LUBRICATION ORDER

LO 5-3810-306-12

1 December 2006

*This Lubrication Order supersedes LO 5-3810-306-12, dated 25 February 1993

CONTAINER CRANE, 40 TON
ROUGH TERRAIN, MODEL RT875CC
NSN 3810-01-205-2716
AND
ROUGH TERRAIN, MODEL RT875CCS
NSN 3810-01-497-1001

References: TM 5-3810-306-10, TM 5-3810-306-20, and TM 5-3810-306-34

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 http://aeps.ria.army.mil. If you need a password, scroll down and click on "ACCESS REQUEST FORM". The DA Form 2028 is located in the ONLINE FORMS PROCESSING section of the AEPS. 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-CI 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.

WARNING

DO NOT service oils and coolants while the systems are pressurized or at a hot operating temperature. Allow the system to cool down before servicing. Failure to do so could result in serious injury.

Hard time intervals and the related man-hour times are based on normal operation. The man-hour specified is the time you need to do all the services prescribed for a particular interval. Change the interval if your lubricants are contaminated or if you are operating the equipment under adverse operating conditions, including longer than usual operating hours. The interval may be extended during periods of low activity. If extended, adequate preservation precautions must be taken.

Clean fittings before and after lubricating. Clean parts with dry cleaning solvent (SD), Type III or equivalent. Dry before lubricating.

Dashed leader lines indicate lubrication on both sides of the equipment.

All oil levels to be checked with the crane parked on a level surface in transport position, and while oil is cold, unless otherwise specified.

The lowest level of maintenance authorized to lubricate a point is Organizational Maintenance (0).

NOTES:

WARNING

DRY CLEANING SOLVENT P-D-680, TYPE III IS TOXIC AND FLAMMABLE.
Wear protective goggles and gloves. Use only in a well ventilated area. Avoid contact with skin, eyes, and clothes and don't breathe vapors.
Do not use near open flame or excessive heat. Flash point is 200° F (94° C). If you become dizzy while using cleaning solvent, get fresh air immediately and get medical aid. If contact with eyes is made, wash your eyes with water and get medical aid immediately.

1. For operation of equipment in protracted cold temperatures below -10° F (-23° C), remove lubricants prescribed in the key for temperatures above -10° F(-23° C). Clean parts with dry cleaning solvent. Relubricate with lubricants specified in the key for temperatures 0° F to -65° F (-18°C to -54°C).

CAUTION

Do not remove transmission dipstick unless engine is running with transmission in neutral (static oil level may be above fill pipe level).

2. Check transmission and torque converter with engine running and warm. Fill converter/transmission through the fill pipe until fluid is at top of fill pipe. Run the engine for two minutes at 500 to 600 RPM to prime the torque converter and hydraulic lines. Recheck the oil level in the transmission with the engine running at idle (500 to 600 RPM). Add oil as necessary to bring the level above the ADD mark on the dipstick. After the oil temperature reaches 180 to 200° F (82 to 93° C), add oil to bring the level to the FULL mark on the dipstick.
3. When greasing the lift cylinders and boom pivot shafts, better distribution of grease within the shafts is obtained if the weight of the boom is removed from the shafts.
4. With grease gun, pump grease until some extrusion is visible at the division of the bearing races, then rotate 90 degrees and repeat. Continue until the whole bearing is greased.

CAUTION

When checking the gear box oil level. Place the dipstick into the sleeve until the cap is flush with the end sleeve. Do not screw the cap on the sleeve to check the level.

5. Turntable swing drive gearbox and brake. Drain and refill swing drive gearbox first time after 250 hours. Fill to mark on gear box dipstick. Drain and refill swing brake first time after 100 hours. Fill to plug on brake.
6. Axle drive units and planetary ends. Make first oil change at 100 hours of operation.
7. Fill to bottom of level hole in housing with oil level horizontal.
8. Drain at oil pan, fill at oil filler cap.
9. Torque converter oil filter. Replace after first 50 hours of operation and after first 100 hours of operation.

