NIGHT TIME
HAND
AND
ARM SIGNALS

Transparency 4-102

Use the following signal to indicate LIFT LOAD

RAISE ONE LIGHT ABOVE HEAD WITH LIGHT POINTING UPWARD.

Transparency 4-103

Use the following signal to indicate LOWER LOAD

ONE LIGHT POINTING

TOWARD THE GROUND.

Transparency 4-104

Use the following signal to indicate TILT LOAD FORWARD

TWO LIGHTS IN A VERTICAL POSITION TOWARD THE GROUND.

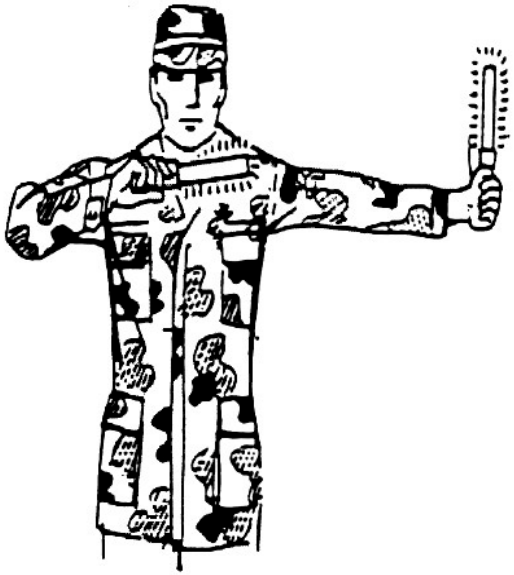
Transparency 4-105

Use the following signal to indicate TILT LOAD BACKWARD

TWO LIGHTS IN A VERTICAL POSITION ABOVE THE HEAD.

Transparency 4-106

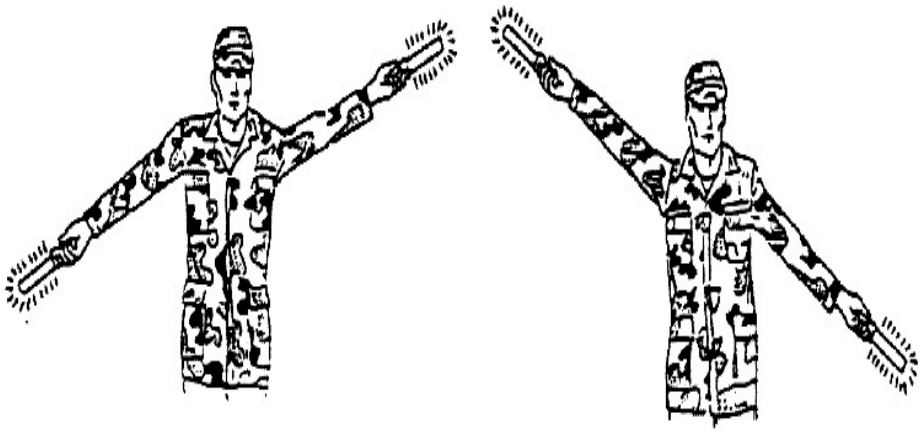
Use the following signal to indicate SIDE SHIFT THE LOAD



WITH ARM EXTENDED ACROSS CHEST, POINT LIGHT IN THE DIRECTION OF MOVEMENT.

Transparency 4-107

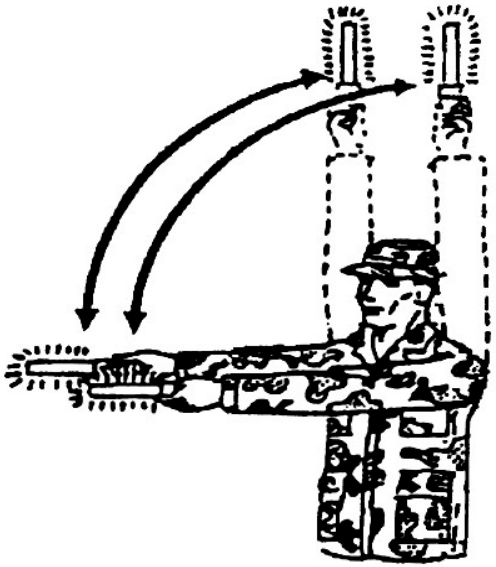
Use the following signals to indicate OSCILLATE THE LOAD



GROUND GUIDES TILT ARMS IN THE DIRECTION THE LOAD SHOULD BE GOING.

