



OWNER'S MANUAL

This manual covers all truck-mounted snowplows manufactured by THE BOSS Snowplow. As this manual includes both Power-V and Straight Blade snowplow information, some of the data contained within may not apply to your snowplow.

Use the table of contents, on the following pages, to locate the information specific to your snowplow.

BOSS Products / Northern Star Industries, Inc. reserves the right under its continuous product improvement policy to change construction or design details and furnish equipment when so altered without reference to illustrations or specifications used herein.

This product is covered under one or more of the following patents:
2,137,853 5,568,694 6,035,944 6,108,946 6,170,178 6,467,199 6,134,814 7,437,839
Other Patents Pending

MSC09607-7

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A REVOLUTION AGAINST SNOW

Congratulations on purchasing the finest snowplow made. THE BOSS sets the standard for quality, reliability, craftsmanship, and performance. Our products are designed, built, and proven in Michigan's rugged Upper Peninsula, where winter is a way of life. And we back it all up with exceptional customer service and satisfaction. We're not just setting the standard. We're leading the way.

THE BOSS SNOWPLOW has been carefully designed and built for years of carefree performance. With its simple attaching system, THE BOSS can be attached or removed in seconds. For safety, THE BOSS includes hydraulic pressure relief to prevent damage by overstress. Where A-Frame and moldboard fatigue are a common problem on conventional plows, a BOSS PLOW will stand up to severe plowing conditions.

To keep your BOSS PLOW in top shape, take a few minutes to study this manual. It will show you how to use and service THE BOSS, familiarize you with all of its parts, and give you helpful tips on plowing snow.

If you have further questions, your local BOSS PLOW DEALER is the person to talk to. They know your plow well and want your complete satisfaction.

WARNING

Serious injury or death can result if you do not follow these instructions and procedures which are outlined further within your owner's manual

- Read this manual carefully before operating this snowplow.
- Always follow the vehicle manufacturer's recommendations relating to snowplow installation. For recommended vehicle models refer to the BOSS Snowplow Application Chart and Selection Guide or visit www.bossplo.com.
- Vehicles equipped with air bags are designed such that the air bags will be activated in a frontal collision equivalent to hitting a solid barrier (such as a wall) at approximately 14 mph or more, or, roughly speaking, a frontal perpendicular collision with a parked car or truck of similar size at approximately 28 mph or more. Careless or high speed driving while plowing snow, which results in vehicle decelerations equivalent to or greater than the air bag deployment threshold described above, would deploy the air bag.
- Many newer trucks are equipped with air bags. **DO NOT** under any circumstances disable or remove or relocate any sensors or other components related to the operation of the air bags.
- When transporting, position plow so as not to block vision or plow headlights.

- DO NOT change blade position when traveling.
- DO NOT exceed 40 mph when transporting plow.
- DO NOT exceed 14 mph when plowing.
- Always lower blade when vehicle is not in use.
- Make sure plow is properly attached before moving vehicle.
- To comply with Federal Regulations and to assure a safe vehicle, the Front Gross Axle Weight Rating (FGAWR), Rear Gross Axle Weight Rating (RGAWR), and the Gross Vehicle Weight Rating (GAWR) must not be exceeded at any time.
- Due to the variety of equipment that can be installed on this vehicle, it is necessary to verify that the Front Gross Axle Weight Rating (FGAWR), Rear Gross Axle Weight Rating (RGAWR), and the Gross Vehicle Weight Rating (GAWR) are not exceeded at any time. This may require weighing the vehicle and adding ballast as necessary. It may also limit payload capacity of the vehicle. It is the operator's responsibility to verify that these ratings are not exceeded.

POWER-V

This section contains information that applies to the following plow models:

7'6" Steel Power-V
8'2" Steel Power-V
8'2" Steel Power-V XT
8'2" Poly Power-V XT
9'2" Steel Power-V
9'2" Steel Power-V XT
9'2" Poly Power-V XT
10'0" Steel Power-V

Power-V Recommended Push Beam Height

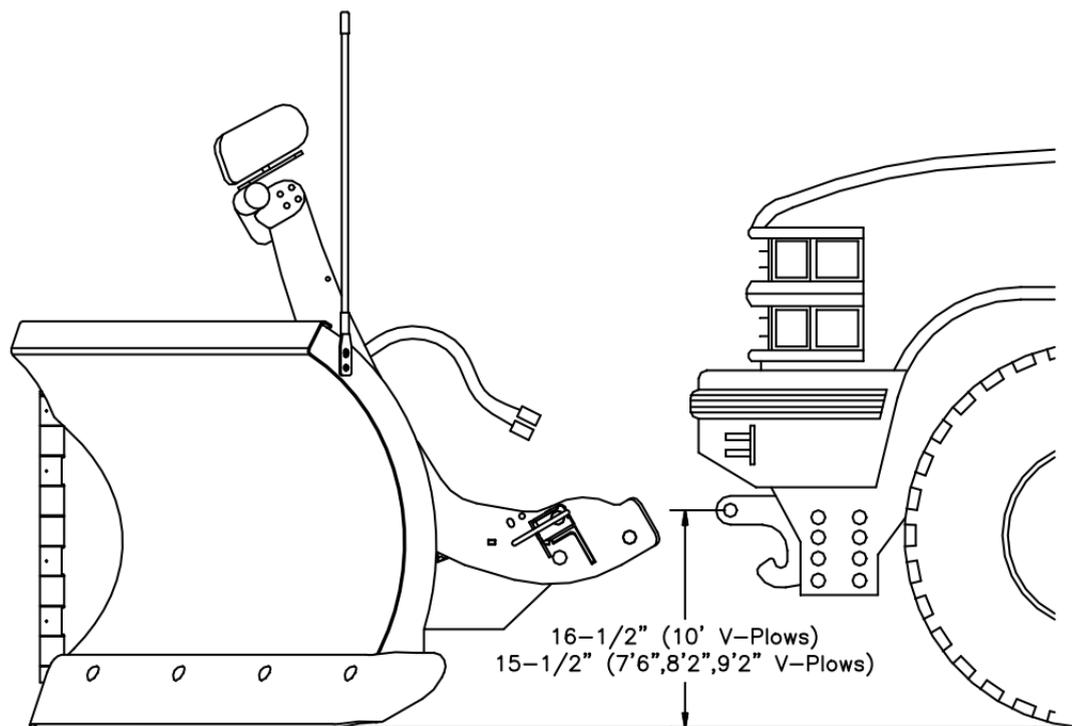
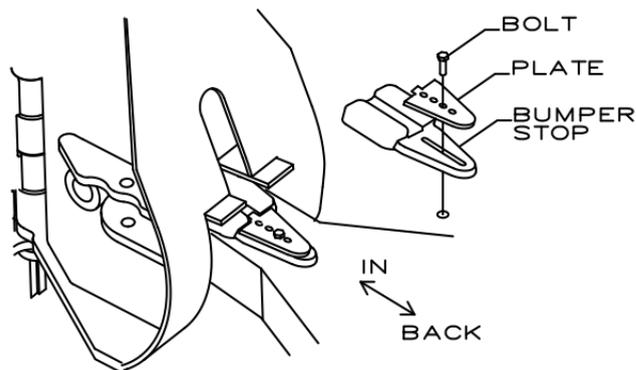


Figure 1. Recommended Power-V Push Beam Height

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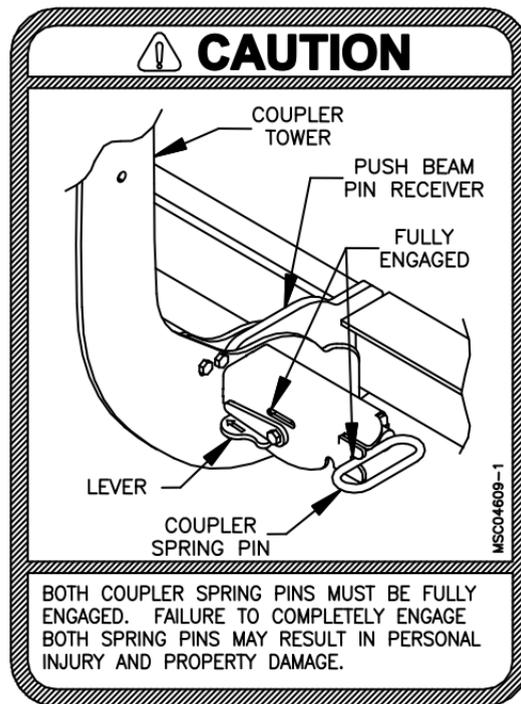
Bumper Stop Adjustment / Coupler Spring Pin Caution



ADJUSTING THE BUMPER STOP LEVELS CUTTING EDGES TO GROUND
SLIDE IN TO BRING CENTER DOWN
SLIDE BACK TO BRING CENTER UP

Figure 2. Bumper Stop Adjustment

G10669



BOTH COUPLER SPRING PINS MUST BE FULLY ENGAGED. FAILURE TO COMPLETELY ENGAGE BOTH SPRING PINS MAY RESULT IN PERSONAL INJURY AND PROPERTY DAMAGE.

Figure 3. Spring Pin Caution

G10366

Power-V Mounting Instructions

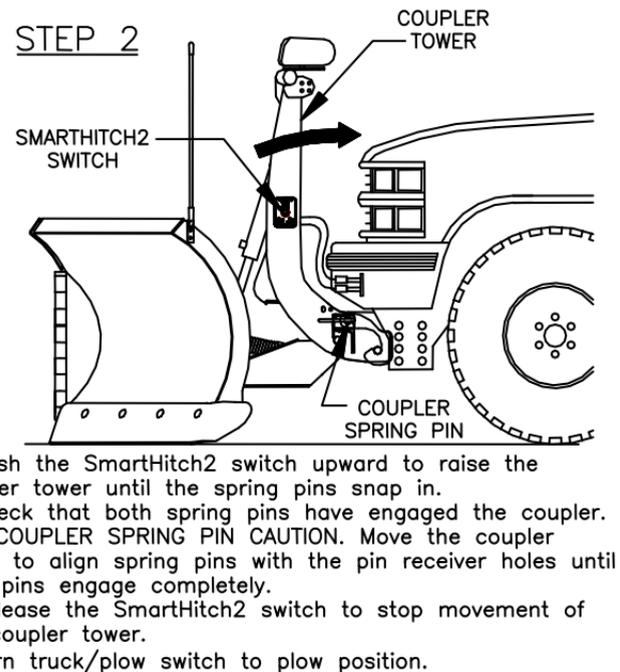
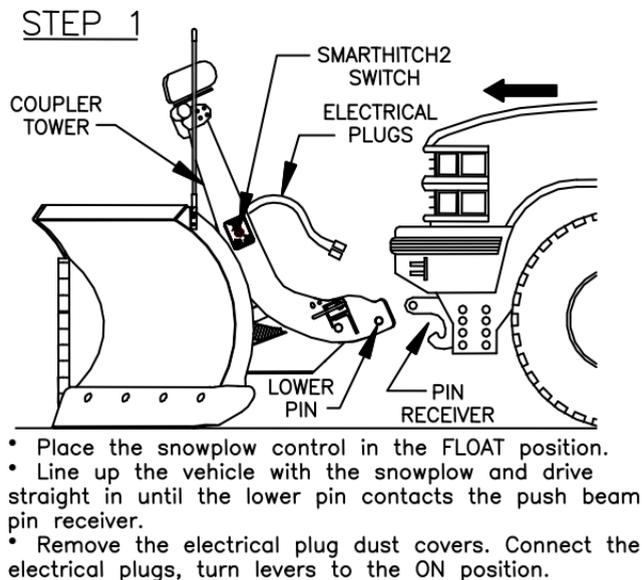
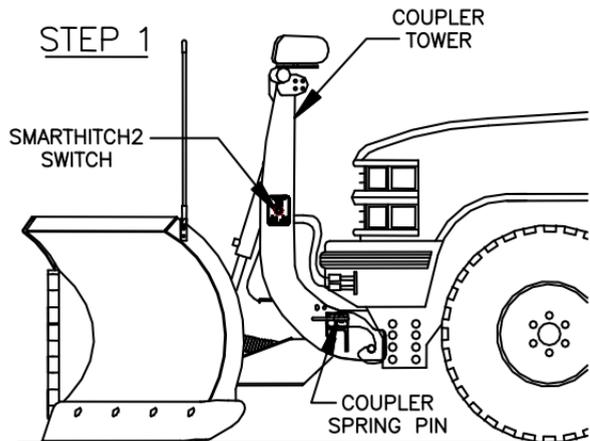


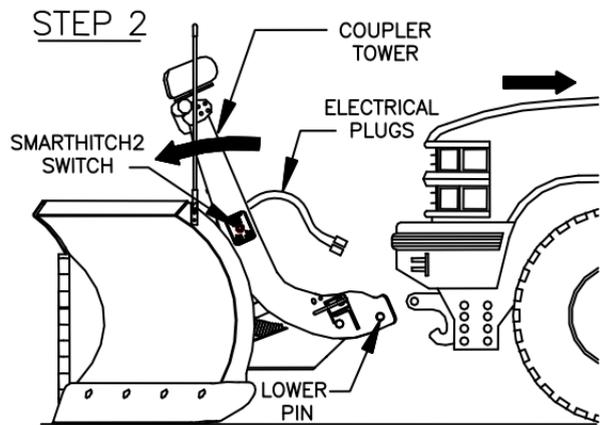
Figure 3. Snowplow Mounting Instructions

G10349

Power-V Removal Instructions



- Turn truck/plow switch to truck position.
- Retract both wings to the Vee Position and place the snowplow control in the FLOAT position.
- Turn the levers to the OFF position.
- Push the SmartHitch2 switch upward to raise the coupler tower and release the coupler spring pins.



- Push the SmartHitch2 switch downward until the coupler tower completely lowers to the plow.
- Disconnect the electrical plugs and install the electrical plug dust covers.
- Back the vehicle away from the snowplow slowly.

