



# **Ag Pro 12-20 Xwide Lift System**

## **Owner's Manual & Parts Book**

### **Grouser Products**

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Purchase Date
Serial Number
Model Number
Tractor Model
Dealer

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Thank you for your recent purchase of a Grouser 12-20 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 12-20 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](mailto: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 12-20 Dozer:

1. The 12-20 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 12-20 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 12-20 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 12-20:

1. Thoroughly clean the 12-20 Dozer before storage. Use paint where necessary to prevent rust.
2. Check the 12-20 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.



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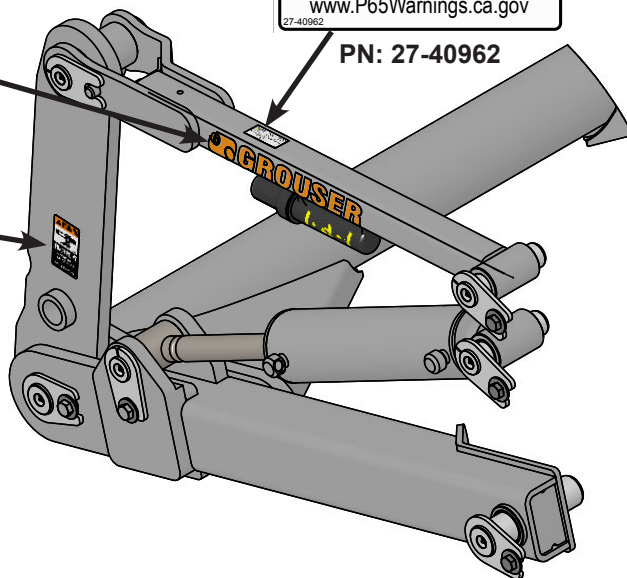


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Left and Right Side

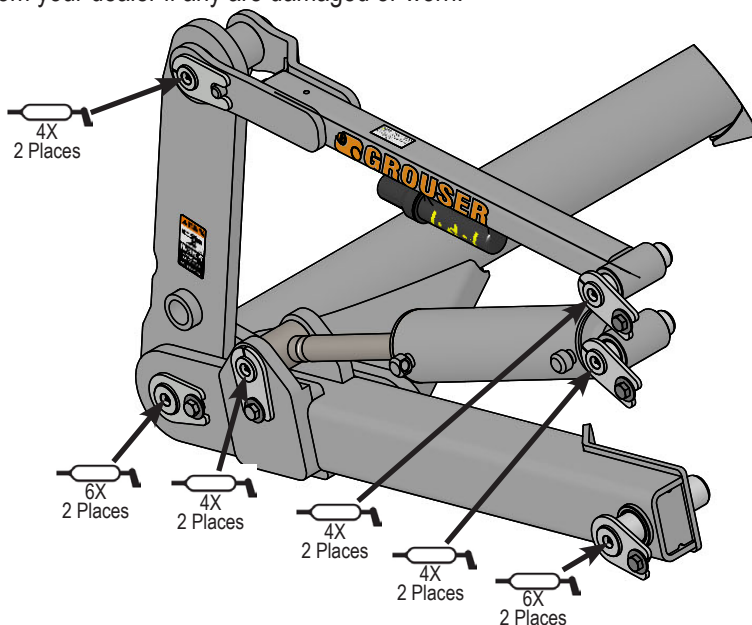


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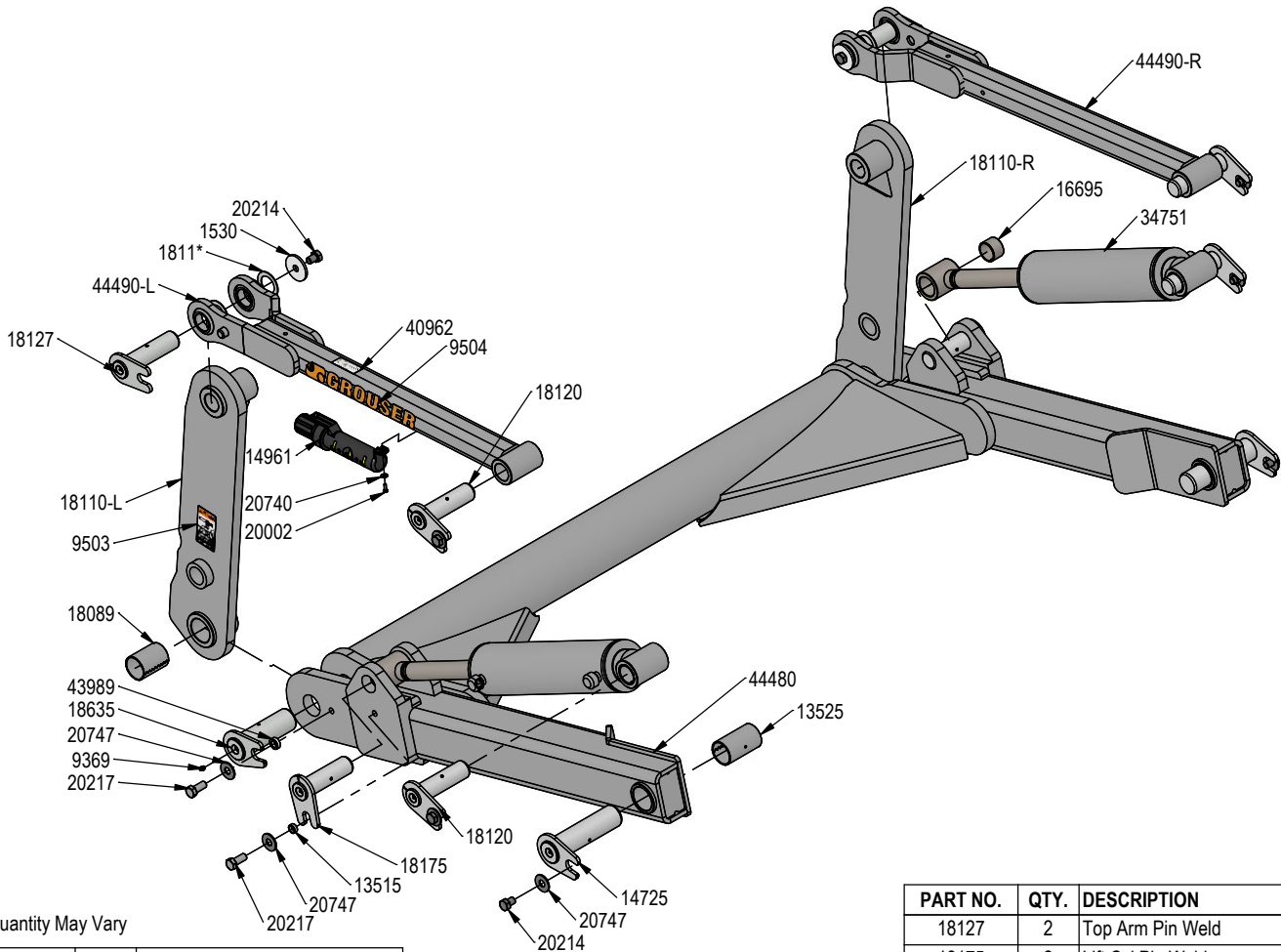
Due to the harsh environment this equipment operates in, the following tasks should be performed every 10 hours or less.

