

25 AUG 2006

(Supercedes LO 5-1940-277-12 / LI 1940-12, 25 June 1991)

**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 ERRORS AND RECOMMENDING IMPROVEMENTS

You can help improve this publication. If you find any mistakes or if you know of a way to improve the procedures, please let us know. Submit your DA Form 2028 (Recommended Changes to Publications and Blank Forms), through the Internet, on the Army Electronic Product Support (AEPS) website. The Internet address is <https://aeeps.ria.army.mil>. The DA Form 2028 is located under the Public Applications section in the AEPS Public Home Page. Fill out the form and click on SUBMIT. Using this form on the AEPS will enable us to respond quicker to your comments and better manage the DA Form 2028 program. You may also mail, fax or E-mail your letter or DA Form 2028 direct to: AMSTA-LC-LMIT/TECH PUBS, TACOM-RI, 1 Rock Island Arsenal, Rock Island, IL 61299-7630. The email address is TACOM-TECH-PUBS@ria.army.mil. The fax number is DSN 793-0726 or Commercial (309) 782-0726.

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NOTES

This LO is for crew (C) or organizational (O) 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 Skysol 100 or approved substitute. Dry before lubricating.

Before you start your lube service.

ALWAYS

- a. Clean grease fittings before lubrication.
- b. Use the lubrication order as your guide.

NEVER

- a. Use wrong type/grade grease.
- 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 powertrains.

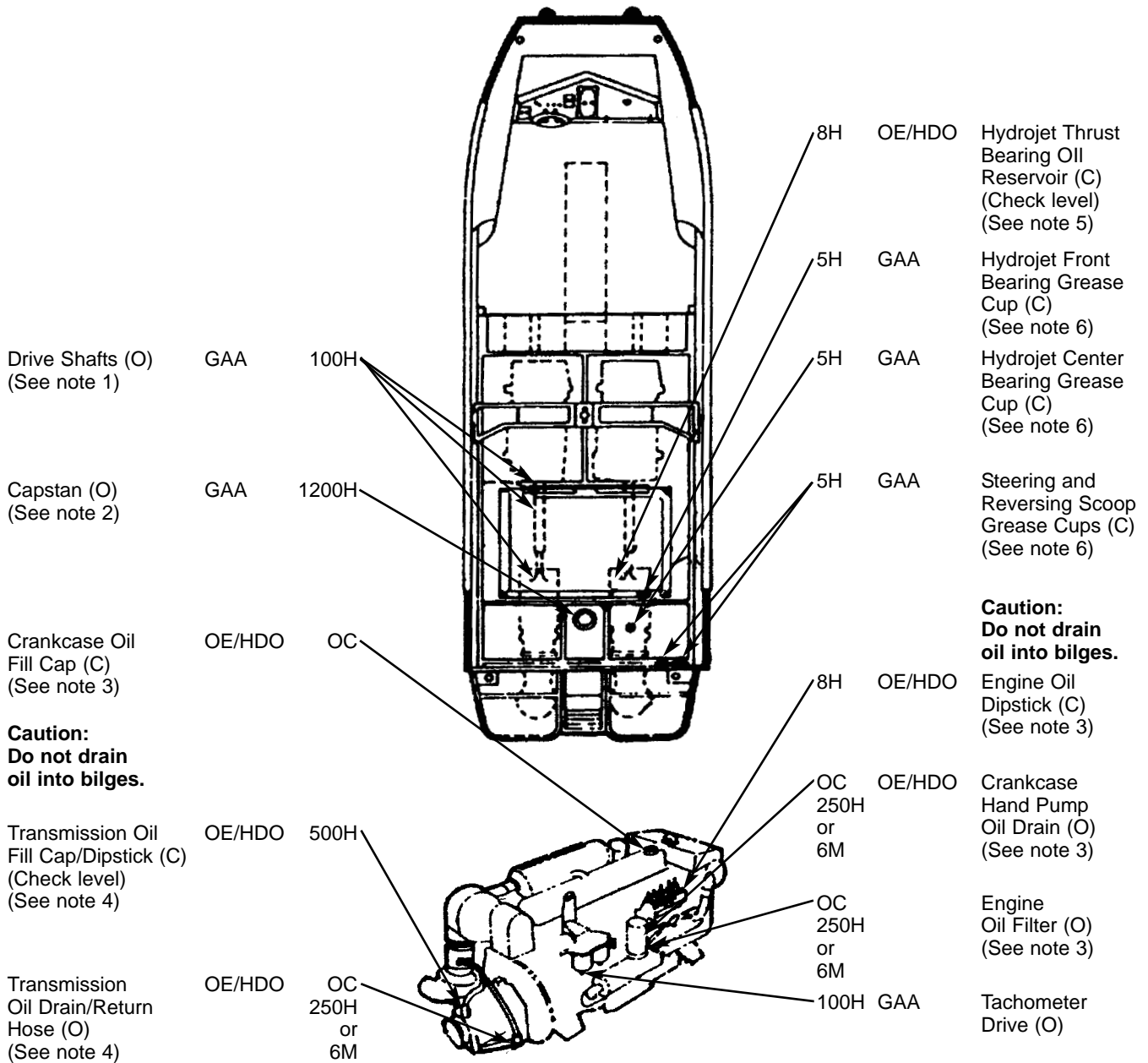
LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES		INTERVALS
		ABOVE + 32°F (ABOVE 0°C)	+ 40° - -10°F (+ 5° - -23°C)	
SABRE 5.95 LITER ENGINE LUBRICATING OIL, Engine Crankcase OE/HDO 30 (MIL-PRF-2104) ARCTIC OIL OE/HDO 10 (MIL-L-46125)	14 qts ea. (13.24 L)	OE/HDO 30	OE/HDO 10	Intervals given are in hours of normal operation.
CUMMINS 5.9 LITER ENGINE LUBRICATING OIL, Engine Crankcase 15W40 (MIL-PRF-2104) ARCTIC OIL OE/HDO 5W30 (MIL-L-46125)	16 qts ea. (15.14 L)	15W40	5W30	
TRANSMISSION LUBRICATING OIL, Transmission OE/HDO 30 (MIL-PRF-2104) ARCTIC OIL OE/HDO 10 (MIL-L-46125)	2.5 qts ea. (2.36 L)	OE/HDO 30	OE/HDO 10	
HYDROJET LUBRICATING OIL, Oil Can Points OE/HDO 30 (MIL-PRF-2104) ARCTIC OIL OE/HDO 10 (MIL-L-46125)	1 pint ea. (0.47 L)			
GREASE , Automotive and Artillery (MIL-PRF-10924)	As required	GAA	GAA	

