



12-20 (V5) Blade - 760
Owner's Manual
&
Parts Book

| |
|---------------|
| Purchase Date |
| Serial Number |
| Model Number |
| Tractor Model |
| Dealer |

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To The Owner

This manual contains information concerning the operation, adjustment, and maintenance of the 12-20 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.

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.

Maintenance

Due to the harsh environment many of our 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 4.
- 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. For replacement parts, see hydraulic pages for your specific system.
- Check skid shoes for wear and replace if necessary. For adjustment, see page 5.
- Inspect all tilt-ways for aggressive wear. See page 5 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 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 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.

Angle / Tilt Function Abbreviation Key

| | | |
|------|----------------------------------|-------|
| HAHT | Hydraulic Angle - Hydraulic Tilt | 6-Way |
| HANT | Hydraulic Angle - No Tilt | 4-Way |
| NAHT | No Angle - Hydraulic Tilt | 4-Way |
| NANT | No Angle - No Tilt | 2-Way |

Torque Specifications

All bolts should be tightened to the specifications that are stated. If specifications are not stated, follow torque charts below.

| 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 |

| | 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 |

Skid Shoe and Tilt Plate Adjustment

Skid Shoe Adjustment:

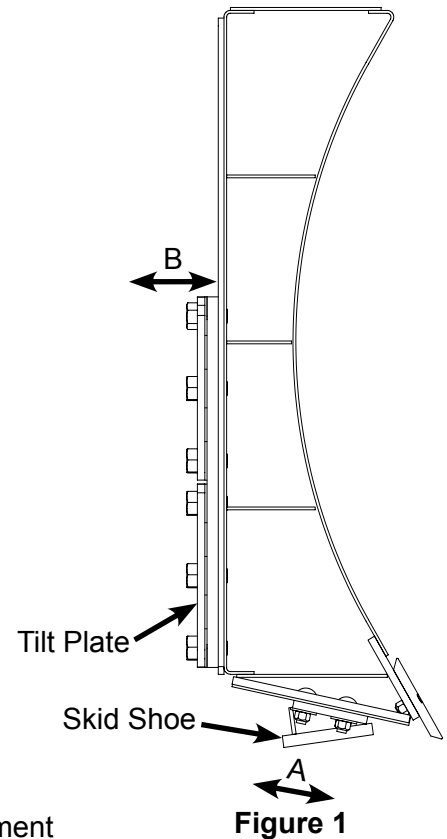
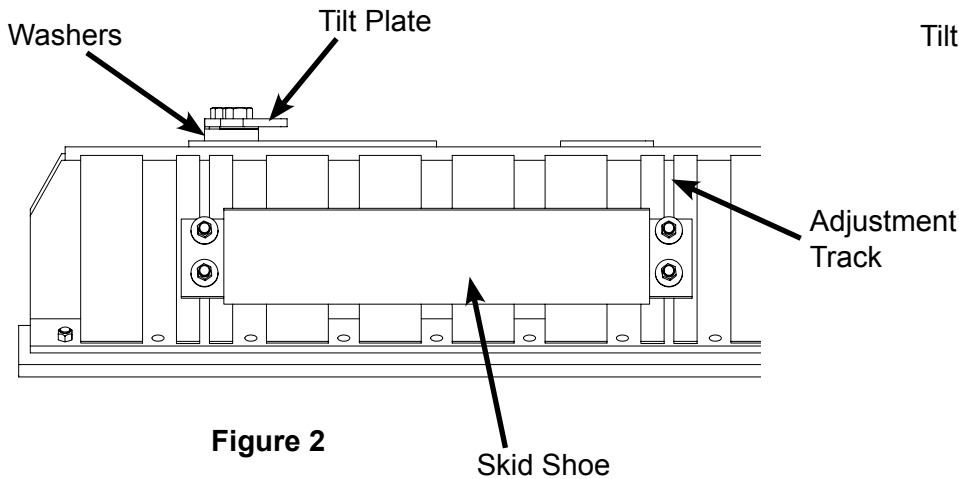
1. Raise and secure blade to access skid shoe bolts and nuts.
2. Loosen nuts and set skid shoe depth by sliding the shoe back and forth in direction 'A' shown in Figure 1.
3. Once the depth is set, tighten bolts to 150 ft-lbs.
4. When skid shoes are worn down, replace with new skid shoes.

Tilt Plate Adjustment:

1. Remove bolts and tilt plates.

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

2. Add or remove washers as needed to adjust tilt-way clearance to have 1/16" - 1/8" of clearance in direction 'B' shown in Figure 1.
3. Once the tilt-way clearance is set, tighten bolts to 640 ft-lbs.



Hydraulic Instructions

Prior to operating the blade, bleed all air out of the hydraulic system. Start with the furthest location away from the remote until all air is out.

Hydraulic Angle System Operating Instructions

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

2-Lever Angle System Operating Instructions

If your Grouser blade was purchased with the 2-Lever Hydraulic Angle Option, you will have the ability to angle the blade 30 degrees left or right. To achieve these angles, the two cylinders are designed to operate independently of each other with the use of 2 tractor hydraulic control levers and a safety relief valve. To angle the blade to the left or right, actuate the tractor hydraulic control lever corresponding to the left or right cylinder.

The safety relief valve allows the cylinder to retract if its internal pressure exceeds 2,000 psi. With this safety feature in place, when either cylinder reaches the end of its stroke, the safety relief valve will reroute pressure to the opposite cylinder causing it to extend. Refer to the Relief Valve Instructions below for possible adjustments.

Relief Valve Instructions

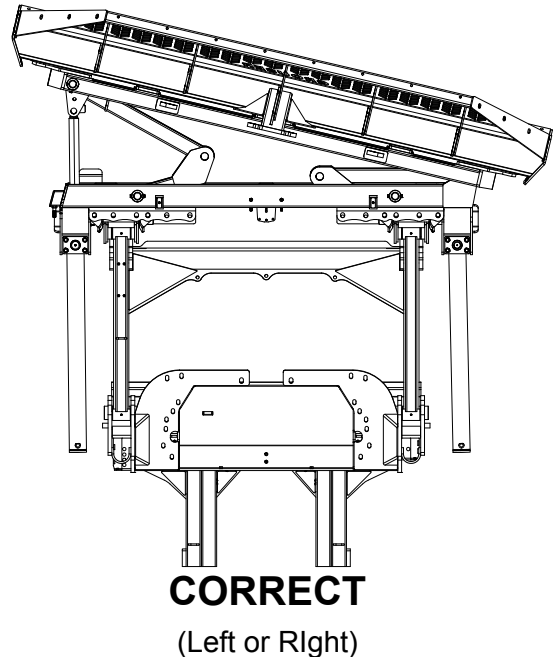
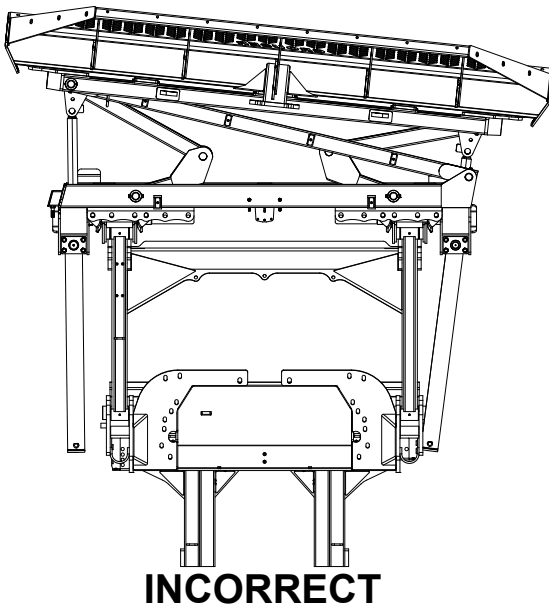
Set the safety relief valve at a higher pressure than tractor: To increase the pressure of the relief valve, install a 0-5,000 psi pressure gauge into the base end of right angle cylinder (see page 30). Loosen the jam nut on the safety valve and tighten the Allen screw 1/2 turn. Next, extend the right side cylinder out until the safety valve activates, while the safety valve is in function, record the pressure reading on the gauge. Continue to tighten the Allen screw in 1/2 turn increments and record the pressure until a high enough relief setting is obtained. **Do not exceed the 3,000-psi operating pressure of the cylinders.** Tighten the jam nut and remove the gauge.

Automatic lever release: In certain newer model tractors, the hydraulic control lever will automatically release and instantly stop oil flow once the end of the stroke is reached.

CAUTION: Do not bypass the safety relief valve and plumb each cylinder to separate valves on the tractor.

To ensure proper use and life of equipment, it is recommended to have both cylinders closed for straight ahead dozing and only one cylinder partially or fully extended for angled dozing as shown in the diagrams below. **If the angle system is not used correctly, frame damage may occur.** Some damaged frames can be repaired, please contact Grouser Products for repair instructions if needed.

Please contact Grouser Products with any questions by:
Phone - 701-282-7710 or 800-747-6182; Fax - 701-282-8131



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.

Assembling Lift Components

Install undercarriage per the tractor specific mounting instructions. Some assembly of Lift system components is necessary. Follow the steps listed below. Refer to Page 9 for the correct hardware and orientation of parts.

1. Remove all pins on each side of the undercarriage.
2. Position the lift frame between the two plates on both sides of the undercarriage.
3. Align the lift frame to the bottom holes of the undercarriage and attach with the proper pins and hardware.
4. Lift the end of the cylinders up and attach to the undercarriage with the proper pins and hardware.
5. Attach the top arms to the top of the undercarriage with the proper pins and hardware.
6. Remove the male quick attaches that are in the female quicks on the blade, angle frame, or tilt frame.
7. Attach the male quick attaches to the lift frame and top arms with the proper pins and hardware.
8. If the quick couplers and coupler mount are not already attached to the top arms, attach each of the coupler mounts to the top arms with 4 - 3/8" flange nuts. See Page 20 for proper orientation.
9. Take the lift hoses that are already attached to the furthest forward fittings on the left and right side of the undercarriage and attach them to the lift cylinders.

Note: For Step #10-15, refer to Page 20-25 for further information on hose routing and hose positions. The amount and location of the female couplers is determined by functions the blade is set up for.

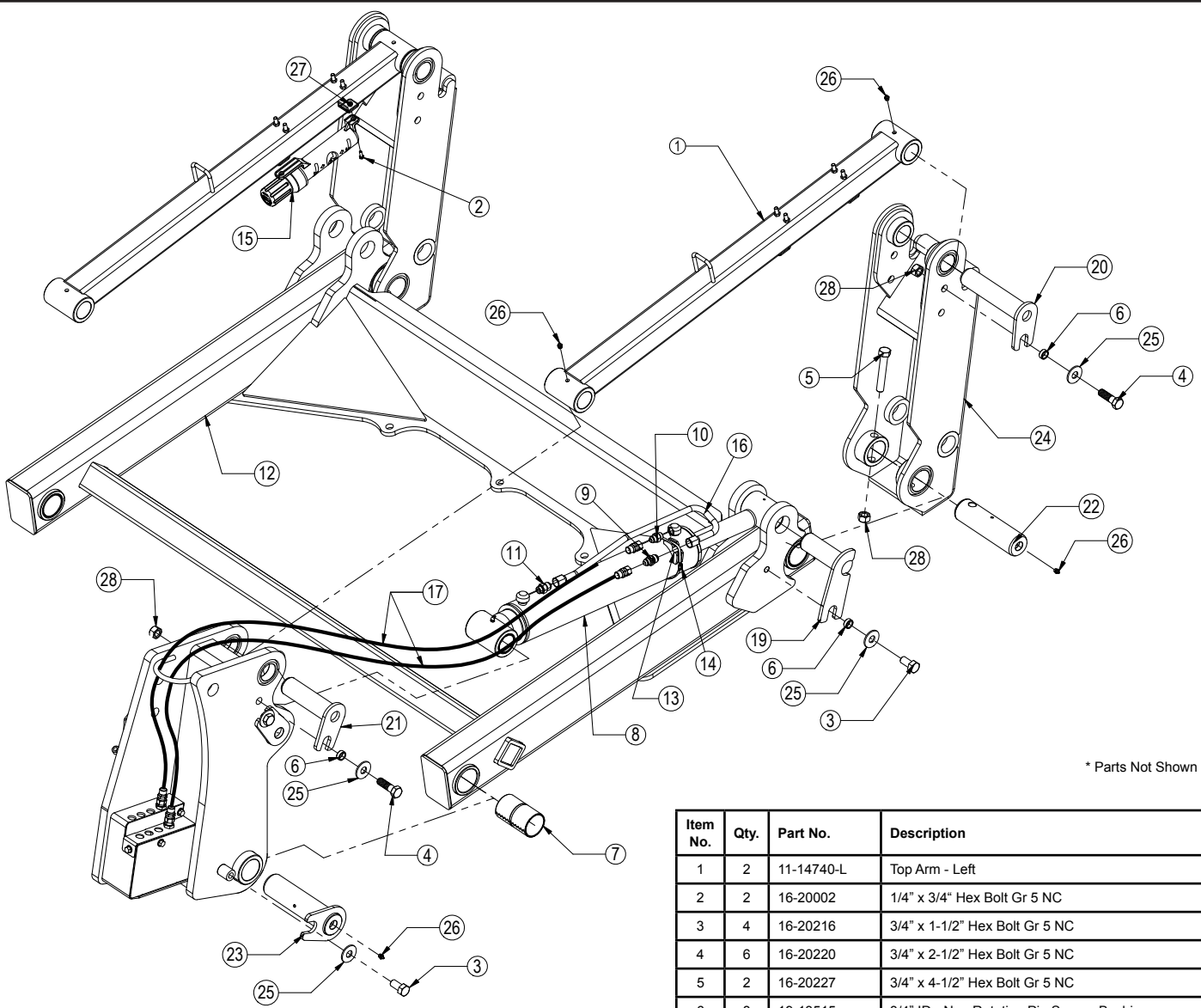
10. Run the remaining hoses thru the hose loop on the top arm and attach a 90° fitting to all the hoses.
11. Install a female quick coupler onto each 90° fitting from the previous step.
12. Install each coupler into the designated hole on the coupler mount and hold them in place with the coupler retainer plate, 3/8" x 3/4" bolts and 3/8" flange nuts.
13. Take the long hoses and attach each one to their designated fitting at the center of the undercarriage.
14. Route the hoses thru the hose loops on the undercarriage.
15. Continue to route the hoses thru the tractor. Keep away from all moving parts.

Note: Installer is responsible to route hoses in a practical manner. The hoses need to be routed away from sharp corners and moving parts and need to be secure.

16. If applicable, attach the wire harness to the bottom right hole of 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.
17. Locate the fused power supply. Connect the red wire to power and the black to ground. Install provided switch into an open switch hole in the right overhead console or another convenient place in the tractor. Connect the wire harness to the switch.
18. Pull the pin puller handle on the left side of the quick attach system towards the outside of the blade to open the quick attach system. Refer to Page #12-13 for further clarification on the quick attach system.
19. Tilt the male quick attaches forward slightly.
20. Drive the tractor forward slowly until the top edge of the male quick attach is under the top lip of the female quick attach already on the blade assembly.
21. Tilt the male quick attaches backward till the blade is off the ground and the female quick attaches are against the front of the male quick attaches.
22. Shut off machine and set the parking brake.
23. Move the pin puller handle on the left side of the blade assembly towards the center of the blade to lock the blade in place and use the latch to lock the handle in place. If applicable, turn up the blade stands on the blade.
24. Plug the male couplers into the female couplers on the top arm. Refer to Page #24-25 for proper coupler locations for all functions. 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.

Initial System Startup

Start the tractor and run the blade thru all the functions. If any function does not work properly, bleeding of the system may be required. If problem still persists, call Grouser Products.



