JOHN DEERE
540D SKIDDER AND
548D GRAPPLE SKIDDER

JOHN DEERE

OPERATORS MANUAL

JOHN DEERE 540D SKIDDER AND
548D GRAPPLE SKIDDER

OMT122057 D8 English

JOHN DEERE DAVENPORT WORKS
OMT122057 D8

LITHO IN THE U.S.A.
ENGLISH

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.

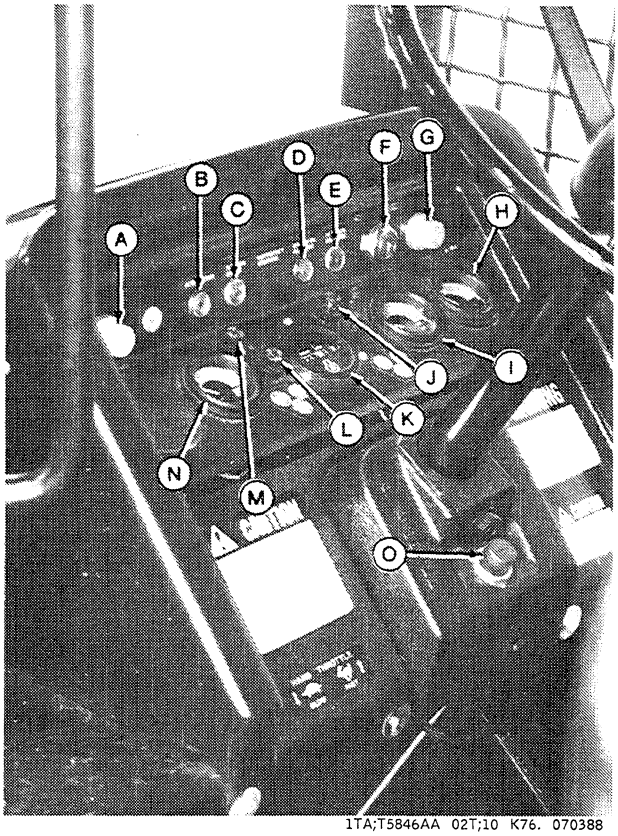
If a support is not available, lower equipment to the ground.

02T;05 J48 080388

78T;0005 07 130488

Operator's Station

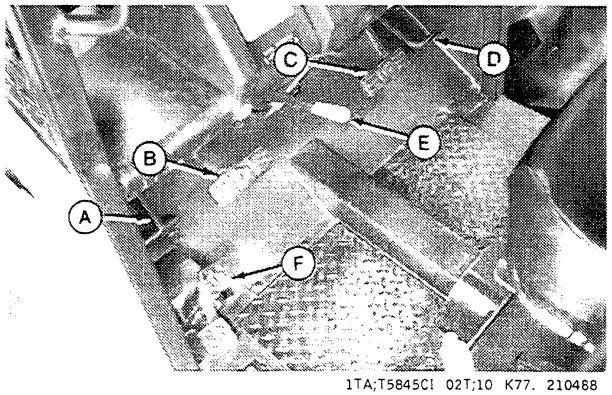
INSTRUMENT PANEL



1TA;T5846AA 02T;10 K76. 070388

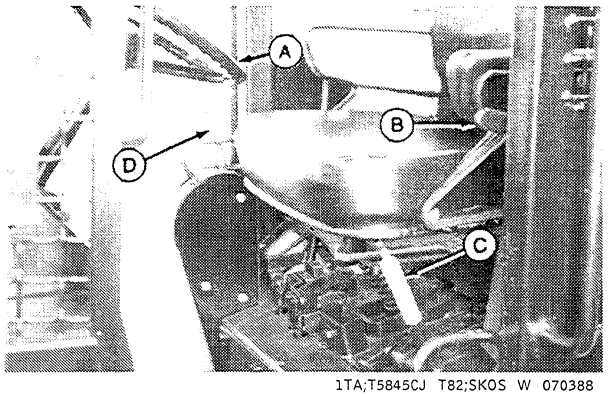
A—Starting Aid Switch
B—Alternator Indicator
C—Park Brake Indicator
Park Brake Warning Alarm (not shown)
D—Engine Oil Pressure Indicator
E—Transmission Oil Pressure Indicator
F—Key Switch
G—Starting Motor Switch
H—Fuel Gauge
I—Transmission Oil Temperature
J—Gauge Fuse
K—Hour Meter
L—Starting Circuit Fuse
M—Accessory Fuse
N—Engine Coolant Temperature
O—Horn Switch

CONTROLS



1TA;T5845CI 02T;10 K77. 210488

A—Clutch Disconnect (If Equipped)
B—Clutch Pedal
C—Service Brake Pedal
D—Speed Control Pedal
E—Speed Control Lever
F—Differential Lock Pedal



1TA;T5845CJ T82;SKOS W 070388

A—Steering Wheel
B—Winch Control Lever
C—Park Brake Lever
D—Transmission Control Lever

DESTROKE PUMP AND RELIEVE SYSTEM PRESSURE

Engine will crank faster in cold weather if you relieve hydraulic system pressure.

1. Push starter button.

2. At the same time, turn steering wheel back and forth.

Engine will crank faster in extreme cold weather if you destroke the hydraulic pump.

