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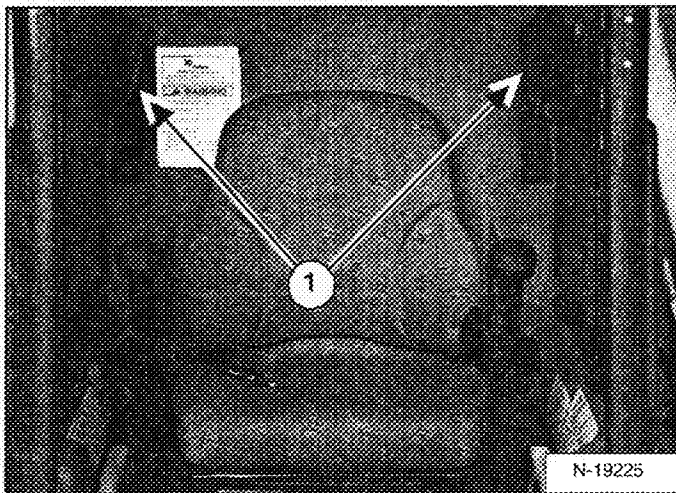


Bobcat®

SEAT BAR

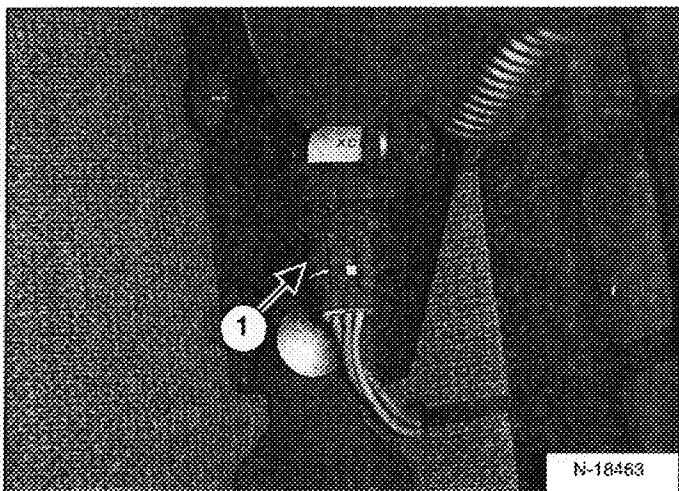
Removal And Installation

Figure 50-10-1



Raise the seat bar (Item 1) [Figure 50-10-1].

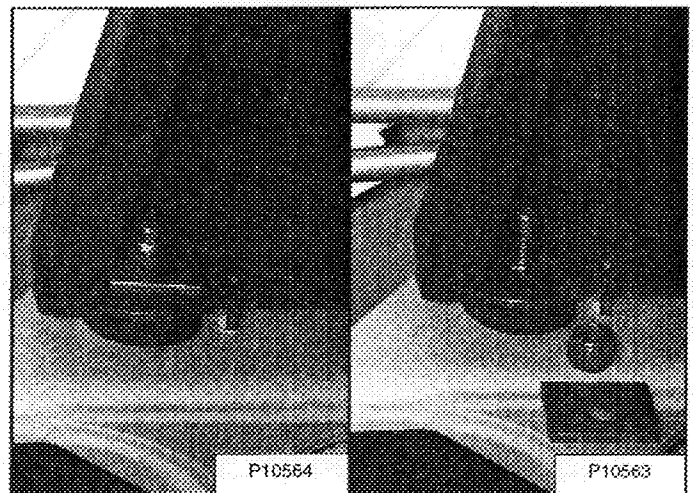
Figure 50-10-2



Disconnect the seat bar sensor (Item 1) [Figure 50-10-2] from the cab harness.

Lower the seat bar.

Figure 50-10-3

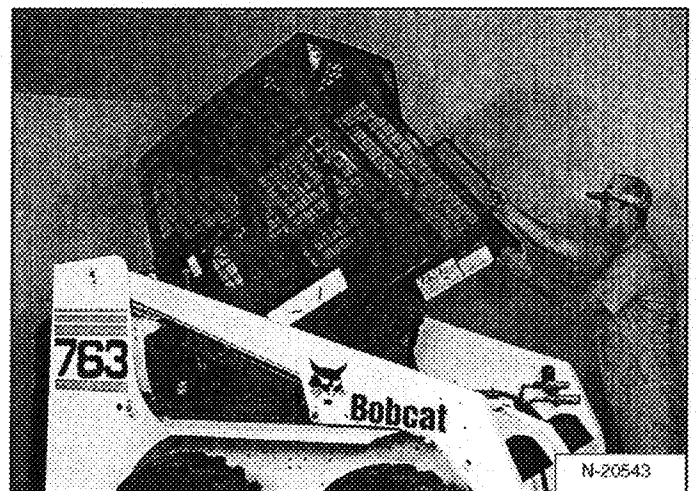


Loosen the nut (both sides) at the front corners of the operator cab [Figure 50-10-3].

Remove the nuts and plates (both sides) [Figure 50-10-3].

Installation: Tighten the nuts to 40-50 ft.-lbs. (54-68 Nm) torque.

Figure 50-10-4

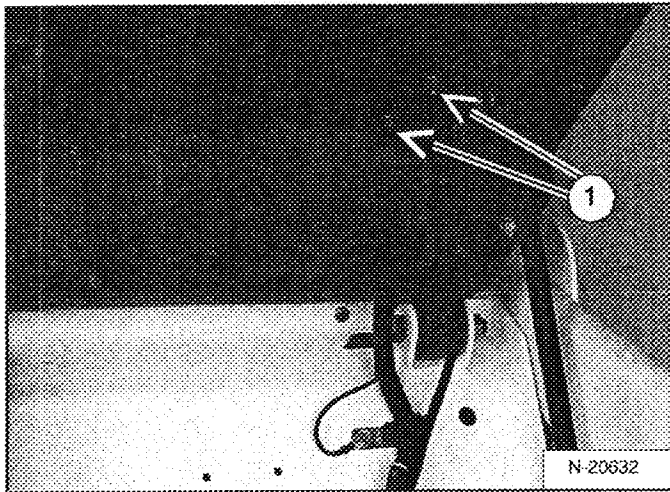


Lift on the grab handle and bottom of the operator cab slowly until the cab is all the way up and the latching mechanism engages [Figure 50-10-4].

SEAT BAR (CONT'D)

Removal And Installation (Cont'd)

Figure 50-10-5

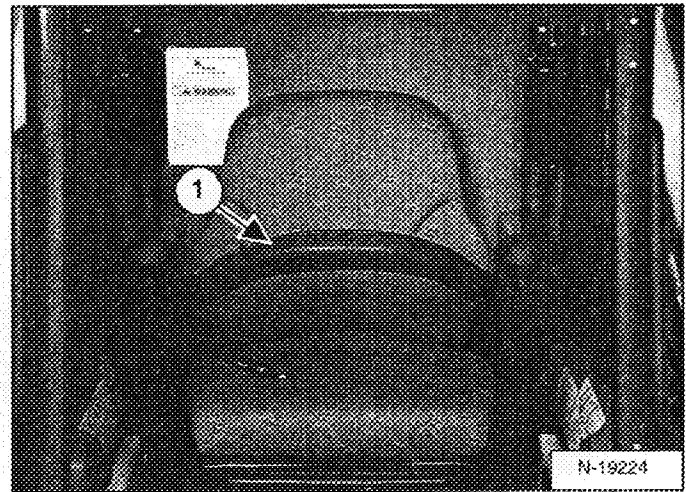


Remove the seat bar mounting nuts (Item 1) [Figure 50-10-5] (both sides).

Installation: Tighten the nuts to 28 ft.-lbs. (38 Nm) torque.

Lower the operator cab. (See Contents, Page 10-01.)

Figure 50-10-6



Remove the seat bar (Item 1) [Figure 50-10-6] from the operator cab.

Reverse the above procedure to install the seat bar into the operator cab.

SEAT BAR (CONT'D)

Assembling Components

Figure 50-10-7

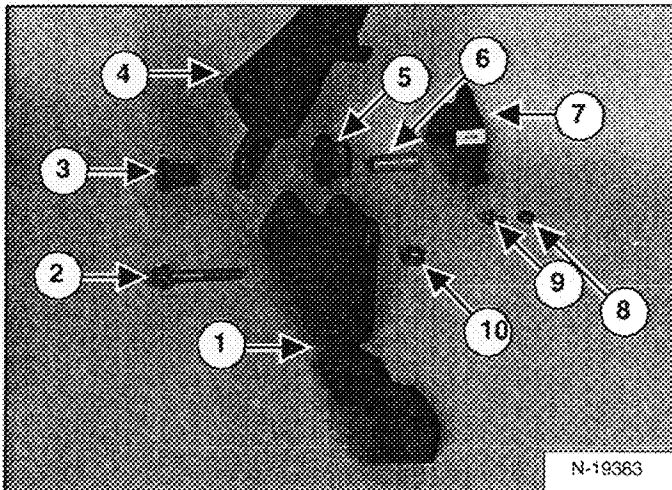
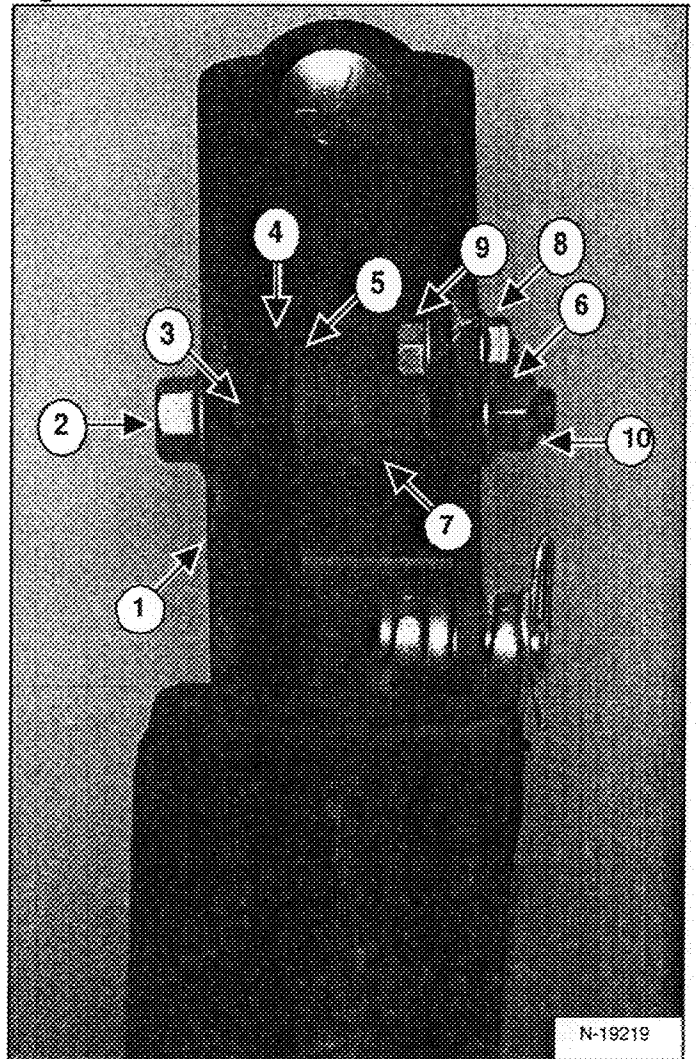


Figure 50-10-8



Assemble the parts as shown for the left side of the seat bar pivot assembly [Figure 50-10-7] & [Figure 50-10-8].

- Seat Bar Mount (Item 1)
- Mounting Bolt (Item 2)
- Keyed Plastic Bushing (Item 3)
- Seat Bar (Item 4)
- Magnetic Bushing Assembly (Item 5)
- Pivot Bushing (Item 6)
- Sensor Bracket (Item 7)
- Sensor Mounting Nut (Item 8)
- Sensor Mounting Bolt (Item 9)
- Mounting Nut (Item 10)

Installation: Tighten the mounting bolt (Item 2) [Figure 50-10-7] & [Figure 50-10-8] to 50-70 in.-lbs. (5,6-7,9 Nm) torque.

SEAT BAR (CONT'D)

Assembling Components (Cont'd)

Figure 50-10-9

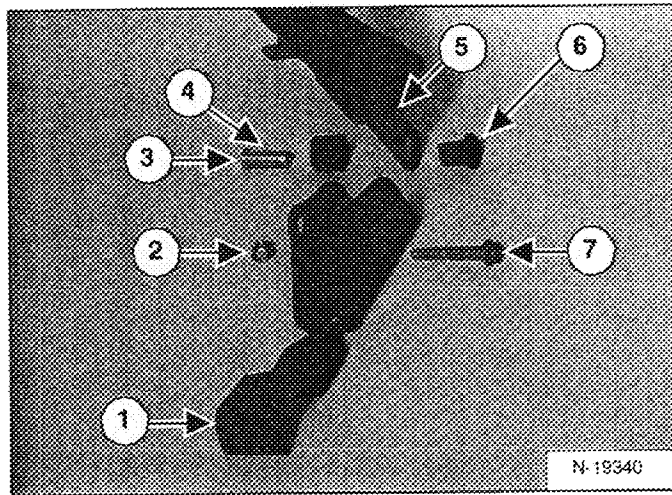
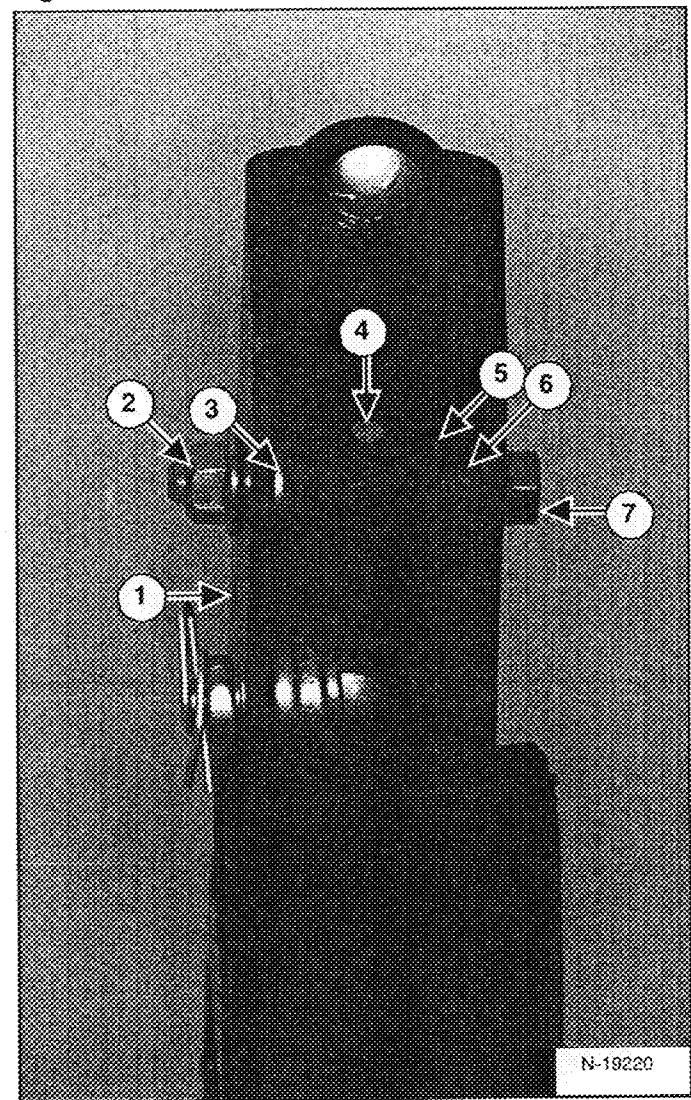


Figure 50-10-10



Assemble the parts as shown for the right side of the seat bar pivot assembly [Figure 50-10-9] & [Figure 50-10-10].

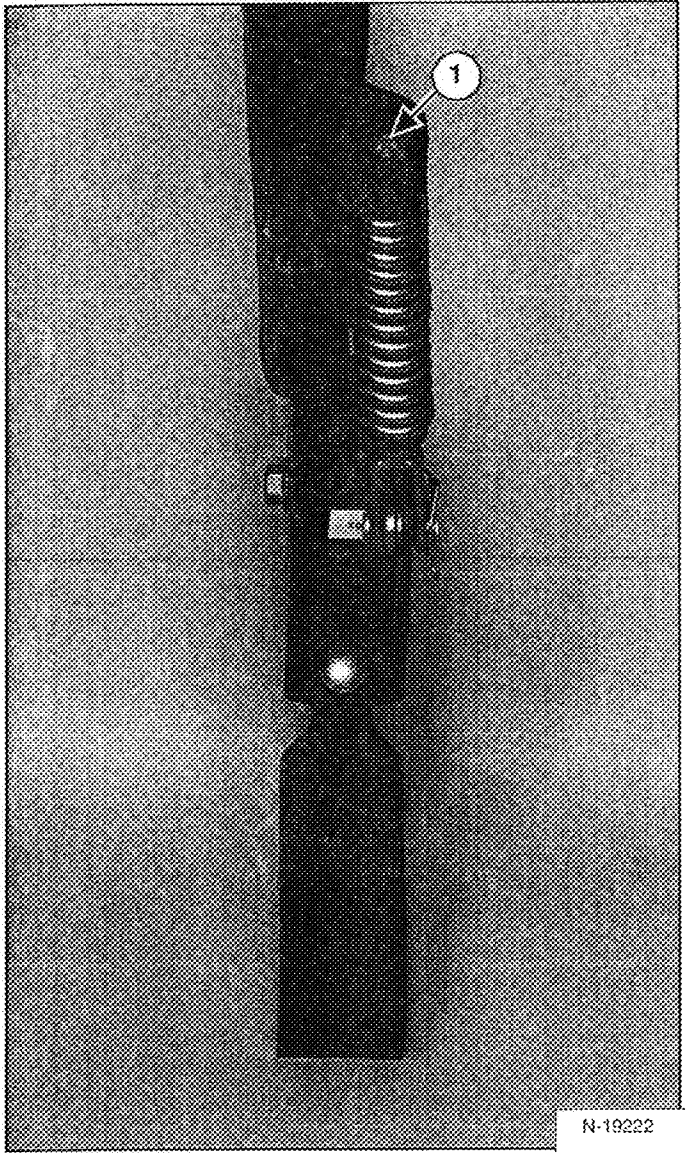
- Seat Bar Mount (Item 1)
- Mounting Nut (Item 2)
- Pivot Bushing (Item 3)
- Spacer Bushing (Item 4)
- Seat Bar (Item 5)
- Keyed Plastic Bushing (Item 6)
- Mounting Bolt (Item 7)

Installation: Tighten the mounting bolt (item 7) [Figure 50-10-9] & [Figure 50-10-10] to 50-70 in.-lbs. (5,6-7,9 Nm) torque.

SEAT BAR (CONT'D)

Compression Spring Disassembly And Assembly

Figure 50-10-11

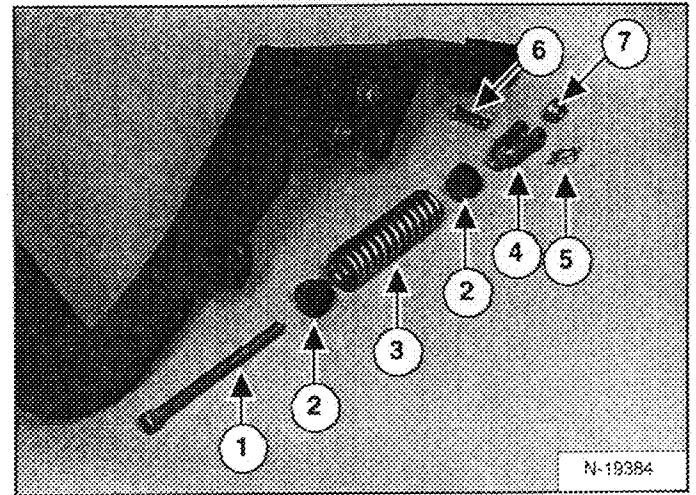


Turn the bolt (Item 1) [Figure 50-10-11] & [Figure 50-10-12] out of the clevis.

Assembly: Apply LOCTITE #518 adhesive to the bolt threads. Adjust the compression spring by turning the bolt in past the end of the clevis three turns.

NOTE: For procedures requiring the use of LOCTITE #518 adhesive, thoroughly clean and dry affected parts before the application of LOCTITE #518.

Figure 50-10-12



Disassemble and assemble the seat bar compression spring and parts as shown in Fig. [Figure 50-10-12].

- Bolt (Item 1)
- Bushing (Item 2)
- Spring (Item 3)
- Clevis (Item 4)
- Retaining Pin (Item 5)
- Pin (Item 6)
- Bushing (Item 7)



Bobcat®

OPERATOR CAB

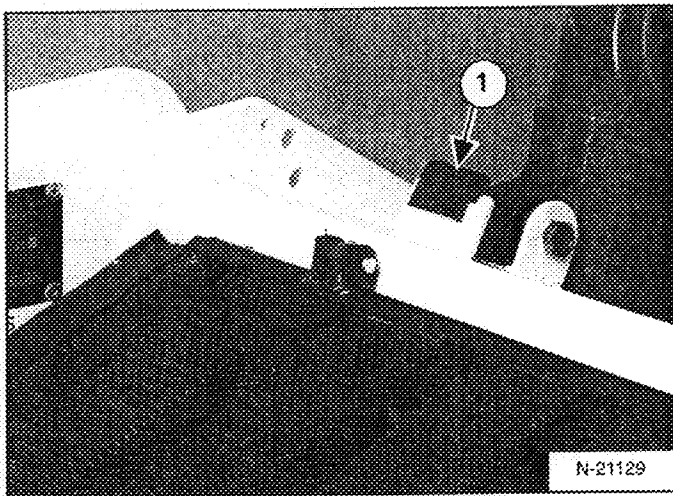
Gas Cylinder Removal And Installation



Cylinder contains high pressure gas. Do not open. Opening cylinder can release rod and cause injury or death.

W-2113-0288

Figure 50-20-1



Remove the operator cab stop (Item 1) (both sides) [Figure 50-20-1].

Figure 50-20-2



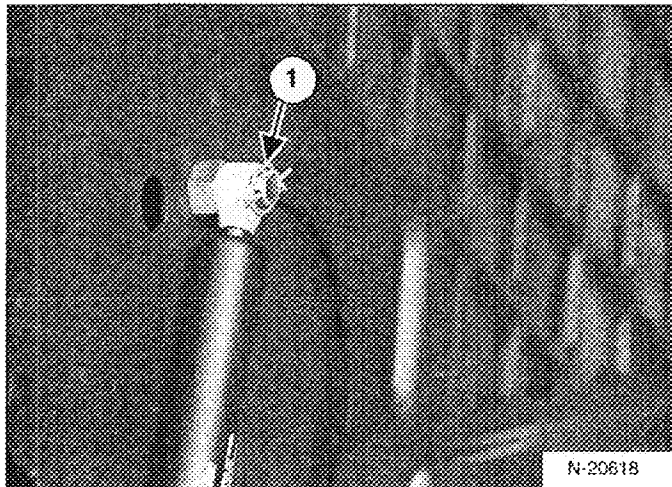
Raise the operator cab (See Contents, Page 10-1), to release the tension on the gas cylinder.

Install a strap (Item 1) [Figure 50-20-2] to the cab handles to prevent the cab from falling forward.

OPERATOR CAB (CONT'D)

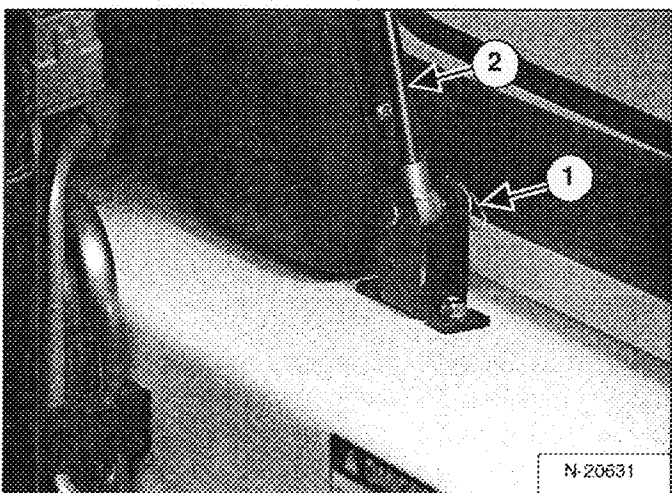
Gas Cylinder Removal And Installation (Cont'd)

Figure 50-20-3



Remove the snap ring (Item 1) [Figure 50-20-3] from the top pivot pin.

Figure 50-20-4



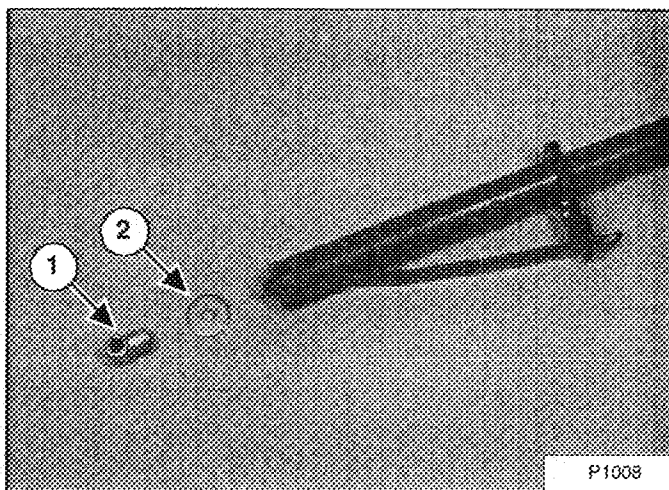
Remove the snap ring (Item 1) [Figure 50-20-4] from the bottom pivot pin.

Remove the gas cylinder (Item 2) [Figure 50-20-4] from the operator cab.

Reverse the above procedure to install the gas cylinder onto the operator cab.

Gas Cylinder Disassembly

Figure 50-20-5

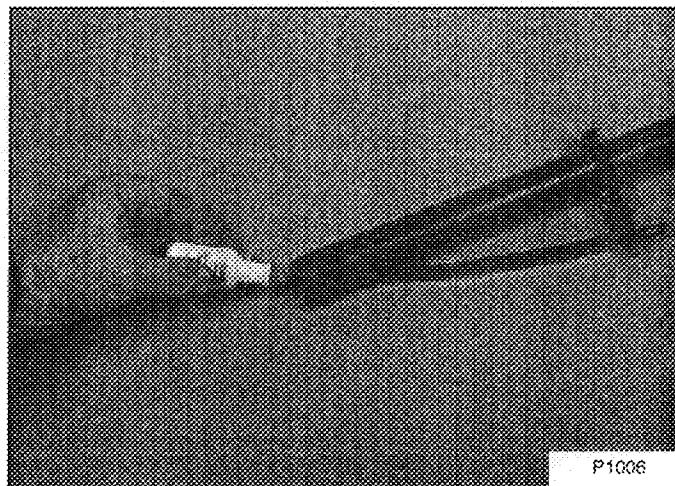


Remove the clevis (Item 1) [Figure 50-20-5] and washer (Item 2) [Figure 50-20-5] from the end of the gas cylinder.

Remove the gas cylinder from the outer housing.

Assembly: Install a replacement cylinder inside the cylinder housing.

Figure 50-20-6



Apply a small amount of LOCTITE on the threads of the cylinder rod [Figure 50-20-6].

Reinstall the washer and clevis on the cylinder rod.

OPERATOR CAB (CONT'D)

Removal And Installation

Figure 50-20-7



Remove the operator cab gas cylinder(s). (See Contents, Page 50-01.)

WARNING

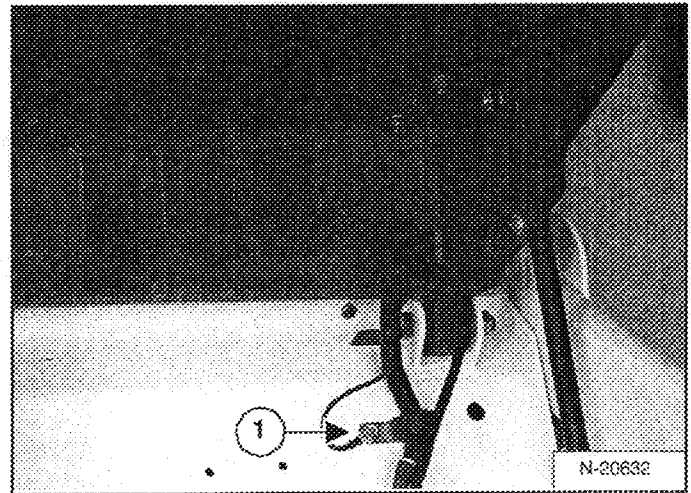
AVOID INJURY OR DEATH

Attach a chain hoist to the grab handles of the operator cab before removing the operator cab gas cylinders. If the operator cab is tilted forward without the gas cylinders operational, the cab will fall and could cause injury or death.

W-2245-0796

Use the hoist connected to the operator cab grab handles to lower or (raise) the operator cab when the gas cylinders are disconnected [Figure 50-20-7].

Figure 50-20-8

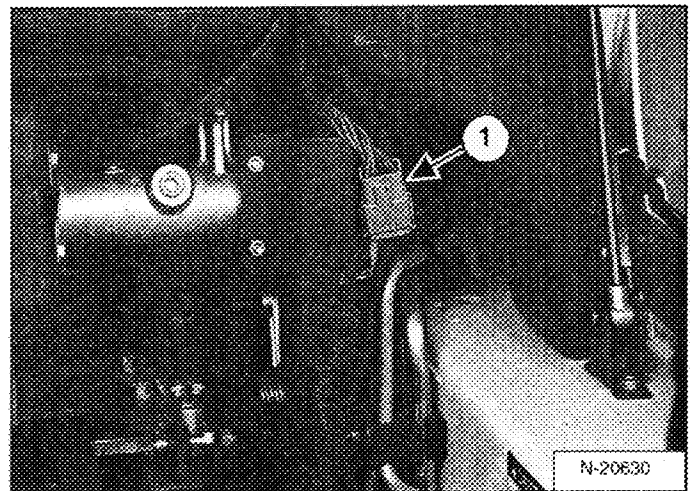


Remove bolt (Item 1) [Figure 50-20-8] from the cab ground.

Remove any sta-straps connected to the harness [Figure 50-20-8].

Remove heater unit (See Contents, Page 80-01) if so equipped.

Figure 50-20-9

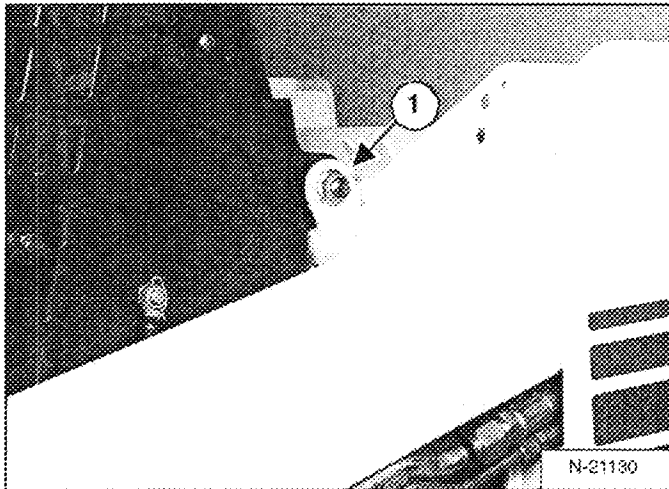


Disconnect harness(s) (Item 1) [Figure 50-20-9].

OPERATOR CAB (CONT'D)

Removal And Installation (Cont'd)

Figure 50-20-10

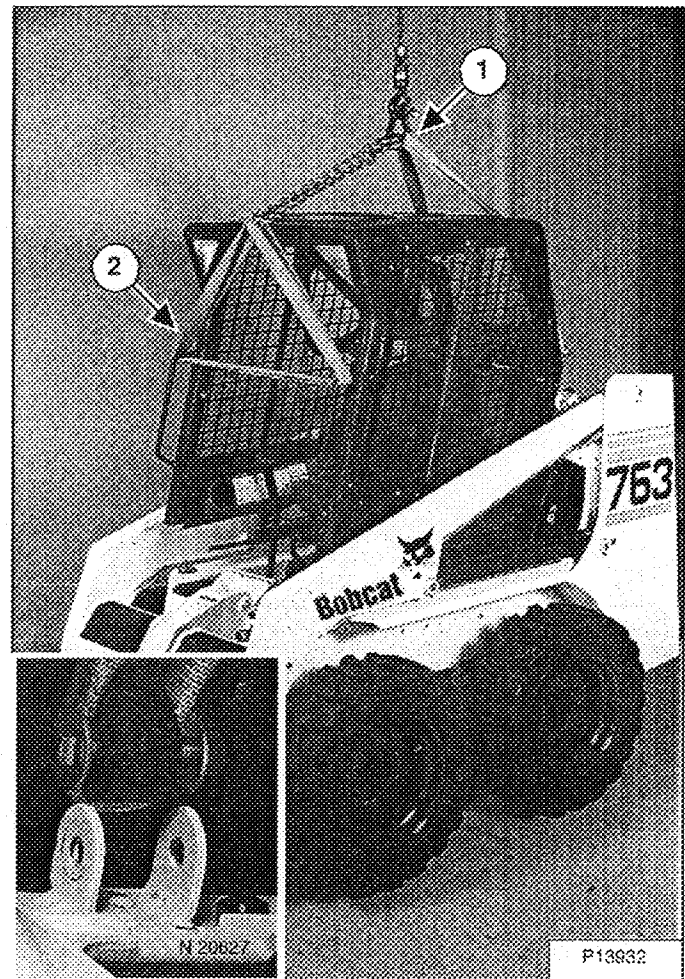


Lower the cab.

Remove the rear mounting bolts (Item 1) [Figure 50-20-10] (both sides) and nut from the operator cab.

Installation: Tighten the bolt and nut to 65-70 ft.-lbs. (88-95 Nm) torque.

Figure 50-20-11



Connect the slings (Items 1 & 2) [Figure 50-20-11] to a chain hoist.

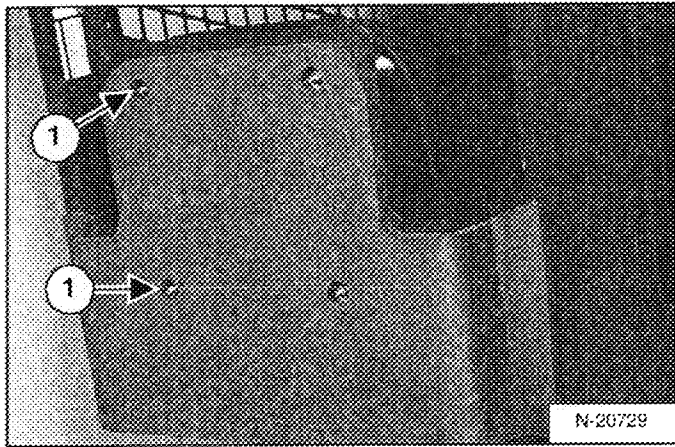
Remove the operator cab from the loader.

Reverse the above procedure to install the operator cab.

OPERATOR SEAT

Removal And Installation

Figure 50-30-1



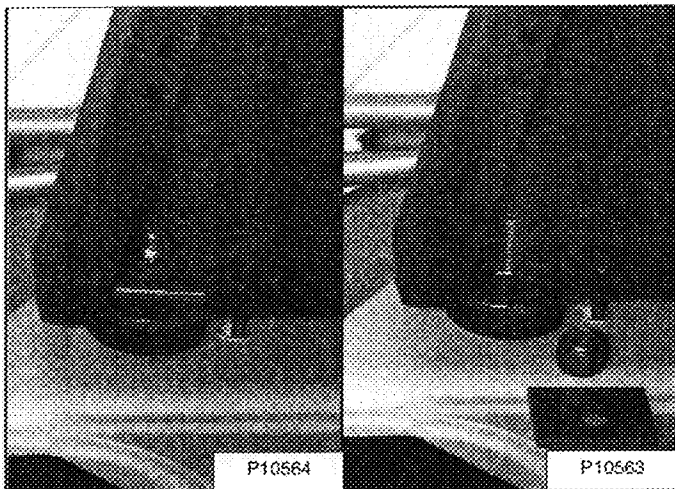
Raise the operator cab. (See Contents, Page 10-01.)

Remove the four seat mounting nuts (Item 1) [Figure 50-30-1] and washers from the operator seat mounting studs.

Installation: Tighten the mounting nuts to 20 ft.-lbs. (27 Nm) torque.

NOTE: Ensure the washers are installed.

Figure 50-30-2



Lower the cab and install one of the mounting washer and nut [Figure 50-30-2].

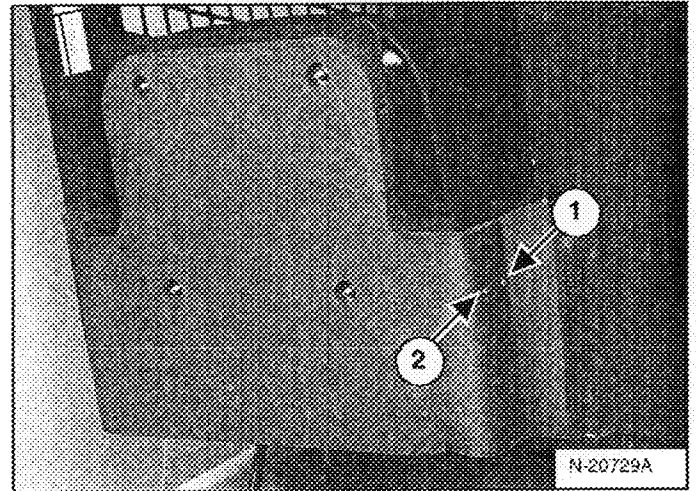
Remove seat from cab.

NOTE: With the seat removed the cab will raise.

Reverse the removal procedure to install the operator seat.

Seat Belt Removal And Installation

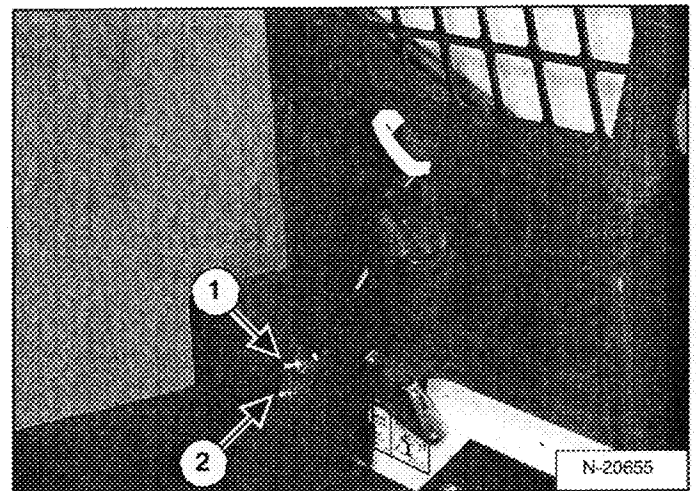
Figure 50-30-3



Raise the operator cab. (See Contents, Page 10-01.)

Locate the seat belt bolts under seat pan insulation (Item 1 & 2) [Figure 50-30-3] and peel back or cut insulation to gain access to the head.

Figure 50-30-4



Remove the two nuts (Item 1 & Item 2) [Figure 50-30-4].

Installation: Tighten nut (Item 1) to 54 ft.-lbs. (73 Nm) torque. Tighten nut (Item 2) [Figure 50-30-4] to 34 ft.-lbs. (46 Nm) torque.

Repeat for other half of seat belt and guide

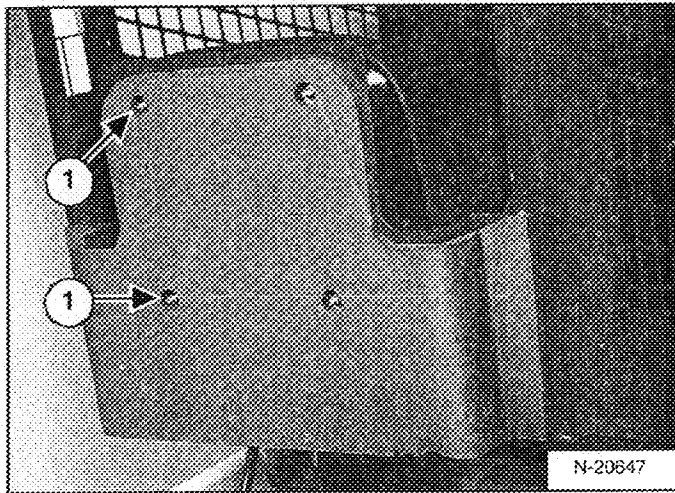


Bobcat®

OPERATOR SEAT (SUSPENSION)

Removal And Installation

Figure 50-31-1

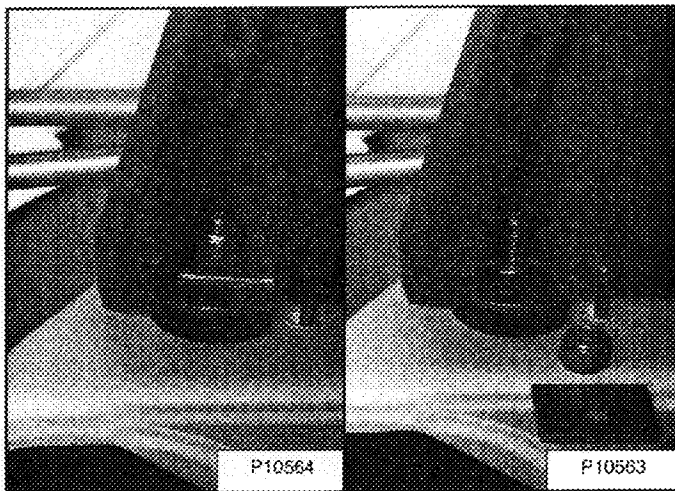


Raise the operator cab. (See Contents, Page 10-01.)

Remove the four seat mounting nuts (Item 1) [Figure 50-31-1] and washers from the operator seat mounting studs.

Installation: Tighten the mounting nuts to 20 ft.-lbs. (27 Nm) torque.

