

PICKUP TRUCK SNOWPLOW

Models 703, 753, 703SS, 753SS

OPERATOR'S MANUAL

DO NOT USE OR OPERATE THIS EQUIPMENT UNTIL THIS MANUAL HAS BEEN READ AND THOROUGHLY UNDERSTOOD

Please visit www.snowplows.hiniker.com to access the most recent version

PART NUMBER 25014773

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TO THE PURCHASER

This product is designed and manufactured to give years of dependable service when properly maintained and used for the purpose for which it is intended. Never allow anyone to operate this equipment until they fully understand the complete contents of this manual. It is the responsibility of owners who do not operate this equipment to ensure the operator is properly instructed and understands the contents of this manual. It is also the owner's responsibility to ensure that anyone operating this equipment is mentally and physically capable of so doing.

Important information is contained in this manual to help ensure safe and efficient operation.

If you have any questions about this manual, or the equipment discussed herein, contact your Hiniker dealer.

TAKE NOTE! THIS SAFETY ALERT SYMBOL FOUND THROUGHOUT THIS MANUAL IS USED TO CALL YOUR ATTENTION TO INSTRUCTIONS INVOLVING YOUR PERSONAL SAFETY AND THE SAFETY OF OTHERS. FAILURE TO FOLLOW THESE INSTRUCTIONS CAN RESULT IN INJURY OR DEATH.



THIS SYMBOL MEANS:

- ATTENTION!
- BECOME ALERT!
- YOUR SAFETY IS INVOLVED!



SAFETY SIGNAL WORDS:

DANGER: Indicates an imminently hazardous situation that, if not avoided, will result in death or serious injury.

WARNING: Indicates a potentially hazardous situation that, if not avoided, could result in death or serious injury.

CAUTION: Indicates a potentially hazardous situation that, if not avoided, may result in minor or moderate injury, or damage to components.

NOTE: Addresses safety practices not related to personal safety.

All references to Left or Right are defined as viewing the plow from the cab of the truck.

Instructions for raising and lowering the plow refer to the joystick controller as received from the factory. The raise and lower functions may be reversed to suit the preference of the operator by following the instructions in the Controller Configuration section.

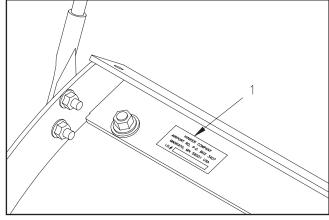
This Operator's Manual is shipped with this equipment. For additional copies contact your Hiniker dealer or visit www.snowplows.hiniker.com.

Always obtain original Hiniker service parts. Substitute parts could adversely affect equipment performance and warranty.

Check that your dealer has forwarded the Hiniker delivery report form along with the plow identification number because it helps maintain maximum service and warranty benefits. This does not put you on any mailing list, and information thereon is not available to others.

Your plow's identification number plate is at

location (1) in the following illustration.



DWG NO. 5689

Record the following information for later reference when obtaining service parts:
Purchase Date
Purchaser's Name
Dealer's Name
Machine I.D. No.

SAFETY

This is a safety alert symbol. It alerts an operator to information concerning personal safety. Always observe and heed these symbols and instructions, otherwise death or serious injury can result.

Operator safety is a principle concern in equipment design and distribution. However, many accidents occur because a few seconds of thought, and a more careful approach to handling, were ignored.

Accidents can be avoided by knowing and following the precautions cited in this manual.

GENERAL SAFETY

- Read this manual thoroughly. Make sure the operator understands it and knows how to operate this equipment safely. This equipment can kill or injure an untrained or careless operator and bystanders. If you sell this equipment, ensure the new owner acknowledges receipt of this manual.
- 2. This plow is intended for plowing snow only. Plowing gravel, rocks, etc., or using the plow for any purpose other than plowing snow could result in harm to the operator or bystanders or cause damage to the plow or vehicle, and will void the warranty.
- 3. Do not service or otherwise handle a plow in the raised position unless it is securely blocked against unexpected falling.
- Do not attempt to handle or service this 4. equipment, or direct others to do the same, unless you know how to do it safely and have the proper tools for the job.
- Keep hands, feet, hair, and clothing away 5. from moving parts.
- 6. Do not alter the equipment to the extent of compromising safety or performance.

