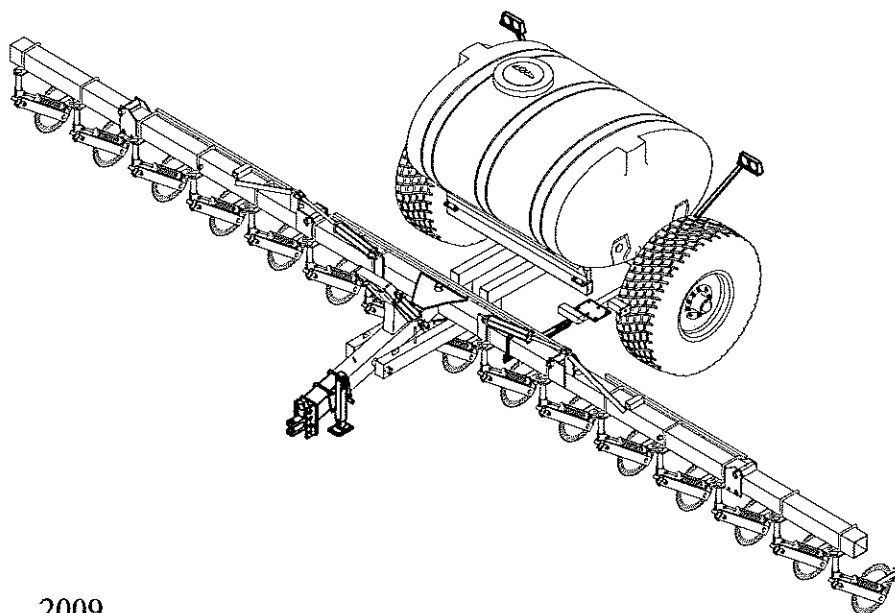




*PROGRESSIVE*  
*FARM PRODUCTS, INC.*

OPERATOR'S MANUAL  
2450 SERIES  
SIDE DRESS APPLICATOR



2009

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## SETUP AND OPERATION

When ordering parts, provide the complete serial and model number, as well as the desired part number and description.

For convenience and future reference, record the following information in the spaces provided below:

**DATE PURCHASED:** \_\_\_\_/\_\_\_\_/\_\_\_\_

**DEALER NAME:** \_\_\_\_\_

**DEALER PHONE:** \_\_\_\_\_

**MODEL NUMBER:** \_\_\_\_\_

**SERIAL NUMBER:** \_\_\_\_\_

**NOTE:** Throughout this manual, references of “right” or “right side” and “left” or “left side” are always from a point behind the implement facing forward, in the direction of travel.

## **SAFETY FIRST!**

### **FOLLOW THESE RULES:**

Comply with your state and local laws governing highway safety while moving machinery on the highway

The SMW reflector emblem should be used at all times on public roads, and always use the flashing warning lights on your tractor.

Drive at a reasonable speed to maintain complete control of your machine at all times. Do not exceed 20 MPH (32.2 km/h) while transporting. Avoid heavily traveled roads whenever possible.

Hydraulic fluid escaping under pressure can have enough force to penetrate your skin. If you are injured by escaping fluid, see a doctor at once. Serious infection or reaction can result if medical treatment is not given immediately. Make sure all connections are tight and that hoses and lines are in good condition before applying pressure to the system. Relieve all pressure before disconnecting any lines or performing other work on the hydraulic system. To find a leak under pressure, use a small piece of cardboard or wood, **NEVER** use your hands.

At least once a year, inspect all hydraulic hoses for leaks, cracks, abrasions, and pinched areas. Tighten fittings or replace hoses as needed.

Always be sure the hydraulic lines and cylinders are free of air and do not leak. After connecting any new parts, replacing old parts, or servicing the hydraulic components, carefully cycle the hydraulic cylinder several times to purge trapped air from the system. Check all the connections for any leakage.

Always block up raised equipment when servicing it. **NEVER** rely on the hydraulic system to support the implement during servicing.

## SAFETY FIRST

### FOLLOW THESE RULES:

Keep all safety equipment, such as hitch pins, chains, SMV emblems, lights, reflectors, etc. in good repair. Please note all safety decals and keep them on place. New decals are available from your dealer.