Figure 4. Snowplow Removal Instructions

G10350

Joystick Control Operating Instructions

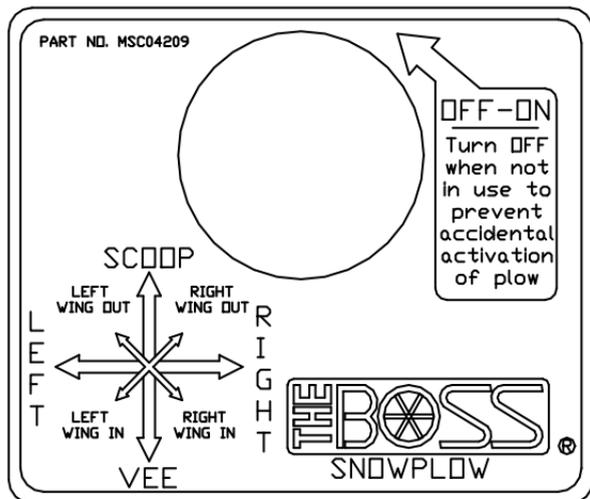


Figure 5. Power-V Control Operation

G10157

1. Toggle the ON/OFF switch to the ON position. A red indicator light will illuminate on the switch. The joystick is now active.
2. To RAISE the blade of the plow, toggle the switch on the joystick handle upward.
3. To LOWER the blade of the plow, toggle the switch on the joystick handle downward.
4. To FLOAT the blade along the contour of the plowing surface, toggle the switch on the joystick handle downward until the switch reaches the detent position. (You will feel the switch click into the detent position.) The switch will stay in the FLOAT position until the switch is physically re-centered.
5. To move the RIGHT wing OUT, push the controller stick diagonally to the right and forward.
6. To move the LEFT wing OUT, push the controller stick diagonally to the left and forward.
7. To SCOOP (Both LEFT and RIGHT wings OUT), push the controller stick directly forward.

Power-V Controllers

8. To move the RIGHT wing IN, pull the controller stick diagonally to the right and backward.
9. To move the LEFT wing IN, pull the controller stick diagonally to the left and backward.
10. To angle the entire blade LEFT (Right Wing out – Left Wing In) push the controller stick directly to the left.
11. To angle the entire blade RIGHT (Right Wing in – Left Wing out) push the controller stick directly to the right.
12. The control should be turned off when not in use. It can then be unplugged and stored.

Note: The raise/lower button can be rotated for right hand or left hand operation by pulling up on the controller stick and rotating to the desired position.

JOYSTICK CONTROL UNIVERSAL MOUNTING KIT MSC04026

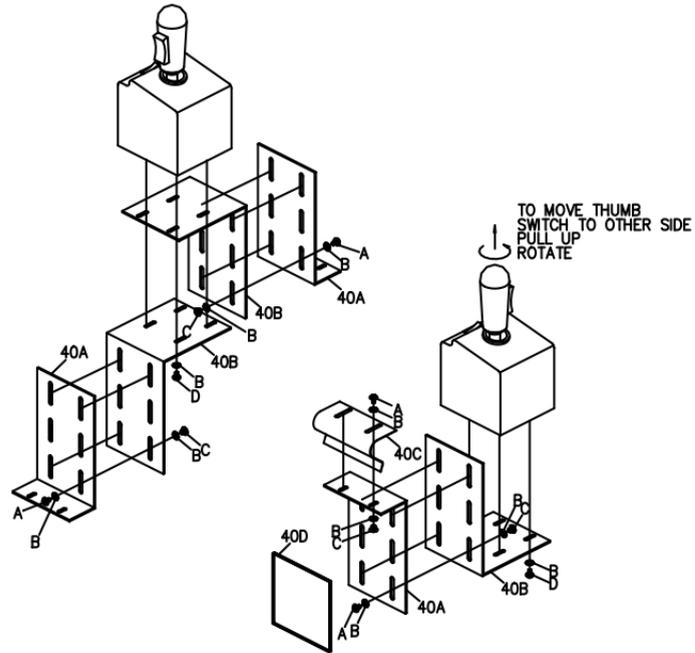


Figure 6. Joystick Control Universal Mounting Kit Components

**JOYSTICK CONTROL
UNIVERSAL MOUNTING KIT MSC04026
COMPONENTS**

Reference Number	Description	Part Number
40A	Joystick, Intermediate Mounting Bracket	MSC04028
40B	Joystick, Mounting Bracket	MSC04029
40C	Joystick, Spring Clip	MSC04027
40D	Pad, Foam	MSC04038
	Fastener Kit, Joystick	HDW05549
A	Screw, #8-32 X 1/4 Machine Black	
B	Washer, #10 Flat Washer Black	
C	Nut, #8-32 X 3/16 Alum Binding Post	

BOSS
SmartTouch Control
Operating Instructions

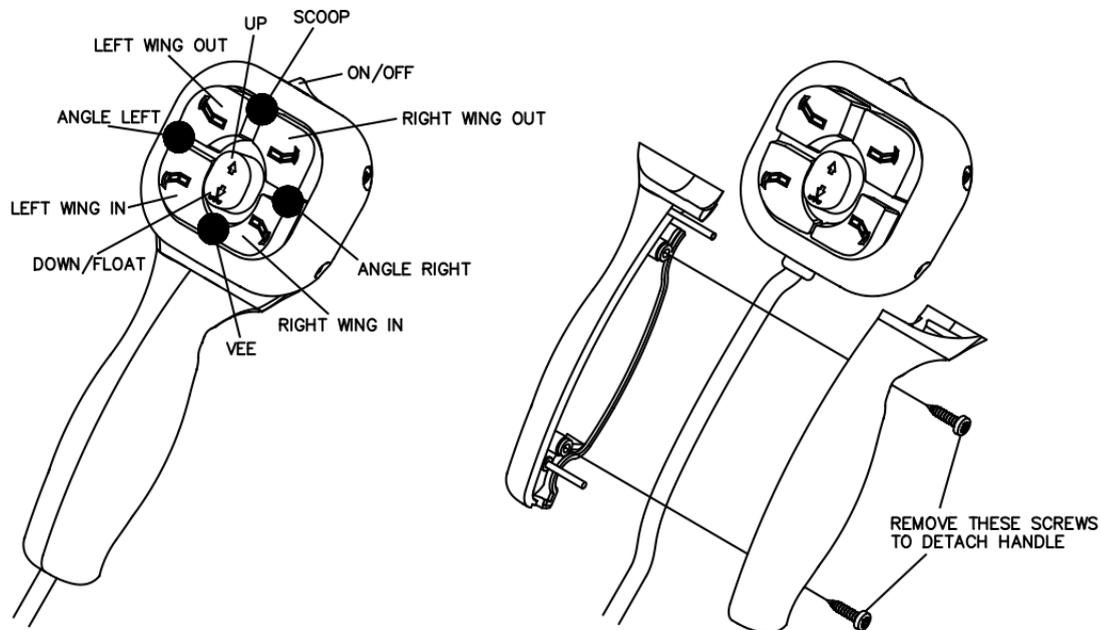


Figure 7. Power-V Control Instructions

Power-V Controllers

ON/OFF: Push the ON/OFF switch to the left ON position to turn the control on. Green LED indicators will light up on the control. Push the ON/OFF switch to the right OFF position to turn the control off.

RAISE: To raise the blade of the plow, quickly press the center button upward twice. You can also press and hold the center button upward until the blade is fully raised.

LOWER: To lower the blade of the plow, quickly push the center button downward twice. You can also press and hold the center button downward until the blade is fully lowered.

FLOAT: The plow will automatically activate the FLOAT feature when the center button is quickly pressed downward twice. (The center LED indicator will turn RED). You can also press and hold the center button downward for 2 seconds. (The center LED indicator will turn RED). Press the raise button to turn the FLOAT function off.

“What Is FLOAT?”: The FLOAT feature allows the plow blade to follow the contour of the ground. Press the raise button to turn FLOAT function off.

Note: The control MUST be in FLOAT to use SmartHitch2™ to attach or detach the snowplow.

ANGLE LEFT: To plow snow to the left, press and hold the left wing out and left wing in buttons simultaneously until the blades are fully angled.

ANGLE RIGHT: To plow snow to the right, press and hold the right wing out and right wing in buttons simultaneously until the blades are fully angled.

VEE: To create the Vee shape with the plow blades, press both the left wing in and right wing in buttons simultaneously until the blades are fully retracted.

SCOOP: To create the Scoop shape with the plow, press both the left wing out and right wing out buttons simultaneously until the blades are fully extended.

Note: The control should be turned off when not in use. It can then be unplugged and stored.

SLEEP mode: If the controller is ON but not used for 20 minutes, the automatic SLEEP mode will be activated. The controller LED lights will flash green and red when the controller is in SLEEP mode. Turn the controller OFF to deactivate SLEEP mode.

Control Swivel Mount Kit Mounting Instructions

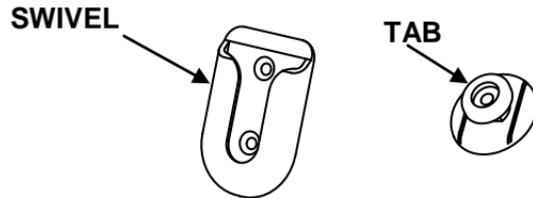


Figure 8. SmartTouch2™ Mounting Hardware G10311

1. Remove the Swivel Mount and Tab from the **MSC05058** Swivel Mount Kit.
2. Use the enclosed alcohol wipe to clean a spot on the vehicle interior where you want to place the SmartTouch2™ Control. Wipe dry immediately with a cloth or paper towel.
3. Do not apply when the surface temperatures are lower than +60°F (Working temperature range of the adhesive is -40°F to +200°F).
4. Peel off the paper backing on one side of the adhesive and apply to Swivel Mount. Apply maximum pressure to all areas.
5. Apply the Swivel Mount onto the spot of the interior that was just cleaned. (**MAKE SURE IT IS IN THE CORRECT PLACE**) Once it is placed it cannot be removed without destroying the adhesive.
6. Clean the back of the SmartTouch2™ Control with the alcohol wipe.
7. Peel off adhesive backing of tape, apply to Tab, and press firmly.
8. Remove remaining backing and apply the Tab to the back of the SmartTouch2™ Control. Apply pressure for 30 seconds.

Power-V Controllers

NOTICE

After attaching the Swivel Mount, let it sit unused for 72 hours before attaching the SmartTouch2™ Control to allow the adhesive to bond to the surface and insure secure mounting.

9. Place SmartTouch2™ Control on the Swivel Mount.

Note: Other mounting options are available. See the Power-V Optional Equipment & Accessories Section of this manual. Contact your BOSS Snowplow dealer for more information.

Power-V Maintenance

Your BOSS PLOW is designed for heavy-duty, rugged service with minimal maintenance. To ensure that it gives you the same high performance year after year, please use it properly and observe the following maintenance precautions.

Inspect the following on a regular basis:

1. All fasteners, pins, retainers, nuts and bolts for tightness. *See Recommended Bolt Torque located in this manual.*
2. All hydraulic lines and connections for wear and leakage.
3. Hydraulic cylinders for leakage, rods for rust or pitting.
4. Cutting edge wear.
5. Plow shoe wear (If installed).
6. Hydraulic oil level (CAUTION: DO NOT OVERFILL). Fill using BOSS Snowplow High Performance Hydraulic Fluid or equivalent. *See Hydraulic Power Unit Fill Procedure located in this manual.*
7. Control Harness and Power/Ground Cable Connectors for corrosion. Apply dielectric grease at least once a month during the plow season.
8. Apply grease to coupler spring pins.

Putting the Power-V Plow into Storage

1. Before you detach your plow, grease any exposed chrome or nitro bar on the lift cylinder rod and on the angle cylinders to protect them from corrosion.
2. Follow the normal procedure for dismounting from the truck.
3. Power the lift tower forward until the lift cylinder is completely compressed. This will protect the lift cylinder from corrosion.
4. Disconnect all electrical plugs and coat each connection with dielectric grease (lights, valve assembly, pump, pump solenoid, and battery). Install all dust caps and plugs provided.
5. Touch-up any rust spots or chipped paint.
6. Loosen the trip return and the blade return springs.
7. Grease the coupler spring pins.
8. Grease the vertical hinge bushings.

Taking the Power-V Plow out of Storage

1. Before you attach your plow, check for cracked welds and check all fasteners for tightness. *See Recommended Bolt Torque located in this manual.*
2. Go over all the hydraulic hoses looking for cracks and leaks.
3. Change your snowplow hydraulic fluid using BOSS Snowplow High Performance Hydraulic Fluid. *See Hydraulic Power Unit Fill Procedure located in this manual.*
4. Check your cutting edge for excessive wear.
5. Check your plow shoes for wear (If installed).
6. Tighten your trip return springs and your blade return springs.
7. Grease the coupler spring pins.
8. Grease the vertical hinge pin bushings.
9. Attach the plow to the truck and extend both blades into the scoop-position.
10. Check hydraulic cylinders for leaks and check rods for corrosion or pitting.
11. Touch-up any rust spots or chipped paint.
12. Apply dielectric grease to the electrical plugs (lights, valve assembly, pump, pump solenoid, and battery).
13. Align your plow lights once your snowplow is attached and in the raised position. *See Headlight Aiming Procedure located in this manual.*

Power-V Snowplowing Preparations

1. Before operating or servicing your BOSS Snowplow, you should become thoroughly familiar with the owner's manual.
2. You should carry the following safety equipment for emergencies: a fire extinguisher, tool kit, tow strap, flashlight, flares, first aid kit, fuses for your vehicle, jumper cables, an ice scraper, lock deicer, extra washer fluid, a shovel, and a bag of sand or salt. Also, make sure you have warm clothes that include insulated boots, insulated underwear, a warm jacket, hat, gloves, and sunglasses.

Note: In case of an emergency, it is always a good idea to carry a cellular phone or two-way radio with you when plowing.