Earlier units

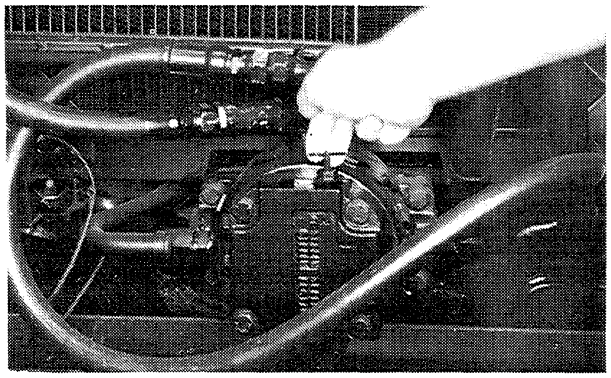
1. Turn destroke screw clockwise until you feel resistance.

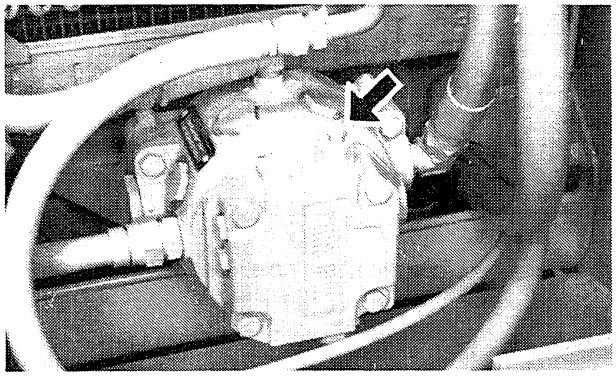
2. Turn screw clockwise one more turn. Engine should crank faster.

3. Start the engine.

4. Turn the screw (hex nut on later units) counterclockwise all the way out until snug (do not force).

Later units





87A;T5804AU, T6766CR 02T;25 K61. 210488

USING BOOSTER BATTERIES

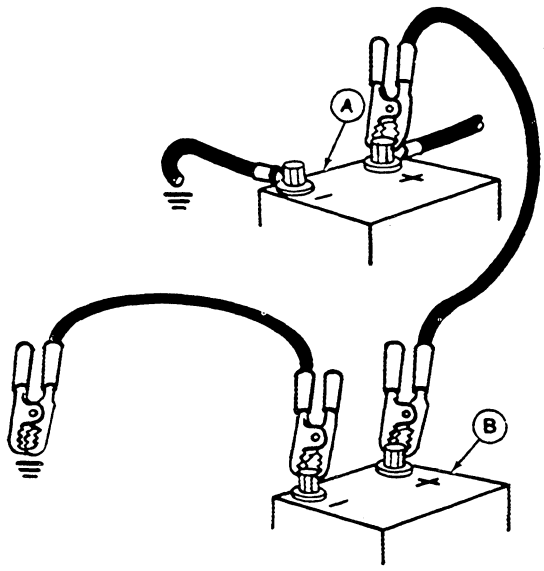
CAUTION: Battery gas can explode. Keep sparks and flames away from batteries. Use a flashlight to check battery electrolyte level.

Never check battery charge by placing a metal object across the posts. Use a voltmeter or hydrometer.

Always remove grounded (-) battery clamp first and replace it last.

IMPORTANT: The machine electrical system is a 12 volt negative (-) ground. Use only 12 volt booster batteries.

Connect booster batteries as shown. Make last connection to frame.



A—Machine Batteries (2—12 v)
B—Booster Batteries (2—12 v)

018;T6508AE1 02T;25 K54. 110388

Operating the Skidder

KEEP RIDERS OFF MACHINE

CAUTION: Only allow the operator on the machine.

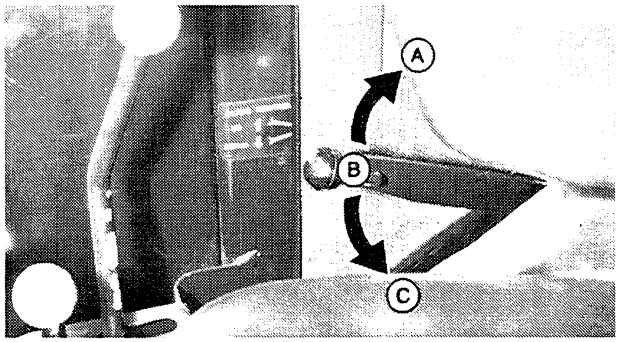
Riders' legs can be crushed with blade.

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.

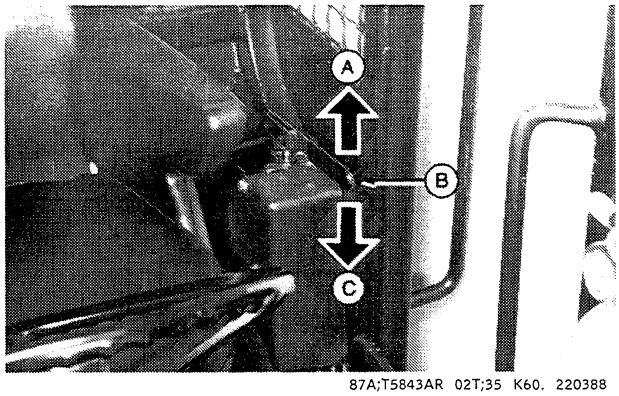
Pull lever up (A) to raise blade. Push lever down (C) to lower.

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.

