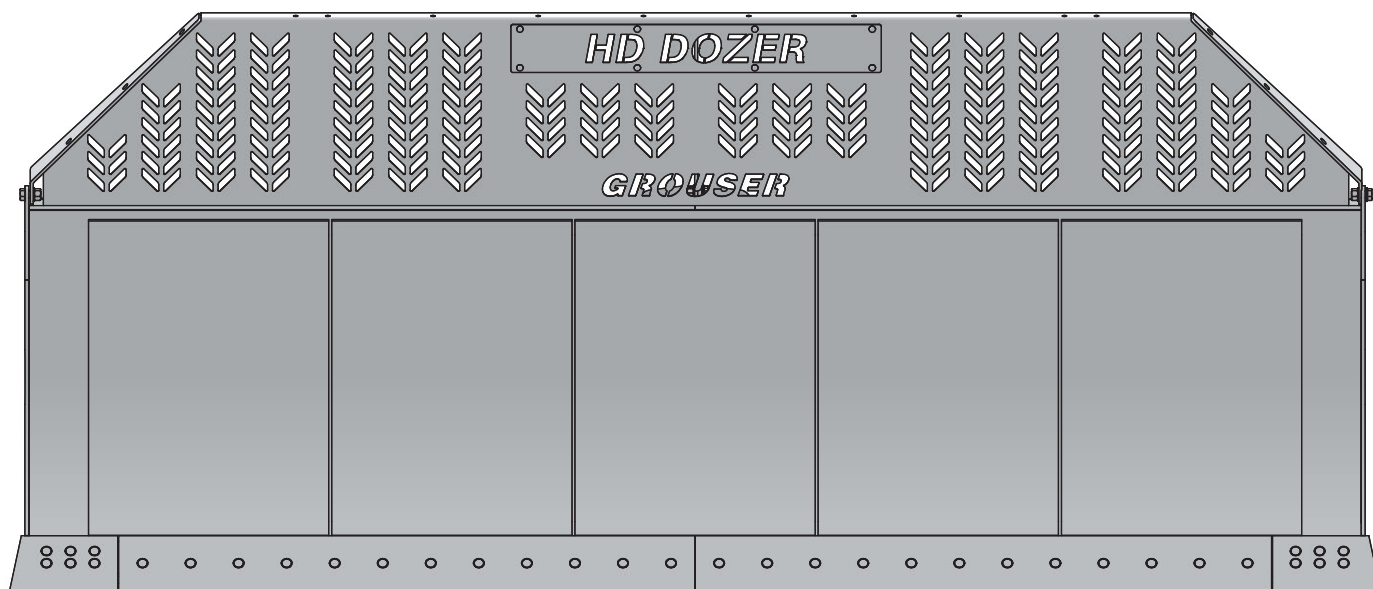




Ag Pro HD

Owner's Manual & Parts Book



Grouser Products

755 2nd Ave NW - West Fargo, ND 58078

Phone: 1-701-282-7710

Fax: 1-701-282-8131

E-mail: grouser@grouser.com

Website: www.grouser.com

Purchase Date
Serial Number
Model Number
Tractor Model
Dealer

Description	Page
Welcome To The Owner	2
Safety Precautions, Torque Specifications & Pre-Installation	3
Decals	4
Maintenance & Lubrication	5
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Tractor Side Hydraulics	7-9
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Blade Connection and Disconnection	11
Skid Shoe Adjustment & Tilt Plate Adjustment	12
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Thank you for your recent purchase of a Grouser Ag Pro HD Dozer. 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 Ag Pro HD Dozer. 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 number, 701-282-7710, or send us an e-mail at info@grouser.com. You can expect us to respond to your e-mail in a timely manner.

HAHT	Hydraulic Angle - Hydraulic Tilt
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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 Ag Pro HD Dozer:

1. The Ag Pro HD Dozer 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 Ag Pro HD Dozer 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 Ag Pro HD Dozer:

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 Ag Pro HD Dozer:

1. Thoroughly clean the Ag Pro HD Dozer before storage. Use paint where necessary to prevent rust.
2. Check the Ag Pro HD Dozer 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

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.

AG PRO HD 14

PN: 27-14845

PN: 27-18208

PN: 27-14842-XX

XX = Length of Blade



WARNING

PINCH AREA
Keep away

Failure to comply could result in death or serious injury.

27-2409

PN: 27-2409
Left and Right Side



GROUSER PRODUCTS

755 2nd Ave NW-West Fargo, ND 58078
800-747-6182/701-282-7710
1020XXXX

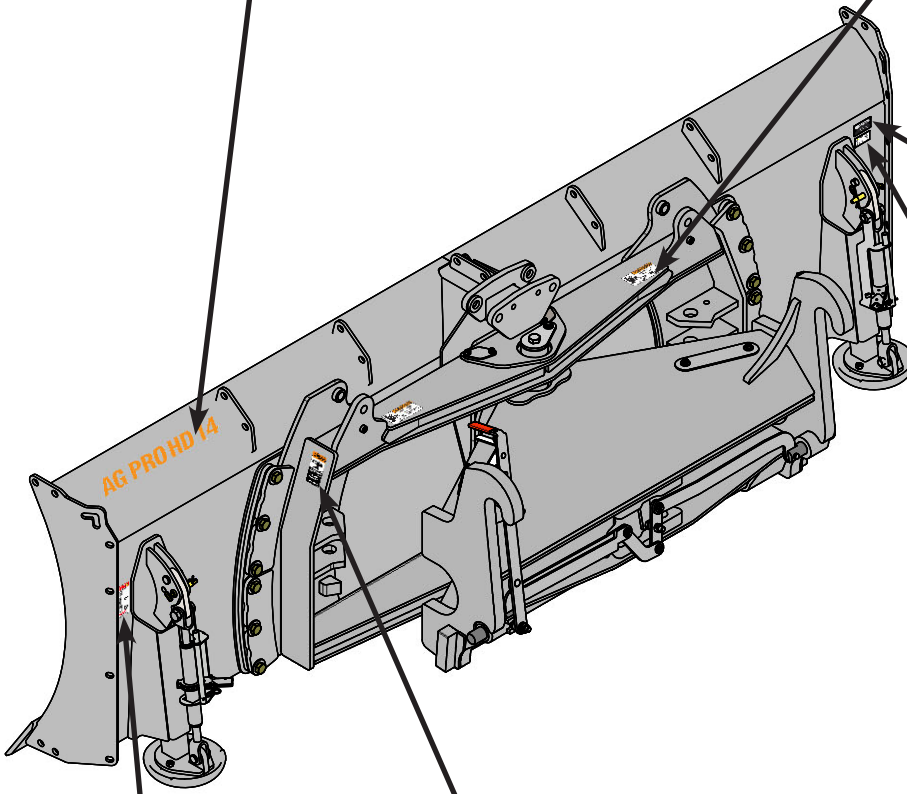
This product may be protected by one or more of the following patents and trademarks:
6431288 6425222 2227958 2227958
6527155 6807841 6855229 7151552

WARNING: This product can expose you to chemicals including lead and lead compounds, mineral oils, and phthalates which are known to the State of California to cause cancer and birth defects or other reproductive harm.

For more information go to www.P65Warnings.ca.gov

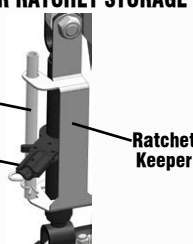
27-40962R1

PN: 27-40962



STOP

PROPER RATCHET STORAGE



Handle
Ratchet Handle
Ratchet Keeper


Ratchet Handle Must Be Secured Between The Ratchet Keeper And The Handle When Not In Use

FAILURE TO FOLLOW MAY RESULT IN DAMAGE

Parts May Vary Slightly In Appearance From Your Product
27-40917

PN: 27-40917
Left and Right Side

WARNING



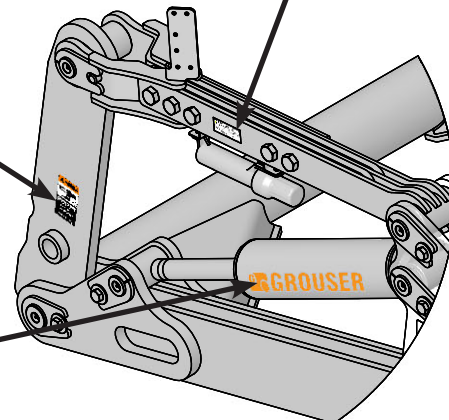
PINCH POINT

AVOID INJURY FROM FRAME PIVOT AND STOPS.

- Keep hands and feet away.

27-9503

PN: 27-9503
Left and Right Side

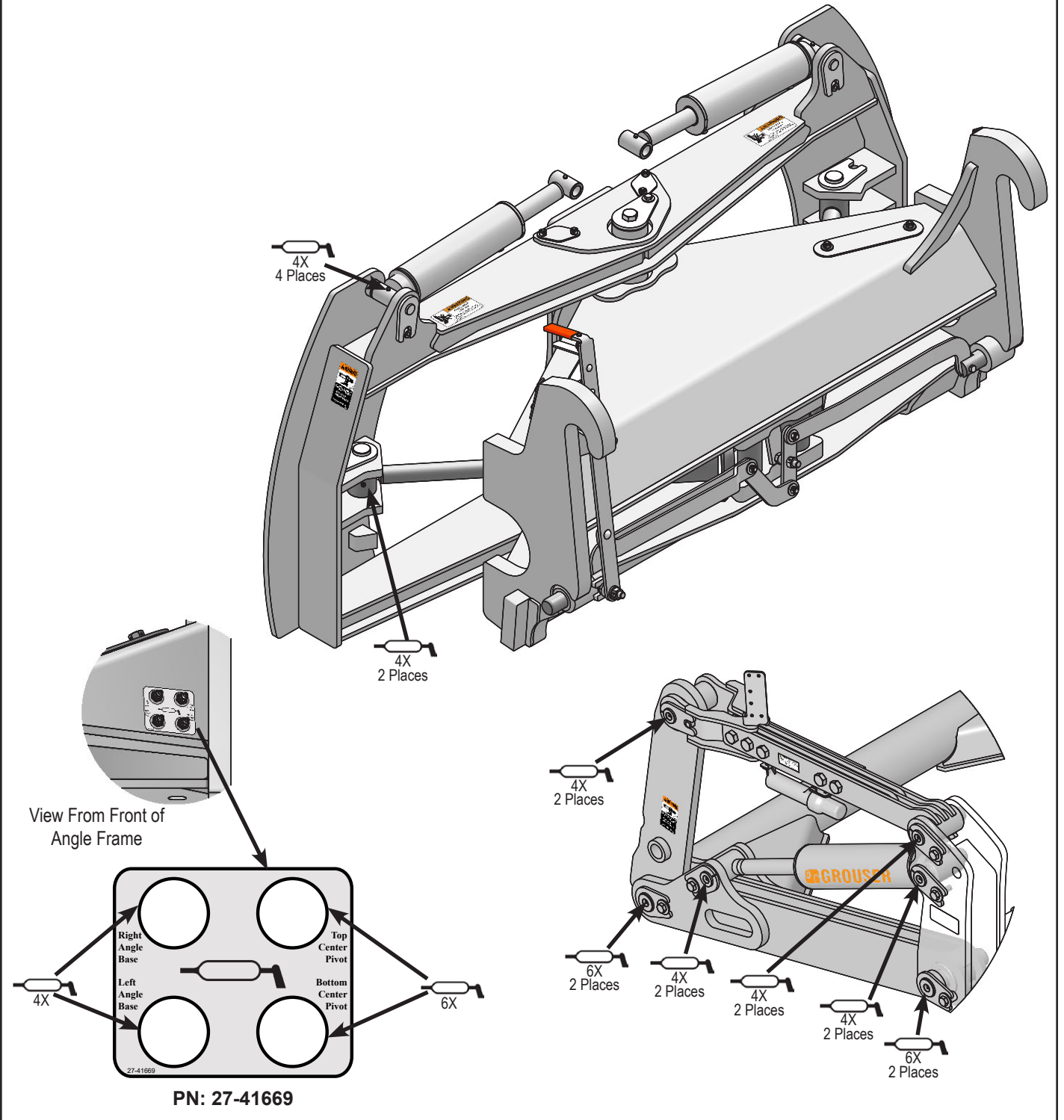


G GROUSER

PN: 27-9504

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 Ag Pro HD Dozer. For cutting edge information, see pages 21 .
- Check hydraulic cylinders and hoses for damage or leaks. For replacement parts, see hydraulic pages 6, 8-9 and 18-19.
- 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.
- For multi-coupler maintenance, see pages 23-24.
- Inspect all tilt-ways for wear. See page 12 for tilt plate adjustment.
- Replace parts with original parts only.

