

Product: 1999 Bobcat Stump Grinder SG-25/SG-50 Service Repair Workshop Manual(SG-25 S/N 879300101 & Above,SG-50 S/N 702100101 & Above)
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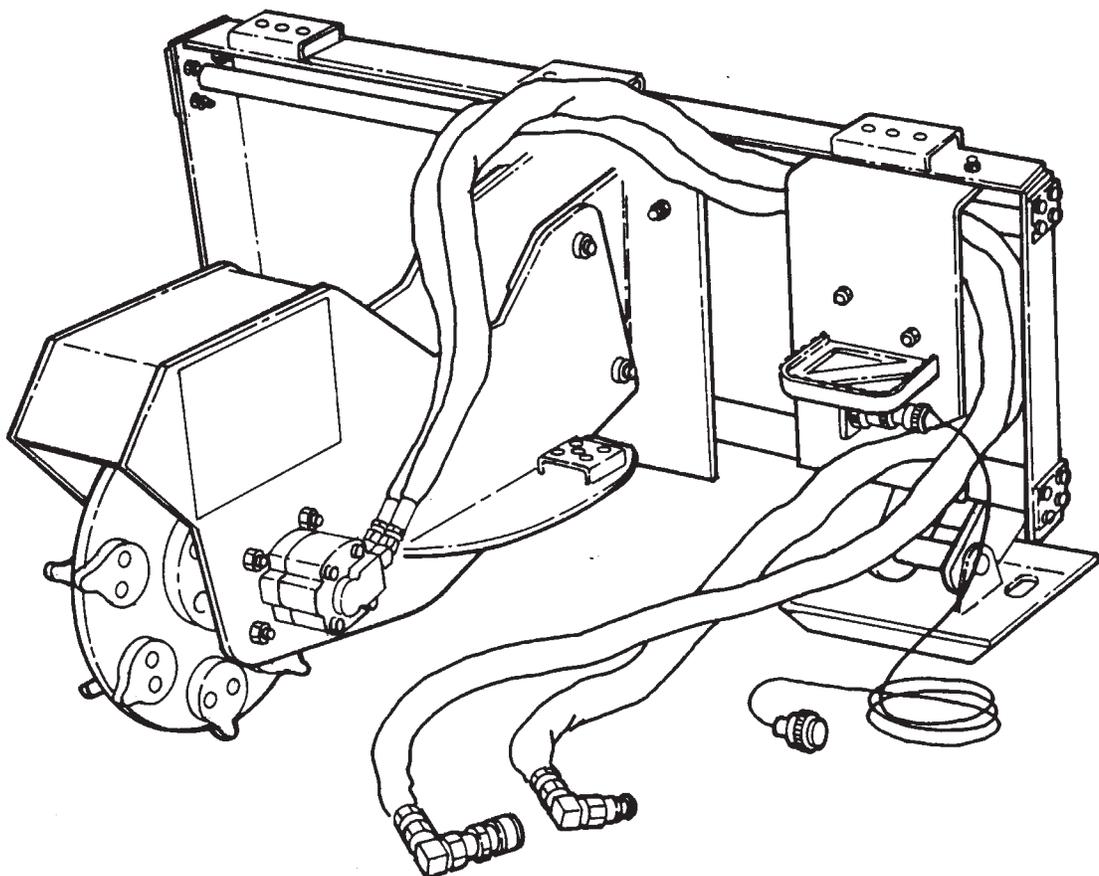


STUMP GRINDER

SG-25
SG-50

SG-25 (S/N 879300101 & Above)
SG-50 (S/N 702100101 & Above)

SERVICE MANUAL



Sample of manual. Download All 78 pages at:

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MAINTENANCE SAFETY



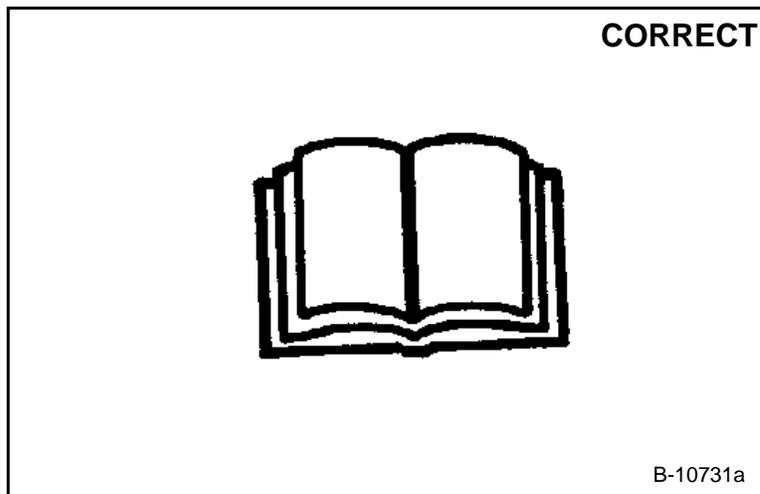
WARNING

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-2003-0903



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 without instructions. See Operation & Maintenance Manual and Attachment Service Manual.
-  Cleaning and maintenance are required daily.
-  Never service or adjust attachment with the engine running unless instructed to do so in manual.
-  Always lower the attachment 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.



Bobcat®

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**CALIFORNIA
PROPOSITION 65 WARNING**
Diesel engine exhaust and some of its
constituents are known to the State of California
to cause cancer, birth defects and other
reproductive harm.

**PREVENTIVE
MAINTENANCE**

**HYDRAULIC
SYSTEM**

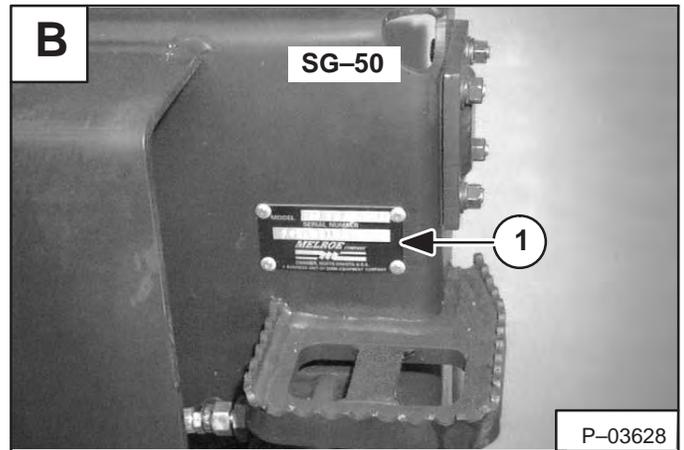
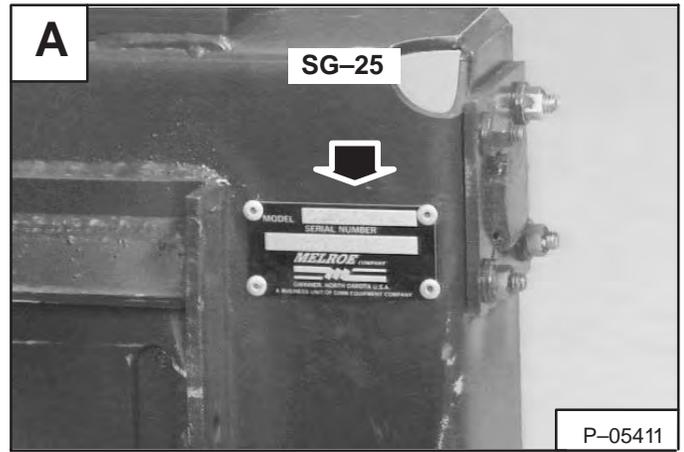
MAIN FRAME

