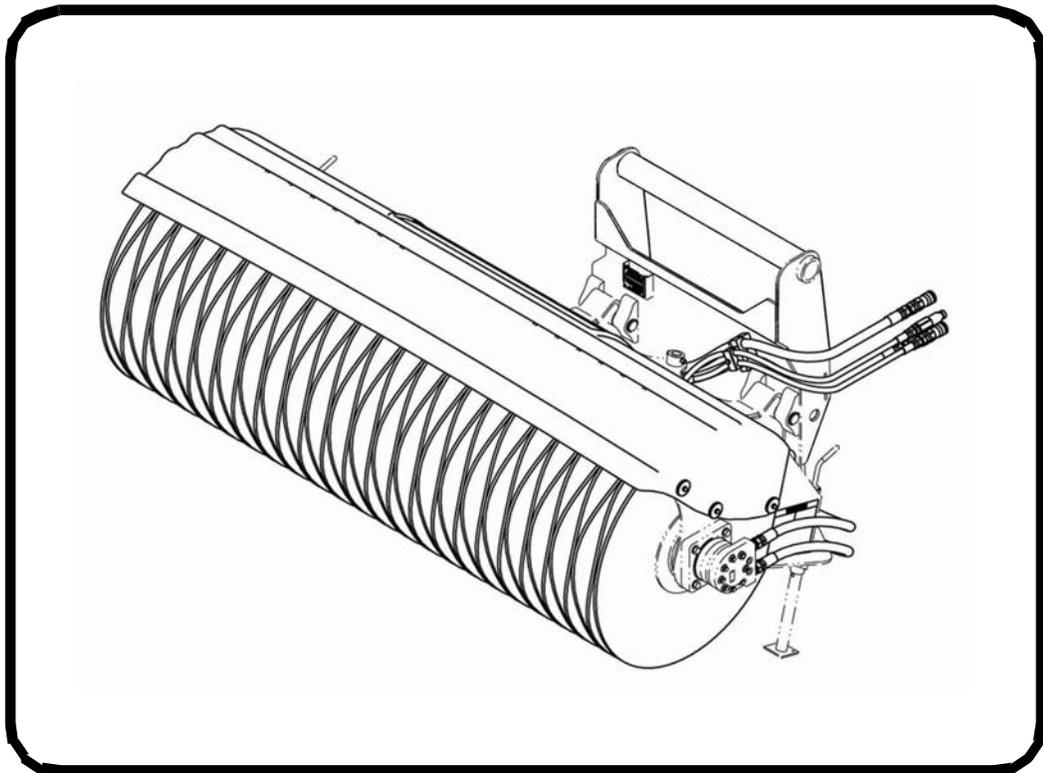




Bobcat®

Service Manual Angle Broom

(84V) S/N 662700101 & Above



Product: Bobcat Angle Broom 84V Service Repair Workshop Manual
Full Download: <https://www.arepairmanual.com/downloads/bobcat-angle-broom-84v-service-repair-workshop-manual/>

Sample of manual. Download All 88 pages at:
<https://www.arepairmanual.com/downloads/bobcat-angle-broom-84v-service-repair-workshop-manual/>

MAINTENANCE SAFETY



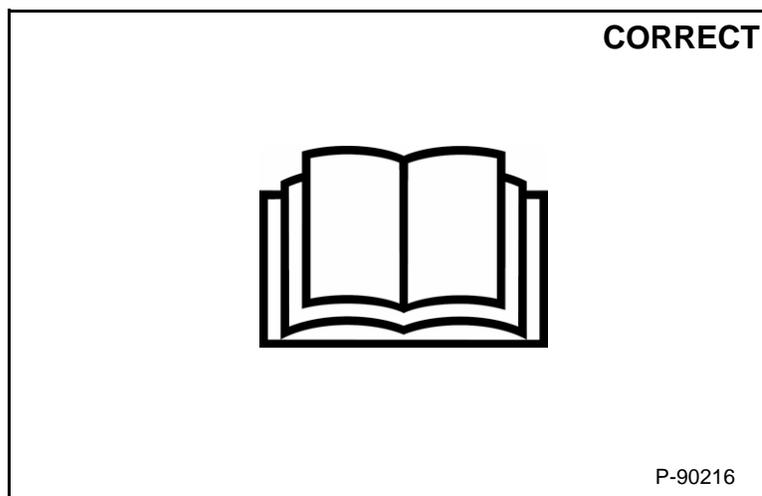
WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.

W-2003-0807



Safety Alert Symbol: This symbol with a warning statement, means: "Warning, be alert! Your safety is involved!" Carefully read the message that follows.



-  Never service attachments / implements without instructions. See Operation & Maintenance Manual and Attachment / Implement Service Manual.
-  Cleaning and maintenance are required daily.
-  Never service or adjust attachment / implement with the engine running unless instructed to do so in manual.
-  Always lower the attachment / implement to the ground before lubricating or servicing.
-  Avoid contact with leaking hydraulic fluid or diesel fuel under pressure. It can penetrate skin or eyes.
-  Stop, cool and clean engine of flammable materials before checking fluids.
-  Keep body, loose objects and clothing away from moving parts, electrical contacts, hot parts and exhaust.
-  Safety glasses are needed for eye protection from electrical arcs, battery acid, compressed springs, fluids under pressure and flying debris or when tools are used. Use eye protection approved for type of welding.



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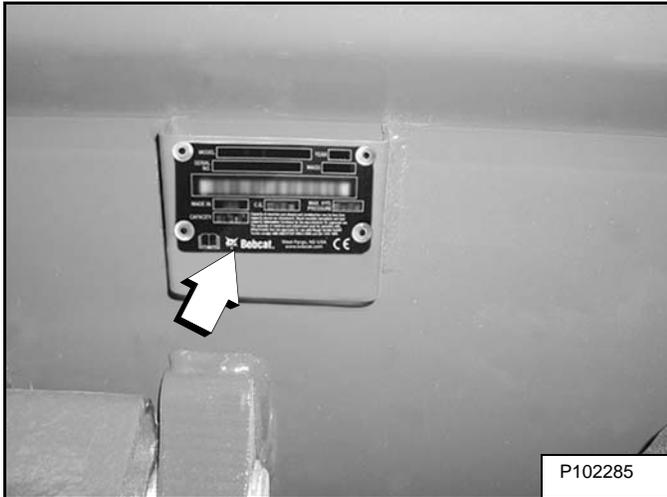


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SERIAL NUMBER LOCATION

Attachment Serial Number

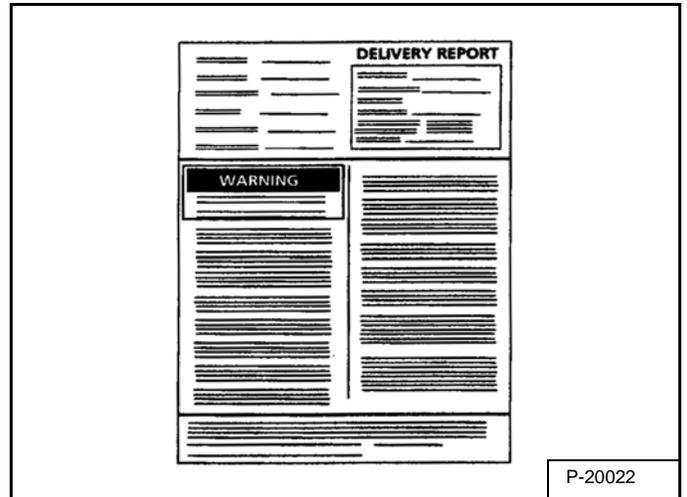
Figure 1



Always use the serial number of the angle broom when requesting service information or when ordering parts. Early or later models (identification made by serial number) may use different parts, or it may be necessary to use a different procedure in doing a specific service operation [Figure 1].