- 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 hydraulic cylinders and hoses for damage or leaks. For replacement parts, see hydraulic pages 5-9.
- 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 12-13.
- 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.
5. Torque all fasteners according to the specifications on Page 3.



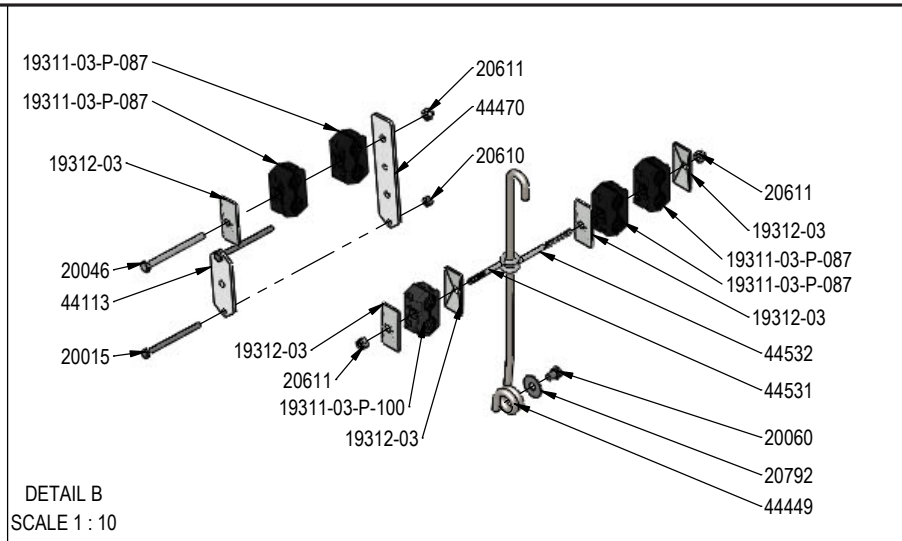
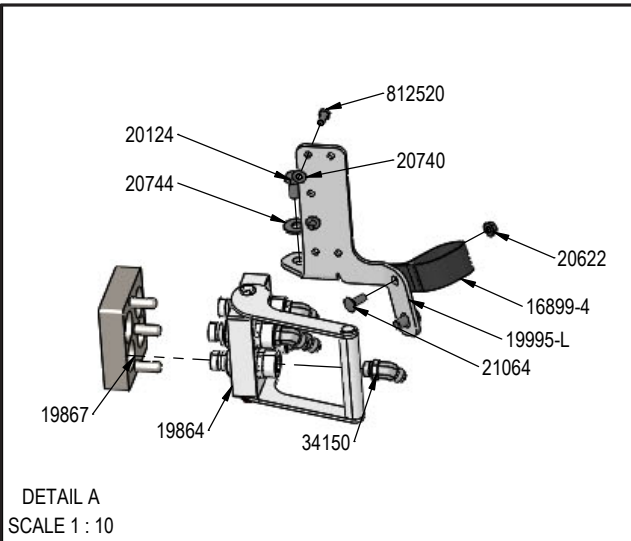
\* Quantity May Vary

PART NO.	QTY.	DESCRIPTION
1530	2	3/4" x 3".00 x .25" HD Washer CZ
1811	6	2" Washer
9369	12	Straight 1/8" NPT Grease Zerk
9503	2	Pinch Point, Foot
9504	2	Grouser, Horizontal
13515	6	Spacer, NR Pin
13525	2	2.75 x 2.50 x 4.75 Spring Bushing
14725	2	Lift Frame / UC Pin
14961	1	Manual Canister Small
16695	8	2.25 x 2.00 x 1.50 Spring Bushing
18089	2	2.75 x 2.50 x 3.75 Spring Bushing
18110-L	1	Male Quick Attach, Ag Pro S
18110-R	1	Male Quick Attach, Ag Pro S
18120	4	Top Pin Weld