BEFORE OPERATION

- 1. Discipline yourself to visually check for worn, damaged or cracked parts before starting use. Replace these with genuine Hiniker parts.
- 2. Escaping hydraulic oil under pressure can penetrate the skin, causing serious injury. Do not use your hand to check for leaks. Use a piece of paper or cardboard to find suspected leaks. Tighten all connections before pressurizing hydraulic lines.
 - If fluid is injected into the skin, get medical attention immediately to prevent serious infection.
- Check all controls and operating functions 3. of the machine in a safe area before starting to work.

DURING OPERATION

- 1. Always wear seat belts when operating a motor vehicle.
- 2. Ensure everyone is clear of the machine, especially away from blind areas of the operator, before starting, actuating hydraulics or operating this equipment.
- Do not plow snow at excessively high 3. speeds.
- 4. Avoid hitting objects that will damage your plow or truck.
- Set the brakes and stop the truck's engine 5. before adjusting or servicing your plow.

AFTER OPERATION

Park the plow on a solid, level surface. 1. Fully collapse the lift cylinder and use the stop plate, as described in the Operating Procedures Removing The Plow section, before unhitching the plow to prevent the frame from falling forward.

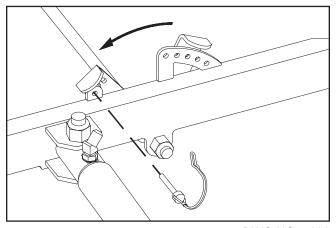
OPERATING PROCEDURES

ATTACHING THE PLOW

Attachment prongs on the truck should be mounted such that the bottom edge of the prongs measure about 10" above the ground. Prong receivers on the plow frame should remain parallel to the ground and at the correct height by fully retracting the lift cylinder with the upper lift links and bracing the frame with the stop plate before removing the plow from the truck (See "Removing the Plow"). Ideally, the prongs on the truck should lift the plow frame slightly when driving into the plow for attachment.

Powdered graphite applied on the prongs will help the plow slide on and off more easily.

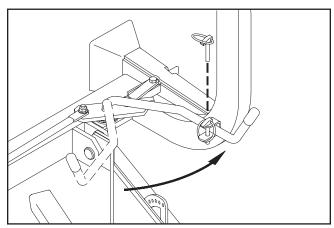
Check that prongs are in line with the receivers before slowly driving into the plow. Set the parking brake in the truck to prevent it from creeping back out from the receivers.



DWG NO. 5690

Remove the tab lock pin from the indexing hole and raise the parking stand to its highest position. Repin the stand lever to the front hole in the push frame for transport.

Pull the latch handle into the clevis on the lift frame to force the sliders through the notches in the prongs and receivers. Check that both sliders are fully engaged.



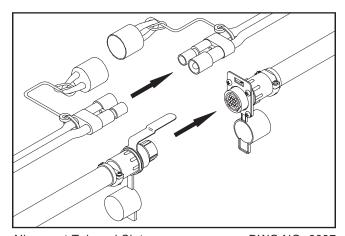
Handle Pinned With Plow On Truck

DWG NO. 5691

Pin the handle in the clevis with its klik pin. Failure to pin the handle in place may allow the plow to fall off the truck.

NOTE: Before connecting the plow's wiring to the truck, make sure power is switched "Off" on the joystick controller.

Plug in the two electrical connectors between the plow and the truck after latching the plow. The alignment tab on the 16-pin plug will mate with the slot on the mating receptacle to ensure proper connection.



Alignment Tab and Slot

DWG NO. 6697

Check that the plow headlamps and turn signals are operational, and headlamps are aimed correctly. Test the lift and angling cylinders in a safe area before using the plow.

To make alignment of the plow easier in the future, mark a point on the back of the headlamp, a point on the hood near the front of the truck and a point on the windshield that are in line when you are seated behind the steering wheel. Line up these three points when driving into the plow.

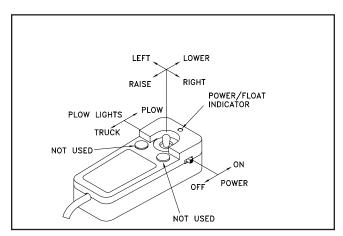
THE JOYSTICK CONTROLLER

The joystick control box has slide switches for controlling power to the snowplow and for switching from the truck headlights to the headlights on the wold.

