2,413 Km). More often under sandy-dust conditions. To check, remove air cleaner housing cover. View N. Check air filter for condition. Clean or replace filter. Install cover.

3. ENGINE OIL FILTER. After installing new filter element, fill crankcase, operate engine five minutes and check housing for leaks. Shut down engine, check crankcase oil level, and bring to full mark. Oil filter replacement interval shall aline with on-condition AOAP analysis or hard time oil change requirements. See notes 5 and 6.

4. CRANKCASE. Check crankcase oil level with engine off. If engine has been running, wait five minutes before checking level. Remove and clean engine oil dipstick. View C. Put in and pull out gage. Check level. Correct level is between marks.

5. CRANKCASE OIL. A sample of the oil shall be sent to an AOAP Laboratory for analysis of an interval of 1,000 miles (1,606 Km) or 60 days. Refer to DA PAM 738-750 for sampling requirements.

6. When AOAP Laboratory support is not available, drain and refill crankcase oil at 3000 miles (4827 Km) or 6 months.

NOTE

Change engine oil and filter in a new or recondition engine after break in period. Semiannually, 6 months or 3,000 miles (4827 Km).

To change oil and filter. Remove engine oil filter. View D. Clean filter housing and cover. Remove cover end filter element. Clean housing and cover. Remove engine oil dipstick. Insert a suction hose in engine oil dipstick tube. View C. Pump out oil with an electrical or mechanical pump. Remove suction hose. Install a new filter element, reassemble and install cover. Remove engine oil filler cap. Refill with oil. Operate engine for five minutes. Check for leaks. Shut off engine. Check oil level. See note 4.

7. TRANSFER. Check oil level monthly or 500 miles (804 Km). To check, remove fill plug. View E. Oil must appear level with bottom of fill plug opening. Fill with GO through fill plug opening until oil begins to overflow. Clean and install plug. Change the oil one month or 500 miles (804 Km) after new unit replacement.

8. DIFFERENTIALS. Check oil monthly or 500 miles (804 Km). To check, remove fill plug. View F. Oil must appear level with bottom of fill plug opening. Fill with GO through fill plug opening until oil beings to overflow. Clean and install plug. Change the oil one month or 500 miles (804 Km) after new unit replacement.

9. SUSPENSION. Wheels, tracks support wheel and tensioning wheel bearings are lubricated at time of assembly.

10. TRANSMISSION. Check fluid level dally. Check fluid level with engine at idle and selector level in neutral (N) position. Hot 158 °F to 194 °F (70 °C to 90 °C). Remove and clean transmission dipstick. View D. Put in and pull out dipstick. Check level. Correct level is between marks. When checking transmission fluid level cold, the correct level is at the lower mark. Fill with fluid through fill tube. Check fluid level again.

Change transmission fluid and filter Biannually, 24 months or 12,000 miles, (19,308 Km), power pack must be removed to change transmission fluid and filter.

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11. STEERING HYDRAULIC FLUID TANK. Check oil level daily. To check, look at tank. View A. Fluid must appear between max and min marker. To fill, remove cap. Fill with fluid as necessary. Put on tank cap.

12. BRAKE MASTER CYLINDER RESERVOIR. Chock fluid level daily. To check, look into reservoir. View B. Fluid must appear 3/8 in. (10 mm) below filler opening. To fill, remove cap. Fill with BFS.

13. BRAKE CALIPER. Lubricate semiannually, 6 months or 3,000 miles (4,827 Km). To lubricate, apply a light film of GAA to brake caliper sliding surfaces only. View I

14. DAMPING CYLINDER ACCUMULATOR. Chock fluid level semiannually, 6 months or 3,000 miles (4,827 Km). To check, loosen air valve and reduce air pressure, remove air valve. View L. Fluid level must be 2 $^{3}/_{4}$ in. (70 mm) above bottom. Install air valve and pressurize to 87 ± 14.5 psi (600 ± 100 kPA). Check for leaks.

15. GREASE POINTS.

(a) Hold grease gun on fitting. Pump grease until grease comes out through seals.

(b) Hold grease gun on fitting. Pump grease until grease comes out through all four bearing cups. Rotate drive shaft if necessary.

(c) Hold grease gun on fitting. Pump grease until grease comes out of spline coupling.

(d) Hold grease gun on fitting. Pump grease until grease comes out of spring tension clip or seal.

16. BATTERY POST. Semiannually, 6 months or 3,000 miles (4,827 Km). Apply a light film of PT to battery post.

17. ROOF HATCH AND SIDE WINDOW LOCKS. Lubricate semiannually, 6 months or 3,000 miles (4.827 Km). To lubricate apply a light film of GAA to roof hatch and side window locks.

18. OIL CAN POINTS. Semiannually, 6 months or 3,000 miles (4,627 Km) Lubricate all pivot points. windshield wiper shafts, seat adjustment rails. accelerator pedal and linkage. door hinges, mirror arms, tow hook and winch stop with OAI

19. WINCH. Chock oil level semiannually, 6 months or 3,000 miles (4,827 Km). Place winch into winch mount. Remove fill-drain plugs. View H. Oil must appear level with bottom of fill plug opening. Fill with fluid as prescribed by key through fill-drain plug openings until oil begins to overflow. Clean and install plug. Drain oil annually, 12 months or 6,000 miles (9,654 Km). To drain, place winch on firm surface. Remove drain-fill plugs. View H. Drain winch. Turn winch to where oil can drain from drain-fill holes. Place winch into winch mount. Refill with fluid as outlined above.

20. WINCH CABLE. Clean cable annually, 12 months or 6,000 miles (9,654 Km). Apply CW-IIA to cable.

21. STEERING SYSTEM HYDRAULIC OIL FILTER. Lubricate biennially, 24 months, or 12,000 miles (19,308 km). Remove oil filter. Replace with new oil filter. Fill steering hydraulic fluid tank (see Note 9, View A).

22. IN-LINE FUEL FILTER. Semiannually, 6 months or 3,000 miles (4,827 Km). Unscrew in-line fuel filter, replace with new in-line fuel filter.

23. WINDSHIELD WASHER RESERVOIR. Check fluid in reservoir, reservoir should be approximately $^{3}/_{4}$ full. See key for proper fluid.

24. The starter and alternator are lubricated at time of assembly by supporting maintenance personnel.

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

26. 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.

By Order of the Secretary of the Army:

DENNIS J. REIMER
General, United States Army
Chief of Staff

Official:
Yvonne M. Harrison
YVONNE M. HARRISON
Administrative Assistant to the
Secretary of the Army
01043

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