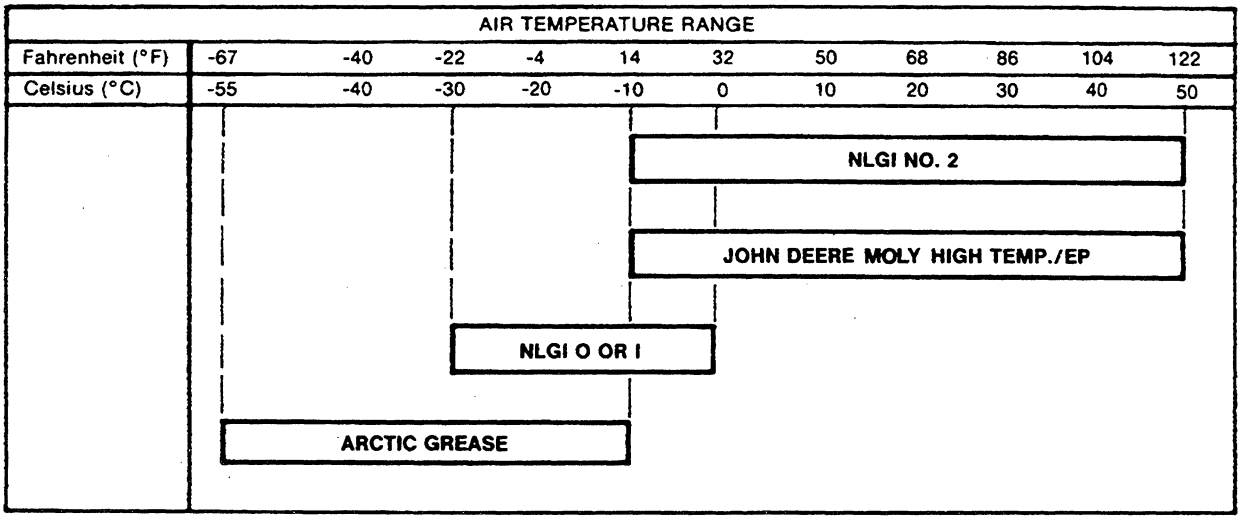
1. Pull lever up (A) to wind cable on drum. Lever will return to HOLD position (B).

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

87A;T5843AR 02T;35 K60. 220388

78T;0035 01 130488

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.

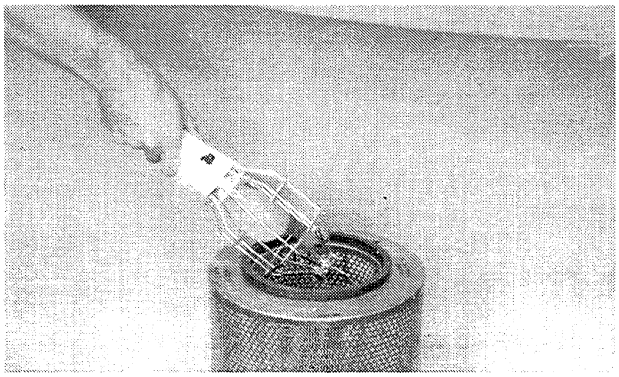
018;T6722AA 02T;45 C49. 270188

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

INSPECT ELEMENT



IMPORTANT: Install a new primary element:

1. **If the element shows damage.**
2. **If element will not clean.**
3. **After 1000 hours service or annually.**

Install a new secondary element:

1. **If the primary element is damaged and needs to be replaced.**
2. **If the element is visibly dirty.**
3. **After 1000 hours service or annually.**

Do not clean a secondary element. Install a new element carefully centering it in the canister.

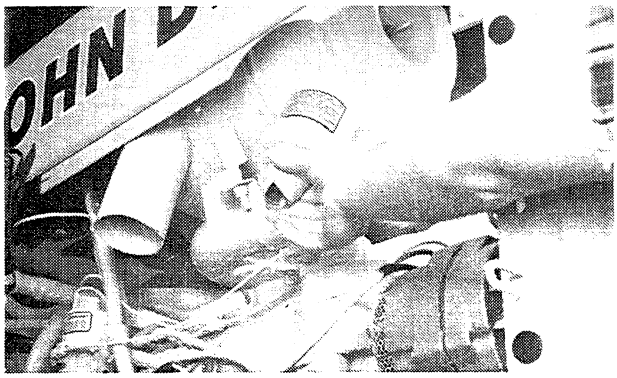
1. Inspect element and gasket for damage.

2. Air restriction indicator will not signal correctly if an element has a break or is not correctly sealed in air cleaner housing. Throw away element that has the slightest damage. If gasket is broken or missing, install a new element.

