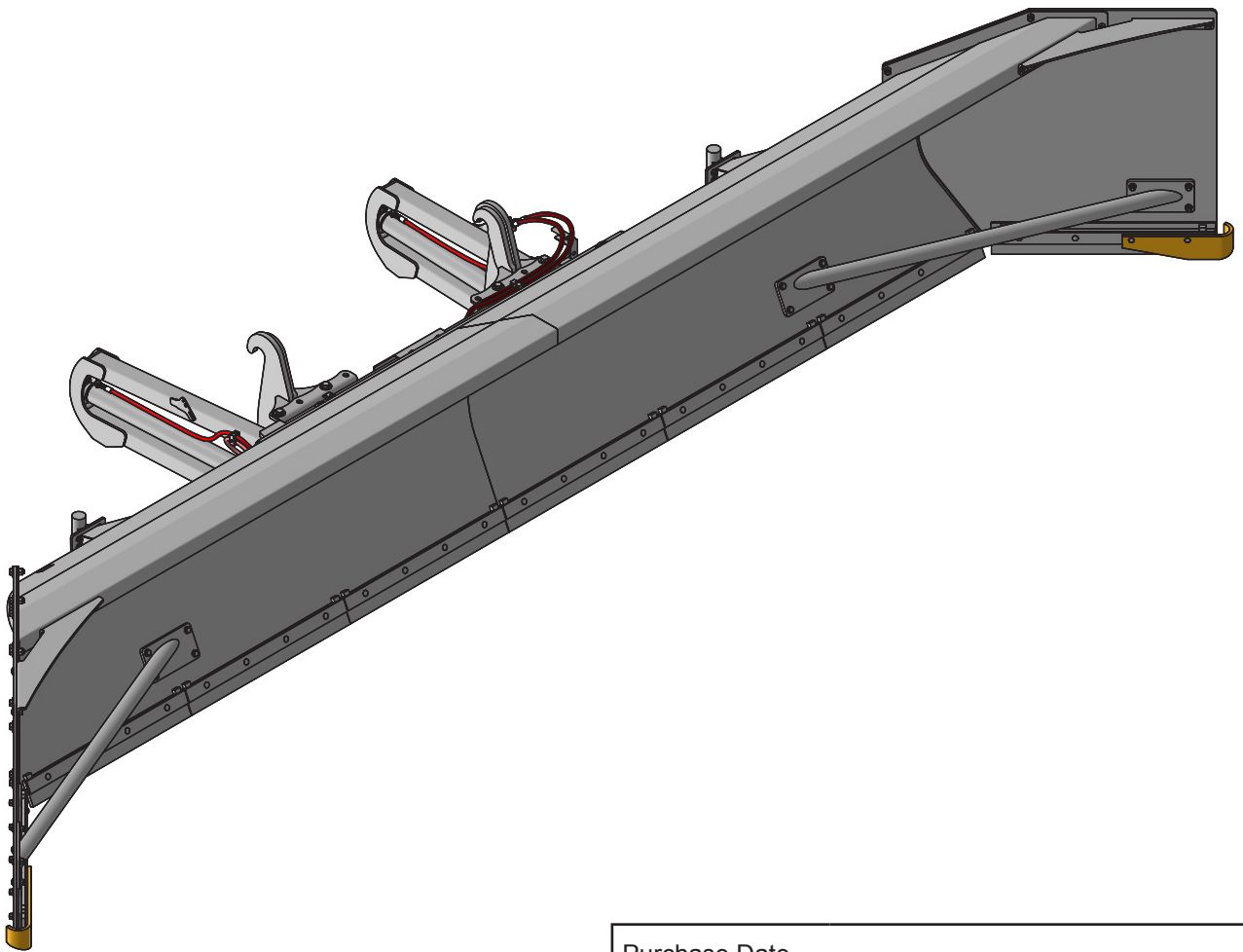




Air Pro 30R

Owner's Manual & Parts Book



Grouser Products
755 2nd Ave NW - West Fargo, ND 58078
Phone: 1-800-747-6182
Fax: 1-701-282-8131
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Website: www.grouser.com

Purchase Date	
Serial Number	10205244
Model Number	
Tractor Model	
Dealer	

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Thank you for your recent purchase of a Grouser Air Pro 30R. Welcome to the family of satisfied Grouser blade owners. Grouser Products is committed to offering quality products to help professionals in their daily jobs. We are also committed to providing you the highest level of customer satisfaction possible. Again, thank you for your patronage. We look forward to serving you.

This manual contains information concerning the operation, adjustment, safety and maintenance of the Air Pro 30R. You have purchased a dependable, long lasting piece of equipment. You can expect to receive long lasting performance and long service built into our products with proper care and operation. Please have all operators read and understand this manual carefully. Keep the manual available for reference. If, for any reason, you have questions or comments, we would be happy to hear from you. Call our toll-free number, 800-747-6182, or send us an e-mail at info@grouser.com. You can expect us to respond to your e-mail in a timely manner.

A careful operator is the best operator. Most accidents can be avoided by observing certain precautions. To help prevent accidents, read and take the following precautions before operating this equipment. In addition, please follow all safety and operational instructions of your tractor manufacturer.

The Air Pro 30R:

1. The Air Pro 30R should be operated only by those who are responsible and instructed to do so.
2. Read the owner's manual carefully before using this equipment. Lack of operating knowledge can lead to accidents.
3. Keep the Air Pro 30R maintained in reliable and satisfactory condition to ensure your safety.
4. Make sure the area is clear of people before moving any equipment.
5. Do not modify or permit anyone else to modify or alter the equipment and its components without first consulting Grouser Products.
6. Lower the blade to the ground when not in use.

Servicing the Air Pro 30R:

1. Read and follow all safety instructions provided by the tractor manufacturer.
2. Always use proper personal safety gear when performing maintenance on equipment.
3. Before servicing, relieve hydraulic pressure, stop engine and fully engage parking brake.
4. Escaping hydraulic fluid under pressure can penetrate skin causing serious injury. If fluid is injected into skin, obtain medical attention immediately.
 - DO NOT use your hand to check for leaks. Use a piece of cardboard or paper to search for leaks.
 - Stop the engine and relieve pressure before connecting or disconnecting lines.
 - Tighten all connections before starting the engine or pressurizing lines.

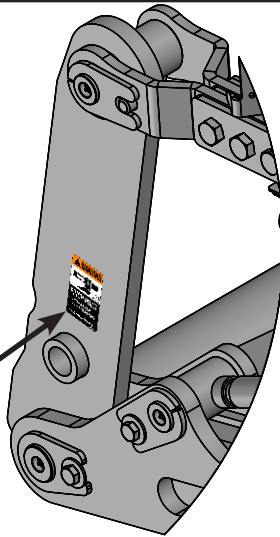
Storing the Air Pro 30R:

1. Thoroughly clean the inside and outside of the Air Pro 30R before storage. Use paint where necessary to prevent rust.
2. Check the Air Pro 30R for worn or damaged parts. Install new parts as required.
3. Lubricate all pins and joints.

Tighten all bolts to the values listed below unless otherwise noted. Refer to the parts lists for proper length and grade of the bolts.

Size	Torque - Dry (ft-lbs)			
	SAE Grade 5		SAE Grade 8	
	UNC	UNF	UNC	UNF
5/16	17	19	24	27
3/8	30	35	45	50
7/16	50	55	70	80
1/2	75	85	110	120
9/16	110	120	150	170
5/8	150	170	210	240
3/4	260	300	380	420
7/8	430	470	600	670
1	640	720	910	1020

Size	Torque - Dry (ft-lbs)
	Grade 10.9
M18 x 2.50	284
M20 x 2.50	401
M22 x 2.50	547
M24 x 3.00	694



WARNING

PINCH POINT
 AVOID INJURY FROM
 FRAME PIVOT AND STOPS.
 • Keep hands and feet away.

27-9503

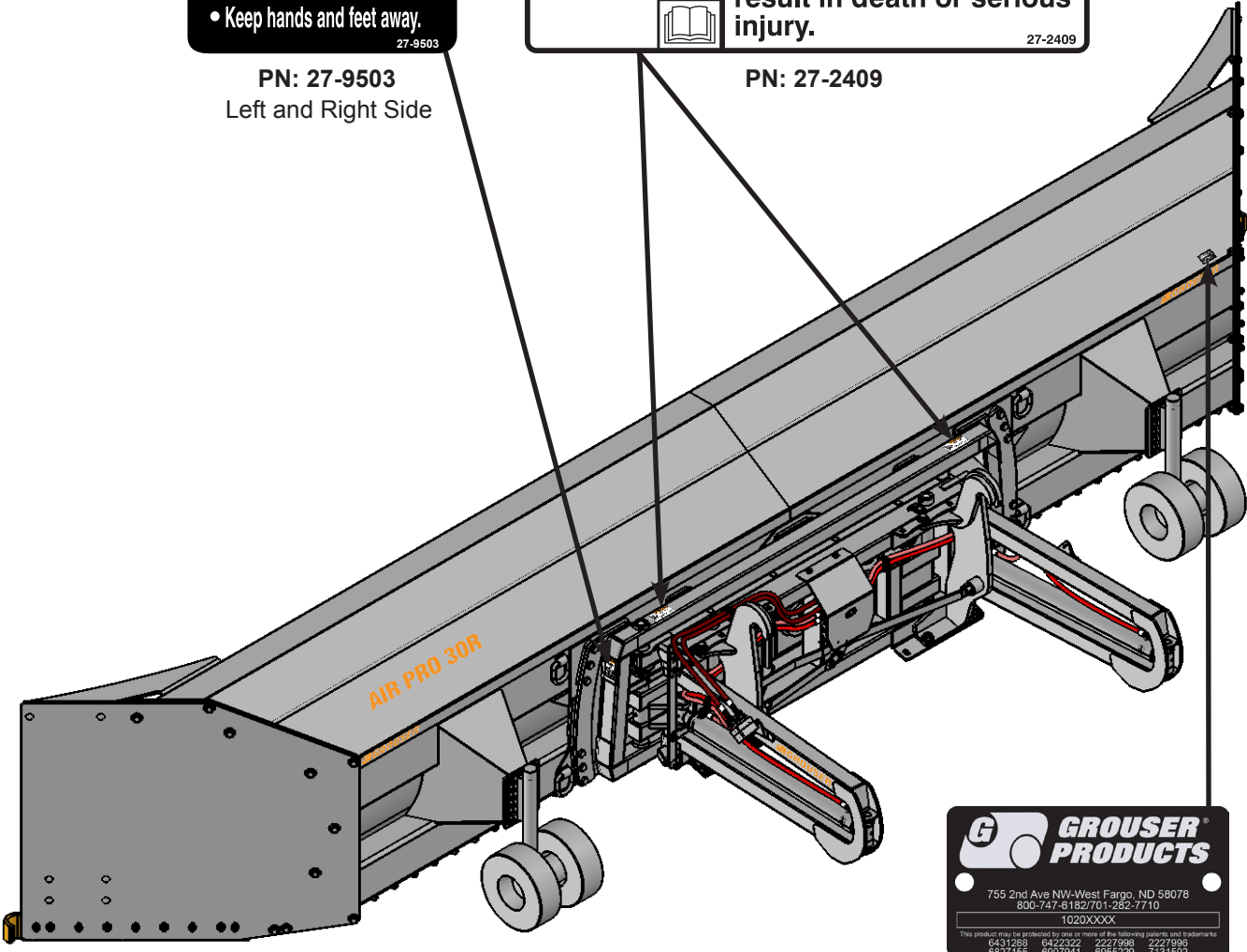
PN: 27-9503
Left and Right Side

WARNING

PINCH AREA
 Keep away
 Failure to comply could
 result in death or serious
 injury.

27-2409

PN: 27-2409



GROUSER PRODUCTS

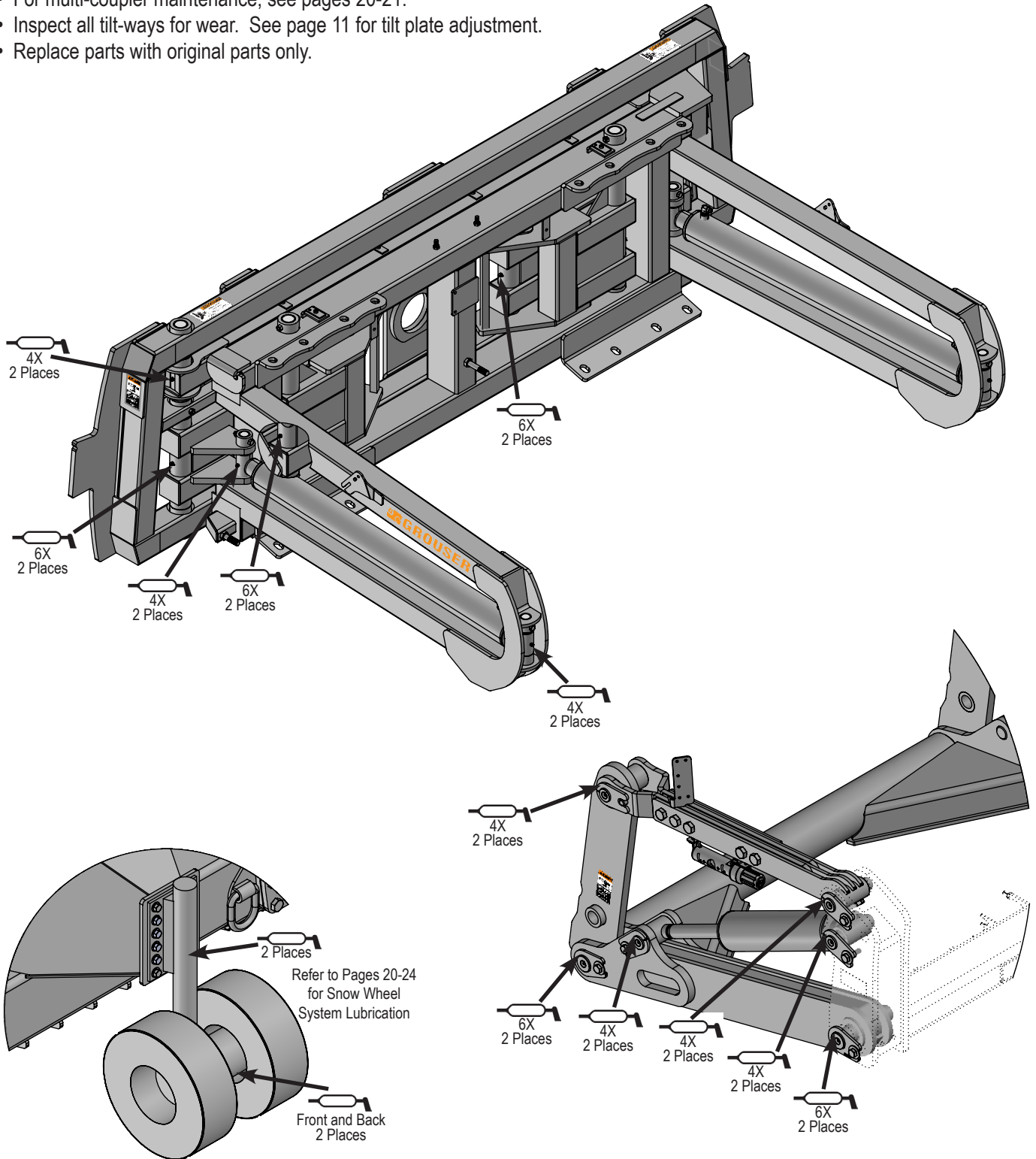
755 2nd Ave NW-West Fargo, ND 58078
 800-747-6182/701-282-7710

1020XXXX

This product may be protected by one or more of the following patents and trademarks:
 6431289 6422322 2227088 2227998
 6827155 6807941 6856229 7131502

Due to the harsh environment this equipment operates in, the following tasks should be performed every 10 hours or less.

