

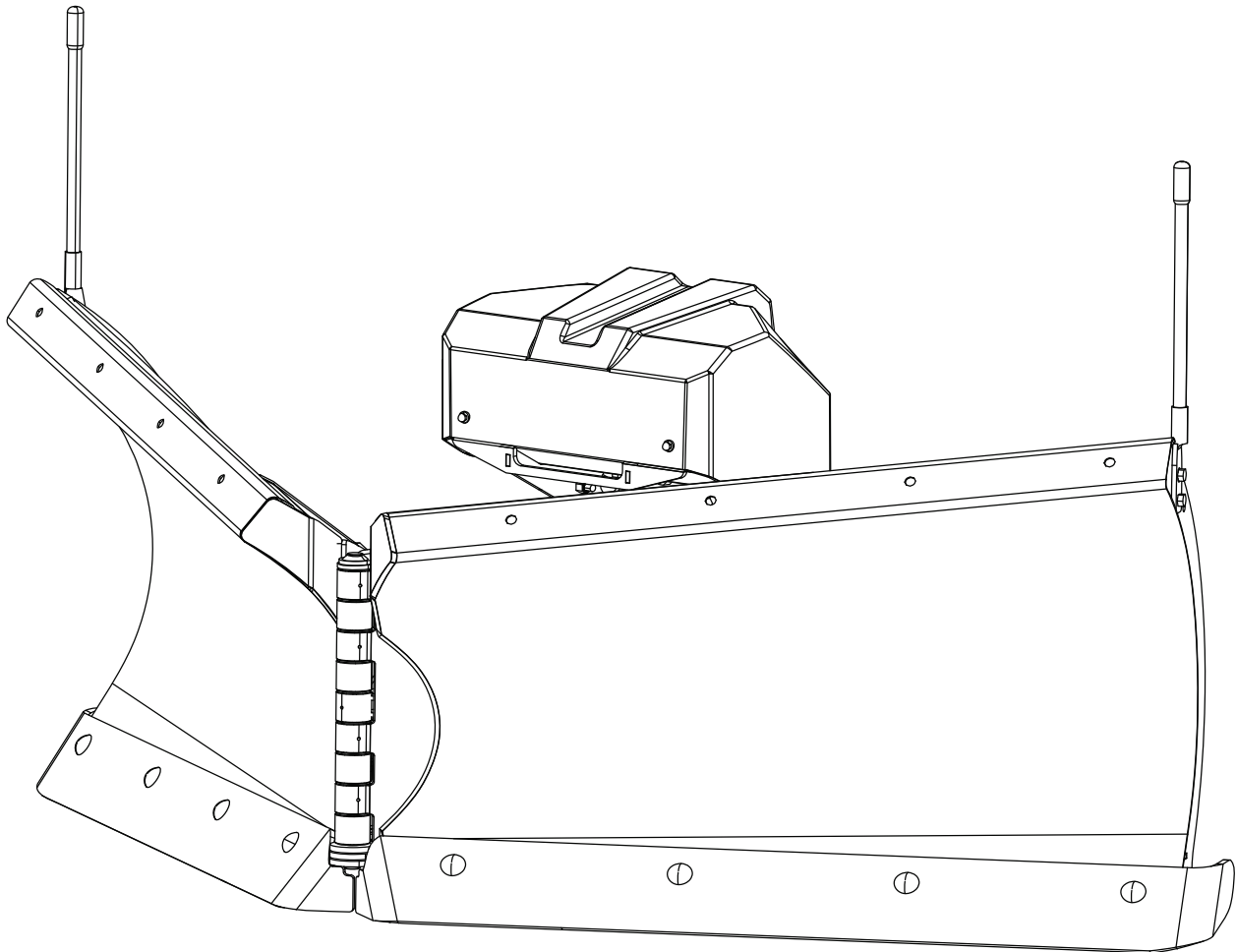


P.O. Box 787
Iron Mountain, MI 49801
United States

Owner's Manual

Plow Box 5.5ft ATV/UTV-V

Part No. MSC13625—Serial No. 40000000 and Up



This product complies with all relevant European directives; for details, please see the separate product specific Declaration of Conformity (DOC) sheet.

BOSS Products limited consumer warranty and BOSS Products commercial warranty policies are located at www.BOSSPlow.com.

Patent www.tcopats.com.

Date Purchased	_____
Model No.	_____
Serial No.	_____
Blade Crate Serial No.	_____

Introduction

Note: This manual is used for the assembly of all BOSS ATV and UTV V-blade plows. Illustrations may vary.

Read this information carefully to learn how to operate and maintain your product properly and to avoid injury and product damage. You are responsible for operating the product properly and safely.

You may contact BOSS directly at www.BOSSPlow.com for product and accessory information, help finding a dealer, or to register your product.

Whenever you need service, genuine BOSS parts, or additional information, contact an Authorized BOSS Dealer or BOSS Technical Service (1-800-286-4155) and have the model and serial numbers of your product ready. **Figure 1** identifies the location of the model and serial numbers on the product. Write the numbers in the space provided.

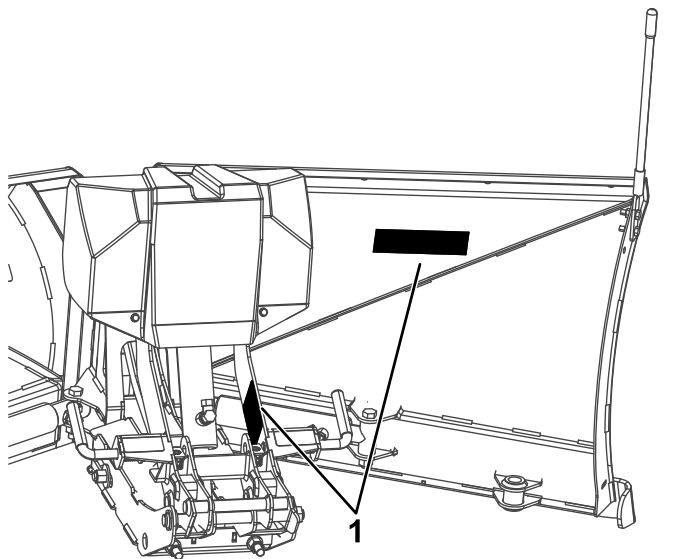


Figure 1

1. Serial number decal

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Safety

Improper use or maintenance by the operator or owner can result in injury. To reduce the potential for injury, comply with these safety instructions and always pay attention to the safety-alert symbol **▲**, which means: Caution, Warning, or Danger—personal safety instruction. Failure to comply with the instruction may result in personal injury or death.

Preparation

- Read the *Owner's Manual* before operating or servicing the plow.
- Always follow the vehicle manufacturer's recommendations relating to snowplow installation. For recommended vehicle models, refer to the BOSS product selector tool at www.BOSSPlow.com.
- Follow all operator safety instructions and age restrictions found in your *ATV/UTV Owner's Manual*.
- Ensure that only trained personnel install and perform maintenance on the equipment and hydraulic components.
- Keep your hands, feet, and clothing away from moving parts and mounting points.
- Ensure the plow is properly attached to the vehicle before moving it.
- To comply with federal regulations, do not exceed the front gross-axle-weight rating (FGAWR), rear gross-axle-weight rating (RGAWR), and the gross-vehicle-weight rating (GVWR) at any time.
- Always wear appropriate personal protective equipment when operating and servicing the machine. Wear substantial, slip-resistant footwear, and cold-weather clothing.
- Use a 500 kg (1/2 ton) minimum lifting device to move heavy plow components.
- Material safety data sheets (MSDS) are available at www.BOSSPlow.com.

Operation

- When transporting the vehicle, position the plow so as not to block your vision.
- Do not change the blade position when traveling.
- When operating a UTV mounted plow:
 - Do not exceed 38 km/h (24 mph) when transporting the plow.
 - Do not exceed 22 km/h (14 mph) when plowing.
- When operating an ATV mounted plow:
 - Do not exceed 8 km/h (5 mph) when transporting the plow.
 - Do not exceed 8 km/h (5 mph) when plowing.
- Always lower the blade when the vehicle is not in use.
- Never put any part of your body between the plow and the vehicle.
- Do not climb or ride on the plow.
- Do not operate on steep inclines.
- Do not operate the machine while ill, tired, or under the influence of alcohol or drugs.
- Always wear your seat belt (if equipped) while operating a motor vehicle.
- Due to the variety of equipment that you can install on the vehicle, do not exceed the front gross-axle-weight rating (FGAWR), rear gross-axle-weight rating (RGAWR), and the gross-vehicle-weight rating (GVWR) at any time. This may require weighing the vehicle and adding ballast as necessary. It may also limit the payload capacity of the vehicle.
- This machine has an operating sound level below 70 dBA.
- When transporting the machine, ensure that it is properly secured. Instructions are available at www.BOSSPlow.com.
- The ATV/UTV V-blade plow is for personal use only. Using the plow in a commercial setting voids the plow warranty.

Safety and Instructional Decals



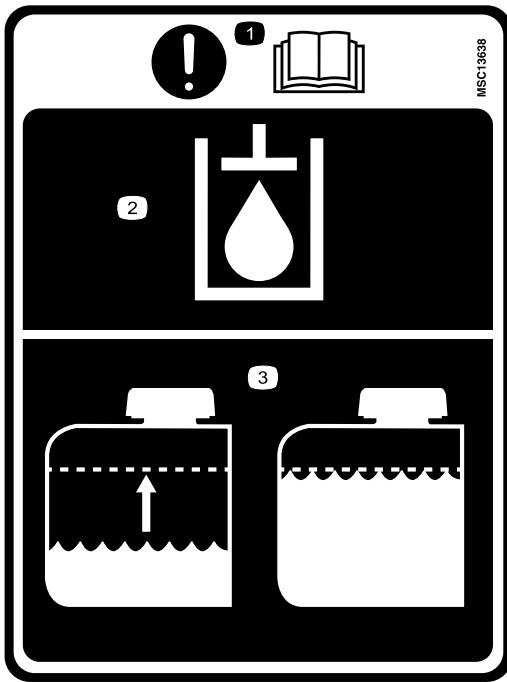
Safety decals and instructions are easily visible to the operator and are located near any area of potential danger. Replace any decal that is damaged or missing.