Figure 50-31-2



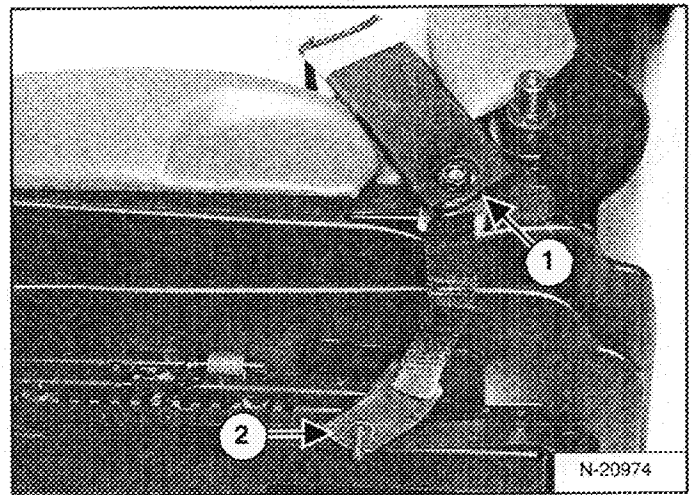
Lower the cab and install one of the mounting washer and nut [Figure 50-31-2].

Remove seat from cab.

NOTE: With the seat removed the cab will raise.

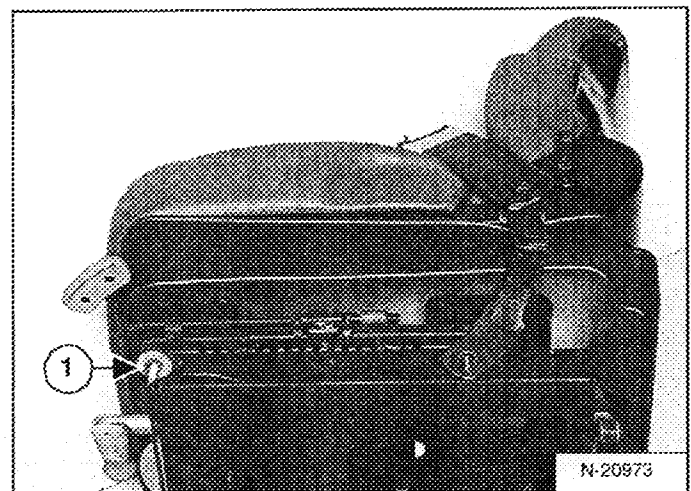
Reverse the removal procedure to install the operator seat.

Figure 50-31-3



NOTE: Assure seat tethers are securely fastened to seat belt studs (Item 1) [Figure 50-31-3] and seat rail studs (Item 2) [Figure 50-31-3].

Figure 50-31-4

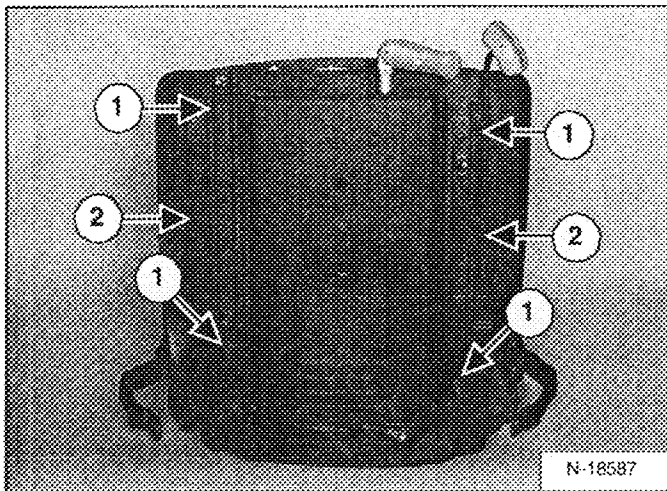


NOTE: Verify the front two seat rail studs have washers attached (Item 1) [Figure 50-31-4].

OPERATOR SEAT (SUSPENSION) (CONT'D)

Slide Rail Removal And Installation

Figure 50-31-5



Raise the operator cab. (See Contents, Page 10-01.)

Remove the operator seat. (See Contents, Page 50-01.)

Remove the two slide rail mounting bolts (Item 1) [Figure 50-31-5].

Remove the slide rail (Item 2) [Figure 50-31-5] from the bottom of the seat frame.

Reverse the removal procedure to install the operator seat slide rail.

Cushion Removal And Installation

Figure 50-31-6

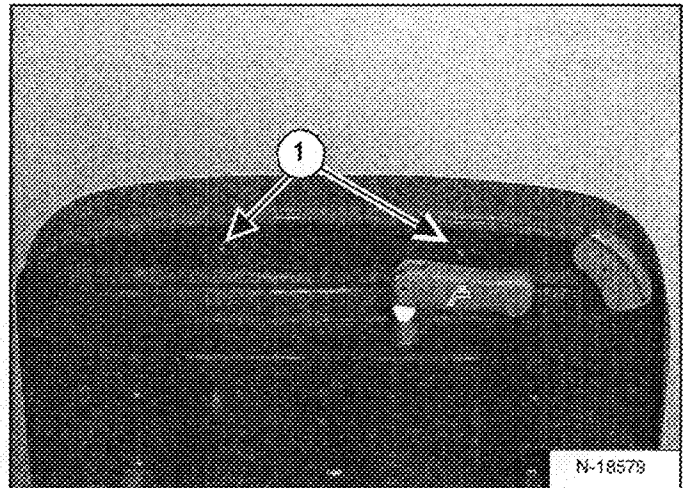
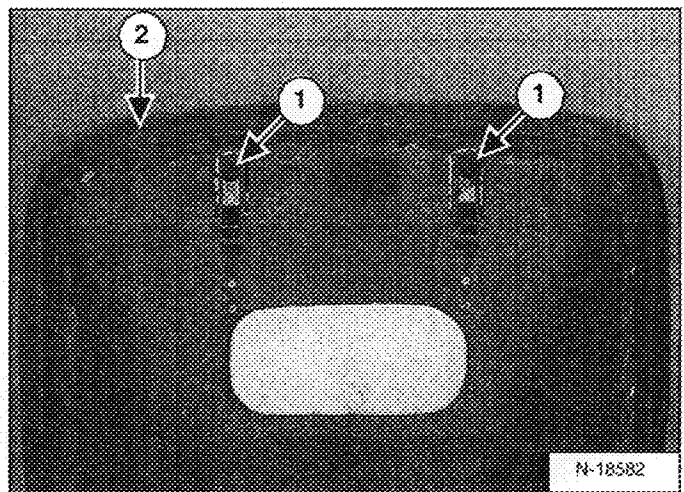


Figure 50-31-7

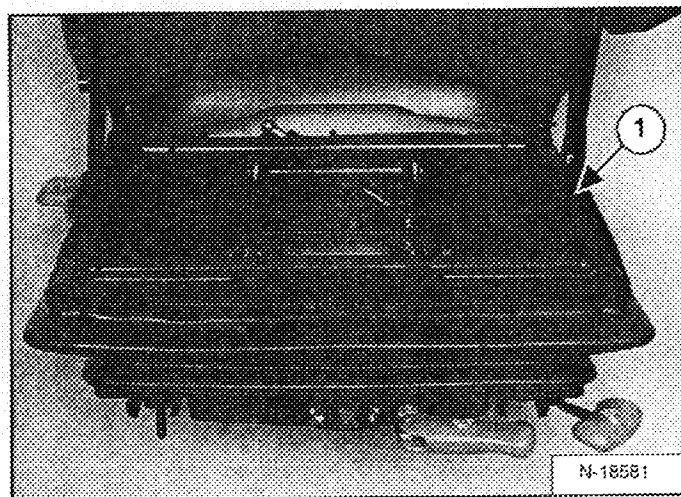


Press the two buttons (Item 1) [Figure 50-31-6] & [Figure 50-31-7] and lift the seat cushion.

OPERATOR SEAT (SUSPENSION) (CONT'D)

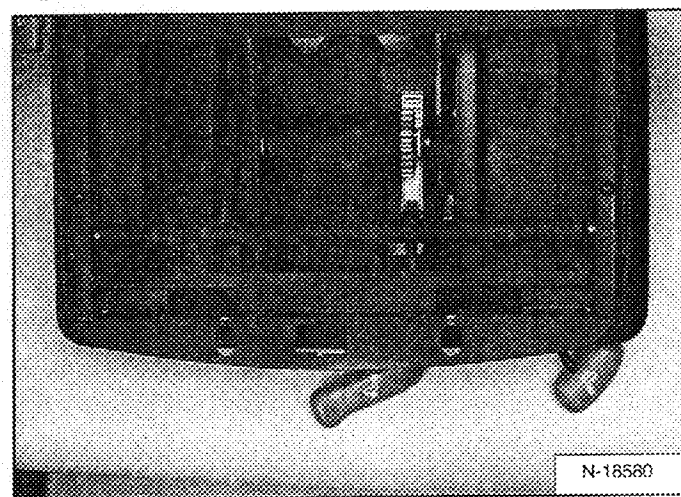
Cushion Removal And Installation (Cont'd)

Figure 50-31-8



Remove the cushion (Item 2) [Figure 50-31-8] from the seat frame (Item 1) [Figure 50-31-8].

Figure 50-31-9

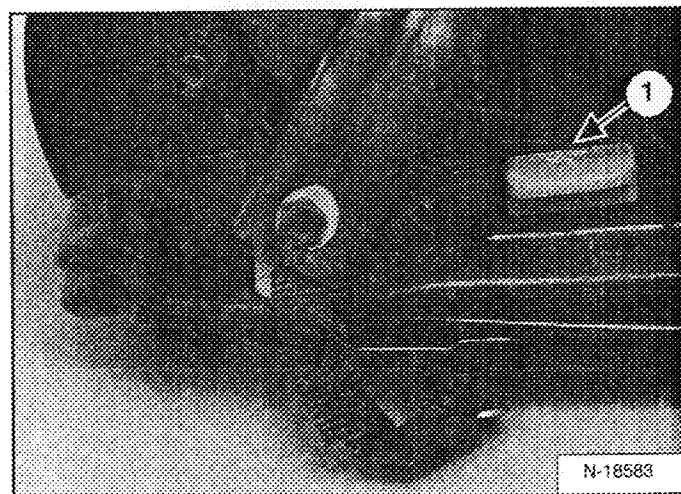


Inspect the seat ride adjustment [Figure 50-31-9].

Reverse the removal procedure to install the operator seat cushion.

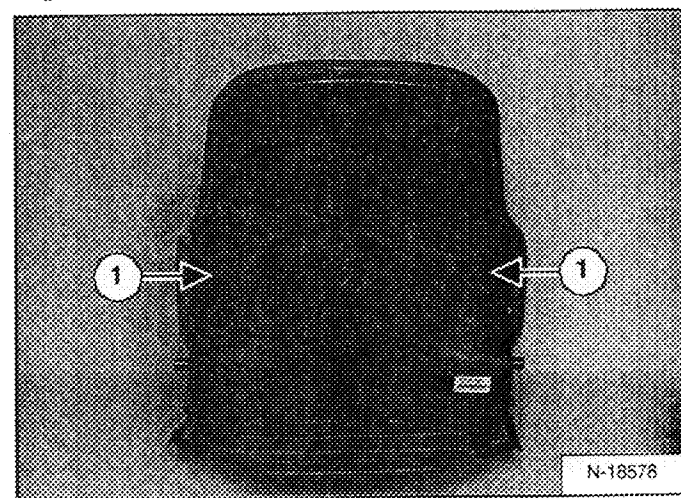
Back Removal And Installation

Figure 50-31-10



Pull the seat back adjustment lever (Item 1) [Figure 50-31-10] and lift the seat back all the way forward.

Figure 50-31-11



Remove the two mounting screws (Item 1) [Figure 50-31-11] from the seat back and remove the back.

Reverse the removal procedure to install the operator seat back.

OPERATOR SEAT (SUSPENSION) (CONT'D)

Shock Removal And Installation

Figure 50-31-12

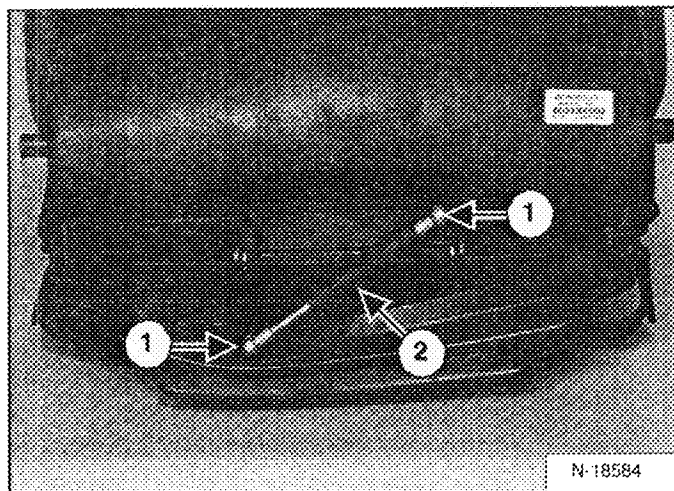
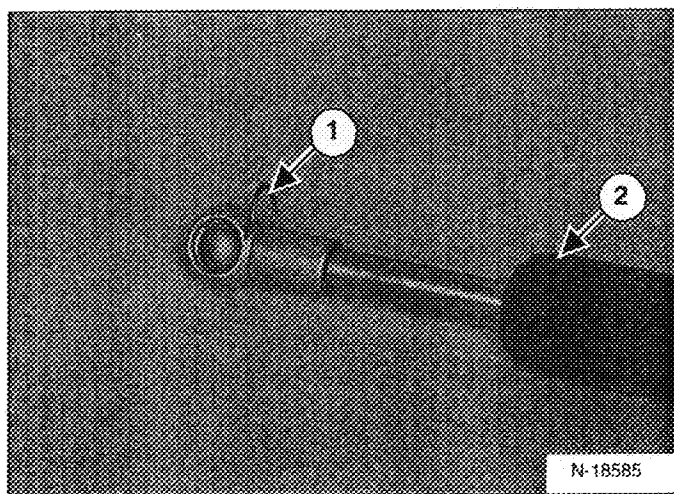


Figure 50-31-13



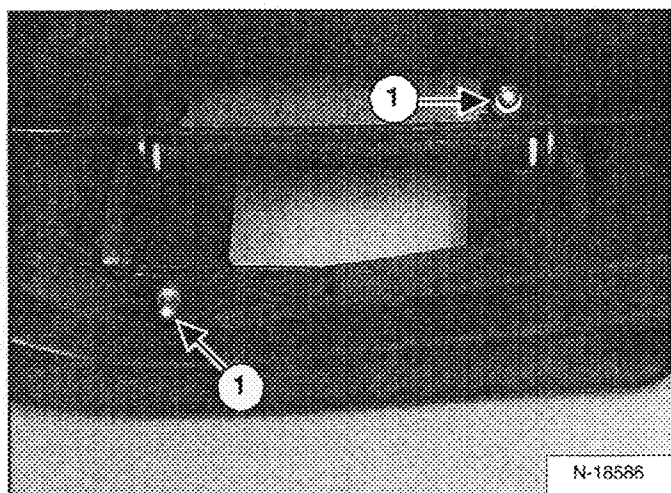
Raise the operator cab. (See Contents, Page 10-01.)

Remove the operator seat. (See Contents, Page 50-01.)

Remove the seat shock retaining pin (Item 1) [Figure 50-31-12] & [Figure 50-31-13] (Both ends.)

Remove the seat shock (Item 2) [Figure 50-31-12] & [Figure 50-31-13].

Figure 50-31-14



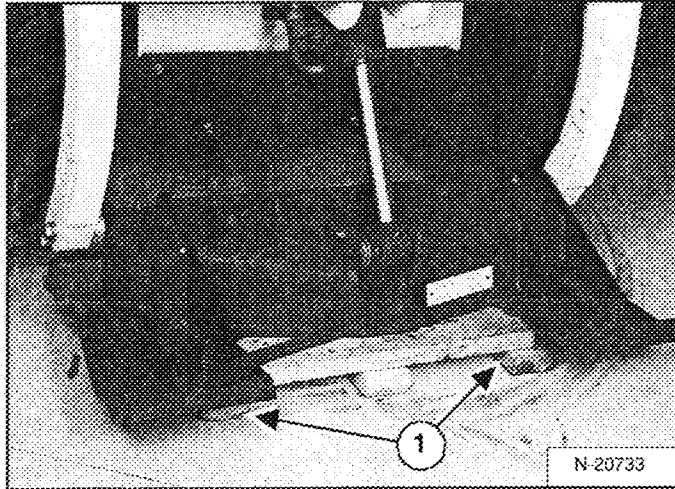
NOTE: The seat block mounting studs (Item 1) [Figure 50-31-14] are replaceable.

Reverse the removal procedure to install the operator seat shock.

BOB-TACH

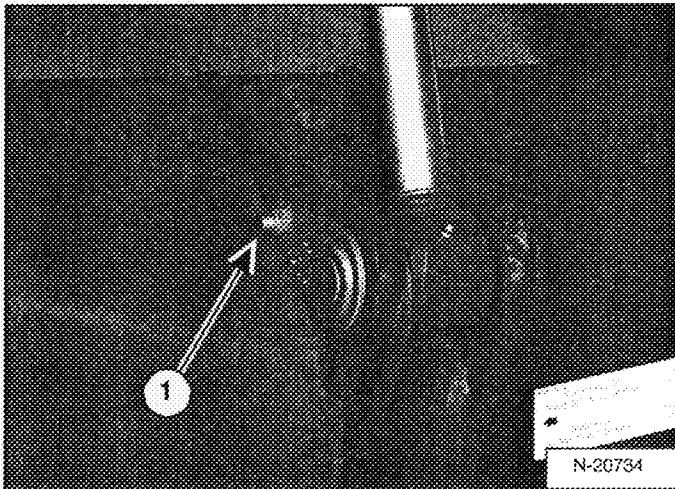
Removal And Installation

Figure 50-40-1



Tilt the Bob-Tach forward, so it is parallel to the floor. Put blocks (Item 1) [Figure 50-40-1] approximately 3 inches thick under each side of the Bob-Tach. Lower the Bob-Tach onto the blocks [Figure 50-40-1].

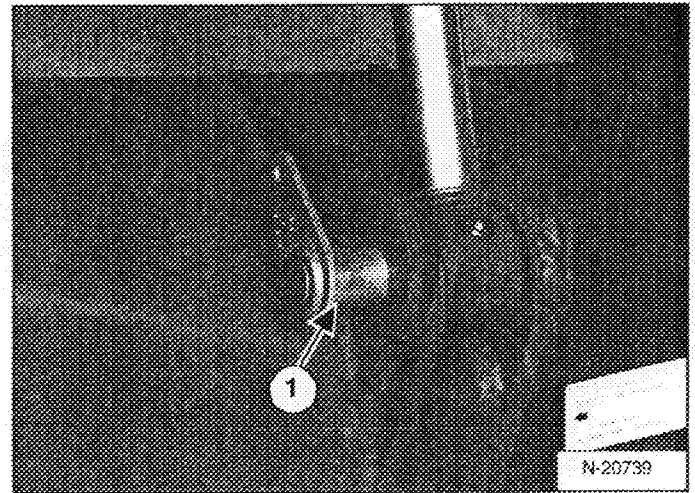
Figure 50-40-2



Remove the retainer bolt (Item 1) [Figure 50-40-2] from the pivot pin.

Installation: Tighten the retainer bolt to 18-20 ft.-lbs. (24-27 Nm) torque.

Figure 50-40-3



Remove the grease fitting from the pivot pin [Figure 50-40-3].

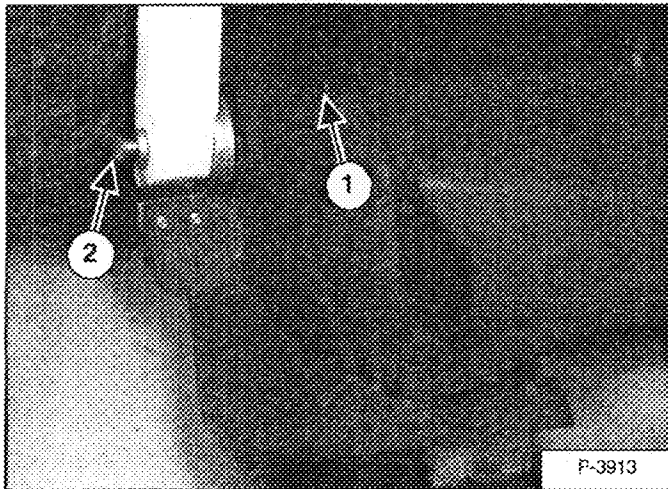
Remove the rod end pivot pin (Item 1) [Figure 50-40-3].

Remove the tilt cylinder rod end.

BOB-TACH (CONT'D)

Removal And Installation (Cont'd)

Figure 50-40-4



NOTE: Removal procedure is shown for the right side. Left side procedure is the same.

Remove the grease fitting (Item 1) [Figure 50-40-4] from the Bob-Tach frame for the pivot pin (both sides) [Figure 50-40-5].

NOTE: The pivot pin fitting must be removed to prevent the pivot pin from being locked in the Bob-Tach frame.

Loosen the bolt (Item 2) [Figure 50-40-4] at the Bob-Tach pivot pin.

Installation: Tighten the bolt to 350-360 ft.-lbs. (475-488 Nm) torque.

Strike the head of the bolt (Item 2) [Figure 50-40-4] to push the pivot pin into the Bob-Tach frame.

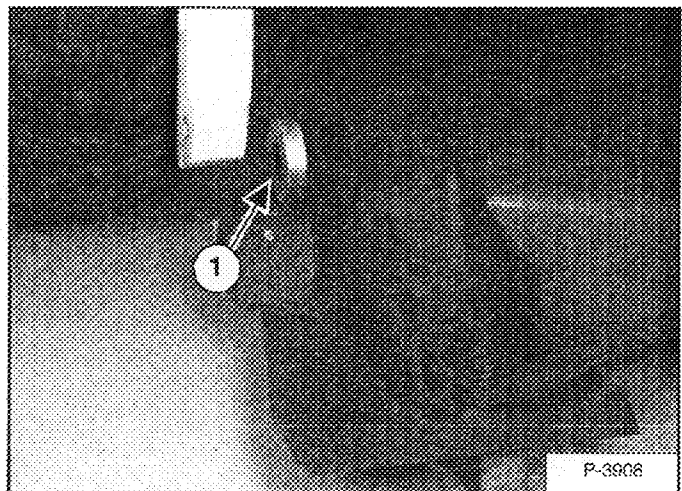
Remove the bolt (Item 2) [Figure 50-40-4].

Use a punch to push the pivot pin all the way into the Bob-Tach frame.

Installation: A longer bolt is necessary to install through lift arms into the pivot pin, to pull the pivot pin into the lift arms.

NOTE: Use tapered ream MEL1233 to clean the tapered hole in the lift arms. The tapered hole must be clean and free of debris to provide a good contact surface for the pivot pin.

Figure 50-40-5



Slowly back the loader away to remove the Bob-Tach frame [Figure 50-40-5].

Remove the seal dust cup (Item 1) [Figure 50-40-5].

Figure 50-40-6

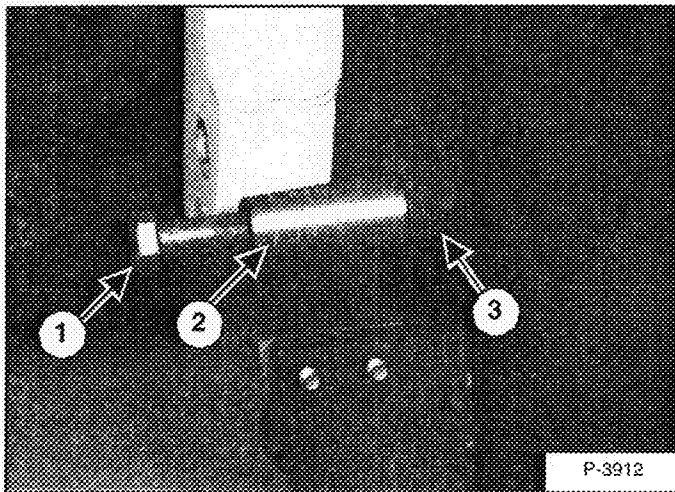


Remove the rubber seal [Figure 50-40-6].

BOB-TACH (CONT'D)

Removal And Installation (Cont'd)

Figure 50-40-7



Install the Bob-Tach mounting bolt (Item 1) [Figure 50-40-7] into the pivot pin (Item 2) [Figure 50-40-7]. Remove the pivot pin from the Bob-Tach frame.

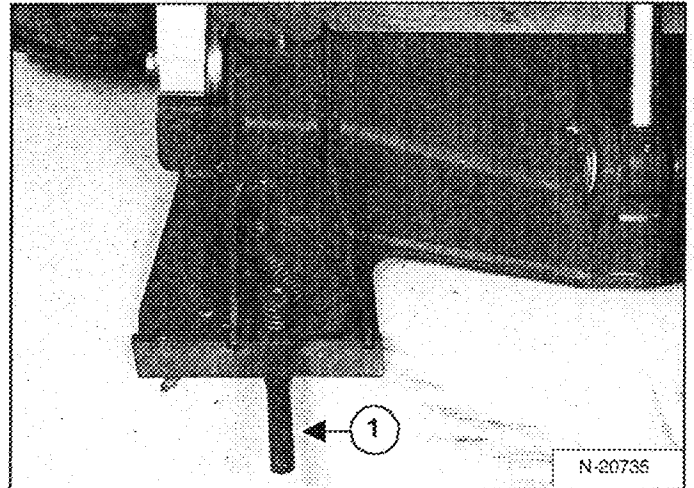
Check for wear and damage. Replace the pivot pins as needed.

Installation: Push the pivot pin (Item 2) [Figure 50-40-7] into the Bob-Tach frame. Position the end of the pin flush with the end of the Bob-Tach bushing (Item 3) [Figure 50-40-7].

Reverse the removal procedure to install the Bob-Tach.

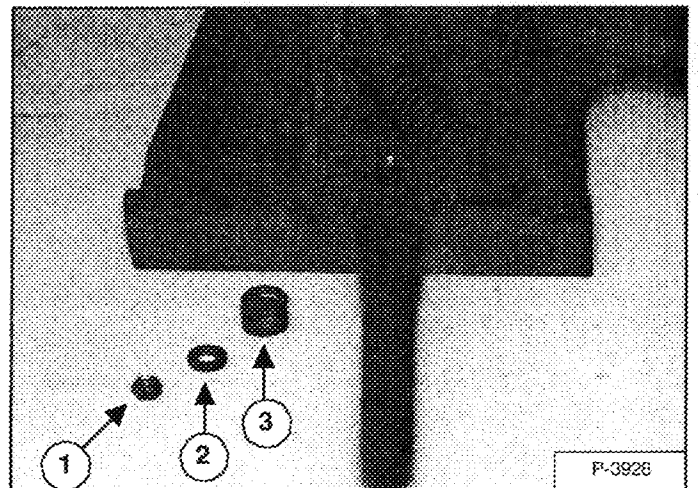
Bob-Tach Lever And Wedge

Figure 50-40-8



Use the following procedure to remove and install the Bob-Tach lever (Item 1) [Figure 50-40-8], spring and wedge.

Figure 50-40-9



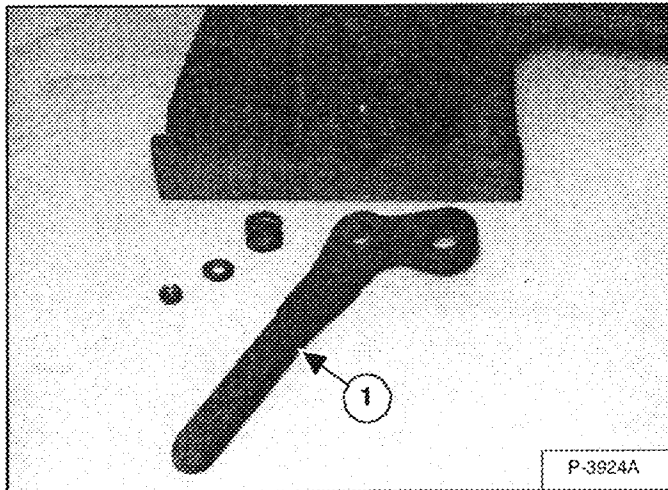
Remove the lever mounting bolt and nut (Item 1) [Figure 50-40-9], washer (Item 2) [Figure 50-40-9] and spring (Item 3) [Figure 50-40-9].

Installation: Tighten the nut to 25-28 ft.-lbs. (34-38 Nm) torque.

BOB-TACH (CONT'D)

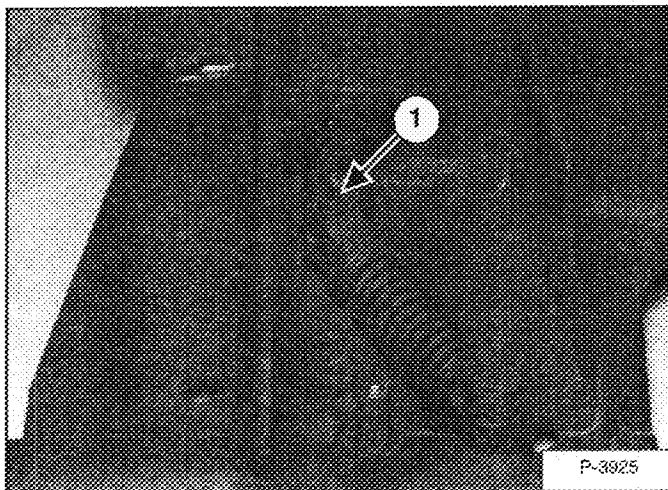
Bob-Tach Lever And Wedge (Cont'd)

Figure 50-40-10



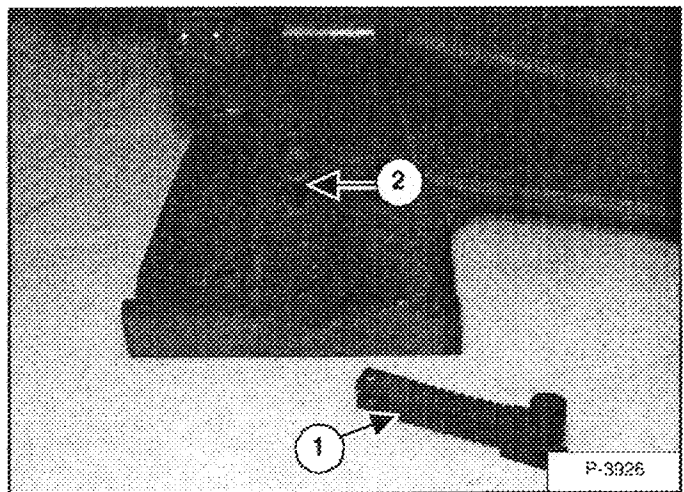
Remove the Bob-Tach lever (Item 1) [Figure 50-40-10].

Figure 50-40-11



Use a punch and hammer, remove the roll pin (Item 1) [Figure 50-40-11] from the Bob-Tach wedge and spring, bolt and clevis assembly.

Figure 50-40-12



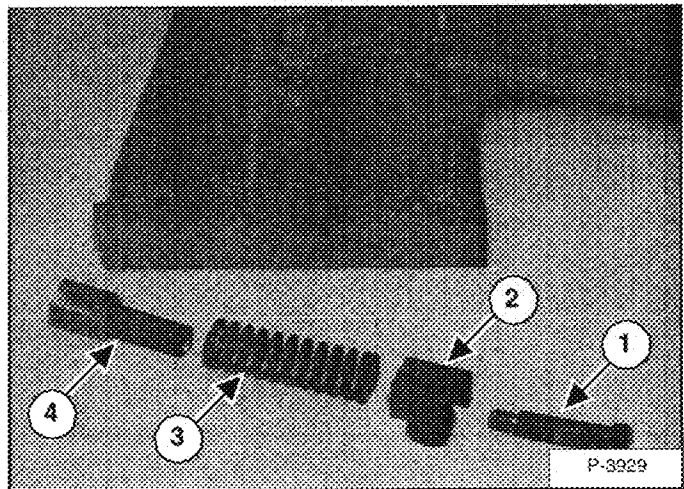
Remove the spring, bolt and clevis assembly (Item 1) [Figure 50-40-12].

Remove the wedge (Item 2) [Figure 50-40-12] from the Bob-Tach frame.

Always replace bent or broken wedges.

Installation: When installing wedge the taper should be the same as picture [Figure 50-40-14].

Figure 50-40-13



If the bolt (Item 1) [Figure 50-40-13], handle pivot (Item 2) [Figure 50-40-13], spring (Item 3) [Figure 50-40-13] or clevis (Item 4) [Figure 50-40-13] are damaged, put the assembly in the vise. Loosen and remove the bolt (Item 1) [Figure 50-40-13] with a 5/16 inch allen wrench.

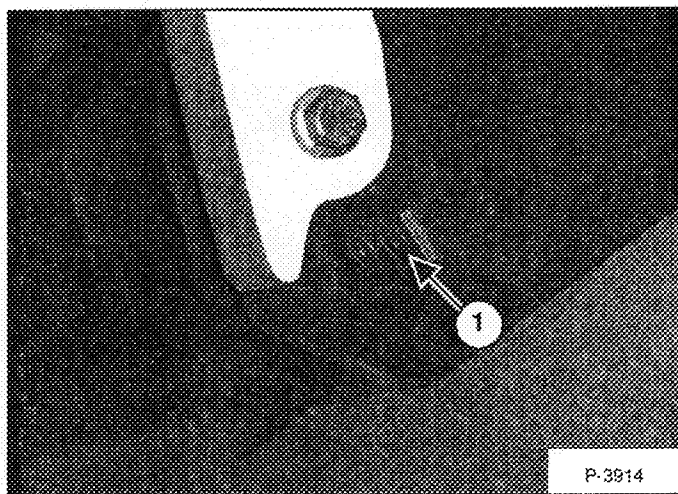
Replace the worn or damaged parts as needed.

Reverse the removal procedure to install the Bob-Tach Lever and Wedge.

BOB-TACH (CONT'D)

Bob-Tach Stops

Figure 50-40-14



Remove and replace the Bob-Tach stop (Item 1) [Figure 50-40-14] (both sides) if worn or damaged.

NOTE: The Bob-Tach stop (Item 1) [Figure 50-40-14] must contact the lift arm at the same time the tilt cylinder reaches full extension. Use available shims to adjust the Bob-Tach stop and tilt cylinder sequence as closely as possible.

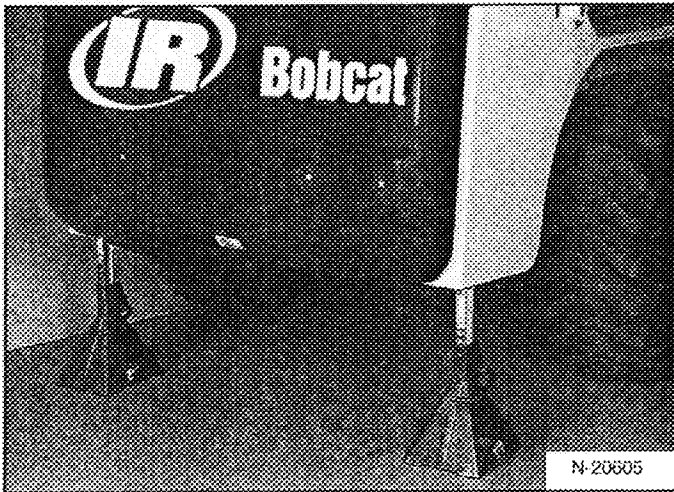


Bobcat[®]

LIFT ARM

Removal And Installation

Figure 50-50-1

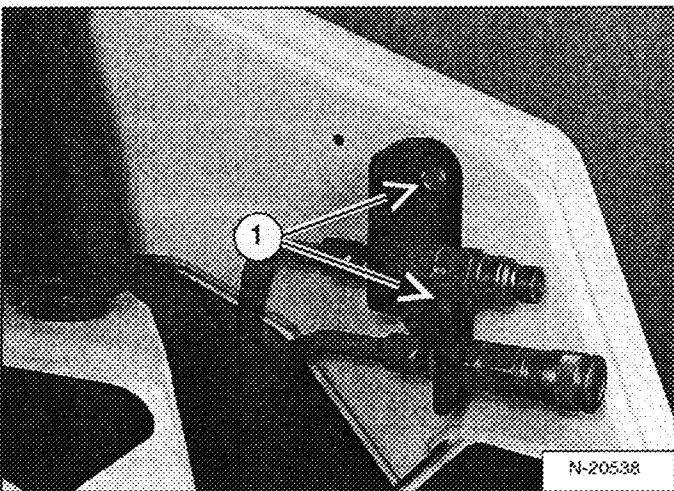


Roll the Bob-Tach fully forward. Stop the engine.

Remove the Bob-Tach frame from the lift arms. (See Contents, Page 50-01.)

Install jackstands under the rear of the loader [Figure 50-50-1].

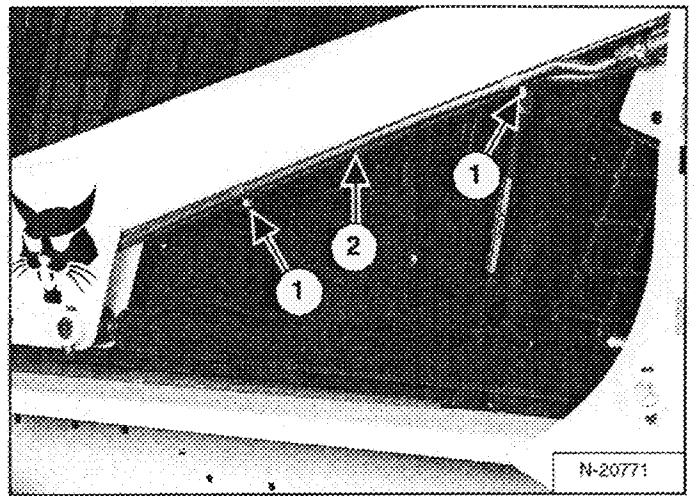
Figure 50-50-2



Left Side

Remove the front auxiliary mount mounting bolts (Item 1) [Figure 50-50-2].

Figure 50-50-3



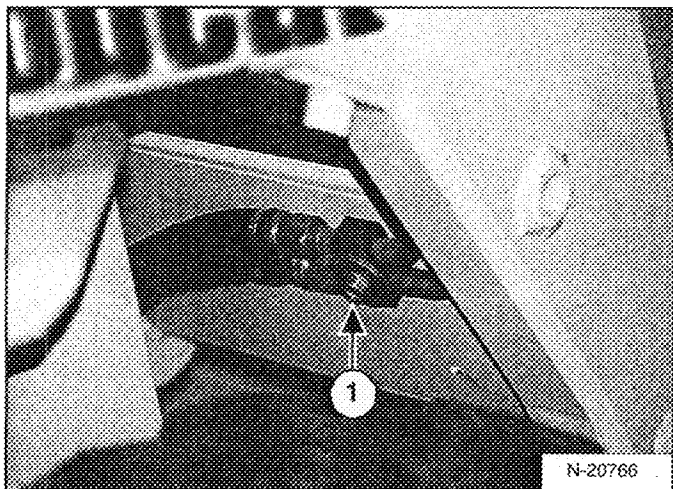
Remove the tubeline clamps (Item 1) [Figure 50-50-3] under the lift arms.

Pull the tubelines down (Item 2) [Figure 50-50-3].

LIFT ARM (CONT'D)

Removal And Installation (Cont'd)

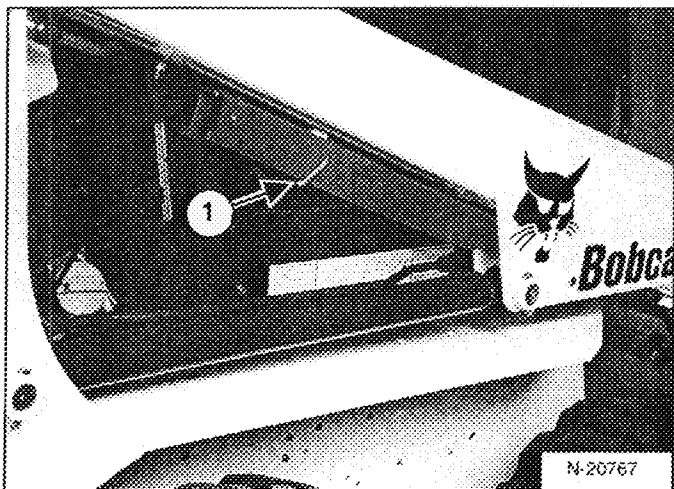
Figure 50-50-4



Right Side

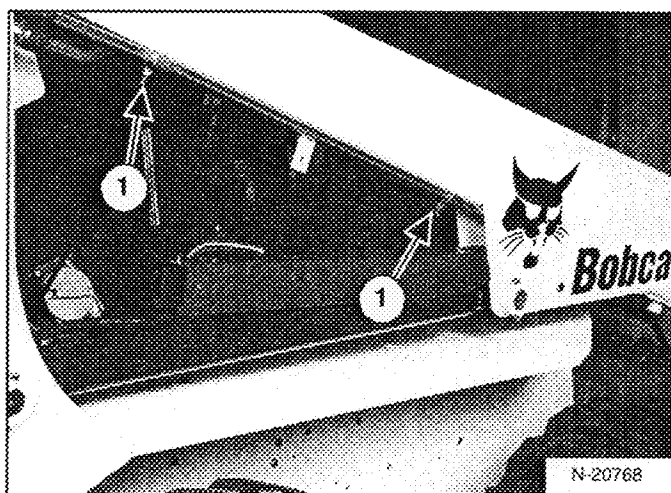
Remove the mounting bolt (Item 1) [Figure 50-50-4] from the tilt tubeline clamp.