- Inspect all equipment before operation for existing or potential damage.
- Lubricate all joints with high quality grease. See below for grease locations.
- Inspect all bolts, and tighten any loose bolts to torque specifications on page 3.
- Check replaceable cutting edge for wear ensuring there is enough material to prevent permanent damage to the Air Pro 30R. For cutting edge information, see pages 29-34.
- Check hydraulic cylinders and hoses for damage or leaks. For replacement parts, see hydraulic pages.
- Make sure all non-rotating pins are secured properly.
- Inspect all decals and order replacement decals from your dealer if any are damaged or worn.
- Check snow wheel system for wear and replace if necessary. For information, see pages 23-28.
- For multi-coupler maintenance, see pages 20-21.
- Inspect all tilt-ways for wear. See page 11 for tilt plate adjustment.
- Replace parts with original parts only.



Unstrap and remove the lift frame, hoses, top arms, and any boxes of hardware from the undercarriage. If any components are missing, call Grouser.

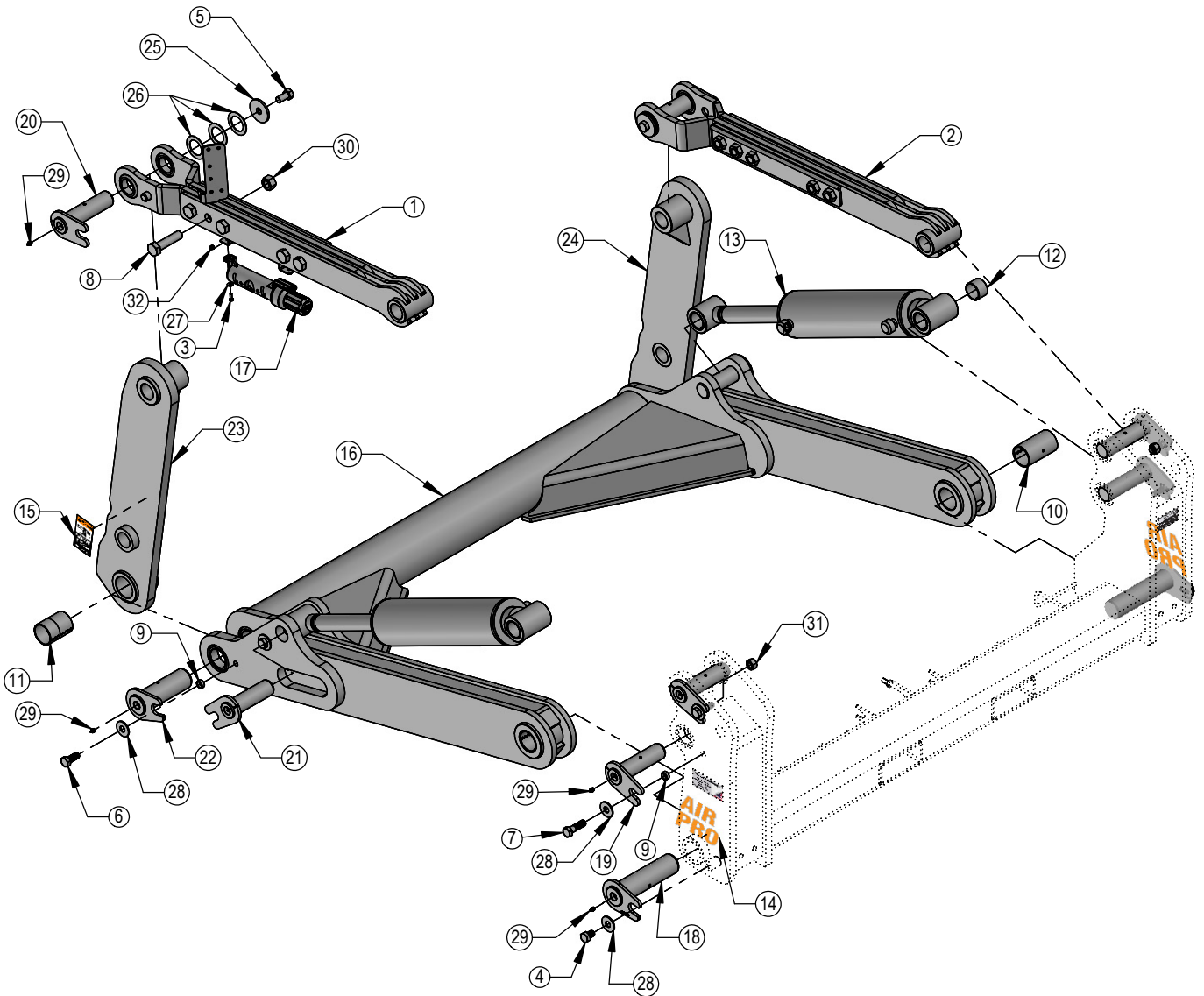
Install undercarriage per the tractor specific mounting instructions.

Some assembly of Lift System components is necessary. Follow the steps listed below. Refer to Page 7 for the correct hardware and orientation of parts.

1. Remove all pins and fasteners on each side of the undercarriage and set aside for later installation.
2. Position the lift frame between the two plates on both sides of the undercarriage and align to the bottom holes.
3. Insert pins and hardware to attach the lift frame, the base end of the lift cylinders, and the top arms to the undercarriage. Refer to Page 7 for proper components and orientation.
4. Insert pins and hardware to attach the male quick attaches to the lift frame, and to the top arms. See Page 7 for proper orientation.
5. Torque all fasteners according to the specifications on Page 3.

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	11-40760-L	Ag Pro Plus Manual Pitch Top Arm Assy
2	1	11-40760-R	Ag Pro Plus Manual Pitch Top Arm Assy
3	2	16-20002	1/4" x 3/4" Hex Bolt Gr 5 NC
4	2	16-20214	3/4" x 1" Hex Bolt Gr 5 NC
5	2	16-20216	3/4" x 1-1/2" Hex Bolt Gr 5 NC
6	4	16-20217	3/4" x 1-3/4" Hex Bolt Gr 5 NC
7	4	16-20220	3/4" x 2-1/2" Hex Bolt Gr 5 NC
8	10	16-20566	1" X 4" Hex Bolt Gr 8 NC
9	8	19-13515	Spacer, NR Pin
10	2	19-13525	2.75 x 2.50 x 4.75 Spring Bushing
11	8	19-16695	2.25 x 2.00 x 1.50 Spring Bushing
12	2	19-18089	2.75 x 2.50 x 3.75 Spring Bushing
13	2	26-34751	5 x 18 Hydraulic Cylinder
14	2	27-40444	Air Pro Decal
15	2	27-9503	Pinch Decal (Foot)
16	1	32-19120	HD Lift Frame

ITEM NO.	QTY.	PART NO.	DESCRIPTION
17	1	34-14961	Manual Canister Small
18	2	43-14725	Lift Frame / UC Pin
19	4	43-18120	Top Pin Weld
20	2	43-18127	Top Arm Pin Weld
21	2	43-18175	Lift Cyl Pin Weld
22	2	43-18635	Ag Pro Plus QA Pin
23	1	45-18110-L	Male Quick Attach, Ag Pro S
24	1	45-18110-R	Male Quick Attach, Ag Pro S
25	2	57-1530	3" OD X .75 ID X .25" HD Flat Washer
26	6	57-1811	2" Washer
27	2	57-20740	1/4" Flat Washer
28	10	57-20747	3/4" Flat Washer
29	12	58-9369	Straight 1/8" NPT Grease Zerk
30	10	70-20599	1" Hex Nut Gr 8 NC
31	2	70-20607	3/4" Center Lock Hex Nut NC
32	2	70-20610	1/4" Nyloc Hex Nut Gr 5 NC



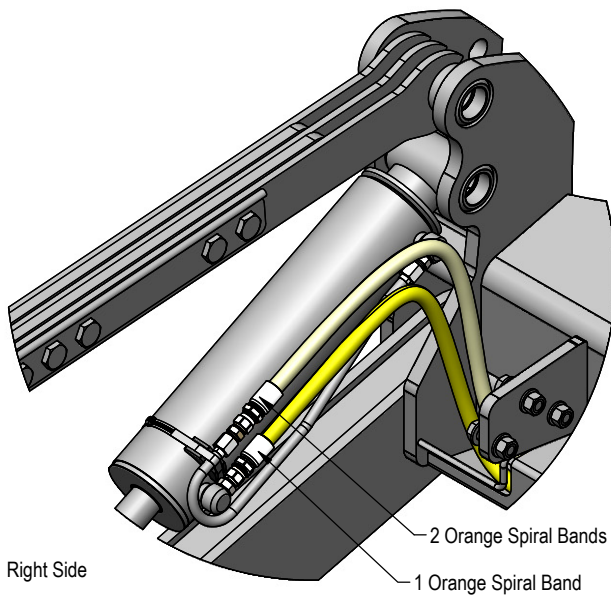
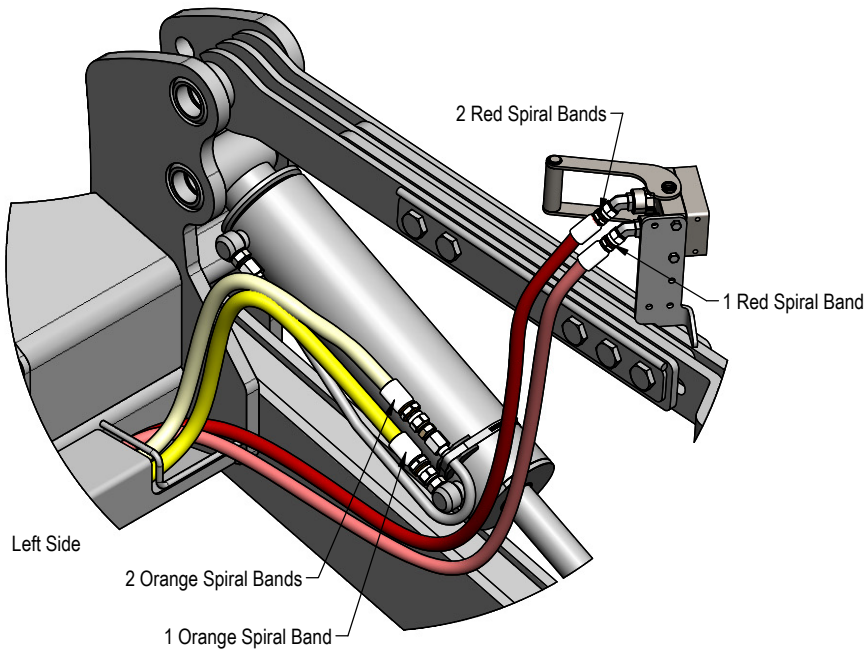
Note: When ordering a cylinder seal kits, the part number on the cylinder is needed. The number is stamped on the base end of the cylinder opposite of the hydraulic ports.