Transparency 4-108

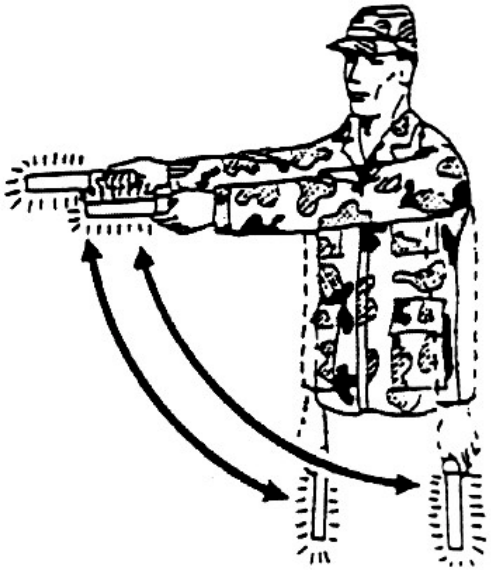
Use the following signal to indicate MOVE FORWARD



LIGHTS IN AN UPWARD POSITION BRINGING ARM DOWN TO A HORIZONTAL POSITION AND RETURN TO VERTICAL POSITION.

Transparency 4-109

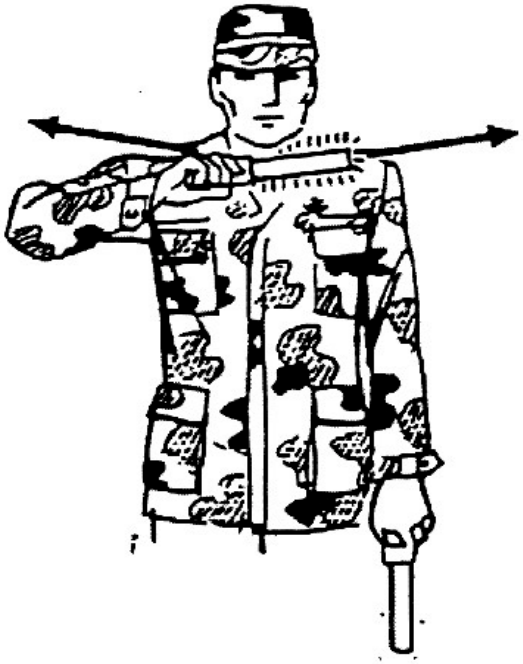
Use the following signal to indicate MOVE BACKWARD



TWO LIGHTS IN A DOWNWARD POSITION AND RAISING ARMS IN AN UPWARD MOTION.

Transparency 4-110

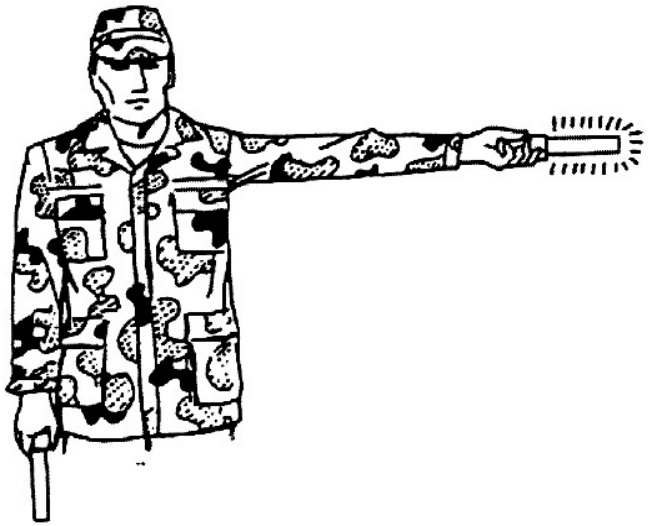
Use the following signal to indicate SHUTDOWN



LIGHT POSITIONED HORIZONTALLY ACROSS THROAT AND USING A BACK AND FORTH MOTION.

Transparency 4-111

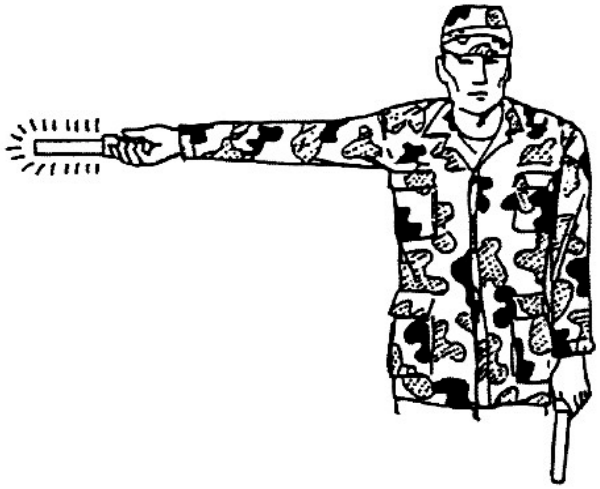
Use the following signal to indicate LEFT TURN



EXTEND LEFT ARM HORIZONTALLY IN THE DIRECTION OF MOVEMENT.