Figure 50-50-5



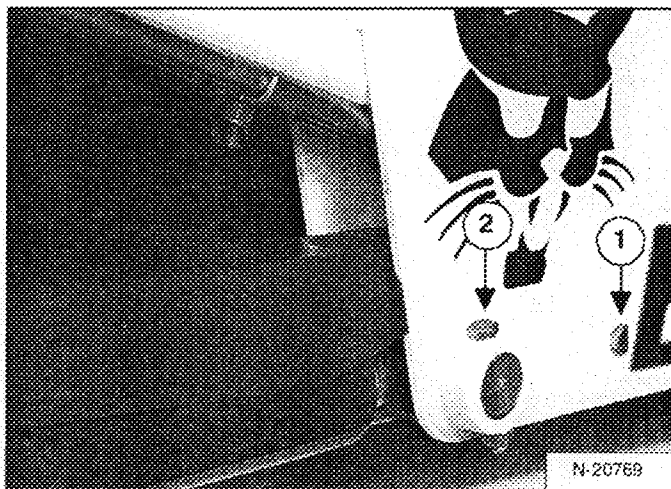
Lower the lift arm support device (Item 1) [Figure 50-50-5].

Figure 50-50-6



Remove the tubeline clamps (Item 1) [Figure 50-50-6] under the lift arms.

Figure 50-50-7



Remove the lift arm support device mounting bolt (Item 1) [Figure 50-50-7] spacer and nut.

Installation: Tighten the mounting bolt and nut to 180-200 in.-lbs. (21-23 Nm) torque.

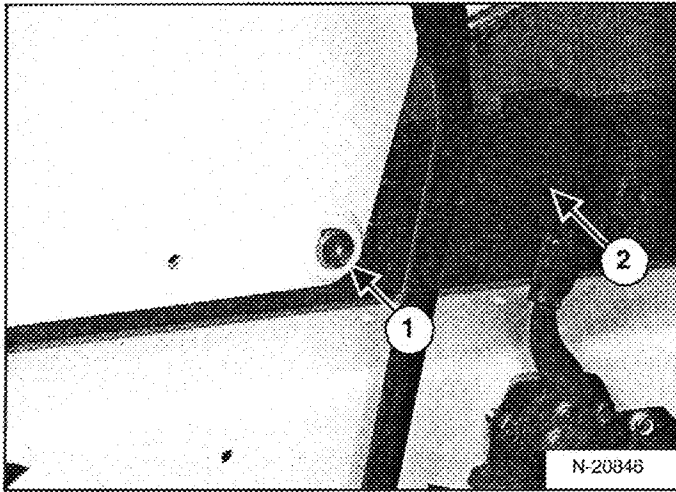
Remove the retainer bolt (Item 2) [Figure 50-50-7] and nut from the lift cylinder rod end pivot pin.

Installation: Tighten the mounting bolt and nut to 18-20 ft.-lbs. (24-27 Nm) torque.

LIFT ARM (CONT'D)

Removal And Installation (Cont'd)

Figure 50-50-8



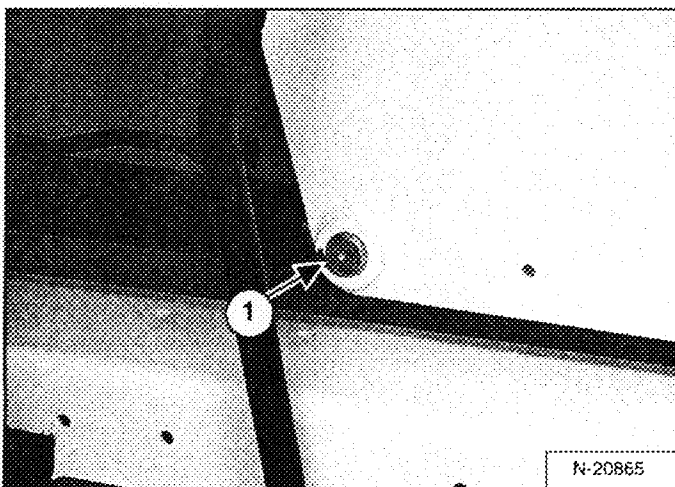
Raise the operator cab. (See Contents, Page 10-01.)

Remove the right side lift cylinder pivot pin (Item 1) [Figure 50-50-8].

NOTE: Put a piece of cardboard under the rod end of the lift cylinders to protect the fender from scratches.

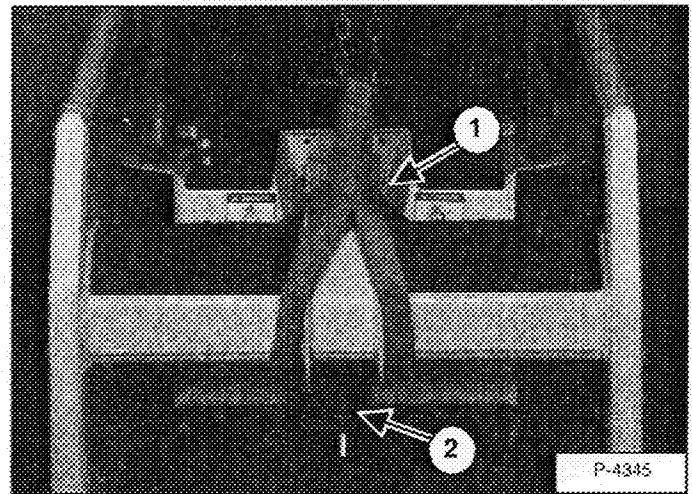
Remove the lift arm support device (Item 2) [Figure 50-50-8].

Figure 50-50-9



Remove the left side lift cylinder pivot pin (Item 1) [Figure 50-50-9].

Figure 50-50-10



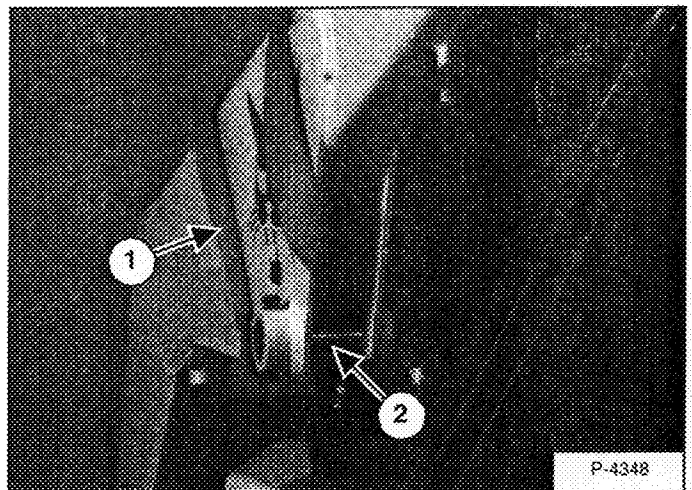
Wrap one of the 7 ft. lifting straps around the lift arm crossmember as shown [Figure 50-50-10].

Both loops of the lifting strap should be supported by the chain hoist [Figure 50-50-10].

Use a chain hoist and lifting strap to raise the lift arms enough to remove the tilt cylinder base end pivot pin (Item 1) [Figure 50-50-10].

Remove the tilt cylinder (Item 2) [Figure 50-50-10] from the lift arm crossmember and put on the blocking.

Figure 50-50-11



Put the middle of the second lifting strap (Item 1) [Figure 50-50-11] up into the lift arm as shown.

Install the lift cylinder pivot pin (Item 2) [Figure 50-50-11] and secure the pin with the mounting bolt and nut.

Wrap both ends of the strap around the top of the lift arm and down the back of the lift arm [Figure 50-50-11].

LIFT ARM (CONT'D)

Removal And Installation (Cont'd)

Figure 50-50-12



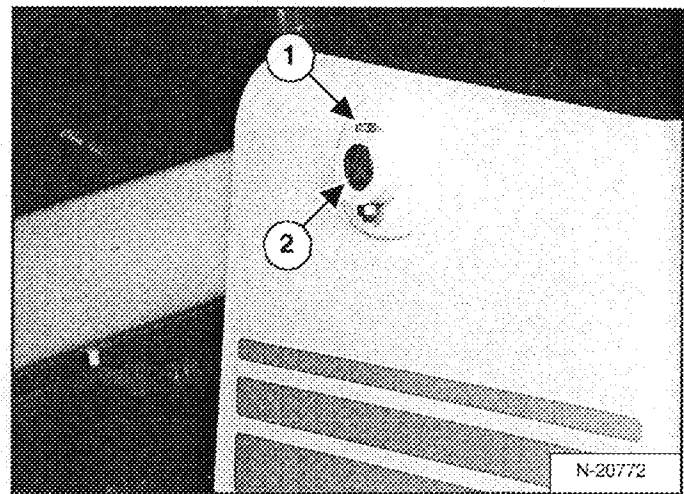
Continue to wrap the lifting strap around the lift arm a second time [Figure 50-50-12].

Fasten both loops of the lifting strap to a second chain attached to the chain hoist.

Use the wrapping procedure on the third strap which should be installed on the right side lift arm.

Use the chain hoist and lower the lift arms so they rest on the blocking.

Figure 50-50-13



Remove the upright pivot pin mounting bolt (Item 1) [Figure 50-50-13] and nut. (Both sides.)

Installation: Tighten the pivot pin mounting bolt and nut to 18-20 ft.-lbs. (24-27 Nm) torque.

Remove the upright pivot pin (Item 2) [Figure 50-50-13]. (Both sides.)

LIFT ARM (CONT'D)

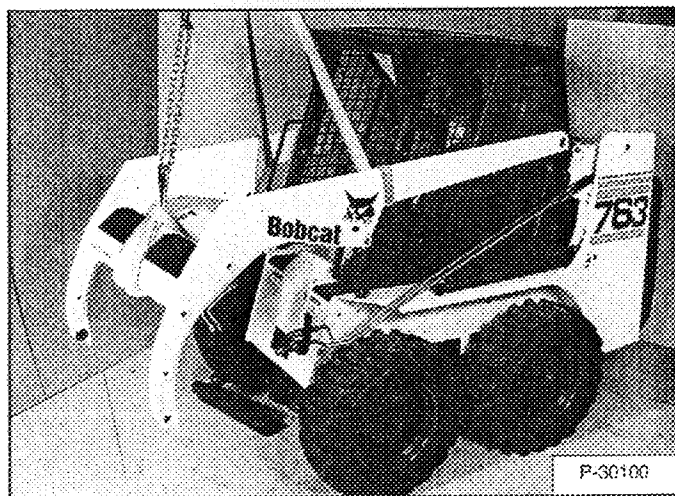
Removal And Installation (Cont'd)

Figure 50-50-14



Raise the lift arms with the chain hoist so the lift arms are free from the loader [Figure 50-50-14].

Figure 50-50-15



Pull the lift arms away from the loader [Figure 50-50-15].

Lower the lift arms slowly and put on the floor.

Reverse the removal procedure to install the lift arms on the loader.

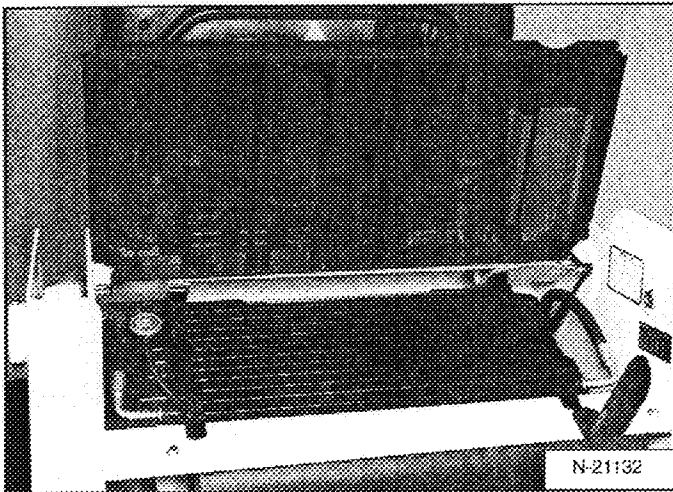


Bobcat®

REAR GRILL

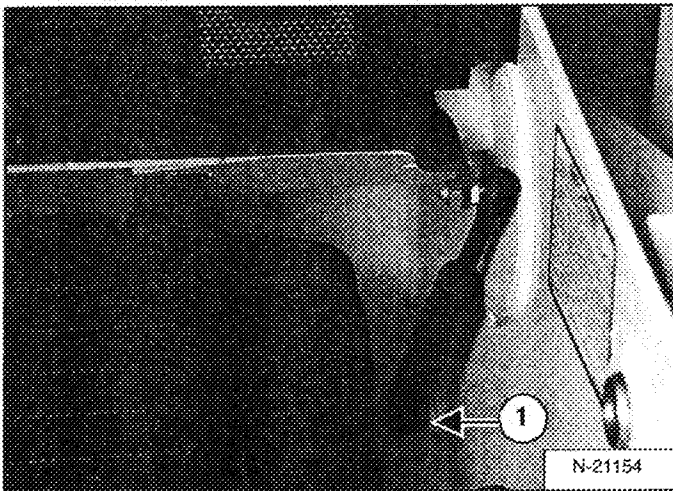
Gas Cylinder Removal And Installation

Figure 50-60-1



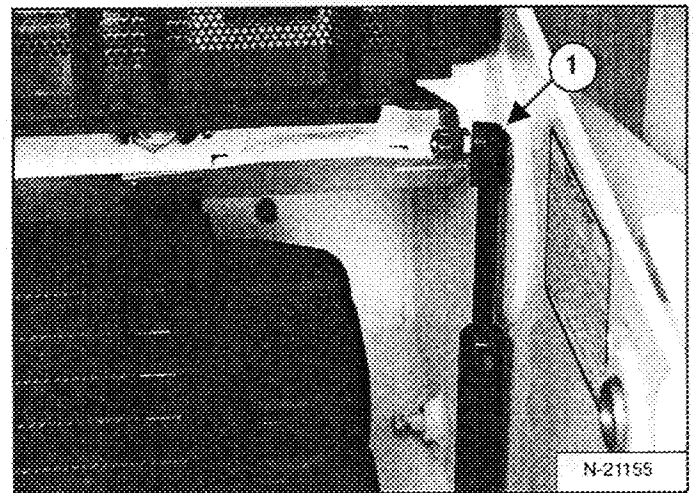
Open the rear door and raise the rear grill [Figure 50-60-1].

Figure 50-60-2



Remove the base end of the cylinder (Item 1) [Figure 50-60-2] off the stationary ball joint mounted on the loader frame.

Figure 50-60-3



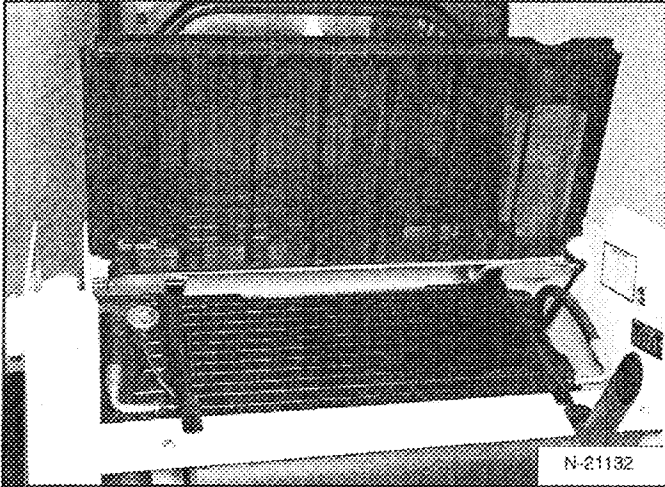
Remove the rod end (Item 1) [Figure 50-60-3] of the cylinder from the rear grill.

Reverse the removal procedure to install the gas cylinder.

REAR GRILL (CONT'D)

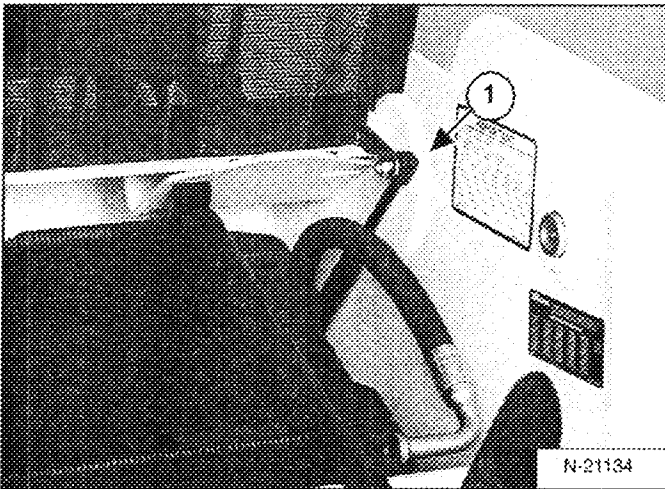
Removal And Installation

Figure 50-60-4



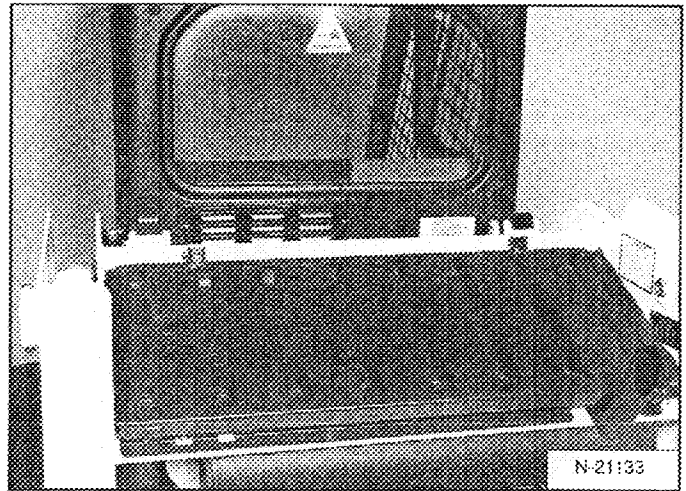
Open the rear door and raise the rear grill [Figure 50-60-4].

Figure 50-60-5



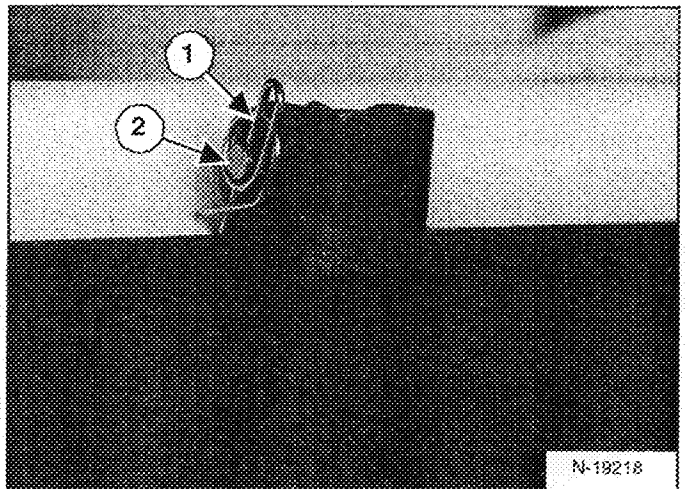
Remove the gas cylinder rod end (Item 1) [Figure 50-60-5] from the rear grill. See Gas Cylinder Removal And Installation on page 50-60-1.

Figure 50-60-6



Lower the rear grill [Figure 50-60-6].

Figure 50-60-7



Remove the cotter pin (Item 1) [Figure 50-60-7] from the pivot pin (both sides).

Remove the pivot pin (Item 2) [Figure 50-60-7] (both sides).

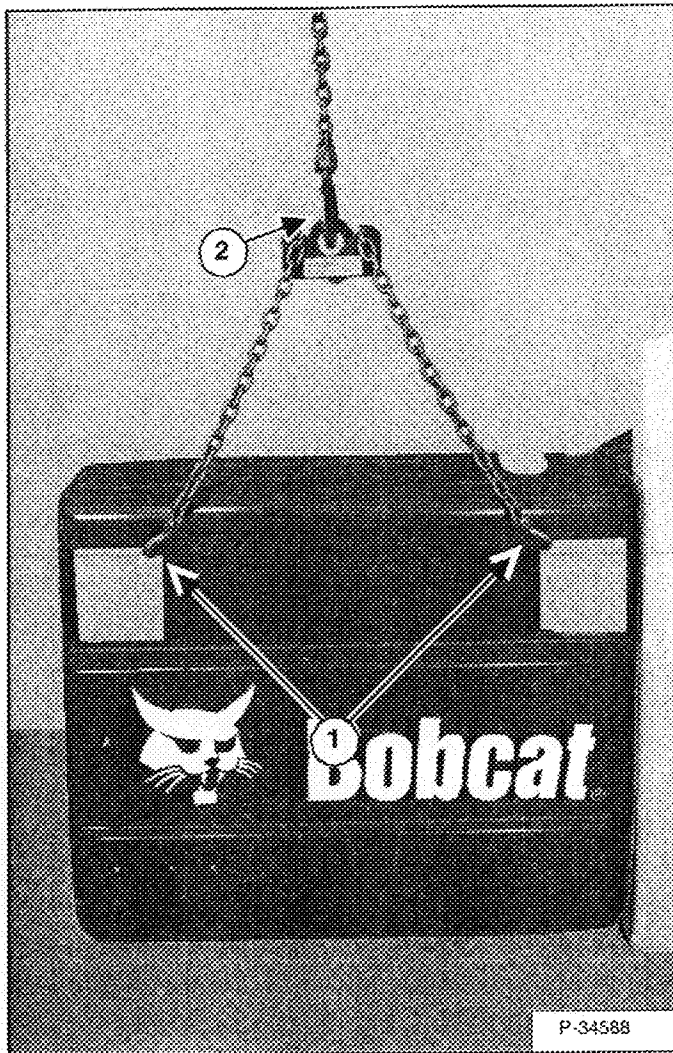
Lift the rear grill from the loader.

Reverse the removal procedure to install a new grill.

REAR DOOR

Removal And Installation

Figure 50-70-1

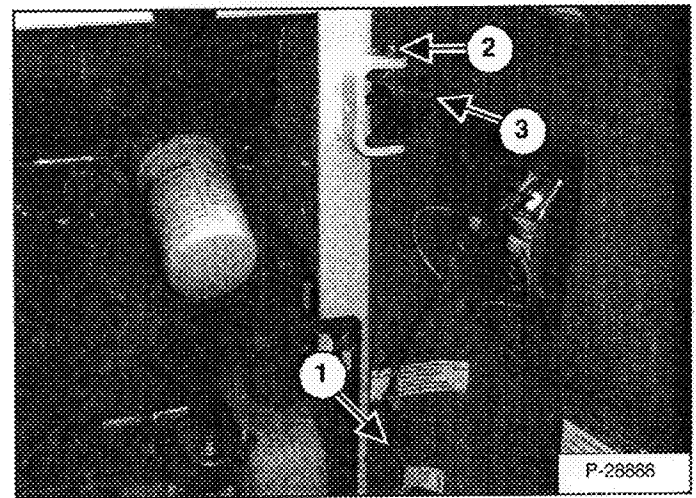


Remove the light assembly from the door. (See Contents, Page 60-01.)

Secure the chain hooks (Item 1) [Figure 50-70-1] to the door as shown.

Connect a chain hoist (Item 2) [Figure 50-70-1] to the lifting chain.

Figure 50-70-2



Disconnect the light harness connector (Item 1) [Figure 50-70-2] from the engine harness.

Remove the top and bottom door hinge mounting bolts (Item 2) [Figure 50-70-2] and nuts.

NOTE: Install the door stop (Item 3) [Figure 50-70-2] in the top hinge as shown.

Installation: Tighten the mounting bolts and nuts to 25-28 ft.-lbs. (34-38 Nm) torque.

Lift the door away from the loader frame and put the door flat on the floor.

Reverse the removal procedure to install the rear door.

REAR DOOR (CONT'D)

Door Latch And Catch Adjustment (S/N 512261535 & Below)

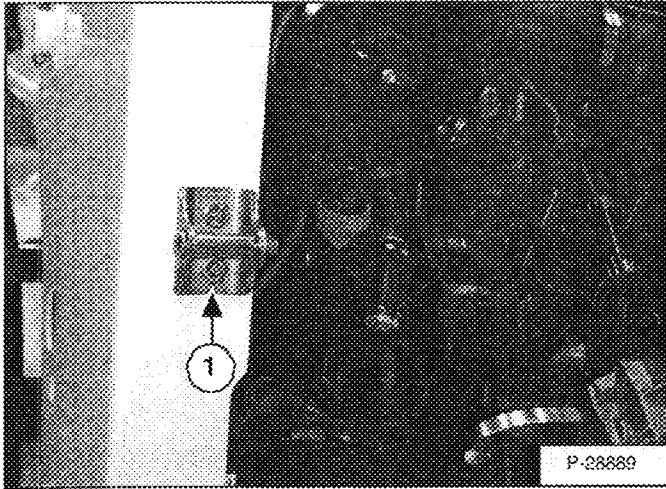
WARNING

AVOID INJURY OR DEATH

Never service or adjust the machine when the engine is running unless instructed to do so in the manual.

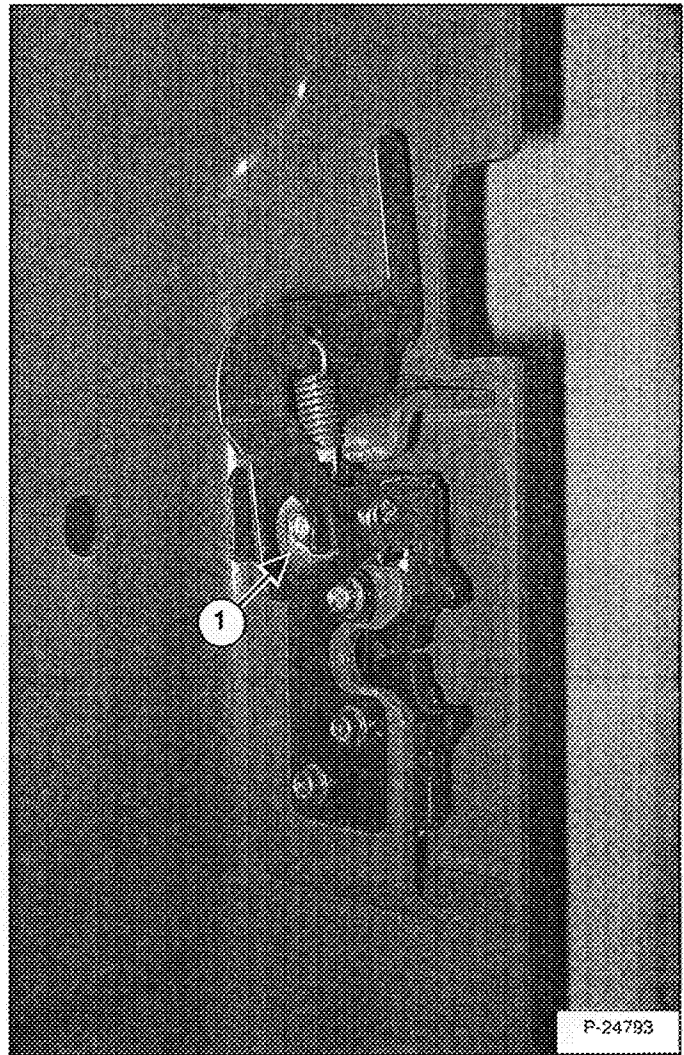
W-2012-0497

Figure 50-70-3



The door catch (Item 1) [Figure 50-70-3] can be adjusted side to side for alignment with the door latch.

Figure 50-70-4

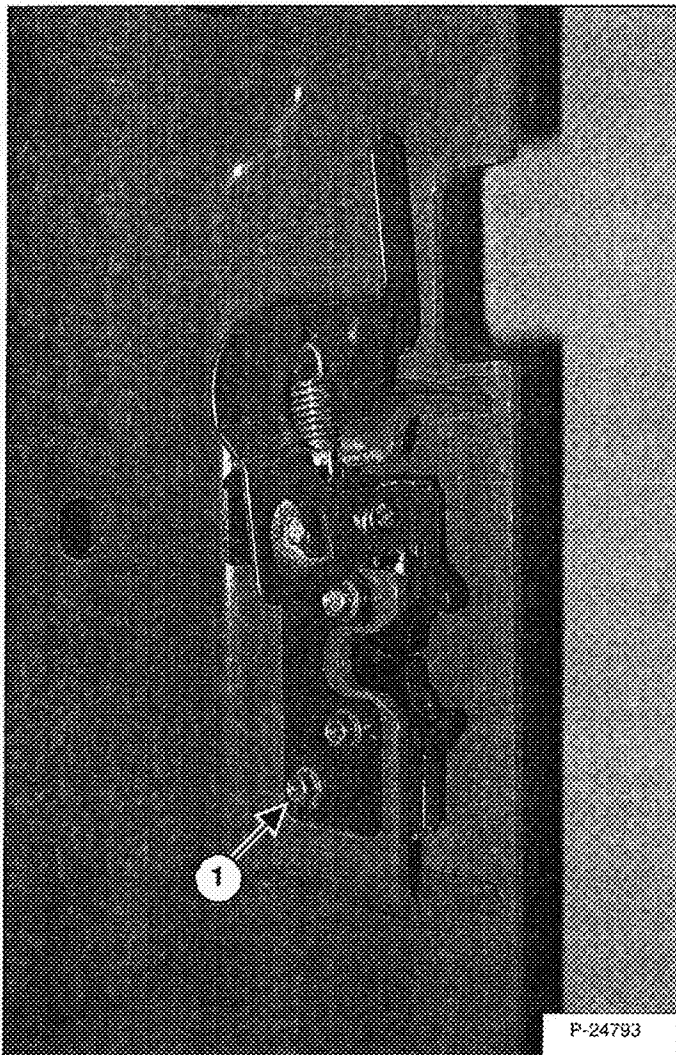


The door latch mechanism (Item 1) [Figure 50-70-4] can be adjusted forward or backward for alignment with the door catch.

REAR DOOR (CONT'D)

Door Latch Removal And Installation (S/N 512261535 & Below)

Figure 50-70-5



Remove the door latch mounting bolts (Item 1) [Figure 50-70-5] from the door latch mechanism.

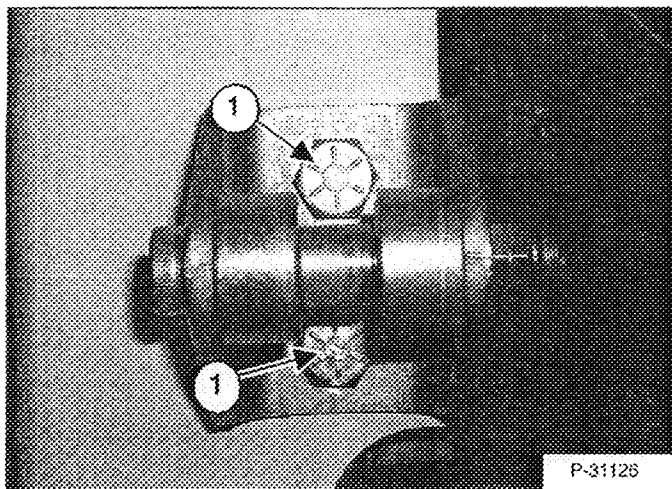
Installation: Tighten the mounting bolts to 80-90 in.-lbs. (9-10 Nm) torque.

Remove the latch and handle mechanisms from the rear door.

REAR DOOR (CONT'D)

Striker Removal and Installation (S/N 512261536 & Above)

Figure 50-70-6

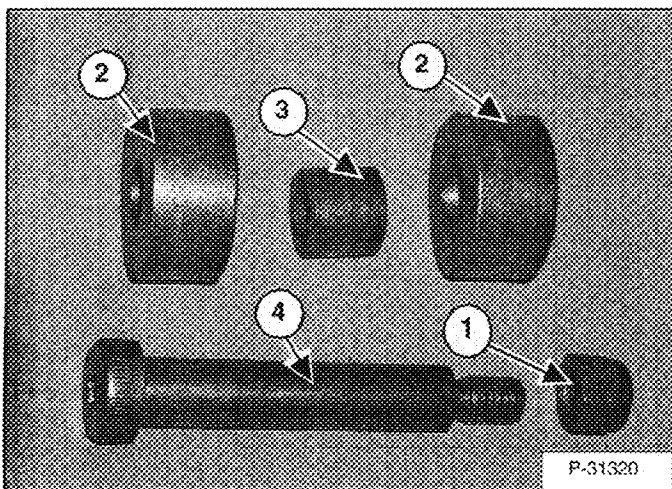


Remove the two striker mount bolts (Item 1) [Figure 50-70-6].

Remove the striker assembly from the loader.

Striker Disassembly and Assembly (S/N 512261536 & Above)

Figure 50-70-7



Remove the lock nut (Item 1) [Figure 50-70-7].

Remove the rollers (Item 2) [Figure 50-70-7] and the spacer (Item 3) [Figure 50-70-7] from the bolt (Item 4) [Figure 50-70-7].

Check the parts for wear and replace as needed.

Adjusting The Striker (S/N 512261536 & Above)

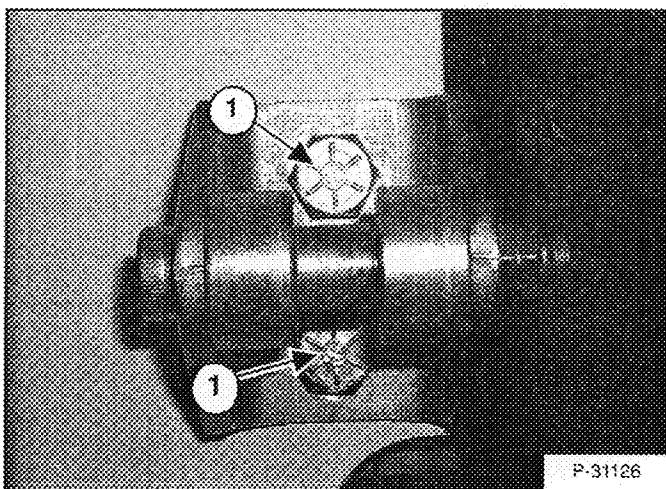


AVOID INJURY OR DEATH

Never service or adjust the machine when the engine is running unless instructed to do so in the manual.

W-2012-0497

Figure 50-70-8



Loosen the striker assembly mount bolts (Item 1) [Figure 50-70-8].

Align the striker assembly in the center of the mounting holes.

NOTE: Tighten the striker assembly, top mount bolt only, until it will hold the striker assembly in the center of the mounting slots.

Close the rear door. (This will align the striker assembly to the correct position.)

Open the door.

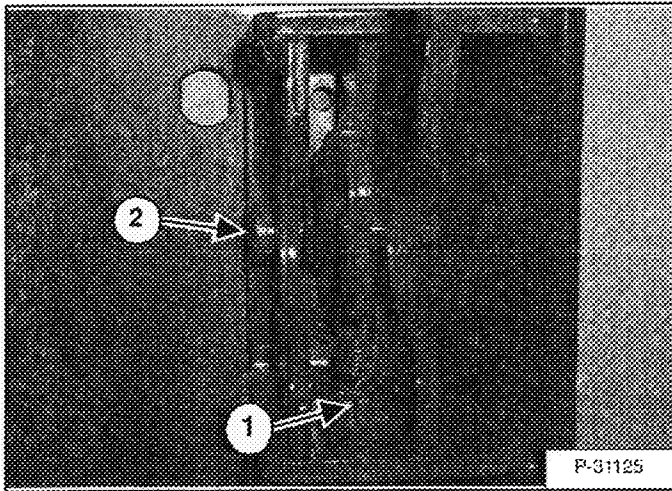
Tighten both striker mount bolts (Item 1) [Figure 50-70-8].

Close the rear door.

REAR DOOR (CONT'D)

Latch Removal and Installation (S/N 512261536 & Above)

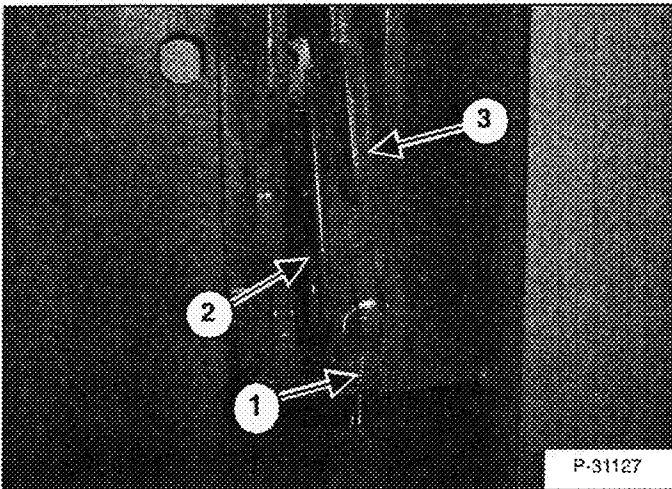
Figure 50-70-9



Disconnect the spring (Item 1) [Figure 50-70-9] from the rear door.

Remove the bolt and nut (Item 2) [Figure 50-70-9] from the latch.

Figure 50-70-10

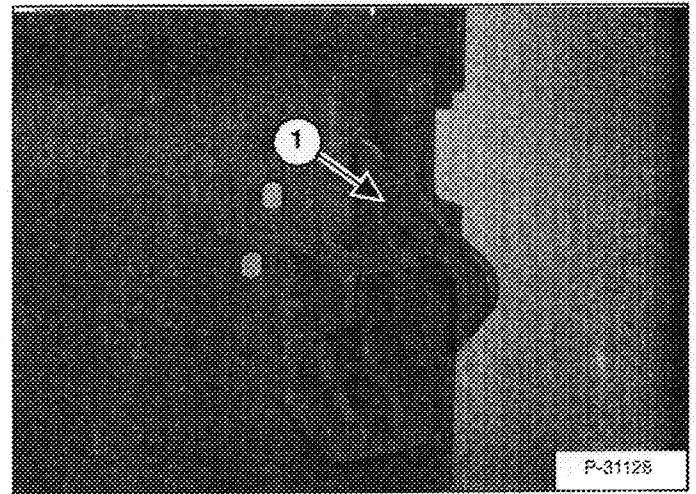


Remove the spring (Item 1) [Figure 50-70-10] from the door handle.

Remove the spring (Item 2) [Figure 50-70-10] from the door latch.

Remove the door latch (Item 3) [Figure 50-70-10] from the door handle.

Figure 50-70-11



Remove the door handle (Item 1) [Figure 50-70-11] from the rear door.

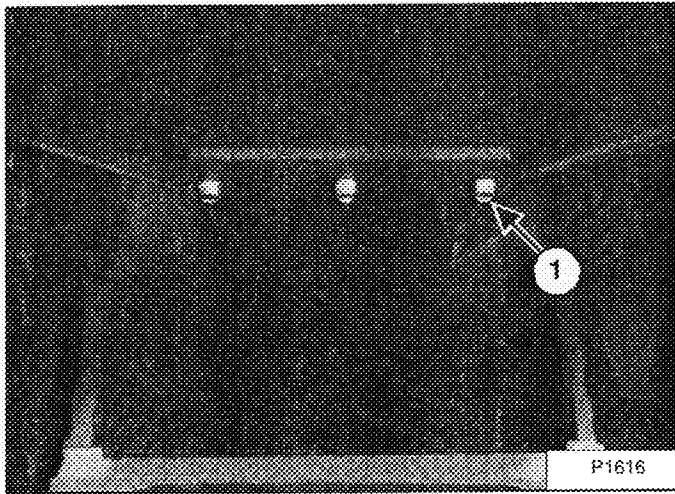


Bobcat[®]

FUEL TANK

Removal And Installation

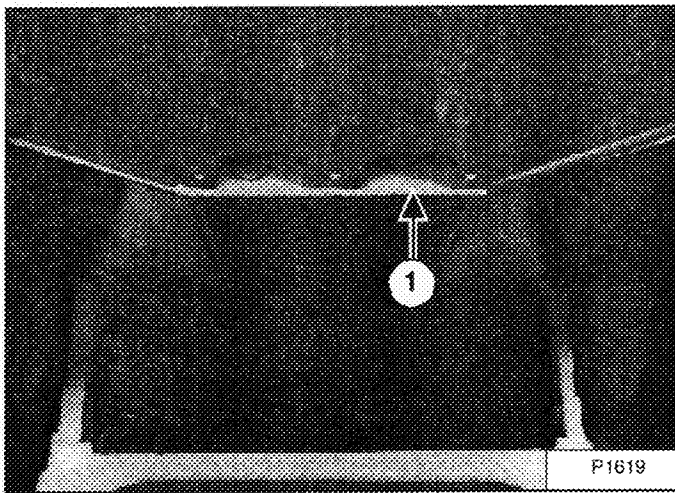
Figure 50-80-1



Remove the cover (Item 1) [Figure 50-80-1] which is installed over the fuel drain near the rear of the chaincase.

Installation: Tighten the cover mounting bolts to 190-240 in.-lbs. (21,5-27 Nm) torque.

Figure 2

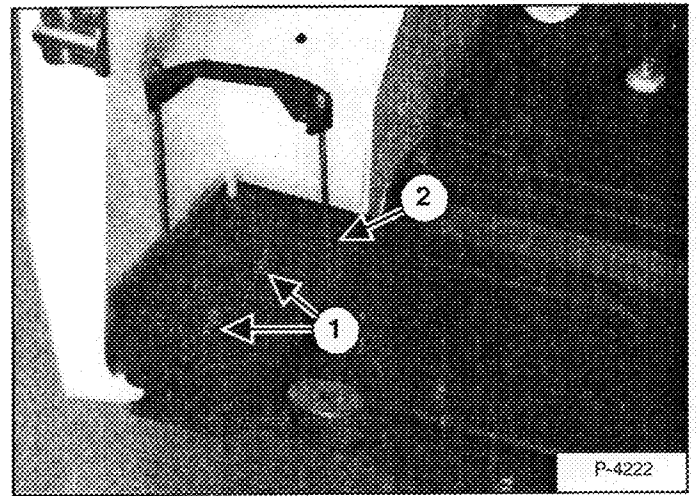


Drain the fuel from the tank through the fuel drain (Item 1) [Figure 2].

Open the rear door of the loader.

Remove the engine/hydrostatic pump assembly from the loader. (See Contents, Page 70-01.)