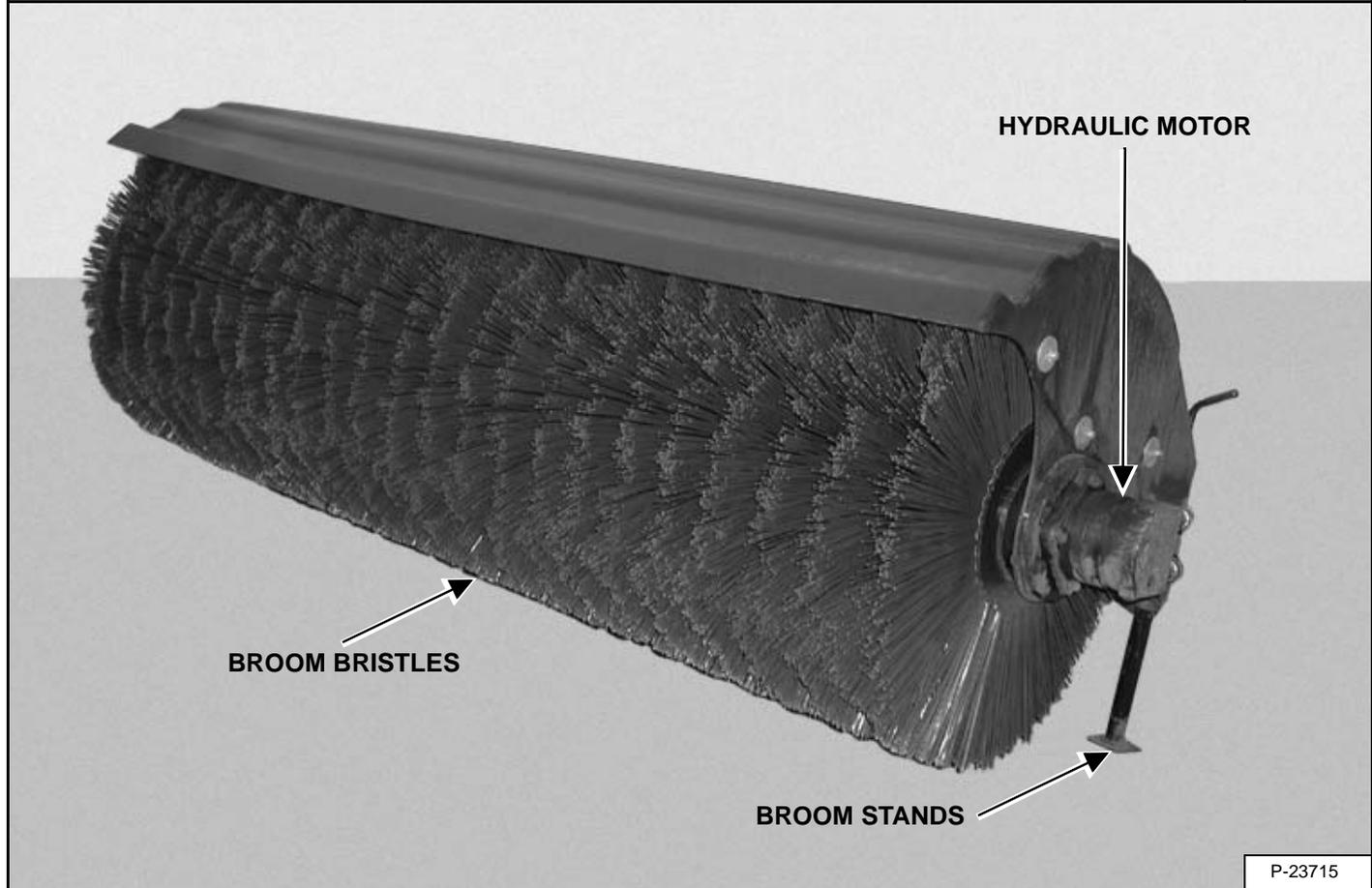
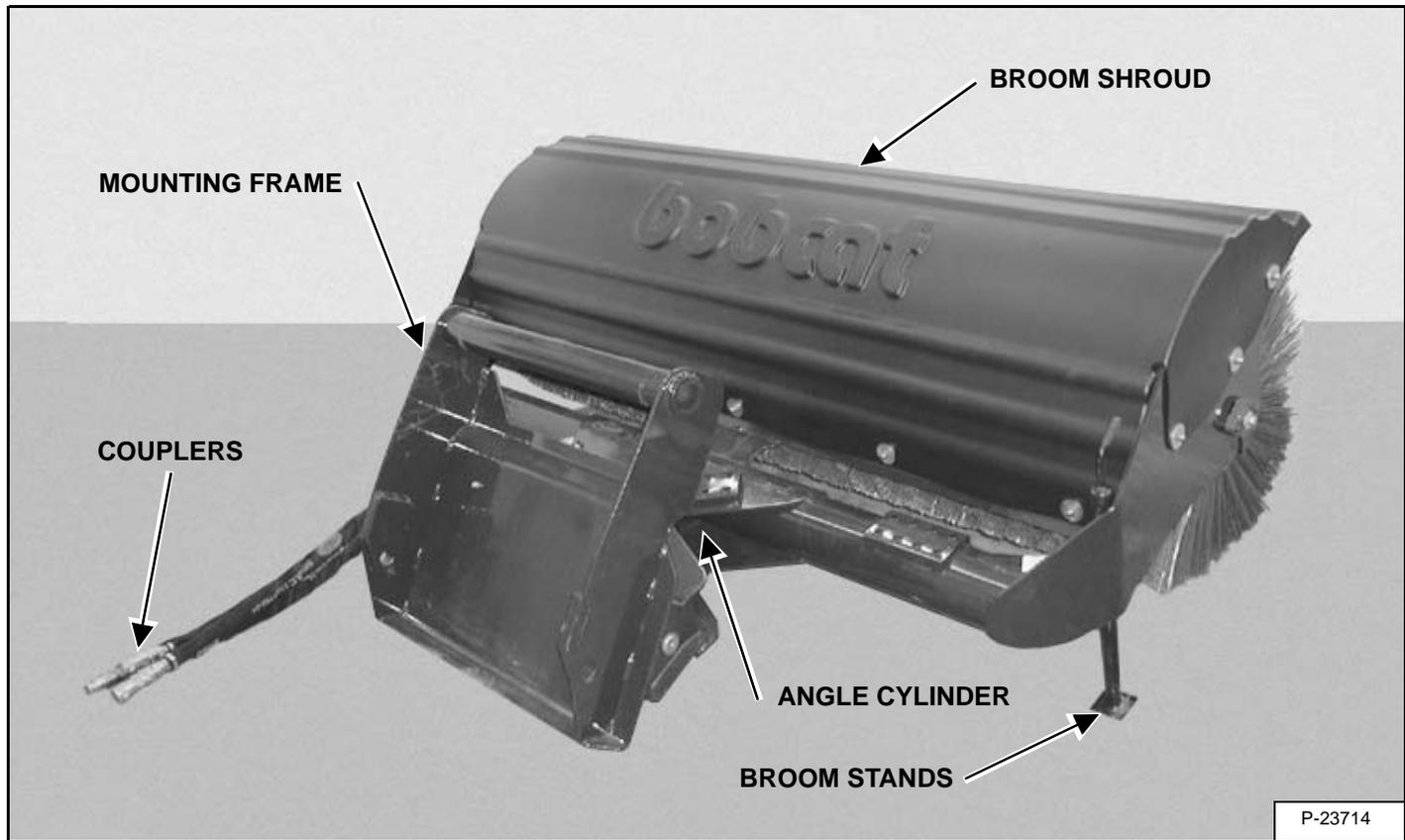
DELIVERY REPORT

Figure 2



The delivery report [Figure 2] must be completed by the dealer and signed by the owner or operator when the Bobcat angle broom is delivered. An explanation of the form must be given to the owner.

ATTACHMENT IDENTIFICATION



SAFETY & MAINTENANCE

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TROUBLESHOOTING

Chart

 WARNING	<p>Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, Operator's Handbook and signs (decals) on machine. Follow warnings and instructions in the manuals when making repairs, adjustments or servicing. Check for correct function after adjustments, repairs or service. Untrained operators and failure to follow instructions can cause injury or death.</p> <p style="text-align: right;">W-2003-0903</p>
--	--

If the attachment is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the attachment. Attachment problems can be affected by a hydraulic system that is not operating to specifications. Connect a flow meter to the machine to check the hydraulic pump output, relief valve setting and tube lines to check flow and pressure. (See the machine's Service Manual for the correct procedure to connect the flow meter.)

Use the following troubleshooting chart to locate and correct problems which most often occur with the attachment.

TROUBLESHOOTING THE ANGLE BROOM		
PROBLEM	CAUSE	CORRECTION
Angle broom does not mount properly on the VersaHANDLER.	VersaHANDLER locking pins are not fully retracted.	Retract VersaHANDLER locking pins.
	Mud, dirt or stones are lodged between the VersaHANDLER mounting frame and the angle broom mount.	Remove debris between VersaHANDLER mounting frame and angle broom mount.
Angle broom does not angle.	No hydraulic flow.	Activate VersaHANDLER hydraulic on/off switch.
		Activate VersaHANDLER secondary auxiliary hydraulic switch.
		Check quick couplers connection. Check for damaged hose ends and fittings.
		Pressure release valve in the pressure release position, return valve to the operating position.
Angle broom angles when broom is rotating.	Secondary auxiliary switch activated.	Move the VersaHANDLER secondary auxiliary switch to the off position.
Angle broom does not rotate.	No hydraulic flow.	Activate VersaHANDLER hydraulic on/off switch.
		Activate VersaHANDLER front auxiliary hydraulics detent switch.
		Check quick couplers connection. Check for damaged hose ends and fittings.
		Pressure release valve in the pressure release position, return valve to the operating position.

