

LUBRICATION ORDER

30 MARCH1993

L010-3930-660-12

**TRUCK, FORKLIFT, 6000 LB.,
VARIABLE REACH, ROUGH TERRAIN
(NSN 3930-01-158-0849)**

Reference TM5-3930-660-20 and C9100-1 L

Intervals (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.

Clean fittings before lubricating. Clean parts with dry cleaning solvent (SD), type II or equivalent. Dry

before lubricating. Dotted arrow points indicate lubrication on both sides of the equipment. Level of maintenance. 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).

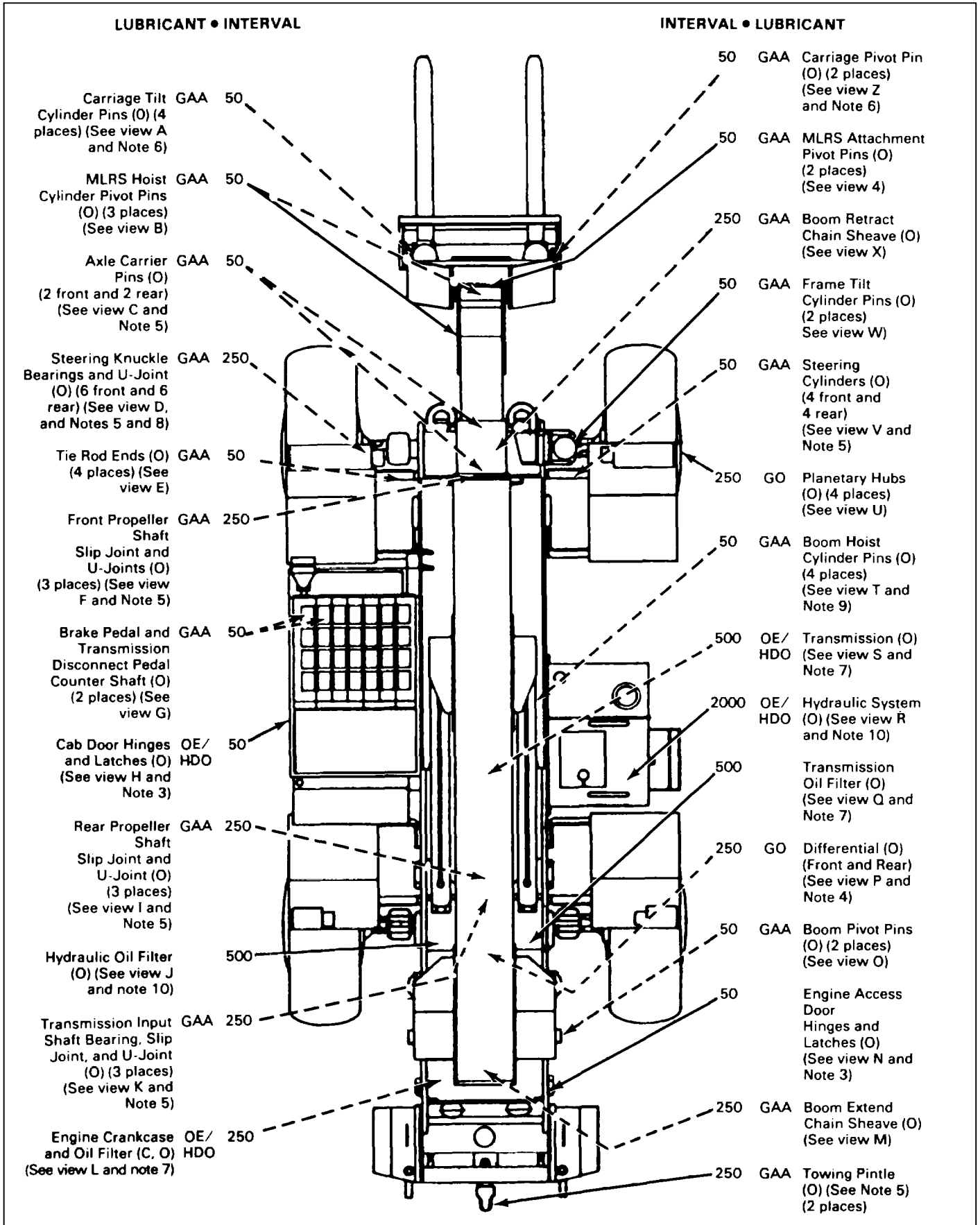
REPORTING OF ERRORS

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, A IIN: AMSTA-MB, Warren, MI 48397-5000. A reply will be furnished to you.