Figure 3

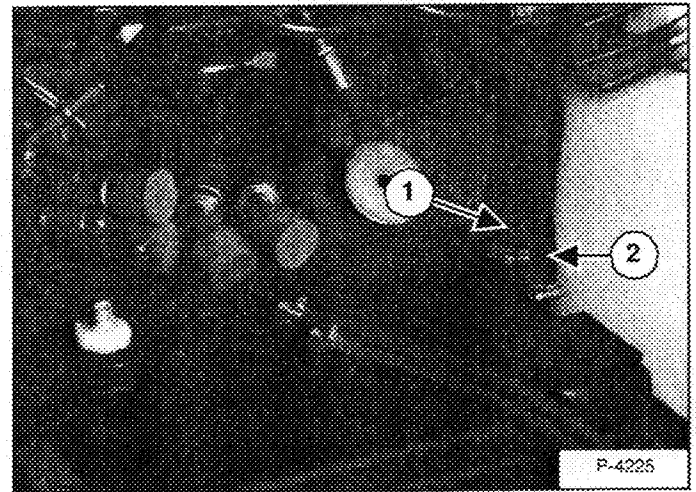


Remove the two mounting bolts (Item 1) [Figure 3] from the battery holder.

Installation: Tighten the battery holder mounting bolts to 190-240 in.-lbs. (21,5-27 Nm) torque.

Remove the battery holder (Item 2) [Figure 3] from the loader.

Figure 4

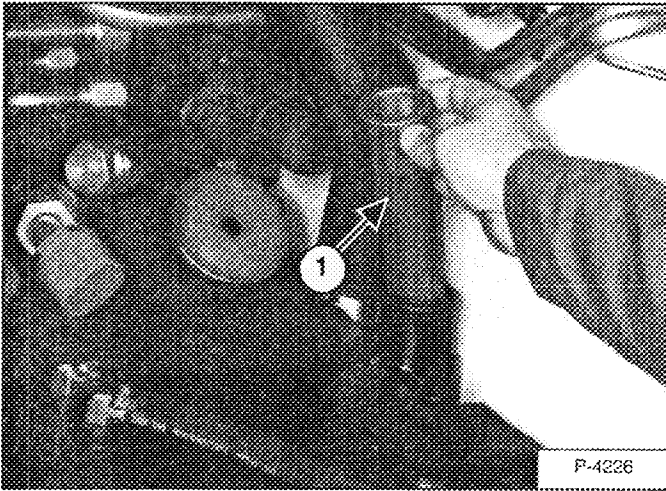


Disconnect the fuel fill hose (Item 1) [Figure 4] and the vent hose (Item 2) [Figure 4] from the fuel tank.

FUEL TANK (CONT'D)

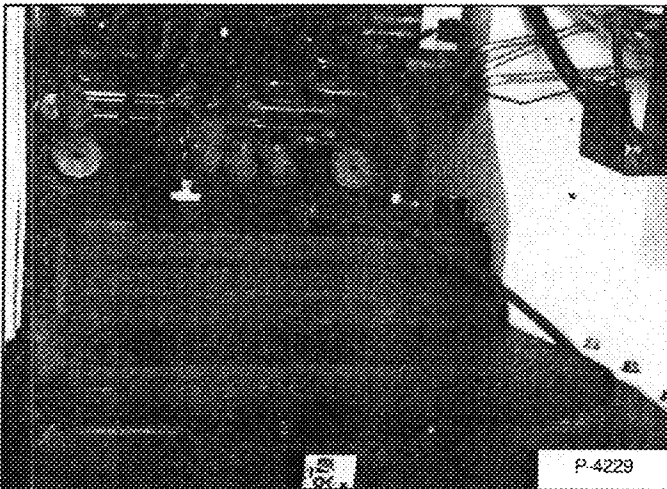
Removal And Installation (Cont'd)

Figure 5



Remove the fuel inlet screen (Item 1) [Figure 5]. Clean and dry the screen. Check the screen for damage and replace if necessary.

Figure 6

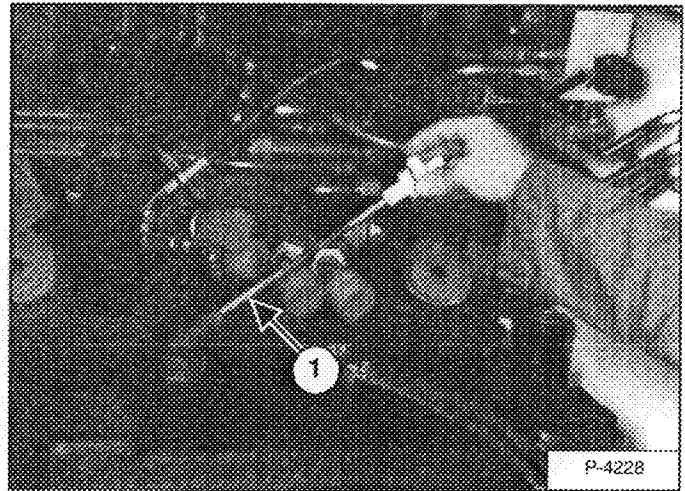


Lift the fuel tank up and remove the tank from the loader [Figure 6].

Reverse the removal procedure to install the fuel tank.

Fuel Level Sender

Figure 7



NOTE: Engine has been removed for photo clarity.

Loosen the fuel level sender (Item 1) [Figure 6] with a wrench.

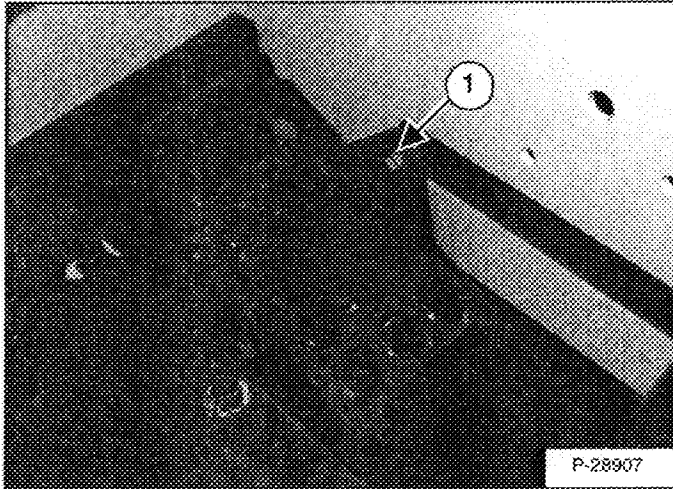
Turn the fuel level sender (Item 1) [Figure 7] out and remove it from the fuel tank. Check the fuel level sender for damage and replace if necessary.

Installation: Tighten the fuel level sender to 50-60 in.-lbs. (5,7-6,8 Nm) torque.

CONTROL PEDALS

Removal And Installation

Figure 50-90-1

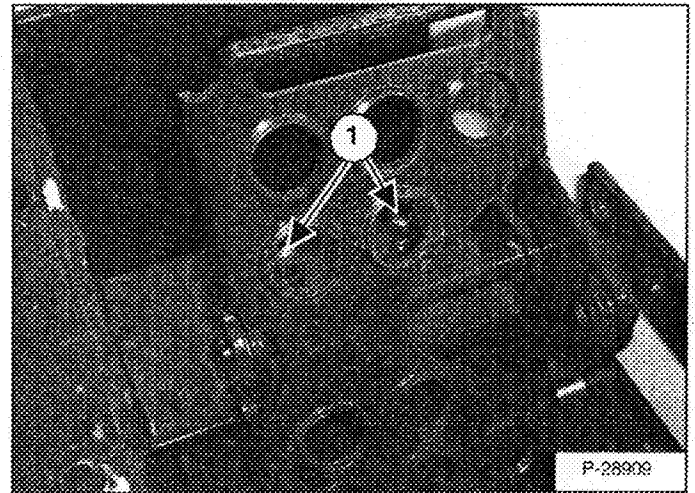


Remove the bolt (Item 1) [Figure 50-90-1] and nut from the pedal linkage.

Installation: Tighten the bolt and nut to 21-25 ft.-lbs. (28-34 Nm) torque.

Check the rubber bushing in the pedal for wear and replace as needed.

Figure 50-90-2



Remove the two mounting bolts (Item 1) [Figure 50-90-2] from the pedal mounting bracket.

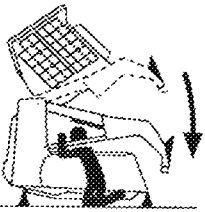
Remove the pedal assembly from the loader.

Pedal Adjustment

After installing the pedal, adjust the pedal so that there is clearance under the rear of the pedal. The valve spool must travel full stroke without the pedal hitting the floor panel.

CONTROL PEDALS (CONT'D)

Crossbar Linkage Removal And Installation

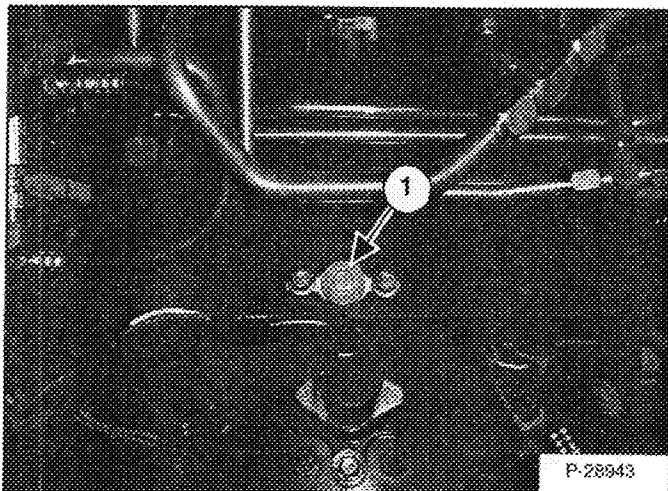
▲ DANGER	
AVOID DEATH	
<ul style="list-style-type: none">• Disconnecting or loosening any hydraulic tubeline, hose, fitting, component or a part failure can cause lift arms to drop.• Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged. 57051	
<small>5W 02 87173-03</small>	

▲ WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

W-2059-0598

Figure 50-90-3

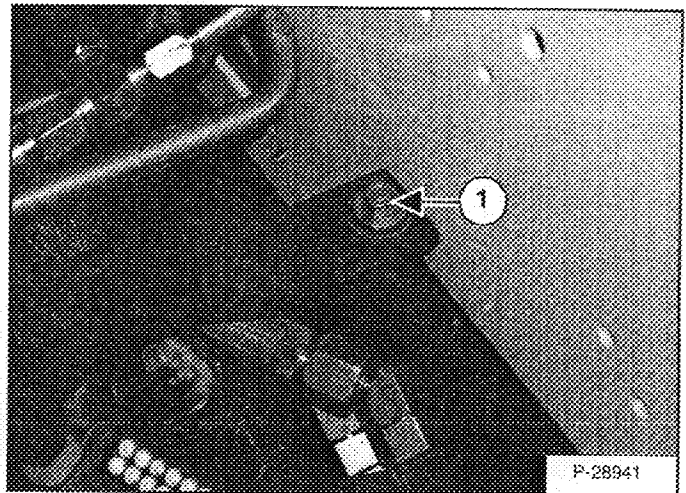


Raise the lift arms and install an approved lift arm support device. (See Contents, Page 10-01.)

Raise the operator cab. (See Contents, Page 10-01.)

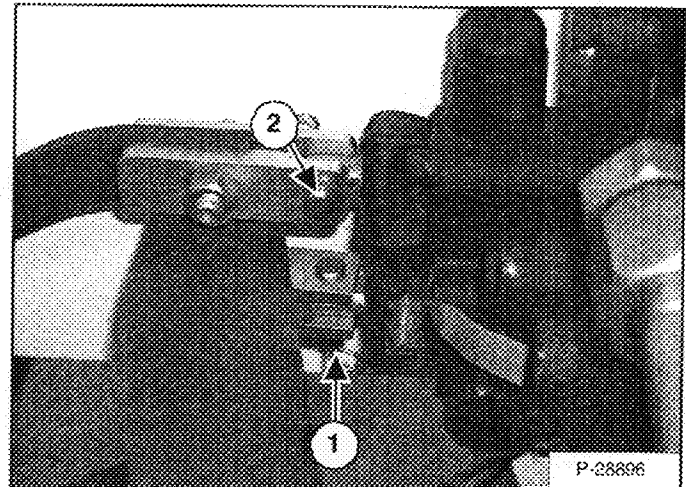
Remove the crossbar pivot bolt (Item 1) [Figure 50-90-3].

Figure 50-90-4



Remove the bolt and nut (Item 1) [Figure 50-90-4] to disconnect the lift pedal linkage from crossbar.

Figure 50-90-5



Remove the hairpin clip and cross-pin from the control valve lift spool (Item 1) [Figure 50-90-5].

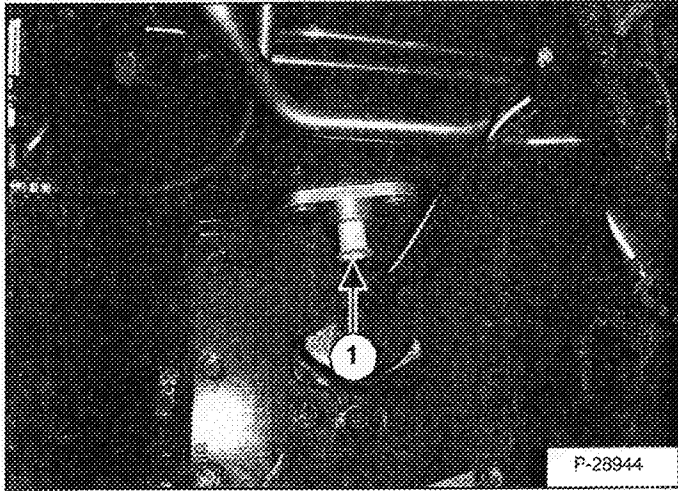
Remove the hair pin clip and cross-pin from the control valve tilt spool (Item 2) [Figure 50-90-5].

Disconnect the crossbar from the control valve.

CONTROL PEDALS (CONT'D)

Crossbar Linkage Removal And Installation (Cont'd)

Figure 50-90-6

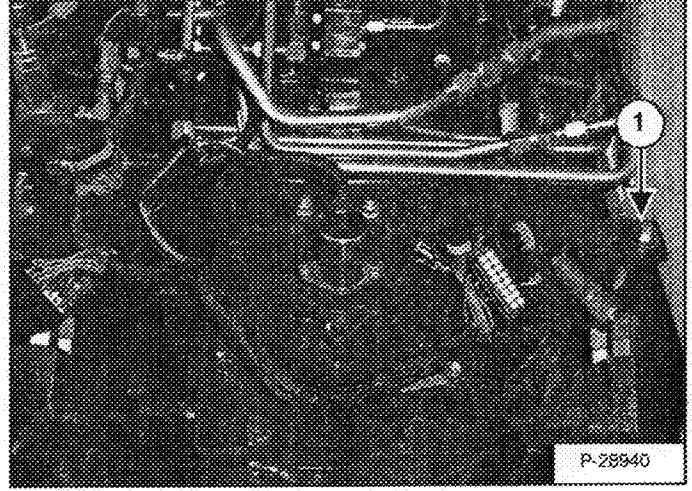


Remove the crossmember from the pivot [Figure 50-90-6].

Installation: Check the nylon bushing (Item 1) [Figure 50-90-6] for wear and replace as needed.

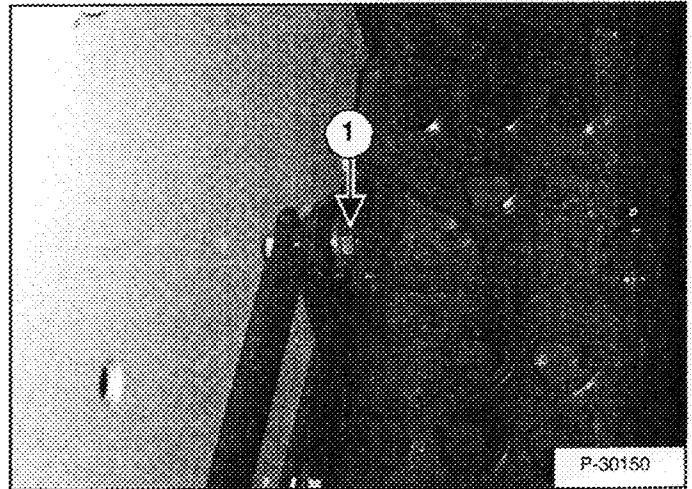
Lift Foot Pedal Linkage Removal And Installation

Figure 50-90-7



Remove the bolt and nut (Item 1) [Figure 50-90-7] to disconnect the lift foot pedal linkage from the crossbar linkage.

Figure 50-90-8



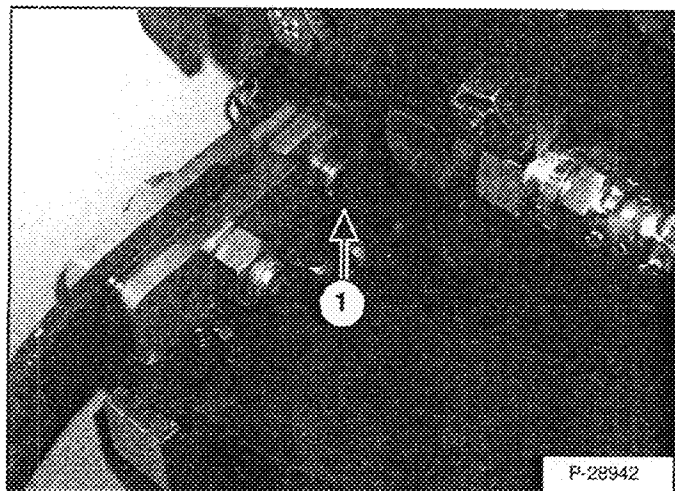
Remove the bolt (Item 1) [Figure 50-90-8] and nut from the pedal linkage.

Installation: Tighten the bolt and nut to 21-25 ft.-lbs. (28-34 Nm) torque.

CONTROL PEDALS (CONT'D)

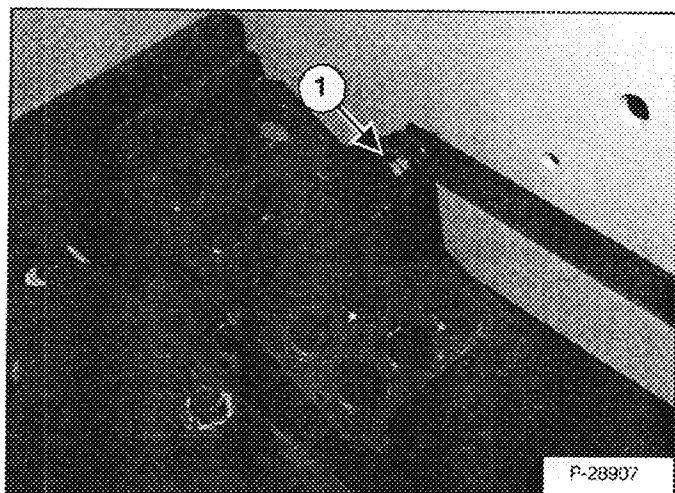
Tilt Foot Pedal Linkage Removal And Installation

Figure 50-90-9



Remove the hair pin clip and cross-pin (Item 1) [Figure 50-90-9] to disconnect the tilt foot pedal linkage from the control valve.

Figure 50-90-10



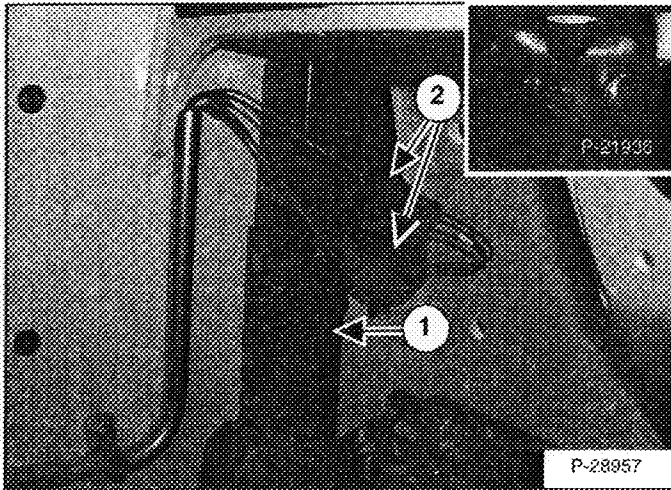
Remove the bolt (Item 1) [Figure 50-90-10] and nut from the pedal linkage.

Installation: Tighten the bolt and nut to 21-25 ft.-lbs. (28-34 Nm) torque.

CONTROL PEDALS (ACS)

Foot Sensor Removal And Installation

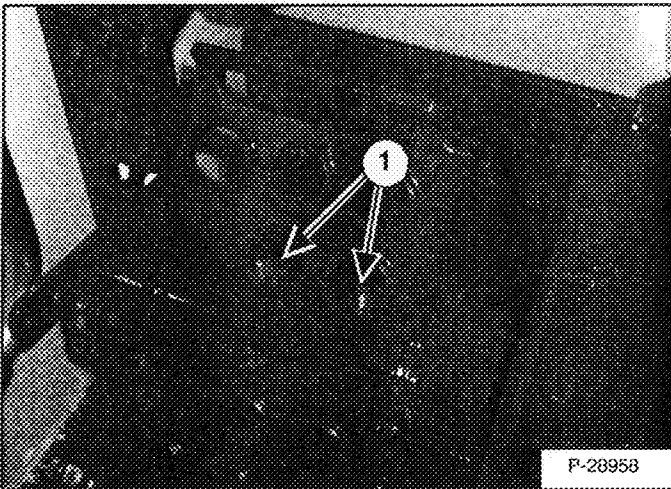
Figure 50-91-1



Pull the pin (Item 1) [Figure 50-91-1] holding the foot pedal linkage to the sensor.

Disconnect the two connectors (Item 2) [Figure 50-91-1] from the sensor and lock solenoid.

Figure 50-91-2

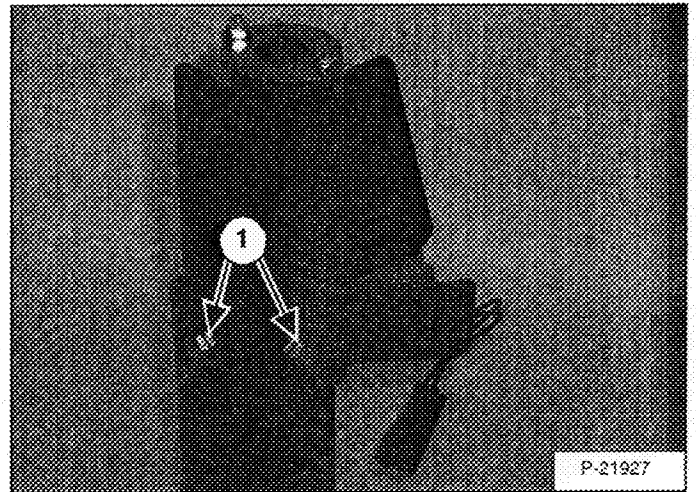


Tilt the foot pedal up and remove the two nuts (Item 1) [Figure 50-91-2].

Remove the foot pedal and sensor assembly from the loader.

Installation: After installing the pedal, adjust the pedal so that there is clearance under the rear of the pedal. The valve spool must travel full stroke without the pedal hitting the floor panel.

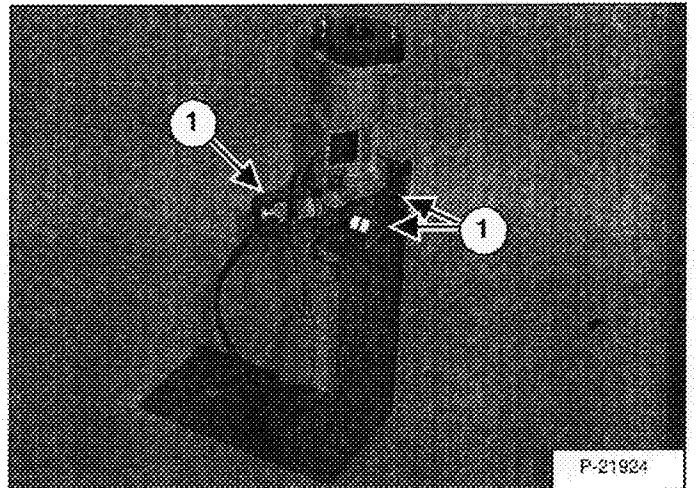
Figure 50-91-3



Remove the two bolts (Item 1) [Figure 50-91-3] from the foot sensor shield.

Installation: Tighten the bolts to 80-90 in.-lbs. (9,0-10,2 Nm) torque.

Figure 50-91-4



Remove foot lock solenoid (Item 1) [Figure 50-91-4].

Installation: Apply a drop of oil to the solenoid threads and tighten the solenoid to 35-40 ft.-lbs. (47-54 Nm) lubed torque.

Remove the two bolts (Item 2) [Figure 50-91-4] from the bracket and sensor assembly.

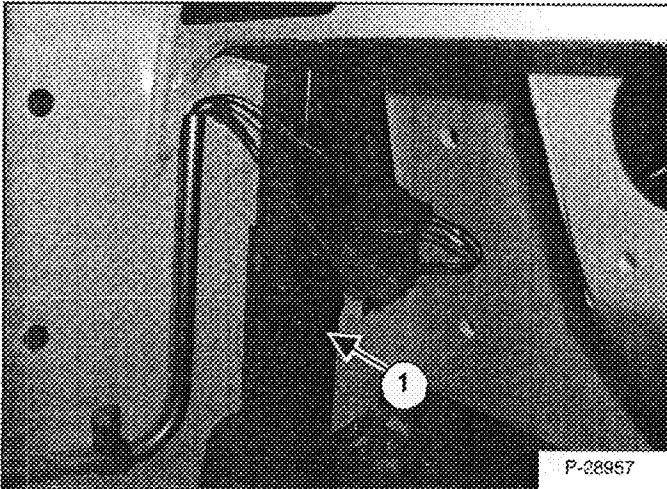
Installation: Tighten the bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

Remove the sensor assembly.

CONTROL PEDALS (ACS) (CONT'D)

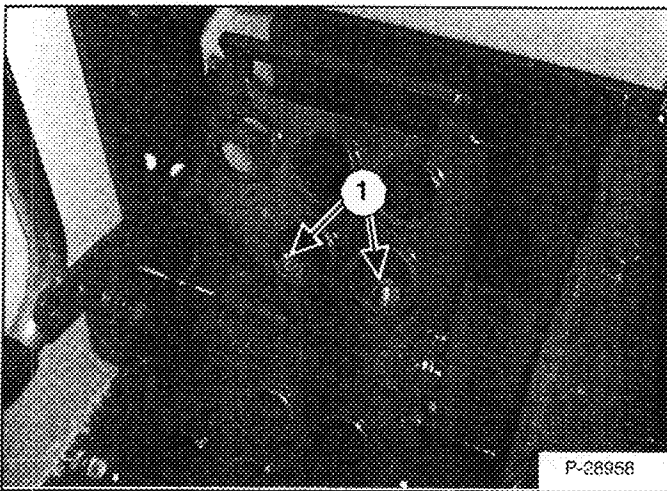
Foot Pedal Removal And Installation

Figure 50-91-5



Remove the pin (Item 1) [Figure 50-91-5] holding the linkage to the sensor.

Figure 50-91-6



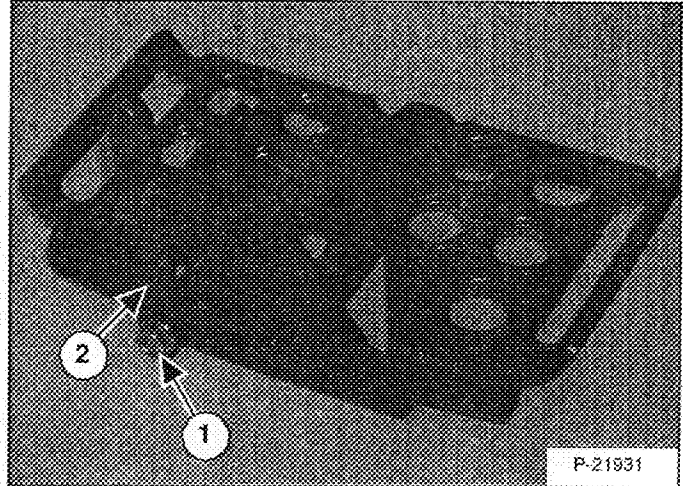
Tip the foot pedal up and remove the two nuts (Item 1) [Figure 50-91-6].

Remove the foot pedal assembly.

Installation: After installing the pedal, adjust the pedal so that there is clearance under the rear of the pedal. The valve spool must travel full stroke without the pedal hitting the floor panel.

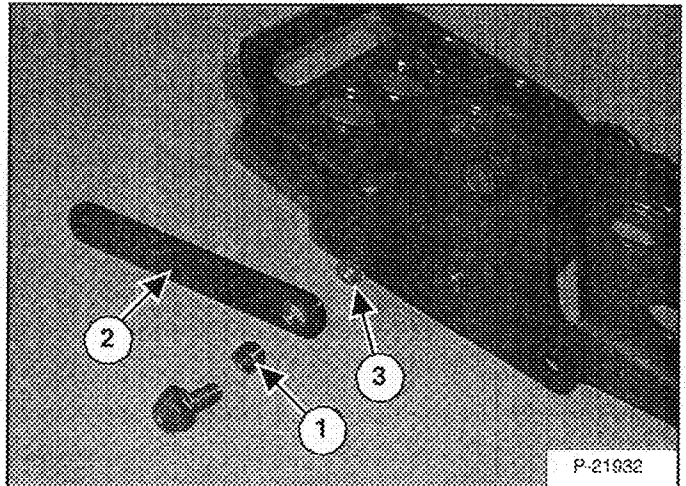
Foot Pedal Linkage Disassembly And Assembly

Figure 50-91-7



Remove the bolt (Item 1) holding the linkage (Item 2) [Figure 50-91-7] to the side of the foot pedal.

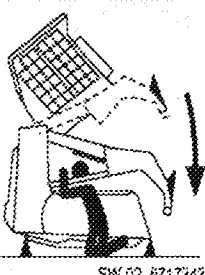
Figure 50-91-8



Remove the spacer (Item 1), linkage (Item 2) and nut (Item 3) [Figure 50-91-8] from the foot pedal.

CONTROL PANEL

Removal and Installation

⚠ DANGER AVOID DEATH <ul style="list-style-type: none">• Disconnecting or loosening any hydraulic tube line, hose, fitting, component or a part failure can cause lift arms to drop.• Keep out of this area when lift arms are raised unless supported by an approved lift arm support. Replace if damaged. 57051	 SW 02 8717343
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⚠ WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

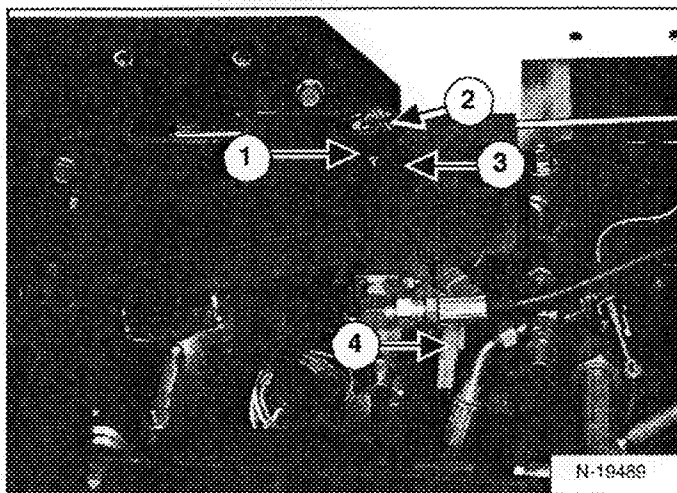
W-2059-0598

⚠ WARNING

Put jackstands under the front axles and rear corners of the frame before running the engine for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-0286

Figure 50-100-1



Raise the lift arms and install an approved lift arm support device. (See Contents Page 10-01.)

Raise the operator cab. (See Contents Page 10-01.)

Remove the engine speed control. (See Contents Page 70-01.)

Loosen the jam nut (Item 1) from the by-pass control knob (Item 2) [Figure 50-100-1].

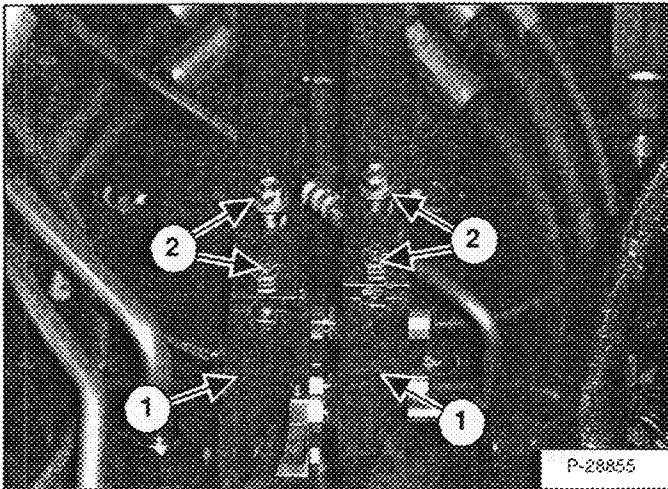
Remove the control knob (Item 2), jam nut (Item 1) and rubber washer (Item 3) [Figure 50-100-1].

Disconnect the control harness connectors (Item 4) [Figure 50-100-1] from the control levers.

CONTROL PANEL (CONT'D)

Removal and Installation (Cont'd)

Figure 50-100-2

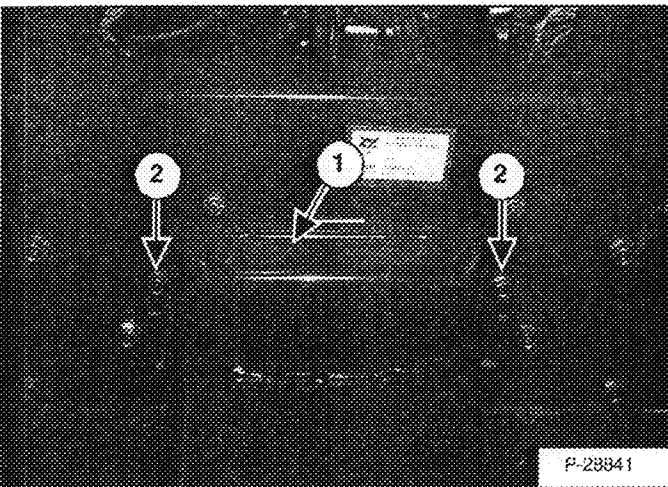


Scribe a mark across the top of the steering linkage bars (Item 1) [Figure 50-100-2] which are connected to the steering shaft on the control panel.

Remove the four steering linkage mounting bolts (Item 2) [Figure 50-100-2].

Installation: Align the marks on the steering linkage bars. Tighten the steering linkage mounting bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

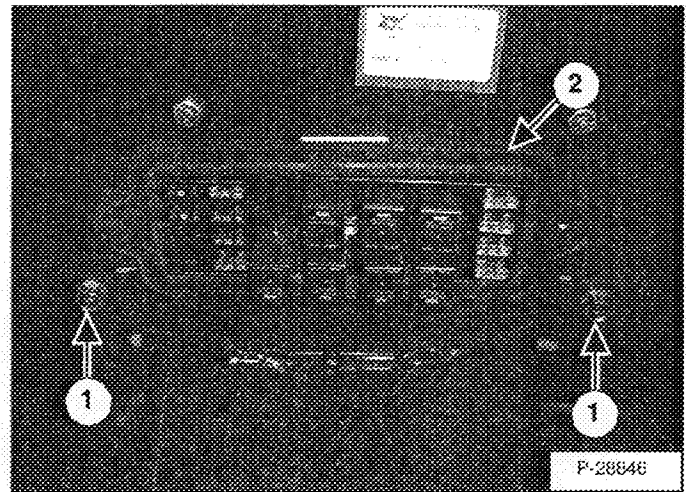
Figure 50-100-3



Remove the fuse/relay cover (Item 1) [Figure 50-100-3].

Remove the fuse/relay cover mounting bolts (Item 2) [Figure 50-100-3].

Figure 50-100-4



Remove the fuse/relay holder bracket (Item 1) [Figure 50-100-4].

Remove the fuse/relay block (Item 2) [Figure 50-100-4].

CONTROL PANEL (CONT'D)

Removal and Installation (Cont'd)

Figure 50-100-5

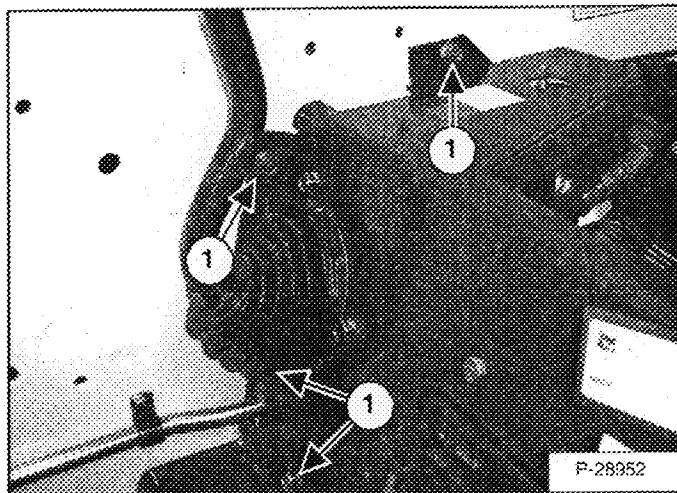
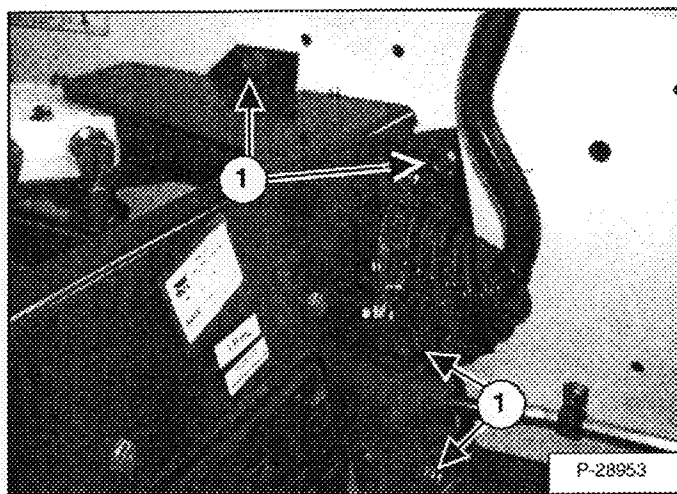


Figure 50-100-6



Remove the eight control panel mounting bolts (Item 1) [Figure 50-100-5] & (Item 1) [Figure 50-100-6] from both sides of the control panel.

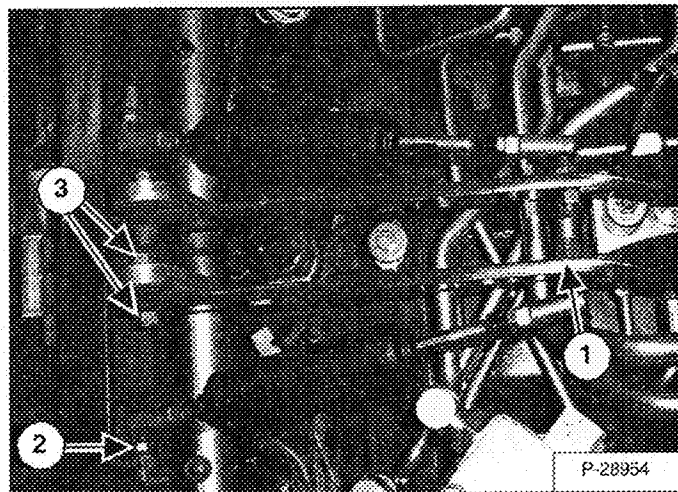
Installation: Tighten the control panel mounting bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

Remove the control panel from the loader.

Reverse the removal procedure to install the control panel.

Shock Removal And Installation

Figure 50-100-7



Remove the mounting nut (Item 1) [Figure 50-100-7] from the end of the shock connected to the steering linkage.

Remove the mounting nut (Item 2) [Figure 50-100-7] from the other end of the shock connected to the bracket on the control panel.

Installation: Tighten the mounting bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

Shaft Removal And Installation

NOTE: The steering shaft can be removed without removing the control panel from the loader. Photo [Figure 50-100-8 on Page 4] shows the control panel removed for clarity purpose only.

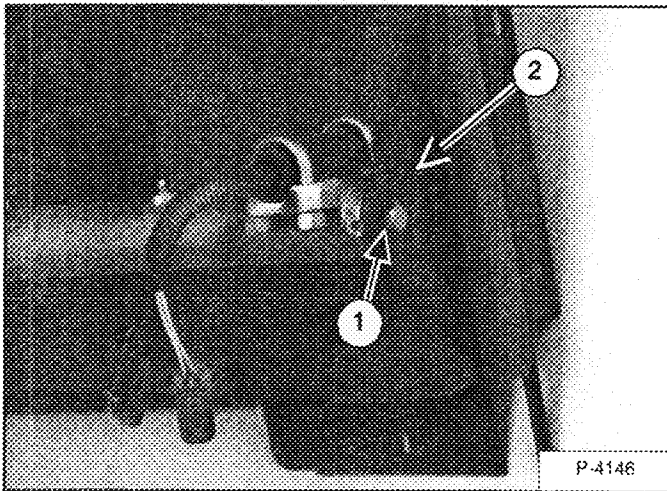
Remove the steering linkage mounting bolts (Item 3) [Figure 50-100-7].

Remove the steering shock mounting nuts (Item 2) [Figure 50-100-7].

CONTROL PANEL (CONT'D)

Shaft Removal And Installation (Cont'd)

Figure 50-100-8



Remove the steering shaft pivot bolt (Item 1) [Figure 50-100-8] from both sides of the control panel.