**SPECIFICATIONS
AND
SCHEMATICS**



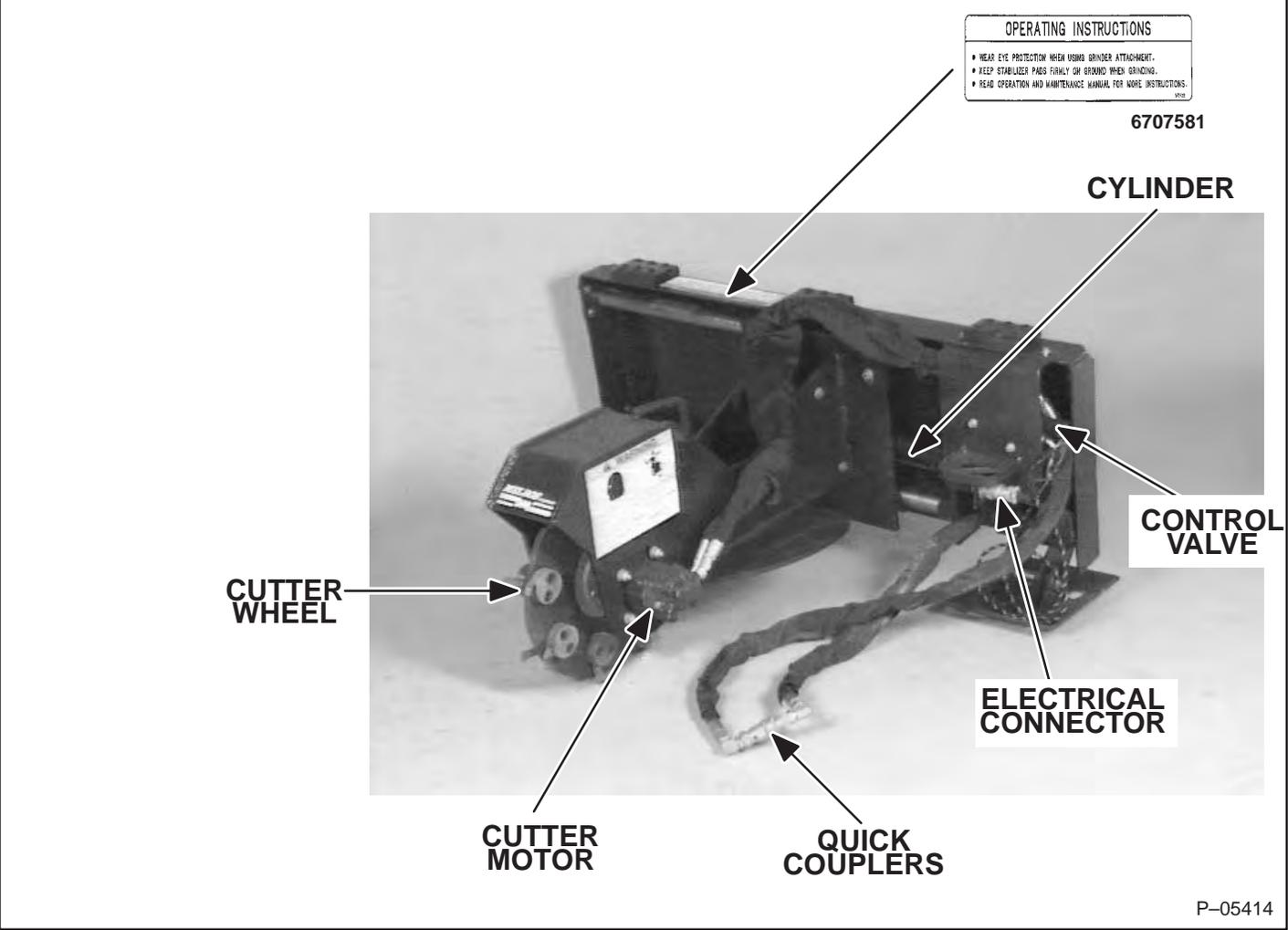
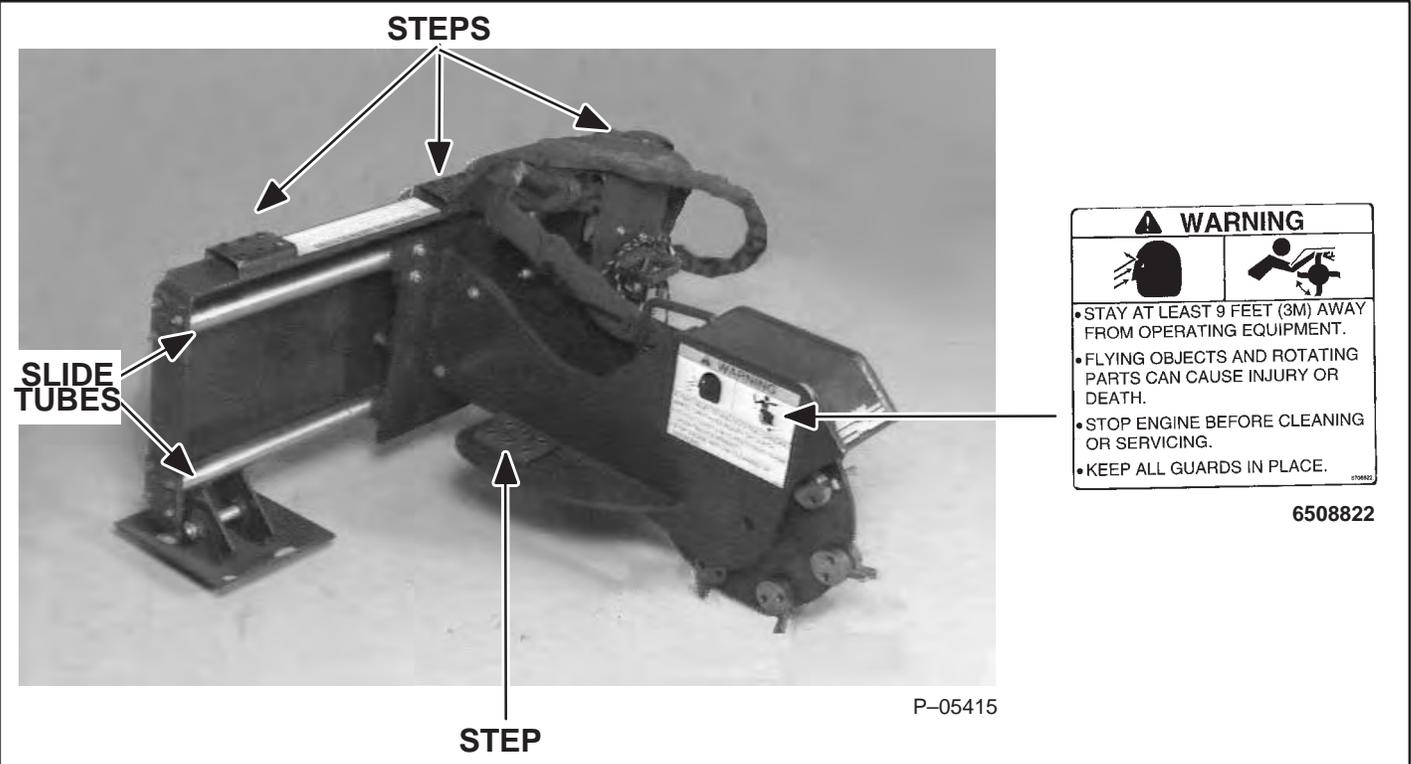
SERIAL NUMBER LOCATION

Always use the serial number of the machine 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 [A] & [B].



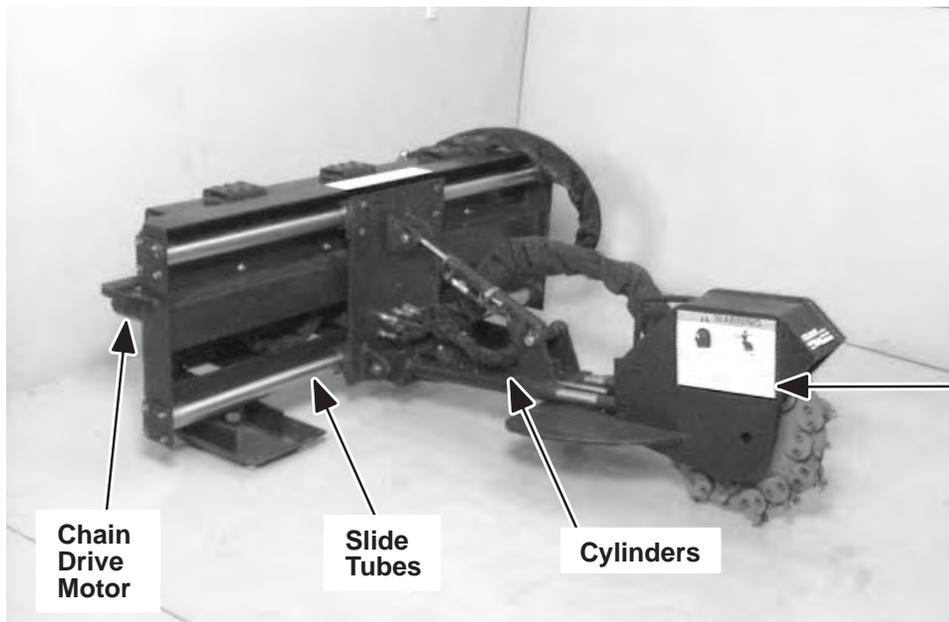
STUMP GRINDER IDENTIFICATION

SG-25



STUMP GRINDER IDENTIFICATION (Cont'd)