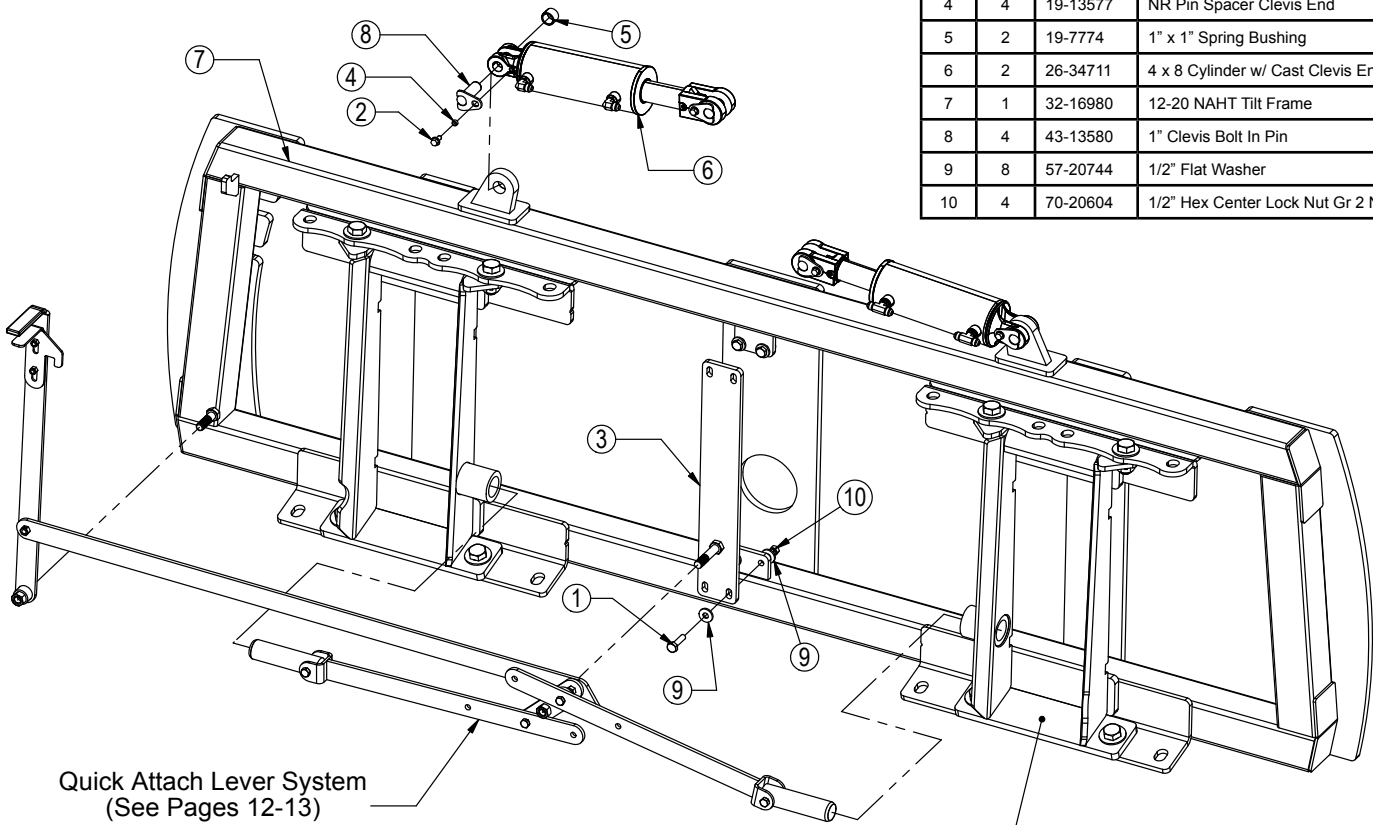
* Parts Not Shown

| Item No. | Qty. | Part No. | Description |
|----------|------|---------------|--|
| 1 | 2 | 11-14740-L | Top Arm - Left |
| 2 | 2 | 16-20002 | 1/4" x 3/4" Hex Bolt Gr 5 NC |
| 3 | 4 | 16-20216 | 3/4" x 1-1/2" Hex Bolt Gr 5 NC |
| 4 | 6 | 16-20220 | 3/4" x 2-1/2" Hex Bolt Gr 5 NC |
| 5 | 2 | 16-20227 | 3/4" x 4-1/2" Hex Bolt Gr 5 NC |
| 6 | 8 | 19-13515 | 3/4" ID - Non Rotating Pin Spacer Bushing |
| 7 | 4 | 19-13525 | 2.75 x 2.50 x 4.75 Spring Bushing |
| 8 | 2 | 26-34738 | 4x20 Long Cylinder - Bushed Tube Ends (647267) |
| 9 | 2 | 31-11699-10-8 | JIC Union (2403-10-8) |
| 10 | 2 | 31-34040 | Straight JIC x O-Ring (6400-8-8) |
| 11 | 2 | 31-6400-10-8 | Straight JIC x O-Ring (6400-10-8) |
| 12 | 1 | 32-14960 | 760 Low Obstruction Lift Frame |
| 13 | 2 | 34-12932 | Cylinder Saddle (ZR518) |
| 14 | 2 | 34-12994 | Hose Clamp |
| 15 | 1 | 34-14961 | Manual Canister |
| 16 | 2 | 35-12931 | Formed Steel Line (Lift Cylinder) |
| 17 | 4 | 35-31130 | 63" x 1/2" -8JIC/-8JIC Hose W/Cordura |
| 18* | 1 | 43-12929-L | Pin Weld - Long Ear (Lift Cyl. / Lift Frame) - Left |
| 19 | 1 | 43-12929-R | Pin Weld - Long Ear (Lift Cyl. / Lift Frame) - Right |
| 20 | 2 | 43-13478 | Pin Weld (Top Arm / QA) |
| 21 | 4 | 43-13482 | Pin Weld (Top Arm / UC & Lift Cyl. / UC) |
| 22 | 2 | 43-14720 | Pin Weld (Lift Frame / QA) |
| 23 | 2 | 43-14725 | Pin Weld (Lift Frame / UC) |
| 24 | 2 | 45-12175 | 700 Series Male Quick Attach |
| 25 | 10 | 57-20747 | 3/4" Flat Washer |
| 26 | 8 | 58-9369 | Grease Zerk 1/8" NPT Straight |
| 27 | 2 | 70-20580 | 1/4" Hex Nut Gr 5 NC |
| 28 | 8 | 70-20607 | 3/4" Hex Center Lock Nut Gr 2 NC |

NOTE: When ordering 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 |
|-----------------|----------|---|
| 26-34738 | 49-12272 | Seal Kit 4" Bore x 2" Rod (647204) Nitrided Rod |

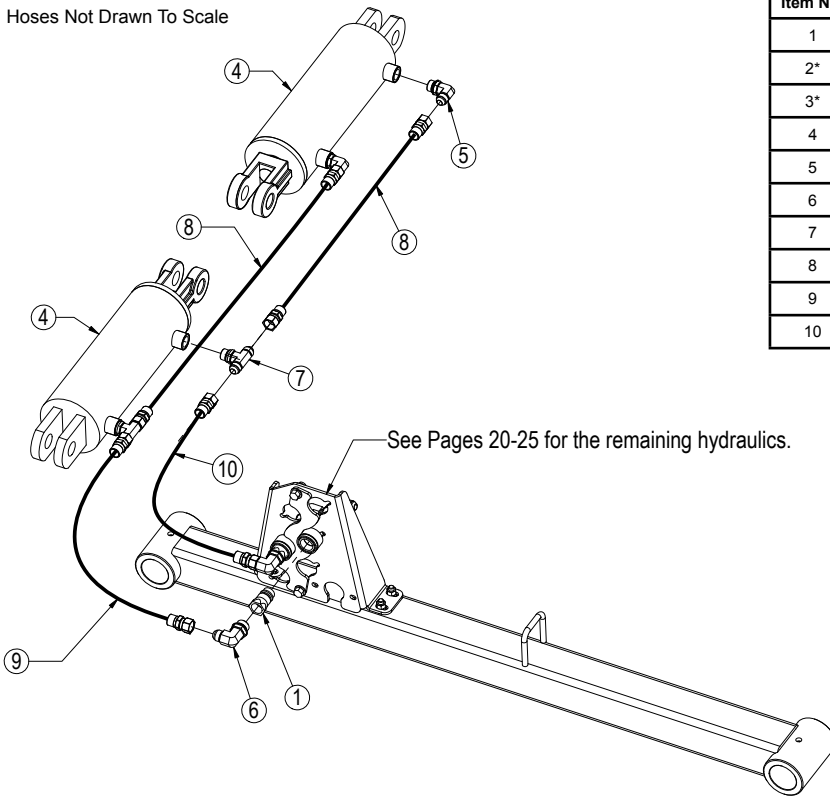
| Item No. | Qty. | Part No. | Description |
|----------|------|-----------|------------------------------------|
| 1 | 4 | 16-20128 | 1/2" x 2" Hex Bolt Gr 5 NC |
| 2 | 4 | 16-35C612 | 3/8" x 3/4" Flanged Bolt |
| 3 | 1 | 18-14658 | NAXT Center Bracket |
| 4 | 4 | 19-13577 | NR Pin Spacer Clevis End |
| 5 | 2 | 19-7774 | 1" x 1" Spring Bushing |
| 6 | 2 | 26-34711 | 4 x 8 Cylinder w/ Cast Clevis Ends |
| 7 | 1 | 32-16980 | 12-20 NAHT Tilt Frame |
| 8 | 4 | 43-13580 | 1" Clevis Bolt In Pin |
| 9 | 8 | 57-20744 | 1/2" Flat Washer |
| 10 | 4 | 70-20604 | 1/2" Hex Center Lock Nut Gr 2 NC |



Quick Attach Lever System
(See Pages 12-13)

Quick Attach (See Pages 12-13)

Hoses Not Drawn To Scale



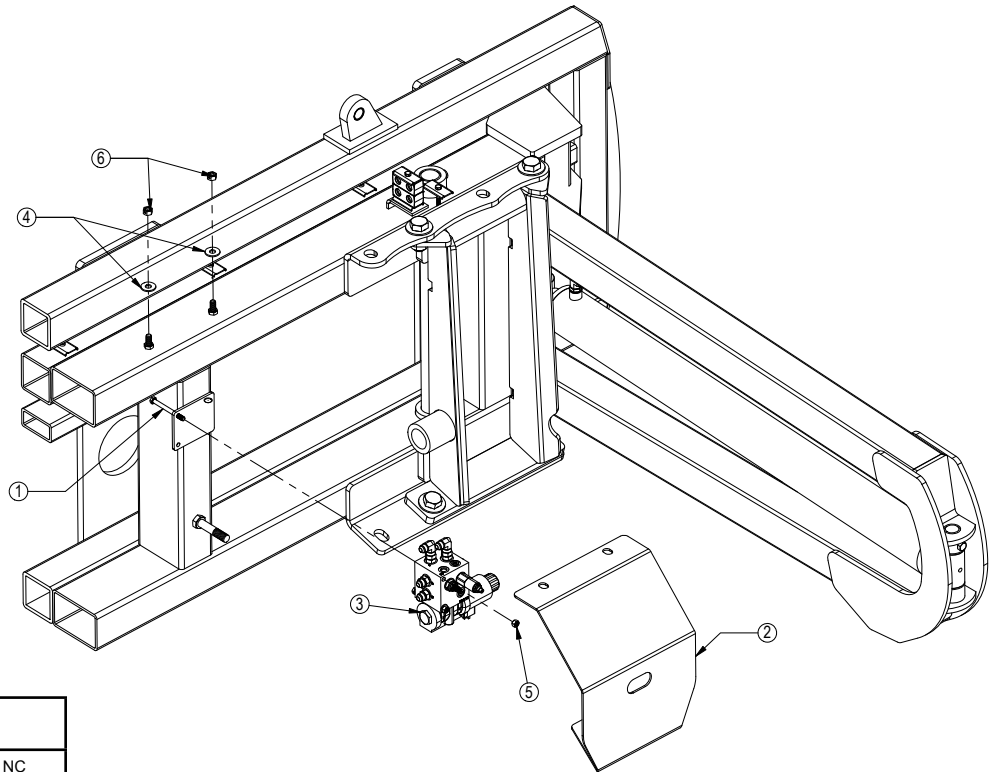
| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 1 | 2 | 25-34322 | Tappet Quick Coupler Male |
| 2* | 2 | 25-3453 | Pioneer Dust Cap Tilt (Green) |
| 3* | 2 | 25-3454 | Pioneer Dust Plug Tilt (Green) |
| 4 | 2 | 26-34711 | 4 x 8 Cylinder W/ Cast Clevis Ends |
| 5 | 2 | 31-34050 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-8) |
| 6 | 2 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) |
| 7 | 2 | 31-34060 | Branch Tee JIC x O-Ring (6803-8-8) |
| 8 | 2 | 35-30022 | 39" x 3/8" -8JIC/-8JIC Hose |
| 9 | 1 | 35-30121 | 35" x 1/2" -8JIC/-8JIC Hose |
| 10 | 1 | 35-30124 | 45" x 1/2" -8JIC/-8JIC Hose |

* Parts Not Shown

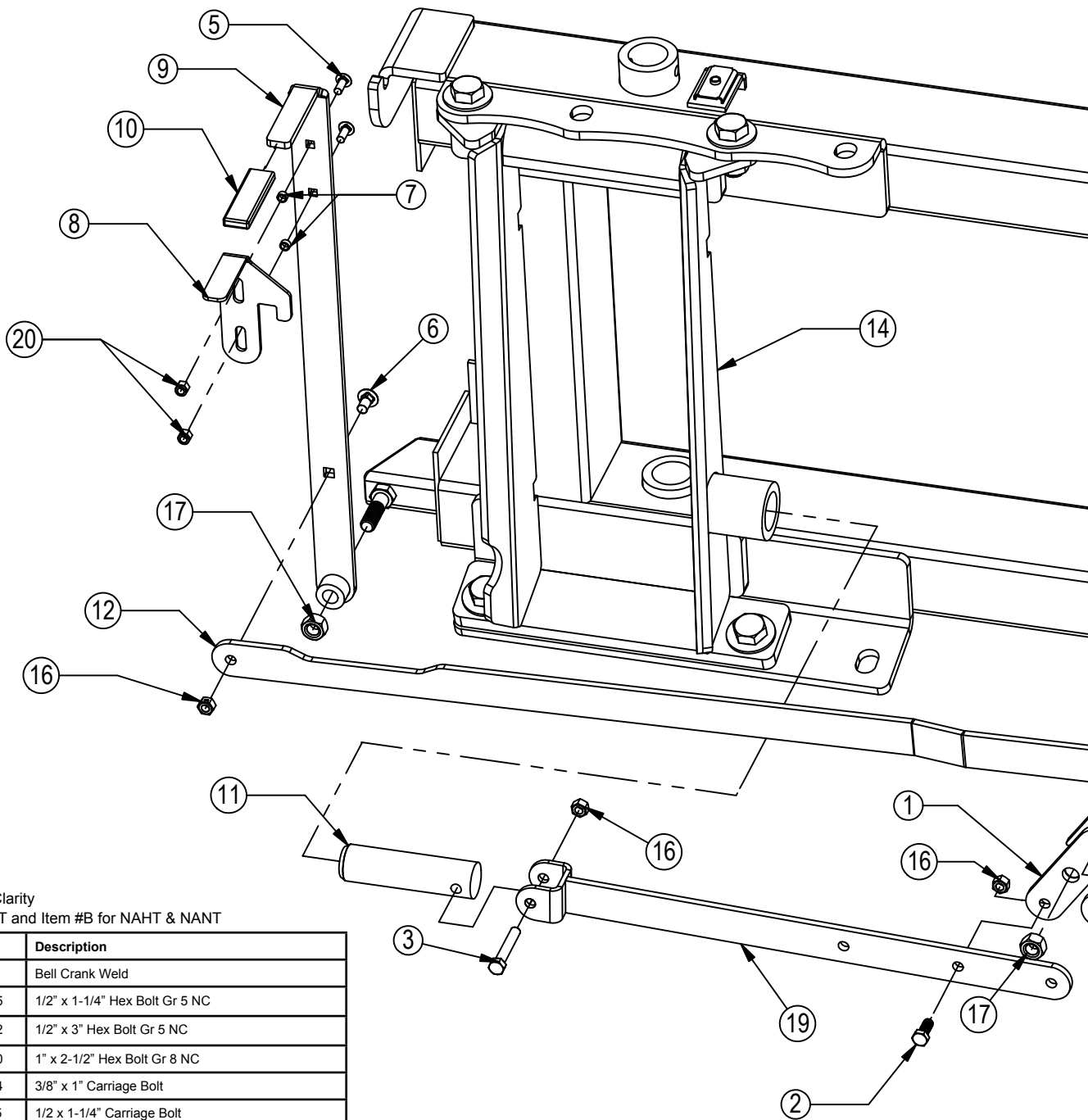
See Pages 20-25 for the remaining hydraulics.