Transparency 4-112

Use the following signal to indicate RIGHT TURN



EXTEND RIGHT ARM HORIZONTALLY IN DIRECTION OF MOVEMENT.

Transparency 4-113

Use the following signal to indicate LOCK LOAD

FLASHLIGHT ABOVE HEAD MAKING A SLOW CIRCULAR MOTION.

Transparency 4-114

Use the following signal to indicate UNLOCK LOAD

POINT FLASHLIGHT TOWARD THE GROUND AND ROTATE IN A SLOW CIRCULAR MOTION

Transparency 4-115

Use the following signal to indicate STOP

HOLD ARMS

CROSSED OVERHEAD.

DO NOT MOVE.

Transparency 4-116

Use the following signal to indicate SLOW DOWN

LOWER RIGHT ARM TO WAIST LEVEL AND WAVE IN A SWEEPING MOTION FROM RIGHT TO LEFT, TURNING SEVERAL TIMES.

Transparency 4-117

Summary

THE STUDENT SHOULD BE FAMILIAR WITH SAFETY PRECAUTIONS WHEN WORKING AROUND THE RTCH AND ALL WARNING/CAUTION SIGNS AND HAND/ARM SIGNALS.

Transparency 4-118

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL BE ABLE TO PROPERLY FILL OUT A DA FORM 2404, RECORD DEFICIENCIES, AND DO PREVENTIVE MAINTENANCE CHECKS AND SERVICES ON THE EQUIPMENT.

Transparency 4-119

DA FORM 2404 (EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET)

Transparency 4-120

EQUIPMENT INSPECTION AND MAINTENANCE WORKSHEET

For use of this form, see DA PAM 738-750 and 738-751; the proponent agency is DCSLOG

1. ORGANIZATION	2. NOMENCLATURE AND MODEL
368th Transportation Company	50,000 LB TRK RTCH

3. REGISTRATION/SERIAL/NSN	4a. MILES	b. HOURS	c. ROUNDS FIRED	d. HOT STARTS	5. DATE	6. TYPE INSPECTION
7600075					xxOctober20xx	Daily/weekly/monthly

7. APPLICABLE REFERENCE

TM NUMBER	TM DATE	TM NUMBER	TM DATE
10-3930-641-10	May 1981		

COLUMN a - Enter TM item number.

COLUMN b - Enter the applicable condition status symbol.

COLUMN c - Enter deficiencies and shortcomings.

COLUMN d - Show corrective action for deficiency or shortcoming listed in Column c.

COLUMN e - Individual ascertaining completed corrective action initial in this column.

STATUS SYMBOLS

"X" - Indicates a deficiency in the equipment that places it in an inoperable status.

CIRCLED "X" - Indicates a deficiency, however, the equipment may be operated under specific limitations as directed by higher authority or as prescribed locally, until corrective action can be accomplished.

HORIZONTAL DASH "(-)" - Indicates that a required inspection, component replacement, maintenance operation check, or test flight is due but has not been accomplished, or an overdue MWO has not been accomplished.

DIAGONAL "(/)" - Indicates a material defect other than a deficiency which must be corrected to increase efficiency or to make the item completely serviceable.

LAST NAME INITIAL IN BLACK, BLUE-BLACK INK, OR PENCIL - Indicates that a completely satisfactory condition exists.

FOR AIRCRAFT - Status symbols will be recorded in red.

ALL INSPECTIONS AND EQUIPMENT CONDITIONS RECORDED ON THIS FORM HAVE BEEN DETERMINED IN ACCORDANCE WITH DIAGNOSTIC PROCEDURES AND STANDARDS IN THE TM CITED HEREON.