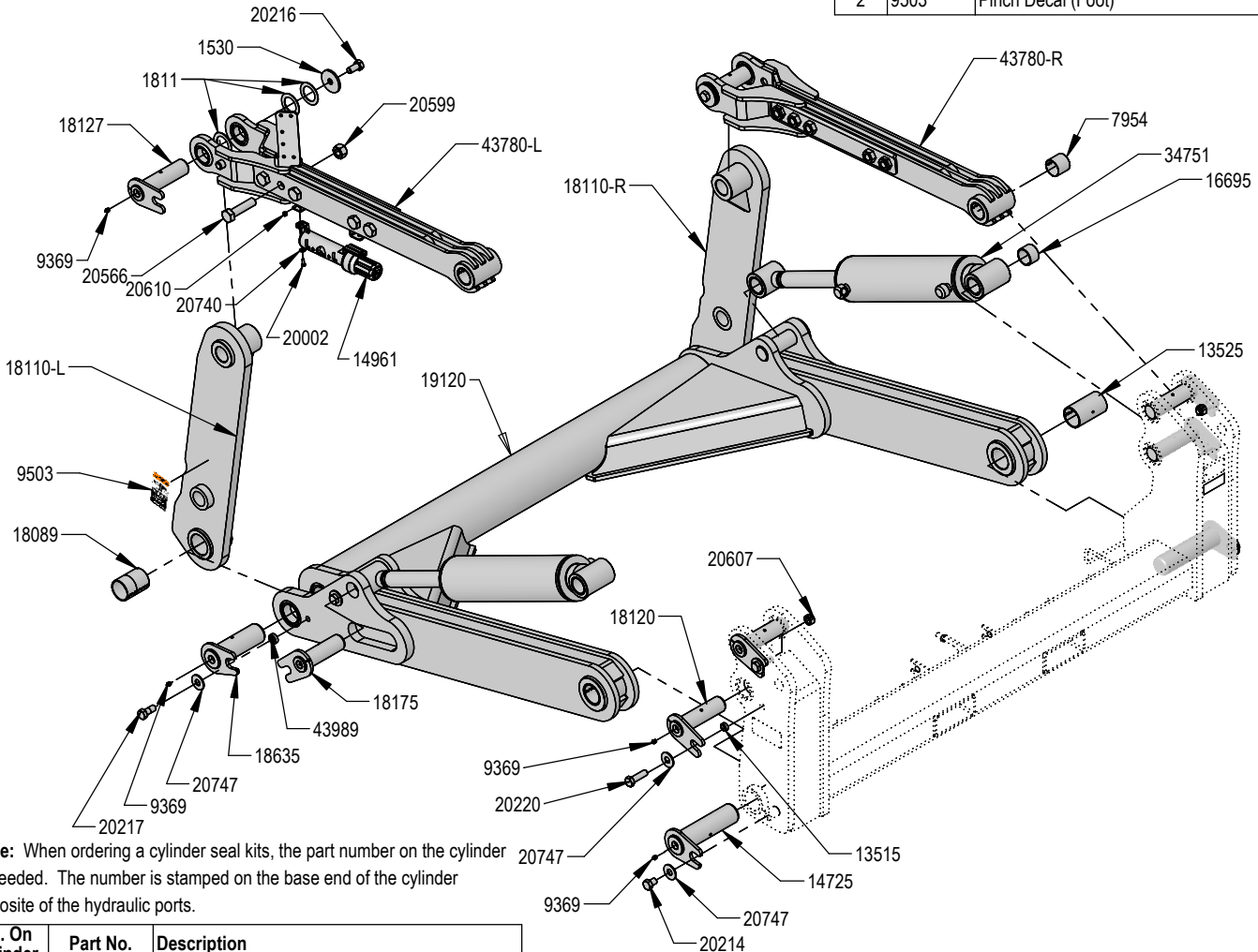


Some assembly of Lift System components is necessary. Follow the steps listed below. See diagram below for the correct hardware and orientation of parts.

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.
4. Insert pins and hardware to attach the male quick attaches to the lift frame, and to the top arms. Use 2" washers as shims to keep top arm pins tight and in place. Only use as many as needed until pin is tight while still allowing top arm to rotate.
5. Torque all fasteners according to the specifications on Page 3.

QTY.	PART NO.	DESCRIPTION
6	13515	Spacer, NR Pin
2	13525	2.75 x 2.50 x 4.75 Spring Bushing
2	14725	Lift Frame / UC Pin
1	14961	Manual Canister Small
2	1530	3/4" x 3".00 x .25" HD Washer CZ
8	16695	2.25 x 2.00 x 1.50 Spring Bushing
2	18089	2.75 x 2.50 x 3.75 Spring Bushing
6	1811	2" Washer
1	18110-L	Male Quick Attach, Ag Pro S - Left
1	18110-R	Male Quick Attach, Ag Pro S - Right
4	18120	Top Pin Weld
2	18127	Top Arm Pin Weld
2	18175	Lift Cyl Pin Weld
2	18635	Ag Pro Plus QA Pin
1	19120	HD Lift Frame
2	20002	1/4" X 3/4" Hex Bolt Gr 5 NC CZ

QTY.	PART NO.	DESCRIPTION
2	20214	3/4" X 1" Hex Bolt Gr 5 NC CZ
2	20216	3/4" X 1-1/2" Hex Bolt Gr 5 NC CZ
4	20217	3/4" X 1 3/4" Hex Bolt Gr 5 NC CZ
4	20220	3/4" X 2-1/2" Hex Bolt Gr 5 NC CZ
10	20566	1" X 4" Hex Bolt Gr 8 NC YZ
10	20599	1" Hex Nut Gr 8 NC CZ
2	20607	3/4" Hex Center Lock Nut Gr 5 NC CZ
2	20610	1/4" Nylock Hex Nut Gr 5 NC CZ
2	20740	1/4" Flat Washer CZ
10	20747	3/4" Flat Washer CZ
2	34751	5 x 18 Hydraulic Cylinder
1	43780-L	Ag Pro Plus Manual Pitch Top Arm Assy
1	43780-R	Ag Pro Plus Manual Pitch Top Arm Assy
2	43989	.75 x 1.25 NR Pin Bushing
4	7954	2.25 x 2.00x 2.00 Spring Bushing
12	9369	Straight 1/8" NPT Grease Zerk
2	9503	Pinch Decal (Foot)



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.: 43880

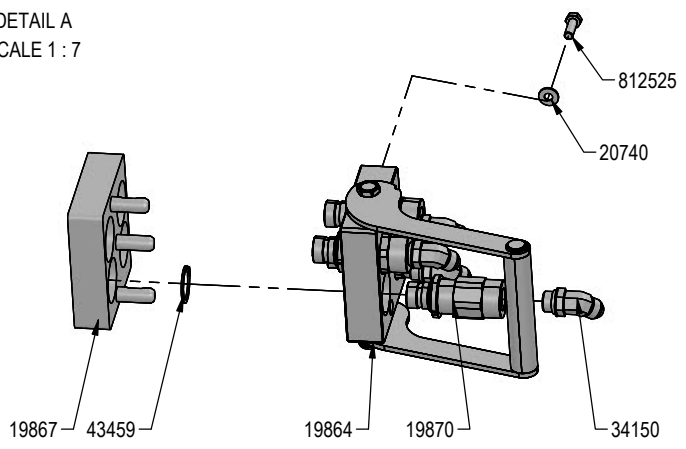
Note: Refer to Pages 8-9 for the correct hose lengths and hose location.

Note: All connections are identified by spiral bands. 2 bands are from the base end of a cylinder and 1 band is from the rod end of a cylinder. Orange = Lift, Green = Tilt and Red = Angle.

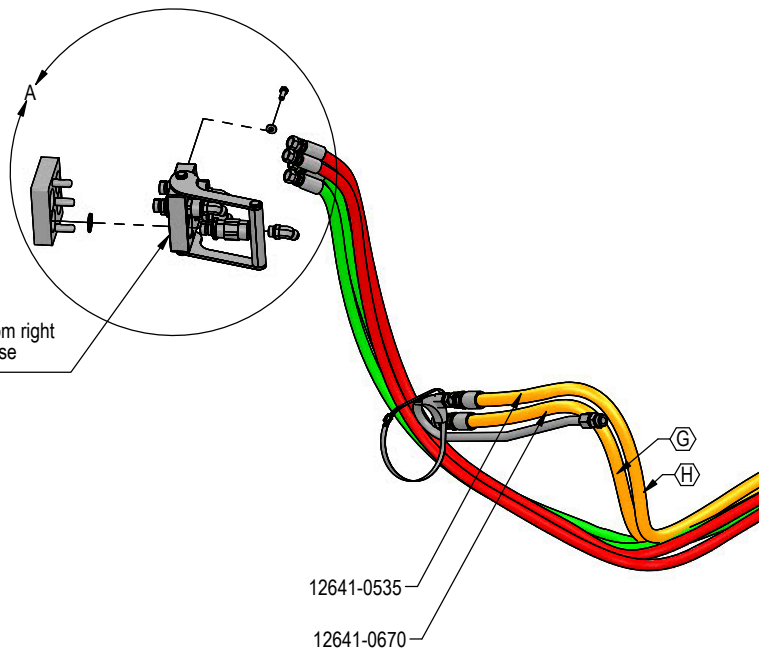
1. Connect the lift hoses to the lift cylinders.
2. Verify that hoses are not twisted and protected from rubbing on any sharp edges. See Pages 8-10 for proper hose routing.
3. Attach the multi-coupler to the top arm mount and install the 45° fittings.
4. Identify each remaining hose at the front of the undercarriage by the colored bands on end of hose and connect hose to corresponding 45° fitting on multi-coupler. Refer to Pages 8-10 for proper hose locations.
5. Hoses were plugged into the rear of the tractor during the undercarriage installation.
6. Continue on Page 11 for initial startup instructions.