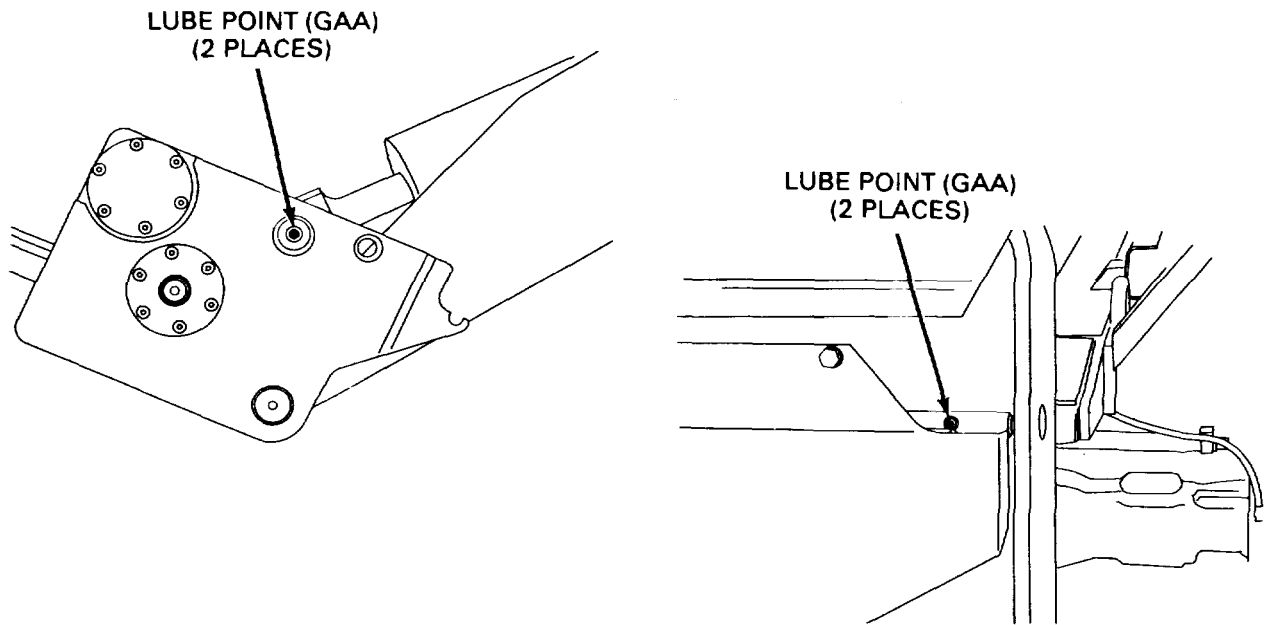
TOTAL MAN-HR

INTERVAL	MAN-HR
50	1.0
250	1.0
500	2.0
1000	2.0

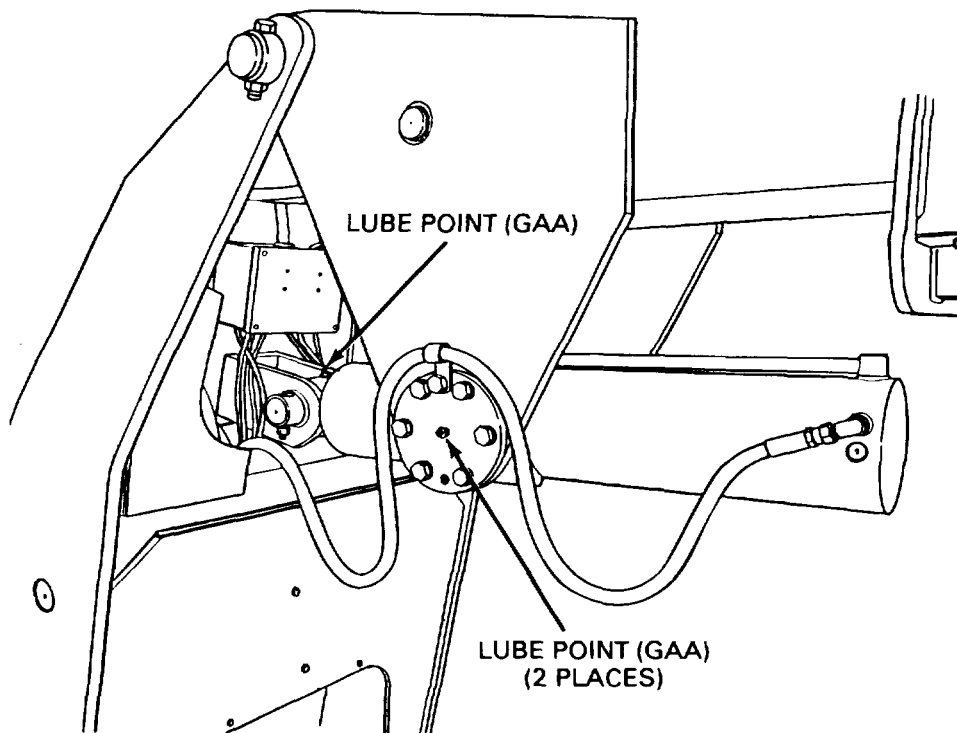
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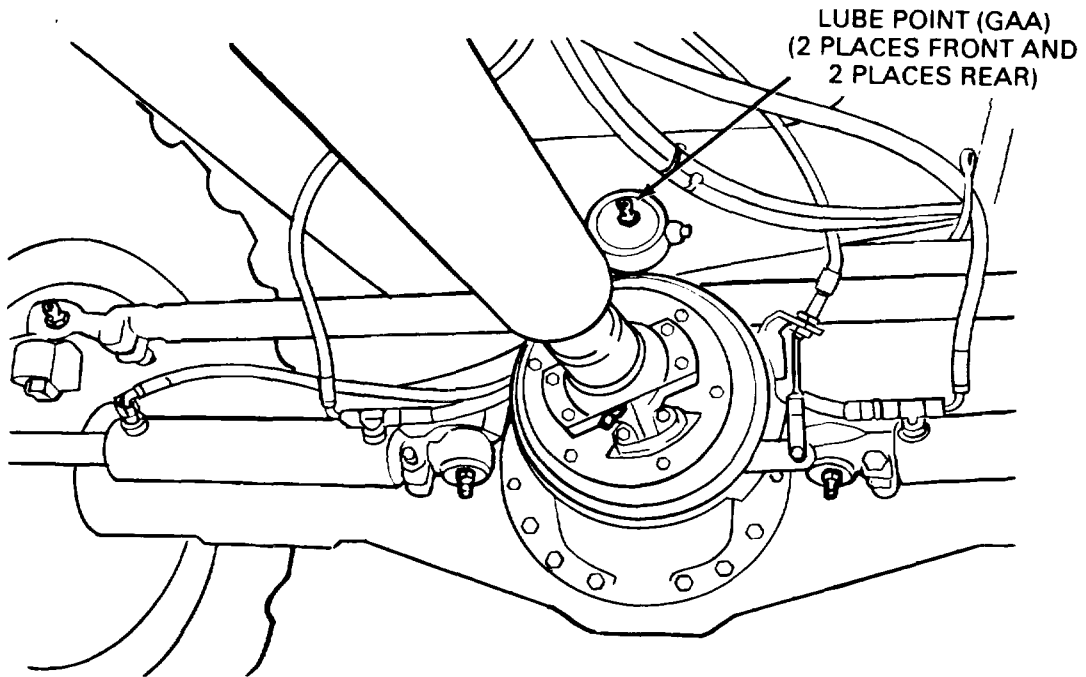
VIEW A CARRIAGE TILT CYLINDER PINS