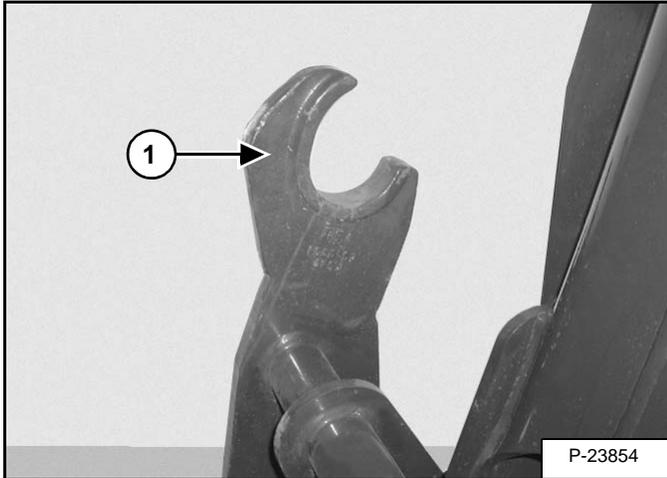


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DAILY INSPECTION

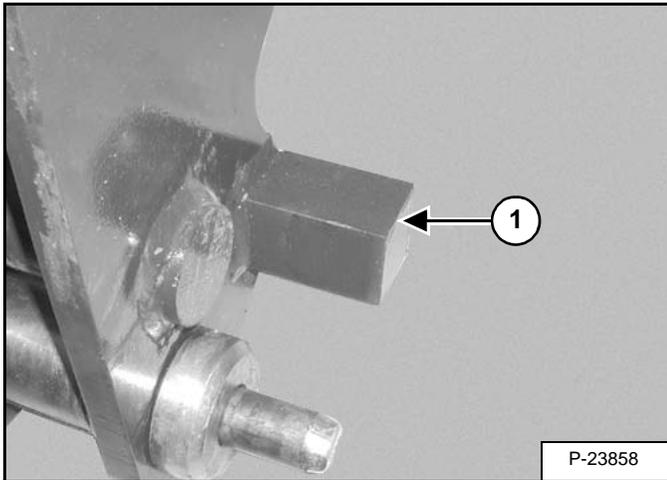
VersaHANDLER Mounting Frame Inspection

Figure 10-20-1



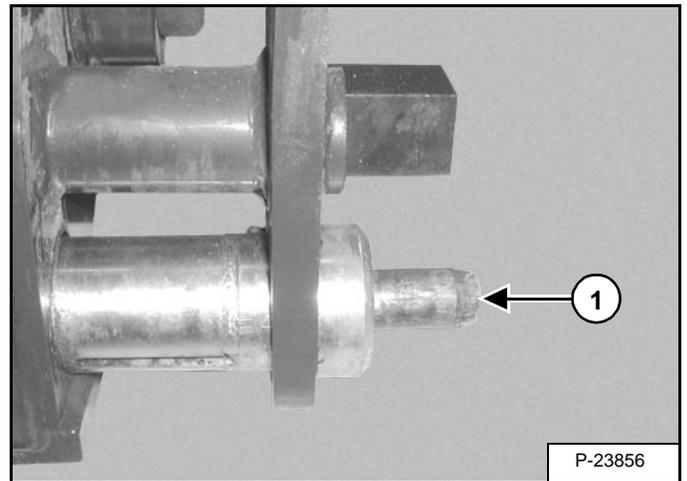
The VersaHANDLER mounting hooks (Item 1) [Figure 10-20-1] must not be damaged. Check for cracked or broken hooks.

Figure 10-20-2



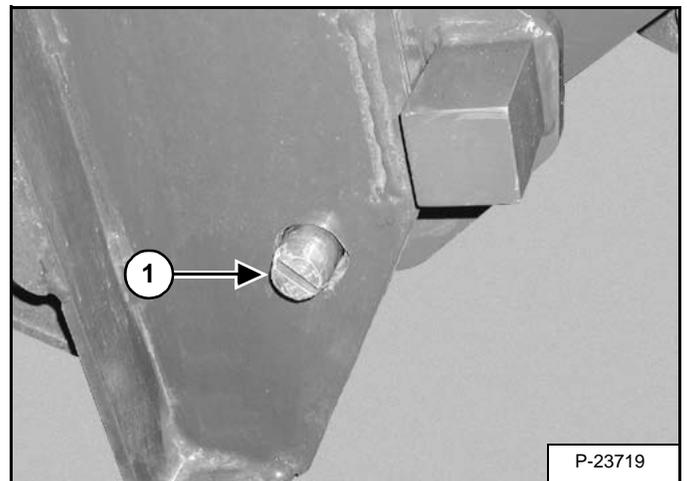
The stop blocks (Item 1) [Figure 10-20-2] must not be damaged. Check for bent or broken stop blocks.

Figure 10-20-3



Move the VersaHANDLER locking pins to engage the pins (Item 1) [Figure 10-20-3]. The pins must move freely. The pins must not be bent or the ends mushroomed.

Figure 10-20-4

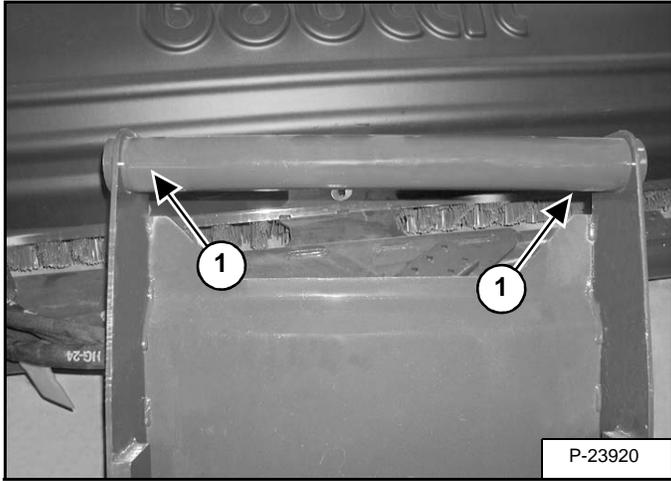


The pins must extend through the holes (Item 1) [Figure 10-20-4] in the attachment mounting frame.

DAILY INSPECTION (CONT'D)

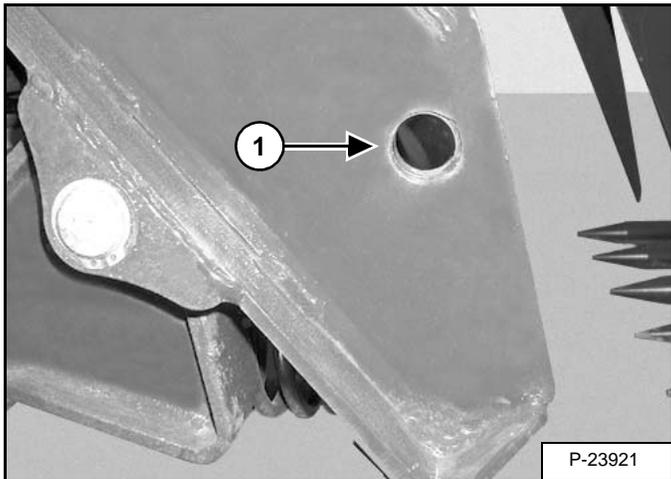
Angle Broom Mount Inspection

Figure 10-20-5



Inspect the angle broom mounting tube (Item 1) [Figure 10-20-5] and all welds on the angle broom mount for wear and damage each time the attachment is removed from the VersaHANDLER.

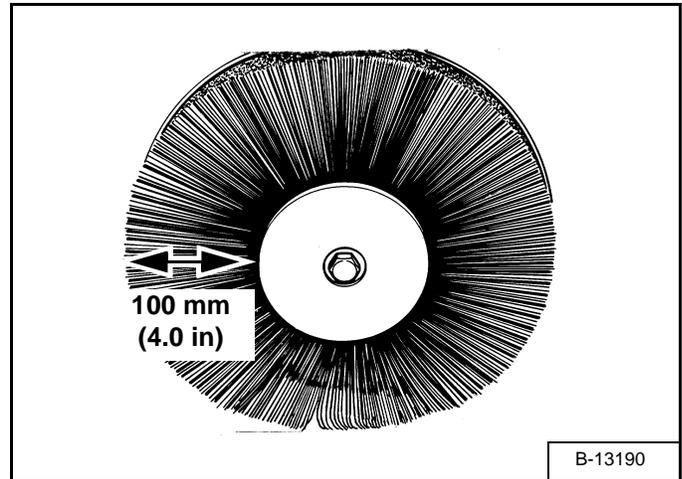
Figure 10-20-6



Inspect the mounting holes (Item 1) [Figure 10-20-6].

Angle Broom Bristle Minimum Length

Figure 10-20-7



For efficient operation of the angle broom, the broom bristles should be replaced when 100 mm (4.0 in) of length is reached [Figure 10-20-7].

LUBRICATION

Lubrication Locations

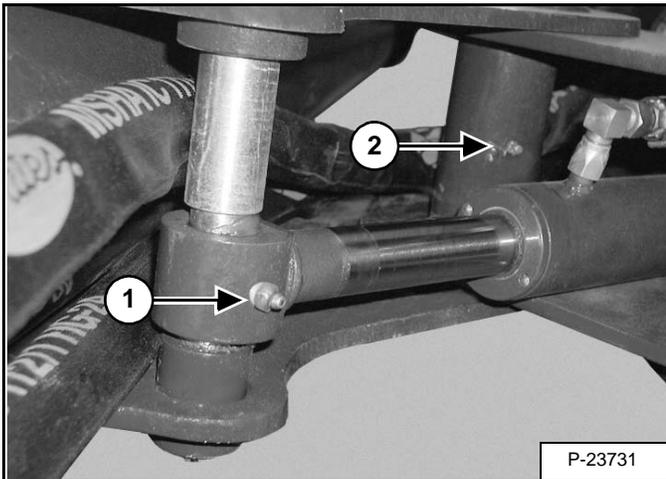
Always use a good quality lithium base multi-purpose grease when lubricating the angle broom. Apply the lubricant until extra grease shows.