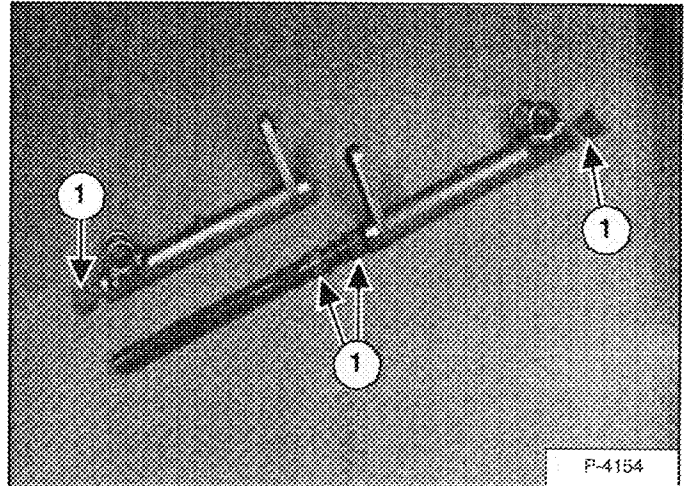
Installation: Tighten the pivot bolts to 180-200 in.-lbs. (21-23 Nm) torque.

Remove control handle. (See Contents, Page 50-01.)

Remove the steering shaft from the control panel.

Shaft Disassembly And Assembly

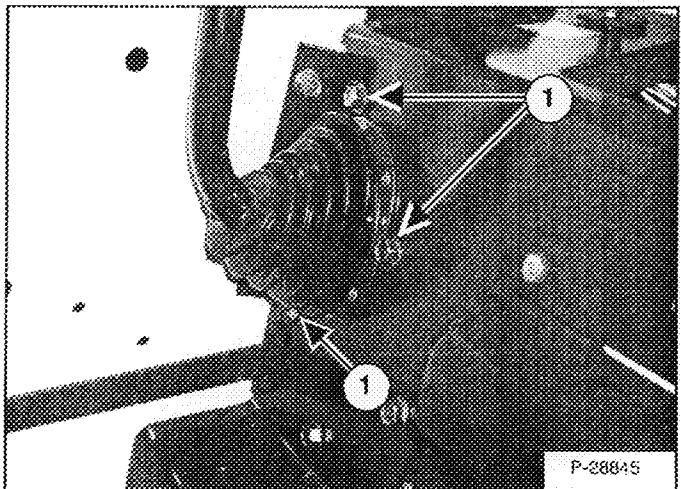
Figure 50-100-9



Disassemble the right and left steering shafts from the cross shaft assembly [Figure 50-100-9].

Assembly: Install new nylon bushings (Item 1) [Figure 50-100-9] as needed when assembling the steering shaft. Be sure to apply grease on the cross shaft before installing the right and left steering shaft.

Figure 50-100-10



To remove the steering shaft mounting bracket (Item 2) [Figure 50-100-10], remove the three mounting bolts (Item 1) [Figure 50-100-10] from the front of the control panel.

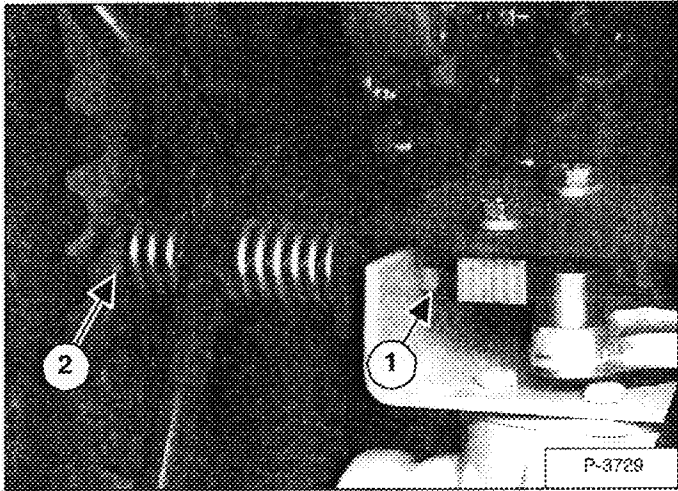
Remove the steering shaft mounting bracket.

Installation: Tighten the mounting bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

CONTROL PANEL (CONT'D)

Linkage Removal And Installation

Figure 50-100-11

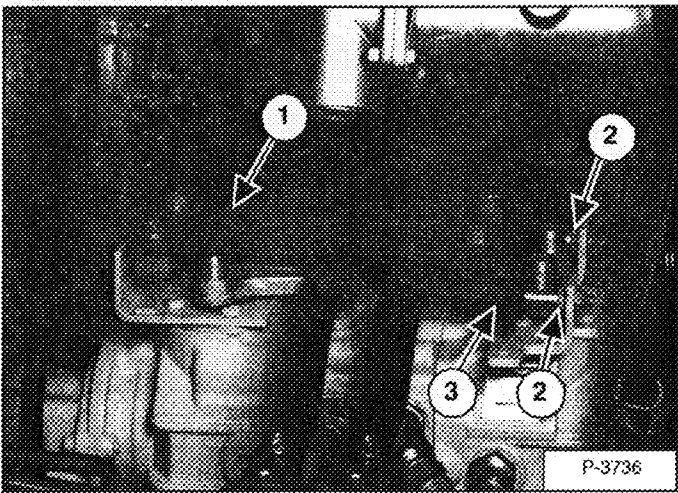


Remove the nut (Item 1) [Figure 50-100-11] from the end of the centering spring shoulder bolt (Item 2) [Figure 50-100-11].

Remove the shoulder bolt/spring assembly.

Installation: Tighten the centering spring shoulder bolt and a NEW lock nut to 25-28 ft.-lbs. (34-38 Nm) torque.

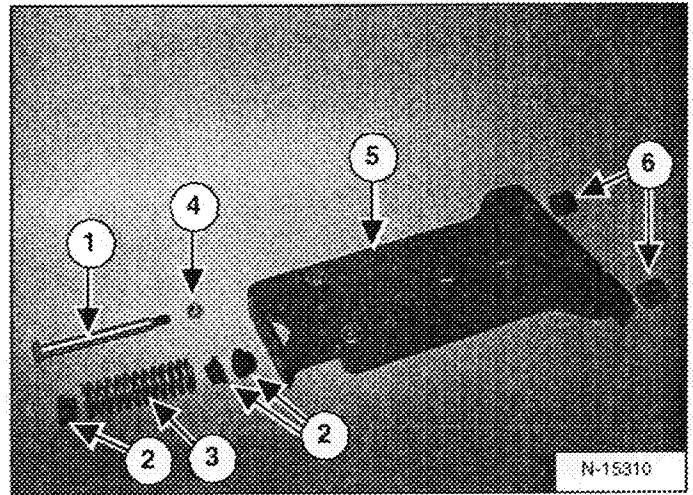
Figure 50-100-12



Slide the plate (Item 1) [Figure 50-100-12] off from the two guide pins (Item 2) [Figure 50-100-12].

NOTE: The two guide bushings (Item 3) [Figure 50-100-12] will be loose and can fall out of the plate (Item 1) [Figure 50-100-12] as soon as it is removed from the guide pins (Item 2) [Figure 50-100-12].

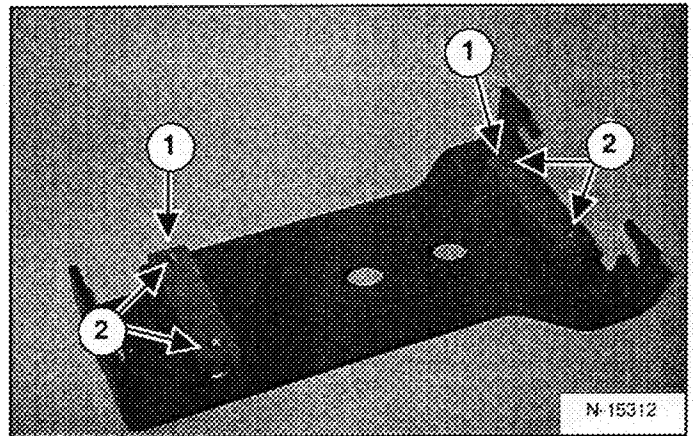
Figure 50-100-13



The centering plate/centering spring assembly consists of the following parts;

Item	Description
1	Shoulder Bolt
2	Bushings
3	Spring
4	Lock Nut
5	Centering Plate
6	Guide Bushings

Figure 50-100-14



Check the wear on the centering blocks (Item 1) [Figure 50-100-14].

NOTE: If centering blocks are worn, they can be removed and rotated 180 degrees and reinstalled.

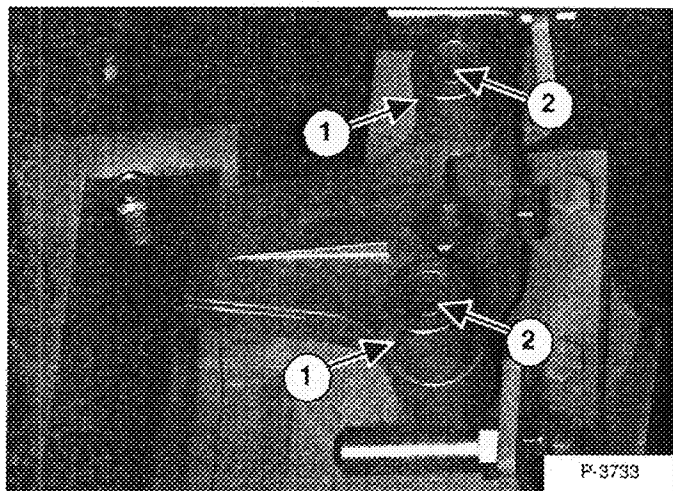
If the centering blocks need replacement, remove the bolts (Item 2) [Figure 50-100-14]. Remove the centering blocks.

CONTROL PANEL (CONT'D)

Linkage Removal And Installation (Cont'd)

Installation: Tighten the centering block bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

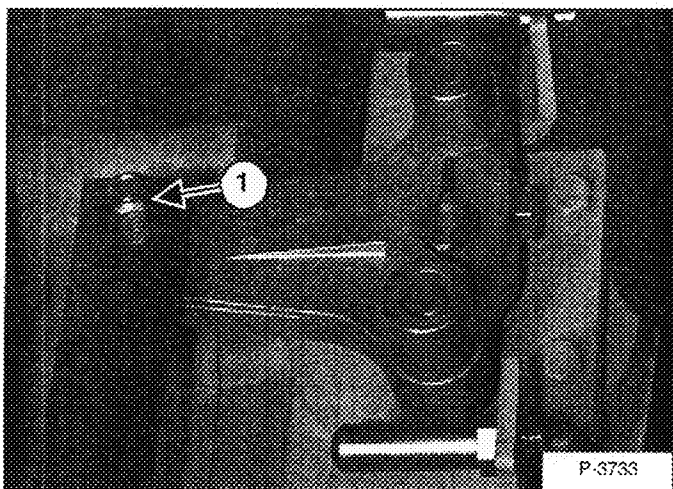
Figure 50-100-15



If the surface of any of the four pintle cams (Item 1) are worn, loosen the bolt (Item 2) [Figure 50-100-15] and rotate the cams 1/4 turn.

Tighten the bolts to 45-50 ft.-lbs. (62-68 Nm) torque.

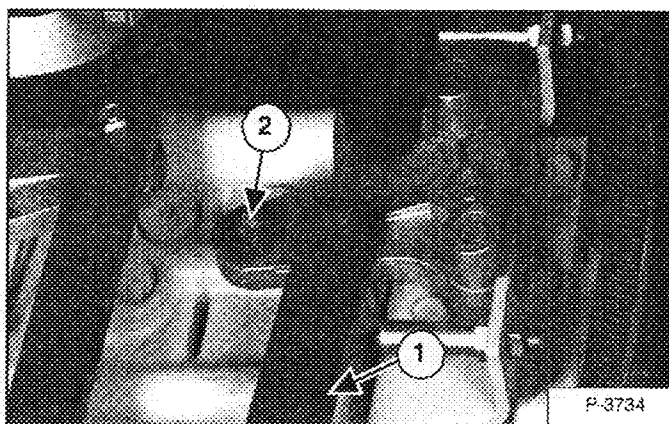
Figure 50-100-16



Remove the nut (Item 1) [Figure 50-100-16] from the torsion bushing/linkage bar. The bolt is threaded into the linkage bar, remove the bolt from underneath the pintle lever.

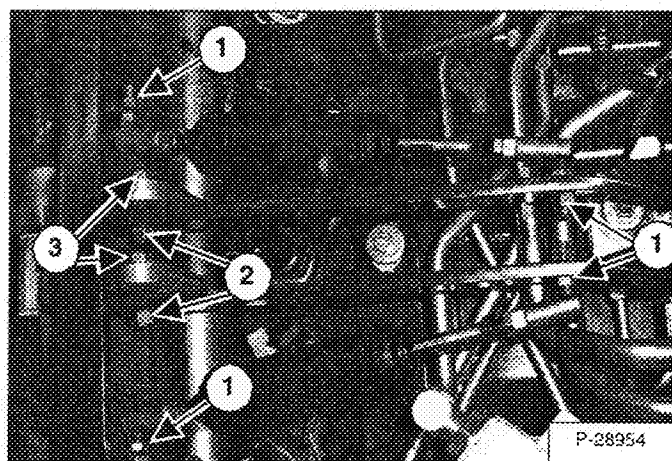
Installation: Tighten the bolt to 11-13 ft.-lbs. (21-25 Nm) torque, then tighten the nut to 21-25 ft.-lbs. (28-33 Nm) torque.

Figure 50-100-17



Remove the linkage bar (Item 1) and remove the torsion bushing (Item 2) [Figure 50-100-17].

Figure 50-110-18



Remove the nuts (Item 1) [Figure 50-110-18] from both shock absorber ball joint ends.

Remove the shock absorbers.

Installation: Tighten the nuts to 25-28 ft.-lbs. (34-38 Nm) torque.

Remove the nuts (Item 2) from the linkage bar mounting bolt. The bolts (Item 3) are threaded into the linkage bars, remove the bolts (Item 3) [Figure 50-110-18].

The torsion bushings can now be removed from the steering bell cranks.

Installation: Tighten the bolts to 11-13 ft.-lbs. (21-25 Nm) torque, then tighten the nuts to 21-25 ft.-lbs. (28-33 Nm) torque.

The linkage and the centering plate must be readjusted for neutral after the components have been reassembled. (See Contents, Page 50-01.)

CONTROL PANEL (CONT'D)

Linkage Adjustment

The following tool listed will be needed to do the following procedure:

MEL1563 - Remote Start Tool Kit

WARNING

Never work on a machine with the lift arms up unless the lift arms are secured by an approved lift arm support device. Failure to use an approved lift arm support device can allow the lift arms or attachment to fall and cause injury or death.

W-2059-0598

Raise the lift arms and install an approved lift arm support device. (See Contents Page 10-01.)

WARNING

Put jackstands under the front axles and rear corners of the frame before running the engine for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-0286

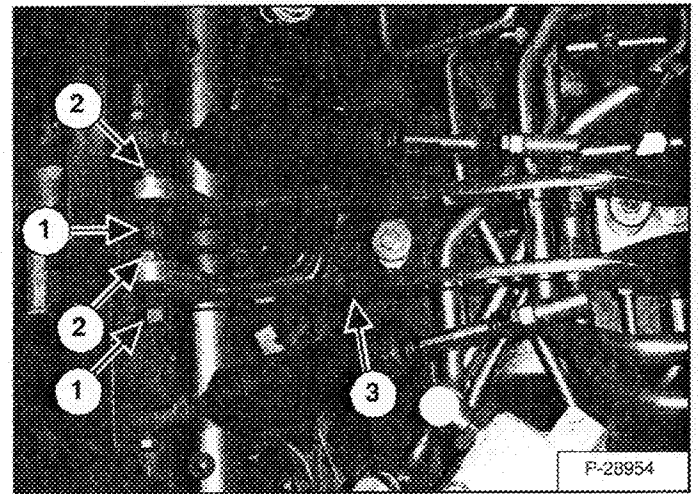
Lift and block the loader. (See Contents Page 10-01.)

Raise the operator cab. (See Contents Page 10-01.)

Connect the remote start tool (MEL1563). (See Contents Page 10-01.)

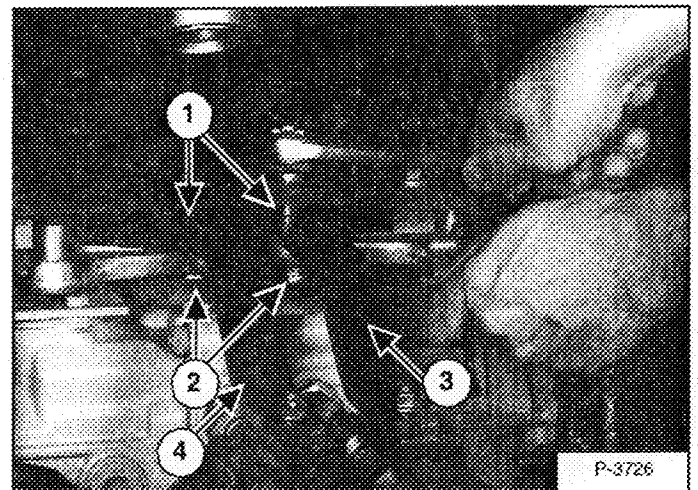
Pre-load tension in the torsion bushings must be removed before adjusting the steering linkage.

Figure 50-100-19



Loosen the nut (Item 1) 4 turns, then loosen the bolt (Item 2). The bolt (Item 2) is threaded into the linkage bar (Item 3). The bolt (Item 2) [Figure 50-100-19] must be loosened enough to allow the torsion bushing to turn freely between the steering bellcrank and the linkage bar.

Figure 50-100-20

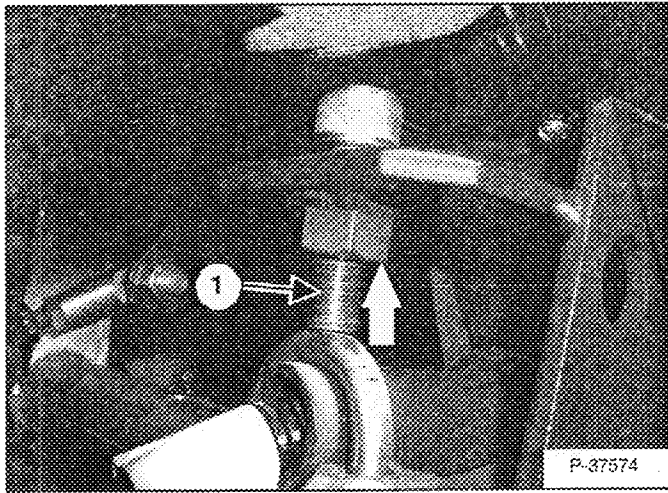


Loosen the nut (Item 1) 4 turns, then loosen the bolt (Item 2). The bolt (Item 2) is threaded into the linkage bar (Item 3). The bolt (Item 2) [Figure 50-100-20] must be loosened enough to allow the torsion bushing to turn freely between the pintle arm and the linkage bar.

CONTROL PANEL (CONT'D)

Linkage Adjustment (Cont'd)

Figure 50-100-21

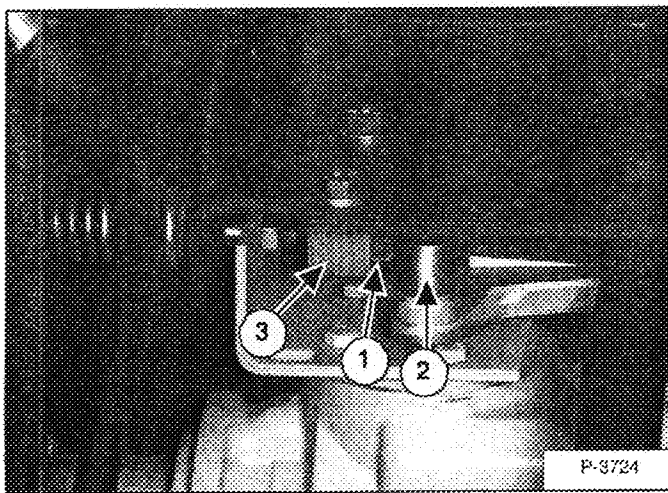


S/N 512265035 & Above Only

Remove access plug from the top of the control valve.

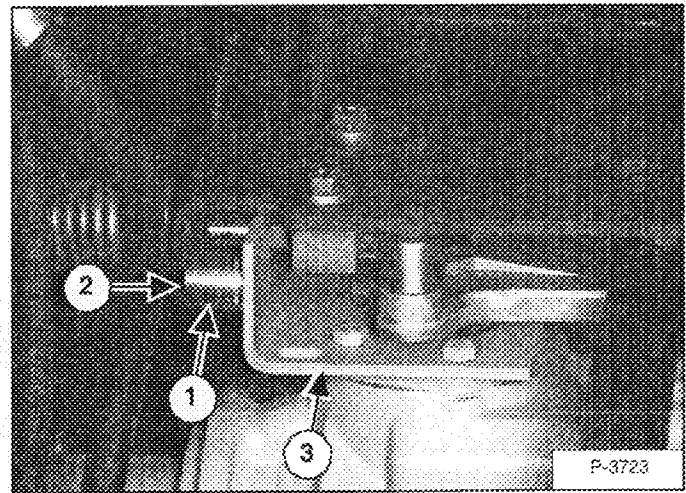
Turn the control lever drift adjustment bolts (Item 1) [Figure 50-100-21] (one on each control lever) out until it is flush with the bottom of the nut.

Figure 50-100-22



Move the right side steering lever to the rear and install a 3/8 inch (10 mm) thick spacer (Item 1) between the pintle arm cam (Item 2) and the centering block (Item 3) [Figure 50-100-22].

Figure 50-100-23

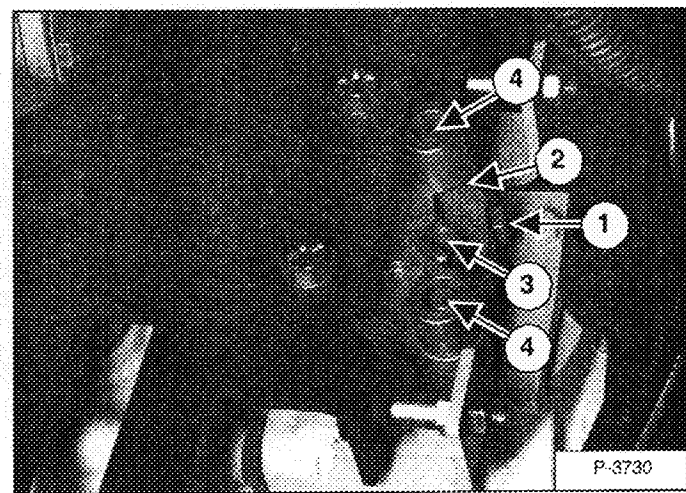


Move the right side steering lever forward and install a 15/16 inch (24 mm) thick spacer (Item 1) between the center plate (Item 2) and the mounting plate (Item 3) [Figure 50-100-23].

This will allow the pintle arms to move freely while adjusting the steering linkage for full forward travel speed.

Remove the 3/8 inch (10 mm) thick spacer (Item 1) [Figure 50-100-22].

Figure 50-100-24

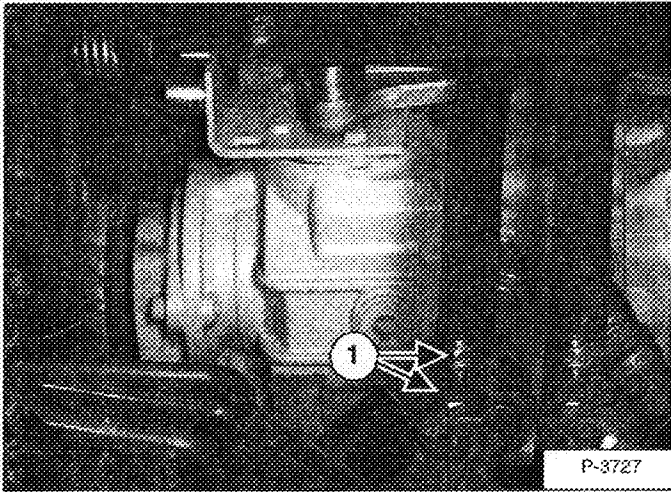


Before adjusting the linkage, check that the pintle arm mounting bolt (Item 1) is tight, 25-28 ft.-lbs. (34-38 Nm) torque and that there is no play between the pintle arm (Item 2) and the square pump shaft (Item 3). Also check that the cam mounting bolts (Item 4) [Figure 50-100-24] are tight, 45-50 ft.-lbs. (62-68 Nm) torque.

CONTROL PANEL (CONT'D)

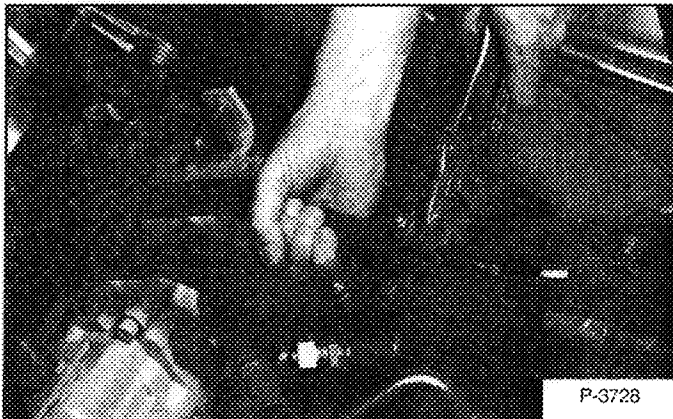
Linkage Adjustment (Cont'd)

Figure 50-100-25



Loosen the two bolts and nuts (Item 1) [Figure 50-100-25] on each steering linkage bar.

Figure 50-100-26



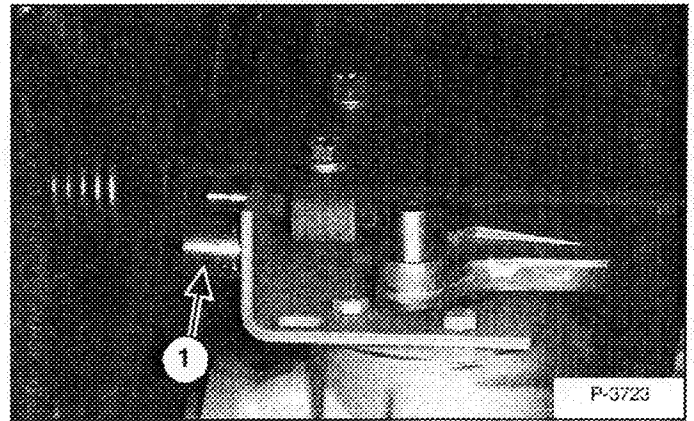
Move the left control lever to the full forward position, then pull forward on the left rear linkage bar until the pintle arm is rotated to the front as far as possible [Figure 50-100-26]. Use a locking plier and clamp the two linkage bars together.

Installation: Tighten the nuts and bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

Check the lever movement to make sure that the pintle arm and the control lever are both at full stroke at the same time. This will allow for maximum forward speed.

Repeat the procedure for the right side linkage.

Figure 50-100-27



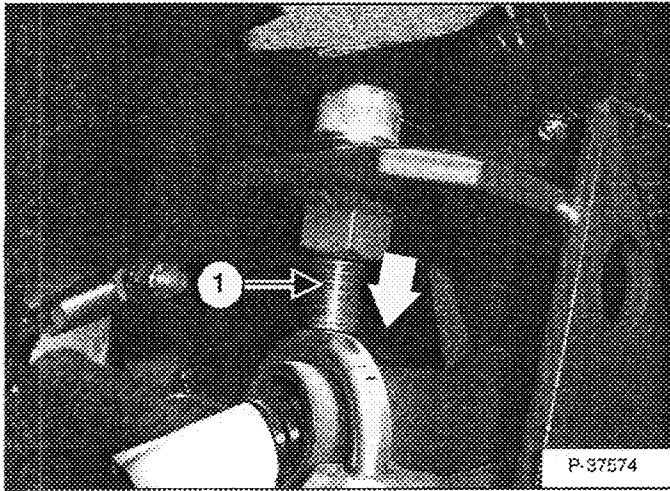
Remove the spacer (Item 1) [Figure 50-100-27].

Disconnect remote start tool. (See Contents Page 10-01.)

CONTROL PANEL (CONT'D)

Linkage Adjustment (Cont'd)

Figure 50-100-28



S/N 512265035 & Above Only

Push the control lever to full stroke and turn drift adjustment bolt (Item 1) [Figure 50-100-28] in until it touches the U-bolt holding the control lever.

Repeat steps on the other control lever.

Drive the loader forward and check for drift.

The traditional benchmark for drift is less than 10 ft. of "drift" in 100 ft. of travel distance.

If the drift is excessive to the left, turn the right adjustment bolt (Item 1) [Figure 50-100-28] in.

If the drift is excessive to the right, turn the left adjustment bolt in.

NOTE: When using the drift adjustment bolts, only adjust one bolt for each test drive.

In addition only move each bolt a maximum of one turn for each test drive. This will help prevent over correction and excess reduction in travel speed.

Drift adjustment is for forward travel only.

Adjust the drift to an acceptable level.

Re-install the plug in the drift bolt access hole after adjustment.

CONTROL PANEL (CONT'D)

Linkage Neutral Adjustment

The following tool listed will be needed to do the following procedure:

MEL1563 - Remote Start Tool Kit

Raise the lift arms and install an approved lift arm support device. (See Contents Page 10-01.)

Lift and block the loader. (See Contents Page 10-01.)

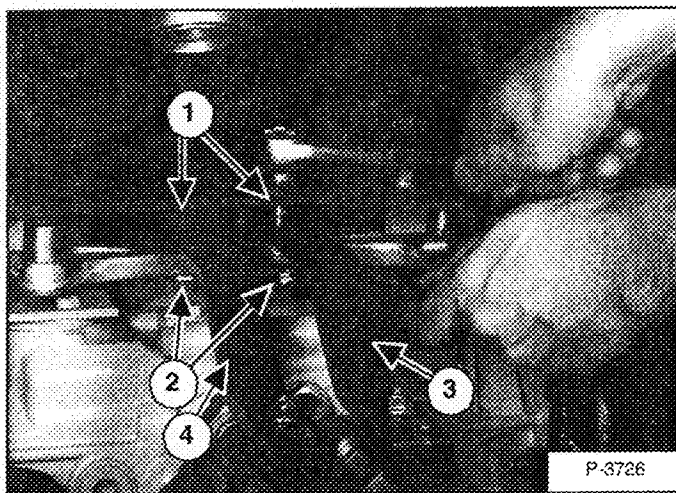
Connect the remote start tool to the engine harness. (See Contents Page 10-01.)

WARNING

Put jackstands under the front axles and rear corners of the frame before running the engine for service. Failure to use jackstands can allow the machine to fall or move and cause injury or death.

W-2017-0286

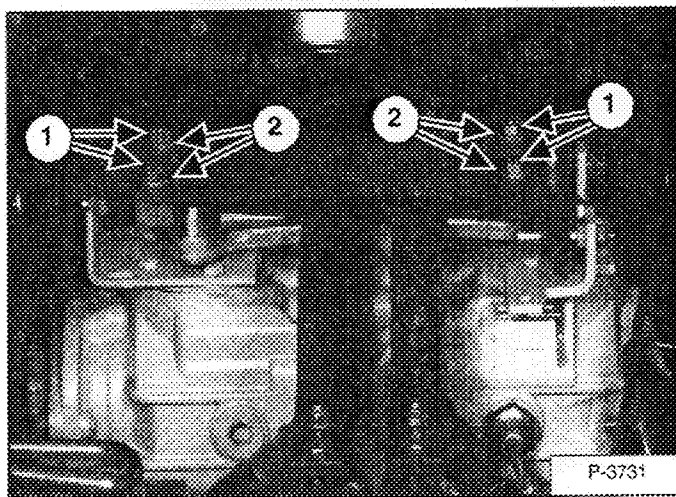
Figure 50-100-29



Loosen the nut (Item 1) a couple of turns, then loosen the bolt (Item 2). The bolt (Item 2) is threaded into the linkage bars (Items 3 & Item 4) [Figure 50-100-29].

The bolt (Item 2) [Figure 50-100-29] must be loose enough to allow the torsion bushing to turn freely between the pintle arm and the linkage bar.

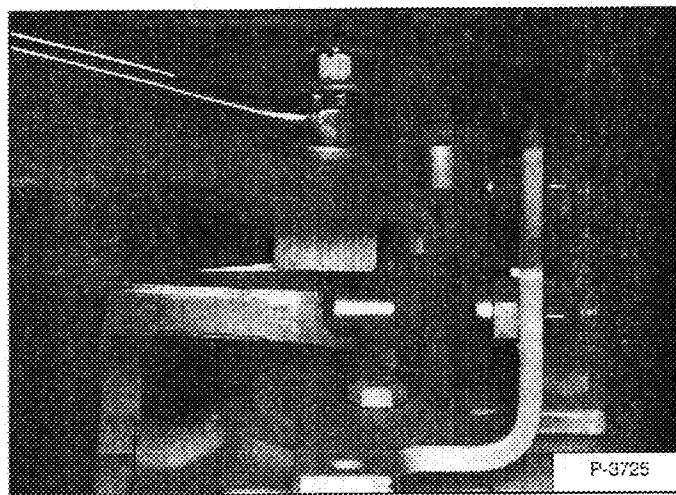
Figure 50-100-30



Loosen the four bolts (Item 1) [Figure 50-100-30] holding the two centering blocks. Move the right hand centering block to the right as far as possible.

NOTE: Bolt holes (Item 2) [Figure 50-100-30] are slotted for pintle arm centering adjustment.

Figure 50-100-31



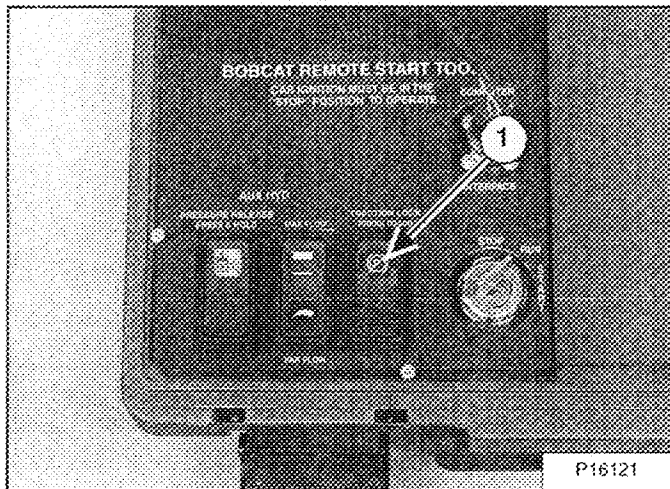
Adjust the left centering block first [Figure 50-100-31].

Start the engine and run at high RPM.

CONTROL PANEL (CONT'D)

Linkage Neutral Adjustment (Cont'd)

Figure 50-100-32



Move the traction lock override switch (Item 1) [Figure 50-100-32] to the OFF position so the traction function is unlocked. The wheels are now able to turn.

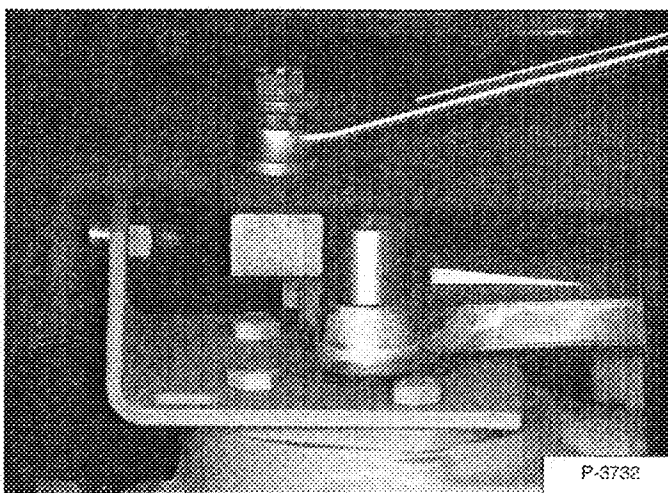
Move the left control lever until the tires do not turn (neutral position).

Move the left centering block to the left until it contacts both pintle cams and the control lever is still in the neutral position [Figure 50-100-32].

Tighten the bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

NOTE: If the centering blocks are worn, they can be removed and rotated 180 degrees and reinstalled. If the cams are worn, they can be loosened and rotated 90 degrees and reinstalled.

Figure 50-100-33



Adjust the right centering block [Figure 50-100-33].

Move the right control lever until the tires do not turn (neutral position).

Move the right centering block to the left until it contacts both pintle cams and the control lever is still in the neutral position [Figure 50-100-33].

Tighten the bolts to 25-28 ft.-lbs. (34-38 Nm) torque.

Test both levers by moving them backward and forward and letting them return to neutral by the return spring force.

If the levers do not return to neutral and the tires do not come to a complete stop, repeat the adjustment procedure again.

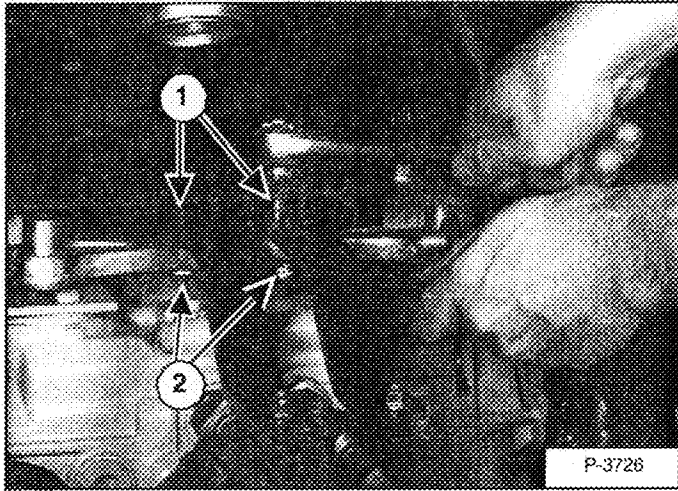
Stop the engine.

Disconnect remote start tool from engine harness. (See Contents Page 10-01.)

CONTROL PANEL (CONT'D)

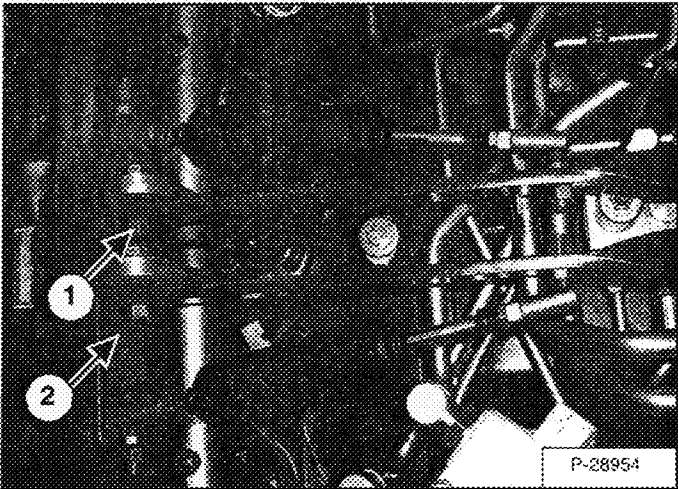
Linkage Neutral Adjustment (Cont'd)

Figure 50-100-34



Tighten the two bolts (Item 1) [Figure 50-100-34] to 11-13 ft.-lbs. (15-17 Nm) torque, then tighten the two nuts (Item 2) [Figure 50-100-34] to 21-25 ft.-lbs. (28-33 Nm) torque.

Figure 50-100-35



Tighten the two bolts to 11-13 ft.-lbs. (15-17 Nm) torque, then tighten the two nuts to 21-25 ft.-lbs. (28-33 Nm) torque at the steering cross shaft (Items 1 & 2) [Figure 50-100-35].

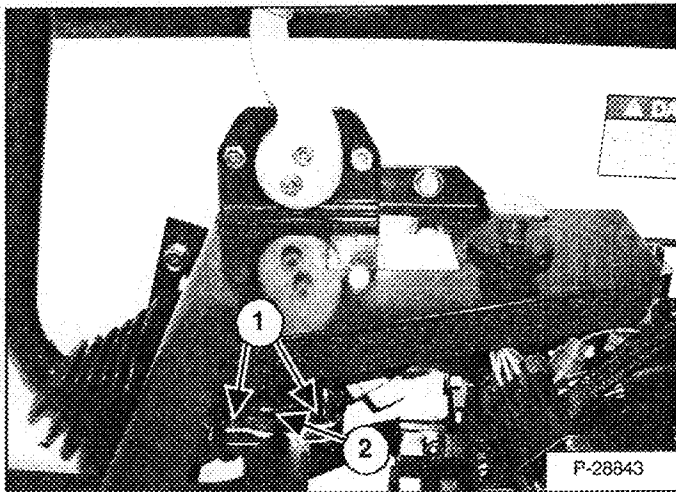


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CONTROL HANDLE

Control Lever Removal And Installation

Figure 50-110-1

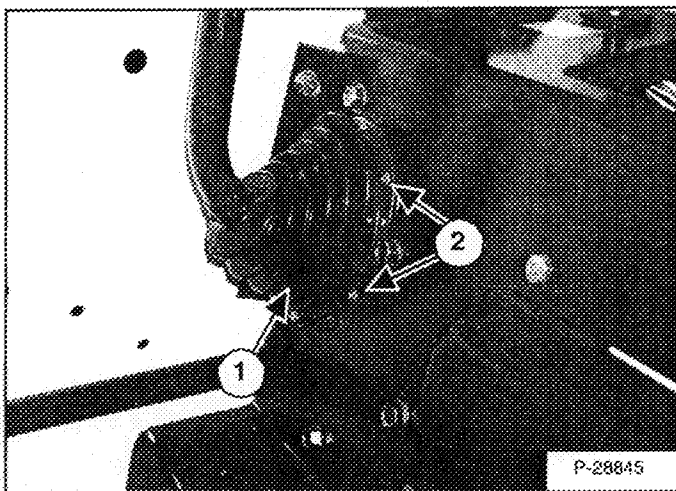


Disconnect the electrical connectors from the control lever [Figure 50-110-1].

Remove the nuts from the two U-bolts (Item 1) [Figure 50-110-1] used to mount the control lever.