QTY.	PART NO.	DESCRIPTION
2	11699-10-10	JIC Union
2	12631-0780	78" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
2	12631-0810	81" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
4	12631-3200	320" (26.67") x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
2	12637-3000	300" (25") x 3/4" -12JIC/-12JIC Abrasion Resistant Hos
2	12641-0535	53.5" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
2	12641-0670	67" x 5/8" -10JIC/-12JIC Abrasion Resistant Hose
2	12932	Cylinder Saddle
2	12933	Hose Clamp (worm drive - 5.0)
4	31-15199-8-8	JIC Union Elbow 90°
2	18240	Lift Cylinder Steel Line
9	18888-GR	-12 Green - Spiral Band
9	18888-RD	-12 Red - Spiral Band
15	19494-OR	-16 Orange - Spiral Band
1	19864	Multi-Coupling Plate - 4 Port Fixed
1	19867	Multi-Coupling Plate - 4 Port - Cap
4	19870	Multi-Coupling Plate - Male Coupler
2	20740	1/4" Flat Washer CZ

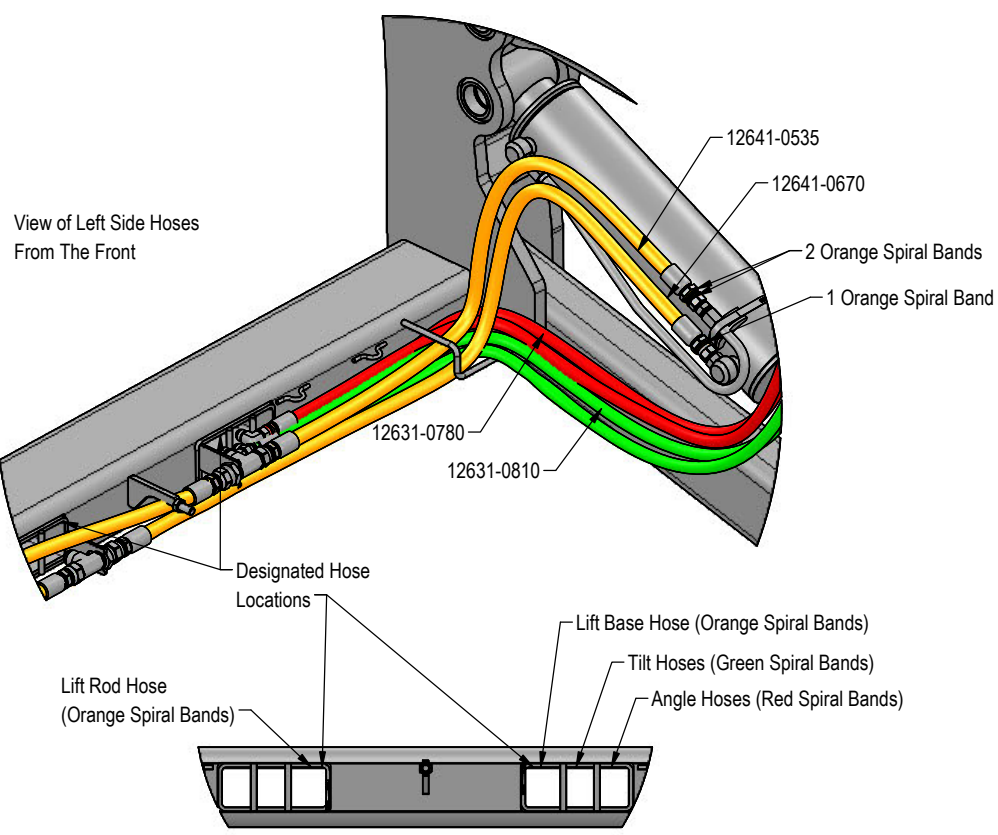
DETAIL A
SCALE 1 : 7

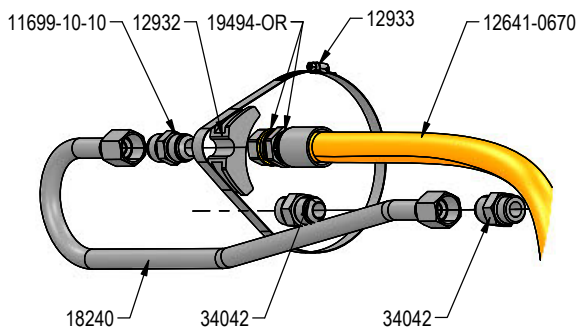


Hoses Not Drawn to Scale
Every hydraulic function from the front to the back of the system is designated by a \circ and a letter and can also be referenced on the Hydraulic Schematics on Page 22.



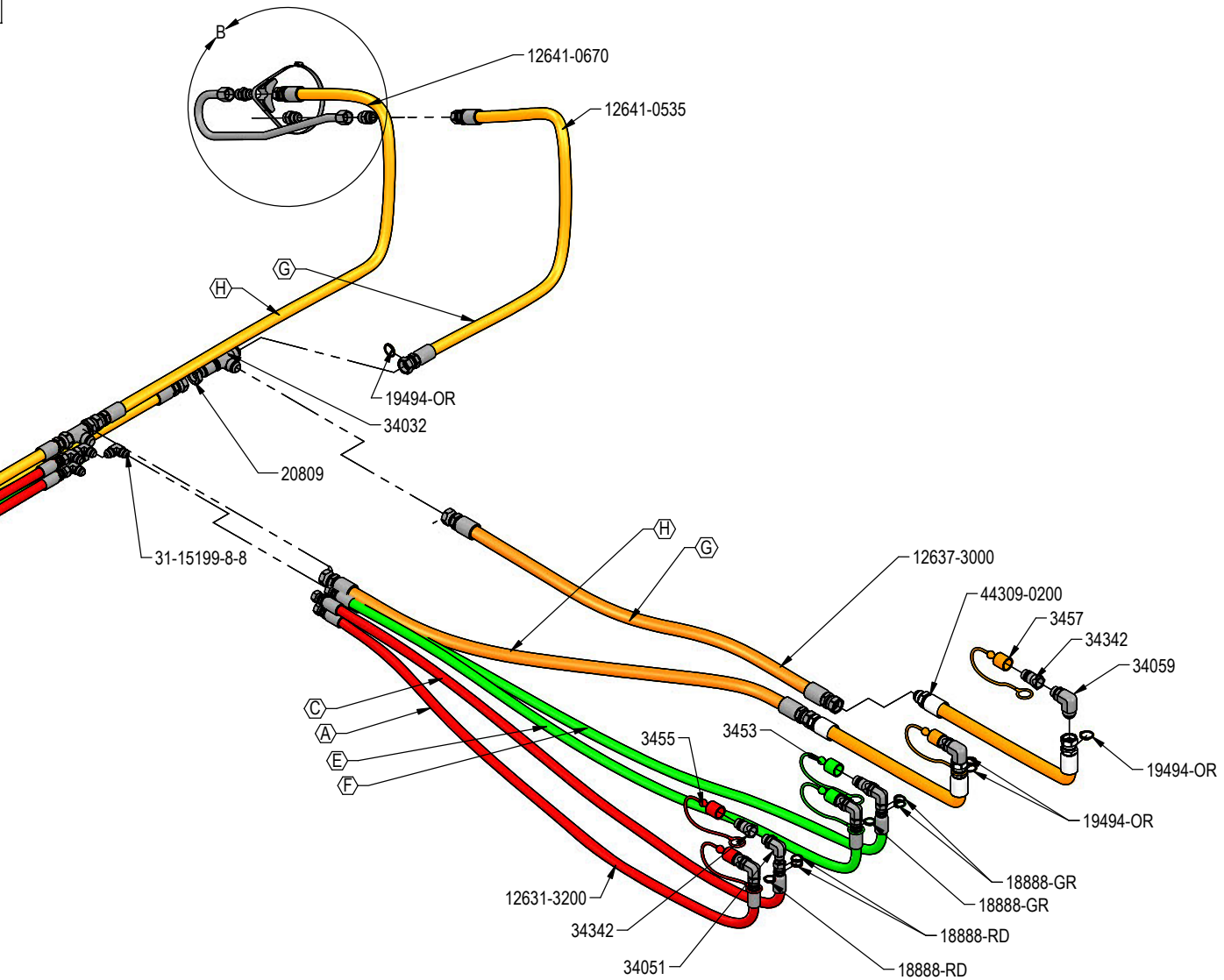
See Detail C in bottom right corner for correct hose locations



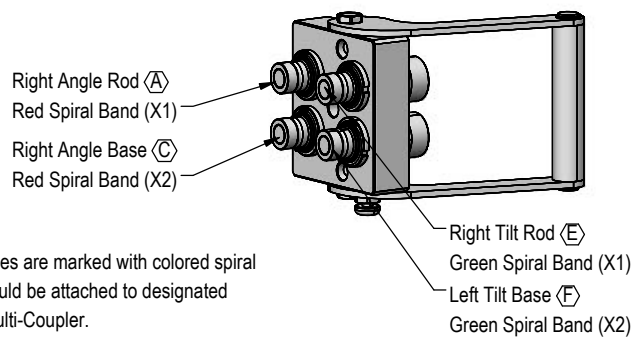


DETAIL B
SCALE 1:6

QTY.	PART NO.	DESCRIPTION
2	20809	1-1/16" Hex Jam Nut NF CZ
2	34032	Bulkhead Run Tee JIC
4	34042	Straight JIC x O-Ring
4	34051	Straight Thread Elbow 90° JIC x O-Ring
2	34059	Straight Thread Elbow 90° JIC x O-Ring
4	34150	Straight Thread Elbow 45° JIC x O-Ring
6	34342	Tappet Quick Coupler Male - Poppet Style
2	3453	Pioneer Dust Cap Tilt (Green)
2	3455	Pioneer Dust Cap Angle (Red)
2	3457	Pioneer Dust Cap Lift (Orange)
4	43459	Multi-Coupling Plate - Snap Ring
2	44309-0200	20" x 3/4" -12MJIC/-12JIC Hose
2	812525	M8-1.25 x 25mm Class 10.9 Hex Bolt CZ



DETAIL C



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 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 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.

Tilt Function:

1. Use a lift or jack to tilt the blade system until the left side is fully up, loosen the fittings on the rod and base end of both tilt cylinders.
2. Actuate the tilt function to extend the right tilt cylinder and supply oil to the base end of the right cylinder and to the rod end of the left cylinder.
3. When oil starts to flow from the fittings, stop oil flow, and tighten the fitting on the base end of the right cylinder and rod end of the left cylinder.
4. Remove the lift or jack.
5. Continue to actuate the tilt function until oil flows out of the remaining open ports.
6. Actuate the tilt function in the opposite direction.
7. When all air is removed from the tilt system, stop oil flow, and tighten the remaining fittings on the cylinders.
8. Cycle both cylinders in and out 5 more times.
9. Check tractor oil level and fill if necessary.

Angle Function:

1. Loosen the fittings on the rod and base end of the left angle cylinder.
2. Actuate the angle function to extend the left angle cylinder and supply oil to the base end of the left cylinder.
3. When oil starts to flow from the fittings, stop oil flow, and tighten the fitting on the base end of the left cylinder.
4. Continue to actuate the left angle function in the same direction until the cylinder is fully extended.
5. Actuate the left angle function in the opposite direction.
6. When oil starts to flow from the rod end fitting, stop oil flow, and tighten the rod end fitting on the left angle cylinder.
7. Continue to actuate the left angle function until cylinder is fully retracted.
8. Loosen the fittings on the rod and base end of the right angle cylinder.
9. Actuate the angle function to extend the right angle cylinder and supply oil to the base end of the right cylinder.
10. When oil starts to flow from the fittings, stop oil flow, and tighten the fitting on the base end of the right cylinder.
11. Continue to actuate the right angle function in the same direction until the cylinder is fully extended.
12. Actuate the right angle function in the opposite direction.
13. When oil starts to flow from the rod end fitting, stop oil flow, and tighten the rod end fitting on the right angle cylinder.
14. Continue to actuate the right angle function until cylinder is fully retracted.
16. Cycle the left cylinder in and out 5 more times and then the right cylinder in and out 5 more times.
16. 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.

To Connect:

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

1. If necessary, lift the locking latch and push the quick attach lock handle on the left side of the lift system to open the quick attach system. Refer to Page #16-17 for further clarification on the quick attach system.
2. Drive the tractor forward slowly until the top edge of the male quick attach is under the top hook of the female quick attach on the blade assembly.
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 stop of the female quick attaches are against the front of the male quick attaches.
4. Shut off the tractor engine and set the parking brake.
5. Pull 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.
7. If initial startup, refer to Page 10 before operating any function of the blade.

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 covers from the parking stations on the blade assembly and install on the multi-couplers on the top arms.
5. Plug the blade side multi-couplers into the parking station.
6. Lift the locking latch and push 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.

Skid Shoe Adjustment:

1. Remove the handle from the ratchet keeper by pulling the hitch clip pin and insert it into the handle receiver on the ratchet jack.
2. Loosen the locking nut on the ratchet jack.
3. Hold the body of the ratchet jack and rotate the ratchet jack handle to raise or lower the skid shoes.
4. If the skid shoe is not moving in the proper direction, flip the forward/reverse lever on the handle (see Figure 2). Rotate the ratchet jack handle again to move the skid shoe in the desired direction.
5. After the skid shoe is adjusted, rotate the ratchet jack handle until it rests against the ratchet keeper. Return the removable handle to the ratchet keeper ensuring that the ratchet jack handle is captured by the removable handle and the ratchet keeper. Secure the handle to the ratchet keeper with the hitch clip pin.
6. Tighten the locking nut against the ratchet jack body to keep it from moving.
7. When skid shoes are worn up to the bolt heads, replace skid shoes.