3. You should also carry a snowplow emergency parts kit that includes extra hydraulic fluid, hydraulic hoses, a pump solenoid, extra cutting-edge bolts, and a trip spring.
4. You should check your vehicle's tire pressure; engine belts for cracks and tightness; hoses for leaks; and vehicle fluid levels including the engine oil, brake fluid, transmission fluid, battery, radiator coolant, and windshield washer fluid. Examine the battery terminals for corrosion, and make sure the connections are tight. Make sure the vehicle windshield wipers and defrosters are in good shape and working properly. Check the vehicle headlights, brake lights, and turn signals to be sure they are in good working order, and make sure your strobe light is working if you have one. Also, look under the vehicle for obvious signs of leaking fluid.

Note: You should never run out of fuel, so make sure your fuel tank is full before going out to plow.

Power-V Snowplowing Preparations

5. If you do not have a strobe light or backup lights, you should consider adding them to your vehicle to increase your own visibility, as well as making yourself more visible to others while plowing.
6. To comply with the federal requirements for front and rear weight distribution – and for good traction while plowing – make sure your vehicle has the proper amount of ballast. Ballast should be placed rearward of the back axle towards the tailgate of the bed. And it should be properly secured in place.
7. Check your snowplow to make sure all bolts are tight. Look for cracked welds and hydraulic fluid leaks. Make sure the plow lights and turn signals are aligned properly and are in good working order.
8. Check your snowplow cutting edge. An over-worn cutting edge can result in costly repairs to the blade later.

Power-V Basic Plowing Practices

- When transporting a snowplow, place the plow in the V position. This will reduce the chance of catching a curb or a snow bank that could pull your vehicle into it.
- Never operate a plow while transporting it to or from a job site. It's a good idea to keep the plow control turned off in order to prevent accidental operation.
- When transporting a plow, position the blade so as not to block the plow headlights or your vision.
- Do not exceed 40 mph when transporting a plow. Do not exceed 14 mph when plowing.
- When transporting a plow or while plowing, check the temperature gauge often. Overheating the engine can be costly. If the vehicle overheats, stop and correct the problem. If overheating occurs while transporting, stop and adjust the blade position to allow more airflow to the radiator.
- Before it snows, walk around the area you will be plowing to check for obstacles that will become hidden when snow is on the ground. Look for things such as bumper stops and speed bumps, curbs, sidewalk edges, shrubs, water drains, fire hydrants, fences, and pipes sticking up from the ground. To prevent damage to the area being plowed, as well as to your snowplow and truck, mark any obstructions that will be hard to see when there's snow on the ground.
- Always wear a seat belt when plowing, and never plow with your head out the window. Hidden obstacles could cause the vehicle to stop suddenly, resulting in personal injury.

Power-V Basic Plowing Practices

- When moving in reverse don't rely only on the vehicle mirrors. Turn around and look where you're going.
- When plowing on dirt or gravel, lower the plow shoes. This will raise the blade so you don't scrape the surface away. When plowing on asphalt or concrete, raise or remove the plow shoes so that you scrape as close to the surface as possible.
- When you're finished plowing, lower the blade to the ground, and turn the plow control off for safety. This will also take stress off the hydraulic components.

Protecting Your Transmission

- One of the most common vehicle problems encountered while plowing is damage to the transmission. Overheating the transmission fluid, as well as improper use, can contribute to the problem.
- Most vehicle manufacturers do not recommend plowing in overdrive. Consult your vehicle owner's manual to find out if plowing in overdrive is recommended – and, if so, when and how.
- Plan your plowing pattern so that you are driving forward as much as possible.
- Come to a complete stop before shifting from forward to reverse.
- Wait until the transmission engages before accelerating.

Power-V Basic Plowing Practices

- Accelerate slowly, allowing the wheels to grip the road surface for better traction. Avoid spinning the tires.
- To start a pass, start the vehicle in motion. Then drop the blade.
- Whenever possible, back into a cleared area.
- If you have a manual transmission, avoid riding the clutch while plowing.
- After plowing, let the vehicle idle for ten minutes or more to allow the transmission cooler some time to cool the transmission fluid.
- If you are plowing, change your transmission fluid before and during the season. A good rule of thumb is to pull your transmission dipstick periodically and smell the fluid. If the fluid has a burnt smell, you should change the fluid as soon as possible.
- To monitor the heat in your transmission, you can install an inline transmission gauge. Once the temperature reaches 250 degrees, you should let the vehicle idle until the transmission fluid cools to a lower temperature.

Things Not To Do

- Never pile snow on someone else's property.
- Never pile snow on a street or on sidewalks.
- Never pile snow on top of any structure.
- Never pile snow by mailboxes, dumpsters, water drains, catch basins, electrical boxes, or fire hydrants.
- Never push snow across a road without first checking the local regulations. In many areas it is illegal to push snow across a road.

Plowing Parking Lots

- Make sure you know where the customer wants you to pile the snow.
- Use extra caution when plowing next to curbs.
- If a significant amount of snow is expected, plow with the storm rather than letting snow accumulate.
- Keep water drains and catch basins clear at all times.

Power-V Basic Plowing Practices

- Do not stack snow by the road so as not to block the visibility of vehicles coming or leaving the parking lot.
- Use caution when plowing next to parked cars – as the snow can push you into the car.
- When plowing snow that is next to a building, push snow away from the building.
- If you are responsible for sidewalks, they should be shoveled first before you start plowing so that the snow can be plowed away.
- To start a pass, start the vehicle in motion. Then drop the blade.
- As you come to the end of a pass, lift off from the accelerator while starting to use the brake. At the same time, start to raise the blade to help stack the snow – and to make it easier on your electrical system.
- Plow areas in front of buildings and overhead doors first. With the blade raised and in the Straight-Position, drive up to the building; drop the blade; and pull the snow away from the building. Then turn your vehicle around, back into the cleared area and push the snow to the outer edges of the lot.
- Push the banks back far enough to accommodate future snowfalls.
- After back dragging snow away from building, it's time to start plowing the lot. Start by making a pass down the center of the lot, and then push snow in windrows to the outer edges. If there has been a

Power-V Basic Plowing Practices

significant amount of snowfall, push as much bulk off the lot as possible. Then go over it again. In large lots it may be best to break your plowing down into smaller areas.

- Do not pile snow in the middle of the lot. It will be difficult to remove later.
- Do not pile snow near handicapped parking areas.
- Plow in straight lines whenever possible, and push snow to the outer edges of the lot. Keep the wind direction in mind – and pile snow downwind to minimize drifting later.
- Plow snow during low-traffic hours, and always be cautious of cars and people in the lot.
- Once the majority of snow is removed from the lot, it's time to do the cleanup work. Start by plowing next to curbs. Be sure to square off corners where possible, and don't leave trails of snow behind.

Plowing Driveways

- Make sure you know where your customer wants you to pile the snow.
- Drive up to the garage; drop the blade; then back up – pulling the snow approximately two truck lengths back. Turn the vehicle around and back into the cleaned area. With the blade angled to the center of the driveway, push the snow to the end of the driveway. Finish by pushing the snow into the corners at the end of the driveway. Be careful to not leave snow on the road or on sidewalks.

Power-V Basic Plowing Practices

Note

- Plowing snow across a road is illegal in many areas, although some rural areas will allow it. Check your local regulations first. If it is allowed, push the snow far enough back to allow for upcoming snowfalls – being sure to not leave snow on the road.
- The more you operate your BOSS Snowplow, the more you'll appreciate just how easy it is to use. Whether opening up roads or plowing driveways, parking lots or apartment building complexes, The BOSS Snowplow is designed to save you time while making your job easier. We hope these general guidelines will help you to get started.
- And remember – there's no substitute for doing a quality job. And for doing so safely.

Power-V Plowing Tips

Every BOSS Snowplow is designed and built with one goal in mind – to make your job easier. And each one has unique features designed specifically to save time and effort, while at the same time ensuring it will stand up to nature's worst. But we don't just make better snowplows; we have lots of ideas on how to plow snow better. So browse through this section, and see how The BOSS can help you be the best you can be.

The BOSS Power-V Snowplow is a multi-position plow that let's you quickly and easily choose from a variety of blade positions including a Scoop-, Straight-, Angle-, or V-Position – and anything in between.

POWER-V POSITION

In this position the blades are retracted towards the truck. This position is normally used for making the first pass. It's ideal for plowing a lane through deep snow or punching through snowdrifts and hard-packed banks or windrows left by city and county plows.

SCOOP-POSITION

This position is used for carrying or controlling the snow – with the blades pushed out to form an inverted-V shape. It's most useful for clearing parking lots or other large areas where snow must be pushed straight ahead – and not to the side. It's also useful for cleanup work at the end of the job. You'll find the Scoop-Position to be the most useful for many plowing situations. And it's also a great time-saver.

ANGLE-POSITION

In this position the blades are positioned to either the left or right side of the vehicle. Use this position for windrowing or for widening the first pass.

STRAIGHT-POSITION

This position is normally used for back dragging – with the blades positioned directly in front of the vehicle. For example: to remove snow from the edge of a building, raise the blade and drive up to the building. Then lower the blade and back up – pulling snow away from the building.

With a little experience, you'll develop your own methods for plowing and learn exactly which plow position to use for each pass.

DEEP SNOW

In deep snow raise the plow several inches off the ground to shear off the top layer. With a Power-V Plow, use the V-position for the first pass. Then change to the Scoop- or Angle-Position to widen things out. You should push just enough snow with each pass to get the job done efficiently without overloading your equipment. A good rule of thumb is to use a full blade width for two inches of snow or less, three quarters of the blade for four inches of snow and half a blade for six inches of snow or more.

WET SNOW

The best advice is this: once you start, finish the job. Wet snow left in windrows overnight can freeze and turn into tank traps by morning.

Optional Equipment & Accessories for Power-V Blades

The following optional equipment and accessories are available at your local BOSS Snowplow Dealer:

POWER-V HIGH-PERFORMANCE CUTTING EDGES

7'6" Driver Side	BAL08857
7'6" Passenger Side	BAR08856
8'2" Driver Side	BAL08859
8'2" Passenger Side	BAR08858
9'2" Driver Side	BAL08861
9'2" Passenger Side	BAR08860
10' Driver Side	BAL08863
10' Passenger Side	BAR08862

The Power-V High-Performance Cutting Edge provides extended wear compared to traditional cutting edges. There is a built-in snow catcher to eliminate a trail of snow through the middle of the plow. And there is a built-in curb guard to protect your plow from damage.

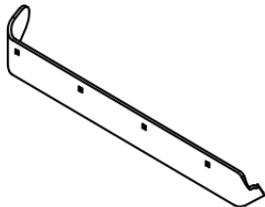


Figure 9. Power-V High-Performance Cutting Edges G10398

Optional Equipment & Accessories for Power-V Blades

POWER-V PLOW SHOE KIT

Plows shoes can be added to your Power-V Snowplow to help the blade float over soft surfaces such as gravel, dirt or grass. Note: Each shoe kit contains one shoe with hardware.

Cast Iron Shoe w/ hardware MSC01570

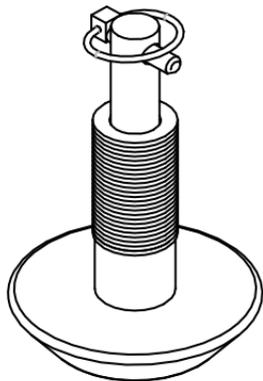


Figure 11. Cast Iron Shoe w/ hardware G10403

Optional Equipment & Accessories for Power-V Blades

SNOWPLOW SIGHT SYSTEM MSC09644

An option exclusive to THE BOSS, the Snowplow Sight System allows you to align your plow and truck from inside the cab on the first try-every time. From inside your cab, visually line up the wire sight to the target mark on the back of your plow light. Our sight system allows you to easily align your truck with your plow with no guesswork.

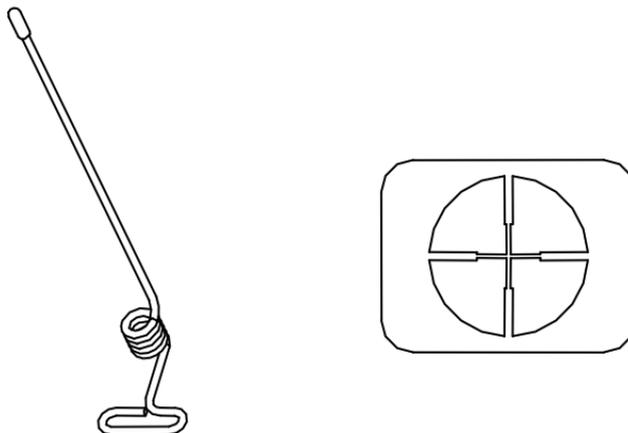


Figure 13. Snowplow Sight System

G10400

PLOW WING KIT

MSC08042B

Increasing your blade width by a full 22" at a 30-degree angle, these convenient plow wings attach and detach in seconds. The kit includes all the needed brackets and hardware. Not available for 10' Power-V.

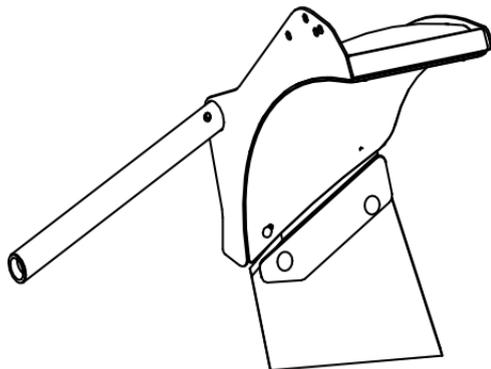


Figure 14. Plow Wing Kit

G10401

XT PLOW WING KIT

MSC08063

Increasing your blade width by a full 22" at a 30-degree angle, these convenient plow wings attach and detach in seconds. The kit includes all the needed brackets and hardware. Applications include all XT V-Blades (Steel and Poly).