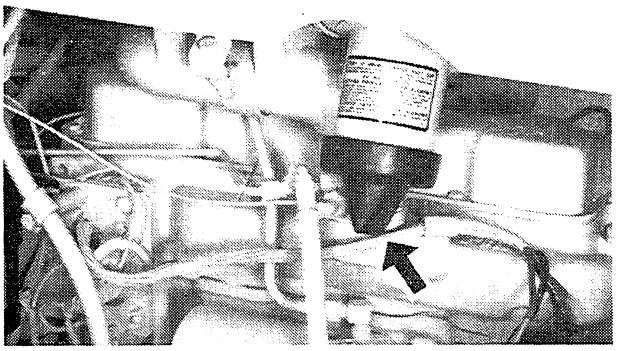
018;T90684 T82;EXPM EL 191187

CHECK UNLOADER VALVE

1. Squeeze unloader valve to remove dirt. If plugged, inspect filter elements for possible cleaning.



Earlier Units

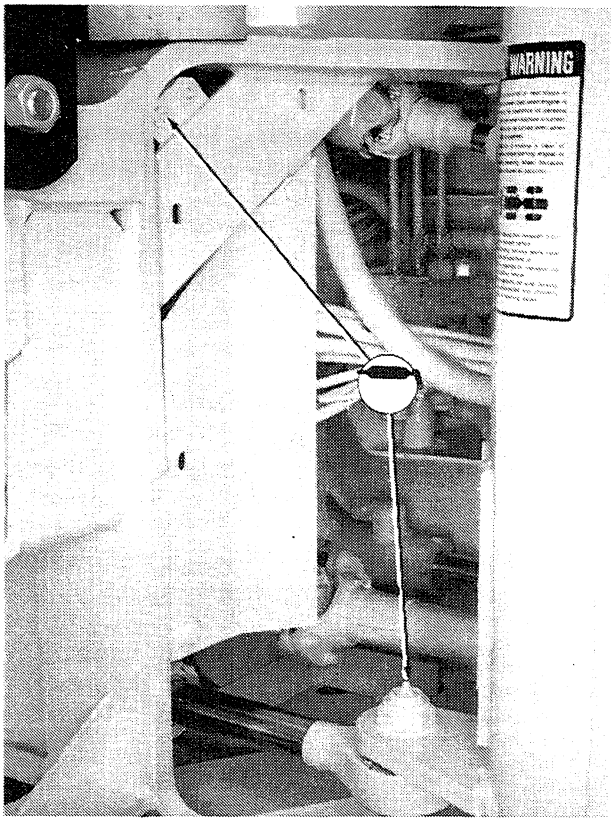


Later Units

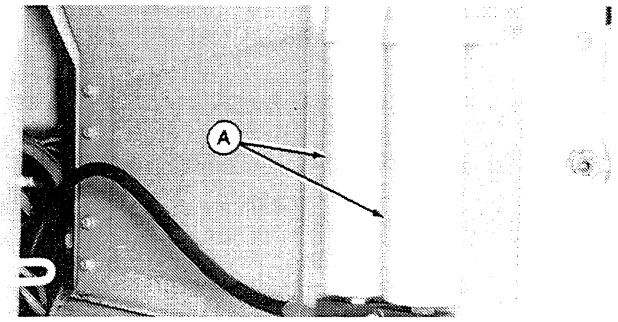
87A;T5847BA, T6768AF 03T;55 K66. 080488

LUBRICATE STEERING CYLINDER PINS

Lubricate at four points with four shots of grease.



1TA;T5848BA 03T;65 K27. 210488



To check secondary steering accumulators (A) action:

1. Disconnect wire from engine oil pressure sending unit.

2. Run engine for 1 minute.

3. Align skidder frames straight forward.

4. Stop engine.

5. Turn key switch to ON position. Do not start the engine. If secondary steering light and buzzer come on, the steering pressure is low.

6. Turn skidder to full left or right position and back to straight forward. Secondary steering light and buzzer must come on.

7. If skidder cannot be turned to full left or right position and back to straight forward, secondary steering system needs service.

8. If secondary steering light and buzzer comes on before skidder is turned or does not come on after skidder is turned, the secondary steering system needs service.

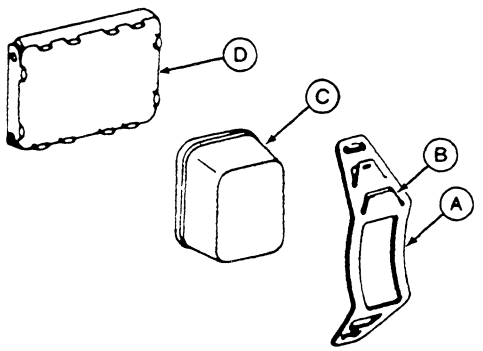
9. Connect wire to engine oil pressure sending unit.

To discharge:

Turn steering wheel back and forth until no response is felt.

87A;T86515 03T;80 K68. 110488

CHANGE FUEL FILTERS



1. Remove retainer spring (A) to remove filter (C). Push on outer tab (B) while pulling up on center tab to disengage inner tab from notch in filter base (D).

2. Clean filter base.

3. Install new filters and retainer springs.

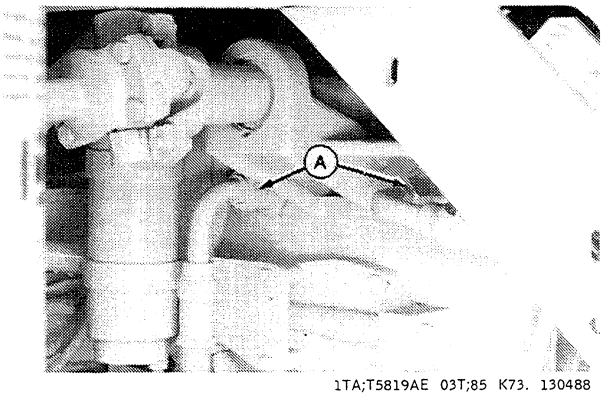
018;T6201AR 03T;80 K69. 110488

SERVICING DIFFERENTIAL OIL RETURN SCREENS

Disconnect lines (A). Remove screens.