The joystick controller raises and lowers the plow and angles the blade left or right.

NOTE: Drawings 4176 and 4177 show the raise and lower functions of the joystick controller as received from the factory. Functions may be reversed to suit the preference of the operator by following the instructions in the Controller Configuration section for switching the controller joystick and face plate.

The vehicle's electrical power must be turned on before the control box will function.



Joystick Control Box

DWG NO. 4176

Place the on/off switch on the joystick control box in the "on" position to supply power to the snowplow. A green light will indicate power is on.

Move the headlight slide switch on the control box to the "plow" position to change from the truck lights to the snowplow lights.

Activate high beam/low beam and turn signal/ parking lamps from the truck as you normally would without the plow attached.

NOTE: When removing the plow, remember to place the headlight switch in the "truck" position to return power to the truck's headlights.

Raise or lower the plow by moving the joystick to the "raise" or "lower" position.

Hold the plow at an intermediate height by releasing the controller from the "raise" position when the plow reaches the desired height.

Moving the controller to the "lower" position will lower the blade to the ground and allow the plow to "float" along the contour of the ground while plowing snow.

A yellow light on the control box indicates the plow is in the float mode. Momentarily moving the joystick to the "raise" position will remove the plow from the float condition and the yellow indicator will return to green.

Move the joystick left or right to angle the blade. Release the joystick when the blade is at the desired angle.

TRANSPORTING THE PLOW

The extra weight of the snowplow on your truck will impair handling response and increase braking distance. The plow will also block some airflow to the vehicle's cooling system, possibly causing the vehicle to overheat. Therefore, it is important not to exceed speeds above 45 mph when the plow is attached.

Remove the plow if you must drive your truck for long distances when the temperature is warm.

Raise the blade to a position where it will not interfere with the headlights before driving.

Transport the plow with power to the joystick control box switched off to prevent accidental lowering of the plow.

Never adjust the blade height or angle the blade while driving.

PLOWING SNOW

WARNING: Always wear a seat belt when plowing snow. Sudden contact with a hidden object can result in serious personal injury.

Inspect areas to be plowed before snowfall for potential hazards, and mark obstructions with stakes that will be seen when snow covers the ground. Identify any emergency equipment and utility outlets that may need to be cleared in the event of a storm. Prepare a plan beforehand for clearing snow from tight or enclosed areas and locate sites for stacking snow.

When using skid shoes on the back of the moldboard, adjust the skids according to the surface to be plowed. The bottom of the skids should be about 1/2" below the cutting edge when plowing gravel roads or lots. Skids should be even with the cutting edge on hard surfaces such as asphalt or concrete.

Always plow snow as it is accumulating. Wet snow may weigh about 12 lbs per cubic foot. The weight of snow being pushed by your plow may increase to several tons.

Allowing snow depth to grow to unmanageable levels can cause difficult removal problems and can be costly in terms of wear on equipment.

WARNING: Serious personal injury can result from plowing at excessive $^{
m J}$ speeds, as well as costly damage to equipment and property, if an obstruction is encountered while plowing. Do not exceed 10 mph while plowing.

Plow snow in the lowest truck gear to transfer maximum power to the cutting edge. Clear areas in front of buildings first. Back drag snow away from buildings by driving to the building with the plow raised, then dropping the blade to pull snow away from buildings.

Clear large lots by angling the blade and creating a single path. Roll snow to outer edges of the lot by taking successive passes with the blade angled.

When plowing very deep snow, it may be necessary to raise the blade and shear off layers of snow until a working area is cleared. Work small areas in multiple passes to push snow to outer edges. Generally, 6" snow can be plowed with the entire blade width: 9" snow with 3/4 of the blade width: 12" snow with 1/2 of the blade width. Local conditions will determine how much work can be done before stalling or getting stuck.

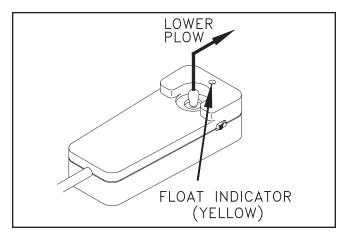
PARKING

Lower the plow to the ground when parking your truck for a long period of time with the plow attached. Place the on/off switch in the "off" position to prevent the plow from drawing power from the truck battery. The plow's power unit may continue to draw electrical current from the truck battery if the control switch is left on; possibly resulting in insufficient charge to start the truck.