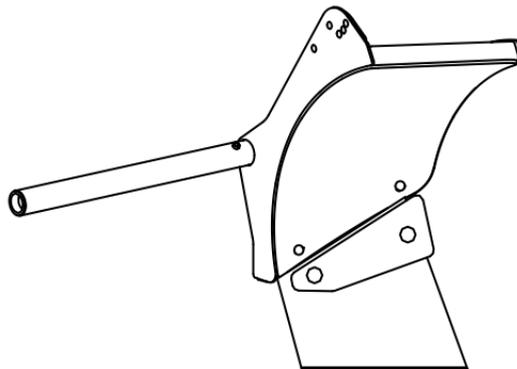


Figure 15. XT Plow Wing Kit

G10590

Optional Equipment & Accessories for Power-V Blades



ANGLE CYLINDER

HYD07130 (2005 & Older) / HYD09733 (2006 & Newer)

These easy-to-install cylinders lock and unlock both quickly and automatically to keep your Power-V Plow locked securely in the Straight-position while back dragging and without slowing the plow speed down. SmartLock cylinders are not available for the 10' Power-V Plow.

RUBBER SNOW DEFLECTOR MSC01565

This specially designed snow deflector keeps snow off the windshield and makes plowing easier and safer.

EMERGENCY PARTS KIT MSC04298 for V-blades MSC16187 for Straight Blades

This kit features a selection of the most useful replacement parts-packaged in a convenient soft-sided bag that fits easily behind or under the seat of your truck.

TOUCH-UP PAINT

RED	MSC04098 12oz Spray	MSC04358 Quart
BLACK	MSC04036 12oz Spray	MSC04359 Quart

You can keep your plow looking brand-new year after year by covering chips and scrapes the professional way. The paint is available in both red and black.

HIGH-PERFORMANCE HYDRAULIC FLUID HYD01836 (GALLON) HYD01835 (QUART)

Specially formulated to maintain its viscosity from normal use to as low as -40 degrees F, this premium snowplow oil enhances performance under even the most adverse conditions.

JOYSTICK CONTROL MSC03809

With a lighted on/off switch and the ability to adjust for right or left-hand use, these joystick controls will put you in control of your BOSS plow like never before.

Optional Equipment & Accessories for Power-V Blades

MOUNTING OPTIONS

The SmartTouch2™ Handheld Control is not only smart; it's also the most versatile way to operate your plow. That's because its head is detachable, so it goes wherever you need it. You can attach it to a pedestal mount on the floor, mount it on your dash, hold it in your hand or strap it to your leg.

Pedestal Mount MSC09658

Attach your controller to this pedestal mount either as a solid floor mount or a removable magnetic mount.

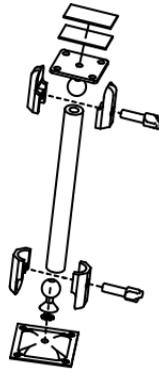


Figure 16. Pedestal Mount

G10406

Dash Mount MSC09660

Attach your controller to this dash or door mount using a dual lock Velcro strip.

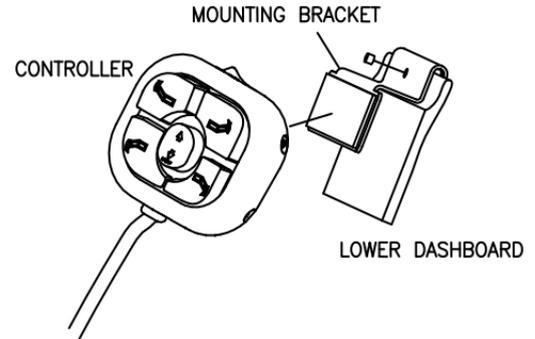


Figure 17. Dash Mount

G10407

Optional Equipment & Accessories for Power-V Blades

Leg Strap Mount MSC09659

Insert your controller into this convenient and adjustable nylon leg strap.

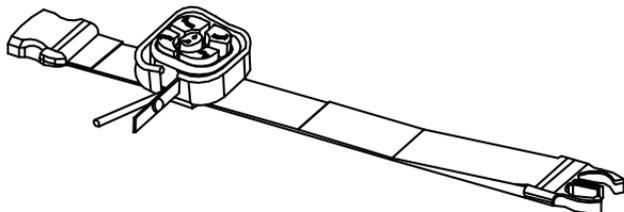


Figure 18. Leg Strap Mount

G10408

Ballast Retainer MSC09845

Place bags of sand or salt in the bed of your truck with this sturdy frame work Ballast Retainer that easily drops into place and secures the ballast bags, ensuring they remain in the proper location for maximum effectiveness.

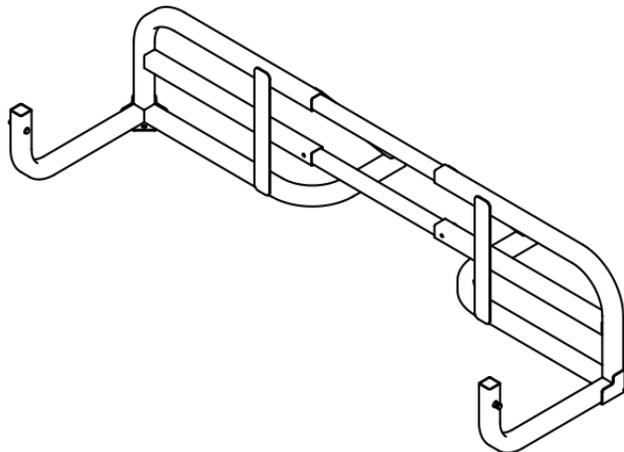


Figure 19. Ballast Retainer

G10485

STRAIGHT BLADE

This section contains information that applies to the following plow models:

- 7'0" Poly Sport-Duty
- 7'6" Poly Sport-Duty
- 7'6" Steel Super-Duty
- 7'6" Super-Duty Trip-Edge
- 8'0" Steel Super-Duty
- 8'0" Poly Super-Duty
- 8'0" Super-Duty Trip-Edge
- 8'6" Steel Super-Duty
- 9'0" Steel Super-Duty
- 9'0" Super-Duty Trip-Edge
- 10'0" Steel Super-Duty

Recommended Straight Blade Push Beam Height

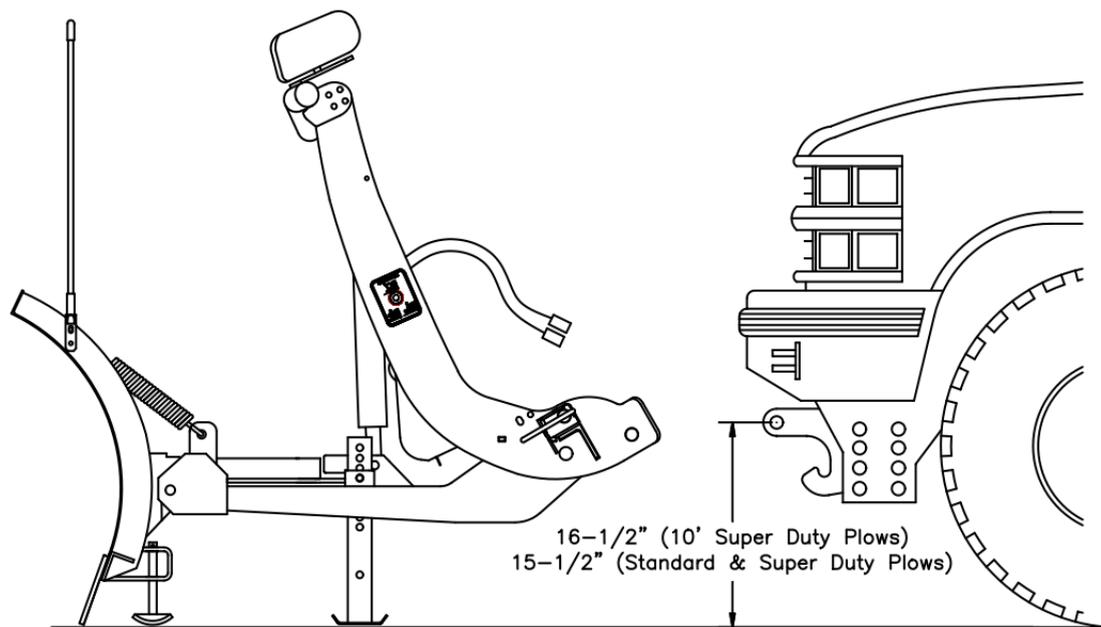


Figure 20. Recommended Straight Blade Push Beam Height

G10155

Recommended Sport Duty Push Beam Height

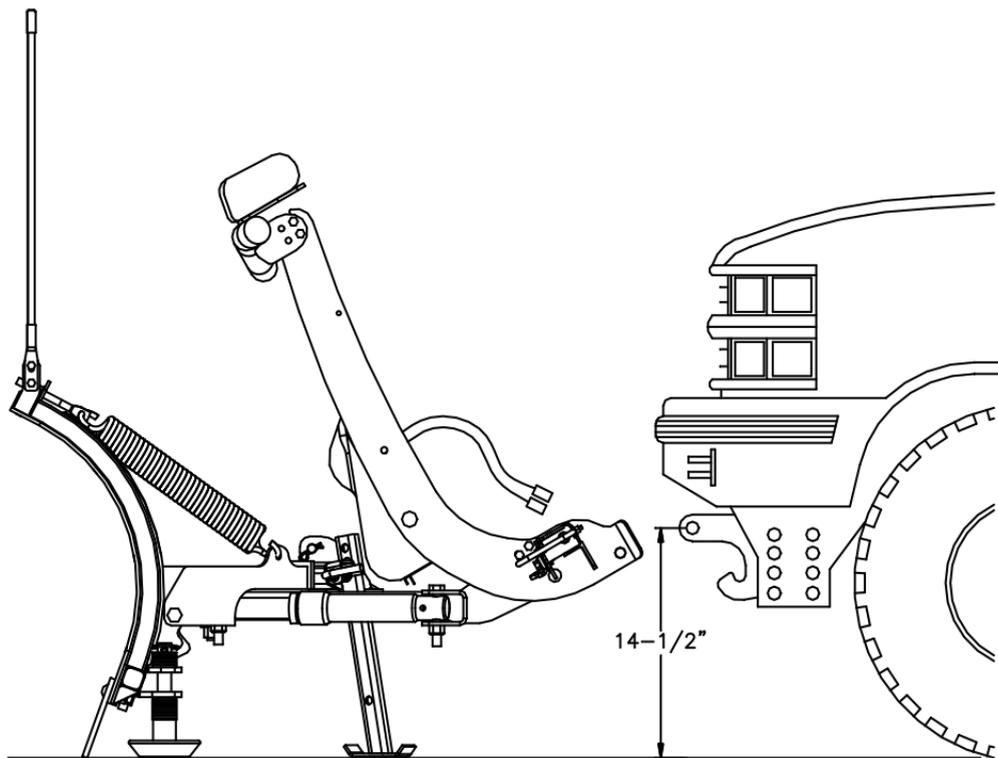


Figure 21. Recommended Sport Duty Push Beam Height

G10299

Coupler Spring Pin Caution

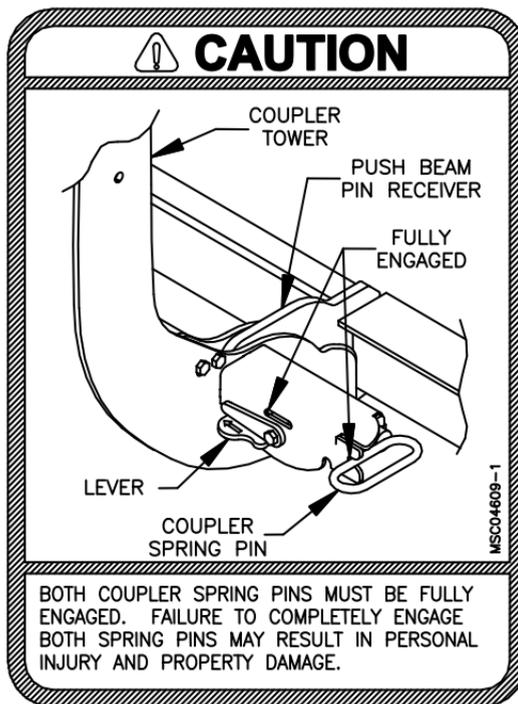
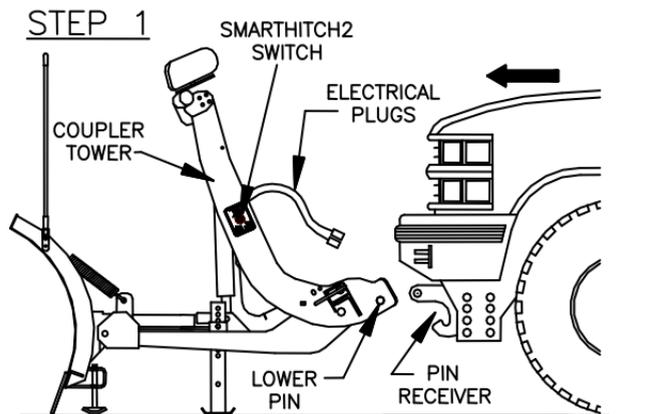
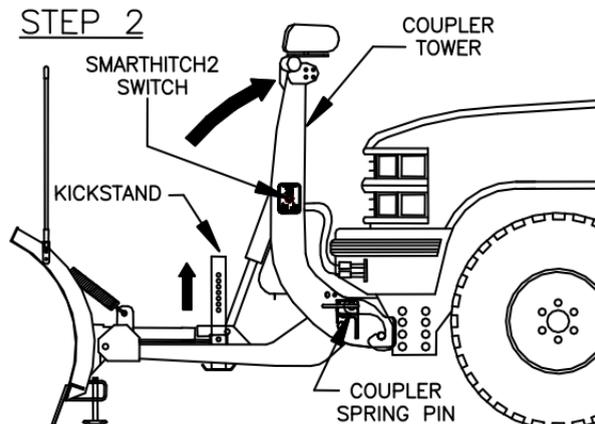


Figure 22. Spring Pin Caution

Straight Blade Mounting Instructions



- Place the snowplow control in the FLOAT position.
- Line up the vehicle with the snowplow and drive straight in until the lower pin contacts the push beam pin receiver.
- Remove the electrical plug dust covers. Connect the electrical plugs, turn levers to the ON position.