Clean screens.

Install screens and connect lines.



1TA;T5819AE 03T;85 K73. 130488

CHECK ENGINE SPEED CONTROL LINKAGE

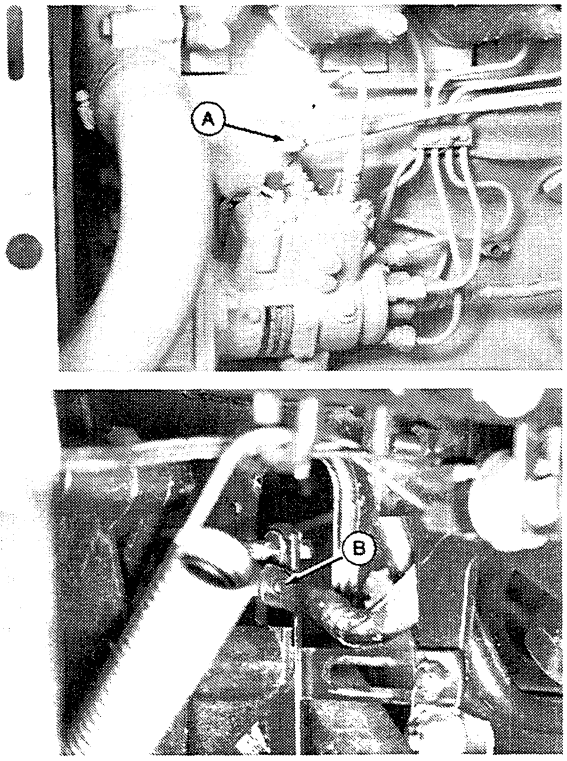
1. Depress speed control pedal to floor.

2. Adjust swivel fitting (A) on speed control rod at the injection pump so that spring-loaded injection pump lever is 1/8—1/4 in. (3—6 mm) rearward into the excess travel area of fast idle.

3. Lock swivel fitting with jam nut.

4. Adjust slow idle stop screw (B) on hand throttle lever so that spring-loader injection pump lever is 1/8—1/4 in. (3—6 mm) forward into the excess travel area of slow idle.

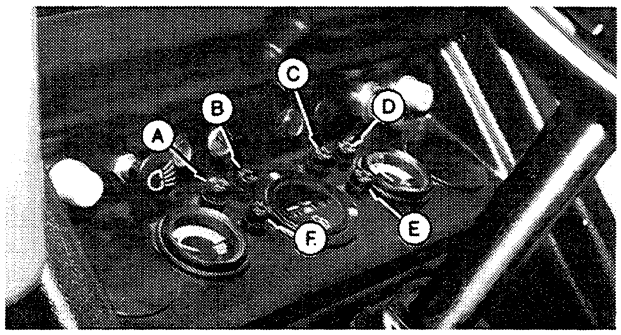
5. Lock stop screw with jam nut.



1TA;T5797AN, T5858AE 03T;85 K74. 110488

REPLACING FUSES

IMPORTANT: When a fuse burns out, determine reason for burn out and repair faulty equipment. Install a new fuse of the correct size.



A—Accessory (15 Amp)
B—Light (30 Amp)
C—Gauge (10 Amp)
D—Windshield Wiper (7.5 Amp)
E—Heater (10 Amp)
F—Starting Circuit (20 Amp)

87A;T85175 04T;90 K124. 160388

RESETTING CIRCUIT BREAKER

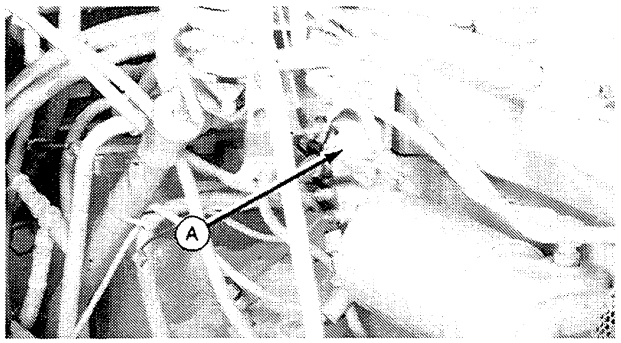
If the 30-amp main circuit breaker (A) trips, the entire electrical system will go out.

1. Turn off light switch and key switch.

2. Reach behind circuit breaker and push reset button.

IMPORTANT: If circuit breaker trips a second time, there may be a short in the skidder wiring. Trouble shoot electrical system.

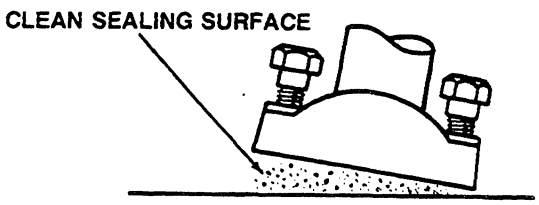
If circuit breaker will not reset and there is no short, circuit breaker may be defective. Install a new circuit breaker.



87A;T85176 04T;90 K125. 230388

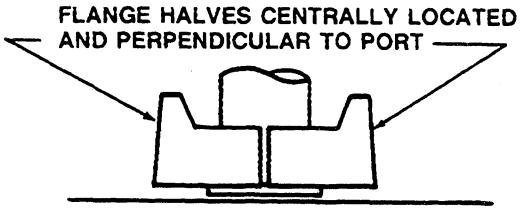
SAE FOUR BOLT FLANGE FITTING SERVICE RECOMMENDATIONS

1. Inspect the sealing surfaces for nicks or scratches, roughness or out-of-flat condition. Scratches cause leaks. Roughness causes seal wear. Out-of-flat causes seal extrusion. If these defects cannot be polished out, replace the component.