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:

Joyce E. Morrow

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

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

DISTRIBUTION: To be distributed in accordance with the Initial Distribution Number (IDN) 070956, requirements for LO 5-3810-306-12

KEY

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES				INTERVALS
		Above 32° F (0° C)	+40°F (+4°C) to -10°F(-23°C)	0°F (-17°C) to -65°F(-53°C)		
MPG- Multipurpose Grease (MIL-PRF-10924)						
Turntable Gear and Pinion Teeth	Brush on all teeth					
Steer Cylinder Pivot Pins	Until grease extrudes					
Main and Aux Boom Nose Sheaves	Until grease extrudes					
Hook Block Sheaves	Until grease extrudes	ALL TEMPERATURES			FOR ARCTIC OPERATION REFER TO FM 9-207	Intervals given are in hours of normal operation
Outrigger Beam Wear Surfaces	Brush on each beam where pads contact. Extend/retract to distribute grease.					
Outrigger Jack Support Tubes	Brush on outside of cylinder barrels. Extend/ retract to distribute grease.					
Transmission Speed Sensor Drive (RT875CCS)	Until grease extrudes					
Drive Shaft Universal Joints and Splines	Until grease extrudes					
Turntable Swing Bearing	Until grease extrudes entire circumference					
Oscillation Lockout Cylinder Pins	Until grease extrudes					
Fifth Wheel Pivot Pins	Until grease extrudes					
Axle Knuckle Bearings and Bushings	Until grease extrudes					
Tie Rod Ends (Both Axles)	Until grease extrudes					
Boom Pivot Shafts	Until grease extrudes					
Lift Cylinder Pivot Shafts	Until grease extrudes					

KEY

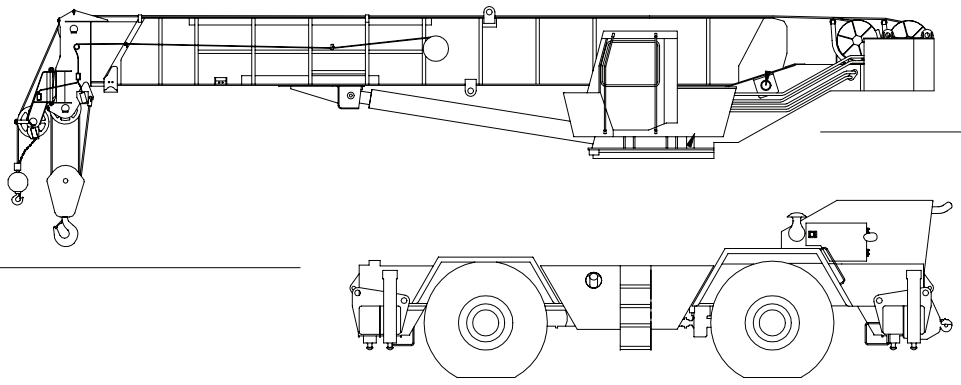
LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES				INTERVALS
		Above 32° F (0° C)	+40°F (+4°C) to -10°F(-23°C)	0°F (-17°C) to -65°F(-53°C)		
MPG- Multipurpose Grease (MIL-PRF-10924)					FOR ARCTIC OPERATION REFER TO FM 9-207	
Swivel	One pump – standard grease gun					
Pintle Hook Shank (Disassembled)	Brush – as required					
Hoist Idler Rollers	Until grease extrudes					
Hook Block Pivot and Swivel Bearing	Until grease extrudes					
Overhaul Ball Hook Swivel	Until grease extrudes	ALL TEMPERATURES				Intervals given are in hours of normal operation
Swing Box and Pinion Gear Bearing	Until grease extrudes					
Pintle Hook Coupler	Until grease extrudes					
Cardan Universal Joints	Until grease extrudes					
MPL – Multipurpose Gear Lube (MIL-PRF-2105)						
Turntable Swing Gear Box	15 Qts (14.2 L)					
Main and Aux Hoists – Final Drive	10 Qts (9.5 L)	ALL TEMPERATURES				
Axle Drive Units (Differential)	30 Qts (14.2 L)					
Axle Planetary Ends	58 Pts (26.5 L)					
OE/HDO Engine Oil (MIL-L-2104) **OEA Engine Oil (MIL-L-46167)**						
Engine Crankcase	23.7 Qts (22.4 L)	OE/HDO 15W40		OEA		
SPC Anti-Seize Lube (MIL-PRF-907)						
Boom Wear Pads	Brush on area contacting pads	ALL TEMPERATURES				