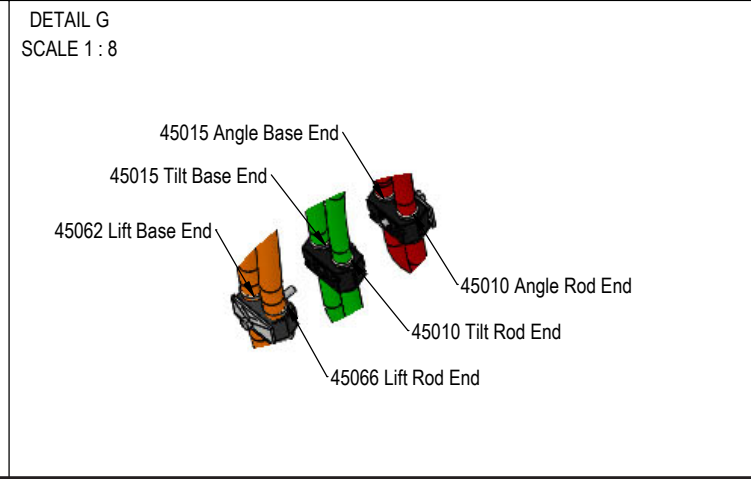
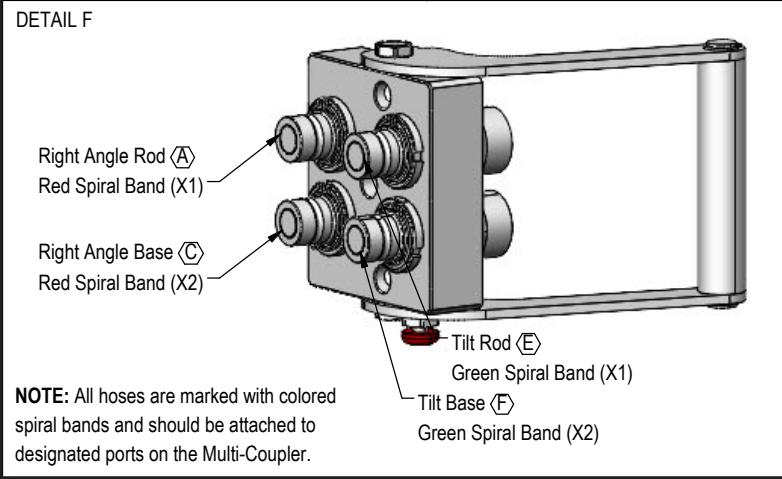
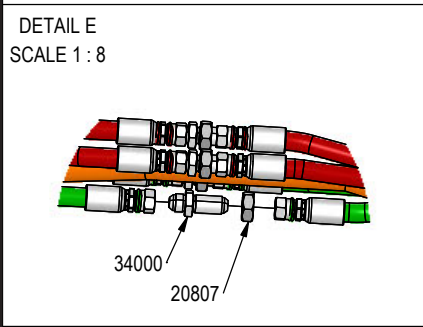
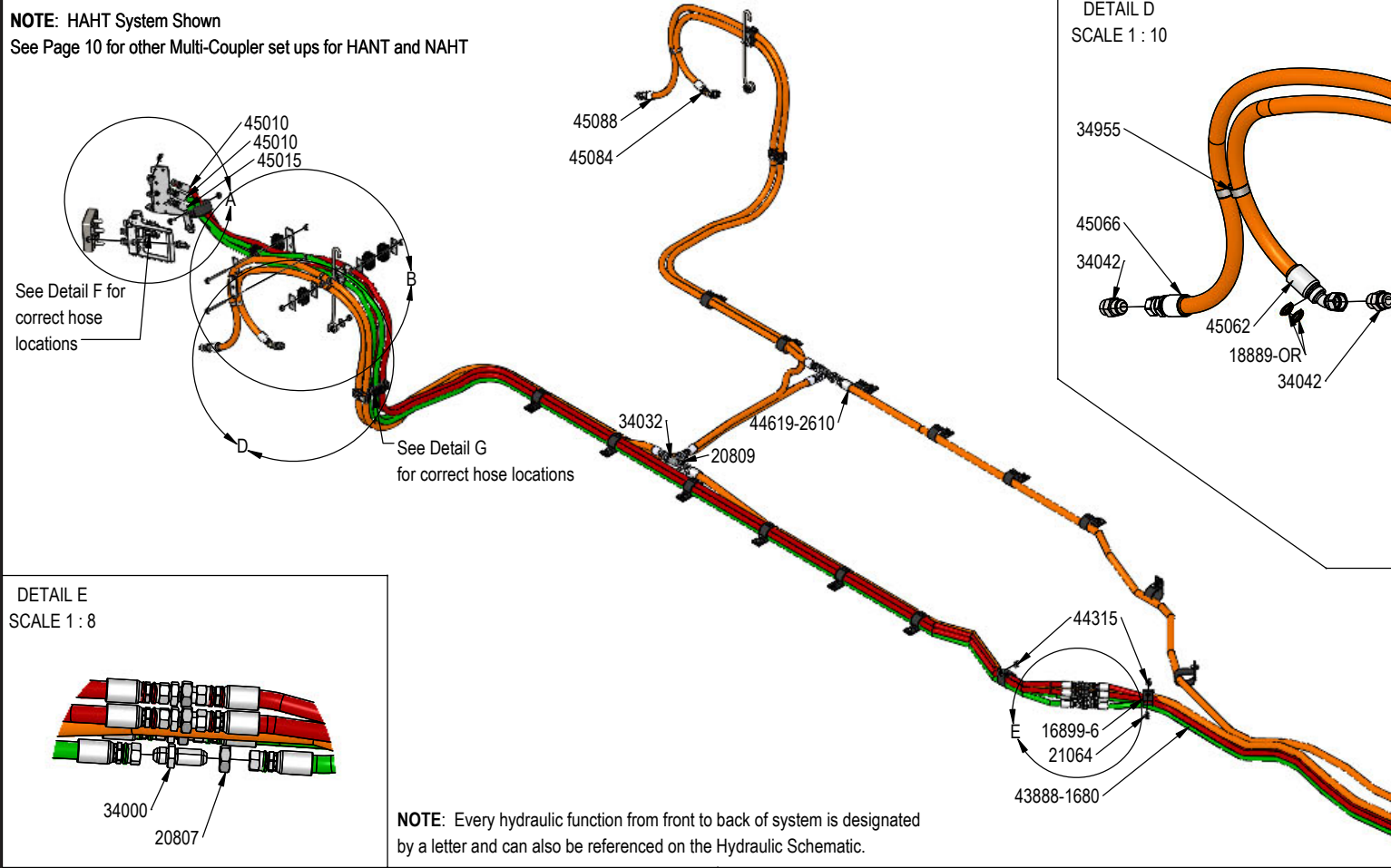
PART NO.	QTY.	DESCRIPTION
18127	2	Top Arm Pin Weld
18175	2	Lift Cyl Pin Weld
18635	2	Ag Pro Plus QA Pin
20002	2	1/4" X 3/4" Hex Bolt Gr 5 NC CZ
20214	8	3/4" X 1" Hex Bolt Gr 5 NC CZ
20217	4	3/4" X 1 3/4" Hex Bolt Gr 5 NC CZ
20740	2	1/4" Flat Washer CZ
20747	10	3/4" Flat Washer CZ
34751	2	5 x 18 Hydraulic Cylinder
40962	1	Warning Prop 65 Decal
43989	2	.75 x 1.25 NR Pin Bushing
44480	1	Lift Frame, XWide
44490-L	1	Top Arm Weld
44490-R	1	Top Arm Weld

