



Deere "G & GP" Series Snow Wing Installation



Model: _____

Serial Number: _____

Rev. 01/19

Rylind Manufacturing, Inc.
2801 Youngfield St
Suite 250
Golden, CO 80401

Offices: 303-979-3548
Fax: 303-979-4730
www.Rylind.com
Info@rylind.com

- Thank you for purchasing a Rybind Attachment. For proper installation and operation for your Rybind Attachment this book **SHOULD BE READ COMPLETELY BEFORE BEGINNING INSTALLATION OR OPERATION OF THE EQUIPMENT.**
- Your safety and the safety of others depend on the proper installation, operation, maintenance, and understanding in the use of this equipment.
- Some photographs and installations in this manual may show details of this attachment that may be slightly different from your unit.
- Continuing improvements and advancements of this product may occur at any time.
- Any unauthorized modification to this product or lack of maintenance, proper use, or unsafe operating techniques will not be covered under warranty, further more Rybind Manufacturing reserves the right to void the warranty on some or all the equipment installed on that unit.
- If any questions arise during installation or maintenance of your product please consult your dealer or contact Rybind Manufacturing's corporate offices. 303-979-3548

Thank you for your business.

Snow Wing Installation



Figure 1



Figure 2



Figure 3

1. Install rear mounting bracket assembly on rear of grader if there is not a ripper currently installed. Using six (6) of the #24x2 metric bolts and SAE flat washers into the tapped ripper mounting holes on the back of the grader. If there is a ripper on the grader, slide the ripper mount into the furthest scarifier slot and install T-lock. **See figures 1-3**
2. Remove the ladder from the right side of grader, retain mounting bolts.
3. Mount the hydraulic manifold on the grader's right side ("GP" Grader Only), using the existing step ladder holes and factory OEM bolts. **See figure 4.**
 - a. *"G" Series Grader will have mounting bracket on mounting arm that connects to the mast.*

FIGURE 4



"GP" Grader



"G" Grader

4. Remove the adapter plate from the belly mount, retaining the bolts, nuts, and lock washers.
Figure 5a
5. Bolt the mounting plate to the under belly of grader, use existing tapped holes on grader with the provided M24 x 65 bolts and 7/8" SAE WASHERS, **Figure 5a & 5b**
6. Belly Mounting bracket bolts to the adapter plate with the already pre-assembled GR8 3/4 x 3 bolts, nuts, and lock washers.

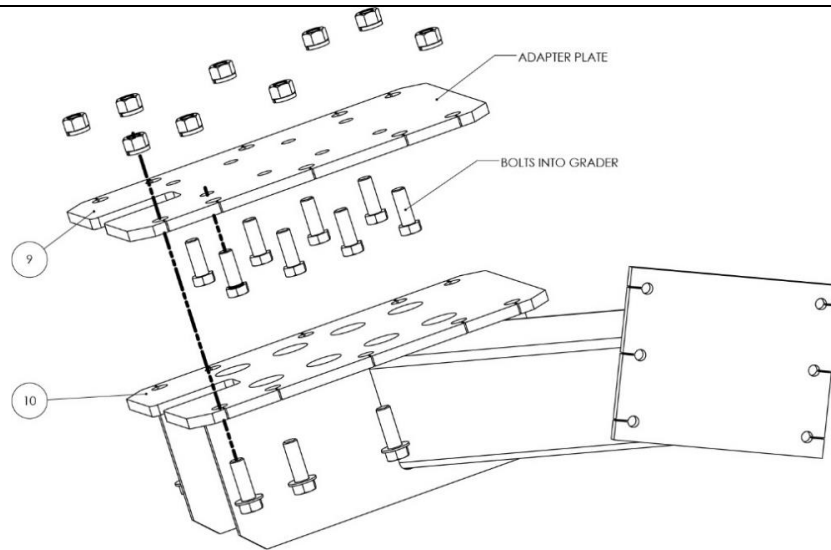


Figure 5a



Figure 5b

7. Bolt the 48" or 60" hydraulic front mast onto belly mount using six 3/4" x 2-1/2" bolts lock washers and nuts provided. **DO NOT** fully tighten bolts until brace pipes are installed. See figure 6



Figure 6

8. Install Angle Brace Pipe mounting bracket on the grader using (2) of the M20 x 50 bolts with 3/4" SAE washers. **Figure 7a & 7b**

