

LUBRICATION ORDER
30 NOVEMBER 1993

(Supersedes LO 55-1915-200-12, 11 April 1988.)

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited

LOGISTICS SUPPORT VESSEL (LSV)

Reference TM 55-1915-200-10, TM 55-1915-200-24&P, C 9100-IL, TM 55-1915-215-24&P

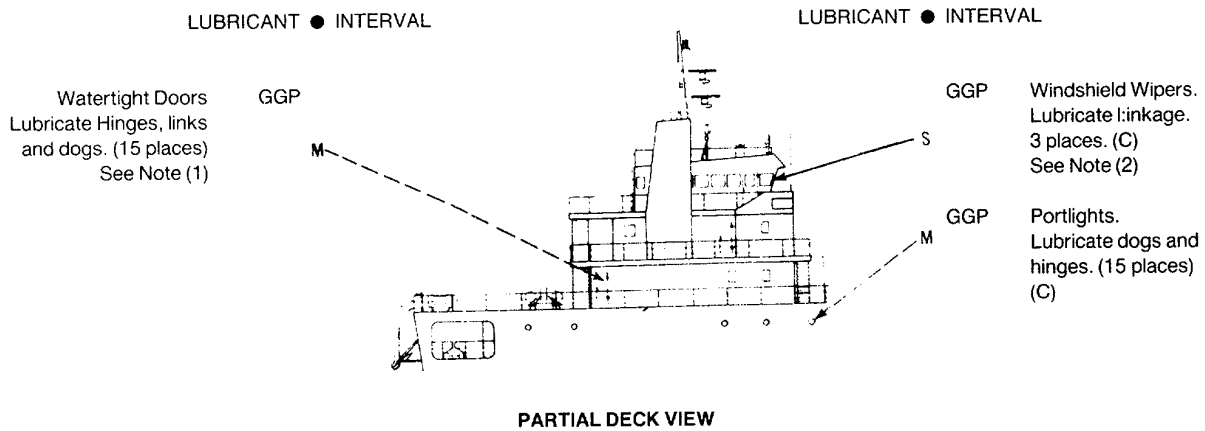
Intervals (on condition or hard time) and the related man-hour times are based on normal operation. The man-hour time specified is the time you need to do all the services prescribed for a particular interval. On-condition (OC) oil sample intervals shall be applied unless changed by the Army Oil Analysis 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.

The lowest level of maintenance authorized to lubricate a point is indicated by one of the following: Operator/crew (C) or Organizational Maintenance (O).

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, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Blvd., St. Louis MO 63120-1798. A reply will be furnished directly to you.

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

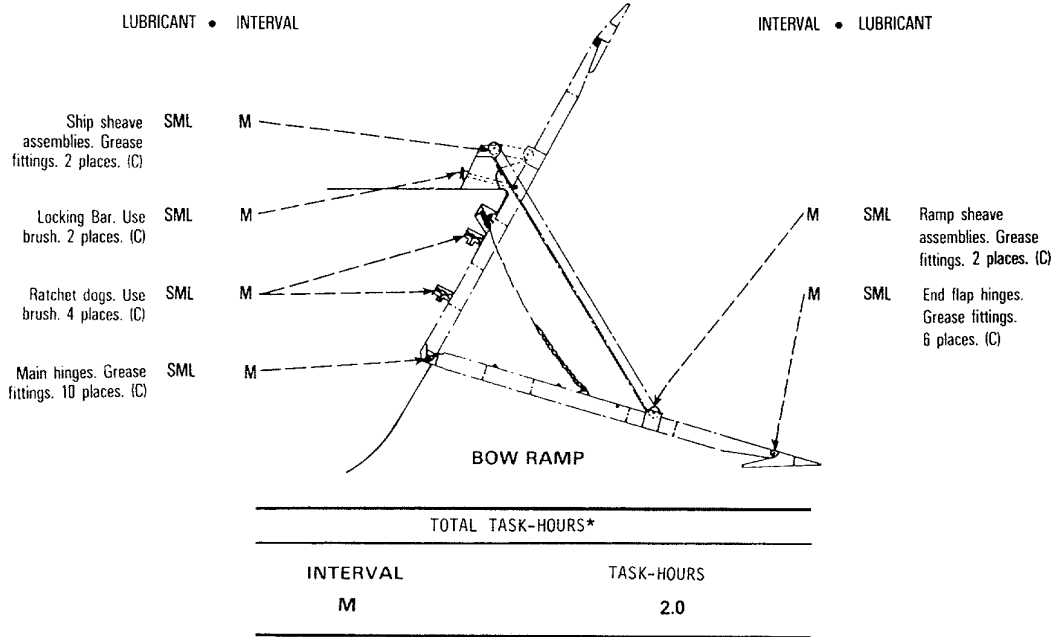
Clean fittings before lubricating. Clean parts with DRY CLEANING SOLVENT (SD), type II or equivalent. Relubricate all areas exposed to water after vessel operation. Dry before lubricating. Dotted arrow points indicate lubrication on both sides of the equipment.