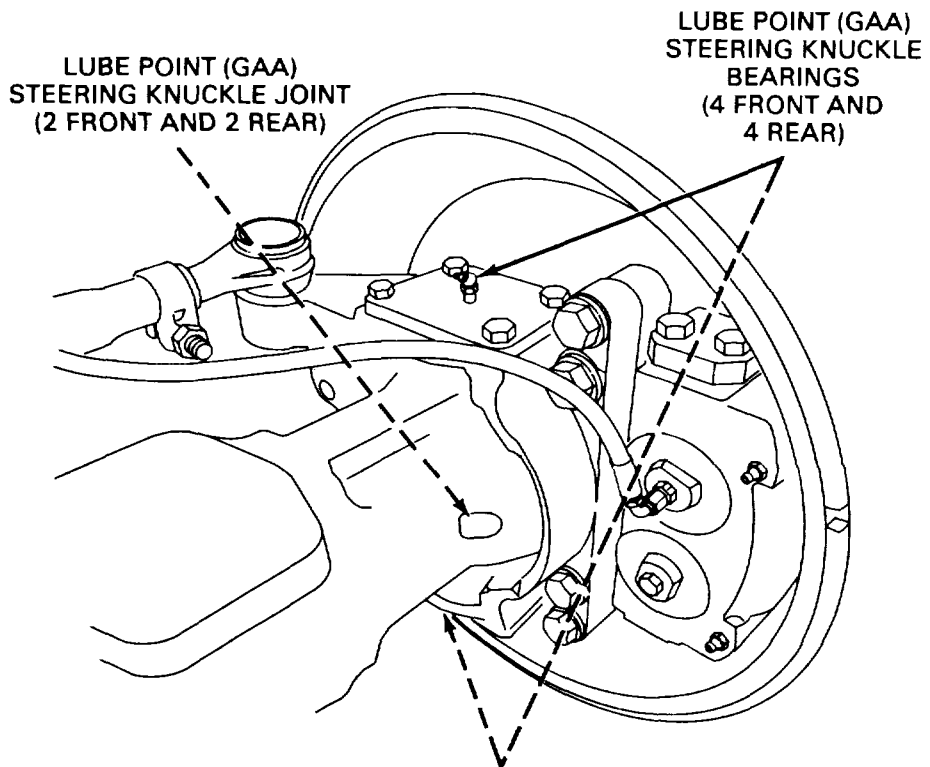
VIEW B MLRS HOIST CYLINDER PIVOT PINS



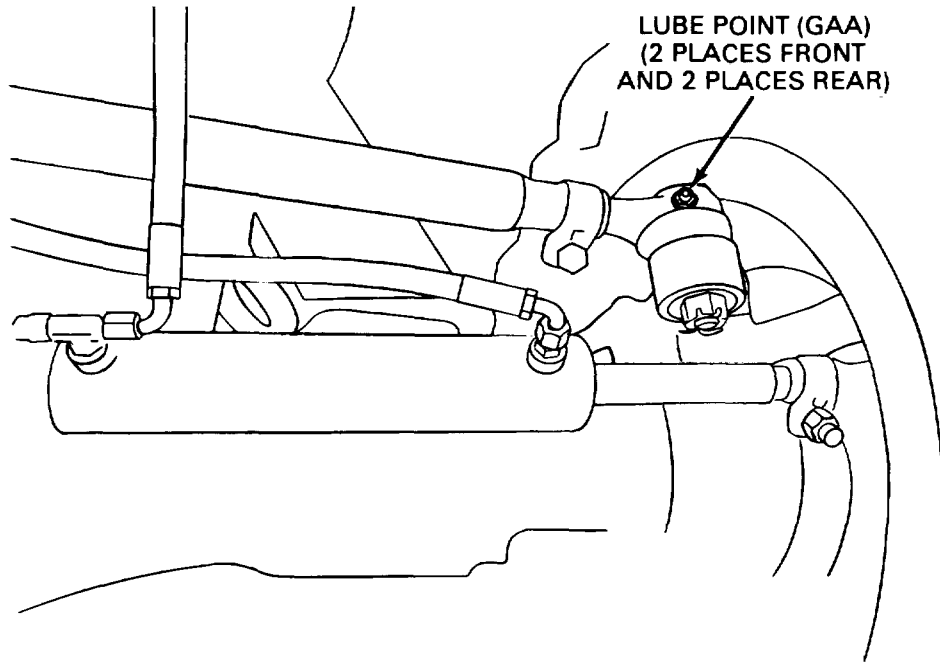
VIEW C AXLE CARRIER PIN FITTING



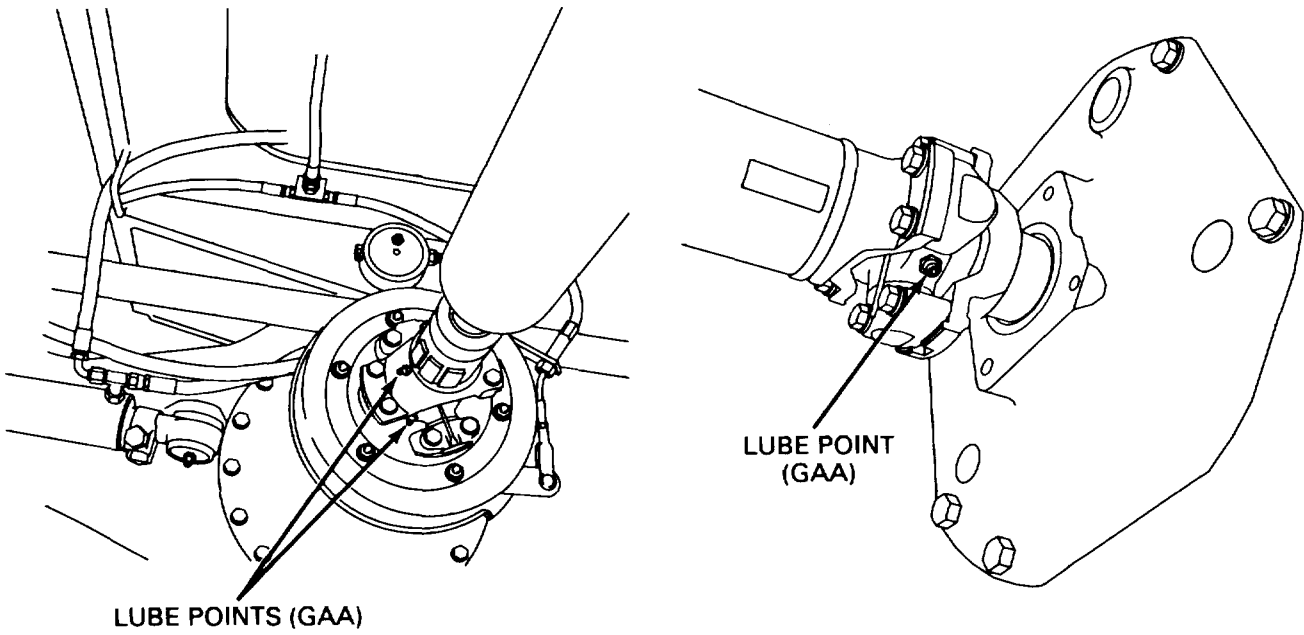
VIEW D STEERING KNUCKLE BEARINGS AND JOINTS



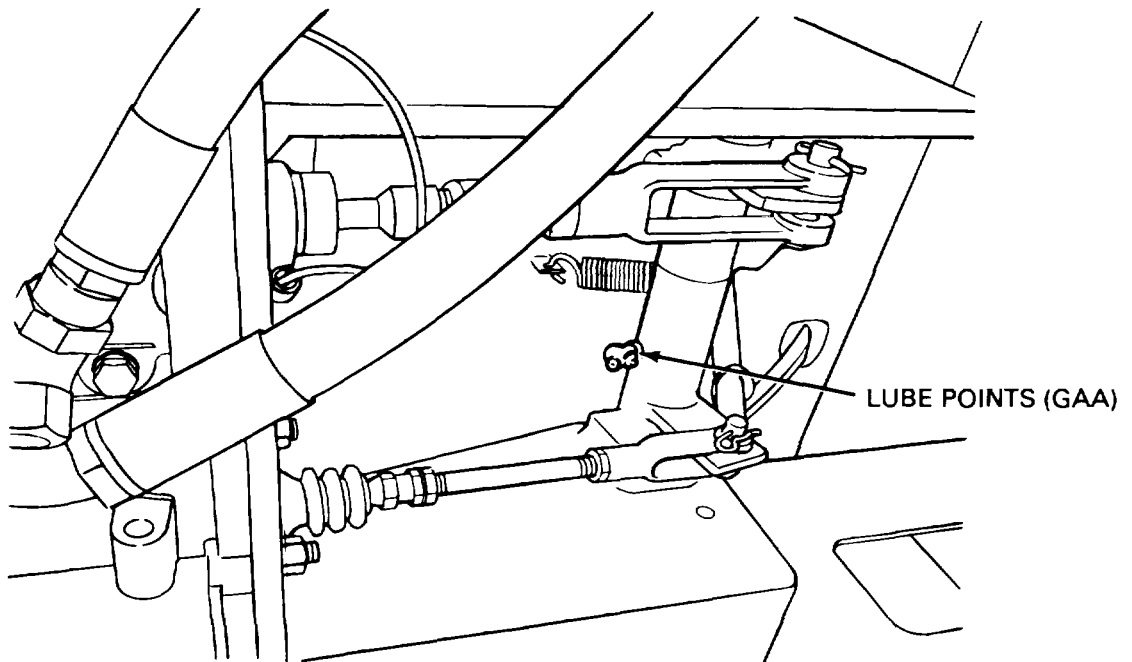
VIEW E TIE ROD ENDS



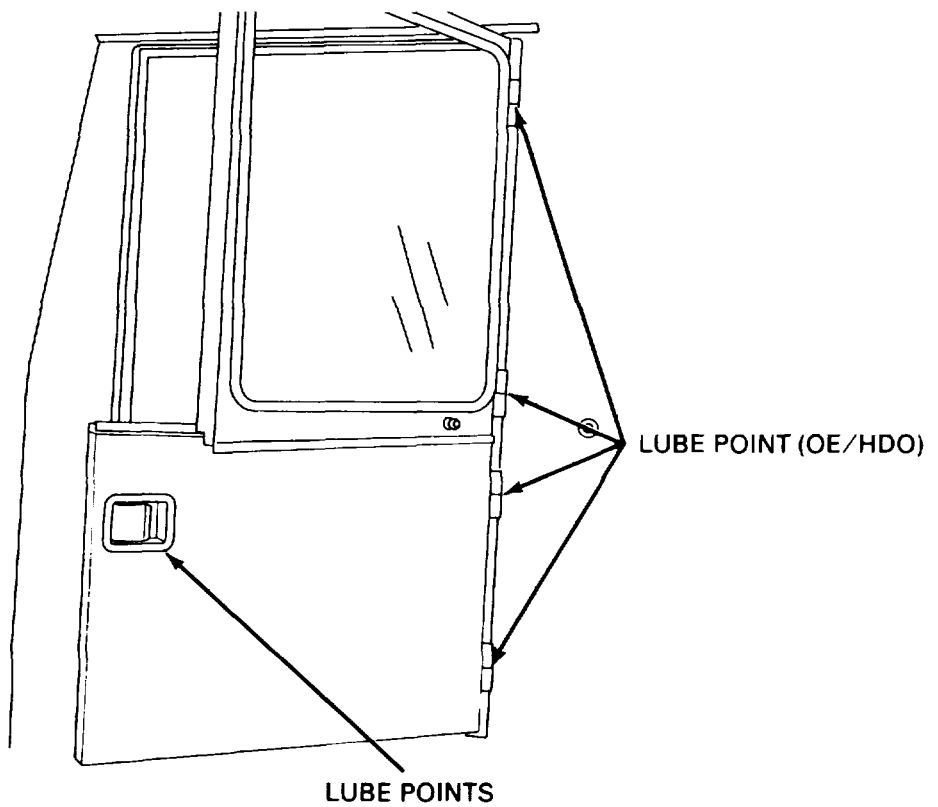