IMPORTANT

Fluid such as engine oil, hydraulic fluid, coolants, grease, etc. must be disposed of in an environmentally safe manner. Some regulations require that certain spills and leaks on the ground must be cleaned in a specific manner. See local, state and federal regulations for the correct disposal.

I-2067-0499

Figure 10-30-1

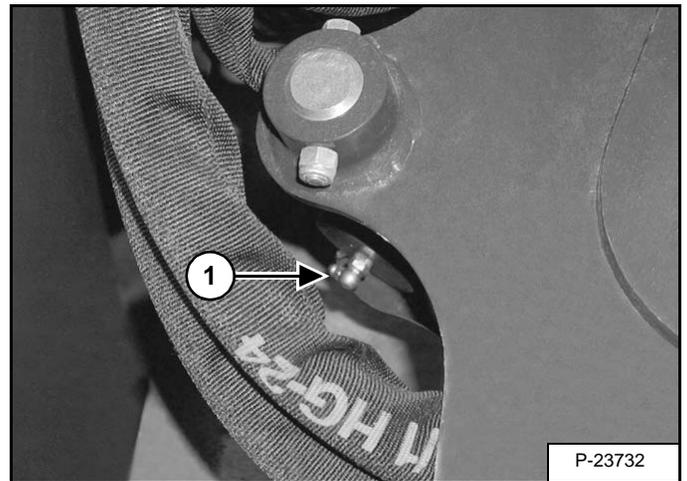


Lubricate the three grease fittings, **EVERY 20 hours**:

Cylinder rod end (Item 1) [Figure 10-30-1].

Center pivot pin (Item 2) [Figure 10-30-1].

Figure 10-30-2



Cylinder base end (Item 1) [Figure 10-30-2].



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BRISTLE REPLACEMENT

Bristle Removal

! WARNING

AVOID INJURY OR DEATH

Wear safety glasses to prevent eye injury when any of the following conditions exist:

- When fluids are under pressure.
- Flying debris or loose material is present.
- Engine is running.
- Tools are being used.

W-2019-0907

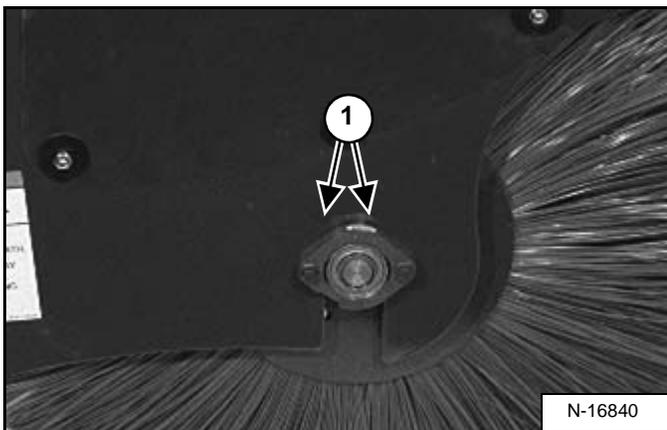
! WARNING

CONTACT WITH MOVING PARTS CAN CAUSE SERIOUS INJURY OR DEATH

- Keep all bystanders 3 m (10 ft) away from equipment when operating.
- Do not operate with damaged or missing shields or parts.
- Stop the engine before cleaning or servicing.

W-2491-0910

Figure 10-40-1



With the angle broom attached to the VersaHANDLER, lower the broom to the sweep position [Figure 10-40-1].

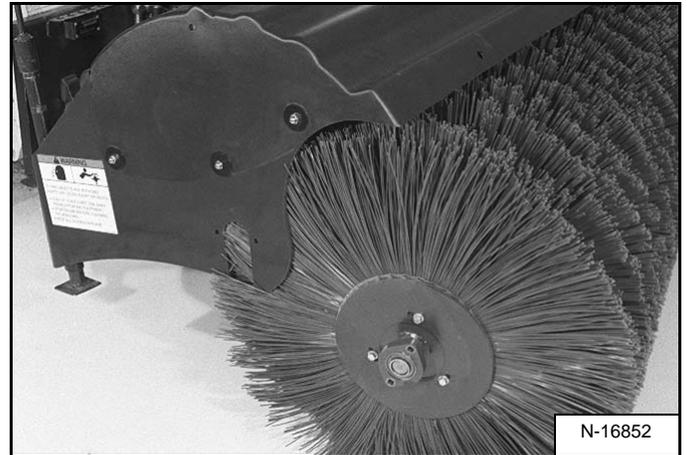
Stop the VersaHANDLER engine, engage the parking brake, unfasten the seat belt and exit the VersaHANDLER.

Remove the two bolts (Item 1) [Figure 10-40-1] from the end of the broom.

Enter and start the VersaHANDLER. Tilt the angle broom back towards the VersaHANDLER until the broom assembly is clear from the broom shroud.

Stop the VersaHANDLER engine, engage the parking brake, unfasten the seat belt and exit the VersaHANDLER.

Figure 10-40-2

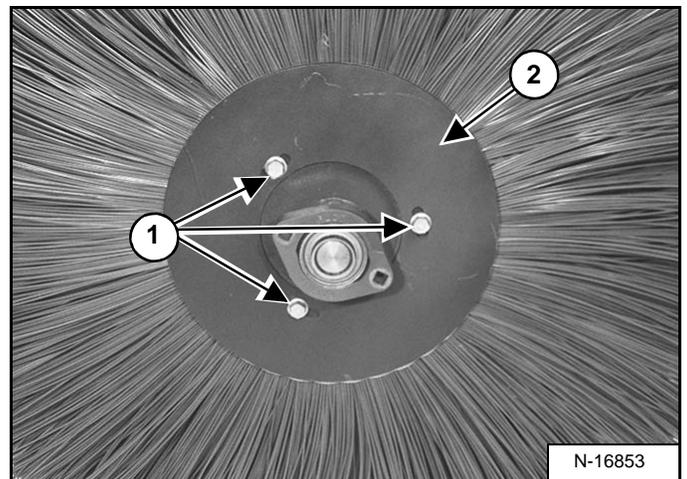


For efficient operation of the angle broom, the broom bristles should be replaced when 100 mm (4.0 in) of length is reached [Figure 10-40-2].

Drop the broom assembly down and pull the broom bristle assembly forward of the bearing mount. Slide the broom assembly away from the hydraulic motor [Figure 10-40-2].

Lower the angle broom down.

Figure 10-40-3



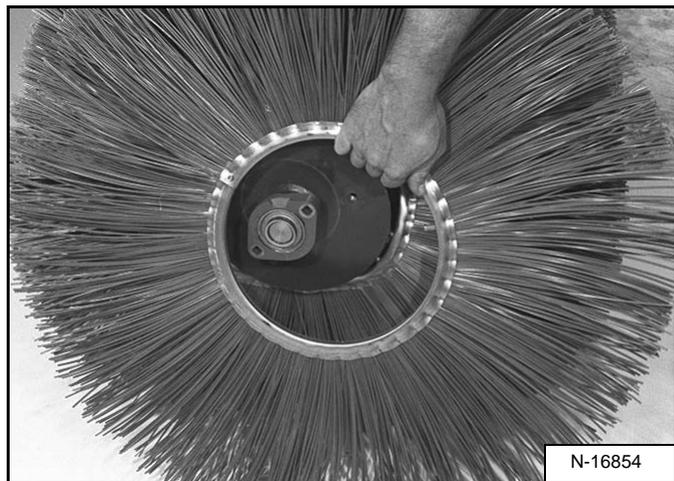
Remove the three bolts (Item 1) [Figure 10-40-3] from the retaining plate.

Remove the retaining plate (Item 2) [Figure 10-40-3].

INSTALLATION AND REMOVAL OF BROOM BRISTLES (CONT'D)

Bristle Removal (Cont'd)

Figure 10-40-4



Remove the bristle sections from the carrier **[Figure 10-40-4]**.

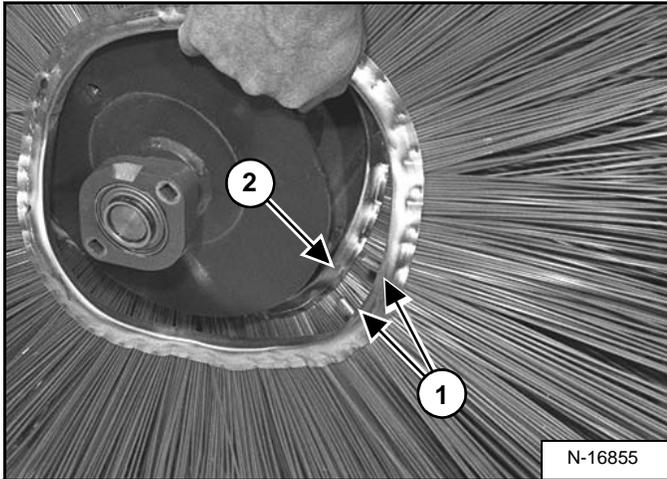
NOTE: The first section on each end of the broom has a flat bristle retaining ring.

Continue removing all the bristle sections.