Misuse, abuse, neglect, or modification of this machine can cause:

- Mechanical breakdown
- Property damage
- Personal injury or death

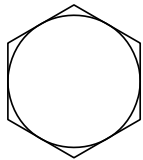
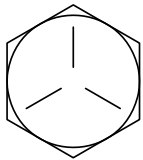
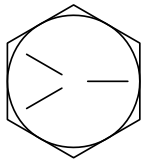
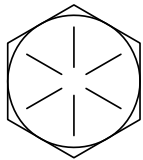
Always use proper safety precautions and common sense. Set a good example and show your workers how to work safely. Be an example, not a statistic.

### RECOMMENDED TIRE PRESSURES

| Tire Size & Ply        | Pressure |
|------------------------|----------|
| 13.6 x 38 - 12 ply     | 44 PSI   |
| 12.5L x 15 - 12 ply    | 50 PSI   |
| 12.5L x 15 - 8 ply     | 36 PSI   |
| 9.5L x 15 - 8 ply      | 35 PSI   |
| 16.5 x 16.1 - 10 ply   | 36 PSI   |
| 18.4 x 26 - 10 ply     | 26 PSI   |
| 14.9R x 46 - 8* radial | 68 PSI   |
| 5.30 x 12 - 6 ply      | 55 PSI   |
| 16 x 6.50 x 8 - 4 ply  | 28 PSI   |
| 4.80 x 8 - 4 ply       | 41 PSI   |

## **BOLT TORQUE**

1. Improperly tightened bolts will result in damage, breakage, expense, and lost time
2. Always replace bolts with the specified grade and type
3. Torque all fasteners to the proper value during assembly, then check every two (2) hours of operation until they remain tight
4. Use the following torque chart as a guide to insure proper tightening of the fasteners.
5. Make a daily inspection of the implement checking for loose bolts as well as leaking hoses.

| BOLT Ø - TPI |  GRADE 2 |  GRADE 5 |  A - 325 |  GRADE 8 |
|--------------|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| 3/8 - 16     | 25                                                                                        | 35                                                                                          |                                                                                             | 50                                                                                          |
| 7/16 - 14    | 35                                                                                        | 55                                                                                          |                                                                                             | 80                                                                                          |
| 1/2 - 13     | 55                                                                                        | 85                                                                                          |                                                                                             | 125                                                                                         |
| 9/16 - 12    | 75                                                                                        | 125                                                                                         |                                                                                             | 175                                                                                         |
| 5/8 - 11     | 105                                                                                       | 170                                                                                         |                                                                                             | 235                                                                                         |
| 3/4 - 10     | 185                                                                                       | 305                                                                                         |                                                                                             | 425                                                                                         |
| 7/8 - 9      | 170                                                                                       | 445                                                                                         |                                                                                             | 690                                                                                         |
| 1 - 8        | 260                                                                                       | 670                                                                                         |                                                                                             | 1030                                                                                        |
| 1-1/8 - 7    | 365                                                                                       | 900                                                                                         |                                                                                             | 1460                                                                                        |
| 1-1/4 - 7    | 515                                                                                       | 1275                                                                                        |                                                                                             | 2060                                                                                        |
| 1-3/8 - 6    | 675                                                                                       | 1675                                                                                        |                                                                                             | 2700                                                                                        |
| 1-1/2 - 6    | 900                                                                                       | 2150                                                                                        |                                                                                             | 3500                                                                                        |

TORQUE VALUES ARE IN FT./LBS. AND ARE BASED ON PLATED OR GREASE COATED HARDWARE. INCREASE VALUES 5 - 10% FOR FINE THREADS. USE 65% OF THE LISTED VALUE FOR JAM NUTS.