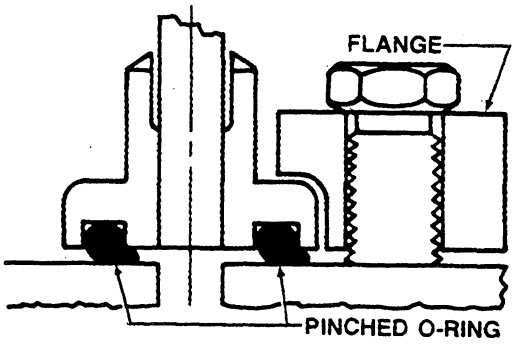
2. Install the correct O-ring (and backup washer if required) into the groove using petroleum jelly to hold it in place.

3. For split flange; loosely assemble split flange halves, being sure that the split is centrally located and perpendicular to the port. Hand tighten cap screws to hold parts in place. Do not pinch O-ring.



4. For single piece flange; put hydraulic line in the center of the flange and install four cap screws. With the flange centrally located on the port, hand tighten cap screws to hold it in place. Do not pinch O-ring.

5. For both single piece flange and split flange, be sure the components are properly positioned and cap screws are hand tight. Tighten one cap screw, then tighten the diagonally opposite cap screw. Tighten the two remaining cap screws. Tighten all cap screws within the specified limits shown in the chart.



DO NOT use air wrenches. DO NOT tighten one cap screw fully before tightening the others. DO NOT overtighten.

NOTE: Torque values are given for SAE Grade 5 or better cap screws with plated hardware.

Nominal Flange Size	Cap Screw Size[1]	Torque[2] N·m Min.	N·m Max.	(lb-ft) Min.	(lb-ft) Max..
1/2	5/16 - 18 UNC	20	31	(15)	(23)
3/4	3/8 - 16 UNC	28	54	(21)	(40)
1	3/8 - 16 UNC	37	54	(27)	(40)
1-1/4	7/16 - 14 UNC	47	85	(35)	(63)
1-1/2	1/2 - 13 UNC	62	131	(46)	(97)
2	1/2 - 13 UNC	73	131	(54)	(97)
2-1/2	1/2 - 13 UNC	107	131	(79)	(97)
3	5/8 - 11 UNC	158	264	(117)	(195)
3-1/2	5/8 - 11 UNC	158	264	(117)	(195)
4	5/8 - 11 UNC	158	264	(117)	(195)
5	5/8 - 11 UNC	158	264	(117)	(195)

1. Tolerance ± 10%. The torques given are enough for the given size connection with the recommended working pressure. Torques can be increased to the maximum shown for each cap screw size if desired. Increasing cap screw torque beyond this maximum will result in flange and cap screw bending and connection failures.

Steering System Check-Continued

ACTION: Secondary Steering Accumulator Precharge Check

a. Run engine for approximately 1 minute. Turn steering wheel until one spoke of steering wheel is at 11 o'clock position (aligned with upper left corner of dash).

b. Stop engine. Turn wheel until spoke is at the 1 o'clock position (spoke aligned with right corner of dash). Then turn wheel back to 11 o'clock position. Repeat procedure and count number of times spoke moves past the 12 o'clock position until accumulators are discharged (steering wheel goes solid.)

NOTE: Alarm WILL NOT sound during this check with key switch OFF.

LOOK: Steering wheel must move through 12 o'clock position a maximum of 8 times before steering wheel goes solid.

NOTE: If steering wheel can be rotated more than 8 times and/or wheel gradually becomes harder to rotate, this indicates low accumulator precharge. See your John Deere dealer.

T82;SKOC U 230884

6. Disconnect Clutch Linkage (if equipped) And Throw Out Bearing Checks.

ACTION: Disconnect Clutch Components Checks.

a. Operate engine at idle.

b. Pull up on disconnect lever slowly and note free travel and feel of throw-out bearing.

c. Pull disconnect lever up and allow lever to go over center. Engage disconnect clutch.

LOOK: Lever must move freely and must travel two to three inches to bring the clutch throw-out bearing against the clutch fingers.

LISTEN AND FEEL: No noise must be noted when disconnect clutch is released and throw-out bearing must not feel rough.

LOOK: Transmission pressure indicator light must come on which indicates clutch is completely disconnected.

LOOK: Disconnect clutch lever must return to the down position freely.

T82;SKOC H 220488

14. Miscellaneous Check.

ACTION: Frame Locking Bar Check.

Inspect frame locking bar.

LOOK: Locking bar must be in place on the equipment frame and the two pins must be installed with the heads of the pins down.

NOTE: Pins are installed with the heads down to prevent debris forcing the pins upward in operation and shearing the retaining pins off.

ACTION: Vandal Protection (If Equipped) Check.
a. Slide the instrument panel cover in position and lock with key.
b. Inspect pedal lock tabs on the side shields, fuel tank filler, and radiator filler door.
c. Close cab door, if equipped, and lock with key.

LOOK: The instrument panel cover must slide freely and key must NOT stick in lock.

