



# INSTALLATION INSTRUCTIONS

## PLOW MOUNTING KIT

PART NUMBER: 83110  
APPLICATION: 2005+ SPORTSMAN 500

Your safety, and the safety of others, is very important. To help you make informed decisions about safety, we have provided installation and operating instructions and other information on labels and in this guide. This information alerts you to potential hazards that could hurt you or others. It is not possible to warn you about all potential hazards associated with this product, you must use your own good judgment.

CARELESS INSTALLATION AND OPERATION CAN RESULT IN SERIOUS INJURY OR EQUIPMENT DAMAGE. READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND OPERATING INSTRUCTIONS BEFORE INSTALLING AND OPERATING THIS PRODUCT.

This guide identifies potential hazards and has important safety messages that help you and others avoid personal injury or death. **WARNING** and **CAUTION** are signal words that identify the level of hazard. These signal words mean:

**▲WARNING** signals a hazard that *could* cause serious injury or death, if you do not follow recommendations. **▲CAUTION** signals a hazard that *may* cause minor to moderate injury, if you do not follow recommendations.

This guide uses **NOTICE** to call attention to important mechanical information, and **Note**: to emphasize general information worthy of special attention.

### ▲ WARNING

#### INJURY HAZARD

Failure to observe these instructions could lead to severe injury or death.

- Always Read the Plow Operator's Manual, the Winch Operator's Manual and all warning labels before operating.
- Always use extreme caution when drilling on any vehicle. Make sure that all fuel lines, brake lines, electrical wires, and other objects are not punctured or damaged when/if drilling on the vehicle. Thoroughly inspect the area to be drilled (on both sides of material) prior to drilling, and relocate any objects that may be damaged. Failure to inspect the area to be drilled may result in vehicle damage, electrical shock, fire or personal injury.
- Always wear safety glasses when installing this kit. A drilling operation will cause flying metal chips. Flying chips can cause eye injury.
- Always use extreme caution when cutting and trimming during fitting.
- Always remove jewelry and wear eye protection.
- Never lean over battery while making connections.
- Never route electrical cables:
  - Across any sharp edges.
  - Through or near moving parts.
  - Near parts that become hot.
- Always insulate and protect all exposed wiring and electrical terminals.
- Always install terminal boots as directed in installation instructions.
- Always use appropriate and adequate care in lifting components into place.
- Always insure components will remain secure during installation and operation.
- Always tighten all nuts and bolts securely, per the installation instructions.
- Always operate the vehicle at a walking speed with the blade installed. Never exceed 5 mph (8 km/h), even with blade up.
- Always plow cautiously, impact with hidden or stationary object may cause the vehicle to stop suddenly or go out of control.
- Never operate the vehicle on slopes greater than 10 degrees with the plow installed.
- Never stand or ride on the plow.
- Always stay clear of moving parts and joints. Always keep others away when operating or adjusting plow.
- Always perform regular inspections and maintenance on the plow mechanism, fasteners, cable and related hardware.
- Always replace all worn or damaged parts before operating.
- Never operate this WARN product with damaged or missing parts.
- Always drive slowly over bumpy and rough terrain. Driving at speeds that cause the plow to bounce while in the up position can cause the winch to back-drive, causing the plow to work its way down. This may result in the plow impacting a stationary object and cause damage to the vehicle and operator injury or death.
- Always drive at speeds such that the plow does not bounce and be aware of the plow position while driving at all times.
- Always be aware that the purpose of the j-bolt is to break the connection between the plow and the winch, to prevent serious damage to the ATV if the plow is raised too high. The plow blade will drop suddenly if the j-bolt breaks, so always be sure there are no bystanders when you raise and lower the plow.
- Never raise the top of the plow above the headlights of the ATV, as it may damage the vehicle and plow.
- Always replace a deformed or broken j-bolt with the spare j-bolt included in the kit.

<b>⚠ CAUTION</b>
<b>Moving Parts Entanglement Hazard</b>
<b>Failure to observe these instructions could lead to minor or moderate injury.</b>
<input type="checkbox"/> <b>Always</b> take time to fully read and understand the installation and Operations Guide included with this product. <input type="checkbox"/> <b>Never</b> operate this product if you are under 16 years of age. <input type="checkbox"/> <b>Never</b> operate this product when under the influence of drugs, alcohol or medications.
<b>Read installation and operating instructions thoroughly.</b>

<b>Notice</b>
<b>Equipment Damage</b>
<input type="checkbox"/> <b>ALWAYS</b> REFER TO THE INSTALLATION AND SPECIFICATION GUIDE, SUPPLIED IN THE WINCH KIT, FOR ALL WIRING SCHEMATICS AND SPECIFIC DETAILS ON HOW TO WIRE THIS WARN PRODUCT TO YOUR VEHICLE. <input type="checkbox"/> <b>Never</b> overtighten the j-bolt to the bracket. Doing so will pinch the winch cable against the bracket, damaging the cable. <input type="checkbox"/> <b>Always</b> put the end of the actuator cable through the slot in the Termination Bracket. Terminating the cable through any other hole in the bracket will cause the bracket to not function properly and will drastically reduce the life of the actuator cable.
<b>Read installation and operating instructions thoroughly.</b>