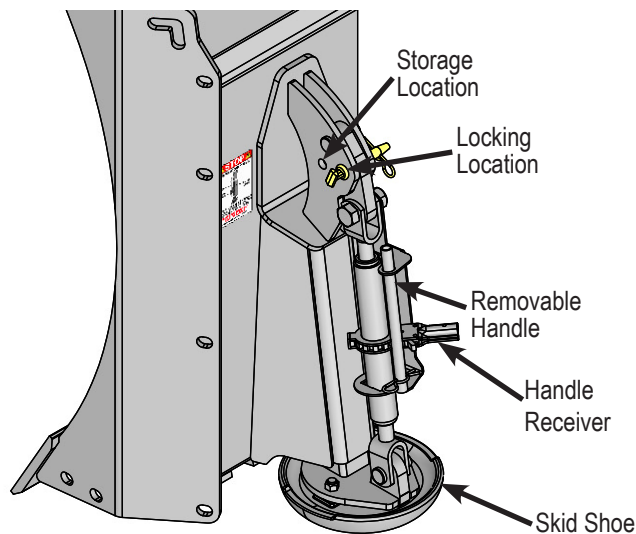


Figure 1

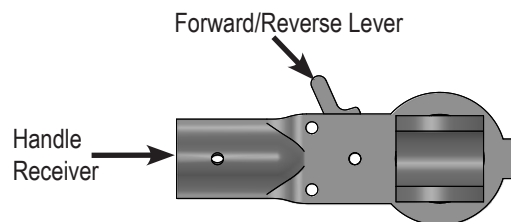


Figure 2

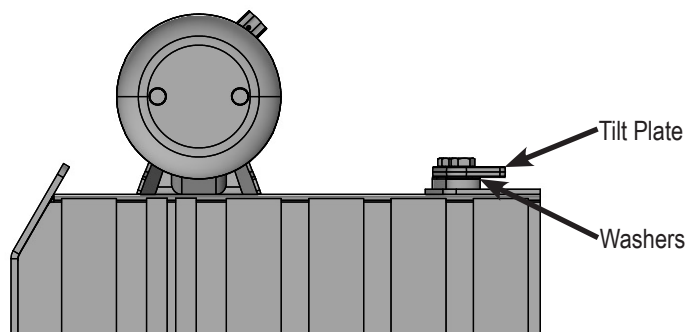
Preferred Method:

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

Non-Preferred Method:

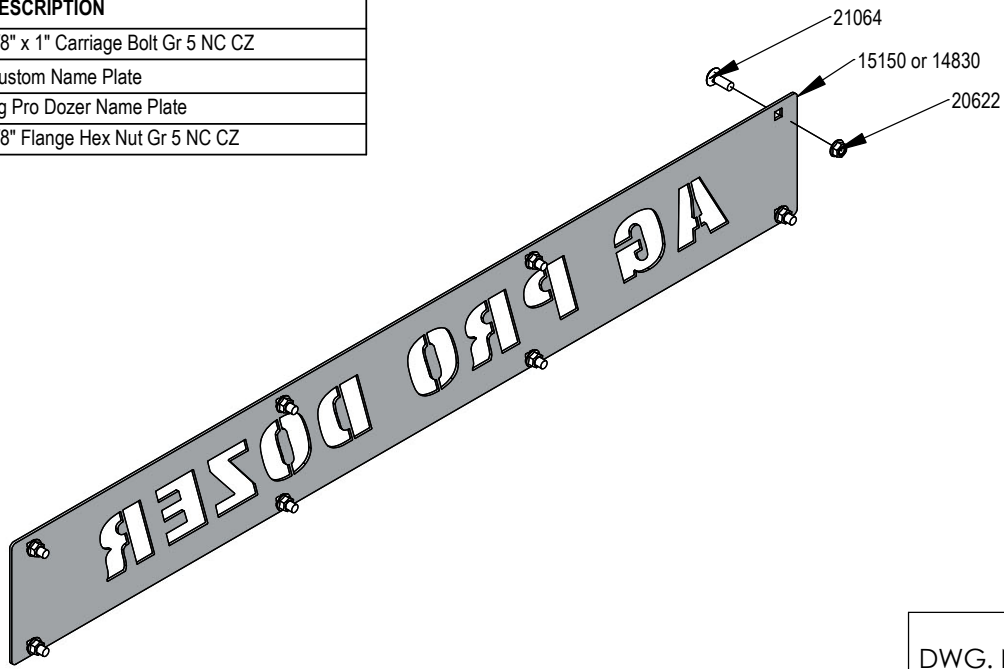
Note: Do not remove all of the bolts at the same time if the blade is not laying face down.

1. The non-preferred blade position for adjusting the tilt plates is the blade in the upright position.
2. Remove the 3 bolts from the top right tilt plate and the bottom left tilt plate..
3. Add or remove washers as needed to adjust tilt-way clearance to 1/16" - 1/8".
4. Reinstall the bolts in the top right tilt plate and the bottom left tilt plate.
5. Follow Steps #2-4 for the bottom right tilt plate and the top left tilt plate.
6. Once the tilt-way clearance is set, torque bolts to 640 ft-lbs.



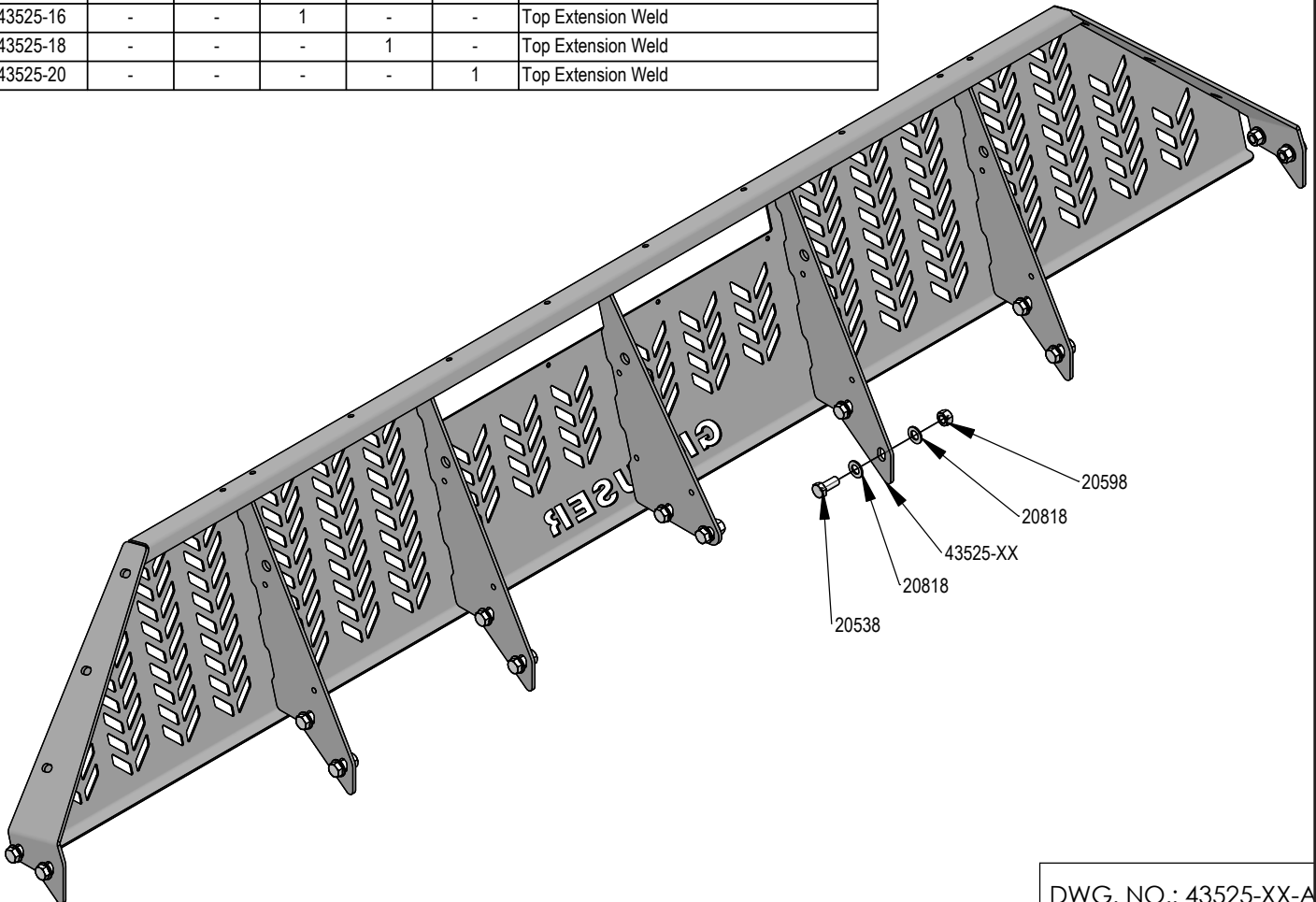
PART NO.	Qty.	DESCRIPTION
21064	8	3/8" x 1" Carriage Bolt Gr 5 NC CZ
14830*	1	Custom Name Plate
15150	1	Ag Pro Dozer Name Plate
20622	8	3/8" Flange Hex Nut Gr 5 NC CZ

* Part Not Shown



DWG. NO.: 15150-A
or
14830-A

PART NO.	12'/QTY.	14'/QTY.	16'/QTY.	18'/QTY.	20'/QTY.	DESCRIPTION
20538	14	14	18	18	22	7/8" X 2" Hex Bolt Gr 8 NC YZ
20598	14	14	18	18	22	7/8" Hex Nut Gr 8 NC CZ
20818	28	28	36	36	44	7/8" Flat Washer Heavy Duty Gr 8 (USS) YZ
43525-12	1	-	-	-	-	Top Extension Weld
43525-14	-	1	-	-	-	Top Extension Weld
43525-16	-	-	1	-	-	Top Extension Weld
43525-18	-	-	-	1	-	Top Extension Weld
43525-20	-	-	-	-	1	Top Extension Weld

