



Commercial Front Plow System F12 / F14 Operator's Manual



Sno-Power
Muskegon, Michigan
www.sno-power.com

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www.sno-power.com/patents

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IDENTIFICATION

Record Identification Numbers

If you need to contact an Authorized Service Center for information on servicing, always provide the product model and serial number.

You will need to locate the model and serial number for the plow and record the information in the spaces provided.

Date of purchase: _____

Dealer name: _____

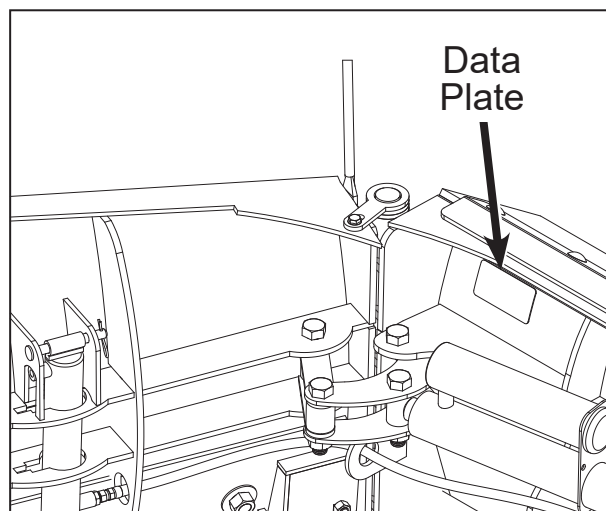
Dealer phone: _____

PRODUCT IDENTIFICATION NUMBER:

Model Number: _____

Serial Number: _____

Register this information with Sno-Power by email at info@sno-power.com, be sure to include your contact information as well as product identification information for warranty and service bulletins.



Identification information can be found on this data plate.

**CAUTION**

Ensure that the installation and operation of your Sno-Power snow plow comply with all applicable Federal Motor Vehicle Safety Standards (FMVSS). Before transportation and operation, confirm that all functions—including all safety features—work properly.

Additionally, do not exceed the Gross Vehicle Weight Rating (GVWR) nor the front or rear Gross Axle Weight Rating (GAWR) of your vehicle with the plow and/or ballast installed.

It is the sole responsibility of the operator to ensure that any payload or equipment installed on the vehicle is compliant with the manufacturer's ratings and ratios for weight distribution and in accordance to applicable federal and state regulations.

INTRODUCTION

Using Your Operator's Manual


This manual is an important part of your plow and should remain with the plow when you sell it.

Use the safety and operating information in the plow operator's manual to operate and service the plow safely and correctly.

This operator's manual explains the features and promotes the safe use of this plow. Please read it in its entirety and follow the instructions carefully so that you may have many years of safe and productive operation.

Special Messages

This operator's manual contains special messages to bring attention to potential safety concerns, equipment damage as well as helpful operating and servicing information. Please read all the information carefully to avoid injury and machine damage.

This is the safety alert symbol (). It is used throughout this manual and on the plow's safety decal to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death. Read these instructions carefully. It is essential that you read the instructions and safety precautions before you attempt to work on or use this plow.

DANGER

This symbol with the “DANGER” indicates an immediate hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

This symbol with the “WARNING” indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

This symbol with the word “CAUTION” indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

SPECIFICATIONS

Electrical System		
Charging System	Vehicle	
Voltage	12-volt	
Lights	High-Intensity LED Slim Light Bar	
Circuit Breaker	200 Amp	
Fuses	10 Amp (2)	
Capacities		
Hydraulic Oil	4.75 quarts	
Dimensions	F12	F14
Plow Width - Wings Straight	146"	170"
Plow Width - Wings Forward	118"	137.5"
Plow Width - Closed/Driving Position	100"	100.5"
Plow Width - Moldboard	75"	96"
Plow Width - Wings	37" Each	37" Each
Main Board Height	24"	24"
Wing Height (cutting edges lowered)	33.5"	33.5"
Weight	1195 lbs.	1245 lbs.

SAFETY

Operator Training Required

- Read and understand the operator's manual and other training material. If the operator or mechanic cannot read English, it is the owner's responsibility to explain this material to them. Read before servicing and attaching plow. This publication is available in other languages.
- Become familiar with the safe operation of the equipment, operator controls, and safety signs.
- All operators and mechanics should be trained. The owner of this plow is responsible for training the users.
- Never let children or untrained people operate or service the plow. Local regulations may restrict the age of the operator. Only drivers with a valid license should operate the plow.
- The owner/user can prevent and is responsible for accidents or injuries occurring to themselves, other people, or property.
- Operators should be trained using the plow in an open, unobstructed area under the direction of an experienced operator.

Wear Appropriate Clothing

- Always wear safety goggles, or safety glasses with side shields, and a hard hat when servicing the plow.
- Wear close fitting clothing and safety equipment appropriate for the job.

Preparation

- Evaluate the area to be cleared and determine how to properly and safely perform the job.
- Inspect the area where the plow is to be used and flag all objects such as curbs, speed bumps, etc. which can be destroyed or damage the plow. **Pre-inspection** of each property before the snow season is a good practice.
- Use extra care when handling gasoline and other fuels. They are flammable and vapors are explosive. Do not smoke while handling fuel.
- Check that the operator's remote control is functioning properly. **DO NOT** operate unless the controls are functioning properly.
- Refer to dealer or website for specific vehicle application recommendations.
- Warning and information decals are placed on this product to inform the operator to take safety precautions. Decals must be in place and readable before operating plow. Replace all worn or damaged decals.
- Inspect equipment bolts and pins when attaching or detaching the plow and before traveling. Components that are loose, worn or damaged could cause an accident.
- NEVER insert fingers in hitch pin holes to check alignment. Sudden movement of the plow will severely injure fingers.

Inspect Working Area

- Evaluate areas to be cleared and determine how to properly and safely perform the job.
- Study working area. Set up a safe plowing pattern. Do not plow where traction or stability is doubtful.
- Flag the area for objects such as curbs, speed bumps, etc. which can be destroyed or damage the plow. Keep people and pets out of working area.
- Test drive through area with the plow lifted. Reduce speed when you travel over rough areas.

Operating

- **NEVER** run an engine in an enclosed area where dangerous carbon monoxide fumes can collect.
- Avoid touching hot surfaces such as engine, radiator, and hoses.
- Operate in daylight or good artificial light. Keep away from obstructions, hidden potholes and other hazards.
- Slow down and use extra care on inclines. Snow conditions can affect the vehicle's stability. Use caution while operating near drop-offs. **DO NOT** operate the truck or plow within 5 feet of an embankment or drop-off.
- Slow down and use caution when making turns and when changing directions on inclines.
- **NEVER** operate with the shields, or other guards, not securely in place.
- Stop on level ground, engage parking brake, lower plow, shut off engine, and remove key before leaving the vehicle for any reason.
- Stop equipment and inspect plow if an abnormal condition occurs. Make necessary repairs before resuming operations.
- Keep hands and feet away from the plow. Keep all body parts, including your head, inside the vehicle. **NEVER** put your head out the window for improved vision. This will cause severe injury or death.
- Look behind and down before backing up to be sure of a clear path.
- Never carry passengers. Keep pets and bystanders away.
- Slow down and use caution when making turns and crossing roads and sidewalks. Watch for traffic when operating near or crossing roadways.
- **DO NOT** operate the vehicle while under the influence of alcohol, drugs and/or medications that impair judgement and reaction. An accident may result in serious injury or death.
- Use care when approaching blind corners, shrubs, trees, or other objects that may obscure vision.
- Always use a strobe light while plowing snow.
- Inspect plow before you operate. Be sure hardware is tightened securely. Repair or replace damaged, badly worn, or missing parts. Be sure guards and shields are in good condition and fastened in place. Make any necessary adjustments before you operate. Do not alter the plow or components.
- Keep safety decals visible when installing accessories and attachments.
- Do not wear radio or music headphones. Safe service and operation require your full attention.
- The operator is responsible for safe operation of the vehicle and plow. Avoid distractions and pay attention to the road.
- **NEVER** use mobile communication equipment while driving. Wait until it is safe to operate mobile communication devices such as cell phones, two way radios, etc. Local regulations may apply. Failure to observe safety instructions could result in personal injury or property damage.
- When vehicle is left unattended, stored, or parked:
 - a. Lower plow.
 - b. Remove the key.
 - c. Lock vehicle.

- Plow speed should not exceed 10 mph (16 km/h).
- Transport speed should not exceed 45 mph (72 km/h). Further reduce speed under adverse travel conditions.
- Do not exceed Gross Vehicle Weight Rating (GVWR) or Gross Axle Weight Rating (GAWR) including blade and ballast.
- When attaching or detaching the plow or making adjustments:
 - a. Stop the engine.
 - b. Place the transmission in PARK.
 - c. Turn the key to the OFF position.
 - d. Engage the parking brake.
 - e. Turn OFF the plow controller.
- Keep people away from plow when raising or positioning plow wings.
- Keep hands and feet away from the plow and frame when attaching or detaching plow.
- Do not stand between the vehicle and plow or directly in front of plow when it is being raised, lowered or angled. Clearance between vehicle and plow decreases as the plow is operated. Injury or death can result from the plow striking a body or dropping on hands or feet.
- Do not place any part of body under a raised plow. Accidental movement of the plow will cause injury.
- Only use plow for plowing snow. Using the plow for other purposes could cause damage, serious injury or death.
- Wear a seat belt when plowing snow. Local regulations may apply. Hidden obstructions will cause the vehicle to stop suddenly resulting in personal injury. Failure to observe safety instructions could result in serious injury or death.
- Use caution while the hydraulic unit is operating and plow is raised. Lower plow to the ground when vehicle is parked in case of hydraulic failure. Failure to observe safety instructions could result in serious injury or death.
- Installing a snow plow on your new vehicle may affect the warranty. Refer to vehicle manufacturer's owner's manual for warranty information. Failure to comply will result in vehicle damage.
- Warranty will be void if plow has been improperly assembled or installed.
- **CAUTION:** Avoid damage to the vehicle's electrical system by disconnecting the battery before beginning plow installation. **DO NOT BURN** holes or **WELD** vehicle frame in any way. This may cause frame failure. Failure to comply will result in vehicle damage.
- Modern trucks are equipped with air bags. **DO NOT** disable, remove or relocate sensors or any components required for the operation of air bags.
- Check that the plow is attached and functioning properly before moving vehicle. **DO NOT** operate unless it is functioning properly.
- Do not make changes to plow position while traveling, which could cause the plow to accidentally lower. Failure to comply could result in serious injury or death.
- To avoid sudden plow movement, press the On/Off button to OFF when the plow is not in use.
- Never operate vehicle with fogged over windows. Refer to vehicle manufacturer's owner's manual.
- Always maintain the correct amount of down pressure when clearing snow and ice.