TOTAL TASK-HR		TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
5H	0.2	100H	1.0
8H	0.2		
OC			
250H or 6M	0.3	1200H	0.3

LUBRICANT • INTERVAL

LUBRICANT • INTERVAL

MK 1 AND MK 2 W/ SABRE 5.95 LITER ENGINE



TOTAL TASK-HR		TOTAL TASK-HR	
INTERVAL	TASK-HR	INTERVAL	TASK-HR
5H	0.2	100H	1.0
8H	0.2		
OC			
250H or 6M	0.3	1200H	0.3

LUBRICANT • INTERVAL

LUBRICANT • INTERVAL

MK 2 W/ CUMMINS 5.9 LITER ENGINE

Fleetguard
Lubricity Filter (O)
(see note 7)

250H

Fuel Filter (O)
(see note 8)

250H

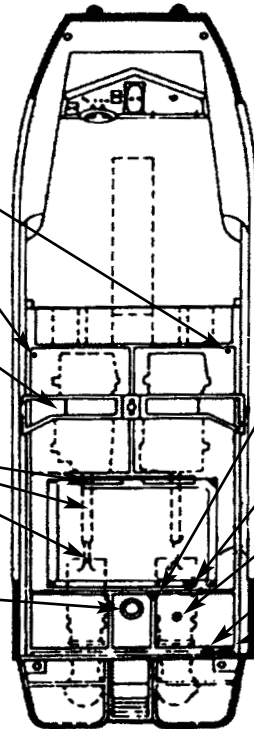
Drive Shafts (O) GAA
(See note 1)

100H

Capstan (O) GAA
(See note 2)

1200H

Caution:
Do not drain
oil into bilges.



8H

OE/HDO Hydrojet Thrust
Bearing Oil
Reservoir (C)
(Check level)
(See note 5)

5H

GAA Hydrojet Front
Bearing Grease
Cup (C)
(See note 6)

5H

GAA Hydrojet Center
Bearing Grease
Cup (C)
(See note 6)

5H

GAA Steering and
Reversing Scoop
Grease Cups (C)
(See note 6)

Caution:
Do not drain
oil into bilges.

Crankcase Oil
Fill Cap (C) OE/HDO
(See note 3) OC

OC

8H

OE/HDO Engine Oil
Dipstick (C)
(See note 3)

Transmission
Oil Fill OE/HDO
Cap/Dipstick (C) 500H
(Check level)
(See note 4)

500H

250H

OE/HDO Crankcase Hand
Pump Oil Drain (O)
(See note 3)

Transmission Oil
Drain/Return
Hose (O) OE/HDO
(See note 4) OC
250H
or
6M

OC
250H
or
6M

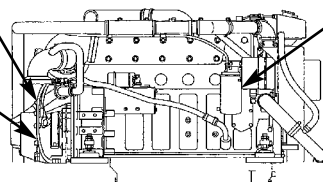
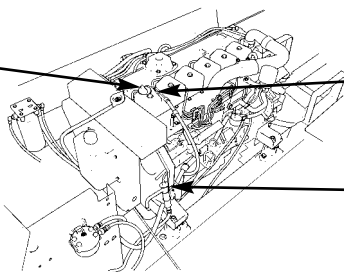
OC

250H

or

6M

Engine Oil Filter (O)
(See note 3)