MSC23037

decalsc23037

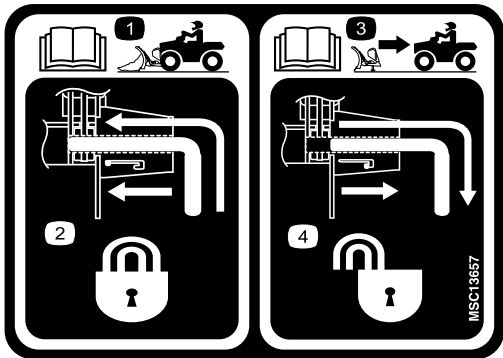
1. Warning—read the *Owner's Manual*.
2. Warning—all operators should be trained before operating the machine.
3. Warning—coupler must be locked before plowing.
4. Warning—coupler must be unlocked to remove the plow.
5. Warning—shut off the engine, remove the key, and read the *Owner's Manual* before performing maintenance.
6. Crushing hazard—do not stand between the plow and vehicle during maintenance.
7. Warning—do not exceed 8 km/h (5 mph) when plowing.
8. Warning—lower the plow when the vehicle is not in use.



MSC13638

decalsc13638

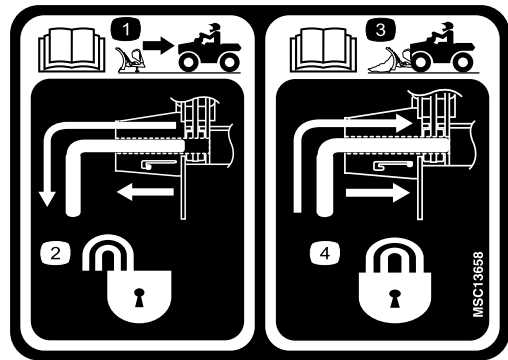
1. Important—read the *Owner's Manual*.
2. Hydraulic fluid
3. Fill the hydraulic fluid to the fill line.



MSC13657-1

decalsc13657-1

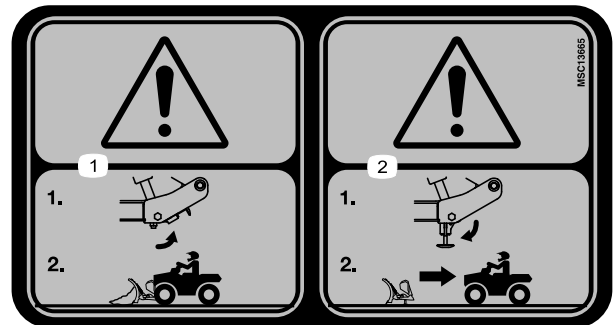
1. Read the *Owner's Manual* for information on attaching the plow.
2. Coupler spring pin—lock
3. Read the *Owner's Manual* for information on removing the plow.
4. Coupler spring pin—unlock



MSC13658-1

decalsc13658-1

1. Read the *Owner's Manual* for information on removing the plow.
2. Coupler spring pin—unlock
3. Read the *Owner's Manual* for information on attaching the plow.
4. Coupler spring pin—lock



MSC13665

decalsc13665

1. Warning—the kickstand must be raised before plowing.
2. Warning—the kickstand must be lowered before removing the plow.

Setup

Note: Determine the left and right sides of the machine from the normal operating position.

Installing the Coupler Assembly

1. Lay the left and right blades face down so that the hinge bushings align and the blade edges are even.
2. Position the coupler assembly on top of both blades so that all the bushings align and the center section hinge bushing is inserted between the blade hinge bushings.
3. Insert the center hinge pin through the bushings.
4. Secure the center using 1 bolt (3/8-16 x 1 inch) and 1 locknut (3/8 inch).
5. Secure each end of the cylinders to the cylinder mounts located on the blades using 2 hex-head bolts (1/2-13 x 3-1/2 inches) and 2 locknuts (1/2 inch).

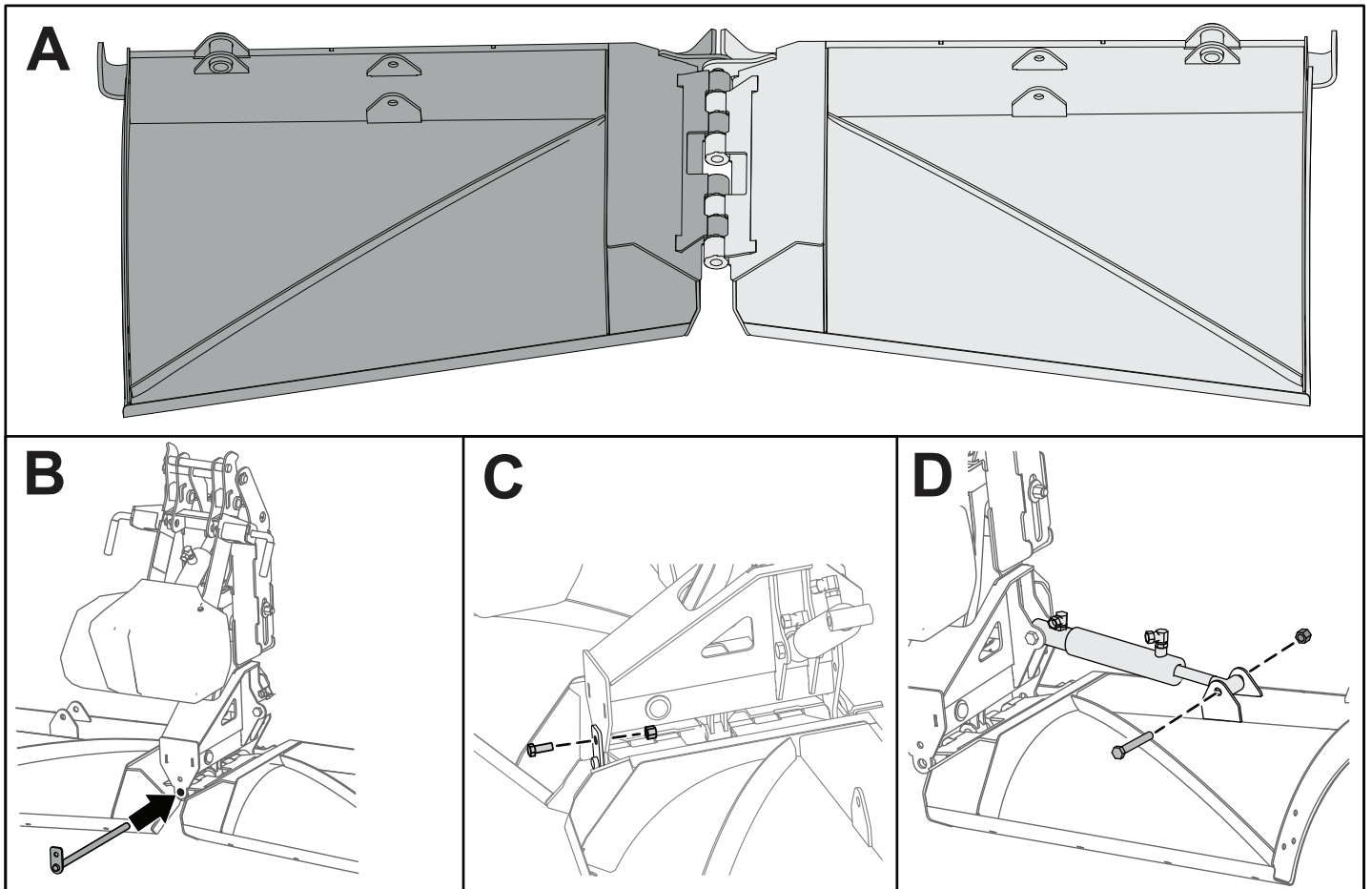


Figure 2

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Installing the Blade Guides

Attach the blade guides to the plow blade using 4 bolts (5/16 x 1 inch) and 4 self-locking nuts.

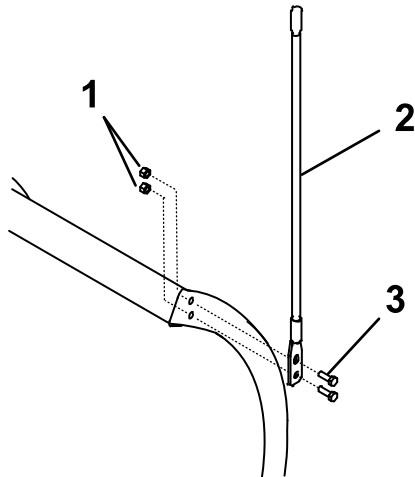


Figure 3

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1. Self-locking nut (5/16 nut)
2. Blade guide
3. Bolt (5/16 x 1 inch)

Mounting the Plow Controller

⚠ DANGER

The controller could cause serious injury if contacted during a crash.

Mount the controller in a location that vehicle occupants will not contact during a crash.

Mounting the ATV Controller

1. Park the machine on a level surface, engage the parking brake, shut off the engine, wait for all moving parts to stop, and remove the key.
2. Secure 1 of the mounting brackets along the left side of the vehicle control cluster using the long U-bolt and 2 self-locking nuts (1/4 inch) as shown in [Figure 4](#).

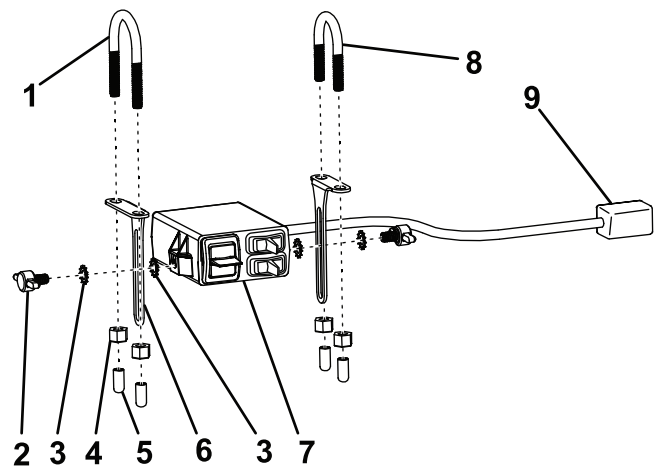


Figure 4

g318451

- | | |
|---------------------|-------------------------|
| 1. Long U-bolt | 6. Mounting bracket |
| 2. Thumbscrew | 7. Switch box |
| 3. Star washer | 8. Short U-bolt |
| 4. Self-locking nut | 9. Controller connector |
| 5. Rubber end cap | |

3. Secure the other mounting bracket along the right side of the vehicle control cluster using the short U-bolt and 2 self-locking nuts (1/4 inch) as shown in [Figure 4](#).
4. Secure the switch box to the mounting brackets using 4 star washers and 2 thumb screws and adjust it to the desired position ([Figure 4](#)).
5. Slide the 4 rubber end caps over the ends of the U-bolts ([Figure 4](#)).
6. Route the switch box wire along the existing vehicle wiring down the handlebar and steering stem, and secure it under the central part of the fender using cable ties.

Mounting the UTV Controller

Note: Mount the controller in the cab in a dry area where it does not interfere with vehicle operation or visibility.

Important: Do not install the swivel mount when temperatures are below 16°C (60°F).