No. On Cylinder	Part No.	Description
26-34751	49-12275	Monarch Seal Kit 5" (658457) Nitrided Rod

DWG. NO.: 40912

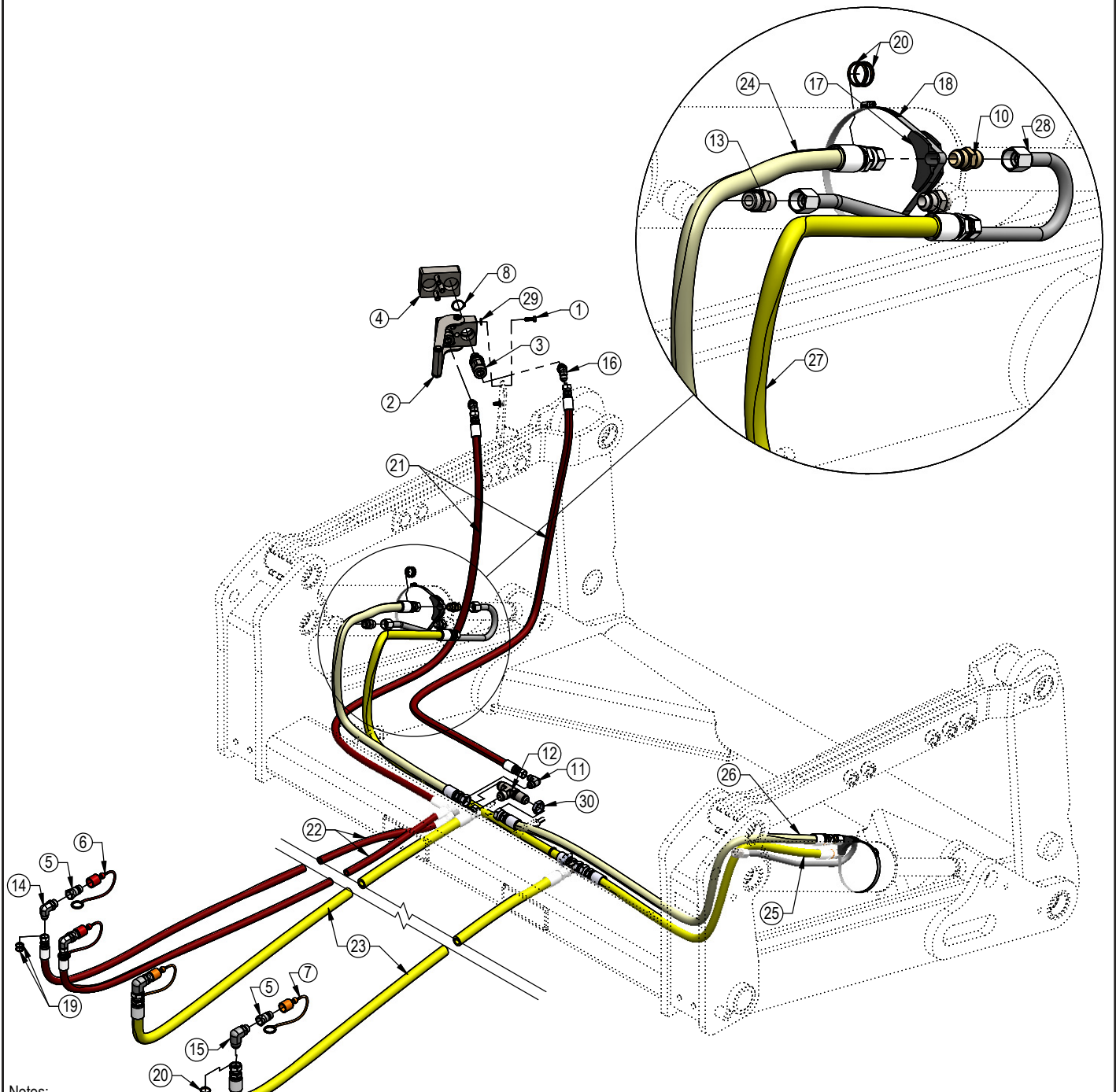
Note: Refer to Page 9 for the correct hose lengths and hose location.

1. Connect the lift hoses to the lift cylinders. The hoses are marked with 2 Orange Bands for the base end and 1 Orange Band for the rod end.
2. Verify that hoses are not twisted and protected from rubbing on any sharp edges. See picture below for proper hose routing.
3. Attach the multi-coupler to the top arm mount and install the 45° fittings.
5. Identify each remaining hose at the front of the undercarriage by the colored bands on the end of the hose and connect the hose to the corresponding 45° fitting on the multi-coupler. Attach the hose marked with 2 Red Bands to the 45° fitting closest to the handle on the multi-coupler. Attach the hose marked with 1 Red Band to the remaining fitting.
6. Attach the wire harness to the coupler mount on the left top arm. Hold in place with a zip tie through one of the open holes on the coupler mount. Run the other end of the wire harness up into the cab of the tractor.
7. Connect the wire harness to the joystick wire harness.
8. Continue on Page 10 for initial startup instructions.



ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	2	16-812525	8mm x 1.25mm x 25mm Metric Hex Bolt Gr 10.9
2	1	25-19868	Multi-Coupling Plate - 2 Port - Fixed
3	2	25-19870	Multi-Coupling Plate - Coupler - Male
4	1	25-19871	Multi-Coupling Plate - 2 Port - Cap
5	4	25-34342	Tappet Quick Coupler Male - Poppet Style
6	2	25-3455	Pioneer Dust Cap Angle (Red)
7	2	25-3457	Pioneer Dust Cap Lift (Orange)
8	2	25-40407	Multi-Coupling Plate - Snap Ring
9	2	26-34751	5 x 18 Hydraulic Cylinder
10	2	31-11699-10-10	JIC Union
11	2	31-15199-8-8	JIC Union Elbow 90°
12	2	31-34032	Bulkhead Run Tee JIC
13	4	31-34042	Straight JIC x O-Ring
14	2	31-34051	Straight Thread Elbow 90° JIC x O-Ring
15	2	31-34059	Straight Thread Elbow 90° JIC x O-Ring

ITEM NO.	QTY.	PART NO.	DESCRIPTION
16	2	31-34150	Straight Thread Elbow 45° JIC x O-Ring
17	2	34-12932	Cylinder Saddle
18	2	34-12933	Hose Clamp (worm drive - 5.0)
19	6	34-18888-RD	-12 Red - Spiral Band
20	15	34-19494-OR	-16 Orange - Spiral Band
21	2	35-12631-0780	78" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
22	2	35-12631-2930	293" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
23	2	35-12637-2930	293" x 3/4" -12JIC/-12JIC Abrasion Resistant Hose
24	1	35-12641-0515	51.5" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
25	1	35-12641-0535	53.5" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
26	1	35-12641-0665	66.5" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
27	1	35-12641-0670	67" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
28	2	35-18240	Lift Cylinder Steel Line
29	2	57-20740	1/4" Flat Washer
30	2	70-20809	1-1/16" Hex Jam Nut



- Notes:
1. Follow the multi-coupler maintenance steps on pages 20-21.
 2. After any maintenance, reinstall all hoses to their original locations.

DWG. NO.: 41057

Prior to operating the blade system, all air must be purged from the hydraulic system. Follow the steps below for each function on your blade.

Lift Function:

1. With the lift frame down and blocked, loosen the fittings on both ends of the lift cylinders.
2. Actuate the raise function by pulling back on the joystick handle to supply oil to the rod end of the cylinders.
3. When oil starts to flow from the fittings, stop oil flow, and tighten the fitting on the rod end of the lift cylinders.
4. Continue to flow oil until the system is fully raised and then block the lift frame.
5. Actuate the function in the opposite direction by pushing on the joystick handle to supply oil to the base end of the lift cylinders.
6. When all air is removed from the lift system, stop oil flow and tighten the fittings on the base end of the lift cylinders.
7. Raise lift system and remove blocks. Cycle up and down 5 more times.
8. Check tractor oil level and fill if necessary.
9. Continue with connecting the blade on Page 11.

Angle Function:

1. Loosen the fittings on the rod and base end of the right angle cylinder.
2. Actuate the angle function by pressing the top button of the rocker switch on the joystick handle to extend the right angle cylinder to supply oil to the base end of the right cylinder.
3. When oil starts to flow from the base end fitting, stop operating the rocker switch, and tighten the fitting on the base end of the right cylinder.
4. Continue to actuate the right angle function in the same direction until the cylinder is fully extended.
5. Press the bottom button on the rocker switch to retract the right angle cylinder.
6. When oil starts to flow from the rod end fitting, stop oil flow, and tighten the rod end fitting on the right angle cylinder.
7. Loosen the fittings on the rod and base end of the left angle cylinder.
8. Actuate the angle function by holding the trigger switch and pressing the top button of the rocker switch at the same time on the joystick handle to extend the left angle cylinder to supply oil to the base end of the left cylinder.
9. When oil starts to flow from the base end fittings, stop operating the rocker switch, and tighten the fitting on the base end of the left cylinder.
10. Continue to actuate the left angle function in the same direction until the cylinder is fully extended.
11. Hold the trigger switch and press the bottom button at the same time to retract the left angle cylinder.
12. When oil starts to flow from from the rod end fitting, stop oil flow, and tighten the rod end fitting on the left angle cylinder.
13. Cycle the left cylinder in and out 5 more times and then the right cylinder in and out 5 more times.
14. Check tractor oil level and fill if necessary.

Run the blade through all the functions. If any function does not operate correctly, refer to corresponding section above and re-bleed. If problem still persists, call Grouser Products.

The pitch of the blade can be changed by adjusting the top arms.

1. Lower blade to the ground.
2. Shut off the tractor engine and set the parking brake.
3. Loosen all 1" bolts on both top arms.
4. Slide the top arms to your desired position. The use of a forklift may be needed to help push or pull the system to slide the arms in or out.
5. Tighten all 1" bolts on bolt top arms. Torque to 910 ft-lbs.

To Connect:

Note: If necessary, use a spotter to help center the blade on the lift system.

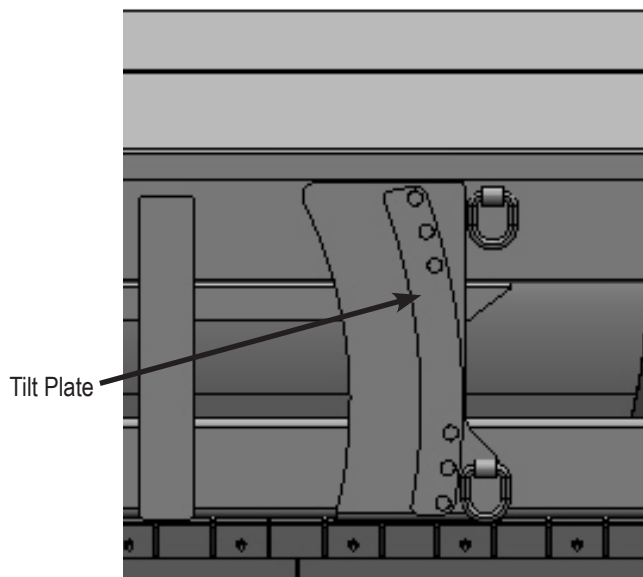
1. Lift the locking latch and pull the quick attach lock handle on the left side of the lift system to open the quick attach system. Refer to Page #18-19 for further clarification on the quick attach system.
2. Drive the tractor forward slowly until the top hub of the male quick attach is under the top hook of the female quick attach.
3. Raise the lift system until the male quick attach engages the female hook. If both sides don't fully engage, reposition. Continue to raise the lift system until the blade is off the ground and the angle frame is against the front of the male quick attach.
4. Shut off the tractor engine and set the parking brake.
5. Push the quick attach lock handle to engage the quick attach pins and lift the locking latch to lock the handle in place.
6. Clean and connect hydraulic multi-coupler on the top arm. Refer to Pages 20-21 for cleaning and connecting information.

To Disconnect:

1. Lower the blade until the cutting edge is off the ground a few inches.
2. Shut off the tractor engine and set the parking brake.
3. Unhook the multi-coupler on the top arm.
4. Remove the multi-coupler cover from the parking station on the angle frame and install on the multi-coupler on the top arm.
5. Plug the blade side multi-coupler into the parking station.
6. Lift the locking latch and pull the quick attach lock handle to disengage the quick attach pins.
7. Start tractor, disengage the parking brake, and lower the blade until cutting edge is on the ground.
8. Continue to slowly lower the lift system to disengage the blade.
9. Slowly back away from the blade. When lift system is clear from the blade, raise the lift system.
10. Shut off the tractor engine and set the parking brake.
11. Push the quick attach lock handle and lift the locking latch to lock the handle in place.

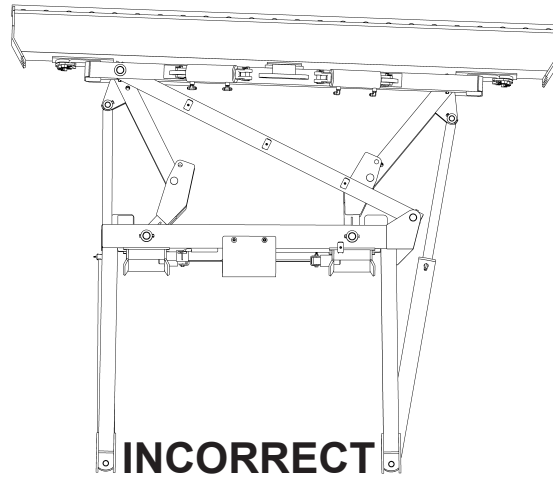
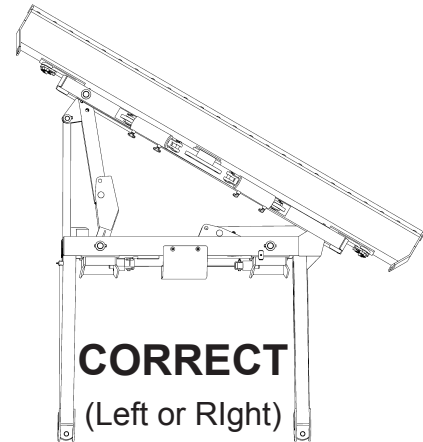
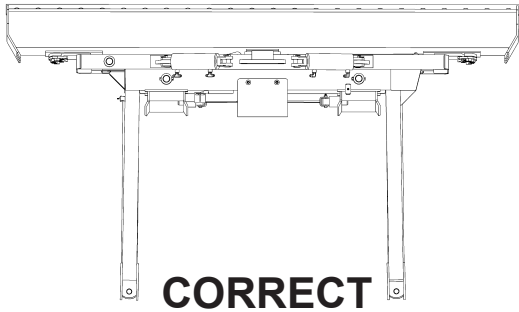
Note: Do not remove all 12 bolts at the same time.