VIEW F FRONT PROPELLER SHAFT SLIP JOINT AND U-JOINTS



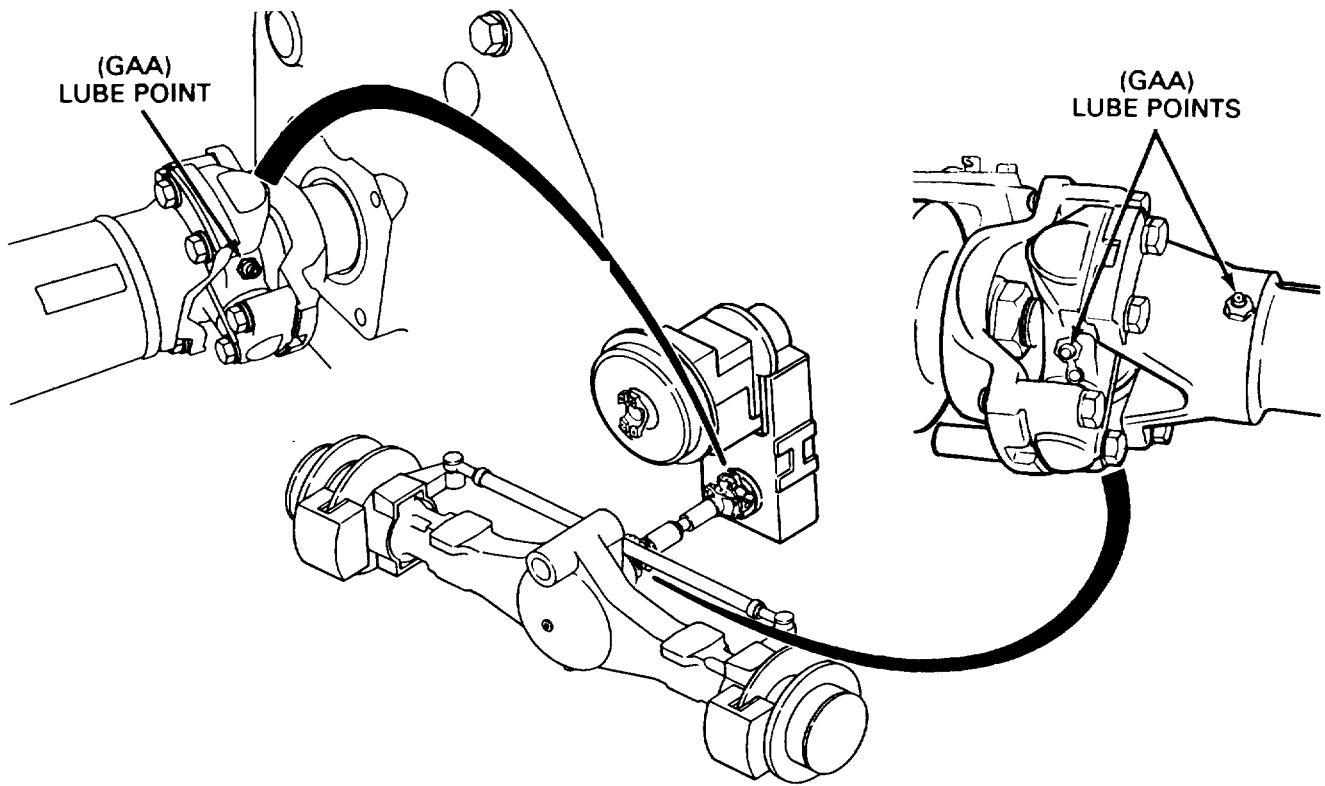
VIEW G BRAKE PEDAL AND TRANSMISSION DISCONNECT PEDAL COUNTER SHAFT



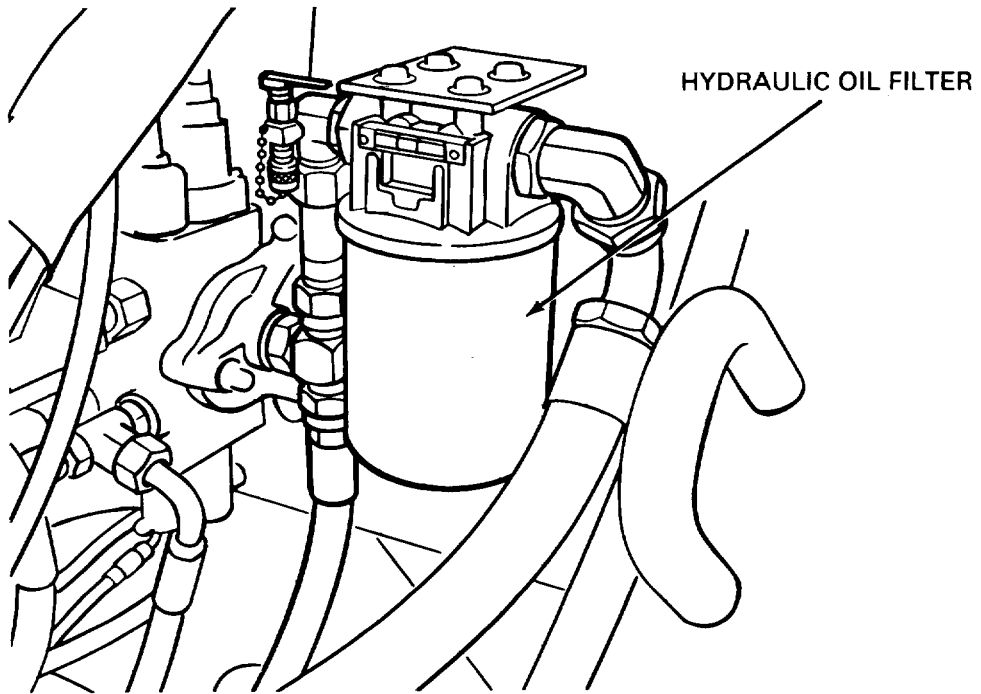
VIEW H CAB DOOR HINGES AND LATCH



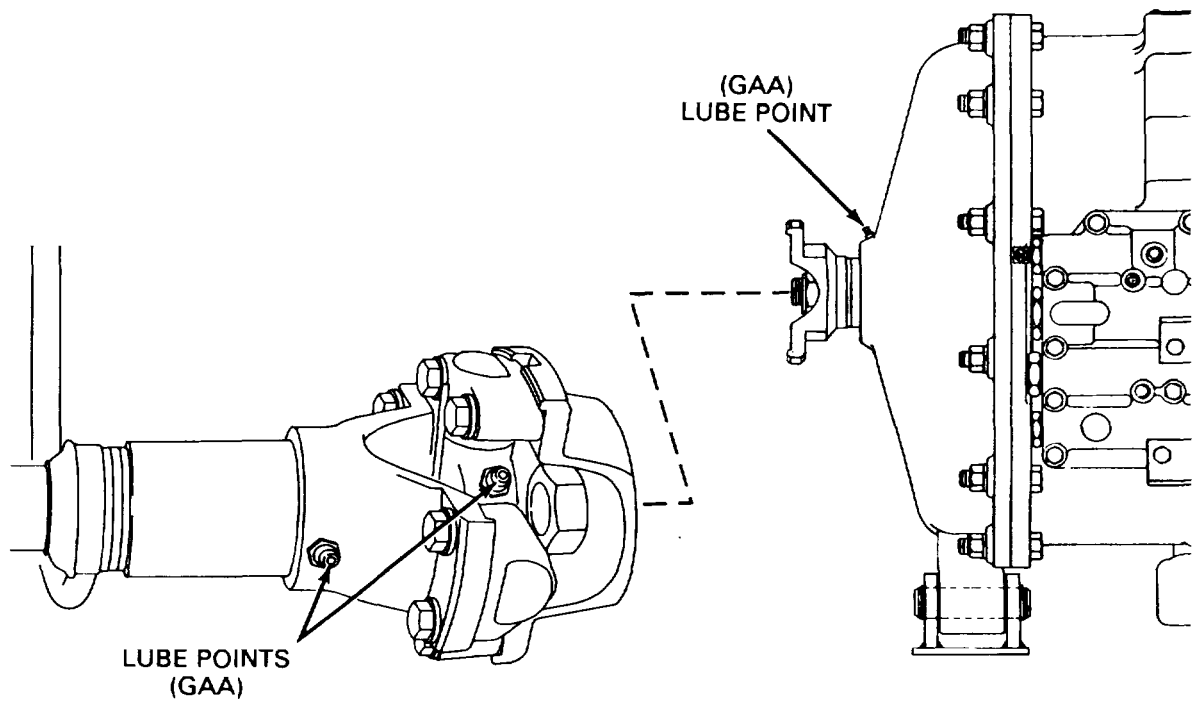
VIEW I REAR PROPELLER SHAFT SLIP JOINT AND U-JOINT



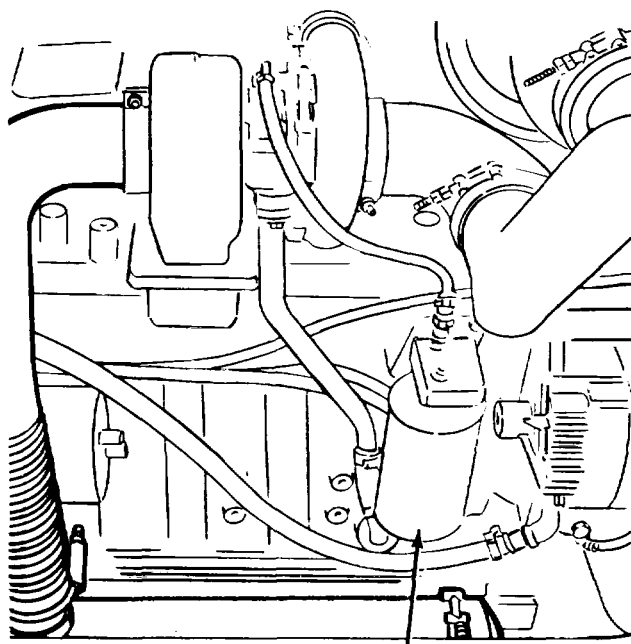
VIEW J HYDRAULIC OIL FILTER