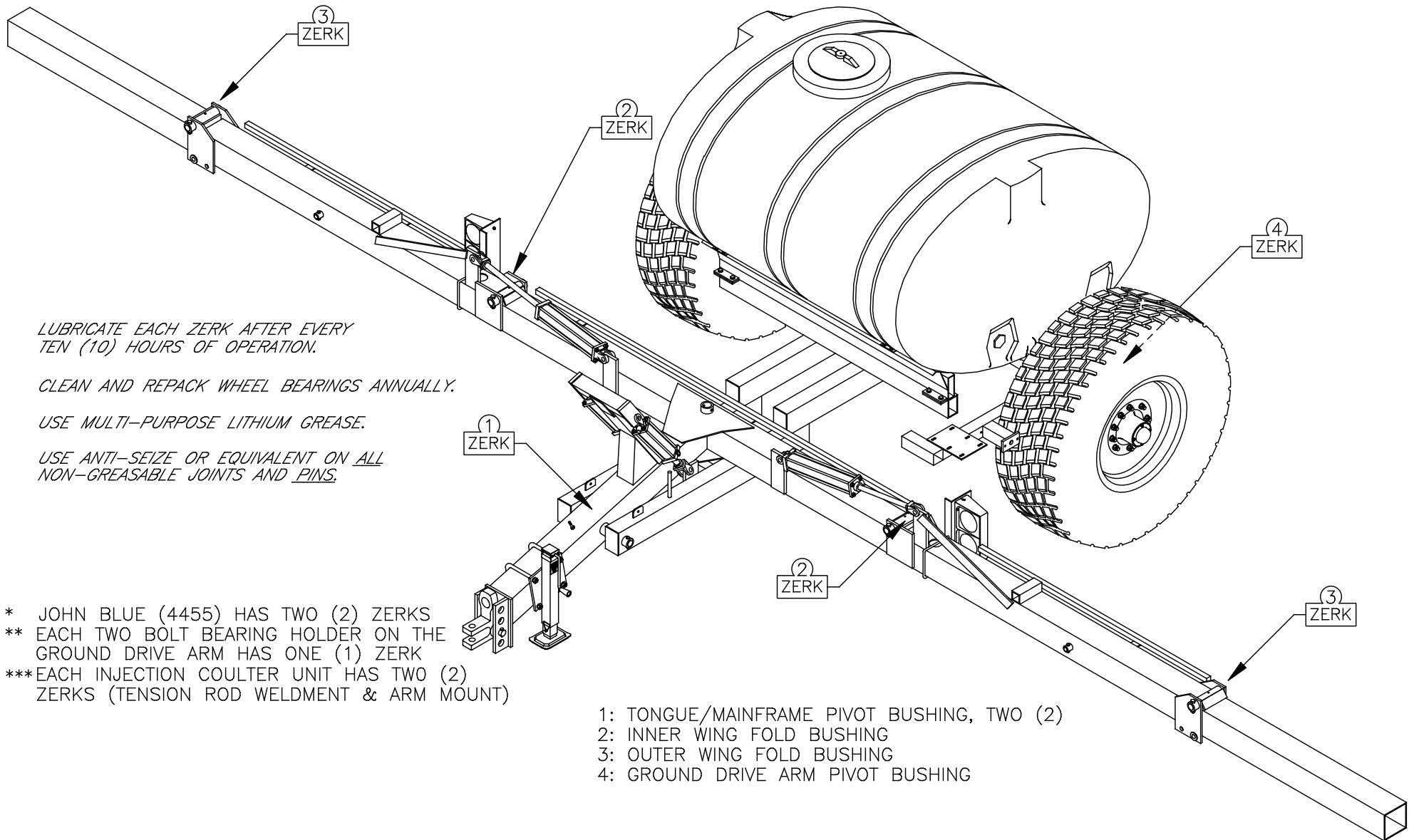
## **Introduction**

The purpose of this manual is to assist in the assembly, operation, and maintenance of your 2450 Sidedress Applicator. The extra care given by the operator will compliment the efficient and economical use of this machine for years to come.

During the assembly process, it will be necessary to attach components together using pins and shaft of various sizes. Please take the extra time required to remove excess paint from the pins and shafts as well as the bushing bores they will be placed through. Anti-seize or an equivalent product should be applied to all non-greaseable joints and pins. The time and effort spent now will be well rewarded in time savings.

Follow the assembly sequence provided in the illustrations and part descriptions. Before you begin assembly, read this manual and become acquainted with the various components of this implement. Thank You.