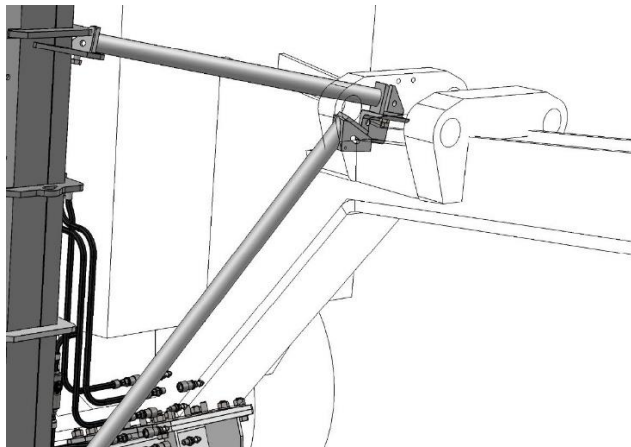


Figure 7a

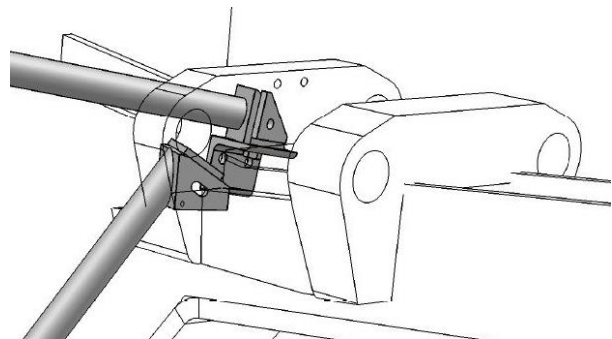


Figure 7b

9. Bolt 42-1/4" upper brace pipe onto grader using 3/4" x 2" bolt, lock washer, and nut with angled gusset facing towards cab of grader. See figure 7a & 7c
10. Bolt 57-3/4" pipe onto front mast using 3/4" x 2" bolt, lock washer, and nut. See figure 7a & 7c



Figure 7c

11. Tighten all bolts on mast and brace pipes until lock washers are flat. (*See Instructions 23-27 for extra brace pipes on Hydraulic Rear Mast option*)
12. Mount wing moldboard to front mast swivel assembly. By using 2" moldboard pin/nut. Leave just enough slack for moldboard to move freely.
13. Mount tilt cylinder to front mast using a 1" x 3-1/2" G5 bolt and lock nut. Make sure the bracket on mast is turned so hole is toward the top. Mount rod end to float lever using a 1" x 3-1/2" bolt and lock nut. **See figure 8a & 8b**



FIGURE 8a

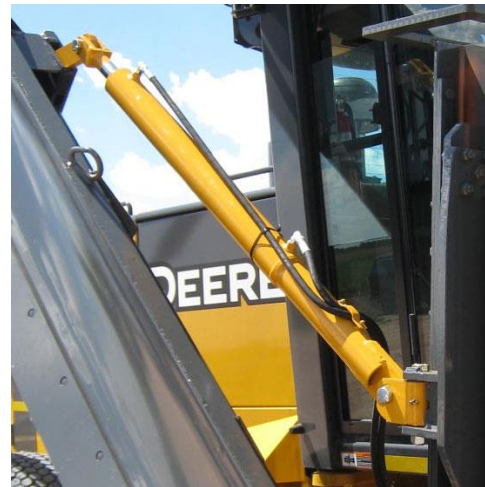


FIGURE 8b

14. Mount outer tube of the rear push pipe assembly to the rear mounting bracket using 1"x3-1/2" bolt and lock nut, install 7/16" grade 8 shear bolt to push arm. Make sure safety cable clevis loop is between the grader and the push pipe itself not on the outside. **See figure 9**



FIGURE 9



FIGURE 9b

17. Mount other end of the push pipe to the snow wing moldboard mounting bracket using 7/8" x 3-1/2" bolt and lock nut. **See figure 9b**
18. Mount 1/2" cable to slide and grader end of push pipe using the orange clevises provided. **See figure 9 as safety cable position reference**
19. If not already mounted, bolt counter balance valve on the back of front mast using 5/16" x 4-1/2" bolts lock washers and nuts, with "C1" and "C2" port pointed towards rear of grader. **See figure 10**



FIGURE 10

20. **If not already installed**, install 64" hose to first port on the tilt cylinder. Install the 98" hose to the furthest port on the tilt cylinder. Run hose's along outside of tilt cylinder and then under and through tilt cylinder toward inside, connect the opposite end of hoses to "C1" and "C2" on counter balance valve. Connect 51" hose to "v2" on counter balance valve and connect hose to the manifold, either "TC" ports can be used. Connect 53" hose to "V1" on counter balance valve and attach hose to the manifold. Use the existing "TC" port.
21. Install 72" hoses from bottom of front mast lift cylinder; connect to hose manifold marked "FM". Either "FM" ports can be used.

22. Connect the return line to “T” marked on counter balance valve, Connect the other end of return line to “R” on manifold.