NOTE: When ordering 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 |
|-----------------|----------|---|
| 26-34711 | 49-12271 | Seal Kit 4 x 8 (647135) Nitrided Rod, Clevis Ends |

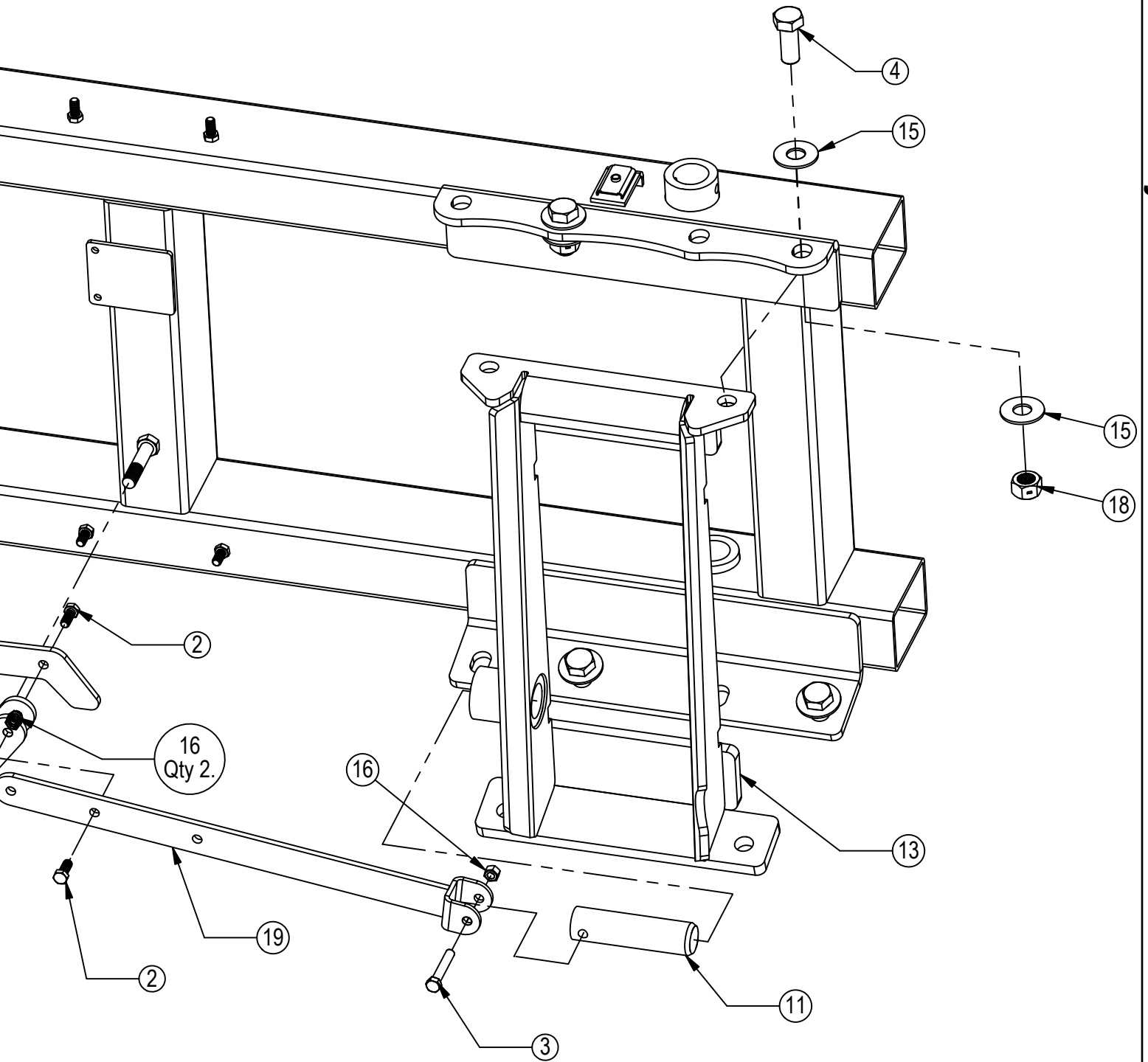


| Item No. | Qty. | Part No. | Description |
|----------|------|----------|----------------------------------|
| 1 | 2 | 16-20077 | 3/8" x 4-1/2" Hex Bolt Gr 5 NC |
| 2 | 1 | 18-1701 | AG Pro Hydraulic Valve Cover |
| 3 | 1 | 56-13305 | Hydraulic Angle Valve |
| 4 | 2 | 57-20744 | 1/2" Flat Washer |
| 5 | 2 | 70-20582 | 3/8" Hex Nut |
| 6 | 2 | 70-20604 | 1/2" Hex Center Lock Nut Gr 2 NC |



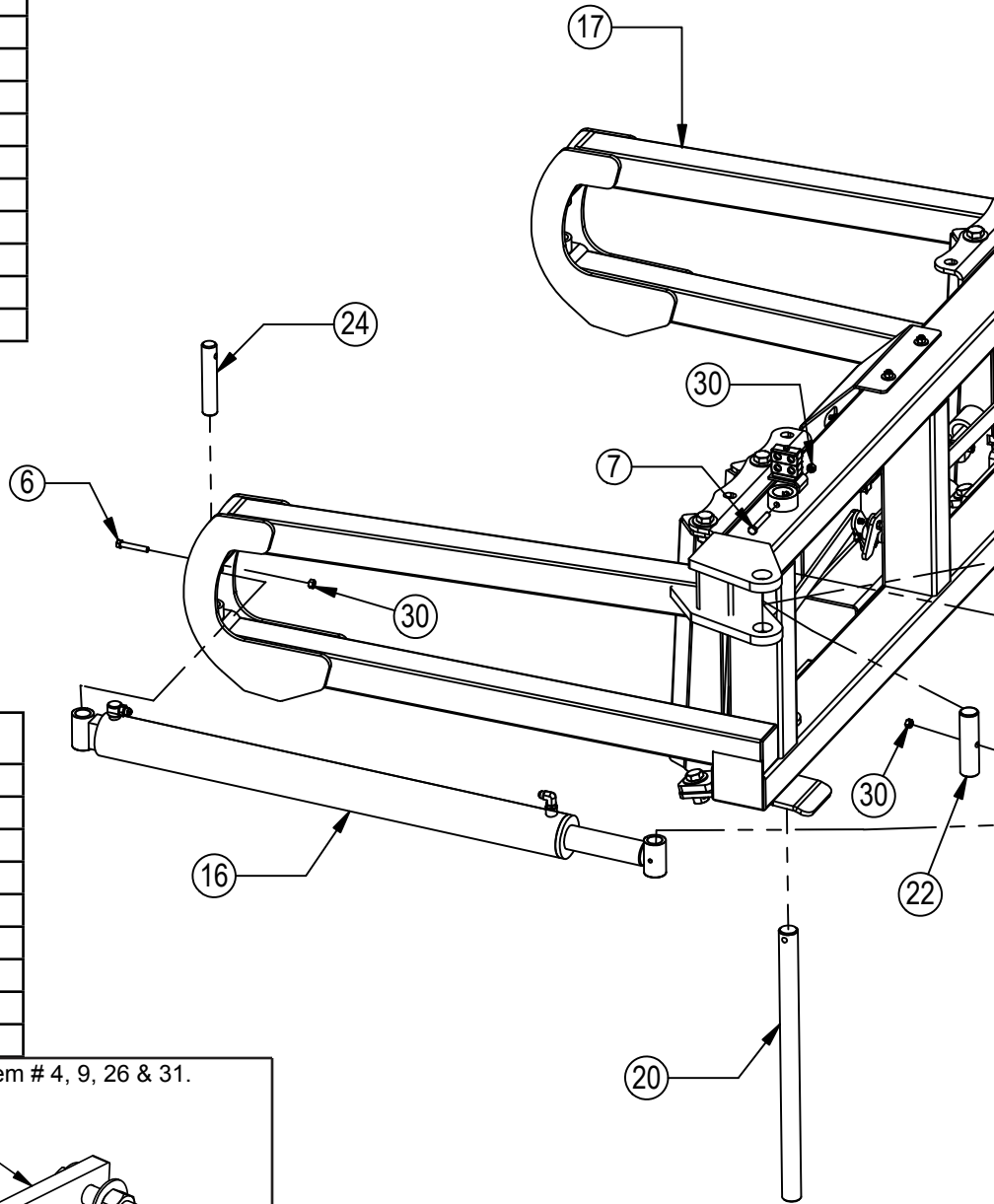
Some Parts Hidden For Clarity
 Item #A for HAHT & HANT and Item #B for NAHT & NANT

| Item No. | Qty. | Part No. | Description |
|----------|------|------------|--|
| 1 | 1 | 11-3049 | Bell Crank Weld |
| 2 | 3 | 16-20125 | 1/2" x 1-1/4" Hex Bolt Gr 5 NC |
| 3 | 2 | 16-20132 | 1/2" x 3" Hex Bolt Gr 5 NC |
| 4 | 8 | 16-20560 | 1" x 2-1/2" Hex Bolt Gr 8 NC |
| 5 | 2 | 16-21064 | 3/8" x 1" Carriage Bolt |
| 6 | 1 | 16-21125 | 1/2 x 1-1/4" Carriage Bolt |
| 7 | 2 | 19-13577 | NR Pin Spacer Clevis End |
| 8 | 1 | 39-14663 | AG Pro Pin Puller Latch |
| 9 | 1 | 39-14665 | AG Pro Pin Puller Handle Weld |
| 10 | 1 | 39-3072 | Handle Cover (Orange) |
| 11 | 2 | 43-3050 | QA Lock Pin |
| 12A | 1 | 44-14709 | Pin Puller Link Plate |
| 12B | 1 | 44-14662 | Pin Puller Link Plate |
| 13 | 1 | 45-14710-R | AG Pro Female Vertical Bolt On Quick Attach, Right |
| 14 | 1 | 45-14710-L | AG Pro Female Vertical Bolt On Quick Attach, Left |
| 15 | 16 | 57-20819 | 1" Flat Washer Heavy Duty Gr 8 (USS) |
| 16 | 6 | 70-20604 | 1/2" Hex Center Lock Nut Gr 2 NC |
| 17 | 2 | 70-20607 | 3/4" Hex Center Lock Nut Gr 2 NC |
| 18 | 8 | 70-20609 | 1" Hex Center Lock Nut Gr 2 NC |
| 19 | 2 | 75-14655 | AG Pro Pin Puller Link Weld |
| 20 | 2 | 70-20622 | 3/8" Flange Nut |



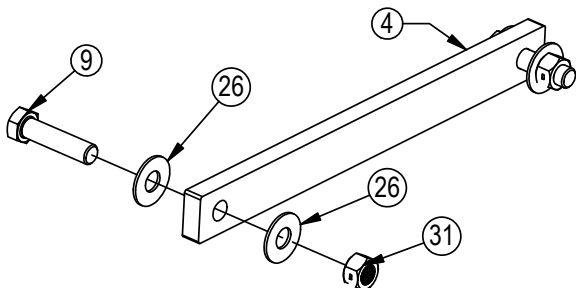
Hydraulic Angle - Hydraulic Tilt Or Hydraulic Angle - No Tilt

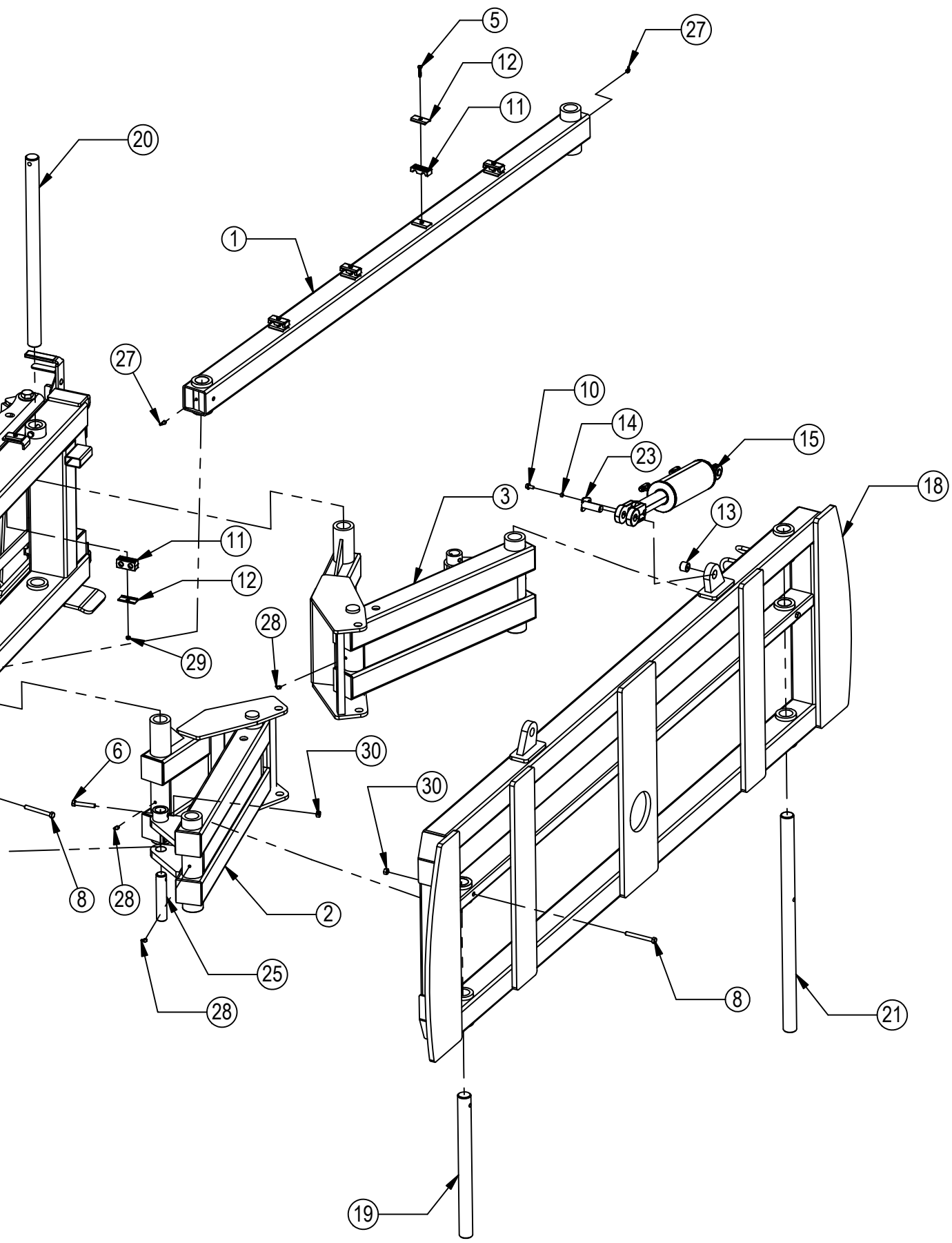
| Item No. | Qty. | Part No. | Description |
|----------|------|-----------|---------------------------------------|
| 1 | 1 | 11-5055 | 760 Series Stabilizer Arm |
| 2 | 1 | 11-8082 | 760 Series Angle Arm Right |
| 3 | 1 | 11-9039 | 760 Series Angle Arm Left |
| 4 | 1 | 14-9366 | Non Tilt Bar |
| 5 | 4 | 16-20036 | 5/16" x 1-1/2" Hex Bolt Gr 5 NC |
| 6 | 4 | 16-20132 | 1/2" x 3" Hex Bolt Gr 5 NC |
| 7 | 2 | 16-20424 | 1/2" x 3-1/2" Hex Bolt Gr 8 NC |
| 8 | 3 | 16-20427 | 1/2" x 4-1/2" Hex Bolt Gr 8 NC |
| 9 | 2 | 16-20564 | 1" x 3-1/2" Hex Bolt Gr 8 NC |
| 10 | 4 | 16-35C612 | 3/8" x 3/4" Flanged Bolt |
| 11 | 3 | 18-3074 | Hose Hold Down Clamp |
| 12 | 5 | 18-3075 | Hose Hold Down Clamp Plate |
| 13 | 2 | 19-7774 | 1" x 1" Spring Bushing |
| 14 | 4 | 19-13577 | NR Pin Spacer Clevis End |
| 15 | 2 | 26-34711 | 4 x 8 Cylinder W/ Cast Clevis Ends |
| 16 | 2 | 26-34725 | 4 x 43.5 Cylinder Tube Ends, Top Port |
| 17 | 1 | 32-14700 | 760 Angle Frame |
| 18 | 1 | 32-16975 | 12-20 - 760 HA Tilt Frame |
| 19 | 1 | 43-8130 | 1-15/16" x 23-1/4" Pin |
| 20 | 2 | 43-8131 | 1-15/16" x 31" Pin |
| 21 | 1 | 43-8132 | 1-15/16" x 35-1/2" Pin |
| 22 | 1 | 43-8133 | 1-15/16" x 7-1/8" Stabilizer Arm Pin |



| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 23 | 4 | 43-13580 | 1" Clevis Bolt In Pin |
| 24 | 2 | 43-8134 | 1-1/2" x 8" Angle Cylinder Pin Base End |
| 25 | 2 | 43-9352 | 1-1/2" x 7-1/2" Angle Cylinder Pin Rod End |
| 26 | 4 | 57-20749 | 1" Flat Washer |
| 27 | 2 | 58-9371 | Grease Zerk 1/8" NPT 45° |
| 28 | 6 | 58-9372 | Grease Zerk 1/8" NPT 90° |
| 29 | 1 | 70-20581 | 5/16" Hex Nut |
| 30 | 9 | 70-20604 | 1/2" Hex Center Lock Nut Gr 2 NC |
| 31 | 2 | 70-20609 | 1" Hex Center Lock Nut Gr 2 NC |