CAUTION

Do not attempt to service the hydraulic cylinders or accumulators, including valves. The contents are under high pressure and may cause injury or explosion.

Parking Safely

1. Stop vehicle on a level surface, not on an incline.
2. Lower plow.
3. Engage the parking brake.
4. Stop the engine.
5. Remove the key.
6. Wait for engine and all moving parts to stop before you leave the vehicle.
7. Lock the vehicle.
8. Disconnect the negative battery cable before servicing the equipment.

Protect Children

- Death or serious injury can occur when young children associate having fun with snow plowing equipment simply because someone has given them a ride while plowing snow.
- Children are attracted to snow plowing equipment and activities. They don't understand the dangers or the fact that the operator is unaware of their presence.
- Children who have been given rides in the past may suddenly appear in the work area for another ride and be run over or backed over by the plow vehicle.
- Tragic accidents with children can occur if the operator is not alert to the presence of children, especially when a child approaches a vehicle from behind. **Before and while backing up, look down and behind** the vehicle carefully, especially for children.
- **NEVER** carry children on the plow. Do not tow children in a cart or trailer. They can fall off and be seriously injured or interfere with safe machine operation.
- Never use the truck and plow as a recreational vehicle or to entertain children.
- Never allow children or an untrained person to operate the vehicle or plow. Instruct all operators not to give children a ride in or on the vehicle when plowing.

- Keep children indoors, out of the work area, and in the watchful eye of a responsible adult, other than the operator, when the truck and plow are being operated.
- Stay alert to the presence of children. Never assume that children will remain where you last saw them. Turn the truck and plow OFF if a child enters the work area.

Keep Riders Off

- Only allow the operator in the vehicle. No riders should be allowed in or on the truck or plow.
- Riders on the plow vehicle may be struck by foreign objects or thrown off the truck or plow causing serious injury.
- Riders obstruct the operator's view resulting in the plow vehicle being operated in an unsafe manner.

Avoid Steep Inclines

- Inclines are a major factor related to loss-of-control accidents, which can result in severe injury or death. **Operation on all inclines requires extra caution and is not recommended.**
- Watch for holes, ruts, bumps, rocks, speed bumps, or other hidden objects. Uneven terrain could damage the plow.
- Choose a low ground speed so you will not have to stop while on an incline.
- Tires may lose traction on inclines even though the brakes are functioning properly.
- Avoid starting, stopping or turning on an incline. If the tires lose traction, turn and proceed slowly, straight down the incline.
- Keep all movement on inclines slow and gradual. Do not make sudden changes in speed or direction, which could cause the machine to roll over.
- Do not plow near drop-offs, ditches, embankments, or bodies of water. The vehicle could suddenly roll over if a wheel goes over the edge or the edge caves in.

- Follow the manufacturer's recommendations for wheel weights or counterweights for added stability when operating on inclines or using front or rear mounted attachments. Remove weights when not required.
- Plow speed should not exceed 10 mph (16 km/h). Avoid quick stops while plowing.

Maintenance and Storage

- **NEVER** operate vehicle in a closed area where dangerous carbon monoxide fumes can collect.
- Put vehicle in PARK, lower plow, engage parking brake, stop engine and remove key. Wait for all movement to stop before adjusting, cleaning or repairing.
- Clean all snow from vehicle and plow.
- Park vehicle on level ground. Never allow untrained personnel to service the plow. Understand service procedure before doing work.
- Before servicing plow, carefully release pressure from any components with stored energy, such as hydraulic components or springs.
- Disconnect battery before making any repairs. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last.
- Use care when checking the plow. Wear gloves, and use caution when servicing equipment. Only **REPLACE** plow components. **Never attempt to straighten or weld them.**
- Keep hands, feet, clothing, jewelry and long hair away from moving parts. Do not make adjustments with the engine running.
- Charge battery in an open well ventilated area, away from spark and flames. Unplug charger before connecting or disconnecting from battery. Wear protective clothing and use insulated tools.
- Keep all parts in good working condition and all hardware tightened. Replace all worn or damaged decals.
- Always keep a fire extinguisher available. A 5 lb or larger CO² or dry chemical unit specified for gasoline, chemical or electrical fires, is recommended.
- When adjusting, cleaning, repairing, or maintaining the plow:
 - a. Stop the engine.
 - b. Place the transmission in PARK.
 - c. Turn the key to the OFF position.
 - d. Engage the parking brake.
 - e. Turn OFF the plow controller.
 - f. Disconnect the vehicle harness.
 - g. Detach the plow.
- Never hoist or lift the vehicle with the plow attached. Detach plow before hoisting or lifting vehicle.
- When raising the plow for repair and maintenance, always use jack stands to support the plow.

Avoid High Pressure Fluids

- Hydraulic hoses and lines can fail due to physical damage, kinks, age, and exposure. Check hoses and lines regularly. Replace damaged hoses and lines.
- Hydraulic fluid connections can loosen due to physical damage and vibration. **Check connections regularly.** Tighten loose connections.
- Escaping fluid under pressure can penetrate the skin causing serious injury. Avoid the hazard by relieving pressure before disconnecting hydraulic or other lines. Tighten all connections before applying pressure.
- Search for leaks with a piece of cardboard. Protect hands and body from high pressure fluids.
- If an accident occurs, **see a doctor immediately.** Any fluid injected into the skin must be surgically removed within a few hours or gangrene may result. Doctors unfamiliar with this type of injury should reference a knowledgeable medical source.
- Different kinds of hydraulic fluid should not be mixed. Some fluids are not compatible and can cause performance problems and product damage.
- Relieve stored hydraulic energy before servicing.
- **DO NOT** open cylinders or hydraulic hoses. The oil and gas in cylinders/hoses are under high pressure. **DO NOT** expose to heat or flame. Explosion and injury may occur.

Handling Fuel Safely

To avoid personal injury or property damage, **use extreme care in handling fuel.** Fuel is extremely flammable and fuel vapors are explosive:

- Extinguish all cigarettes, cigars, pipes, and other sources of ignition.
- Never remove the fuel tank cap or add fuel with the vehicle running. Refer to vehicle manufacturer's owner's manual.
- Clean up spilled fuel immediately. If fuel is spilled on clothing, change clothing immediately. If fuel is spilled near vehicle, do not attempt to start the engine but move the vehicle away from the area of spillage. Avoid creating any source of ignition until fuel vapors have dissipated.
- Never store the vehicle or fuel container where there is an open flame, spark, or pilot light such as on a water heater or other appliance.
- Prevent fire and explosion caused by static electric discharge. Static electric discharge can ignite fuel vapors in an ungrounded fuel container.
- Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before fueling.
- Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until the fueling is complete. Do not use a nozzle lock open device.
- Never transport fuel container in truck bed.

DECALS

⚠ WARNING	
	Lower blade when vehicle is parked.
	Do not exceed GVWR or GAWR including blade and ballast.
⚠ CAUTION	
	Read Owner's Manual before operating or servicing snowplow.
	Transport speed should not exceed 45 mph (72km/h). Further reduce speed under adverse travel conditions.
	Plowing speed should not exceed 10 mph - 14 mph (16km/h to 22.5 km/h).
WWW.	See your sales outlet/Web site for specific vehicle application recommendations.

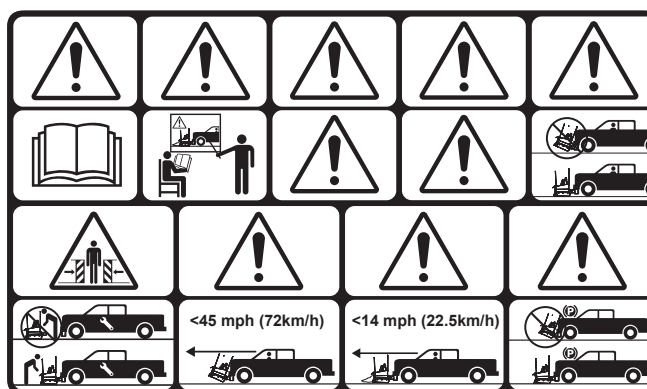
Rear Side of Left Wing

⚠ CAUTION	
<p>COUPLER TOWER CLEVIS PIN COUPLER SPRING PIN</p>	
<p>To mount the plow to the truck twist the spring pin to engage the pin, locking into position. To remove the plow from the truck. Pull pin and twist to disengage pin locking pin into out position.</p>	

Coupler Tower



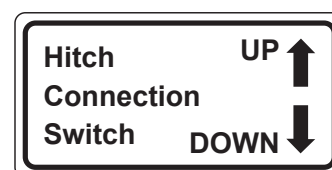
Rear Side of Left and Right Wing Hinge Areas



Rear Side of Right Wing

SNOWPLOW MOUNTING PROCEDURE	
STEP 1 <ul style="list-style-type: none"> Turn off the handheld controller. Line up the vehicle with the snowplow and drive towards the snowplow until the pin contacts the push beam. Remove the electrical plug dust covers. Connect the electrical plugs. 	STEP 2 <ul style="list-style-type: none"> Push the hitch connection switch towards the truck to raise the coupler tower until the coupler tower stops. Release the hitch connection switch to stop movement of the coupler tower. Twist the spring pins until they lock into place and raise the kickstand to the highest position possible.
SNOWPLOW REMOVAL PROCEDURE	
STEP 1 <ul style="list-style-type: none"> Retract both wings back towards the vehicle and put the plow down and turn the handheld controller off. Lower the kickstands on the wings in the lowest position possible. Push the hitch connection switch towards the truck to raise the coupler tower and release the spring pins. 	STEP 2 <ul style="list-style-type: none"> Push the hitch connection switch towards the snowplow until the coupler tower completely lowers to the snowplow. Disconnect the electrical plugs and install the electrical plug dust covers. Back the vehicle away from the snowplow slowly.