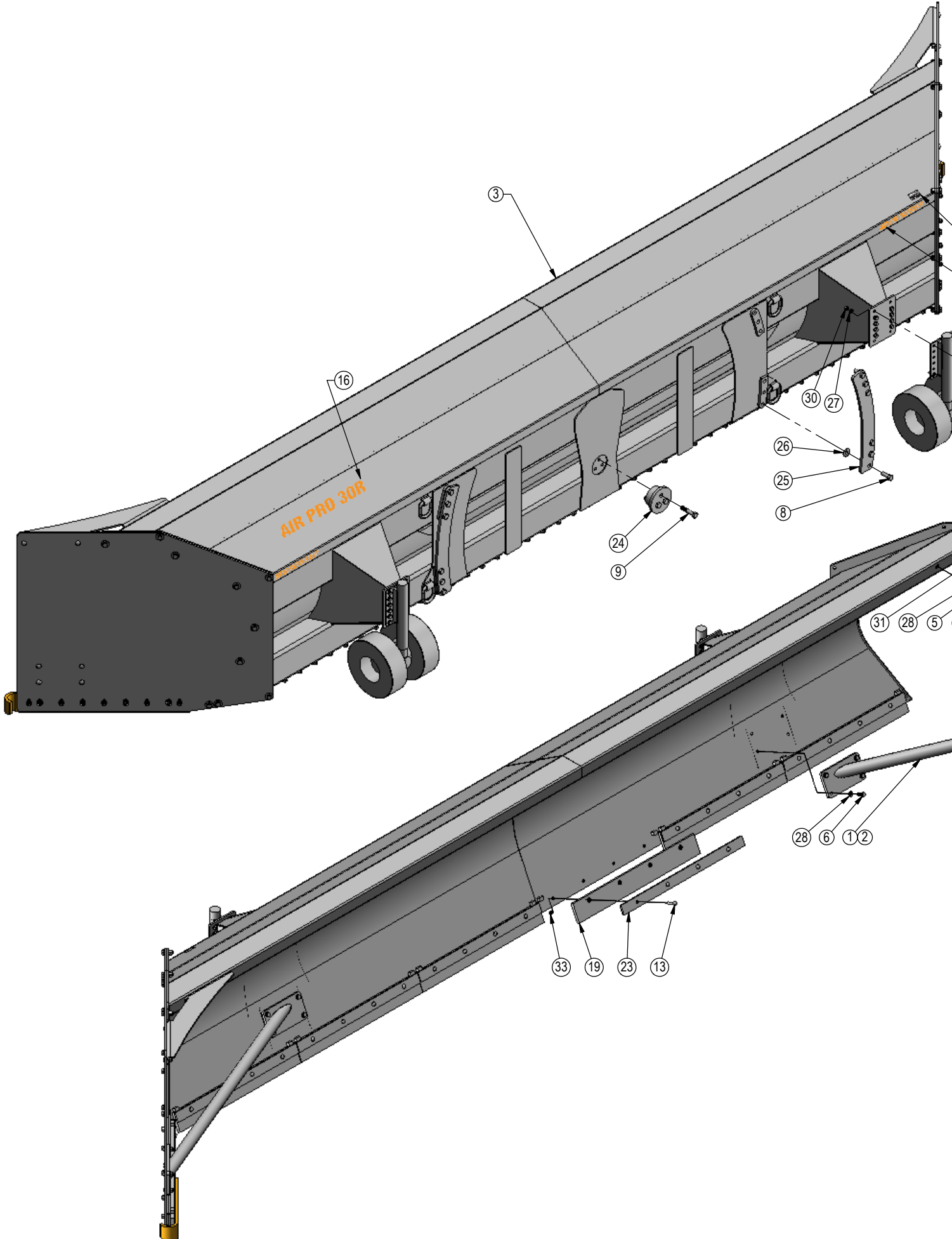
1. The preferred blade position for adjusting the tilt plates is laying face down on blocks.
2. Remove the six bolts from the right tilt plate.
3. Add or remove washers as needed to adjust tilt-way clearance to 1/16" - 1/8".
4. Reinstall the bolts on the right tilt plate.
5. Follow Steps #2-4 for the left side.
6. Once the tilt-way clearance is set, torque bolts to 640 ft-lbs.

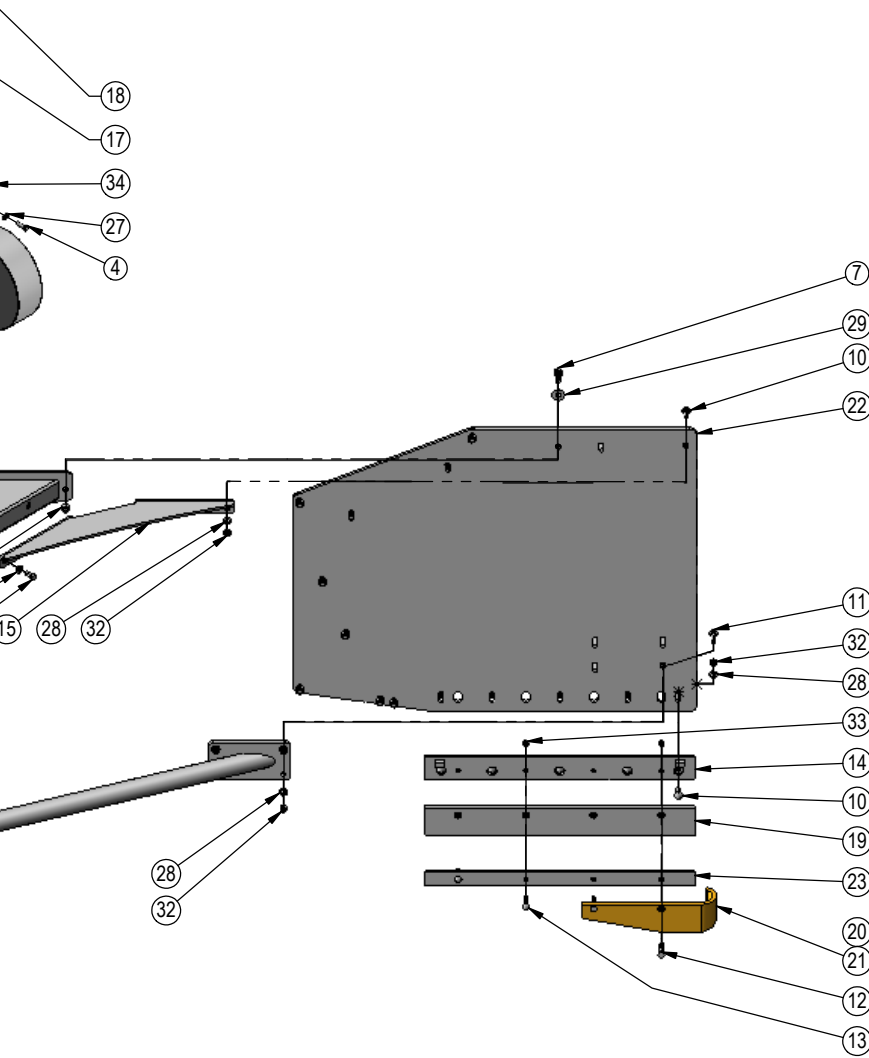


With the Hydraulic Angle Option, you will have the ability to angle the blade 30 degrees left or right. To achieve these angles, the two cylinders are designed to operate independently of each other through an electric diverter valve. To angle the blade to the left, actuate the tractor hydraulic control lever in the cab with the diverter valve un-powered. To angle the blade to the right, apply power to the diverter valve and then actuate the tractor.

To ensure proper use and life of equipment, it is recommended to have both cylinders closed for straight ahead dozing and only one cylinder partially or fully extended for angled dozing as shown in the diagrams below. If the angle system is not used correctly, frame damage may occur. Diagrams below may look slightly different than your system, but the information is still compatible and important to your system.



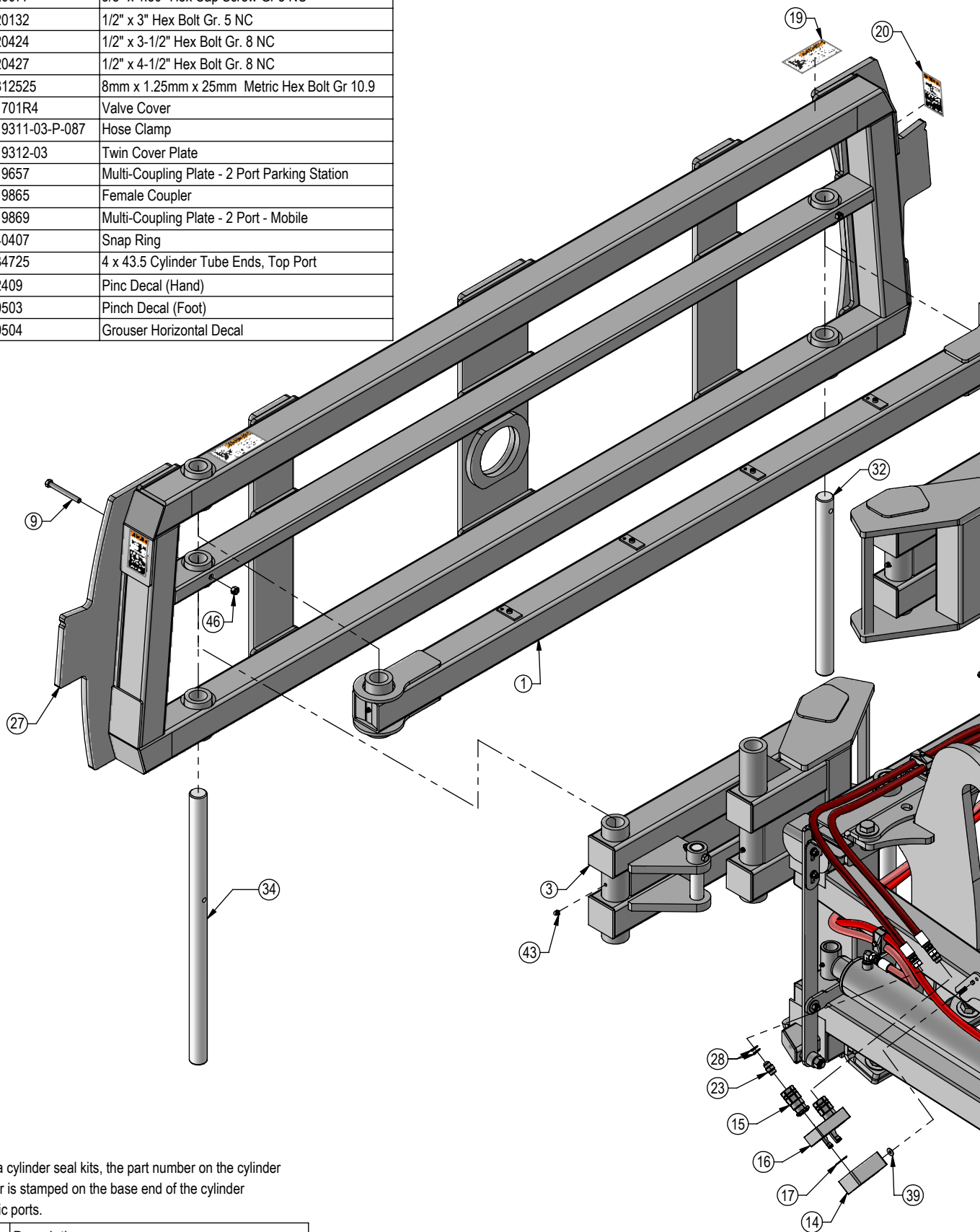




ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	11-40825-L	Strut Weld
2	1	11-40825-R	Strut Weld
3	1	15-40800R1	Blade Weld
4	24	16-20188	5/8" x 2" Hex Bolt Gr 5 NC
5	4	16-20216	3/4" x 1-1/2" Hex Bolt Gr 5 NC
6	8	16-20218	3/4" x 2" Hex Bolt Gr.5 NC
7	20	16-20540	7/8" x 2-1/2" Hex Bolt Gr 8 NC
8	12	16-20561	1" x 2-3/4" Hex Bolt Gr.8 NC
9	3	16-20568	1" x 5" Hex Bolt Gr.8 NC
10	14	16-21218	3/4" x 2.00" Carriage Bolt Gr.5
11	8	16-21220	3/4" x 2.50" Carriage Bolt Gr.5
12	4	16-21737	5/8" X 3.50" Plow Bolt Gr 8 NC
13	28	16-40837	5/8" 3.00" Carriage Bolt Gr 8
14	2	17-40830	Edge Mount
15	2	18-40824	Bracket, End Support
16	1	27-40446	Air Pro 30R Decal
17	2	27-9504	Grouser Horizontal Decal
18	1	NA	Grouser Dozer Metal Serial Tag
19	8	29-40834	JOMA 6000 4' Edge
20	1	29-40835	Hooked Curb Runner Right
21	1	29-40836	Hooked Curb Runner Left
22	2	44-40823	Box End Plate
23	8	44-40833	JOMA 6000 Clamp Plate
24	1	52-12380R1	Center Tilt Way Cover
25	2	52-40832	Tilt Plate
26	12	57-20749	1" Flat Washer
27	48	57-20756	5/8" Flat Washer - 1-5/16" OD
28	34	57-20757	3/4" Flat Washer - 1-1/2" OD
29	20	57-20818	7/8" Flat Washer Heavy Duty Gr 8 (USS)
30	24	70-20586	5/8" Hex Nut Gr 5 NC
31	16	70-20598	7/8" Hex Nut Gr 8 NC
32	22	70-20607	3/4" Center Lock Hex Nut NC
33	32	70-20646	5/8" Hex Top Lock Nut Gr 5 NC
34	2	99-40838	7500 Snow Wheel System