REMOVING THE PLOW

To remove the snowplow from your truck, park on a solid level surface with the blade straight across the truck. Lower the plow to the ground and leave the controller in the "float" mode.

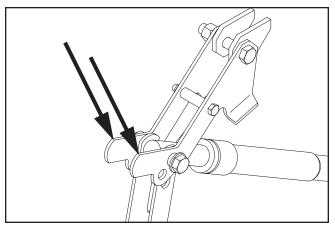
NOTE: The plow control box must be in the "float" mode to manually retract the lift cylinder rod. If the cylinder rod cannot be retracted with power on and the controller in float, loosen the packing nut on the lift cylinder up to 1 1/2 turns to reduce friction.



Lower Plow, Leave Controller in "Float" DWG NO. 4177

At the front of the truck, push down on the upper lift links to fully retract the lift cylinder rod. Retracting the lift cylinder will orient the prong receivers correctly for reattaching the plow later Failure to retract the lift cylinder rod will allow

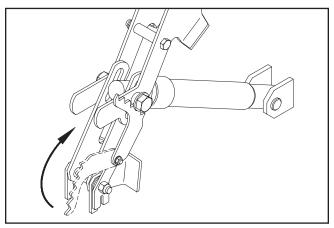
the lift frame to fall forward, possibly causing personal injury or damage to plow components.



Retract Cylinder With Upper Lift Links

DWG NO. 5693

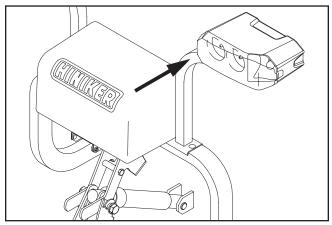
Rotate the stop plate up to contact the spacer bushing on the lift cylinder bolt.



Rotate Stop Plate

DWG NO. 5695

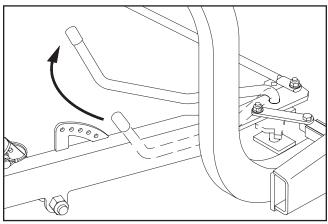
Gently push back on the headlight bracket to tilt the lift frame back as far as possible, then release the bracket to allow the weight of the lift frame to lock the stop plate in place.



Push Lift Frame Back

DWG NO. 6005A

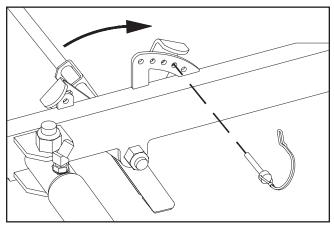
Swing the latch handle open until the sliders are fully removed from the attachment prongs.



Swing Handle to Remove Sliders

DWG NO. 5694

Lower the parking stand to the ground by removing the tab lock pin from the front hole in the push frame, then swinging the stand to the ground with the lever.



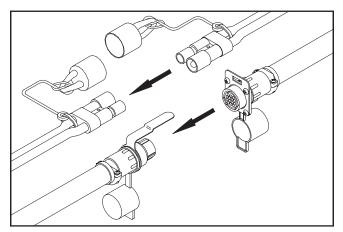
Lower and Pin Parking Stand

DWG NO. 5696

Reinstall the pin through matching holes in the stand lever and push frame to hold the stand in place.

Disconnect the two electrical connectors by pulling them straight out from the receptacles. Do not twist the connectors. Twisting will damage the connector pins or the wiring harness.

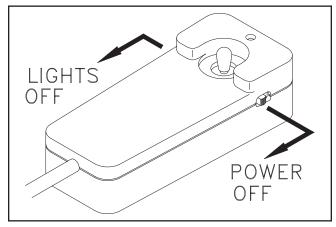
Place dust caps on connectors to prevent contamination.



Disconnect Plugs

DWG NO. 6698

Back inside the truck, return control of the headlights to the truck and switch power off on the snowplow control box, then slowly back the truck out from the plow.



Turn Off Lights and Power

DWG NO. 4178

NOTE: The stop plate will automatically fall forward as soon as the lift cylinder is fully extended for raising the blade prior to transporting the plow.

If the snowplow won't be used for an extended period of time, the prong weldment can be removed from the truck by removing the hex bolts that fasten it to the truck mount frame.