SG-50



Chain Drive Motor

Slide Tubes

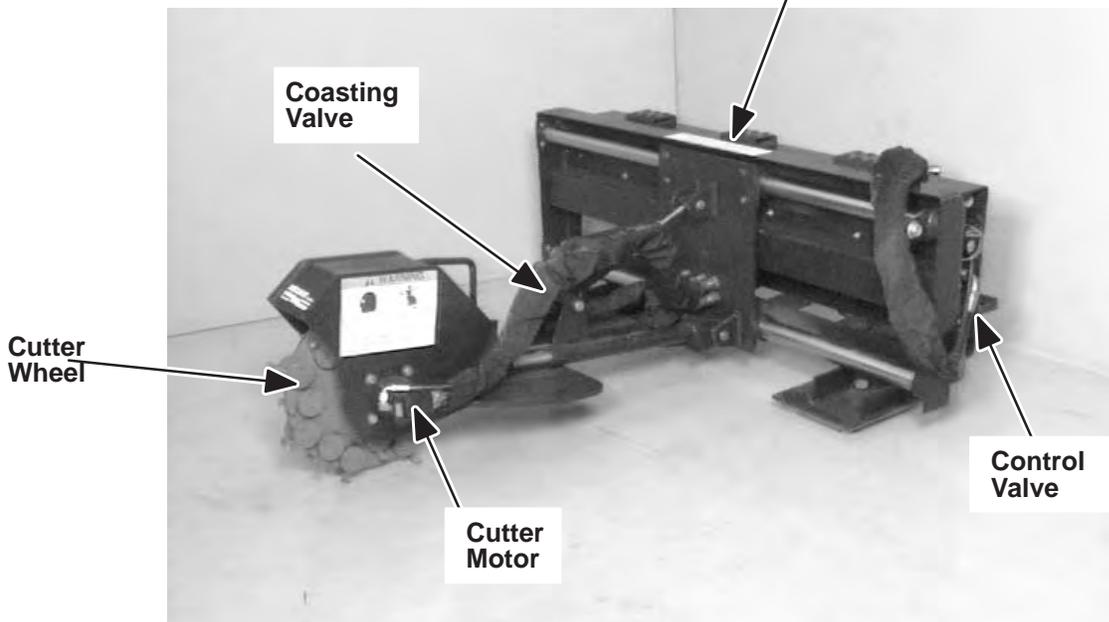
Cylinders

WARNING	
FLYING OBJECTS AND ROTATING GRINDING WHEEL CAN CAUSE INJURY OR DEATH.	
• STAY AT LEAST 4 M (12 FEET) AWAY FROM OPERATING EQUIPMENT.	
• STOP ENGINE BEFORE CLEANING OR SERVICING.	

6707580

OPERATING INSTRUCTIONS
• WEAR EYE PROTECTION WHEN USING GRINDER ATTACHMENT.
• KEEP STABILIZER PADS FIRMLY ON GROUND WHEN GRINDING.
• READ OPERATION AND MAINTENANCE MANUAL FOR MORE INSTRUCTIONS.

6707581



Coasting Valve

Cutter Wheel

Cutter Motor

Control Valve

P-03691
P-03693



PREVENTIVE MAINTENANCE

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TROUBLESHOOTING

SG-25

WARNING

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W-2003-0199

If the Stump Grinder is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the Stump Grinder. Stump Grinder problems can be affected by a hydraulic system that is not operating to specifications. Connect a flow meter to the loader to check the hydraulic pump output, relief valve setting and tubelines to check flow and pressure. (See the loader 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 Stump Grinder.

PROBLEM	CAUSE	CORRECTION
Functions too slow or weak	Loader relief setting is too low	Check and reset relief
Sideshift stalls	Slide tubes misaligned.	Re-align tubes
Cutter head hops excessively	Missing cutter. Dull cutter(s) Cutting too much material Cutter setting wrong	Replace cutter(s) Check cutting technique Reduce the cut Reset cutter(s)
Productivity seems low	One or more cutter(s) dull.	Replace cutter
Cutter head stops when side shift is engaged	Cutting too much material	Reduce the cut
Motor shaft seal leaks	Seal damaged	Replace seal

TROUBLESHOOTING

SG-50

WARNING

Instructions are necessary before operating or servicing machine. Read and understand the Operation & Maintenance Manual, 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-2003-0199

If the Stump Grinder is not working correctly, check the hydraulic system of the machine thoroughly before making any repairs on the Stump Grinder. Stump Grinder problems can be affected by a hydraulic system that is not operating to specifications. Connect a flow meter to the loader to check the hydraulic pump output, relief valve setting and tubelines to check flow and pressure. (See the loader 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 Stump Grinder.

PROBLEM	CAUSE	CORRECTION
Functions too slow or weak	Auxiliary relief setting is below 1500 PSI	Reset Relief
Sideshift stalls	Slide tubes misaligned. Motor worn internally because of excessive chain tension	Re-align tubes Replace motor Set the chain tension
Cutter head hops excessively	Missing cutter. Dull cutter(s) Improper cut technique. Cutter setting wrong	Replace cutter(s) Check cutting technique Reset cutter(s)
Productivity seems low	One or more cutter(s) dull. High flow switch off. Failed spring in the coasting valve	Replace cutter Head should speed up when High Horsepower switch is on. Replace spring
Cutter head stops when side shift is engaged	Jumper wire missing or in wrong pin location	Check for connection
Motor shaft seal leaks	Case drain coupler loose. Seal damaged	Tighten case drain connection. Replace seal
Head lifts or extends too fast	Orifice fitting missing	Add orifice fitting at cylinder base.

HYDRAULIC SYSTEM

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HYDRAULIC SYSTEM



HYDRAULIC CONTROL VALVE SG-25

Removal And Installation

Remove the two mounting bolts (Item 1) [A] to remove the control valve mounting plate.

Remove the two bolts (Item 1) [B] that hold the control valve on the mounting plate.

Mark the electrical wires (Item 2) [B] for the correct connection on the solenoids.

Disconnect the electrical harness (Item 2) [B] from the solenoid.

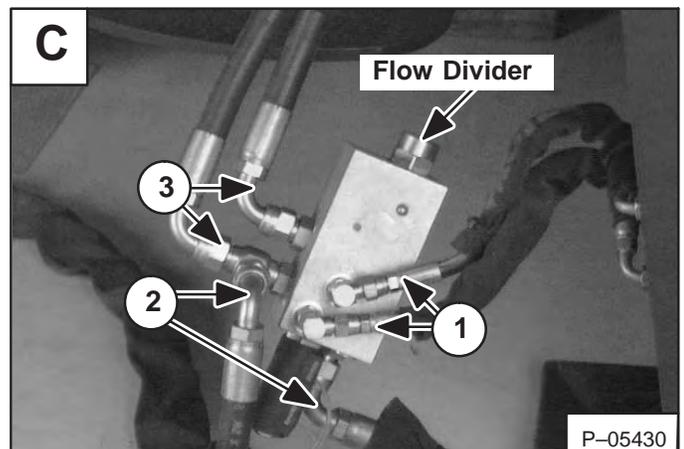
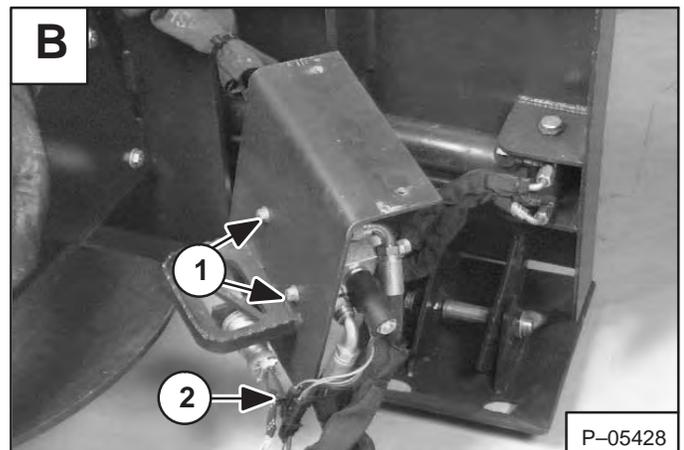
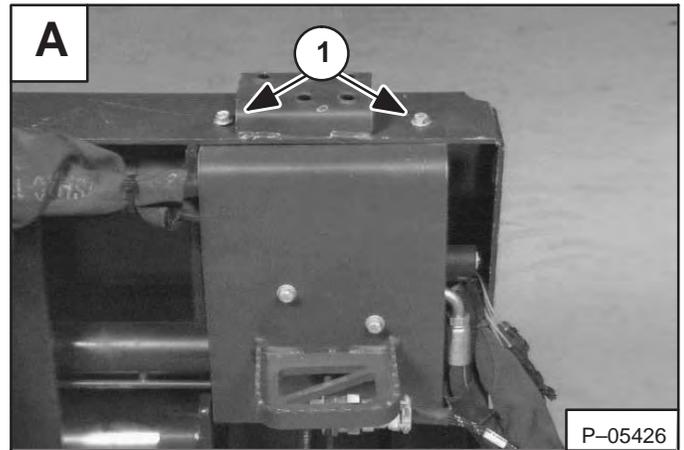
IMPORTANT

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

Mark the hoses for correct location during installation.