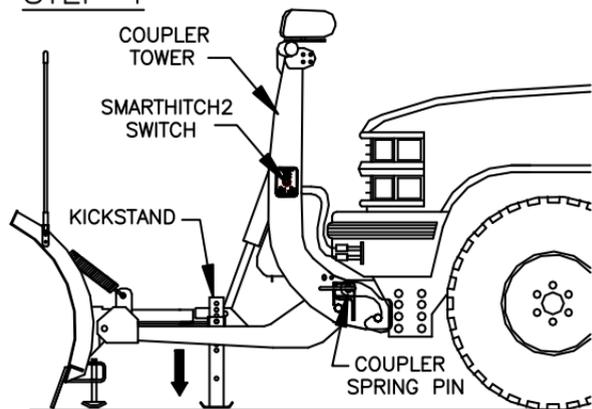
- Push the SmartHitch2 switch upward to raise the coupler tower until the spring pins snap in. (For plows without SmartHitch2, manually push the coupler tower toward the truck until the spring pins snap in.)
- Check that both spring pins have engaged the coupler. SEE COUPLER SPRING PIN CAUTION. Move the coupler tower to align spring pins with the pin receiver holes until both pins engage completely.
- Release the SmartHitch2 switch to stop movement of the coupler tower.
- Turn truck/plow toggle switch to plow position.

Figure 23. Snowplow Mounting Instructions

G10351

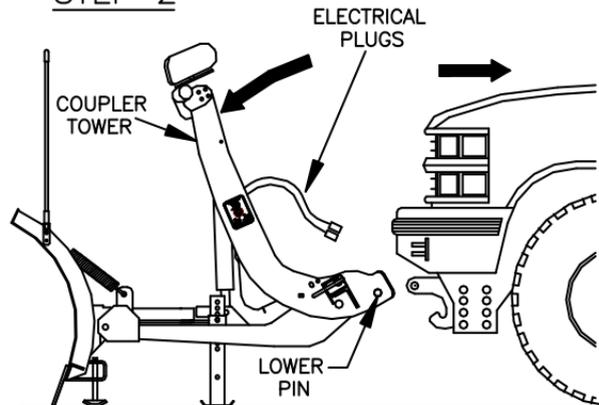
Straight Blade Removal Instructions

STEP 1



- Place the snowplow in the FLOAT position. Pull the kickstand spring to release and lower the kickstand.
- Turn the levers to the OFF position.
- Push the SmartHitch2 switch upward to raise the coupler tower and release the coupler spring pins. (For plows with out SmartHitch2, manually push the coupler tower toward the truck until the springs release.)

STEP 2



- Push the SmartHitch2 switch downward until the coupler tower completely lowers to the plow. (For plows without SmartHitch2, manually pull the coupler tower forward until the lower pins clear the push beam receiver hooks.)
- Disconnect the electrical plugs and install the electrical plug dust covers.
- Back the vehicle away from the snowplow slowly.

Figure 24. Snowplow Removal Instructions

G10352

Joystick Control Operating Instructions

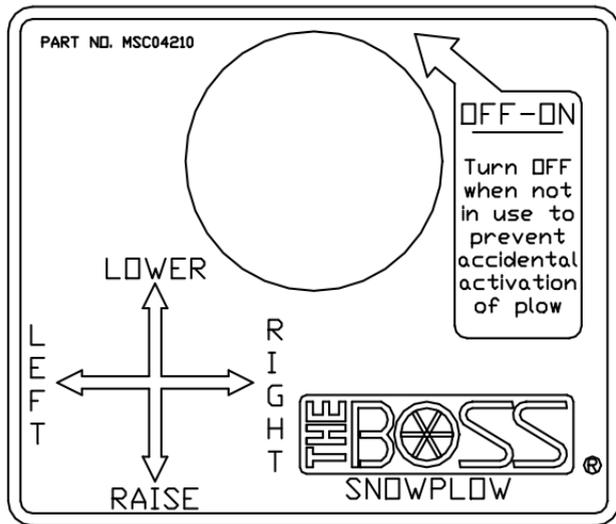


Figure 25. Straight Blade Control Operation G10154

1. Toggle the ON/OFF switch to the ON position. A red indicator light will illuminate on the switch. The joystick is now active.
2. To RAISE the blade of the plow, pull the control stick towards you.
3. To LOWER the blade of the plow, push the control stick away from you.
4. To FLOAT the blade along the contour of the plowing surface, push the controller away from you until the stick reaches the detent position. (You will feel the stick click into the detent position.) The joystick will stay in the FLOAT position until it is physically re-centered.
5. To ANGLE the blade RIGHT, push the controller stick to the right.
6. To ANGLE the blade LEFT, push the controller stick to the left.
7. The control should be turned off when not in use. It can then be unplugged and stored.

JOYSTICK CONTROL UNIVERSAL MOUNTING KIT MSC04026

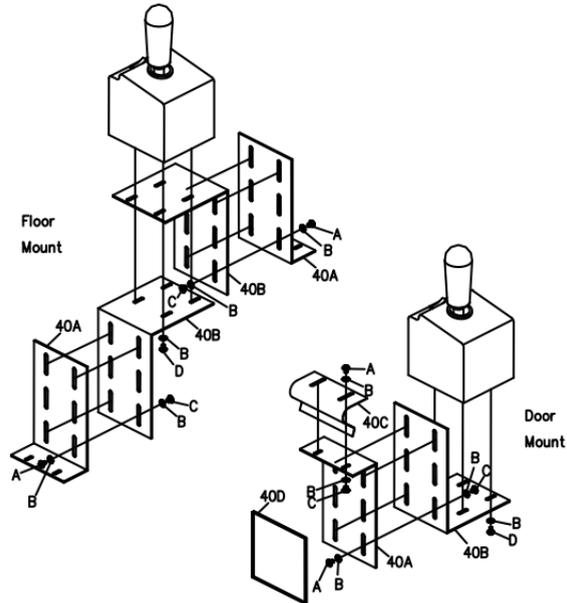


Figure 26. Joystick Control Universal Mounting Kit Component

**JOYSTICK CONTROL
UNIVERSAL MOUNTING KIT MSC04026
COMPONENTS**

Reference Number	Description	Part Number
40A	Joystick, Intermediate Mounting Bracket	MSC04028
40B	Joystick, Mounting Bracket	MSC04029
40C	Joystick, Spring Clip	MSC04027
40D	Pad, Foam	MSC04038
	Fastener Kit, Joystick	HDW05549
A	Screw, #8-32 X 1/4 Machine Black	
B	Washer, #10 Flat Washer Black	
C	Nut, #8-32 X 3/16 Alum Binding Post	

Control Operating Instructions

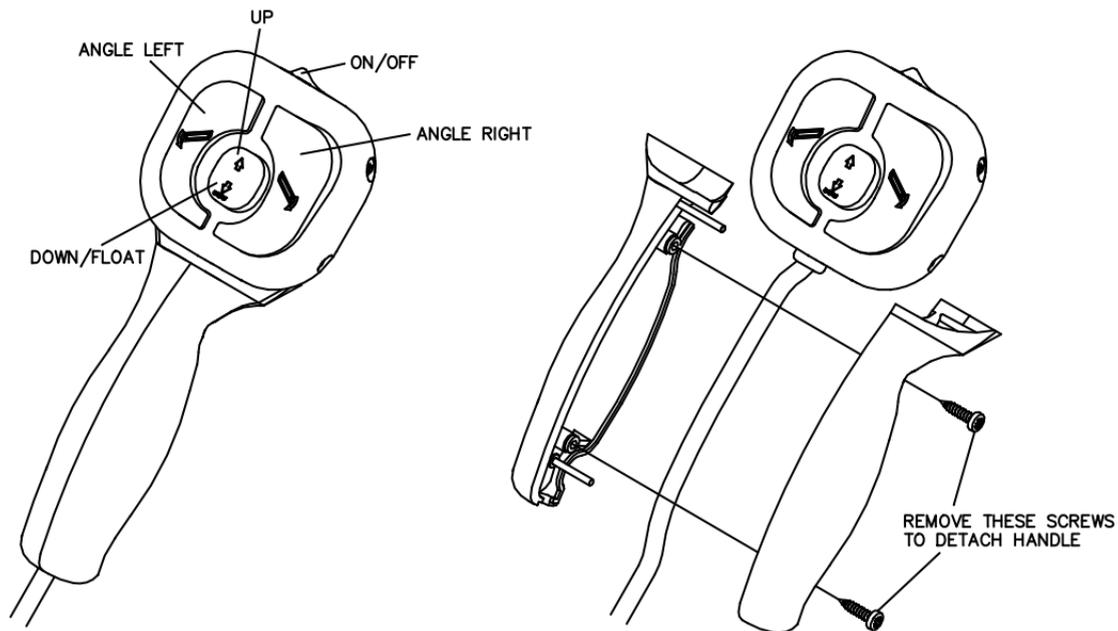


Figure 27. Straight Blade Control Instructions

G10366

Straight Blade Controllers

ON/OFF: Push the ON/OFF switch to the left ON position to turn the control on. Green LED indicators will light up on the control. Push the ON/OFF switch to the right OFF position to turn the control off.

RAISE: To raise the blade of the plow, quickly press the center button upward twice. You can also press and hold the center button upward until the blade is fully raised.

LOWER: To lower the blade of the plow, quickly push the center button downward twice. You can also press and hold the center button downward until the blade is fully lowered.

FLOAT: The plow will automatically activate the FLOAT feature when the center button is quickly pressed downward twice. (The center LED indicator will turn RED). You can also press and hold the center button downward for 2 seconds to activate the FLOAT feature. (The center LED indicator will turn RED).

“What is FLOAT?”: The FLOAT feature allows the plow blade to mirror the contour of the ground. Press the raise button to turn the FLOAT function off.

Note: The control MUST be in FLOAT to use SmartHitch2™ to attach or detach the snowplow.

ANGLE LEFT: To angle the blade to the left, press and hold the angle left button until the blade is fully angled.

ANGLE RIGHT: To angle the blade to the right, press and hold the angle right button until the blade is fully angled.

Note: The control should be turned off when not in use. It can then be unplugged and stored.

SLEEP mode: If the controller is ON but not used for 20 minutes, the automatic SLEEP mode will be activated. The controller LED lights will flash green and red when the controller is in SLEEP mode. Turn the controller OFF to deactivate SLEEP mode.

Control Swivel Mount Kit Installation Instructions

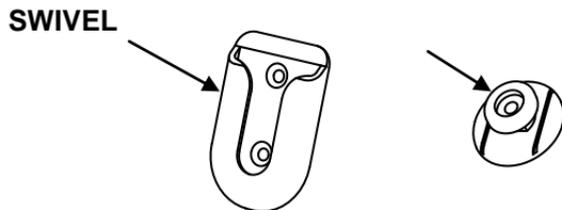


Figure 28. SmartTouch2™ Mounting Hardware G10311

1. Remove the Swivel Mount and Tab from the **MSC05058** Swivel Mount Kit.
2. Use the enclosed alcohol wipe to clean a spot on the vehicle interior where you want to place the SmartTouch2™ Control. Wipe dry immediately with a cloth or paper towel.
3. Do not apply when the surface temperatures are lower than +60°F (Working temperature range of the adhesive is -40°F to +200°F).
4. Peel off the paper backing on one side of the adhesive and apply to Swivel Mount. Apply maximum pressure to all areas.
5. Apply the Swivel Mount onto the spot of the interior that was just cleaned. (**MAKE SURE IT IS IN THE CORRECT PLACE**) Once it is placed it cannot be removed without destroying the adhesive.
6. Clean the back of the SmartTouch2™ Control with the alcohol wipe.
7. Peel off adhesive backing of tape, apply to Tab, and press firmly.
8. Remove remaining backing and apply the Tab to the back of the SmartTouch2™ Control. Apply pressure for 30 seconds.

Straight Blade Controllers

NOTICE

After attaching the Swivel Mount, let it sit unused for 72 hours before attaching the SmartTouch2™ Control to allow the adhesive to bond to the surface and insure secure mounting.

9. Place SmartTouch2™ Control on the Swivel Mount.

Note: Other mounting options are available. See the Straight Blade Optional Equipment & Accessories Section of this manual. Contact your BOSS Snowplow dealer for more information.

Straight Blade Maintenance

Your BOSS PLOW is designed for heavy-duty, rugged service with minimal maintenance. To ensure that it gives you the same high performance year after year, please use it properly and observe the following maintenance precautions.

Inspect the following on a regular basis:

1. All fasteners, pins, retainers, nuts and bolts for tightness. *See Recommended Bolt Torque located in this manual.*
2. All hydraulic lines and connections for wear and leakage.
3. Hydraulic cylinders for leakage, rods for rust or pitting.
4. Cutting edge wear.
5. Plow shoe wear.
6. Hydraulic oil level (CAUTION: DO NOT OVERFILL). Fill using BOSS Snowplow High Performance Hydraulic Fluid or equivalent. *See Hydraulic Power Unit Fluid Fill Procedure located in this manual.*
7. Control Harness and Power/Ground Cable Connectors for corrosion. Apply dielectric grease at least once a month during the plow season.
8. Apply grease to coupler spring pins.

Putting the Straight Blade Plow into Storage

1. Before you detach your plow grease any exposed chrome or nitro bar on the lift cylinder rod and on the angle cylinders to protect them from corrosion.
2. Drive the snowplow to a storage site. Follow the normal procedure for removing the plow.
3. Power the lift tower forward until the lift cylinder is completely compressed. This will protect the lift cylinder from corrosion.
4. Disconnect all electrical plugs and coat each connection with dielectric grease (lights, valve assembly, pump, pump solenoid, and battery). Install all dust caps and plugs provided.
5. Touch-up any rust spots or chipped paint.
6. Loosen the trip return springs.
7. Grease the coupler spring pins.
8. Grease any exposed chrome on the angling cylinders to protect from corrosion.