LOOK: Pedal lock tabs must be in proper position to accept pedal locks on the side shields, fuel tank filler neck cover and radiator filler door.

LOOK: The cab door lock must operate freely and key must not stick in lock.

ACTION: Fire Extinguisher (If Equipped) Checks.
a. Inspect gauge on fire extinguisher.
b. Inspect locking pin on handle.

LOOK: Indicator must be in green zone on gauge.

LOOK: Locking pin must be in position on handle

ACTION: Debris Inspection Check.
a. Inspect area around engine compartment, exhaust manifold, and equipment frame.
b. Inspect area below the blade cylinders and around steering cylinder.
c. Inspect grapple frame for debris under cylinder.

LOOK: The engine compartment and equipment frame must be free of debris.

LOOK: The area below the blade cylinders and around the steering cylinders and the area below grapple cylinder must be free of debris.

NOTE: Excess debris in engine compartment and equipment frame can increase the possibility of a fire. Keep the skidder free of trash.
Debris under the blade cylinder can restrict movement of the cylinder as the blade is lowered and could cause the cylinder rods to bend.

Debris around the steering cylinders can restrict the movement of the steering cylinders as the frames move and can cause internal scoring of the cylinders. Keep these areas clean.

Debris under grapple cylinder can restrict movement of grapple cylinder and can cause the cylinder rod to bend.

ACTION: Service Decal Check.
Check service decal on upper left rear of the canopy.

LOOK: Service decal must be legible.

T82;SK0C S 230884

Symptom	Problem	Solution
Oil Dripping From Turbocharger Adapter	Damaged or worn bearings and/or worn seals	See your John Deere dealer.
		Check for proper engine service intervals or dirt entering internally into engine.
		Check vent tube to ensure tube is not plugged. Clean.
	Turbocharger oil return line carbon build up where line passes exhaust manifold.	Remove line. Inspect, clean.
Excessive Drag in Turbocharger Rotating Members	Carbon build-up behind turbine wheel caused by combustion deposits.	See your John Deere dealer.
	Dirt build-up behind compressor wheel caused by air intake leaks.	See your John Deere dealer.
	Bearing seizure or dirty or worn bearings, caused by excessive temperature, unbalanced wheel, dirty oil, oil starvation, or insufficient lubrication.	See your John Deere dealer.

DISCONNECT CLUTCH

Symptom	Problem	Solution
Engine Disconnect Clutch Slips	Insufficient clutch linkage free travel (if equipped)	Check free travel. Adjust.
	Oil or grease on clutch disk	Inspect base of clutch housing for evidence of oil. See your John Deere dealer.
	Worn or burnt clutch disk	See your John Deere dealer.
Disconnect Clutch Noisy, Chatters	Tight or binding clutch fork shaft	See your John Deere dealer.
	Worn clutch throw-out bearing	See your John Deere dealer.
	Clutch hub loose on disk	See your John Deere dealer.
	Clutch disk hub tight on shaft.	See your John Deere dealer.
	Loose clutch disk facings	See your John Deere dealer.
	Cracked or broken pressure plate	See your John Deere dealer.
	Broken clutch pressure plate springs, or pressure plate release finger height out of adjustment	See your John Deere dealer.
	Flywheel loose on crankshaft	See your John Deere dealer.
Disconnect Clutch Drags	Excessive linkage free travel (if equipped)	Adjust linkage to specifications See your John Deere dealer
Winch Drive Continues To Rotate With Clutch Disconnected	Transmission input shaft pilot bearing failed	See your John Deere dealer
	Clutch disk hub tight on clutch shaft or shaft splines damaged.	See your John Deere dealer.
	Clutch disk warped bent or not flat	See your John Deere dealer.
	Flywheel not seated on crankshaft properly	See your John Deere dealer.

Continued on next page

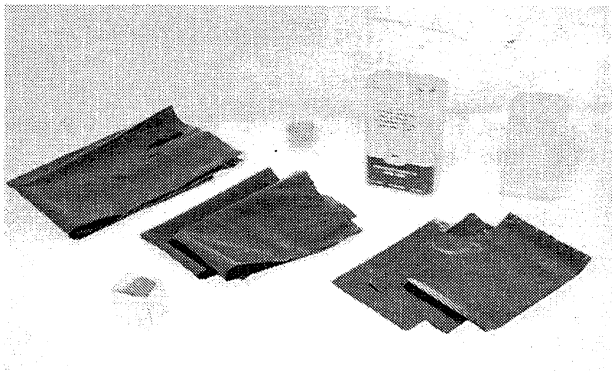
Symptom	Problem	Solution
Differential Overfilled—Continued	Park brake piston seals leaking (rear only)	Remove oil drain plug from park brake housing. Release brake and observe leakage from drain. Repair.
	Differential turbocharger air system orifices plugged or internal line restriction	See your John Deere dealer. Continued on next page
Excessive Differential and/or Axle Noise	Low oil level in differential	Check oil.
	Brakes dragging	See your John Deere dealer.
	Park brake dragging	See your John Deere dealer.
	Pinion bearing failed	See your John Deere dealer.
	Gear mesh pattern between ring and pinion gear incorrect	See your John Deere dealer.
	Differential pinion gears and/or cross shafts failed	See your John Deere dealer.
	Axle bearing failed	Check axle shaft movement in axle housing by raising unit and observing shaft movement in housing. See your John Deere dealer.
	Mechanical failure in axle planetary	See your John Deere dealer.
Oil Seeping From Outer Axle Seal	Excessive axle end play	Check movement of axle in housing by raising unit. See your John Deere dealer.
	Worn outer bearing and/or cup	See your John Deere dealer.
	Differential overfilled with oil	See your John Deere dealer.
	Internal axle seal worn or damaged	See your John Deere dealer.