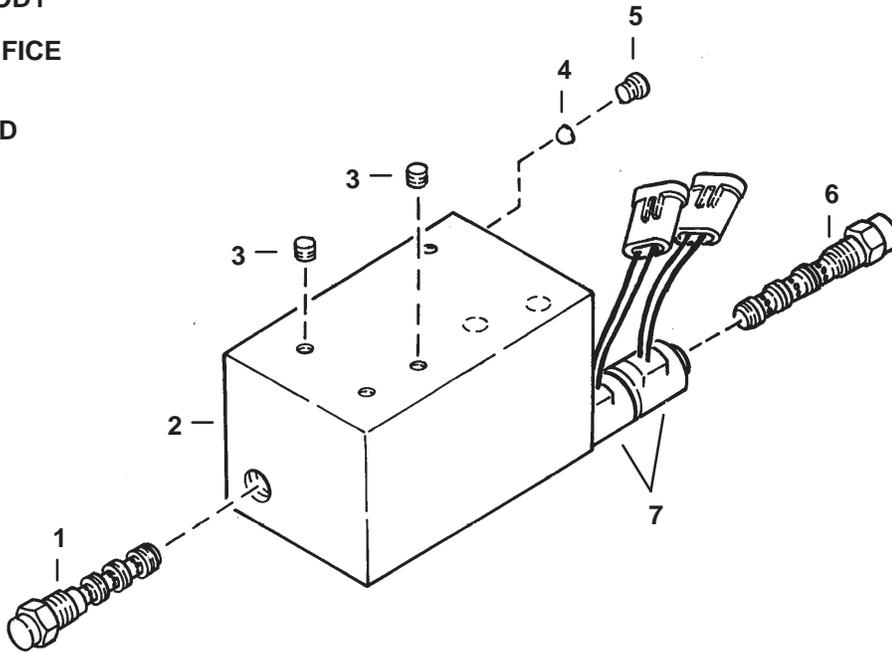
Remove the cylinder hoses (Item 1) [C], the auxiliary hoses (Item 2) [C], and the cutter motor hoses (Item 3) [C].



HYDRAULIC CONTROL VALVE SG-25 (Cont'd)

Parts Identification

1. FLOW DIVIDER
2. VALVE BODY
3. PLUG
4. 0.075 ORIFICE
5. PLUG
6. SPOOL
7. SOLENOID



B-14394

HYDRAULIC CONTROL VALVE SG-25 (Cont'd)

Disassembly And Assembly

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

Be sure the control valve is clean before disassembly.

Put the control valve in a soft jaw vise.

NOTE: Always install new O-rings and backup washers during assembly of the control valve.

Remove the nut (Item 1) [A] to disassemble the solenoid.

Remove the coils (Item 1) [B], and spacer (Item 2) [B] from the spool (if used between the coils).

Installation: Apply a small amount of liquid adhesive (LOCTITE #242) on the nut threads and tighten to 5 ft.-lbs. (7 Nm) torque.

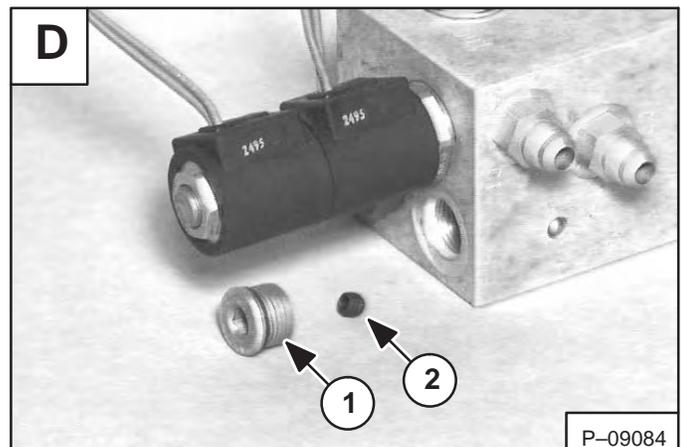
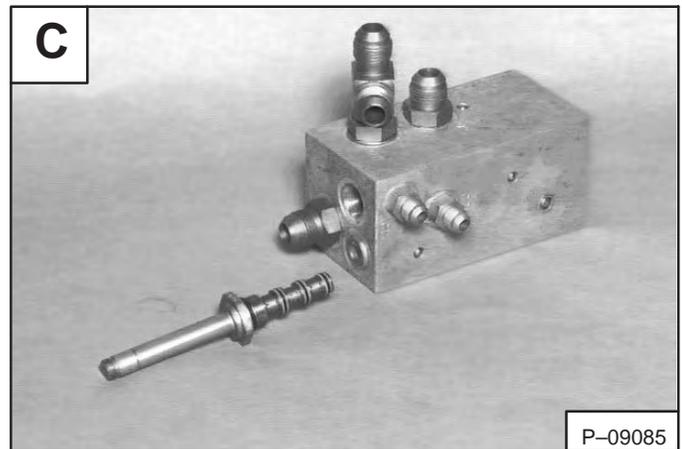
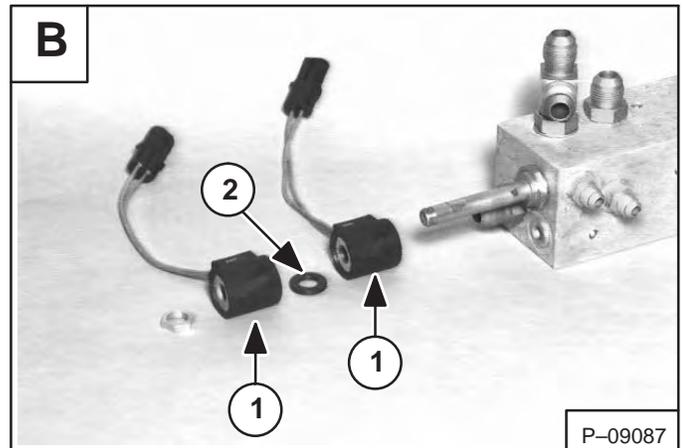
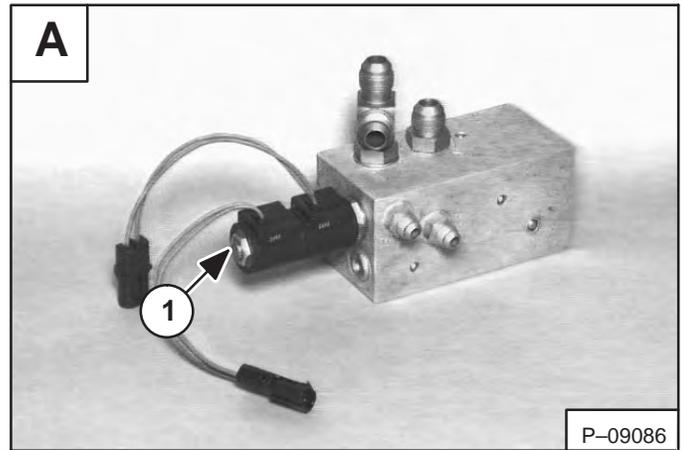
NOTE: Be sure to use the spacer (Item 2) [B] between the two coils on the spool.

Remove the spool [C].

Install the new o-rings and back-up washers in the same locations during assembly.

Installation: Tighten the spool to 35 ft.-lbs. (47 Nm) torque.

Remove the plug (Item 1) [D], and orifice (Item 2) [D].

