

3-5 - AG PRO PLUS NANT

Owner's Manual & Parts Book

Purchase Date

Serial Number

Model Number

Tractor Model

Dealer

PN: 63-40427 SN: 10204841-10204966 Date 8-1-2017

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To The Owner

This manual contains information concerning the operation, adjustment, and maintenance of the 3-5 blade assembly. You have purchased dependable, long lasting equipment, but only by proper care and operation can you expect to receive the performance and long service built into our products. Please have all operators read this manual carefully and keep the manual available for ready reference. If you have any questions or concerns, contact Grouser Products.

Maintenance

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

- Inspect all equipment before operation for existing or potential damages.
- · Lubricate all joints with high quality grease.
- Inspect and tighten all bolts to torque specifications on page 3.
- Check replaceable cutting edge for wear ensuring there is enough material to prevent permanent damage to the blade.
- Make sure all non-rotating pins are secured properly.
- · Check hydraulic cylinders and hoses for damage or leaks.
- · Check skid shoes for wear and replace if necessary. For adjustment, see page 9.
- Inspect all tilt-ways for aggressive wear. See page 9 for tilt plate adjustment.

Safety Precautions

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 to these precautions, please follow all safety and operational instructions of your tractor manufacturer.

The Dozer:

- 1. The 3-5 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 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.

Servicing the 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 Dozer:

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

Torque Specifications

All bolts should be tightened to the specifications in the charts below.

	Torque - Dry (ft-lbs)					
	SAE G	rade 5	SAE G	rade 8		
Size	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	260 300		420		
7/8	430	470	600	670		
1	640	720	910	1020		

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

Warning

When using the dozer blade, pay special attention to the area between the blade and the hood of the tractor. In the right conditions, material can build up. Grouser Products is not responsible for careless operation of the blade.

Unpacking Components

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

Undercarriage Installation

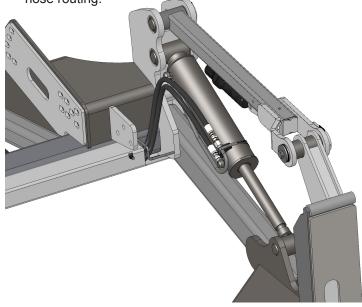
Install undercarriage per the tractor specific mounting instructions.

Assembling Lift Components

Some assembly of Lift system components is necessary. Follow the steps listed below. Refer to Page 5 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. Attach the lift frame, the base end of the lift cylinders, and the top arms to the undercarriage. Refer to Page 5 for proper components and orientation.
- 4. Attach the male quick attaches to the lift frame, and to the top arms. See Page 5 for proper orientation.
- 5. Tighten all fasteners.
- 6. 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.

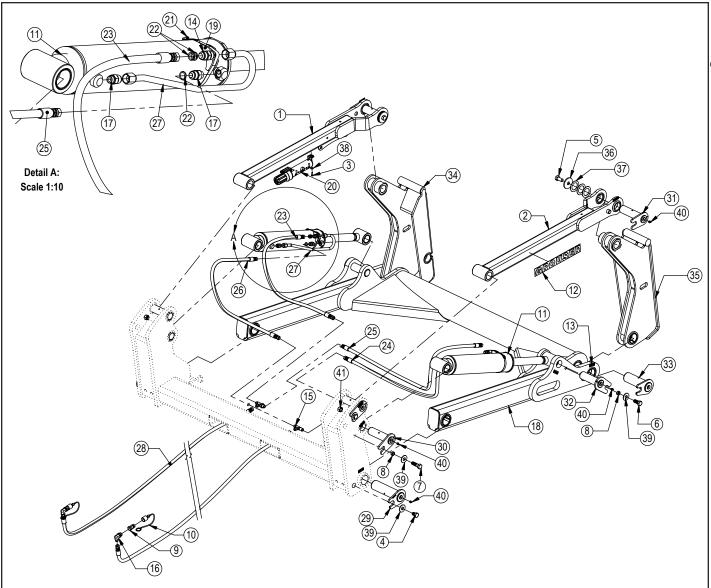
7. Verify that hoses are not twisted and protected from rubbing on any sharp edges. See picture below for proper hose routing.



Installing Hydraulic Coupler Components

Note: Refer to Diagram on Page 6 for further information on hose routing and hose positions. The quantity and location of the female couplers is determined by blade functionality.

- 8. Attach the coupler mounts to the left top arm and install the female quick couplers and 90° fittings.
- 9. Install each coupler into the designated hole on the coupler mount and fasten them in place with the coupler retainer plate, 3/8" x 3/4" bolts and 3/8" flange nuts.
- 10. 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 90° fitting and female coupler in the coupler mount.
- 11. If applicable, attach the wire harness to the coupler mount. Hold in place with a zip tie. Run the other end of the wire harness up into the cab of the tractor.
- 12. Locate the keyed and fused power supply. Connect the red wire to the power and the black to the ground. Install provided switch into an open switch hole in the right overhead console or another convenient place in the tractor.
- 13. Connect the wire harness to the switch.
- 14. Continue on Page 7 for instructions on how to remove the air from the system.