Hydraulic Box Cover



Hydraulic Box



All Cylinders



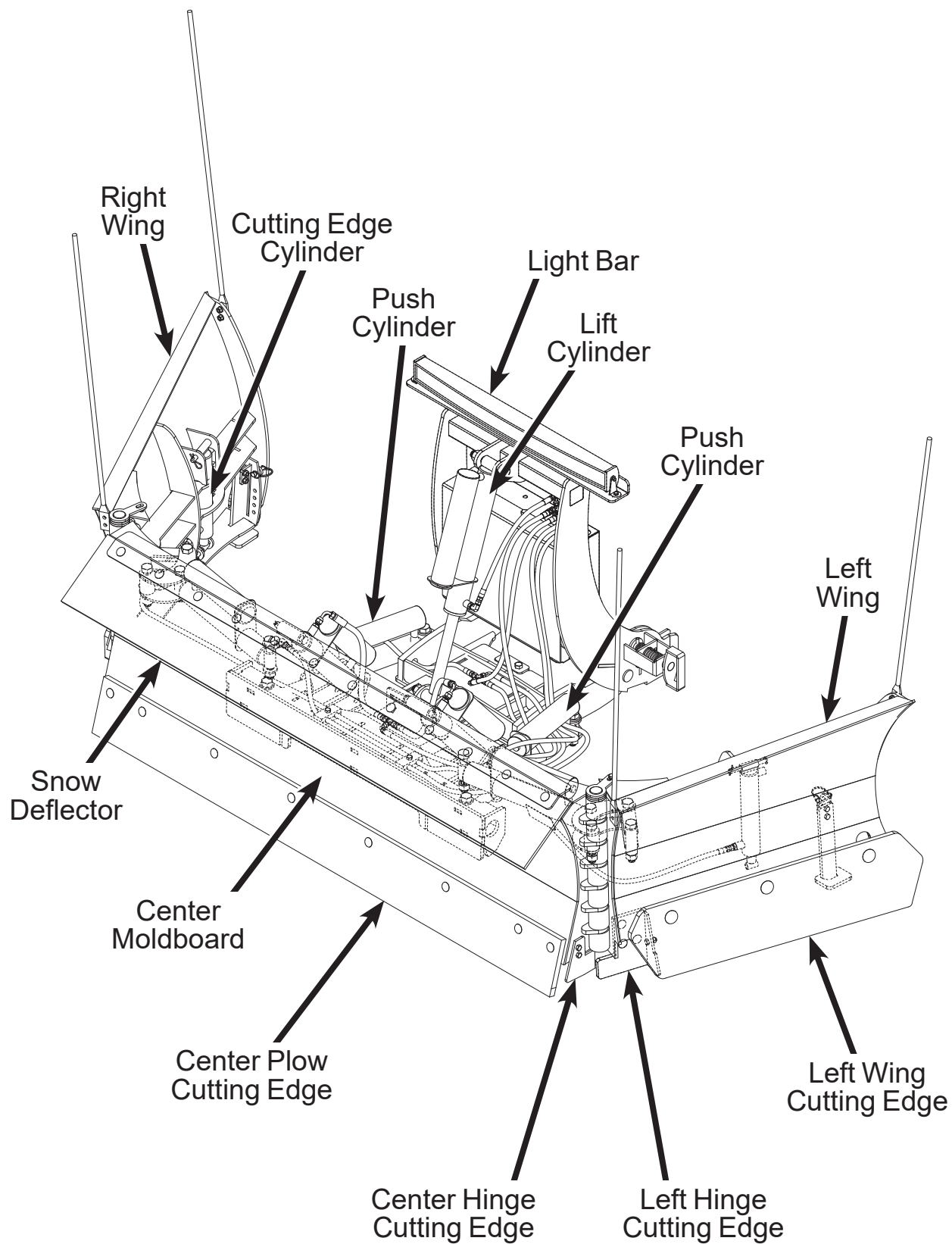
Rear Side of Center of Moldboard

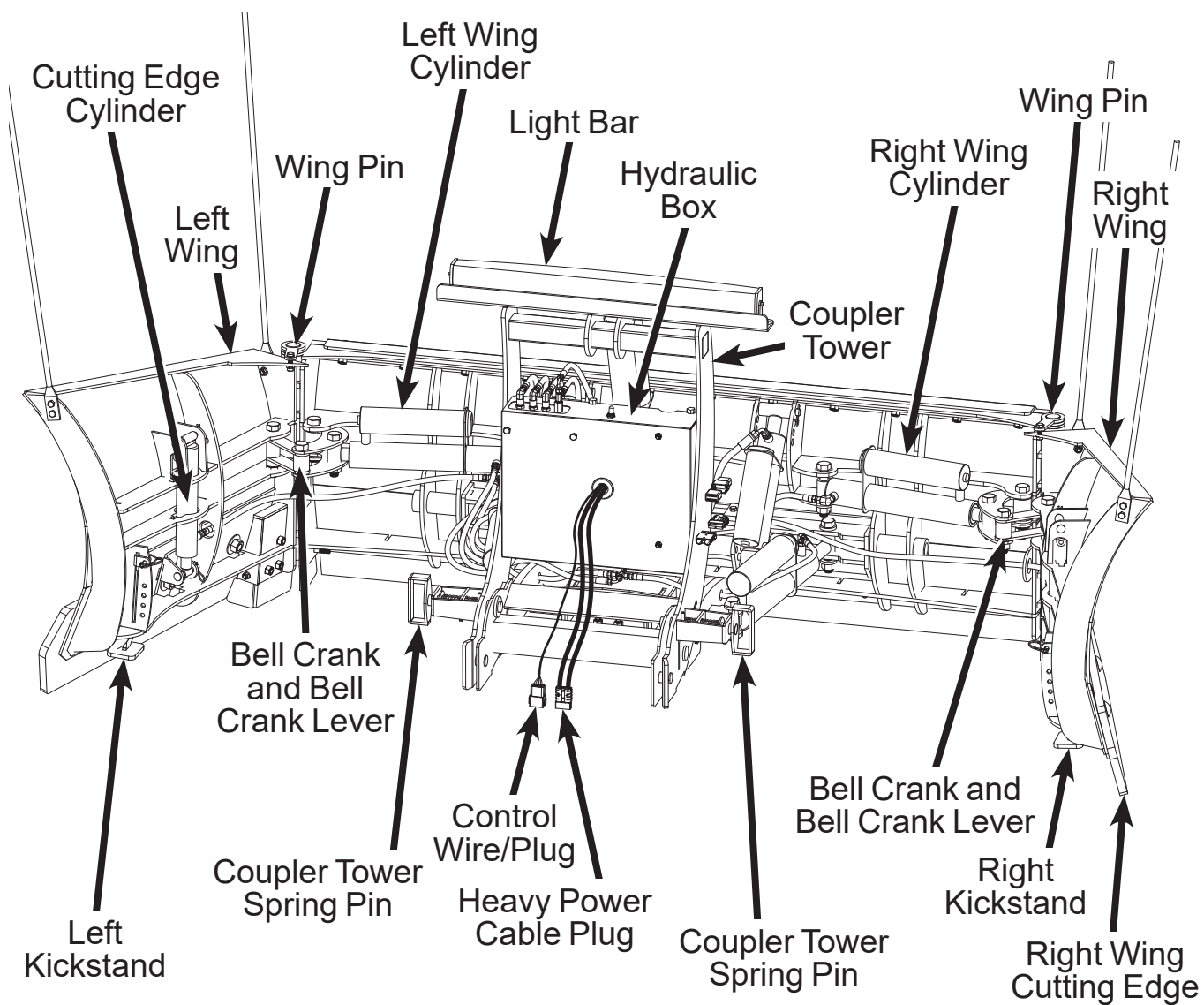
<p>SCAN ME</p> <p>Scan QR Code for Operator's Manual</p> <p>Detailed Instructions & Warnings Refer To Page 19</p>		<p>HIGHER NUMBER = HIGHER WING EDGES</p> <p>LOWER NUMBER = LOWER WING EDGES</p>
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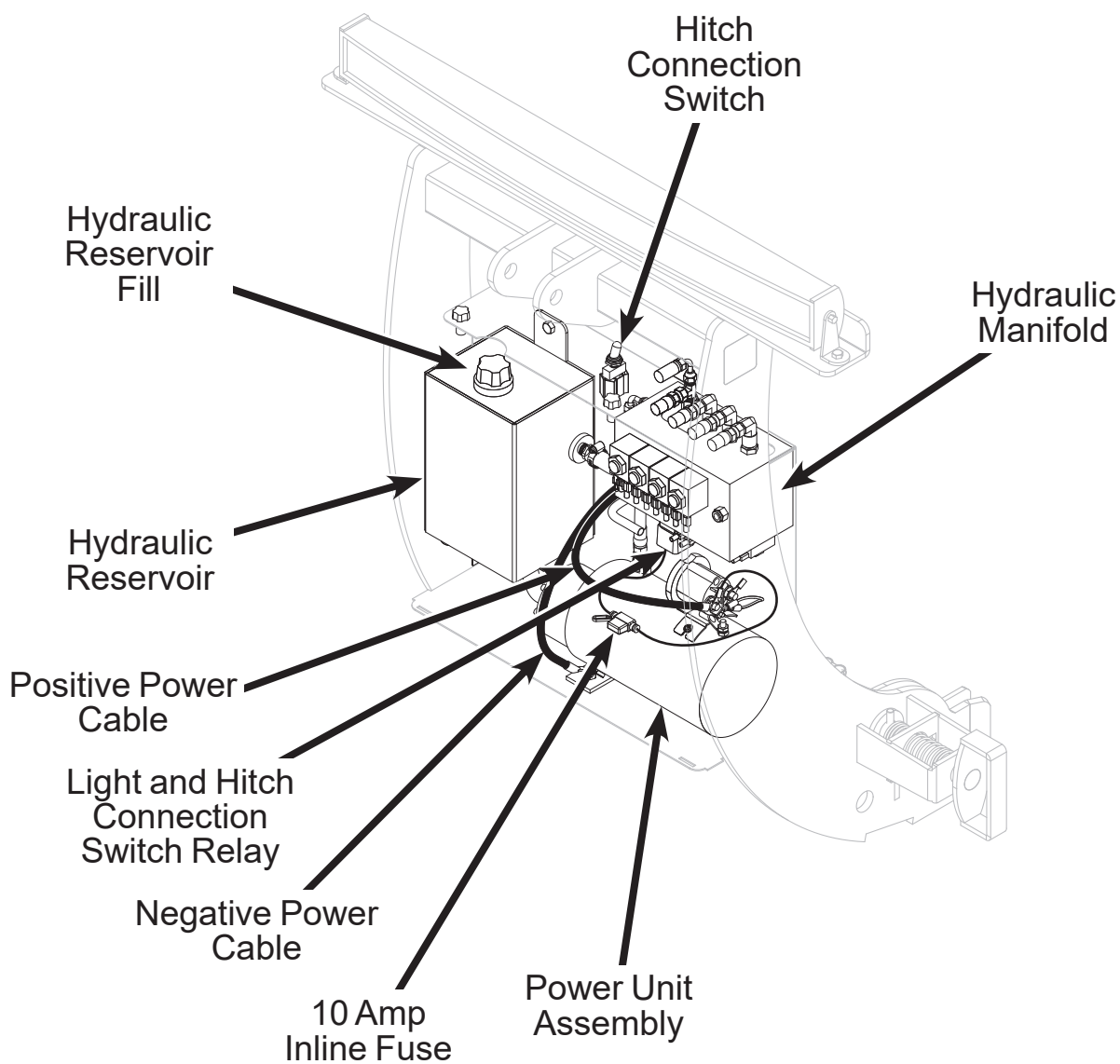
Rear Side of Center of Moldboard