HEADLAMP AIMING PROCEDURE

NOTE: Headlamp aiming should be done while plow is in a raised position.

NOTE: This procedure should be done with no load on the vehicle other than the driver, snowplow, and rear ballast weight, inspect the vehicle for proper tire inflation and broken or sagging suspension components. Check functioning of any automatic vehicle leveling systems and any specific manufacturer's instructions pertaining to vehicle preparation for headlamp aiming. Stabilize the suspension by rocking the vehicle sideways.

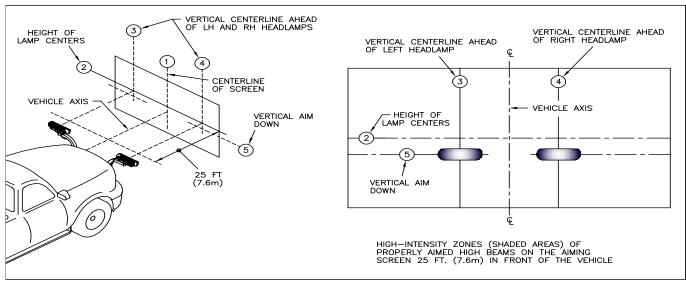
- Park the vehicle with the plow attached on a level surface 25' (7.6 m) from a flat, unobstructed light-colored wall.
 - 1. Centerline of vehicle.
 - 2. Height of Lamp Centers.
 - 3. LH Headlight Center (see Table 1 for dimensions from Line 1).
 - 4. RH Headlight Center (see Table 1 for dimensions from Line 1).
 - 5. Vertical Aim Down Height (see Table 2 for dimension from Line 2)
- 2. Mark the wall with black tape according to drawing 5698B.
- Wipe the lamp lenses clean and check for proper switching and function.
- 4. Activate the plow lamp HIGH beams to illuminate toward the wall.

- Focus the center of the LH light beam on the intersections of lines 3 and 5.
- Focus the center of the RH light beam on the intersections of lines 4 and 5.
- Tighten the headlamp hardware according to the table below.

Table 1: Lines 3 & 4 Dimensions					
Туре	Line 3 & 4 Dimension				
LED	19 in (48 cm)				
Halogen	22 in (56 cm)				

Table 2: Line Dimension						
Height from Ground Dimension						
22 to 36 in (56 to 90 cm)	0					
36 to 48 in (90 to 120 cm)	2 in (5 cm)					
48 to 54 in (120 to 140 cm)	4 in (6.4 cm)					

Table 3: Hardware Torque						
Туре	Size	Ft-Lbs	N-m			
LED	1/2" (Bracket to Bar)	58-82	79-112			
	1/4" (Light to Bracket)	6-7	8-10			
Halogen	1/2" (Bracket to Bar)	58-82	79-112			
	3/8" (Light to Bracket)	29-41	39-56			

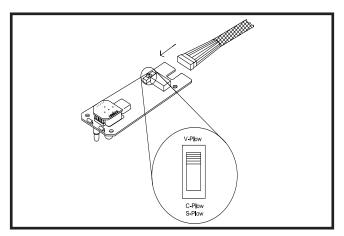


CONTROLLER CONFIGURATION

NOTE: The 2 pin power cable and 16 pin plow harness must be connected, and the vehicle's ignition switch must be switched on in order to test the functions of the headlights and power unit.

- Ensure the black and white 12 pin connector from the cab harness is attached to the controller.
- Use the plow selection switch to select whether you have a V-Plow or a Straight Blade.

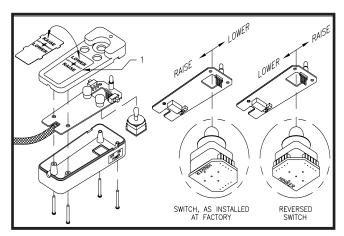
NOTE: As supplied from the factory, the snowplow controller raises the plow when the joystick is pulled backward and lowers the plow when the joystick is pushed forward. If you wish to revers this follow steps 3 through 5. If not, skip to step 6.



