



**ROCK
HOUND**

Models: 60B & 72B

Operation & Maintenance Manual



ROCKHOUND ATTACHMENTS
2507 Tully Road
Hughson, CA 95326
Phone: 1-800-426-5615
Fax: (360) 230-2322
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CONTENTS

FOREWORD iii
SAFETY vii
OPERATING INSTRUCTIONS 1
ROCKHOUND SERVICE 13
SPECIFICATIONS 31

FOREWORD

SAFETY

REFERENCE INFORMATION

Write the correct information for YOUR Rockhound in the spaces below. Always use these numbers when referring to your Rockhound.

Rockhound Serial Number _____

OPERATING INSTRUCTIONS

ROCKHOUND SERVICE

SPECIFICATION



FOREWORD

FOREWORD

This Operation & Maintenance Manual was written to give the owner/operator instructions on the safe operation and maintenance of the Rockhound. **READ AND UNDERSTAND THIS OPERATION & MAINTENANCE MANUAL BEFORE OPERATING YOUR ROCKHOUND.** If you have any questions, see your Rockhound dealer.

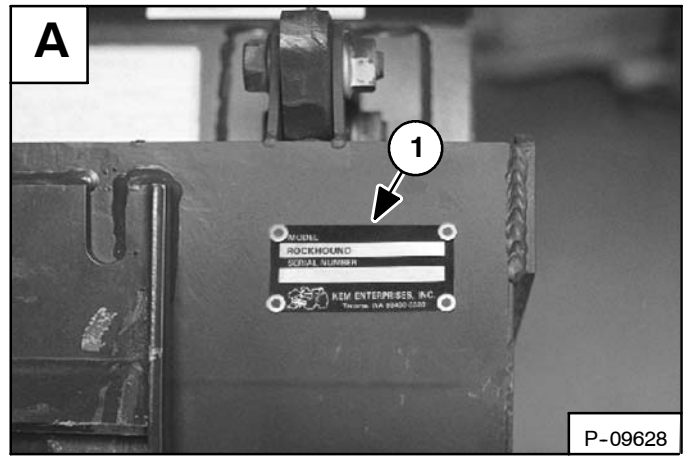
SERIAL NUMBER LOCATION v

ROCKHOUND IDENTIFICATION AND MACHINE SIGNS (DECALS) vi

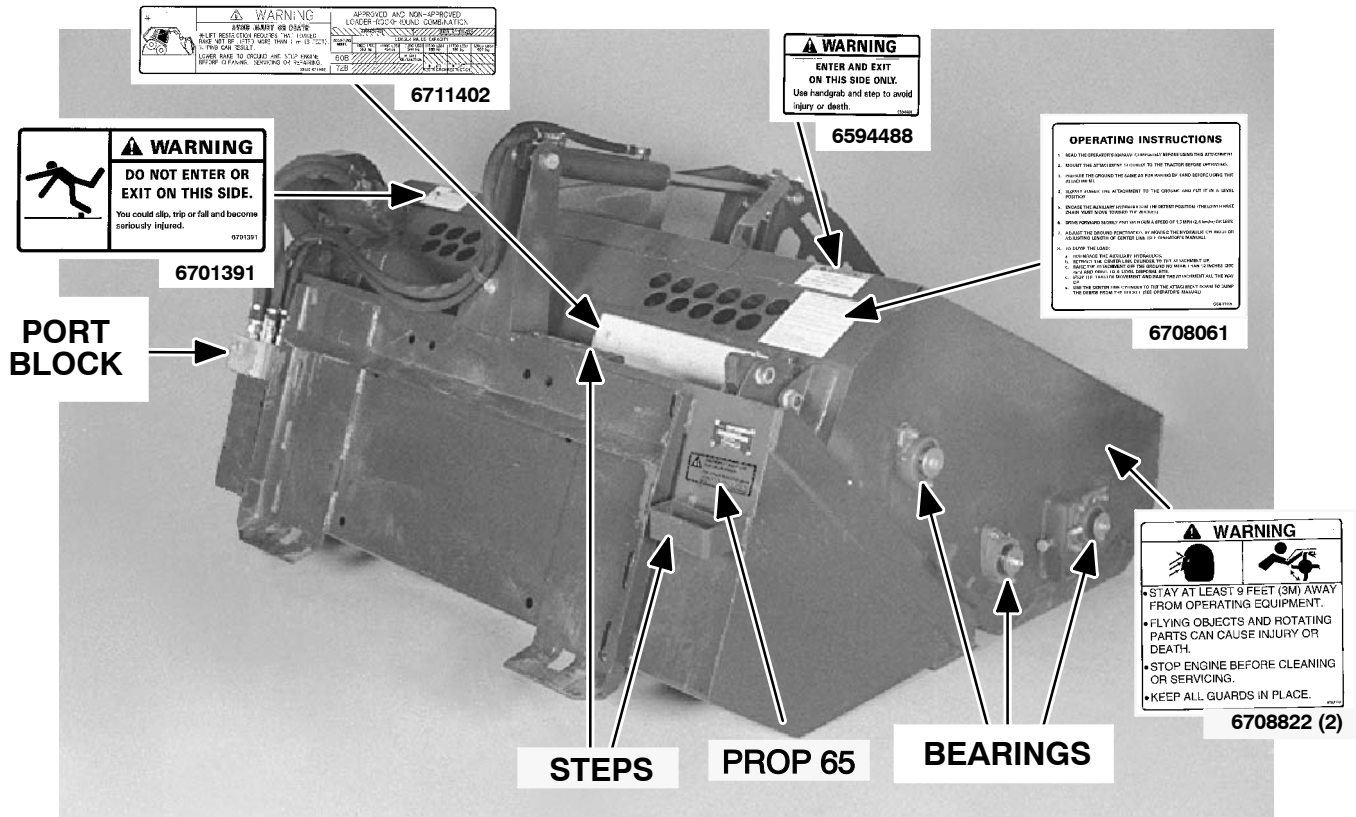
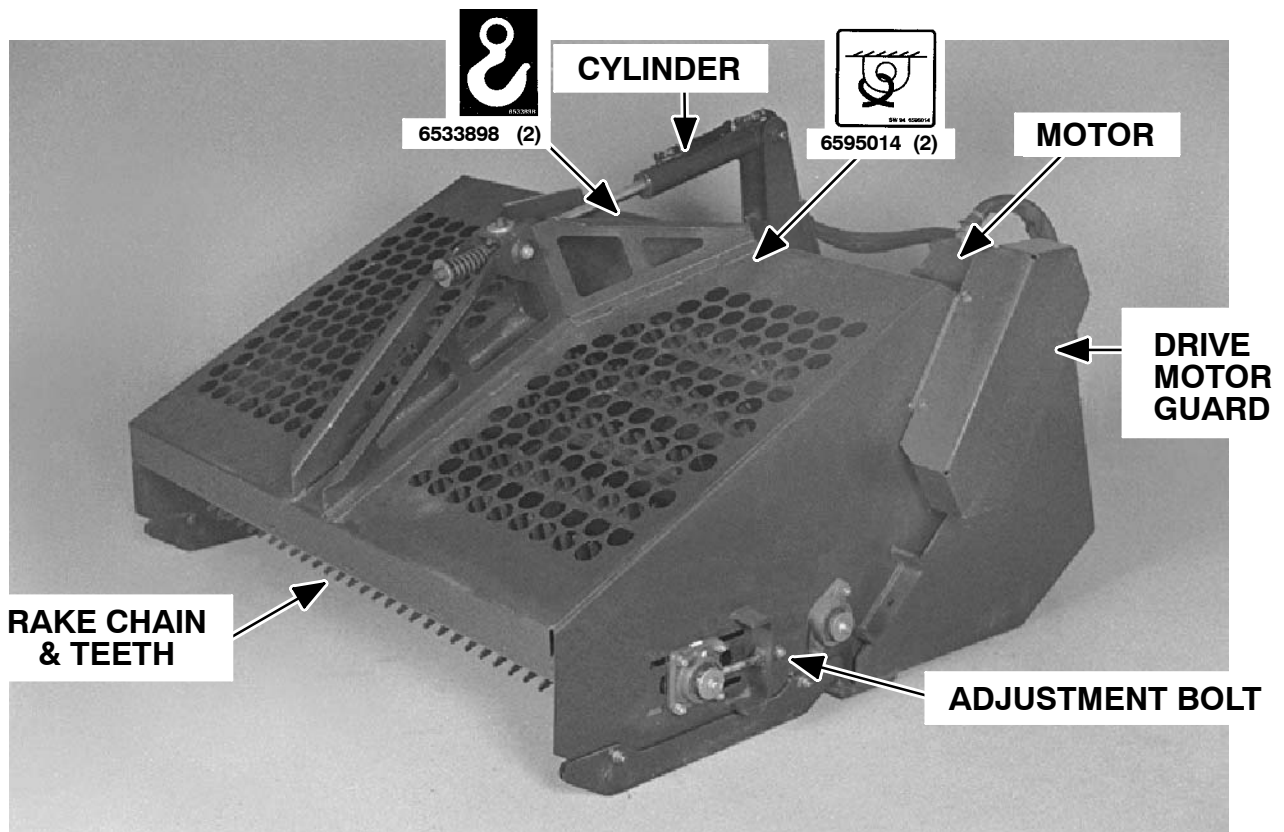


SERIAL NUMBER LOCATION

It is important to make the correct reference to the serial number of the Rockhound when making repairs or ordering parts. Early or later models (identifications made by serial number) may use different parts, or it may be necessary to use different procedures in doing a specific service operation. The Rockhound serial number (Item 1) [A] is located on the right rear of the bucket.



ROCKHOUND PARTS IDENTIFICATION AND MACHINE SIGNS (DECALS)



P-09637
P-09638

SAFETY

SAFETY INSTRUCTIONS vii





**ROCK
HOUND**

SAFETY INSTRUCTIONS

SAFETY IS THE OPERATOR'S RESPONSIBILITY

A QUALIFIED OPERATOR* MUST DO THE FOLLOWING:

*For an operator to be qualified, he must not use drugs or alcoholic drinks which impair his alertness or coordination while working. An operator who is taking prescription drugs must get medical advice to determine if he can safely operate a machine.

UNDERSTAND THE WRITTEN INSTRUCTIONS, RULES AND REGULATIONS



B-10731

Check the rules and regulations at your location. The rules may include an employer's work safety requirements. Regulations may identify a hazard such as buried cable.

HAVE TRAINING WITH ACTUAL OPERATION

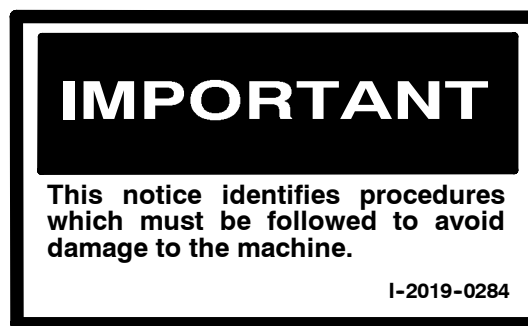
- Operator training must consist of a demonstration and verbal instruction. The training is done by the dealer when or before the Rockhound Rake is delivered.
- The new operator must start in an area without bystanders and use all the controls until he can operate the machine safely under all conditions of his work area.

KNOW THE WORK CONDITIONS

- The operator must know any prohibited uses or work areas for the machine.

USE SAFETY RULES

- Check that the Rockhound attachment is securely fastened to the machine (loader, tractor).
- Make sure all the controls (levers and pedals) are in the NEUTRAL position before starting the skid steer loader or tractor.
- Operate the Rockhound Rake only from the operator's seat.
- Keep your feet on the pedals (or floor plates), seat belt fastened snugly and seat bar lowered (if equipped) when operating the Rockhound attachment.
- When learning to operate the Rockhound Rake, do it at a slow rate in an area clear of bystanders.
- DO NOT permit personnel to be in the work area when operating the Rockhound Rake.
- Before leaving the operator's seat, always lower Rockhound Rake, engage the brake and stop the engine.
- DO NOT make any adjustments or repairs on the Rockhound Rake while the engine is running.
- Never operate the Rockhound attachment in a lifted position. Work only on the surface that the machine is standing on.
- The Rockhound Rake must be used ONLY on machines with the correct load capacity. Refer to the sign on the Rockhound attachment and on Page 4.
- Wear safety goggles while operating the Rockhound attachment.
- Do not modify equipment or add attachments that are not approved by the manufacturer.



OPERATING INSTRUCTIONS

MOUNTING THE ROCKHOUND -
3-POINT HITCH (CATEGORY 1) EQUIPPED 5
 Closed Center Hydraulic System 6
 Hydraulic Installation 6
 Open Center Hydraulic System 7

OPERATING THE ROCKHOUND -
3-POINT HITCH (CATEGORY 1) EQUIPPED 8
 Bucket Dump Adjustment 10
 Checking Rockhound Operation 8
 Dumping The Bucket 9
 Operating The Rockhound 9

OPERATING THE ROCKHOUND (SKID STEER LOADERS) 3
 Dumping The Rockhound 4
 Recommended Raking Procedure 3

SETTING UP (BEFORE FIRST OPERATION) 3

TRANSPORTING THE ROCKHOUND
 Chaining The Rockhound Onto The Transport Vehicle 11
 Lifting The Rockhound 11
 Loading The Rockhound Onto The Transport Vehicle 12

**OPERATING
INSTRUCTIONS**



**ROCK
HOUND**

READ ALL MACHINE SIGNS (DECALS) AND INSTRUCTIONS CAREFULLY

SETTING UP (BEFORE FIRST OPERATION)

The Rockhound is delivered completely assembled. Supply hoses and couplers must be ordered separately.

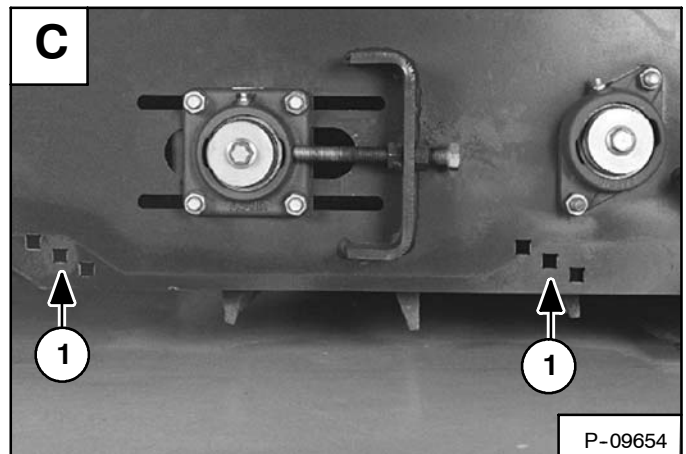
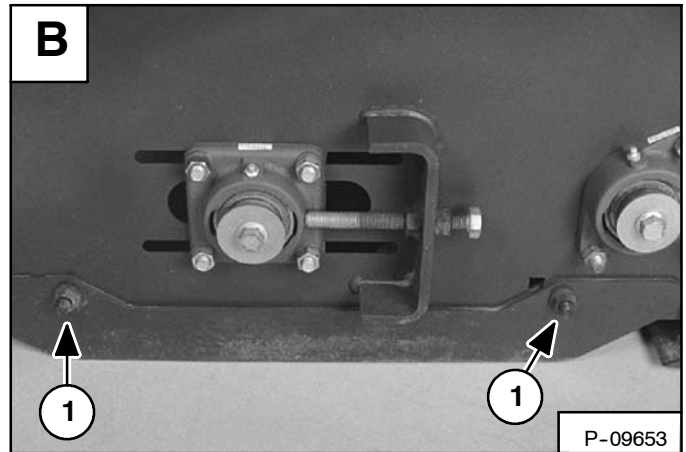
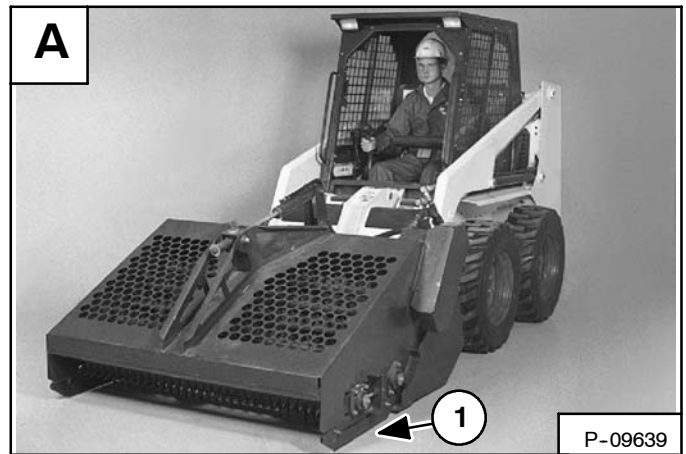
Check all nuts and bolts for correct torque.

Check for shipping damage. If damaged, do not use the attachment until parts have been replaced or repaired.

Check that all hydraulic hoses and fittings are tight.

Check that all warning signs (decals) and safety treads are on the attachment and in their correct location. Replace any damaged signs or safety treads. (See Page vi.)

Drive the machine to the Rockhound and align the machine to the frame for connection. Stop the engine, exit the machine, and secure the Rockhound mounting frame to the machine.



! WARNING

AVOID INJURY OR DEATH

Securely latch the attachment to the machine. The attachment can come off during operation if incorrectly latched.

W-2260-0297

OPERATING THE ROCKHOUND (SKID STEER LOADERS)

Refer to Daily Inspection on Page 15 before using the Rockhound attachment.

Remove large branches and stones (6 inches [150 mm] diameter or larger) before raking an area.

NOTE: If the ground is extremely compacted, use an attachment such as a tiller or scarifier to loosen the ground at least 4 inches (102 mm) in depth.

Recommended Raking Procedure

With the operator in the seat, seat belt fastened and seat bar lowered, start the engine.

Tilt the rake attachment back with the loader tilt cylinder and move the rake attachment to the starting point.

Tilt the rake attachment forward until the runners (Item 1) [A] are touching the ground.

Engage the auxiliary hydraulics. (Refer to your machines Operator's Manual for the control functions.)

Lower the rake attachment to the ground and engage the float. While operating, drive **backwards** at a slow rate.

Control ground penetration by removing the runner bolts (Item 1) [B] and reposition the runners in any of the mounting holes (Item 1) [C] needed.

! WARNING

AVOID INJURY OR DEATH

Bystanders must stay at least 9 ft. (3 m) away from the rake when operating.

W-2193-0595

DO NOT leave the loader seat while the engine is running.

W-2239-0496

OPERATING THE ROCKHOUND (SKID STEER LOADERS) (Cont'd)

Recommended Raking Procedure (Cont'd)

Use the tilt control cylinder to tilt the Rockhound up or down as needed during raking.

NOTE: Soil conditions may require multiple passes.

NOTE: Refer to your machines Operation & Maintenance Manual for the hydraulic connections and the correct function of the controls.

Dumping the Rockhound

When the material begins to bounce out of the bucket and up against the screen, the bucket is full.

Lift the Rockhound slightly off the ground, carry the load low, and drive to the dump site.