Hydraulic Rear Mast Only

23. Bolt on Rear Hydraulic Mast if not already done using six 3/4” x 2-1/2” bolts, lock washers, and nuts. **DO NOT** tighten bolts all the way
24. Connect the input and return hoses to existing ripper hydraulics. (hoses not provided)
25. Install 36-1/2” brace pipe on the right hand of the Hydraulic Rear Mast using 3/4”x2” bolt, lock washer, and nut placing the opposite end of the pipe towards the tandem axel of the grader.
26. Install the L-Bracket on the tapped hole on the grader frame using the #20x2” bolt, **DO NOT** tighten completely. Bolt brace pipe to L-Bracket using 3/4”x2” bolt and lock washer. **See Figure 11**



Figure 11

27. Using 3/4”x2” bolts, lock washers, and nuts install the 41” brace pipe from the back of hydraulic rear mast across rear of grader down to the rear mast mounting bracket installed on grader.
28. **Tighten all bolts on hydraulic rear mast and brace pipes till lock washers are flat.**

START UP- INSPECTION- OPERATION

1. Be sure to grease all pivot points. Use either graphite grease or anti seize material to lubricate the mast slides.
2. Check all hoses to make sure they are tight.
3. Start grader and allow it to run for 10 minutes. Do not articulate grader at this time. Then move all cylinders up and down just a few inches to make sure levers are pulled that either end of wing moves upward.
4. Move front mast lift cylinder up and down multiple times to insure unrestricted movement.
5. To raise the wing into "Roading" position raise the front about 16" to 20" off the ground with the rear mast down. Then fold wing up against the side of grader.
6. With the wing up check to see if it falls past center toward grader. If the wings falls or acts like it might fall, it may be necessary to shim up the bar stop on the moldboard where the push pipe hits.
7. Before articulation of the grader it is wise to check the pressure on counterbalance valve, which is a lock valve and a by-pass valve in one. To do this, insert a gauge between counterbalance valve and rod end of tilt cylinder. It must be on cylinder side of counter balance valve. Start the grader having wing in road position. Start articulating to left, pressure gauge should build to about 1500 to 1700 PSI then start to bypass. If pressure builds above this then adjust. Check the other port. (Above valve is usually set by the manufacturer. This is only a precaution to prevent damage.)
8. On some models it may be necessary to move moldboard away from side of grader 2' to 3' ft when completely articulating.
9. Install safety cables with a double end clevis on front mast sling ring. Screw clevis attaches to the moldboard. Chain must always have enough slack to let grader articulate. Always remove safety cable when moving moldboard down to prevent damage.
10. When operating wing remember that it has a mechanical float at both the leading edge and outer edge of moldboard. This can be over-ridden by extending tilt cylinder out. When over-riding the float, caution should be used.
11. When using wing, position rear push pipe assembly so that it is generally in a straight push with moldboard.

12. Only use a 7/16" grade 8 bolts in the push pipe assembly.
13. Smooth and even movement of your all hydraulic wing will give you better performance and lasting durability.
14. Lubricate all pivot points and slides daily. It may be necessary to wash out slide areas to remove sand and grit before lubricating.
15. Check and tighten bolts, hydraulic hoses and adjustments daily.
16. **Caution:** when this wing is folded into "Rading" position, movement of front and rear mast cylinders may cause damage. Some movement is possible with caution.
17. **Caution:** check to see if it is possible to articulate grader without hitting tires. It may be necessary when articulating to let moldboard out 2 to 3 feet.
18. Use care when rotating grader moldboard not to cause damage to wing structures by contact with grader moldboard.
19. You're safety and the safety of others depends on the care and judgment in the operation of this attachment. A careful operator is good insurance against an accident.
20. Unauthorized modification of this unit or lack of maintenance and operating techniques may lead to voiding the warranty on this or all Rybind attachments installed on the Motor Grader.

Maintenance

Rylind RW12, RW13, & RW14 Snow Wings must be maintained regularly during in season use. Inspection must be carried out every 8 hour of operation. Any damaged components, bends, cracked welds, or hydraulic leaks need to be fixed immediately. It is recommended to re-torque all bolts after the first 8 hours, and to regularly check for loose and/or missing fasteners. Replace any damaged or missing fasteners immediately.

Because of the environment that snow equipment operates in. Damage to hydraulic lines, fasteners, wearable and replaceable items may become damaged. These times must be inspected and replaced if necessary to avoid damage or personal injury.

Lubrication of moving parts is extremely important. Snow, Ice, salt, and road debris can and will wash away lubrication and it may be necessary to inspect and reapply more lubrication more than once a day.