DWG. NO. 8006

Model	Plow Type	Postion
9585, 9595	Torsion V	Up
9863, 9963, 9710	Compression V	Up
2754, 2804, 2854	Steel Straight	Down
8804, 8904	С	Down
6814, 6914	Scoop	Down
7814, 7914	Poly Straight	Down
703, 753	Mid Size Straight	Down

- Pry the face plate of the controller by insert-3. ing a small screwdriver along the side of the plate of the plate at location 1 in drawing 5855A. Flip the plate over, then reinstall by gently sliding the 4 tabs into the slots in the controller top.
- To reverse the joystick switch, gently pull on the edges of the small circuit board at the base of the joystick switch to remove the switch from the 5 pins on the main circuit board.
- Rotate the switch 90 degrees then gently push the switch back onto the 5 pins.
- 6. Insert the main circuit board into the case top ensuring the joystick is properly seated and the harness strain relief is inside the case.
- Assemble the case with the 4 screws. 7.
- Test the controller on the snow plow to verify that raise and lower functions are what the operator desires.



DWG. NO. 5855A

MAINTENANCE

WARNING: Do not service or otherwise handle a plow in the raised position unless it is securely blocked against unexpected falling.

Dependable snowplow operation is the result of following good maintenance procedures. Inspect your plow frequently to ensure that all parts are working smoothly, and develop a schedule for maintenance at required intervals.

GENERAL

Wash salt and dirt off the plow before storage. Do not power wash hydraulic cylinders, as high pressure can damage seals and cause cylinder failure. Touch-up any chips or scratches in the paint and apply a light coating of grease to extended cylinder rods to prevent corrosion.

HYDRAULIC SYSTEM

The majority of snowplow operational problems are caused by bad oil in the hydraulic system. Hydraulic oil should be changed every year for best performance. Select Hiniker Cold Flow Hydraulic Oil, or an equivalent oil that meets military specification 5606, for plowing in extremely cold temperatures.

To change hydraulic oil, disconnect the electrical wiring harnesses from the snowplow power unit and uncouple three hydraulic lines. Unbolt the power unit from the plow, and remove it to a clean working area that can capture any spilled oil.

Carefully unbolt the oil reservoir from the power unit and discard old oil. Purge old oil from the angling cylinders by forcing rods to retract.

Clean the suction filter at the pump inlet and wipe any metal shavings off the magnet on the pump.

Re-attach the reservoir onto the power unit and re-connect the power unit on the snowplow before adding new hydraulic oil.

Re-attach hydraulic hoses and electrical wires at the correct locations on the power unit.

Pour hydraulic oil into the power unit reservoir until the reservoir is half full. Angle the plow full left or right to fill the angling cylinder with oil, then add more oil until the reservoir is about 3/4 full. Do not overfill the oil reservoir

Cycle the plow left and right and up and down to purge any air trapped in the hydraulic system.

Check the oil level with the plow on the ground. Add oil to the fill line, if necessary, but do not over fill the reservoir.

ELECTRICAL MAINTENANCE

Periodically check all electrical connections for proper fit and remove any contamination that may be present.

To prevent contamination always place dust caps on connectors when not in use. This is particularly important when the plow is being stored. The use of dielectric grease is recommended to reduce corrosion of the contacts and to make connecting and disconnecting easier.

Before each season check the vehicle battery and electrical system for proper operation. A weak battery, dirty terminals, or faulty charging system may cause improper operation and possible failure of the joystick controller.

Before every plowing season, and throughout the season, check the snowplow headlamps for proper function and aim. Refer to sections titled "System Check-Out" and "Headlamp Aiming Procedure" in this manual for instructions.

MECHANICAL COMPONENTS

Prior to the operation of a new snowplow, or one which has been stored, inspect all hardware and verify proper torque on all bolts and nuts in accordance with the recommended torque specifications.

GRADE 5 TYPE B & F LOCK NUT TORQUE VALUES

Size	Ft-lbs.	N-m
5/16"	13-18	17-25
3/8"	23-33	31-44
1/2"	58-82	79-112
5/8"	117-165	158-223

GRADE 5 BOLT TORQUE VALUES*

Size	Ft-lbs.	N-m
1/4"	8-12	11-16
3/8"	29-41	39-56
1/2"	73-103	99-140
5/8"	146-206	198-279

^{*}applications without lock nuts.

Loose bolts can cause hole elongation and part failure resulting in dangerous operating conditions and equipment breakdown.

Check all hardware periodically during operation and keep tightened to specified torque value.

Replace worn bolts and lock nuts with grade 5 bolts and equivalent type B or type F lock nuts. Type B lock nuts are plain hex; type F lock nuts are flanged hex.