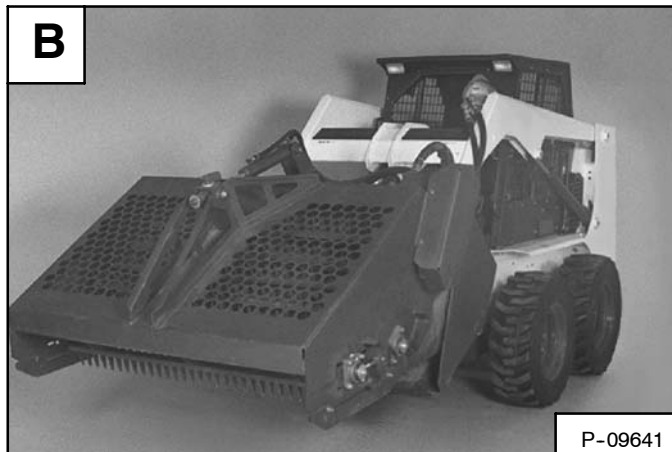
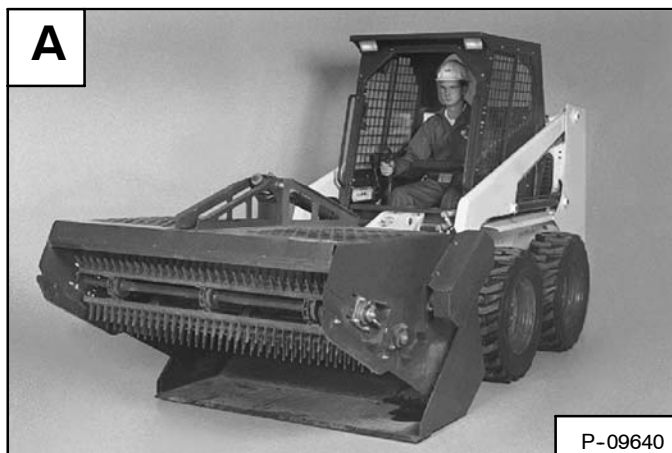
Move the control to retract the cylinder and open the Rockhound [A].

Raise the Rockhound and tilt it forward until all the debris is removed from the bucket [B].

Extend the cylinder to close the Rockhound. Tilt the bucket back until the Rockhound is level with the ground.

Return to the landscaping site, lower the Rockhound to the ground, and continue raking.

NOTE: Some Loader/Rockhound combinations have a lift restriction. See the decal below [C] mounted on the attachment for precautions.



C

*		WARNING	APPROVED AND NON-APPROVED LOADER-ROCKHOUND COMBINATION																												
	AVOID INJURY OR DEATH		<div style="display: flex; justify-content: space-between;"> APPROVED NON-APPROVED </div>																												
	LIFT RESTRICTION REQUIRES THAT LOADED RAKE NOT BE LIFTED MORE THAN 1 m (3 FEET). TIPPING CAN RESULT. LOWER RAKE TO GROUND AND STOP ENGINE BEFORE CLEANING, SERVICING OR REPAIRING. <small>XXXXX 671140Z</small>		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="2" style="font-size: 8px;">ROCKHOUND MODEL</th> <th colspan="5" style="font-size: 8px;">LOADER RATED CAPACITY</th> </tr> <tr> <th style="font-size: 8px;">(800 LBS) 363 kg</th> <th style="font-size: 8px;">(1000 LBS) 454kg</th> <th style="font-size: 8px;">(1200 LBS) 544 kg</th> <th style="font-size: 8px;">(1500 LBS) 680 kg</th> <th style="font-size: 8px;">(1750 LBS) 794 kg</th> <th style="font-size: 8px;">(2000 LBS) 907 kg</th> </tr> </thead> <tbody> <tr> <td style="font-size: 10px;">60B</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="text-align: center; font-size: 8px;"> LIFT RESTRICTION</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> </tr> <tr> <td style="font-size: 10px;">72B</td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="background-color: #cccccc;"></td> <td style="text-align: center; font-size: 8px;">* LIFT RESTRICTION</td> <td style="text-align: center; font-size: 8px;">* LIFT RESTRICTION</td> <td style="background-color: #cccccc;"></td> </tr> </tbody> </table>				ROCKHOUND MODEL	LOADER RATED CAPACITY					(800 LBS) 363 kg	(1000 LBS) 454kg	(1200 LBS) 544 kg	(1500 LBS) 680 kg	(1750 LBS) 794 kg	(2000 LBS) 907 kg	60B			* LIFT RESTRICTION				72B				* LIFT RESTRICTION	* LIFT RESTRICTION
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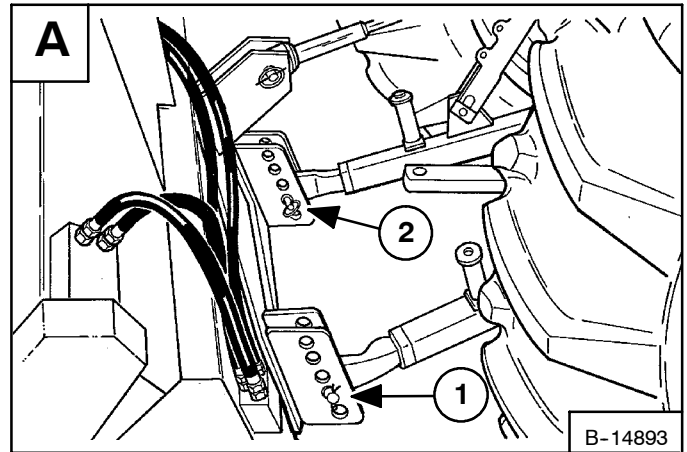
MOUNTING THE ROCKHOUND - 3-Point Hitch (Category 1) Equipped

Drive the tractor backwards to the Rockhound Attachment equipped with the 3-Point Hitch mounting bracket.

Align the two lower links of the 3-Point Hitch with the lower link mounts (Item 1) [A] on the mounting bracket.

Install a pin (Item 2) [A] in each lower link and link mounting bracket to fasten the 3-Point Hitch links to the Rockhound.

NOTE: See your dealer to obtain two 7/8 inch x 3-3/4 inch pins with pin clips.



NOTE: The top link cylinder is available in a 12 inch (305 mm) and 14 inch (355 mm) lengths as follows:

Cylinder Rod Travel	Extended Length	Retracted Length
12 inch (308 mm)	34.25 inches (870 mm)	22.25 inches (565 mm)
14 inch (355 mm)	38.25 inches (972 mm)	24.25 inches (616 mm)

Install the top link cylinder (Item 1) [B] with the base end fastened to the tractor.

Align the rod end of the cylinder with the upper link mount (Item 2) [B] on the Rockhound.

Install a pin in the upper link cylinder and link mount.

NOTE: Obtain one 3/4 inch x 3-3/4 inch pin with pin clips locally.

Install the rockhound control valve in a position which will allow access for the operator.

NOTE: Obtain the correct hoses and quick couplers locally. Always fully engage quick couplers. If the couplers do not fully engage, check the coupler sizes. Do not force the quick couplers together.

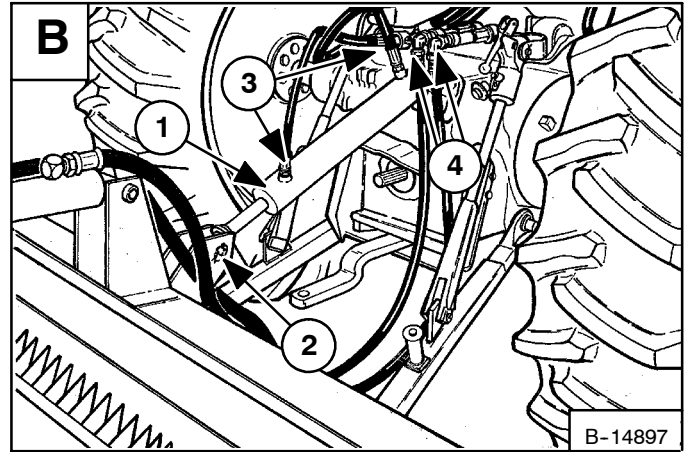
Install a supply hose from the tractor control valve to the rockhound control valve.

Connect a return hose to the rockhound control valve and route the hose to reservoir.

Connect the dump cylinder hoses (Item 3) [B] to the rockhound control valve.

Install the correct length auxiliary hoses to the port block on the rockhound. Route the hoses to the tractor and connect the quick couplers (Item 4) [B] to the rockhound control valve.

NOTE: See Pages 6 and 7 to determine the type of hydraulic system your tractor is equipped with. Use the illustration for correct hydraulic routing.



MOUNTING THE ROCKHOUND - 3-Point Hitch (Category 1) Equipped (Cont'd)

Hydraulic Installation

Two auxiliary hydraulic controls are needed for installation using a 3-Point Hitch. One auxiliary drives the hydraulic motor and the rake chain; the other auxiliary is connected to the top link cylinder at the upper mount and is used for dumping the bucket.

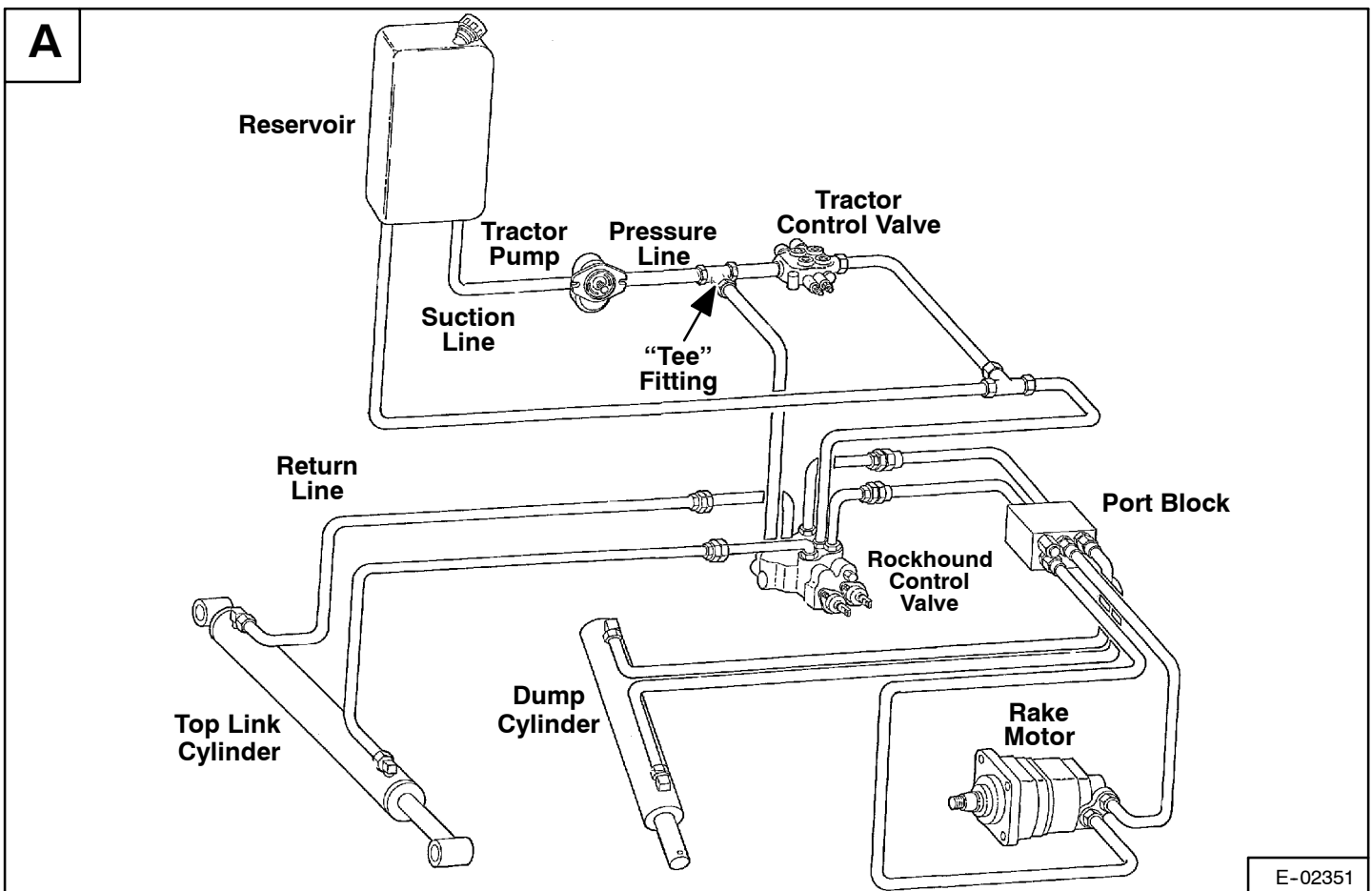
A two-section control valve and hydraulic cylinder are available from your dealer if needed. Your dealer can also assist you in correct hydraulic installation.

The following two procedures show typical hydraulic installations on a tractor which has a front end loader and no other auxiliary couplers.

Closed Center Hydraulic System

A closed center system does not allow pressurized flow through the loader/tractor control valve. In this type of system, it is necessary to put a *Tee* fitting in the hydraulic link between the pump outlet and the control valve inlet to provide flow to the Rockhound control valve [A].

The control valve should be a closed-center valve. The valve available from your Rockhound dealer can be easily converted to closed-center.

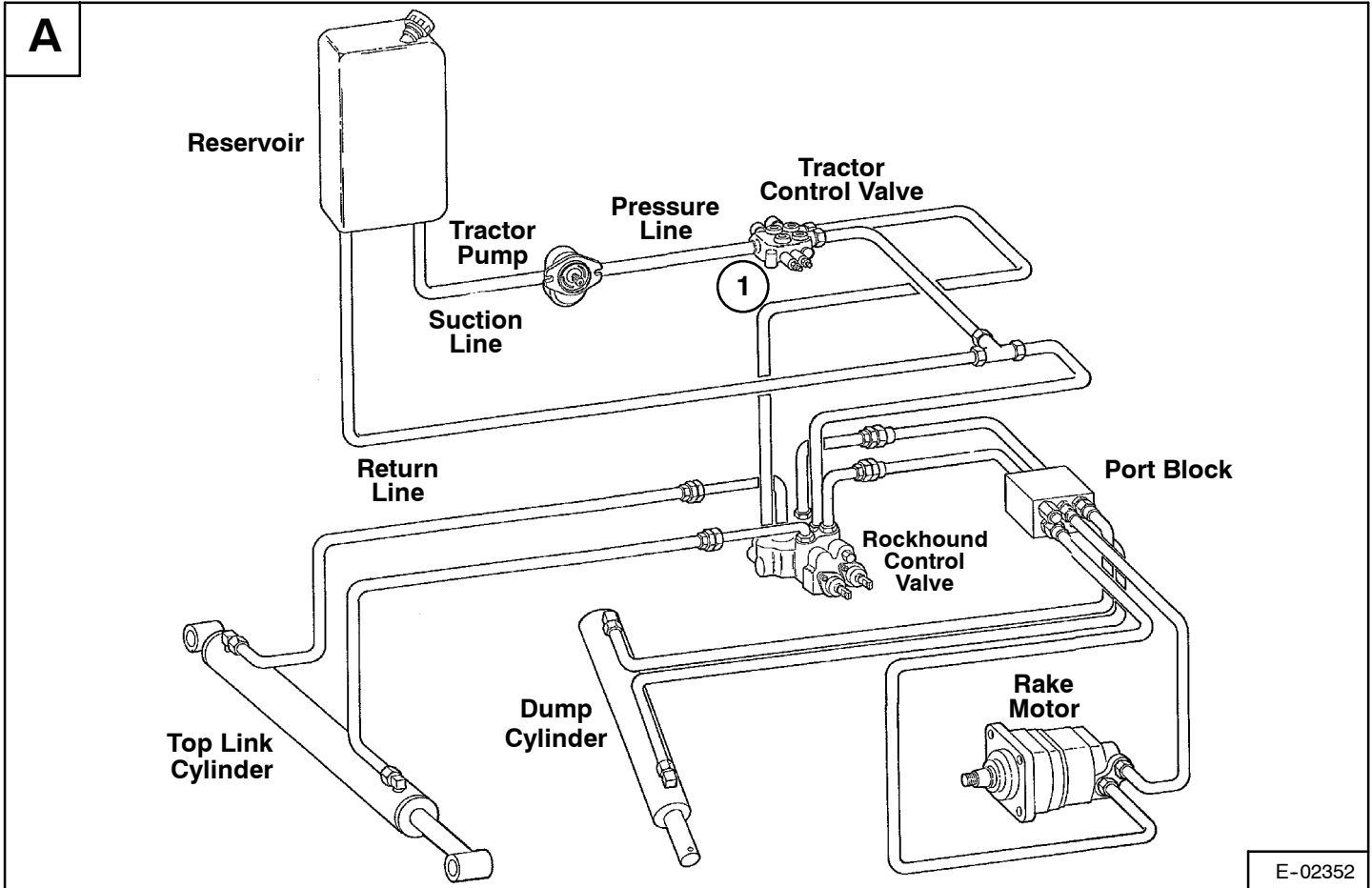


**MOUNTING THE ROCKHOUND - 3-Point Hitch
(Category 1) Equipped (Cont'd)**

Open Center Hydraulic System

An open center system allows pressurized flow through the loader control valve. In this type of system the rockhound control valve is pressurized from the power beyond port of the tractor control valve (Item 1) [A].

This will allow rockhound to be lifted or adjusted for depth of raking, while the motor continues running.



OPERATING THE ROCKHOUND - 3-Point Hitch (Category 1) Equipped

Ground Preparation

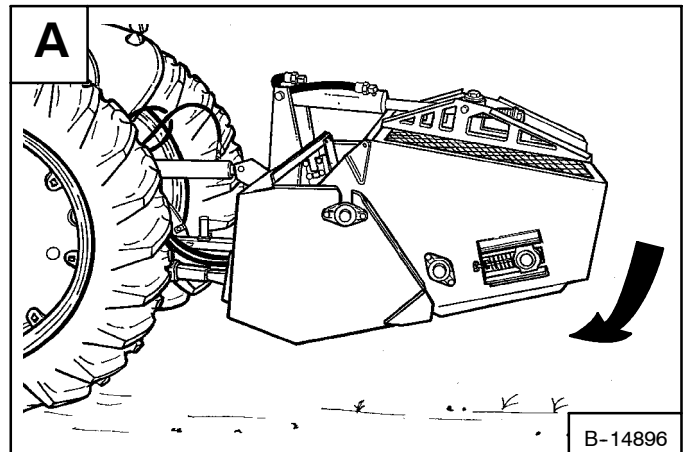
Thoroughly inspect the ground before raking.

Remove large branches and stones which are 6 inches (150 mm) or larger.

Checking Rockhound Operation

See your tractor Operation & Maintenance Manual for safe operating procedures for your tractor/loader.