KEY

LUBRICANTS	CAPACITY	EXPECTED TEMPERATURES			FOR ARCTIC OPERATION REFER TO FM 9-207	INTERVALS
		Above 32° F (0° C)	+40°F (+4°C) to -10°F(-23°C)	0°F (-17°C) to -65°F(-53°C)		
OE/HDO Engine Oil (MIL-PRF-2104) **OEA Engine Oil (MIL-L-46167)**		OE/HDO 10W		OEA		Intervals given are in hours of normal operation
Transmission and Torque Converter	8.6 gallons (32.6 L)					
OE/HDO-10 Engine Oil (MIL-PRF-2104)		ALL TEMPERATURES				
Swing Brake	½ Pint (0.24 L)					
Hydraulic Reservoir	165 gallons (624.5 L)					
Wire Rope (Hoist Cable)	Thoroughly Coat Cable					

REFER TO CARDS 6, 7, 10

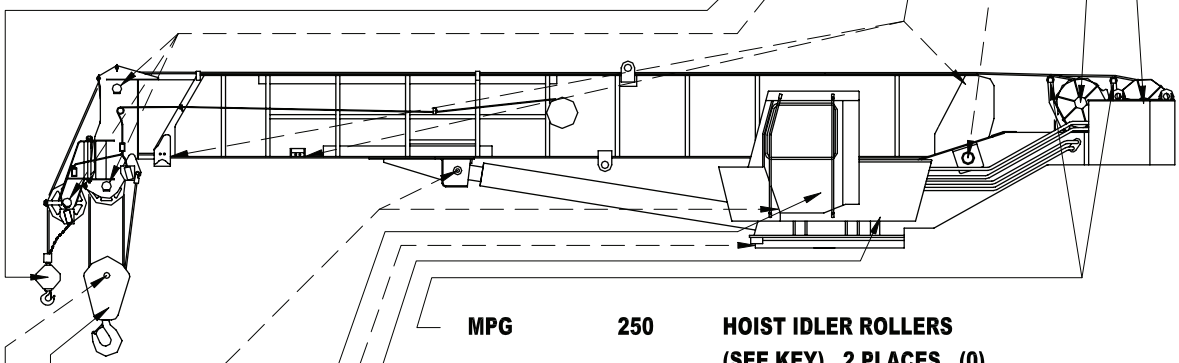
REFER TO CARDS 6, 7, 10



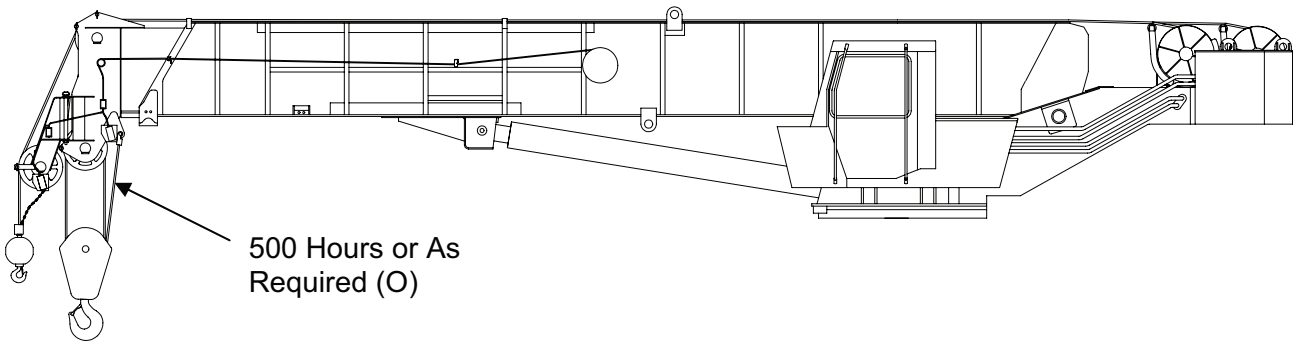
REFER TO CARDS 8, 9, 10

REFER TO CARDS 8, 9, 10

TOTAL MAN-HRS		TOTAL MAN-HRS	
INTERVAL	MAN-HR	INTERVAL	MAN-HR
50	0.3	1000	0.8
100	0.3	1500	0.1
250	0.8	2000	0.8
500	0.8		



	LUBRICANT	INTERVAL
MAIN AND AUXILIARY HOISTS FINAL DRIVE: DRAIN/FILL (SEE KEY) (0)	MPL	1000
BOOM PIVOT SHAFT (NOTE 3 AND KEY) 2 PLACES (0)	MPG	250
BOOM WEAR PADS (SEE KEY) 8 PLACES (0)	SPC	250
MAIN AND AUXILIARY BOOM NOSE SHEAVES (SEE KEY) 6 PLACES (0)	MPG	100
OVERHAUL BALL HOOK SWIVEL (SEE KEY) 1 PLACE (0)	MPG	100
	MPG	250
HOIST IDLER ROLLERS (SEE KEY) 2 PLACES (0)		
	MPG	250
SWIVEL COUPLING (SEE KEY) 1 PLACE (0)		
	MPG	250
TURNTABLE DRIVE PINION GEAR (SEE KEY) 2 PLACES (0)		
	MPG	250
TURNTABLE SWING BEARING (NOTE 4 AND KEY) 4 PLACES (0)		
	MPG	250
TURNTABLE SWING DRIVE GEAR BOX PINION SHAFT BEARING (SEE KEY) 1 PLACE (0) (DETAIL D)		
