

John Deere 440D Skidder and 448D Grapple Skidder



JOHN DEERE

OPERATORS MANUAL

John Deere 440D Skidder and 448D
Grapple Skidder

OMT122054 D8 English

John Deere Davenport Works
OMT122054 D8

LITHO IN U.S.A.
ENGLISH



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PRACTICE SAFE MAINTENANCE

Understand service procedure before doing work. Keep area clean and dry.

Never lubricate or service machine while it is moving. Keep hands, feet, and clothing from power-driven parts.

Before servicing machine:

- Park the machine on a level surface.
- Place range and gear shift levers in neutral.
- Engage park brake.
- Lower blade and grapple (if equipped) to the ground.
- Turn key off to stop engine.
- Turn steering wheel to discharge steering accumulators (if equipped).
- Allow engine to cool.

If maintenance procedure must be performed with engine running, do not leave machine unattended.

Securely support any machine elements that must be raised for service work.

Keep all parts in good condition and properly installed. Fix damage immediately. Replace worn or broken parts. Remove any buildup of grease, oil, or debris.

Disconnect battery ground cable (—) before making adjustments on electrical systems or welding on machine.



AB6;TS218 02T;05 J47 090288

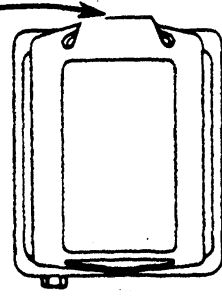
SUPPORT RAISED EQUIPMENT

Place a support under all raised equipment.

If a support is not available, lower equipment to the ground.

02T;05 J48 080388

CAUTION
This filter must not be
pressurized over 30 psi
as glass may shatter.



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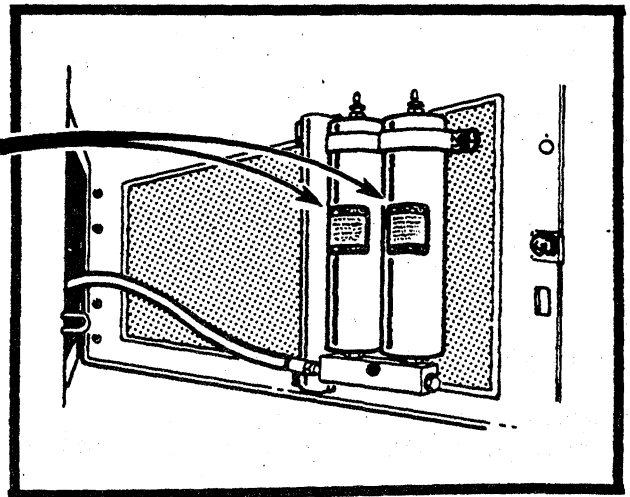
 **WARNING**

Avoid injury from escaping fluid.
Contents of this accumulator are
under pressure.

1. Refer to proper Machine
Model Technical Manual for
disassembly or charging
instructions and equipment
required.
2. Charge with DRY NITROGEN
only.

S

**Maximum Working Pressure
22060 kPA (3200 PSI)**



If Equipped

018;T6769AA 02T;06 J30 230388

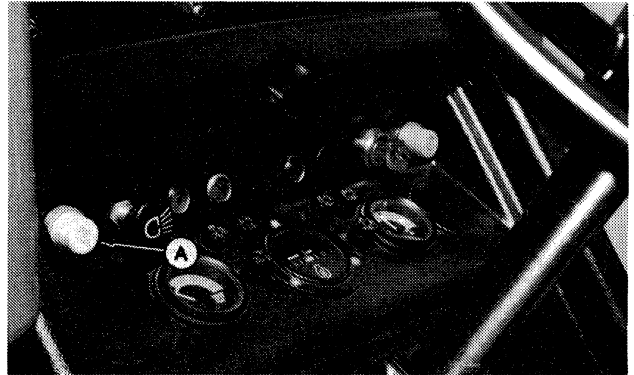
USING STARTING AID—IF EQUIPPED



CAUTION: Starting fluid is highly flammable. Keep container away from heat, sparks, and open flame. Contents are pressurized. Do not puncture or incinerate container.