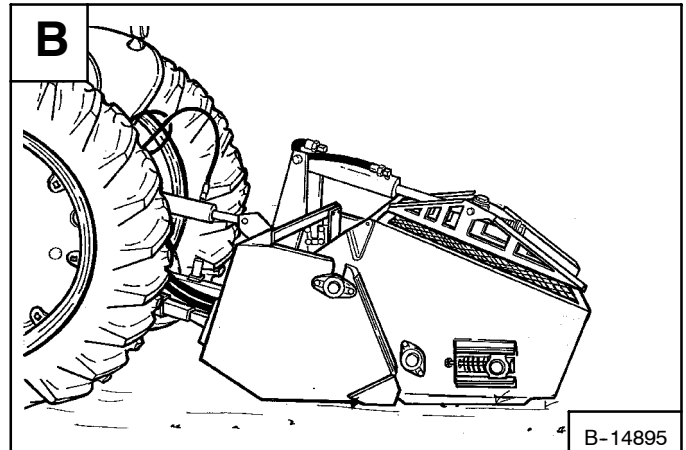
Before operating the rake attachment, see Daily Inspection on Page 15.



Raise the rake off the ground [A].

Engage the control valve for the rake chain.

NOTE: The rake chain should move in the direction of the arrow [A].



Run the rake and check for excessive noise. If there is excessive noise, locate the cause and repair or replace parts as needed.

When the rake chain moves freely, lower the rake to the ground [B]. Stop the loader engine.

OPERATING THE ROCKHOUND - 3-Point Hitch (Category 1) Equipped (Cont'd)

Operating the Rockhound

See your Tractor Operation & Maintenance Manual for safe operating procedures for your tractor/loader.

Raise the rake off the ground and drive to the starting point.

Slowly lower the rake to the ground keeping the rake level with the ground [A].

Engage the control valve for the rake chain.

Drive the tractor forward at 1.5 MPH (2,4 km/hr.) or less.

Control the amount of ground penetration by operating the top link cylinder (Item 1) [A].

NOTE: Some conditions may require use of the rake several times on the same area to get the results desired.

Dumping the Bucket

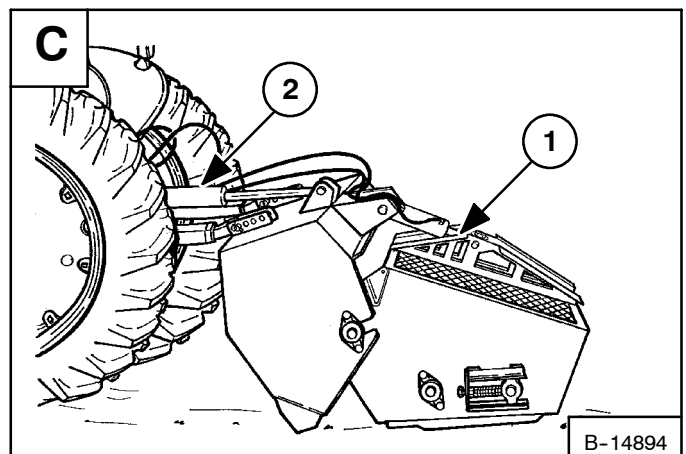
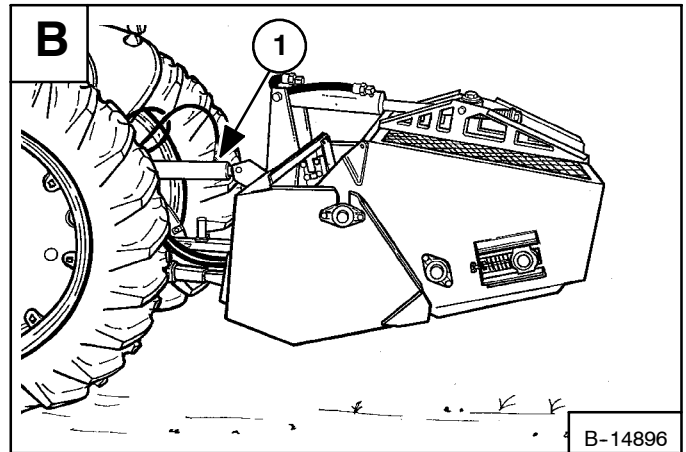
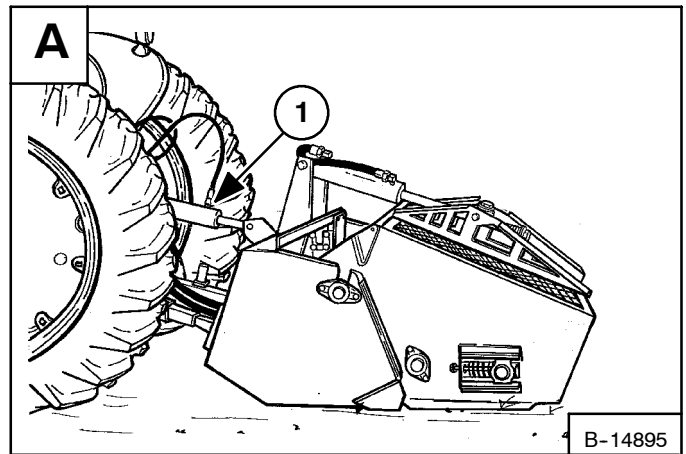
When rocks begin to bounce out of the bucket and up against the screen, the rake is full.

Disengage the rake chain and retract the top link cylinder (Item 1) [B].

Raise the rake no more than 12 inches (305 mm) off the ground when transporting the debris to the dump site [B].

Stop the tractor and raise the 3-Point Hitch all the way.

Retract the rake cylinder (Item 1) [C] to open the rake, and extend the upper link cylinder (Item 2) [C] to dump the debris from the bucket.



OPERATING THE ROCKHOUND - 3-Point Hitch (Category 1) Equipped (Cont'd)

Bucket Dump Adjustment

Start the tractor engine and raise the 3-Point Hitch all the way [A].

Extend the top link cylinder to dump the bucket.

When the rake cylinder (Item 1) [A] is fully retracted the bucket will open.

The rake stops (Item 2) [A] should just touch the bucket frame.

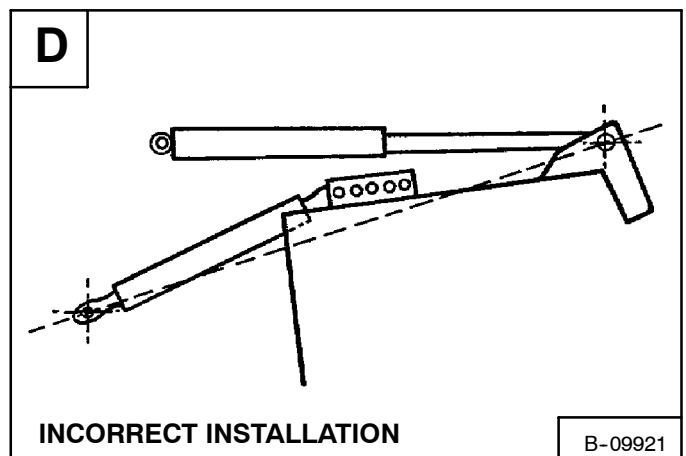
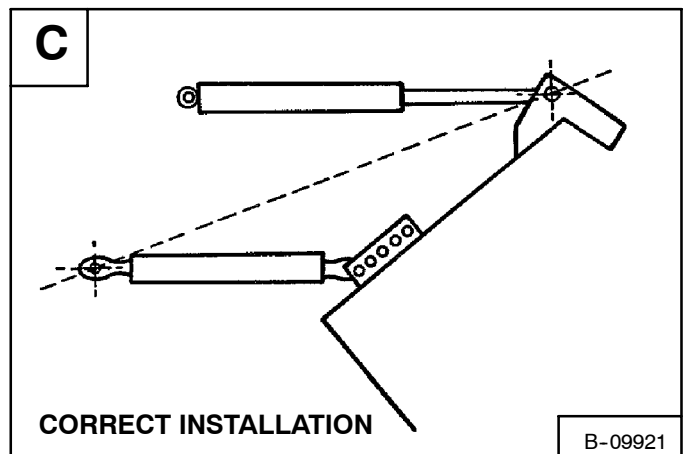
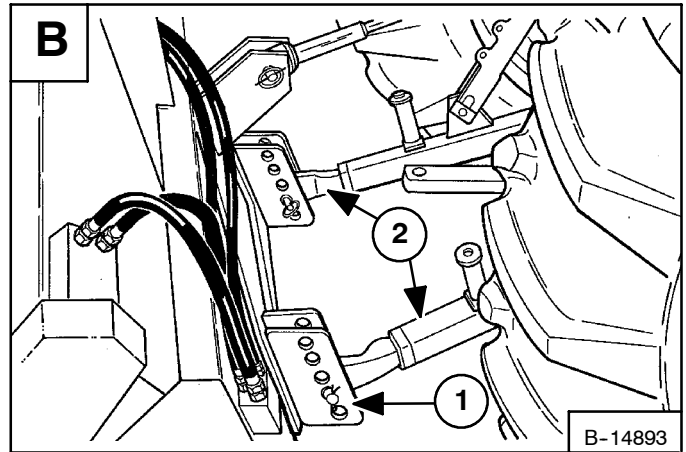
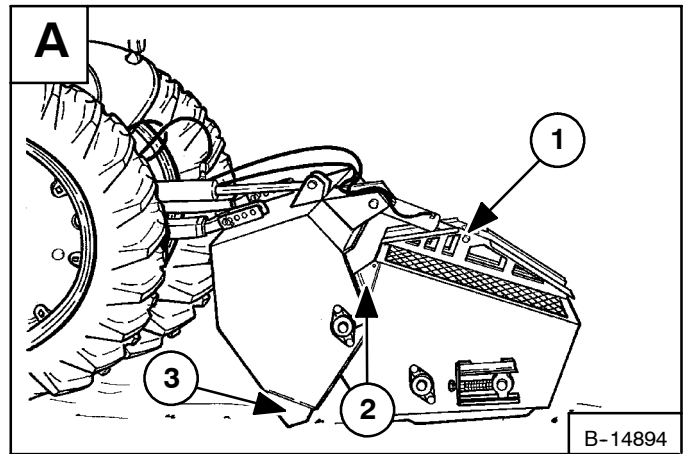
The cutting edge of the bucket (Item 3) [A] should not hit the ground.

If the bucket does not dump similar to what is shown [A], adjustment is necessary.

If the rake does not open far enough for the stops to touch the bucket frame, adjust the 3-Point Hitch arms (Item 1) [B] to a higher position on the bucket mounting brackets (Item 2) [B].

If the cutting edge hits the ground, adjust the arms to a lower position on the bucket mounting brackets [B].

NOTE: Also refer to your Tractor Manual to adjust the 3-Point Hitch.



IMPORTANT

Be sure that the 3-Point Hitch is adjusted correctly. Damage to the hydraulic cylinder can result if adjustment is not correct.

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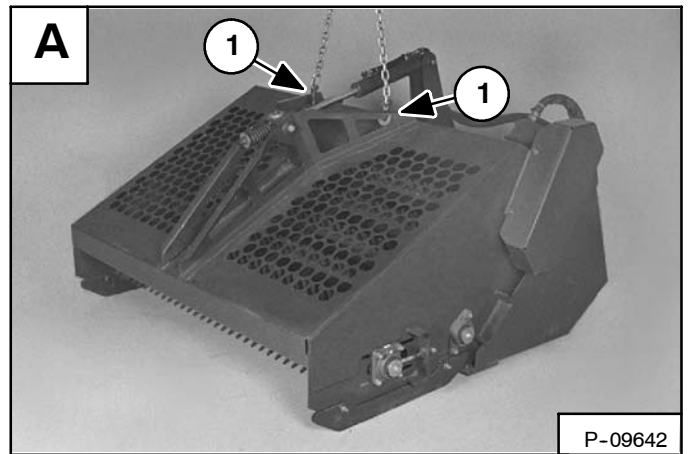
Do not adjust the 3-Point Hitch so that the lower points of the 3-Point arms go *over center* [C] & [D].

TRANSPORTING THE ROCKHOUND

Lifting The Rockhound

NOTE: Use chains that are in good condition and of adequate size to lift or secure the attachment.

Hook each end of the chain (Item 1) [A] to the lifting slots in the Rockhound frame.

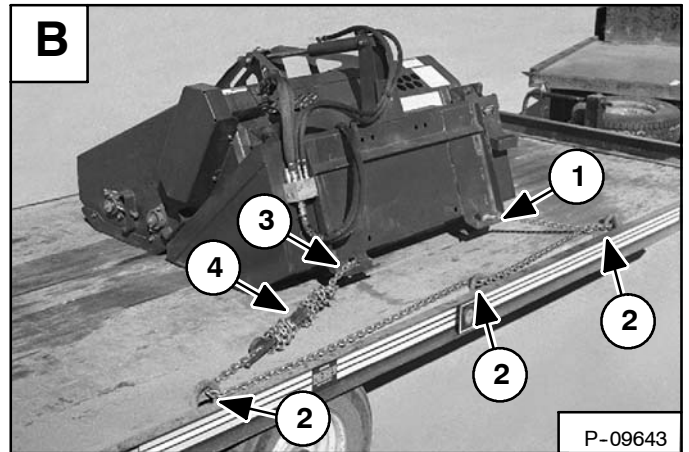


Chaining The Rockhound Onto The Transport Vehicle

Use a loader or chain hoist to load the Rockhound onto the transport vehicle.

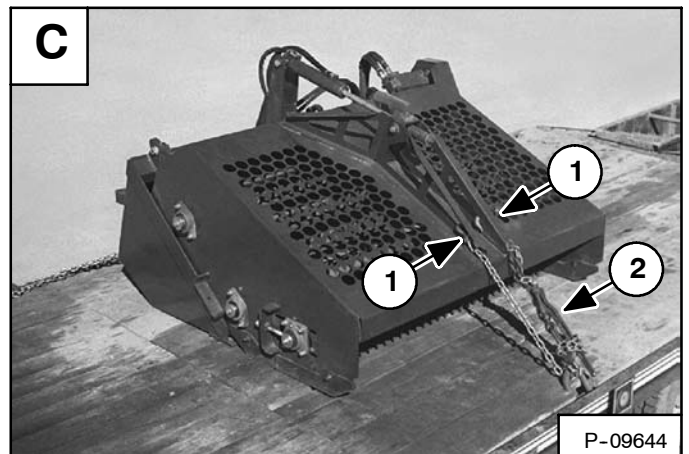
Hook a chain (Item 1) [B] to the rear of the Rockhound frame, route the chain through the eyes (Item 2) [B] and hook the chain back to the Rockhound frame.

Use a chain binder (Item 3) [B] to secure the chain and prevent the Rockhound from moving during transportation.



Hook each end of a chain (Item 1) [C] to the front slot in the Rockhound frame, route the chain through the eye on the transport vehicle.

Use a chain binder (Item 2) [C] to secure the chain and prevent the Rockhound from moving during transportation.



TRANSPORTING THE ROCKHOUND (Cont'd)

Loading The Rockhound Onto The Transport Vehicle

NOTE: Refer to your machines Operator's Manual to correctly load and chain the machine and Rockhound onto the transport vehicle.

The rear of the trailer must be properly blocked or supported when loading or unloading the equipment.

With the Rockhound attached to the power unit, drive the loader onto the transport vehicle in a forward direction (Rockhound first) **[A]**.

Lower the Rockhound to the transport vehicle.

Engage the parking brake and stop the engine.

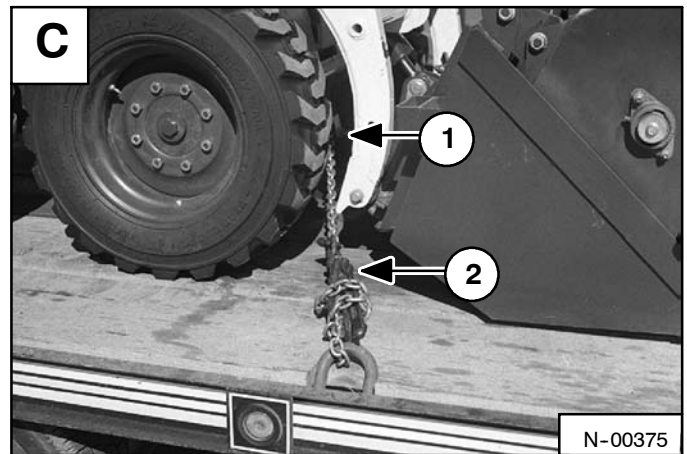
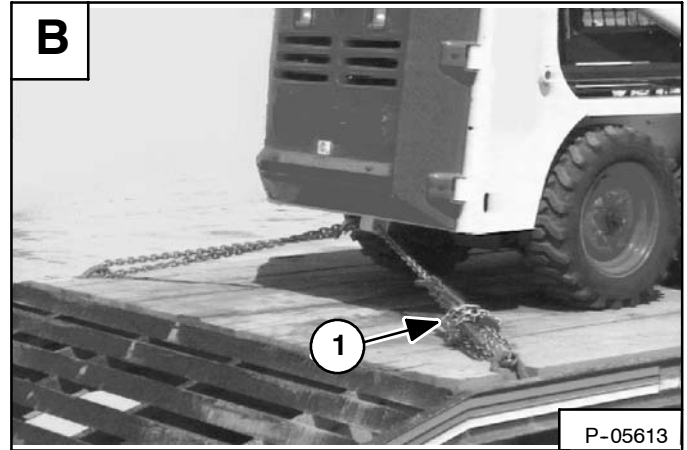
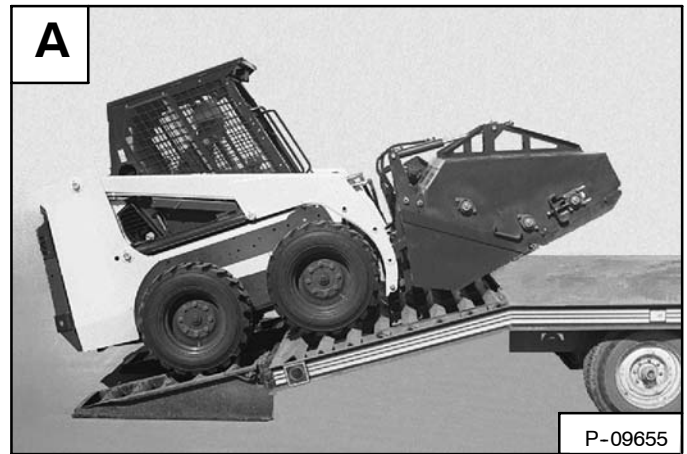
Install tie down chains and binders to prevent the loader and Rockhound from moving during transportation.

Install a chain to the rear of the power unit **[B]**.

Use a chain binder (Item 1) **[B]** to secure the chain and prevent the power unit/Rockhound from moving during transportation.

Install a chain through a front tie down (Item 1) **[C]** on the power unit when the Rockhound is attached.

Use a chain binder (Item 2) **[C]** to secure the chain and prevent the power unit/Rockhound from moving during transportation.