COMPONENT IDENTIFICATION

Plow Components





Tower Components

INSTALLATION

Installing Wire Harness on Vehicle



CAUTION

Avoid injury! Touching hot surfaces can burn skin. The engine, components, and fluids will be hot if the engine has been running. Allow the engine to cool before installing the wire harness.



DANGER

Disconnect battery before attaching plow. Disconnect the negative terminal first and the positive last. Reconnect positive first and negative last. Failure to do could result in serious injury or death.

NOTE: Apply dielectric grease to all electrical connections to prevent corrosion.

To Install the Heavy Power Cables

1. Disconnect vehicle Negative (-) wire from the negative terminal on the battery. Then, disconnect the vehicle Red (+) wire from the Positive terminal on the battery.
2. Determine the desired route for the Truck Heavy Power Cable and line it along the route from the circuit breaker through the front of the vehicle (i.e. between the bumper and the grill). Ensure the cable is routed with the ring terminals on the side of the circuit breaker and battery.
3. Secure the power cable in routing position. Take care to not damage the protective coating during the process.
4. Using two (2) self-tapping screws, install the 200 Amp circuit breaker. Place it in the desired location under the hood of the vehicle near the battery.

ATTENTION: Failure to install the 200 Amp Circuit Breaker voids warranty and may damage the vehicle.

5. Attach one end of the 4" Positive Breaker Cable to the battery side of the 200 Amp circuit breaker and the other end to the Positive terminal on the battery.
6. Connect the Red (+) wire of the Truck Heavy Power Cable to the Aux Load side of the circuit breaker.
7. Attach the black Negative (-) wire of the Truck Heavy Power Cable to the Negative terminal on the battery.

To Install the Control Wiring

1. Feed the Truck Control Wire (White Connector) through the firewall into the cabin.
2. Route loomed Fuse Holder to a key-on power source. Use supplied connectors to tie into power source, avoiding contact with all hot components, sharp edges, and moving parts. Secure the wire in place without damaging the protective coating.
3. Run the other side of the Truck Control Wire through the engine compartment towards the front of the truck. Again, avoid all contact with all hot components, sharp edges, and moving parts. Secure the wire in place without damaging the protective coating.
4. Connect the Truck Control Wire in the cabin to the Handheld Controller.

Attaching and Detaching the F12 / F14 Front Plow

Snowplow Mounting Procedure

See page 19 to determine the proper vehicle undercarriage height.

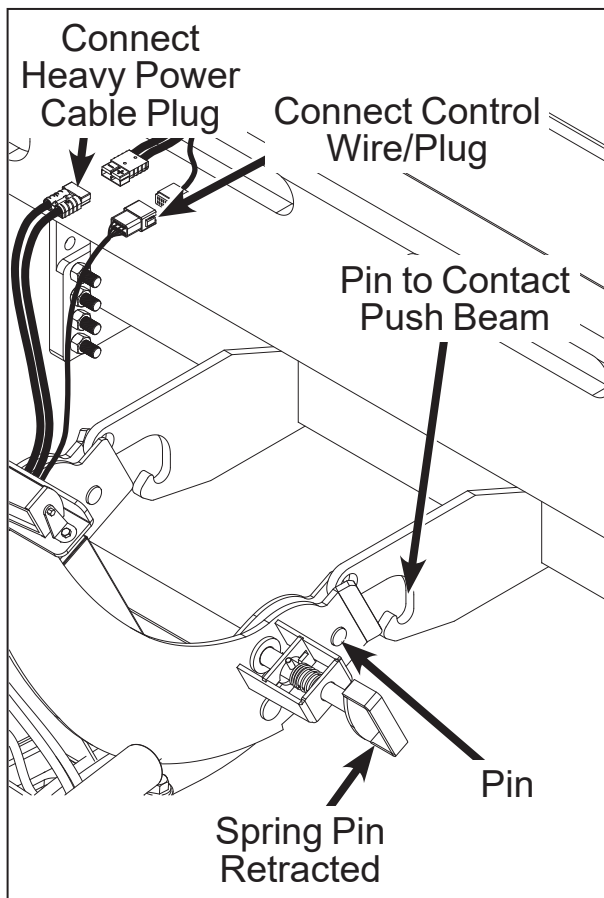
1. Line up the vehicle with the snowplow and drive towards the snowplow until the vehicle undercarriage is fully seated into the plow.



WARNING

Failure to complete this step properly could result in damage to the vehicle!

2. Remove the electrical plug dust covers. Connect the electrical plugs.

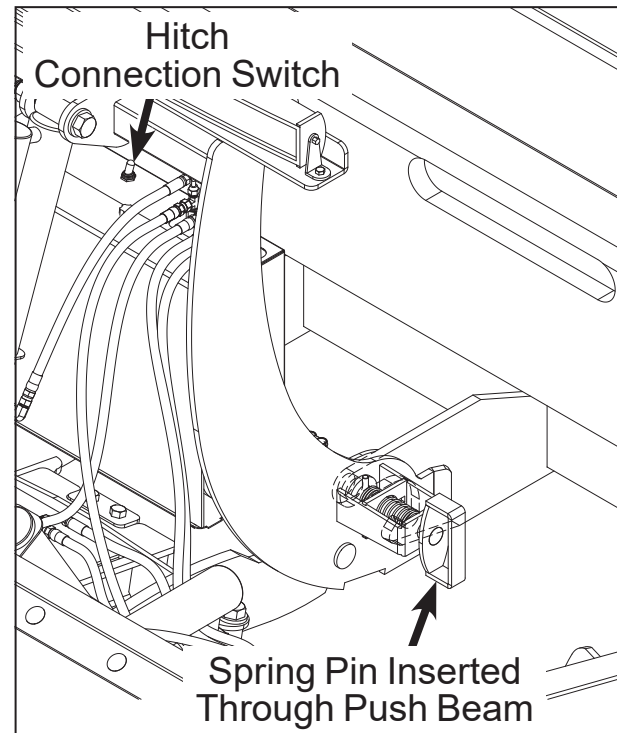


Align Vehicle and Snowplow

3. Turn on the Handheld Controller. **Double Tap** the DOWN button to put the plow into FLOAT Mode.
4. **Double Tap** the PLOW button for the Plow Connect/Disconnect Mode.

*Controller pad lights will flash Blue and Red while in this mode.

5. Use the Hitch Connection Switch atop the Coupler Tower to adjust the plow as necessary to align the plow pins for secure attachment.



