

4 MAY 1992

(Supersedes LO 5-5420-209-12,30 September 1987)

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## IMPROVED FLOAT BRIDGE (RIBBON BRIDGE) CLASS 70 TRANSPORTER, RAMP BAY, INTERIOR BAY

REFERENCES: TM 5-5420-209-12 and Federal Supply Catalog C9100-IL

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Total task-hour times needed to perform all services (on-condition or hard time) prescribed for a particular interval are based on normal operation.

When operating under adverse conditions or if lubricants become contaminated, change your hard time interval. You may also extend intervals during periods of low activity provided adequate preservation is performed.

Clean fittings before lubricating. Relubricate after washing or fording.

Clean parts with dry cleaning solvent type II (SD-II) and dry before lubricating.

This LO is for operator/crew(C) or unit (0) maintenance.

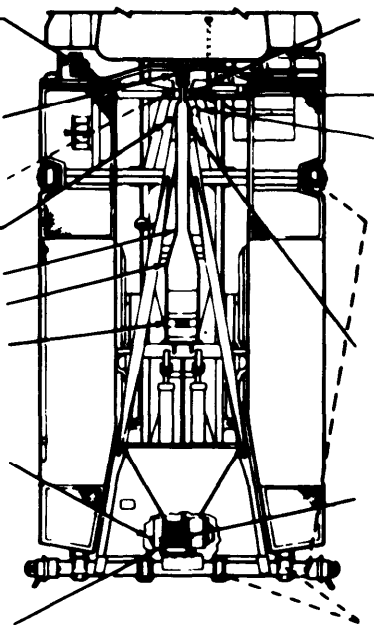
A dotted circle indicates a drain below and a dotted arrow indicates points of lubrication on both sides of equipment.

TOTAL TASK-HR	
Interval	Task-Hr
250	0.5
500	1.2
1,000	0.5
2,000	0.5

LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Hydraulic Filter (See note 10) (O)		
Winch Cable Sheave (O)	GAA	250
Boom Guide	GAA	250
Hydraulic Reservoir Level Gage (C)		
able Tensioner Assembly	GO	250
Guide Pulley	GAA	250
Bay Roller (O)	GAA	250
Winch Cable Pulley (O)	GAA	250
Winch (C) (Fill and Level Plug) (Check Level) (See notes 6, 7)	GO	250
Winch Drain Plug (O) (Drain and refill) (See notes 6, 7)	GO	2000



250	GAA	PTO Output Shaft (O) (2 fittings) (See note 8)
250	GAA	Bridge Bay Tiedown Locking Pin (O)
250	OE/HDO	Hydraulic Reservoir Filler Cap (C)
250	GAA	Roller Assembly (O) (2 fittings)
2000	OE/HDO	Hydraulic Reservoir Drain (O) (Drain and refill) (See note 9)
500	OE/HDO	Winch Cable (C) (See note 5)
250	GAA	Boom Support Bearings (O) (8 fittings)

TRANSPORTER

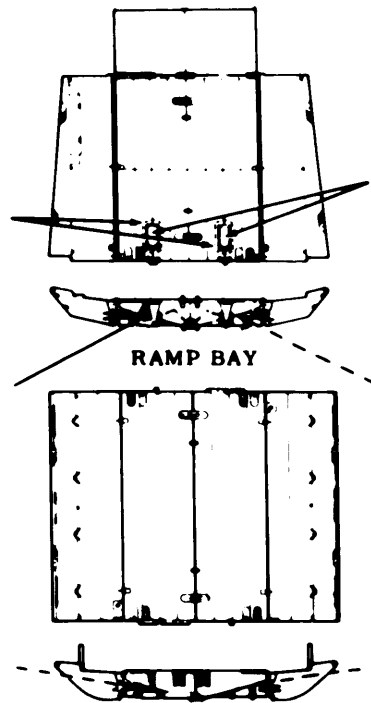
LUBRICANT • INTERVAL

INTERVAL • LUBRICANT

Hydraulic Reservoirs and Cylinders (O) (Drain and refill) (See note 12)

Lower Lock Drive Connecting Pin Lever (O)

Lower Lock Drive Connecting Pin Lever (2 fittings) (O)



RAMP BAY

INTERIOR BAY

OE/HDO Hydraulic Pump Reservoirs (C) (Fill, Level Plug)  
(Check Level) (See note 11)

500 CW-II Unfolding Cables (C) (See note 5)

500 CW-II Unfolding Cables (C) (See note 5)

- KEY -

LUBRICANTS		CAPACITY	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 -53°C)	
OE/HDO (MIL-L-2104C)	LUBRICATING OIL, Engine		OE/HDO 30		OEA	Intervals given are in hours of normal operation.
	Oil Can Points					
	Transporter Hydraulic Reservoir	10 Gal (37.8L)	OE/HDO 10	OE/HDO 10		
	Ramp Bay Hydraulic Reservoirs (2 ea)	5 qt (5.7L) ea				
OEA/APG-PD-1 (MIL-L-46167)	LUBRICATING OIL, Engine Sub-Zero					
GO (MIL-G-2105)	LUBRICATING OIL, Gear	3 Pt (1.4L)	GO-90	GO-80	GO S	
	Winch Cable Tensioner					
GO S (MIL-L-10324)	LUBRICATING OIL, Gear, Sub-Zero					
CW-II (VV-L-751)	LUBRICATING OIL, Exposed Wire		ALL TEMPERATURES			
GAA (MIL-G-10924)	GREASE, Auto and Artillery					