* Parts Not Shown

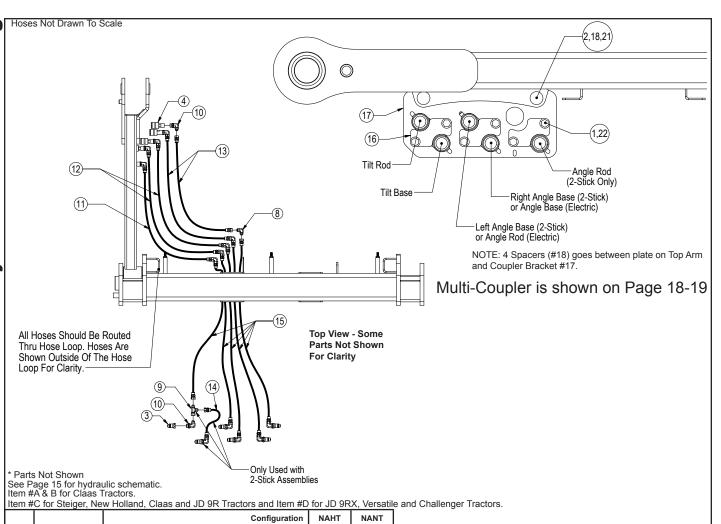
Item #A for Claas Tractors (24-19606)

Item #B for Steiger (24-19601), New Holland (24-19601), and JD 9R Tractors (24-19602, 24-19603 or 24-19609)

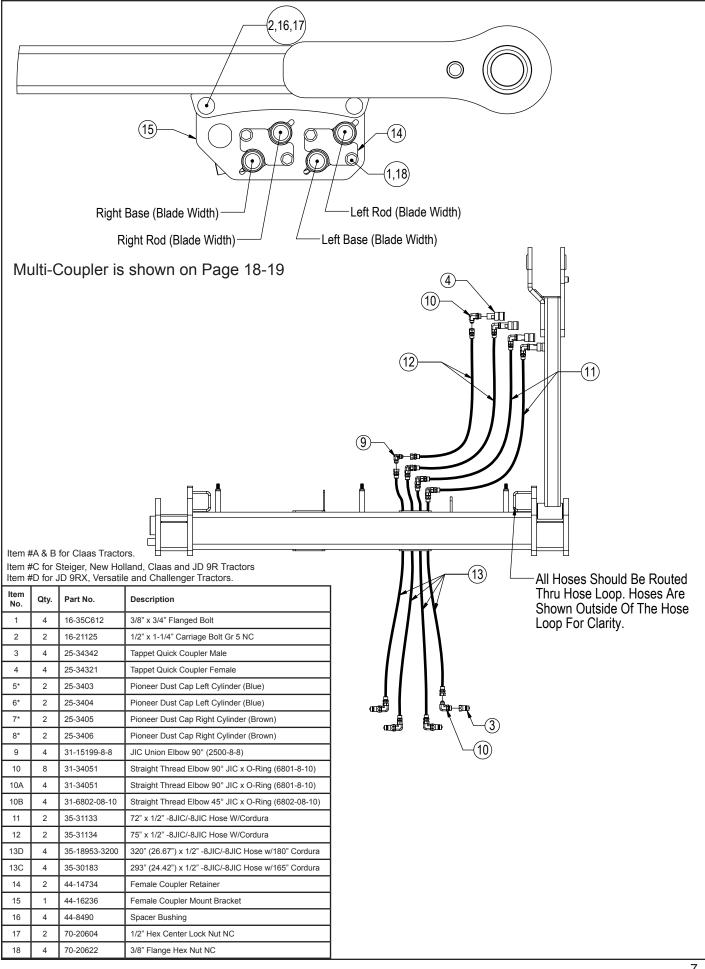
Item #C for JD 9RX (24-19608), Versatile (24-19604) and Challenger Tractors (24-19607)

NO.	QTY.	PART NO.	DESCRIPTION		
1	1	11-19975-L	Top Arm Weld		
2	1	11-19975-R	Top Arm Weld		
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	8	19-13515	Spacer, NR Pin		
9	2	25-34342	Tappet Quick Coupler Male - Poppet Style		
10	2	25-3457	Pioneer Dust Cap Lift (Orange)		
11	2	26-34745	4.5 x 18 Hydraulic Cylinder		
12	2	27-9504	Decal, Grouser Horizontal		
13	12	27-9507	Decal, Grease		
14	2	31-11699-10-10	JIC Union		
15	2	31-34194	Union Tee JIC		
16B,C	2	31-34059	Straight Thread Elbow 90° JIC x O-Ring		
16A	2	31-6802-12-10	Straight Thread Elbow 45° JIC x O-Ring		
17	4	31-6400-10-8	Straight JIC x O-Ring		
18	1	32-18630	Lift Frame, Ag Pro Plus		
19	2	34-12932	Cylinder Saddle		
20	1	34-14961	Manual Canister Small		
21	2	34-16578	Hose Clamp (worm drive - 4.5)		