Inspect wear of the cutting edge before every plowing season and frequently throughout the season. Replace the cutting edge before wear reaches the main plow blade.

Once a year before using the plow, check that the moldboard will trip freely about the pivot tube. With the snowplow mounted on the truck and the cutting edge on the ground, unfasten the extension springs on the back of the moldboard by loosening the 5/8" lock nuts on the threaded spring studs, then pull the top of the moldboard fully forward.

If the blade does not trip freely, oil the pivot tube at the four locations where it passes through ribs on the back of the moldboard.

Damage to the snowplow or the truck may result if the moldboard hits an obstruction during use and doesn't trip.

Reassemble the two trip springs between lugs on the pivot tube and channels along the upper edge of the blade. Tighten the two lock nuts until spring coils begin to separate.

The 5/16" hex bolts in the latch sliders are factory retained with anaerobic threadlock. If removal or replacement of these bolts is necessary, purchase new bolts with threadlocker from your Hiniker dealer, or apply a commercially available threadlock, i.e., Loctite 242 (blue) or Perma-Lok HM118 (red), to standard 5/16-18 X 3/4" grade 5 hex bolts before reassembly.

TROUBLE SHOOTING

GENERAL

- 1. Check to see that the motor is wired correctly with tight connections, for the proper voltage.
- Check that wiring harness relay connections are wired correctly
- 4. Check for external leakage at cylinders, hoses and power unit.

2. Check reservoir oil level.

PROBLEM		POSSIBLE CAUSE		REMEDY	
1.	Plow does not attach to vehicle	A.	Receivers are tipped forward	A.	and rotate stop plate up to brace the lift frame before
		В. С.	Prongs recoil out of receivers when attaching Park stand pinned too low	В. С.	removing plow from truck Slowly drive into receivers and set parking brake Lower receivers by adjusting park stand.
2.	Pump motor does not run	A. B. C. D.	Defective solenoid Defective pump motor Weak or defective battery Bad electrical connections	A. B. C. D.	Replace solenoid Replace brushes or motor Charge or replace battery Clean and tighten connec- tions
		E.	Defective joystick control	E.	Replace control box
		F.	box Blown fuse supplying pow- er to control box	F.	Replace fuse
3.	Pump runs with joystick in neutral	A. B.	Defective solenoid Defective joystick control box	A. B.	Replace solenoid Replace control box
		C.	Wiring short	C.	Locate and repair
4.	Plow will not lower	A.	Reversed wiring on valve block	A.	Correct wiring
		В.	Defective joystick control	B.	Replace control box
		C.	box Defective lift return valve or coil	C.	Replace valve or coil
5.	Hydraulic cylinder does not	A.	Weak or defective truck	A.	Charge or replace battery
	function or functions slow- ly, motor runs	B. C. D.	battery Oil level low Hydraulic connection leak Solenoid valve not opening properly	B. C. D.	Add oil (do not overfill) Tighten or redo connection Replace valve
6.	Plow does not remain	A.	Leakage through pump	A.	Clean valve, or replace
	raised with joystick in "neu- tral" position	В.	check valve Leakage through solenoid	В.	Clean valve, or replace
		C. D.	lowering valve Internal leakage in cylinder Defective joystick control box.	C. D.	Repack or replace cylinder Replace control box