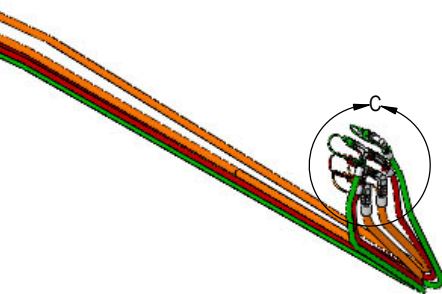
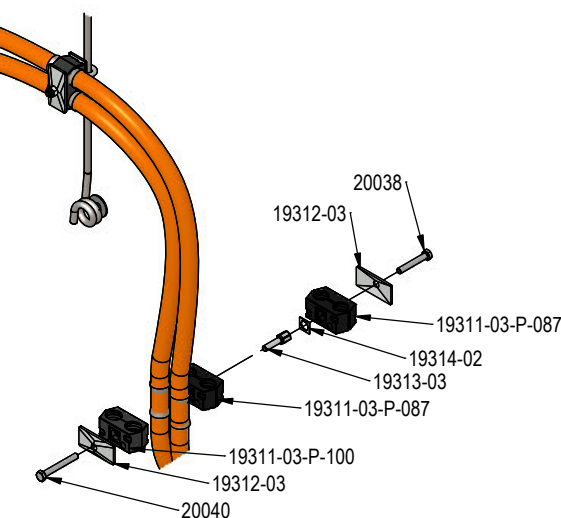
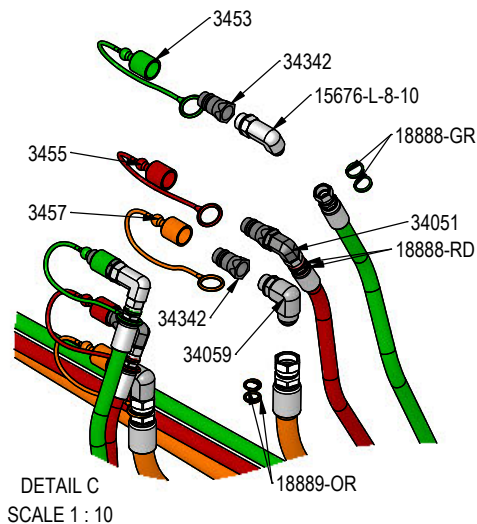
Note: The cylinder part number is stamped on the base end of the cylinder opposite of the hydraulic ports.

Cylinder	Part No.	Description	DWG. NO.: 44545
26-34751	49-12275	Seal Kit 5 x 18 Nitrided Rod	



**NOTE: HAHT System Shown**  
See Page 10 for other Multi-Coupler set ups for HANT and NAHT

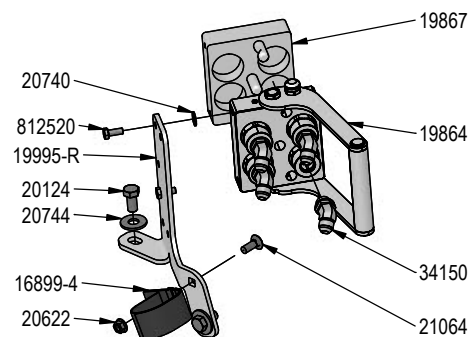




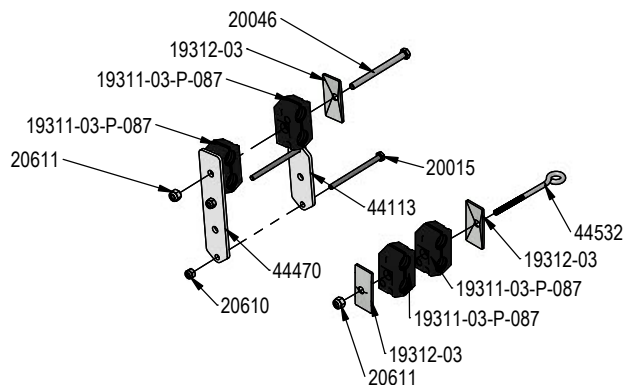
**NOTE:** 3/4" couplers are available. See table below for part numbers. Quantities are for a set.