Hydraulic Angle-Floating Tilt System

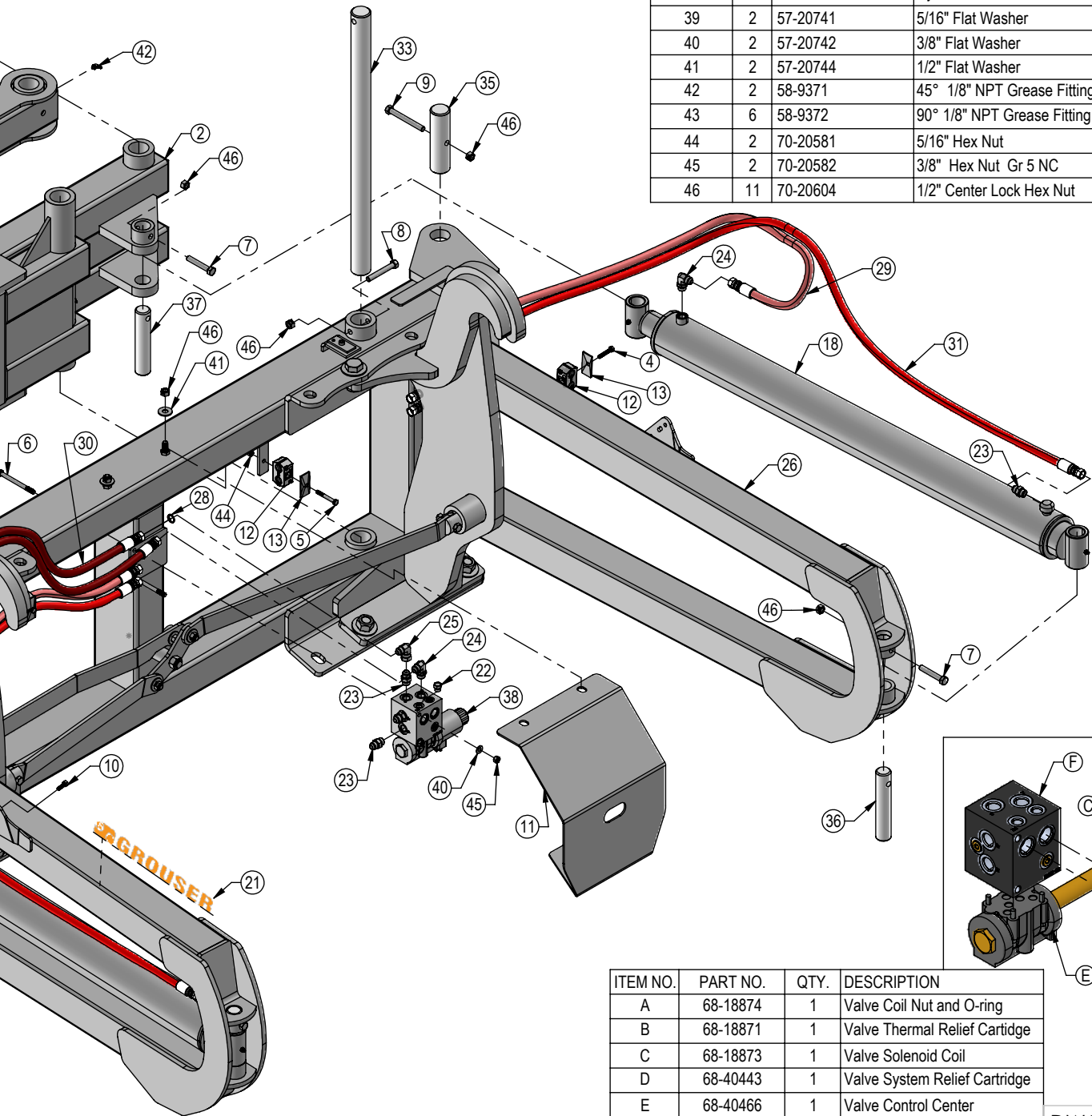
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	11-12397R2	Stabilizer Arm
2	1	11-19685	Angle Arm Assembly-R
3	1	11-19690	Angle Arm Assembly - L
4	3	16-20037	5/16" x 1-3/4" Hex Bolt Gr. 5 NC
5	2	16-20040	5/16" x 2-1/2" Hex Bolt Gr 5 NC
6	2	16-20077	3/8" x 4.50" Hex Cap Screw Gr 5 NC
7	4	16-20132	1/2" x 3" Hex Bolt Gr. 5 NC
8	2	16-20424	1/2" x 3-1/2" Hex Bolt Gr. 8 NC
9	3	16-20427	1/2" x 4-1/2" Hex Bolt Gr. 8 NC
10	2	16-812525	8mm x 1.25mm x 25mm Metric Hex Bolt Gr 10.9
11	1	18-1701R4	Valve Cover
12	5	18-19311-03-P-087	Hose Clamp
13	5	18-19312-03	Twin Cover Plate
14	1	25-19657	Multi-Coupling Plate - 2 Port Parking Station
15	2	25-19865	Female Coupler
16	1	25-19869	Multi-Coupling Plate - 2 Port - Mobile
17	2	25-40407	Snap Ring
18	2	26-34725	4 x 43.5 Cylinder Tube Ends, Top Port
19	2	27-2409	Pinc Decal (Hand)
20	2	27-9503	Pinch Decal (Foot)
21	2	27-9504	Grouser Horizontal Decal



Note: When ordering a cylinder seal kits, the part number on the cylinder is needed. The number is stamped on the base end of the cylinder opposite of the hydraulic ports.

No. On Cylinder	Part No.	Description
26-34725	49-12274	Monarch Seal Kit 4" (647210) Nitrided Rod

ITEM NO.	QTY.	PART NO.	DESCRIPTION
22	1	31-13332	-6 SAE Breather Fitting
23	9	31-34040	Straight JIC x O-Ring
24	3	31-34050	Straight Thread Elbow 90° JIC x O-Ring
25	1	31-34100	Swivel Nut Elbow 90° JIC (6500-8-8)
26	1	32-19675R4	Angle Frame
27	1	32-40840	Tilt Frame
28	6	34-18888-RD	-12 Red - Spiral Band
29	2	35-12631-0690	69" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
30	2	35-12631-0720	72" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
31	2	35-12631-0960	96" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
32	1	43-8130	1-15/16" x 23-1/4" NR Pin
33	2	43-8131	1-15/16" x 31" NR Pin
34	1	43-8132	1-15/16" x 35-1/2" NR Pin
35	1	43-8133	1-15/16" x 7-1/8" NR Pin
36	2	43-8134R1	1-1/2" x 8" NR Pin
37	2	43-9352R1	1-1/2" x 7-1/2" NR Pin
38	1	56-13305	Hydraulic Valve
39	2	57-20741	5/16" Flat Washer
40	2	57-20742	3/8" Flat Washer
41	2	57-20744	1/2" Flat Washer
42	2	58-9371	45° 1/8" NPT Grease Fitting
43	6	58-9372	90° 1/8" NPT Grease Fitting
44	2	70-20581	5/16" Hex Nut
45	2	70-20582	3/8" Hex Nut Gr 5 NC
46	11	70-20604	1/2" Center Lock Hex Nut

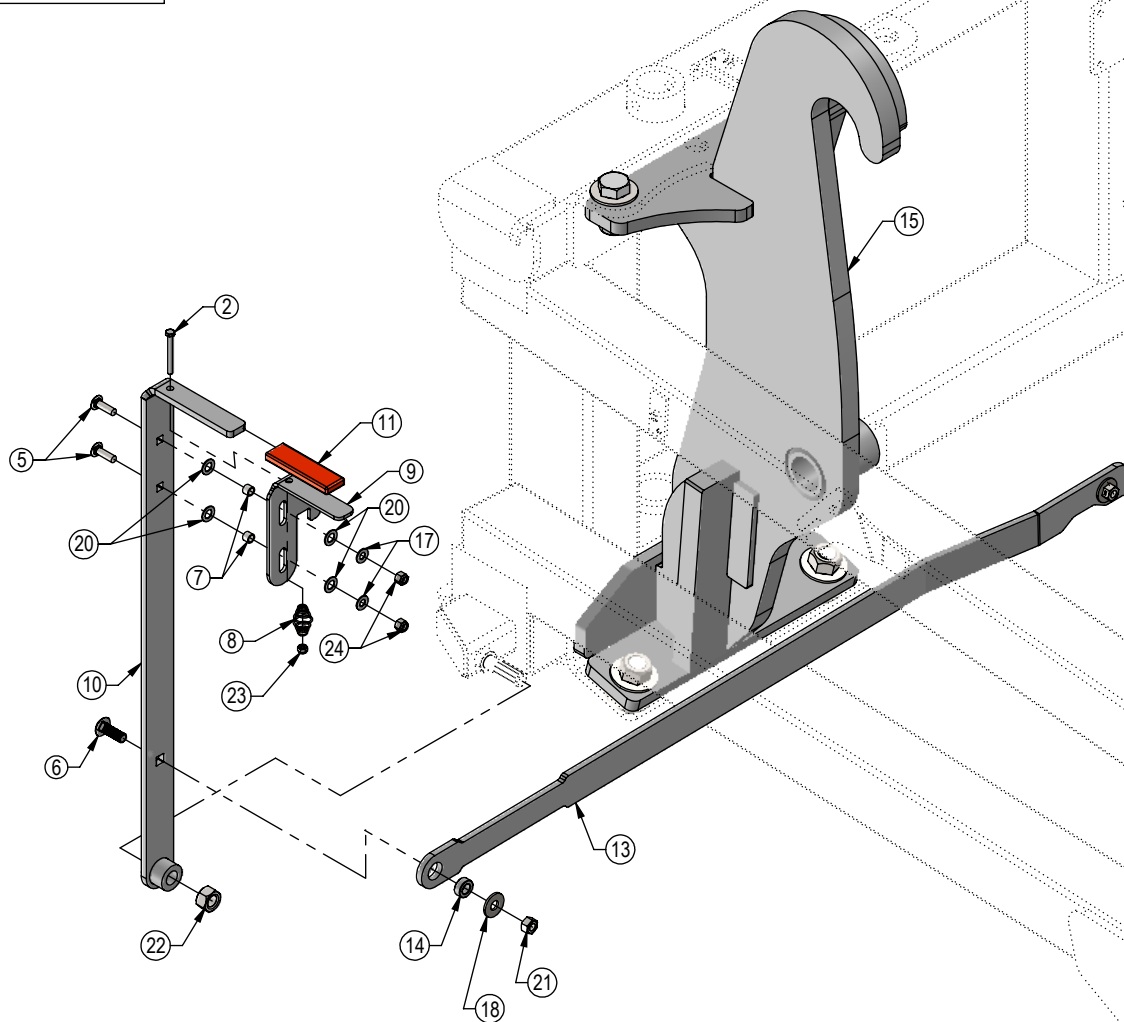


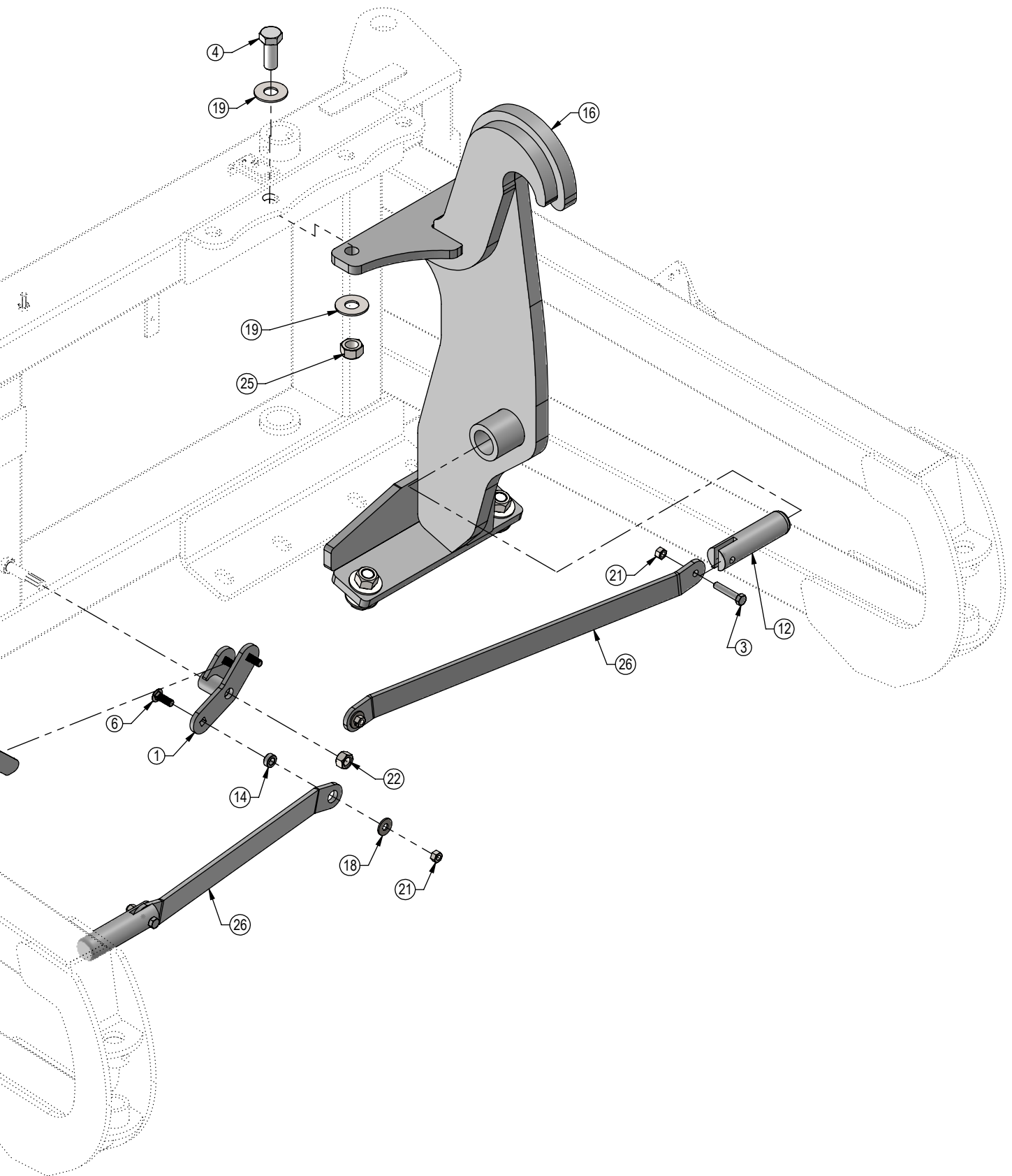
ITEM NO.	PART NO.	QTY.	DESCRIPTION
A	68-18874	1	Valve Coil Nut and O-ring
B	68-18871	1	Valve Thermal Relief Cartridge
C	68-18873	1	Valve Solenoid Coil
D	68-40443	1	Valve System Relief Cartridge
E	68-40466	1	Valve Control Center
F	68-40469	1	Valve Block