## LUBRICATION AND MAINTENANCE



# **PROGRESSIVE FARM PRODUCTS** **APPLICATION RATE: GALLONS PER ACRE**

PUMP SPROCKET (18 TEETH) WHEEL SPROCKET (36 TEETH) LOADED RADIUS: 7.5" TIRE: 4.80 X 8

## **JOHN BLUE NGP-7055 (SINGLE PISTON) PUMP**

| PUMP<br>SETTING | SWATH WIDTH (INCHES) |     |     |     |     |     |     |     |     |     |     |
|-----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 180                  | 200 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360 | 480 |
| 1.0             | 11                   | 10  | 9   | 8   | 8   | 7   | 7   | 6   | 6   | 6   | N/A |
| 1.5             | 17                   | 15  | 14  | 13  | 12  | 11  | 10  | 9   | 9   | 8   | N/A |
| 2.0             | 22                   | 20  | 18  | 17  | 15  | 14  | 13  | 13  | 12  | 11  | N/A |
| 2.5             | 28                   | 25  | 23  | 21  | 19  | 18  | 17  | 16  | 15  | 14  | 10  |
| 3.0             | 33                   | 30  | 27  | 25  | 23  | 21  | 20  | 19  | 18  | 17  | 13  |
| 3.5             | 39                   | 36  | 32  | 30  | 27  | 25  | 24  | 22  | 21  | 20  | 15  |
| 4.0             | 45                   | 41  | 37  | 34  | 31  | 29  | 27  | 25  | 24  | 23  | 17  |
| 4.5             | 51                   | 46  | 41  | 38  | 35  | 33  | 30  | 28  | 27  | 25  | 19  |
| 5.0             | 56                   | 51  | 46  | 42  | 39  | 36  | 34  | 32  | 30  | 28  | 21  |
| 5.5             | 62                   | 56  | 50  | 46  | 43  | 40  | 37  | 35  | 33  | 31  | 23  |
| 6.0             | 67                   | 61  | 55  | 50  | 47  | 43  | 40  | 38  | 36  | 34  | 25  |
| 6.5             | 73                   | 66  | 60  | 55  | 51  | 47  | 44  | 41  | 39  | 37  | 28  |
| 7.0             | 78                   | 71  | 64  | 59  | 54  | 50  | 47  | 44  | 41  | 39  | 30  |
| 7.5             | 84                   | 76  | 69  | 63  | 58  | 54  | 50  | 47  | 44  | 42  | 32  |
| 8.0             | 89                   | 81  | 73  | 67  | 62  | 58  | 54  | 50  | 47  | 45  | 35  |
| 8.5             | 95                   | 86  | 78  | 71  | 66  | 61  | 57  | 53  | 50  | 48  | 37  |
| 9.0             | 101                  | 91  | 83  | 76  | 70  | 65  | 61  | 58  | 54  | 51  | 39  |
| 9.5             | 107                  | 96  | 87  | 80  | 74  | 69  | 64  | 60  | 58  | 53  | 41  |
| 10.0            | 112                  | 101 | 92  | 84  | 78  | 72  | 67  | 63  | 59  | 56  | 43  |

## **JOHN BLUE NGP-9055 (DOUBLE PISTON) PUMP**

| PUMP<br>SETTING | SWATH WIDTH (INCHES) |     |     |     |     |     |     |     |     |     |     |
|-----------------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|                 | 180                  | 200 | 220 | 240 | 260 | 280 | 300 | 320 | 340 | 360 | 480 |
| 1.0             | 22                   | 20  | 18  | 17  | 15  | 14  | 13  | 13  | 12  | 11  | N/A |
| 1.5             | 33                   | 30  | 27  | 25  | 23  | 21  | 20  | 19  | 18  | 17  | N/A |
| 2.0             | 44                   | 40  | 36  | 33  | 31  | 29  | 27  | 25  | 24  | 22  | N/A |
| 2.5             | 56                   | 50  | 45  | 42  | 38  | 36  | 33  | 31  | 29  | 28  | 20  |
| 3.0             | 67                   | 60  | 55  | 50  | 46  | 43  | 40  | 38  | 36  | 33  | 25  |
| 3.5             | 79                   | 71  | 65  | 59  | 55  | 51  | 47  | 44  | 42  | 39  | 30  |
| 4.0             | 90                   | 81  | 74  | 68  | 62  | 58  | 54  | 51  | 48  | 45  | 35  |
| 4.5             | 101                  | 91  | 83  | 76  | 70  | 65  | 61  | 57  | 54  | 51  | 39  |
| 5.0             | 112                  | 101 | 92  | 84  | 78  | 72  | 67  | 63  | 59  | 56  | 43  |
| 5.5             | 123                  | 111 | 101 | 93  | 85  | 79  | 74  | 69  | 65  | 62  | 47  |
| 6.0             | 134                  | 121 | 110 | 101 | 93  | 86  | 81  | 76  | 71  | 67  | 51  |
| 6.5             | 147                  | 132 | 120 | 110 | 102 | 94  | 88  | 83  | 78  | 73  | 54  |
| 7.0             | 157                  | 141 | 128 | 118 | 108 | 101 | 94  | 88  | 83  | 78  | 60  |
| 7.5             | 168                  | 151 | 137 | 126 | 116 | 108 | 101 | 94  | 89  | 84  | 63  |
| 8.0             | 179                  | 161 | 146 | 134 | 124 | 115 | 107 | 101 | 95  | 89  | 69  |
| 8.5             | 190                  | 171 | 155 | 143 | 132 | 122 | 114 | 107 | 101 | 95  | 72  |
| 9.0             | 202                  | 182 | 165 | 152 | 140 | 130 | 121 | 114 | 107 | 101 | 78  |
| 9.5             | 213                  | 192 | 175 | 160 | 148 | 137 | 128 | 120 | 113 | 107 | 82  |
| 10.0            | 224                  | 202 | 184 | 168 | 155 | 144 | 135 | 126 | 119 | 112 | 86  |