ROCKHOUND SERVICE

DRIVE MOTOR	20
Drive Chain Adjustment	20
Drive Chain Removal And Installation	20
Drive Motor Removal And Installation	21
HINGES	25
Removal And Installation	25
ROCKHOUND BEARINGS	26
Removal And Installation	26
ROCKHOUND CHAIN	28
Adjusting The Rockhound Chain	30
Removal And Installation	28
Replacing Chain Bars	30
ROCKHOUND CYLINDER	18
Cylinder Rod Guide Removal And Installation	18
Removal And Installation	18
Rod Guide Housing Removal And Installation	19
ROCKHOUND LUBRICATION	17
PORT BLOCK	23
Check Valve Removal And Installation	24
Relief Valve Removal And Installation	23
Removal And Installation	23
SERVICE SCHEDULE	15
Daily Inspection	15
25 Hour Inspection	15
300 Hour Inspection	15
TROUBLESHOOTING	16
Chart	16

**ROCKHOUND
SERVICE**



WARNING

AVOID INJURY OR DEATH

Instructions are necessary before doing service on the Rockhound attachment. See warnings and instructions both at beginning and throughout this manual. After servicing, repairing or adjusting, always check for correct function of the Rockhound.

SERVICE SCHEDULE

Maintenance work must be done at regular intervals. Failure to do so can result in damage to the rake attachment. This service schedule is a guide for correct maintenance of the rake attachment.

Daily Inspection

1. Clean the rake attachment to keep it free of material build up.
2. Lubricate the 10 grease fittings (one fitting located under the chain guard).
3. Check all nuts, bolts, and guards for tightness.
4. Check safety signs (decals) and safety treads for damage. Replace if damaged, clean if soiled.
5. Check all hydraulic hoses and fittings.
6. Check for loose or damaged parts.

25 Hour Inspection

1. Remove the bolt on the chain guard, wipe clean and lubricate the chain. Check the chain for the correct tension (a half link can be removed). Install chain guard before operation.
2. Adjust the tension of the Rockhound chain. (See Page 30.)
3. Check idler alignment to make sure the Rockhound chain is traveling on the center of each idler.

300 Hour Inspection

1. Check the Rockhound teeth. The Rockhound teeth are 3 inches (76 mm) long when new, if the Rockhound teeth show wear of 1/4 inch (6,35 mm) or more, the Rockhound tooth should be hard surfaced with a hard surface welding rod.
2. Check for bent Rockhound teeth. Bent Rockhound teeth can usually be straightened again. Do not use heat to straighten teeth. Heat will cause the hardened teeth to become soft.
3. Check chain and sprocket for wear. Replace the parts as needed.

! WARNING

AVOID INJURY OR DEATH

Before cleaning, servicing or repairing the Rockhound attachment:

- Level and lower the attachment to the ground.
- Stop the engine.
- Release pressure in all hydraulic circuits.

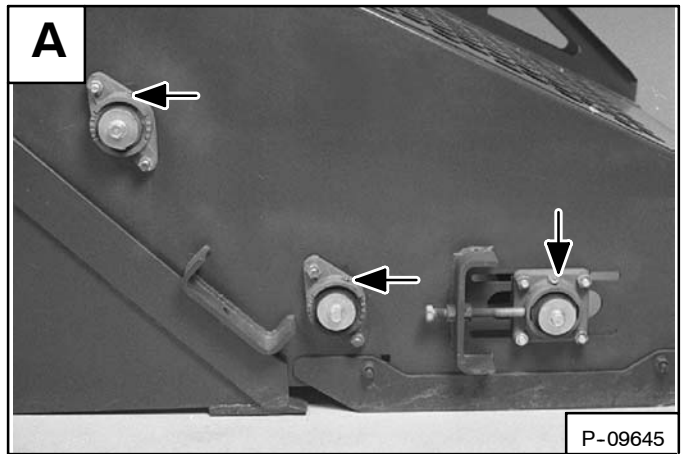
TROUBLESHOOTING

Chart

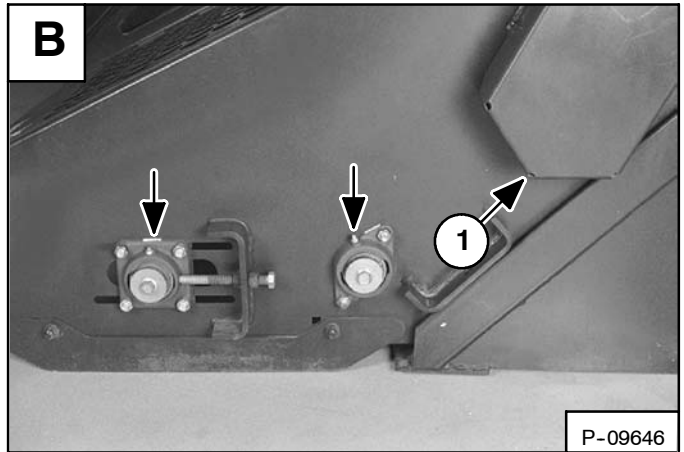
PROBLEM	CAUSE	CORRECTION
Rockhound chain does not turn.	Faulty drive motor.	Repair or replace motor.
	Key sheared.	Replace key.
	Drive chain on hydraulic motor is broken or loose.	Replace the chain or adjust as needed.
	Drive sprocket is off the shaft.	Install the drive sprocket and tighten bolt.
	Auxiliary hydraulics are not activated.	Activate auxiliary hydraulics
	Faulty loader valve.	Repair loader valve.
Rockhound chain comes off sprocket.	Rockhound chain is too loose.	Adjust the Rockhound chain tension.
Rockhound chain jumps irregularly.	Stone is lodged in link of chain.	Remove the stone.
	Sprockets are worn.	Replace socket section of chain.
Rockhound chain runs too fast.	Rockhound attachment has been mounted on a loader with too much hydraulic flow.	Install the correct sprockets, chain & drive kit. Run at slower engine speed.

ROCKHOUND LUBRICATION

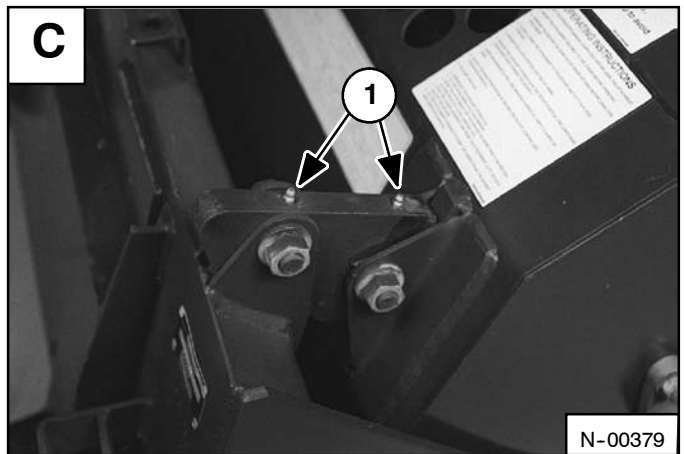
Lubricate the grease fittings on the Rockhound chain mounting bearings every 8 hours [A] & [B].



NOTE: The grease fitting on the drive sprocket bearing is located under the drive motor shield (Item 1) [B].



Lubricate the grease fittings (Item 1) [C] on the Rockhound hinges.



ROCKHOUND CYLINDER

Removal and Installation

NOTE: Be sure to fully extend the cylinder before stopping the loader engine. Exit the loader.

Disconnect the hydraulic hoses (Item 1) [A] from the cylinder.

Remove the mounting nut (Item 2) [A] and bolt from the cylinder base end mounting bracket.

NOTE: Apply anti-seize compound to the pivot bolt shank and nut during assembly.

Install a wrench (Item 1) [B] on the cylinder rod flats while removing the nut (Item 2) [B] and washer.

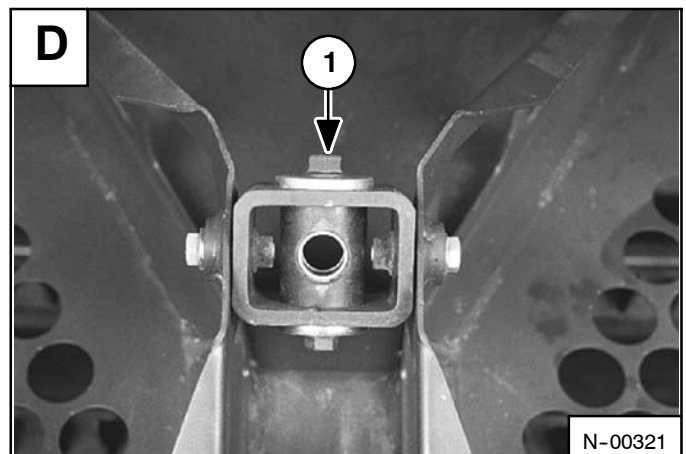
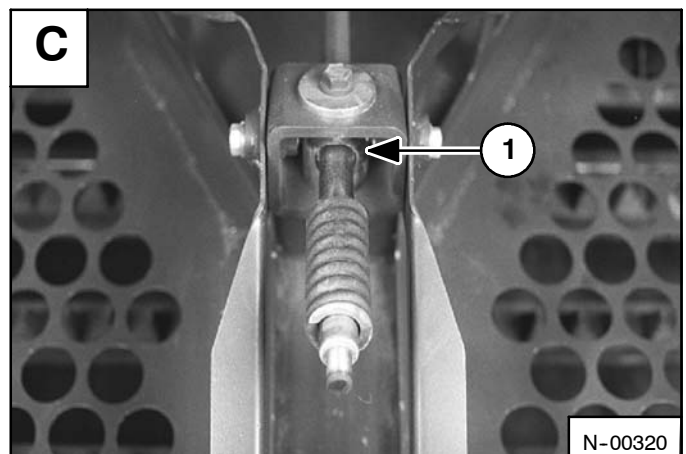
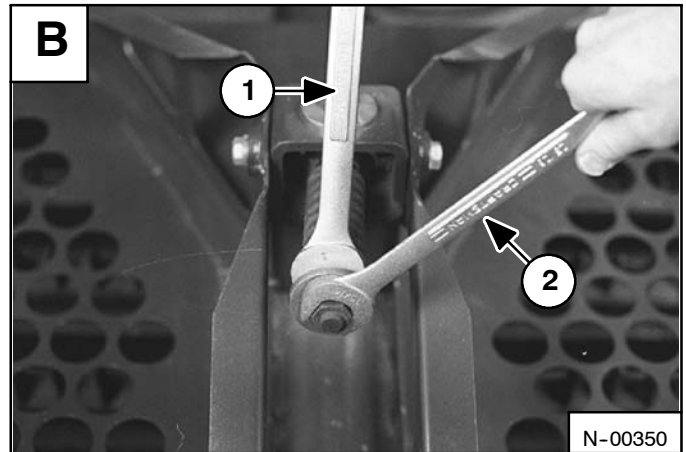
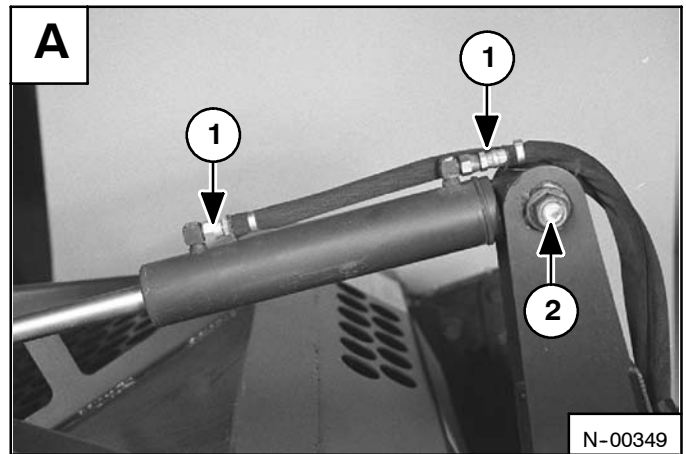
Installation: Tighten the nut to 125-140 ft.-lbs. (170-190 Nm) torque.

Remove the spring, check the condition of the rod, slide the rod from the rod guide (Item 1) [C] and remove the cylinder from the attachment.

Inspect the cylinder for wear or damage and replace if necessary.

Cylinder Rod Guide Removal and Installation

Remove the bushing mounting bolt (Item 1) [D] and inspect the bushing for wear or damage. Replace if necessary.

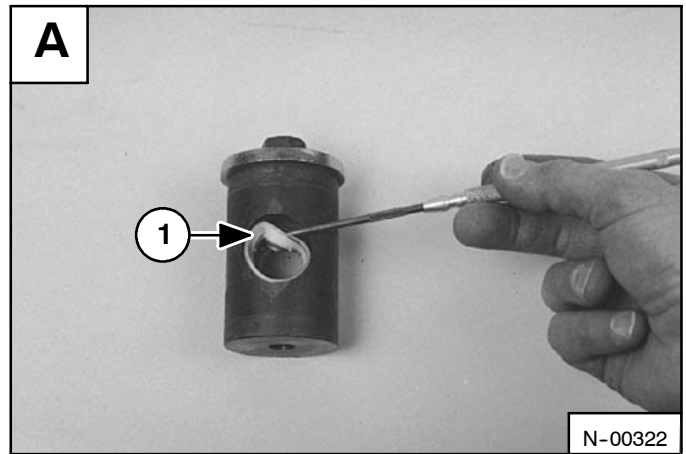


ROCKHOUND CYLINDER (Cont'd)

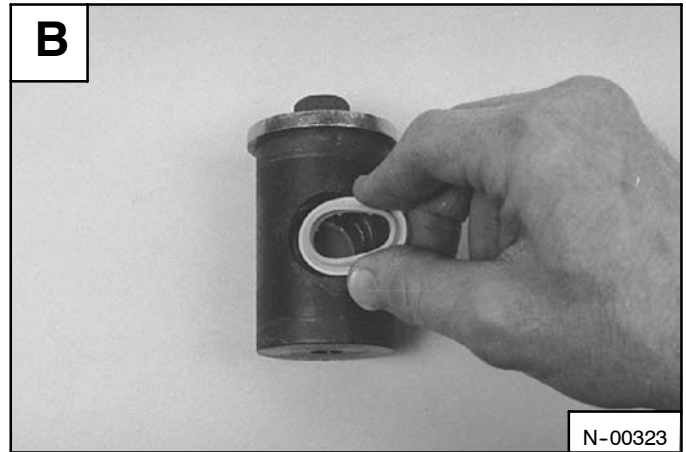
Cylinder Rod Guide Removal and Installation (Cont'd)

NOTE: The rod wipers can be removed from the guide while on the Rockhound. The guide is removed from the Rockhound for clarity.

Remove the rod wipers (Item 1) [A] from the guide.



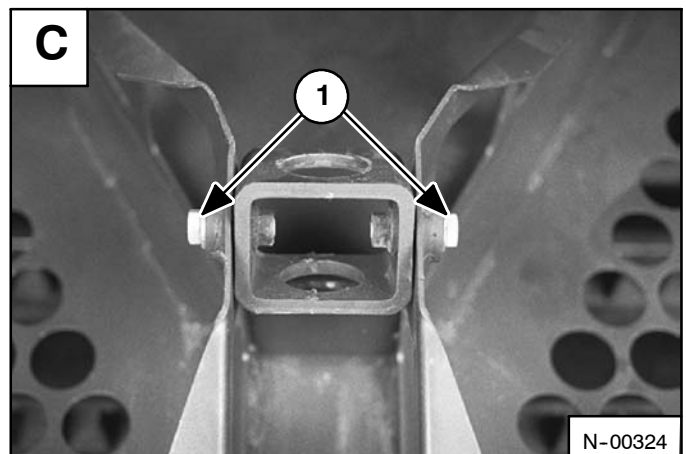
When installing the rod wipers, the lip must be toward the outside of the guide [B].



Rod Guide Housing Removal and Installation

Remove the bolts (Item 1) [C] from the pivot bushings.

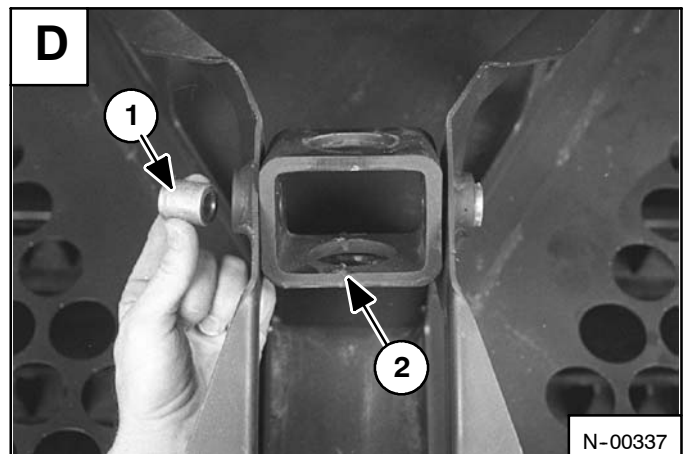
Installation: Use anti-seize on the bolts and nuts during assembly.



Remove the pivot bushings (Item 1) [D] from the frame.

Remove the housing (Item 2) [D].

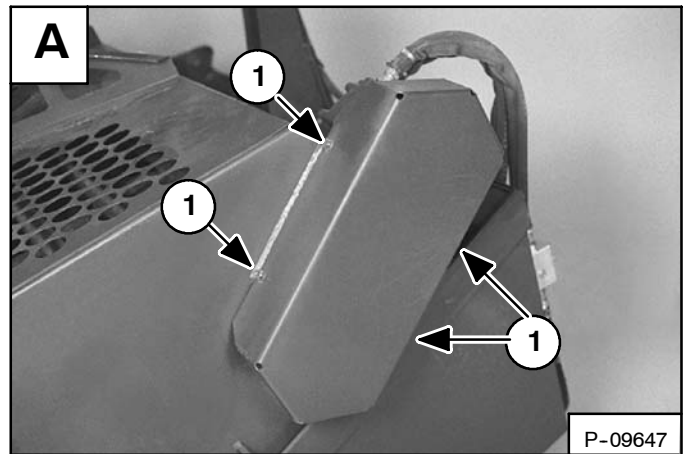
Installation: Use anti-seize on the pivot bushings during assembly.



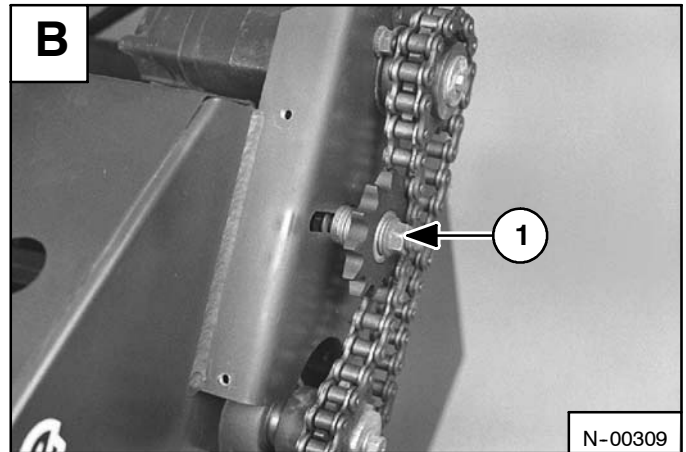
DRIVE MOTOR

Drive Chain Adjustment

Remove the four bolts (Item 1) [A] from the motor shield.