DWG. NO.: 40846

Quick Attach

ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	11-40866	Bell Crank
2	1	16-20011	1/4" x 2-3/4" Hex Bolt Gr 5 NC
3	2	16-20130	1/2" x 2-1/2" Hex Bolt Gr 5 NC
4	8	16-20560	1" x 2-1/2" Gr.8 NC Hex Bolt
5	2	16-21065	3/8" x 1.25 Carriage Bolt Gr 5 NC
6	4	16-21126	1/2" x 1-1/2" Carriage Bolt Gr 5 NC
7	2	19-40440	Bushing, Spacer
8	1	34-17799	Latch Spring
9	1	39-14663R2	Latch
10	1	39-14665R3	Handle Weld
11	1	39-3072	Rubber Handle
12	2	43-18965R1	Ag Pro Lock Pin
13	1	44-40879	Plate, Link
14	4	44-8490	Spacer
15	1	45-40870-L	SS Bolt in Quick Attach - Left
16	1	45-40870-R	SS Bolt in Quick Attach - Right
17	2	57-20742	3/8" Flat Washer
18	4	57-20744	1/2" Flat Washer
19	16	57-20819	1" Flat Washer Heavy Duty Gr 8 (USS)
20	4	57-40408	3/8 Flat Nylon Washer
21	6	70-20604	1/2" Center Lock Hex Nut
22	2	70-20607	3/4" Center Lock Hex Nut NC
23	1	70-20610	1/4" Nyloc Hex Nut Gr 5 NC
24	2	70-20612	3/8" Nyloc Nut
25	8	70-20999	1" Hex Top Lock Nut Gr 8 NC (YZ)
26	2	75-40869	Link, Bell Crank To Pin

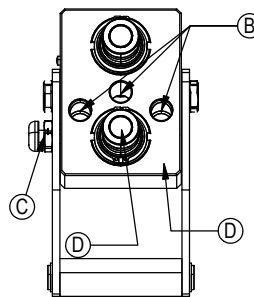




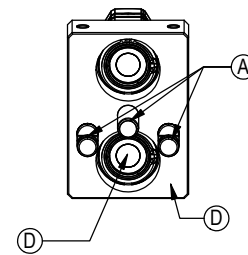
Before Each Use:

1. Disconnect the mobile half from the parking station and the cap from the fixed half.
2. Check that there is no contamination (salt, sand, dirt, etc.):
 - A. On the pins.
 - B. Inside the cam.
 - C. In the locking mechanism area.
 - D. On the face of the plates and couplings.
3. In case of contamination, remove it with a cloth and/or compressed air.
4. Check that there is still a lubricant/anti-corrosion (grease or silicone - see Note 1):
 - A. On the pins.
 - B. Inside the cam.
 - C. In the locking mechanism area.
5. Connect the mobile and fixed halves together.

Fixed Half



Mobile Half



After Each Use:

1. Disconnect the mobile half from the fixed half.
2. Clean all contamination (salt, sand, dirt, etc.) from the following areas:
 - A. On the pins.
 - B. Inside the cam.
 - C. In the locking mechanism area.
 - D. On the face of the plates and couplings.

*Use a cloth or compressed air. It is advised to not use water to clean these surfaces
3. Apply a lubricant/anti-corrosion (grease or silicone - see Note 1):
 - A. On the pins.
 - B. Inside the cam.
 - C. In the locking mechanism area.
4. Connect the cap to the fixed half and the mobile half to the parking station.

Note 1:

When sand and salt are present, or the plates under go a washdown, a heavy duty silicone spray lubricant should be used to replace grease from the factory. The lubricant should help protect from corrosion without collecting dust and contaminants, and will resist washing off when exposed to water.

Recommended Lubricant Brands:

Fluid Film (Aerosol or Non-Aerosol), LPS-2 Heavy Duty Lubricant, or CRC 3-36.

Cleaning The Male Interface Seal:



1. Make sure the coupling is securely fastened into the plate or place in a vice.



2. Using a blunt, non-marring tool, depress the valve face until the seal is exposed. Insert a bent metal wire between the valve face and the body of the coupling. Use caution not to damage or scratch the seal when inserting the wire.



3. Inspect the seal and interior surfaces for contamination.



4. In case of contamination, carefully wipe surfaces with a soft cloth, or use compressed air to blow the contamination out. Do Not press hard on the seal as contamination can scratch the seal surface.



5. Using a non-marring tool, depress the valve face and remove the metal wire. Release the valve to the flush position.

Cleaning The Female Bushing:



1. Make sure the coupling is securely fastened into the plate or place in a vice.



2. Using a non-marring tool, depress the outer ring to expose the bushing. There is no need to expose the valve seal, so stop pressing before the valve is opened.



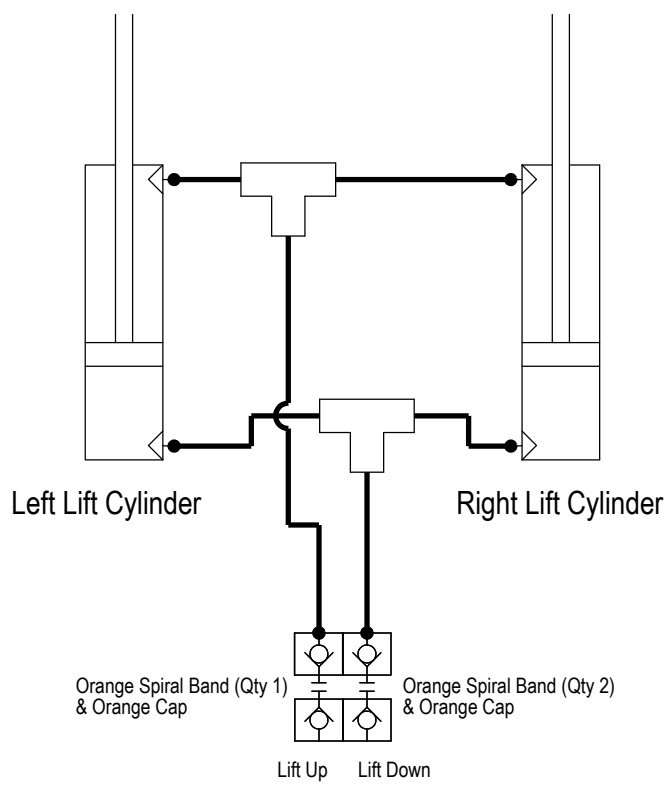
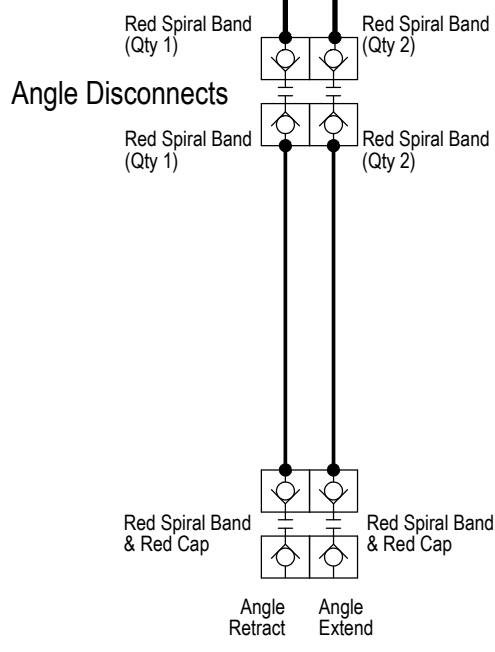
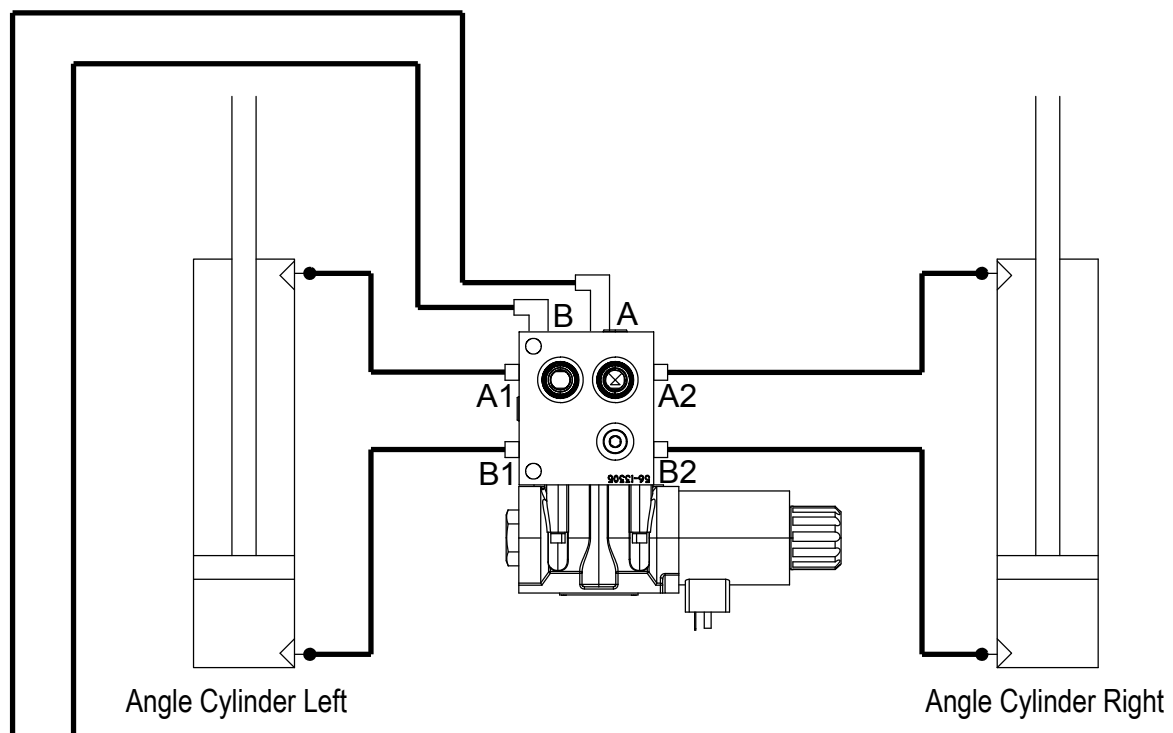
3. Inspect the interior body and bushing surfaces for contamination.



4. In case of contamination, carefully wipe surfaces with a soft cloth, or use compressed air to blow the contamination out.



5. Release the outer ring so that it returns to the flush position.



Tractor Service Valve

Operations

• Snow Wheel Operation for Snowplows

Your Snow Wheels are designed to give you years of service. Before you put your Snow Wheels on the road check to make sure wheel alignment is correct. The wheels should be adjusted so that about 85% of the plow's weight is carried on the wheels. This will extend the life of the cutting edge and still scrape the pavement clean.

Snow Wheels can be adjusted to carry all of the plow's weight. This will keep the cutting edge above the surface on gravel roads and eliminate gravel thrown into the ditch.


• Snow Wheel Operation and Service Instructions for Snowblowers

When transporting loader mounted plows on highways at speeds 10 to 25 m.p.h. you should carry **more than half of the weight of the plow on the loader**. That will extend the life of the Snow Wheel tires. **Failure to do so will damage the tires.**

This can be achieved by putting the loader in float position and picking up on the snowblower until you travel without the loader hopping or you feel comfortable with the speed you are traveling.

Caution: Do not attempt to cross railroad tracks with the snowblower down on the Snow Wheels.

• Service Instructions for Snowplows & Snowblowers

If you look closely at the inner side of each hub, there is a **Hydraulic Shut-Off Grease Fitting**. Make sure hub is full of **QUALITY GREASE** at all times. This provides lubrication, prevents condensation and (water build-up). Pump grease into hub cavity until full. When full, grease will discharge from the relief valve fitting.  This fitting is designed to **PREVENT** over greasing and blowing out *bearing seals*.

The first **four (4)** hours of use and after **eight (8)** hours, check **all wheel nuts** and **hub caps** for **tightness**.