Connect Snowplow

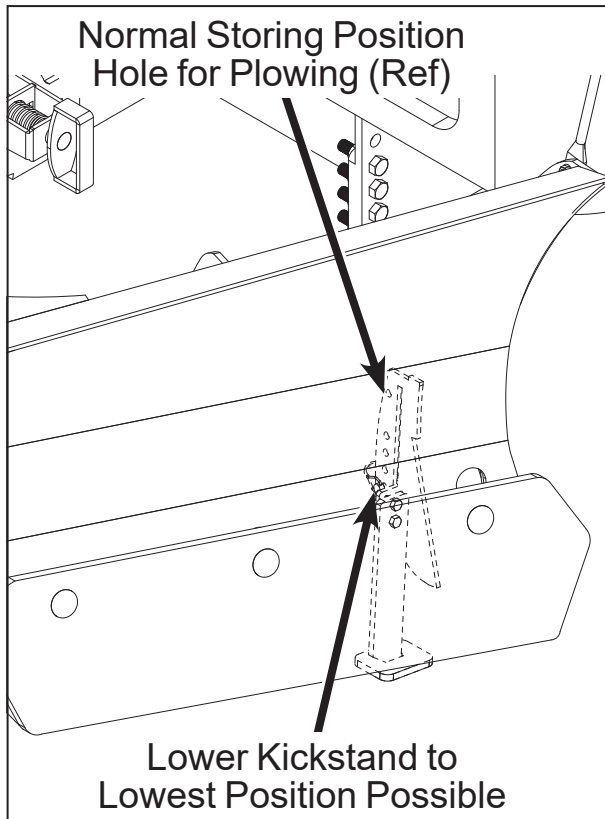
6. Lock pins into place to secure the plow to the vehicle undercarriage.
7. Raise the Kickstand on each wing, retracting to the highest position possible and secure with the snapper pin.
8. Use Handheld Controller to raise plow and re-engage all other plow functions.

Snowplow Removal Procedure

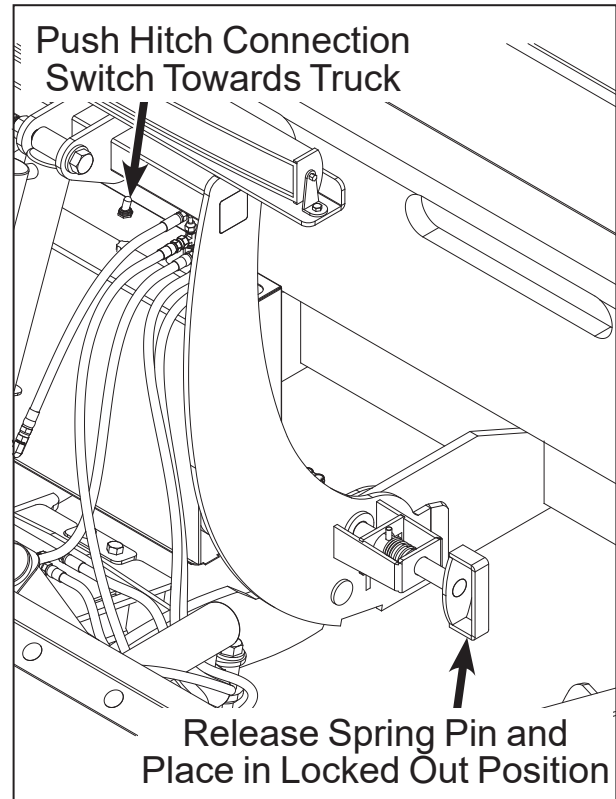
1. Retract both wings towards the vehicle and lower the snowplow to the ground.
2. **Double Tap** the DOWN button to put the plow into FLOAT Mode.
3. **Double Tap** the PLOW button for the Plow Connect/Disconnect Mode.

*Controller pad lights will flash Blue and Red while in this mode.

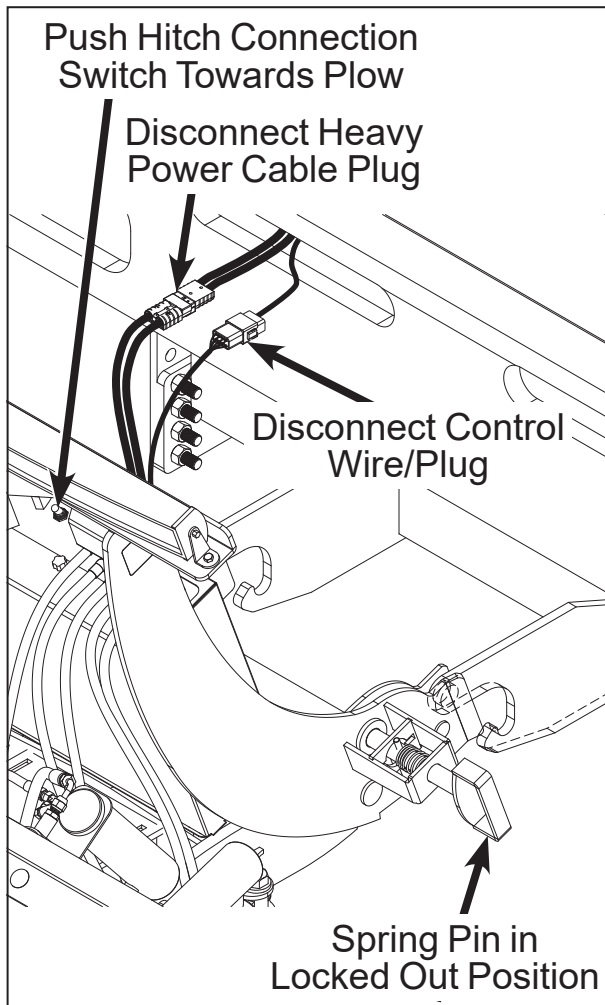
4. Lower the Kickstand on each wing to the lowest position possible and secure with the snapper pin.



5. Use the Hitch Connection Switch to adjust the Coupler Tower until the pin tension is loosened. (BOSS undercarriages will require the Coupler Tower to be lowered completely towards the plow.)
6. Remove the pins from their secured positions.



7. *For BOSS vehicle undercarriages only* – Push the Hitch Connection Switch towards the snowplow until the Coupler Tower is completely lowered to the snowplow.
8. Disconnect the electrical plugs and install the dust covers.



Lower Coupler Tower

8. Back the vehicle away from the snowplow slowly.

Plow Angle Adjustment

To ensure the proper function, the Sno-Power F12 / F14 Front Plow has a feature that allows a customizable adjustment of the plow's angle for optimal safety and operational performance. The type of adjustments needed will vary depending on the make and model of the vehicle, as well as changes in any counterweights on the back of the truck.

When attaching to a BOSS snowplow undercarriage, the distance between the upper hole of the mount and the ground should be approximately 16".

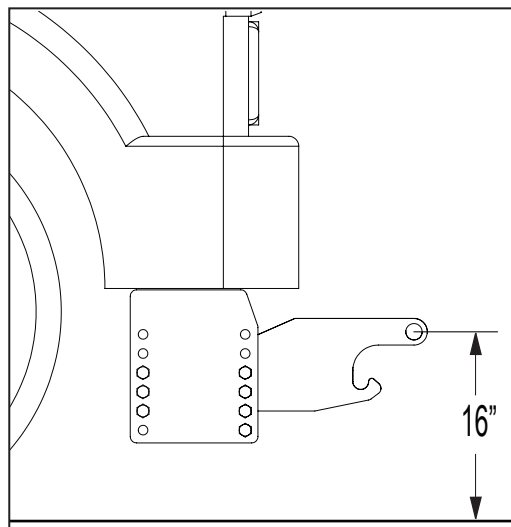
For all truck mounts (Western, Fisher, BOSS, and SnowEx) the initial adjustment on the plow coupler should be made so that when the plow is attached to the truck and resting in FLOAT MODE, the PUSH CYLINDERS of the plow are parallel to the ground.



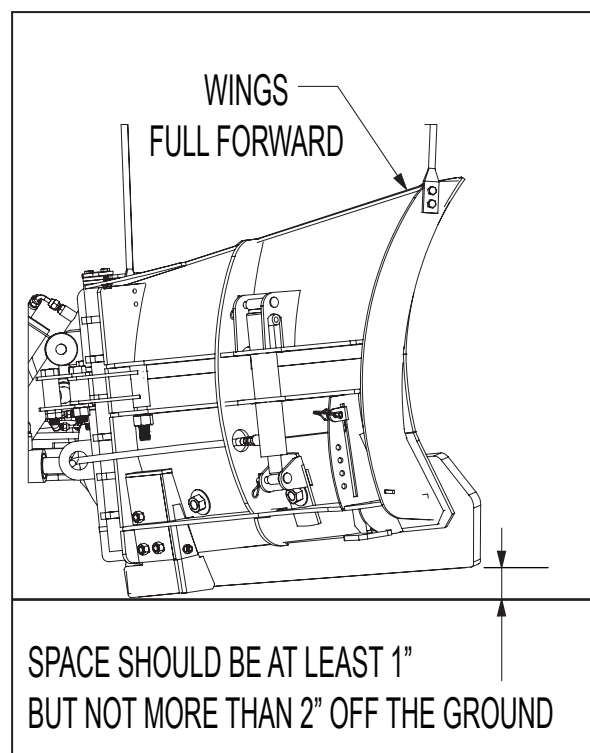
WARNING

Serious Injury or Death May Result. This adjustment procedure is a two-person activity. Do not attempt to adjust alone. Wear protective footwear and keep feet and all body parts clear from underneath any raised part of the plow at all times. Do NOT place hands or fingers near any pinch points or underneath the plow at any time.