IMPORTANT: Keep starting fluid can in place at all times to protect starting aid components.

Use starting aid when temperatures are below -1°C (30°F) and only when engine is **COLD**.



1. Turn key switch to START position.

IMPORTANT: Starting fluid is being injected into engine as long as you push switch. Push switch **ONLY** when engine is cold and cranking; excess starting fluid could damage engine.

2. After one or two revolutions of engine crankshaft, push start aid switch (A) at short intervals. Crank engine for 20 seconds maximum, then allow 2 minutes between cranking periods.

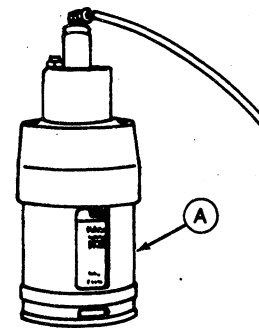
87A;T6756AB 02T;25 K53 110388

REPLACE STARTING AID CAN



CAUTION: Starting fluid is highly flammable. Keep container away from heat, sparks, and open flame. Contents are pressurized. Do not puncture or incinerate container.

IMPORTANT: When operating without starting aid can, remove holder (A), turn 180° , and reinstall. This must be done to protect starting aid components.



1. Remove empty starting fluid can by turning holder (A) counterclockwise until the can is removed.

2. Remove safety cap and spray button from new can.

3. Install new can in holder.

4. Turn holder clockwise to tighten can.

018;T6208AJ 02T;25 K29. 270387

Operating the Skidder

KEEP RIDERS OFF MACHINE

CAUTION: Only allow the operator on the machine.

Riders' legs can be crushed with blade.

Riders on a machine are subject to injury such as being struck by limbs or being thrown off machine.

Riders also obstruct the operator's view resulting in the machine being operated in an unsafe manner.



87A;T6044BQ 02T;35 K58. 140388

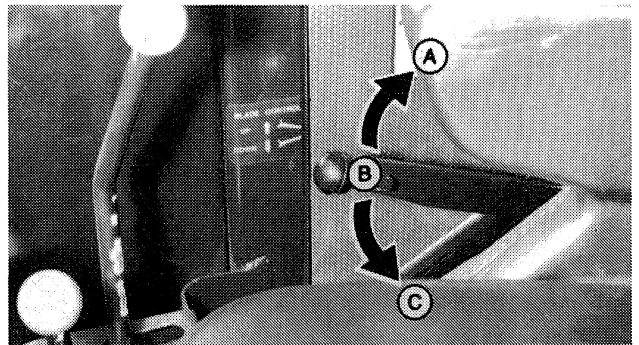
OPERATING BLADE CONTROL LEVER

CAUTION: Before you dismount, lower blade to ground.

Pull lever up (A) to raise blade. Push lever down (C) to lower.

Release lever to return to neutral (B).

IMPORTANT: Lever must contact lever stop when pushed down.



87A;T85582 02T;35 K59. 230388

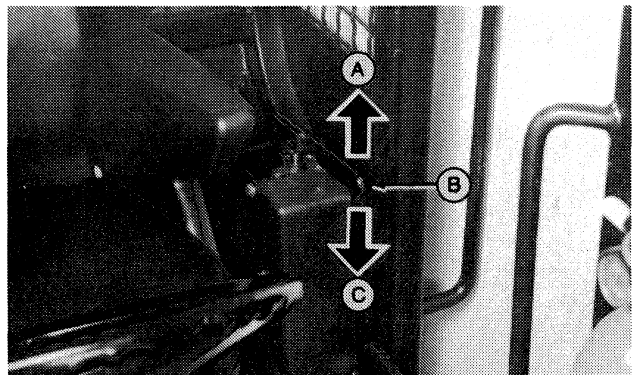
OPERATING WINCH CONTROL LEVER

CAUTION: DO NOT pull a load at an angle that lifts a rear tire off the ground.