NO.	QTY.	PART NO		DESCRIPTION		
22	15	34-18889-OR		-12 Orange - Spiral Band		
23	1	35-12636-	0515	51.5" x 5/8" -10JIC/-12JIC Hose		
24	1	35-12636-	0535	53.5" x 5/8" -10JIC/-12JIC Hose		
25	1	35-12636-	0665	66.5" x 5/8" -10JIC/-12JIC Hose		
26	1	35-12636-	0670	67" x 5/8" -10JIC/-12JIC Hose		
27	2	35-18240		Lift Cylinder Steel Line		
28A,B	2	35-12329-	2930	293" (24.42") x 3/4" -12JIC/-12JIC Hose		
28C	2	35-18984-	3200	320" (26.67") x 3/4" -12JIC/-12JIC Hose		
29	2	43-14725		Lift Frame / UC Pin		
30	4	43-18120		Top Pin Weld		
31	2	43-18127		Top Arm Pin Weld		
32	2	43-18175		Lift Cyl Pin Weld		
33	2	43-18635		Ag Pro Plus QA Pin		
34	1	45-18130-	L R5	Ag Pro + Male QA		
35	1	45-18130-	R R5	Ag Pro + Male QA		
36	2	57-1530		3" OD X .75 ID X .25" HD Flat Washer		
37	6	57-1811		2" Washer		
38	2	57-20740		1/4" Flat Washer		
39	10	57-20747		3/4" Flat Washer		
40	12	12 58-9369		Straight 1/8" NPT Grease Zerk		
41	41 2 70-20607			3/4" Center Lock Hex Nut NC		
Cylinde	_	Part No.	Descrip			
26-3474	5 4	49-12278	Seal Kit	4.5" Bore x 2" Rod (658366) Nitrided Rod		



		Configuration	NAHT	NANT
Item No.	Part No.	Description	Qty.	Qty.
1	16-35C612	3/8" x 3/4" Flanged Bolt	2	-
2	16-21127	1/2" x 1-3/4" Carriage Bolt Gr 5 NC	2	-
3	25-34342	Tappet Quick Coupler Male	2	-
4	25-34321	Tappet Quick Coupler Female	2	-
5*	25-3401	Pioneer Dust Cap Left Angle (Yellow)	-	-
6*	25-3453	Pioneer Dust Cap Tilt (Green)	2	-
7*	25-3455	Pioneer Dust Cap Right Angle (Red)	-	-
8	31-15199-8-8	JIC Union Elbow 90° (2500-8-8)	2	-
9	31-34090	Swivel Nut Run Tee JIC (6602-8-8-8)	-	-
10	31-34051	Straight Thread Elbow 90° JIC x O-Ring (6801-8-10)	4	-
10A	31-34051	Straight Thread Elbow 90° JIC x O-Ring (6801-8-10)	2	-
10B	31-6802-08-10	Straight Thread Elbow 45° JIC x O-Ring (6802-08-10)	2	-
11	35-31132	69" x 1/2" -8JIC/-8JIC Hose W/Cordura	-	-
12	35-31133	72" x 1/2" -8JIC/-8JIC Hose W/Cordura	-	-
13	35-31134	75" x 1/2" -8JIC/-8JIC Hose W/Cordura	2	-
14	35-30121	35" x 1/2" -8JIC/-8JIC Hose	-	-
15D	35-18953-3200	320" (26.67") x 1/2" -8JIC/-8JIC Hose w/180" Cordura	2	-
15C	35-30183	293" (24.42") x 1/2" -8JIC/-8JIC Hose w/165" Cordura	2	-
16	44-14734	Female Coupler Retainer	1	-
17	44-18180	Female Coupler Mount Bracket	1	-
18	44-8490	Spacer Bushing	4	-
19*	69-18890	Wire Harness - Valve to Disconnect	-	-
20*	69-1531	Wire Harness - Disconnect to Tractor	-	-
21	70-20604	1/2" Hex Center Lock Nut NC	2	-
22	70-20622	3/8" Flange Hex Nut NC	2	-



Initial Startup Instructions

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

Lift Function:

- 1. With the lift frame down on the ground, 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 9.