# Assembly Instructions

## 2450 Sidedress Applicator

Be sure to remove excess paint from pins and bushing bores. Apply a thin coat of grease to pins before installing them. Use anti-seize or equivalent on all non-greasable joints and pins. Never directly strike a pin with a hammer – always use a block to absorb the shock if a pin does not easily fit. Striking a pin directly will cause the end of the pin to spread.

Be sure to lubricate all grease zerks. Refer to lubrication drawing for all zerk locations.

### Chassis and Mainframe/Hitch Assembly

1. Use hardware from bag #102008.
2. Lay the chassis on the ground, centering the mainframe on top of it.
3. Line up the hitch and chassis so that the hinge pin can be installed. It may be necessary to raise the chassis in the air slightly to attain proper alignment.
4. Install the hinge pin using the attached hardware. **Do not install the implement jack at this point, as it could result in damage to the jack. The jack will not be installed until the wings and all hydraulics is assembled on the bar. Let the hitch rest on the ground.**

### Stub Axle, Pump Arm and Wheel Assembly

1. Use hardware from bag #102089 (18.4 x 26 Wheel Option) or #102090 (13.6 x 38 Wheel Option).
2. From the rear of the chassis, raise it in the air enough to install the stub axles. Allow the hitch to rest on the ground.
3. Install the stub axles. Note that the left stub axle has a tube on the top of it for the pump arm. **Do not install the wheels at this point!**
4. Locate the pump arm and install it on the left stub axle. This must be done before the tire is installed to avoid clearance problems.
5. Raise the chassis higher in the air and install the tire/wheel assemblies.
6. Lower the chassis. It should now rest on the tires. Allow the hitch to rest on the ground.

### Pump and Engagement Arm Installation

1. Hardware for mounting the pump arm and engagement arm is located in the Wheel Option hardware bags 102089 (18.4 x 26 tires) or 102090 (13.6 x 38 tires). Hardware for the pump is located in bag #102231 (John Blue LM 4455 Pump) or #102232 (John Blue LM 4955 Pump).
2. Locate the engagement arm and install it as shown.

3. Locate the pump and ground drive package. Assemble the ground drive package and pump as shown in the ground drive pump assembly drawing.

#### Attaching the Tank Saddle and Tank

1. Use hardware from hardware bag #102234 for attaching the tank saddle to the frame and tank to the saddle. The 2" Quick-fill hardware is in bag #102235.
2. Place the tank saddle on the chassis. Be sure to place the sump hole on the right side of the chassis.
3. Locate the quick-fill bracket (Bag #102235). Place it beneath the right rear saddle tab and attach the saddle as shown.
4. Attach light brackets as shown to the tank saddle/mainframe.
5. Place the tank in the saddle so that the sump is centered in the hole in the saddle. Use the tank straps provided to secure the tank to the saddle.

#### Inner Wing Assembly

1. Lift one of the wings into the air, making sure to find a good balance point.
2. Using the hardware included on the wing, attach the wing to the mainframe as shown.
3. Remove the lift and repeat for the opposite wing.

#### Outer Wing Assembly

1. Place the outer wings upside down on top of the inner wings.
2. Line up the hinge point and install the pin as shown.

#### Inner Wing Cylinder Installation

1. Locate the 4" x 16" cylinders. Using the hardware shown, attach the cylinders to the mainframe leaving the clevis end (rod end) unattached.
2. Be sure to attach the butt end of the cylinder to the mainframe.

#### Outer Wing Cylinder Installation

1. Use the hardware from bag #213011 and the hydraulic hoses from package #212011.
2. Attach the hoses to the 3" x 16" cylinders. Note that the fitting used on the butt end of the cylinder needs to be rotated up at approximately 45 degrees to allow the cylinder pin proper clearance on the hose.
3. Attach the drag link and roller wheels to the clevis end as shown. Be sure that the welded end of the cylinder pin faces the front of the bar.
4. Feed a long piece of wire through the access hole in the inner wing and out the end of the inner wing.
5. Attach the wire to the hydraulic hoses. You should now be able to feed the hoses back through the inner wing and out the access hole.
6. Line up the cylinder with the bushings in the inner wing and install pin.