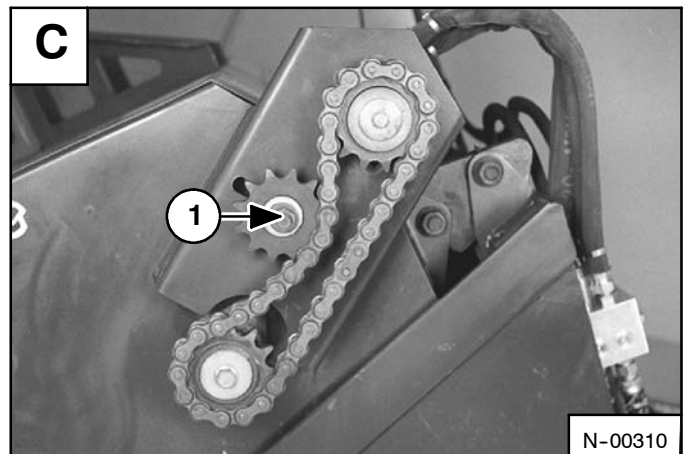
Loosen the idle sprocket bolt (Item 1) [B] and move the idle sprocket to adjust the chain tension to be 1/2 inch (12,7 mm) deflection in the middle of the chain.



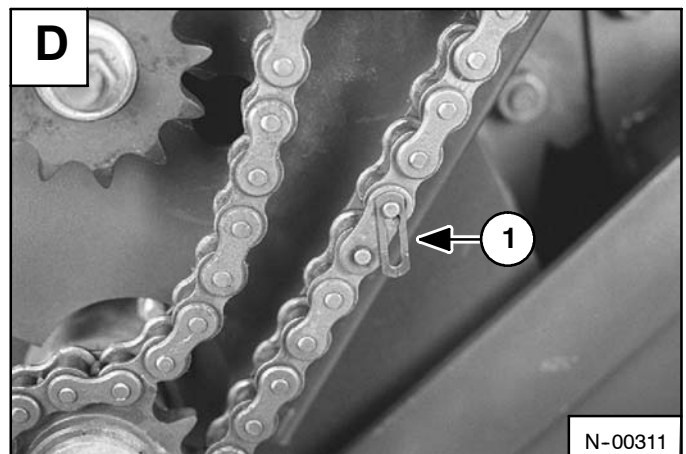
Drive Chain Removal and Installation

Loosen the idle sprocket bolt (Item 1) [C] and slide the sprocket away from the chain.

Installation: Install the same number of washers (Item 1) [C] behind the sprocket during assembly.



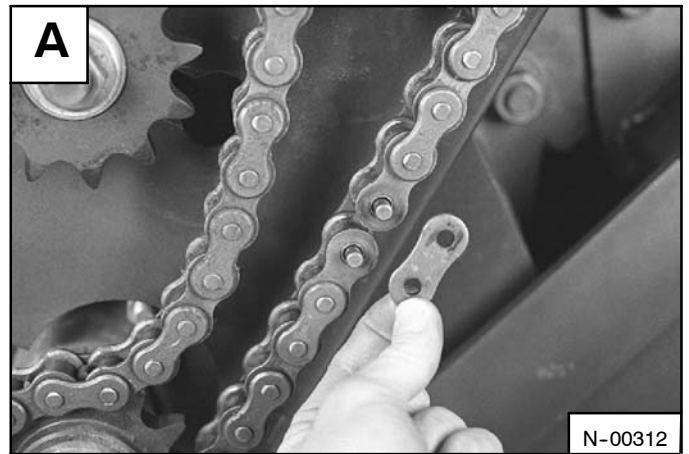
Remove the clip (Item 1) [D] from the chain link.



DRIVE MOTOR (Cont'd)

Drive Chain Removal and Installation (Cont'd)

Remove the retainer [A].



Separate the drive chain and the link [B].

Remove the drive chain from the sprockets.

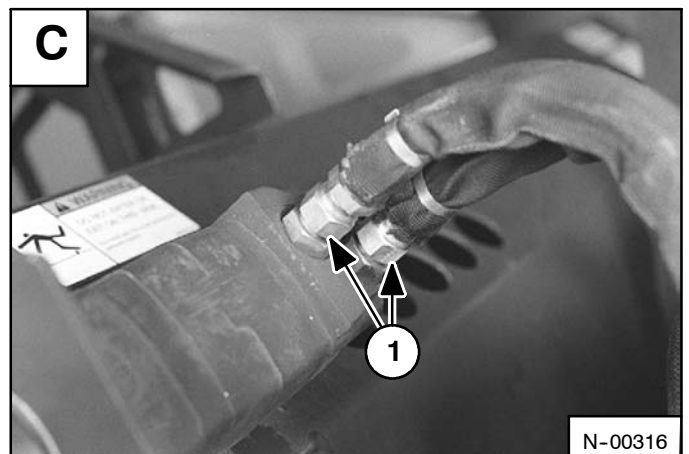


Drive Motor Removal and Installation

Remove the drive motor shield. (See Page 20.)

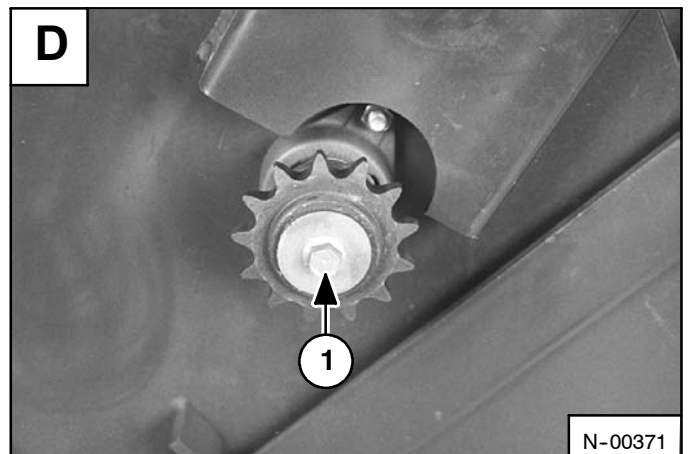
Remove the drive chain. (See Page 20.)

Remove the hoses (Item 1) [C] from the drive motor.



Remove the bolt (Item 1) [D] and washer from the drive sprocket.

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

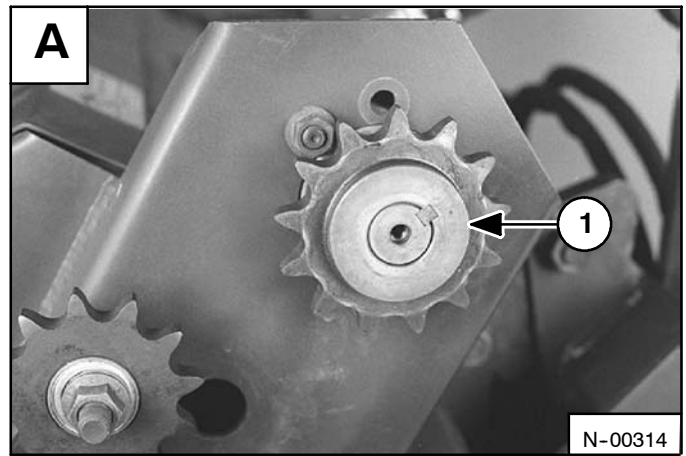


DRIVE MOTOR (Cont'd)

Drive Motor Removal and Installation (Cont'd)

Remove the drive sprocket (Item 1) [A] from the motor shaft.

Installation: Use anti-seize on the drive motor shaft during sprocket installation.

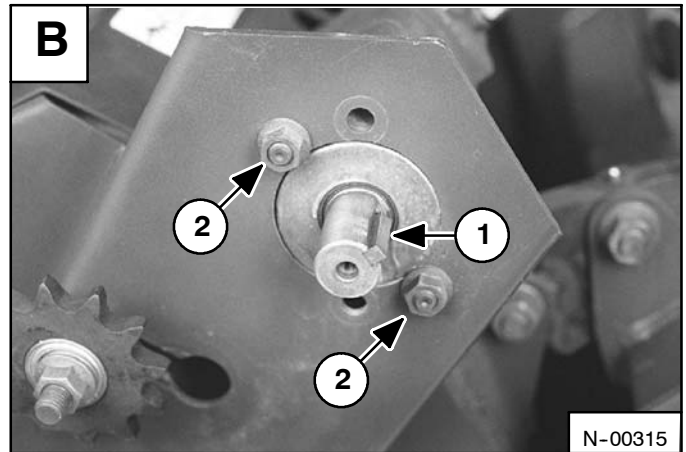


Remove the key (Item 1) [B] from the drive motor shaft.

Remove the two nuts (Item 2) [B] from the motor mounting bolts.

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

Remove the drive motor from the Rockhound.

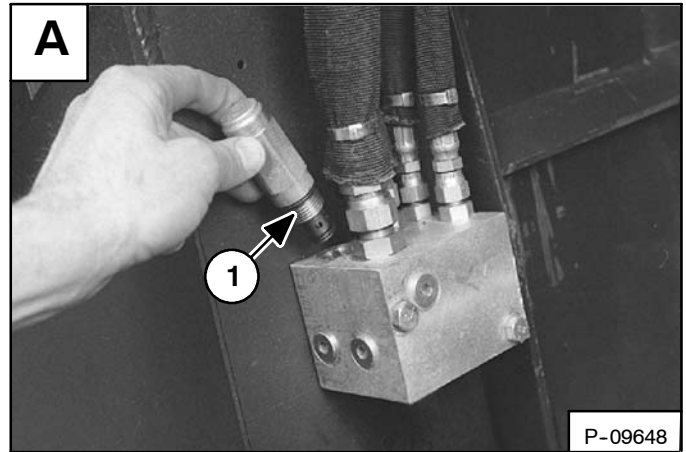


PORT BLOCK

Relief Valve Removal and Installation

The relief valve (Item 1) [A] is located on top of the port block.

NOTE: See your dealer for the correct supply hoses and fittings.



Removal and Installation

Mark the hoses on the port block for correct location during assembly [B].

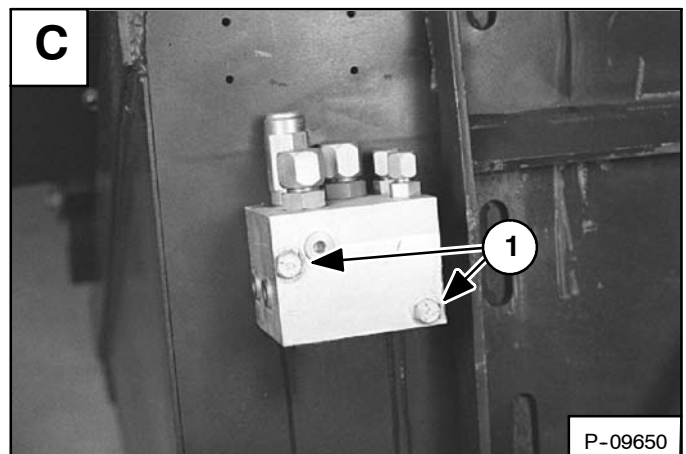


Install plugs in the hoses and caps on the port block fittings to prevent contamination [C].

Remove the mounting bolts (Item 1) [C] from the port block.

Remove the port block from the bucket.

Clean the port block before disassembly. Check and replace the parts as needed. Always use new O-rings when assembling the port block.



PORT BLOCK (Cont'd)

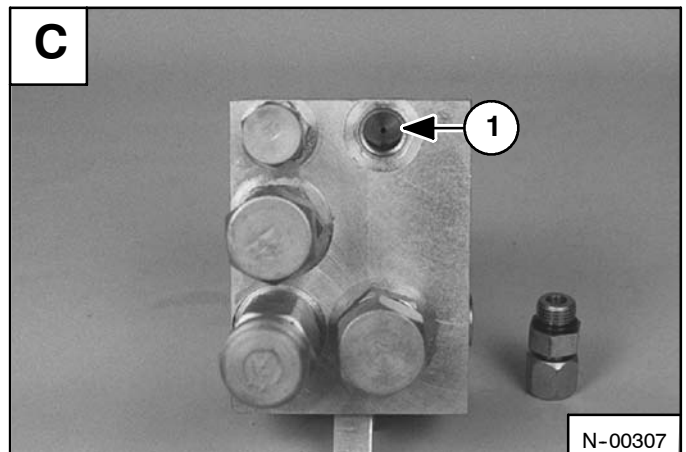
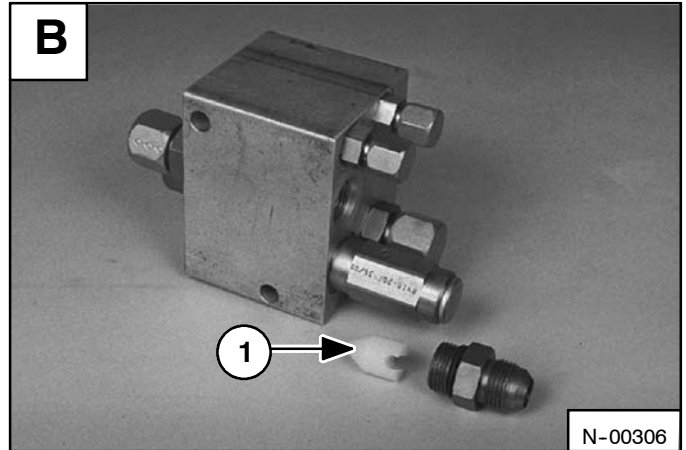
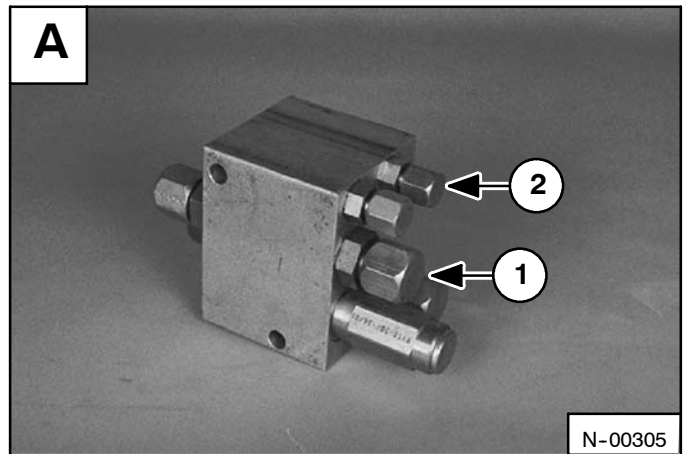
Check Valve Removal and Installation

NOTE: The port block contains an internal check valve and a 0.070 inch (1,8 mm) orifice to control the action of the Rockhound cylinder.

Remove the fitting (Item 1) [A] to access the check valve.

Remove the check valve (Item 1) [B] and replace if damaged.

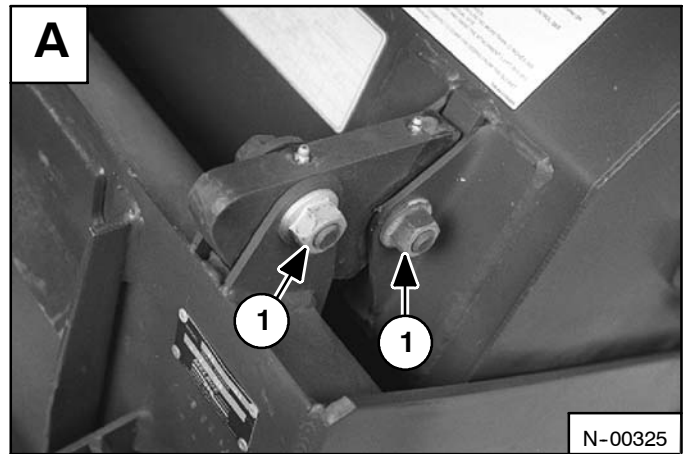
Remove the fitting (Item 2) [A] and check that the 0.070 inch (1,8 mm) orifice (Item 1) [C] is clear of obstructions.



HINGES

Removal and Installation

Remove the nuts (Item 1) [A] from the hinge bolts (both hinges).



Remove the hinge bolts (both hinges) [B].

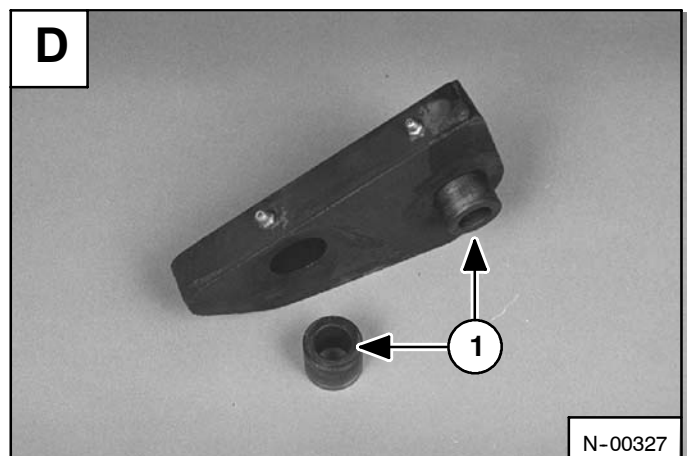


Remove the hinge(s) from the frame [C].



Remove the bushings (Item 1) [D] from the hinges.

Assembly: Apply grease to all surfaces of the bushings during assembly.



ROCKHOUND BEARINGS

Removal and Installation

NOTE: The bearing removal procedure, from the bearing housings, is the same for all bearings.

Loosen the nuts (Item 1) [A] and back the adjustment bolt (Item 2) [A] to release the tension on the Rockhound chain.

Remove the bolt (Item 3) [A] and washer from the shaft.

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

Remove the nuts from the bearing housing and remove the housing from the shaft.

Assembly: Use anti-seize on the bearing surfaces of all shafts.