Remove the U-bolts from the control lever mount.

Figure 50-110-2



Remove the control lever (Item 2) [Figure 50-110-2] by sliding the lever through the rubber boot (Item 1) [Figure 50-110-2] on the front of the control panel.

Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab.

Control Lever Boot

To replace the rubber boot (Item 1) [Figure 50-110-2] on the control panel, remove the control lever (See Control Lever Removal And Installation on page 50-110-1.)

Drill out the four rivets (Item 2) [Figure 50-110-2] located on the flange of the rubber boot and remove the old boot.

Install the new boot and reinstall the control lever.

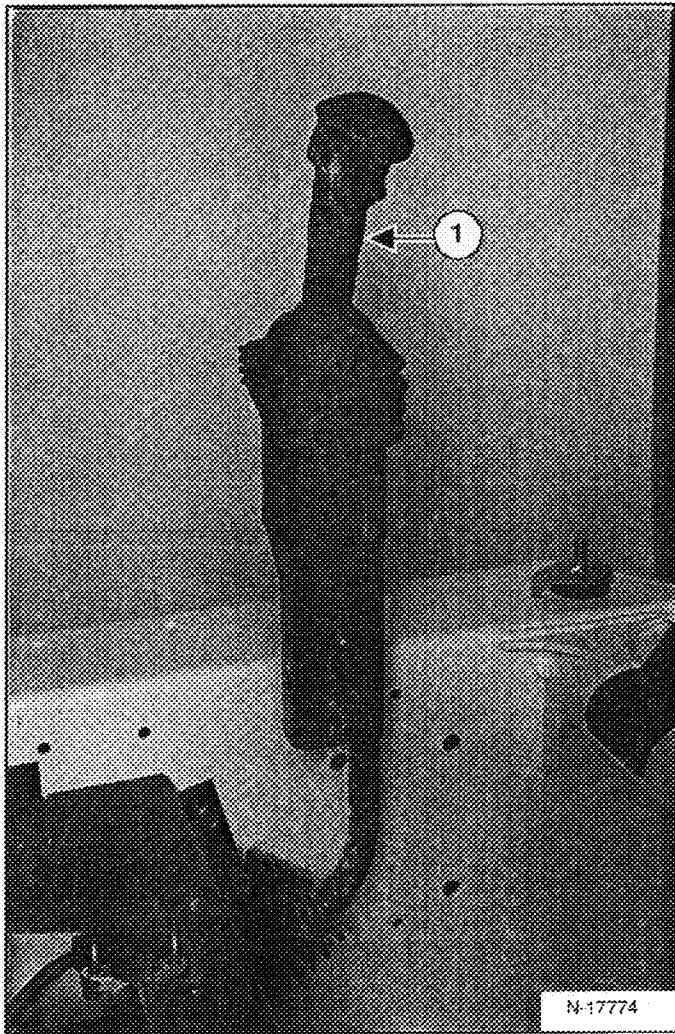


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**CONTROL HANDLE (ADVANCED HAND CONTROL)
(AHC)**

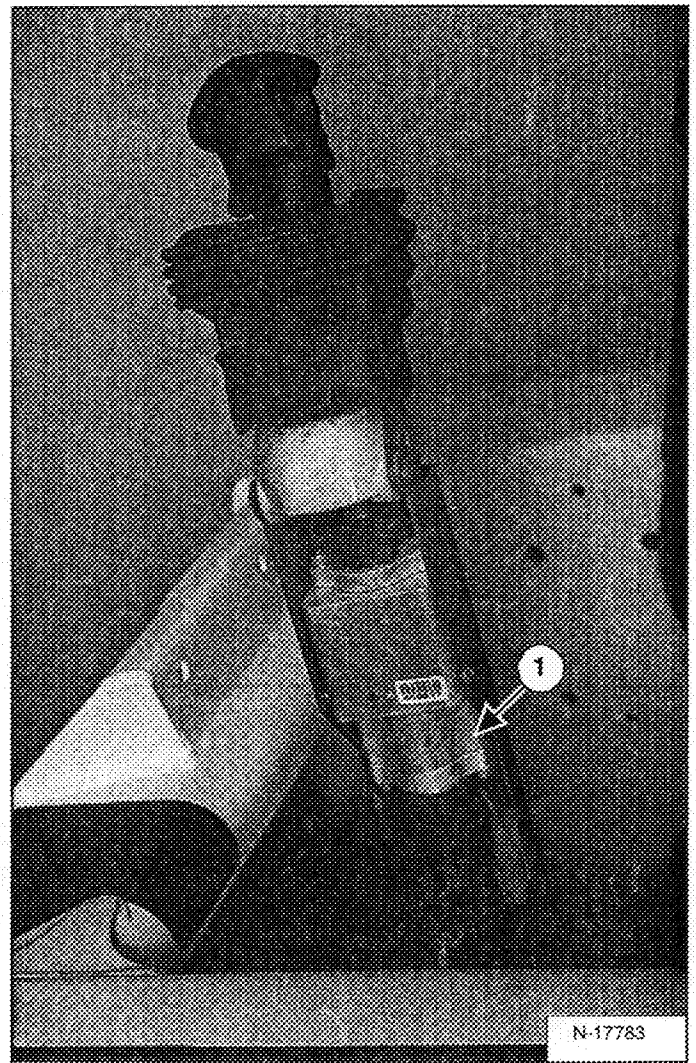
Components Identification

Figure 50-111-1



Control Handle (Item 1) [Figure 50-111-1].

Figure 50-111-2

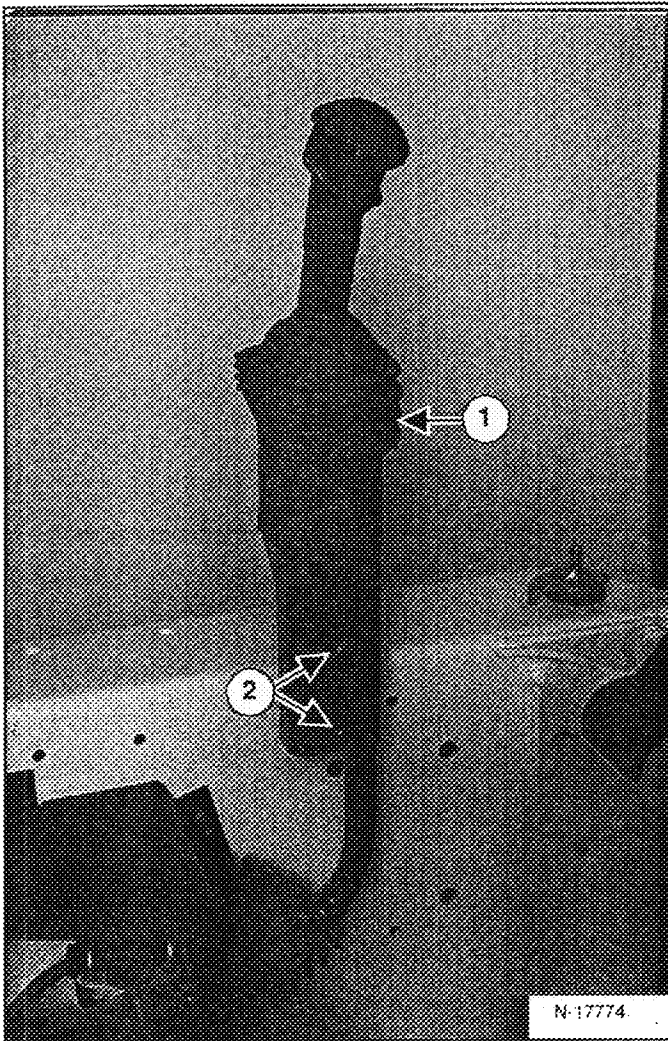


Control Handle Unit (Item 1) [Figure 50-111-2].

**CONTROL HANDLE (ADVANCED HAND CONTROL)
(AHC) (CONT'D)**

Control Handle Unit Removal And Installation

Figure 50-111-3

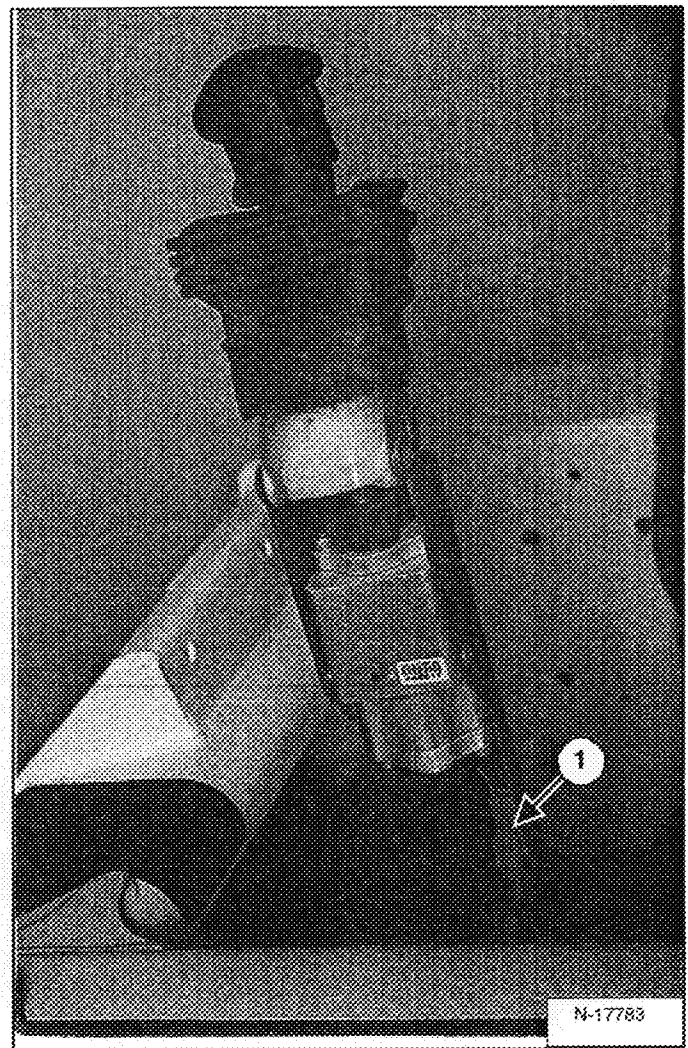


To remove the handle control unit, slide the rubber handle cover (Item 1) [Figure 50-111-3] up the handle.

Remove the two mounting bolts (Item 2) [Figure 50-111-3] from the control cover.

Remove the control cover.

Figure 50-111-4

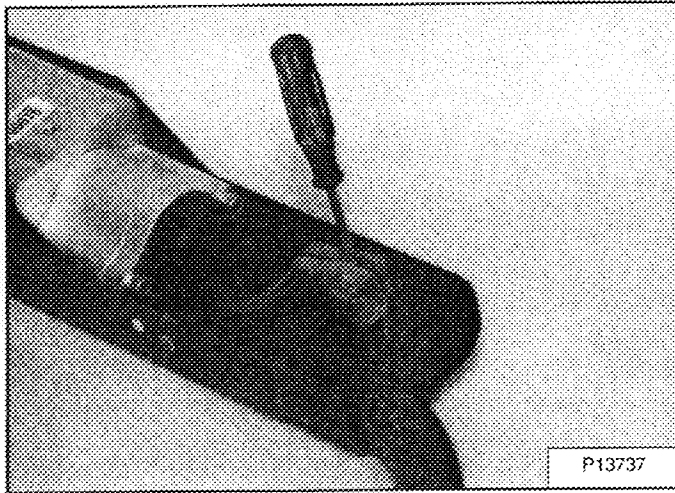


Disconnect the loader control harness (Item 1) [Figure 50-111-4] from the control handle harness.

**CONTROL HANDLE (ADVANCED HAND CONTROL)
(AHC) (CONT'D)**

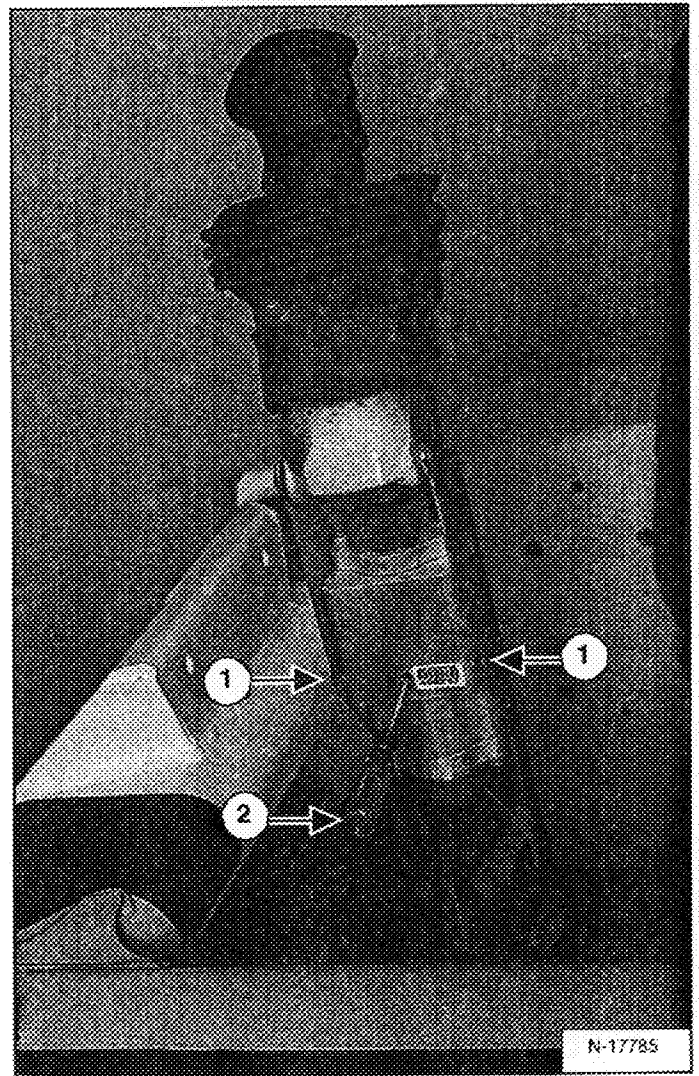
**Control Handle Unit Removal And Installation
(Cont'd)**

Figure 50-111-5



Using a small screwdriver remove the handle control electrical connector from the clip [Figure 50-111-5].

Figure 50-111-6



Using an allen wrench, remove the two mounting screws (Item 1) [Figure 50-111-6] from the control unit.

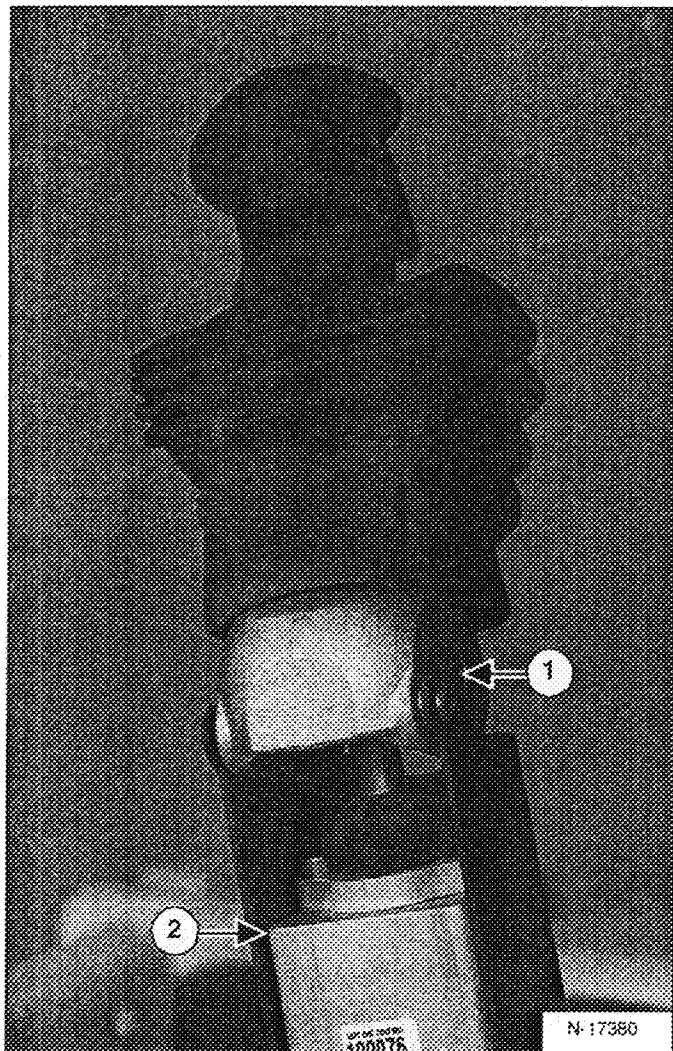
NOTE: A small screwdriver (Item 2) [Figure 50-111-6] in the control unit may be needed to hold the center spacer from turning.

Installation: Tighten the control unit mounting screws to 85 in.-lbs. (9,6 Nm) torque.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) (CONT'D)

Control Handle Unit Removal And Installation (Cont'd)

Figure 50-111-7

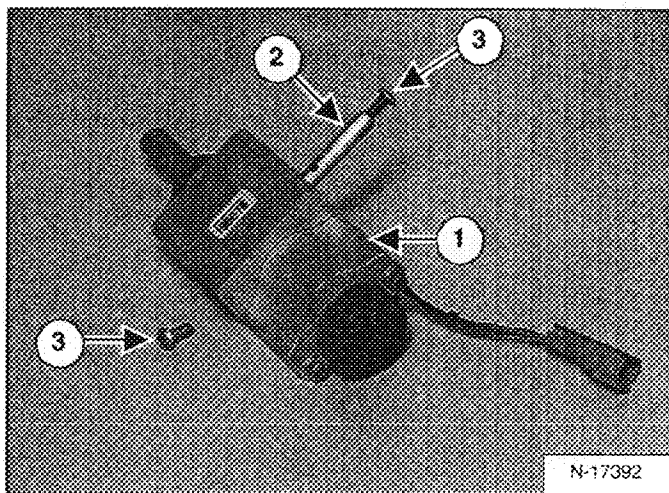


Remove the mounting bolt and nut (Item 1) [Figure 50-111-7] from the control handle and shaft.

Remove the control unit (Item 2) [Figure 50-111-7] from the control handle.

Installation: Tighten the mounting bolt to 35 in.-lbs (3,9 Nm) torque.

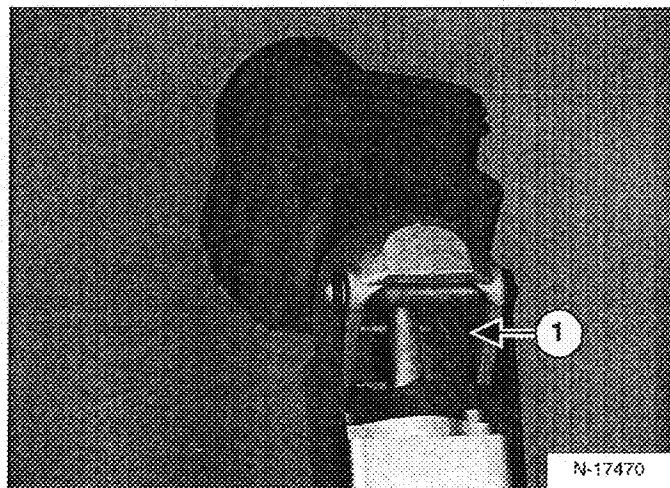
Figure 50-111-8



NOTE: The control unit (Item 1) [Figure 50-111-8] can only be replaced as a complete assembly.

Check the spacer (Item 2) [Figure 50-111-8] and screws (Item 3) [Figure 50-111-8] and replace as needed.

Figure 50-111-9

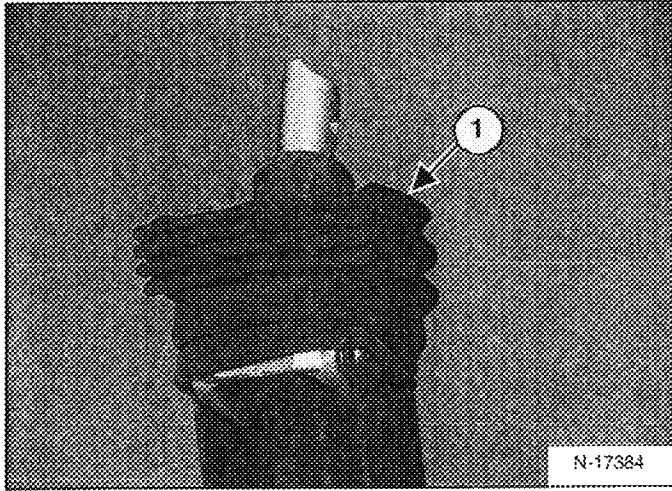


Installation: When installing the control unit into the control handle, check the routing of the switch handle wire harness (Item 1) [Figure 50-111-9] to assure proper return of the control handle to neutral.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) (CONT'D)

Control Handle Removal And Installation

Figure 50-111-10

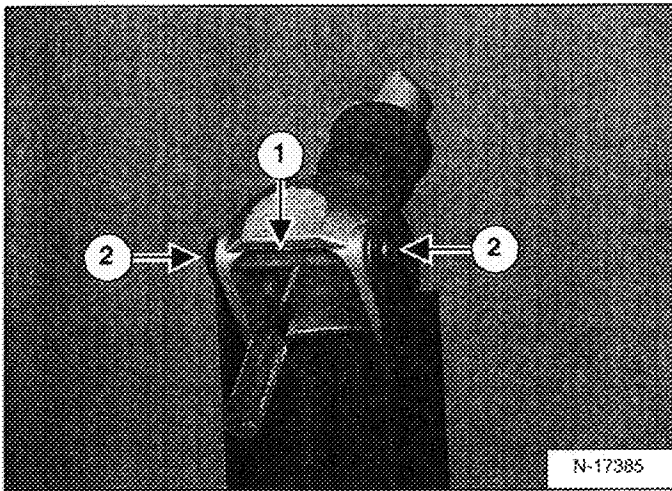


Remove the control handle unit. (See Control Handle Unit Removal And Installation on page 50-111-2.)

Remove the switch handle. (See Contents, Page 60-01.)

Remove the rubber handle cover (Item 1) [Figure 50-111-10] from the handle.

Figure 50-111-11

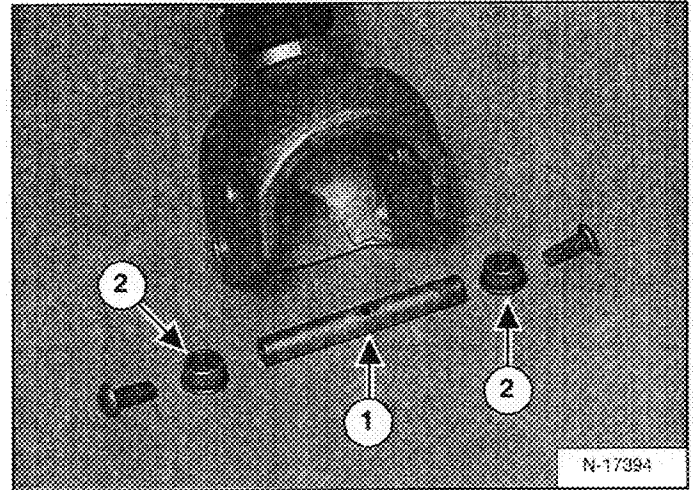


Using a small screwdriver, hold the handle spacer (Item 1) [Figure 50-111-11] and remove the allen head screws (Item 2) [Figure 50-111-11] from the handle assembly.

Installation: Tighten the allen head screws to 35 in.-lbs. (4 Nm) torque.

Control Handle Disassembly And Assembly

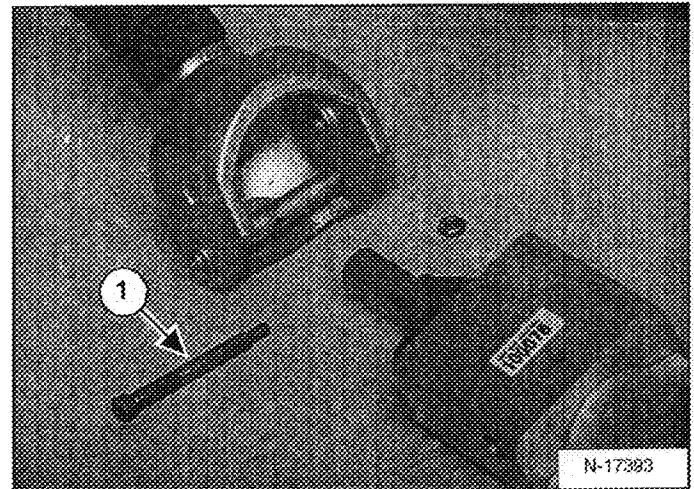
Figure 50-111-12



Remove the handle sleeve (Item 1) [Figure 50-111-12] and bushings (Item 2) [Figure 50-111-12] from the handle.

Check all parts for wear and replace as needed.

Figure 50-111-13

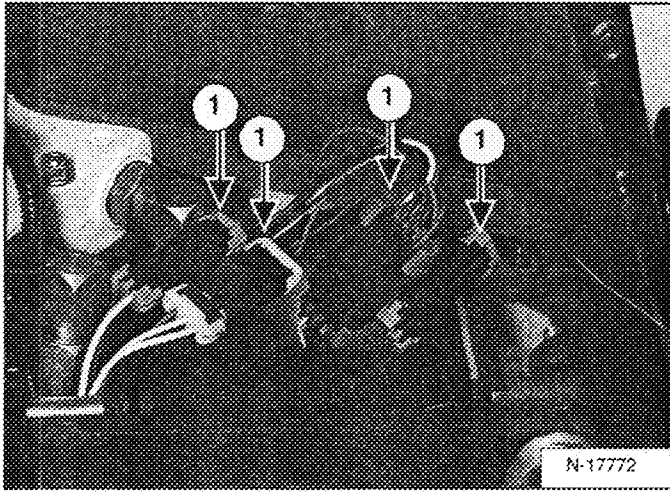


Check the mounting bolt (Item 1) [Figure 50-111-13] that connects the handle to the handle control unit for wear, replace as needed.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) (CONT'D)

Control Lever Removal And Installation

Figure 50-111-14



Disconnect the electrical connectors (Item 1) [Figure 50-111-14] from the control lever switch handle.

Remove the electrical connectors from the control lever switch handle. (See Contents, Page 60-01.)

Figure 50-111-15

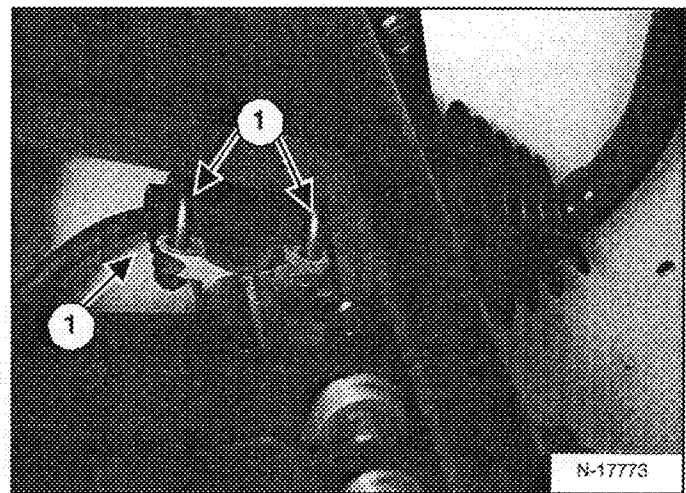
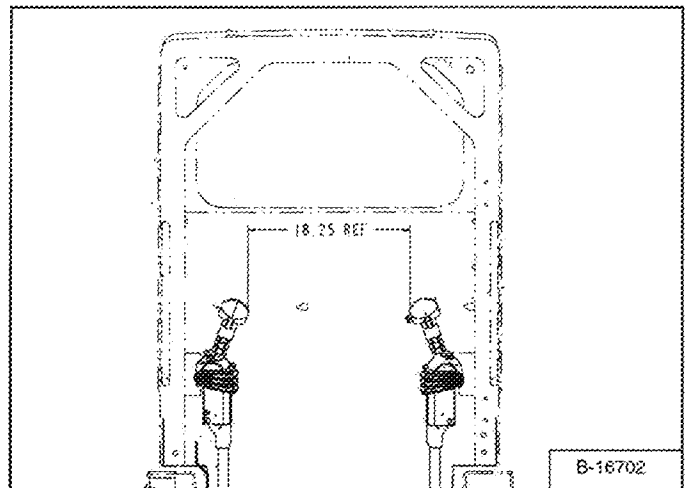


Figure 50-111-16



Loosen the two u-clamps (Item 1) [Figure 50-111-15] nuts.

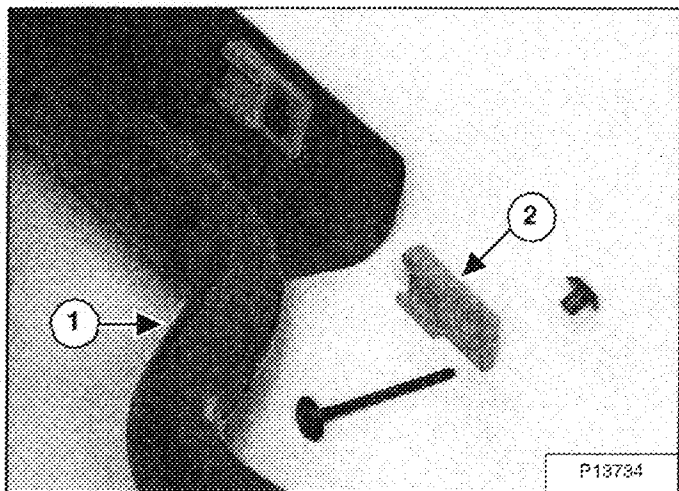
Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Control lever end (Item 2) [Figure 50-111-15] should be flush with bellcrank. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab. The distance between handles should be 18.25 inches [Figure 50-111-16].

Remove the control lever from the cross shaft and control panel.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) (CONT'D)

Control Lever Removal And Installation (Cont'd)

Figure 50-111-17

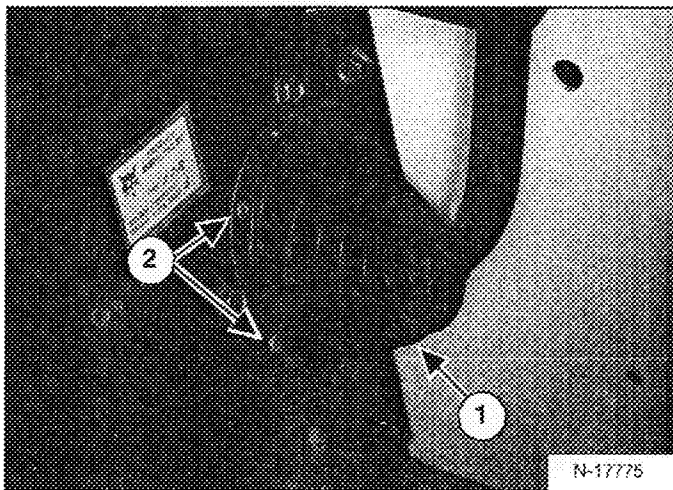


The control lever (Item 1) [Figure 50-111-17] must be replaced as a complete unit.

The connector clip (Item 2) [Figure 50-111-17] can be replaced separately from the control lever.

Control Lever Boot

Figure 50-111-18



To replace the rubber boot (Item 1) [Figure 50-111-18] on the control panel, remove the control lever. (See Contents, Page 50-01.)

Drill out the four rivets (Item 2) [Figure 50-111-18] located on the flange of the rubber boot and remove the old boot.

Install the new boot and reinstall the control lever. (See the CONTROL LEVER INSTALLATION, Contents, Page 50-01.)

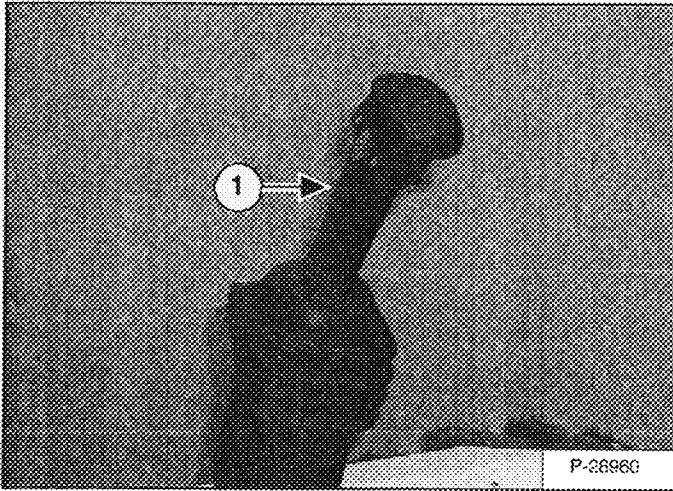


Bobcat®

**CONTROL HANDLE (ADVANCED HAND CONTROL)
(AHC) W/PUSH BUTTON FLOAT**

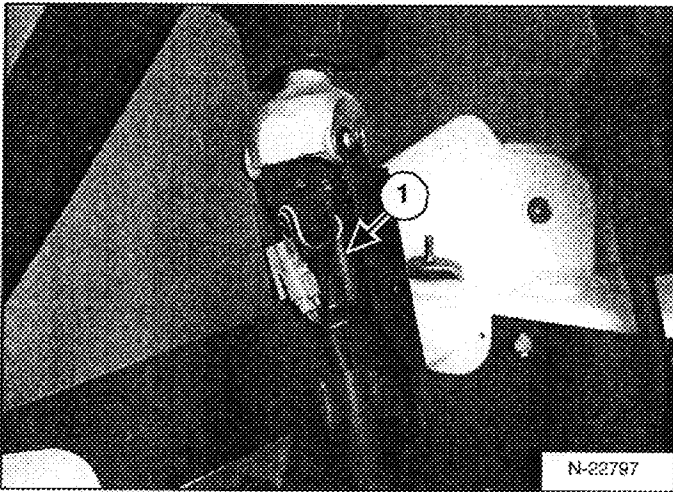
Components Identification

Figure 50-112-1



Control Handle (Item 1) [Figure 50-112-1].

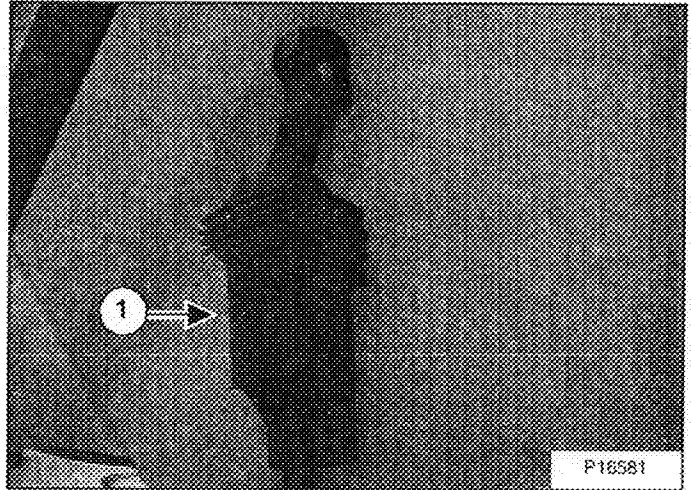
Figure 50-112-2



Handle Sensor (Item 1) [Figure 50-112-2].

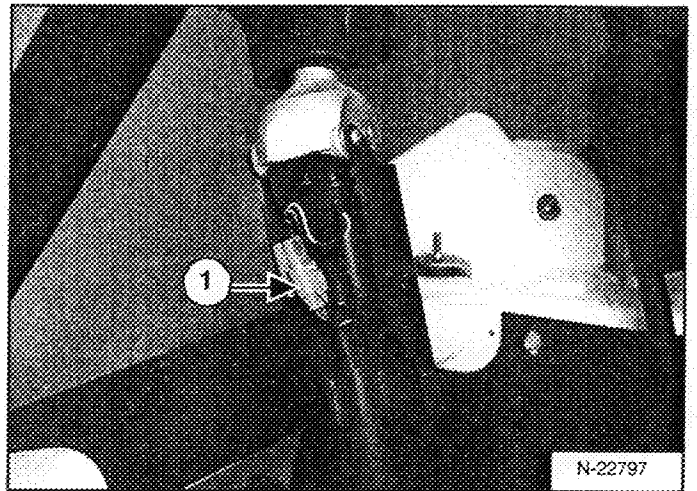
Handle Sensor Removal And Installation

Figure 50-112-3



To remove the handle sensor, slide the rubber handle cover (item 1) [Figure 50-112-3] up the handle.

Figure 50-112-4

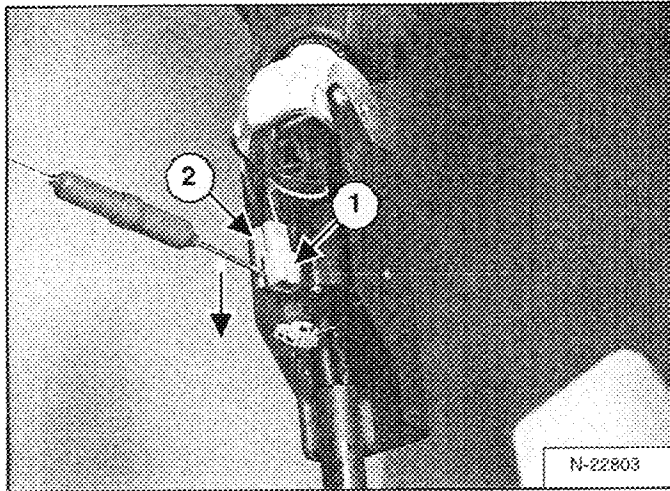


Disconnect the loader control harness (item 1) [Figure 50-112-4] from the handle control harness.

CONTROL HANDLE(ADVANCED HAND CONTROL) (AHC) W/PUSH BUTTON FLOAT (CONT'D)

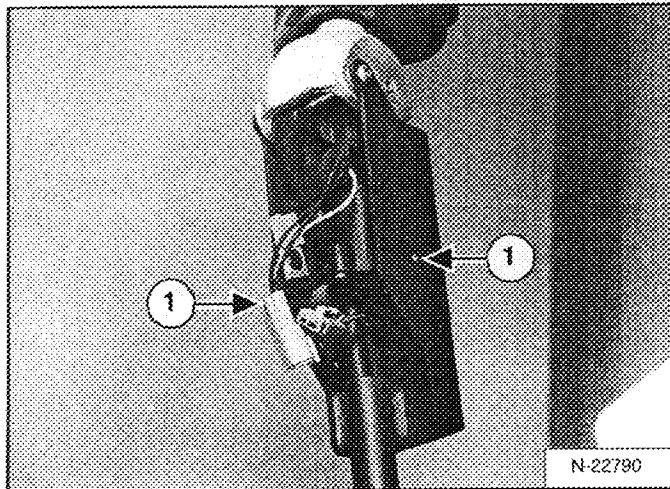
Handle Sensor Removal And Installation (Cont'd)

Figure 50-112-5



Using a small screwdriver remove the handle control electrical connector from the clip (Item 1) [Figure 50-112-5] by pushing the connector down out of the connector clip (Item 2) [Figure 50-112-5].

Figure 50-112-6



Using an allen wrench, remove one of the two mounting screws (Item 1) [Figure 50-112-6] from the handle sensor.

Installation: Tighten the handle sensor mounting screws to 85 in.-lbs. (9,6 Nm) torque.

Figure 50-112-7

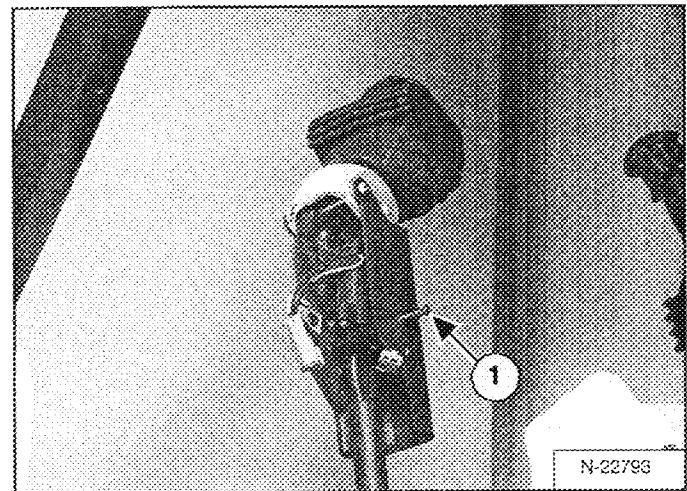
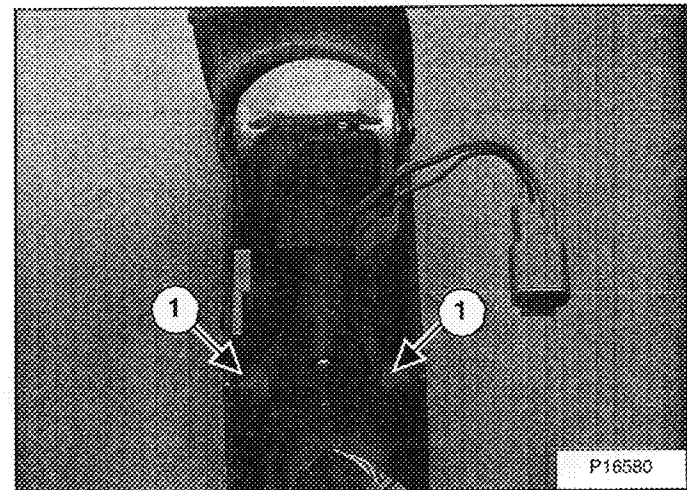


Figure 50-112-8

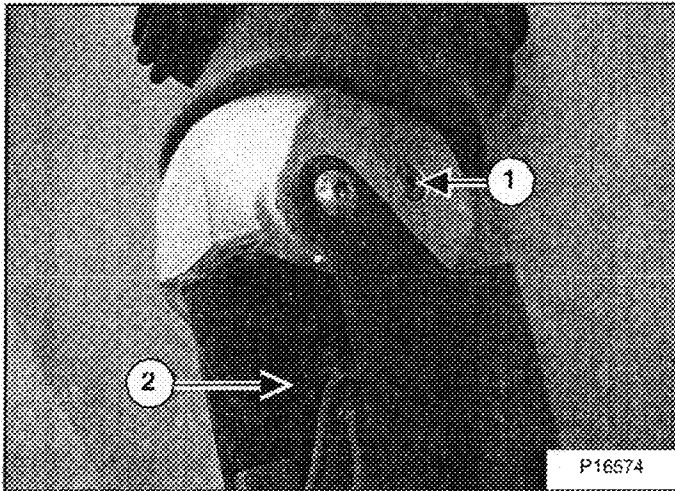


Remove the spacers (Item 1) [Figure 50-112-8] while removing the mounting pin (Item 1) [Figure 50-112-7].