PART NO.	HAHT QTY.	HANT QTY.	NAHT QTY.	NANT QTY.	DESCRIPTION
3453	2	-	2	-	Pioneer Dust Cap Tilt (Green)
3455	2	2	-	-	Pioneer Dust Cap Angle (Red)
3457	2	2	2	2	Pioneer Dust Cap Lift (Orange)
15676-L-8-10	2	-	2	-	Straight Thread Long Elbow 90° JIC x O-Ring (6801-L-08-10)
16899-4	1	1	1	-	4" Heavy Duty Velcro Strap (HS404H)
16899-6	16	16	16	16	6" Heavy Duty Velcro Strap (HS406H)
18888-GR	12	-	12	-	-12 Green - Spiral Band
18888-RD	12	12	-	-	-12 Red - Spiral Band
18889-OR	18	18	18	18	-14 Orange - Spiral Band
19311-03-P-087	6	3	3	1	Hose Clamp
19311-03-P-100	4	4	4	4	Hose Clamp
19312-03	10	10	10	6	Twin Cover Plate
19313-03	1	-	-	-	Twin Stacking Bolt
19314-02	1	-	-	-	Twin Safety Plate
19864	1	-	-	-	Multi-Coupling Plate - 4 Port Fixed
19867	1	-	-	-	Multi-Coupling Plate - 4 Port - Cap
19868	-	1	1	-	Multi-Coupling Plate - 2 Port - Fixed
19871	-	1	1	-	Multi-Coupling Plate - 2 Port - Cap
19995-L	1	1	1	-	Multi-Coupler Mount
20015	2	2	2	-	1/4" X 3-3/4" Hex Bolt Gr 5 NC CZ
20038	1	1	1	-	5/16" X 2" Hex Bolt Gr 5 NC CZ
20040	2	3	3	2	5/16" X 2-1/2" Hex Bolt Gr 5 NC CZ
20046	1	-	-	-	5/16" X 4" Hex Bolt Gr 5 NC CZ
20060	2	2	2	2	3/8" X 1/2" Hex Bolt Gr 5 NC CZ
20124	2	2	2	-	1/2" X 1" Hex Bolt Gr 5 NC CZ
20610	2	2	2	-	1/4" Nylock Hex Nut Gr 5 NC CZ
20611	4	4	4	2	5/16" Nyloc Hex Nut Gr 5 NC CZ
20622	1	1	1	-	3/8" Flange Hex Nut Gr 5 NC CZ
20740	2	2	2	-	1/4" Flat Washer CZ
20744	2	2	2	-	1/2" Flat Washer CZ
20792	2	2	2	2	3/8 Fender Washer (1.25" OD)
20807	4	2	2	-	3/4" Hex Jam Nut NF CZ
20809	2	2	2	2	1-1/16" Hex Jam Nut NF CZ
21064	3	3	3	2	3/8" x 1" Carriage Bolt Gr 5 NC CZ
34000	4	2	2	-	Bulkhead Union JIC
34032	2	2	2	2	Bulkhead Run Tee JIC
34042	4	4	4	4	Straight JIC x O-Ring
34051	2	2	-	-	Straight Thread Elbow 90° JIC x O-Ring
34059	2	2	2	2	Straight Thread Elbow 90° JIC x O-Ring
34150	4	2	2	-	Straight Thread Elbow 45° JIC x O-Ring
34342	6	4	4	2	Tappet Quick Coupler Male - Poppet Style
34955	2	2	2	2	Dual Clamp Zip Tie
43888-1680	4	2	2	-	168" (14") x 1/2" -8JIC/-8JIC Hose
44113	1	1	1	-	Plate, Clamp
44315	16	16	16	16	3/8" Nyloc Flange Nut Gr N5 NC
44449	2	2	2	2	Hose Guide Rod
44470	1	1	1	-	Plate, Clamp
44619-2610	2	2	2	2	261" (21.75") x 3/4" -12JIC/-12JIC Hose
45010	2	1	1	-	208.63" x 1/2" -8FJIC/-8FJIC Hose (w/2 Collar (40" & 62"))
45015	2	1	1	-	205.75" x 1/2" -8FJIC/-8FJIC Hose (w/2 Collar (39" & 59"))
45062	1	1	1	1	156" x 5/8" -10FJIC 45° Elbow/-12FJIC Hose (w/2 Collar (37" & 60.50"))
45066	1	1	1	1	137" x 5/8" -10FJIC/-12FJIC Hose (w/2 Collar (45.5" & 70"))
45084	1	1	1	1	127.50" x 5/8" -10FJIC 45° Elbow/-12FJIC Hose (w/2 Collar (37" & 60.50"))
45088	1	1	1	1	165.50" x 5/8" -10FJIC/-12FJIC Hose (w/2 Collar (45.5" & 70"))
812520	2	2	2	-	M8-1.25 x 20mm Class 10.9 Hex Bolt CZ
44531	2	3	3	2	5/16 x 2.50 Eye Bolt
44532	1	-	-	-	5/16 x 4.00 Eye Bolt

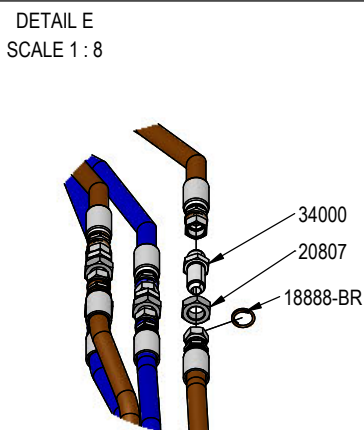
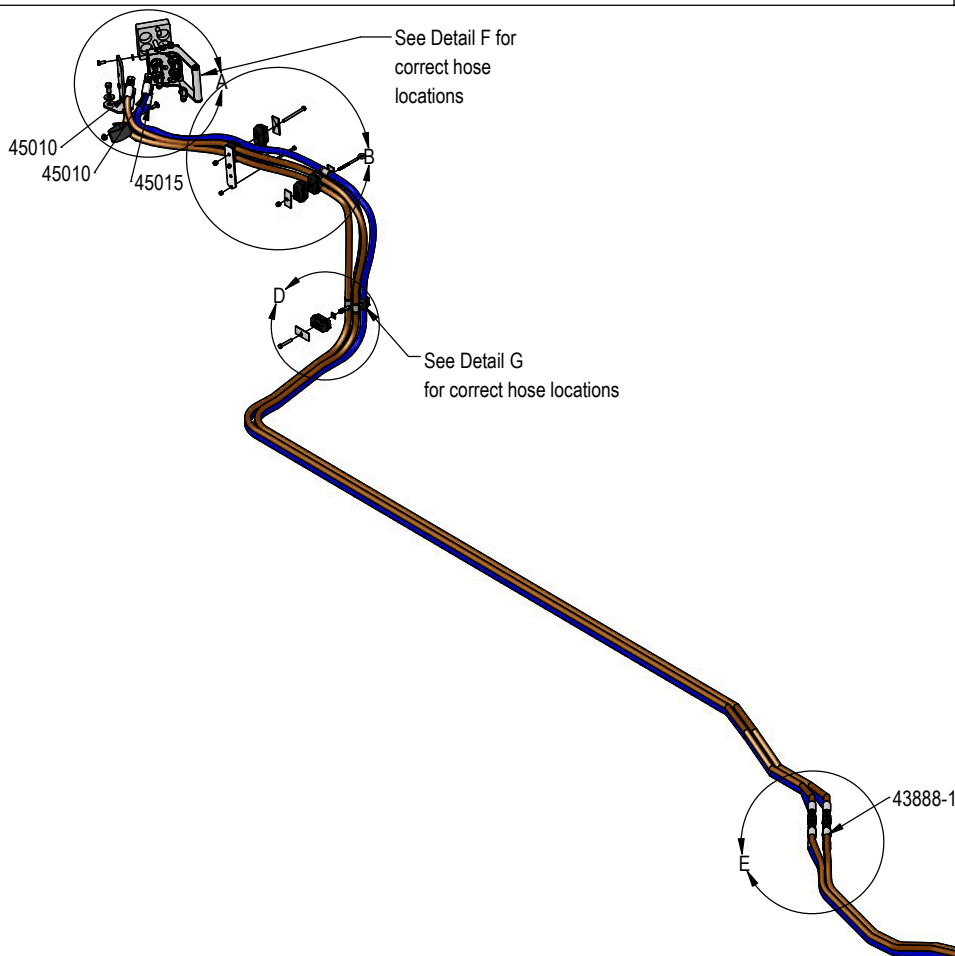
PN	Lift Function Set -12 Hoses	Tilt Function Set -08 Hoses	Angle Function Set -08 Hoses	DESCRIPTION	DWG. NO.: 44398
25-44314	2	2	2	Tappet Quick Coupler Male (ISO 7241) - (6610-12-12)	
25-45006	2	2	2	Pioneer Dust Cap (Black - 3/4" Couplers) TFA 34 N	
31-34055	2			Straight Thread Elbow 90° JIC x O-Ring (6801-12-12)	
31-6801-08-12		2	2	Straight Thread Elbow 90° JIC x O-Ring (6801-08-12)	