1. Park the machine on a level surface, shut off the engine, wait for all moving parts to stop, engage the parking brake, and remove the key from the ignition switch.
2. Determine the mounting location for the controller.
3. Clean the location with the provided alcohol wipe and dry it with a cloth or paper towel.
4. Clean the back of the swivel mount ([Figure 5](#)) with the alcohol wipe and then dry it.

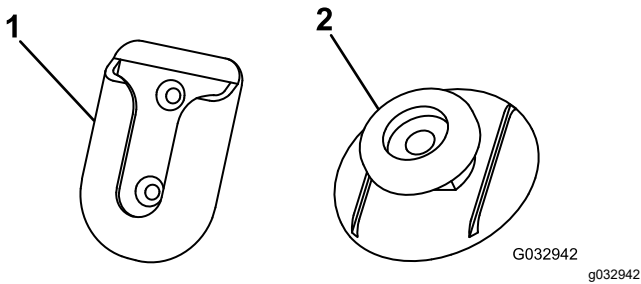


Figure 5

1. Swivel mount 2. Mounting tab

5. Remove the backing from 1 side of the adhesive and apply it to the back of the swivel mount.
6. Remove the remaining backing from the swivel-mount adhesive and press the swivel mount to the clean area of the dashboard for 30 seconds.

Important: Once the mount is placed, you cannot remove it without destroying the adhesive.

7. Clean the back of the controller with the alcohol wipe and then dry it.
8. Remove the backing from 1 side of the adhesive and apply it to the back of the mounting tab (Figure 5).
9. Remove the remaining backing from the controller adhesive and press the mounting tab to the controller for 30 seconds.
10. Let the swivel mount rest unused for 72 hours before sliding the controller into the mounting bracket.

Important: Mounting the controller immediately may cause the adhesive to fail.

Installing the Wire Harness

⚠ DANGER

Vehicle engines contain moving parts and can become extremely hot, capable of causing severe burns and serious bodily harm.

Shut off the engine and allow it sufficient time to cool down before installing this kit.

⚠ DANGER

Vehicle batteries can cause dangerous electrical shocks that could lead to severe burns or death.

Disconnect your battery before installing this kit.

Note: Apply dielectric grease to all electrical connections.

1. Park the machine on a level surface, shut off the engine, wait for all moving parts to stop, engage the parking brake, and remove the key from the ignition switch.
2. Mount the vehicle-side, wire-harness plow connector to the left side of the front bumper using the control-harness mounting-bracket and 2 cap screws and self-locking nuts (Figure 6).

Note: You will have to drill 2 holes in the front bumper to mount the bracket.

3. Mount the power/ground connector to the control harness mounting bracket (Figure 6).

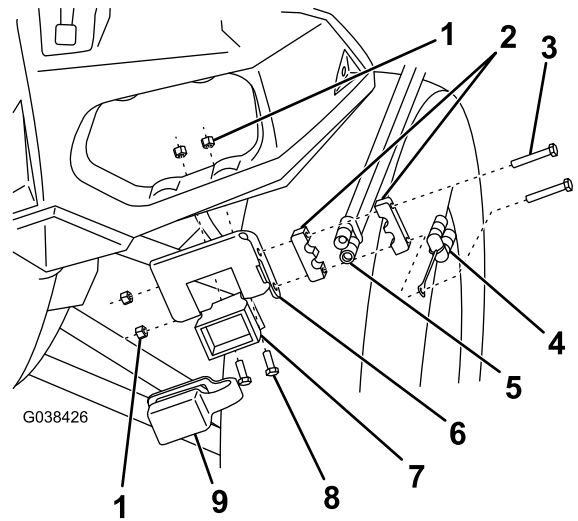


Figure 6

- | | |
|---------------------------|-------------------------------------|
| 1. Self-locking nut | 6. Control harness mounting bracket |
| 2. Power/Ground connector | 7. Plow connector |
| 3. Long bolt | 8. Short bolt |
| 4. Power/Ground dust cap | 9. Control harness dust cap |
| 5. Power/Ground connector | |

4. Secure the dust caps to the wire harness plugs and mounting bracket.
5. Route the cables along the vehicle frame toward the battery and controller connector and secure them with cable ties.
6. If you are installing the plow on an ATV, proceed to step 9. If you are installing the plow on a UTV, proceed to the next step.
7. Pull the plow controller connector into the vehicle cab (Figure 7).

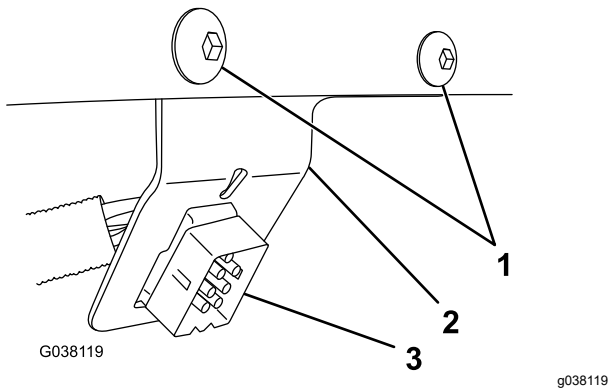


Figure 7

- 1. Self-tapping bolts
- 2. Dash bracket
- 3. Plow controller connector

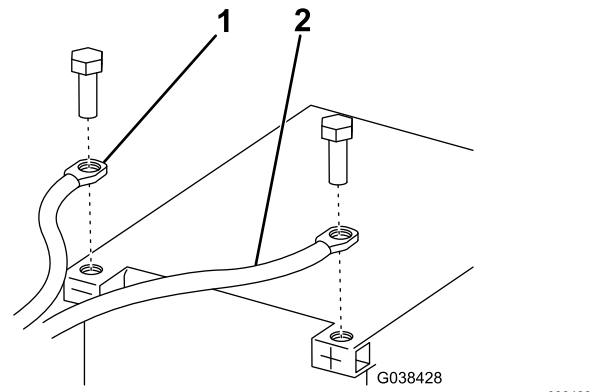


Figure 9

- 1. Black power/ground cable
- 2. Red power/ground cable

- 8. Mount the plow controller connector to the dash bracket, and secure the bracket to the left of the steering wheel using 2 self-tapping bolts (Figure 7).
- 9. Plug the plow controller into the plow controller connector.
- 10. Locate a keyed 12 V+ ignition source on the vehicle wire harness and identify the corresponding connector in your loose parts.
- 11. Slide the appropriate connector onto the end of the black/red wire and crimp the connector to secure it.
- 12. Connect the black/red wire to a keyed 12 V+ ignition source (Figure 8).

- 14. Connect the red power/ground cable to the positive (+) battery terminal (Figure 9).
- 15. Secure all wiring in a position that avoids hot or moving parts using cable ties.

Note: Connecting the wire to a source that is not keyed can cause the battery to drain.

Mounting the Snowplow

Refer to [Mounting the Snowplow \(page 13\)](#) to mount the plow.

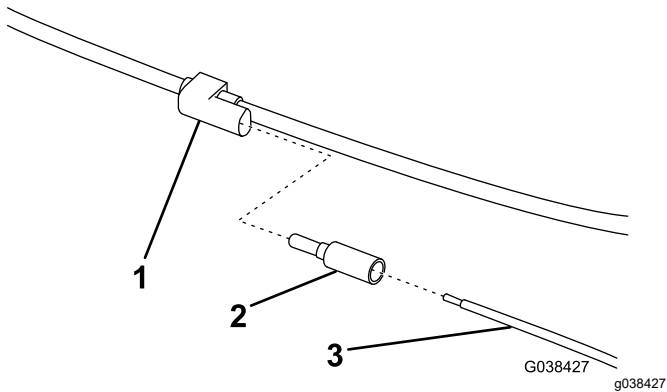


Figure 8

- 1. Keyed 12 V+ ignition source
- 2. Connector
- 3. Black/Red wire

- 13. Connect the black power/ground cable to the negative (-) battery terminal (Figure 9).

Product Overview

Controls

Become familiar with all the controls before you operate the plow.

Couplers

The couplers secure the plow to the vehicle push beam. Turn the levers toward the coupler tower to turn on the spring pins. Turn the levers away from the coupler tower to turn off the spring pins.

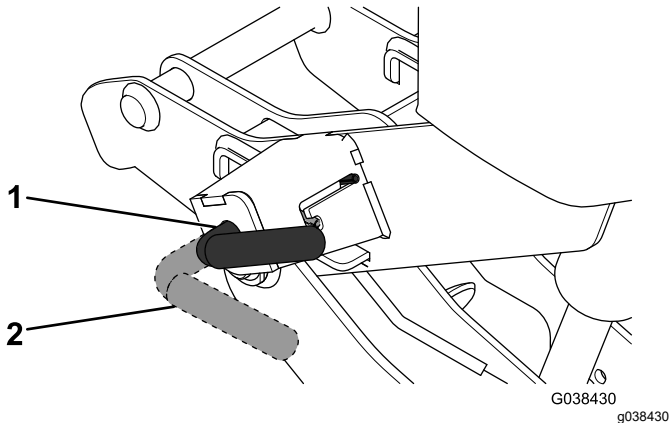


Figure 10

1. LOCK position
2. UNLOCK position

SmartTouch2 Controller

The SmartTouch2 controller operates the movement of the snowplow.

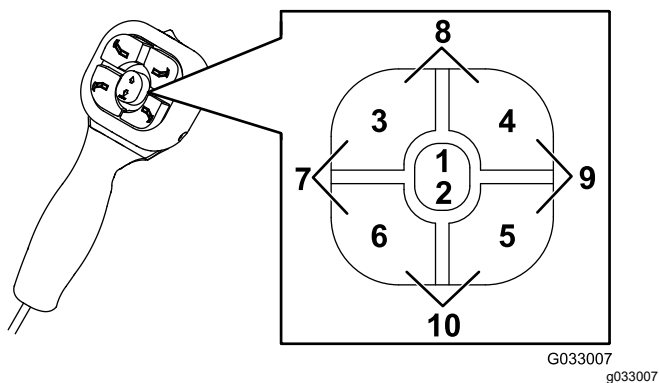


Figure 11

1. Raise button
2. Lower button
3. Left Wing Out button
4. Right Wing Out button
5. Right Wing In button
6. Left Wing In button
7. Angle left
8. Scoop
9. Angle right
10. V

- On/Off switch—turns the plow controller on and off. A green light illuminates when the controller is on.

Note: Turn off the controller when not in use to prevent accidental activation of the plow.

- Raise button—raises the plow blade. Pressing the button quickly twice automatically raises the blade when Express Raise mode is enabled.
- Lower button—lowers the plow blade and activates the FLOAT .