**CONTROL HANDLE (ADVANCED HAND CONTROL)
(AHC) W/PUSH BUTTON FLOAT (CONT'D)**

Handle Sensor Removal And Installation (Cont'd)

Figure 50-112-9

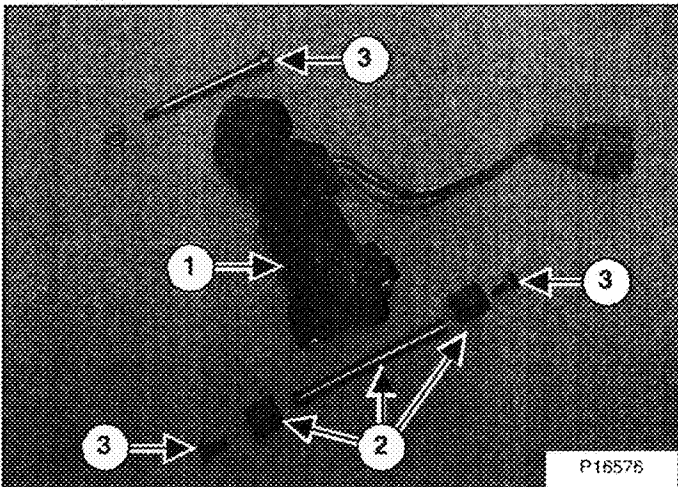


Remove the mounting bolt and nut (Item 1) [Figure 50-112-9] from the control handle and shaft.

Remove the handle sensor (Item 2) [Figure 50-112-9] from the control handle.

Installation: Tighten the mounting bolt to 35 in.-lbs (3,9 Nm) torque.

Figure 50-112-10

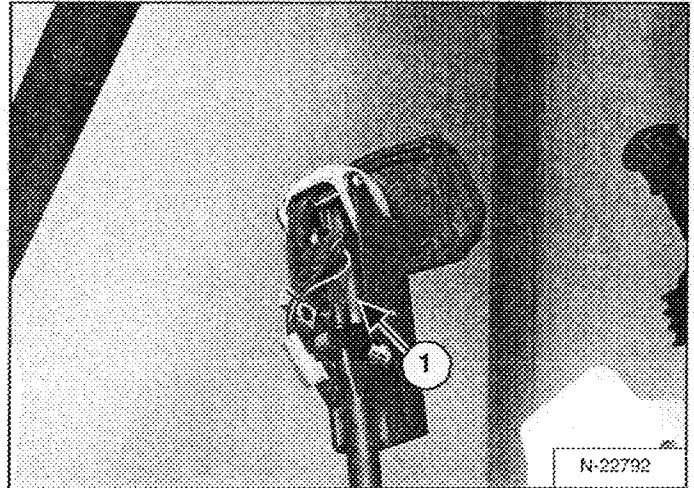


NOTE: The handle sensor (Item 1) [Figure 50-112-10] can only be replaced as a complete assembly.

Check the spacer (Item 2) [Figure 50-112-10] and screws (Item 3) [Figure 50-112-10] and replace as needed.

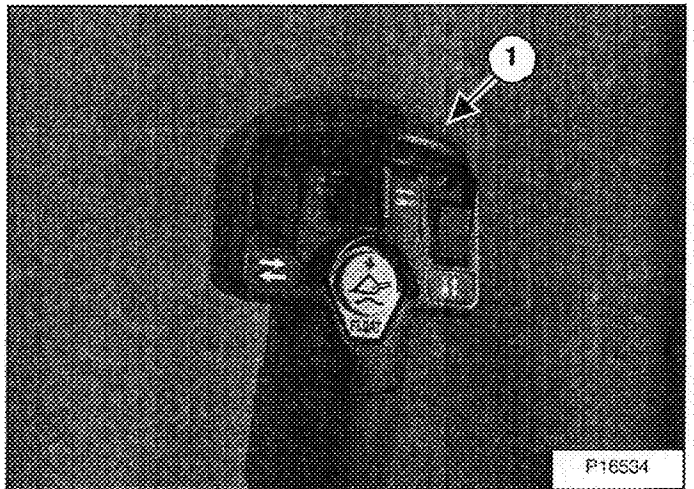
Control Handle Removal And Installation

Figure 50-112-11



Remove the handle sensor (Item 1) [Figure 50-112-11]. (See Contents, Page 50-01.)

Figure 50-112-12

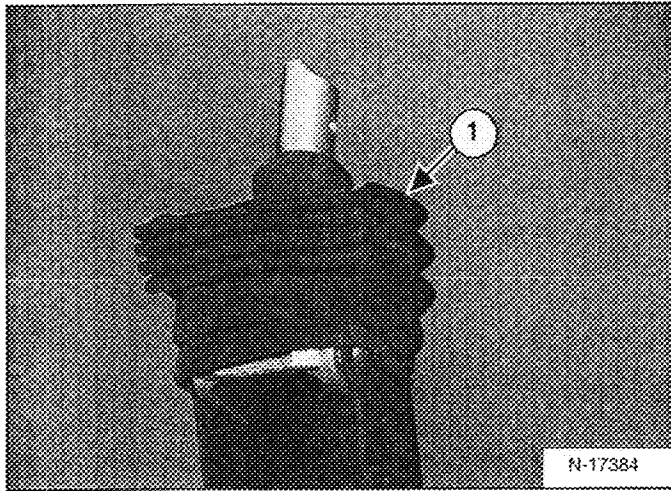


Remove the switch handle (Item 1) [Figure 50-112-12]. (See Contents, Page 60-01.)

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) W/PUSH BUTTON FLOAT (CONT'D)

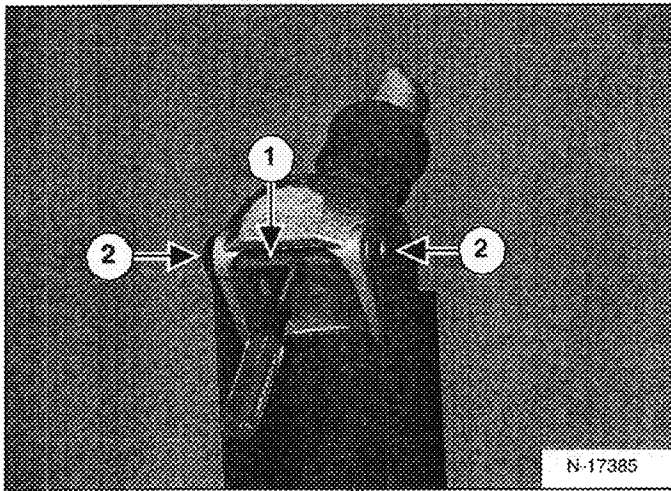
Control Handle Removal And Installation (Cont'd)

Figure 50-112-13



Remove the rubber handle cover (Item 1) [Figure 50-112-13] from the handle.

Figure 50-112-14

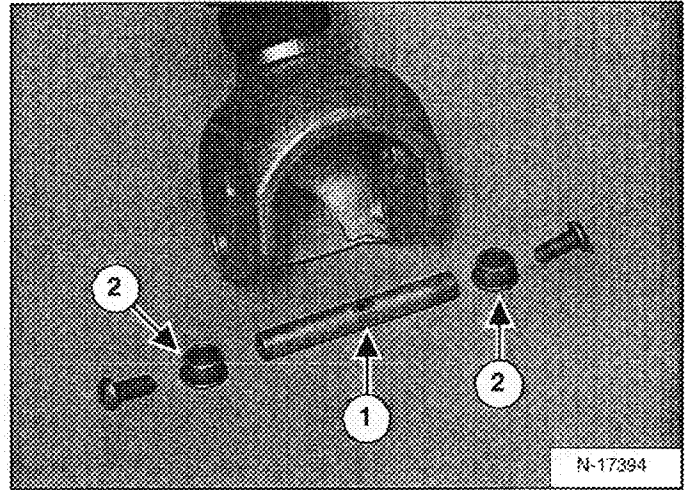


Using a small screwdriver, hold the handle spacer (Item 1) [Figure 50-112-14] and remove the allen head screws (Item 2) [Figure 50-112-14] from the handle assembly.

Installation: Tighten the allen head screws to 35 in.-lbs. (4 Nm) torque.

Control Handle Disassembly And Assembly

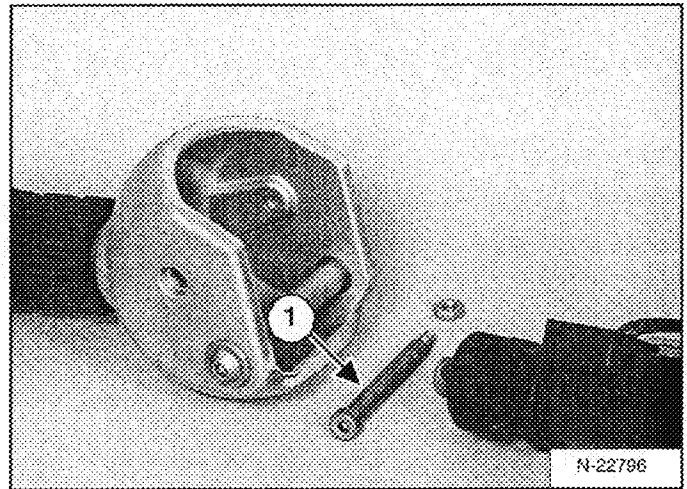
Figure 50-112-15



Remove the handle sleeve (Item 1) [Figure 50-112-15] and bushings (Item 2) [Figure 50-112-15] from the handle.

Check all parts for wear and replace as needed.

Figure 50-112-16

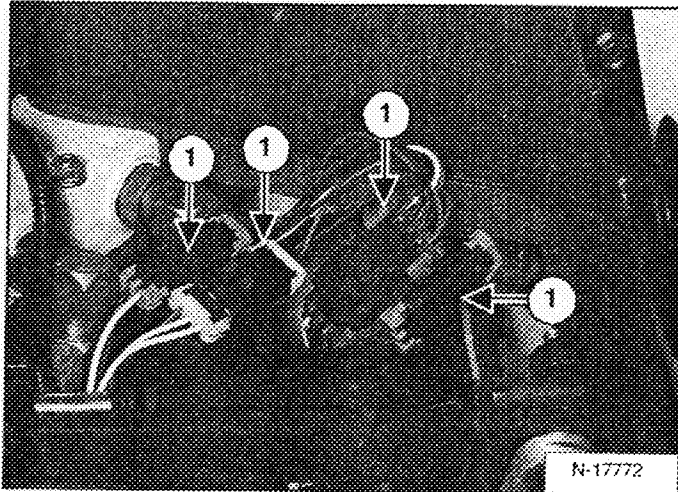


Check the mounting bolt (Item 1) [Figure 50-112-16] that connects the handle to the handle sensor unit for wear, replace as needed.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) W/PUSH BUTTON FLOAT (CONT'D)

Control Lever Removal And Installation

Figure 50-112-17



Disconnect the electrical connectors (Item 1) [Figure 50-112-17] from the control lever switch handle.

Remove the electrical connectors from the control lever switch handle. (See Contents, Page 60-01.)

Figure 50-112-18

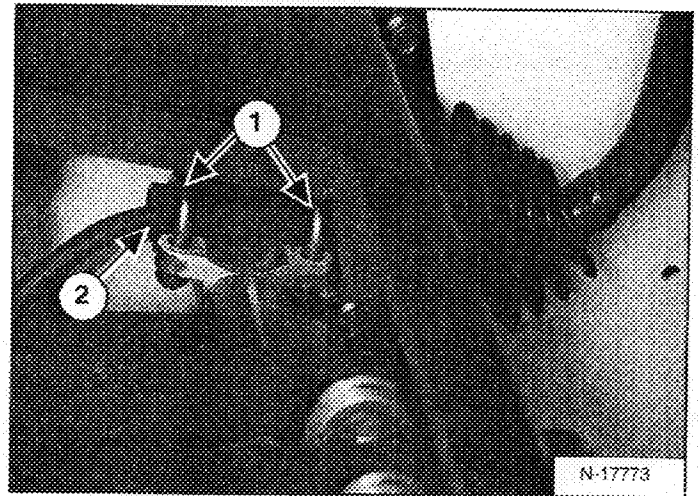
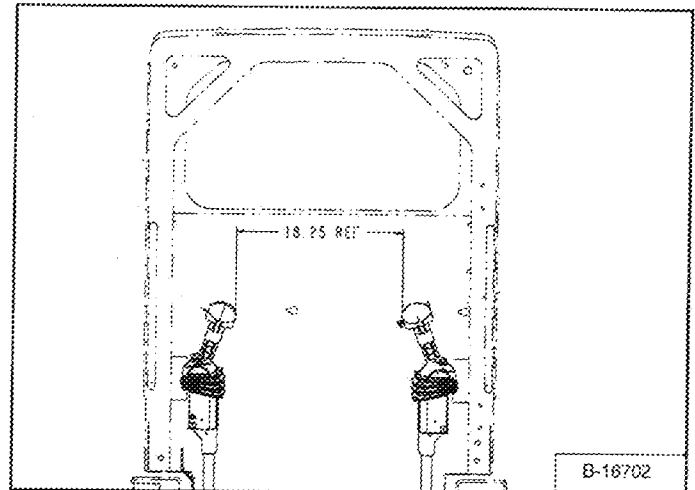


Figure 50-112-19



Loosen the two u-clamps (Item 1) [Figure 50-112-18] nuts.

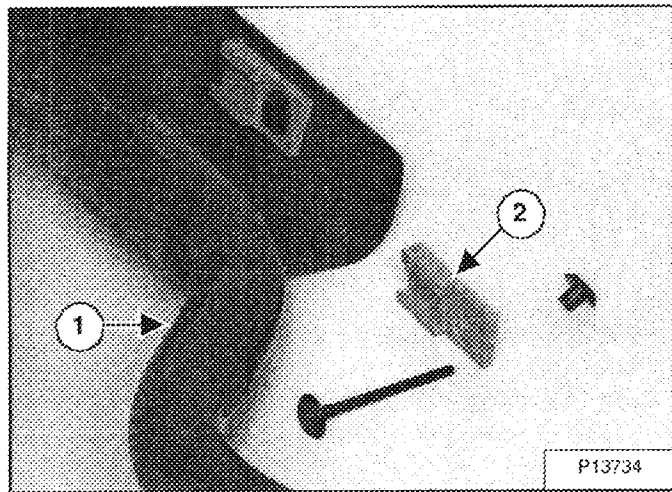
Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Control lever end (Item 2) [Figure 50-112-18] should be flush with bellcrank. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab. The distance between handles should be 18.25 inches [Figure 50-112-19].

Remove the control lever from the cross shaft and control panel.

CONTROL HANDLE (ADVANCED HAND CONTROL) (AHC) W/PUSH BUTTON FLOAT (CONT'D)

Control Lever Removal And Installation (Cont'd)

Figure 50-112-20

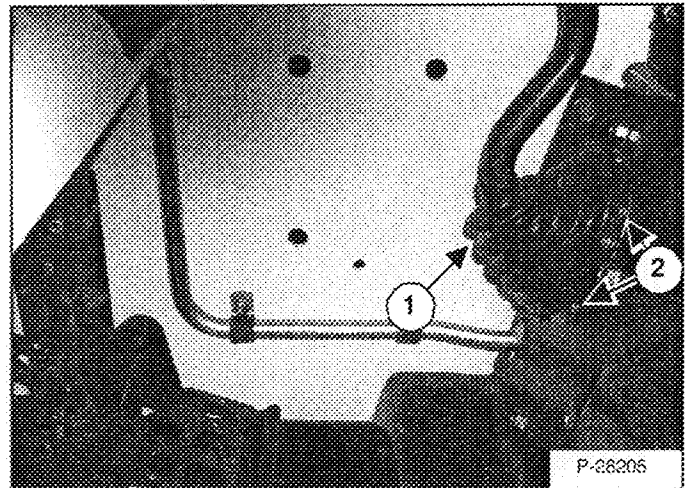


The control lever (Item 1) [Figure 50-112-20] must be replaced as a complete unit.

The connector clip (Item 2) [Figure 50-112-20] can be replaced separately from the control lever.

Control Lever Boot

Figure 50-112-21



To replace the rubber boot (Item 1) [Figure 50-112-21] on the control panel, remove the control lever. (See Contents, Page 50-01.)

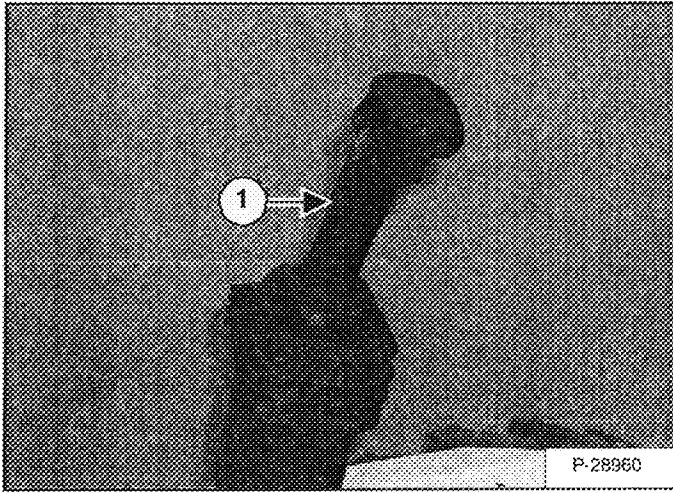
Drill out the four rivets (Item 2) [Figure 50-112-21] located on the flange of the rubber boot and remove the old boot.

Install the new boot and reinstall the control lever. (See the control lever installation, Contents, Page 50-01.)

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL

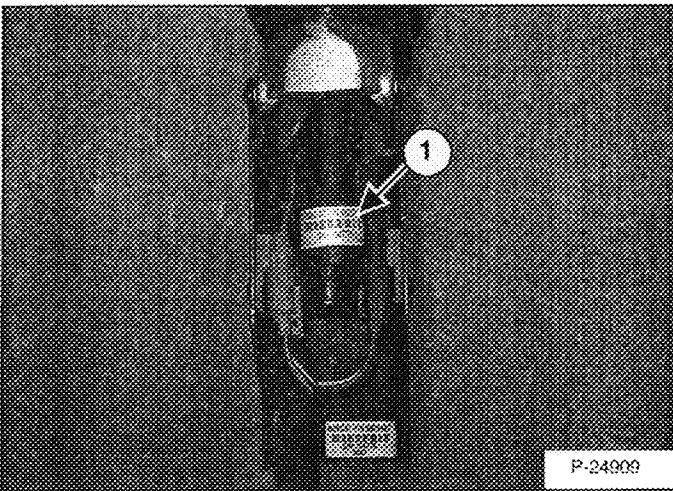
Components Identification

Figure 50-113-1



Control Handle (Item 1) [Figure 50-113-1].

Figure 50-113-2

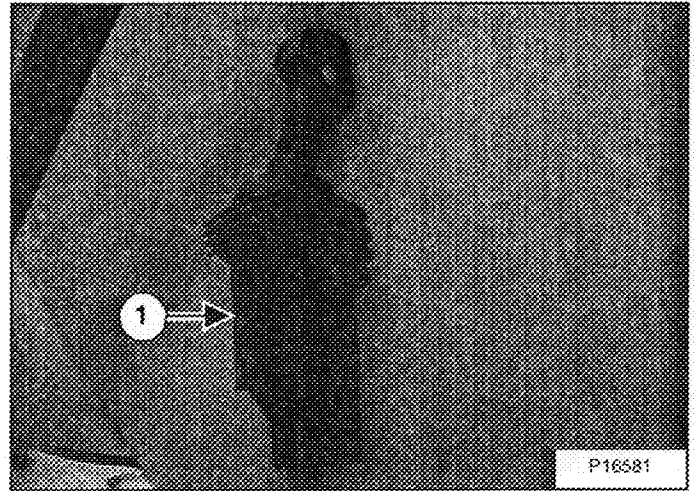


Handle Sensor (Item 1) [Figure 50-113-2].

NOTE: The calibration procedure must be followed when replacing handle sensor, foot pedal sensor, actuator or ACS Controller. (See Contents, Page 60-01.)

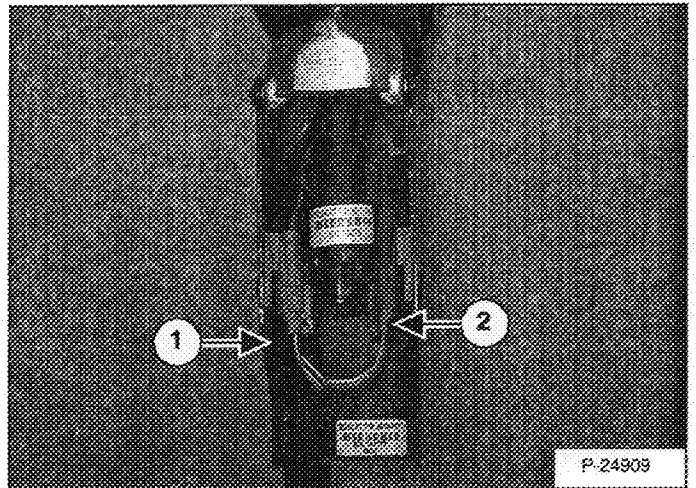
Handle Sensor Removal And Installation

Figure 50-113-3



To remove the handle sensor, slide the rubber handle cover (Item 1) [Figure 50-113-3] up the handle.

Figure 50-113-4



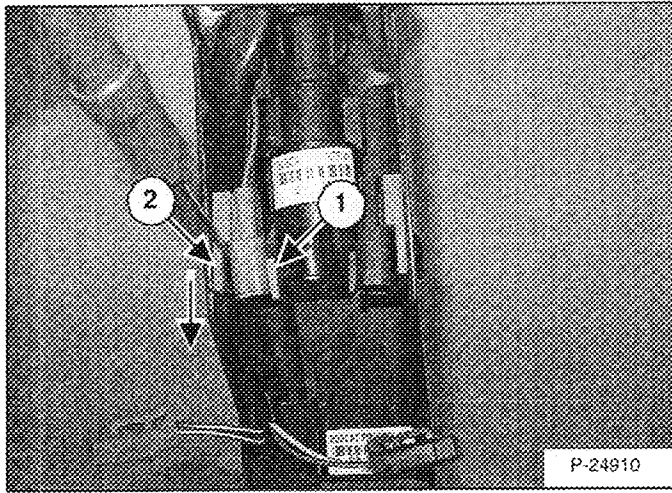
Disconnect the loader control harness (Item 1) [Figure 50-113-4] from the handle sensor harness.

Disconnect the loader control harness (Item 2) [Figure 50-113-4] from the handle connector.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

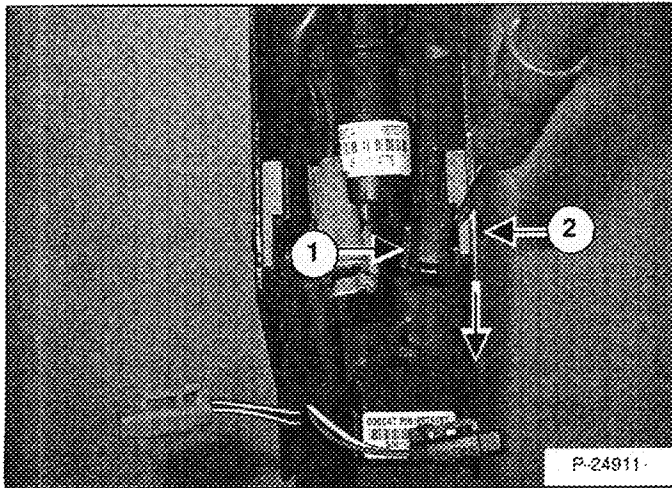
Handle Sensor Removal And Installation (Cont'd)

Figure 50-113-5



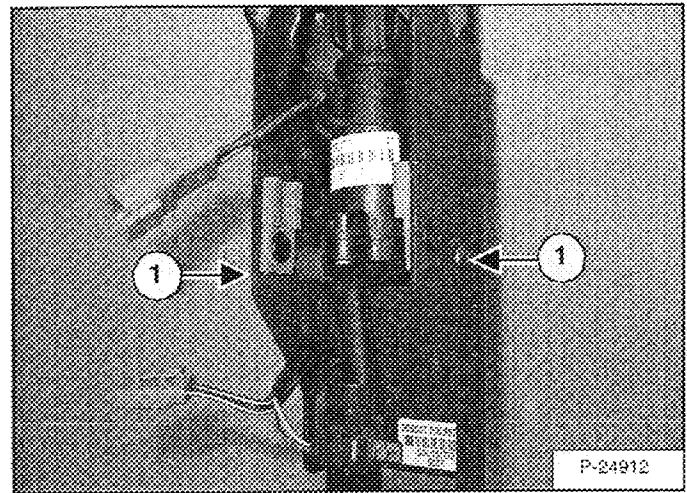
Using a small screwdriver remove the handle sensor electrical connector (Item 1) [Figure 50-113-5] from the clip by pushing the connector down out of the connector clip (Item 2) [Figure 50-113-5].

Figure 50-113-6



Using a small screwdriver, remove the electrical connector (Item 1) [Figure 50-113-6] from the clip by pushing the connector down out of the connector clip (Item 2) [Figure 50-113-6].

Figure 50-113-7



Using an allen wrench, remove one of the two mounting screws (Item 1) [Figure 50-113-7] from the handle sensor.

Installation: Tighten the handle sensor mounting screws to 85 in.-lbs. (9,6 Nm) torque.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

Handle Sensor Removal And Installation (Cont'd)

Figure 50-113-8

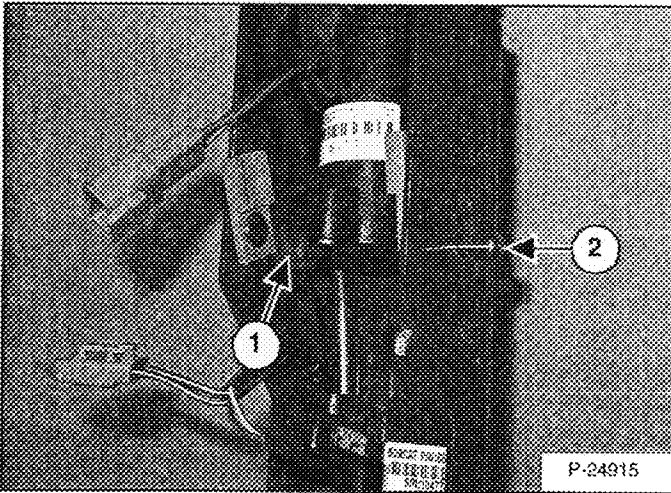
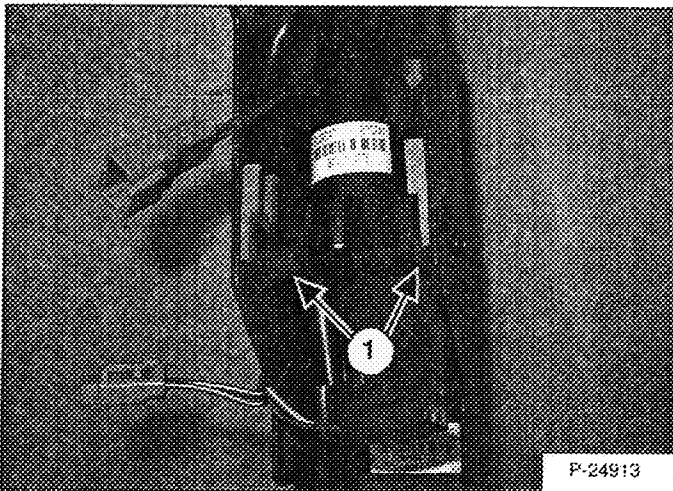


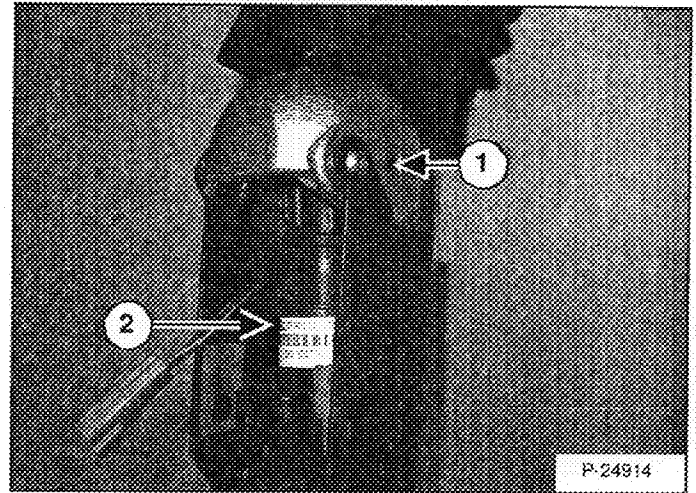
Figure 50-113-9



Remove the spacers (Item 1) [Figure 50-113-8] & [Figure 50-113-9] while removing the mounting pin (Item 2) [Figure 50-113-8].

EARLIER VERSION HAND CONTROLS ONLY:

Figure 50-113-10



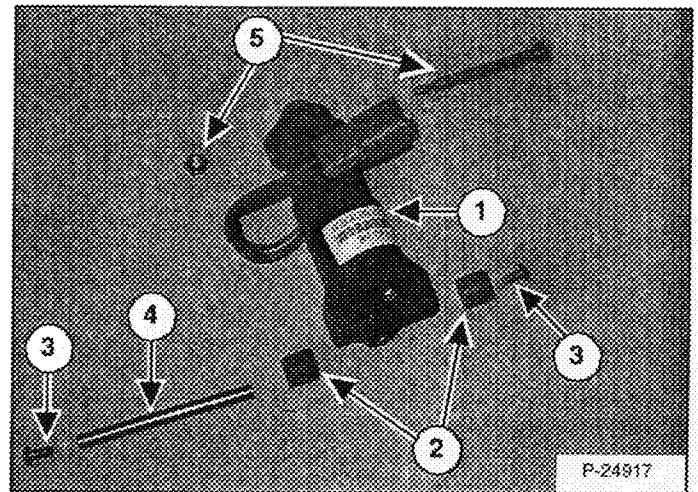
Remove the mounting bolt and nut (Item 1) [Figure 50-113-10] from the control handle and shaft.

NOTE: Be careful not to loosen the recessed nut on the other side of the handle.

Remove the handle sensor (Item 2) [Figure 50-113-10] from the control handle.

Installation: Tighten the mounting bolt to 32-38 in.-lbs (3,6-4,3 Nm) torque.

Figure 50-113-11



NOTE: The handle sensor (Item 1) [Figure 50-113-11] can only be replaced as a complete assembly.

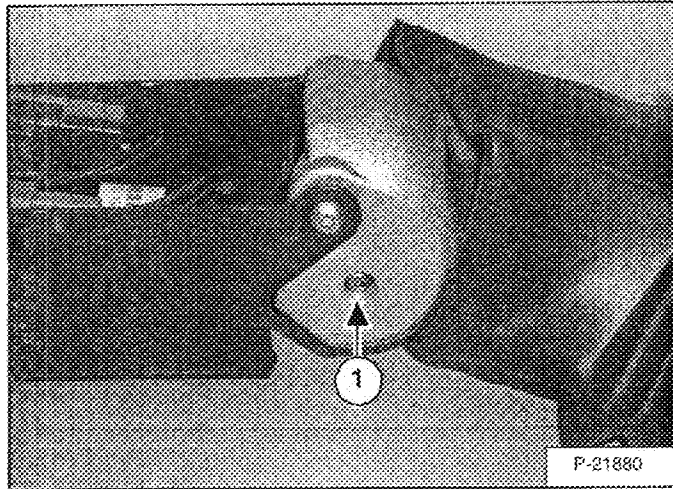
Check the spacers (Item 2) [Figure 50-113-11], screws (Item 3) [Figure 50-113-11], mounting pin (Item 4) [Figure 50-113-11], bolt/nut (Item 5) [Figure 50-113-11] and replace as needed.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

Handle Sensor Removal And Installation (Cont'd)

CURRENT VERSION HAND CONTROLS:

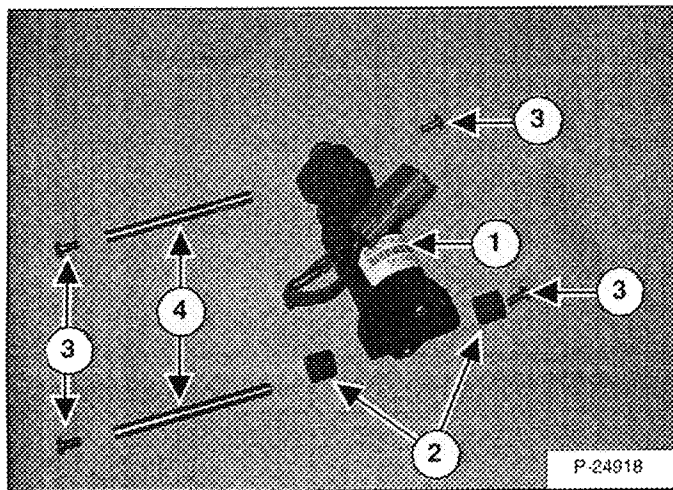
Figure 50-113-12



Remove one of the two mounting screws (Item 1) [Figure 50-113-12] from the handle sensor.

Installation: Tighten bolt to 32-38 in.-lbs. (3,6-4,3 Nm) torque.

Figure 50-113-13

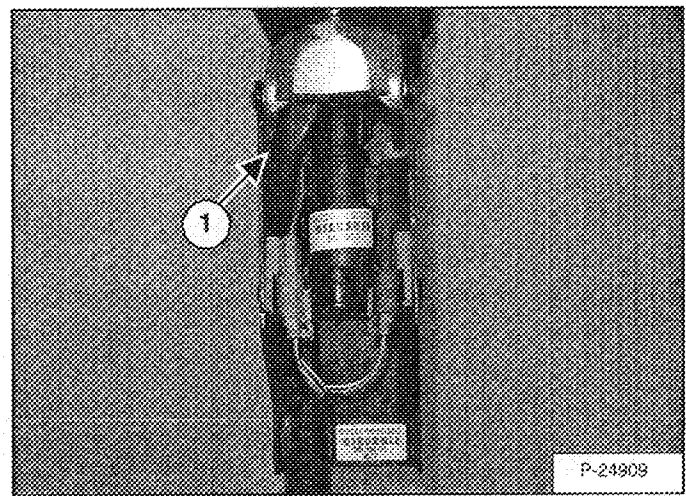


Remove the handle sensor (Item 1) [Figure 50-113-13] from the handle assembly.

NOTE: The handle sensor (Item 1) [Figure 50-113-13] can only be replaced as a complete assembly.

Check the spacers (Item 2) [Figure 50-113-13], screws (Item 3) [Figure 50-113-13], mounting pins (Item 4) [Figure 50-113-13] and replace as needed.

Figure 50-113-14



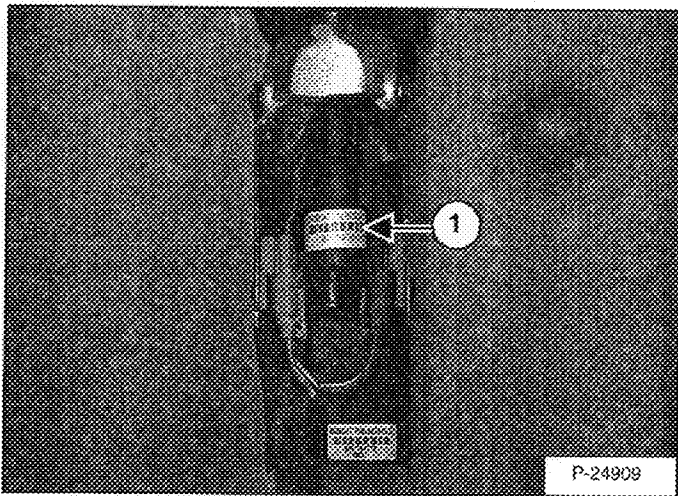
Installation: When installing the handle sensor into the control handle, check the routing of the switch handle wire harness (item 1) [Figure 50-113-14] to assure proper return of the control handle to neutral and minimize harness movement.

NOTE: The calibration procedure must be followed when replacing handle sensor, foot pedal sensor, actuator or ACS Controller. (See Contents, Page 60-01.)

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

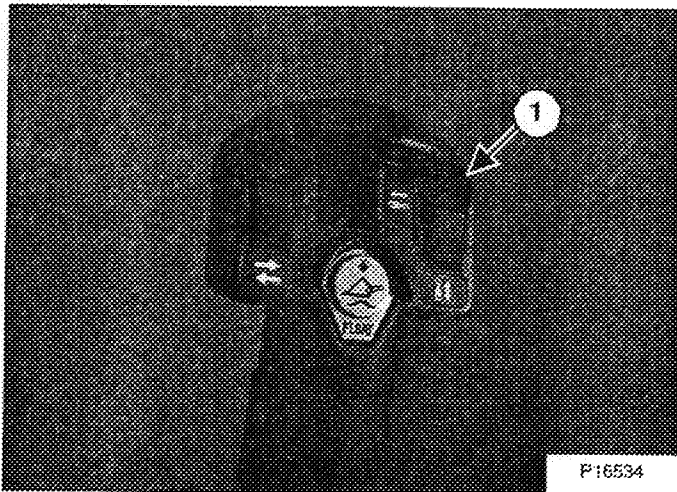
Control Handle Removal and Installation

Figure 50-113-15



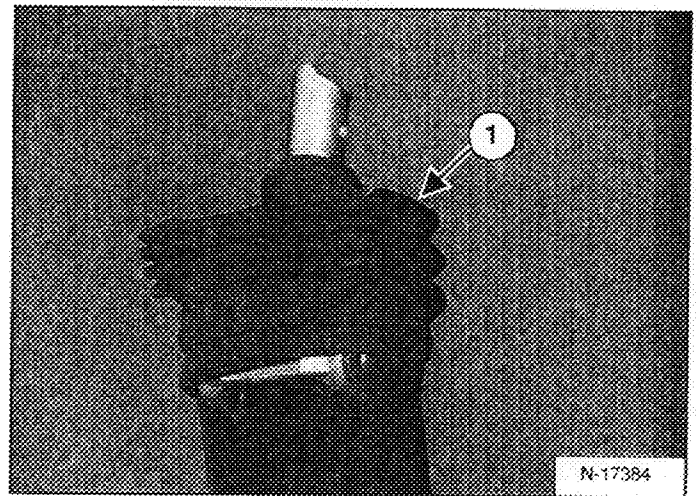
Remove the handle sensor (Item 1) [Figure 50-113-15]. (See Contents, Page 50-01.)

Figure 50-113-16



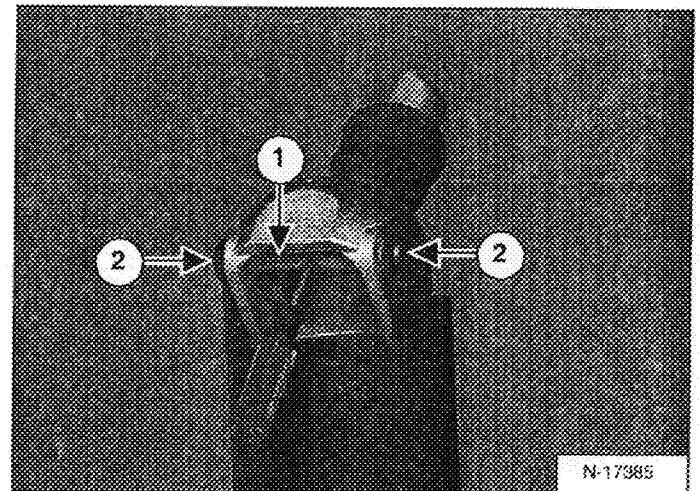
Remove the switch handle (Item 1) [Figure 50-113-16]. (See Contents, Page 60-01.)

Figure 50-113-17



Remove the rubber handle cover (Item 1) [Figure 50-113-17] from the handle.

Figure 50-113-18



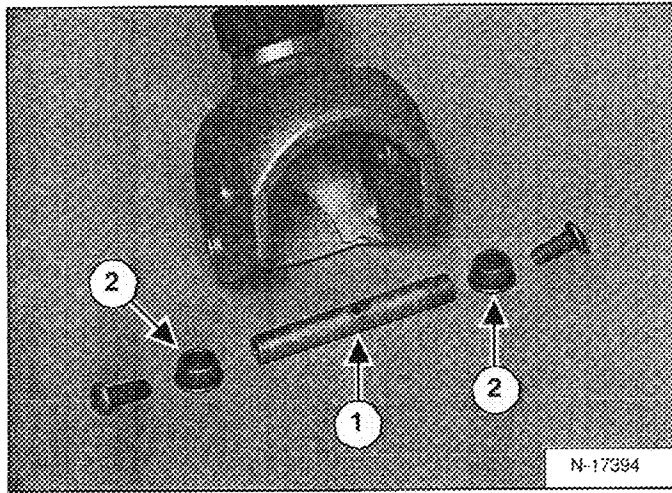
Using a small screwdriver, hold the handle spacer (Item 1) [Figure 50-113-18] and remove the alien head screws (Item 2) [Figure 50-113-18] from the handle assembly.