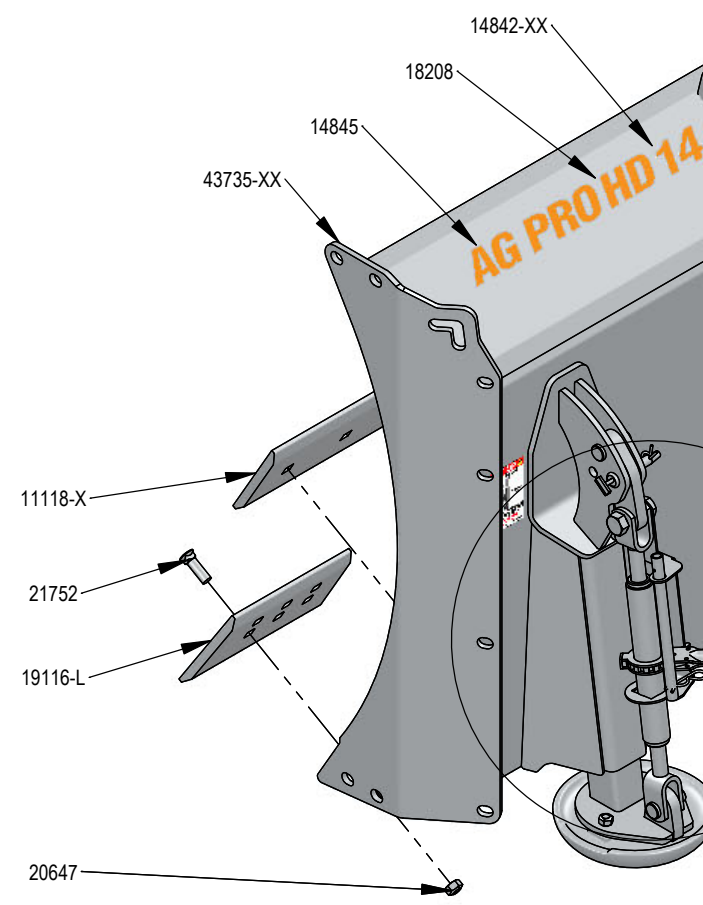
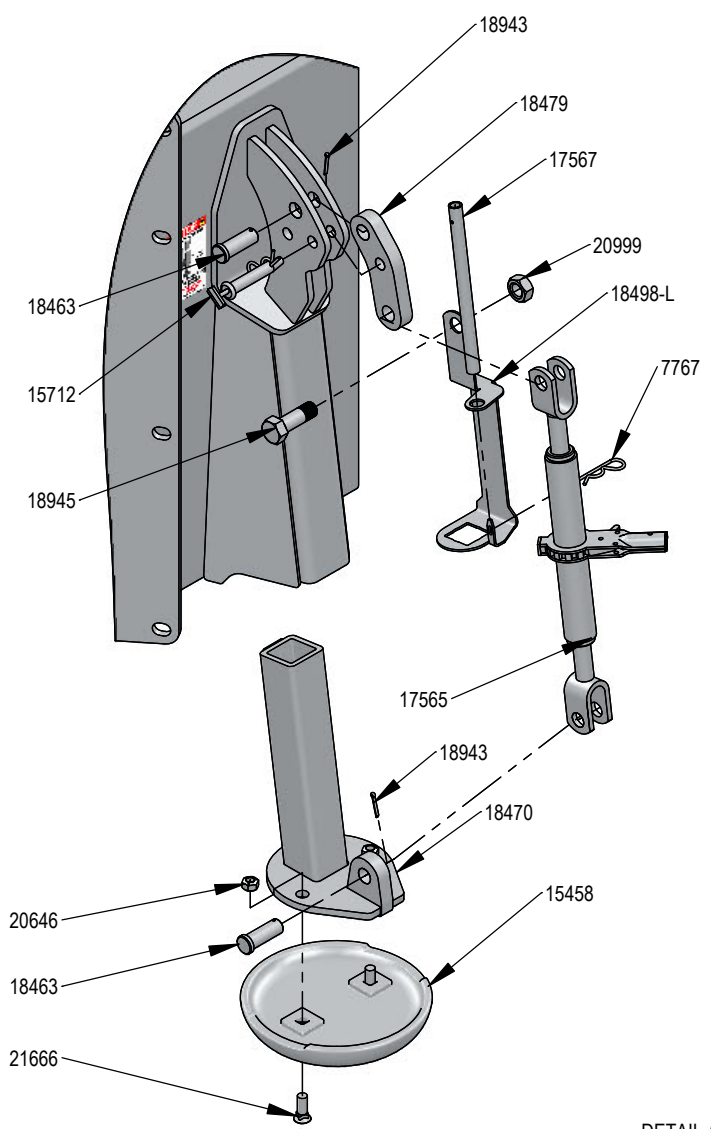


DWG. NO.: 43525-XX-A

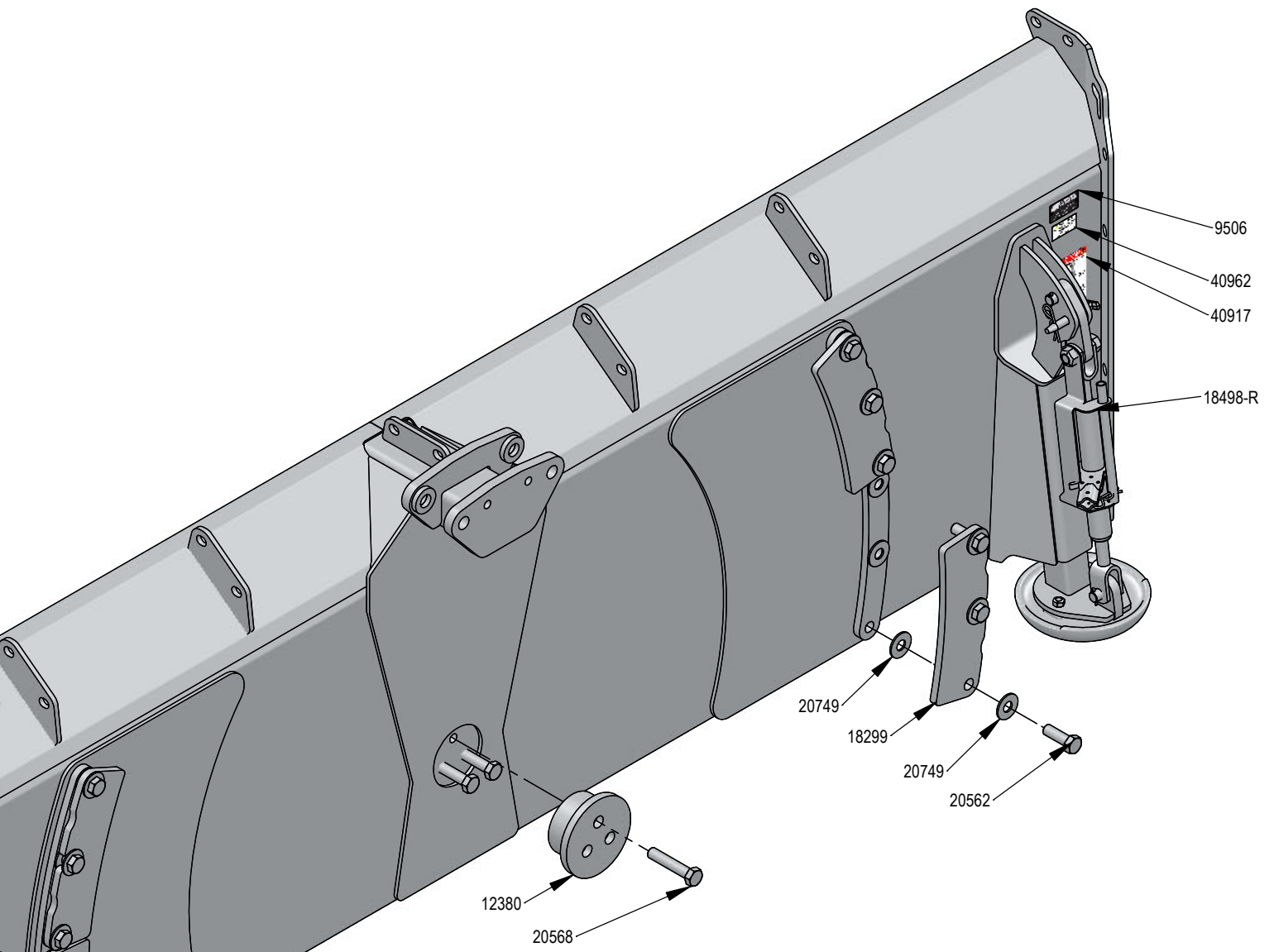
Name Plate

Top Extension

PART NO.	12'/QTY.	14'/QTY.	16'/QTY.	18'/QTY.	20'/QTY.	DESCRIPTION
12380	1	1	1	1	1	Center Tilt Way Cover
14842-12	1	-	-	-	-	12' Decal
14842-14	-	1	-	-	-	14' Decal
14842-16	-	-	1	-	-	16' Decal
14842-18	-	-	-	1	-	18' Decal
14842-20	-	-	-	-	1	20' Decal
14845	1	1	1	1	1	Ag Pro Blade Decal
43735-12	1	-	-	-	-	HD Blade Weld
43735-14	-	1	-	-	-	HD Blade Weld
43735-16	-	-	1	-	-	HD Blade Weld
43735-18	-	-	-	1	-	HD Blade Weld
43735-20	-	-	-	-	1	HD Blade Weld
15458	2	2	2	2	2	12" Round Mushroom Skid Shoe
18208	1	1	1	1	1	HD Decal
15712	2	2	2	2	2	3/4" x 3-1/4" Pin with Hitch Pin Clip
17565	2	2	2	2	2	Ratchet Jack
17567	2	2	2	2	2	Handle, Ratchet Jack
18299	4	4	4	4	4	Tilt Plate
18463	4	4	4	4	4	1" x 2.75" Pin
18470	2	2	2	2	2	Mushroom Skid Shoe Mount
18479	2	2	2	2	2	Skid Shoe Link



DETAIL A
SCALE 1 : 12



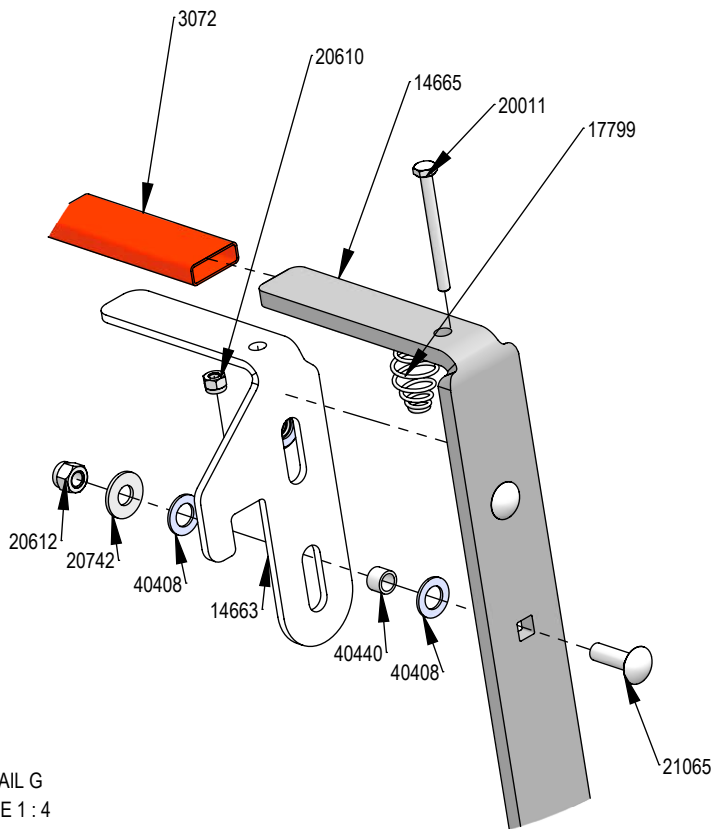
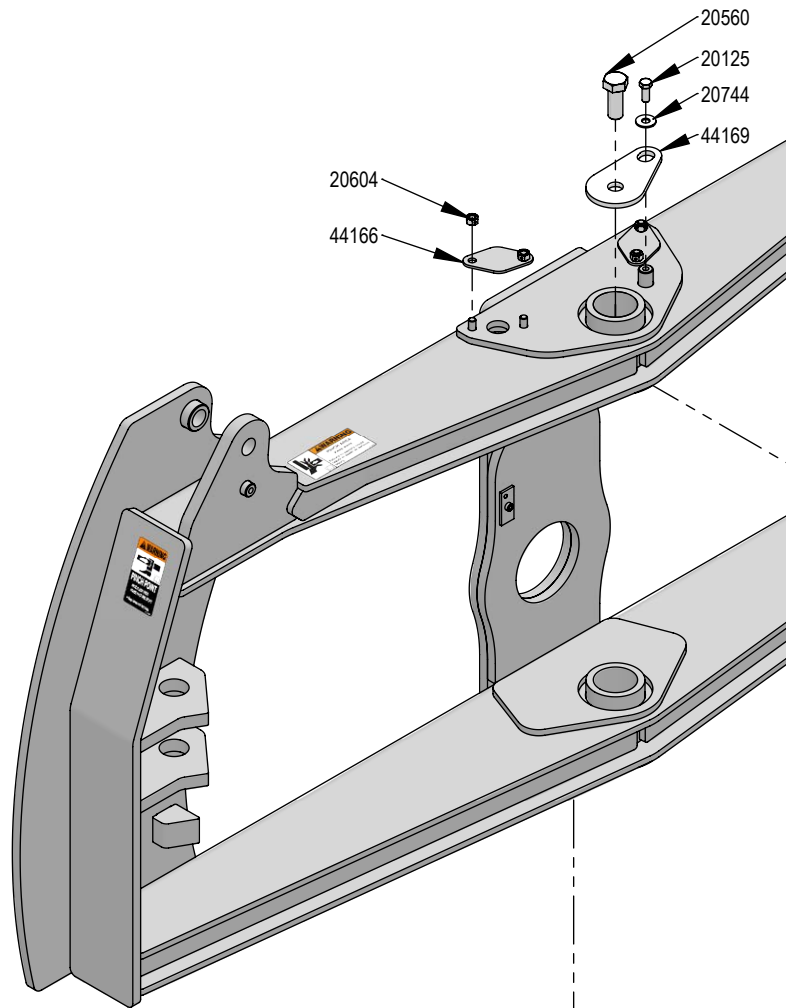
* Part Not Shown