VIEW K TRANSMISSION INPUT SHAFT BEARING, SLIP JOINT AND U-JOINT

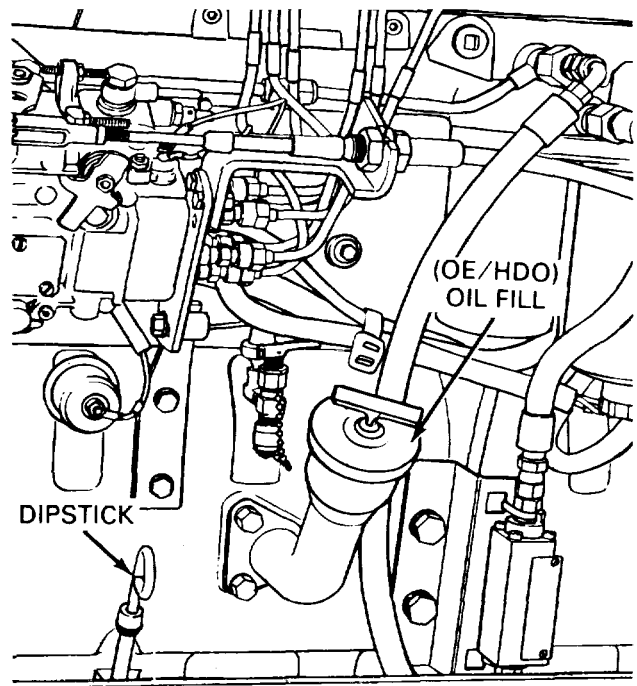


VIEW L ENGINE CRANKCASE AND OIL FILTER



OIL FILTER

EXHAUST (LEFT) SIDE



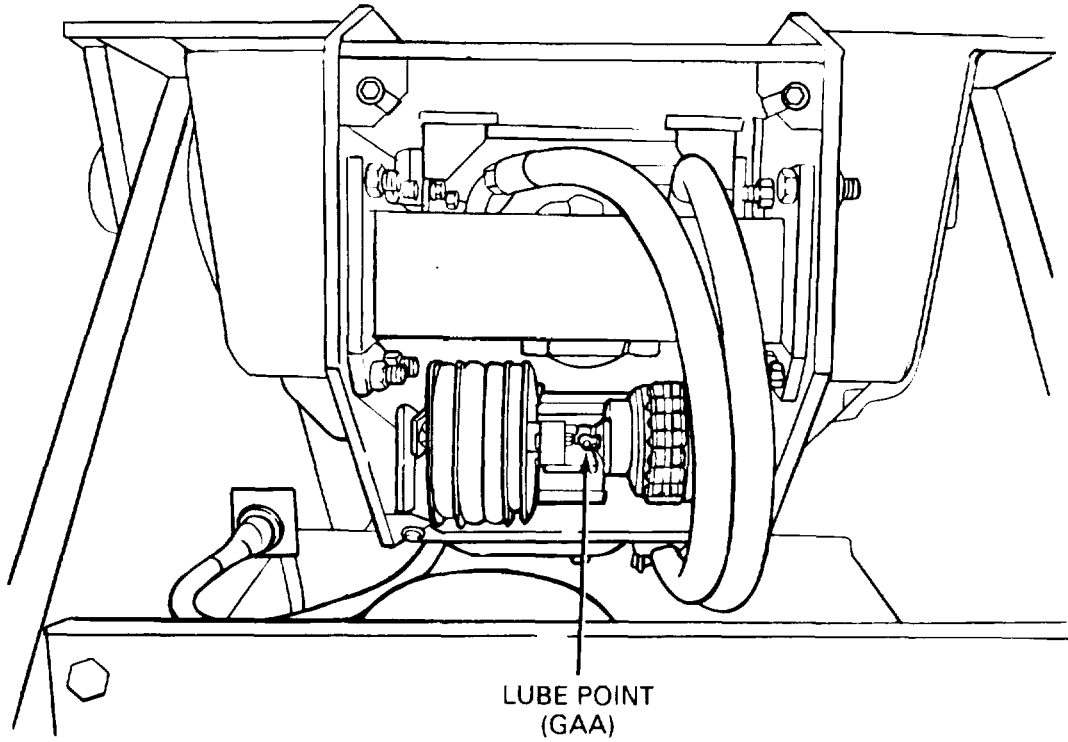
DIPSTICK

(OE/HDO)
OIL FILL

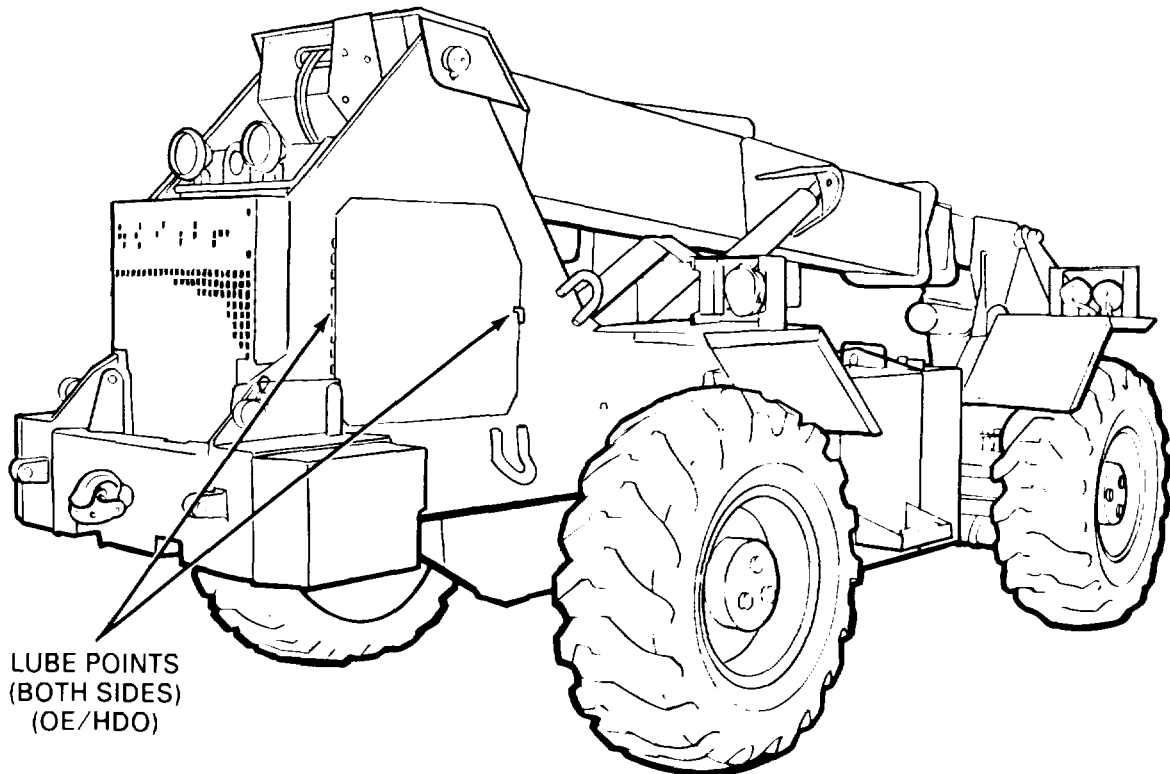
← OIL DRAIN

INTAKE (RIGHT) SIDE

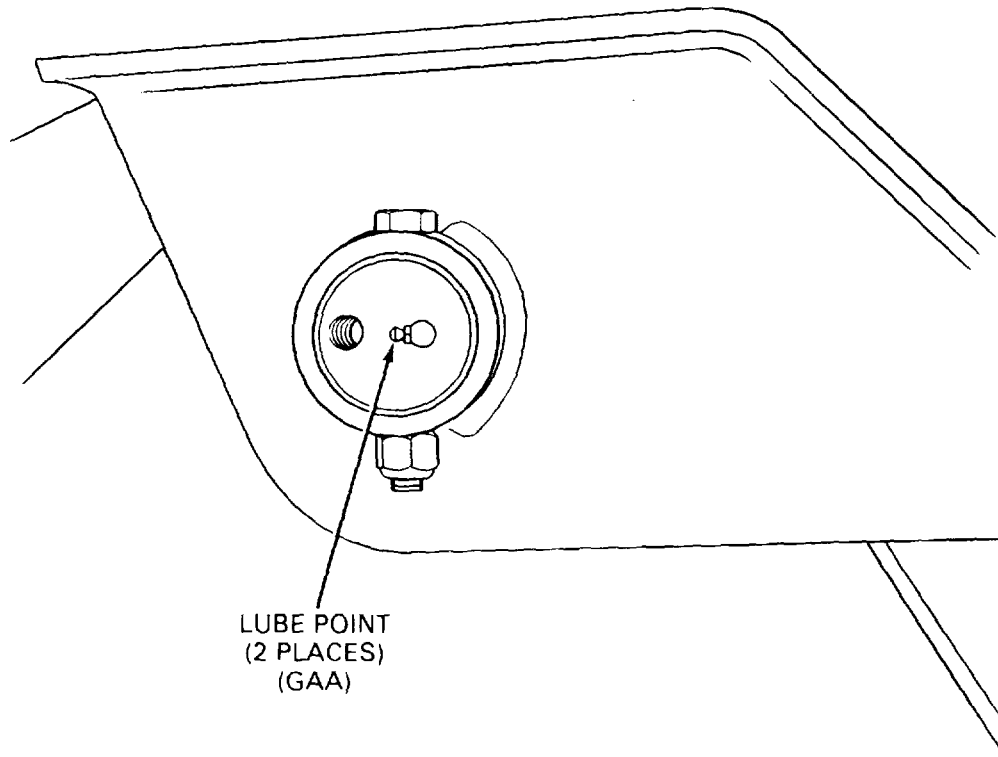