TOTAL TASK-HOURS		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
M	2.1	S	0.7

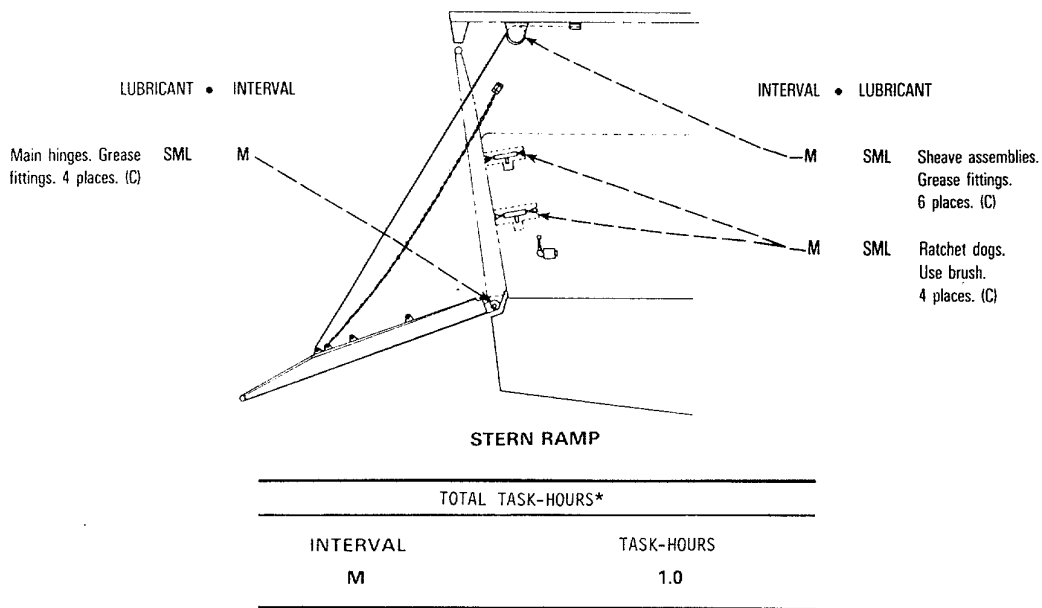
KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
GGP (MIL-G-23549)	Grease, general purpose	As Required			All Temperatures	M - Monthly S - Semi-annually



KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
SML (MacGregor-Navire Special Marine Lubri- cant)	As Required	All Temperatures				M - Monthly



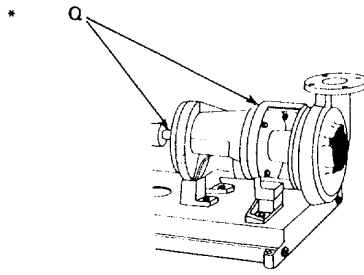
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LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
SML (MacGregor-Navire Special Marine Lubri- cant)	As Required	All Temperatures				M - Monthly

LUBRICANT • INTERVAL

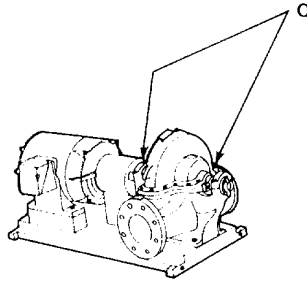
INTERVAL • LUBRICANT

Ball bearings.
(See note 3.) (C) *



BILGE PUMP (2)
FIRE PUMP (2)
(Aurora 344A)

Ball bearings.
(See note 3.) (C) *



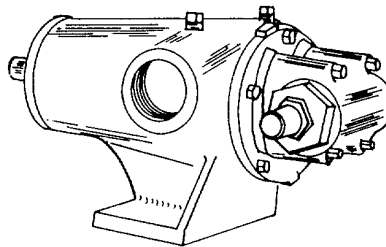
BALLAST PUMP (1)
(Aurora 411)

TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
Q	0.5

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
* (MIL-G-24139) Grease, multipurpose, Water resistant	As Required	All Temperatures			Q - Quarterly (3 months)

For arctic operation refer to FM 9-207



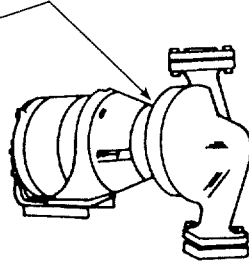
Fuel Oil Transfer Pump (2)
Lube Oil Transfer Pump (1)
Sludge Pump (1)
(Viking HL-195-D) See Note 4.