PART NO.	12'/QTY.	14'/QTY.	16'/QTY.	18'/QTY.	20'/QTY.	DESCRIPTION
18498-L	1	1	1	1	1	Ratchet Keeper - Left
18498-R	1	1	1	-	1	Ratchet Keeper - Right
18943	4	4	4	4	4	3/16" x 1-1/2" Cotter Pin
18945	2	2	2	2	2	1" x 3" Hex Bolt Gr 5 NC - Short Thread
20562	12	12	12	12	12	1" X 3" Hex Bolt Gr 8 NC YZ
20568	3	3	3	3	3	1" X 5" Hex Bolt Gr 8 NC YZ
20646	4	4	4	4	4	5/8" Hex Top Lock Nut Gr 5 NC CZ
20749	24	24	24	24	24	1" Flat Washer CZ
20999	2	2	2	2	2	1" Hex Top Lock Nut Gr 8 NC YZ
21666	4	4	4	4	4	5/8" X 1-3/4" Plow Bolt Gr 5 NC (#3 Flat Head)
40917	2	2	2	2	2	Ratchet Holder Storage Decal
40962	1	1	1	1	1	Warning Prop 65 Decal
7767	2	2	2	2	2	Cylinder Pin Clip
9506	1	1	1	1	1	Grouser Dozer Metal Serial Tag
19116-L	1	1	1	1	1	8" End Bit
19116-R*	1	1	1	1	1	8" End Bit
21752	32	36	40	44	48	3/4" X 2-1/2" Plow Bolt Gr 8 NC
20647	32	36	40	44	48	3/4" Hex Top Lock Nut Gr 5 NC CZ
11118 - 5	2	-	-	-	-	5' - 3/4"x 8" Cutting Edge
11118 - 6	-	2	-	-	3	6' - 3/4"x 8" Cutting Edge
11118 - 7	-	-	2	-	-	7' - 3/4"x 8" Cutting Edge
11118 - 8	-	-	-	2	-	8' - 3/4"x 8" Cutting Edge

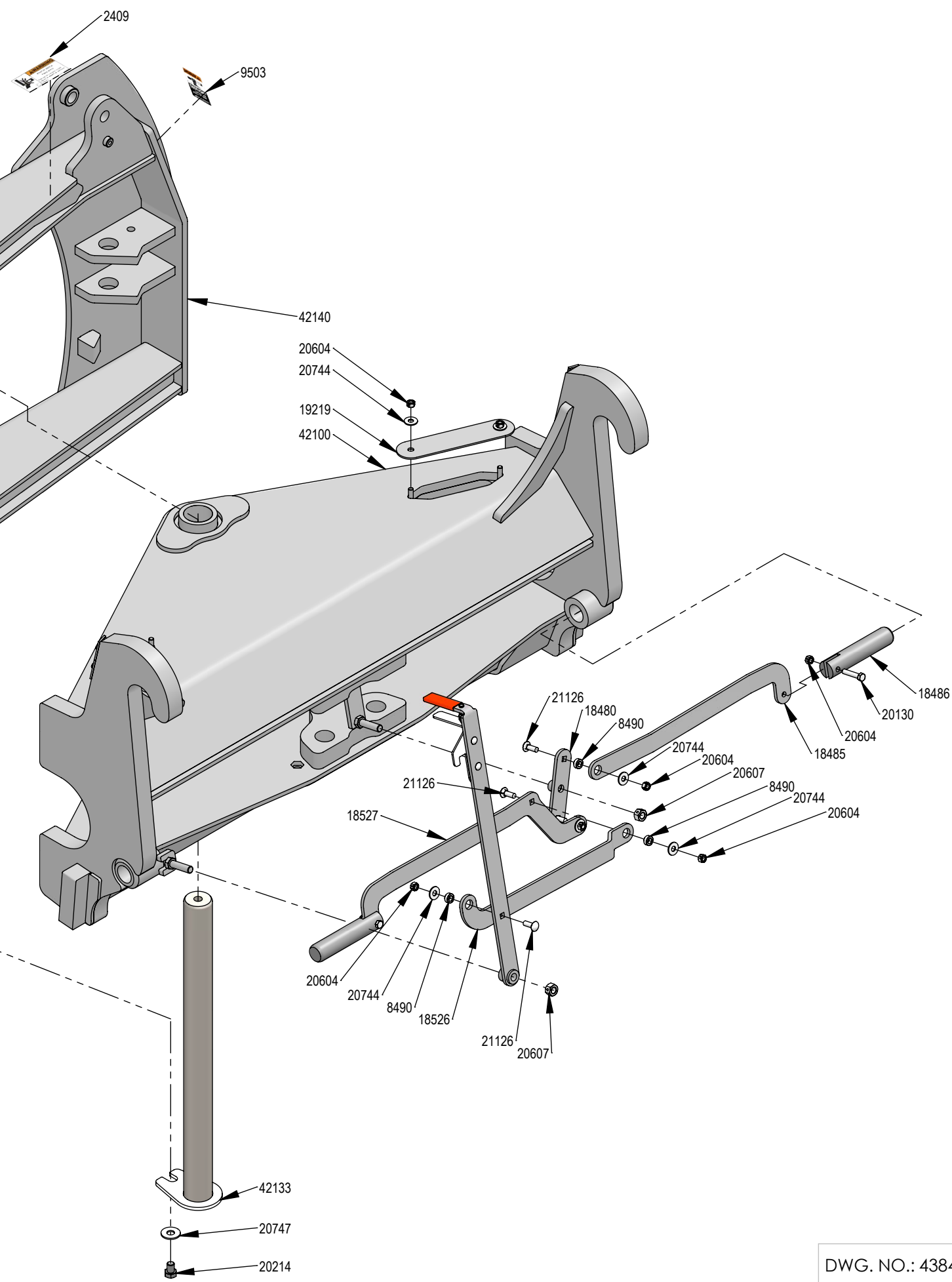
DWG. NO.: 43735-XX-A

Hydraulic Angle-Hydraulic Tilt System

PART NO.	QTY.	DESCRIPTION
20125	1	1/2" X 1-1/4" Hex Bolt Gr 5 NC CZ
20214	1	3/4" X 1" Hex Bolt Gr 5 NC CZ
20560	1	1" X 2-1/2" Hex Bolt Gr 8 NC YZ
19219	1	Cover Plate
2409	2	Pinch Decal (Hand)
42100	1	Angle Frame
42133	1	Angle Pin Weld
42140	1	Tilt Frame Weld
44166	2	Plate, BH Cover
44169	1	Plate, Pin Retainer
20744	7	1/2" Flat Washer CZ
20747	1	3/4" Flat Washer CZ
20604	12	1/2" Hex Center Lock Nut Gr 5 NC CZ
9503	2	Pinch Decal (Foot)
20607	2	3/4" Hex Center Lock Nut Gr 5 NC CZ
18480	1	Bell Crank Weld
14665	1	Handle Weld
18526	1	Link, Handle To Left Pin
18527	1	Link, Left Pin
18485	1	Link, Right Pin
18486	2	Ag Pro SS QA Lock Pin
14663	1	Latch
8490	4	Spacer
17799	1	Latch Spring
40440	2	.378" ID x .503" OD x .375" Spacer
3072	1	Rubber Handle
21126	4	1/2" x 1-1/2" Carriage Bolt Gr 5 NC CZ
20130	2	1/2" X 2-1/2" Hex Bolt Gr 5 NC CZ
20011	1	1/4" X 2-3/4" Hex Bolt Gr 5 NC CZ
21065	2	3/8" x 1-1/4" Carriage Bolt Gr 5 NC CZ
20742	2	3/8" Flat Washer CZ
20612	2	3/8" Nyloc Hex Nut Gr 5 NC CZ
20610	1	1/4" Nylock Hex Nut Gr 5 NC CZ
40408	4	3/8" Flat Nylon Washer



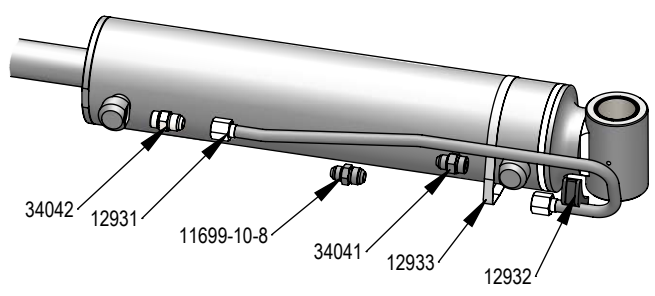
DETAIL G
SCALE 1 : 4



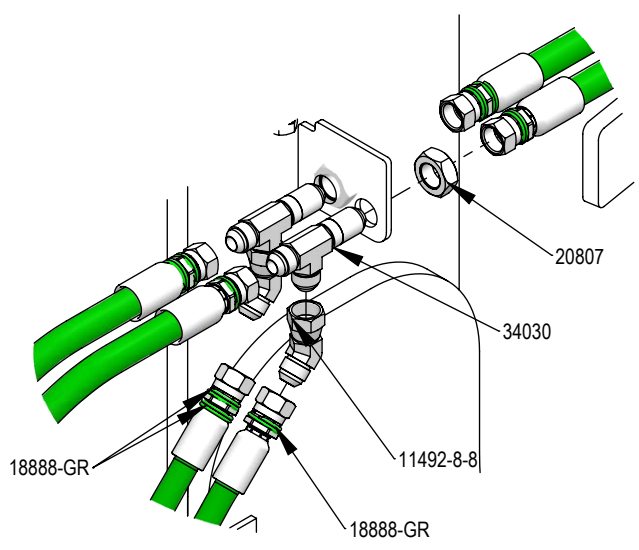
DWG. NO.: 43845

PART NO.	QTY.	DESCRIPTION
11492-8-8	6	Male JIC x Female JIC Swivel Nut Elbow 45°
11699-10-8	2	JIC Union
12631-0280	4	28" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose
12931	2	Formed Steel Line
12932	2	Cylinder Saddle
12933	2	Hose Clamp (worm drive - 5.0)
13515	6	Spacer, NR Pin
16695	8	2.25" x 2.00" x 1.50" Spring Bushing
18490	2	Angle Cylinder Rod Pin Weld
18888-GR	18	-12 Green - Spiral Band
18888-RD	18	-12 Red - Spiral Band
18956	1	Multi-Coupling Plate - 4 Port Parking Station
19217	1	Rubber Seal
19218	1	Seal Clamp Plate
19311-03-P-100	4	Hose Clamp
19312-03	4	Twin Cover Plate
19865	4	Multi-Coupling - Female Coupler
19866	1	Multi-Coupling Plate - 4 Port Mobile
20037	4	5/16" X 1-3/4" Hex Bolt Gr 5 NC CZ
20040	2	5/16" X 2-1/2" Hex Bolt Gr 5 NC CZ
20125	2	1/2" X 1-1/4" Hex Bolt Gr 5 NC CZ
20217	2	3/4" X 1 3/4" Hex Bolt Gr 5 NC CZ
20219	2	3/4" X 2-1/4" Hex Bolt Gr 5 NC CZ
20220	2	3/4" X 2-1/2" Hex Bolt Gr 5 NC CZ
20604	2	1/2" Hex Center Lock Nut Gr 5 NC CZ
20607	6	3/4" Hex Center Lock Nut Gr 5 NC CZ
20611	2	5/16" Nyloc Hex Nut Gr 5 NC CZ
20744	2	1/2" Flat Washer CZ
20747	6	3/4" Flat Washer CZ
20794	2	1/2" Fender Washer (2.00" OD x .500" ID x .125")
20807	2	3/4" Hex Jam Nut NF CZ
34030	2	Bulkhead Run Tee JIC
34040	4	Straight JIC x O-Ring
34041	2	Straight JIC x O-Ring
34042	2	Straight JIC x O-Ring
34050	6	Straight Thread Elbow 90° JIC x O-Ring
34060	2	Branch Tee JIC x O-Ring
34728	2	4 x 12 Cylinder Tube Ends
34750	2	5 x 20 Cylinder Bushed Tube Ends
34953	2	Zip / Cable Tie, 250# 22.24"
41638	4	Pin Weld
42138	2	Pin Weld
43459	4	Multi-Coupling - Snap Ring
44303	2	75.5" x 1/2" -8JIC/-8JIC Abrasion Resistant Hose (w/1 Collar)
44328	2	128.5" x 3/8" -8JIC/-8JIC Abrasion Resistant Hose (w/ 3 Collars)
44608	1	36.5" x 3/8" -8JIC/-8JIC Abrasion Resistant Hose
44609	1	38.5" x 3/8" -8JIC/-8JIC Abrasion Resistant Hose
44613	1	40" x 3/8" -8JIC/-8JIC Abrasion Resistant Hose
44614	1	40.5" x 3/8" -8JIC/-8JIC Abrasion Resistant Hose
7772	1	Valve