VIEW M BOOM EXTEND CHAIN SHEAVE



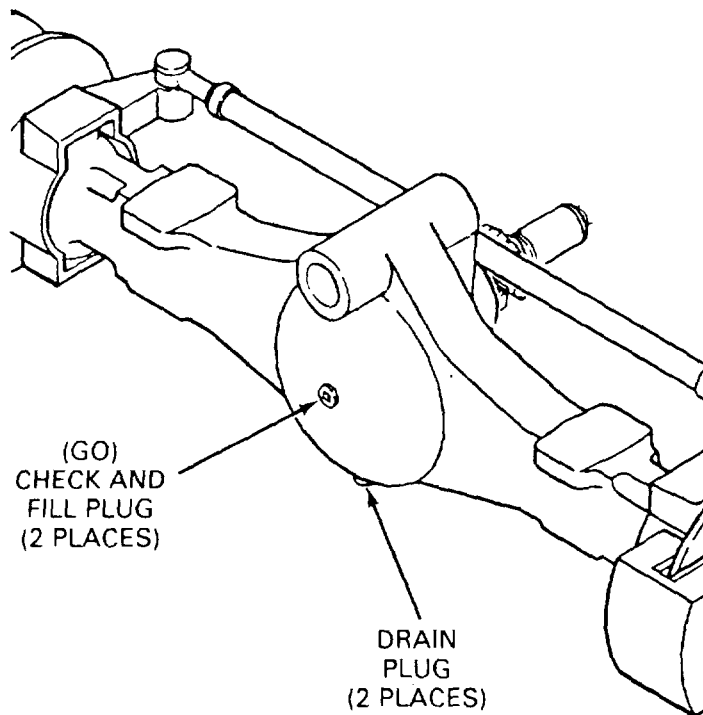
VIEW N ENGINE ACCESS DOOR HINGES AND LATCHES



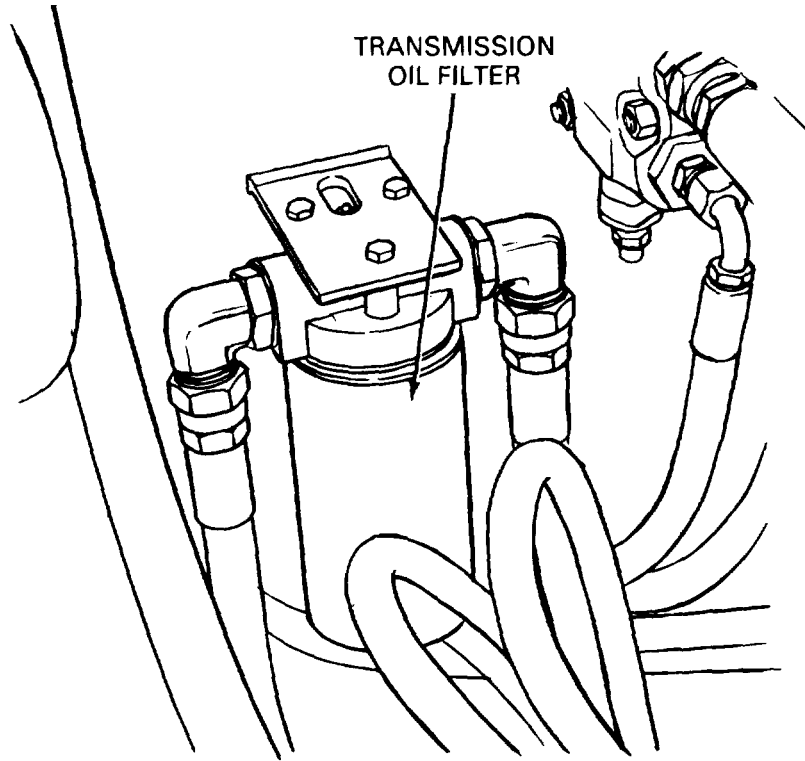
VIEW O BOOM PIVOT PINS



VIEW P DIFFERENTIAL

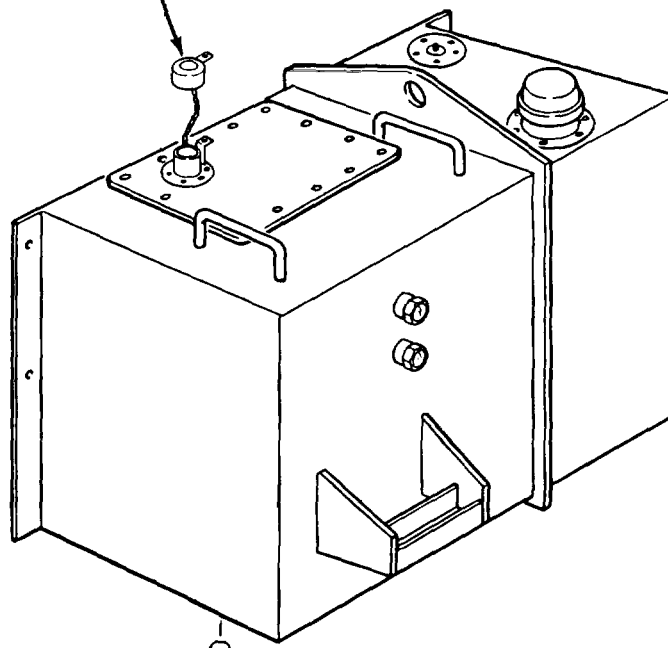


VIEW Q TRANSMISSION OIL FILTER



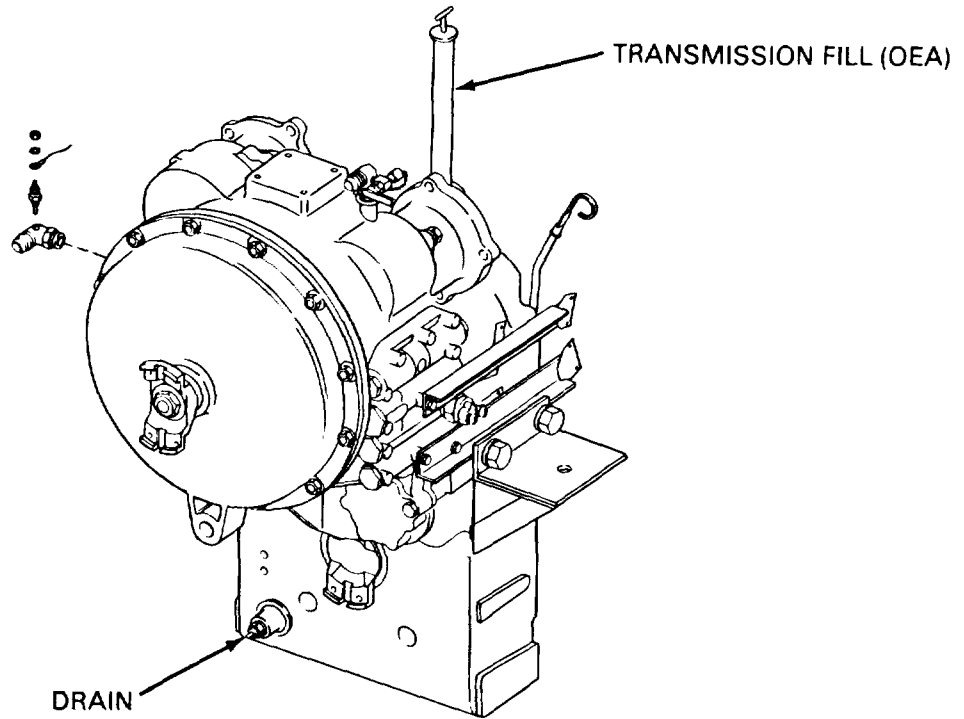
VIEW R HYDRAULIC SYSTEM

FILL CAP (OE/HDO)