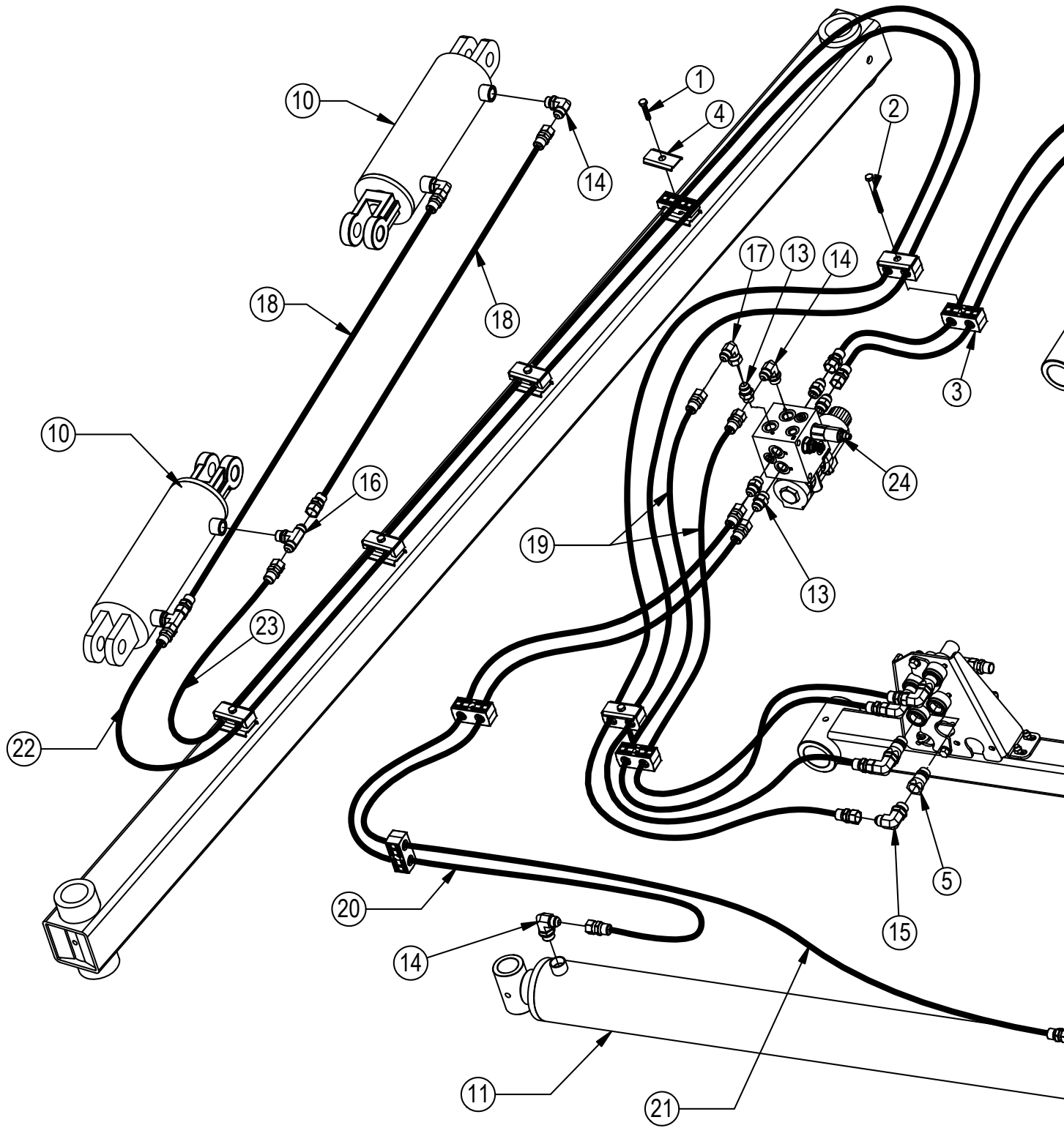
HANT - Replace item # 10, 13, 14, 15 & 23 with item # 4, 9, 26 & 31.





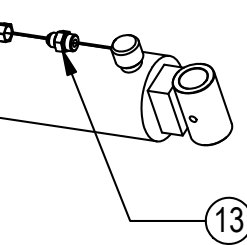
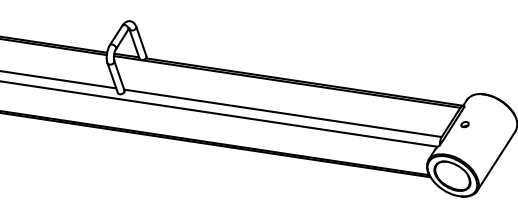
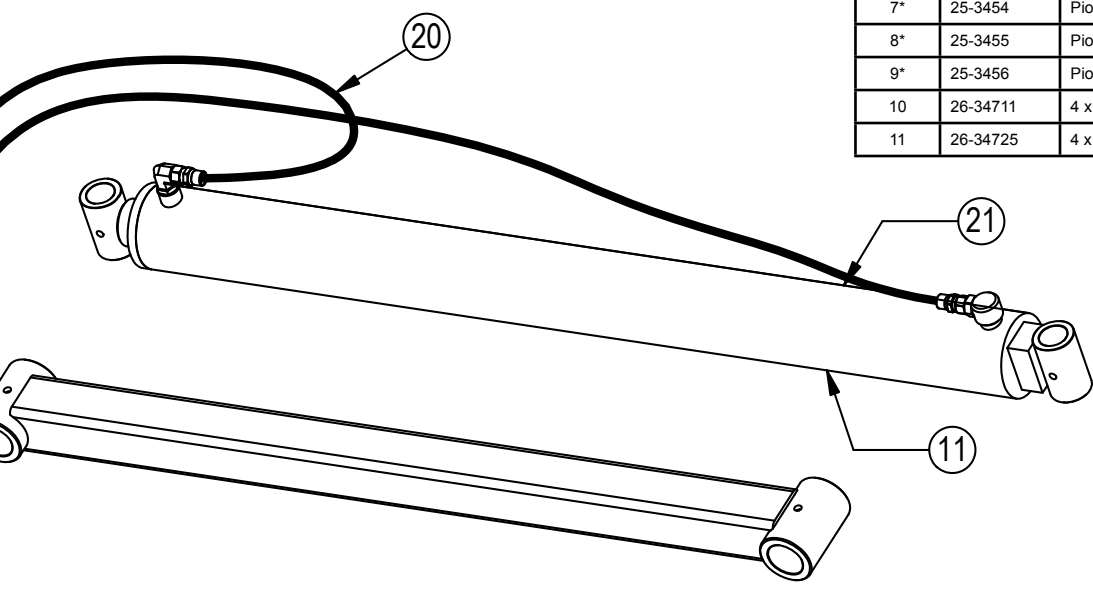
Hydraulic Angle - Hydraulic Tilt Or Hydraulic Angle - No Tilt Hose Routing

Hoses Not Drawn To Scale



| | | Configuration | HAHT | HANT |
|----------|----------|---------------------------------------|------|------|
| Item No. | Part No. | Description | Qty. | Qty. |
| 1 | 16-20036 | 5/16" x 1-1/2" Hex Bolt Gr 5 NC | 5 | 3 |
| 2 | 16-20043 | 5/16" x 3-1/4" Hex Bolt Gr 5 NC | 2 | - |
| 3 | 18-3074 | Hose Hold Down Clamp | 8 | 4 |
| 4 | 18-3075 | Hose Hold Down Clamp Plate | 8 | 4 |
| 5 | 25-34322 | Tappet Quick Coupler Male | 4 | 2 |
| 6* | 25-3453 | Pioneer Dust Cap Tilt (Green) | 2 | - |
| 7* | 25-3454 | Pioneer Dust Plug Tilt (Green) | 2 | - |
| 8* | 25-3455 | Pioneer Dust Cap Angle (Red) | 2 | 2 |
| 9* | 25-3456 | Pioneer Dust Plug Angle (Red) | 2 | 2 |
| 10 | 26-34711 | 4 x 8 Cylinder W/ Cast Clevis Ends | 2 | - |
| 11 | 26-34725 | 4 x 43.5 Cylinder Tube Ends, Top Port | 2 | 2 |

* Parts Not Shown



See Pages 20-25 for the remaining hydraulics and hydraulic connections.
See Page 30 for hydraulic schematics.

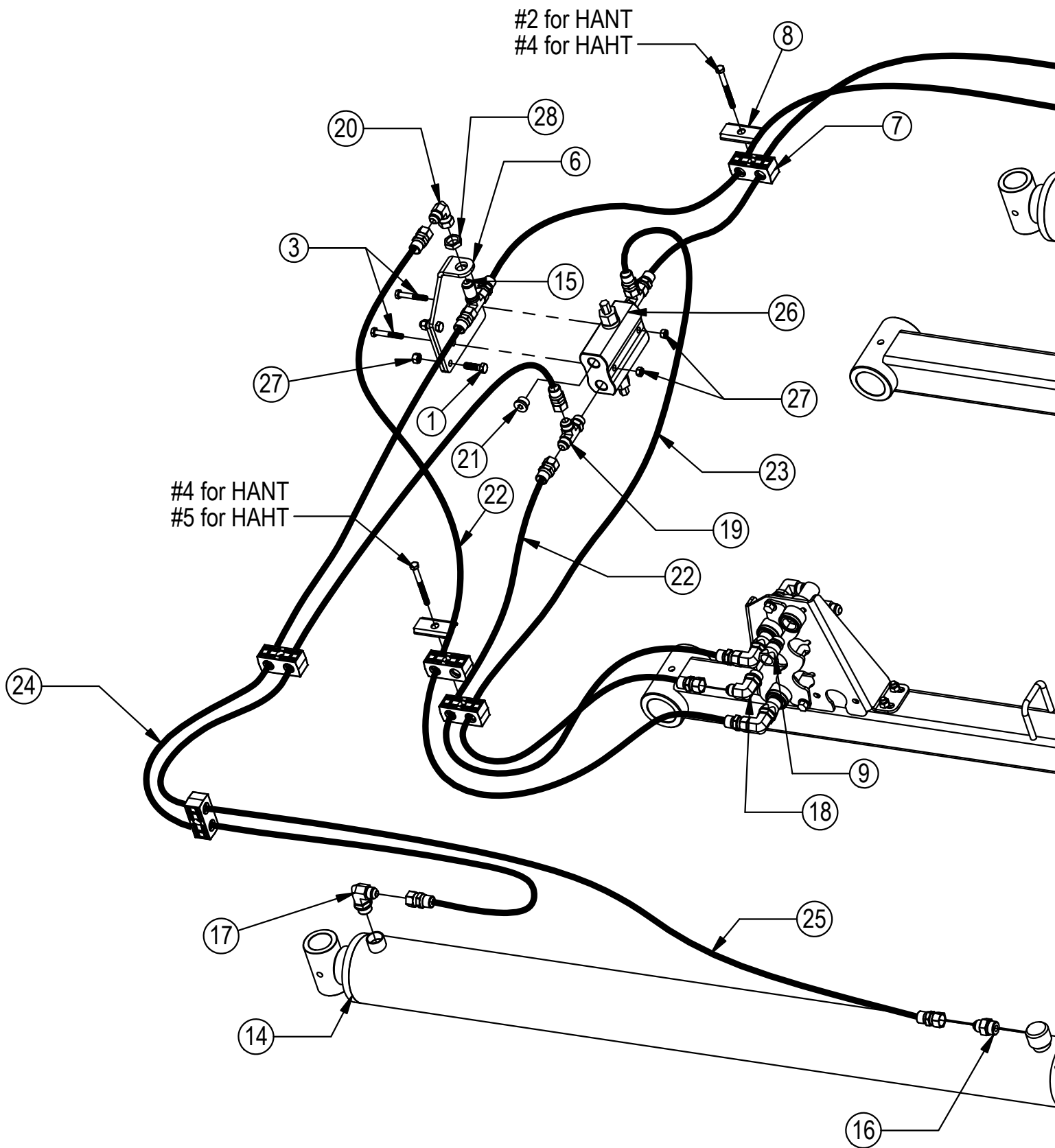
| | | Configuration | HAHT | HANT |
|----------|----------|--|------|------|
| Item No. | Part No. | Description | Qty. | Qty. |
| 12* | 31-13332 | -6 SAE Breather Fitting | 1 | 1 |
| 13 | 31-34040 | Straight JIC x O-Ring (6400-8-8) | 7 | 7 |
| 14 | 31-34050 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-8) | 5 | 3 |
| 15 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) | 4 | 2 |
| 16 | 31-34060 | Branch Tee JIC x O-Ring (6803-8-8-8) | 2 | - |
| 17 | 31-34100 | Swivel Nut Elbow 90° JIC (6500-8-8) | 1 | 1 |
| 18 | 35-30022 | 39" x 3/8" -8JIC/-8JIC Hose | 2 | - |
| 19 | 35-30130 | 63" x 1/2" -8JIC/-8JIC Hose | 2 | 2 |
| 20 | 35-30134 | 75" x 1/2" -8JIC/-8JIC Hose | 2 | 2 |
| 21 | 35-30145 | 108" x 1/2" -8JIC/-8JIC Hose | 2 | 2 |
| 22 | 35-30153 | 205" x 1/2" -8JIC/-8JIC Hose | 1 | - |
| 23 | 35-30156 | 215" x 1/2" -8JIC/-8JIC Hose | 1 | - |
| 24 | 56-13305 | Hydraulic Angle Valve | 1 | 1 |
| 25* | 70-20581 | 5/16" Flange Hex Nut NC | 1 | 1 |

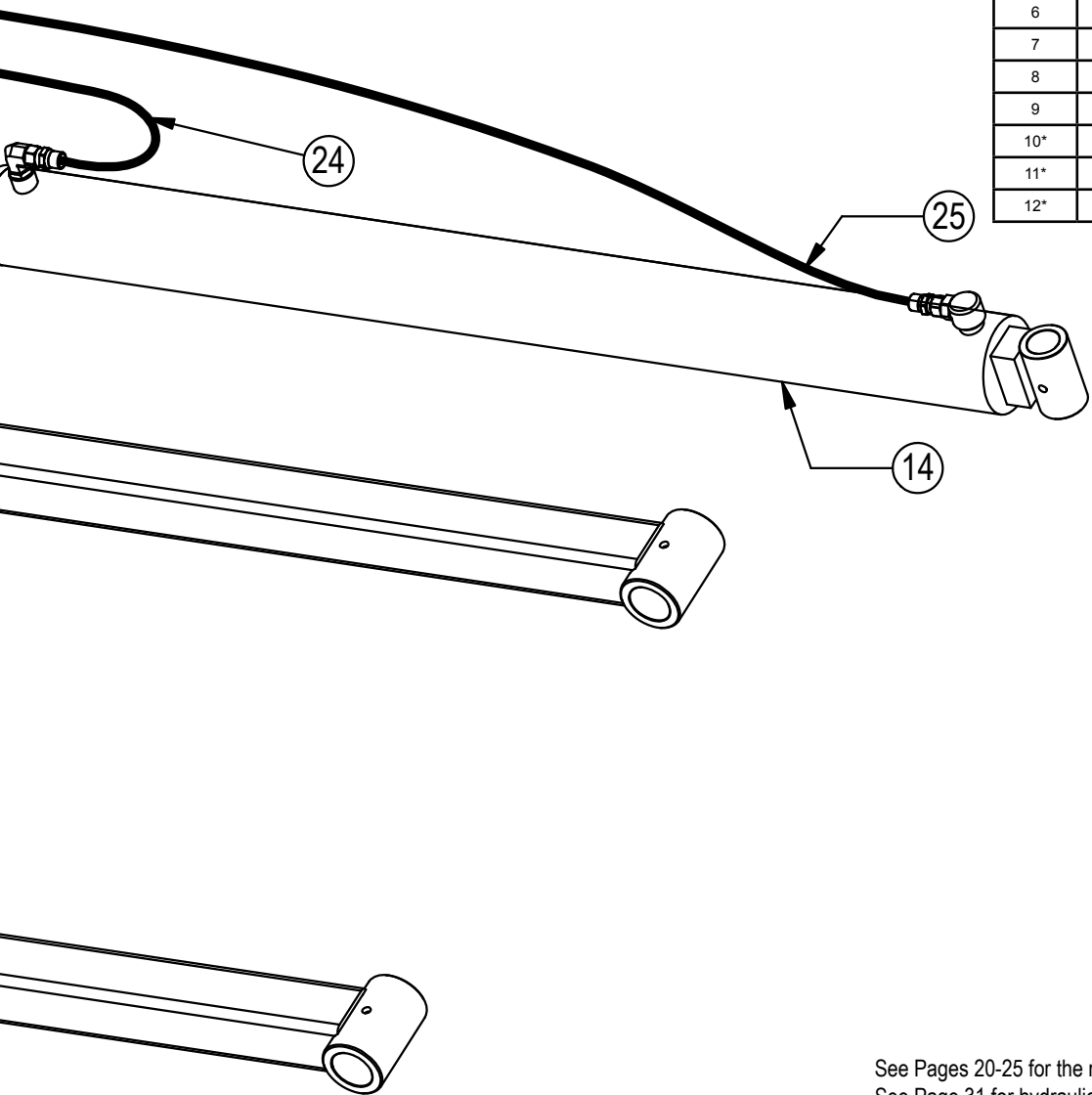
NOTE: When ordering cylinder seal kits, the part number on the cylinder is needed. The number is stamped on the base end of the cylinder opposite of the hydraulic ports.

| No. On Cylinder | Part No. | Description |
|-----------------|----------|---|
| 26-34711 | 49-12271 | Seal Kit 4 x 8 (647135) Nitrided Rod, Clevis Ends |
| 26-34725 | 49-12274 | Seal Kit 4 x 43.5 (647210) Nitrided Rod |