LUBRICANT • INTERVAL

Add to Oil Cup. (C)

OE/
HDO

A



**HOT WATER CIRCULATING PUMP
(ARMSTRONG H-32)**

TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
A	0.2

KEY

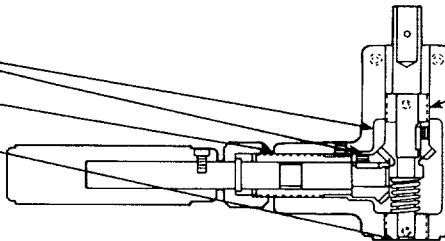
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
OE/HDO-30 (MIL-G-2104) Lubricating Oil, Engine	0.5 oz (15 ml)	All Temperatures				A - Annually (12 months)

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Miter Gear. (C) (1)
Bearings (C) (2)
Bearings (C) (2)

S
S
S



S

(2)

Bearing (C)

SEARCHLIGHT CONTROL HANDLE (2)

TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
S	0.3

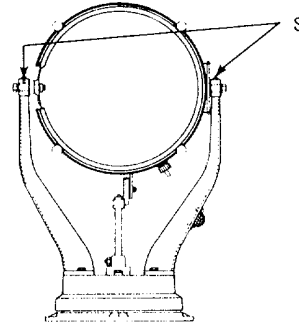
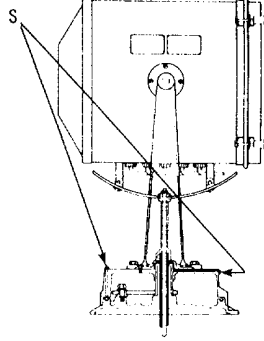
KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
(1) 4511G Grease, Carlisle and Finch Co.	As Required	All Temperatures				S - Semi- annually (6 months)
(2) 4511B Grease, Carlisle and Finch Co.	As Required	All Temperatures				

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Bearings Grease fittings (C) (3)



(3) Trunnion Bearings. Grease fittings (C).

XENON SEARCHLIGHTS (2)

TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
S	0.5

KEY

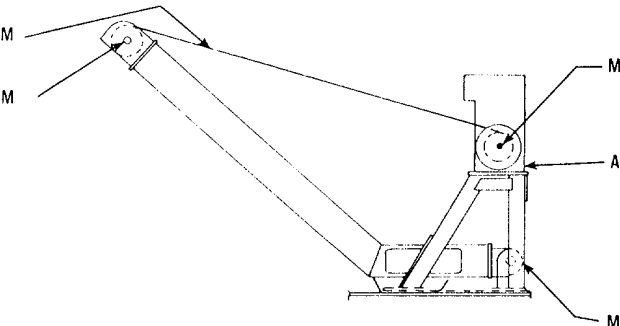
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
(3) Grease, Waterproof, wide temperature, Fiske Brothers Lubriplate MAG-1	As Required	All Temperatures			S - Semi-annually (6 months)

For arctic operation refer to FM 9-207

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Wire Rope (C) (4) M
Davit Sheave, Grease Fitting (C) (4) M



(5) Gear Case Oil Level Plug (Check level) (C)
(5) Gear Case Oil Drain Plug (Check Annually. Drain and refill after 12 months; then, every 2 years. (C)
(4) Heel Pin (C)

LIFERAFT DAVIT (2)

TOTAL TASK-HOURS*		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
M	0.7	B	1.0
A	0.3		

KEY

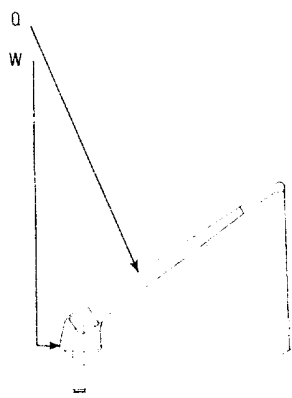
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
(4) MOBILUX No. 2 Grease	As Required	All Temperatures			M - Monthly A - Annually (12 months) B - Biennially (2 years)
(5) MOBILGEAR 629	As Required	MOBILGEAR 632	MOBILGEAR 629		