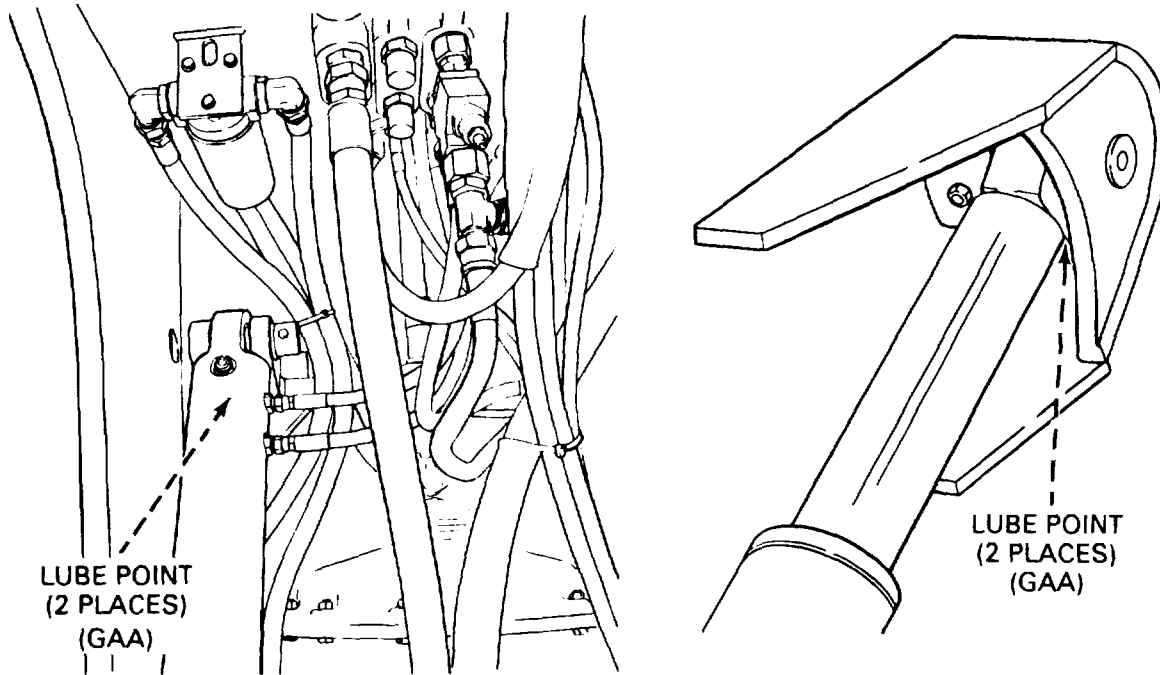


DRAIN PLUG

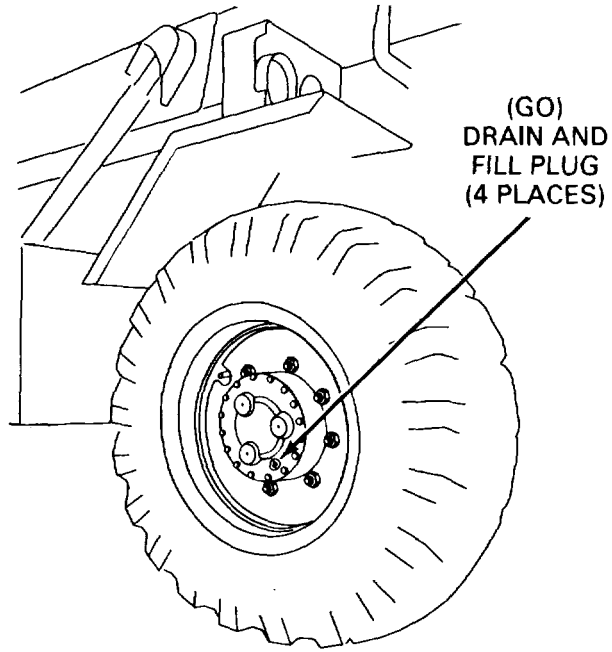
VIEW S TRANSMISSION



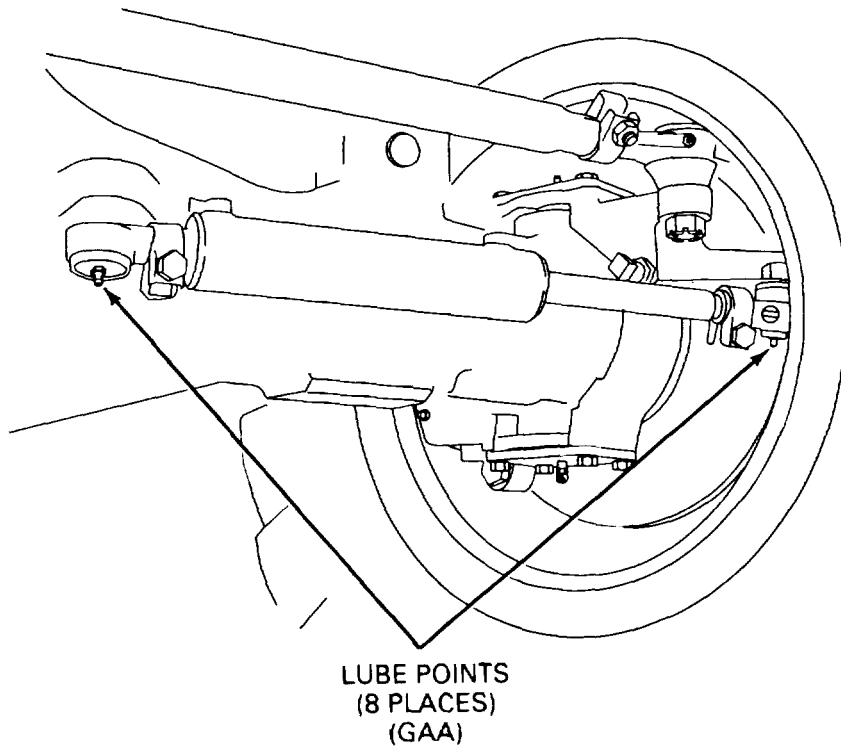
VIEW T BOOM HOIST CYLINDER PINS



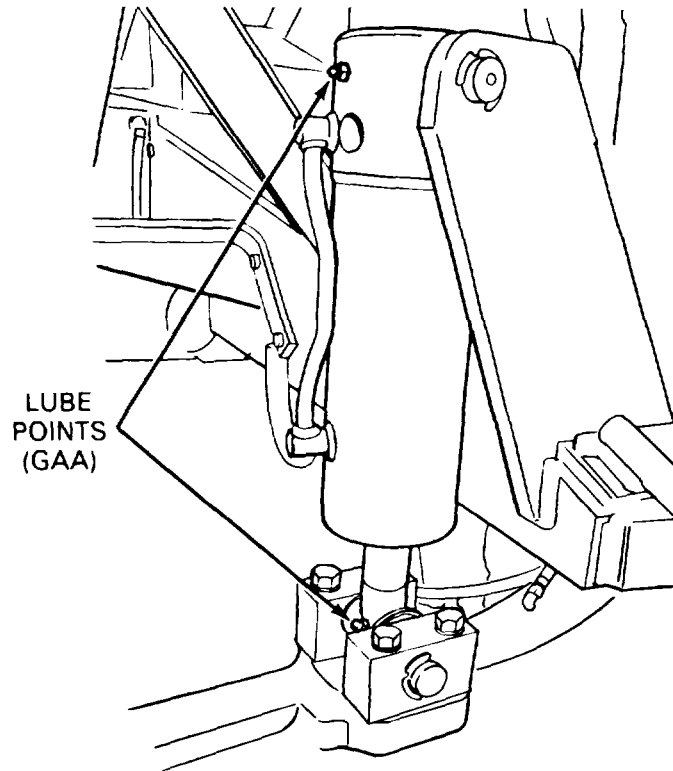
VIEW U PLANETARY HUBS



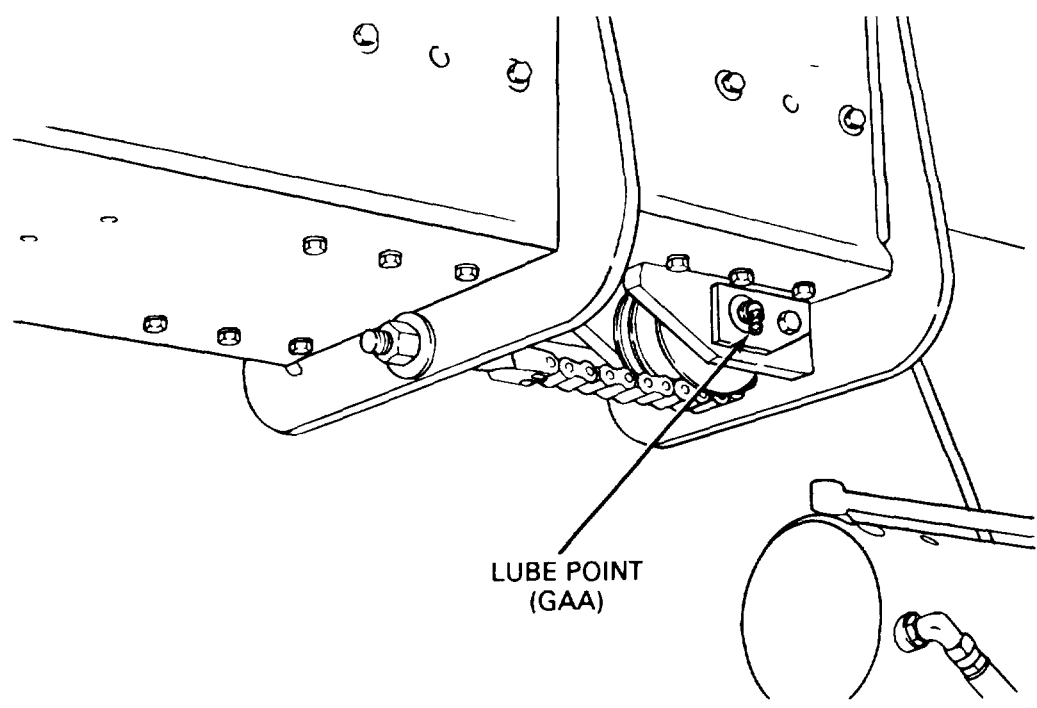
VIEW V STEERING CYLINDERS



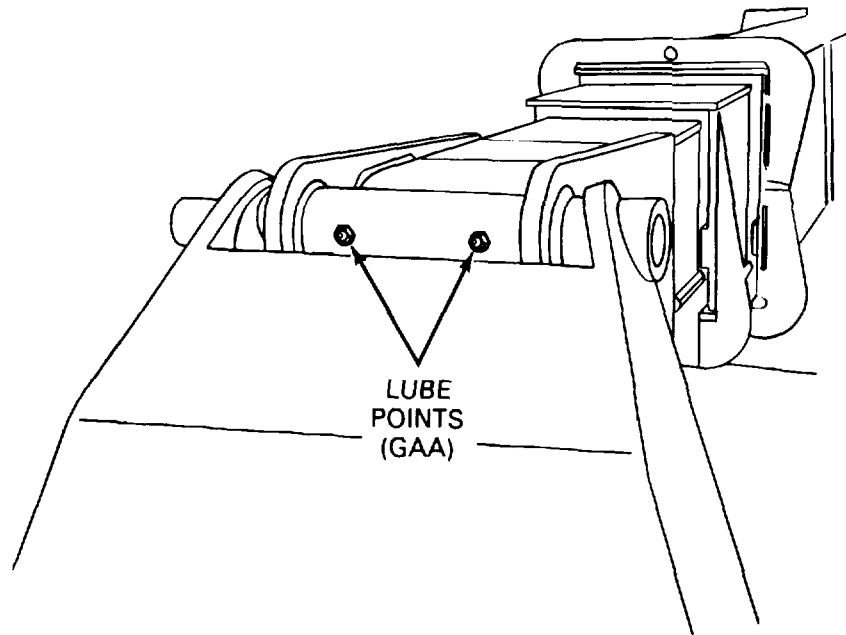
VIEW W FRAME TILT CYLINDER PINS



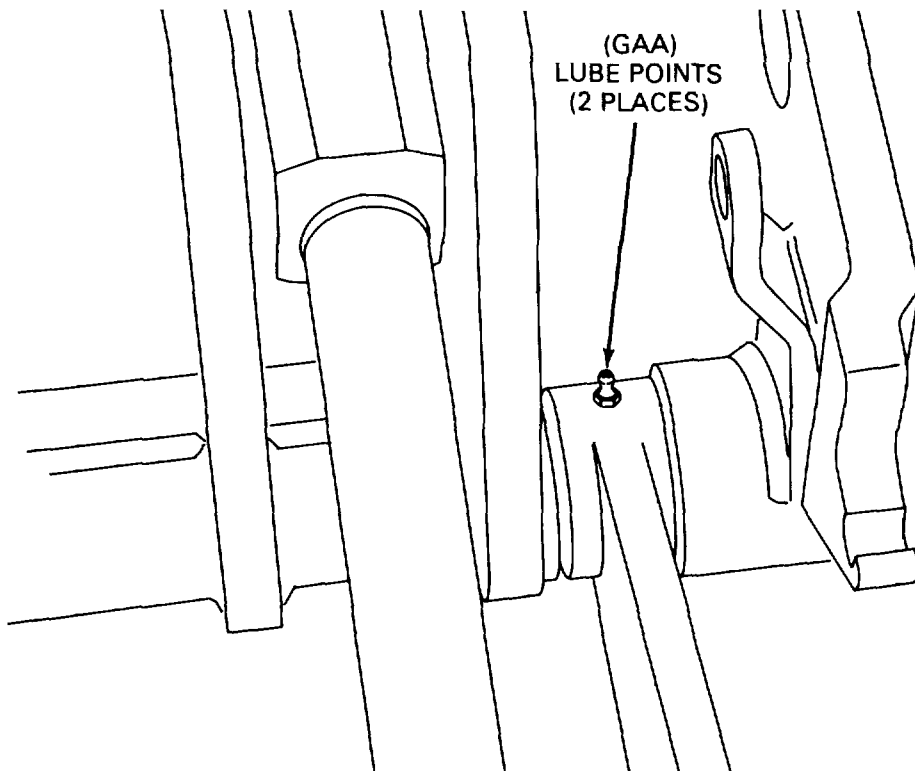
VIEW X BOOM RETRACT CHAIN SHEAVE



VIEW Y MLRS ATTACHMENT PIVOT PINS



VIEW Z CARRIAGE PIVOT PIN



KEY						
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES				INTERVALS
		Above -10°F (Above -23°C)	Below -10°F (Below -23°C)	Above +40°F (Above +4°C)	Below +40°F (Below +4°C)	
OE/HDO (MIL-L-2104D) LUBRICATING OIL, Engine	Engine Crankcase	15 qts (19 L)			OE/HDO 15/40	OE/A
	Oil Can Points					
	Transmission	5 gal (15 L)	OE/HDO 10/40	OE/A		
	Hydraulic System	55.5 gal (214.3 L)			OE/HDO 10	OE/HDO 10
	OE/A (MIL-L-46167) Oil, Engine, Arctic					
GO (MIL-L-2105D) LUBRICATING OIL, Gear, Multi-purpose	Differential	10.6 qt (10 L) (each)			GO 80/90	GO 80/90
	Planetary Hubs	2.7 qt (2.6 L) (each)			GO 80/90	GO 80/90
GAA (MIL-G-10924) GREASE, Automotive and Artillery Carriage Tilt Cylinder & Carriage Pivot Pins		As Req.	GAA ALL TEMPERATURES			
	MLRS Hoist Cylinder & MLRS Attachment Pivot Pins	As Req.				
	Propeller Shaft Slip Joints & U-Joints	As Req.				
	Tie Rod Ends	As Req.				
	Axle Carrier Pins	As Req.				
	Steering Knuckle Bearings & Joints	As Req.				

For Arctic Operation Refer to FM 9-207

Intervals given are in hours of normal operation

KEY (Continued)						
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES				INTERVALS
		Above -10°F (Above -23°C)	Below -10°F (Below -23°C)	Above +40°F (Above +4°C)	Below +40°F (Below +4°C)	
Brake Pedal & Transmission Disconnect Pedal Counter Shaft	As Req.	GAA ALL TEMPERATURES				For Arctic Operation Refer to FM 9-207
Transmission Input Shaft Bearing, Slip Joint, & U-Joint	As Req.					
Boom Extend & Boom Retract Chain Sheaves	As Req.					
Boom Pivot & Boom Hoist Cylinder Pins	As Req.					
Frame Tilt Cylinder Pins	As Req.					
Steering Cylinders	As Req.					