Blade Width Function:

- 1. Loosen the fittings on the rod and base end of the blade width cylinders.
- 2. Actuate the function to extend the right cylinder and supply oil to the base end.
- 3. When oil starts to flow from the fitting, stop oil flow, and tighten the fitting on the base end of the right cylinder.
- 4. Fully extend the right cylinder.
- 5. Actuate the function in the opposite direction to supply oil to the rod end of the right cylinder.
- 6. When all air is removed from the system, stop oil flow and tighten the fitting on the rod end of the right cylinder.
- 7. Repeat Steps 2-7 for the left cylinder.
- 8. Cycle both cylinders in and out 5 more times.
- 9. Check tractor oil level and fill if necessary.

Run the blade through all the functions. If any function does not work properly, bleed the air out of the system for that function again. If problem still persists, call Grouser Products.

NOTE: If blade does not function to the operator's liking or preferred direction, swap the couplers at the rear of the tractor or control the function location in the cab.

Connecting and Disconnecting the Blade

To Connect:

- 1. Lift the locking latch and pull the quick attach lock handle on the left side of the system to open the quick attach system. Refer to Page #13 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 already on the blade assembly.
- 3. Raise the lift system until the male quick attach engages the female. Continue to raise the lift system until the blade is off the ground and 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. Push the quick attach lock handle and lift the locking latch to the lock the handle in place.
- 6. Connect hydraulics couplers on the top arm. Refer to Page #6 for proper locations of all functions.
- 7. If applicable, plug the male blade break away end of the wire harness into the female blade break away end of the wire harness on the top arm.
- 8. Refer to the Initial Startup Instructions on Page 8 before operating any function on the blade.

To Disconnect:

- 1. Place a block under the cutting edge to provide the proper blade angle for disconnecting the quick attach. You will need about 5-6" of height.
- 2. Set the blade on the ground.
- 3. Unhook all of the couplers on the top arm.
- 4. Lift the locking latch and pull the quick attach lock handle to unlock the quick attach system.
- 5. Slowly lower the lift system to disengage the blade.
- 6. Slowly back away from the blade. When lift system is clear from the blade, raise the lift system.

Skid Shoe and Tilt Plate Adjustment

Skid Shoe Adjustment:

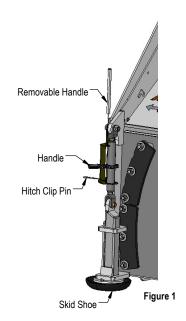
- 1. Remove the handle from the ratchet keeper by pulling the hitch clip pin and insert into the handle on the ratchet jack.
- 2. Loosen the locking nut on the ratchet jack.
- 3. Hold the body of the ratchet jack and rotate the ratchet jack handle to raise or lower the skid shoes.
- 4. If the skid shoe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

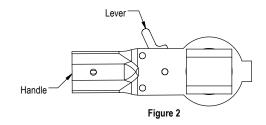
Tilt Plate Adjustment:

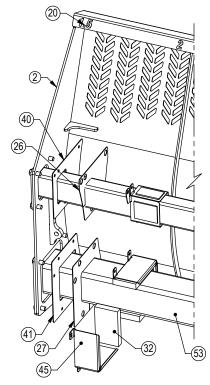
1. Remove nuts and each tilt plate separately.

Note: Don't remove all of the nuts at the same time.

- 2. Install or remove washers as needed to adjust tilt-way clearance to have 1/16" 1/8" of clearance.
- 3. Once the tilt-way clearance is set, tighten nuts to 640 ft-lbs.