Taking the Straight Blade Plow out of Storage

1. Before you attach your plow check for cracked welds and check all fasteners for tightness. See *Recommended Bolt Torque located in this manual.*
2. Check all hydraulic hoses for cracks and leaks.
3. Change your snowplow hydraulic fluid using BOSS Snowplow High Performance Hydraulic Fluid. See *Hydraulic Power Unit Fluid Fill Procedure located in this manual.*
4. Check your cutting edge for excessive wear.
5. Check your plow shoes for wear.
6. Tighten your trip return springs.
7. Put a coat of grease on the coupler spring pins.
8. Attach the plow to the truck and extend the blade from one side to the other to check the hydraulic cylinder rods for leaks, corrosion, or pitting.
9. Touch-up rust spots or chipped paint on the plow's metal parts.
10. Apply dielectric grease to the electrical plugs (lights, valve assembly, pump, pump solenoid, and battery).
11. Align your plow lights once your snowplow is attached to the truck and it's in the raised position. See *Headlight Aiming Procedure located in this manual..*

Straight Blade Snowplowing Preparations

1. Before operating or servicing your BOSS Snowplow, you should become thoroughly familiar with the owner's manual.
2. You should carry the following safety equipment for emergencies: a fire extinguisher, tool kit, tow strap, flashlight, flares, first aid kit, fuses for your vehicle, jumper cables, an ice scraper, lock deicer, extra washer fluid, a shovel, and a bag of sand or salt. Also, make sure you have warm clothes that include insulated boots, insulated underwear, a warm jacket, hat, gloves, and sunglasses.

Note: In case of an emergency, it is always a good idea to carry a cellular phone or two-way radio with you when plowing.

3. You should also carry a snowplow emergency parts kit that includes extra hydraulic fluid, hydraulic hoses, a pump solenoid, extra cutting-edge bolts, and a trip spring.
4. You should check your vehicle's tire pressure; engine belts for cracks and tightness; hoses for leaks; and vehicle fluid levels including the engine oil, brake fluid, transmission fluid, battery, radiator coolant, and windshield washer fluid. Examine the battery terminals for corrosion, and make sure the connections are tight. Make sure the vehicle windshield wipers and defrosters are in good shape and working properly. Check the vehicle headlights, brake lights, and turn signals to be sure they are in good working order, and make sure your strobe light is working if you have one. Also, look under the vehicle for obvious signs of leaking fluid.

Note: You should never run out of fuel, so make sure your fuel tank is full before going out to plow.

Straight Blade Snowplowing Preparations

5. If you do not have a strobe light or backup lights, you should consider adding them to your vehicle to increase your own visibility, as well as making yourself more visible to others while plowing.
6. To comply with the federal requirements for front and rear weight distribution – and for good traction while plowing – make sure your vehicle has the proper amount of ballast. Ballast should be placed rearward of the back axle towards the tailgate of the bed. And it should be properly secured in place.
7. Check your snowplow to make sure all bolts are tight. Look for cracked welds and hydraulic fluid leaks. Make sure the plow lights and turn signals are aligned properly and are in good working order.
8. Check your snowplow cutting edge. An over-worn cutting edge can result in costly repairs to the blade later.

Straight Blade Basic Plowing Practices

- When transporting a straight snowplow, place the plow in the straight position. This will reduce the chance of catching a curb or a snow bank that could pull your vehicle into it.
- Never operate a plow while transporting it to or from a job site. It's a good idea to keep the plow control turned off in order to prevent accidental operation.
- When transporting a plow, position the blade so as not to block the plow headlights or your vision.
- Do not exceed 40 mph when transporting a plow. Do not exceed 14 mph when plowing.
- When transporting a plow or while plowing, check the temperature gauge often. Overheating the engine can be costly. If the vehicle overheats, stop and correct the problem. If overheating occurs while transporting, stop and adjust the blade position to allow more airflow to the radiator.
- Before it snows, walk around the area you will be plowing to check for obstacles that will become hidden when snow is on the ground. Look for things such as bumper stops and speed bumps, curbs, sidewalk edges, shrubs, water drains, fire hydrants, fences, and pipes sticking up from the ground. To prevent damage to the area being plowed, as well as to your snowplow and truck, mark any obstructions that will be hard to see when there's snow on the ground.
- Always wear a seat belt when plowing, and never plow with your head out the window. Hidden obstacles could cause the vehicle to stop suddenly, resulting in personal injury.
- When moving in reverse don't rely only on the vehicle mirrors. Turn around and look where you're going.

Straight Blade Basic Plowing Practices

- When plowing on dirt or gravel, lower the plow shoes. This will raise the blade so you don't scrape the surface away. When plowing on asphalt or concrete, raise or remove the plow shoes so that you scrape as close to the surface as possible.
- When you're finished plowing, lower the blade to the ground, and turn the plow control off for safety. This will also take stress off the hydraulic components.

Protecting Your Transmission

- One of the most common vehicle problems encountered while plowing is damage to the transmission. Overheating the transmission fluid, as well as improper use, can contribute to the problem.
- Most vehicle manufacturers do not recommend plowing in overdrive. Consult your vehicle owner's manual to find out if plowing in overdrive is recommended – and, if so, when and how.
- Plan your plowing pattern so that you are drive forward as much as possible.
- Come to a complete stop before shifting from forward to reverse.
- Wait until the transmission engages before accelerating.
- Accelerate slowly, allowing the wheels to grip the road surface for better traction. Avoid spinning the tires.

Straight Blade Basic Plowing Practices

- To start a pass, start the vehicle in motion. Then drop the blade.
- Whenever possible, back into a cleared area.
- If you have a manual transmission, avoid riding the clutch while plowing.
- After plowing, let the vehicle idle for ten minutes or more to allow the transmission cooler some time to cool the transmission fluid.
- If you are plowing, change your transmission fluid before and during the season. A good rule of thumb is to pull your transmission dipstick periodically and smell the fluid. If the fluid has a burnt smell, you should change the fluid as soon as possible.
- To monitor the heat in your transmission, you can install an inline transmission gauge. Once the temperature reaches 250 degrees, you should let the vehicle idle until the transmission fluid cools to a lower temperature.

Things Not To Do

- Never pile snow on someone else's property.
- Never pile snow on a street or on sidewalks.
- Never pile snow on top of any structure.

Straight Blade Basic Plowing Practices

- Never pile snow by mailboxes, dumpsters, water drains, catch basins, electrical boxes, or fire hydrants.
- Never push snow across a road without first checking the local regulations. In many areas it is illegal to push snow across a road.

Plowing Parking Lots

- Make sure you know where the customer wants you to pile the snow.
- Use extra caution when plowing next to curbs.
- If a significant amount of snow is expected, plow with the storm rather than letting snow accumulate.
- Keep water drains and catch basins clear at all times.
- Do not stack snow by the road so as not to block the visibility of vehicles coming or leaving the parking lot.
- Use caution when plowing next to parked cars – as the snow can push you into the car.
- When plowing snow that is next to a building, push snow away from the building.
- If you are responsible for sidewalks, they should be shoveled first before you start plowing so that the snow can be plowed away.

Straight Blade Basic Plowing Practices

- To start a pass, start the vehicle in motion. Then drop the blade.
- As you come to the end of a pass, lift off from the accelerator while starting to use the brake. At the same time, start to raise the blade to help stack the snow – and to make it easier on your electrical system.
- Plow areas in front of buildings and overhead doors first. With the blade raised and in the Straight-Position, drive up to the building; drop the blade; and pull the snow away from the building. Then turn your vehicle around, back into the cleared area and push the snow to the outer edges of the lot.
- Push the banks back far enough to accommodate future snowfalls.
- After back dragging snow away from building, it's time to start plowing the lot. Start by making a pass down the center of the lot, and then push snow in windrows to the outer edges. If there has been a significant amount of snowfall, push as much bulk off the lot as possible. Then go over it again. In large lots it may be best to break your plowing down into smaller areas.
- Do not pile snow in the middle of the lot. It will be difficult to remove later.
- Do not pile snow near handicapped parking areas.
- Plow in straight lines whenever possible, and push snow to the outer edges of the lot. Keep the wind direction in mind – and pile snow downwind to minimize drifting later.
- Plow snow during low-traffic hours, and always be cautious of cars and people in the lot.

Straight Blade Basic Plowing Practices

- Once the majority of snow is removed from the lot, it's time to do the cleanup work. Start by plowing next to curbs. Be sure to square off corners where possible, and don't leave trails of snow behind.

Plowing Driveways

- Make sure you know where your customer wants you to pile the snow.
- Drive up to the garage; drop the blade; then back up – pulling the snow approximately two truck lengths back. Turn the vehicle around and back into the cleaned area. With the blade angled to the center of the driveway, push the snow to the end of the driveway. Finish by pushing the snow into the corners at the end of the driveway. Be careful to not leave snow on the road or on sidewalks.

Note

- Plowing snow across a road is illegal in many areas, although some rural areas will allow it. Check your local regulations first. If it is allowed, push the snow far enough back to allow for upcoming snowfalls – being sure to not leave snow on the road.
- The more you operate your BOSS Snowplow, the more you'll appreciate just how easy it is to use. Whether opening up roads or plowing driveways, parking lots or apartment building complexes, The BOSS Snowplow is designed to save you time while making your job easier. We hope these general guidelines will help you to get started.
- And remember – there's no substitute for doing a quality job. And for doing so safely.

Straight Blade Plowing Tips

Every BOSS Snowplow is designed and built with one goal in mind – to make your job easier. And each one has unique features designed specifically to save time and effort, while at the same time ensuring it will stand up to nature's worst. But we don't just make better snowplows; we have lots of ideas on how to plow snow better. So browse through this section, and see how The BOSS can help you be the best you can be.

The BOSS Straight-Blades are the proven choice for professionals and homeowners alike. Built with an optimized blade curl that means snow rolls cleanly off the plow.

ANGLE-POSITION

In this position the blade is positioned to either the left or right side of the vehicle. Use this position for windrowing or for widening the first pass.

HOW TO WINDROW

With the blade angled to the left or right side of the vehicle, make consecutive passes – each time throwing the snow forward and to the side. This technique is useful to clear large areas such as parking lots.

STRAIGHT-POSITION

This position is normally used for back dragging – with the blade positioned directly in front of the vehicle. For example: to remove snow from the edge of a building, raise the blade and drive up to the building. Then lower the blade and back up – pulling snow away from the building.

With a little experience, you'll develop your own methods for plowing and learn exactly which plow position to use for each pass.

HOW TO BACK DRAG

To remove snow from the edge of a building, raise the blade and drive forward to the building. Lower the blade, and then back up while pulling the snow away from the building. You should back drag only two truck lengths before turning around. You can then back into the cleared area and push snow forward. Your plow will be more effective when pushing snow than when back dragging over long distances.

DEEP SNOW

In deep snow raise the plow several inches off the ground to shear off the top layer. You should push just enough snow with each pass to get the job done efficiently without overloading your equipment. A good rule of thumb is to use a full blade width for two inches of snow or less, three quarters of the blade for four inches of snow and half a blade for six inches of snow or more.

WET SNOW

The best advice is this: once you start, finish the job. Wet snow left in windrows overnight can freeze and turn into tank traps by morning.

Optional Equipment and Accessories for Straight Blades

The following optional equipment and accessories are available at your local BOSS Snowplow Dealer:

STRAIGHT BLADE CURB GUARD

Driver Side.....STB03395

Passenger SideSTB03394

10' STRAIGHT BLADE CURB GUARD

Driver Side.....STB04364

Passenger SideSTB04363

These long-lasting, high-impact curb guards protect the edge of your plow against wear. Hardware is included with each guard. Not available for Sport Duty Straight Blades.

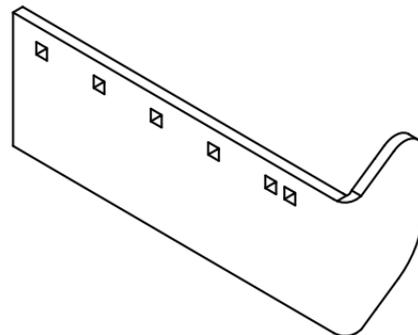


Figure 29. Curb Guard

Optional Equipment and Accessories for Straight Blades

SNOWPLOW SIGHT SYSTEM MSC09644

An option exclusive to THE BOSS, the Snowplow Sight System allows you to align your plow and truck from inside the cab on the first try-every time. From inside your cab, visually line up the wire sight to the target mark on the back of your plow light. Our sight system allows you to easily align your truck with your plow with no guesswork.

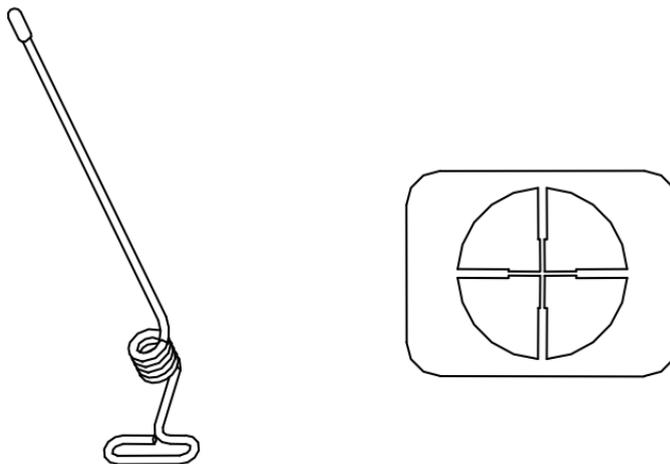


Figure 30. Snowplow Sight System

G10400

Optional Equipment and Accessories for Straight Blades

PLOW WING KIT MSC08042B

Increasing your blade width by a full 22" at a 30-degree angle, these convenient plow extension wings attach and detach within seconds. The kit includes all the needed brackets and hardware. See your BOSS authorized dealer for application details.

