3-5 - AG PRO SS

Owner’s Manual & Parts Book
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 11.
- Inspect all tilt-ways for aggressive wear. See page 11 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.

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<th>SAE Grade 5</th>
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<td>M24 x 3.00</td>
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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.
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. Use 2” washers as shims to keep top arm pin tight and in place. Only use as many as needed until pin is tight. 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.

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.
ITEM NO. | PART NO. | QTY. | DESCRIPTION
--- | --- | --- | ---
21 | 34-14961 | 1 | Manual Canister Small
22 | 34-18578 | 2 | Hose Clamp (worm drive - 4.5)
23* | 34-18889-OR | 15 | -14 ORANGE - Spiral Band
24A, B | 35-12329-2930 | 2 | 293" x 3/4" -12 FJIC x -12 FJIC Hose
24C | 35-12329-3200 | 2 | 320" x 3/4" -12 FJIC x -12 FJIC Hose
25 | 35-12636-0515 | 1 | 51.5" x 5/8" -10 FJIC x -12 FJIC Hose
26 | 35-12636-0535 | 1 | 53.5" x 5/8" -10 FJIC x -12 FJIC Hose
27 | 35-12636-0665 | 1 | 66.5" x 5/8" -10 FJIC x -12 FJIC Hose
28 | 35-12636-0670 | 1 | 67" x 5/8" -10 FJIC x -12 FJIC Hose
29 | 35-18240 | 2 | Lift Cylinder Steel Line
30 | 43-14725 | 2 | Lift Frame / UC Pin
31 | 43-18120 | 4 | Top Pin Weld
32 | 43-18127 | 2 | Top Arm Pin Weld
33 | 43-18175 | 2 | Lift Cyl Pin Weld
34 | 43-18835 | 2 | Ag Pro Plus QA Pin
35 | 45-18110-L | 1 | Male Quick Attach, Ag Pro S - Left
36 | 45-18110-R | 1 | Male Quick Attach, Ag Pro S - Right
37 | 57-1530 | 2 | 3" OD X .75 ID X .25" HD Flat Washer
38 | 57-1811 | 6 | 2" Washer
39 | 57-20740 | 2 | 1/4" Flat Washer
40 | 57-20747 | 10 | 3/4" Flat Washer
41 | 58-9369 | 12 | Straight 1/8" NPT Grease Zerk
42 | 70-20607 | 2 | 3/4" Center Lock Hex Nut NC

No. On Cylinder | Part No. | Description
--- | --- | ---
26-34745 | 49-12278 | Seal Kit 4.5" Bore x 2" Rod (058366) Nitrided Rod

* Hoses Are Not Drawn To Scale

Item #A for Claas Tractors
Item #B for Steiger, New Holland, Claas, and JD 9R Tractors
Item #C for Versatile and Challenger Tractors
Installing Hydraulic Coupler Components

Note: Refer to Page 7-8 for further information on hose routing and hose positions. The quantity and location of the female couplers is determined by blade functionality.

7. Attach the coupler mounts to the left and right top arms and install the female quick couplers and 90° fittings. See Page 7 & 8 for proper orientation.

8. 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.

9. 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.

10. Continue on Page 9 for instructions on how to remove the air from the system.
### Tractor Side - Hydraulic Hose Routing

#### Configuration HAHT | NAHT
<table>
<thead>
<tr>
<th>Item No.</th>
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<th>Qty.</th>
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<td>Tappet Quick Coupler Female</td>
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<td>4</td>
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<td>Tappet Quick Coupler Male - Poppet Style</td>
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* Parts Now Shown
Item #A & B for Claas Tractors
Item #C for Steiger, New Holland, Claas, and JD Tractors
Item #D for Versatile and Challenger Tractors

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*All hoses should be routed through hose loop. Hoses are shown outside of the hose loop for clarity.*

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*Top view - some parts not shown for clarity.*

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*Hose loop for clarity.*
All Hoses Should Be Routed Thru Hose Loop. Hoses Are Shown Outside Of The Hose Loop For Clarity.

<table>
<thead>
<tr>
<th>Item No.</th>
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<th>Part No.</th>
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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 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.

**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.

**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. Use a fork lift to angle the blade system until the left side is fully out, loosen the fittings on the rod and base end of the angle cylinders.
2. Actuate the angle function to extend the right angle 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 fork lift.
5. Continue to actuate the angle function until oil flows out of the remaining open ports.
6. Actuate the angle function in the opposite direction.
7. When all air is removed from the angle 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.

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.
Connecting and Disconnecting the Blade

To Connect:
1. Lift the locking latch and push the quick attach lock handle on the left side of the angle system to open the quick attach system. Refer to Page #12-13 for further clarification on the quick attach system.
2. Drive the tractor forward slowly until the top hub of the male quick attach is under the top hook of the angle frame.
3. Raise the lift system until the male quick attach engages the female. If both sides don’t fully engage, reposition. Continue to raise the lift system until the blade is off the ground and the angle frame is against the front of the male quick attaches.
4. Shut off the tractor engine and set the parking brake.
5. Pull 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 #7-8 for proper locations of all functions.
7. Refer to the Initial Startup Instructions on Page 9 before operating any function on the blade.