Operate winch only from operator's station.

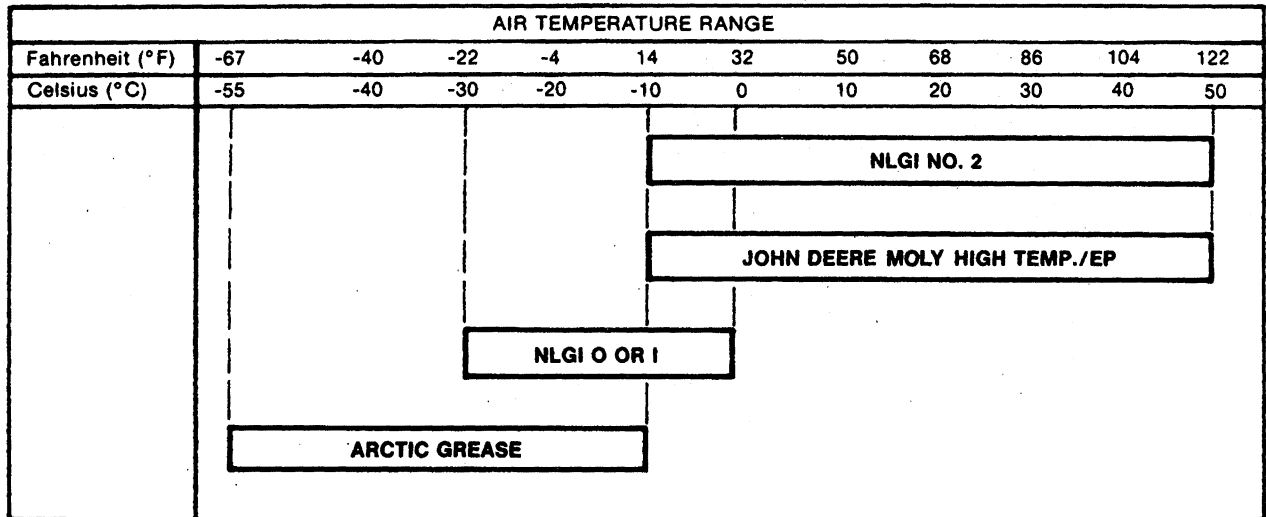
1. Pull lever up (A) to wind cable on drum. Lever will return to HOLD position (B).

2. Push lever down to FREESPOOL (detent) position (C). Lever must be manually returned to HOLD position (B).



87A;T5843AR 02T;35 K60. 220388

GREASE



Depending on the expected air temperature range during use, use grease shown on chart above.

Greases recommended are:

John Deere Moly High Temperature/EP grease (preferred)

SAE Multipurpose Grease with Extreme Pressure (EP) performance and containing 3 to 5 per cent molybdenum disulfide (preferred).

SAE multi-purpose EP grease.

Grease meeting MIL-G-10924C specifications may be used as arctic grease.

018;T6722AA 02T;45 C49. 270188

LUBRICANT STORAGE

Your machine can operate at top efficiency only if clean lubricants are used. Use clean containers to handle all lubricants. Store them in an area protected from dust, moisture, and other contamination. Store drums on their sides.

T82;BHFL J. 230387

CHECK TIRE PRESSURE

CAUTION: Explosive separation of a tire and rim parts can cause serious injury or death.

Do not attempt to mount a tire unless you have the proper equipment and experience to perform the job. Have it done by your John Deere dealer or a qualified repair service.

Always maintain the correct tire pressure. Do not inflate the tires above the recommended pressure.

When inflating tires, use a clip-on chuck and extension hose long enough to allow you to stand to one side and NOT in front of or over the tire assembly. Use a safety cage if available.