INSTALLATION AND REMOVAL OF BROOM BRISTLES (CONT'D)

Bristle Installation

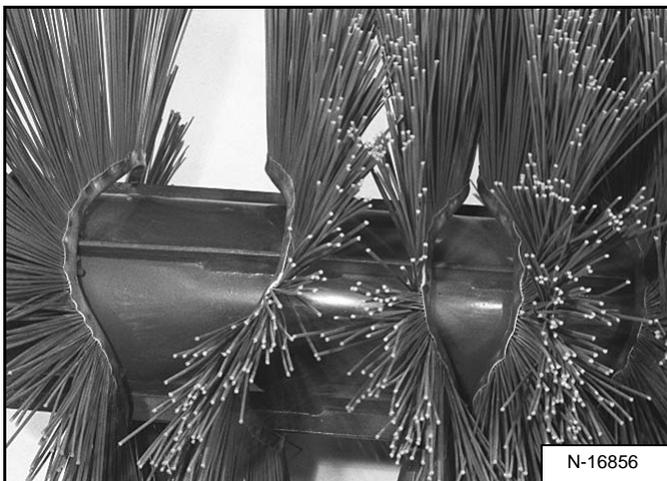
Figure 10-40-5



The bristle retaining ring is a wave design. Install the bristles so the two retaining pins (Item 1) are on each side of one of the bristle retainers (Item 2) [Figure 10-40-5].

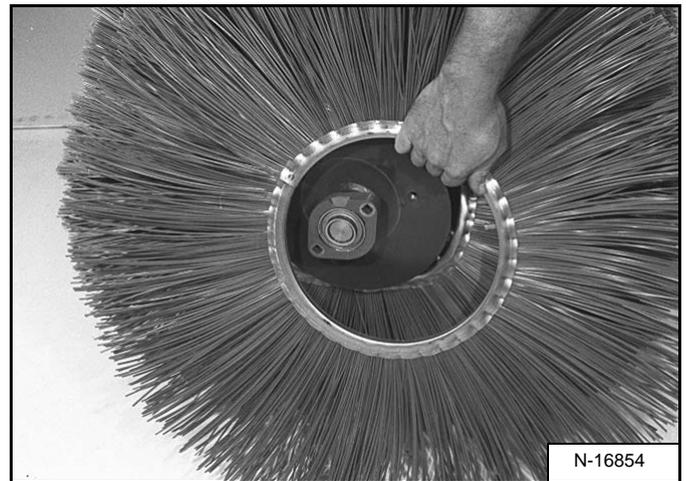
NOTE: The first bristle section on each end of the broom has a flat bristle retaining ring.

Figure 10-40-6



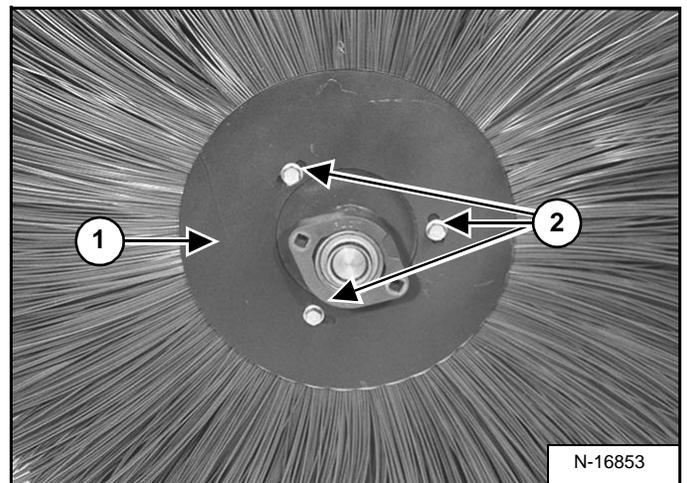
Install the bristle rings as shown in [Figure 10-40-6] to provide the correct bristle spacing.

Figure 10-40-7



Install the flat bristle ring on the end [Figure 10-40-7].

Figure 10-40-8



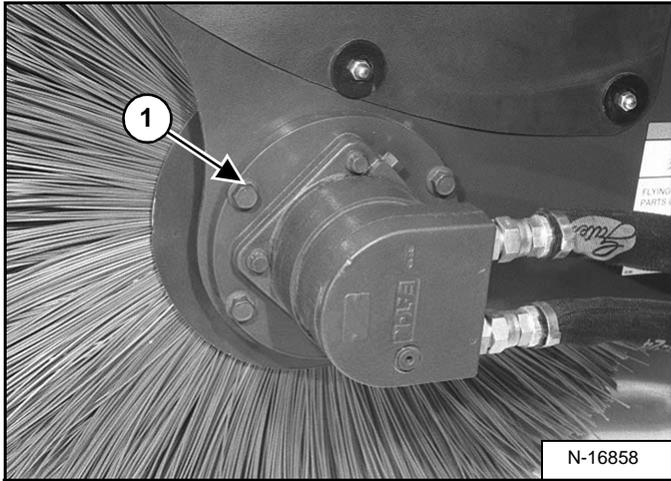
Install the retaining plate (Item 1) and three bolts (Item 2) [Figure 10-40-8].

Installation: Tighten the bolts to 34 - 38 N•m (25 - 28 ft-lb) torque.

INSTALLATION AND REMOVAL OF BROOM BRISTLES (CONT'D)

Bristle Installation (Cont'd)

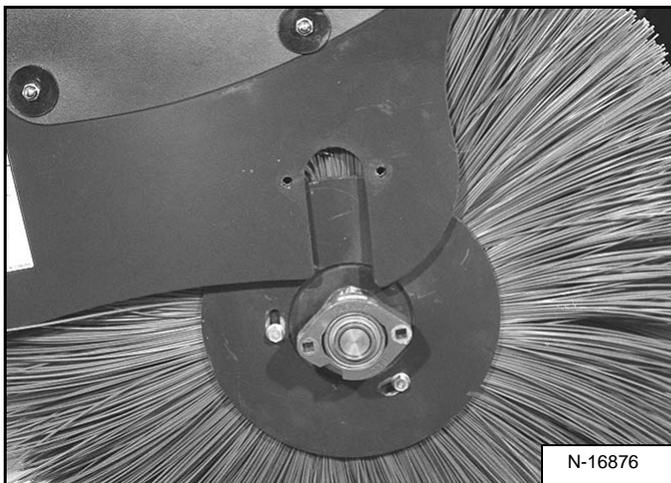
Figure 10-40-9



NOTE: If the drive end will not align with the hydraulic motor, loosen the four hydraulic motor carrier bolts (Item 1) [Figure 10-40-9] to align the carrier to the broom to ease installation.

Installation: Tighten the bolts to 122 - 136 N•m (90 - 100 ft-lb) torque.

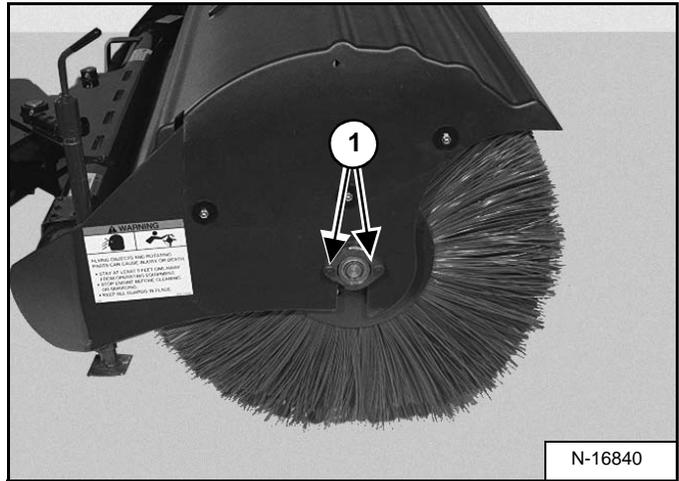
Figure 10-40-10



Align the right end of the broom assembly shaft with the slot in the broom frame.

Enter the VersaHANDLER and lower the angle broom frame over the broom assembly [Figure 10-40-10].

Figure 10-40-11



Install the two bolts (Item 1) [Figure 10-40-11].

Installation: Tighten the bolt to 47 - 54 N•m (35 - 40 ft-lb) torque.

HYDRAULIC SYSTEM

HYDRAULIC CYLINDER	20-10-1
Checking	20-10-1
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Removal And Installation	20-20-1
Parts Identification	20-20-2
Disassembly	20-20-3
Assembly	20-20-6
HYDRAULIC MOTOR (S/N 662700301 & ABOVE)	20-21-1
Removal And Installation	20-21-1
Parts Identification	20-21-2
Disassembly	20-21-3
Assembly	20-21-9



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HYDRAULIC CYLINDER

Checking

! WARNING

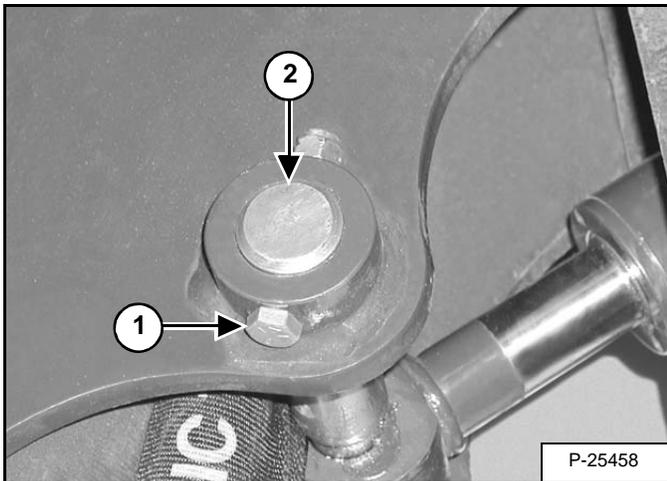
Hydraulic fluid escaping under pressure can have sufficient force to enter a person's body by penetrating the skin. This can cause serious injury and possible death if proper medical treatment by a physician familiar with this injury is not received immediately.