	MPL	500 OR 12 MOS
TURNTABLE SWING DRIVE GEAR BOX: DRAIN/FILL (NOTE 5) 1 PLACE (0)		
	MPL	50
TURNTABLE SWING DRIVE GEAR BOX: CHECK/FILL (NOTE 5 AND KEY) 1 PLACE (0)		
	OE	50
TURNTABLE SWING BRAKE: CHECK/FILL (NOTE 5 AND KEY) 1 PLACE (0) (DETAIL D)		
	MPG	250
LIFT CYLINDER PIVOT SHAFTS (UPPER AND LOWER) (NOTE 3 AND KEY) 6 PLACES (0)		
	MPG	100
HOOK BLOCK PIVOT AND SWIVEL BEARINGS (SEE KEY) 3 PLACES (0)		
	MPG	100
HOOK BLOCK SHEAVES (SEE KEY) 3 PLACES (0)		



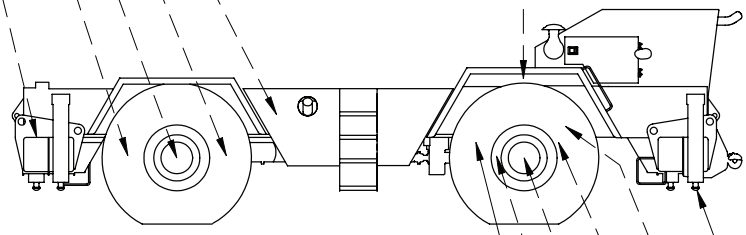
WIRE ROPE LUBRICATION

The surface of some ropes may become covered with dirt, rock dust, or other material during their operation. This covering can prevent field-applied lubricants from properly penetrating into the rope. Therefore, these ropes should be cleaned before being lubricated.

The OE/HDO-10 engine oil (MIL-PRF-2104) lubricant applied should be light bodied enough to penetrate to the core of the rope. Lubricant may be applied effectively by various methods. It may be dripped on, sprayed on, or put on by brush, but in any case, it should be applied at a place where the rope is being bent, such as at a sheave. It should be applied at the top of the bend, because at the point where the strands are spread by bending they are more easily penetrated. The service life of the rope will be directly proportional to the effectiveness of the methods used and the amount of lubricant reaching the working parts of the rope.