Hydraulic Angle - 2 Lever System Hose Routing

Hoses Not Drawn To Scale





| Item No. | Qty. | Part No. | Description |
|----------|------|----------|---------------------------------------|
| 1 | 2 | 16-20034 | 5/16" x 1" Hex Bolt Gr 5 NC |
| 2* | 1 | 16-20036 | 5/16" x 1-1/2" Hex Bolt Gr 5 NC |
| 3 | 2 | 16-20040 | 5/16" x 2-1/2" Hex Bolt Gr 5 NC |
| 4 | 1 | 16-20043 | 5/16" x 3-1/4" Hex Bolt Gr 5 NC |
| 5 | 1 | 16-20048 | 5/16" x 5" Hex Bolt Gr 5 NC |
| 6 | 1 | 18-14695 | Bracket, Relief Valve |
| 7 | 5 | 18-3074 | Hose Hold Down Clamp |
| 8 | 4 | 18-3075 | Hose Hold Down Clamp Plate |
| 9 | 3 | 25-34322 | Tappet Quick Coupler Male |
| 10* | 1 | 25-3401 | Pioneer Dust Cap Left Angle (Yellow) |
| 11* | 1 | 25-3402 | Pioneer Dust Plug Left Angle (Yellow) |
| 12* | 2 | 25-3455 | Pioneer Dust Cap Right Angle (Red) |

* Parts Not Shown

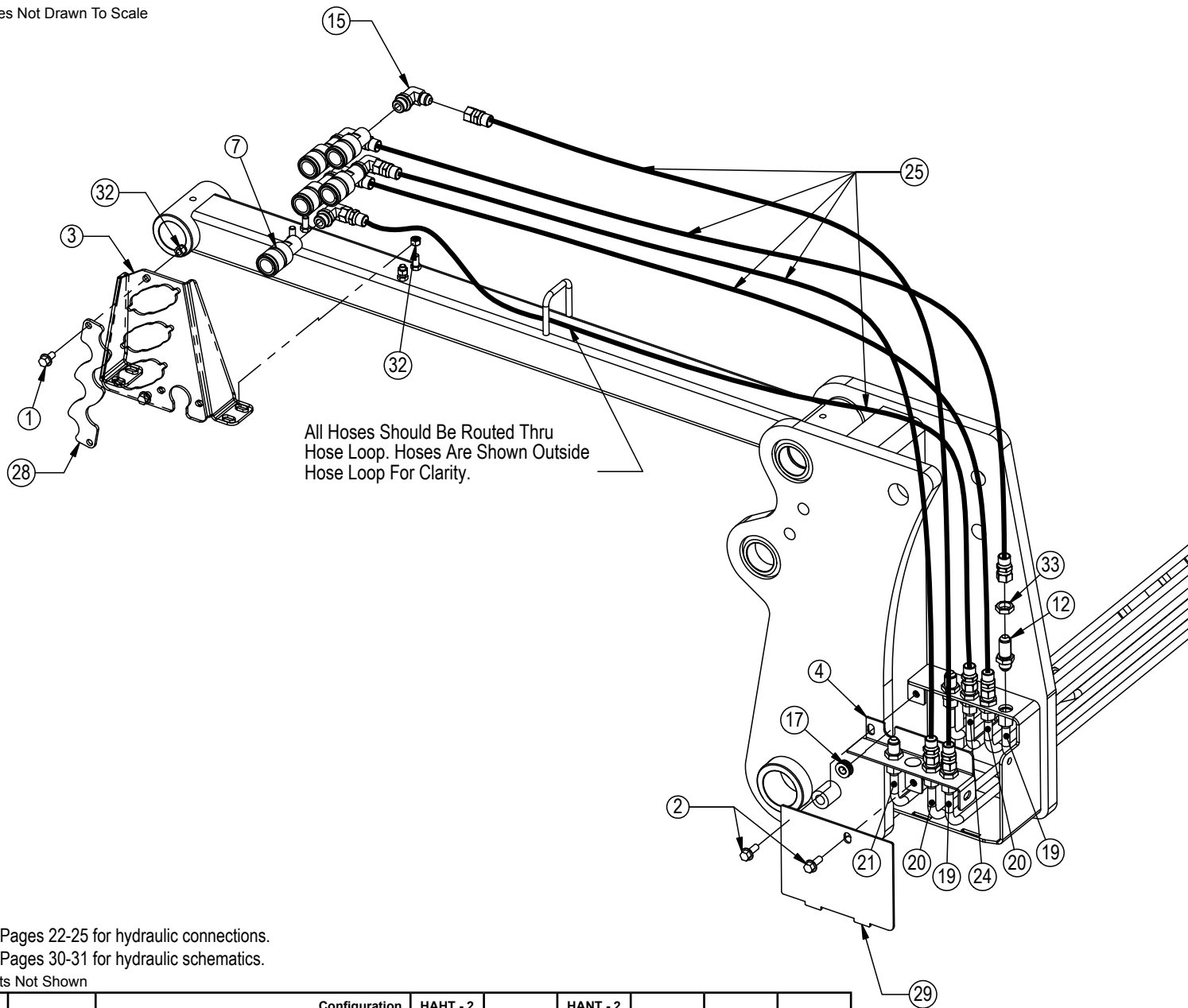
See Pages 20-25 for the remaining hydraulics and hydraulic connections.
See Page 31 for hydraulic schematics.

| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 13* | 2 | 25-3456 | Pioneer Dust Plug Right Angle (Red) |
| 14 | 2 | 26-34725 | 4 x 43.5 Cylinder Tube Ends, Top Port |
| 15 | 1 | 31-34020 | Bulkhead Branch Tee JIC (2703-8-8) |
| 16 | 2 | 31-34040 | Straight JIC x O-Ring (6400-8-8) |
| 17 | 2 | 31-34050 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-8) |
| 18 | 3 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) |
| 19 | 2 | 31-34070 | Run Tee JIC x O-Ring (6804-8-8) |
| 20 | 1 | 31-34100 | Swivel Nut Elbow 90° JIC (6500-8-8) |
| 21 | 2 | 31-34123 | Hex Socket O-Ring Plug (6409-8-8) |
| 22 | 2 | 35-30130 | 63" x 1/2" -8JIC/-8JIC Hose |
| 23 | 1 | 35-30132 | 69" x 1/2" -8JIC/-8JIC Hose |
| 24 | 2 | 35-30134 | 75" x 1/2" -8JIC/-8JIC Hose |
| 25 | 2 | 35-30145 | 108" x 1/2" -8JIC/-8JIC Hose |
| 26 | 1 | 56-7772 | Relief Valve |
| 27 | 5 | 70-20581 | 5/16" Hex Nut NC |
| 28 | 1 | 70-20807 | 3/4" Hex Jam Nut NF |

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

| No. On Cylinder | Part No. | Description |
|-----------------|----------|---|
| 26-34725 | 49-12274 | Seal Kit 4 x 43.5 (647210) Nitrided Rod |

Hoses Not Drawn To Scale

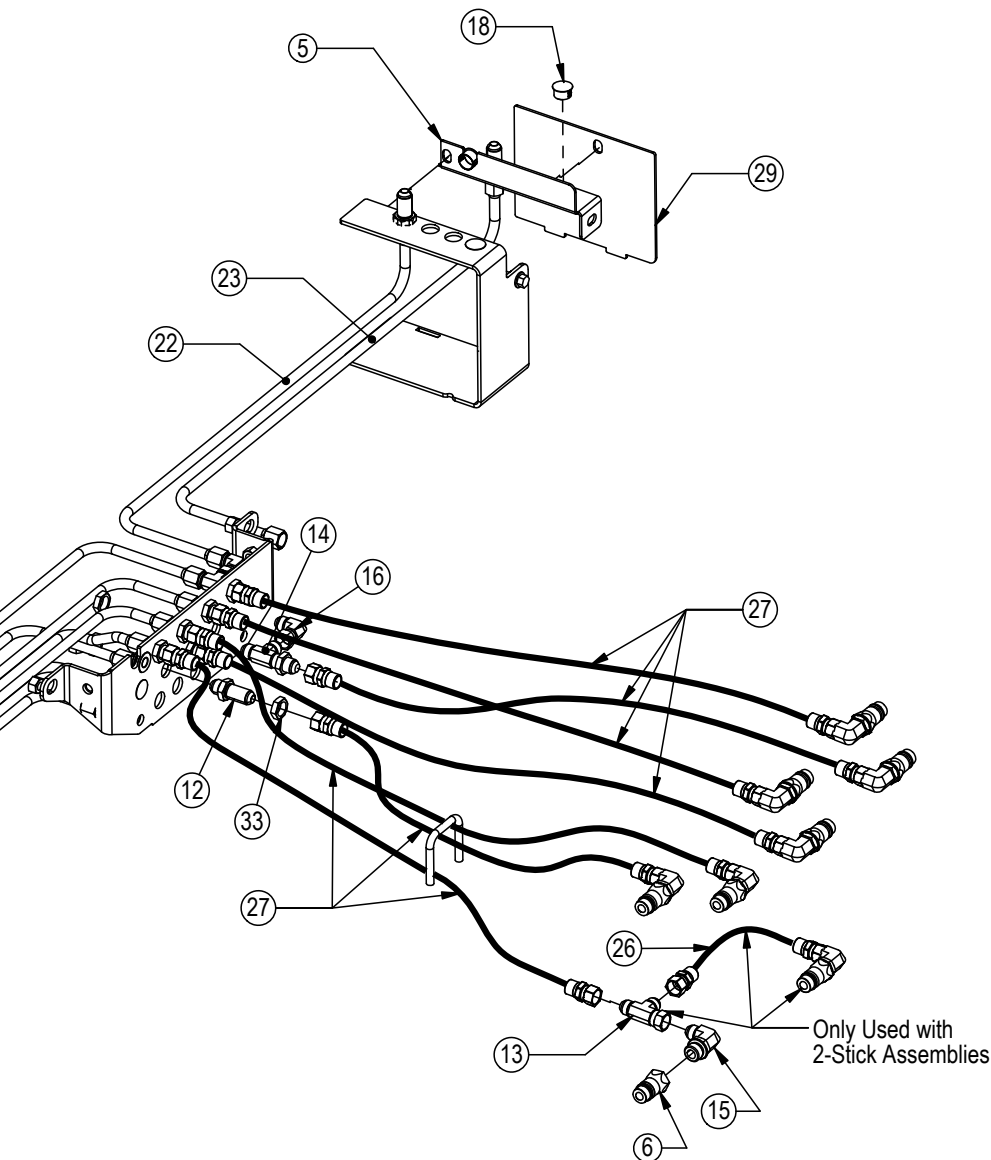


See Pages 22-25 for hydraulic connections.

See Pages 30-31 for hydraulic schematics.

* Parts Not Shown

| Item No. | Part No. | Description | Configuration | HAHT - 2 | HAHT | HANT - 2 | HANT | NAHT | NANT |
|----------|------------|--|---------------|----------|------|----------|------|------|------|
| | | | Qty. | Qty. | Qty. | Qty. | Qty. | Qty. | |
| 1 | 16-35C612 | 3/8" x 3/4" Flanged Bolt | 2 | 2 | 2 | 2 | 2 | - | - |
| 2 | 16-35C616 | 3/8" x 1" Flanged Bolt | 6 | 6 | 6 | 6 | 6 | 6 | 6 |
| 3 | 18-14737 | 700 Series Female Coupler Mount - Universal | 1 | 1 | 1 | 1 | 1 | - | - |
| 4 | 18-15580-L | Bracket, Hydraulic Cover - Top Left | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 5 | 18-15580-R | Bracket, Hydraulic Cover - Top Right | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| 6 | 25-34322 | Tappet Quick Coupler Male | 8 | 6 | 6 | 4 | 4 | 2 | - |
| 7 | 25-34321 | Tappet Quick Coupler Female | 5 | 4 | 3 | 2 | 2 | - | - |
| 8* | 25-3401 | Pioneer Dust Cap Left Angle (Yellow) | 2 | - | 2 | - | - | - | - |
| 9* | 25-3453 | Pioneer Dust Cap Tilt (Green) | 2 | 2 | - | - | 2 | - | - |
| 10* | 25-3455 | Pioneer Dust Cap Right Angle (Red) | 2 | 2 | 2 | 2 | - | - | - |
| 11* | 25-3457 | Pioneer Dust Cap Lift (Orange) | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 12 | 31-34000 | Bulkhead Union JIC (2700-8-8) | 14 | 12 | 10 | 8 | 8 | 4 | - |
| 13 | 31-34090 | Swivel Nut Run Tee JIC (6602-8-8-8) | 1 | - | 1 | - | - | - | - |
| 14 | 31-34030 | Bulkhead Run Tee JIC (2704-8-8-8) | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 15 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) | 13 | 10 | 9 | 6 | 6 | 2 | - |
| 16 | 31-34100 | Swivel Nut Elbow 90° JIC (6500-8-8) | 2 | 2 | 2 | 2 | 2 | 2 | 2 |
| 17 | 34-14826 | 1/2" ID Rubber Grommet | - | 2 | - | 2 | - | - | - |



* Parts Not Shown
 Item #A for Steiger Tier 4 and Item #B for JD 9R.

| | | Configuration | HAHT - 2 Stick | HAHT | HANT - 2 Stick | HANT | NAHT | NANT |
|----------|----------|---|----------------|------|----------------|------|------|------|
| Item No. | Part No. | Description | Qty. | Qty. | Qty. | Qty. | Qty. | Qty. |
| 18 | 34-14898 | Dome Plug (3044) | 7 | 5 | 11 | 9 | 13 | 17 |
| 19 | 35-14351 | 31.63" -8 Formed Steel Line (Angle) | 2 | 2 | 2 | 2 | - | - |
| 20 | 35-14352 | 33.88" -8 Formed Steel Line (Tilt) | 2 | 2 | - | - | 2 | - |
| 21 | 35-14353 | 36.13" -8 Formed Steel Line (Left Lift) | 2 | 2 | 2 | 2 | 2 | 2 |
| 22 | 35-14354 | 26.63" -8 Formed Steel Line (760 Right Lift) | 1 | 1 | 1 | 1 | 1 | 1 |
| 23 | 35-14355 | 29.63" -8 Formed Steel Line (760 Right Lift) | 1 | 1 | 1 | 1 | 1 | 1 |
| 24 | 35-14824 | 29.38" -8 Formed Steel Line (2-Stick - Left Side) | 1 | - | 1 | - | - | - |
| 25 | 35-31132 | 69" x 1/2" -8JIC/-8JIC Hose W/Cordura | 5 | 4 | 3 | 2 | 2 | - |
| 26 | 35-30121 | 35" x 1/2" -8JIC/-8JIC Hose | 1 | - | 1 | - | - | - |
| 27A | 35-30172 | 318" (26.5') x 1/2" -8JIC/-8JIC Hose | 7 | 6 | 5 | 4 | 4 | 2 |
| 27B | 35-30160 | 288" (24') x 1/2" -8JIC/-8JIC Hose | 7 | 6 | 5 | 4 | 4 | 2 |
| 28 | 44-14738 | 700 Series Female Coupler Retainer-Universal | 1 | 1 | 1 | 1 | 1 | - |
| 29 | 44-15120 | 700 Series Side Cover Plate - Left | 2 | 2 | 2 | 2 | 2 | 2 |
| 30* | 69-13352 | Wire Harness - Valve to Disconnect | - | 1 | - | 1 | - | - |
| 31* | 69-1531 | Wire Harness - Disconnect to Tractor | - | 1 | - | 1 | - | - |
| 32 | 70-20622 | 3/8" Flange Hex Nut NC | 6 | 6 | 6 | 6 | 6 | - |
| 33 | 70-20807 | 3/4" Hex Jam Nut | 16 | 14 | 12 | 10 | 10 | 6 |