NOTES

1. LUBRICATION During adverse weather or abnormal dusty conditions, lubrication may require daily servicing
2. The lubricating points for the brake pedal and transmission disconnect pedal counter shaft are located under the cab (GAA).
3. Lubricate all hinges and door latches with a hand oiler (OE/HDO).
4. Check the differential oil levels while vehicle is on a level surface. Oil should be to the bottom of the check and fill hole (GO, or GAA, see card 2).
5. Lubricate after fording operations (GAA).
6. WARNING - Do not stand under the attachment and carriage assembly during lubrication services. To lube the carriage lube points and tilt cylinder lower points, raise the fork assembly 48-inches (122 cm) and tilt the carriage assembly forward 90°. To lube the tilt cylinder's head pivot pin, place the level forks/carriage firmly on the ground (GAA).
7. During adverse weather, dusty, or sandy conditions, change oil and filter element at 250 hour intervals. For normal off-highway operation, for operation under rapid change in ambient temperature, or for operation in presence of chemical fumes, change at 375 hour intervals. Use MIL-L-2104 hydraulic transmission fluid when operating the vehicle in temperatures above -10°F (-23°C), and MIL-L-46167A transmission fluid when operating in temperatures below -10° F (-23° C).
8. To lube the steering knuckle joint, the vehicle may have to be moved forward or backwards to align grease fitting with access hole. If the fitting is aligned with the access hole but grease gun will not go on fitting, turn the wheels right or left until grease gun fits on grease fitting (GAA).
9. Raise the boom to approximately 150 to lubricate the boom hoist cylinder pins (GAA).
10. Drain hydraulic reservoir every 2000 hours. Change hydraulic oil filter and add oil (OE/HDO) to reservoir until oil is visible in sight gauge. Operate hydraulic system and check oil level again.

By Order of the Secretary of the Army:

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MILTON H. HAMILTON
Administrative Assistant to the
Secretary of the Army
04036

GORDON R. SULLIVAN
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