Storage

PREPARE MACHINE FOR STORAGE

IMPORTANT: Inhibitor easily changes to gas. Seal or tape an opening immediately after using inhibitor.

1. Protect your machine's engine. See your John Deere dealer for AR41785 Engine Storage Protection Kit or equivalent. Follow directions on the tag in this kit.

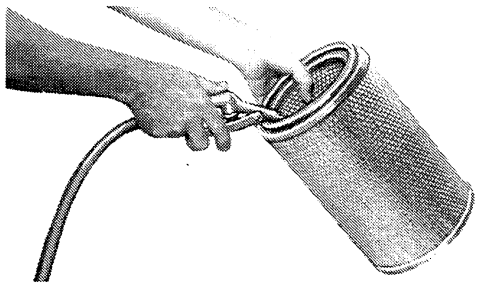


018;T85452 T82;STMO AA. 180387

2. Repair worn or damaged parts. Install new parts, if necessary, to avoid needless delays later.

3. Loosen alternator and fan belts.

4. Clean primary air cleaner element.



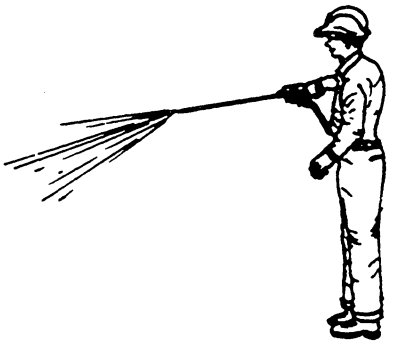
018;T47764 T82;STMO AB 260885 JW

5. Wash the machine. Paint areas to prevent rust. Replace decals, where needed.

6. Remove seat cushion and other perishable items.

7. Retract all hydraulic cylinders, if possible. If not, coat exposed cylinder rods with multi-purpose grease.

8. Lubricate all grease points.

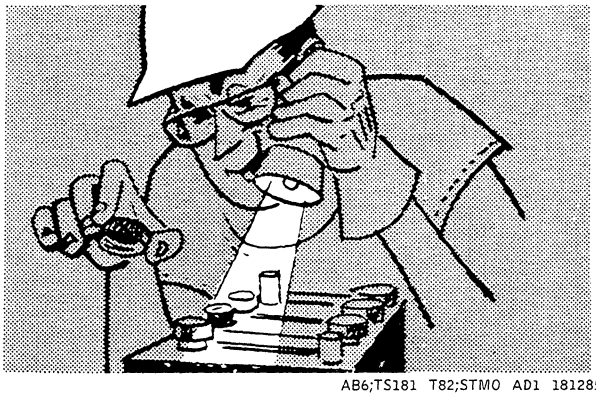


018;T5813AM T82;STMO AC 260885 JW

9. If possible, raise machine high enough so tires do not touch the ground. If not, park on a hard surface to prevent tires from freezing to ground.

10. Store machine in a dry, protected place. If stored outside, cover with a waterproof material.

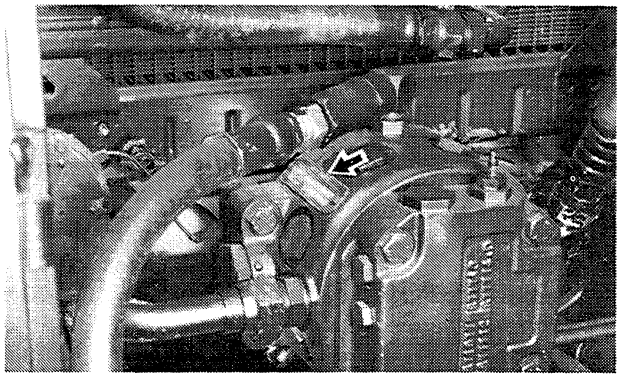
11. If machine will be stored more than 30 days, remove battery. Store battery in a cool, dry place not subject to freezing. Check battery every 30 days and charge if necessary.



AB6;TS181 T82;STMO AD1 181285

78T;0105 01 130488

Hydraulic Pump Serial Number _____



1TA;T5856AB 05T;120 K15. 120488

JOHN DEERE 540D AND 548D SKIDDERS

PRE-DELIVERY INSPECTION (PDI), AFTER-SALE INSPECTION (ASI)

MACHINE NUMBERS

Product Identification Number _____ Transmission Serial Number _____

Engine Serial Number _____ Winch Serial Number _____

Hydraulic Pump Serial Number _____

PRE-DELIVERY INSPECTION
(Required Before Delivery of Machine to Owner)

Delivered by _____ Owner's Name _____

Dealer _____ Owner's Address _____

Date _____ City _____ State _____ Zip _____

AFTER-SALE INSPECTION
(Required During 50 to 100 Hours of Operation)

Machine Hours _____ Owner's Name _____

Inspected By _____ Owner's Address _____

Inspector's Signature _____ City _____ State _____ Zip _____

Dealership _____ Owner's Signature _____

Litho in U.S.A.

Owner Copy 1

05T;CL K124 210488

78T;PCLIS 3 130488