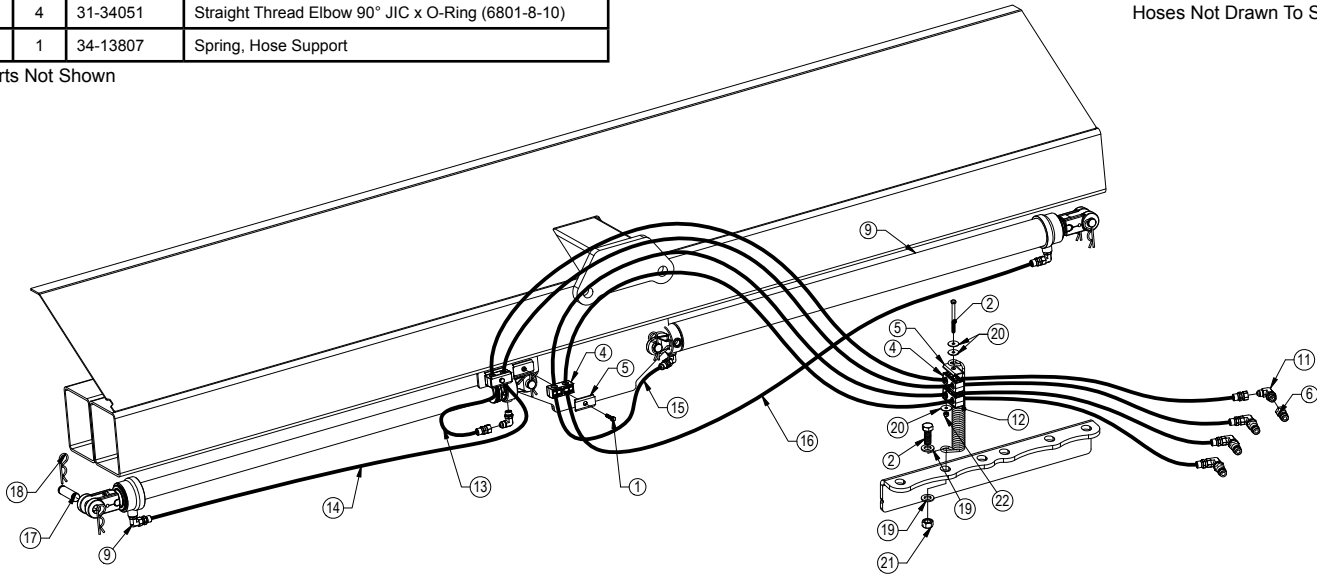
12-20 - NAHT Hydraulic Hose Routing

| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 1 | 2 | 16-20036 | 5/16" X 1-1/2 " Hex Bolt Gr 5 NC |
| 2 | 1 | 16-20047 | 5/16" X 4-1/2 " Hex Bolt Gr 5 NC |
| 3 | 1 | 16-20218 | 3/4" X 2" Hex Bolt Gr 5 NC |
| 4 | 4 | 18-3074 | Hose Hold Down Clamp |
| 5 | 4 | 18-3075 | Hose Hold Down Clamp Plate |
| 6 | 4 | 25-34322 | Tappet Quick Coupler Male |
| 7* | 2 | 25-3403 | Pioneer Dust Cap Slider (Blue) |
| 8* | 2 | 25-3405 | Pioneer Dust Cap Slider (Brown) |
| 9 | 2 | 26-34741 | 3 x 48 Welded Cylinder (647660) |
| 10 | 4 | 31-34050 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-8) |
| 11 | 4 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) |
| 12 | 1 | 34-13807 | Spring, Hose Support |

| Item No. | Qty. | Part No. | Description |
|----------|------|---------------|---|
| 13 | 1 | 35-11686-1490 | 149" x 3/8" -8JIC/-8JIC Hose |
| 14 | 1 | 35-11686-1610 | 161" x 3/8" -8JIC/-8JIC Hose |
| 15 | 1 | 35-11686-1870 | 187" x 3/8" -8JIC/-8JIC Hose |
| 16 | 1 | 35-11686-2120 | 212" x 3/8" -8JIC/-8JIC Hose |
| 17 | 2 | 43-16306 | Cylinder Pin |
| 18 | 8 | 43-7767 | Hitch Pin Clip |
| 19 | 2 | 57-20757 | 3/4" SAE Hardened Flat Washer - 1-1/2" OD |
| 20 | 3 | 57-20791 | 5/16" Fender Washer (1.25" OD) |
| 21 | 1 | 70-20607 | 3/4" Hex Center Lock Nut Gr 2 NC |
| 22 | 1 | 70-20611 | 5/16" Nyloc Hex Nut Gr 5 NC |

Hoses Not Drawn To Scale

* Parts Not Shown

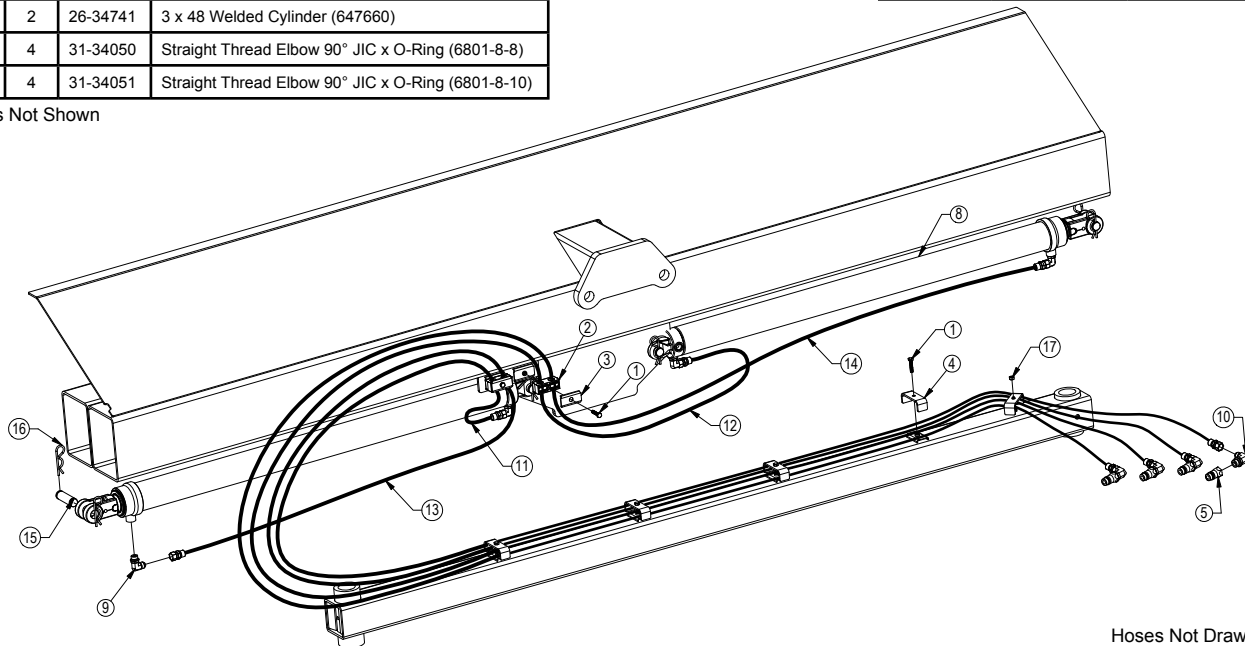


12-20 - HAHT Hydraulic Hose Routing

| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 1 | 6 | 16-20036 | 5/16" X 1-1/2 " Hex Bolt Gr 5 NC |
| 2 | 4 | 18-3074 | Hose Hold Down Clamp |
| 3 | 4 | 18-3075 | Hose Hold Down Clamp Plate |
| 4 | 5 | 18-15684 | Hose Hold Down Clamp Plate |
| 5 | 4 | 25-34322 | Tappet Quick Coupler Male |
| 6* | 2 | 25-3403 | Pioneer Dust Cap Slider (Blue) |
| 7* | 2 | 25-3405 | Pioneer Dust Cap Slider (Brown) |
| 8 | 2 | 26-34741 | 3 x 48 Welded Cylinder (647660) |
| 9 | 4 | 31-34050 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-8) |
| 10 | 4 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) |

| Item No. | Qty. | Part No. | Description |
|----------|------|---------------|------------------------------|
| 11 | 1 | 35-11686-1820 | 182" x 3/8" -8JIC/-8JIC Hose |
| 12 | 1 | 35-11686-1960 | 196" x 3/8" -8JIC/-8JIC Hose |
| 13 | 1 | 35-11686-2330 | 233" x 3/8" -8JIC/-8JIC Hose |
| 14 | 1 | 35-11686-2540 | 254" x 3/8" -8JIC/-8JIC Hose |
| 15 | 2 | 43-16306 | Cylinder Pin |
| 16 | 8 | 43-7767 | Hitch Pin Clip |
| 17 | 1 | 70-20581 | 5/16" Hex Nut Gr 5 NC |