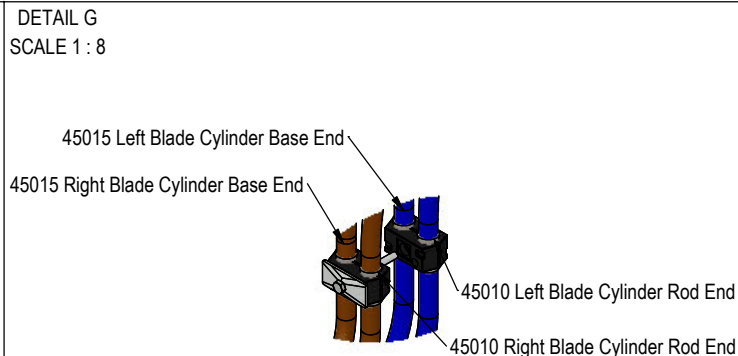
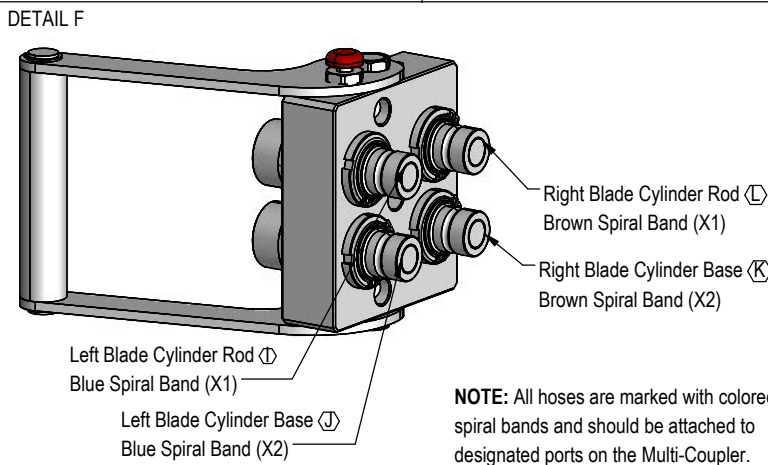
DETAIL A  
SCALE 1 : 10