- a.) With the plow fully attached to the vehicle, put both wings in the fully-extended, forward position and set the plow in FLOAT MODE on a flat, level surface. Next, briefly hold the UP button on the handheld controller only long enough for the wing cutting edges to rise to their highest point, but before the entire plow itself rises off the ground. With the plow resting on the ground—but with the wing cutting edges raised off the ground—observe the space between the lower outer tips of the wing cutting edges. When adjusted properly, the lower outer tips of the wing cutting edges should be at least 1", but not more than 2", off the ground.
- b.) If the lower outer tips of the wing cutting edges are TOO HIGH (more than 2" off the ground) or TOO LOW (less than 1" off the ground) adjust the angle of the plow as follows:



BOSS Mount Height

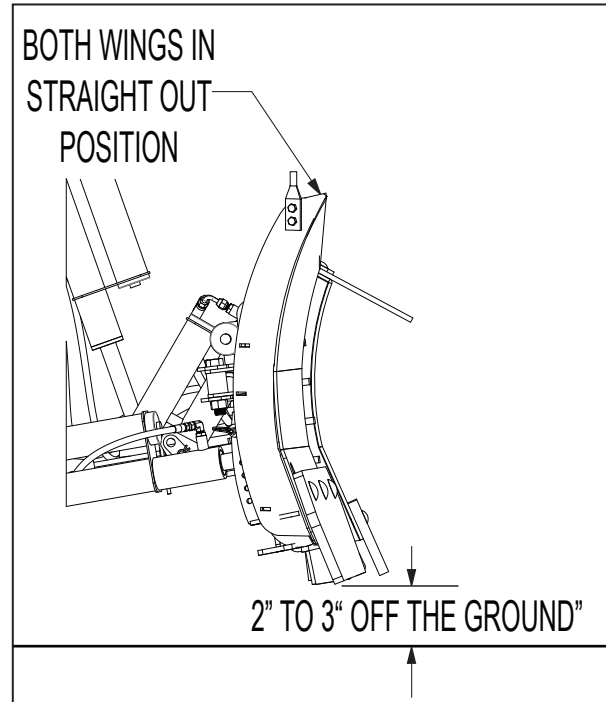


Wing Outer Tip Spacing

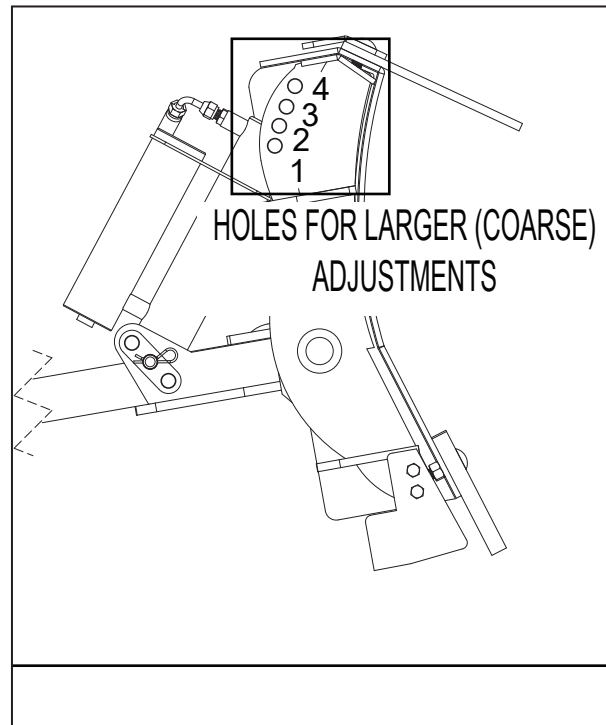
1. Raise the plow off the ground 2-3" and retract the wings to a straight position in line with the Center Moldboard.
2. Power off the handheld controller.
3. Disconnect the power supply connection (heavy power cable) in front of the vehicle.

**DANGER**

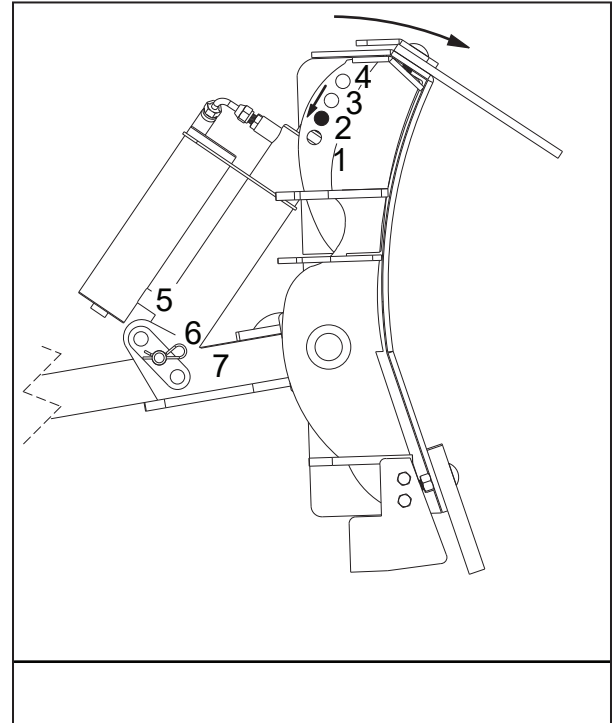
Do not remove or loosen hoses. May cause plow to suddenly fall. Keep all body parts out from underneath the plow at all times. Injury or death may result.

**Raise Plow for Adjustments**

4. For larger (coarse) adjustments of the plow:
 - a. Remove the cotter pins from the Upper Trip Cylinder Pins.
 - b. Keep feet and all body parts clear from underneath the plow at all times while adjusting! As two people gently push or pull against the top front of the Center Moldboard to relieve tension on the Upper Trip Cylinder pins, remove these pins that attach the tops of each of the two Trip Cylinders to the Center Moldboard.

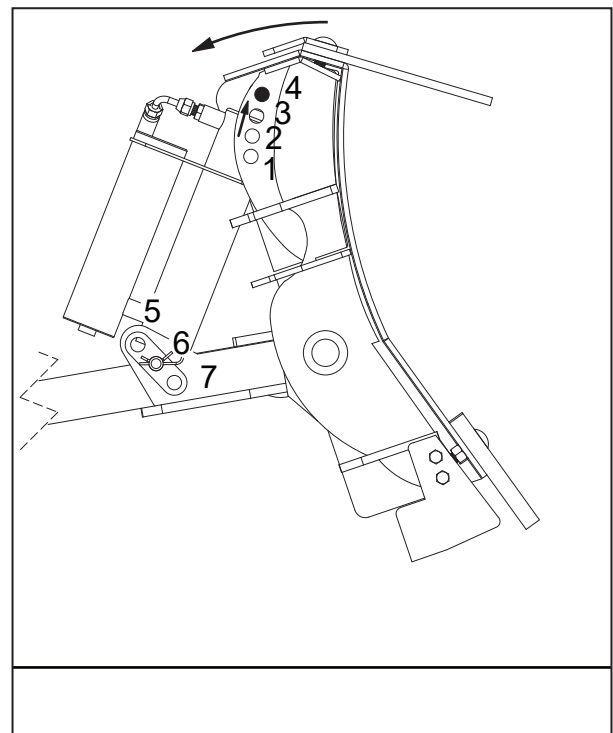
**Upper Holes Used for Larger (Coarse) Adjustments**

- c. If the outer wing cutting edge tips were TOO HIGH (more than 2" off the ground), the adjustment will need to be made downward. Adjust the angle of the Center Moldboard (tilting the top of the Center Moldboard away from the vehicle) and replace the Upper Trip Cylinder Pins and Trip Cylinders in a LOWER-NUMBERED hole on the Center Moldboard (i.e. '3' to '2').



Larger (Coarse) Adjustment to Decrease Wing Tip Spacing

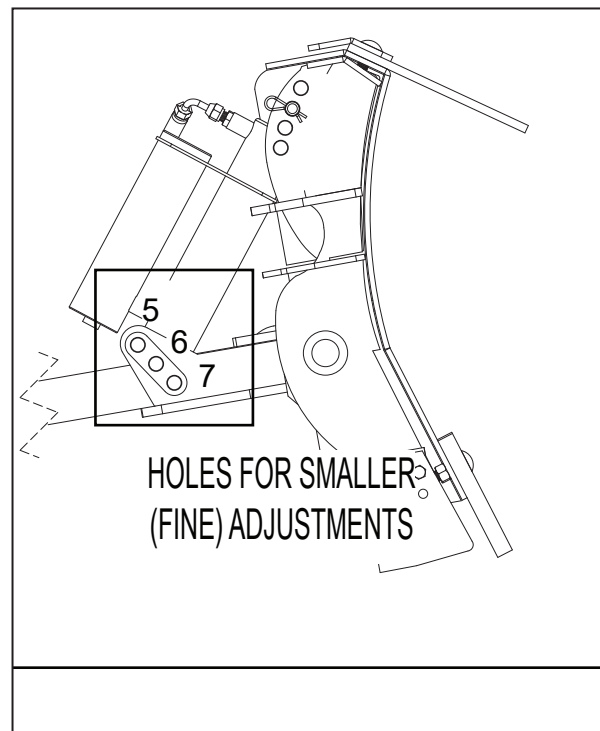
- d. If the outer wing cutting edge tips were TOO LOW to the ground (less than a 1" gap off the ground), the adjustment will need to be made upward. Adjust the angle of the Center Moldboard (tilting the top of the Center Moldboard towards the vehicle) and replace the Upper Trip Cylinder Pins and Trip Cylinders in a HIGHER-NUMBERED hole on the Center Moldboard (i.e. '3' to '4').