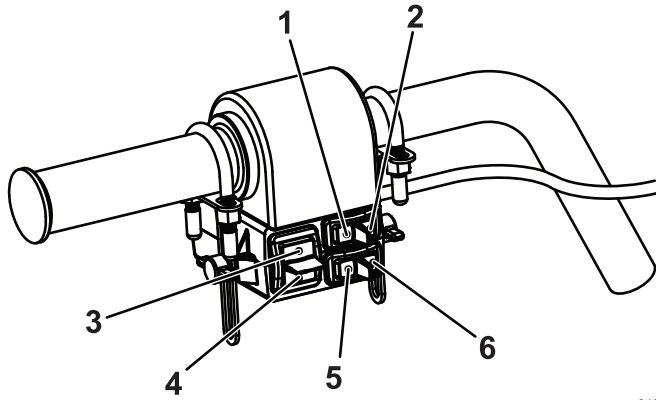
FLOAT—double tapping the button or holding it for 2 seconds automatically lowers the blade and activates the FLOAT feature, allowing the plow blade to follow the contour of the ground. A red light illuminates when the FLOAT feature is active.

- Left Wing Out button—moves the left wing out
- Right Wing Out button—moves the right wing out
- Left Wing In button—moves the left wing in
- Right Wing In button—moves the right wing in
- Sleep mode—If you do not use the controller for 20 minutes, it enters sleep mode and the controller lights flash green and red. Turn the controller off and on again to deactivate the sleep mode.

To perform different tasks, you can configure the plow wings as follows:

- To angle the entire plow blade right, press the Right Wing In and Right Wing Out buttons simultaneously until the blades are fully angled.
- To angle the entire plow blade left, press the Left Wing In and Left Wing Out buttons simultaneously until the blades are fully angled.
- To make the scoop shape with the plow, press the Left Wing Out and Right Wing Out buttons simultaneously until the blades are fully extended.
- To make the “V” shape with the plow, press the Left Wing In and Right Wing In buttons simultaneously until the blades are fully retracted.

Switch Box Controller



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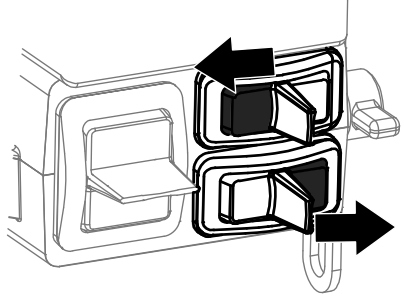
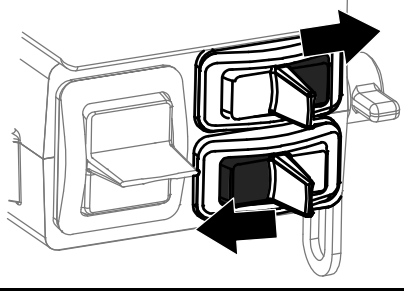
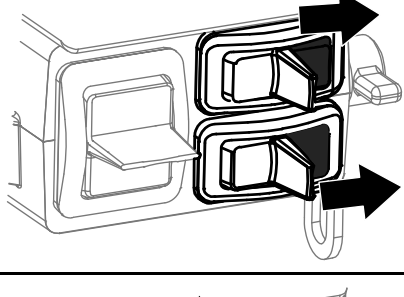
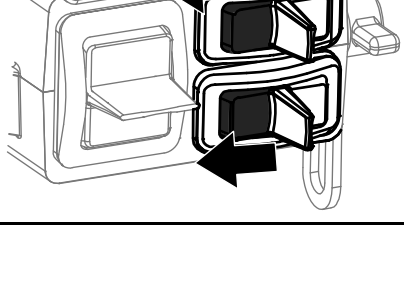
Figure 12

- | | |
|------------------|-------------------|
| 1. Left wing in | 4. Lower button |
| 2. Left wing out | 5. Right wing in |
| 3. Raise button | 6. Right wing out |

The switch box controller operates the movements of the snowplow.

- Left wing in button—moves the left wing in
- Left wing out button—moves the left wing out
- Raise button—raises the plow blade. Pressing the button quickly twice automatically raises the blade when Express Raise mode is enabled.
- Lower button—lowers the plow blade and activates the FLOAT.
- Right wing in button—moves the right wing in
- Right wing out button—moves the right wing out

To perform different tasks, you can configure the plow wings as follows:

Position	Buttons	Figure
Left	To plow to the left, press the LEFT WING IN button and press the RIGHT WING OUT button simultaneously until the blades are fully angled.	
Right	To plow to the right, press the LEFT WING OUT button and press the RIGHT WING IN button simultaneously until the blades are fully angled.	
"V"	To make the "V" shape with the plow, press the LEFT WING IN and RIGHT WING IN buttons simultaneously until the blades are fully retracted.	
Scoop	To make the scoop shape with the plow, press the LEFT WING OUT and RIGHT WING OUT buttons simultaneously until the blades are fully extended.	

Specifications

Note: Specifications and design are subject to change without notice.

Blade width	168 cm (5 ft 6 inches Power VXT)
Blade height	47 cm (18-3/8 inches)
Weight	111 kg (245 lb)

Attachments/Accessories

A selection of BOSS approved attachments and accessories is available for use with the machine to enhance and expand its capabilities. Contact your Authorized Service Dealer or authorized BOSS distributor or go to www.BOSSPlow.com for a list of all approved attachments and accessories.

To ensure optimum performance and continued safety certification of the machine, use only genuine BOSS replacement parts and accessories. Replacement parts and accessories made by other manufacturers could be dangerous, and such use could void the product warranty.

Operation

Note: Determine the left and right sides of the machine from the normal operating position.

Mounting the Snowplow

Note: The vehicle must be running before starting this procedure.

1. Activate the FLOAT feature on your plow controller.
2. Line up the vehicle with the snowplow and drive forward until the lower pin contacts the pin receiver (Figure 13).

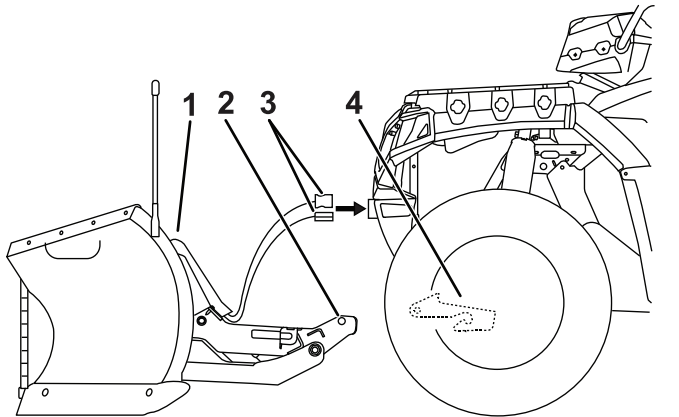


Figure 13

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- | | |
|------------------|-----------------|
| 1. Coupler tower | 3. Wire harness |
| 2. Lower pin | 4. Pin receiver |

5. Remove the electrical-plug dust-covers and connect the plow wire harness to the vehicle wire harness (Figure 13).
6. Activate the FLOAT feature on your plow controller.
7. Using the coupler handle, push the coupler tower upward until the coupler spring pins snap in (Figure 15).

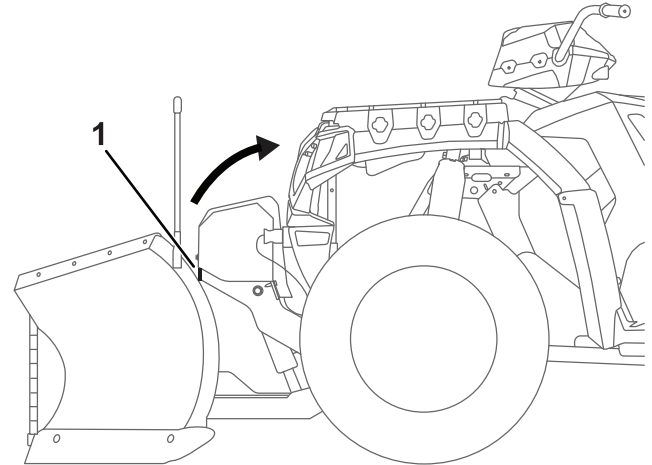


Figure 15

g318517

1. Coupler handle

8. Ensure that both coupler spring pins have fully engaged the coupler (Figure 14).

Note: Move the coupler tower until the spring pins engage completely.

3. Set the parking brake.

Note: If your vehicle does not have a parking brake, chock the wheels.

4. Turn the levers on the couplers to the ATTACH position (Figure 14).

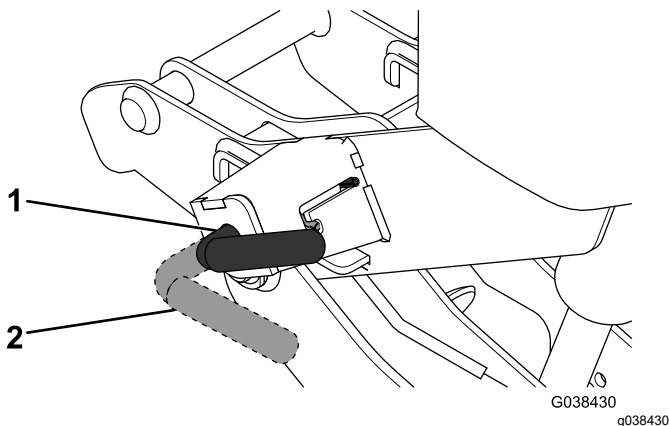


Figure 14

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g038430

- | | |
|------------------|--------------------|
| 1. LOCK position | 2. UNLOCK position |
|------------------|--------------------|

Removing the Snowplow

Note: The vehicle must be running before starting this procedure. Set the parking brake. If your vehicle does not have a parking brake, chock the wheels.

1. Activate the FLOAT feature on the plow controller.

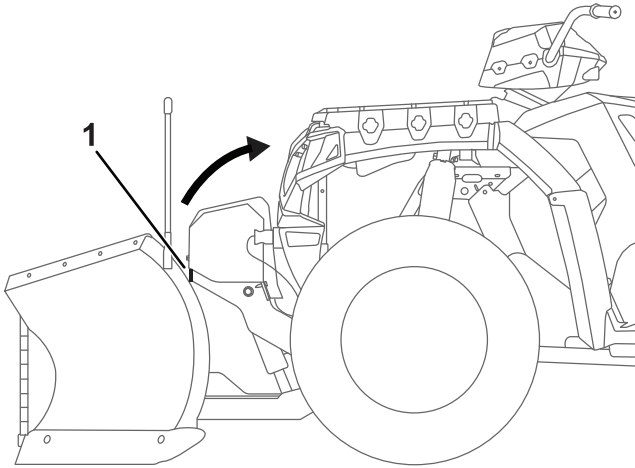


Figure 16

g318517

1. Coupler handle

2. While putting upward pressure on the coupler handle, turn the levers on the couplers to the UNLOCK position (Figure 17).