8a. SIGNATURE *(Person(s) performing inspection)*	8b. TIME	9a. SIGNATURE *(Maintenance Supervisor)*	9b. TIME	10. MANHOURS REQUIRED

Transparency 4-121

TM ITEM NO. *a*	STATUS *b*	DEFICIENCIES AND SHORTCOMINGS *c*	CORRECTIVE ACTION *d*	INITIAL WHEN CORRECTED *e*
PMCS		Brake line broken	Replaced brake line	

DA FORM 2404, APR 79 Replaces edition of 1 Jan 64, which will be used USAPPC V1.10

Transparency 4-122

LEAKAGE DEFINITIONS FOR PMCS

1. Class I leak. Seepage of fluid (as indicated by wetness or discoloration) and NOT great enough to form a drop.

2. Class II leak. Leakage of fluid great enough to form a drop but not enough to cause drops to fall from item being checked/inspected.

3. Class III leaks:

   • Leakage of fluid great enough to form a drop that falls from the item being checked/inspected.
   • Equipment operation is allowable with Class I or Class II leaks, however a Class III is unacceptable.

Transparency 4-123

BEFORE OPERATION CHECKS ON THE 50,000-POUND RTCH

Transparency 4-124

Item 1. Walk around and check for the following:

- **Leaks on or under the vehicle.**
- **Loose wires, damaged lines, and hoses.**
- **Loose or damaged parts.**

Item 2. Check tires for the following:

- **Cuts, abrasions, missing valve caps, and general condition.**
- **Obvious low tires.**

Item 3. Check exterior of machine for the following:

- **Damage to fenders, mirrors, ladders, engine covers, and guards.**
- **Mission or damaged parts on tophandler hydraulic cylinders, twisted locks, container lock cylinders, forks, carriage, lift chains, and mast cylinders.**

Transparency 4-125

Item 4. Check hydraulic steering for the following:

- **Cylinders and hoses for obvious damage.**
- **Linkage for missing or damaged parts.**

Item 5. Check fuel tank. If low fuel indicator comes on, notify organizational maintenance.

Item 7. Check engine (when not running) for the:

- **Engine oil level.**
- **All visible oil lines and leaks and damage.**

Item 9. Check engine pre-cleaner/air cleaner for clogging or debris.

Item 12. Check hydraulic tank hydraulic level at sight gauge.

Transparency 4-126

Item 13. Check rollover protective structure for damage and looseness.

Item 14. Check operator's cab seat for wear, damage, or loose mounting.

Item 17. Check steering column lock.

- **Adjust wheel and column position.**
- **Release the lock button.**

Transparency 4-127

DURING OPERATION CHECKS ON THE 50,000-POUND RTCH

Transparency 4-128

Item 3. Check the exterior of the machine for the following:

- **Windshield and windows.**
- **Windshield wiper and blades.**

Item 5. Check fuel tank. If low fuel indicator comes on, notify organizational maintenance.

Item 14. Check operator's cab for the following:

- **Lights and gauges.**
- **Container lights.**
- **Low fuel indicator.**
- **Check heater and defroster.**

Item 15. Check light system for the following:

- **Operation of all lights.**
- **Lenses for damage.**

Transparency 4-129

Item 16. Check the parking brake.

- **Pull out to engage; parking brake indicator light comes on.**
- **Push in to disengage; parking brake light goes out.**

Note: Light will come on and horn will sound if brake is on with transmission engaged.

Note: Before starting engine, move gear selection to neutral, engage parking brake, and lock steering column.

Item 18. Check indicator lights. Start engine to check to ensure the following lights are off:

- **Low engine oil indicator.**
- **Low hydraulic oil indicator.**
- **No coolant flow indicator.**
- **Implement filter indicator.**
- **Transmission filter indicator.**
- **Air filter indicator.**
- **Pilot filter indicator.**
- **High temperature hydraulic oil indicator.**
- **Low pressure brake indicator.**
- **Supplementary steering indicator.**

Transparency 4-130

Item 19. Check the following gauges (indicators):

- **Engine oil pressure. Needle should be in green range within 10 seconds after engine starts.**
- **Fuel pressure:**
  - **Green range - normal operation.**
  - **Red - stop machine.**
- **Water temperature.**
  - **Green range - normal operation.**
  - **Red - stop machine and investigate problem.**
- **Converter oil temperature.**
  - **Green range - normal operation.**
  - **Red - stop machine and check transmission oil level.**

Transparency 4-131

Item 19. Check the following gauges (indicators) (continued):

- **Volts.**

  - **Green range - normal operation.**
  - **Charge or battery range.**

Item 20. Check transmission.

- **Check oil level with engine warm.**
- **Engine running low idle.**
- **Between low and full mark on dipstick.**

Item 21. Check the following control levers:

- **Lift control.**
- **Tilt control.**
- **Side tilt control.**
- **Container lock lever**

  - **Unlock - push lever forward.**
  - **Lock - pull lever back.**

Transparency 4-132

Item 22. Check the service brakes.