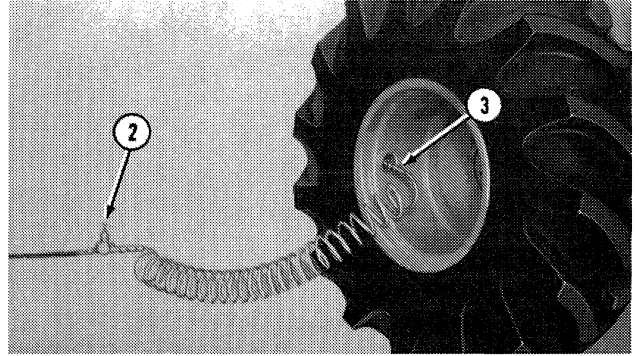
Inspect tires and wheels daily. Do not operate with low pressure, cuts, bubbles, damaged rims or missing lug bolts and nuts.

Check tire pressure with an accurate gauge having 1 psi (7 kPa) graduations.

1. Shut off air supply to hose.
2. Move gauge hand to correct pressure.
3. Lock air chuck tire valve.
4. Turn on air supply. Stand to front or rear of tire when you add air to tire.
5. After tire is at correct pressure, shut off air supply. Release chuck.
6. Inspect tire for damage.

NOTE: Tire pressures must be equal for all four tires.

Shipping pressure may vary from operating pressure.



Tire Size	Type	Ply Rating	Cold Tire Inflation Pressure Psi (kPa)
16.9-30	LS-2	10	30 (210)
18.4-26	LS-2	10	25 (170)
18.4-34	LS-3	10	25 (170)
18.4-34	LS-2	16	25 (170)
23.1-26	LS-2	10	20 (140)
23.1-26	LS-2	16	20 (140)
28.1-26	LS-3	10	15 (100)
68/34-26	LS-2	16	20 (140)

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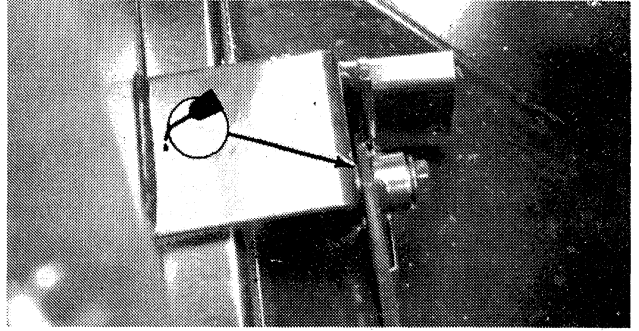
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Periodic Maintenance-100 Hours

LUBRICATE BLADE CONTROL LEVER PIVOT (IF EQUIPPED)

Every 100 hours, lubricate with engine oil. (See Fuels and Lubricats chapter.)



87A;T85185 03T;70 K22. 240388

CHECK BATTERY ELECTROLYTE LEVEL AND TERMINALS

⚠ CAUTION: Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

1. Remove battery cover.

⚠ CAUTION: Sulfuric acid in battery electrolyte is poisonous. It is strong enough to burn skin, eat holes in clothing, and cause blindness if splashed into eyes.

Avoid the hazard by:

1. Filling batteries in a well-ventilated area.
2. Wearing eye protection and rubber gloves.
3. Avoiding breathing fumes when electrolyte is added.
4. Avoiding spilling or dripping electrolyte.
5. Use proper jump start procedure.

If you spill acid on yourself:

1. Flush your skin with water.
2. Apply baking soda or lime to help neutralize the acid.
3. Flush your eyes with water for 10—15 minutes. Get medical attention immediately.

If acid is swallowed:

1. Drink large amounts of water or milk.
2. Then drink milk of magnesia, beaten eggs, or vegetable oil.
3. Get medical attention immediately.