Installation: Tighten the alien head screws to 35 in.-lbs. (4 Nm) torque.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

Control Handle Disassembly and Assembly

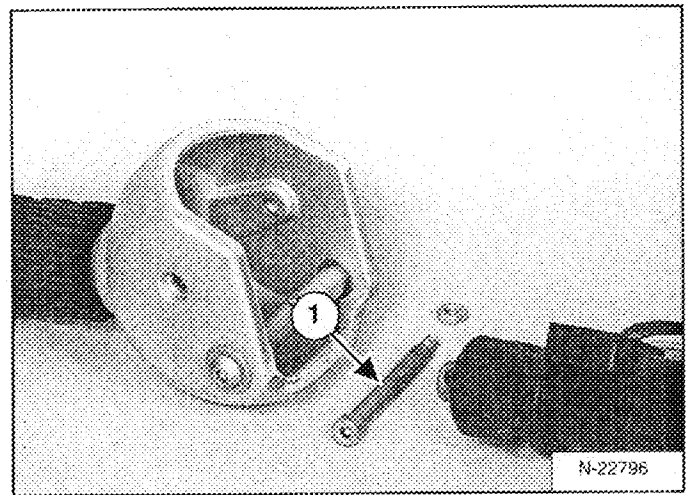
Figure 50-113-19



Remove the handle sleeve (Item 1) [Figure 50-113-19] and bushings (Item 2) [Figure 50-113-19] from the handle.

Check all parts for wear and replace as needed.

Figure 50-113-20

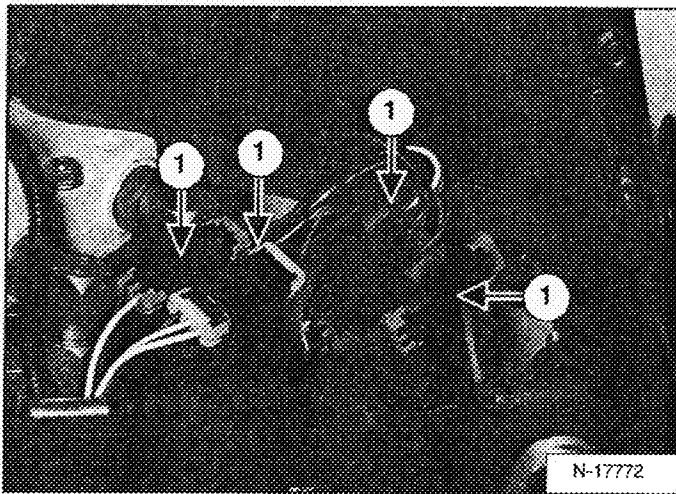


Check the mounting bolt (Item 1) [Figure 50-113-20] that connects the handle to the handle sensor unit for wear, replace as needed.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

Control Lever Removal and Installation

Figure 50-113-21



Disconnect the electrical connectors (Item 1) [Figure 50-113-21] from the control lever switch handle.

Remove the electrical connectors from the control lever switch handle. (See Contents, Page 60-01.)

Figure 50-113-22

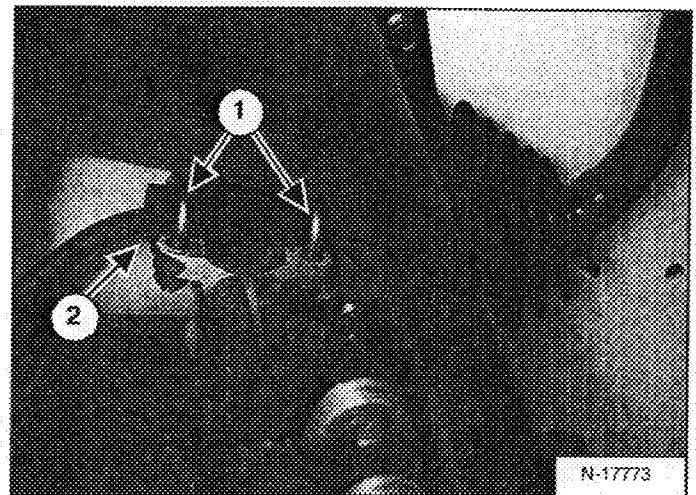
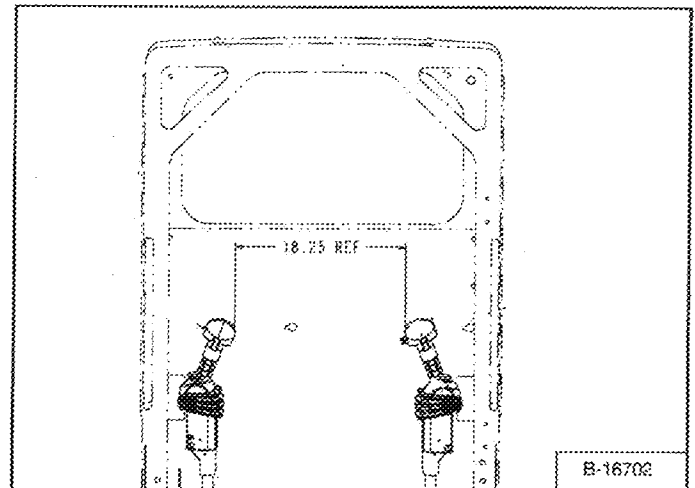


Figure 50-113-23



Loosen the two u-clamps (Item 1) [Figure 50-113-22] nuts.

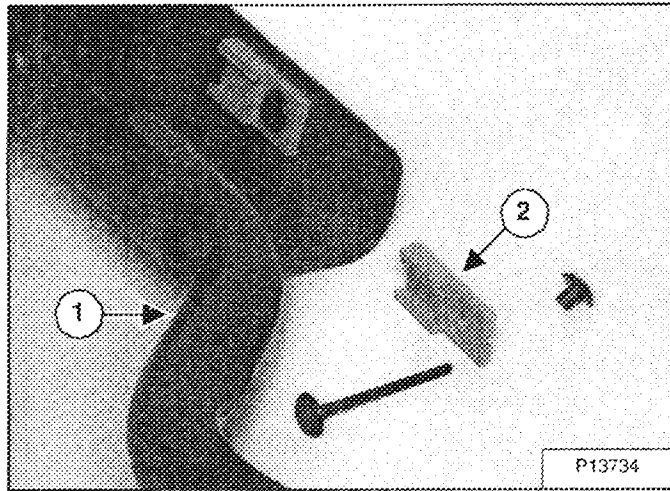
Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Control lever end (Item 2) [Figure 50-113-22] should be flush with bellcrank. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab. The distance between handles should be 18.25 inches [Figure 50-113-23].

Remove the control lever from the cross shaft and control panel.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) ADVANCED HAND CONTROL (CONT'D)

Control Lever Removal and Installation (Cont'd)

Figure 50-113-24

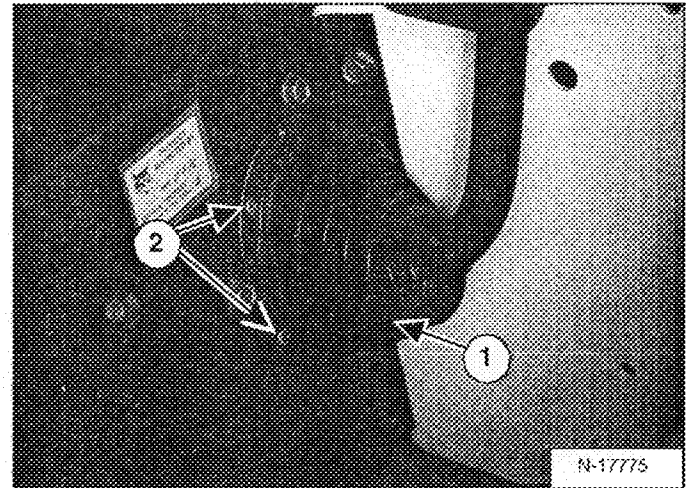


The control lever (Item 1) [Figure 50-113-24] must be replaced as a complete unit.

The connector clip (Item 2) [Figure 50-113-24] can be replaced separately from the control lever.

Control Lever Boot

Figure 50-113-25



To replace the rubber boot (Item 1) [Figure 50-113-25] on the control panel, remove the control lever. (See Contents, Page 50-01.)

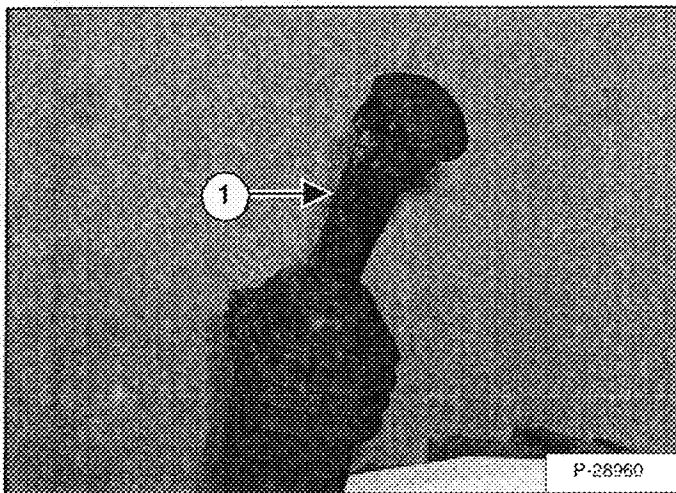
Drill out the four rivets (Item 2) [Figure 50-113-25] located on the flange of the rubber boot and remove the old boot.

Install the new boot and reinstall the control lever. (See the control lever installation, Contents, Page 50-01.)

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL

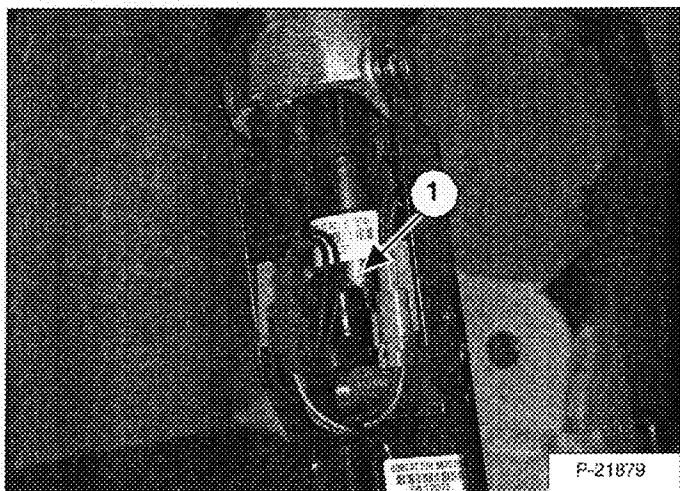
Components Identification

Figure 50-114-1



Control Handle (Item 1) [Figure 50-114-1].

Figure 50-114-2

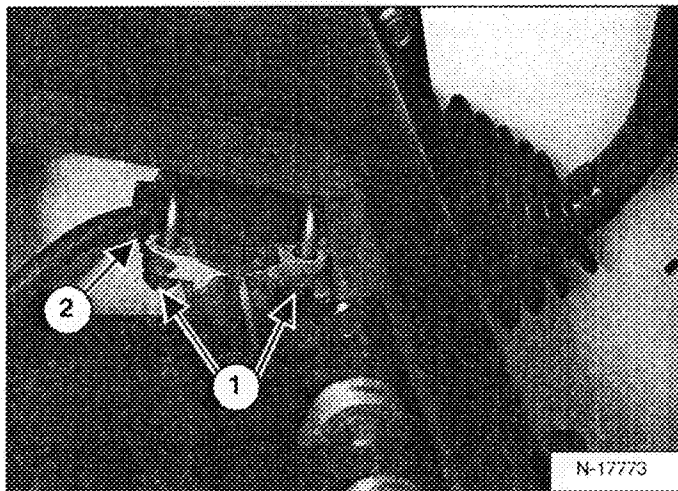


Handle Sensor (Item 1) [Figure 50-114-2].

NOTE: The calibration procedure must be followed when replacing handle sensor, foot pedal sensor, actuator or ACS Controller. (See Contents, Page 60-01.)

Handle Sensor Removal And Installation

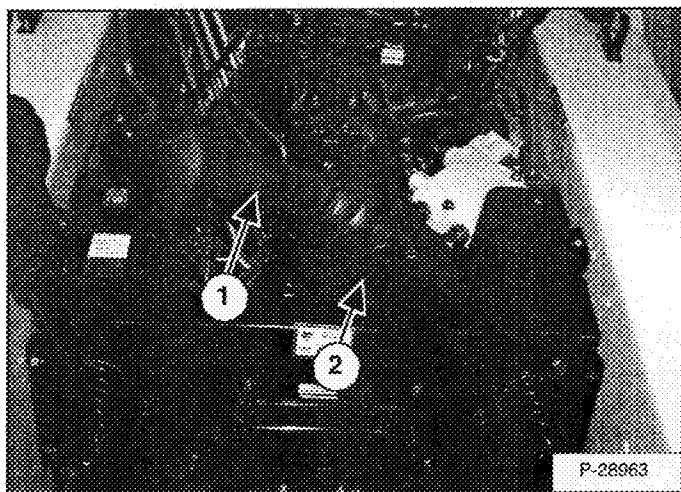
Figure 50-114-3



Loosen the two u-clamps (Item 1) [Figure 50-114-3] nuts.

Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Control lever end (Item 2) [Figure 50-114-3] should be flush with bellcrank. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab. The distance between handles should be 18.25 inches.

Figure 50-114-4



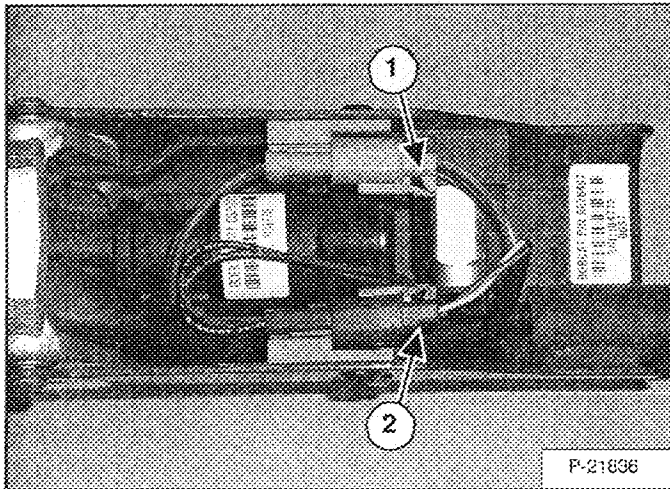
Tilt the control handle (Item 1) [Figure 50-114-4] to the center of the loader.

Lift the boot cover (Item 2) [Figure 50-114-4].

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

Handle Sensor Removal And Installation (Cont'd)

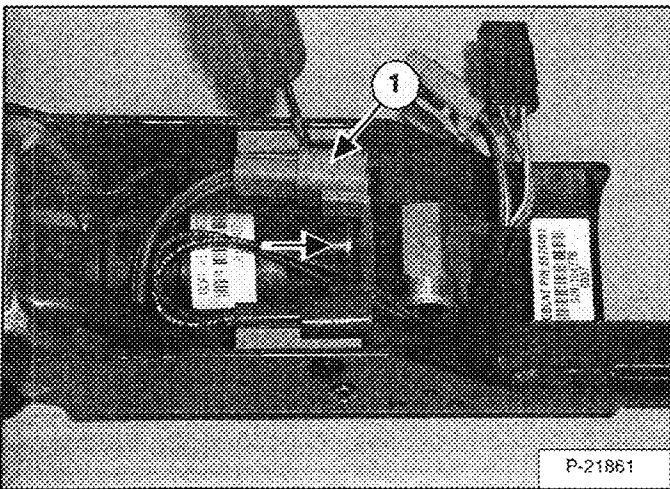
Figure 50-114-5



Disconnect the harness connector (Item 1) [Figure 50-114-5] from the handle sensor connector.

Disconnect the harness connector (Item 2) [Figure 50-114-5] from the handle lock solenoid connector.

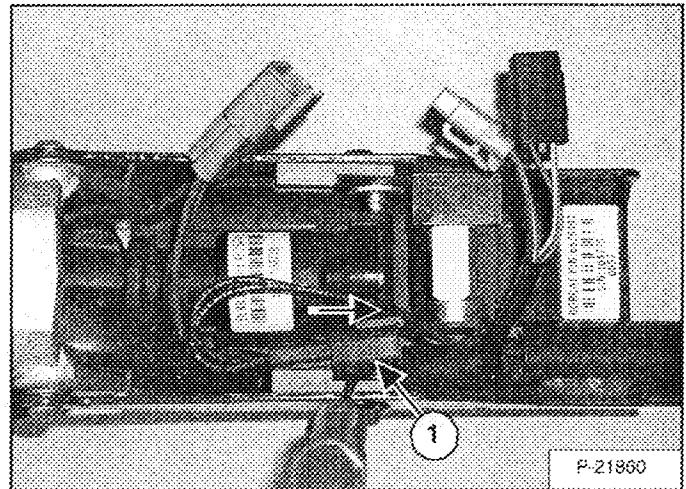
Figure 50-114-6



Remove the handle sensor connector (Item 1) [Figure 50-114-6] from the clip.

NOTE: Pry out with a small screw driver and push the connector down.

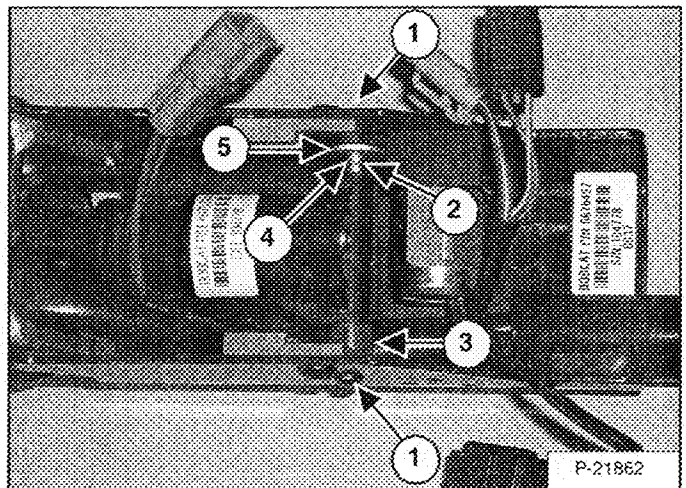
Figure 50-114-7



Remove the handle lock solenoid connector (Item 1) [Figure 50-114-7] from the clip.

NOTE: Pry out with a small screw driver and push the connector down.

Figure 50-114-8



Remove one of the two mounting screws (Item 1) [Figure 50-114-8] from the handle sensor.

Installation: Tighten screws to 32-38 in.-lbs. (3,6-4,3 Nm) torque.

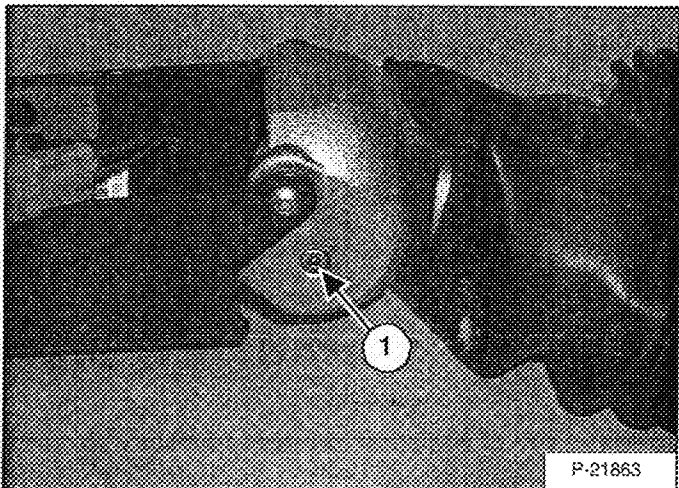
While removing the mounting pin (Item 2) [Figure 50-114-8] from the handle sensor, remove the one plastic spacer (Item 3) [Figure 50-114-8], the spring (Item 4) [Figure 50-114-8] and washer (Item 5) [Figure 50-114-8].

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

Handle Sensor Removal And Installation (Cont'd)

EARLIER VERSION HAND CONTROLS ONLY:

Figure 50-114-9

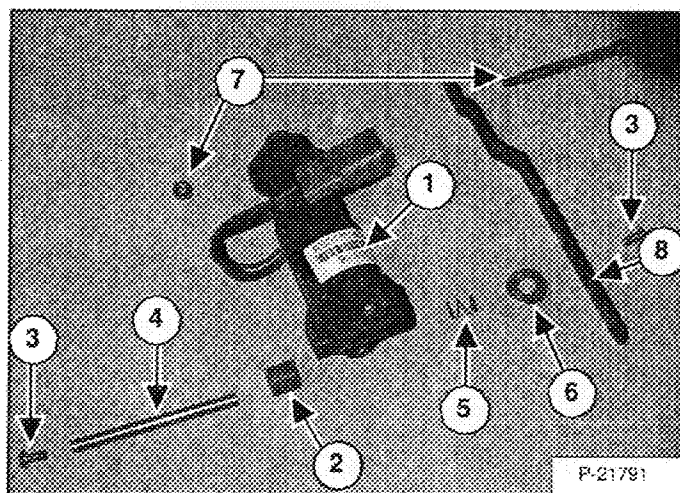


Remove the top mounting bolt (Item 1) [Figure 50-114-9] from the handle sensor.

NOTE: Be careful not to loose the recessed nut on the other side of the handle.

Installation: Tighten bolt to 32-38 in.-lbs. (3,6-4,3 Nm) torque.

Figure 50-114-10



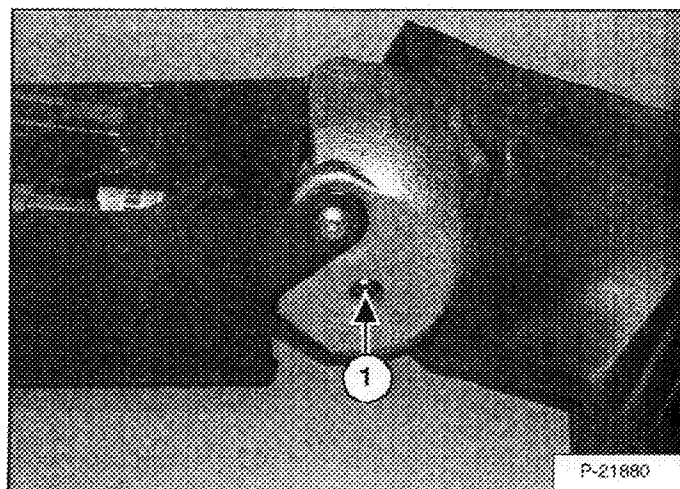
Remove the handle sensor (Item 1) [Figure 50-114-10] from the handle assembly.

NOTE: The handle sensor (Item 1) [Figure 50-114-10] can only be replaced as a complete assembly.

Check the spacer (Item 2) [Figure 50-114-10] and screws (Item 3) [Figure 50-114-10], Mounting pin (Item 4) [Figure 50-114-10], spring (Item 5) [Figure 50-114-10], washer (Item 6) [Figure 50-114-10], bolt/nut (Item 7) [Figure 50-114-10], stop strap (Item 8) [Figure 50-114-10] and replace as needed.

CURRENT VERSION HAND CONTROLS:

Figure 50-114-11



Remove one of the two mounting screws (Item 1) [Figure 50-114-11] from the handle sensor.

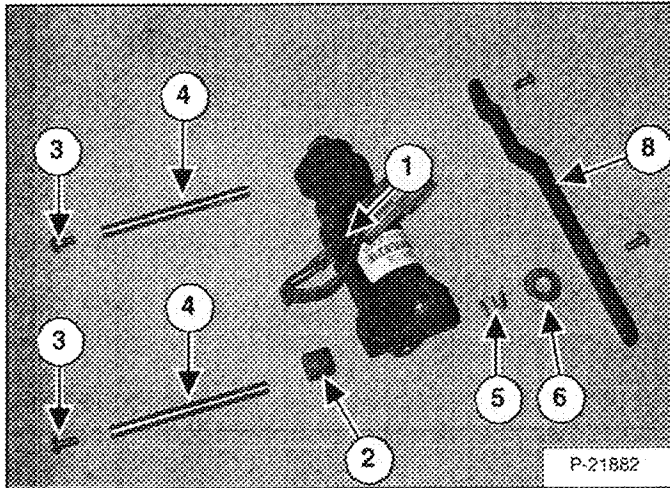
Installation: Tighten bolt to 32-38 in.-lbs. (3,6-4,3 Nm) torque.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

Handle Sensor Removal And Installation (Cont'd)

CURRENT VERSION HAND CONTROLS: (Cont'd)

Figure 50-114-12



Remove the handle sensor (Item 1) [Figure 50-114-12] from the handle assembly.

NOTE: The handle sensor (Item 1) [Figure 50-114-12] can only be replaced as a complete assembly.

Check the spacer (Item 2) [Figure 50-114-12] and screws (Item 3) [Figure 50-114-12], mounting pin (Item 4) [Figure 50-114-12], spring (Item 5) [Figure 50-114-12], washer (Item 6) [Figure 50-114-12], bolt/nut (Item 7) [Figure 50-114-12], stop strap (Item 8) [Figure 50-114-12] and replace as needed.

Figure 50-114-13

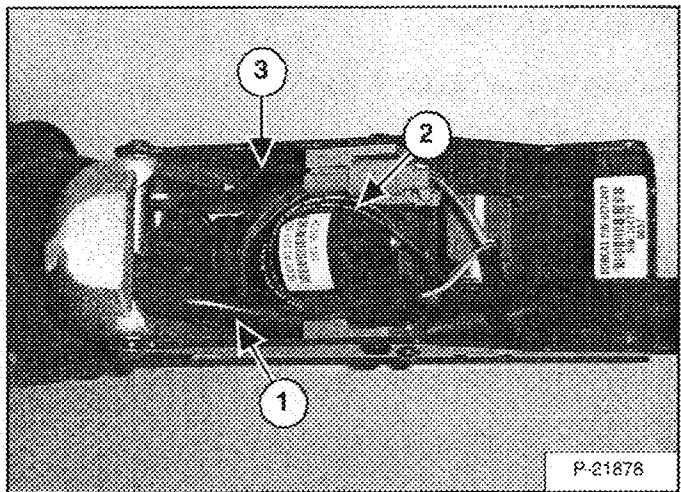
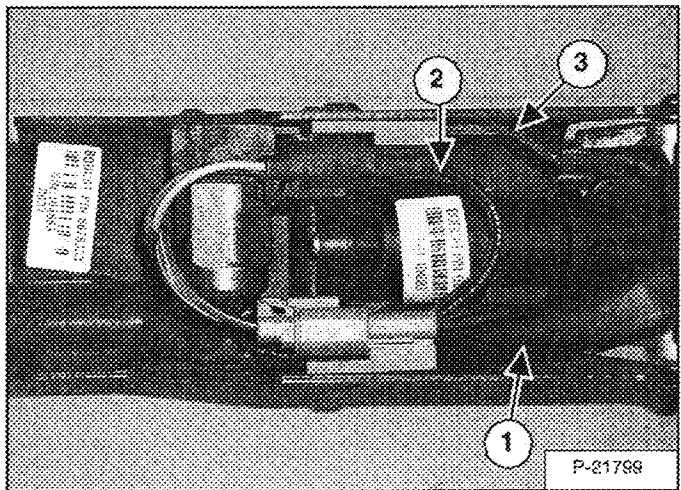


Figure 50-114-14



Installation: When installing the handle sensor into the control handle, check the routing of the switch handle wire harness (Item 1) [Figure 50-114-13] & [Figure 50-114-14] to assure proper return of the control handle to neutral and minimize harness movement.

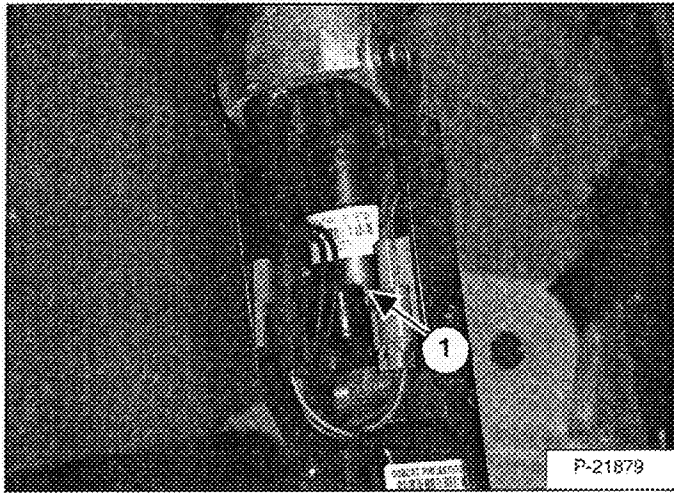
NOTE: Route wires (Item 2) [Figure 50-114-13] & [Figure 50-114-14] as shown away from stop strap (Item 3) [Figure 50-114-13] & [Figure 50-114-14] to avoid wire damage.

NOTE: The calibration procedure must be followed when replacing handle sensor, foot pedal sensor, actuator or ACS Controller. (See Contents, Page 60-01)

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

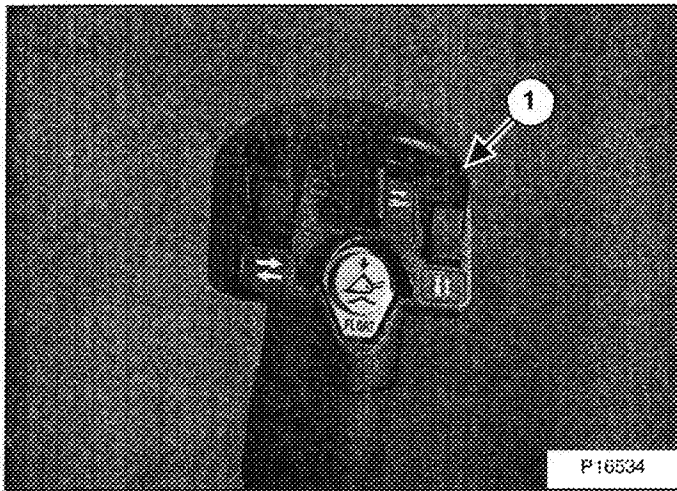
Control Handle Removal And Installation

Figure 50-114-15



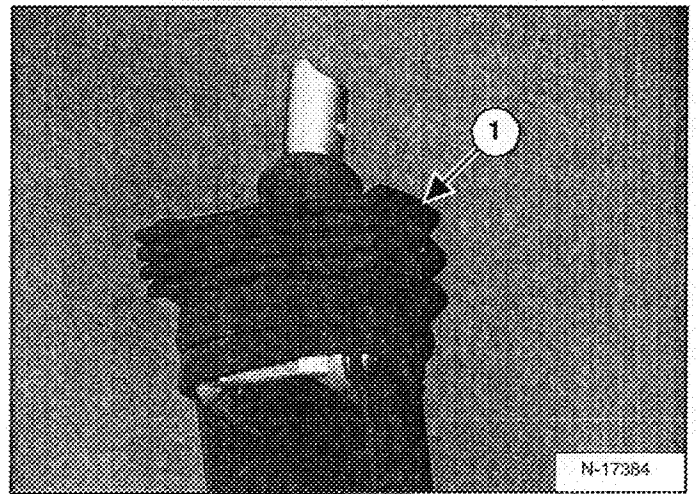
Remove the handle sensor (Item 1) [Figure 50-114-15]. (See Contents, Page 50-01.)

Figure 50-114-16



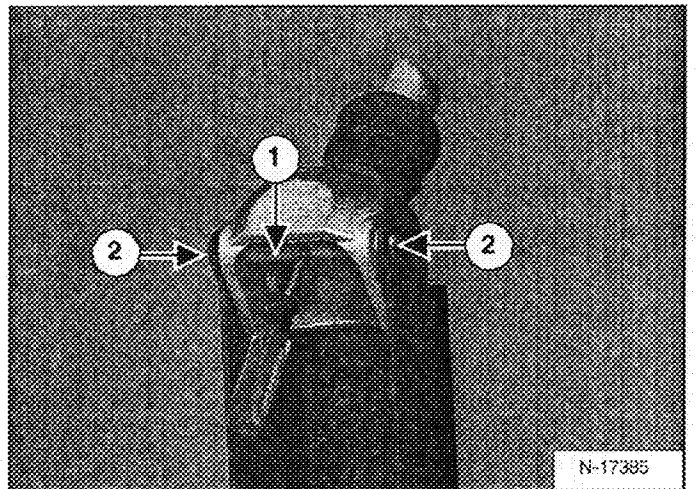
Remove the switch handle (Item 1) [Figure 50-114-16]. (See Contents, Page 60-01.)

Figure 50-114-17



Remove the rubber handle cover (Item 1) [Figure 50-114-17] from the handle.

Figure 50-114-18



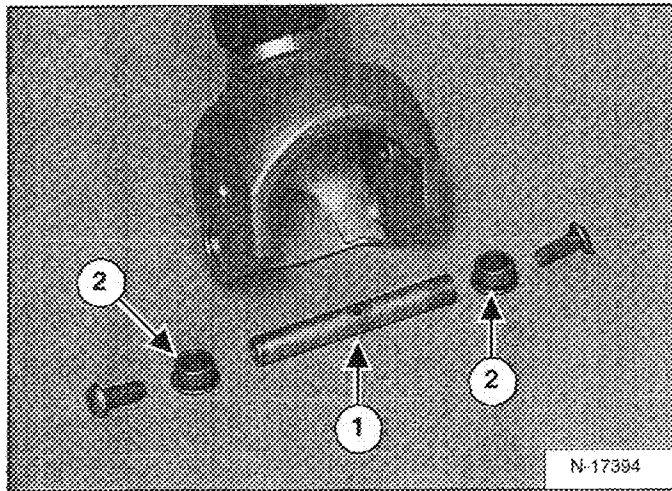
Using a small screwdriver, hold the handle spacer (Item 1) [Figure 50-114-18] and remove the allen head screws (Item 2) [Figure 50-114-18] from the handle assembly.

Installation: Tighten the allen head screws to 35 in.-lbs.(4 Nm) torque.

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

Control Handle Disassembly And Assembly

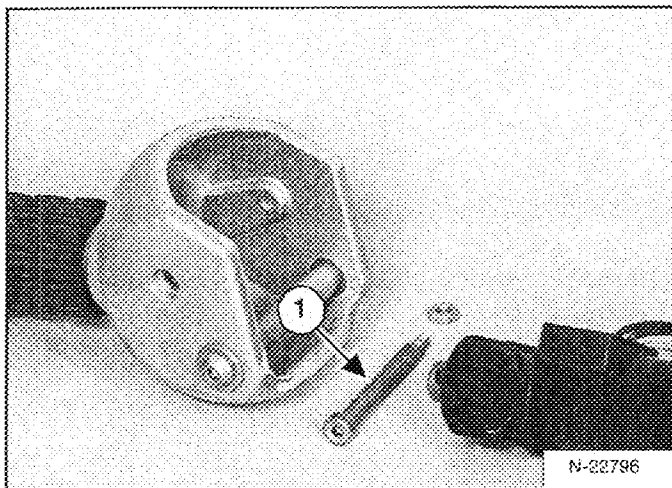
Figure 50-114-19



Remove the handle sleeve (Item 1) [Figure 50-114-19] and bushings (Item 2) [Figure 50-114-19] from the handle.

Check all parts for wear and replace as needed.

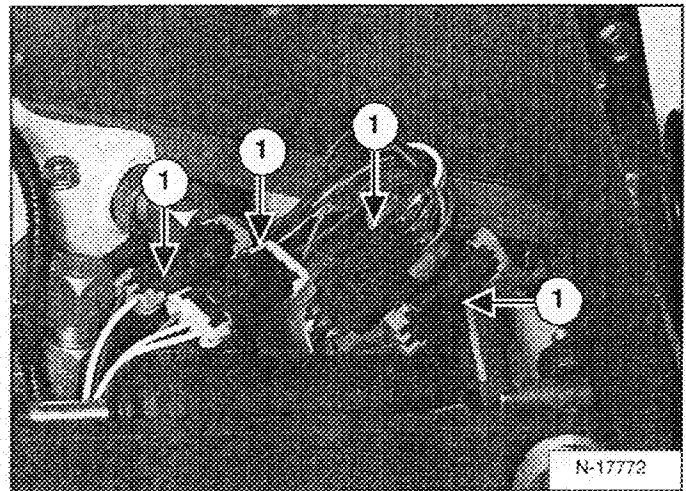
Figure 50-114-20



Check the mounting bolt (Item 1) [Figure 50-114-20] that connects the handle to the handle sensor for wear, replace as needed.

Control Lever Removal And Installation

Figure 50-114-21



Disconnect the electrical connectors (Item 1) [Figure 50-114-21] from the control lever switch handle.

Remove the electrical connectors from the control lever switch handle. (See Contents, Page 60-01.)

CONTROL HANDLE (ADVANCED CONTROL SYSTEM) (ACS) SELECTABLE HAND/FOOT CONTROL (CONT'D)

Control Lever Removal And Installation (Cont'd)

Figure 50-114-22

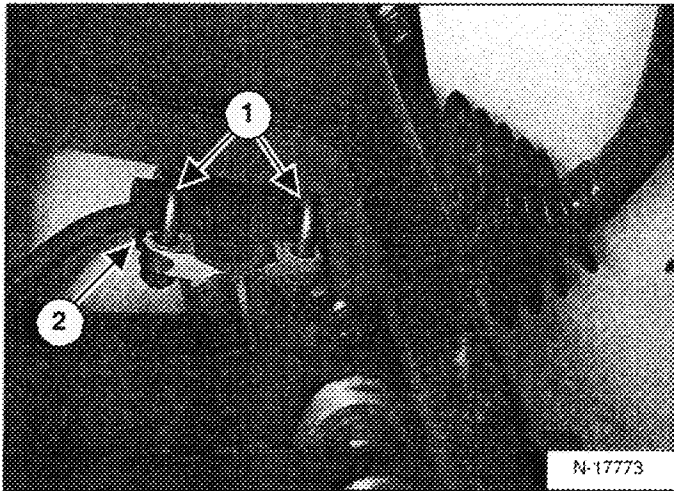
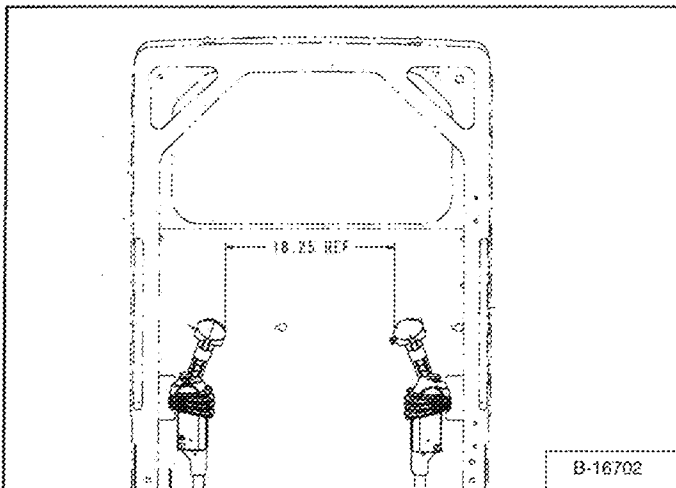


Figure 50-114-23

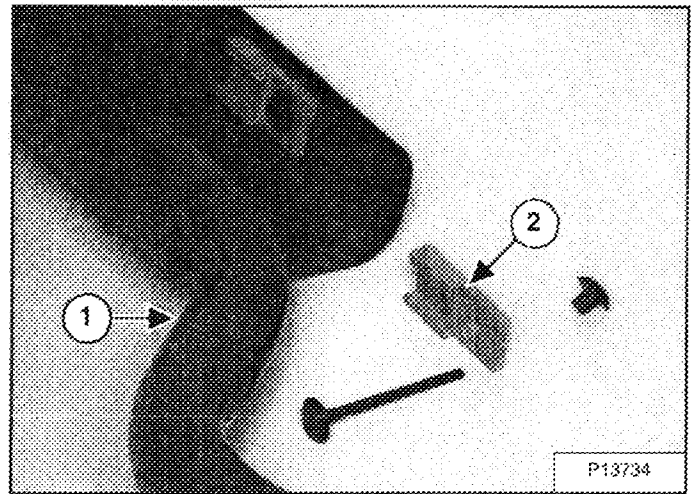


Loosen the two u-clamps (Item 1) [Figure 50-114-22] nuts.

Installation: Tighten the u-bolts so the lever can not be moved either right or left when seated in the operator seat. Control lever end (Item 2) [Figure 50-114-22] should be flush with bellcrank. Be sure the control lever does not interfere with the operator cab when lowering or raising the cab. The distance between handles should be 18.25 inches [Figure 50-114-23].

Remove the control lever from the cross shaft and control panel.

Figure 50-114-24

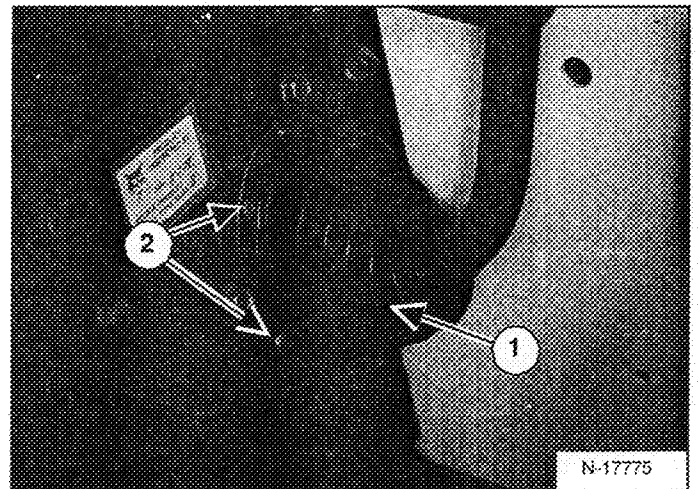


The control lever (Item 1) [Figure 50-114-24] must be replaced as a complete unit.

The connector clip (Item 2) [Figure 50-114-24] can be replaced separately from the control lever.

Control Lever Boot

Figure 50-114-25



To replace the rubber boot (Item 1) [Figure 50-114-25] on the control panel, remove the control lever. (See Contents, Page 50-01.)

Drill out the four rivets (Item 2) [Figure 50-114-25] located on the flange of the rubber boot and remove the old boot.

Install the new boot and reinstall the control lever. (See Contents, Page 50-01.)



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