- **If low pressure brake light comes on within 5 pedal applications, the accumulator requires service.**
- **In a clear area, apply service brake and shift transmission in second gear forward, machine must not move.**
- **If machine moves, notify first line supervisor.**

Item 23. Check transmission range selector.

- **Operate vehicle.**
- **Use all 4 speeds.**

Note: Stop vehicle before shifting from forward to reverse.

Transparency 4-133

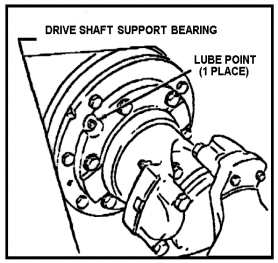
AFTER OPERATION CHECKS ON THE 50,000-POUND RTCH

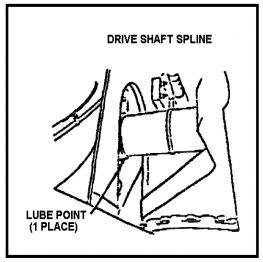
Item 5. Check fuel tank. Have fuel tank filled at end of work day.

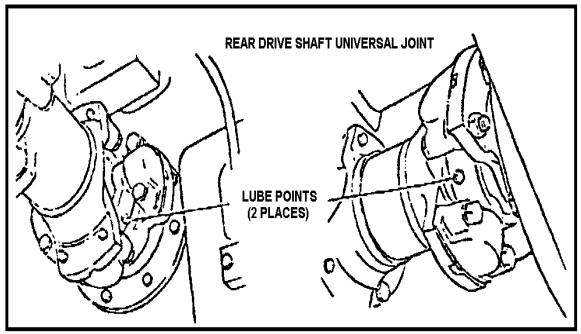
Transparency 4-134

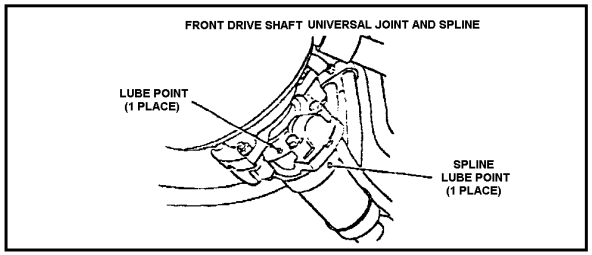
LUBRICATION POINTS ON THE 50,000-POUND RTCH