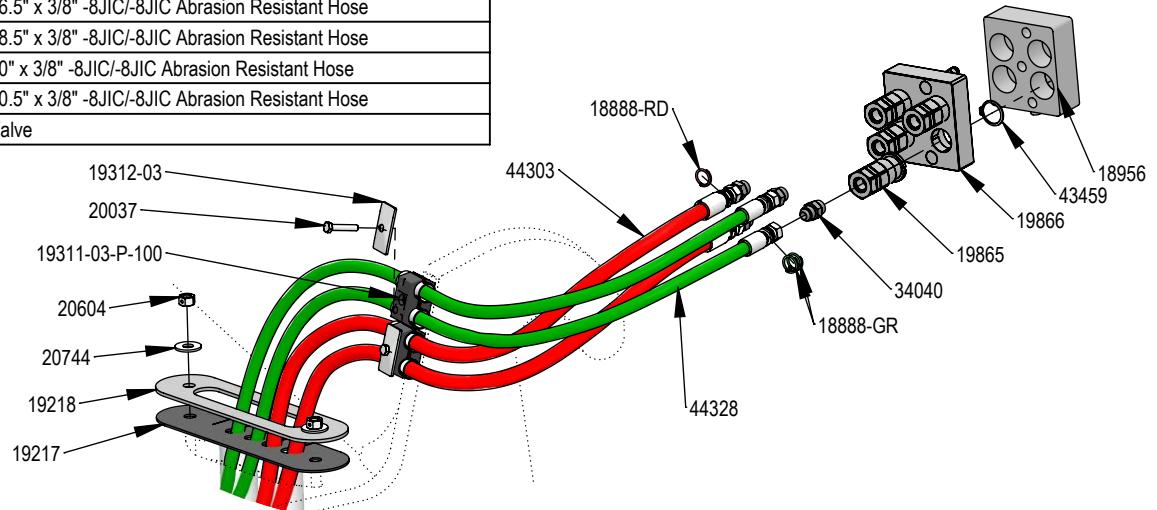
DETAIL A
SCALE 1 : 10

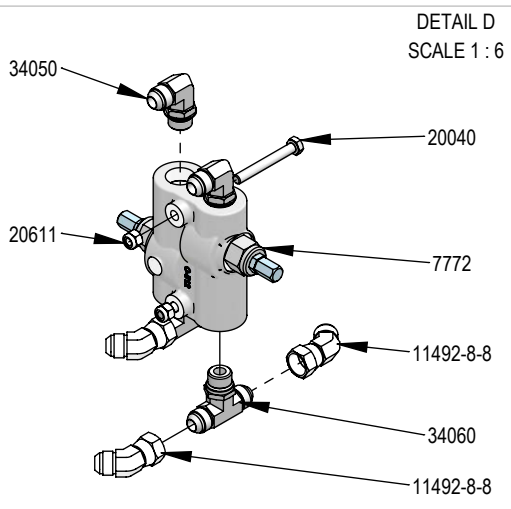
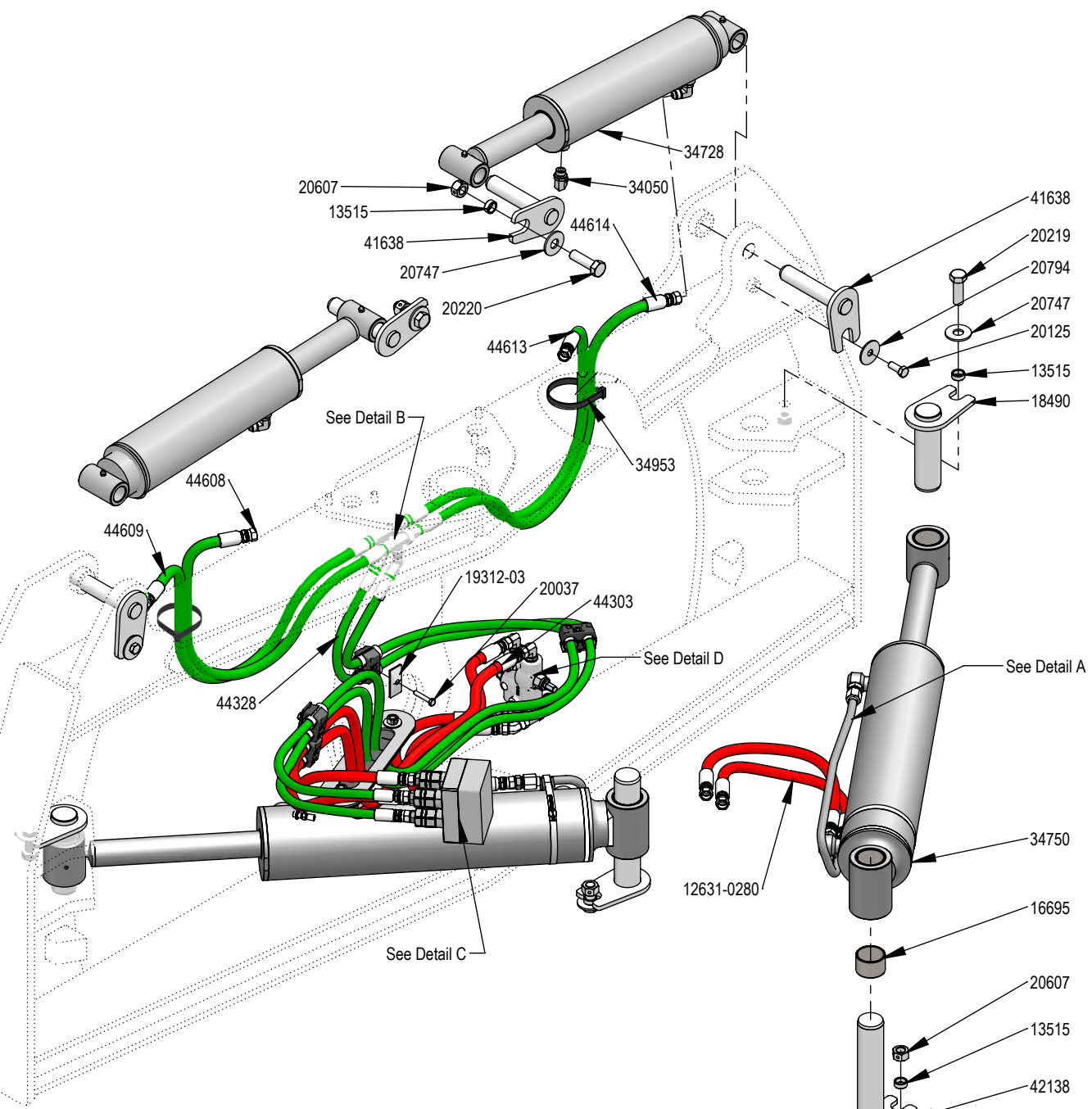


DETAIL B
SCALE 1 : 5

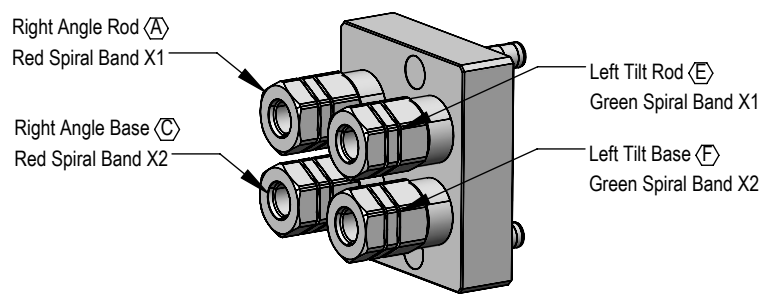


DETAIL C
SCALE 1 : 10





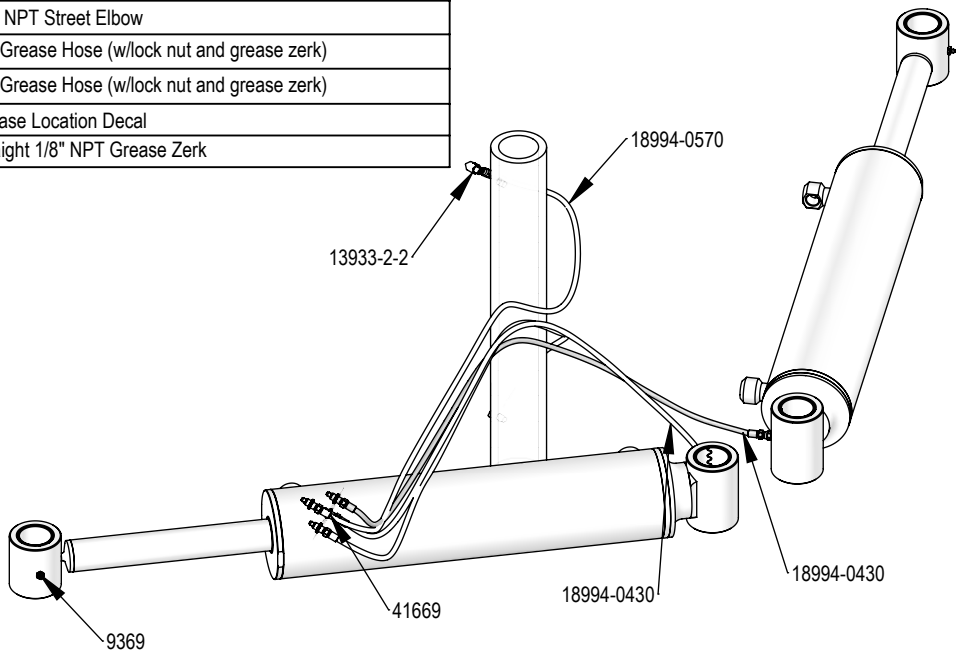
Every hydraulic function from the front to the back of the system is designated by a ◻ and a letter and can also be referenced on the Hydraulic Schematic on Page 22.