PROBLEM		POSSIBLE CAUSE			REMEDY	
7.	Angling cylinders relieve too easily or too difficultly while plowing	A.	Relief pressure set too low or too high	A.	Have relief pressure adjusted by Hiniker snowplow dealer	
8.	Oil leaks from cylinder(s)	А. В.	Loose packing Defective cylinder	А. В.	Tighten packing 1/8 turn Repack or replace cylinder	
9.	Battery goes dead with power to the control box on and joystick in neutral position.	A. B.	Short in wiring Defective joystick control box	A. B.	Locate and repair Replace control box	
10.	Battery goes dead with power to the control box off.	A.	Short in wiring	A.	Locate and repair	
11.	Plow lights are dim	A. B.	Bad connection(s) Lights not properly ground- ed	A. B.	Repair connection Properly ground	
12.	Plow does not clean-up snow from low areas	Α.	Joystick controller in neutral	A.	Controller should be in the down position (float)	
13.	In extremely cold tempera- tures, the oil in the hydrau- lic system is thickened, causing slow functioning of the plow	Α.	Cold temperatures	A. B.	As the system warms, the oil will thin out and function normally. Select Hiniker Cold Flow Hydraulic Oil for plowing in extremely cold temperatures.	
14.	Pump chatters when raising plow	A.	Hydraulic oil low	A.	Add hydraulic oil until chattering stops. Do not overfill.	
15.	Oil running out of cap on hydraulic reservoir	A.	Plowing on steeply inclined terrain	A.	change direction of plow-	
		В.	Too much oil	В.	ing Remove excess oil	
16.	Vehicle overheats with the plow on	А. В.	Vehicle coolant level low lce and snow buildup in grill	A. B.	Add coolant Remove ice and snow	
		C.	Insufficient airflow to engine compartment	C.	Transport plow at lower speeds	
17.	Plow lights do not operate with plow attached	A.	Light switch on joystick control box in "truck" position	A.	Move switch to "plow" position	
		В. С.	Defective relay	В. С.	Replace relay Replace joystick control box	
		D.	Blown fuse on vehicle accessory feed	D.	Replace fuse	
18.	Truck headlights do not operate properly with plow removed	A.	Light switch on joystick control box in "plow" position	A.	Move switch to "truck" position	
	moveu	В.		В.	Replace relay	

HINIKER WARRANTY

HINIKER SNOWPLOW LIMITED WARRANTY

The only warranty Hiniker Company (Hiniker) gives and the only warranty that any Hiniker dealer is authorized to give on behalf of Hiniker is as follows: (NO EMPLOYEE OR REPRESENTATIVE IS AUTHORIZED TO CHANGE THIS WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.)

Hiniker warrants to the original purchaser of a Hiniker snowplow that Hiniker will repair or replace any defects in material and workmanship that occur within two years from date of retail delivery except the following items: Hiniker warrants that it will repair or replace any defects in materials or workmanship with respect to the paint finish, any accessories, and service parts and components for a period of one year from date of retail delivery.

Hiniker's obligation and liability under this warranty is expressly limited to repairing or replacing, at Hiniker's option, at an authorized Hiniker dealer location, the defective parts at no charge to the original purchaser. HINIKER MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED AND MAKES NO WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE.

HINIKER'S OBLIGATION UNDER THIS WARRANTY SHALL NOT INCLUDE ANY TRANSPORTATION CHARGES TO OR FROM THE AUTHORIZED HINIKER DEALER LOCATION OR ANY LIABILITY FOR INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGE OR DAMAGES OF ANY KIND FOR LOST PROFITS **OR DELAY.** If requested by Hiniker, products or parts for which a warranty claim is made are to be returned freight prepaid to our factory. Any improper use, operation beyond rated capacity, substitution of parts not approved by Hiniker Company, or any alteration or repair in such manner as in our judgment affects the product materially and adversely shall void this warranty.

Hiniker reserves the right to make improvements or changes to any of it's products without notice. Such improvements or changes shall not trigger any obligation by Hiniker to update, modify or change any products previously sold by Hiniker.

HINIKER does not warrant the following:

- 1. Used products.
- 2. Any product that has been repaired, modified or altered in a way not approved by Hiniker Company.
- 3. Depreciation or damage caused by normal wear, lack of reasonable and proper maintenance, failure to follow Operators Manual Instructions, misuse, lack of proper protection during storage, or accident.
- 4. Parts replacement and service necessitated by normal wear or maintenance including, but not limited to, cutting edges, hoses, snowplow skid shoes, blade marker guides and hardware.
- Paint finish damage caused by normal wear.

Hiniker does not assume any liability for any damage to a motor vehicle resulting from the attachment or use of a Hiniker snowplow. Compliance with applicable motor vehicle regulations is the responsibility of the installer. Attachment of a Hiniker snowplow to a motor vehicle is at the risk of the purchaser.

It is the responsibility of the original snowplow purchaser to verify the original date of purchase.

A DELIVERY REPORT FORM must be filled out and received by Hiniker with 30 days of retail delivery at the address below to initiate the warranty coverage.

> **HINIKER COMPANY** 58766 240th Street Mankato, MN 56001 PHONE 800-433-5620 -- FAX (507) 625-5883 www.hiniker.com