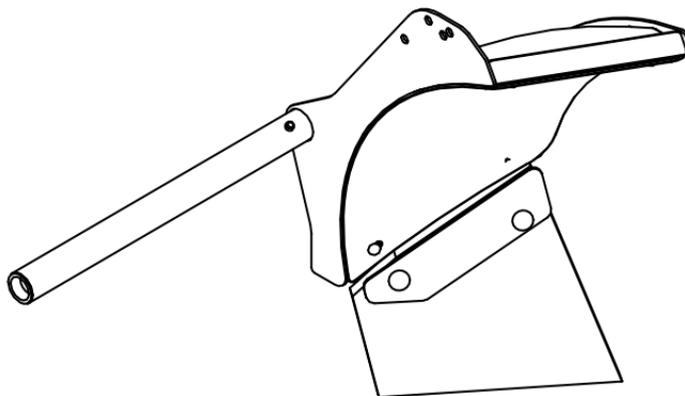


Figure 31. Plow Wing Kit

G10401

Optional Equipment and Accessories for Straight Blades

SPORT-DUTY PLOW CAST IRON SHOE KIT MSC09588

Each kit contains the brackets and hardware along with two plow shoes.

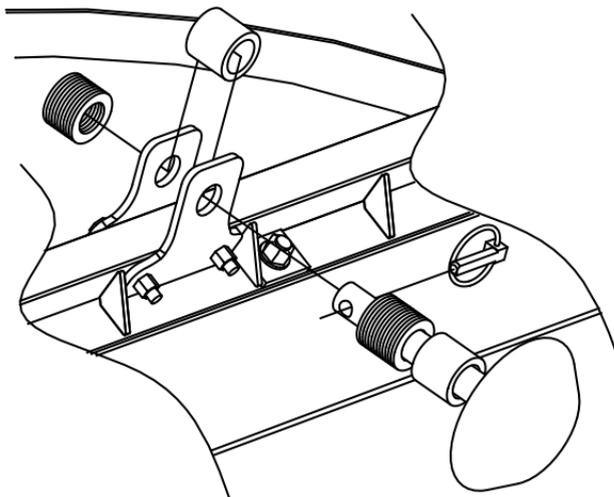


Figure 32. Sport-Duty Cast Iron Shoe Kit

G10405

Optional Equipment and Accessories for Straight Blades

RUBBER SNOW DEFLECTOR MSC01565

For increased visibility and safety, keep the blowing snow off your windshield with a rugged snow deflector.

EMERGENCY PARTS KIT MSC16187 for Straight Blade

This kit features a selection of the most useful replacement parts-packaged in a convenient soft sided bag that fits easily behind or under the seat of your truck.

TOUCH-UP PAINT

RED	MSC04098 12oz. Spray	MSC04358 Quart
BLACK	MSC04036 12oz. Spray	MSC04359 Quart

You can keep your plow looking brand-new year after year by covering chips and scrapes the professional way. The paint is available in both red and black.

HIGH-PERFORMANCE HYDRAULIC FLUID HYD01836 (GALLON) HYD01835 (QUART)

Specially formulated to maintain its viscosity from normal use to as low as -40 degrees F, this premium snowplow oil enhances performance under even the most adverse conditions.

JOYSTICK CONTROL STB03191

With a lighted on/off switch and the ability to adjust for right or left-hand use, these joystick controls will put you in control of your BOSS plow like never before.

Optional Equipment and Accessories for Straight Blades

MOUNTING OPTIONS

The SmartTouch2™ Handheld Control is not only smart; it's also the most versatile way to operate your plow. That's because its head is detachable, so it goes wherever you need it. You can attach it to a pedestal mount on the floor, mount it on your dash, hold it in your hand or strap it to your leg.

PEDESTAL MOUNT MSC09658

Attach your controller to this pedestal mount either as a solid floor mount or a removable magnetic mount.

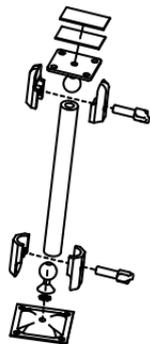


Figure 33. Pedestal Mount

G10406

DASH MOUNT MSC09660

Attach your controller to this dash or door mount using a dual lock Velcro strip.

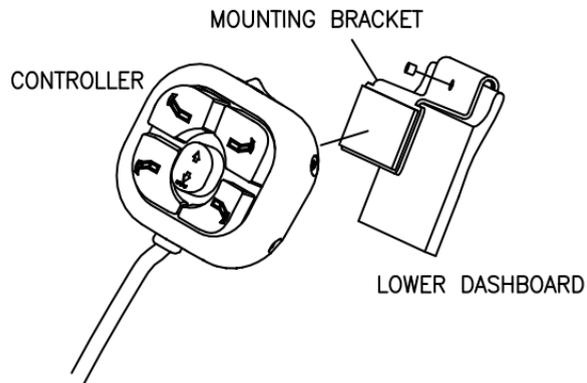


Figure 34. Dash Mount

G10407

Optional Equipment and Accessories for Straight Blades

LEG STRAP MOUNT MSC09659

Insert your controller into this convenient and adjustable nylon leg strap.

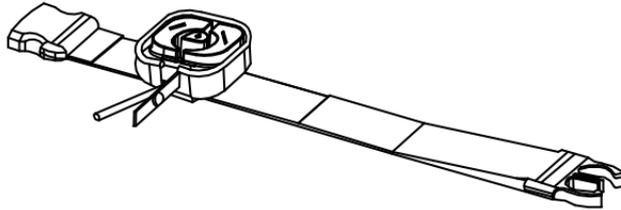


Figure 35. Leg Strap Mount

G10412

BALLAST RETAINER MSC09845

Place bags of sand or salt in the bed of your truck with this sturdy frame work Ballast Retainer that easily drops into place and secures the ballast bags, ensuring they remain in the proper location for maximum effectiveness.

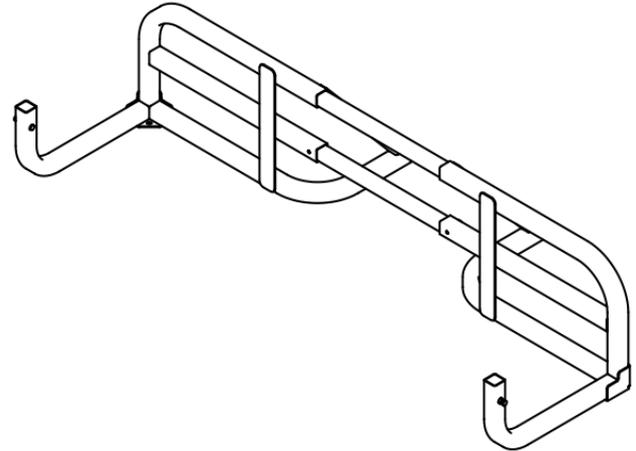


Figure 36. Ballast Retainer

G10485

Optional Equipment and Accessories for Straight Blades



OPTION BOX FOR SPORT DUTY MSC04679

Now the smartest of all is simpler than ever. Our revolutionary SmartHitch2™ Attachment System is designed to be the fastest, simplest hookup you can buy. There's virtually no physical effort required-just three easy steps and you're on your way!

SHOCK ABSORBER KIT STB04816

This easy-to-install shock absorber will help stabilize the trip going forward, as well as cushion the trip return on Straight Blade Snowplows. Brackets and hardware are included in the kit.

GENERAL SNOWPLOW INFORMATION

This section contains information that applies to all plows covered in this manual.

Headlight Aiming Procedure

NOTICE

The installer of these snowplow lights must certify that installation conforms to applicable Federal Motor Vehicle Safety Standards.

1. Place the vehicle on a level surface 25 feet in front of a matte-white screen, such as a garage door. The screen should be perpendicular to both the ground and the vehicle.
2. The vehicle should be equipped for normal operation. The snowplow blade should be in place and in the raised position.
3. Next are some points listed by the Society of Automotive engineers (SAE) pertinent to headlight aiming. These points can be found in publication #SAEJ5991D.

Preparation for Headlight Aim or Inspection

Before checking beam aim, the inspector shall:

- Remove ice or mud from under fenders.
- See that no tire is noticeably deflated.
- Check vehicle springs for sag or broken leaves.
- See that there is no load in the vehicle other than the driver.
- Check functioning of any “level-ride” controls.
- Clean lenses and aiming pads.
- Check for bulb burnout, broken mechanical aiming pads, and proper beam switching.
- Stabilize suspension by rocking vehicle sideways.

RT3 Headlight Aiming Procedure

4. Mark (or tape) the vehicle centerline of the headlights and the vehicle itself on the screen. Mark the horizontal centerline of the headlights on the screen (distance from ground to headlight centers).

The correct visual aim for Type 2 headlights is with the top edge of the high intensity zone of the lower beam below the horizontal centerline and the left edge of the high intensity zone on the vertical centerline. See diagram above.

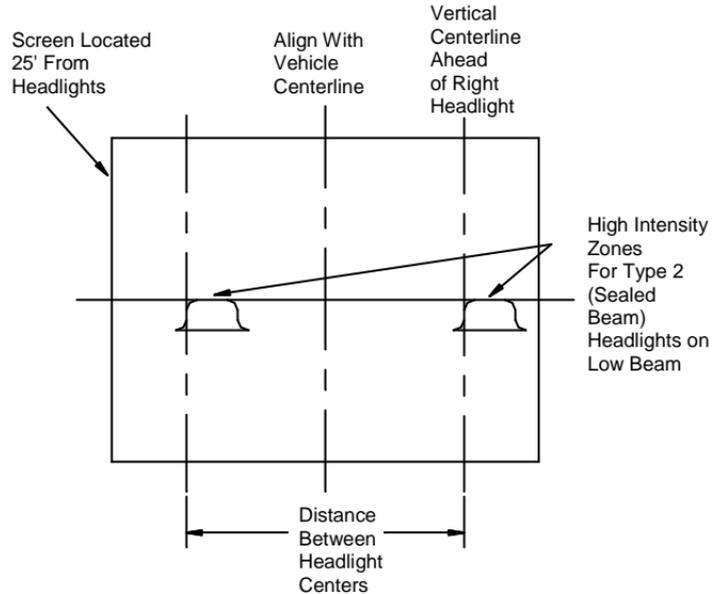


Figure 37. Headlight Aiming Procedure

G10153

Hydraulic Power Unit Fill Procedure

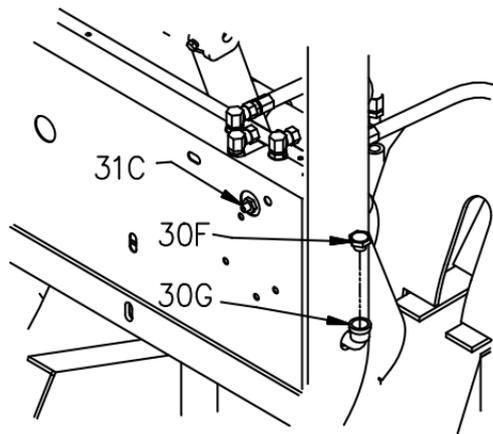


Figure 38. External Fill – Backside View G10043

Step 1 of the following fill procedure is intended for a new plow with an empty hydraulic system.

Initial Plow Position: Start with the plow unattached from the vehicle and the lift cylinder

completely collapsed. The light tower will be tilted forward.

1. Remove Fill Cap (30F) from Street Elbow (30G) and fill with BOSS High Performance Hydraulic Fluid. Continue to fill Street Elbow (30G) until no more fluid will be accepted. (Approx. 2 quarts.)
2. Attach the plow to the vehicle.

Note: If your plow is equipped with SmartHitch2™ you must hydraulically power the light tower up. Do not manually push the tower up. Failure to hydraulically power the light tower up will create an air pocket in the hydraulic system. Oil will spill out of your internal filler cap.

3. Raise the plow.
4. Run the plow through all possible motions.
5. Return the plow to its standard position.
6. Lower the plow to the ground.

Hydraulic Power Unit Fill Procedure

Note: If your plow will not lower, Flow Control Valve (31C) is completely closed. Refer to Step 8 to adjust Flow Control Valve (31C).

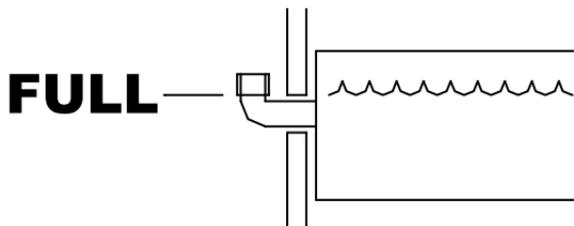


Figure 39. Oil Full Level

G10411

Plow Position to Check Oil: The plow should be attached to the truck, sitting flat on the ground. The blade should be in the straight-position for Straight Blade plows and in the V-position for V-Blade plows.

7. With the blade lowered to the ground (and with wings retracted for a V-Blade plow), check the fluid level. Fluid should be visible in the external fill port. If fluid is not visible, fill

until visible. Your reservoir should now be properly filled.

Note: Hydraulic fluid should be replaced annually with BOSS Snowplow High Performance Hydraulic Fluid.

Note: If your plow is equipped with SmartHitch2™ you must hydraulically power the light tower down. Do not manually pull the tower down. Failure to hydraulically power the light tower down will create an air pocket in the hydraulic system. Oil will spill out of your internal filler cap.

Hydraulic Power Unit Fill Procedure

WARNING!

When adjusting Flow Control Valve (31C) make sure all body parts are clear of the plow blade and observers are standing a safe distance away from the plow blade. The plow may drop if your controller is in the FLOAT position. Make sure your controller is in the OFF position before attempting to adjust the plow. Failure to follow this warning could result in bodily harm.

Note: Flow Control Valve (31C) is not available on Green colored Hydraulic Manifolds used on Sport Duty snowplows.

8. Adjust Flow Control Valve (31C) to obtain the speed desired for lowering the plow by loosening the jam nut, then adjusting the set screw. Counter-clockwise adjustment will increase the speed the plow descends. Retighten the jam nut when the desired speed is obtained.