W-2145-0290

Lower the angle broom to the work surface.

Stop the VersaHANDLER engine, engage the parking brake, unfasten the seat belt and exit the VersaHANDLER.

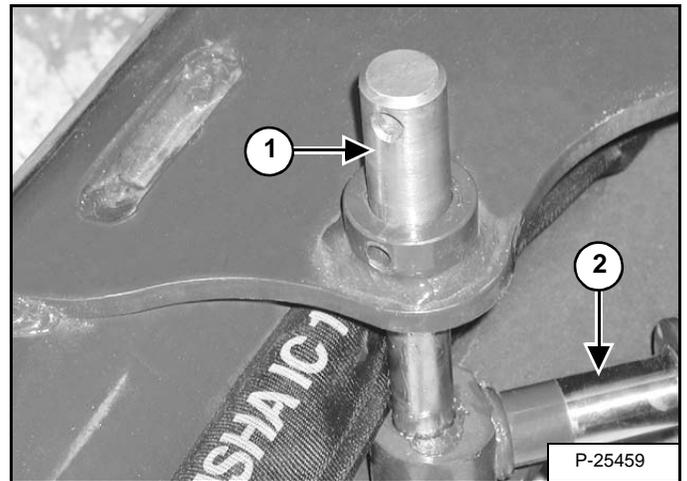
Figure 20-10-1



Remove the bolt and lock nut (Item 1) from the rod end cylinder pin (Item 2) [Figure 20-10-1].

Installation: Tighten the bolts to 34 - 38 N•m (25 - 28 f.-lb) torque.

Figure 20-10-2



Remove the pin (Item 1) [Figure 20-10-2].

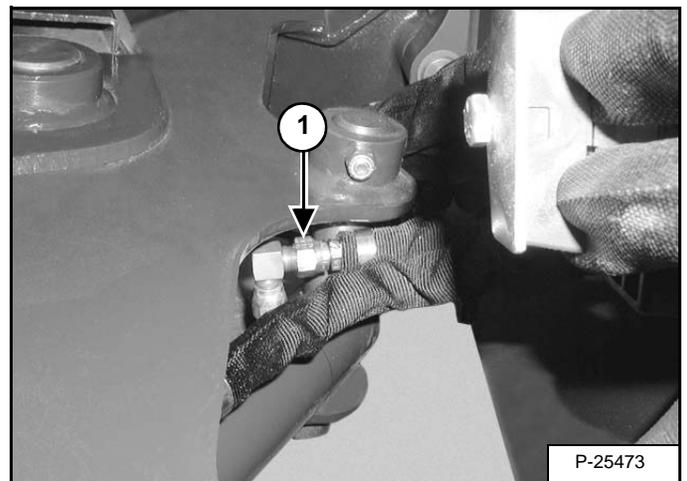
Enter the VersaHANDLER, fasten the seat belt, and start the engine.

Retract the cylinder (Item 2) [Figure 20-10-2].

Stop the VersaHANDLER engine, engage the parking brake, unfasten the seat belt and exit the VersaHANDLER.

Release the auxiliary hydraulic pressure.

Figure 20-10-3



Remove the hose (Item 1) [Figure 20-10-3] from the base end of the cylinder. Install a plug on the hose.

Enter the VersaHANDLER, fasten the seat belt and start the engine.

Retract the cylinder. If there is any leakage from the base end of the cylinder remove the cylinder for repair or replacement.

HYDRAULIC CYLINDER (CONT'D)

Removal And Installation

! WARNING

Hydraulic fluid escaping under pressure can have sufficient force to enter a person's body by penetrating the skin. This can cause serious injury and possible death if proper medical treatment by a physician familiar with this injury is not received immediately.

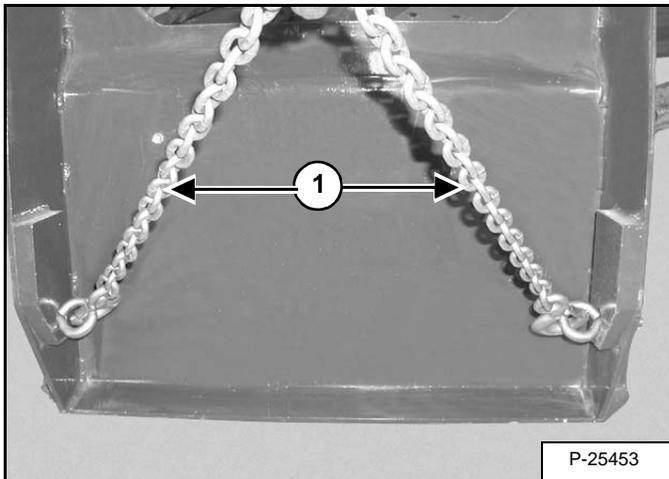
W-2145-0290

IMPORTANT

When repairing hydrostatic and hydraulic systems, clean the work area before disassembly and keep all parts clean. Always use caps and plugs on hoses, tubelines and ports to keep dirt out. Dirt can quickly damage the system.

I-2003-0888

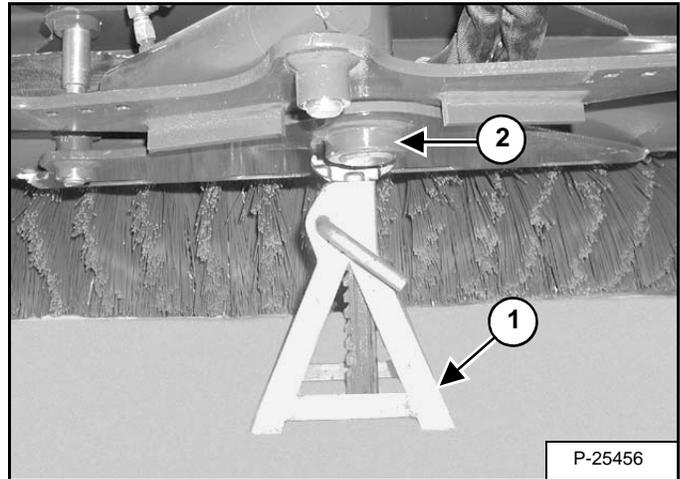
Figure 20-10-4



Install a hoist (Item 1) [Figure 20-10-4] and raise the mount frame to relieve tension on the springs.

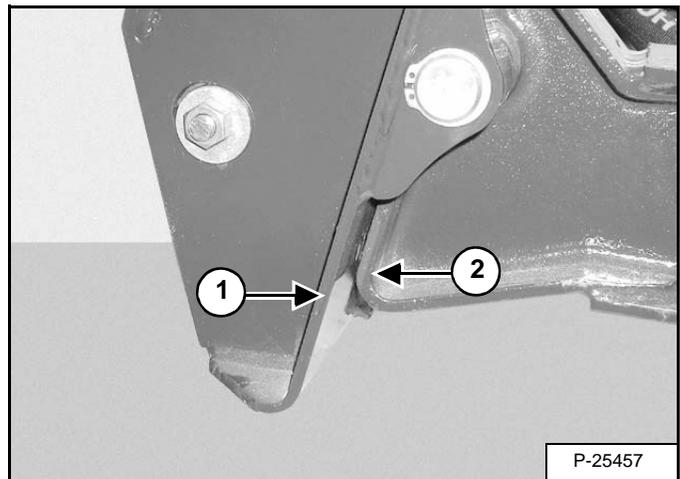
Remove the springs. (See Removal And Installation on Page 30-40-1.)

Figure 20-10-5



Raise the hoist and install a stand (Item 1) in front of the pivot pin (Item 2) [Figure 20-10-5].

Figure 20-10-6

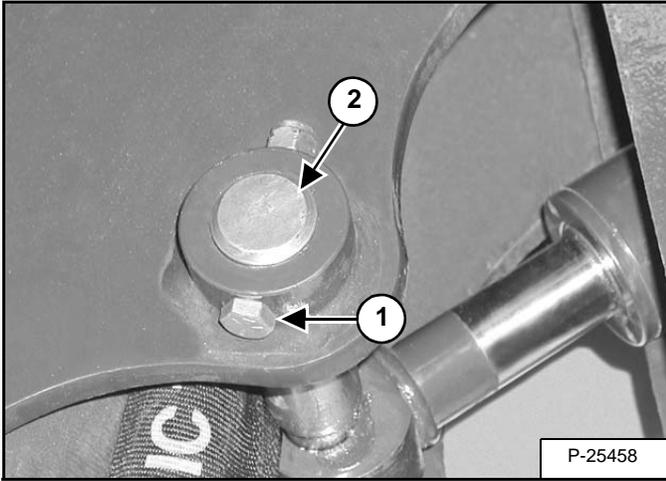


Lower the hoist and tilt the mount frame (Item 1) back to the stops (Item 2) [Figure 20-10-6].