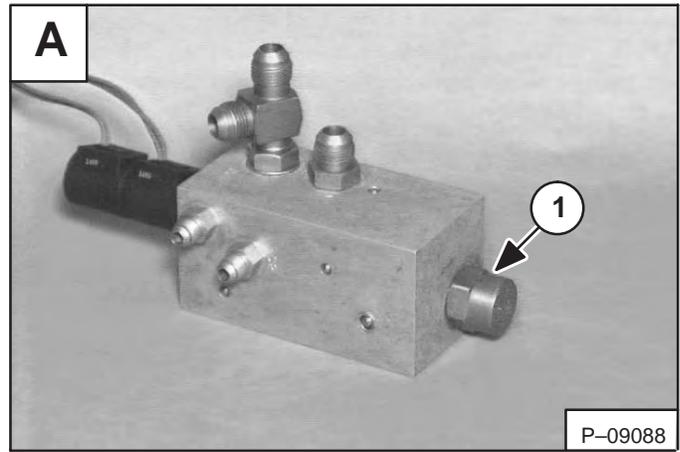


HYDRAULIC CONTROL VALVE SG-25 (Cont'd)

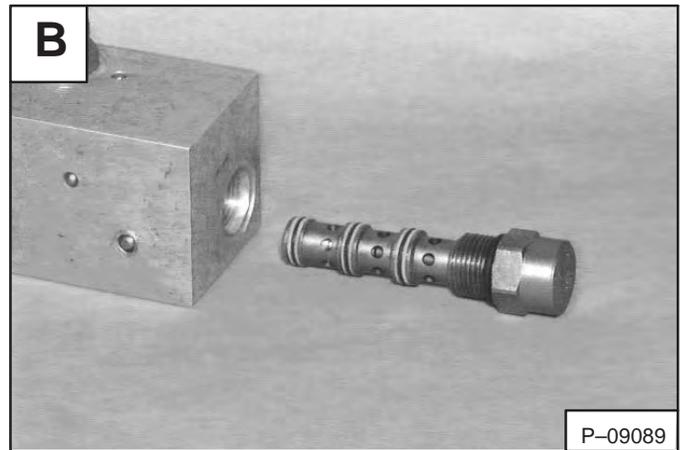
Disassembly And Assembly (Cont'd)

Remove the flow divider (Item 1) [A].

Installation: Tighten the flow divider to 45–50 ft.-lbs. (61–68 Nm) torque.



Install the O-rings and back-up washers on the divider valve, in the same location during assembly [B].



HYDRAULIC CONTROL VALVE SG-50

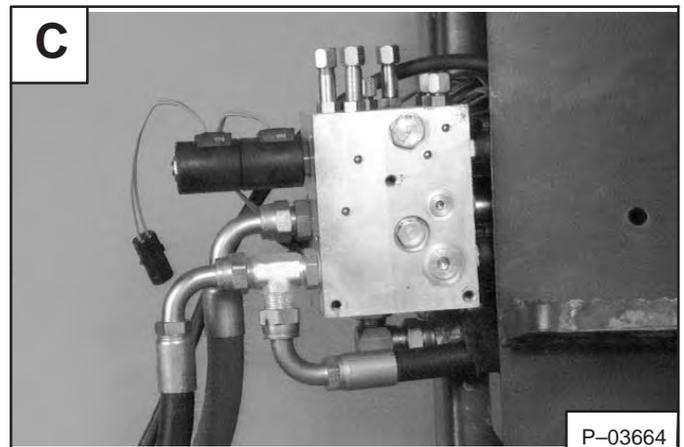
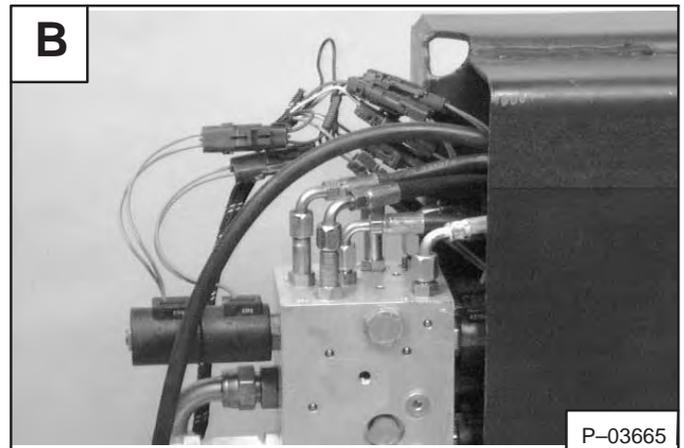
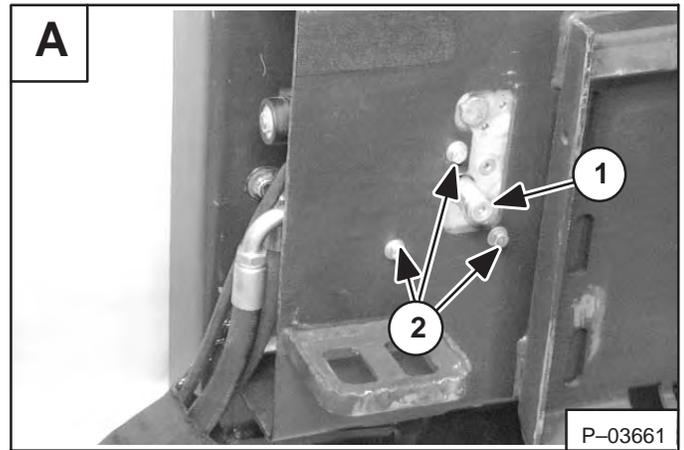
Removal And Installation

NOTE: To get the maximum hose length when removing the control valve, position the cutter head in the center position.

Remove the relief valve (Item 1) [A] and the three mounting bolts (Item 2) [A].

Pull the control valve out the end of the frame, mark and remove the upper hoses and electrical wires [B].

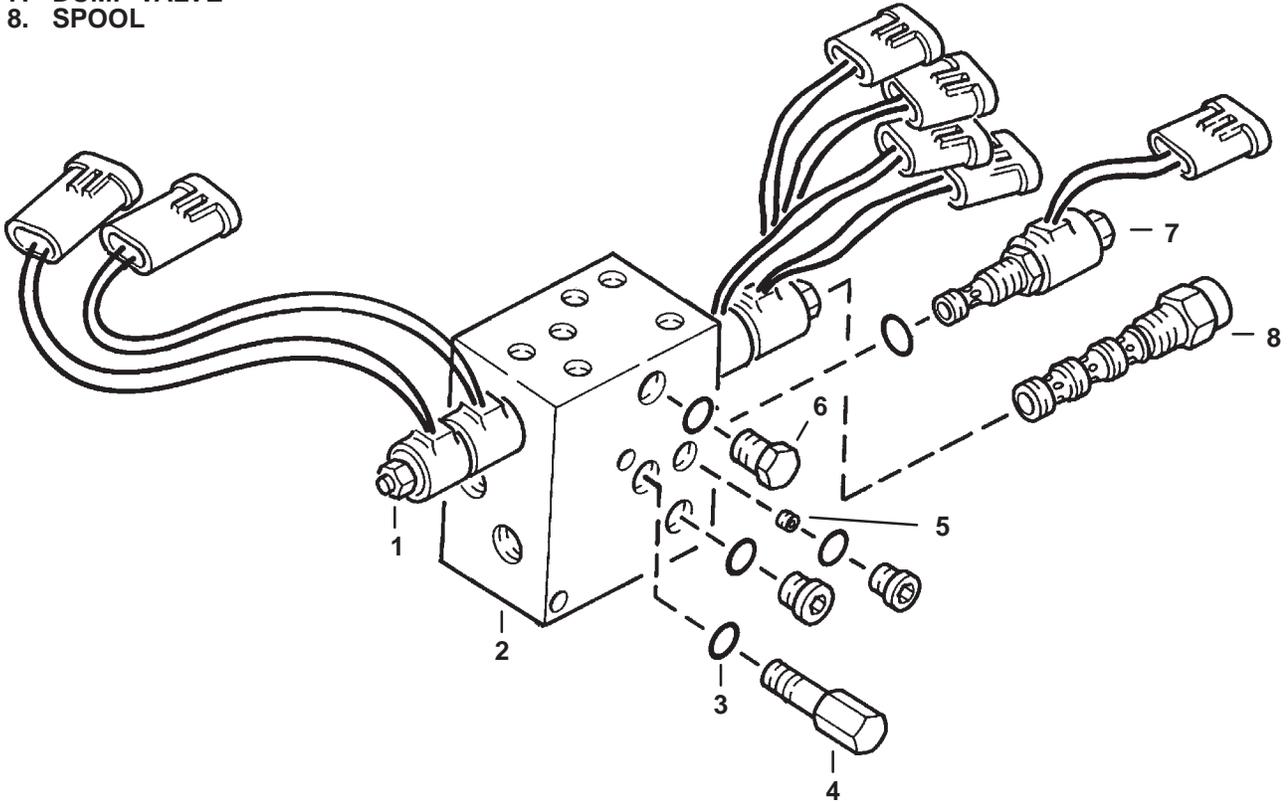
Mark and remove the lower hoses [C].



