LUBRICATION ORDER **LO 5-1940-277-12**
LUBRICATION INSTRUCTION **LI 1940-12**
25 JUNE 1991 (Supersedes LO 5-1940-277-12 / LI 1940-12, 19 December 1986)

BOAT, BRIDGE ERECTION, TWIN JET, ALUMINUM HULL, MODEL USCSBMK1 (1940-01-105-5728) AND MODEL USCSBMK2 (1940-01-218-2165)

References: TM 5-1940-277-10 and TM 5-1940-277-20

REPORTING OF ERRORS

You can improve this publication by calling attention to errors; recommending improvements; and stating your reasons for the recommendations. ARMY USERS: Submit your letter or DA Form 2028, Recommended Changes to Publications and Forms, directly to Commander, U.S. Army Troop Support Command, ATTN: AMSTR-MCTS, 4300 Goodfellow Boulevard, St. Louis, MO 63120-1798. MARINE CORPS USERS: Submit NAVMC 10772 to Commanding General, Marine Corps Logistics Base, Code 850, Albany, GA 31704-5000. A reply will be furnished directly to you.

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NOTES

This LO is for crew (C) or organizational (0) maintenance. Lube intervals (on- condition or hard time) are based on normal operation. Lube more during constant use, and less during inactive periods. Use correct grade of lubricant for seasonal temperature expected.

On the pictures a dash line (-) means lube points on both sides.
Clean parts with dry cleaning solvent (SD), type II, or equivalent. Dry before lubricating.
Before you start your lube service:

ALWAYS	NEVER
a. Clean grease fittings before lubrication.	a. Use wrong type/grade grease.
b. Use the lubrication order as your guide.	b. Use too much lubricant.

CAUTION
Do not drain oil into bilges.

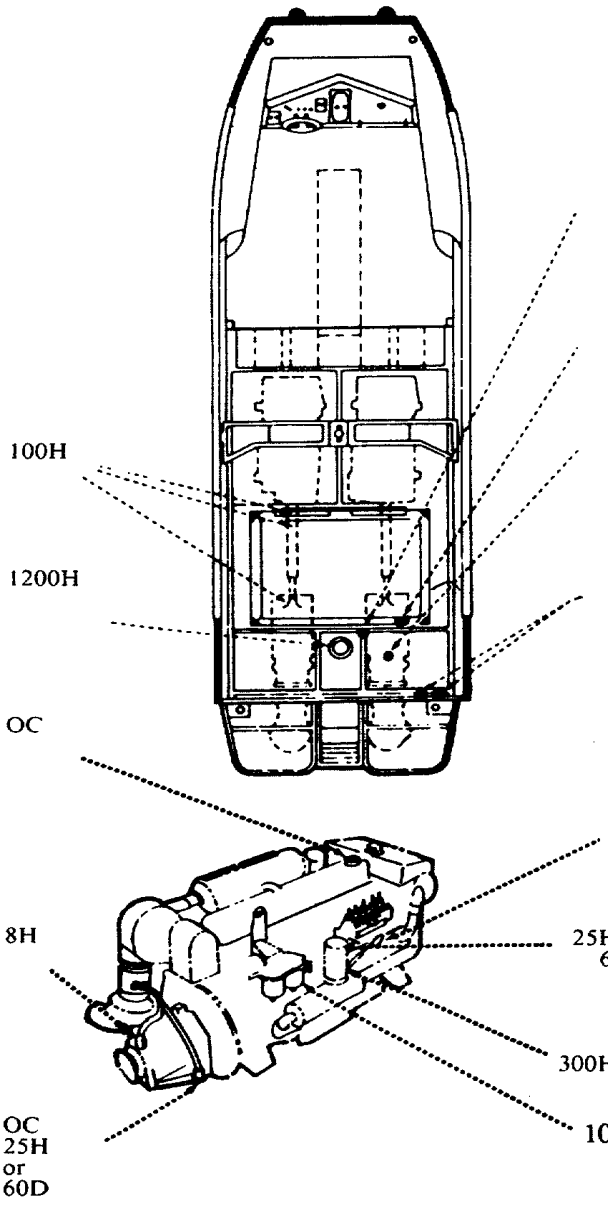
Drain oils while they are warm.
Every 100 hours, lightly lubricate all hatch and door hinges, latches, control linkages, and exposed adjusting threads with OE/HDO.
Lubricate port and starboard power trains.

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES		INTERVALS
		ABOVE + 32°F (ABOVE 0°C)	+ 40°F TO -10°F (+ 5°C TO -23°C)	
OE/HDO LUBRICATING OIL, (MIL-L-2 104C) Engine Crankcase	14 qrts each (13.24 L)	OE/HDO 30	OE/HDO 10	Intervals given are in hours of normal operation.
Transmission	2.5 qrts each (2.36 L)			
Hydrojet	1 pint each (0.47 L)			
Oil Can Points				
GAA Grease, Automotive (MIL-G-10924) and Artillery				

TOTAL TASK-HR		TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
5H	0.2	100H	1.0
8H	0.2		
0C			
25H or 60D	0.3	1200H	0.3

LUBRICANT •· INTERVAL

INTERVAL • LUBRICANT



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1. DRIVE SHAFTS. Remove aft cockpit. Rotate drive shaft by hand to locate grease fittings (three each). Use a hand-operated grease gun and give each U-joint and the slip-joint one to two full pumps of grease. After washing or submerging in water, immediately lubricate U-joints and slip-joints.

2. CAPSTAN. Whichever occurs first, 1200 hours or every year and 3 months, disassemble and clean the housing, gears, and bearings. Apply a light coat of grease to inside of housing and gears: pack the bearings; assemble: and check for proper operation. Whenever capstan is submerged in water, it must be disassembled; cleaned; and relubricated immediately afterward.

3. ENGINE OIL. Check level before operation. Fill to full mark as required. Oil must be sampled and sent to an AOAP laboratory at an interval of 25 hours or 60 days as prescribed by DA Pam 738-750. Refer to TB 43-0210 for sampling requirements. When AOAP support is not available, drain and fill crankcase and replace oil filter at 300 hours or 6 months. Replace oil filter if it is known to be contaminated or clogged; when AOAP laboratory recommends replacement; or at prescribed hardtime intervals. After installing new filter and filling crankcase with new oil, operate engine to check for oil leaks; stop and check oil level; and fill to full mark as required.

4. TRANSMISSION OIL. Check level before operation. Level should be at or just above full mark; add oil as required. To remove dipstick, turn T-handle counterclockwise; to install, turn clockwise until it cannot be removed by a moderate pull. Oil must be sampled and sent to an AOAP laboratory at an interval of 25 hours or 60 days as prescribed by DA Pam 738-750. Refer to TB 43-0210 for sampling requirements. When AOAP support is not available, drain and fill transmission at a hard time of 500 hours or 1 year. To drain oil, disconnect return hose and reducing plug from transmission. Remove and clean the filter assembly. Install filter, reducing plug, and return line. Fill transmission with oil. Operate to check for leaks; stop and check oil level; and fill to full mark as required.

5. THRUST BEARING OIL RESERVOIR. When checking or adding oil to reservoir, ensure there is no air-lock between thrust bearing and reservoir. If oil becomes contaminated (e.g. with water), drain and replace oil.

6. GREASE CUPS. Every 5 hours or normal operation, give each grease cup cap a half-turn. When a half-turn cannot be completed, remove cap; clean out old grease; pack with new grease; install cap; and complete the half-turn.

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

LO 5-1940-277-12
LI 1940-12

By Order of the Secretaries of the Army, and the Navy, (Including the Marine Corps):

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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.

The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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