HYDRAULIC CYLINDER (CONT'D)

Removal And Installation (Cont'd)

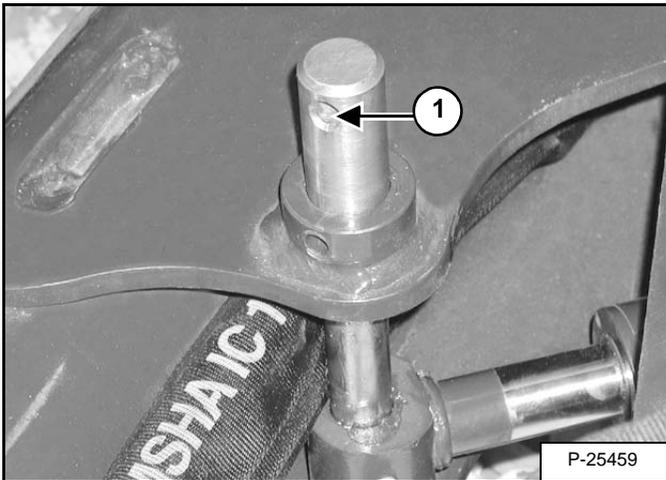
Figure 20-10-7



Remove the bolt and lock nut (Item 1) from the pin (Item 1) [Figure 20-10-7].

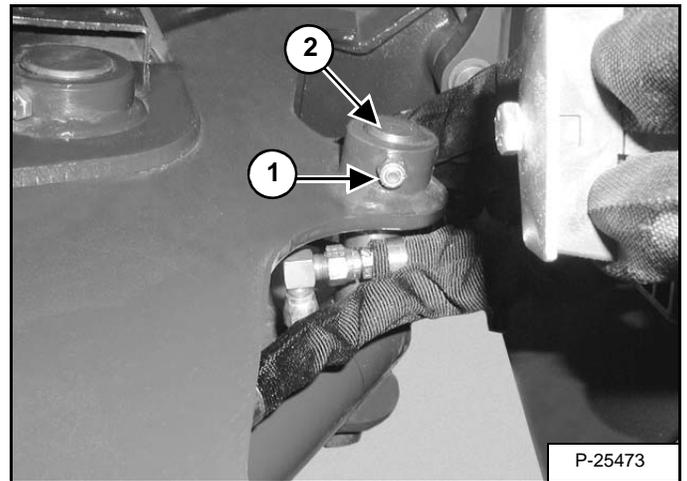
Installation: Tighten the bolt to 34 - 38 N•m (25 - 28 ft-lb) torque.

Figure 20-10-8



Remove the pin (Item 1) [Figure 20-10-8].

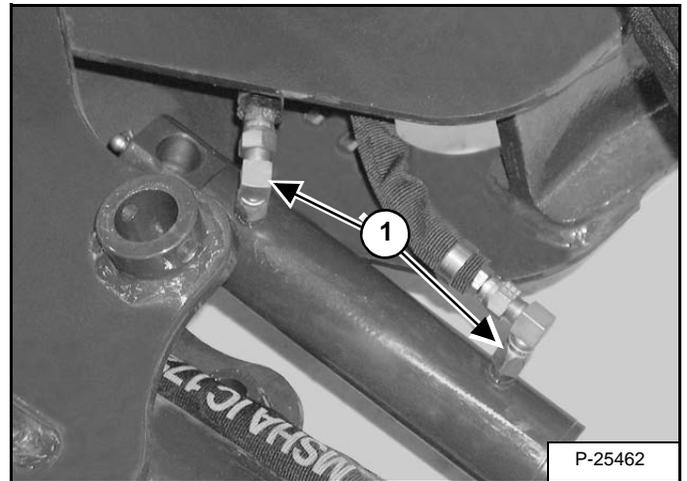
Figure 20-10-9



Remove the bolt and lock nut (Item 1) from the base end cylinder pin (Item 2) [Figure 20-10-9]. Remove the pin.

Installation: Tighten the bolt to 34 - 38 N•m (25 - 28 ft-lb) torque.

Figure 20-10-10



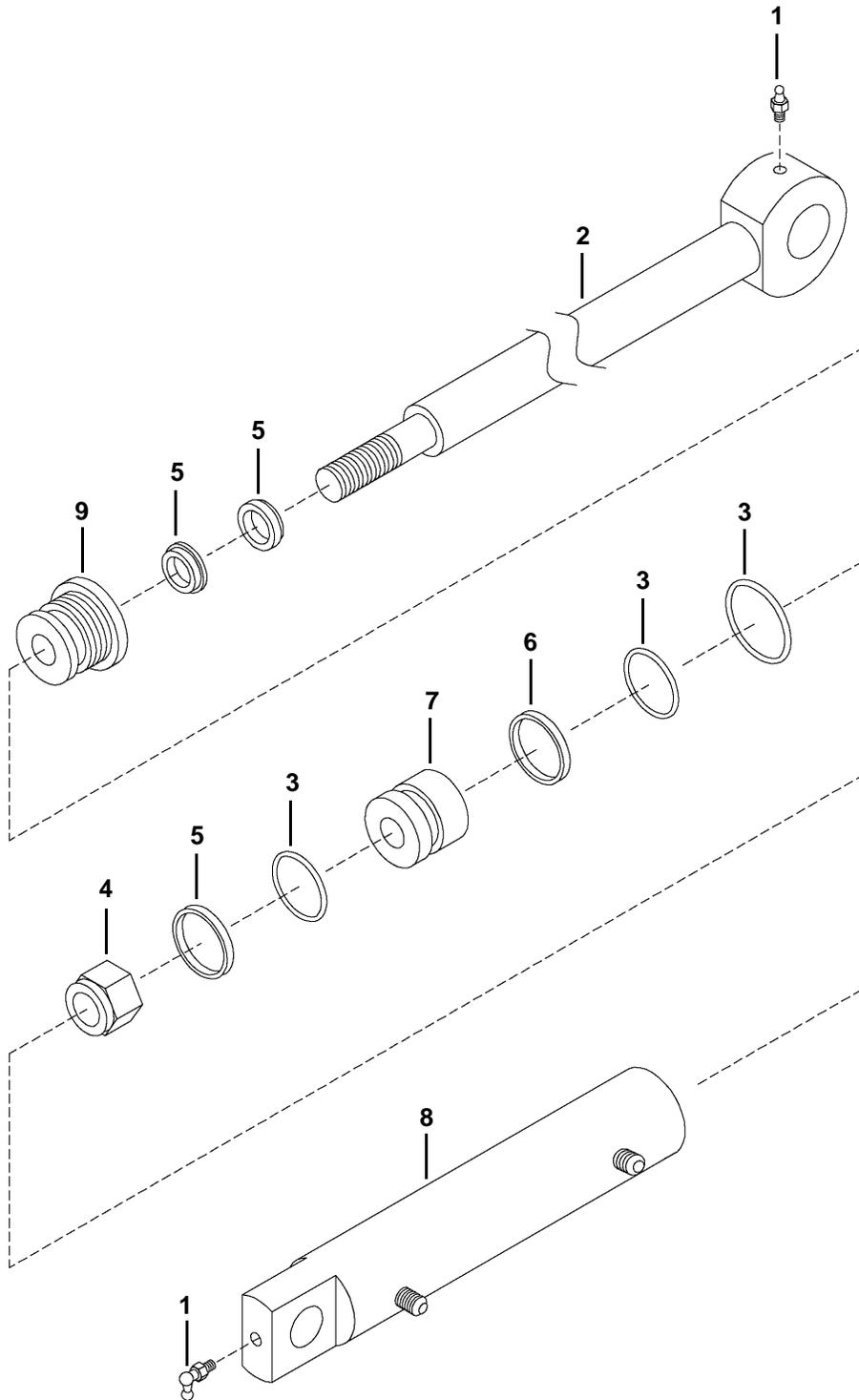
Move the cylinder out and remove the hoses (Item 1) [Figure 20-10-10]. Install caps and plugs.

Remove the cylinder.

HYDRAULIC CYLINDER (CONT'D)

Parts Identification

- 1. Grease Fitting
- 2. Rod
- 3. O-ring
- 4. Nut
- 5. Seal
- 6. Backing Ring
- 7. Piston
- 8. Housing
- 9. Head



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HYDRAULIC CYLINDER (CONT'D)

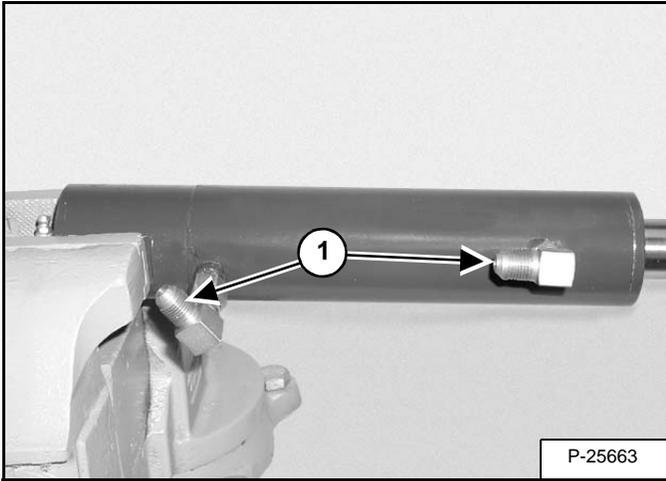
Disassembly

Use the following tools to disassemble the cylinder.