HYDRAULIC CONTROL VALVE SG-50 (Cont'd)

Parts Identification

1. SOLENOID
2. VALVE BODY
3. O-RING
4. RELIEF VALVE
5. ORIFICE
6. PLUG
7. DUMP VALVE
8. SPOOL



E-02212

HYDRAULIC CONTROL VALVE SG-50 (Cont'd)

Disassembly And Assembly

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

Be sure the control valve is clean before disassembly.

Put the control valve in a soft jaw vise.

NOTE: Mark the solenoids (wire colors) and the spools for correct location during assembly.

NOTE: Always install new O-rings and backup washers during assembly of the control valve.

Remove the nut (Item 1) [A], solenoid (Item 2) [A] and spacer (Item 3) [A], (if used between the solenoids) from the spool.

Installation: Apply a small amount of liquid adhesive (LOCTITE #242) on the nut threads and tighten to 5 ft.-lbs. (7 Nm) torque.

NOTE: Be sure to use the spacer (Item 3) [A] between the two solenoids used on the spools.

Remove the spool [B].

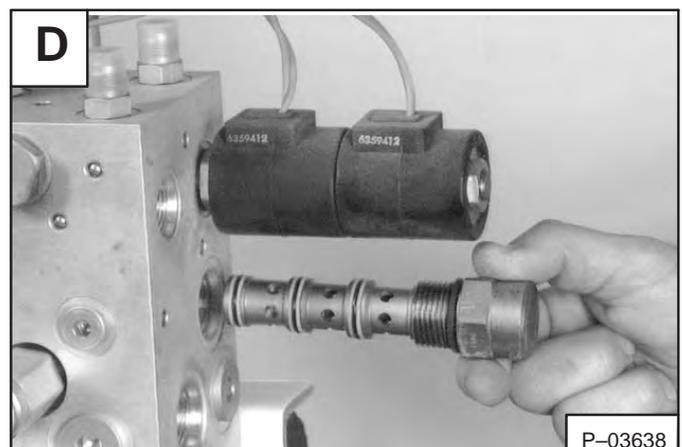
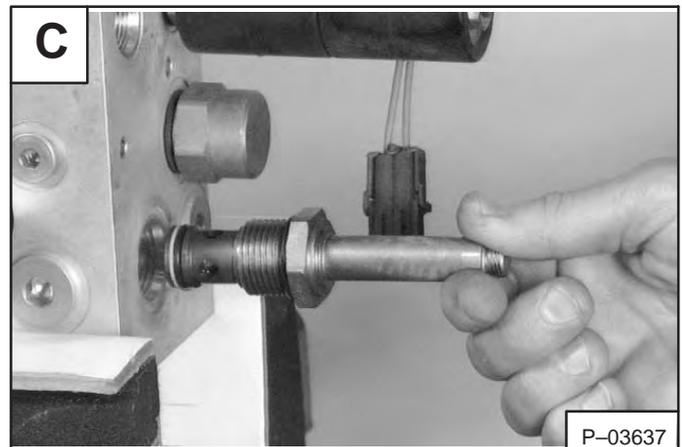
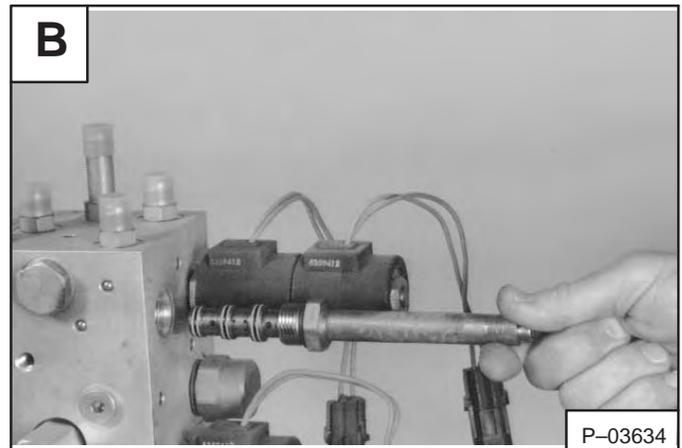
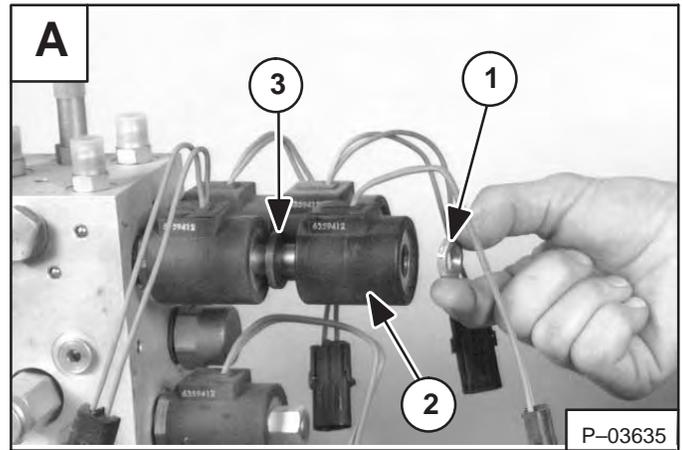
Installation: Tighten the spool to 35 ft.-lbs. (47 Nm) torque.

Remove the by-pass valve [C].

Installation: Tighten the by-pass valve to 45-50 ft.-lbs. (61-68 Nm) torque.

Remove the flow divider [D].

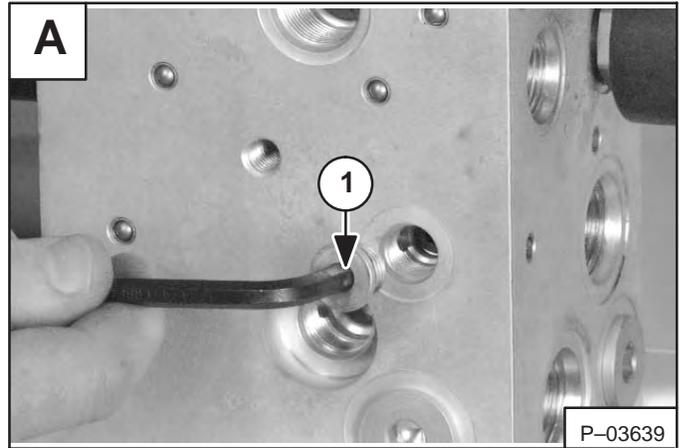
Installation: Tighten the flow divider to 45-50 ft.-lbs. (61-68 Nm) torque.



HYDRAULIC CONTROL VALVE SG-50 (Cont'd)

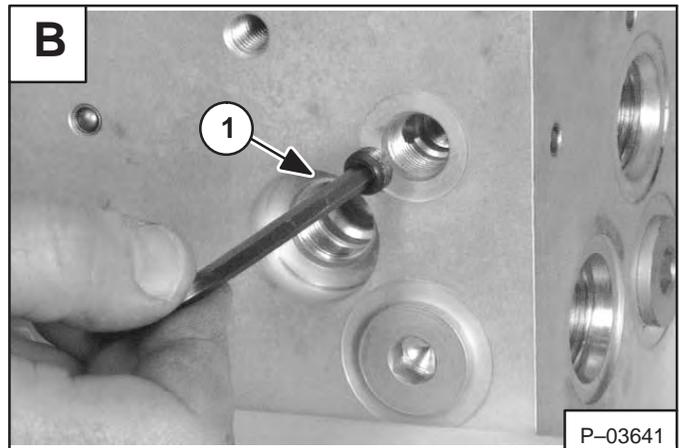
Disassembly And Assembly (Cont'd)

To gain access to the orifice, remove the plug (Item 1) [A].



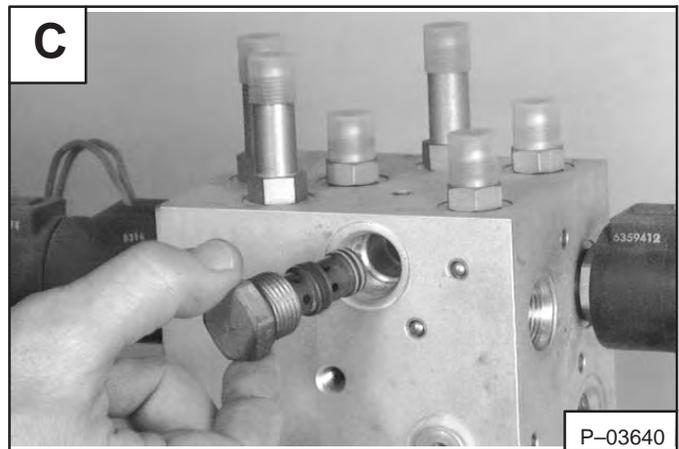
Remove the 0.074 inch (2 mm) orifice (Item 1) [B].