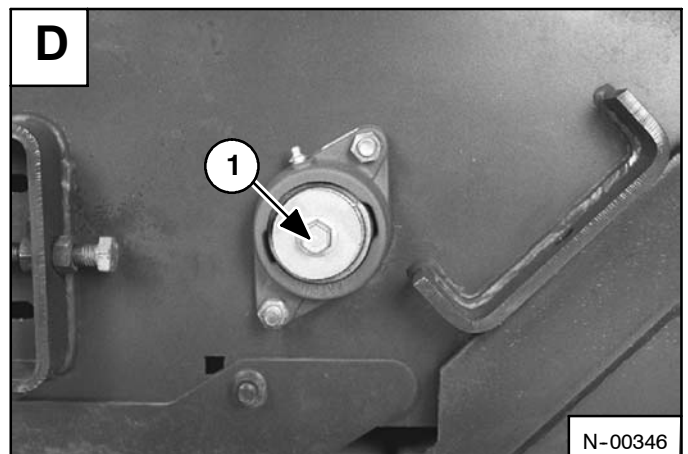
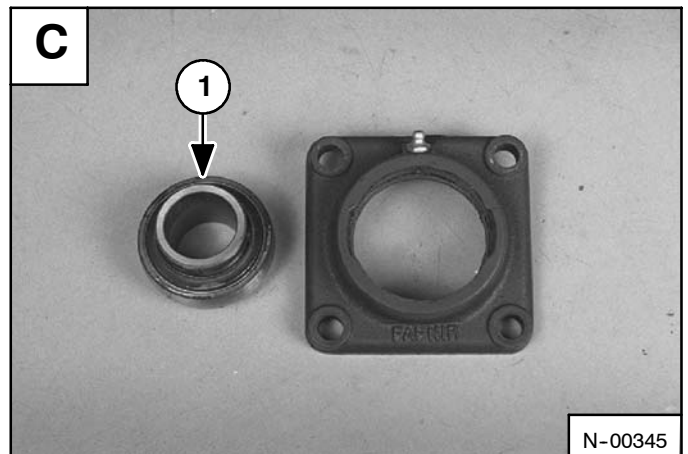
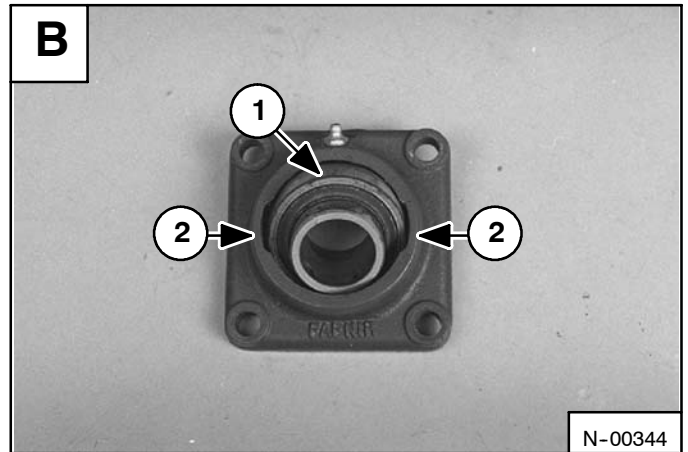
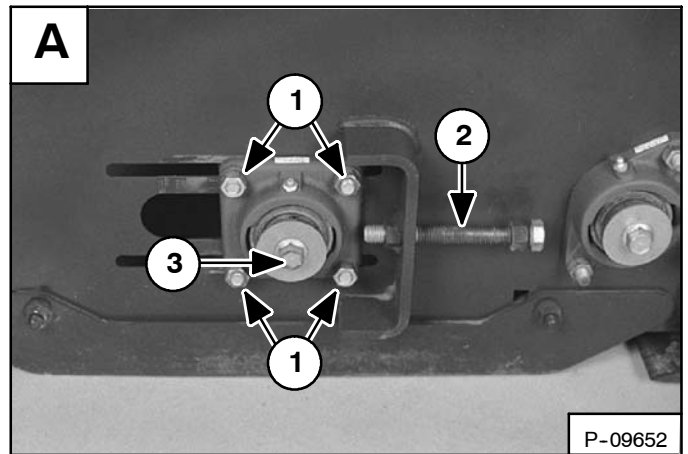
Pivot the bearing (Item 1) [B] until it aligns with the slots in the housing (Item 2) [B].

Remove the bearing (Item 1) [C] from the bearing housing.

Assembly: Apply grease to the bearing race and the bearing surface in the housing.

Remove the bolt and washer (Item 1) [D] from the idler shaft.

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



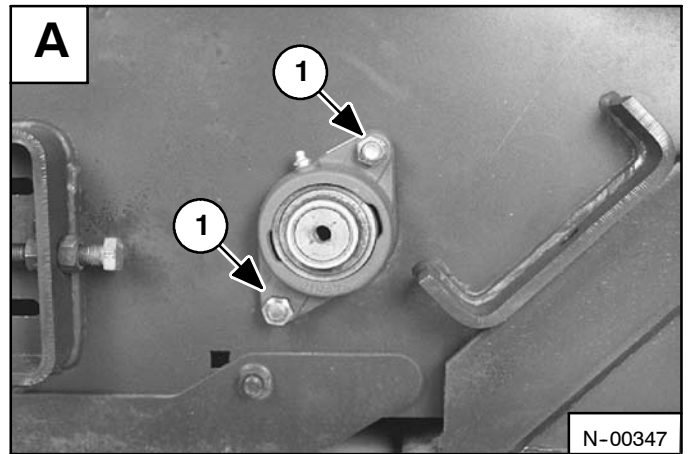
ROCKHOUND BEARINGS (Cont'd)

Removal and Installation (Cont'd)

Remove the nuts (Item 1) [A] from the bearing housing bolts.

Remove the bearing housing from the frame.

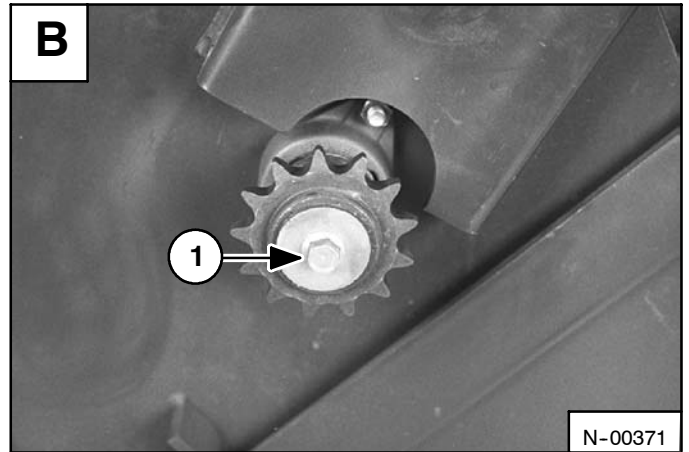
Remove the bearing from the housing. (See Page 26.)



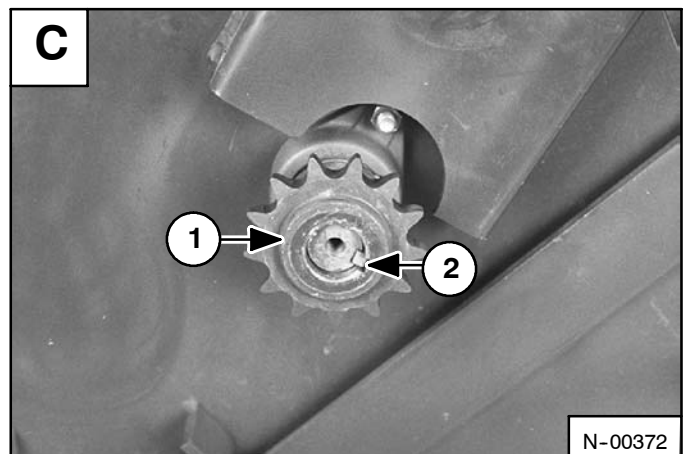
To remove the bearing from the drive shaft, the drive sprocket must first be removed.

Remove the bolt (Item 1) [B] and washer.

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



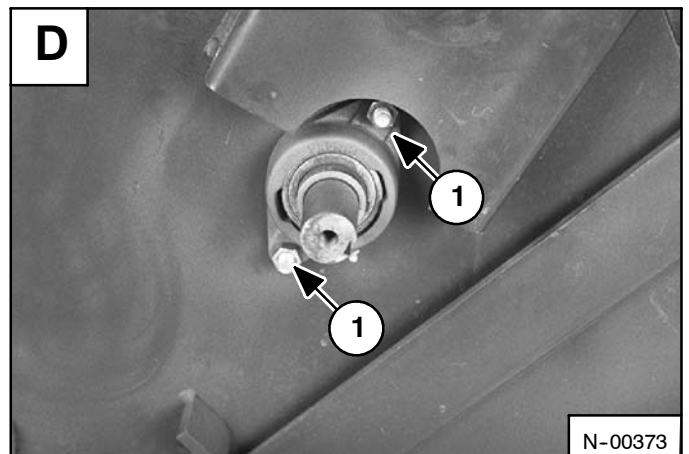
Remove the drive sprocket (Item 1) [C] and key (Item 2) [C].



Remove the nuts (Item 1) [D] from the bearing housing bolts.

Remove the bearing housing from the frame.

Remove the bearing from the housing. (See Page 26.)



ROCKHOUND CHAIN

Removal and Installation

NOTE: The chain removal procedure was done using an over head hoist and the Rockhound positioned upside down.

Remove the shield from the drive motor. (See Page 20.)

Remove the drive motor chain. (See Page 20.)

Remove the hydraulic hoses from the motor. (See Page 21.)

Remove the cylinder. (See Page 18.)

Remove the hinges. (See Page 25.)

Install chains (Item 1) [A] in the slots of the frame, and use a hoist to separate the Rockhound frame from the bucket.

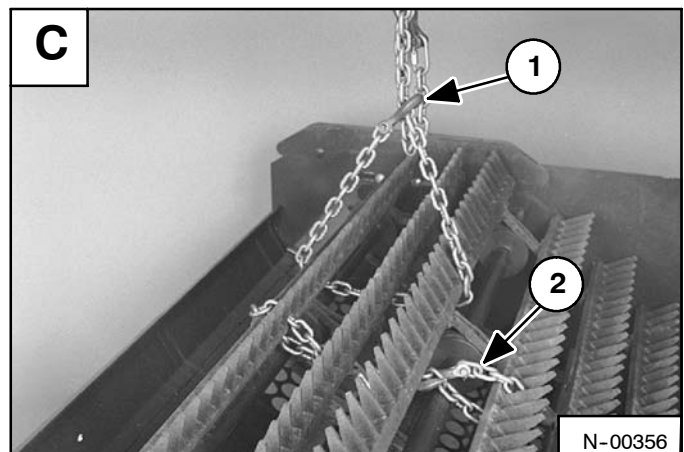
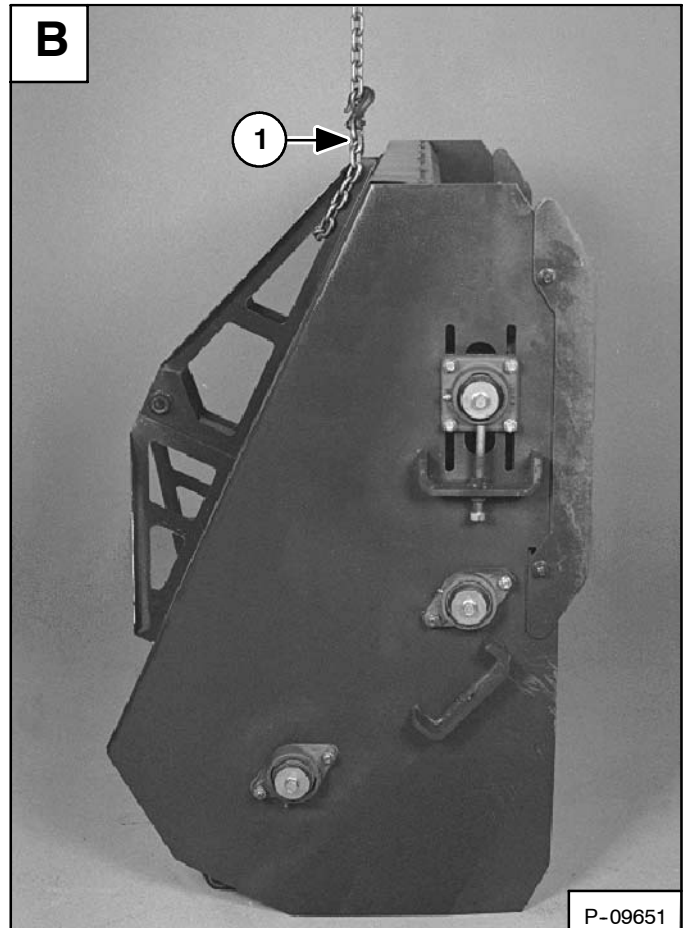
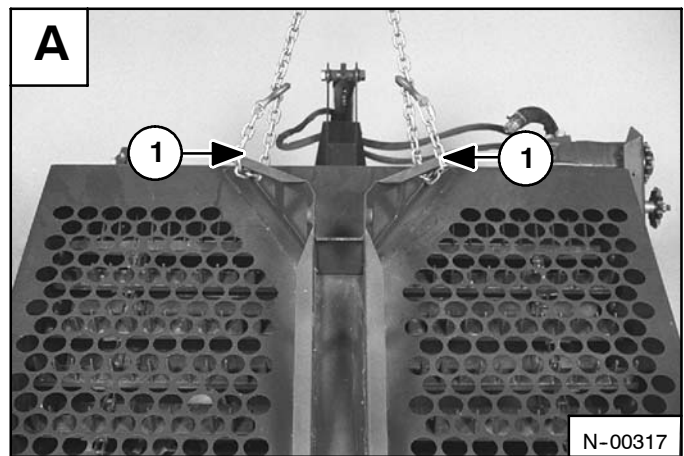
By repositioning the chains in the slots (Item 1) [B] toward the front of the Rockhound frame, a hoist can be used to stand the Rockhound frame on its back edge as shown.

Continue to pull the Rockhound frame into the upside down position. The Rockhound frame will be stable in this position for chain removal.

Position the master links to the top. Release the tension fully from the Rockhound chain.

Wrap a chain (Item 1) [C] around three (3) bars (with the master links enclosed). Using a hoist to lift the chain will squeeze the bars together.

NOTE: Using the hoist to lift the chain will release the master link tension and allow removal.



WARNING

AVOID INJURY

Do not attempt to separate the rake chain master links by standing under or reaching under the attachment. The Rockhound chain can suddenly separate and shift when the chain master links are removed. Use a chain or other restraining device to hold the rake bars together before removing the master links.

NOTE: The hoist chain will need to be repositioned for Rockhound chain removal.

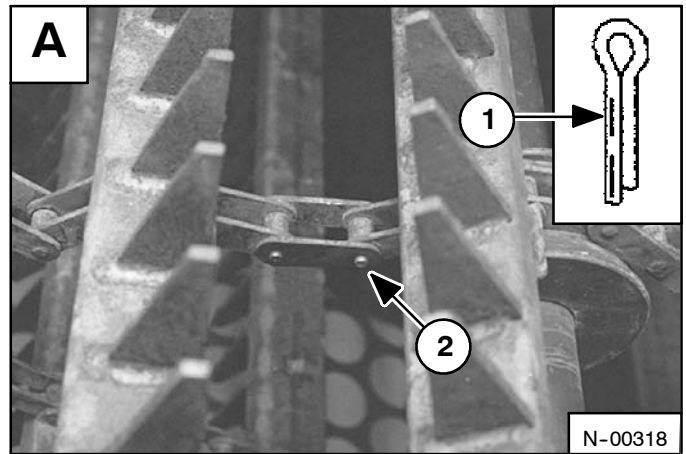
Install a safety chain (Item 2) [C] to prevent the bars from separating while repositioning the hoist chain.

Lower the hoist chain until the safety chain is holding the Rockhound chain in a secure position.

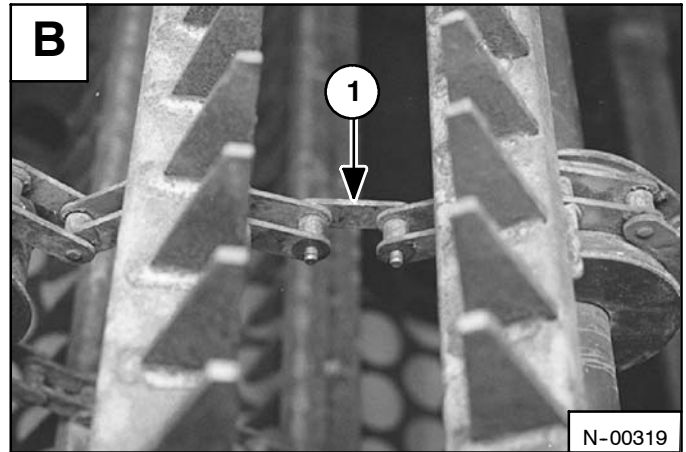
ROCKHOUND CHAIN (Cont'd)

Removal and Installation (Cont'd)

Remove the cotter pin (Item 1) [A] from the retainer. Removed the retainer (Item 2) [A] from the three master links.



Remove the link (Item 1) [B] from the three chain connectors.



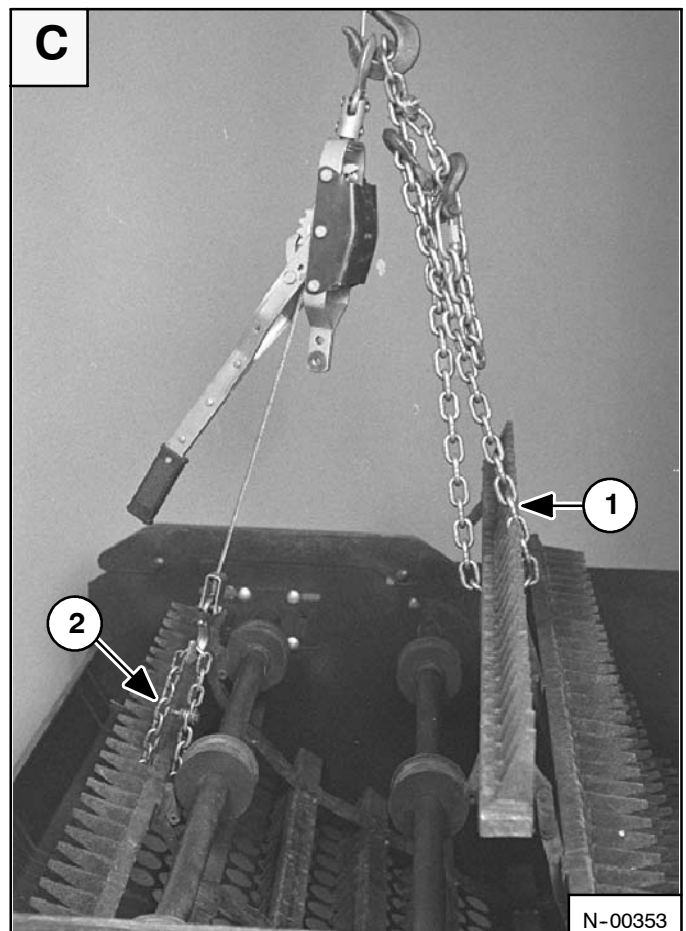
Connect a chain hoist to the last bar (Item 1) [C] on one end of the Rockhound chain, and connect a cable puller (Item 2) [C] to the last bar on the other end of the Rockhound chain.

Raise the hoist to release the safety chain from the Rockhound chain.

Release some tension from the cable puller and lower the chain hoist.

When lowered enough, one end of the Rockhound chain can be laid over the front of the Rockhound frame and the other end can be laid over the rear of the frame.

Installation: Use the reverse procedure to install the Rockhound chain. Use the chain hoist and cable puller for the installation of the chain. Use a safety chain for the master link connection.

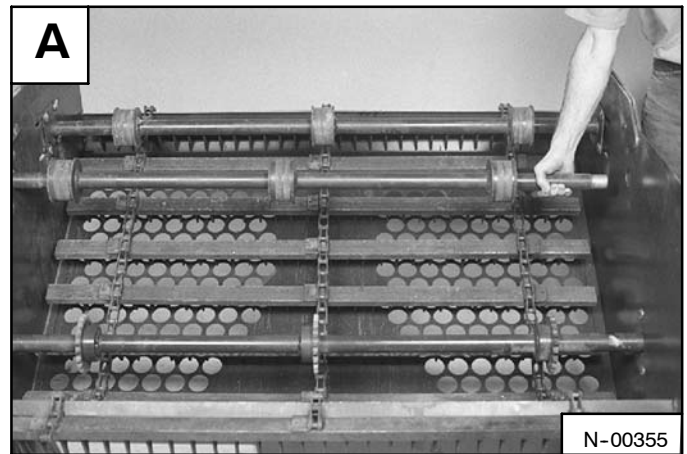


ROCKHOUND CHAIN (Cont'd)

Removal and Installation (Cont'd)

Remove the bearings from the shafts. (See Page 26.)