7. Be sure to use anti-seize to keep this pin from locking up.
8. Be sure the cylinder is in the extended position so the clevis sticks out of the inner wing.
9. Leave the drag link loose until the cylinders have been primed with oil.
10. Be sure to route the hydraulic hoses through the short piece of 2" white plastic hose (included) at the hole in the inner wing to prevent chaffing on the hoses.

#### Lift Cylinder Installation

1. Locate the 3" x 8" cylinders. Using the hardware shown, attach the cylinders to the lift tower and chassis as shown.
2. Be sure the butt end of the cylinder is attached to the hitch tower.

#### Lift Cylinder Hydraulic Hose Installation

1. Use hardware from bag #213011 and hoses from hose package #212011.
2. Referring to the hydraulic schematic drawings lay out the hoses in their approximate location.
3. Use the fittings shown in the schematic to attach the hoses to their respective cylinders.
4. Locate the hose holddowns, nuts, and washers from bag #213011 and attach to the bolts welded to the frame. Run the hoses as shown through each holddown. Do not tighten down holddowns at this point.
5. Hook up the bar to a hydraulic unit and charge all cylinders with oil to purge the air from the cylinders/hoses. Run the cylinders through at least three full cycles to ensure that all air is purged from the cylinders/hoses. Tighten down the hose holddowns at this point.
6. Attach the clevis end of the wing fold cylinders to the wings as shown.
7. Extend the lift cylinders and install the transport locks. Raise the hitch in the air and install the implement jack (use hardware in bag #102009). Lower the hitch. The bar should now rest on the implement jack.

#### Swivel Coulter Assembly/Installation

1. Use the hardware from bag #102044 (if using knife kit) or #102044B (if using liquid injection) for mounting the coulter assemblies with mounts and bag #102045 for the center coulter assembly.
2. Referring to the exploded view drawing of the swivel coulter in the back of the book, assemble the swivel coulters (leaving the coulter blade off to simplify the attachment to the bar).
3. Be sure to leave 1-1/2" of thread visible at the top of the T-rod and 1/2" of thread at the bottom to achieve proper tension of the compression spring (outside to outside measurement of spring casting is 9-3/4").
4. Following the exploded view, install the center swivel coulter as shown.
5. Starting from the center of the center coulter swivel coulter pin, measure out and mark in 30", 36", or 38" (depending on row spacing) intervals in the bar.

6. At each mark, install a swivel coultter assembly, making sure that the u-bolt is centered on the mark.
7. After all coultter assemblies are installed, the coultter blades may be attached using the hardware shown.
8. Attach the liquid injectors or knife kit per diagram as shown using hardware bag #102255 (liquid injector) or #102256 (knife kit). Adjust the injector of knife as shown in illustration pages.

#### Quick-Fill Plumbing

1. Referring to the quick-fill plumbing schematic, attach all fittings and hoses as shown. Hardware is in bag #102235.
2. Remove the bottom nuts and washers from the ball valve and attach the mounting bracket using these bolts.
3. Attach the mounting bracket to the quick-fill bracket on the right rear of the tank saddle.

#### Pump Assembly and Plumbing

1. Locate the ground drive pump and remove the upper plug and the lower drain plug. Replace the upper plug with the vented plug (located in pump box) as shown. Replace the lower drain plug with the "Allen Head" drain plug (located in pump box) as shown.
2. Install the pump on the ground drive. The mounting hardware is in bag #102331 (LM4455 pump) or #102232 (LM4955 pump).
3. Install the ground drive wheel assembly and chain as shown in the schematic. This hardware is in bag #102242 (18.4 x 26 / 13.6 x 38 wheel option).
4. Attach all plumbing components as shown in the pump plumbing schematic.

#### Nozzle Assembly/Manifold Plumbing

1. For the manifolds, use hardware from bag #102238 (11 coulters) or #102240 (13 coulters).
2. For the nozzles, the hardware is in the coultter mount bags #102044 (mounted coulters) and #102045 (center coultter).
3. Referring to the nozzle assembly drawing, assemble all nozzles as shown. Be sure to place the hose barb inside of the slotted o-ring as shown.
4. Attach nozzles to the sub-booms as shown in the plumbing drawings. Each nozzle should fall directly behind the u-bolt for the coultter assembly except for the far outer nozzle on the outer wings.
5. Install the ¾" EPDM hose using the ¾" hose clamps as shown in the plumbing drawings. Be sure to install the gate valve in the proper direction between the inner and out wings. **Note: Do not cut the ¾" EPDM hose before the nozzle assemblies have been mounted to the manifold bar! Hose lengths shown are approximate.**