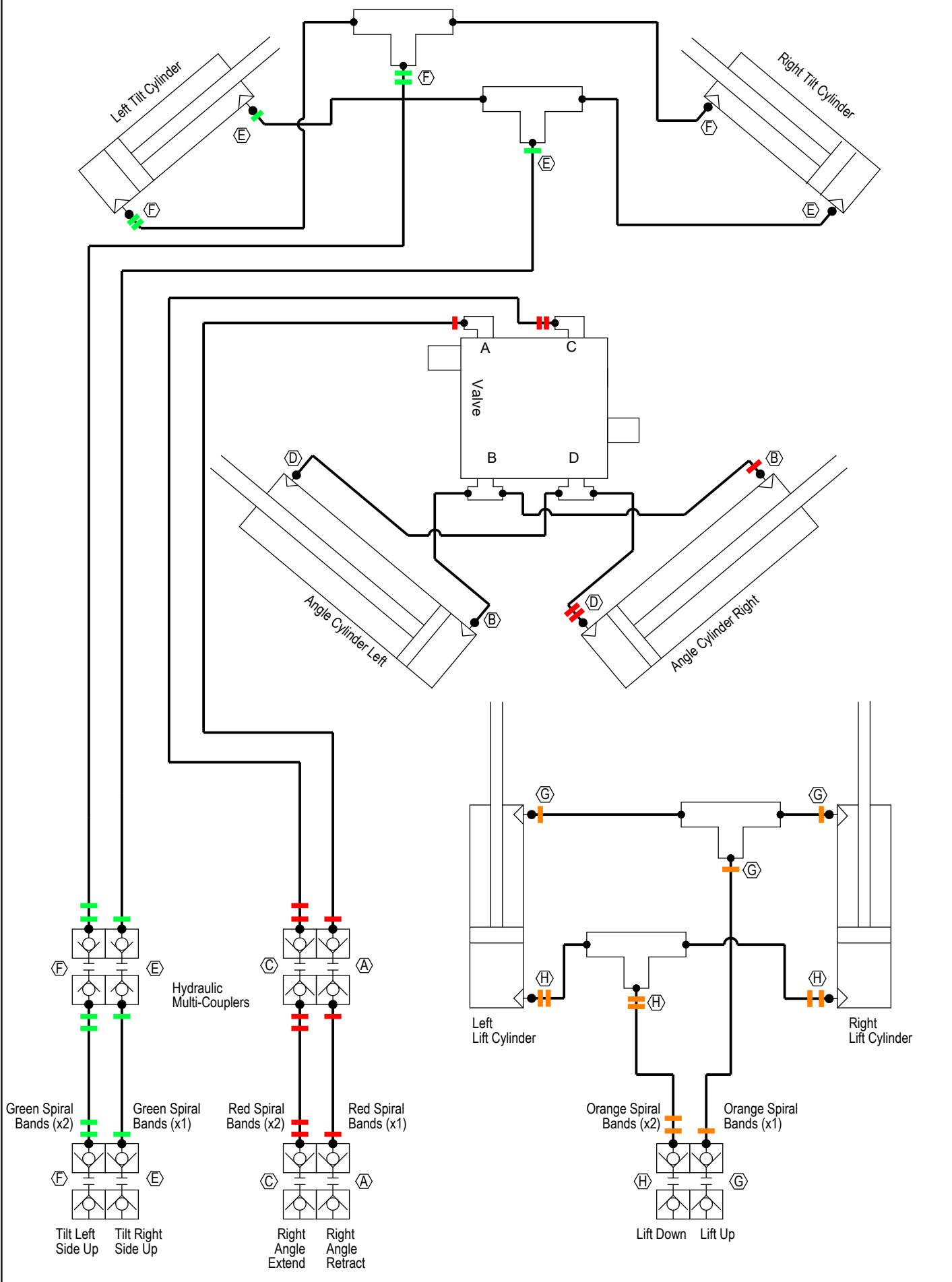
Note: View is from Multi-Coupler Installed on Top Arm.
All hoses are marked with colored spiral bands and should be attached to designated ports on the Multi-Coupler.

DWG. NO.: 43845

PART NO.	QTY.	DESCRIPTION
13933-2-2	2	1/8" NPT Street Elbow
18994-0430	2	44" Grease Hose (w/lock nut and grease zerk)
18994-0570	2	57" Grease Hose (w/lock nut and grease zerk)
41669	1	Grease Location Decal
9369	2	Straight 1/8" NPT Grease Zerk





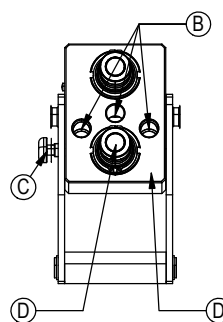


Tractor Service Valve

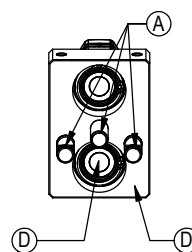
Before Each Use:

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



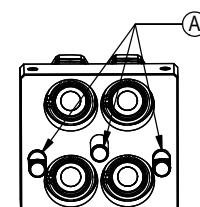
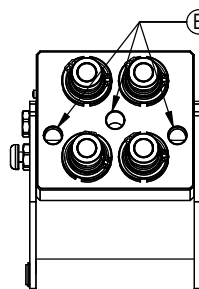
Mobile Half



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.

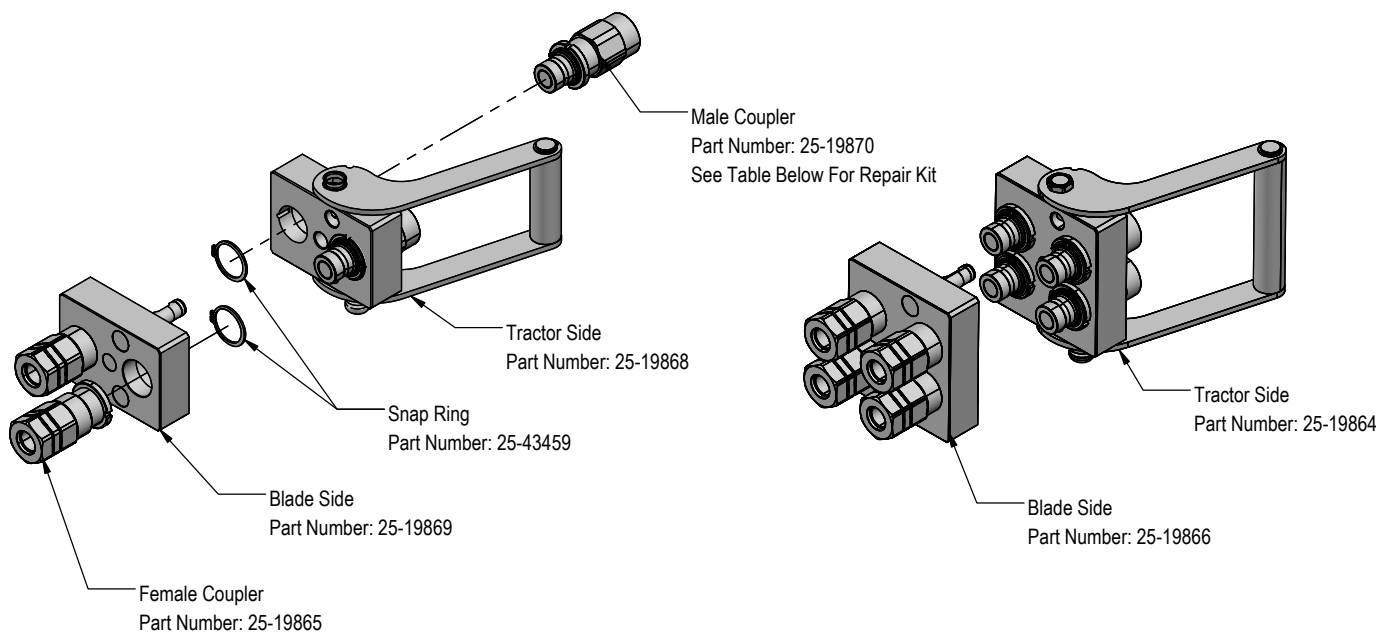


Note 1:

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.



PN	Description
25-43425	Male Coupler O-Ring Repair Kit

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.

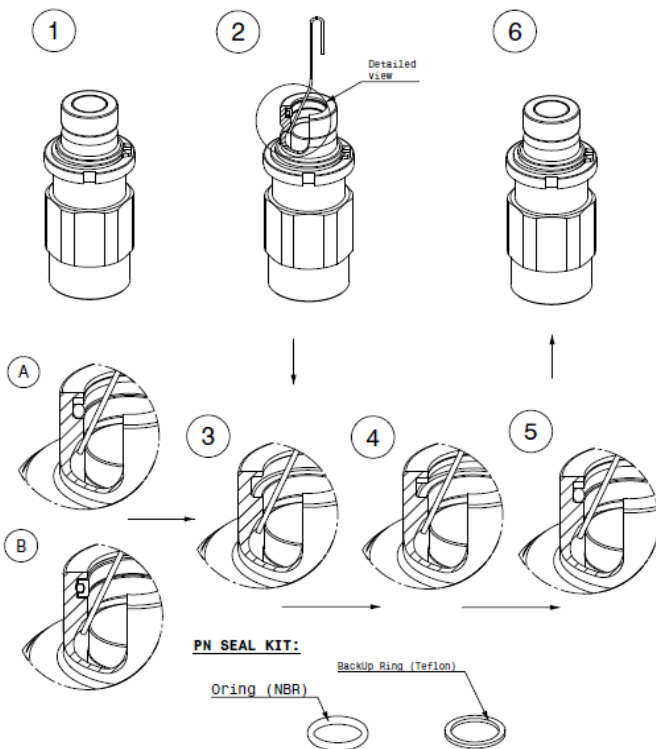


Cleaning The Female Bushing:

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.



MALE FAP - REPAIR KIT INSTRUCTIONS



DISASSEMBLING STEPS (see figures)

1. Place the coupling in a vice.
2. Bend positioning clip as shown. Using a blunt, non marring object, depress valve face until seals are exposed. Insert the positioning clip between valve face and body, captivating the valve face
3. Using an O-ring pick or similar device, remove the seal from retaining groove. Clean properly the retaining groove with a clean cloth.

Note: Some M FAP are originally assembled with different seal technologies (see figures A and B) but both used O-ring and backUp ring as replacement kit.

ASSEMBLING STEPS (see figures)

4. Insert the backup ring (4) in the seat and even with the use of a non sharpen tool. Place the BackUp ring on the superior shoulder of the seat in order to leave space for the O-ring (see figure 4).
5. Lubricate the O-ring with a fluid compatible with the seals compound. **Warning: using non compatible fluid would compromise the efficiency of the coupling.**
6. Push the piston with a blunt, non marring tool and take the metal clip out. Release the piston.

FUNCTIONING CHECK

Assemble the male coupling with the female in order to check the functioning and check for leaks.

BY REPLACING THE SEALS, YOU REMOVE THE WARRANTY AND BECOME RESPONSIBLE FOR THE SAFETY AND THE EFFICIENCY OF THE COUPLING!

Leaking When Connected:

1. Male Coupler is the issue despite leakage visually appearing from either top or bottom of female coupler sleeve, the seal between the two halves is made from the male interface seal.
2. Root cause typically is contamination. Can be identified by pushing in piston on male and exposing male seal. If dirty, can be wiped clean and reconnected to test seal. Can also be cut or extruded either from contamination or dynamic pressure in circuit while connection/disconnection.
3. The male coupler can be completely replaced, or a cost-effective approach would be replacing with available O-Ring seal kits (See O-ring Repair Instruction on Page 24).

Leaking When Disconnected:

1. Leaking/weeping at face of male coupler - See Above.
2. Leaking/weeping at face of female coupler - Root cause is contamination creating a leak path on the valve stem seal. This may be viewed/cleaned/cleared by exposing the seal. This is done by pushing in the inner ring bushing with a flat head screwdriver or similar tool. Once pressed in, it will stop at the next spring point that opens the valve. Pressing with additional force on the tool will open the valve and expose the sealing area which is underneath the valve. If the seal is damaged or extruded and cleaning does not fix the leakage, a new female coupler is best option. Seal kits are not available.

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 (2) years for Agriculture Series Blades and one (1) year for Heavy Duty Series from date of original retail delivery.**

The obligation of the consumer under this warranty:

1. To read the operators manual and to operate, lubricate, maintain and store equipment in accordance with the instructions listed in the operators manual.
2. To inspect equipment and if any part needs repair or replacement when continued use would cause damage or wear to other parts or safety.
3. 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.

The obligation of the dealer under this warranty:

1. Complete warranty registration form and submit within 30 days of sale.
2. Contact Grouser Products for authorization prior to performing any warranty repairs or part replacement.
3. Complete warranty request form and submit with photos and supporting documentation.

The obligation of Grouser Products under this warranty:

1. Repair or replace, any equipment or parts, in the judgment of Grouser Products to be defective in material or workmanship.
2. Grouser Products will cover the cost of parts and ground shipping at dealer invoice only.
3. 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.

This warranty does not cover:

1. Depreciation or damage caused by normal wear, accident, improper assembly, improper adjustments.
2. Improper maintenance including lack of proper lubrication, or improper use. Including loose bolts, nuts, or fitting due to over tightening or vibration after 20 hours of operation.
3. Repairs or alterations without authorization from a Grouser Products representative.
4. 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.

NO EMPLOYEE OR REPRESENTATIVE OF GROUSER PRODUCTS IS AUTHORIZED TO CHANGE THE WARRANTY IN ANY WAY OR GRANT ANY OTHER WARRANTY.

Contact Us

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



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