* Parts Not Shown



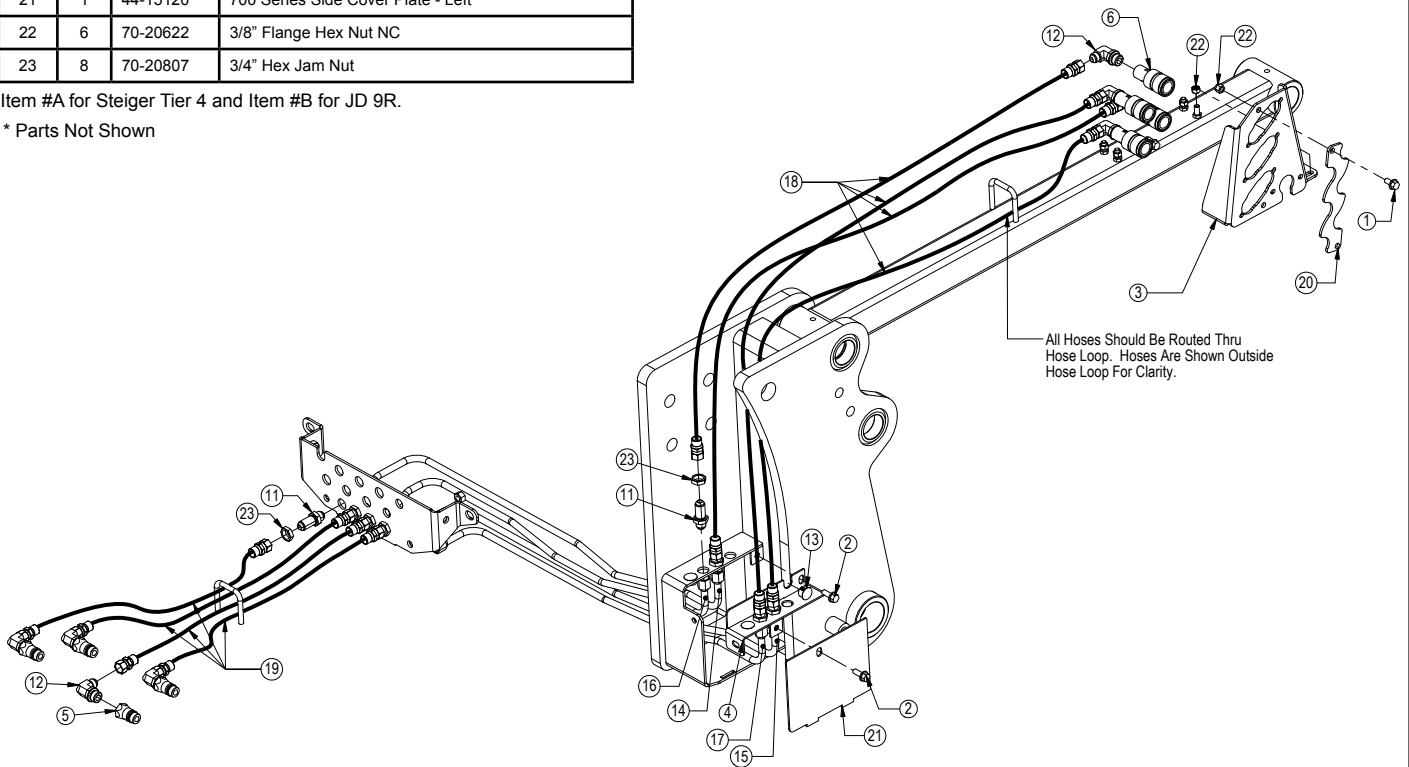
Hoses Not Drawn To Scale

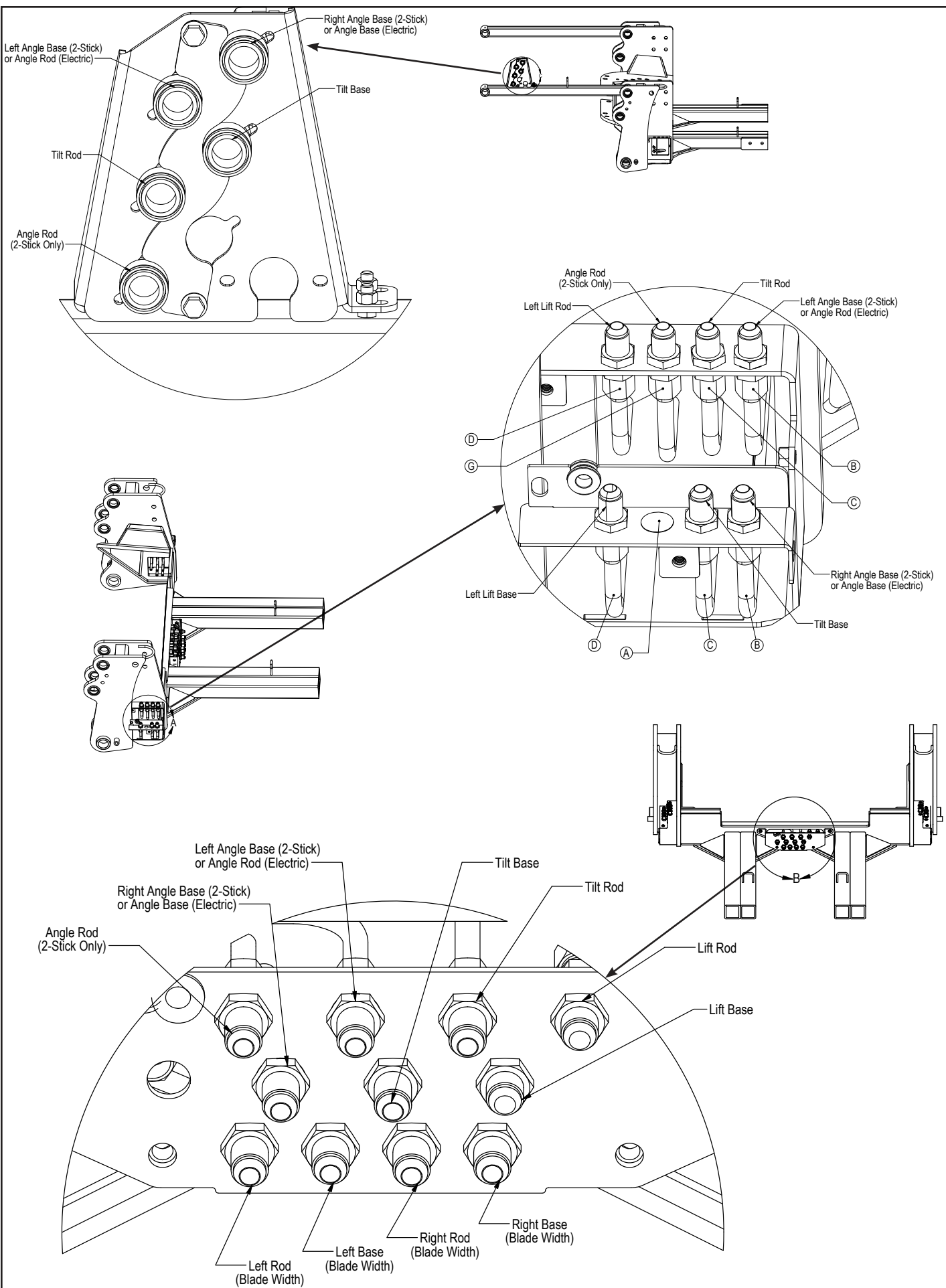
Hoses Not Drawn To Scale

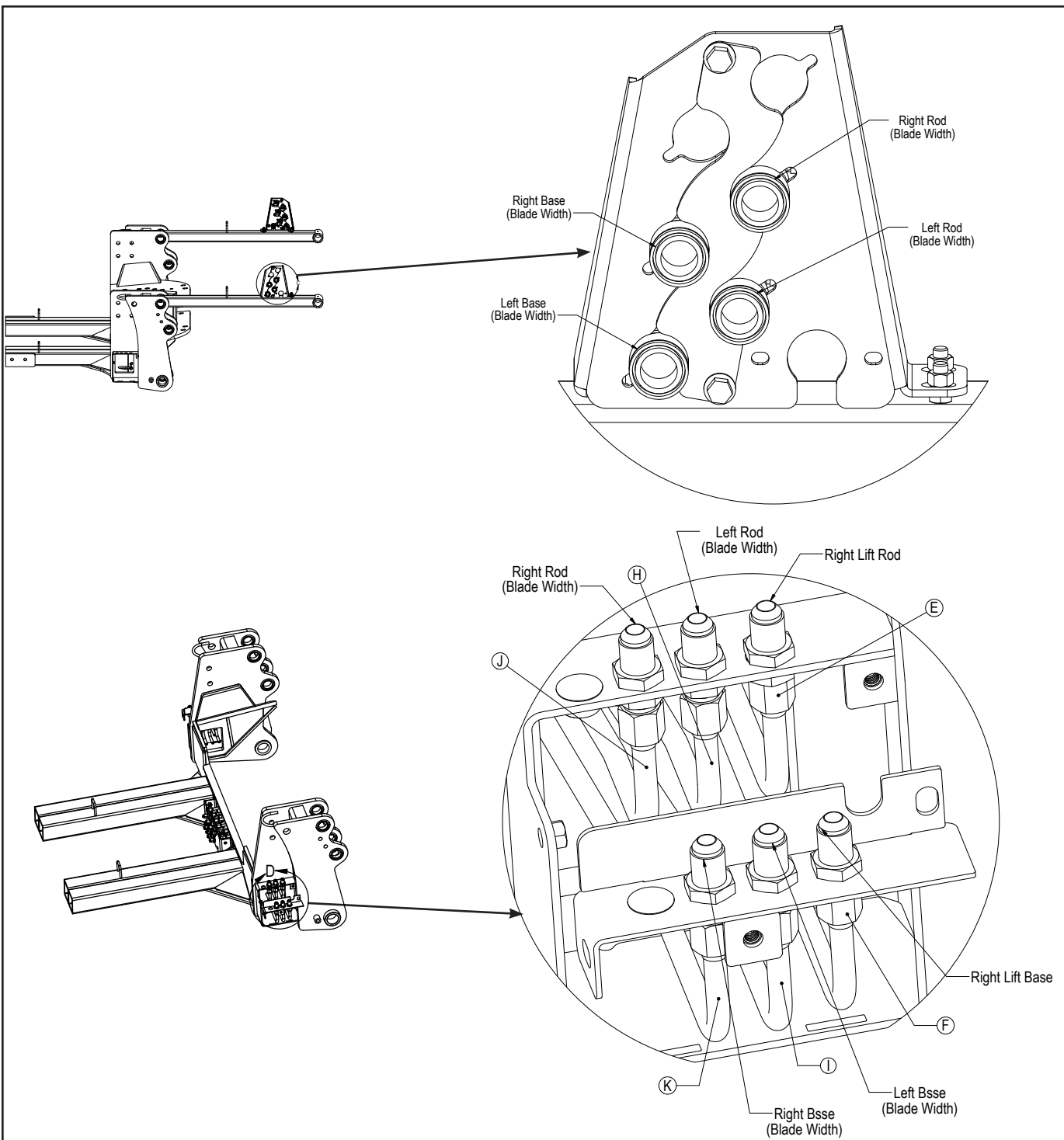
| Item No. | Qty. | Part No. | Description |
|----------|------|------------|---|
| 1 | 2 | 16-35C612 | 3/8" x 3/4" Flanged Bolt |
| 2 | 3 | 16-35C616 | 3/8" x 1" Flanged Bolt |
| 3 | 1 | 18-14737 | 700 Series Female Coupler Mount - Universal |
| 4 | 1 | 18-15580-R | Bracket, Hydraulic Cover - Top Right |
| 5 | 4 | 25-34322 | Tappet Quick Coupler Male |
| 6 | 4 | 25-34321 | Tappet Quick Coupler Female |
| 7* | 2 | 25-3403 | Pioneer Dust Cap Slider (Blue) |
| 8* | 2 | 25-3404 | Pioneer Dust Plug Slider (Blue) |
| 9* | 2 | 25-3405 | Pioneer Dust Cap Slider (Brown) |
| 10* | 2 | 25-3406 | Pioneer Dust Plug Slider (Brown) |
| 11 | 8 | 31-34000 | Bulkhead Union JIC (2700-8-8) |
| 12 | 8 | 31-34051 | Straight Thread Elbow 90° JIC x O-Ring (6801-8-10) |
| 13 | 3 | 34-14898 | Dome Plug (3044) |
| 14 | 1 | 35-15616 | 35.38" -8 Formed Steel Line (Ag Pro 12-20 Left Rod) |
| 15 | 1 | 35-15617 | 35.25" -8 Formed Steel Line (Ag Pro 12-20 Left Base) |
| 16 | 1 | 35-15618 | 32.13" -8 Formed Steel Line (Ag Pro 12-20 Right Rod) |
| 17 | 1 | 35-15619 | 32.00" -8 Formed Steel Line (Ag Pro 12-20 Right Base) |
| 18 | 4 | 35-31132 | 69" x 1/2" -8JIC/-8JIC Hose W/Cordura |
| 19A | 4 | 35-30172 | 318" (26.5") x 1/2" -8JIC/-8JIC Hose |
| 19B | 4 | 35-30160 | 288" (26.5") x 1/2" -8JIC/-8JIC Hose |
| 20 | 1 | 44-14738 | 700 Series Female Coupler Retainer-Universal |
| 21 | 1 | 44-15120 | 700 Series Side Cover Plate - Left |
| 22 | 6 | 70-20622 | 3/8" Flange Hex Nut NC |
| 23 | 8 | 70-20807 | 3/4" Hex Jam Nut |

Item #A for Steiger Tier 4 and Item #B for JD 9R.

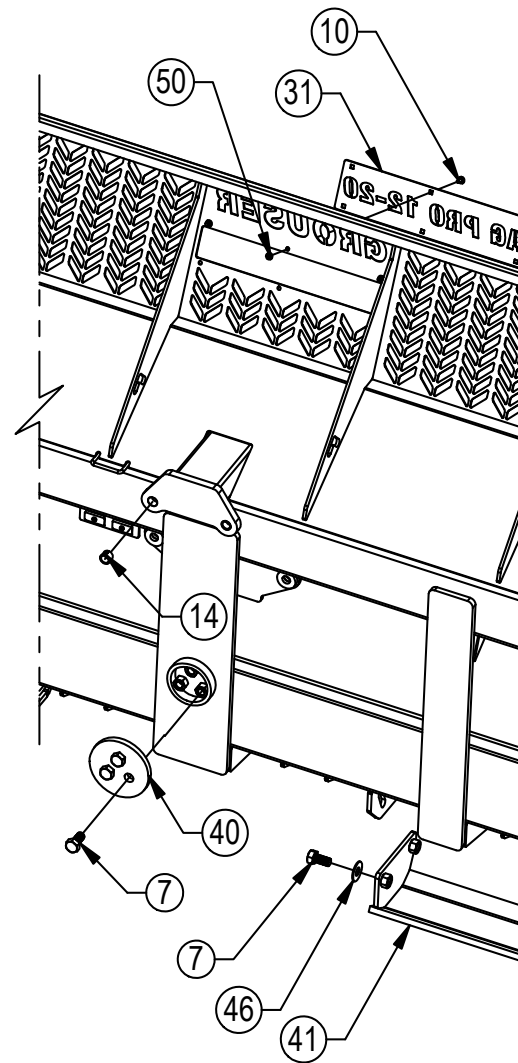
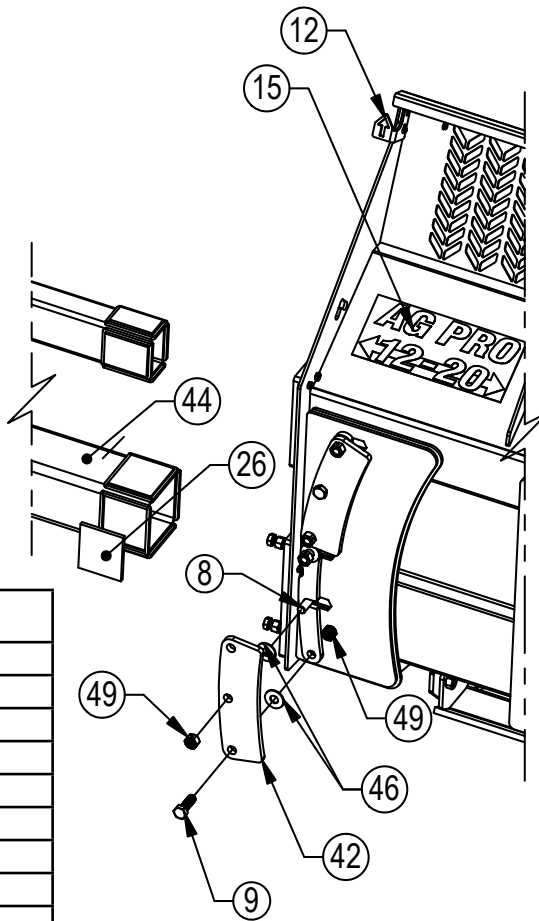
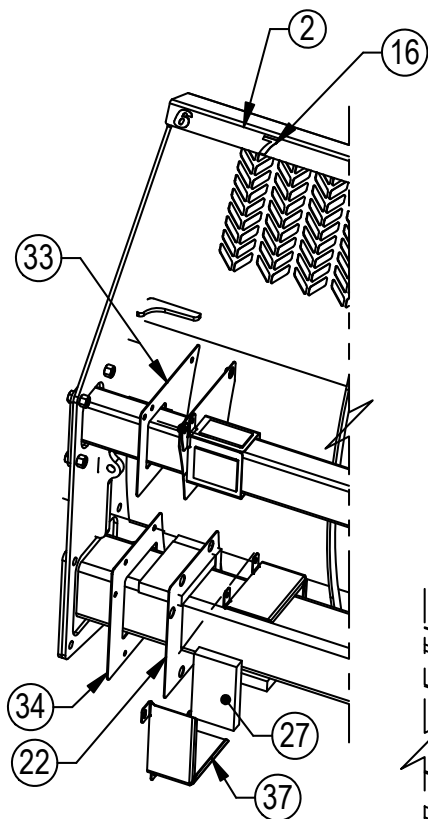
* Parts Not Shown





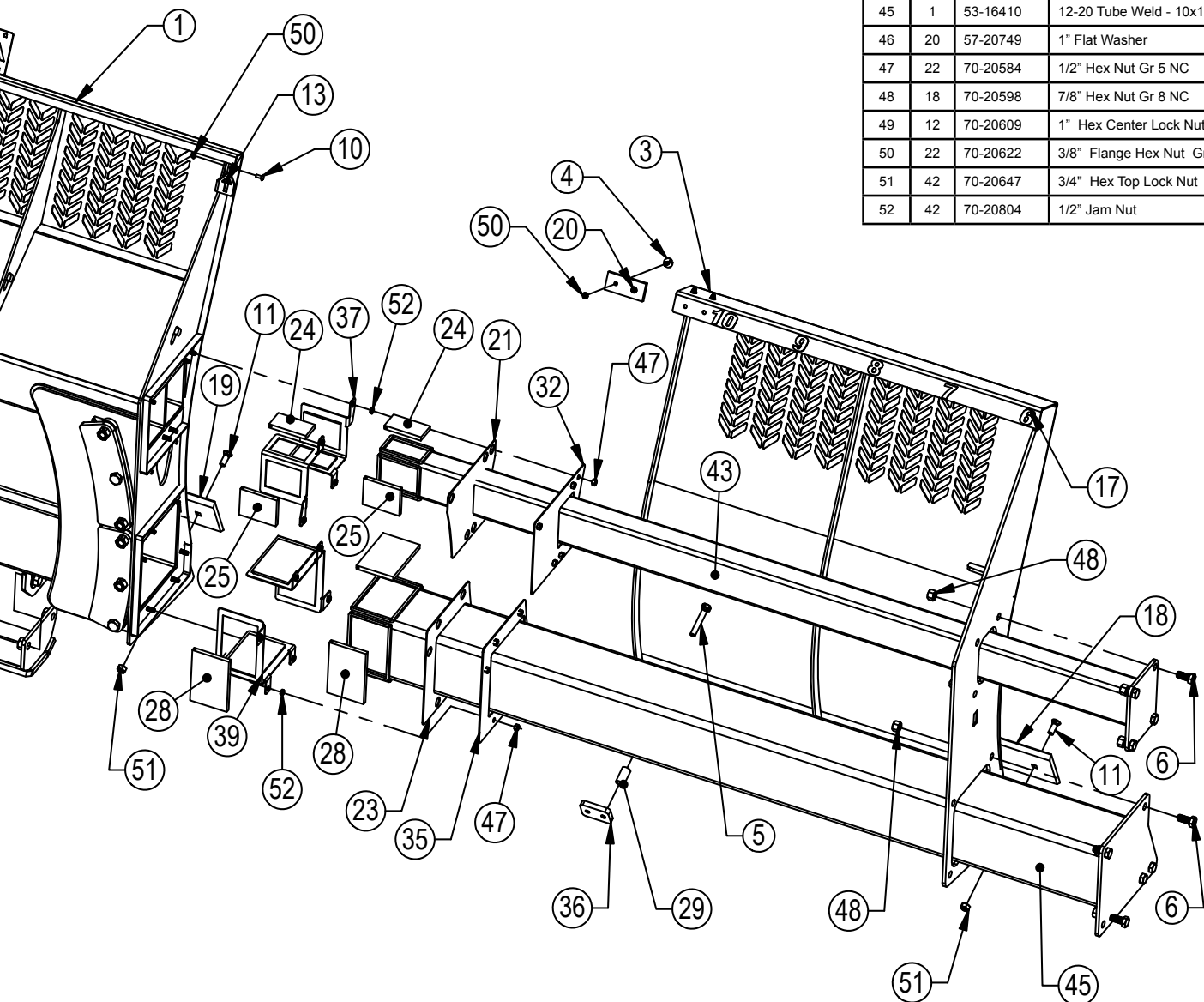


| Item | Part No. | Description | Configuration | | | | | |
|------|----------|---|---------------------|-----------|---------------------|-----------|-----------|-----------|
| | | | HAHT - 2 Stick Qty. | HAHT Qty. | HANT - 2 Stick Qty. | HANT Qty. | NAHT Qty. | NANT Qty. |
| A | 34-14898 | Dome Plug (3044) | 7 | 5 | 11 | 9 | 13 | 17 |
| B | 35-14351 | 31.63" -8 Formed Steel Line (Angle) | 2 | 2 | 2 | 2 | - | - |
| C | 35-14352 | 33.88" -8 Formed Steel Line (Tilt) | 2 | 2 | - | - | 2 | - |
| D | 35-14353 | 36.13" -8 Formed Steel Line (Left Lift) | 2 | 2 | 2 | 2 | 2 | 2 |
| E | 35-14354 | 26.63" -8 Formed Steel Line (760 Right Lift) | 1 | 1 | 1 | 1 | 1 | 1 |
| F | 35-14355 | 29.63" -8 Formed Steel Line (760 Right Lift) | 1 | 1 | 1 | 1 | 1 | 1 |
| G | 35-14824 | 29.38" -8 Formed Steel Line (2-Stick - Left Side) | 1 | - | 1 | - | - | - |
| H | 35-15616 | 35.38" -8 Formed Steel Line (Ag Pro 12-20 Left Rod) | 1 | 1 | 1 | 1 | 1 | 1 |
| I | 35-15617 | 35.25" -8 Formed Steel Line (Ag Pro 12-20 Left Base) | 1 | 1 | 1 | 1 | 1 | 1 |
| J | 35-15618 | 32.13" -8 Formed Steel Line (Ag Pro 12-20 Right Rod) | 1 | 1 | 1 | 1 | 1 | 1 |
| K | 35-15619 | 32.00" -8 Formed Steel Line (Ag Pro 12-20 Right Base) | 1 | 1 | 1 | 1 | 1 | 1 |



| Item No. | Qty. | Part No. | Description |
|----------|------|------------|--|
| 1 | 1 | 15-16850 | 12-20 XAXT (V5) - Blade Weld |
| 2 | 1 | 15-16855-L | 12-20 Blade End Weld Left |
| 3 | 1 | 15-16855-R | 12-20 Blade End Weld Right |
| 4 | 12 | 16-16305 | 3/8 x 1.25" Flanged Elevator Bolt |
| 5 | 4 | 16-20227 | 3/4" x 4-1/2" Hex Bolt Gr 5 NC |
| 6 | 18 | 16-20538 | 7/8" x 2" Hex Bolt Gr 8 NC |
| 7 | 11 | 16-20558 | 1" x 2" Hex Bolt Gr 8 NC |
| 8 | 8 | 16-20560 | 1" x 2-1/2" Hex Bolt Gr 8 NC |
| 9 | 4 | 16-20562 | 1" x 3" Hex Bolt Gr 8 NC |
| 10 | 4 | 16-21064 | 3/8" x 1" Carriage Bolt Gr 5 NC |
| 11 | 42 | 16-21748 | 3/4" x 2" Plow Bolt Gr 5 NC |
| 12 | 1 | 18-16304-L | Bracket, Location Left 12-20 Slider |
| 13 | 1 | 18-16304-R | Bracket, Location Right 12-20 Slider |
| 14 | 2 | 19-7774 | 1" x 1" Spring Bushing (125100100) |
| 15 | 1 | 27-15598 | Ag Pro 12-20 Decal |
| 16 | 1 | 27-15612-L | Ag Pro 12-20 Width Decal - Left |
| 17 | 1 | 27-15612-R | Ag Pro 12-20 Width Decal - Right |
| 18 | 3 | 29-11118-5 | 5' - 3/4" x 8" Cutting Edge (4500, 6500) |
| 19 | 1 | 29-11118-6 | 6' - 3/4" x 8" Cutting Edge (4500, 6500) |
| 20 | 6 | 34-16158 | Bearing, 2.625 x 6.00 W/ Holes |
| 21 | 2 | 34-16419 | 12-20 Top Seal |
| 22 | 1 | 34-16420 | 12-20 - 8" Tube Seal - Bottom Left |
| 23 | 1 | 34-16421 | 12-20 - 10" Tube Seal - Bottom Right |
| 24 | 8 | 34-16425 | 12-20 Top Narrow UHMW |
| 25 | 8 | 34-16426 | 12-20 Top Wide UHMW |
| 26 | 4 | 34-16427 | 12-20 8" Inner UHMW |
| 27 | 4 | 34-16428 | 12-20 8" Outer UHMW |