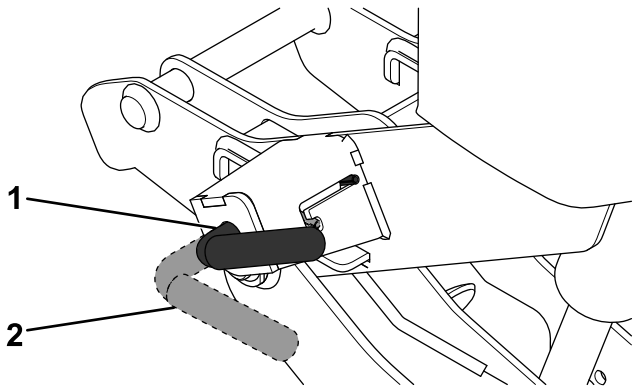


Figure 17

G038430
g038430

1. LOCK position
2. UNLOCK position

3. Using the coupler handle, lower the coupler tower completely (Figure 18).

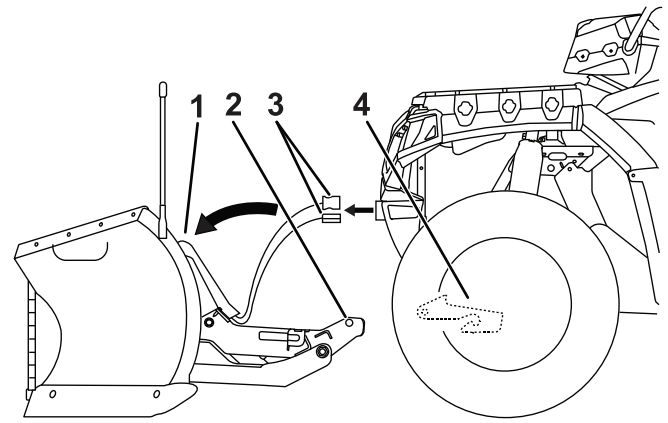


Figure 18

g318518

1. Coupler tower
2. Wire harness
3. Lower pin
4. Pin receiver

4. Disconnect the plow wire harness from the vehicle wire harness and secure the electrical-plug dust-covers (Figure 18).
5. Release the parking brake (if equipped) and slowly back the vehicle away from the snowplow.

Adjusting the Blades

Use this procedure to adjust the blades to lay flat against the ground.

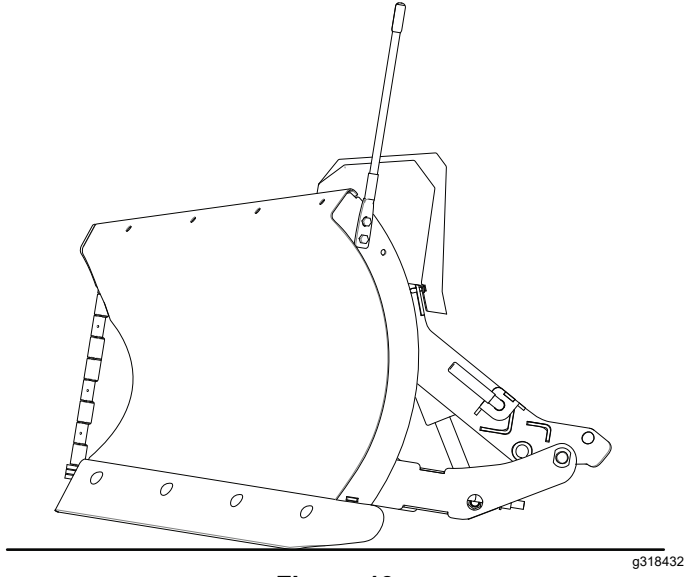


Figure 19
Add shims to align the blades.

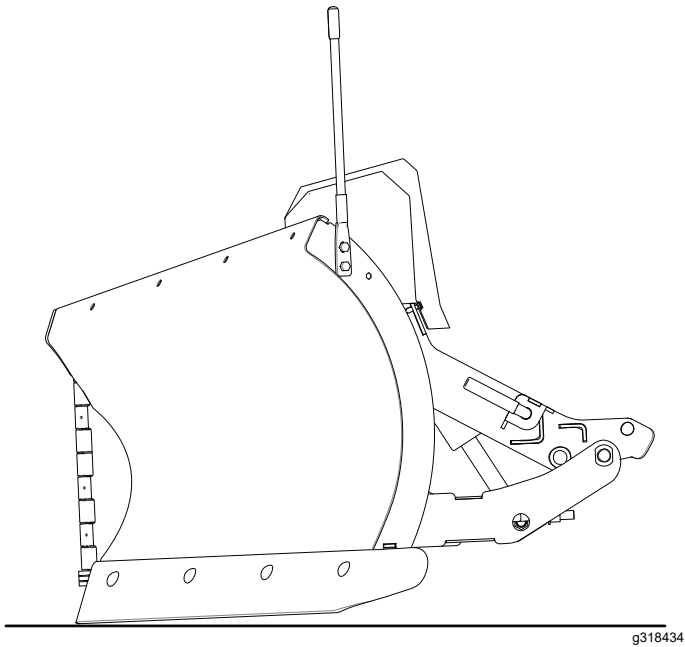


Figure 20
Remove shims to align the blades.

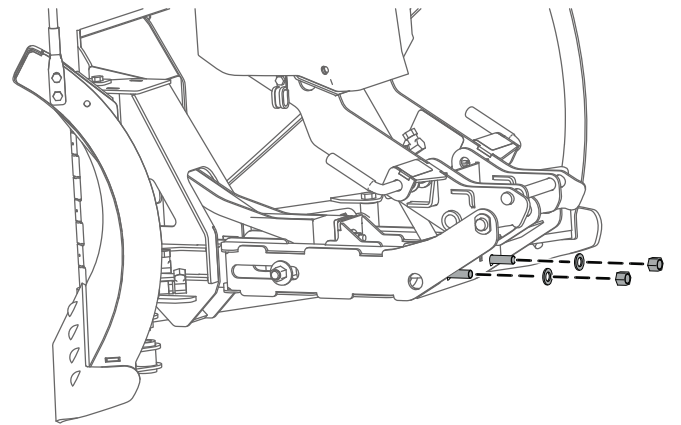


Figure 21

3. Rotate the center section and blades all the way forward to a secure position.

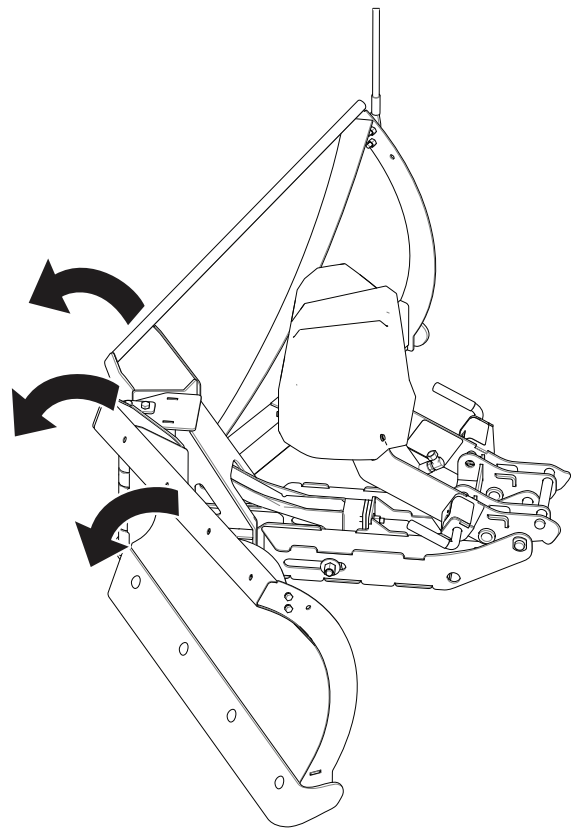


Figure 22

4. Remove the bumper stop nut and washer.

1. Lower the blades, stop the machine, set the parking brake (if equipped) or chock the wheels, and remove the key.
2. Remove the trip spring bolts, washers, and spring plate from the pushframe.

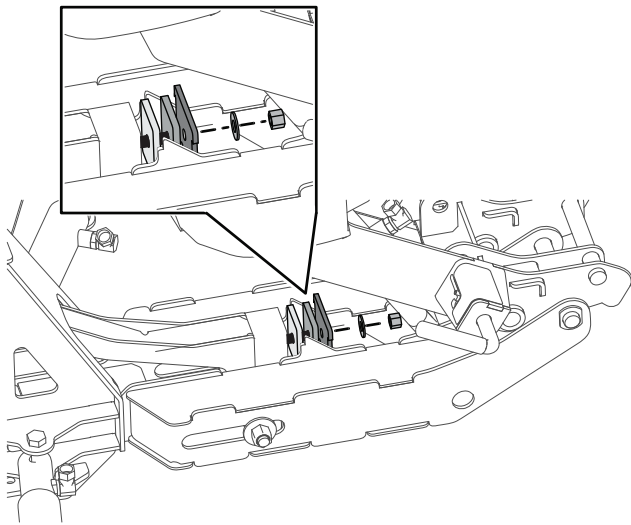


Figure 23

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5. Add or remove blade-adjustment shims; refer to [Figure 19](#) and [Figure 20](#).
6. Install the bumper stop nut and washer.
7. Rotate the center section and blades back to the normal operating position.
8. Align the trip spring eye bolts through the spring plate and loosely install 2 trip spring bolts and washers.
9. Tighten the nuts until 13 mm (1/2 inch) of the trip spring bolts extend beyond the top of the adjustment nuts.

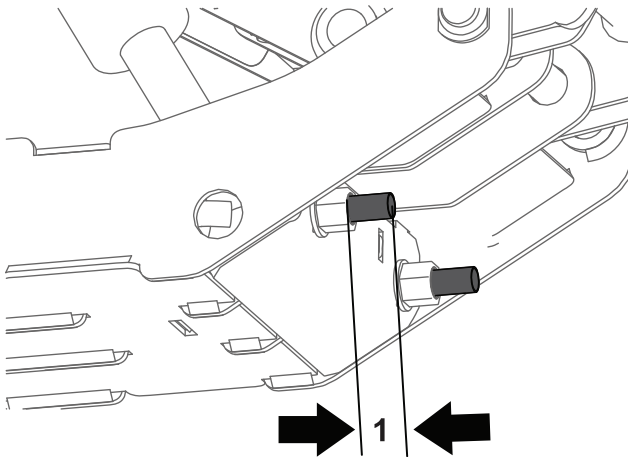


Figure 24

g318529

1. 13 mm (1/2 inch)

10. Attach the plow; refer to [Mounting the Snowplow](#) ([page 13](#)).
11. Lower the blade all the way to the ground; refer to [Controls](#) ([page 10](#)).
12. Check the edges of the blades to ensure they lay flat against the ground. If not, repeat this procedure as needed.