For arctic operation refer to FM 9-207

LUBRICANT • INTERVAL

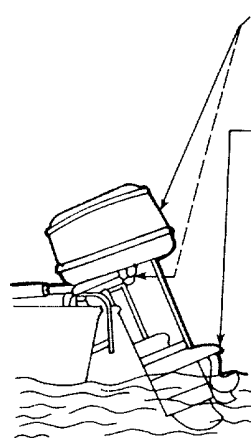
INTERVAL • LUBRICANT

Wire Rope (C) (6)
Q
Metal/Metal
Moving Parts (C) (4)
W



RESCUE/WORKBOAT DAVIT

(7) Remove Cover.
Grease Fittings
S
(8) Lower Unit. Drain
and refill
S



WORKBOAT OUTBOARD MOTOR

TOTAL TASK-HOURS*		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
W	0.4	S	1.0
Q	0.5		

KEY

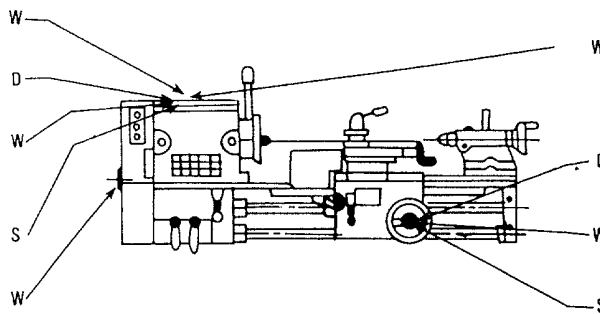
LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above -32°F Above 0°C	-40°F to 10°F -5°C to 23°C	0°F to 65°F -18°C to 50°C	
(6) MOBILARMA - 798	As Required	All Temperatures			W-Weekly Q-Quarterly (3 months) S-Semi-annually (6 months)
(4) MOBILUX No. 2 Grease	As Required	All Temperatures			
(7) OMC-LUBRIMATIC Grease, saltwater resistant	As Required	All Temperatures			
(8) OMC-GEARLUBE Lubricant, lower unit	11 oz (325 ml)	All Temperatures			

For arctic operation refer to FM 9 207

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Headstock. Grease fittings (2) (C) GGP W
Headstock. Oil Points (3) (C) (9) D
Headstock. Oil System. Check level (C). See Note (7). (9) W
Drain and fill. (C) (9) S
Change Gears. Grease fittings (3) (C). See Note (8) GGP W



W GGP Headstock Gears and Drive Pulley Shafts. Grease fittings (2) (C)
D (9) Carriage Oil Points (C)
W (9) Carriage Oil System. Check level (C)
S (9) Drain and fill. (C)

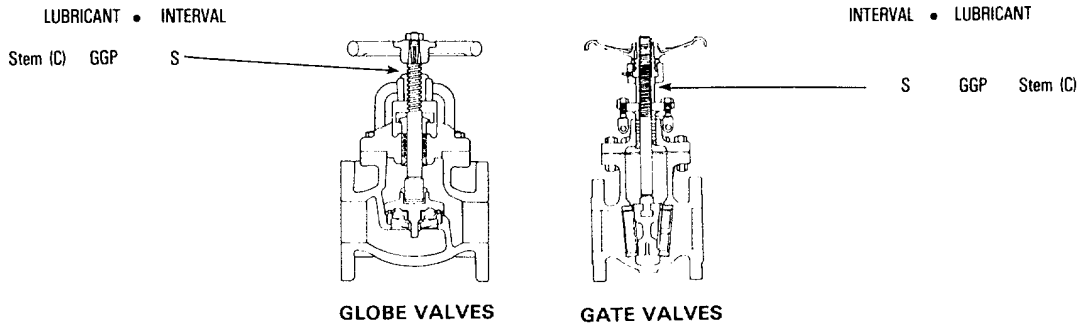
BENCH LATHE

TOTAL TASK-HOURS*		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
D	0.5	S	1.0
W	0.5		

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to 10°F +5°C to -23°C	0°F to 65°F 18°C to 50°C	
(9) SHELL TELLUS 32	As Required	All Temperatures			D Daily W Weekly S Semi-Annually (6 months)
GGP (MIL-G-23549) Grease, general purpose	As Required	All Temperatures			

For arctic operation refer to FM 9-207



TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
S	0.5

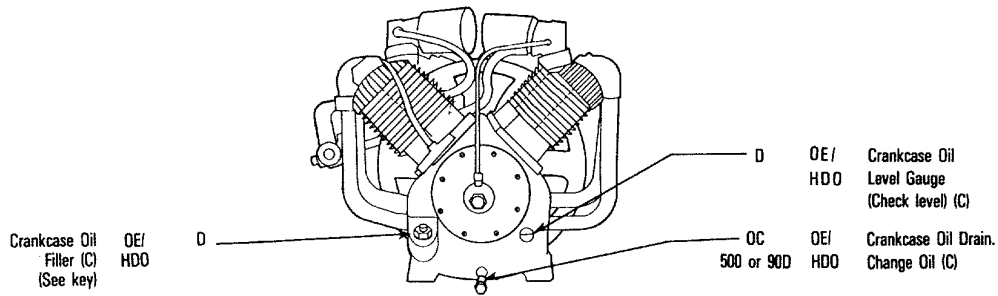
KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
GGP (MIL-G-23549) Grease, general purpose	As Required	All Temperatures			S-Semi-annually (6 months)