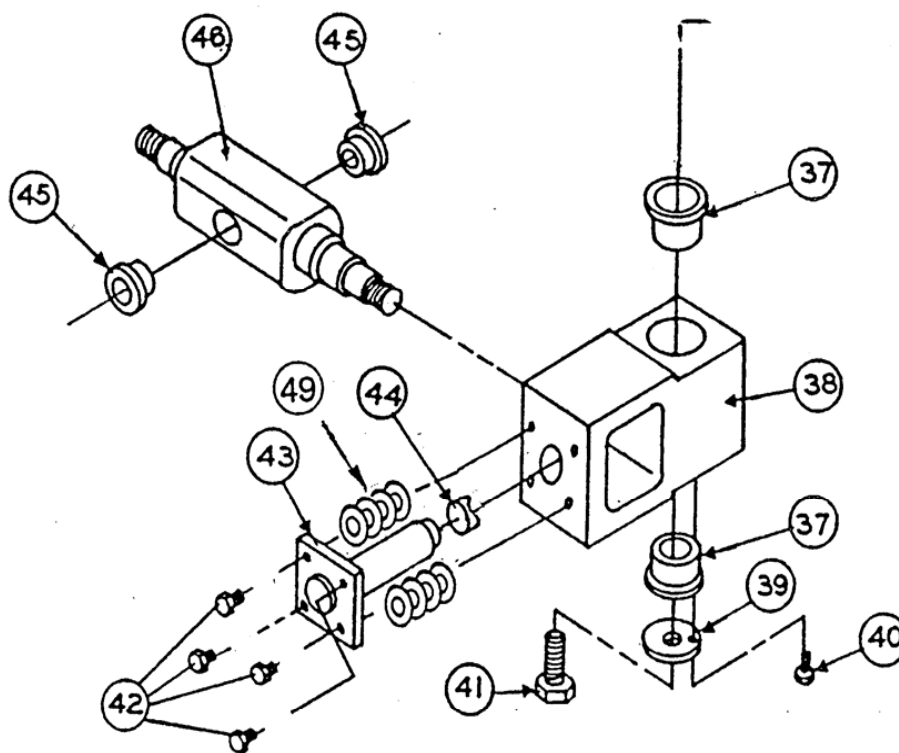
Re-pack wheel bearing every 5,000 plow miles OR ONCE A YEAR at the end of the snow season. **Make sure hubs are full of QUALITY grease to prevent condensation and water build up.**

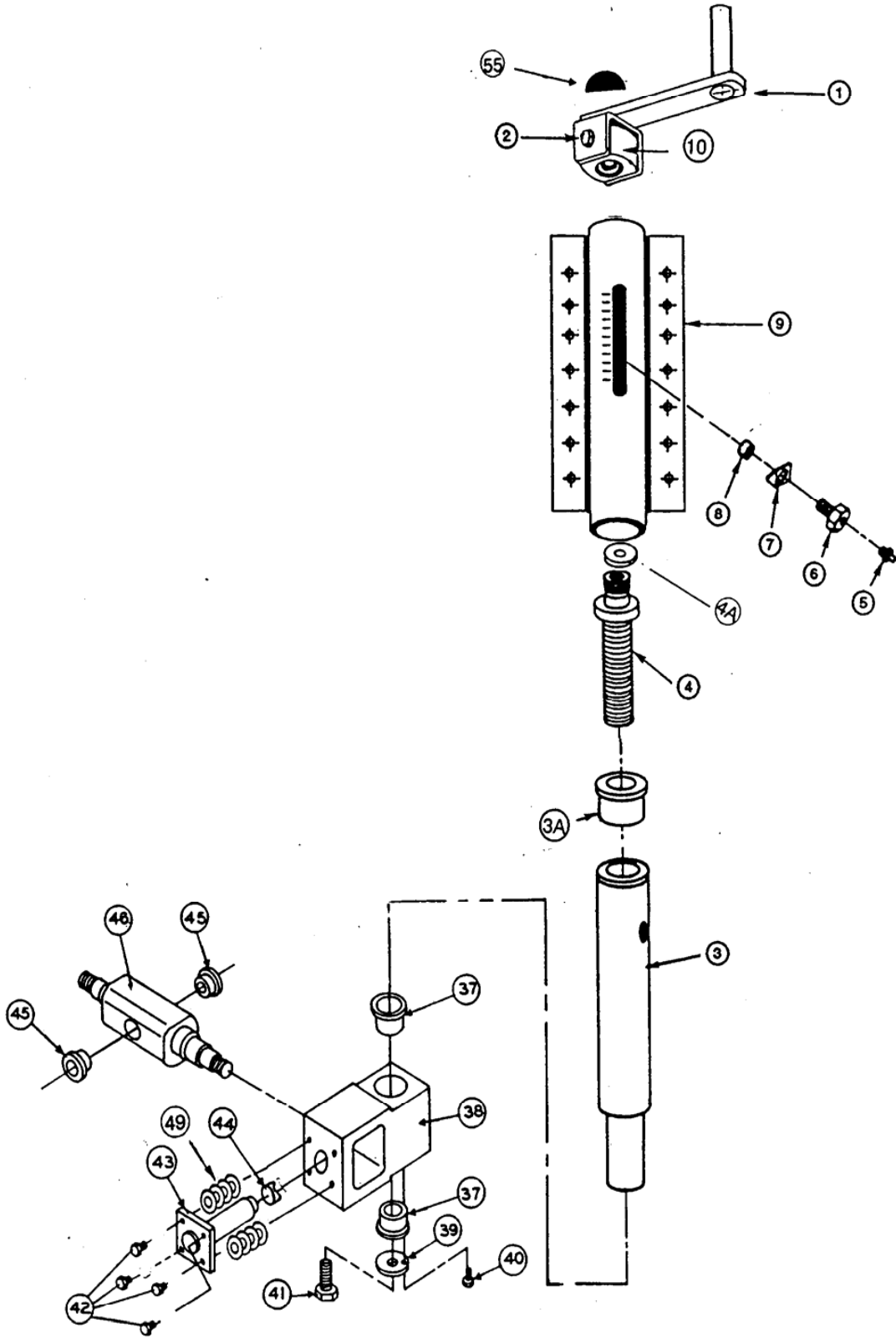
Use a good grade of medium to light wheel bearing grease. Retaining nut should be **tightened to 15 ft. lbs.** Make sure bearing surfaces are properly seated. Then back off one (1) notch and insert cotter key. Make sure wheel rolls freely before reassembling.

NOTE: Once per year be sure to check **alignment** of wheels on snowplow and snowblower.

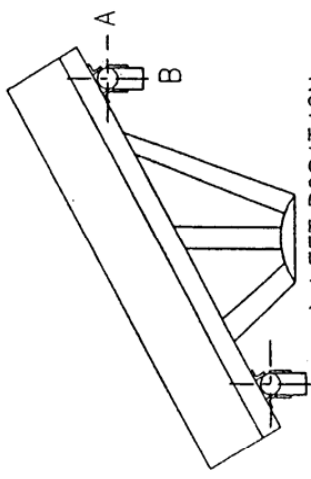
Friction Plug Adjustment

1. The friction plug's primary purpose is to hold the wheel stationary when the plow/blower is in the up and stored position.
2. If the wheel does not hold properly, the friction plug's tension will need to be adjusted.
3. To adjust the tension, remove one washer (item 49) from under spindle pivot pin (item 43) from all four bolts (item 42) and retighten to recommended bolt torque 40 foot pounds.
4. If all the washers (item 49) have been removed and the wheel does not remain stationary, the friction plug needs to be replaced. Make sure both surfaces are clean when reinstalling friction plug.

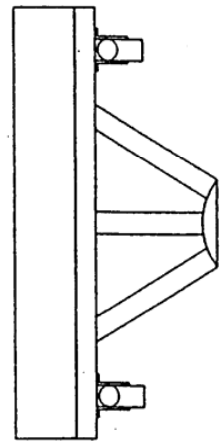




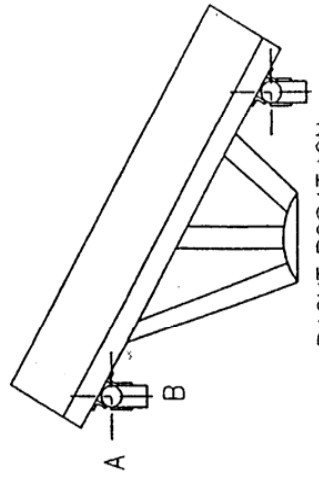
7500 Series



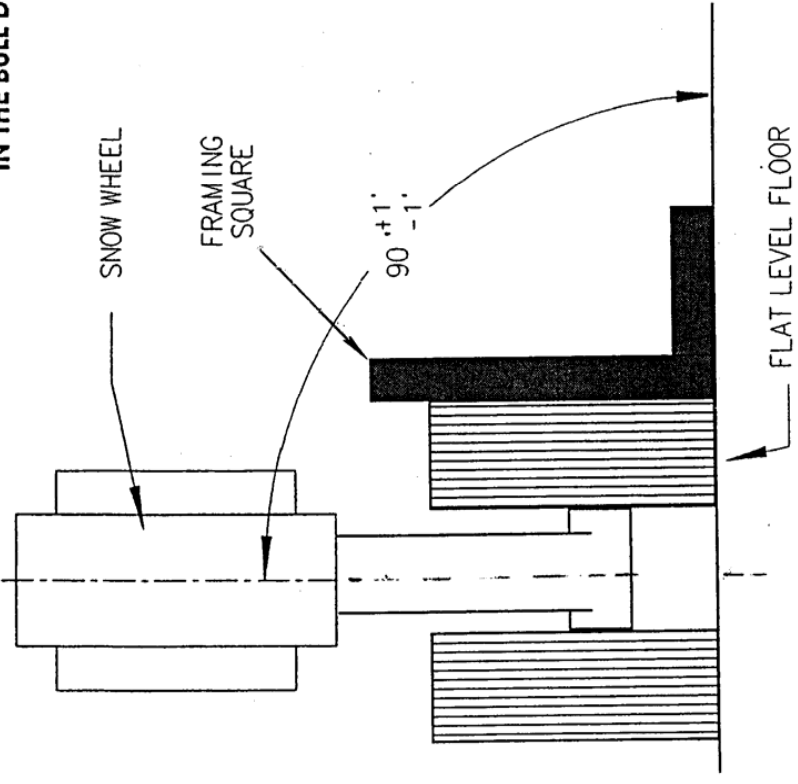
LEFT POSITION
(WHEELS MUST BE PLUMB
IN BOTH DIRECTIONS)
REFER TO "A" AND "B"



BULL DOZER POSITION
CAUTION:
DO NOT ALIGN SNOW WHEEL
IN THE BULL DOZER POSITION.

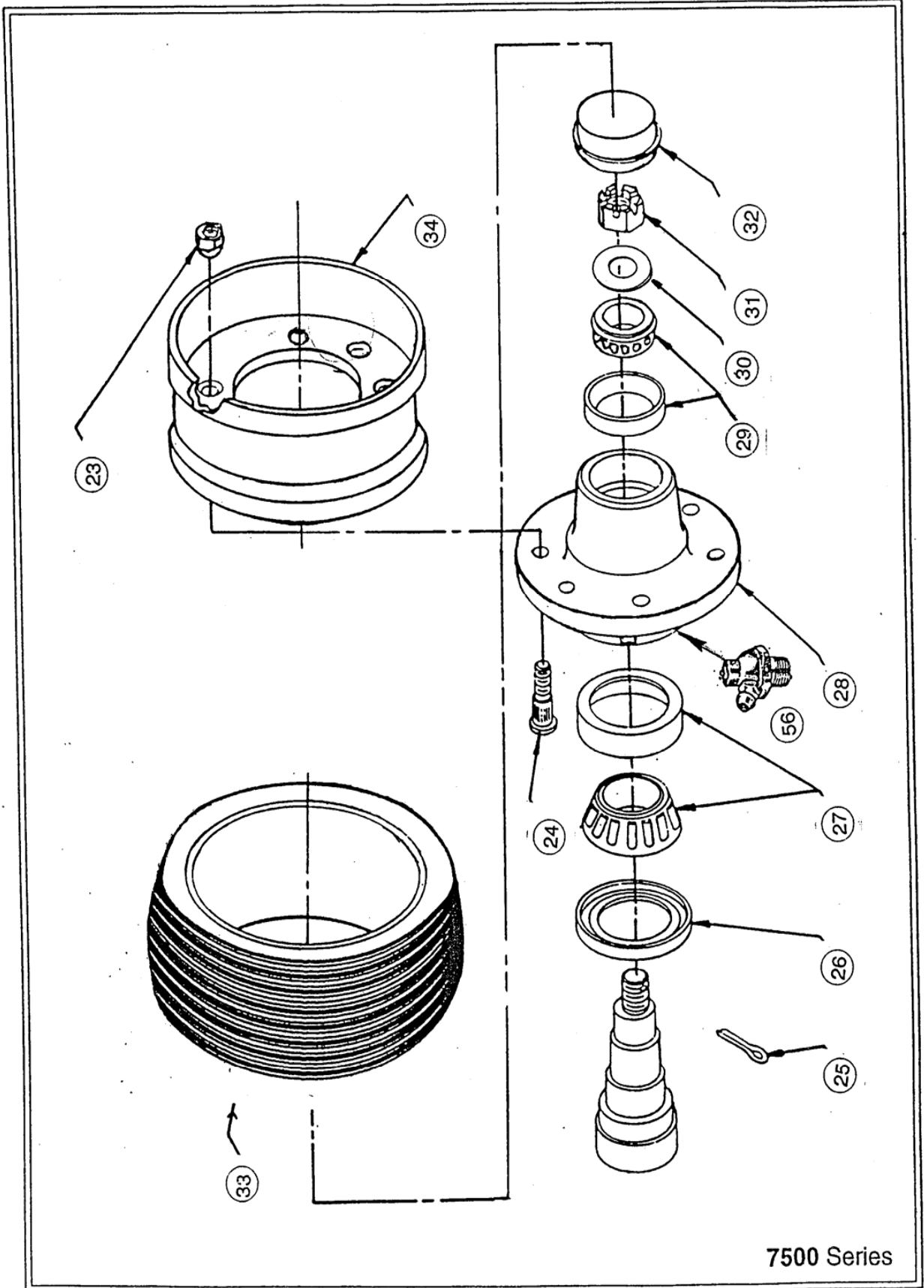


RIGHT POSITION
(WHEELS MUST BE PLUMB
IN BOTH DIRECTIONS)
REFER TO "A" AND "B"



- NOTE:**
1. FLOW MUST BE MOUNTED TO TRUCK TO ALIGN OR CHECK ALIGNMENT OF SWIVEL WHEELS.
 2. WHEEL MUST HAVE 17" SET BACK FROM CENTERLINE, WHEELS MUST BE ABLE TO SWIVEL 360 DEGREES WITHOUT ANY INTERFERENCE.