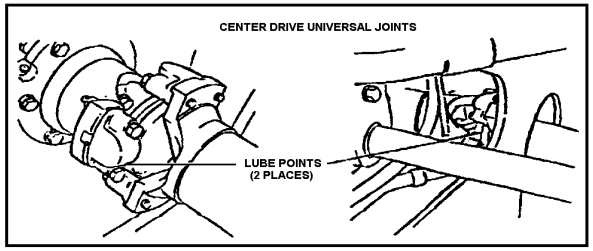
Transparency 4-135

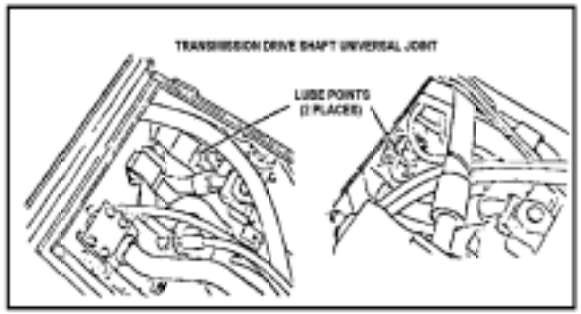




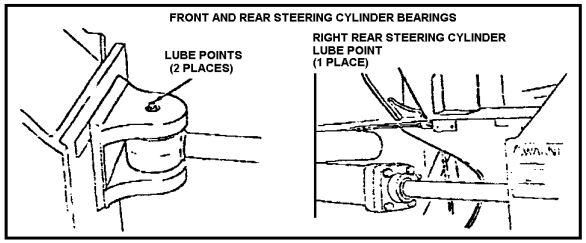


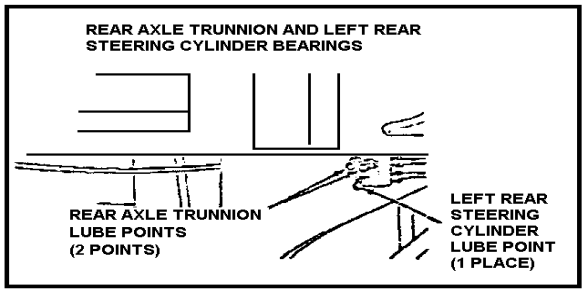


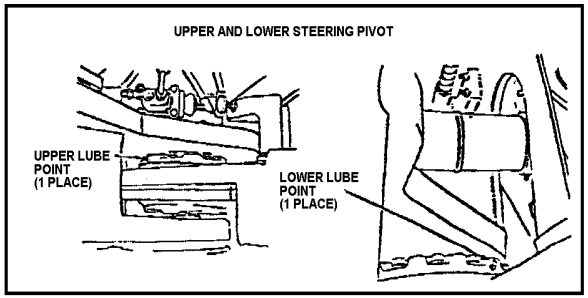


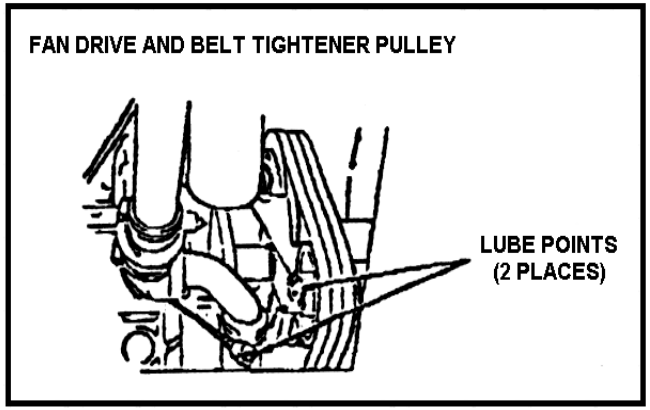


Transparency 4-136

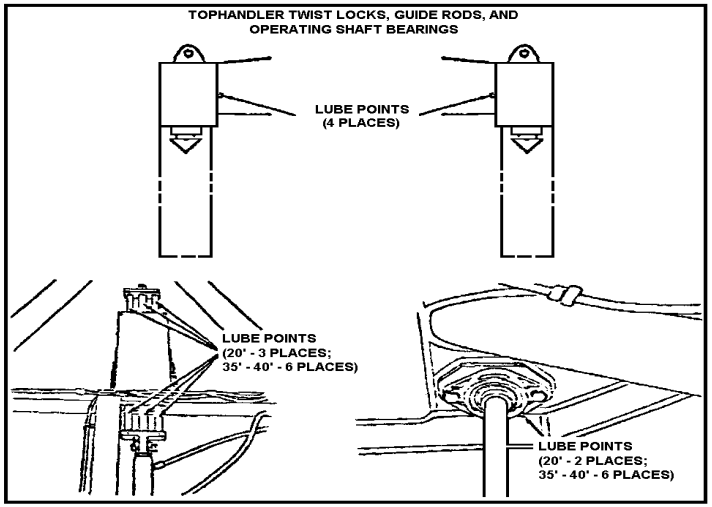


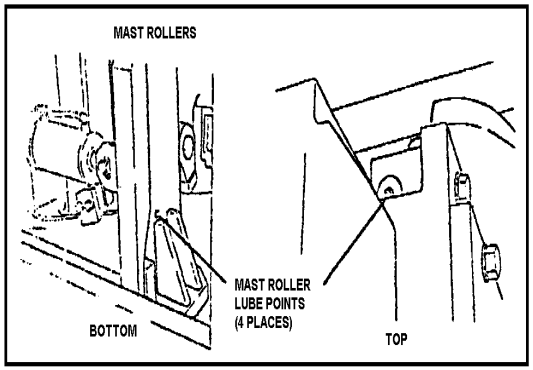


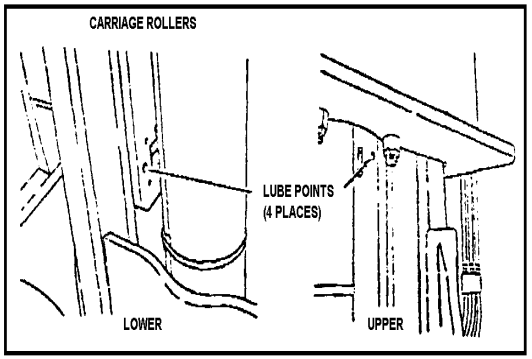


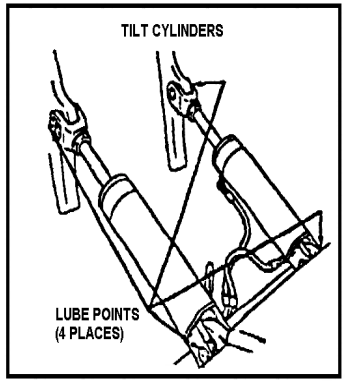


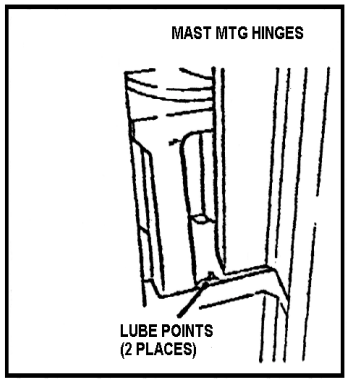
Transparency 4-137











Transparency 4-138

Summary

THE STUDENT SHOULD BE FAMILIAR WITH HOW TO CORRECTLY FILL OUT DA FORM 2404 AND TO RECORD DEFICIENCIES.

Transparency 4-139

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL LEARN HOW TO START, DRIVE, PARK, AND STOP THE 50,000-POUND RTCH.

Transparency 4-140

BEFORE STARTING PROCEDURES

Transparency 4-141

- **Do all before operation preventive maintenance checks and services.**

- **Turn main disconnect switch to the ON position. Never turn main disconnect switch OFF while engine is running.**

Transparency 4-142

- **Turn power switch to ON position.**

- **Ensure the following indicator lights are on:**
  - **High fuel.**
  - **No coolant flow.**
  - **Supplemental steering.**
  - **Low pressure brake.**
  - **Parking brake.**
  - **Alternator.**

- **Press down the test switch to ensure all indicator lights come on. If indicator lights do not come on, fuse or bulb may be blown.**

Transparency 4-143

STARTING PROCEDURES

Transparency 4-144

- **Ensure parking brake is “ENGAGED.”**

- **Ensure steering column is unlocked and lowered to desired position.**

- **Ensure transmission range selector is in “NEUTRAL.”**

- **Press down accelerator pedal 25 percent and hold before trying to start.**

Transparency 4-145

- Turn switch to “START” position and release when engine starts and release accelerator pedal. If engine does not start after 30 seconds, let starter cool for 2 minutes, then try again.

- Let engine run at idle for 5 minutes. Do not engage hydraulic controls. Oil pressure gauge should read in green range.