2. Early Units: Remove "Maintenance Free Battery" strip from each battery.

3. Fill each cell to bottom of filler neck with distilled water.

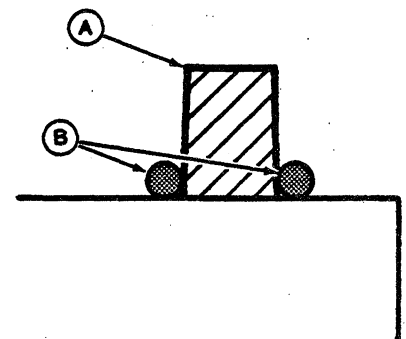
4. Clean battery terminal (A) and clamps with a stiff brush.

5. Apply a 10 mm (3/8 in.) bead of petroleum jelly (B) around battery terminal posts.

6. Install and tighten clamps and ground connections.

The cable connector seal should not be pinched between the stud pad and eyelet.

Check torque on four nuts; torque should be 15 lb-ft (20 N·m).



FILL THE COOLING SYSTEM

SPECIFICATION

Cooling system capacity Approx 8 gal (30.3 L)

Coolant level must be 1.0 in. (25 mm) below bottom of filler neck.

ABOVE FREEZING TEMPERATURES: Antifreeze reduces cooling system efficiency. Fill cooling system with clean, soft water and add RE23182 John Deere Coolant Conditioner or equivalent.

IMPORTANT: Use only permanent-type, low silicate, ethylene glycol base antifreeze in coolant solution. Other types of antifreeze may damage cylinder seals.

FREEZING TEMPERATURES: Fill with permanent-type, low silicate, ethylene glycol antifreeze (without stop-leak additive) and clean, soft water. Add RE23182 John Deere Coolant Conditioner or equivalent.

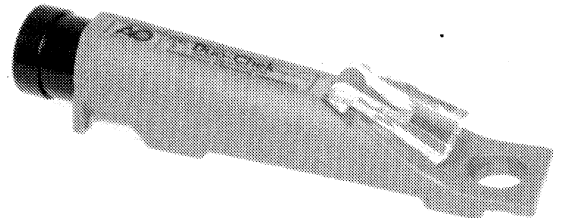
NOTE: All machines are shipped from the factory with a 50—50 mixture for protection to -37°C (-34°F). Adjust mixture accordingly to provide freeze protection for your machine.

04T;90 K121. 230388

TEST THE COOLANT FREEZE—PROTECTION LEVEL

See your John Deere dealer for JT05460 SERVICE-GARD™ coolant and battery tester. Follow directions included with the tester.

If you operate your machine in extremely cold temperatures, see your John Deere dealer for information on arctic operation.



018;T85402 T82;EXMA CK. 230387

DO NOT SERVICE INJECTION NOZZLES

IMPORTANT: Do not service or remove injection nozzles. The service life of the injection nozzles may be shortened by:

- | | |
|--------------------------|---------------------------|
| Overheating | Improper operation |
| Poor quality fuel | Excessive idling |

If injection nozzles are not working correctly or are dirty, the engine will not run normally. (See your John Deere dealer for service.)

T82;SKMA A 031285

CHECK WINDSHIELD REGULARLY

The windshield is a polycarbonate material which is softer but stronger than glass. It will scratch.

IMPORTANT: DO NOT operate windshield wiper on a dry window or scrape windows with sharp objects.