To Disconnect:
Note: Blade should be off the ground when unlocking the blade.
1. Unhook all of the couplers on the top arm.
2. Lift the locking latch and push the quick attach lock handle to unlock the quick attach system.
3. Slowly lower the lift system to disengage the blade.
4. 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 down to the bolt heads, replace with new skid shoes.

Tilt Plate Adjustment:
If the clearance between the tilt frame and the tilt plates is not meeting the recommended specification of 1/16" - 1/8", follow the steps below to adjust the tilt plates.
1. Remove bolts and each tilt plate separately. Note: Don’t remove all of the bolts 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 bolts to 640 ft-lbs.
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<th>PART NO.</th>
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<td>Grease Hose w/ Long Bulkhead (w/lock nut and grease zerk)</td>
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Hydraulic Schematic

Left Tilt Cylinder

Right Tilt Cylinder

Angle Cylinder Left

Angle Cylinder Right

Tilt Quick Connects

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Green Cap & Ring

Angle Quick Connects

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Red Cap & Ring

Left Quick Connects

Left Tilt Extend & Retract

Left Angle Extend & Retract

Left Angle Retract & Extend

Left Angle Retract & Extend

Female Quick Connects At Rear Of Tractor

Right Quick Connects

Right Tilt Extend & Retract

Right Angle Extend & Retract

Right Tilt Extend & Retract

Right Tilt Extend & Retract

Right Tilt Extend & Retract

Right Tilt Extend & Retract

Lift Up

Lift Down

2 Orange Rings

2 Orange Rings

2 Orange Rings

2 Orange Rings

2 Orange Rings

1 Orange Ring

1 Orange Ring

1 Orange Ring

2 Orange Rings

2 Orange Rings

2 Orange Rings
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<td>2</td>
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<td>Skid Shoe Ratchet Jack (S01054100)</td>
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*Part Not Shown

Use Shims (#48) to achieve 0.06"-0.08" Tolerance

Right Side Skid Shoe Not Shown For Clarity
### Blade Assembly

**SCALE 1 : 21**

#### ITEM NO. | QTY. | PART NO. | DESCRIPTION
---|---|---|---
35 | 2 | 34-17567 | Handle, Ratchet Jack
36 | 2 | 43-18463 | 1" x 2.75" Pin (S57190400)
37 | 2 | 43-18943 | 3/16" x 1-1/2" Cotter Pin
38 | 2 | 43-1767 | Cylinder Pin Clid
39 | 1 | 44-16401 R1 | Plate, Top Cover Right
40 | 1 | 44-16402 R1 | Plate, Top Cover Left
41 | 1 | 44-16403 | Plate, 8" Cover
42 | 1 | 44-16404 R1 | Plate, 10" Cover
43 | 2 | 44-1641 R1 | Plate, Slider
44 | 4 | 44-16422 | Top Outer Retainer
45 | 2 | 44-16423 R1 | 8" Outer Retainer
46 | 2 | 44-16424 | 10" Outer Retainer
47 | 2 | 44-16525 | Standoff
48 | 12 | 44-16977 R1 | Plate, Slider Standoff Shim
49 | 1 | 44-3749 R1 | Backdrag Brace Plate
50 | 2 | 50-15458 | 12" Round Mushroom Skid Shoe
51 | 2 | 50-18775 | Slider Skid Shoe Weld
52 | 4 | 52-18299 R1 | Tilt Plate
53 | 1 | 53-18788 R1 | 8 x 8 Tube Weld, 3-5 Slider
54 | 1 | 53-18770 R2 | 10 x 10 Tube Weld, 3-5 Slider
55 | 2 | 53-18772 R1 | 4 x 6 Tube Weld, 3-5 Slider
56 | 24 | 57-20749 | 1" Flat Washer
57 | 2 | 70-18999 | 1" Hex Center Lock Nut Gr 2 NC - YZ
58 | 24 | 70-20584 | 1/2" Hex Flange Nut Gr 5 NC
59 | 18 | 70-20598 | 7/8" Hex Nut Gr 8 NC
60 | 12 | 70-20609 | 1" Hex Center Lock Nut Gr 2 NC
61 | 16 | 70-20622 | 3/8" Flange Hex Nut Gr 5 NC
62 | 4 | 70-20646 | 5/8" Hex Top Lock Nut Gr 5 NC
63 | 36 | 70-20847 | 3/4" Hex Top Lock Nut Gr 5 NC
64 | 20 | 70-20804 | 1/2" Hex Jam Nut

*Use Shims (#48) to achieve 0.06"-0.08" Tolerance*

---

**Right Side Skid Shoe Not Shown For Clarity**
3-5 Blade Cylinders

Left Width Cylinder

Right Width Cylinder

Left Side Quick Connects

Right Side Quick Connects

Female Quick Connects

At Rear Of Tractor
ITEM NO. PART NO. HAHT 2-Stick HANT 2-Stick or HAHT Electric

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 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.
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>PART NO.</th>
<th>HAHT 2-Stick</th>
<th>HANT 2-Stick or HAHT Electric</th>
<th>NAHT or HANT Electric</th>
<th>12-20 or 3-5 Blades</th>
<th>DESCRIPTION</th>
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2. Apply a heavy duty silicone spray lubricant to pins to protect from corrosion.

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**5 Port Multi Coupler -HAHT 2-Stick**

![Diagram of 5 Port Multi Coupler -HAHT 2-Stick](image)
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.

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

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

Warranty
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