MEL1074-O-ring Seal Hook

Hold the hydraulic cylinder over a drain pan and move the rod in and out slowly to remove the fluid from the cylinder.

Figure 20-10-11

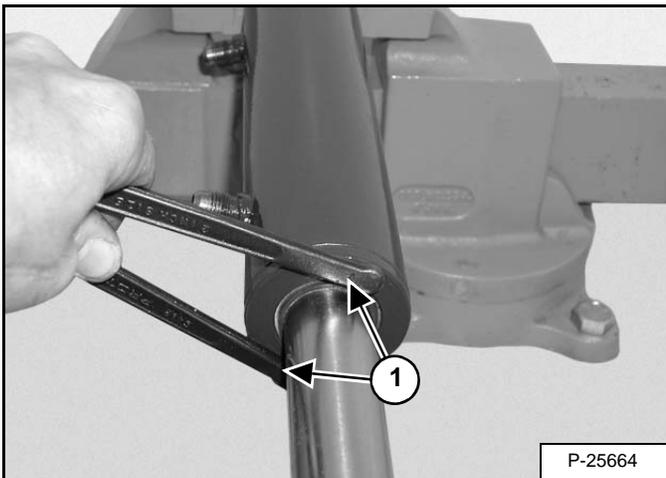


Clamp the base end of the cylinder in a vise [Figure 20-10-11].

NOTE: Be careful not to damage the cylinder housing.

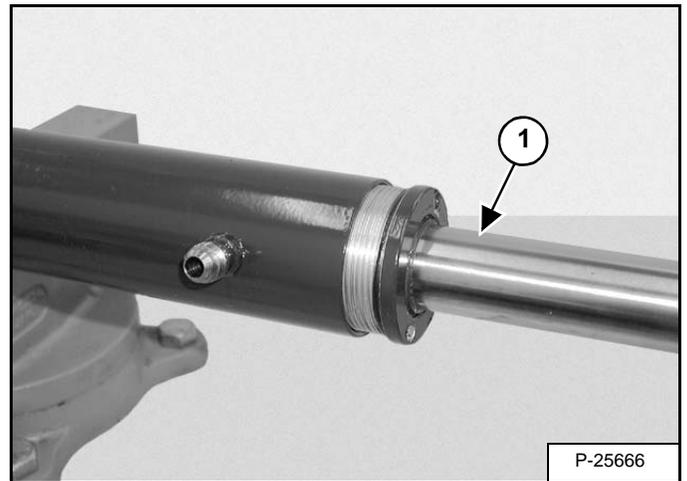
Remove the fittings (Item 1) [Figure 20-10-11] from the housing.

Figure 20-10-12



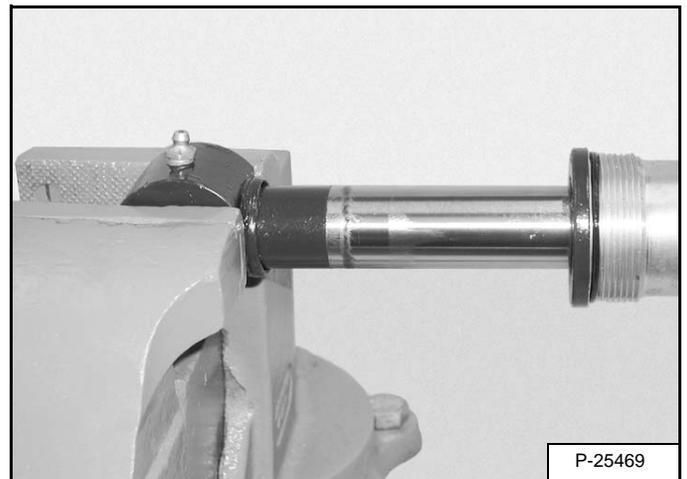
Insert a spanner wrench into the two holes (Item 1) [Figure 20-10-12] to loosen the head.

Figure 20-10-13



Remove the head and the rod assembly from the cylinder (Item 1) [Figure 20-10-13].

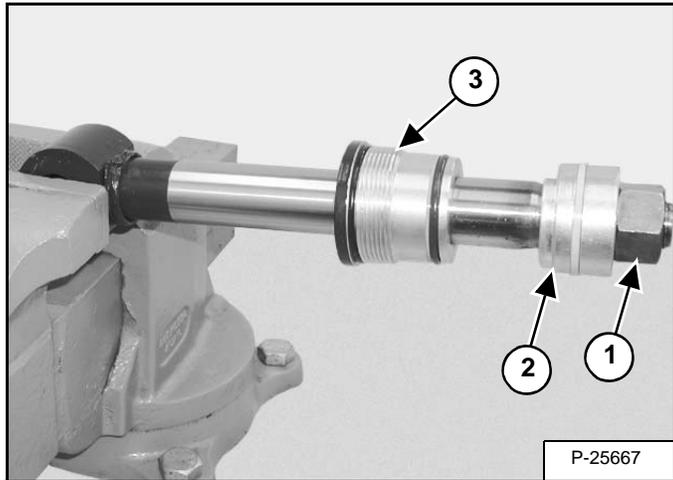
Figure 20-10-14



Clamp the rod end in a vise [Figure 20-10-14].

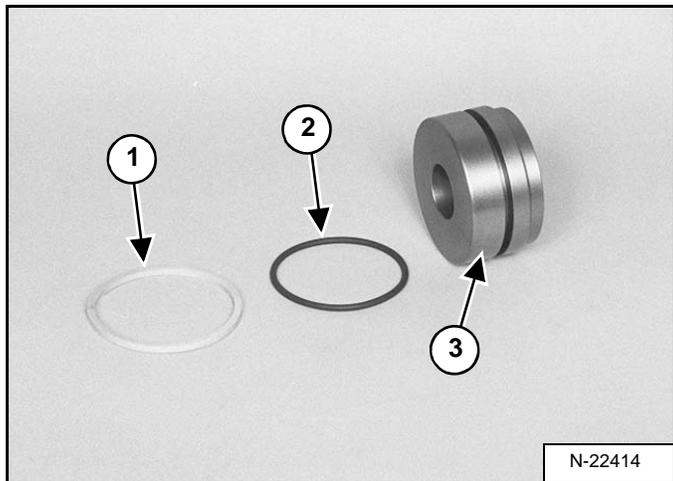
NOTE: Be careful not to damage the rod.

Figure 20-10-15



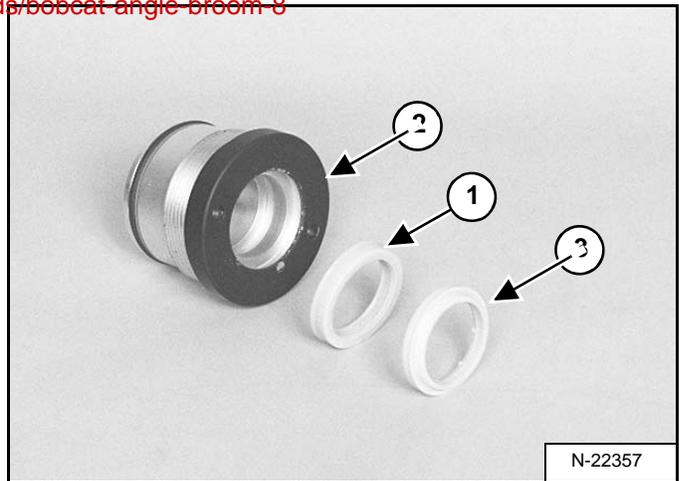
Remove the nut (Item 1), piston (Item 2) and head (Item 3) [Figure 20-10-15]. Discard the nut.

Figure 20-10-16



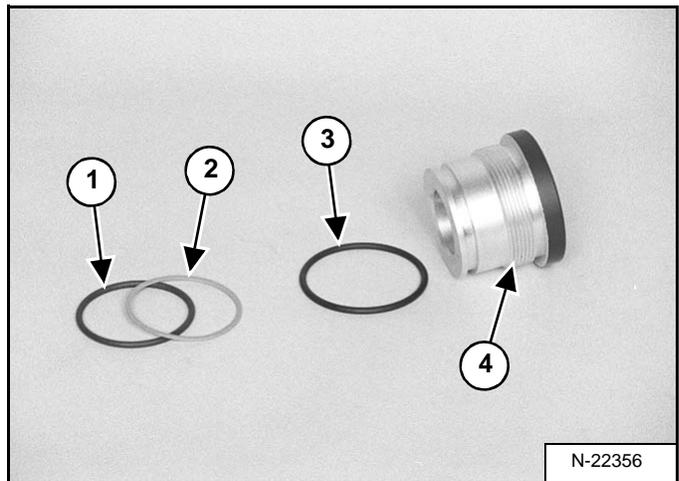
Remove the seal (Item 1), and O-ring (Item 2) from the piston (Item 3) [Figure 20-10-16].

Figure 20-10-17



Remove the wiper seal (Item 1), and rod seal (Item 2) from the inside of the head (Item 3) [Figure 20-10-17].

Figure 20-10-18



Remove the O-ring (Item 1), back-up ring (Item 2), and thin O-ring (Item 3) from the head (Item 4) [Figure 20-10-18].