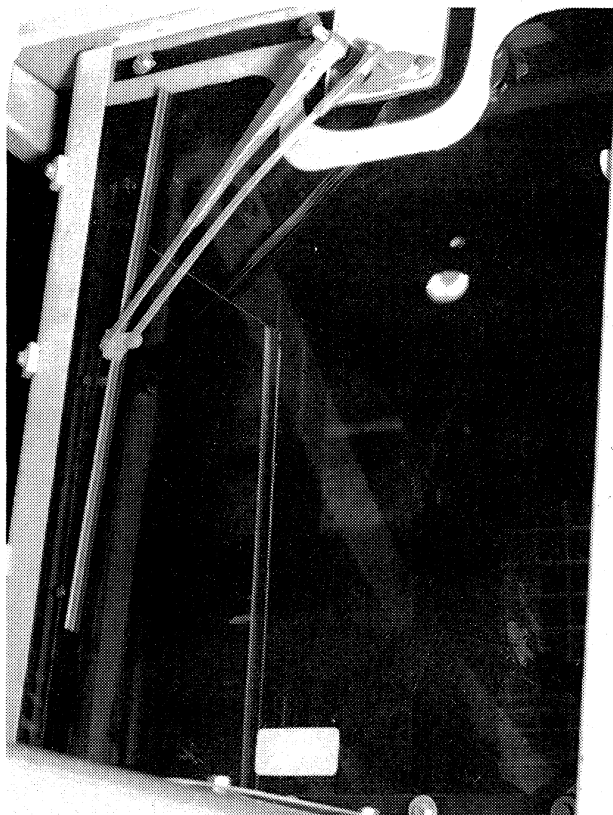
Before washing, flush as much loose dirt off as possible with water. Some of the several commercially available water soluble cleaners that do a good job of cleaning the windows are liquid Ajax with Ammonia, Joy, Fantastick, Top Job, Mr. Clean, Formula 409 or other similar compounds. If there is a heavy concentration of tree sap, use No. 1 or No. 3 denatured alcohol, Varsol No. 2 or rubbing alcohol, followed by a water soluble cleaner.

IMPORTANT: Some cleaning compounds may attack the polycarbonate material, resulting in cracks that will weaken the material. Never use substances such as Trichloroethylene, Carbon Tetrachloride or petroleum products.

Thoroughly rinse the windows after washing and dry with clean, soft towels.

To minimize scratches and improve visibility by filling in existing scratches, it is recommended that the windows be waxed regularly. Some of the several commercially available waxes that are recommended include: Johnson's Paste Floor Wax, McGuire Mirror Glaze and Mirror Bright Polish Co. MGH-10.

IMPORTANT: If cracks or surface crazing are observed, replace windshield.



87A;T85191 04T;90 K131. 280388

DO NOT SERVICE CONTROL VALVES, CYLINDERS, PUMPS, ACCUMULATORS, OR MOTORS

Special tools and information are needed to service control valves, cylinders, pumps, accumulators, or motors.

If these parts need service, see your John Deere dealer.

04T;90 K132. 280388

2. Transmission Range, Gearshift Lever and Linkage, Neutral Start Switch, Speed Control Linkage, and Blade Control Linkage Check (Engine Off, Key Switch On).

ACTION: (Range Shift Lever)

- a. Put parking brake "ON".
- b. Move the range lever to I, II, and Reverse positions and back to neutral position.

LISTEN: *The parking brake alarm must sound when the range lever is moved anywhere in the quadrant out of neutral position.*

NOTE: *The alarm sound indicates the circuit is operational.*

LOOK: *The range lever must:*

- a. *Move through the quadrant without binding.*
- b. *Align with "I" position of the quadrant in low range.*
- c. *Must NOT contact the end of the quadrant in "II" or "REVERSE" positions.*
- d. *Must align with neutral position when lever is placed in the neutral position.*

ACTION: (Neutral Start Switch)

- a. Key switch on.
- b. Move the range lever to I, II, and Reverse positions, then back to neutral.

LISTEN: *Starter motor must NOT operate in any position except neutral.*

ACTION: (Speed Control Linkage Slow Idle)

- a. Place hand throttle (if equipped) to slow idle position).
- b. Open the left side shield.
- c. Inspect throttle linkage on injection pump.

LOOK: *The arm on the injection pump must over-travel the spring loaded lever approximately 1/8 to 1/4". See Periodic Maintenance—1000 Hours.*

ACTION: (Speed Control Linkage Fast Idle)

- a. Place a heavy object on the foot accelerator.
- b. Inspect throttle linkage on injection pump.

LOOK: *The arm on the injection pump must over travel the spring loaded lever approximately 1/8" to 1/4". See Periodic Maintenance—1000 Hours.*

ACTION: (Blade Control Linkage)

- a. Pull blade control lever to maximum up position.
- b. Push blade control lever to maximum down position.
- c. Observe lever stops at rear of blade control lever.