Glossary of Problems:

1. Pump motor does not run.
2. Pump continues to run with switch in neutral.
3. Pump will not lower.
4. Plow will not raise or raises slowly, motor runs.
5. While trying to raise the plow, blades extend and wings will not retract.
6. Wings drift back when extended.
7. Plow lowers too fast.
8. Wing(s) will not extend, but motor runs.
9. Wing(s) will extend, but will not retract or retract slowly.
10. Wing(s) retract too easily while plowing.
11. Oil leaks from cylinders.
12. Battery goes dead with all switches in neutral.
13. Plow lights are dim, will not come on or flicker.
14. Turn signals flash at a rapid rate.
15. High beam indicator light not functioning properly.
16. Blade digs into the ground in the V position.
17. Blade does not lay flat against the ground in the scoop position.
18. Blade trips too easily.
19. Plow does not clean-up snow from low areas.
20. Oil runs out of fill cap of hydraulic pump.
21. Pump chatters when raising the plow or extending wings.
22. SmartHitch2™ will not attach plow.
23. Plow lights and truck lights are on at the same time.
24. Plow and truck High and Low beam lights are on at the same time.
25. Plow High beam and Low beam are on at the same time.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
1. Pump motor does not run.	Check that power/ground cables and control cables are connected properly.	Connect.
	Check for voltage at pump motor while ignition switch is on and LIFT control button is pushed.	If voltage is present, pump motor has failed or pump has seized. Motor brushes may be replaced, otherwise replace pump/motor assembly.
	Check for power to the solenoid by testing for voltage between both large terminals and ground.	If voltage is not present between one large terminal and ground, the cable between the battery and solenoid is disconnected or broken.
	Check for voltage between the other large terminal of the solenoid and ground while jumping power to the small terminal with the white/black wire.	If NO voltage is present, solenoid has failed and must be replaced. If voltage is present, wire from small terminal of solenoid to ground may be disconnected or broken.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
	Test power to the controller by checking voltage between black wire and ground at the white 9-pin connector.	If NO voltage is present, power from relay has become disconnected. If voltage is present check wiring and controller switches.
2. Pump continues to run with switch in neutral.	Disconnect controller, ignition ON.	If pump continues to run, solenoid has failed in the closed position. Quickly remove power to the pump by disconnecting the power/ground cables to the plow. Replace solenoid.
		If pump stops running, check wiring of controller for short between black and white/black wire in controller, or failed switch.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
3. Plow will not lower.	Check power/ground cables and control cables are connected properly.	Connect.
	Check flow control valve.	If flow control valve is completely closed, place RAISE/LOWER switch in NEUTRAL, then open the flow control valve.
	Check wiring on valve block for proper connections.	Refer to the wiring diagram in your Installation manual.
	Check for voltage between solenoid valve terminal and ground with ignition switch on and control switch in FLOAT position.	If voltage is present solenoid valve or valve coil has failed. Replace valve or valve coil.
	Test power to the control box by checking voltage between black wire and ground at the white 9-pin connector.	If NO voltage is present, power from relays has become disconnected. If voltage is present, check wiring and switch of controller.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
4. Plow will not raise or raises slowly.	Check hydraulic fluid level.	Hydraulic fluid level should be within $\frac{3}{4}$ " from top of reservoir when lowered and in the V-position.
	Check power/ground cables and control cable are connected properly.	Connect.
	Check wiring on valve block for proper connections.	Refer to the manifold wiring diagram in this manual.
	Load test battery.	Replace battery if weak or defective.
	Check pressure at pressure port of pump.	If pressure is less than 2500 psi (at end of lift). Motor brushes may be defective, pump pressure relief valve may be contaminated, damaged, or set less than 2500 psi, pump may be worn.
	Check LIFT Solenoid Valve.	Lift solenoid valve not opening completely. Replace.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
	Check LOWER Solenoid Valve.	Lower solenoid valve may be stuck open. Replace.
5. While trying to raise plow, wing(s) extend prior to raising plow and will not retract.	Check the pressure and return line routing.	Pressure line MUST be connected from P on pump to P on valve manifold. Return line MUST be connected from T on pump to T on valve manifold.
6. Wings drift back when extended.	Check wing return solenoid valve on manifold.	If solenoid valve is contaminated, clean or replace.
	Check pressure	If pressure relief valve is contaminated, clean or replace.
7. Plow lowers too fast.	Check flow control valve.	Close flow control valve to desired drop speed.
8. Wing(s) will not extend or extend slowly, motor runs.	Check hydraulic fluid level.	Hydraulic fluid level should be within $\frac{3}{4}$ " from top of reservoir when lowered and in the V-position.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
	Check power/ground cables and control cable are connected properly.	Connect.
	Check wiring on valve block for proper connections.	Refer to the wiring diagram in your installation manual.
	Load test battery.	Replace battery if weak or defective.
	Check pressure at pressure port of pump.	If pressure is less than 2500 psi (at end of lift). Motor brushes may be defective, pump pressure relief valve may be contaminated, damaged, or set less than 2500 psi, pump may be worn.
	Check WING OUT solenoid valve.	WING OUT solenoid valve not opening completely. Replace.
	Check wiring and control box.	Refer to the wiring diagram in your installation manual.
9. Wing(s) extend, but will not retract or retract slowly.	Check power/ground cables and control cables are connected properly.	Connect.
	Check wiring on valve block for proper connections.	Refer to the wiring diagram in your Installation manual.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
	Check for voltage between solenoid valve terminal and ground with ignition switch on and control switch in WING IN position.	If voltage is present, solenoid valve or valve coil has failed. Verify magnetism if none replace valve. Check wiring and controller.
10. Wing(s) retract too easily while plowing.	Pressure relief valve pressure set too low.	See an Authorized BOSS Dealer for pressure relief valve adjustment.
11. Oil leaks from cylinders.	Inspect fittings and O-rings.	Tighten fittings if loose. See BOSS dealer for seal kit.
	Check rod condition.	If rods are pitted or rough, polish with copus cloth or extra fine steel wool.
12. Vehicle battery dies when turned off.	Verify keyed fuse source.	Refer to wiring diagram in your installation manual.
13. Plow lights are dim, will not come on or flicker.	Check electrical connections.	Clean and repair any corroded or damaged terminals.
	Check headlight adapter wires.	Verify proper headlight adapters are being used and are correctly installed.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
	Check relays for corrosion and function.	Relays should click when energized.
14. Turn signals flash at a rapid rate.	Check headlight adapters.	Verify proper headlight adapters are being used and are correctly installed.
15. No high beam indicator or does not function properly.	Check headlight adapters.	Verify proper headlight adapters are being used and are correctly installed.
16. Blade digs into the ground in the V-position.	Check Bumper Stop Location.	Adjust Stop as noted in this manual.
	Push beam installed too high.	Lower the push beam.
17. Blade does not lay flat on ground in scoop position.	Check Bumper Stop Location.	Adjust Stop as noted in this manual.
	Push beam installed too low.	Raise the push beam. If push beam is at highest setting, Adjust the Bumper Stop further into the center section.
18. Blade trips too easily.	Check trip spring adjustment.	Tighten springs. Replace springs if damaged.
	Check Push Beam height.	Adjust to proper height.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
19. Plow does not clean-up snow from low areas.	UP/DOWN switch not in FLOAT position.	Place switch in FLOAT position.
20. Oil running out of fill cap of hydraulic pump.	Power light tower down. Do not pull the tower down.	Follow the dismounting instructions in this manual.
	Plowing on steeply inclined terrain.	Avoid too steeply sloped areas.
	Pump reservoir over filled.	Reservoir should be filled to $\frac{3}{4}$ " from top.
	Hitting snowbanks too hard.	Do not plow recklessly.
21. Pump chatters when raising plow or extending wing(s).	Hydraulic fluid low.	Add hydraulic fluid. Reservoir should be filled to $\frac{3}{4}$ " from top.
22. SmartHitch2™ will not attach plow.	Make sure key is on and controller is in FLOAT.	Turn key on and put controller in FLOAT.
	Make sure controller is staying in the Float position	If controller comes out of Float when using the SmartHitch2™ switch, replace the controller.
	Check valve block and SmartHitch2™ switch for proper connections.	Refer to manifold wiring diagram located within this manual or on hydraulic pump.

Troubleshooting Guide

PROBLEM	DIAGNOSTIC CHECK	RESULT
23. Plow lights and truck lights are on at the same time.	Check vehicle harness wiring to truck headlights.	Refer to electrical system wiring instructions located in your Installation manual. Ensure OEM is not plugged into truck headlight.

Recommended Bolt Torque



DIAMETER / PITCH	GRADE 5	GRADE 8	GRADE 8.8	GRADE 10.9
1/4-20	6	9		
5/16-18	14	19		
3/8-16	23	33		
7/16-14	38	53		
1/2-13	56	80		
9/16-12	82	116		
5/8-11	113	159		
3/4-10	201	283		
M10 X 1.25			36	
M10 X 1.5				49
M12 X 1.75				71
M14 X 2.0				80

ALL TORQUE VALUES ARE IN FOOT-POUNDS (FT.-LB.)

Figure 40. Recommended Bolt Torque

G10410

NOTE: The torque values listed above are based on dry, coated bolts, variables such as oil, or other lubrications may appreciably alter these values and must be taken in to consideration.

NOTICE: IT IS IMPORTANT THAT ALL FASTENERS BE PROPERLY TORQUED TO ASSURE A SAFE OPERATING PLOW. RE-TIGHTEN ALL FASTENERS AFTER 2 HOURS OF PLOWING.

BOSS SNOWPLOW COMMERCIAL WARRANTY

What this warranty covers:

This warranty covers defects in material and workmanship except as set forth below.

Who is covered:

The original purchaser from an authorized dealer.

For how long:

Parts: 2 years from the date of purchase.

Labor: 2 years from the date of purchase.

What BOSS PRODUCTS will do:

BOSS PRODUCTS will, at its sole option, repair or replace defective parts at no charge.

What you must do for warranty service:

To obtain warranty service, purchaser must return the defective snowplow to any authorized BOSS PRODUCTS dealer (preferably the one from whom the snowplow was purchased) within the warranty period. Purchaser must be able to verify the original purchase date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155 or visit www.BOSSplow.com.

What is not covered:

This warranty does not cover:

1. Expendable parts such as hoses, plow shoes, cutting edges, pins, nuts, bolts, blade guides, etc.
2. Snowplows or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Snowplows or parts which have been subject to misuse, negligence, accident, improper installation, maintenance, care or storage.
4. Snowplows mounted on vehicles other than those listed in the BOSS SNOWPLOW APPLICATION CHART AND SELECTION GUIDE.
5. BOSS PRODUCTS does not assume liability for damage to your motor vehicle resulting from the attachment or use of a BOSS PRODUCTS snowplow. Vehicle risk is the sole responsibility of the purchaser.

Limits of BOSS Products Liability are:

BOSS PRODUCT'S LIABILITY IS EXPRESSLY LIMITED TO REPAIR OR REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY THE NEGLIGENCE OR FAULT OF BOSS PRODUCTS.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

This warranty does not apply if you purchased your snowplow for personal, family, or household use. In this case, refer to the BOSS Snowplow Limited Consumer Warranty.

BOSS PRODUCTS is a division of

Northern Star Industries, Inc.
PO Box 787
North U.S. Hwy 2
Iron Mountain, MI 49801

(2012-2013)

BOSS SNOWPLOW LIMITED

CONSUMER WARRANTY

What the warranty covers:

BOSS PRODUCTS warrants to the original retail purchaser of a BOSS snowplow who purchases it for personal, family or household use, that the snowplow will be free from defects in material and workmanship except as set forth below.

Warranty period:

Parts: 2 years from the date of purchase.

Labor: 2 years from the date of purchase.

What BOSS PRODUCTS will do:

If, within the warranty period, the snowplow is found to be defective, BOSS PRODUCTS will repair or replace, at its sole option, the defective parts at no charge to the original purchaser.

What you must do for warranty service:

To obtain service under this warranty, purchaser must return the defective snowplow to an authorized BOSS PRODUCTS dealer (preferably the one from whom the snowplow was purchased). The purchaser must establish the warranty period by verifying the original purchased date. All transportation costs to and from the dealer will be the responsibility of the purchaser. To locate the authorized BOSS dealer nearest to you, call toll free: (800) 286-4155 or visit www.BOSSplow.com.

What is not covered:

This limited warranty does not cover the following:

1. Expendable parts such as hoses, plow shoes, cutting edges, pins, nuts, bolts, blade guides, etc.
2. Snowplows or parts repaired or altered by anyone other than an authorized BOSS PRODUCTS dealer.
3. Snowplows or parts which have been subject to misuse or service, negligence, accident, improper installation, maintenance, care or storage.
4. Snowplows mounted on vehicles other than those listed in the BOSS SNOWPLOW APPLICATION CHART AND SELECTION GUIDE.
5. BOSS PRODUCTS does not assume any liability for motor vehicle damage resulting from the attachment or use of a BOSS PRODUCTS snowplow. Vehicle risk is the sole responsibility of the purchaser.

(over)

Warranty limitations:

THIS WARRANTY IS OFFERED IN LIEU OF ANY OTHER EXPRESS WARRANTY.

THE DURATION OF ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO THE DURATION OF THIS WARRANTY.

BOSS PRODUCTS LIABILITY IS EXPRESSLY LIMITED TO THE REPAIR OF THE SNOWPLOW, INCLUDING LABOR AND REPLACEMENT OF DEFECTIVE PARTS. BOSS PRODUCTS SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL, INCIDENTAL OR CONTINGENT DAMAGES WHATSOEVER, EVEN IF DAMAGES ARE CAUSED BY BOSS PRODUCTS NEGLIGENCE OR FAULT.

State laws:

Some states do not allow exclusion of incidental or consequential damages or the limitations on how long an implied warranty lasts, so these limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have the other rights which vary from state to state.

This warranty does not apply if you purchased your snowplow for other than personal, family, or household use. If so, refer to the BOSS Snowplow Commercial Warranty.

BOSS PRODUCTS is a division of

Northern Star Industries, Inc.
PO Box 787
North U.S. Hwy 2
Iron Mountain, MI 49801

(2012-2013)