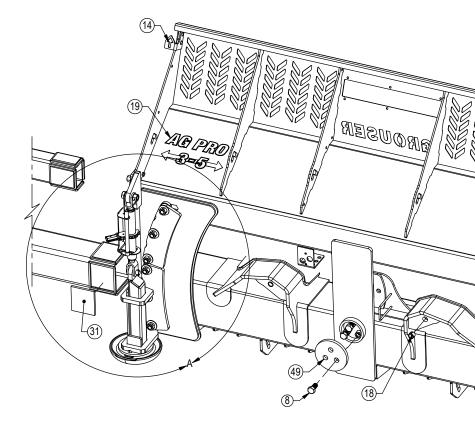


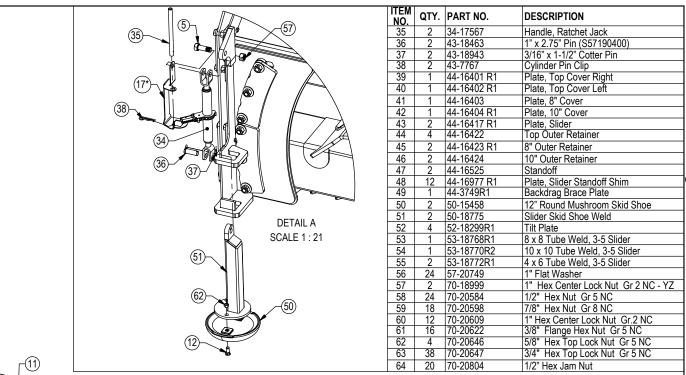


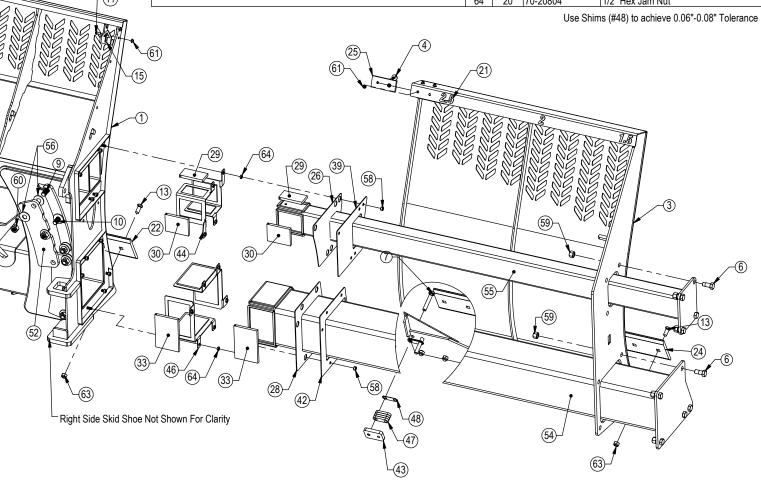


*	Part	Not	Shown
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ITEM No.	QTY.	PART NO.	DESCRIPTION			
1	1	15-18735R2	XAXT Blade Weld			
3	1	15-18760-L	3-5 Slider End Weld - Left			
	1	15-18760-R	3-5 Slider End Weld - Right			
4	12	16-16305	3/8" x 1.25" Flanged Elevator Bolt			
5 6	2	16-18945	1" x 3" Hex Bolt Gr 5 NC - Short Thread			
6	18	16-20538	7/8" x 2" Hex Bolt Gr 8 NC			
7	4	16-20517	3/4" X 4-1/2" Hex Bolt Gr. 8 NC			
8	3	16-20558	1" X 2" Hex Bolt Gr. 8 NC			
9	4	16-20561	1" x 2-3/4" Hex Bolt Gr.8 NC			
10	8	16-20563	1" x 3-1/4" Hex Bolt Gr.8 NC			
11	4	16-21064	3/8" x 1" Carriage Bolt Gr 5 NC			
12	4	16-21666	5/8" x 1-3/4" Plow Bolt Gr 5 NC			
13	38	16-21748	3/4" X 2" Plow Bolt Gr 8 NC			
14	1	18-16304-L	Bracket, Left Location			
15	1	18-16304-R	Bracket, Right Location			
16	1	18-18498-L R2	Ratchet Keeper - Left			
17*	1	18-18498-R R2	Ratchet Keeper - Right			
18	2	19-7774	1" x 1" Spring Bushing			
19	1	27-18936	Ag Pro 3-5 Decal			
20	1	27-18937-L	Ag Pro 3-5 Width Decal - Left			
21	1	27-18937-R	Ag Pro 3-5 Width Decal - Right			
22	1	29-11118-4	4' - 3/4"x 8" Cutting Edge			
23*	1	29-11118-5	5' - 3/4"x 8" Cutting Edge			
24	2	29-18777	58" - 3/4 x 8 Cutting Edge			
25	6	34-16158	Bearing, 2.625 x 6.00 W/Holes			
26	2	34-16419	Top Seal			
27	1	34-16420	8" Tube Seal			
28	1	34-16421	10" Tube Seal			
29	8	34-16425	Top Narrow UHMW			
30	8	34-16426	Top Wide UHMW			
31	4	34-16427	8" Inner UHMW			
32	4	34-16428	8" Outer UHMW			
33	8	34-16429	10" UHMW			
34	2	34-17565	Skid Shoe Ratchet Jack (S01054100)			