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**II. TOOLS REQUIRED**

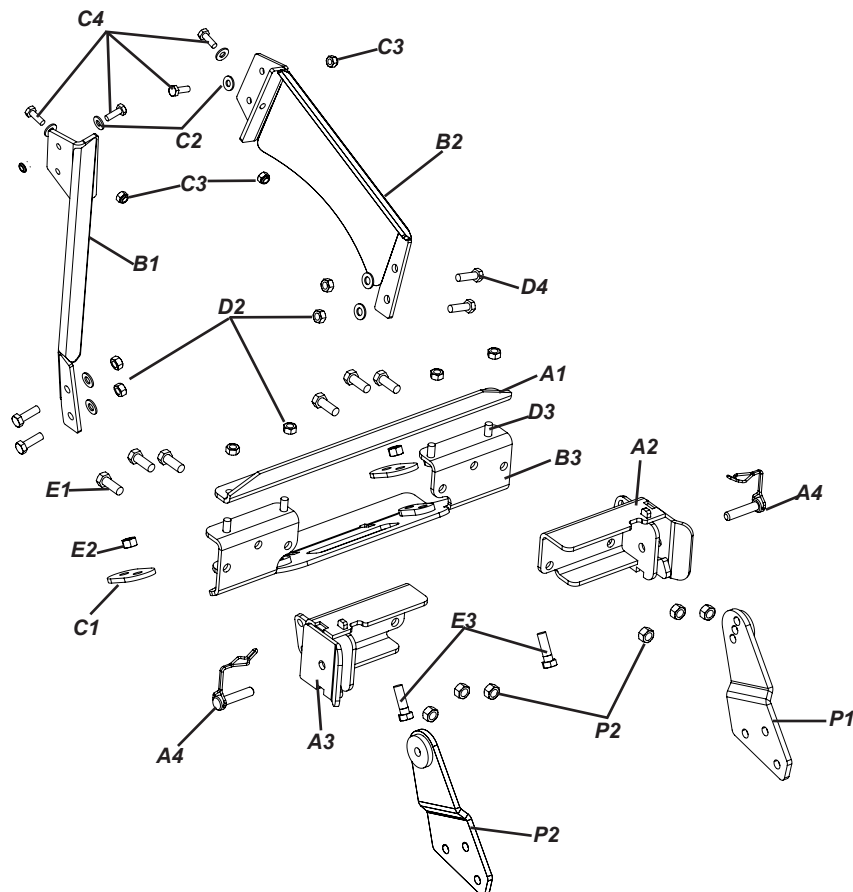
- 3/8" Ratchet with 3-1/2" Extension
- T25 Bit, Flat Head Screwdriver
- 7/16" Deep Socket
- 9/16", 1/2" Socket
- 9/16", 7/16", 1/2" Wrench

**III. TORQUE SPECIFICATIONS**

1/4	8 lb. ft. (10.8 N-m)
5/16	17 lb. ft. (12.5 N-m)
3/8	30 lb. ft. (40.7 N-m)
7/16	50 lb. ft. (67.8 N-m)
1/2	75 lb. ft. (101.7 N-m)

## IV. PARTS LIST

<i>Reference</i>	<i>Description</i>	<i>Qty</i>
A1	Back Bracket	1
A2	Left-Hand Assembly Bracket	1
A3	Right-Hand Assembly Bracket	1
A4	L-Clop Retaining Pin	2
B1	Right-Hand Upright Assembly	1
B2	Left-Hand Upright Assembly	1
B3	Lower Bracket Assembly	1
C1	Frame Clamp Plate	1
C2	5/16" Flat Washer	4
C3	1/4" Nylock Nut	4
C4	1/4-20x3/4 Hex Capscrew	4
D1	5/16" Flat Washer	8
D2	1/4" Nylock Nut	4
D3	5/16-18x3/4 Hex Capscrew	4
D4	5/16-18x1 hex Capscrew	4
E1	3/8-16x1 Hex Capscrew	6
E2	3/8" Nylock Nut	8
E3	3/8-16x1.25 Hex Capscrew	2
P1	Plow Offset Tab - Right	1
P2	Plow Offset Tab - Left	1



## V. INSTALLATION

1. Remove front cargo box. Use a 1/2" socket and ratchet to remove the (4) bolts near the center of the box that secure the box to the frame.



*Figure 2*

2. Use a Torx T-25 screwdriver to remove (8) screws securing the front body to the cargo box.

Remove (2) on each side located near the box latch (Figure 3).



*Figure 3*

Remove (2) on each side located in wheel well securing the outer fender to box.

3. Use a 1/2" socket and ratchet to loosen the top bumper bolts (Figure 4).

Loosen these bolts to allow the front bumper to rotate slightly but do not remove.



*Figure 4*

## INSTALLATION Continued

4. Remove the bolts securing the front bumper/grill to the frame (Figure 5). Use 1/2" socket and ratchet to remove these bolts.