### Light Kit Assembly

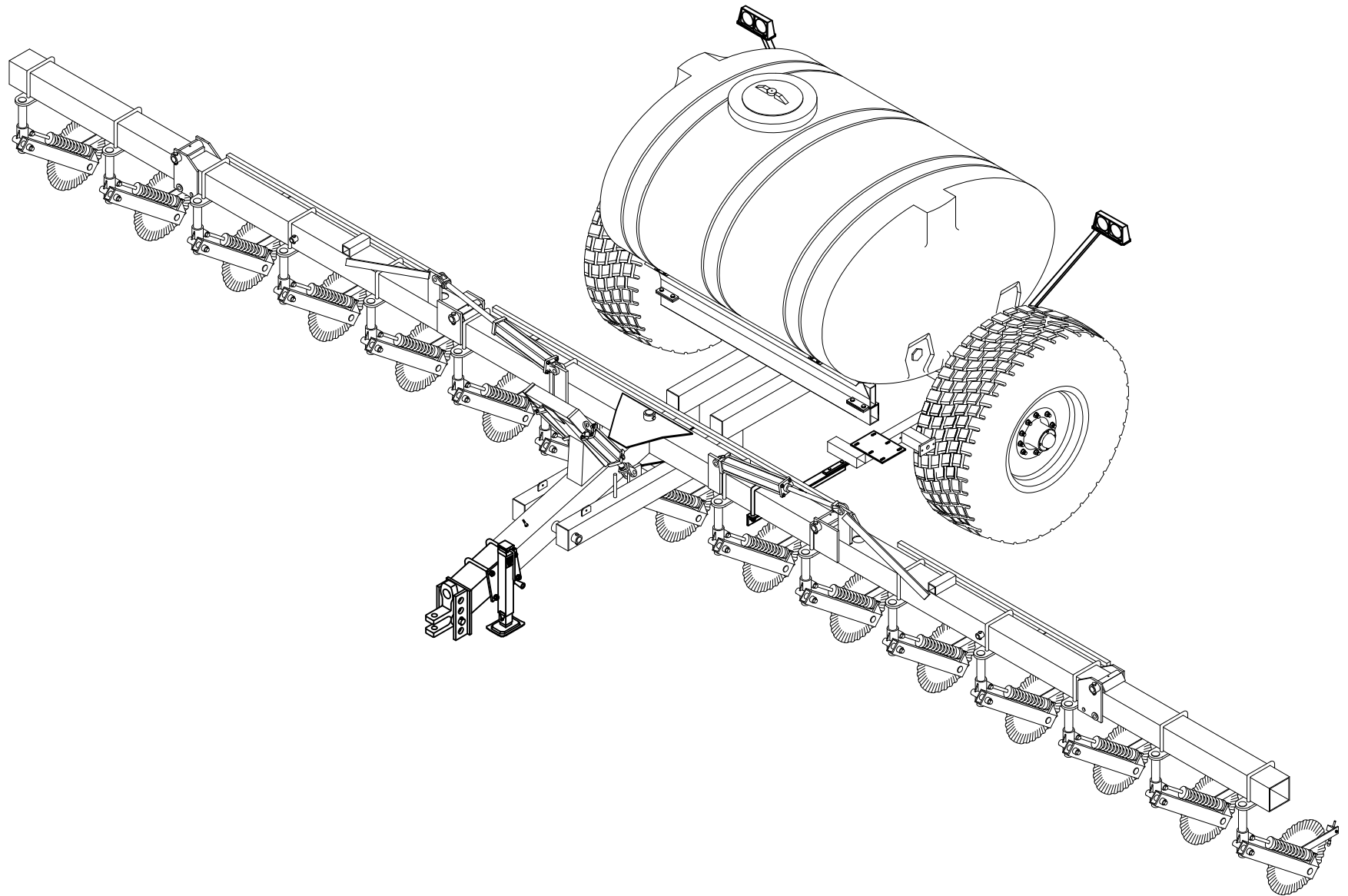
1. Use the hardware from bag #102046 to install the light kit to the bar.
2. Attach the lights to the light brackets. Be sure that both the red and yellow lights are visible from behind the implement.
3. Route the wires along the mainframe and down the hitch. Bundle the hydraulic hoses and light wires together using zip strips (not provided).