Remove the shafts from the frame [A].



Remove the Rockhound chain from the Rockhound frame [B].

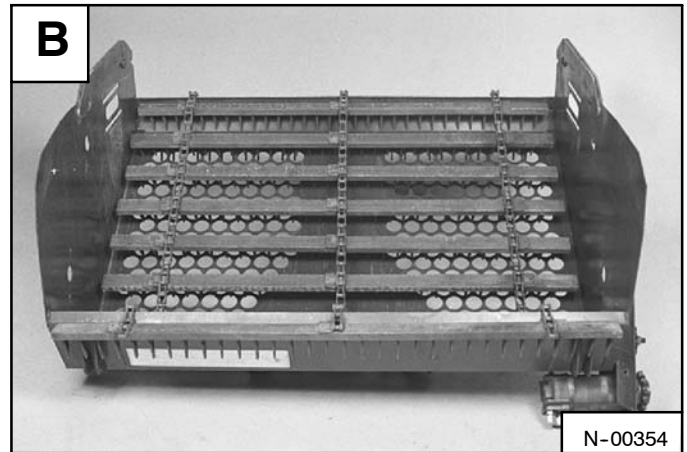
Installation: Use the reverse procedure to install the Rockhound chain. Use the chain hoist and cable puller for the installation of the chain. Use a safety chain for the master link connection.

Use the reverse procedure to put the Rockhound in the upright position.

Replacing Chain Bars

If a bar becomes damaged, see your dealer for a replacement bar and chain assembly.

Remove the Rockhound chain assembly from the frame and lay the assembly on the floor.



⚠ WARNING

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.

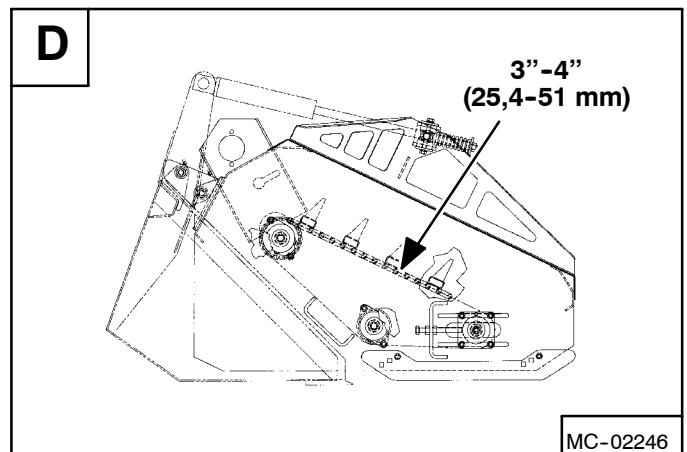
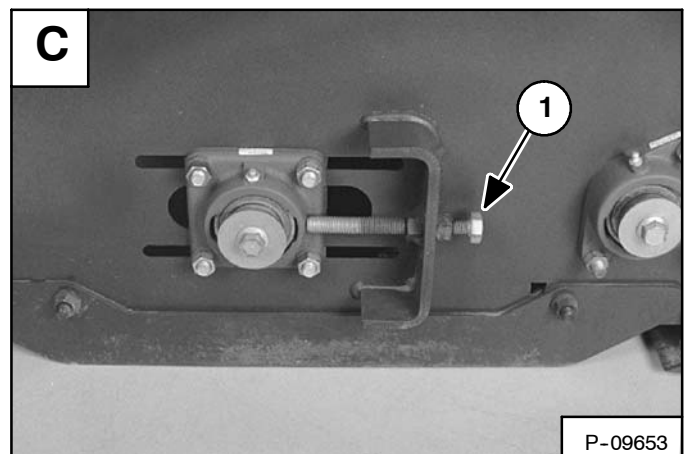
W-2019-1285

Use a grinder to remove the six center links on each side of the bar to be replaced.

Use the link, retainer, and cotter pin from the bar and chain assembly to install the replacement bar.

Adjusting the Rockhound Chain

Tighten the bolt (Item 1) [C] until there is 3-4 inches (25,4-51 mm) deflection in the middle of the chain [D].



SPECIFICATIONS

ROCKHOUND SPECIFICATIONS 33

SPECIFICATION



ROCKHOUND SPECIFICATIONS

	60B	72B
Total Weight	1010 lbs. (485 kg)	1130 lbs. (512 kg).
Bucket Capacity	12.1 cu. ft ³ . (0,34 m ³)	14.3 cu. ft ³ . (0,40 m ³)
Width	66.6 inches (1693 mm)	78.6 inches (1997 mm)
Rockhound Bars	Rectangular steel tubing of 2" x 1" x 1/8" wall (50,8 x 25,4 x 3,175 mm)	
Rockhound Tooth Size		
Thickness		
Length	3" (76 mm)	
No. of Rake Teeth	384	468
Chains	2060H Roller Chain #80H Roller Chain	
Rake		
Drive		
Hydraulic Motor Displacement	24 cu. in. (394 cm ³) 11.9 cu. in. (195 cm ³)	
Relief Valve Setting	900 PSI (6205 kPa)	
Bearings	Sealed	



HYDRAULIC MOTOR

Disassembly and Assembly

IMPORTANT

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

I-2003-0284

Remove the port block mounting bolts [A].

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

Remove the flow control port block from the hydraulic motor. (See Page 41 for disassembly and assembly of the port block.)

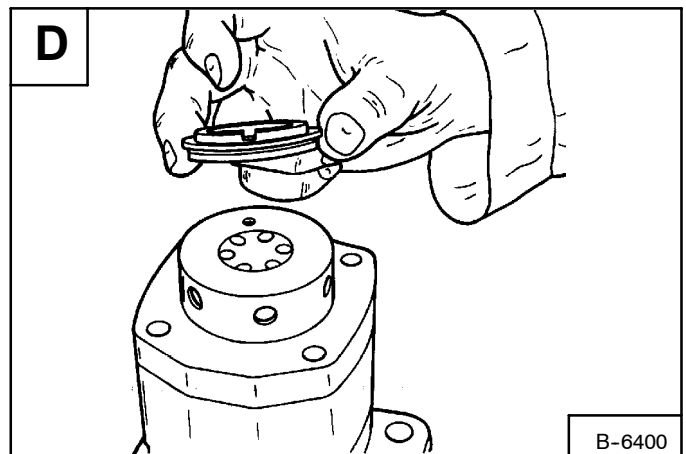
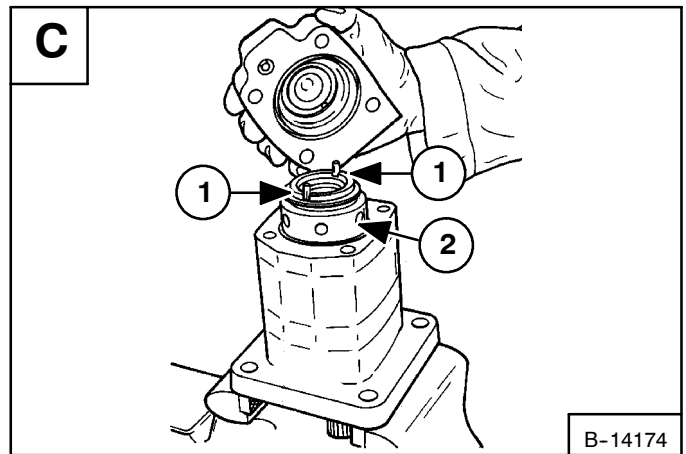
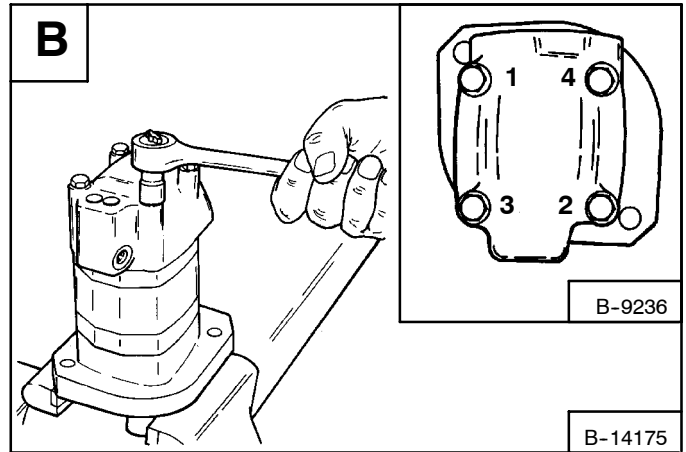
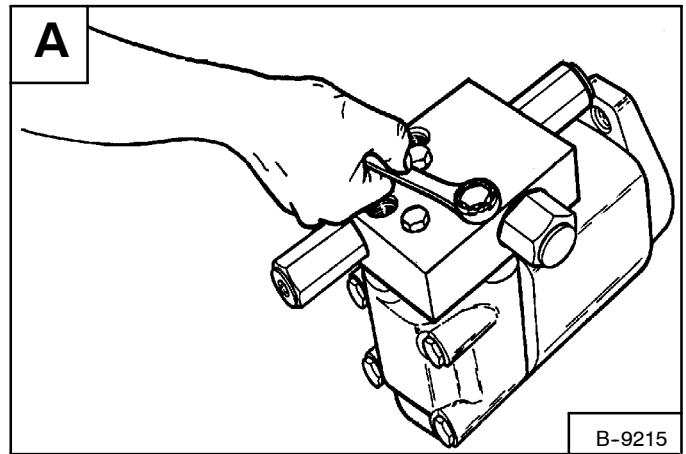
Remove the four bolts from the motor [B].

Installation: Tighten the bolts to 37 ft.-lbs. (50 Nm) torque in the correct sequence (Inset) [B].

Lift the valve housing straight up. If done carefully, the springs (Item 1) [C] and balance plate (Item 2) [C] will stay on the valve.

Remove the O-rings.

Remove the balance plate [D].

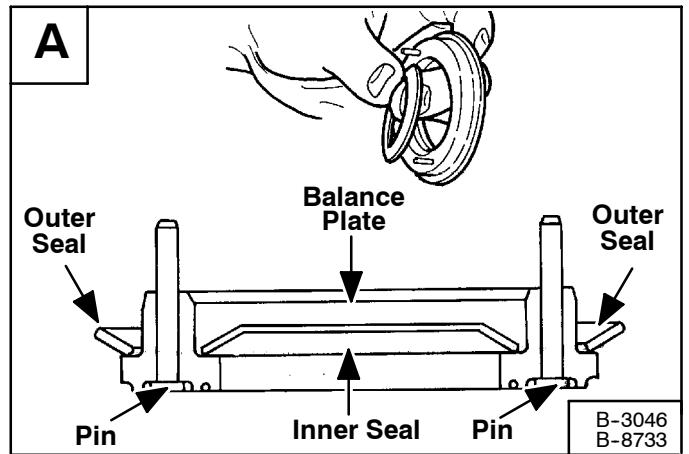


HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angle Broom

Disassembly and Assembly (Cont'd)

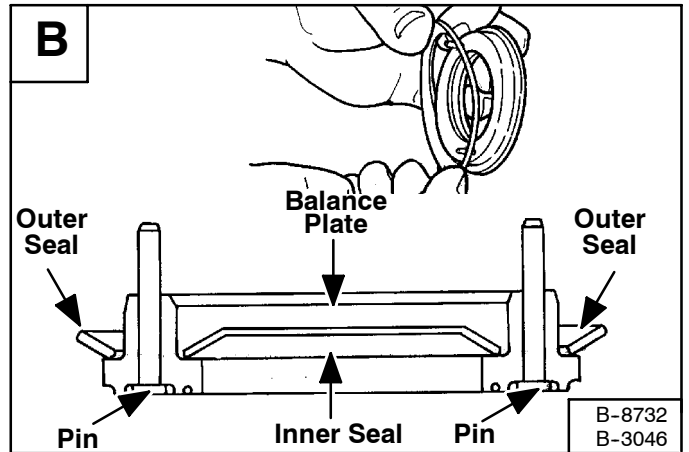
Remove the inner seal from the balance plate [A].

Installation: Put grease on the inner seal and install as shown [A].



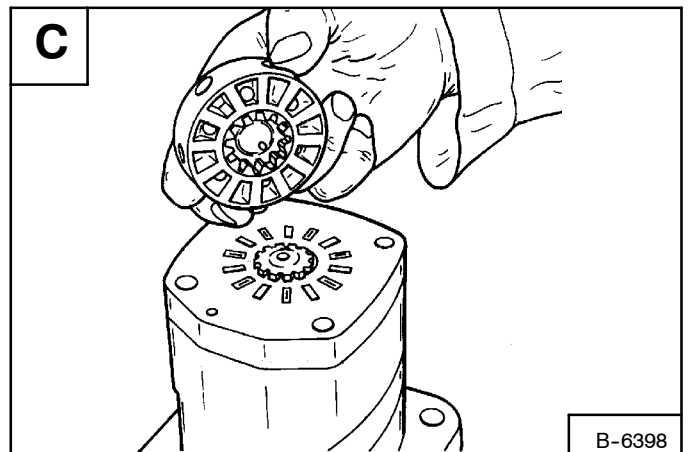
Remove the outer seal from the balance plate [B].

Installation: Put grease on the outer seal and install as shown [B].



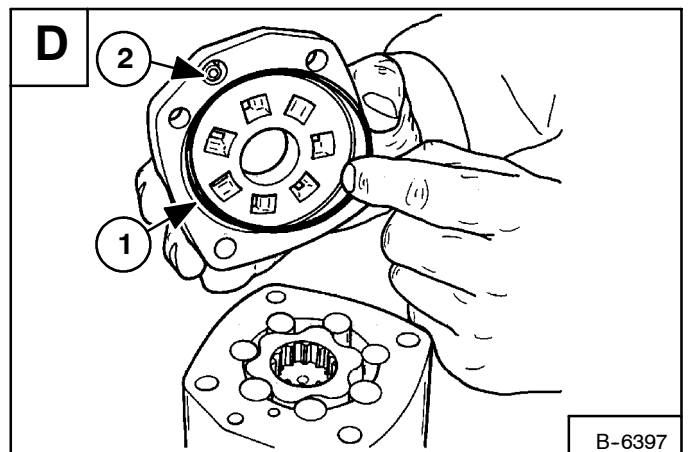
Remove the valve [C].

NOTE: See Page 38 for timing the motor when installing the valve, valve drive and geroler.



Remove the valve plate [D].

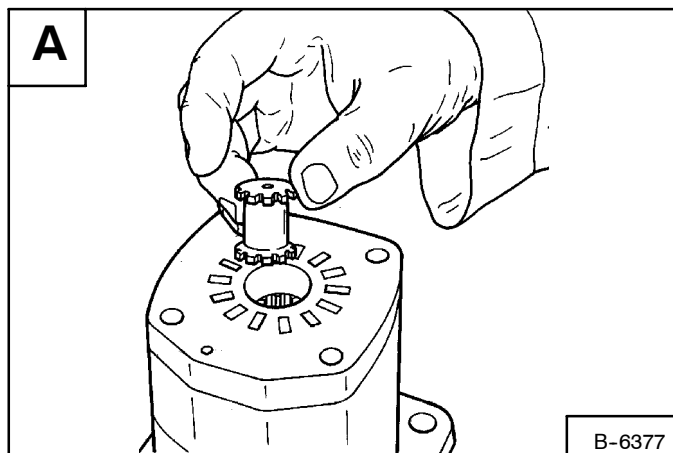
Remove the large O-ring (Item 1) [D] and small O-ring (Item 2) [D] from the valve plate.



HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angle Broom

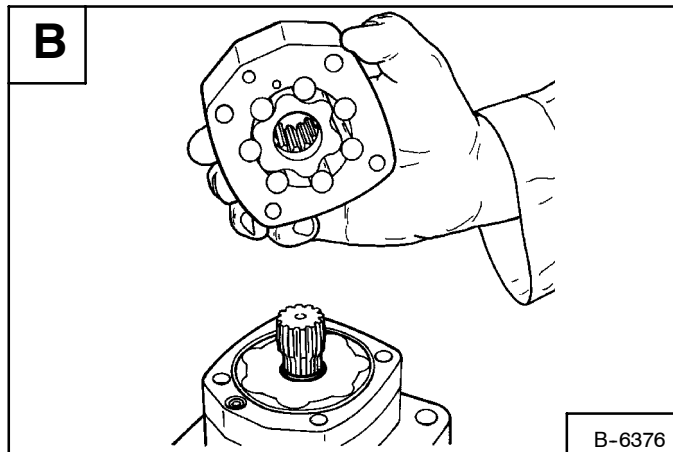
Disassembly and Assembly (Cont'd)

Remove the valve drive [A].

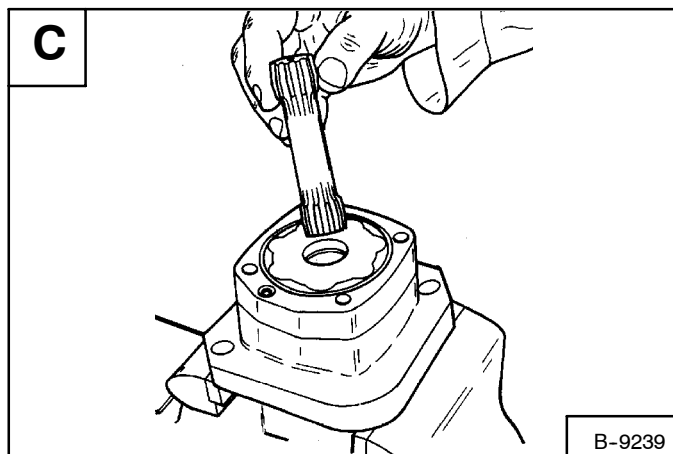


Remove the geroler [B].

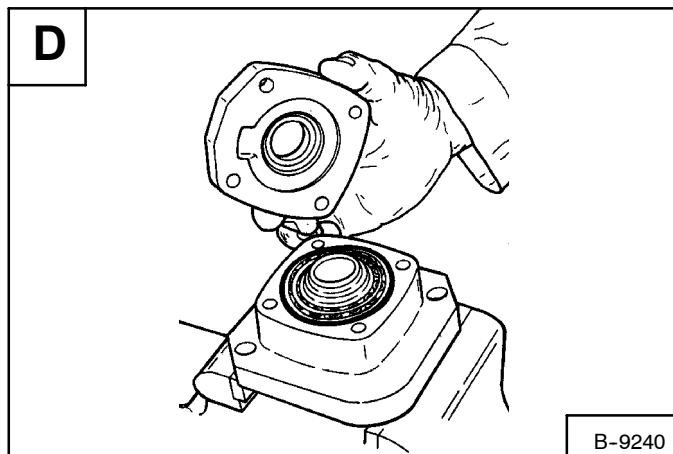
NOTE: All rollers must be installed in their original location.