LOOK: *The lever must contact the lever stops when the lever is actuated in maximum down or up position.*

NOTE: *If the lever does not contact the stops, excessive loads can be placed on the push pull control cable.*

9. Check Operation of Winch.

IMPORTANT: Transmission/hydraulic oil must be at operating temperature for these checks.

ACTION: (Winch Valve Check)

- a. Run engine at slow idle.
- b. Place winch control valve lever in "wind in" position and quickly release control valve lever.
- c. Observe position control valve lever stops.

LOOK: *The winch control valve lever must return and stop in "HOLD" position detent.*



CAUTION: Never continue to operate a skidder whose winch control valve "sticks" in "wind in" position.

ACTION: (Winch Free Spool, Drum, and Cable Check)

- a. Run engine at slow idle.
- b. Place winch control valve lever in "freespool" position.
- c. Pull cable from drum until all cable is removed from the drum.

LOOK: *The winch drum must turn freely and the effort required to pull cable must NOT be excessive.*

LOOK: *The cable must NOT be tangled on the drum and all cables must unwind from drum except the end retained in the winch.*

LOOK: *The end of the cable must be retained on the winch drum per forestry operating codes in your area.*

NOTE: *If the cable is tangled and cannot be removed by hand, attach "choker" cable to immovable object and pull cable out of winch with skidder. Rewind winch cable on drum.*

ACTION: (Winch Hydraulic System Check)

- a. Run engine at slow idle.
- b. Operate winch in "wind in" and "freespool" several times and observe when the drum turns each time.
- c. Start counting the number of seconds when the lever is moved in each position, one thousand one, one thousand two, and etc.

LOOK: *The normal engagement time for the winch clutch or brake disengagement is one second or less.*

NOTE: *If the engagement time is excessive, bleed the air from the valve to winch hoses at the winch housing.*

Remember, winch clutch or brake operation is influenced by hydraulic oil temperature. If the unit is operating in a cold climate, the skidder should be equipped with a winch warm-up valve.

ACTION: (Winch Warm-Up Valve Check) Optional

- a. Run engine at slow idle.
- b. Place winch control valve lever in "freespool".
- c. Move warm-up valve lever forward.

LISTEN: *The engine must decrease in rpm (lug down) which indicates warm-up valve and circuit is operating.*

LOOK: *The winch drum must NOT move when winch valve is in warm-up mode.*

NOTE: *If the winch drum moves when warm-up valve is in "warm-up" mode check warm-up circuit check valve for leakage.*

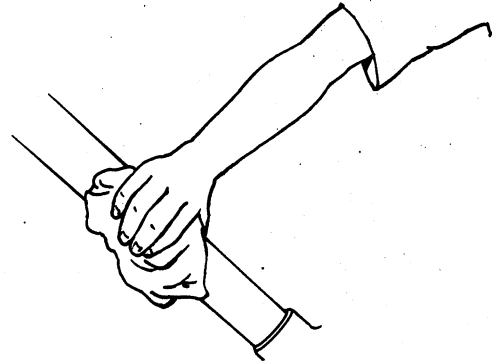
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REMOVE MACHINE FROM STORAGE— 90 DAYS OR MORE



CAUTION: Start engine **ONLY** in a well-ventilated area.

1. Follow instructions on the tag in the Engine Storage Protection Kit.
2. Drain water and sediment from fuel tank when air temperature is above freezing.
3. Remove grease from cylinder rods.



018;T6191AA T82;STMO AE 200985 JW

IMPORTANT: During cold temperatures, check fluidity of engine oil on dipstick. If the oil appears waxy and/or jelly-like rather than liquid, **DO NOT** attempt to start engine. Use external heat source to warm the crankcase until oil appears fluid.

4. Check all fluid levels. If low, check for leaks and add oil as required.
5. Check and adjust belts.
6. Check electrolyte level. Charge and install battery.



018;T6181AU T82;STMO AF 050985 JW

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