END OF SEASON MAINTENANCE

1. Replace any broken cutting edges, uneven or excessively worn down cutting edges, and any broken wear guards.
2. Replace broken or missing bolts, shear pins, or wear parts.
3. Replace any missing or broken bolts. Use Grade 8 plow bolts on steel cutting edges.
4. Plug or cap any QC Fittings or open hose ends, inspect hoses for any leaks or cracks, secure hoses to A-Frame when storing plow.
5. Check Cylinder for leaks or any damage to chrome rod ends. Lightly greasing exposed rod ends is recommended when storing plow.
6. Check pins, bushings, and pivot bolts on plow moldboard and wing mast. Replace any damaged or worn parts.
7. Check wing for any fatigue or cracked welds
8. **Replace all worn or broken parts found before storing wing.**



Business Offices Only
2801 Youngfield St
Suite 250
Golden, CO 80401

P) 303-979-3548
F) 303-979-4730
www.Rylind.com
Info@rylind.com

LIMITED WARRANTY

Rylind Manufacturing Inc. Is a company related to and having the responsibility for the manufacturing, marketing, and distribution of the product line known by the registered trade name "Rylind"

Rylind Manufacturing, Inc. warrants these products to be free of defects in material and/or workmanship for a period of one (1) year or 2,000 hours from the date of purchase under normal use and service providing that:

- A. All products and related components are installed properly according to instructions and that proper maintenance and greasing of movable parts is completed on a regular basis.
- B. The attachment products and related components are used only for the purpose for which they were intended as designated by the manufacturer and that the rated capacities are not exceeded.
- C. This is a "PARTS ONLY" warranty for defects in hydraulic components not typical maintenance parts (i.e. seal kits, hydraulic hoses, cylinders, or vendor supplied valves). This means the hydraulic part will be replaced freight prepaid from the factory. Travel time or labor to replace the defective component is "NOT" included in this warranty. Return of the defective parts for inspection may be requested.
- D. Hydraulic kits and components are warranted for one (1) year from invoice date. Cylinders must be returned in their entirety and not have been disassembled to be considered for warranty. After warranty replacement parts include cylinders, hydraulic valves, seal kits, electric components, and wear parts are warranted for 90 days from the date of purchase. Disassembly, modification or welding of any kind without the written permission of Rylind Manufacturing voids the warranty on the cylinder and seals. All warranty components must be packaged and sealed to avoid contaminants from entering during shipping. Improperly packaged components will not be considered for warranty. Hydraulic hoses are warranted against failure due to workmanship. Improper installation, ripping, cutting, or wear due to rubbing is not covered under warranty.
- E. Defects in materials and/or workmanship with respect to welding or structural failures will be paid at a rate not to exceed 70% of the advertised charge out rate. Repairs must be authorized by Rylind before work proceeds. Travel time or mileage is "NOT" included. All warranty work to be performed must be authorized by Rylind Manufacturing, Inc. Repair or replacement will be at our discretion. Estimates of the total costs involved must be given to us before proceeding with any work involving a Rylind product. No warranty will apply to products that have been modified or repaired without our authorization. Normal wear and tear will not be considered as a defect. Accidents, misuse or negligence does not justify warranty. This warranty does not

include or cover purchased subassemblies including, but not limited to, teeth, fork tines, cylinders, wear plates, edges, etc... Such purchased subassemblies are covered only by the OEM's warranty, if any, of their respective manufacturer, and not Rybind Manufacturing.

F. Limitations

- a. This limited warranty does not cover product, which in the opinion of Rybind, is damaged due to abuse, misuse, misapplication, prohibited operation, improper maintenance, alteration, unauthorized service, contamination by the base machine, or normal wear and tear. This warranty is null and void if the product is modified in any way without the written consent or instruction of Rybind.
 - b. This limited warranty is null and void if the product is used in a prohibited operation, or unauthorized adjustment/assembly/disassembly has occurred.
 - c. Dealers or Agents of Rybind have no authority to make any type of representation or warranties on behalf of Rybind Manufacturing beyond those expressly set forth in this document.
 - d. This warranty is in lieu of and excluding all other warranties preceding it including and without limitation to any implied warranties of merchantability or fitness for a particular purpose.
- G. In no event shall Rybind be liable to any party, including but not limited to buyer for any direct, incidental, consequential, punitive, or special damages, including but not limited to loss of profits, loss of productivity, in any way related to or arising, directly or indirectly from the product. The liability of Rybind for any and all losses and damage to buyer, its successors and assigns, resulting from any cause whatsoever, including the negligence of Rybind, irrespective of whether such defects are discoverable or latent, shall in no event exceed the purchase price of the product with respect to which such losses or damages are claimed.
- H. All returned products must be shipped to the following address to avoid any delay or expense in the warranty process:

Rybind Manufacturing, Inc.
Warranty/Service Department
16178 Front Ave
Atwood, CO 80722