Remove the drive shaft [C].



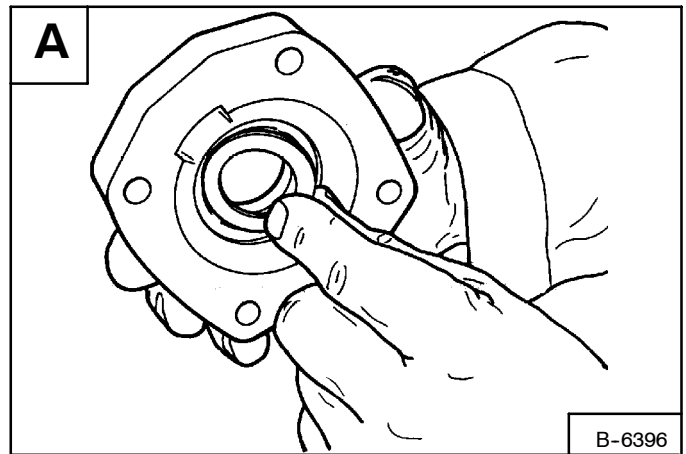
Remove the wear plate [D].



HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angle Broom

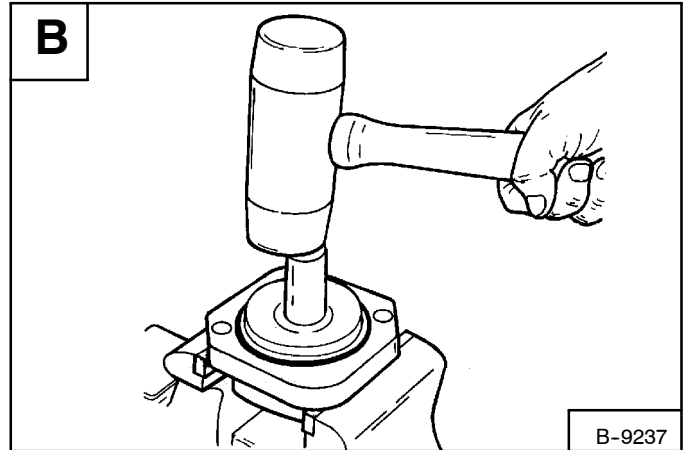
Disassembly and Assembly (Cont'd)

Remove the shaft face seal from the wear plate [A].



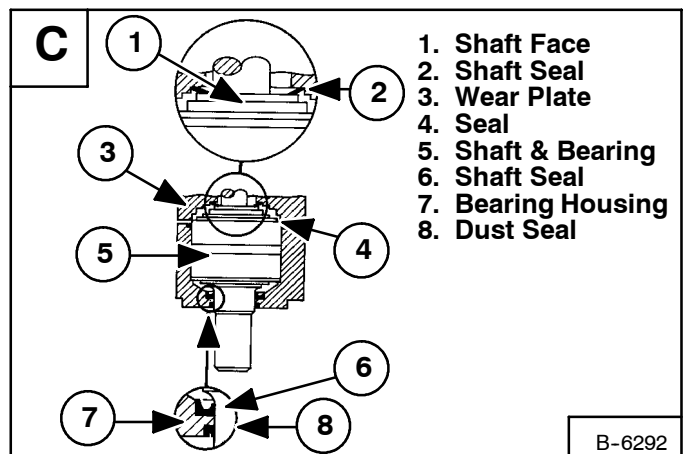
Remove the shaft and bearing assembly from the housing [B].

NOTE: The shaft and bearing assembly are not sold as individual parts. Replace the complete unit.

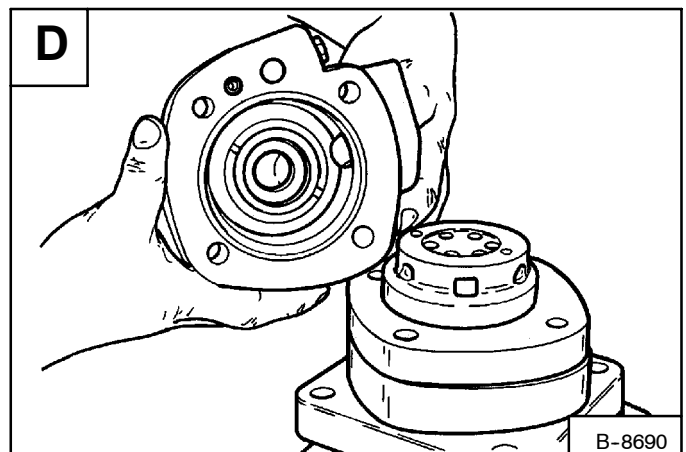


Remove the dust seal and shaft seal from the housing [C].

Installation: Install a new shaft seal and dust seal as shown [C]. Use a press to install the bearing and shaft assembly.



Installation: When installing the balance plate on the end housing, put your finger through the hole and hold it in position until the end housing is in position [D].



HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angle Broom

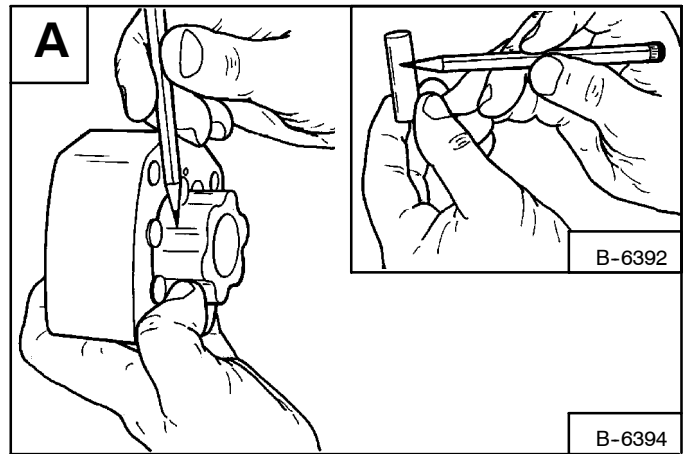
Inspection

Before the motor is assembled, check the following items:

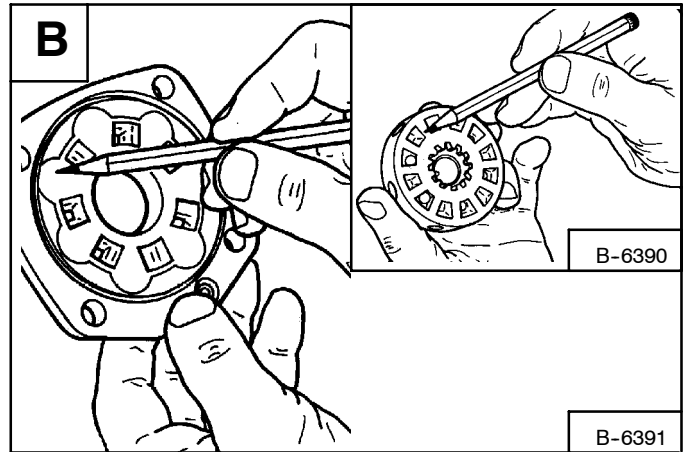
Clean all parts in clean solvent and use air pressure to dry them. Do not use cloth or paper because small pieces of material can get into the system and cause damage.

1. Check the geroler roller and rotor for wear and scratches **[A]**.

NOTE: Put all the rollers back in their original position.

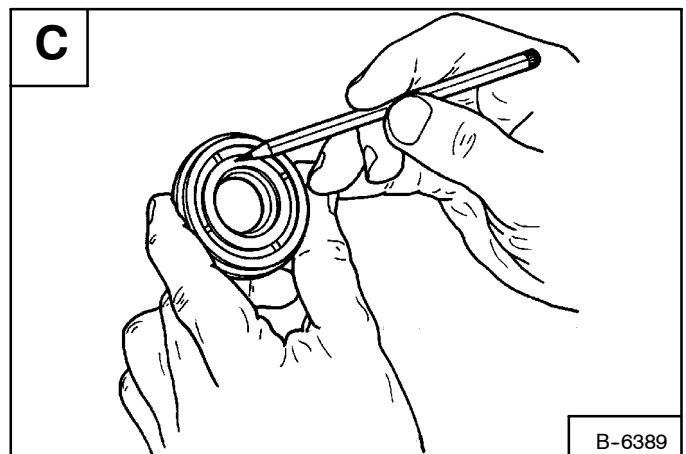


2. Check the valve plate for scratches **[B]**.

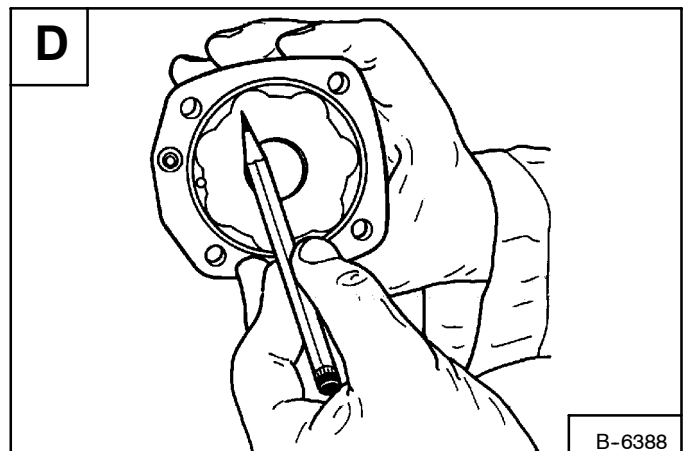


3. Check the balance plate for scratches **[C]**.

4. Check the valve drive and main drive for wear.



5. Check the end plate surface for scratches.



HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angle Broom

Timing the Hydraulic Motor

The timing of the motor controls the direction of rotation of the drive shaft. The timing parts are as follows [A].

1. Geroler Assembly
2. Valve Drive
3. Valve Plate Assembly
4. Valve

Find the largest opening between the geroler star and the geroler ring. Mark the outside of the geroler ring at the point [A].

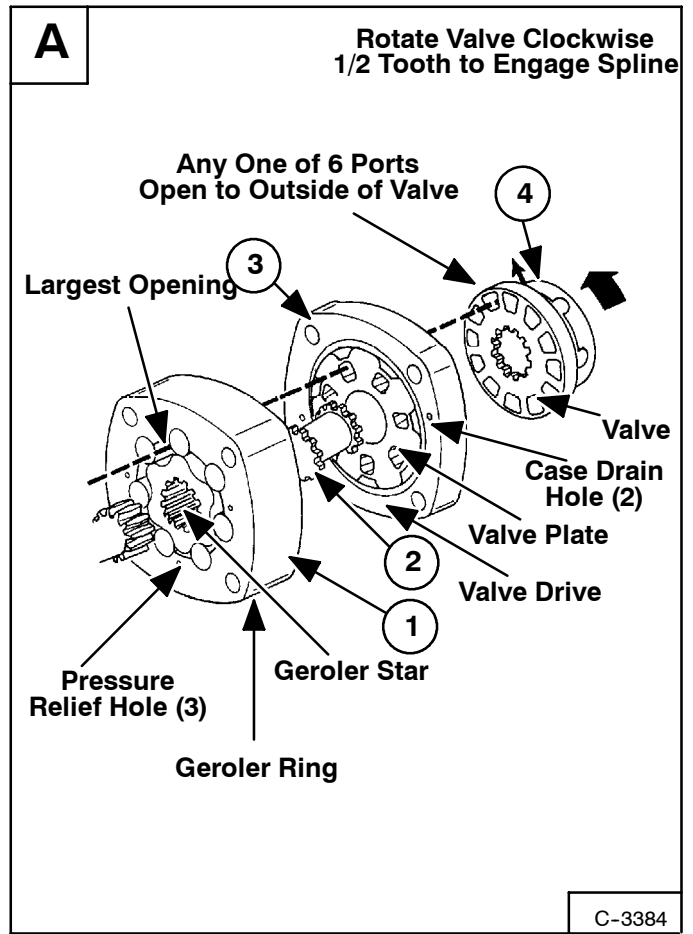
Align the drain hole in the valve plate with the drain hole in the geroler. Install the valve plate with the O-ring toward the geroler.

Make sure the slot opening of the valve plate is aligned with the largest opening of the geroler.

Install the valve plate assembly.

Install the valve on the valve plate. Align one of the side openings with the mark on the geroler. Turn the valve clockwise a small amount until the teeth on the valve drive engage.

Continue with the remainder of the assembly procedure.



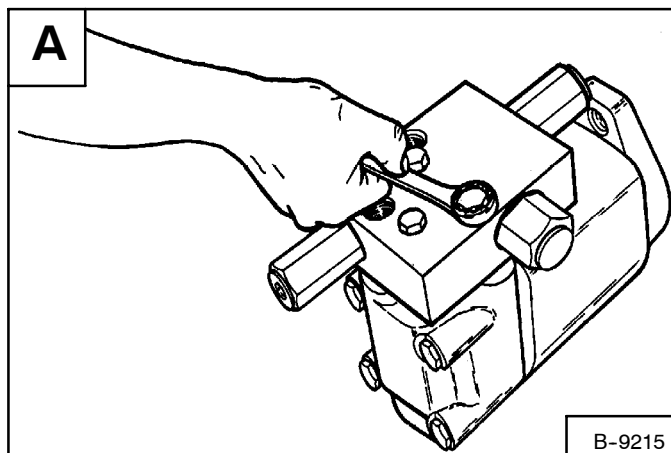
HYDRAULIC MOTOR (Cont'd) - Landscape Rake and Angie Broom

Flow Divider Disassembly and Assembly.

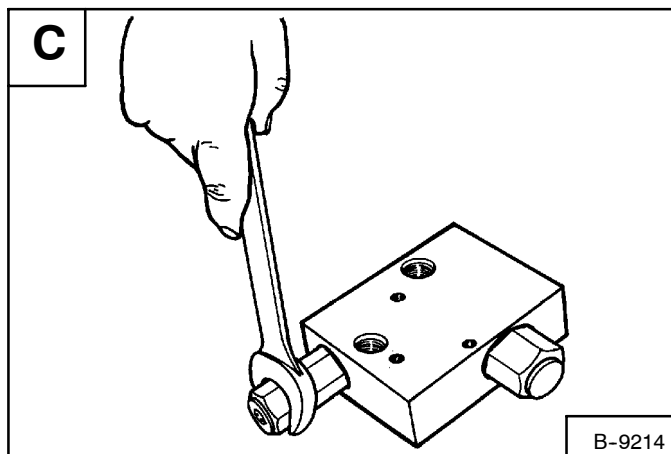
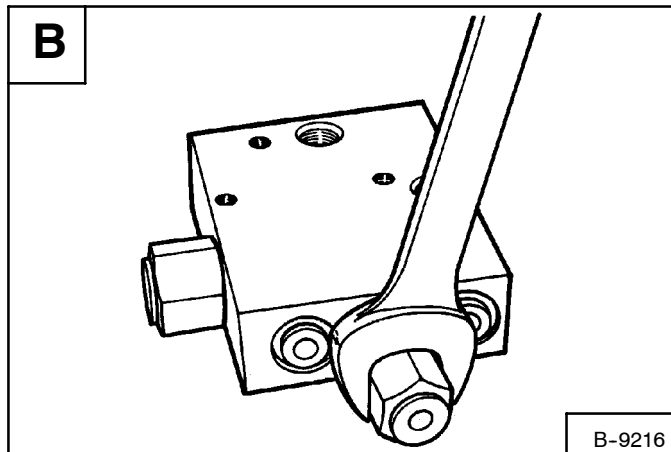
Remove the port block mounting bolts [A].

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

Remove the port block from the motor.

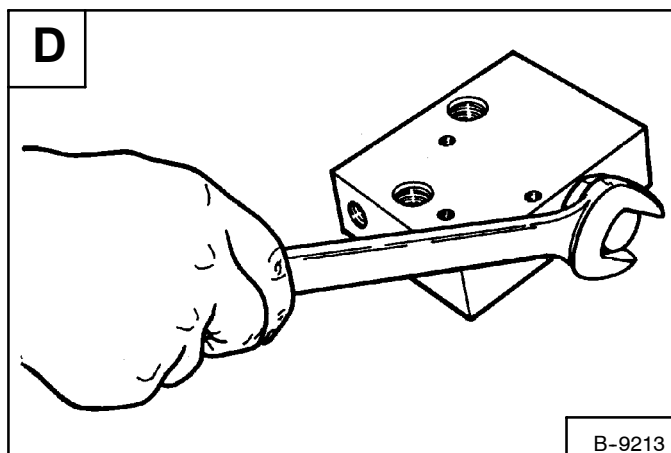


Remove both relief valves from the port block [B] & [C].



Remove the flow divider valve [D].

Clean and inspect all the parts. Replace the parts as needed. Always use new O-rings when assembling the port block.



ROCKHOUND ATTACHMENTS limited warranty covers the replacement of defective parts F.O.B., Chicago, At which they are available. The warranty also provides labor allowance of \$25.00 per hour to the dealer for warranty work on your machine.

IT DOES NOT COVER

1. Freight costs for the parts from our warehouse to your dealer.
2. Dealer costs of travel to service your machine at his place of business or your work site.
3. Parts other than genuine Rockhound replacement parts.
4. Oil or down time.

This warranty does not cover any unauthorized modification.

See Limited Warranty Policy form for complete details.

This card to be retained by the customer.

DEALER LIMITED WARRANTY RECORD CARD

Distributor Name _____

Address _____

Customers new copy machine warranty is for six (6) consecutive calendar months after delivery date shown on other side. For full policy and procedures see Limited Warranty.

This card to be retained by Dealer

Rockhound Attachments
2507 Tully Road
Hughson, CA 95326
Phone: 1-800-426-5615
Fax: (360) 230-2322

BUSINESS REPLY CARD

Place
Stamp
Here

ROCKHOUND ATTACHMENTS



2507 Tully Road
Hughson, CA 95326
Phone: 1-800-426-5615
Fax: (360) 230-2322



CUSTOMER LIMITED WARRANTY RECORD CARD

ROCKHOUND ATTACHMENTS warrants this machine to be free from defects in material or workmanship For a period of six (6) calendar months from the date of delivery to first registered owner, providing that The machine has not been altered or tampered with or been subject to negligent handling, accident, misuse or abuse.

Machine Model _____ **Serial No.** _____ **Delivery Date** _____

DEALER NAME _____

ROCKHOUND ATTACHMENTS

ADDRESS _____

DEALER LIMITED WARRANTY RECORD CARD

ROCKHOUND ATTACHMENTS

Machine Model _____ **Serial No.** _____ **Delivery Date** _____

Customer's Name _____

Address _____

- Industrial
- Home
- Rental
- Custom

Customer Signature

LIMITED WARRANTY REGISTRATION CARD

ROCKHOUND ATTACHMENTS

Machine Model _____ **Serial No.** _____ **Delivery Date** _____

Customer's Name _____

Address _____

Dealer _____

Address _____ **Zip** _____

- Industrial
- Home
- Rental
- Custom

This card must be returned to Rockhound Attachments before any claim will be honored.