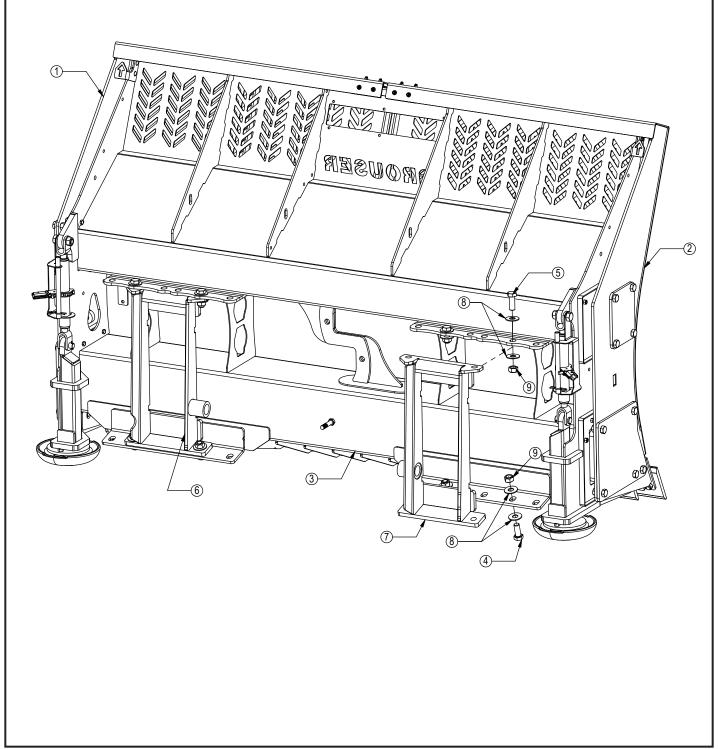




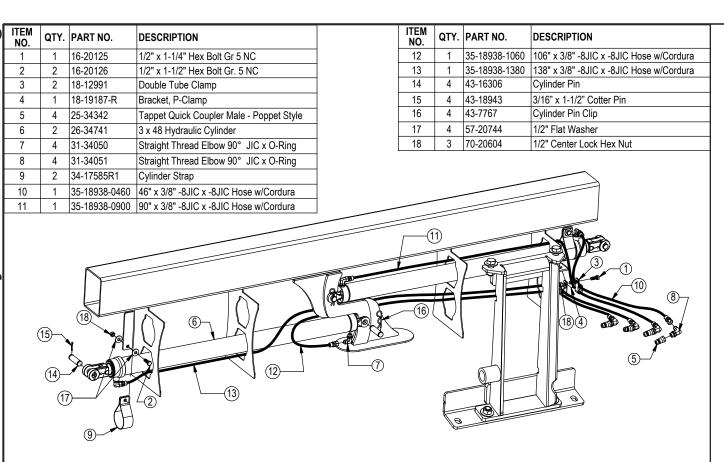


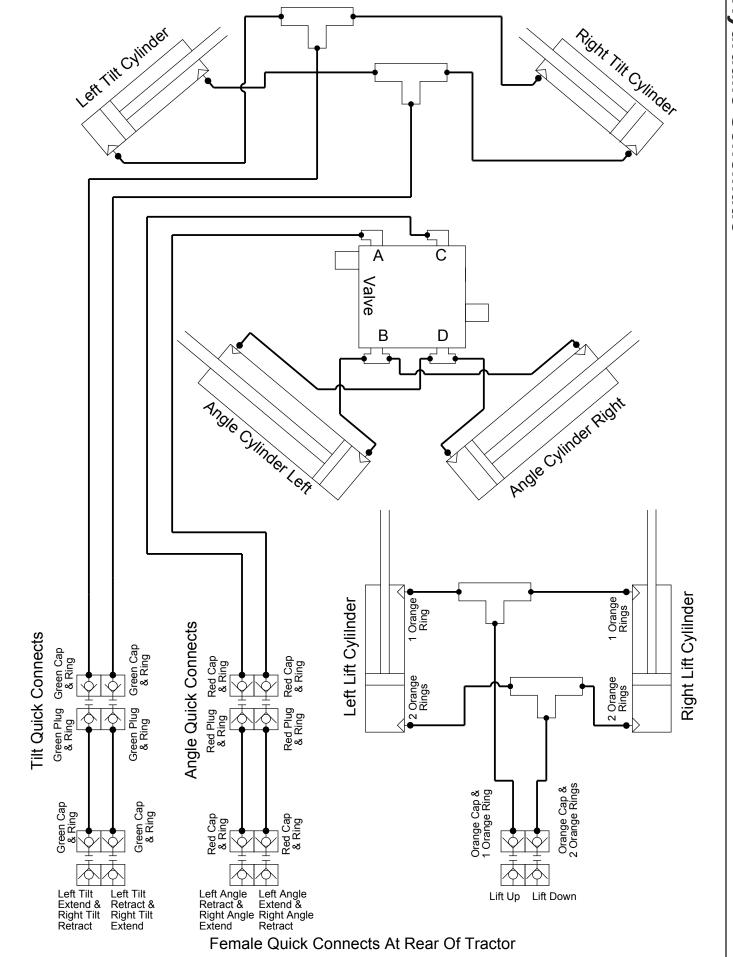
ITEM NO.	QTY.	PART NO.	DESCRIPTION
1	1	15-18760-L	3-5 Slider End Weld - Left
2	1	15-18760-R	3-5 Slider End Weld - Right
3	1	15-18795R2	NANT 3-5 Blade Weld
4	5	16-20560	1" x 2-1/2" Gr.8 NC Hex Bolt
5	3	16-20561	1" x 2-3/4" Hex Bolt Gr.8 NC
6	1	45-14710-L R2	Quick Attach - Female Left
7	1	45-14710-R R2	Quick Attach - Female Right
8	16	57-20819	1" Flat Washer Heavy Duty Gr 8 (USS)
9	8	70-20999	1" Hex Top Lock Nut Gr 8 NC (YZ)

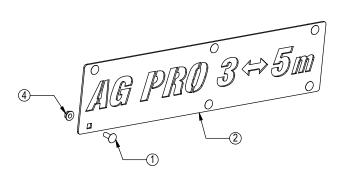
See Pages 10-11 for remaining blade components.