Larger (Coarse) Adjustment to Increase Wing Tip Spacing

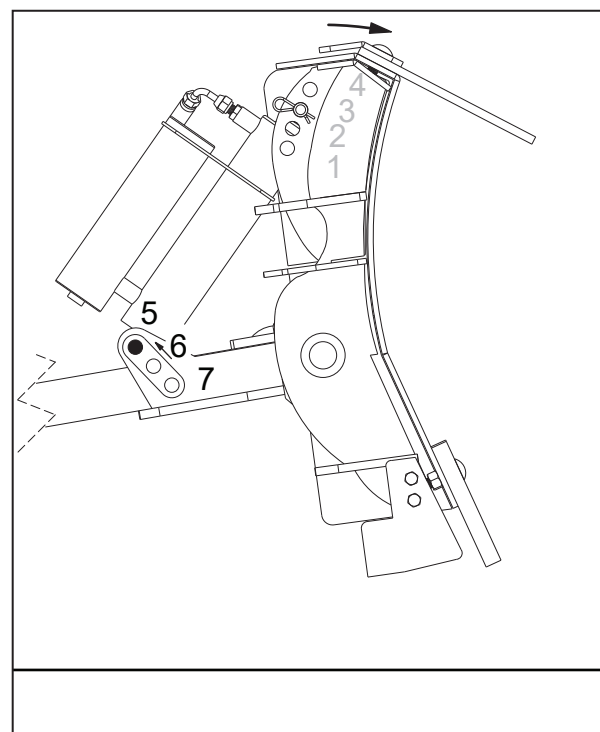
5. For smaller (fine) adjustments of the plow:

- a. Remove the cotter pins from the Lower Trip Cylinder Pins.
- b. Keep feet and all body parts clear from underneath the plow at all times while adjusting! As two people gently push or pull against the top front of the Center Mold-board to relieve tension on the Lower Trip Cylinder pins, remove these pins that attach the bottoms of each of the Trip Cylinders to the Push Frame.



**Lower Holes Used for
Smaller (Fine) Adjustments**

- c. If the wing cutting edges were TOO HIGH off the ground (more than 2" off the ground), the adjustment will need to be made downward. Adjust the angle of the Center Mold-board (tilting the top of the Center Mold-board away from the vehicle) and replace the Lower Trip Cylinder Pins and Trip Cylinders in a LOWER-NUMBERED hole on the Push Frame (i.e. '6' to '5').



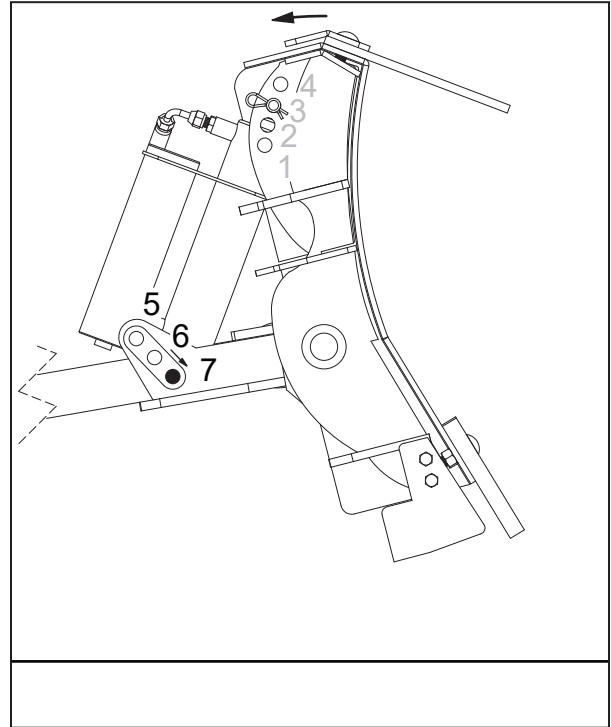
d. If the wing cutting edges were TOO LOW off the ground (less than a 1" gap off the ground), the adjustment will need to be made upward. Adjust the angle of the Center Moldboard (tilting the top of the Center Moldboard towards the vehicle) and replace the Upper Trip Cylinder Pins and Trip Cylinders in a HIGHER-NUMBERED hole on the Push Frame (i.e. '6' to '7').

6. Reconnect the Heavy Power Cables in the front of the vehicle.

7. Power On the handheld controller.

8. Repeat Steps A and B above as necessary until the outer wing cutting edges are in the recommended position.

The higher the number, the higher the outer wing cutting edges. The lower the number, the lower the outer wing cutting edges.



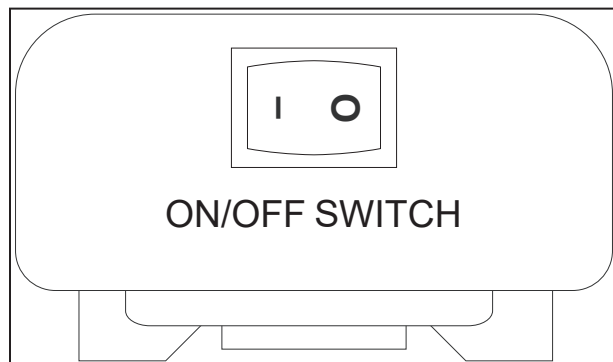
Smaller (Fine) Adjustment to Increase Wing Tip Spacing

OPERATING

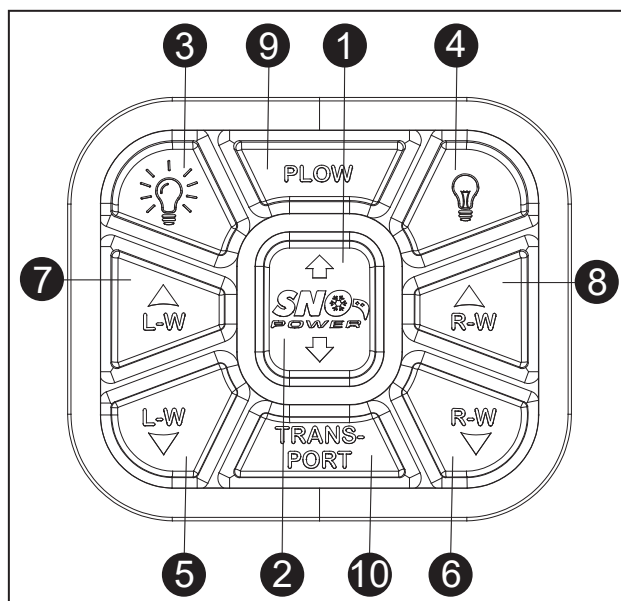
F12 / F14 Handheld Control Components

WARNING

To prevent accidental activation of the plow, turn the plow off when not in use.



On/Off Switch
(Located on Top of Handheld Control)



Handheld Control Components
(Center Button Rocks/Toggles RAISE & DOWN)

- ① RAISE
- ② DOWN/FLOAT & PLOW MODE
- ③ LIGHTS ON
- ④ LIGHTS OFF
- ⑤ LEFT WING IN
- ⑥ RIGHT WING IN
- ⑦ LEFT WING OUT
- ⑧ RIGHT WING OUT
- ⑨ PLOW MODE
- ⑩ TRANSPORT

Using the F12 / F14 Handheld Control

1. Turn the vehicle ignition switch to the ON position.
2. Turn the ON/OFF switch on the control to the ON position. The control keypad will glow green, indicating the control is ON.
NOTE: The ON/OFF switch can be used as an emergency stop when required.
3. **Double Tap** the DOWN button (or Press & Hold for 3 seconds) to engage the FLOAT mode. The FLOAT indicator light, located in the center of the keypad, will change from green to red. To cancel the FLOAT mode, momentarily press the UP button. FLOAT mode will automatically cancel after 20 minutes, and the FLOAT indicator light will turn back to green. To restart FLOAT mode, repeat step 3.

NOTE: Pressing the DOWN button will automatically activate PLOW MODE.

NOTE: When in FLOAT mode, the TRANSPORT function will NOT work. Cancel FLOAT to use the TRANSPORT function.

Lights

Press & Release the upper Left Light button to turn lights ON.

Press & Release the upper Right Light button to turn lights OFF.

**WARNING**

To prevent accidental activation of the plow, turn the plow off when not in use.

Double Taps

A quick **Double Tap** of the UP button will engage the Raise function for 5-6 seconds.

A **Double Tap** of the PLOW button engages the Plow Connect/Disconnect Mode. The controller pad light will flash Green and Red. (See pages 16 & 17 for detailed procedure.)

A **Double Tap & Hold** (hold on the second tap) to any of the four wing buttons will move both wings In (Retracted) or Out (Extended Forward) until button is released.

NOTE: The **Double Tap** feature does not replace the normal operation (Press & Hold) of the buttons, it is an added feature designed to enhance the performance of the control.

Blade Operation Time Outs

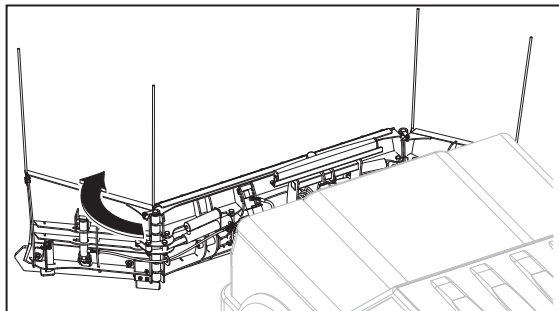
Control functions automatically time out (shut off) after a period of time. This helps reduce wear on the pump motor and prevent unnecessary battery drain. All functions will time out after 5 to 6 seconds. Float cancels after 20 minutes.

Automatic Shutdown

After being idle for approximately 22 minutes, the control will automatically turn OFF and the indicator light located at the center of the keypad will blink from red to green. To restart the control, turn the control OFF (ON/OFF switch) and then back ON.