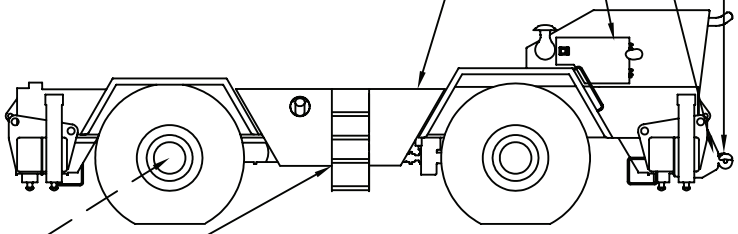
A proper lubricant must reduce friction, protect against corrosion, adhere to every wire, and be pliable and not crack or separate when cold and yet not drip when warm.

LUBRICANT	INTERVAL	
MPG	250	OUTRIGGER BEAM WEAR SURFACES (SEE KEY) 4 PLACES (0)
MPG	250	STEER CYLINDER PIVOT PINS (SEE KEY) 2 PLACES PER CYLINDER (0) (DETAIL B)
MPG	500	AXLE KNUCKLE BEARINGS & BUSHINGS (SEE KEY) 4 PLACES (0) (DETAIL B)
MPG	500	AXLE TIE ROD ENDS - EACH AXLE (SEE KEY) 2 PLACES (0) (DETAIL A)
MPG	500	DRIVE SHAFT UNIVERSAL JOINTS & SPLINES (SEE KEY) 10 PLACES (RT875CC) (0) 3 PLACES (RT875CCS) (0)
MPG	250	OSCILLATION LOCKOUT CYLINDER PINS (SEE KEY) 2 PLACES PER CYLINDER (0)

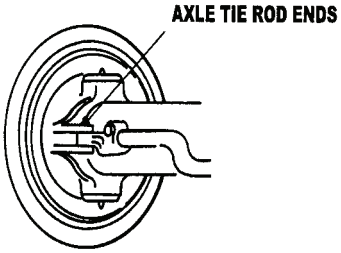


	LUBRICANT	INTERVAL
FIFTH WHEEL PIVOT PINS (SEE KEY) 2 PLACES (0) (DETAIL B)	MPG	250
AXLE TIE ROD ENDS - EACH AXLE (SEE KEY) 2 PLACES (0) (DETAIL A)	MPG	500
AXLE KNUCKLE BEARINGS AND BUSHINGS (SEE KEY) 4 PLACES (0) (DETAIL B)	MPG	500
STEER CYLINDER PIVOT PINS (SEE KEY) 2 PLACES PER CYLINDER (0) (DETAIL B)	MPG	250
CARDAN UNIVERSAL JOINTS (SEE KEY) 4 PLACES (0) (DETAIL B)	MPG	500
OUTRIGGER JACK SUPPORT TUBE (SEE KEY) 4 PLACES (0)	MPG	250

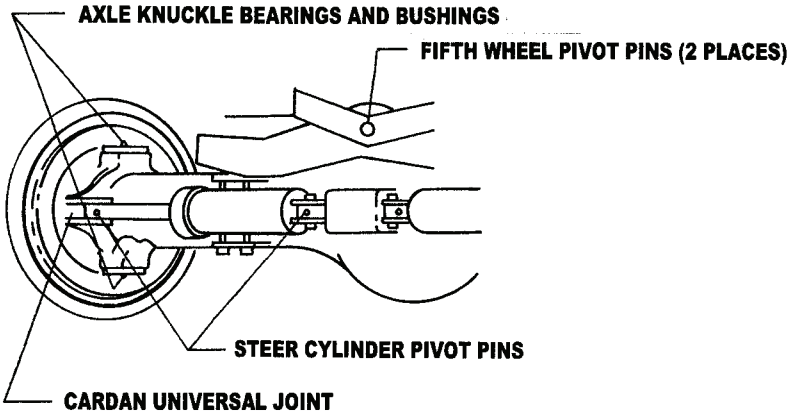
	LUBRICANT	INTERVAL
PINTLE HOOK SHANK (SEE KEY) (0)	MPG	500
PINTLE HOOK JAW/LATCH (SEE KEY) 2 PLACES (0)	MPG	250
ENGINE CRANKCASE AND FILTER (NOTE 8 AND KEY) (0) (DETAIL C)	OE	250 OR 6 MOS
HYDRAULIC RESERVOIR (SEE KEY) (0)	OE	DAILY
HYDRAULIC RESERVOIR (DRAIN/FILL) (0)	OE	2000
HYDRAULIC FILTER (INSPECT/REPLACE) (0)	NA	DAILY