ITEM NO.	QTY.	PART NO.	DESCRIPTION	
1	1	11-3049R3	Bell Crank	
2	1	16-20011	1/4" x 2-3/4" Hex Bolt Gr 5 NC	
3	2	16-20125	1/2" x 1-1/4" Hex Bolt Gr 5 NC	
4	2	16-20132	1/2" X 3" Hex Bolt Gr. 5 NC	
5	2	16-21065	3/8" x 1.25 Carriage Bolt Gr 5 NC	
6	1	18-19362R1	Bolt Bracket, Weld	
7	1	18-19365	Latch Stop	
8	2	19-40440	Bushing, Spacer	
9	2	27-2409	Pinc Decal (Hand)	
10	2	27-9503	Pinc Decal (Foot)	
11	1	34-17799	Latch Spring	
12	1	39-19360	Handle Weld	
13	1	39-19366R1	Latch	
14	1	39-3072	Rubber Handle	
15			Ag Pro Lock Pin	
16		44-18970	Link Plate	
17		57-20742	3/8" Flat Washer	
18		57-40408	3/8 Flat Nylon Washer	
19		70-20604	1/2" Center Lock Hex Nut	
20		70-20607	3/4" Center Lock Hex Nut NC	
21		70-20610	1/4" Nyloc Hex Nut Gr 5 NC	
22	2	70-20612	3/8" Nyloc Nut	
		0	9	