For arctic operation refer to FM 9-207

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

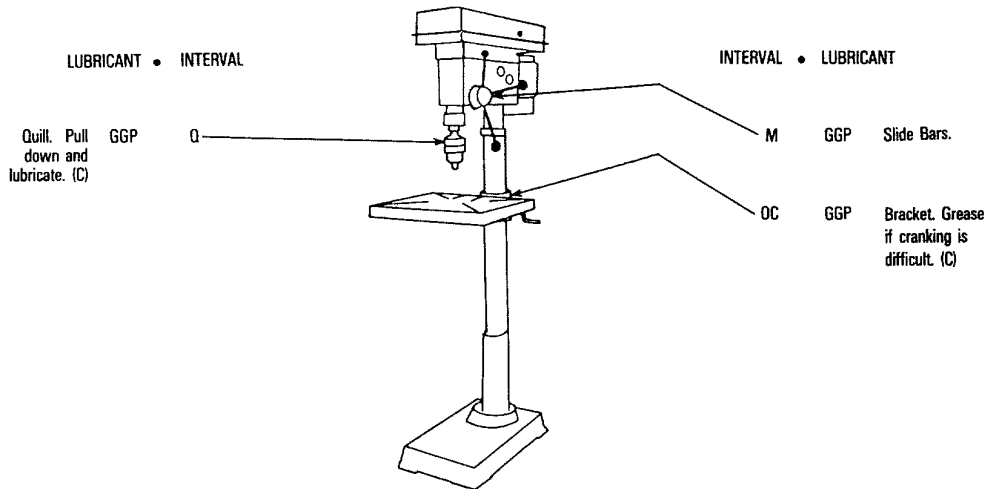


PORTABLE AIR COMPRESSOR

TOTAL TASK-HOURS*		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
D	0.1	OC OR 500 or 90D	0.5

KEY

LUBRICANTS		CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
			Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
OE/HDO (MIL-G-2104)	Lubricating Oil, Engine	As Required	OE/HDO 30	OE/HDD 10		D - Daily OC-Continue	



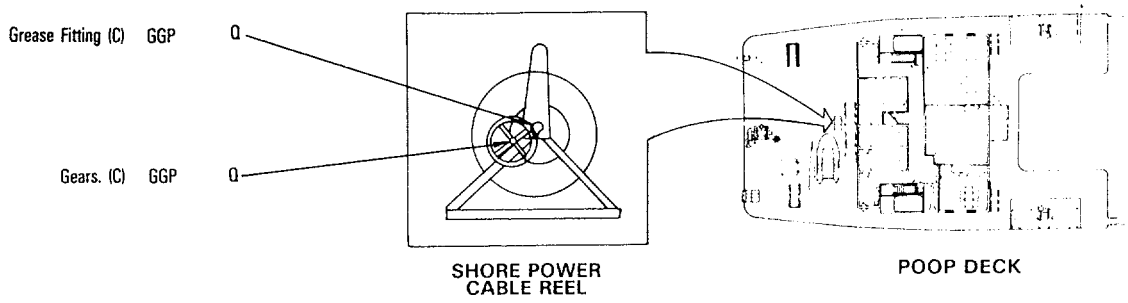
DRILL PRESS

TOTAL TASK-HOURS*		TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS	INTERVAL	TASK-HOURS
M	0.1	Q OC	0.1 0.1

KEY

LUBRICANTS		CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
			Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
GGP (MIL-G-23549)	Grease, general purpose	As Required	All Temperatures			M - Monthly Q - Quarterly (3 months) OC-On Condition	