## **LO 5-5420-209-12**

### NOTES:

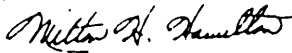
1. **TRUCK CHASSIS.** Lubricate truck in accordance with current Lubrication Order LO 9-2320-260-12.
2. **FOR OPERATION OF EQUIPMENT IN. PROTRACTED COLD TEMPERATURE BELOW -10° F (- 23°C).** Remove lubricants prescribed in the key for temperature above -10°F (- 23°C). Clean parts with drycleaning solvent (SD-II). Relubricate with lubricants specified in the key for temperatures below -10°F (-23° C).
3. **TEMPERATURE RISES.** If ambient temperature rises to + 70°F (+21°C) for no more than 1 week, use of OE/HDO 10 is permissible. If ambient temperature rises to + 30°F (-1°C) for no more than 1 week, use of OEA is permissible, In both cases, if temperature rise exceeds 1 week, the next grade of engine lubricating oil must be used.
4. **OIL CAN POINTS.** Every 1000 miles or monthly, lubricate hinges and latches, power takeoff shift linkage, bogie lockout screws, hydraulic control lever linkage, and aft diedown lock shaft bolts and nuts with seasonal grade OE/HDO.
5. **WINCH AND UNFOLDING CABLES (All models).** After each operation, clean and oil with new OE/HDO. If cables are not generally used, pay out entire cable every 6 months (500 hrs), clean, and soak by means of a brush with new OE/HDO. Wipe off excess and coat cables with CW-11. Also coat winch drum with CW-11 before rewinding cable on drum. Pay in cable and lower boom.
6. **WINCH (Model II-S-EC) (Fill and drain plugs on end of housing.)** Quarterly (250 hrs), with boom in vertical position, remove filler plug from winch final drive gear case. If oil level is below plug hole, replenish to bottom of hole. Every 2 years (2,000 hrs), remove both filler plug and drain plug and drain gear case. Install drain plug and fill to filler plug. Install filler plug. Pay in cable and lower boom.
7. **WINCH (Model PG 115-043R) (Fill and drain plug on winch drum.)** Quarterly (250 hrs), with boom in vertical position, pay out cable to expose the lube fill/drain plug in the winch drum. Continue to pay out cable until the fill/drain plug is in the 9 o'clock position. Remove plug. If oil level is below the plug hole, replenish to the bottom of the hole. Every 2 years (2,000 hrs), continue to pay out cable until the fill/drain plug is in the 6 o'clock position. Remove plug and drain winch. Pay in cable until fill/drain plug is in the 9 o'clock position. Refill to level below plug hole. Install plug, pay in cable, and lower boom.
8. **CABLE TENSIONER.** Weekly, with boom in vertical position, remove level/fill plug from cable tensioner; if level is below level plug hole, replenish to bottom of hole. Install plug. Every year (1 ,000 hrs), remove drain plug and level plug, and drain gear case. Install drain plug and fill to level plug hole. Install level plug.
9. **POWER TAKEOFF SHAFT UNIVERSAL AND SLIP JOINTS.** Every 3 months (250 hrs), lubricate using a low pressure lubrication gun.
10. **TRANSPORTER HYDRAULIC RESERVOIR.** Remove oil reservoir filler cap and check strainer. Clean if necessary and install strainer. With boom in lowered position, remove drain plug and drain. Clean and install drain plug. Refill reservoir with OE/HDO. Slowly raise and lower boom several times and recheck oil level. Proper level of oil is at high mark with boom lowered or midway between high and low marks with boom raised.
11. **HYDRAULIC SYSTEM FILTER.** With pump running, check restriction indicator. Replace filter element when color gauge piston nears top of yellow band.
12. **RAMP BAY HYDRAULIC RESERVOIRS.** Remove filler plug and replenish with OE/HDO. Proper level of oil is  $3.5 \pm 0.25$  inches below top of filler hole.

13. RAMP BAY RESERVOIRS AND CYLINDERS. Drain every 12 months (1,000 hrs). Retract cylinder, remove filler plug and, using a suitable suction gun, drain oil from reservoir. Replenish with 5 quarts (5.7L) of OE/HDO. Remove coupling plug from quick disconnect and connect drain hose. Disconnect crossover line. To drain oil from cylinder, fully extend cylinder. Replenish hydraulic pump reservoir and cylinder with OE/HDO. Disconnect drain hose, operate cylinder several times to purge air from system, and reconnect crossover line. Ensure pump reservoir does not exceed proper fill level noted in 12 above.

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:**

Official:



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

010136

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

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# 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 decigrams = .035 ounce  
 1 dekagram = 10 grams = .35 ounce  
 1 hectogram = 10 dekagrams = 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 milliliters = .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

**PIN: 061465**