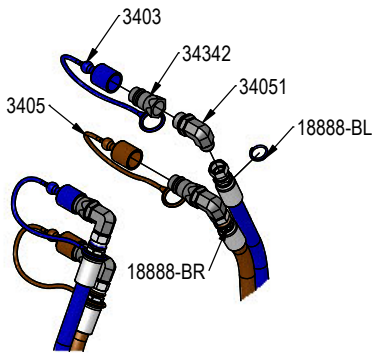
DETAIL B  
SCALE 1 : 10



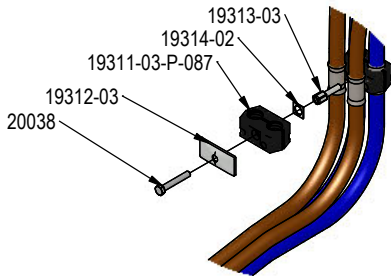
DETAIL E  
SCALE 1 : 8



DETAIL G  
SCALE 1 : 8



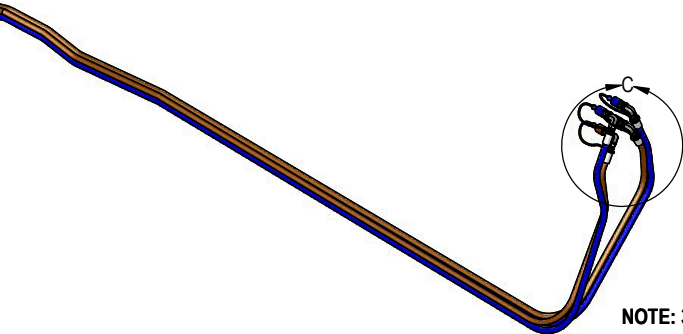
DETAIL C  
SCALE 1 : 10



DETAIL D  
SCALE 1 : 10

QTY.	PART NO.	DESCRIPTION
2	3403	Pioneer Dust Cap Slider (Blue) (Left Cylinder)
2	3405	Pioneer Dust Cap Slider (Brown) (Right Cylinder)
1	16899-4	4" Heavy Duty Velcro Strap (HS404H)
12	18888-BL	-12 Blue - Spiral Band
12	18888-BR	-12 Brown - Spiral Band
6	19311-03-P-087	Hose Clamp
4	19312-03	Twin Cover Plate
1	19313-03	Twin Stacking Bolt
1	19314-02	Twin Safety Plate
1	19864	Multi-Coupling Plate - 4 Port Fixed
1	19867	Multi-Coupling Plate - 4 Port - Cap
1	19995-R	Multi-Coupler Mount
2	20015	1/4" X 3-3/4" Hex Bolt Gr 5 NC CZ
1	20038	5/16" X 2" Hex Bolt Gr 5 NC CZ
1	20046	5/16" X 4" Hex Bolt Gr 5 NC CZ
2	20124	1/2" X 1" Hex Bolt Gr 5 NC CZ
2	20610	1/4" Nylock Hex Nut Gr 5 NC CZ
2	20611	5/16" Nyloc Hex Nut Gr 5 NC CZ
1	20622	3/8" Flange Hex Nut Gr 5 NC CZ
2	20740	1/4" Flat Washer CZ
2	20744	1/2" Flat Washer CZ
4	20807	3/4" Hex Jam Nut NF CZ
1	21064	3/8" x 1" Carriage Bolt Gr 5 NC CZ
4	34000	Bulkhead Union JIC
4	34051	Straight Thread Elbow 90° JIC x O-Ring
4	34150	Straight Thread Elbow 45° JIC x O-Ring
4	34342	Tappet Quick Coupler Male - Poppet Style
4	43888-1680	168" (141') x 1/2" -8JIC/-8JIC Hose
1	44113	Plate, Clamp
1	44470	Plate, Clamp
1	44532	5/16 x 4.00 Eye Bolt
2	45010	208.63" x 1/2" -8FJIC/-8FJIC Hose (w/2 Collar (40" & 62"))
2	45015	205.75" x 1/2" -8FJIC/-8FJIC Hose (w/2 Collar (39" & 59"))
2	812520	M8-1.25 x 20mm Class 10.9 Hex Bolt CZ

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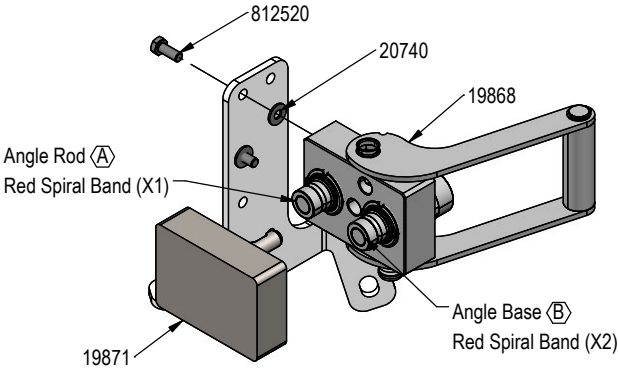
**NOTE:** 3/4" couplers are available. See table below for part numbers. Quantities are for a set.

PN	Qty	DESCRIPTION
25-44314	2	Tappet Quick Coupler Male (ISO 7241) - (6610-12-12)
25-45006	2	Pioneer Dust Cap (Black - 3/4" Couplers) TFA 34 N
31-6801-08-12	2	Straight Thread Elbow 90° JIC x O-Ring (6801-08-12)

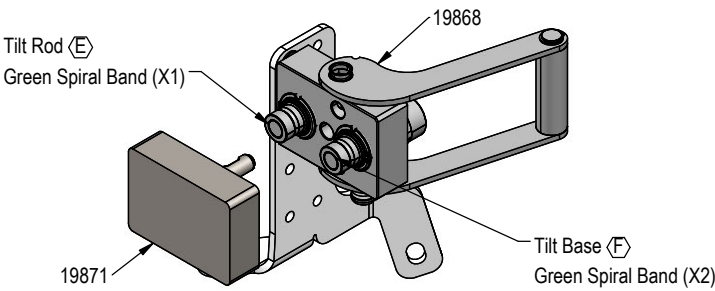
DWG. NO.: 44398

PART NO.	HANT QTY.	NAHT QTY.	DESCRIPTION
812520	2	2	M8-1.25 x 20mm Class 10.9 Hex Bolt CZ
19868	1	1	Multi-Coupling Plate - 2 Port - Fixed
19871	1	1	Multi-Coupling Plate - 2 Port - Cap
20740	2	2	1/4" Flat Washer CZ

HANT



NAHT



**Note:** Refer to Pages 6-9 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, Red = Angle, Blue = Left Blade Cylinder, and Brown = Right Blade Cylinder.

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 6-9 for proper hose routing.
3. Install the 45° fittings into the multi-couplers on both top arms.
4. 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. Refer to Pages 6-9 for proper hose locations.
5. Hoses were plugged into the rear of the tractor during the undercarriage installation.
6. Continue below for initial startup instructions.

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 in 12-20 Parts Book.

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.

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.

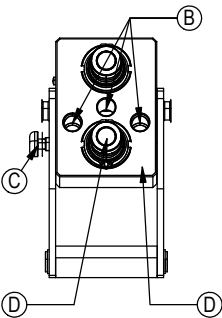
Note 1:

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.