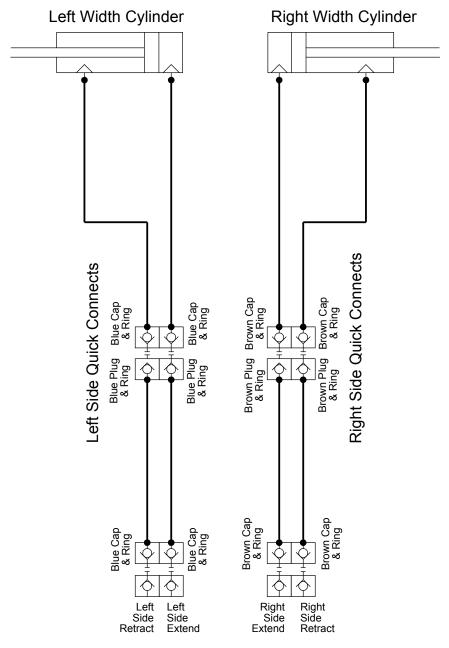




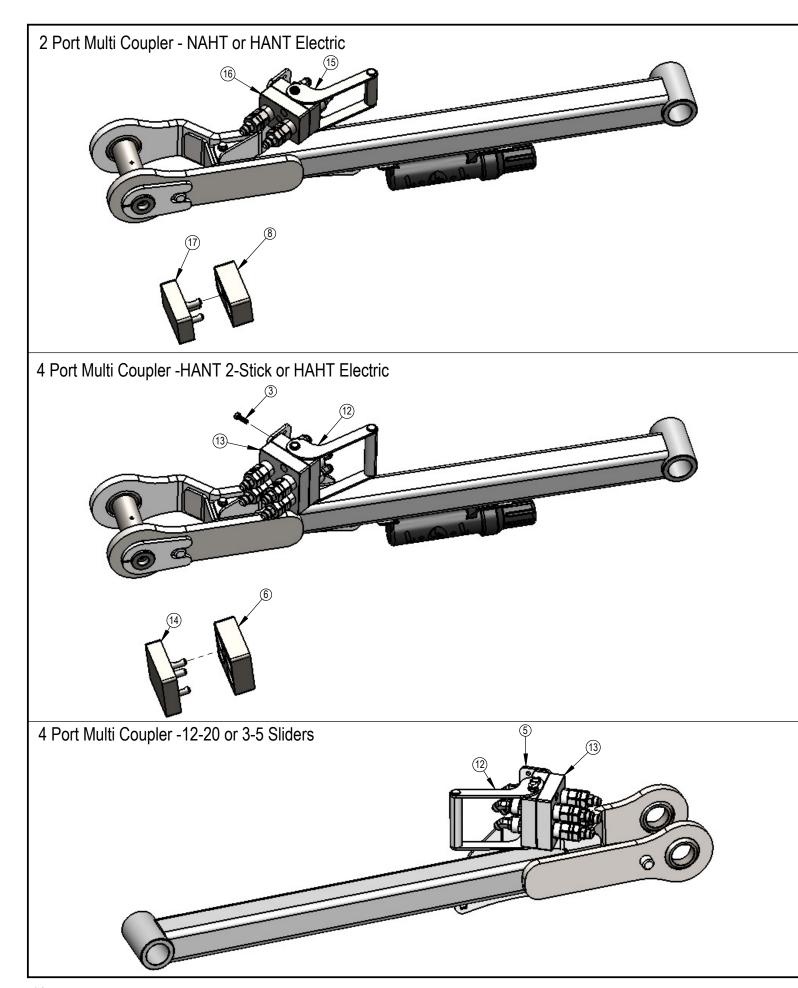
* Parts Not Shown

ITEM NO.			DESCRIPTION	
1			3/8" x 1" Carriage Bolt Gr 5 NC	
2	1	44-18995	Ag Pro 3-5M Name Plate	
3*	3* 1 44-15600		Custom Name Plate	
4	6	70-20622	3/8" Flange Hex Nut Gr 5 NC	

3-5 Blade Cylinders

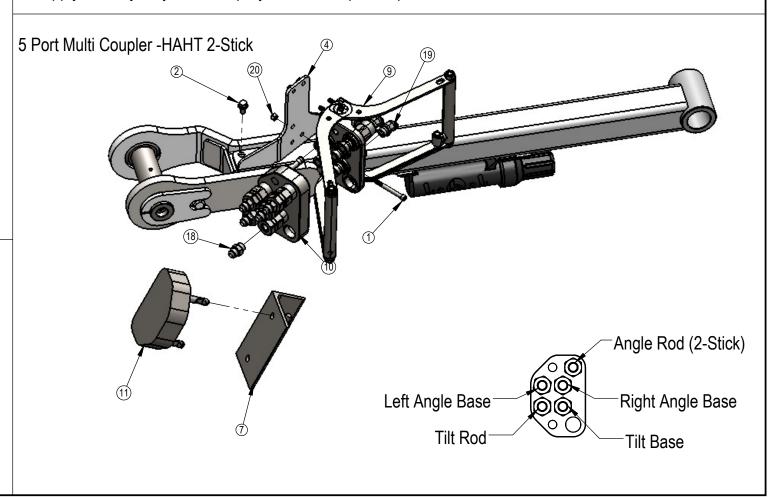


Female Quick Connects At Rear Of Tractor



ITEM NO.	PART NO.	HAHT 2-Stick	HANT 2-Stick or HAHT Electric	NAHT or HANT Electric	12-20 or 3-5 Blades	DESCRIPTION
1	16-18957	4	-	-	-	5/16" x 3-1/4" Allen Head Screw
2	16-35C612	3	3	3	3	3/8" x 3/4" Flange Bolt
3	16-812525	-	2	2	2	8mm x 1.25mm x 25mm Metric Hex Bolt Gr 10.9
4	18-18430R1	1	1	1	-	Quick Coupler Mount
5	18-18514	-	1	-	1	Quick Coupler Mount
6	25-18956	-	1	-	1	Multi-Coupling Plate - 4 Port Parking Station
7	25-18961	1	-	-	-	Multi-Coupling Plate - 5/6 Port Parking Station
8	25-19657	-	-	1	-	Multi-Coupling Plate - 2 Port Parking Station
9	25-19861	1	-	-	-	Multi-Coupling Plate - 5 Port - Fixed
10	25-19862	1	-	-	-	Multi-Coupling Plate - 5 Port - Mobile
11	25-19863	1	-	-	-	Multi-Coupling Plate - 5 Port - Cap
12	25-19864	-	1	-	1	Multi-Coupling Plate - 4 Port Fixed
13	25-19866	-	1	-	1	Multi-Coupling Plate - 4 Port Mobile
14	25-19867	-	1	-	1	Multi-Coupling Plate - 4 Port - Cap
15	25-19868	-	-	1	-	Multi-Coupling Plate - 2 Port - Fixed
16	25-19869	-	-	1	-	Multi-Coupling Plate - 2 Port - Mobile
17	25-19871	-	-	1	-	Multi-Coupling Plate - 2 Port - Cap
18	31-34040	5	4	2	4	Straight JIC x O-Ring
19	31-34150	5	4	2	4	Straight Thread Elbow 45° JIC x O-Ring (6802-8-8)
20	70-20611	4	-	-	-	5/16" Nyloc Hex Nut Gr 5 NC

- 1. Parking Stations are located on the angle frames or blades. Place the Cap in the Parking Stations when blade is in use. When disconnecting the blade, place the Cover on the Fixed Multi-Coupler and the Mobile Multi-Coupler in the Parking Station.
- 2. Apply a heavy duty silicone spray lubricant to pins to protect from corrosion.



Contact Us

As always, if you have any questions about your 3-5 Dozer or other products made by Grouser, feel free to contact us.

Grouser Products

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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 from date of original retail delivery. 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.