Checking the Hydraulic Fluid Level

1. With the plow mounted to the vehicle, lower the plow to the ground and ensure that it is in the straight position.
2. Remove the 4 plastic rivets securing the coupler cover to the coupler, and remove the cover ([Figure 25](#)).

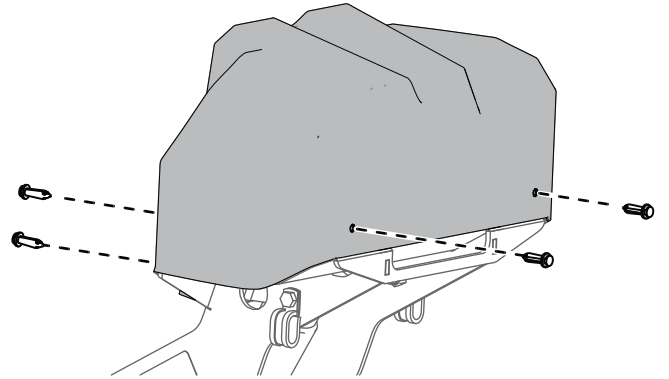


Figure 25

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3. Ensure that the fluid comes up to the fill line on the side of the tank ([Figure 26](#)). If it does not, add more hydraulic fluid; refer to [Adding Hydraulic Fluid](#) ([page 17](#)).

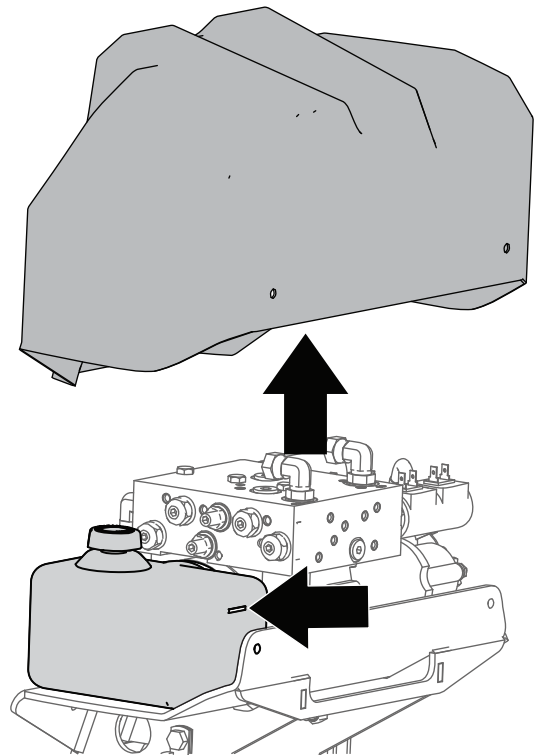


Figure 26

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Adding Hydraulic Fluid

1. Ensure that the lift cylinder is completely collapsed.

Important: Do not manually pull the tower down. This can cause an air pocket to form in the hydraulic system and fluid to spill out of the internal filler cap.

2. Clean the area around the fill cap (Figure 27).

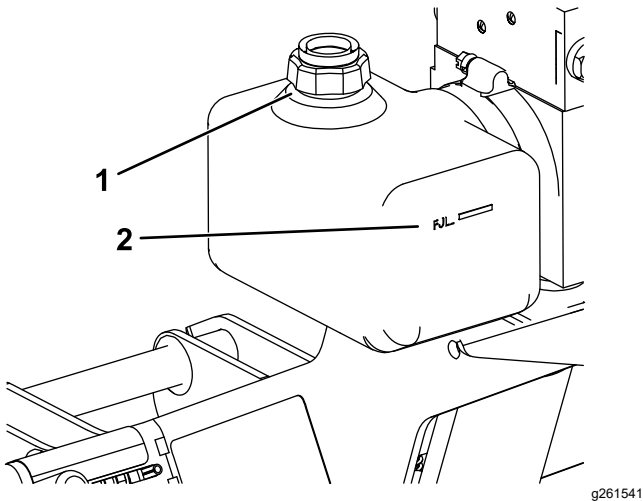


Figure 27

1. Fill cap
2. Fill line

3. Remove the fill cap from the hydraulic reservoir (Figure 27).
4. Slowly fill the reservoir with BOSS high-performance hydraulic fluid to the fill line on the outside of the tank (Figure 27).

Note: The reservoir holds approximately 0.48 L (1/2 US qt) of hydraulic fluid.

5. Install the previously removed fill cap.
6. Start the vehicle and operate the plow in its full range of movement.
7. Stop the vehicle, check the hydraulic-fluid level, and replenish the fluid if necessary; refer to [Adding Hydraulic Fluid \(page 17\)](#).
8. Install the previously removed coupler cover.

Operating Tips

- Become familiar with the area you are plowing; hidden obstructions such as curbs and pipes can damage your plow or machine.
- Do not let snow accumulate; always plow with the storm.
- Lower the plow when not in use to prevent possible injury.
- Always plow at a safe speed in case you hit hidden obstructions.
- When transporting the machine, do not block your vision with the plow.
- Do not change the plow position while plowing.
- Ensure that the kickstand is raised before plowing to prevent damage to the plow or machine.
- For more plowing tips, visit www.BOSSPlow.com.

Maintenance

⚠ WARNING

Failing to properly maintain the machine could result in premature failure of machine systems, causing possible harm to you or bystanders.

Keep the machine well maintained and in good working order as indicated in these instructions.

⚠ CAUTION

If you leave the key in the switch, someone could accidentally start the engine and seriously injure you or other bystanders.

Remove the key from the switch before you perform any maintenance.

Note: Determine the left and right sides of the machine from the normal operating position.

Recommended Maintenance Schedule(s)

Maintenance Service Interval	Maintenance Procedure
Before each use or daily	<ul style="list-style-type: none">• Check the hydraulic lines and hoses.• Check the torque of all fasteners, pins, retainers, nuts, and bolts.• Check the cutting edge.• Check the wire-harness connector.• Grease the coupler spring pins.
Before storage	<ul style="list-style-type: none">• Grease the lift-cylinder rod.• Apply dielectric grease to the wire-harness connectors.• Grease the coupler spring pins.
Monthly	<ul style="list-style-type: none">• Apply dielectric grease to the wire-harness connectors.

Checking the Hydraulic Lines and Hoses

Service Interval: Before each use or daily

⚠ WARNING

Hydraulic fluid escaping under pressure can penetrate the skin and cause injury.

- **Ensure that all hydraulic fluid hoses and lines are in good condition and all hydraulic connections and fittings are tight before applying pressure to the hydraulic system.**
- **Keep your body and hands away from pin-hole leaks or nozzles that eject high-pressure hydraulic fluid.**
- **Use cardboard or paper to find hydraulic leaks.**
- **Safely relieve all pressure in the hydraulic system before performing any work on the hydraulic system.**
- **Get immediate medical help if fluid is injected into skin.**

Check the hydraulic lines and hoses daily for leaks, kinked lines, loose mounting supports, wear, loose fittings, weather deterioration, and chemical deterioration. Make all necessary repairs before operating.

Storage

Storing the Plow

1. Grease any exposed chrome or nitro bar on the lift cylinders.
2. Drive the snowplow to your storage location and remove the plow; refer to [Removing the Snowplow \(page 14\)](#).
3. Pull the coupler tower forward until the lift cylinder is completely compressed.
4. Apply dielectric grease to all of the wire harness connectors and install the dust caps.
5. Lightly sand and use touch-up paint on painted areas that are scratched, chipped, or rusted.
6. Loosen the trip-return springs.
7. Grease the coupler spring pins.

Removing the Plow from Storage

1. Check the plow for cracked welds.
2. Check the torque of all fasteners, pins, retainers, nuts, and bolts; tighten as necessary.
3. Check the hydraulic lines and hoses for cracks or leaks.
4. Check the cutting edge for wear.
5. Tighten the trip-return springs.
6. Lightly sand and use touch-up paint on painted areas that are scratched, chipped, or rusted.
7. Grease the coupler spring pins.
8. Apply dielectric grease to all of the wire harness connectors.
9. Attach the plow to the vehicle; refer to [Mounting the Snowplow \(page 9\)](#).
10. Move the plow through its range of motion to check the hydraulic cylinder rods.