LUBRICANT • INTERVAL



TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
Q	0.3

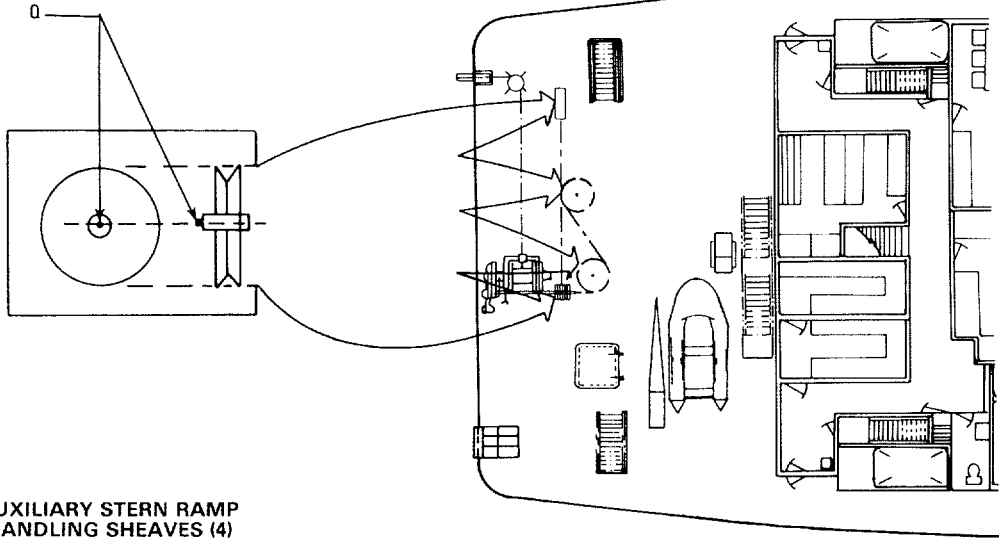
KEY

LUBRICANTS		CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
			Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
GGP (MIL-G-23549)	Grease, General Purpose	As Required	All Temperatures			Q - Quarterly (3 months)

For arctic operation refer to FM 9-207

LUBRICANT • INTERVAL

Sheaves. Under deck. GGP
4 Places.
Grease Fittings (C)



AUXILIARY STERN RAMP
HANDLING SHEAVES (4)

POOP DECK

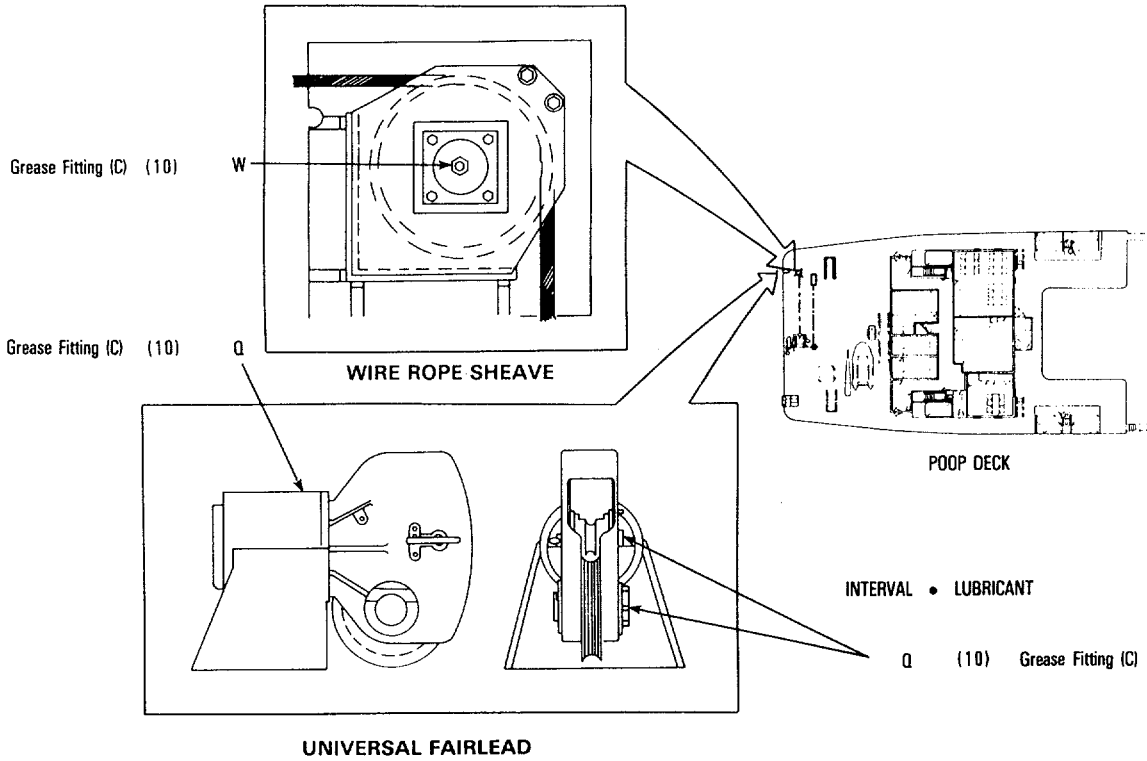
TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
Q	0.8