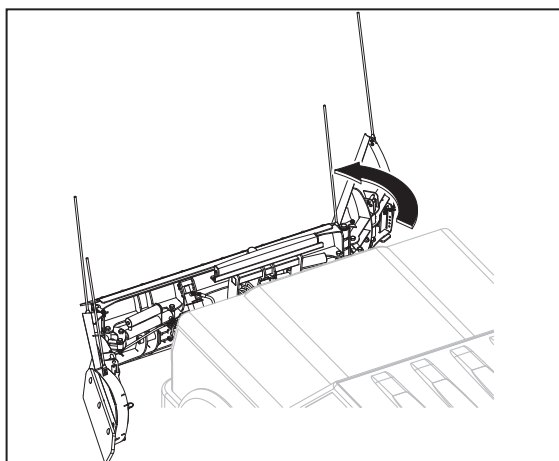
Using Remote Controls

LEFT WING OUT (Plow Mode)



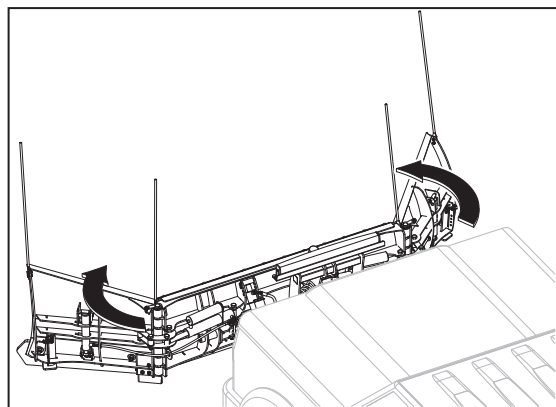
With the PLOW MODE activated, **press and hold** the LEFT WING OUT button until wing extends forward to the desired position.

RIGHT WING OUT (Plow Mode)



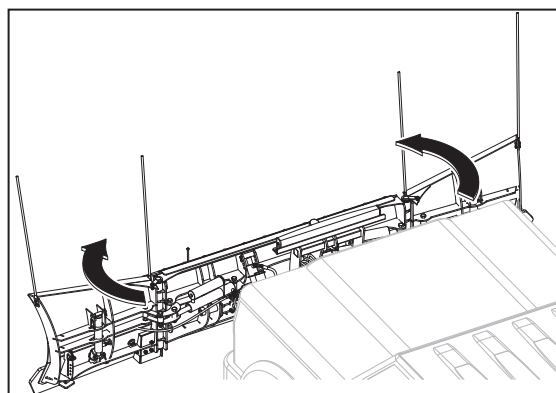
With the PLOW MODE activated, **press and hold** the RIGHT WING OUT button until wing extends forward to the desired position.

LEFT AND RIGHT WINGS OUT (Plow Mode)

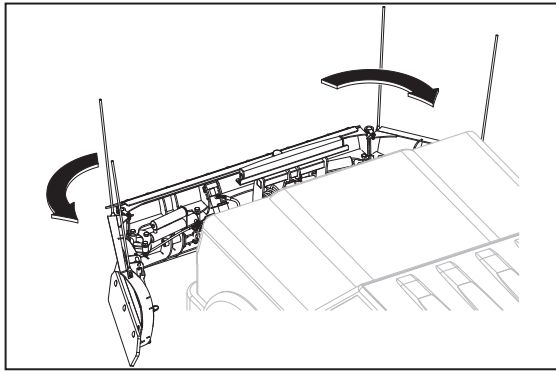


With the PLOW MODE activated, **double tap and hold** either the LEFT WING OUT or RIGHT WING OUT button until BOTH wings extend forward to the desired position.

LEFT AND RIGHT WINGS OUT for Widest Plow Position (Plow Mode)



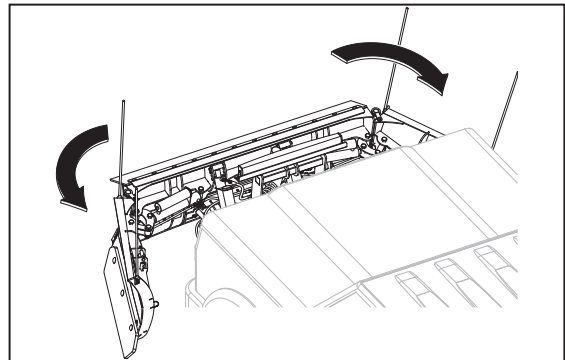
With the PLOW MODE activated, **double tap and hold** either the LEFT WING OUT or RIGHT WING OUT button until wings extend forward to the widest plow position.

LEFT AND RIGHT WINGS IN (Retracted) for Narrowest Plow Position (Plow Mode)

With the PLOW MODE activated, **double tap and hold** either the LEFT WING IN or RIGHT WING IN button until the wings retract to their narrowest plow position.

Transporting**WARNING**

When plow is in TRANSPORT MODE, WINGS MUST REMAIN IN RETRACTED POSITION!

LEFT AND RIGHT WINGS IN / PLOW UP (Transport Mode)

Press and hold the PLOW UP button until the plow reaches the fully-raised position. **Double tap and hold** either the LEFT WING IN or RIGHT WING IN button until both wings reach the fully-retracted position. **Press and hold** the TRANSPORT button until plow stops.

SERVICE

Service Intervals

Use the following schedule to perform routine maintenance on your machine.

Maintenance Schedule	Service Item
Before Using (Daily)	<ul style="list-style-type: none"> • Check the Center Moldboard, Wings, and Cutting Edges • Check hydraulic fluid level • Check hydraulic cylinders and hoses/fittings for damage, pitting, or leakage • Visually inspect equipment for leaks, cracks, loose hardware, and bent/broken components • Ensure all connections/fasteners are secure—hydraulic, electrical, and structural • Check vehicle controls, lighting, and safety equipment
Every Month	<ul style="list-style-type: none"> • Apply dielectric grease to all electrical connections
Every Year	<ul style="list-style-type: none"> • Replace hydraulic fluid • Tighten Cutting Edge Fasteners
Before Storing (End of Season)	<ul style="list-style-type: none"> • Grease all cylinder rods • Grease all hinge points (wings, lift pins, telescoping receiver) • Apply dielectric grease to all electrical connections

Changing the Hydraulic Fluid

1. On a level surface, lower the plow to the ground and ensure the lift cylinder is fully extended.
2. Power off the vehicle.
3. Disconnect both the heavy power cable and control wire.
4. Remove the Hydraulic Power Pack Cover.
5. Wipe the area under the Hydro Tank from dirt and debris.
6. Place a drain pan under the Hydro Tank and remove the drain plug.
7. Clean the drain plug from all foreign material and replace back in the hydro tank after all fluid has drained. Torque the drain plug to approximately 200 lbf-in.
8. Fill the hydro tank to within $\frac{3}{4}$ " of the top of the fill tank with the specific hydraulic fluid detailed on the hydraulic pump and close with the hydro tank fill cap. Do not mix different hydraulic fluids.
9. Check the hydraulic fluid level prior to each use.



DANGER

Do not attempt to adjust or service any valves on the hydraulic cylinders or attached accumulators! Contents are under high pressure and may cause bodily harm or death!

TROUBLESHOOTING

Problem	Category	Solution
No Power to Plow (Pump doesn't run)	Electrical	<ul style="list-style-type: none"> • Ensure the remote is turned ON and the heavy power is connected to the plow. • Check to ensure the key-on power source is connected and active. • Check / reset the 200 Amp breaker under hood. • Check 10 Amp fuses in the hydraulic control box and on the Truck Control Wire (key-on power). • Inspect electrical connections in hydraulic control box.
No movement of wings or plow up/down / slow lifting (Pump Runs)	Hydraulic	<ul style="list-style-type: none"> • Check hydraulic fluid levels and inspect connection for leaks / weeping. Add fluid and/or tighten accordingly.
Uneven cutting-edge wear	Mechanical Adjustment	<ul style="list-style-type: none"> • Ensure hardware on cutting edges are properly fastened and adjusted.

For any problems/issues please see your local dealer or contact Sno-Power for additional support.

STORAGE

Detach Plow for End-of-Season Storage

NOTE: The wings must be in the fully retracted or fully IN position and both kickstands DOWN when detaching plow from vehicle.



WARNING

Wings must always be in the IN position when detaching the plow. Failure to comply could result in serious injury or equipment damage.

Refer to **Attaching and Detaching the F12 / F14 Front Plow** in the **INSTALLATION** section for the *Snowplow Removal Procedure*.

Storing Plow Safety



CAUTION

Avoid injury! Fuel vapors are explosive and flammable. Engine exhaust fumes contain carbon monoxide and can cause serious illness or death.

- Run the engine only long enough to move the plow to or from storage.



WARNING

When the vehicle is parked or stored, lower the plow. Failure to observe safety instructions could result in serious injury.

Preparing Plow for Storage

1. Inspect the plow for any worn or damaged parts. Repair or replace parts if necessary. Tighten loose hardware.
2. Remove debris from plow.
3. Wash the plow.
4. Apply light coat of engine oil to pivot and wear points to prevent rust.
5. Grease any exposed chrome bar on the hydraulic cylinders with a light spray of rust inhibitor.
6. Drive the snowplow to your storage location and remove the plow.
7. Power the coupler tower forward until the lift cylinder is completely compressed.
8. Apply dielectric grease to all of the wire-harness connectors and install the dust caps.
9. Lightly sand and use touch-up paint on painted areas that are scratched, chipped, or rusted.
10. Grease the coupler spring-pins with a light spray of rust inhibitor.
11. Store the plow in a dry, protected place.

NOTE: Put a waterproof cover over plow if stored outside.

Beginning of Season

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. Placing cardboard underneath the plow will help in detecting problem areas.
4. Replace the hydraulic fluid.
5. Check the cutting edges for wear.
6. Lightly sand and use touch-up paint on painted areas that are scratched, chipped, or rusted.
7. Grease the coupler spring-pins with a light spray of rust inhibitor.
8. Apply dielectric grease to all of the wire harness connectors.
9. Attach the plow to the vehicle; refer to **Attaching and Detaching the F12 / F14 Front Plow** in the **INSTALLATION** section for the *Snowplow Mounting Procedure*.
10. Check full functionality of the plow to ensure all hydraulic cylinders work properly.



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