SNOW WHEEL SYSTEM	
7500 SWIVEL WHEEL APP'L	
DWG BY: TJB	DATE: 04/07/02 REV. 12/27/02
	SCALE: NONE



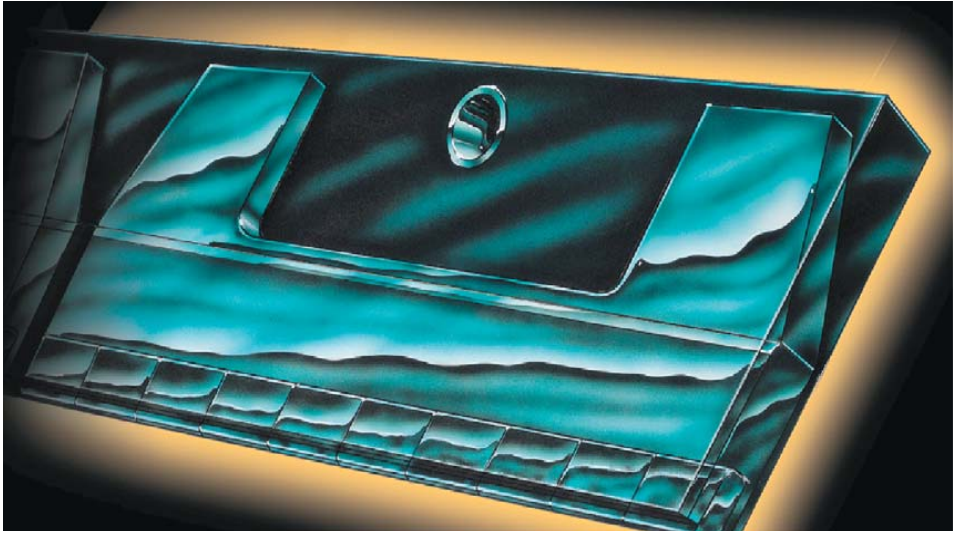
7500 Series

Item Nbr.	Description	Part Number	Quantity	List Price
	7500 series (complete unit with solid tires)			
1	Crank Handle	7516	1	
2	$\frac{3}{8}$ x 3" Bolt & lock nut	7556	1	
3	Vertical Column Assembly	7525	1	
3A	Retaining Nut	7547	1	
4	Adjusting Screw	7517	1	
4A	Nylon Bearing	7590	1	
5	Grease fitting (drive in style)	7522	1	
6	Position Pointer Bolt	7520	1	
7	Position Pointer	7518	1	
8	Spacer	7526	1	
9	Main Body	7515	1	
10	Adjusting Screw Nut	7519	1	
23	Nut (Hub)	7534	12	
24	Stud (Hub)	7535	12	
25	Cotter Pin	7536	2	
26	Inner Seal	7503	2	
27	Inner Bearing Assembly	7504	2	
28	Hub	7502	2	
29	Outer Bearing Assembly	7505	2	
30	Retaining Washer	7537	2	
31	Retaining Nut	7506	2	
32	Hub Cap	7507	1	
33	Snow Wheel Tire	7501	2	
34	3 Piece - 6 Hole Rim	7508	2	
37	Pivot Block Bearing	7511	2	
38	Spindle Pivot Block	7509	1	
39	Pivot Block Retainer	7510	1	
40	Bolt $\frac{1}{4}$ " X $\frac{3}{4}$ " Gr 8	7532	1	
41	Bolt $\frac{5}{8}$ " X $1\frac{1}{2}$ " Gr 8	7531	1	
42	Bolt $\frac{5}{16}$ " X $1\frac{1}{4}$ " Gr 8	7533	4	
43	Spindle Pivot Pin	7513	1	
44	Friction Plug	7550	1	
45	Spindle Pivot Bearing	7514	2	
46	Dual Spindle	7512	1	
49	$\frac{5}{16}$ " SAE flat washer	7580	16	
54	Hub Complete (items 23 thru 32)	7524	1	
55	Expansion Plug	7560	1	
56	Hydraulic Shut off grease fitting	P7526	1	

JOMA 6000 by Black Cat Blades

Product Description:

The JOMA 6000 blade system is made up of independent tungsten carbide inserted segments suspended in a rubber blade. One segment is positioned per foot of finished blade. These specially shaped segments are completely surrounded by rubber and are not directly attached to the plow. The segment is allowed to float in the rubber under the weight of the plow, which allows the blade to conform to the shape of the road surface. This flexibility allows the blade to produce a cleaner surface than traditional solid plow blades while proving to be less damaging to road surfaces and markings. If installed properly the blade will reduce vibration and road chatter as well as dramatically reduce the noise level.



This three dimensional view of the one foot segment shows the steel inserted segment inside the rubber. The upper portions of the segment, or “ears”, are sandwiched between a clamping bar and the moldboard. This allows each segment to move independently inside the rubber blade.

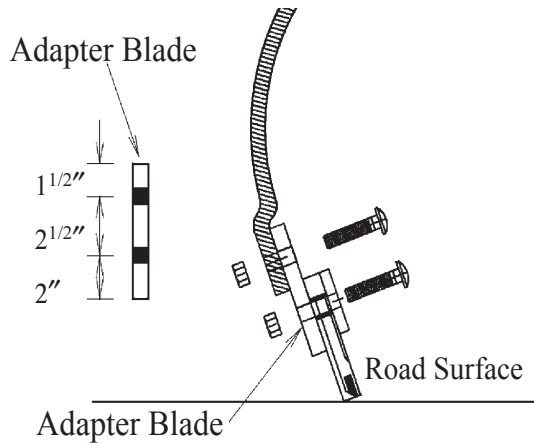
Note: This is only a General Installation Guide see your local Black Cat Blades JOMA 6000 Servicing Distributor for specific installation recommendations for your particular brand of plows.

JOMA 6000 by Black Cat Blades

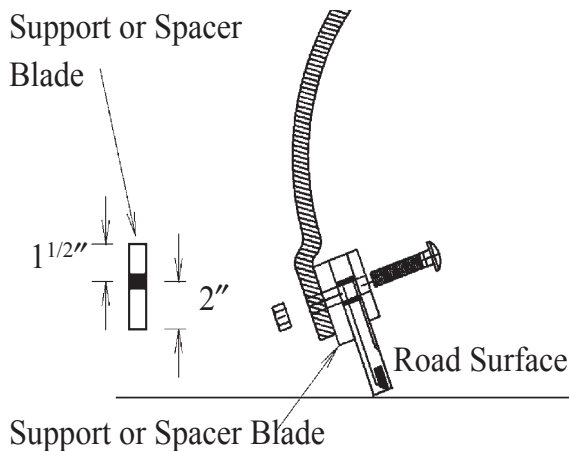
Installation Considerations

Bolt Hole Spacing:

The JOMA blade is manufactured in 12 inch increments. Each 12 inch section is held in place with one bolt in the center holding the clamping bar over the ears of the segment. For this reason, the JOMA blade must be bolted to the plow at 12 inch centers (6 inches to the first and last bolt). If the moldboard of the plow is other than 12 inch centers, an adapter blade must be used to accommodate the movement of the segments. This simple adapter will have 2 rows of holes, the top row to mount to the plow and a second row to accommodate the JOMA mounting.



Stepped or Short Moldboard:



It is recommended the JOMA blade be used with a minimum of 2 inches of back support below the mounting holes to support the segment. If the distance from the center of the mounting holes to the bottom of the moldboard is less than 2 inches, a backing blade should be used. A step in the

moldboard above the cutting edge does not allow the JOMA blade segment to move and "seat" as required.

JOMA 6000 by Black Cat Blades

Stepped or Short Moldboard (cont'd):

From the center of the mounting holes, for 2^{1/2} inches up the moldboard, a smooth surface is required. If there is a step, as shown in the drawing below, a backing blade will be required that will allow the JOMA to “seat” itself up into the rubber and allow the desired movement of the segments.

Front of Blade:

The JOMA blade is clearly marked with a “FRONT” stamping. On all **front plows** this “FRONT” marking must be facing in the direction of travel. This allows for the proper running angle of the carbide inserts to the pavement.

Underbody Plows:

When mounting the JOMA blades on **underbody plows**, the “FRONT” marking should be facing in to the moldboard.

Hardware:

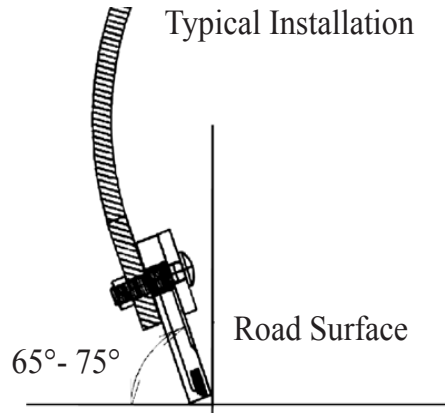
The JOMA blade is supplied with a specially heat treated clamping bar. This bar is placed over the JOMA blade to “clamp” the JOMA to the plow. Grade 8 or better carriage bolts are recommended for installing the JOMA blade. Recommended torque is 220 foot pounds. Lock Nuts are recommended. The use of Lock Washers is discouraged. **Note:** The Moldboard mounting surface must be clean of all foreign material.

JOMA 6000 by Black Cat Blades

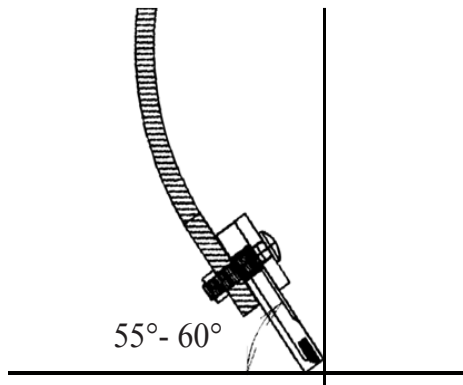
Operating Angles

Reversible Front Plows:

The recommended installation requires a moldboard angle of 65 to 75 degrees from the road surface. This approach angle allows the JOMA blade to function at its best. Closer to straight up and down could result in chatter and bounce.



One Way Plows:



The recommended installation requires a moldboard angle of approximately 55-60 degrees. This approach angle allows the JOMA blade to function at its best. Lesser angles can allow the moldboard to bottom out before the JOMA blade is worn.

JOMA 6000 by Black Cat Blades

Installation / Operation Notes

1. Road Surfaces: The JOMA system performs best on hard surfaces such as asphalt, concrete and tar or chip seal roads.
2. During operation the JOMA blade “seats” itself up into the rubber holder. Do not be alarmed by the rubber being pushed up above the clamping bar; this is normal. As a result of this seating process the JOMA blade actually becomes narrower in its first few hours of operation. This can be mistaken for premature wear. Please note: the seating of the JOMA is normal and the blade may appear to have worn when it has actually only compressed. A careful examination of the end of the blade can expose the carbide insert to determine actual wear or the **front wear indicator** shows the amount of carbide left behind the line.



3. When installing new JOMA blades with runner shoes or castors, they should be adjusted approximately 3/4” off the surface. This adjustment places enough weight on the JOMA to force the required seating process in the first few hours of operation. Once the JOMA blade has seated, the runners will be contacting the road surface and carrying a portion of the weight of the plow, extending blade life.
4. Operating a plow in a straight-on (dozer) position can result in the blades chattering. Angling the plow should eliminate this. Other causes of excessive chatter or bouncing are weak trip mechanisms or insufficient down pressure (plow weight of 150-350 pounds/foot is recommended).

JOMA 6000 by Black Cat Blades

5. If excessive heat is built up on the bottom edge (usually experienced only during dry plowing operations), the rubber may delaminate from the bottom edge of the segments. The thin layer of rubber on the front edge does not affect the performance of the blade and can be removed with a utility knife if unsightly. This thin flap of rubber has also been blamed for excessive snow deflection over the plow and should be removed if this problem is experienced.
6. Individual sections of the JOMA system can be replaced if necessary without replacing the entire set if the remaining pieces are less than 50% worn. The seating of the new JOMA blade section into the rubber will compensate for the difference allowing for a level cutting edge.



Contact Us

As always, if you have any questions about your Air Pro 30R or other products made by Grouser, feel free to contact us.

Grouser Products

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Fax: 1-701-282-8131

E-mail: grouser@grouser.com

Website: www.grouser.com

Improvements

Grouser Products Inc. is continually striving to improve its products. We reserve the right to change prices, specification, or equipment at any time without notice. We also reserve the right to make improvements or changes when it becomes practical and possible to do so without incurring any obligation to make changes or additions to the equipment sold previously.

Warranty

Grouser Products warrants to the original purchaser of each item that the product be free from defects in material and workmanship under normal use and service for a period of two years. If such equipment is found to be defective within two years, it is the obligation of Grouser Products under this warranty to repair or replace (exclusive of the cost of labor and transportation), any equipment or parts, in the judgment of Grouser Products to be defective in material or workmanship.

All equipment or parts claimed to be defective in material or workmanship must be made available for inspection at the place of business of a dealer authorized to handle the equipment covered by this warranty, or, upon request by Grouser Products, shipped to the Grouser Products factory in West Fargo, North Dakota. Grouser Products shall have no obligation to bear the cost of labor or transportation in connection with replacement or repair of any such defective parts in the setup process.

This warranty covers only defects in material and workmanship. It does not cover depreciation or damage caused by normal wear, accident, improper assembly, improper adjustments, improper maintenance including lack of proper lubrication, or improper use. Therefore, Grouser Products liability under this warranty shall not be effective or actionable unless the equipment is assembled, maintained and operated in accordance with the operating instructions accompanying the equipment. Grouser Products shall have no liability if the equipment has been altered or reworked without the written authorization of Grouser Products.

Grouser Products' parts, which are furnished under this warranty and properly installed, shall be warranted to the same extent as the original parts under this warranty if, and only if, such parts are found to be defective within the original warranty period covering the original equipment.