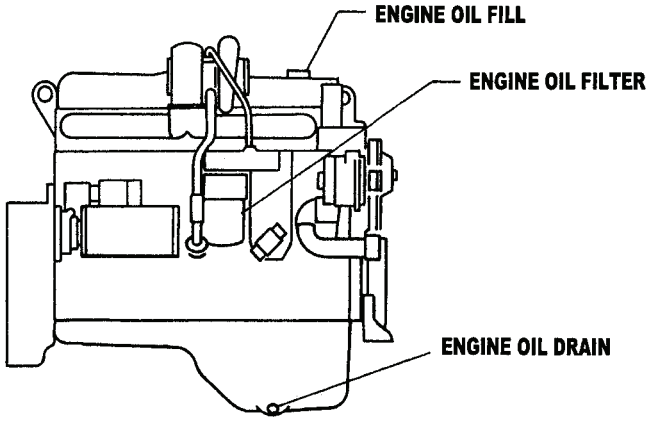
LUBRICANT	INTERVAL	
NA	500	TORQUE CONVERTER OIL FILTER REPLACE 1 PLACE
MPG	500	TRANSMISSION SPEED SENSOR DRIVE (RT875CCS) (SEE KEY) 1 PLACE (0)
OE	1000 OR 6 MOS	TRANSMISSION AND TORQUE CONVERTER DRAIN AND REFILL (NOTES 2, 9 & KEY) (0) (DETAIL E)
MPL	1500 OR 6 MOS	AXLE DIFFERENTIAL AND PLANETARY ENDS - 3 PLACES EACH AXLE (NOTE 6 & KEY) (0)
MPL	250	AXLE (DRIVE UNITS): CHECK/FILL 1 PLACE EACH AXLE (0)
MPL	250	AXLE PLANETARY ENDS: CHECK/FILL 2 PLACES EACH AXLE (0)



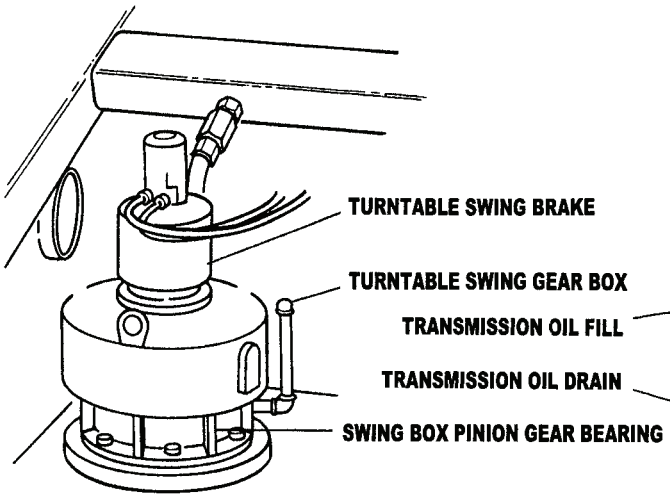
DETAIL A



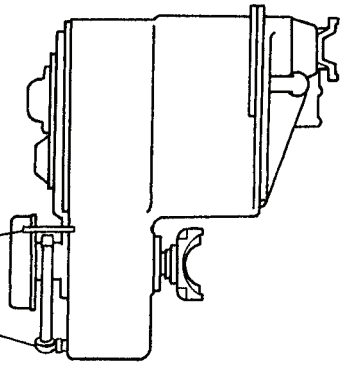
DETAIL B



DETAIL C



DETAIL D



DETAIL E

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
0632414

Distribution:

To be distributed in accordance with the initial distribution number (IDN) 255978, requirements for LO 5-3810-306-12.

PIN: 070956-000