Check that the orifice is open (not plugged).



Remove the check valve (lift function) [C].

Assemble the control valve in the reverse order.



COASTING VALVE SG-50 (S/N 702100264 & Below)

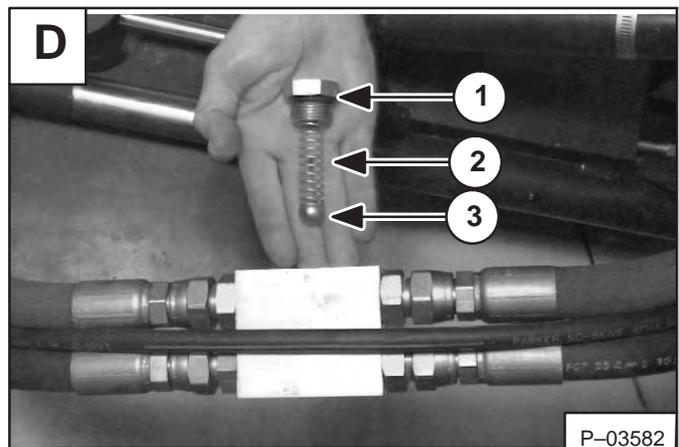
Removal And Installation

The coasting valve is located between the cutter motor pressure hoses.

The hose cover may need to be removed to access the coasting valve.

Remove the cap (Item 1) [D], spring (Item 2) [D] and ball (Item 3) [D] from the block.

Check the condition of the coasting valve assembly. Replace the O-ring during installation.



HYDRAULIC MOTOR (Cutter)

Removal And Installation

Use the following procedure to remove the cutter motor.

Remove the cutter wheel. (See Operation & Maintenance Manual.)

Remove the motor hoses [A].

NOTE: Stump grinder motors (S/N 702100264 & Below) have a case drain line (Item 1) [A]. Current stump grinders are equipped with coasting motor and no case drain line.

Remove the four nuts and bolts from the motor mount [A].

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

Rotate the motor 1/4 turn to go through the hole in the cutter head [B].

Flange Removal and Installation

Put the motor in a vise and remove the cotter pin (Item 1) [C] and nut (Item 2) [C].

Installation: Tighten the nut to 275 ft.-lbs. (737 Nm) torque.

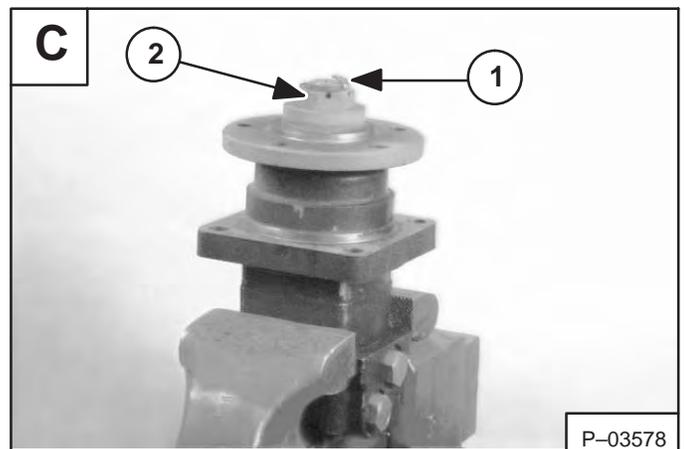
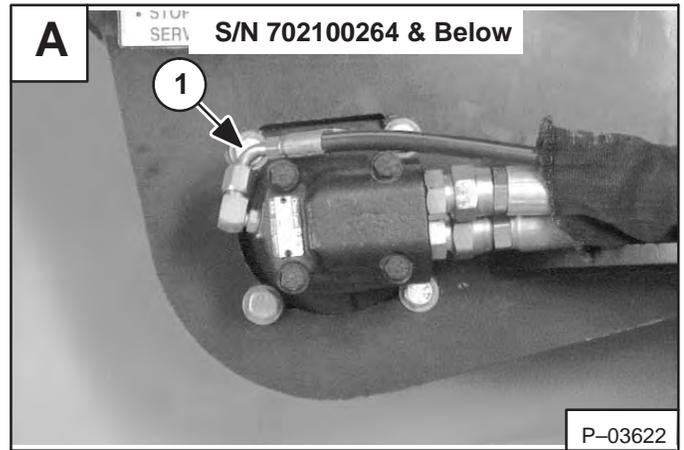
Use a puller to remove the flange [D].

! **WARNING**

AVOID INJURY

Use care when pulling the flange, it fits tightly on the tapered shaft and may come off suddenly when force is applied with the puller.

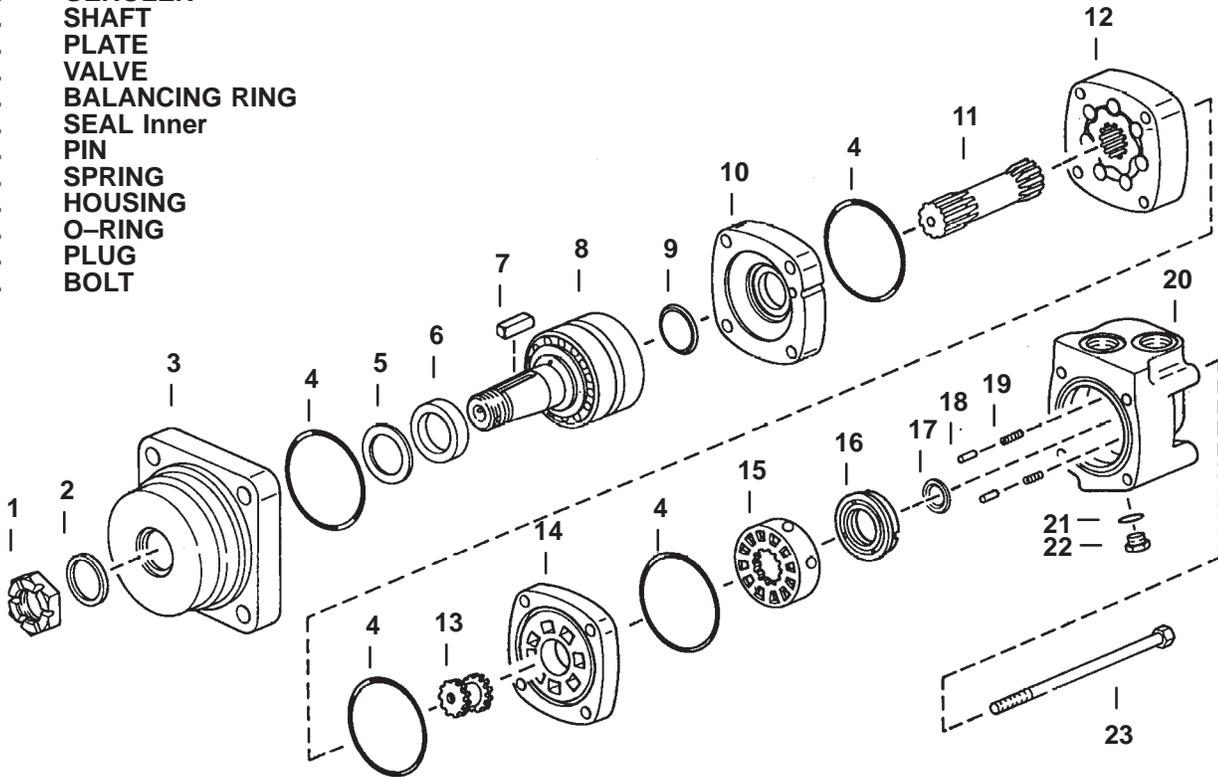
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HYDRAULIC MOTOR (Cutter) (Cont'd)

Parts Identification

1. NUT
2. SEAL
3. HOUSING
4. SEAL
5. BACK-UP RING
6. O-RING
7. KEY
8. SHAFT ASSY.
9. SEAL
10. WEAR PLATE
11. SHAFT
12. GEROLER
13. SHAFT
14. PLATE
15. VALVE
16. BALANCING RING
17. SEAL Inner
18. PIN
19. SPRING
20. HOUSING
21. O-RING
22. PLUG
23. BOLT



B-14781

HYDRAULIC MOTOR (Cutter) (Cont'd)