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C	
GGP (MIL-G-23549) Grease, general purpose	As Required	All Temperatures			Q - Quarterly (3 months)

For arctic operation
refer to FM 9-207

LUBRICANT • INTERVAL



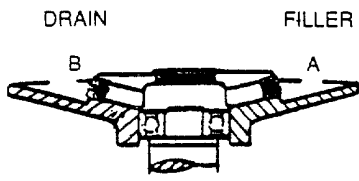
INTERVAL • LUBRICANT

Q (10) Grease Fitting (C)

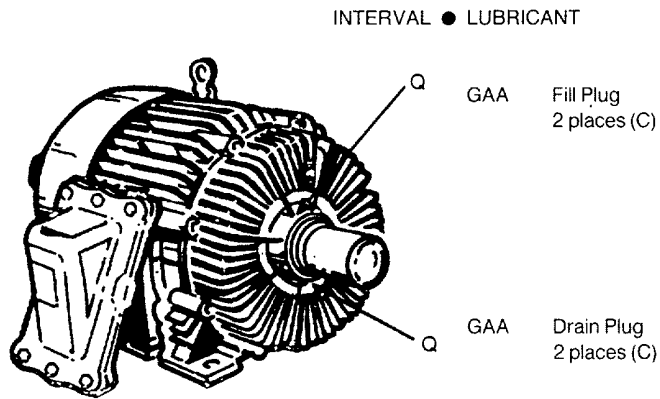
TOTAL TASK-HOURS*	
INTERVAL	TASK-HOURS
W	0.2
Q	0.2

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above +32°F Above 0°C	+40°F to -10°F +5°C to -23°C	0°F to -65°F -18°C to -50°C		
(10) MOBILUX EP 1	As Required	All Temperatures				W - Weekly Q - Quarterly (3 months)



TOP OF MOTOR
SHAFT END & END BELL
BEARING HUB



ELECTRIC MOTORS

WARNING

Disconnect power before working on motor driven equipment. Motors with automatic thermal protectors will automatically restart when the protector temperature drops sufficiently. Do not use motors with automatic thermal protectors in applications where automatic restart will be hazardous to personnel or equipment.

RELUBRICATION PERIOD

Frame Size @ 900, 1200 & Var. Speed	Relub. Period @ Std. Conditions (8 hr. /day, normal to light loading 100° F max. amb.)	Severe Conditions	Extreme Conditions
140-180	4.5 Years	18 Months	9 Months
210-280	4.0 Years	16 Months	8 Months
320-400	3.5 Years	13 Months	7 Months
440-508	3.0 Years	12 Months	6 Months
510	2.5 Years	11 1/2 Months	6 Months

Frame Size @ 1800 RPE	Std. Conditions	Severe Conditions	Extreme Conditions
140-180	3.0 Years	1 Year	6 Months
210-280	2.5 Years	10 1/2 Months	5 1/2 Months
320-400	2.0 Years	9 Months	4 1/2 Months
440-508	1.5 Years	8 Months	4 Months
510	1.0 Years	6 Months	3/2 Months

All Motors over 1800 RPM	6 Months	3 Months	3 Months
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For roller bearings: Divide above times by 3.

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			INTERVALS
		Above + 32°F Above 0°C	+ 40°F to -10°F + 5°C to -23°C	0°F to -65°F -18°C to -50°C	
GAA (MIL-G-10924-F) Grease, automotive and artillery	As Required	All Temperatures			Q - Quarterly (3 months)

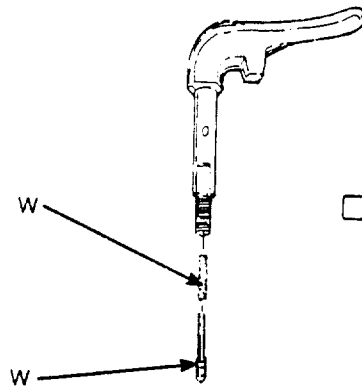
STANDARD CONDITIONS: Eight hours per day, normal or light loading, clean 100°F maximum ambient.
SEVERE CONDITIONS: Twenty-four hours per day operation, or shock loadings, vibration, or in dirt or dust at 100° to 150°F ambient.
EXTREME CONDITIONS: Heavy shock or vibration, dirt or dust at 100° to 150°F ambient.