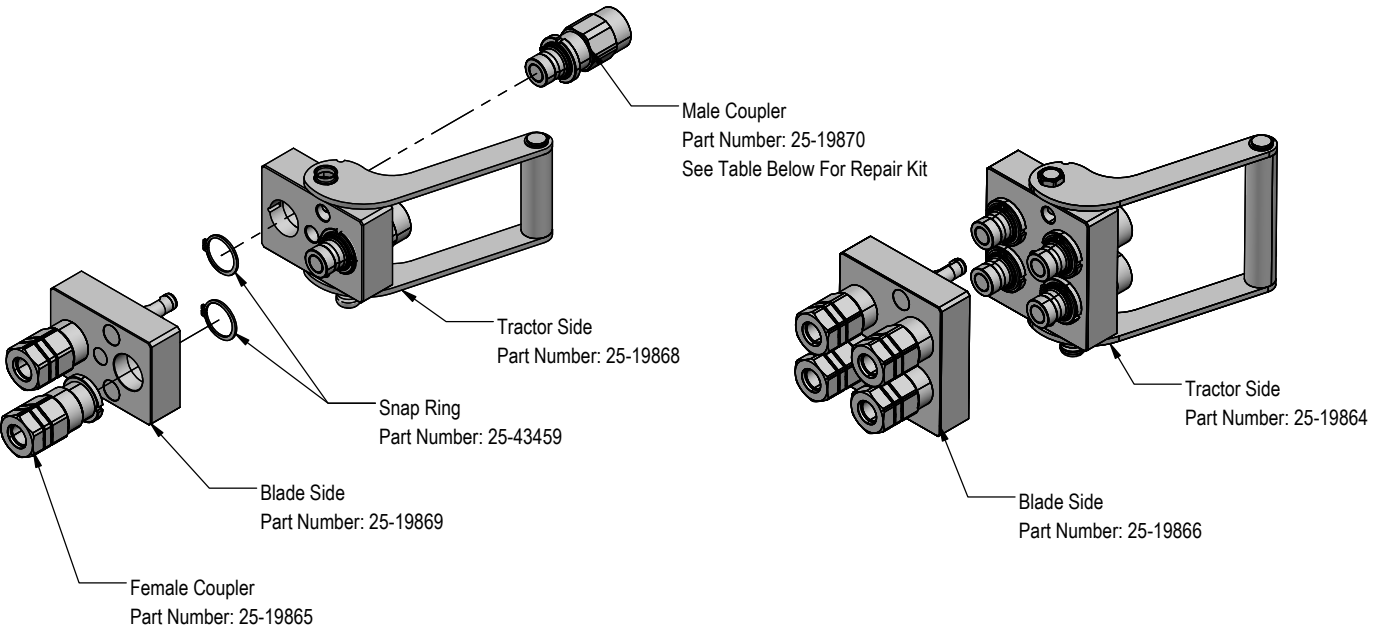
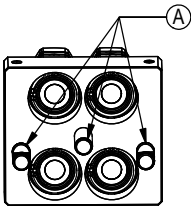
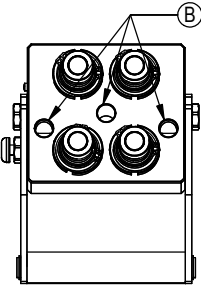
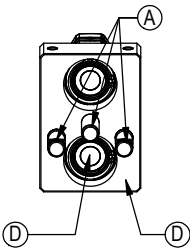
Recommended Lubricant Brands:

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

Fixed Half



Mobile Half



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

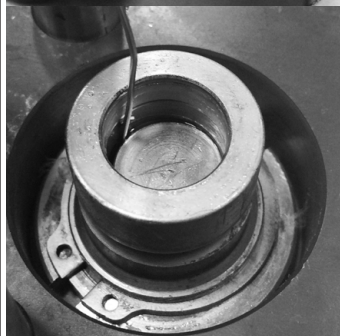
## Cleaning The Male Interface Seal:



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.

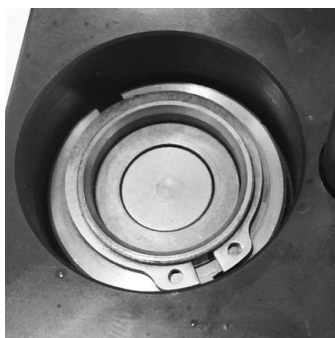


4. In case of contamination, carefully wipe surfaces with a soft cloth, or use compressed air to blow the contamination out. Do Not press hard on the seal as contamination can scratch the seal surface.



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:



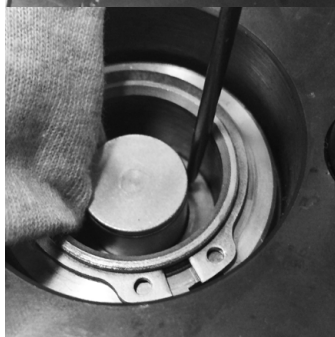
1. Make sure the coupling is securely fastened into the plate or place in a vice.



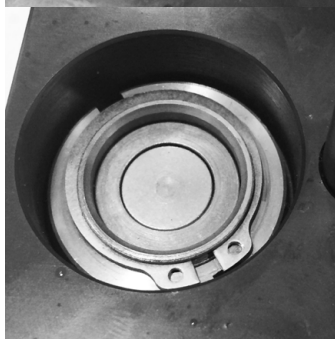
2. Using a non-marring tool, depress the outer ring to expose the bushing. There is no need to expose the valve seal, so stop pressing before the valve is opened.



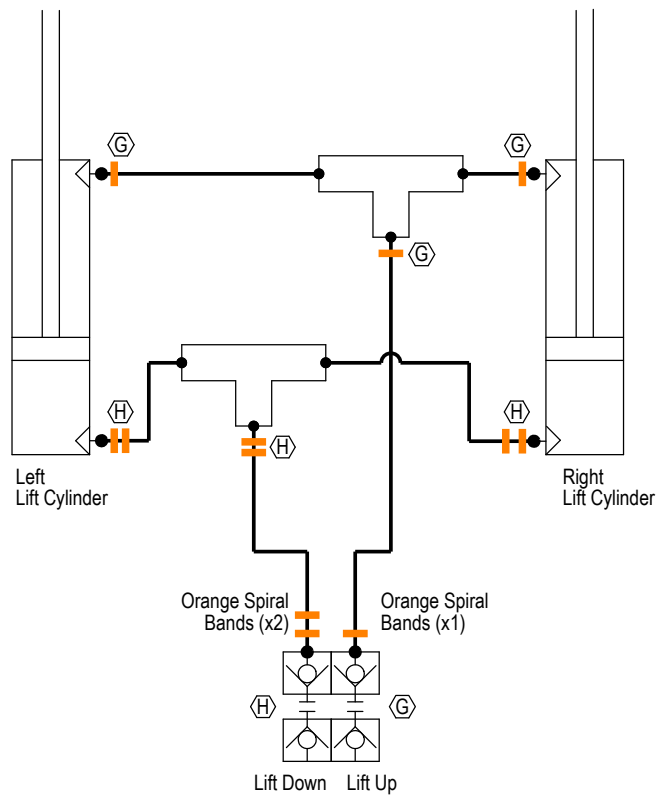
3. Inspect the interior body and bushing surfaces for contamination.



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.



### Tractor Service Valve

See Blade Parts Book for remaining hydraulic schematics.



# Improvements

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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

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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

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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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