Troubleshooting

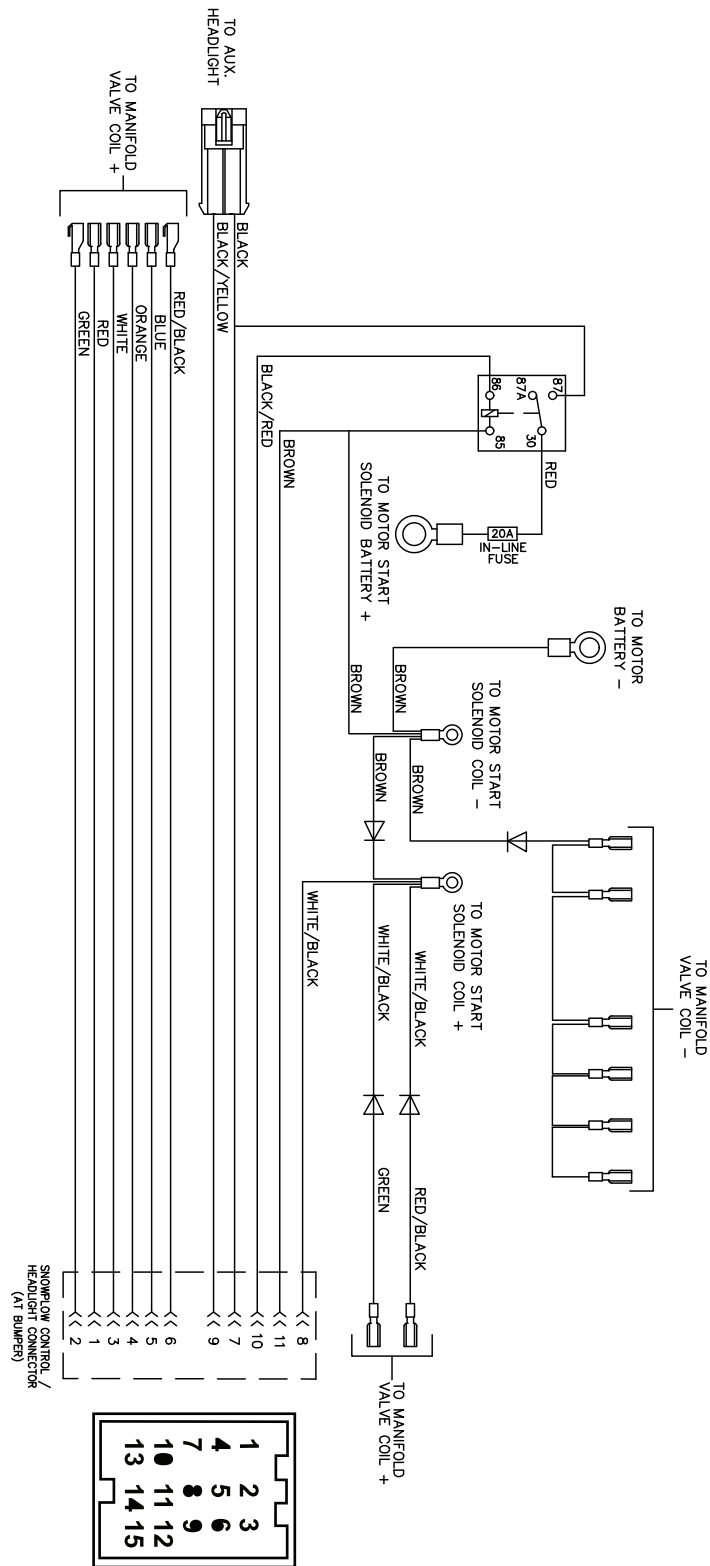
Problem	Possible Cause	Corrective Action
<p>The hydraulic pump motor does not run.</p>	<ol style="list-style-type: none"> 1. The power/ground cables or control cables are not connected. 2. The hydraulic pump motor has failed or the pump has seized 3. The cable between the battery and the solenoid is disconnected or broken. 4. The solenoid has failed. 5. Power from the relay is disconnected. 	<ol style="list-style-type: none"> 1. Connect the cables. 2. Check for voltage at the hydraulic pump motor while the vehicle ignition switch is on and the control switch is in the Raise position. If voltage is present, replace the motor or hydraulic power unit assembly. 3. Check for voltage to the hydraulic pump motor start solenoid by testing for voltage between both large terminals and ground. If voltage is not present between 1 large terminal and the ground cable, the cable between the battery and the solenoid is disconnected or broken. Connect or replace the cable. 4. Check for voltage between the other large terminal of the hydraulic pump motor start solenoid and ground while jumping the 12V+ battery power to the small terminal with the white/black wire. If voltage is not present, the solenoid has failed or the brown wire from the small terminal of the solenoid to ground is may be disconnected or broken. If voltage is present, the white/black wire from the small terminal of the solenoid to control may be disconnected or broken. Connect or replace the wiring 5. Check for voltage to the control between the black wire and ground at the white 9-pin control connector of the vehicle side harness with the vehicle ignition switch on and the plow electrically connected to the vehicle.
<p>The hydraulic pump continues to run while the switch is in neutral.</p>	<ol style="list-style-type: none"> 1. The solenoid has failed in the closed position. 	<ol style="list-style-type: none"> 1. Disconnect the controller while the ignition is on. If the hydraulic pump continues to run, the pump motor start solenoid has failed in the closed position. Quickly remove the power to the plow by disconnecting the power/ground cables to the plow. Replace the solenoid. If the hydraulic pump stops running, check the control wiring for a short between the black and white/black wire, or a failed control switch. Connect, repair, or replace the wiring or switch.

Problem	Possible Cause	Corrective Action
The plow does not lower.	<ol style="list-style-type: none"> 1. The power/ground cables or control cables are not connected properly. 2. The wiring on the hydraulic valve manifold is not connected properly. 3. The solenoid valve or valve coil has failed. 4. Power from the relays is disconnected. 	<ol style="list-style-type: none"> 1. Connect the cables if they are not connected. 2. Refer to the wiring schematic and connect the wiring properly. 3. Check for voltage between the lower solenoid valve terminal on the orange wire and ground with the vehicle ignition switch on and the control switch in the LOWER/FLOAT position. If voltage is present, the lower solenoid valve or valve coil has failed. Replace the solenoid valve. 4. Check for voltage to the control between the black wire and ground at the white 9-pin control connector of the vehicle side harness with the vehicle ignition switch on and the plow electrically connected to vehicle. If voltage is not present, the power from the ignition-on 12V+source (from the vehicle) on the black/red wire has become disconnected or the relay on the plow side harness has failed. If voltage is present, check the wiring and control. Connect, repair, or replace the wiring.
The plow does not raise or raises slowly.	<ol style="list-style-type: none"> 1. The hydraulic-fluid level is low. 2. The power/ground cables or the control cable are not connected. 3. The wiring on the valve block is not connected. 4. The battery is weak or needs replacing. 5. The pump pressure relief valve is less than 1200 psi, contaminated, or damaged. 6. There is a leak in the hydraulic system. 7. The Raise control solenoid valve is not operating completely. 	<ol style="list-style-type: none"> 1. Check the hydraulic-fluid level; refer to the Checking the Hydraulic Fluid section. 2. Connect the cables. 3. Refer to the wiring schematic. 4. Load a test battery and replace it if necessary. 5. Check the pressure at the hydraulic lift cylinder port of the hydraulic power unit. If the pressure is less than 1200 psi (at the end of the lift), the hydraulic pump motor may be defective, the main pump pressure relief valve may be contaminated, damaged, set lower than 1200 psi, or the pump may be worn. See an authorized BOSS dealer for an adjustment or to replace the hydraulic power unit assembly. 6. If a hydraulic fluid leak is present at the hydraulic hose end or fitting, tighten the fitting. If the fluid leak is present at the hydraulic power unit or cylinder, a component replacement may be necessary. 7. Check for voltage between the raise solenoid valve terminal on the white wire and the ground with the vehicle ignition switch in the on position and the control switch in the Raise position. If voltage is present, the raise solenoid valve or the valve coil has failed. Replace the solenoid valve.

Problem	Possible Cause	Corrective Action
<p>The plow blade wing(s) drift back when extended or retract too quickly when plowing.</p>	<ol style="list-style-type: none"> 1. The wing-return solenoid valve is contaminated. 2. The wiring on the hydraulic valve manifold is not connected. 3. The wiring on the wing-return solenoid valve is not connected or failed. 4. The hydraulic pressure relief valve is too low. 	<ol style="list-style-type: none"> 1. Clean or replace the solenoid valve. 2. Refer to the wiring schematic and connect the wiring properly. 3. Check for voltage between the wing return solenoid valves terminal on the green or the red/black wires and the ground with the vehicle ignition switch in the on position and the control switches in the neutral position. If voltage is present, check the control wiring for a short between the black wire and the green or red/black wire, or a failed control switch. 4. Refer to an authorized BOSS Dealer.
<p>The plow wing(s) do not extend, retract, or they move slowly.</p>	<ol style="list-style-type: none"> 1. The hydraulic-fluid level is incorrect. 2. The power/ground cables and/or the control cables are not connected properly. 3. The wiring connections on the hydraulic valve manifold are not connected properly. 4. The battery is damaged or depleted. 5. The pump pressure relief valve is less than 1200 psi, contaminated, or damaged. 6. There is a leak in the hydraulic system. 7. The hydraulic hoses are not routed properly. 8. The extend/return solenoid valve or valve coil has failed. 	<ol style="list-style-type: none"> 1. Check the hydraulic fluid level and fill if required; refer to Checking the Hydraulic Fluid. 2. Connect the cables. 3. Refer to the wiring schematic and connect the wiring properly. 4. Load a test battery and replace it if necessary. 5. Check the pressure at the hydraulic lift cylinder port of the hydraulic power unit. If the pressure is less than 1200 psi (at the end of the lift), the hydraulic pump motor may be defective, the main pump pressure relief valve may be contaminated, damaged, set lower than 1200 psi, or the pump may be worn. See an authorized BOSS dealer for an adjustment or to replace the hydraulic power unit assembly. 6. If a hydraulic fluid leak is present at the hydraulic hose end or fitting, tighten the fitting. If the fluid leak is present at the hydraulic power unit or cylinder, a component replacement may be necessary. 7. Check hydraulic hose routing for proper connections. Hydraulic valve manifold and hydraulic cylinder port routing locations are printed on ends of hoses. Verify and connect hose ends to proper locations. 8. Check the voltage between the wing extend/return solenoid valve terminal (the green, blue, red/black or red wires) and the ground with the vehicle ignition switch in the on position and the control switch in the corresponding function position. Refer to the wiring diagram for proper test locations for each function. If voltage is not present, the wing extend/return solenoid valve or the valve coil has failed. Replace the solenoid valve.