LUBRICANT ● INTERVAL

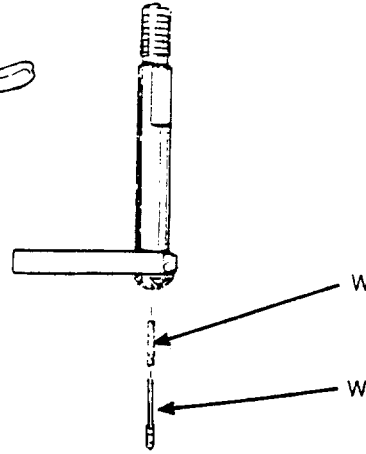
INTERVAL ● LUBRICANT

Stick Packing
See Instructions (C)

Packing Plunger
See instructions (C)



DOG HANDLE



**DOG LEVER
(SIDE OR BOTTOM)**

Stick Packing.
See instructions(C)

Packing Plunger
See instructions (C)

WATERTIGHT DOOR AND HATCH FITTINGS

INSTRUCTIONS: Turn packing plunger clockwise 1/2 turn, once a week, till it stops. Then remove and insert a new stick packing (a type of hardened grease). Reinstall packing plunger.

KEY

LUBRICANTS	CAPACITIES	EXPECTED TEMPERATURES			For arctic operation refer to FM 9-207	INTERVALS
		Above + 32°F Above 0°C	+ 40°F to -10°F + 5°C to -23°C	0°F to -65°F -18°C to -50°C		
Stick Packing	As Required	All Temperatures				W - Weekly

NOTES:

1. DOORS. Clean all paint from water tight door seals as required.
2. WINDSHIELD WIPERS. Every six months inject 1/2 ounce lubricating oil (Sprague Wiper Lube, part number Y-143 is recommended) into each motor at a location as close to the motor valve as possible. Allow motor to run 15 minutes. (Remove arm).
3. BALL BEARINGS. At times it may be necessary to clean the bearings due to accumulated dirt or deteriorated lubricants. This can be accomplished by flushing the bearing with a light oil heated to 180 to 200° F. While rotating it on a spindle, wipe the bearing housing with a clean rag soaked in a cleaning solvent and flush all surfaces. Dry bearing thoroughly before relubricating. Over lubrication should be avoided as it may result in overheating and possible bearing failure. Under normal application, adequate lubrication is assured if the amount of grease is maintained at 1/3 to 1.5 the capacity of the bearing and adjacent space surrounding it. Use only clean grease from clean containers, and use care to keep it clean. Never open a bearing housing in a dusty atmosphere. Never open a bearing housing without cleaning off all dirt from adjacent surfaces. Always protect an exposed bearing with a protective cover.
4. STORAGE. If the pump is to be stored or not used for any appreciable length of time it should be drained and a light coat of lubricating and preservative oil should be applied to the internal parts.
5. All oiling points consist of ball-seal, spring-loaded type fittings and use SHELL TELLUS 32 lubricant.
6. HEADSTOCK. Oil is added to the fill holes located directly above the two separate bearings. The front bearing oil hole is visible on the top of the headstock housing. The rear oil hole is located under the headstock cover. The fill holes are covered with plastic caps that must be kept in place when not adding oil. The sight gauges are located on the front of the headstock housing in line with each bearing.

7. CHANGE GEARS. Access to lubrication points is accomplished by opening the cover on the left end of the headstock. In addition to servicing grease fittings, keep a light coating of grease on the exposed teeth of the change gears.
8. OIL CAN POINTS. Lubricate daily the oil fittings in the carriage, compound rest and ways, lead screw and half nut, quickchange gear box and the tailstock.
9. A light coating of grease is to be applied to the half nut and the carriage cross travel worm gear on a twice-monthly basis.
10. ELECTRIC MOTOR. This motor has been properly lubricated at the time of manufacture and is not necessary to lubricate at time of installatn. If the motor has been in storage for a period of six months or greater, relubricate before starting.

To lubricate:

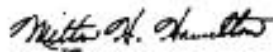
1. Stop motor.
2. Wipe clean all grease fittings. (Filler and drain) 3. Remove filler and drain plugs. A and B.
4. Free drain hole of any hard grease (use piece of wire if necessary).
5. Add Grease using a low pressure grease gun.
6. Start motor and let run approximately 30 minutes.
7. Stop motor, wipe off any drained grease, and replace filler and drain plugs.
8. Motor is ready for operation.

☆ The amount of grease added is very important. Only enough grease should be added to replace the grease used by the bearing. Too much grease can be as harmful as insufficient grease. Every four years (every year in the case of severe duty) motors with open bearings should be thoroughly cleaned, washed and repacked with grease. The quantity of grease is important. The grease cavity should be filled 1/3 to 1/2 full. Too much grease is as detrimental as insufficient grease. If lubrication instructions are shown on motor, they will supersede this general instruction.

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
05490

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

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DATE SENT

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PUBLICATION DATE

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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

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