- Check engine oil level for proper reading.

- Check transmission oil level for proper reading.

Transparency 4-146

- **Check right hand instrument panel for proper reading.**

- **Check left hand instrument panel for proper reading.**

- **Ensure lights are off except the fuel high and park brake indicators.**

NOTE: Turn on all lights.

Transparency 4-147

DRIVING PROCEDURES

Transparency 4-148

- **Controls - check for proper operations.**
- **Right brake pedal - press and hold.**
- **Parking brake - “PUSH” to release.**

NOTE: Horn will sound if parking brake is engaged while machine is in gear.

Transparency 4-149

- **Transmission range selector - Move to desired direction of travel.**

NOTE: Rotate range selector to change gears for more speed.

- **Right brake pedal - release.**

- **Accelerator - “PRESS” to move vehicle.**

NOTE: Check the instrument panel while operating vehicle.

Transparency 4-150

PARKING PROCEDURES

Transparency 4-151

- **Accelerator - “RELEASE”.**
- **Right brake pedal - Press to stop vehicle.**
- **Transmission range selector - Move to neutral.**
- **Parking brake - “ENGAGED”.**
- **Forks/Tophandler - Slowly lower to lowest position.**

NOTE: Turn off all lights.

Transparency 4-152

STOPPING ENGINE PROCEDURES

Transparency 4-153

- **Engine:**
  - **Operate at half speed for 5 minutes.**
  - **Operate at low idle for 30 seconds.**

- **Power Switch:**
  - **Turn off.**
  - **Remove key.**

- **Steering Column:**
  - **Hold steering wheel.**
  - **Pull out and hold COLUMN RELEASE lever.**
  - **Slowly move steering column as far forward as it will go.**

Transparency 4-154

- **Steering Column Lock:**
  - **LOCK.**
  - **Remove steering column key.**

- **Main Disconnect:**
  - **Turn off.**
  - **When parking overnight or for long periods of time, remove key.**

- **Wheels - Use blocks if parked on a slope.**

Transparency 4-155

Summary

THE STUDENT SHOULD BE FAMILIAR ON HOW TO PERFORM PMCS BEFORE STARTING THE 50,000-POUND RTCH AND ALSO HOW TO CORRECTLY START, DRIVE, PARK, AND STOP THE RTCH.