*Figure 5*

5. Remove the radiator side covers (Figure 6).

Use a flat blade screwdriver to remove the plastic rivets (3) securing the covers on each side of bumper. The center part of the rivet will be pulled up to allow the rivet to be pulled out of bumper.



*Figure 6*

6. Install the frame clamp plates (Figure 7).

Lay these plates in the front part of frame until the lower frame bracket is installed.



*Figure 7*

## INSTALLATION Continued

6. Install the lower frame bracket (Figure 8).

Pull the front bumper away from the frame at the lower attachment so that the lower bracket can be installed.

This bracket has features on the back that will fit into the frame to locate the bracket.

Secure the lower bracket to the frame with black 3/8"x1-1/4" bolts, clamp plates and 3/8" lock nuts.



*Figure 8*

Install the fasteners but leave them a little loose to allow all fasteners to be installed.

7. Install plow cradle brackets (Figure 9).

Secure both the left and right bracket assemblies to the lower bracket with 3/8"x1" bolts and lock nuts.



*Figure 9*

These bolts may be torqued to specification at this time. See torque specification table.

8. Install the back bracket (Figure 10).

Insert the back bracket behind the radiator from the left side so that the bent flange is close to cooling fans. This bracket will just fit between the radiator support and front differential.

Secure this bracket to the lower bracket with 5/16"x3/4" bolts and lock nuts.

These bolts may be torqued to specification at this time. See torque specification table.



*Figure 10*

9. Install the upright frame braces (Figure 11).

Secure both the left and right uprights to the back of the cradle brackets with 5/16"x1" bolts and lock nuts.

Flat washers have been included in this kit to shim the brackets as needed.

Install the fasteners but leave them a little loose to allow all fasteners to be installed.

10. Secure the upright frame braces to frame (Figure 12).

Install the 1/4" bolts to secure the upright frame braces to the frame. The 1/4" flat washers provided will be installed inside the frame.

A zip tie on right frame member may need to be removed to install this brace. Install a new zip tie to secure the wires as needed in a new location.

Tighten all bolts at this time. See torque specification table for recommended torque for all fasteners.

Secure the bottom of bumper to the frame (Figure 13).

Use the original fasteners removed from the bumper. The holes in the front bumper may need to be files a small amount to allow the bolts to pass through straight.

The lower section of the front bumper (Figure 14) will need to be bent in or trimmed to clear the plow bracket assembly.

Be sure that the plow retaining pin can be installed in plow mount.



Figure 11



Figure 12



Figure 13

11. Trim the axle brush guards (Figure 14).

The axle brush guards will need to be trimmed to clear the Upright frame braces. Use a saw or tin snips to remove material from the brush guard so that there is at least ½"-1" of clearance to the frame brace.

Notch the corner of guard from Polaris logo to end closest to differential.



Figure 14

12. Install front cargo box and bumper side shields

Tighten the upper bumper bolts (Figure 4).

Now the front cargo box may be reinstalled. Loosely install a fasteners removed from the box. Tighten the fasteners to the frame and then tighten the fasteners securing the front plastic to the cargo box.

Reinstall the bumper side shields as shown in Figure 14. The lower part of side shields will need to be trimmed to clear plow mount and retaining pins. Use the plastic rivets removed from the shields to secure them.

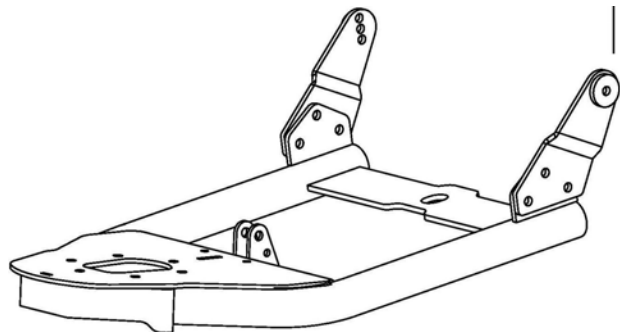


Figure 15

13. Finally, install the plow mounting tabs include in this kit to your plow tube assembly (Figure 16).

Place these tabs on the outside of the tube flanges with the locating puck toward the outside of the tube assembly. Install these loosely on the plow with the fasteners provided with the plow.

Make sure the plow and vehicle are on flat level surface with the vehicle wheels straight. Place the plow in the mount so the locating pucks are resting in the mount cradle. Install the retaining pins.

Tighten the fasteners securing the tabs to the tube assembly. Torque to 3/8" specification or specification provide in plow assembly instruction.



Figure 16



## **VI. MAINTENANCE/CARE**

- Inspect all metal parts on the plow, plow mount, and related hardware. Replace all parts that appears rusted or deformed prior to use.
- Inspect all nuts and bolts on the plow, plow mount, and related hardware prior to each use. Tighten all nuts and bolts that appear to be loose. Stripped, fractured, or bent bolts or nuts need to be replaced immediately.
- Check all cables prior to use. Replace cables that are worn or frayed.
- Check all moving and rotating parts. Remove debris that may inhibit the part from moving freely.