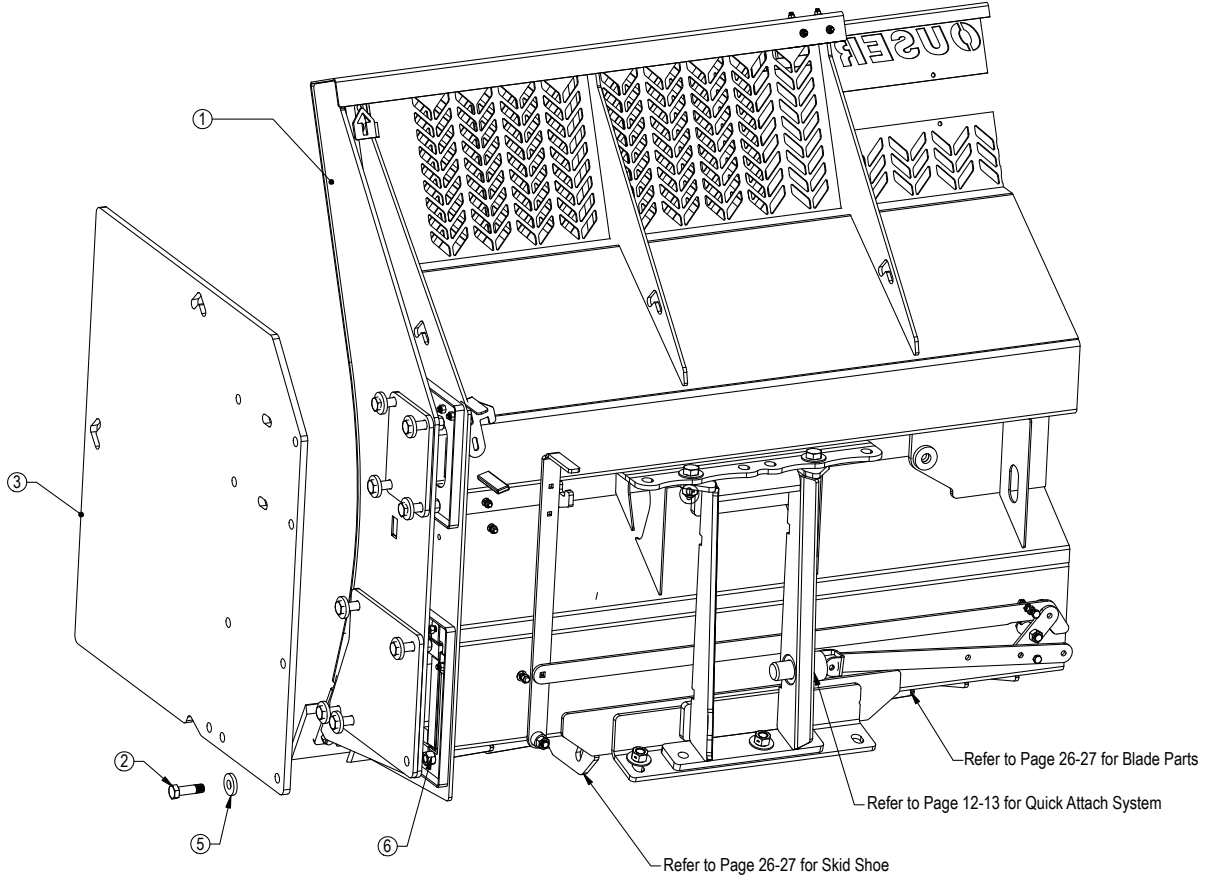
| Item No. | Qty. | Part No. | Description |
|----------|------|----------|--|
| 28 | 8 | 34-16429 | 12-20 10" UHMW |
| 29 | 4 | 36-16418 | 12-20 Hub - Stand Off |
| 30* | 1 | 44-15600 | 12-20 Custom Name Plate - (6.2" x 25.6") |
| 31 | 1 | 44-15605 | Ag Pro 12-20 Name Plate - (6.2" x 25.6") |
| 32 | 1 | 44-16401 | 12-20 Plate, Top Cover Right |
| 33 | 1 | 44-16402 | 12-20 Plate, Top Cover Left |
| 34 | 1 | 44-16403 | 12-20 Plate, 8" Cover |
| 35 | 1 | 44-16404 | 12-20 Plate, 10" Cover |
| 36 | 2 | 44-16417 | 12-20 Plate, Slider |
| 37 | 4 | 44-16422 | 12-20 Top Outer Retainer |
| 38 | 2 | 44-16423 | 12-20 8" Outer Retainer |
| 39 | 2 | 44-16424 | 12-20 10" Outer Retainer |
| 40 | 1 | 44-3749 | Backdrag Brace Plate |
| 41 | 2 | 50-16225 | 12-20 Slider - Skid Shoe Weld (V5) |
| 42 | 4 | 52-16222 | 12-20 Tilt Plate (Painted) |
| 43 | 2 | 53-16990 | 12-20 Tube Weld - 4x6 |
| 44 | 1 | 53-16408 | 12-20 Tube Weld - 8x8 |
| 45 | 1 | 53-16410 | 12-20 Tube Weld - 10x10 |
| 46 | 20 | 57-20749 | 1" Flat Washer |
| 47 | 22 | 70-20584 | 1/2" Hex Nut Gr 5 NC |
| 48 | 18 | 70-20598 | 7/8" Hex Nut Gr 8 NC |
| 49 | 12 | 70-20609 | 1" Hex Center Lock Nut Gr 2 NC |
| 50 | 22 | 70-20622 | 3/8" Flange Hex Nut Gr 5 NC |
| 51 | 42 | 70-20647 | 3/4" Hex Top Lock Nut Gr 5 NC |
| 52 | 42 | 70-20804 | 1/2" Jam Nut |

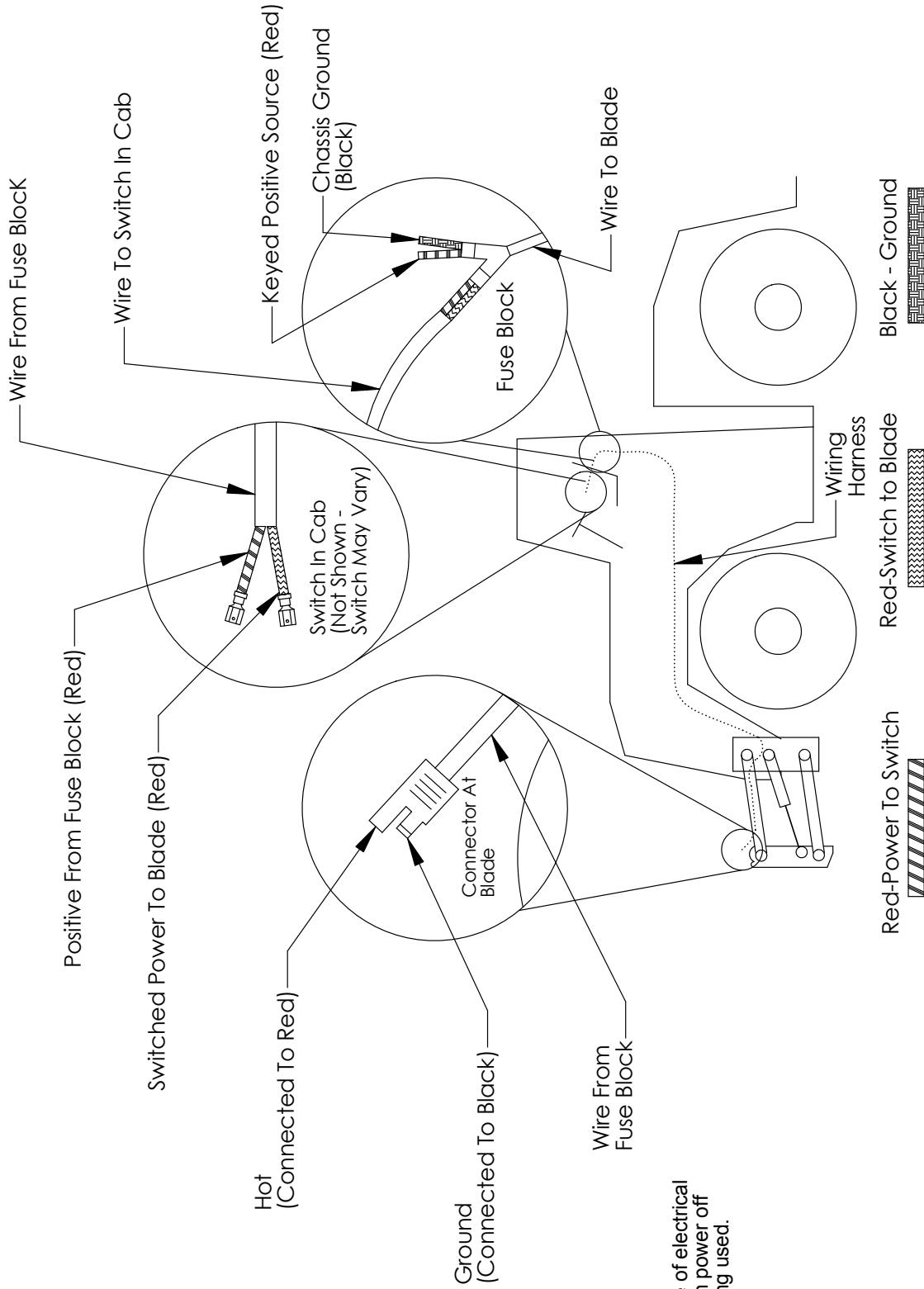


NANT Blade Assembly & End Plate Assembly

| Item No. | Qty. | Part No. | Description |
|----------|------|----------|---|
| 1 | 1 | 15-16860 | NANT - Blade Weld 12-20 Slider (V5) |
| 2 | 18 | 16-20542 | 7/8" X 3" Hex Bolt Gr 5 NC |
| 3 | 2 | 44-16470 | Box End Plate 12-20 Slider |
| 4* | 2 | 44-16480 | Silage Box End Plate 12-20 Slider |
| 5 | 18 | 57-20758 | 7/8" SAE Hardened Flat Washer - 1-3/4" OD |
| 6 | 18 | 70-20598 | 7/8" Hex Nut Gr 8 NC |

* Parts Not Shown

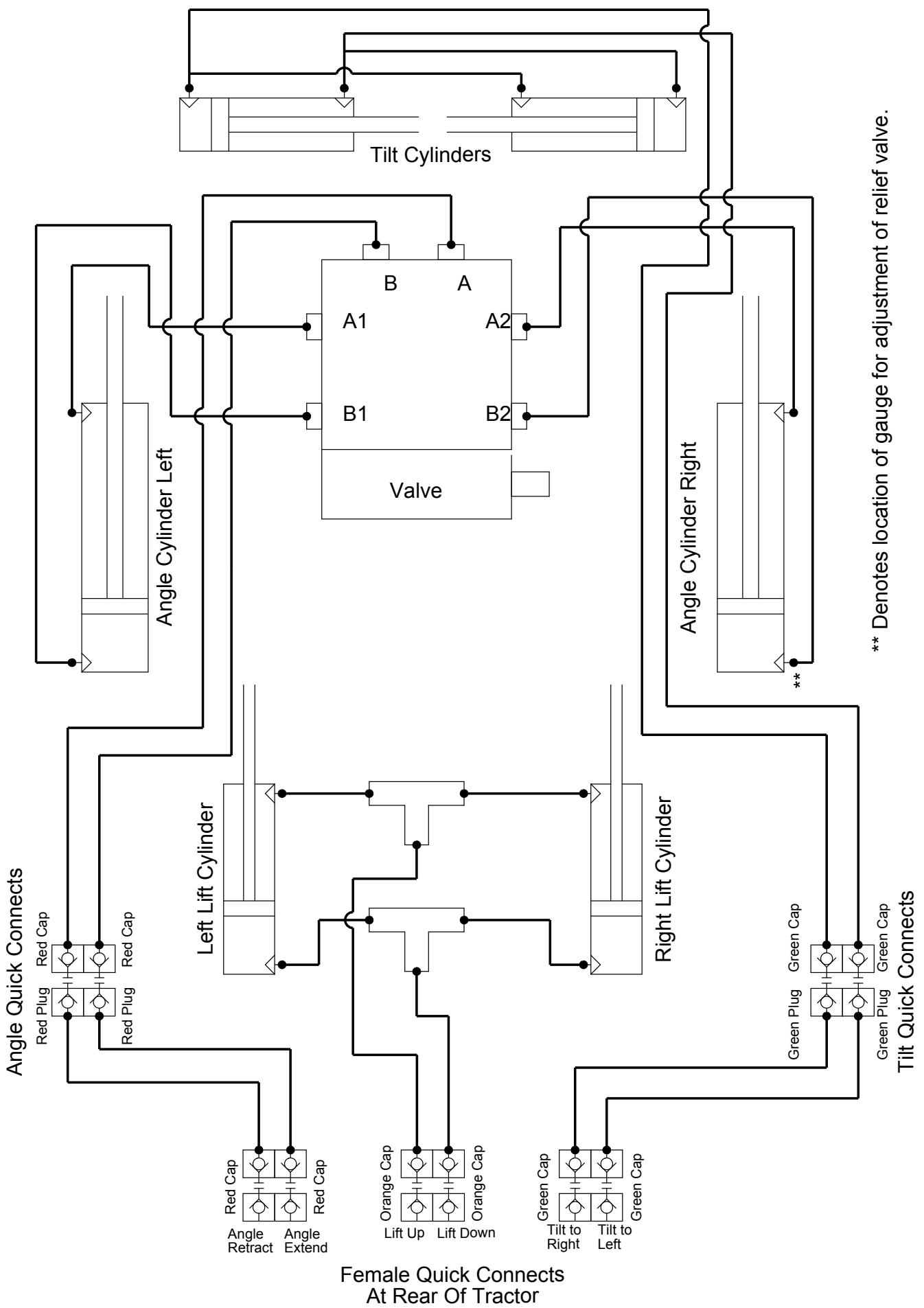


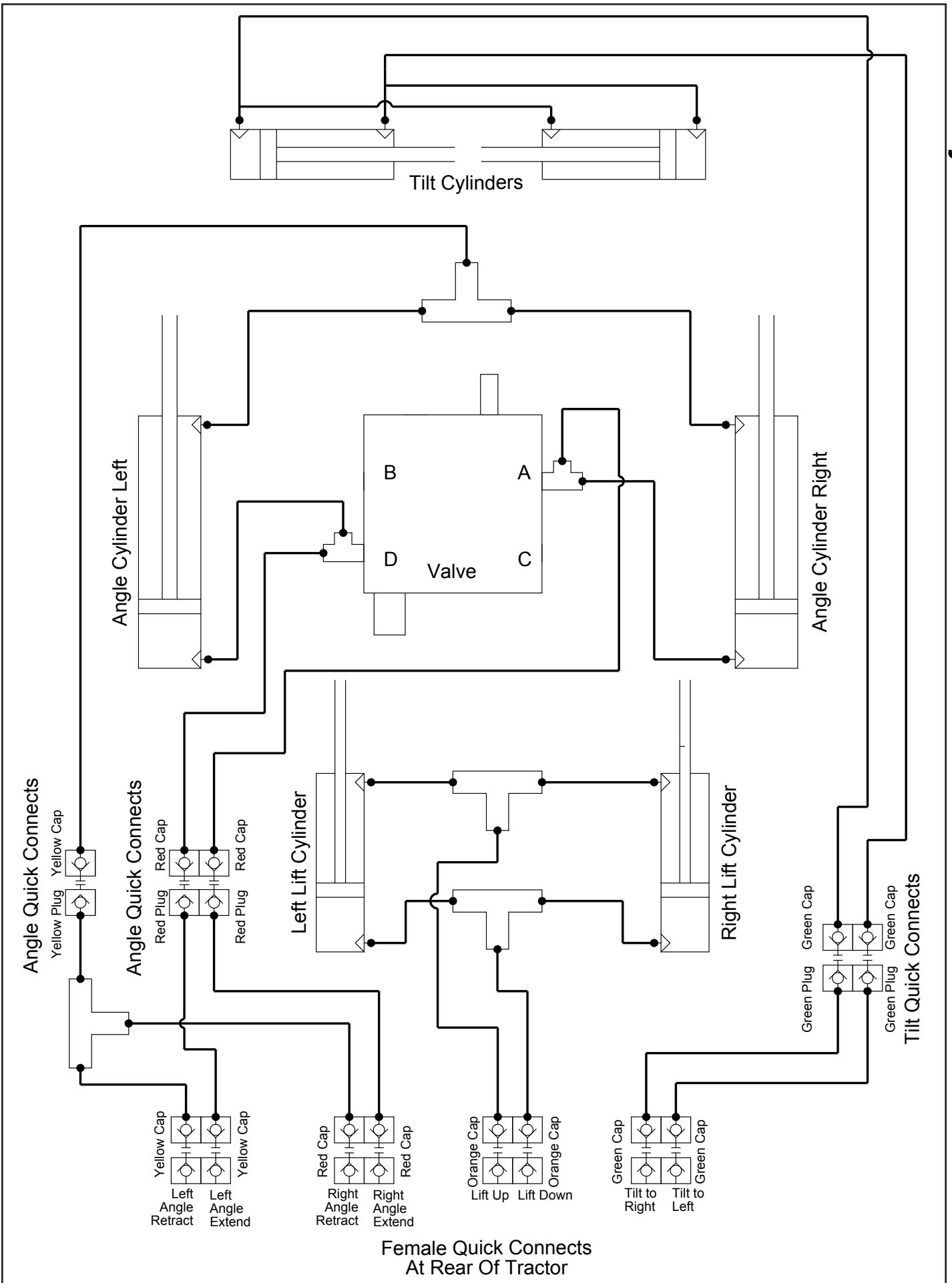


Note: To maximize life of electrical system and valve, turn power off when dozer is not being used.

Instructions

1. Locate "keyed and fused" 12 V power supply in cab of tractor.
2. Disconnect battery.
3. Connect the red wire to power and the black wire to ground.
4. Install switch in convenient place in cab.
5. Route wire harness from switch to the blade. (plug-in connector at blade)
6. Connect the switch to the wire harness.
7. Reconnect the battery.





Contact Us

As always, if you have any questions about your 12-20 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 one year. If such equipment is found to be defective within one year, 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.