1. **DRIVE SHAFTS.** Remove aft cockpit. Rotate drive shaft by hand to locate grease fittings on both U-joint and slip joint. Use a hand-operated grease gun and give each U-joint and slip-joint one to two full plumps of grease. Install aft cockpit. Immediately lubricate U-joints and slip-joints if drive shaft is washed or submerged in water.
2. **CAPSTAN.** Whichever occurs first, 1200 hours or every 15 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. Immediately disassemble, clean and lubricate the capstan if it is submerged in water.
3. **ENGINE OIL.** Check level before operation. Fill to full mark as required. Change filter and oil after 250 hours of operation or semi-annually. AOAP sampling is not required. Change oil and filter on specified interval. Change oil using hand-pump mounted on engine. After installing new filter and oil, operate the engine and check for leaks. Stop engine and check oil level and refill as necessary.
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. Change oil after 500 hours of operation or annually. AOAP sampling is not required for the transmission. To drain oil, disconnect return hose and reducing plug from transmission. Remove and clean oil filter assembly. Install filter, reducing plug, and return hose. Fill transmission with oil. Operate to check for leaks, stop and check oil level and refill as necessary.
5. **THRUST BEARING OIL RESERVOIR.** When checking or adding oil to reservoir ensure there is no air-lock between the thrust bearing and reservoir. If oil becomes contaminated with water (becomes milky in appearance), drain and replace.
6. **GREASE CUPS.** Give each grease cup a half-turn after every 5 hours of operation. When cup is fully compressed, i.e. it cannot be turned further, remove, clean thoroughly to remove old grease, pack with new grease, install and complete the half-turn.
7. **FLEETGUARD LUBRICITY FILTER.** Remove filter and replace after 250 hours of operation or 6 months, whichever comes first.
Note: Damage to the fuel pump and injectors can result if JP8 is used and the Fleetguard filter has not been serviced on schedule.
8. **FUEL FILTERS.** Inspect fuel-water separator bowl before operation. Drain water as necessary. Replace fuel-water separator elements and fuel filters on engine after 250 hours of operation or annually. Clean area around filter before removing to prevent dirt from entering the fuel system.

A 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:

PETER J. SCHOOMAKER
General, United States Army
Chief of Staff

Official:



JOYCE E. MORROW
Administrative Assistant to the
Secretary of the Army
0621404

By Order of the Marine Corps:

S. I. SCHULER
Colonel, USMC
Program Manager Motor
Transportation (PMM151)
Marine Corps Systems Command

Distribution:

To be distributed in accordance with IDN 254104, requirements for LO 5-1940-277-12.

THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter = 100 Centimeters = 1,000 Millimeters = 39.37 Inches
- 1 Kilometer = 1,000 Meters = 0.621 Miles

SQUARE MEASURE

- 1 Sq Centimeter = 100 Sq Millimeters = 0.155 Sq Inches
- 1 Sq Meter = 10,000 Sq Centimeters = 10.76 Sq Feet
- 1 Sq Kilometer = 1,000,000 Sq Meters = 0.386 Sq Miles

CUBIC MEASURE

- 1 Cu Centimeter = 1,000 Cu Millimeters = 0.06 Cu Inches
- 1 Cu Meter = 1,000,000 Cu Centimeters = 35.31 Cu Feet

LIQUID MEASURE

- 1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
- 1 Liter = 1,000 Milliliters = 33.82 Fluid Ounces

TEMPERATURE

- Degrees Fahrenheit (F) = $^{\circ}\text{C} \cdot 9 \div 5 + 32$
- Degrees Celsius (C) = $\text{F}^{\circ} - 32 \cdot 5 \div 9$
- 212° Fahrenheit is equivalent to 100° Celsius
- 90° Fahrenheit is equivalent to 32.2° Celsius
- 32° Fahrenheit is equivalent to 0° Celsius

WEIGHTS

- 1 Gram = 0.001 Kilograms = 1,000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1,000 Grams = 2.2 Lb
- 1 Metric Ton = 1,000 Kilograms = 1 Megagram = 1.1 Short Tons

APPROXIMATE CONVERSION FACTORS

TO CHANGE	TO	MULTIPLY BY
Inches	Millimeters	25.4
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet	Square Meters	0.093
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Milliliters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.4536
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds Per Square Inch	Kilopascals	6.895
Miles Per Gallon	Kilometers Per Liter	0.425
Miles Per Hour	Kilometers Per Hour	1.609
TO CHANGE	TO	MULTIPLY BY
Millimeters	Inches	0.03937
Centimeters	Inches	0.3937
Meters	Feet	3.280
Meters	Yards	1.094
Kilometers	Miles	0.621
Square Centimeters	Square Inches	0.155
Square Meters	Square Feet	10.764
Square Meters	Square Yards	1.196
Square Kilometers	Square Miles	0.386
Square Hectometers	Acres	2.471
Cubic Meters	Cubic Feet	35.315
Cubic Meters	Cubic Yards	1.308
Milliliters	Fluid Ounces	0.034
Liters	Pints	2.113
Liters	Quarts	1.057
Liters	Gallons	0.264
Grams	Ounces	0.035
Kilograms	Pounds	2.2046
Metric Tons	Short Tons	1.102
Newton-Meters	Pound-Feet	0.738
Kilopascals	Pounds Per Square Inch	0.145
Kilometers Per Liter	Miles Per Gallon	2.354
Kilometers Per Hour	Miles Per Hour	0.621