Disassembly And Assembly

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

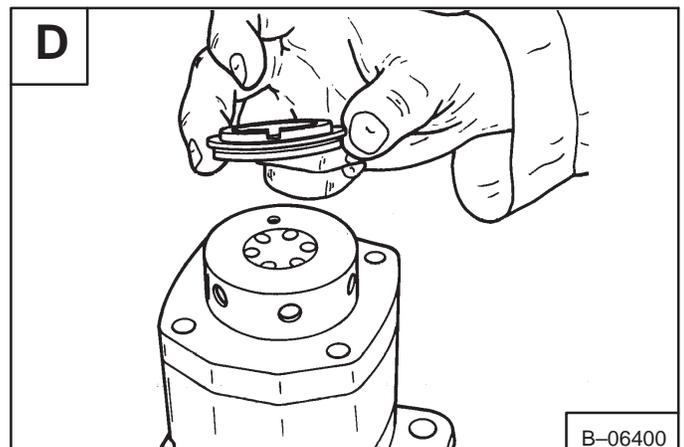
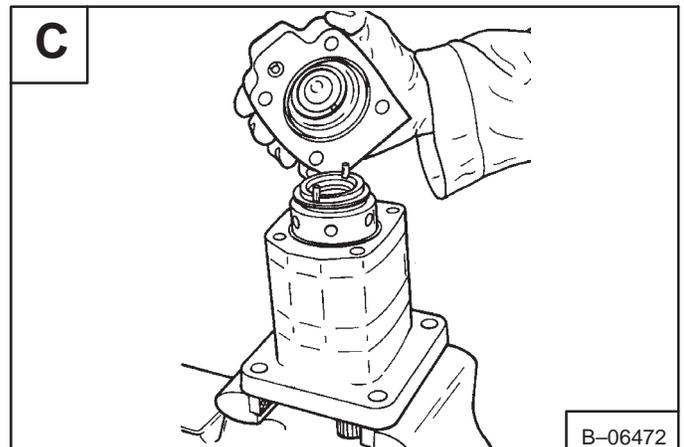
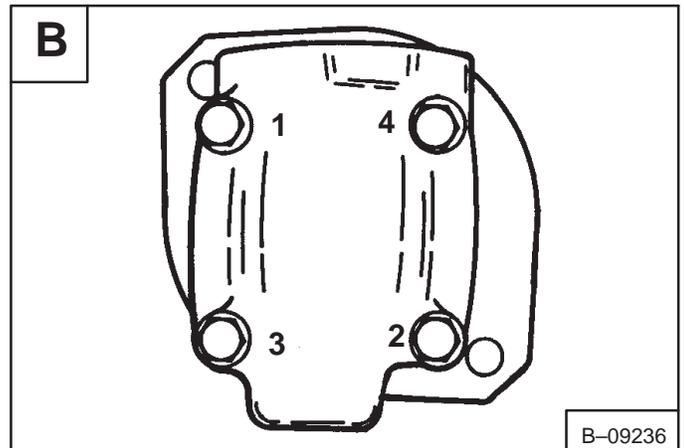
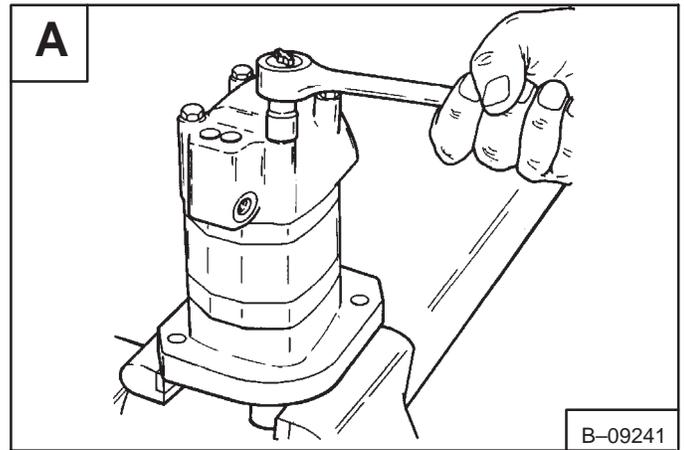
Remove the four bolts from the motor [A].

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

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

Remove the O-rings.

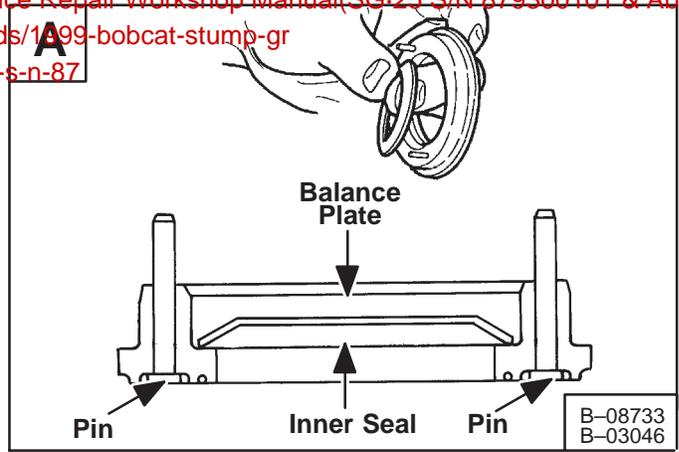
Remove the balance plate [D].



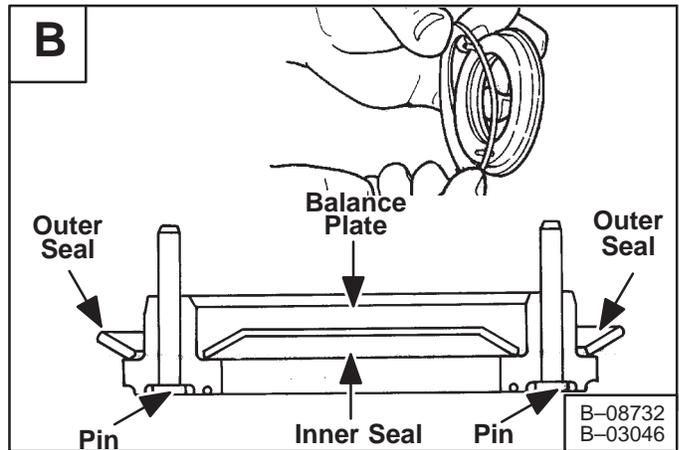
HYDRAULIC MOTOR (Cutter) (Cont'd) Disassembly And Assembly (Cont'd)

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

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

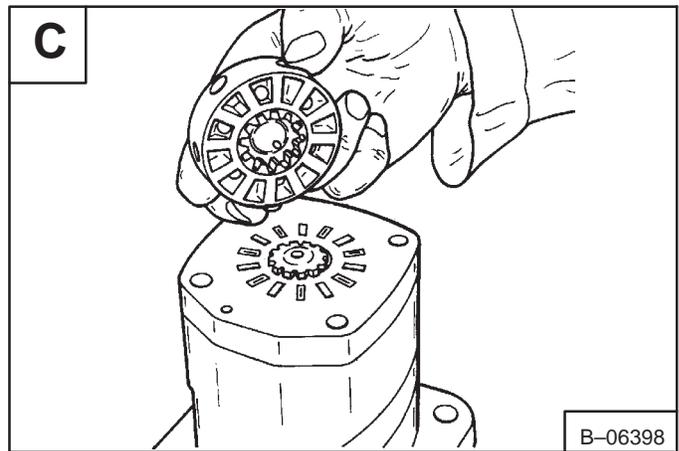


NOTE: Stump grinder motors (S/N 702100264 & Below) have an OUTER seal which can be removed and discarded [B]. This will allow the motor to free wheel when the hydraulic flow is stopped, and reduce stress on the motor and attachment.



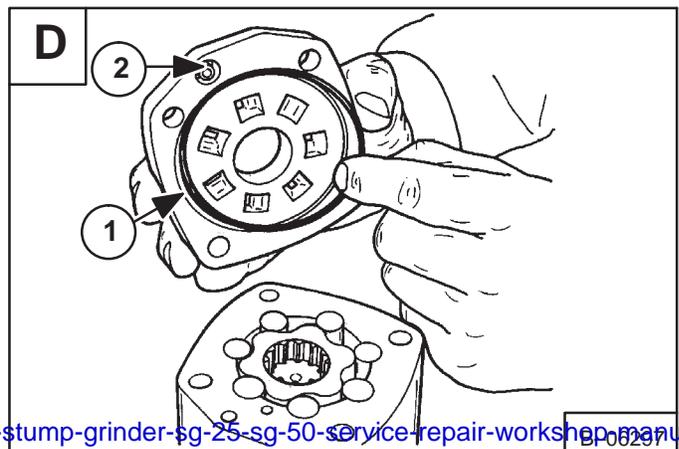
Remove the valve [C].

NOTE: See Page 10-20-18 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.



Sample of manual. Download All 78 pages at:

<https://www.arepairmanual.com/downloads/1999-bobcat-stump-grinder-sg-25-sg-50-service-repair-workshop-manualsg-25-s-n-879300101-above-sg-50-s-n-702100264-below/>