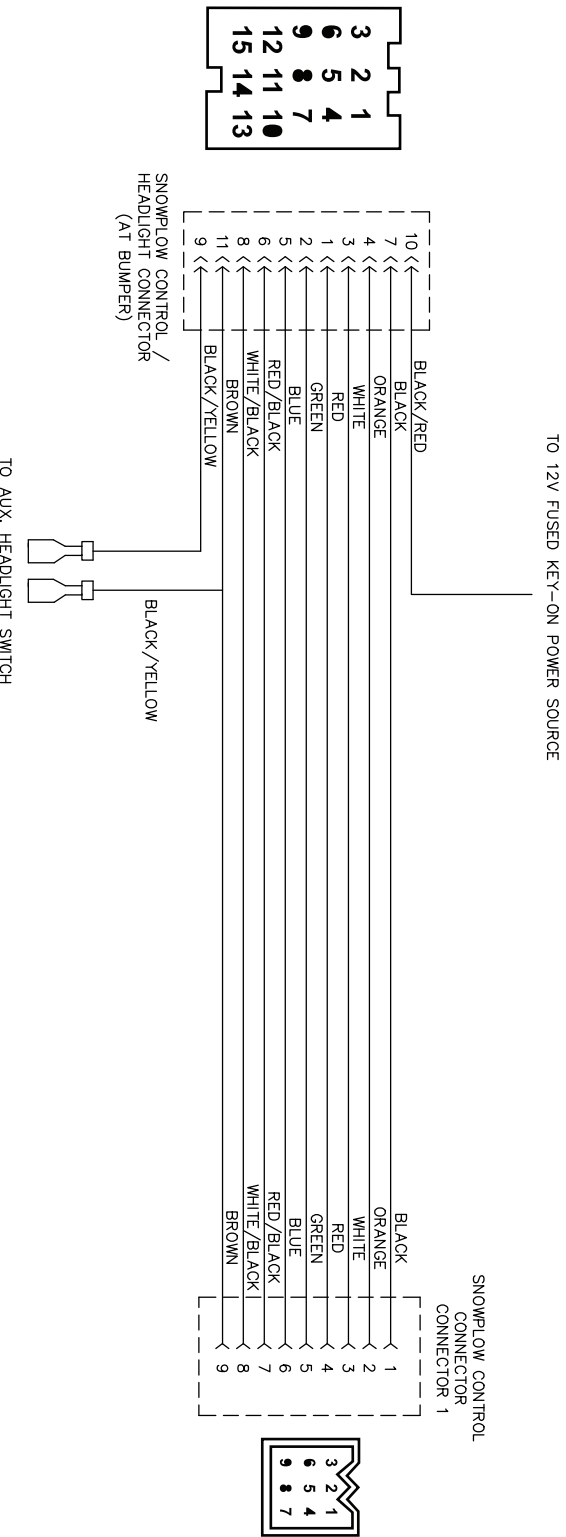
Problem	Possible Cause	Corrective Action
Hydraulic fluid leaks from the cylinders.	<ol style="list-style-type: none"> 1. The rods are pitted or rough. 2. The breather vent on the lift cylinder is damaged. 	<ol style="list-style-type: none"> 1. Polish them with a copus cloth or extra fine steel wool. 2. Check for a leaking cylinder breather vent on the lift cylinder. If hydraulic fluid leaks from the breather vent, replace the lift cylinder.
The vehicle battery dies when all of the switches are in the Neutral position.	<ol style="list-style-type: none"> 1. There is a short in the controller wiring. 2. The wiring on the hydraulic valve manifold and hydraulic pump motor start solenoid are not connected properly. 3. The 12V+ is not connected properly. 	<ol style="list-style-type: none"> 1. Refer to the wiring diagram. Inspect and repair or replace any damaged wiring or the control switch. 2. Refer to the wiring schematic and connect the wiring properly. 3. Check for voltage to the control between the black wire and the ground at the white 9-pin control connector of the vehicle side harness with the vehicle ignition switch in the off position and with the plow electrically connected to the vehicle. If voltage is present, the power from the ignition-on 12V+source (from the vehicle) on the black/red has been improperly connected to the constant-on 12V+ battery power on the vehicle allowing the plow system to continuously draw power. Connect the black/red wire of the vehicle side harness to the ignition-on 12V+ source only.
The plow blade cutting edge does not lay flat against the ground.	<ol style="list-style-type: none"> 1. The plow blades need to be adjusted. 	<ol style="list-style-type: none"> 1. Refer to Adjusting the blades.
The blade trips too easily.	<ol style="list-style-type: none"> 1. The trip-spring(s) needs adjustment. 	<ol style="list-style-type: none"> 1. Tighten the springs and replace them if they are damaged.
The plow does not clean up snow from low areas.	<ol style="list-style-type: none"> 1. The controller is not in the FLOAT position. 	<ol style="list-style-type: none"> 1. Activate the FLOAT feature on the controller.
Fluid is running out of the fill cap of the hydraulic pump.	<ol style="list-style-type: none"> 1. The pump reservoir is overfilled. 2. The plow is hitting snowbanks too hard. 	<ol style="list-style-type: none"> 1. The hydraulic fluid level should be within 2 cm (3/4 inch) of the top of the reservoir. 2. Do not plow recklessly.
The hydraulic power unit or the hydraulic pump motor start solenoid chatters when raising or extending/retracting the plow wings.	<ol style="list-style-type: none"> 1. The hydraulic-fluid level is low. 2. The power/gound cables are not connected properly. 3. The battery is weak or depleted. 	<ol style="list-style-type: none"> 1. Check the hydraulic-fluid level; refer to the Checking the Hydraulic Fluid section. 2. Clean and re-connect the power/ground cable connection and the connections at the vehicle battery. 3. Replace the battery.

Schematics

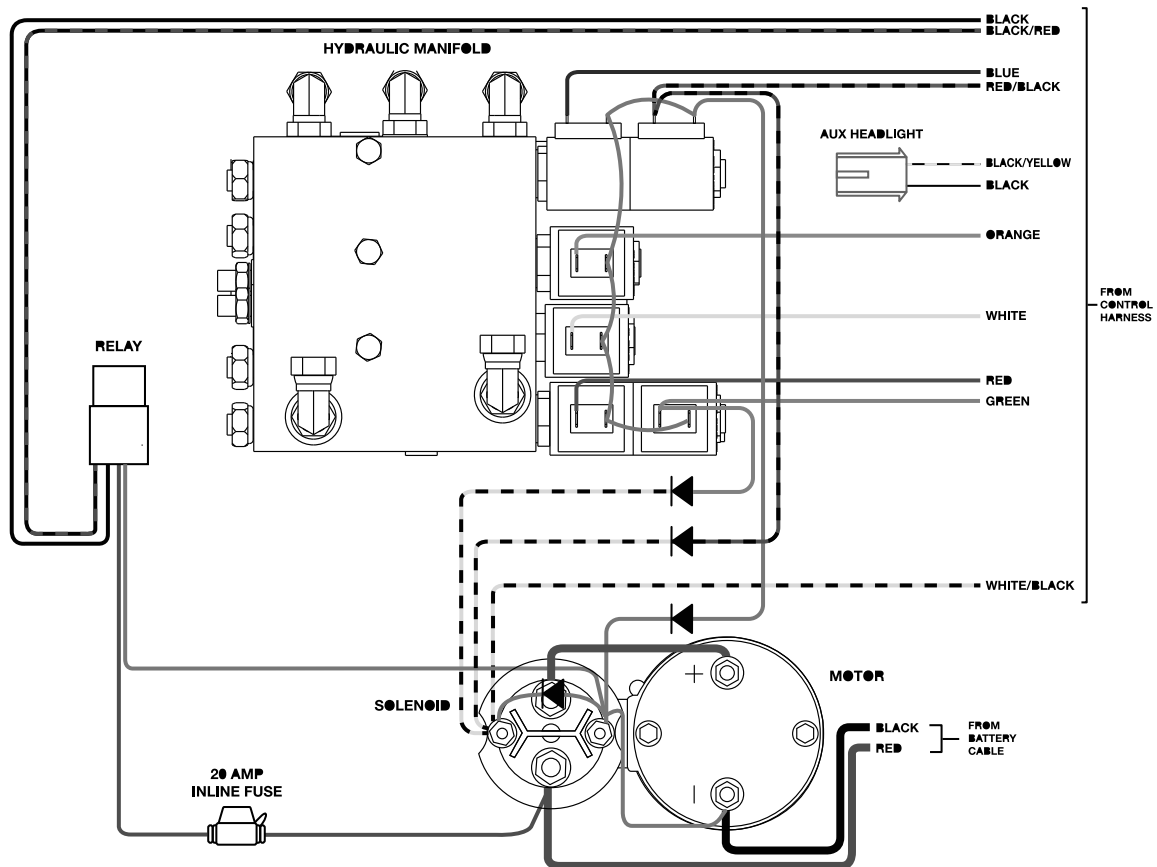


Plow Side Electrical Schematic (Rev. 0)

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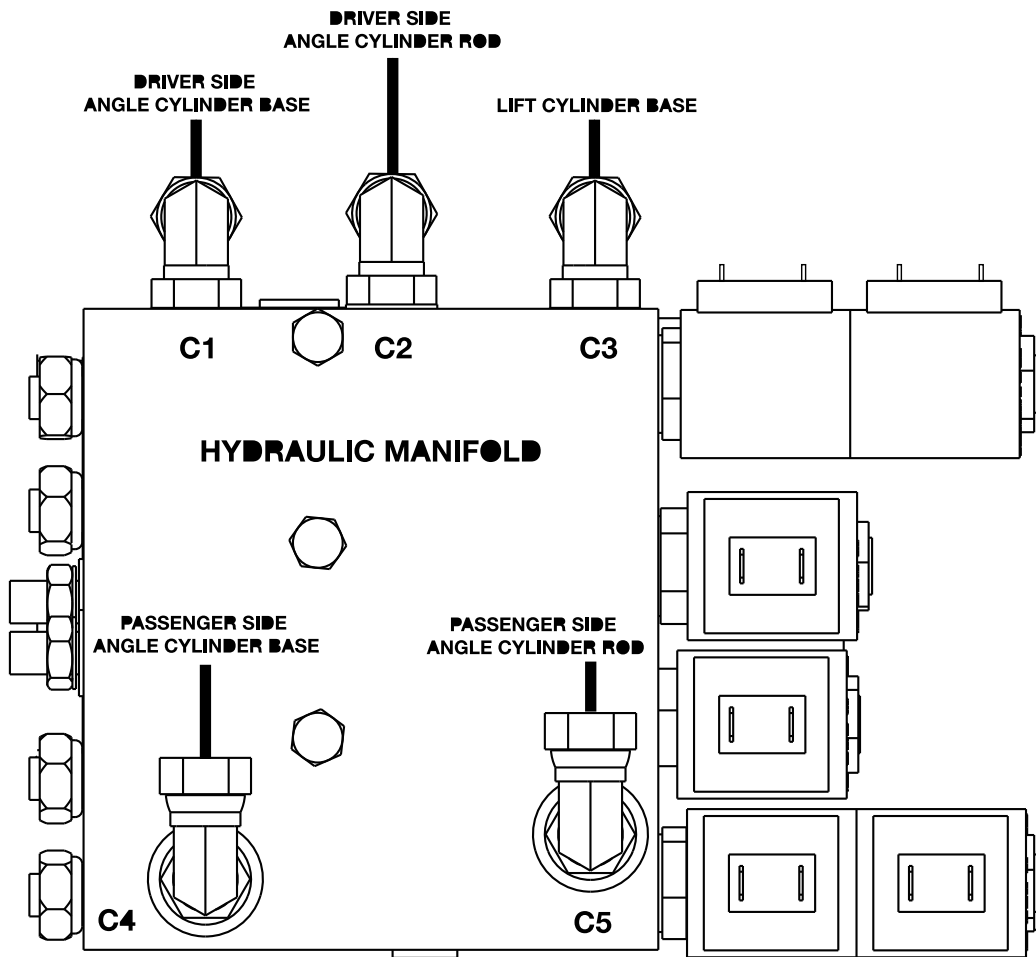
Vehicle Side Electrical Schematic (Rev. 0)



g318545

Wire Color	Function
Black	12V+ to control
Black/Red	12V+ from ignition-on power source
Brown	Ground
Green	Right wing in
Blue	Left wing out
Red/Black	Left wing in
Red	Right wing out
Orange	Lower
White	Raise
White/Black	Motor Start Solenoid
Black/Yellow	Auxiliary Headlight Ground

Control Harness (Rev. 0)



g318542

Hydraulic Manifold Port Location	Hydraulic Cylinder Port Location
C1	Driver side angle cylinder base
C2	Driver side angle cylinder rod
C3	Lift cylinder base
C4	Passenger side angle cylinder base
C5	Passenger side angle cylinder rod

Hydraulic Manifold (Rev. 0)

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