Transparency 4-156

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL BE ABLE TO CONNECT/ DISCONNECT THE TOPHANDLER TO/FROM THE 50,000-POUND RTCH.

Transparency 5-1

- **Attaching Tophandler:**
  - **Approach tophandler slowly, approach must be direct and straight.**
  - **Insert forks into opening of tophandler.**
  - **Inch forward until forks are fully inserted into tophandler.**
  - **Shut down engine.**
  - **Install and secure both safety chains.**
  - **Hook up electrical connector.**
  - **Connect both hydraulic connectors.**

Transparency 5-2

- **Disconnecting Tophandler:**
  - **Shut down engine.**
  - **Disconnect both hydraulic connectors.**
  - **Disconnect electrical connector.**
  - **Remove both safety chains.**
  - **Start engine.**
  - **Back slowly and directly away from tophandler until forks are cleared.**

Transparency 5-3

Summary

THE STUDENT SHOULD BE FAMILIAR ON HOW TO ATTACH AND DISCONNECT THE TOPHANDLER TO/FROM THE 50,000-POUND RTCH.

Transparency 5-4

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL BE ABLE TO LIFT A CONTAINER AND DRIVE THE 50,000-POUND RTCH WITH A CONTAINER ATTACHED.

Transparency 6-1

- **Lifting Containers:**
  - **Center and level tophandler.**
  - **Position front of vehicle to broadside of container.**
  - **Position locks of tophandler over corners of container.**
  - **Lower locks into fittings.**
  - **Ensure both “ready-to-lock” lights come on.**

Transparency 6-2

- **Lift container to minimum traveling height:**
  - **18 to 22 inches mimimum carrying height.**
  - **Tilt back to stabilize load.**

- **Center load for carrying.**

Transparency 6-3

Summary

THE STUDENT SHOULD BE FAMILIAR ON HOW TO LIFT A CONTAINER AND DRIVE THE 50,000-POUND RTCH WITH A CONTAINER ATTACHED.

Transparency 6-4

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL BE ABLE TO CORRECTLY OFF-LOAD AND STACK CONTAINERS.

Transparency 6-5

- **Off-Loading Containers:**
  - **Center and level tophandler.**
  - **Stop 3 to 4 feet from other containers.**
  - **Raise to maximum height and level tophandler.**
  - **Position locks of tophandler over corners of container.**
  - **Lower locks into fittings.**
  - **Ensure both “ready-to-lock” lights come on.**

Transparency 6-6

- Lock tophandler to container.
- Lift container to maximum height.
- Tilt back to stabilize load.
- Back away 3 to 4 feet from other containers.
- Lower container to minimum carrying height (which is 18 to 22 inches).

Transparency 6-7

- **Stacking Containers:**
  - **Center and level container.**
  - **Tilt back to stabilize load.**
  - **Align containers using ground guide.**
  - **Stop 3 to 4 feet from other containers.**
  - **Raise to maximum height.**
  - **Move forward over other containers.**

Transparency 6-8

- Lower container squarely over corner of other containers within 3 inches.
- Make any adjustments.
- Set down container on other container.
- Unlock tophandler and raise to clear container.
- Tilt back to clear tophandler from container.
- Back away from container and lower.

Transparency 6-9

Summary

THE STUDENT SHOULD BE FAMILIAR ON HOW TO OFF-LOAD AND STACK CONTAINERS.

Transparency 6-10

Objective

AFTER THE COMPLETION OF THIS LESSON, THE STUDENT WILL KNOW THE ESTABLISHED HAZCOM STANDARDS.

Transparency 7-1

• The federal government is working to reduce the risk of injury or illness caused by hazardous chemicals in the work place. Accomplishing this goal requires information and communication. Everyone needs to know about the hazardous chemicals they work with, whether the material poses a risk to safety or health, and how to reduce any such risks.

Transparency 7-2

- **Show and discuss the following HAZCOM tapes:**
  - **Introduction to HAZCOM.**
  - **Physical Hazards and Health Hazards.**
  - **Main Routes of Exposure.**
  - **Physical Hazards.**
  - **Health Hazards.**
  - **Reproductive Hazards.**
  - **Methods of Controlling Chemical Hazards.**

Transparency 7-3

Summary

THE STUDENT SHOULD BE FAMILIAR WITH ESTABLISHED HAZCOM STANDARDS.

Transparency 7-4