### Decal Installation

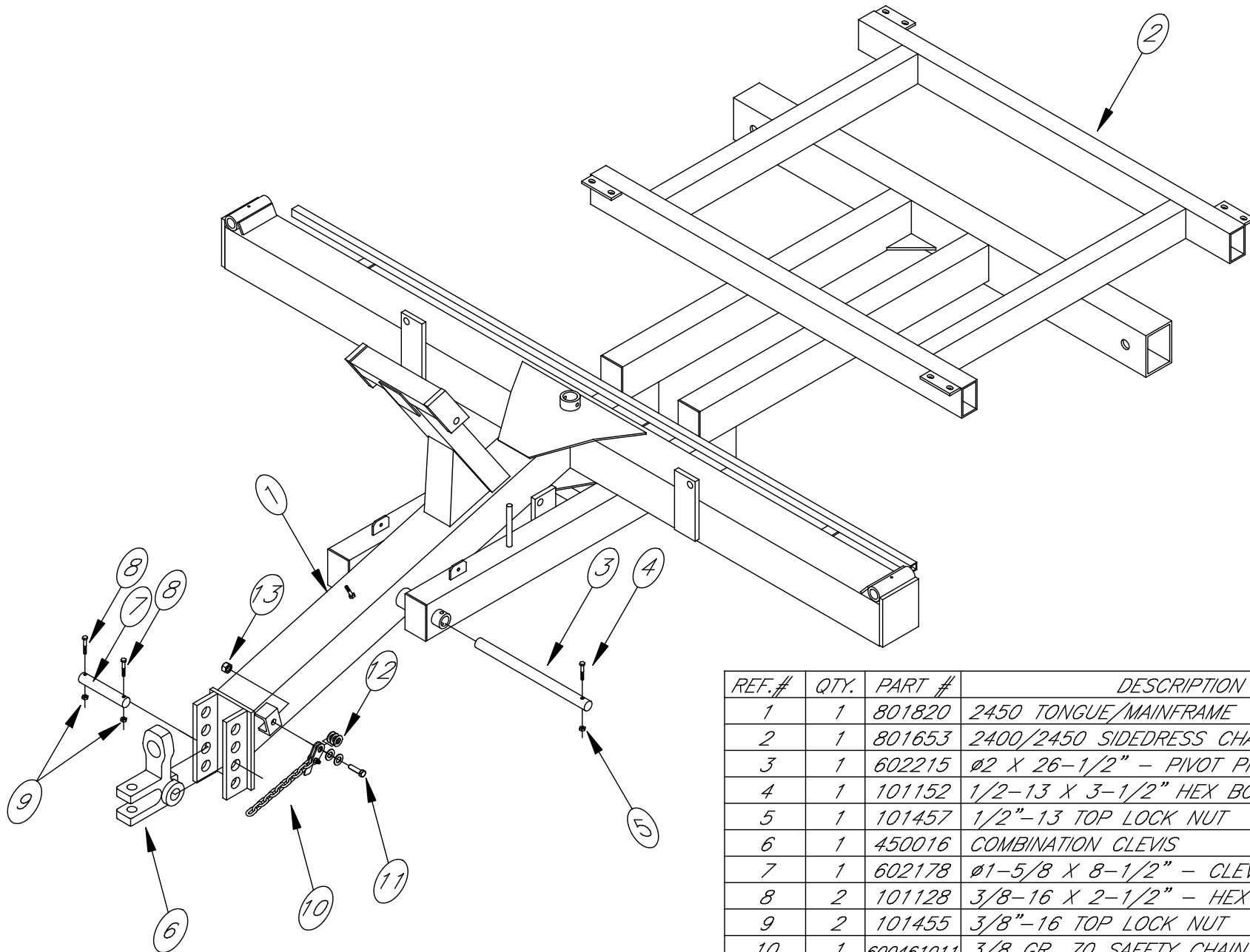
1. Referring to the safety decal drawing, attach the safety decals in the proper locations. These decals are provided for your safety and should be replaced if lost or damaged. **Note: The decals must be attached to the unit!** Replacement decals may be ordered from your dealer.

### Lubrication

1. Referring to the lubrication drawing at the beginning of the book, lubricate all grease zerks. Note location of zerks on the pump, ground drive arm, and each coulter unit.
2. Lubricate each zerk after every ten (10) hours of operation.
3. Clean and re-pack wheel bearings annually.
4. Use only multi-purpose lithium grease.
5. Use anti-seize or equivalent on all non-greasable joints or pins.



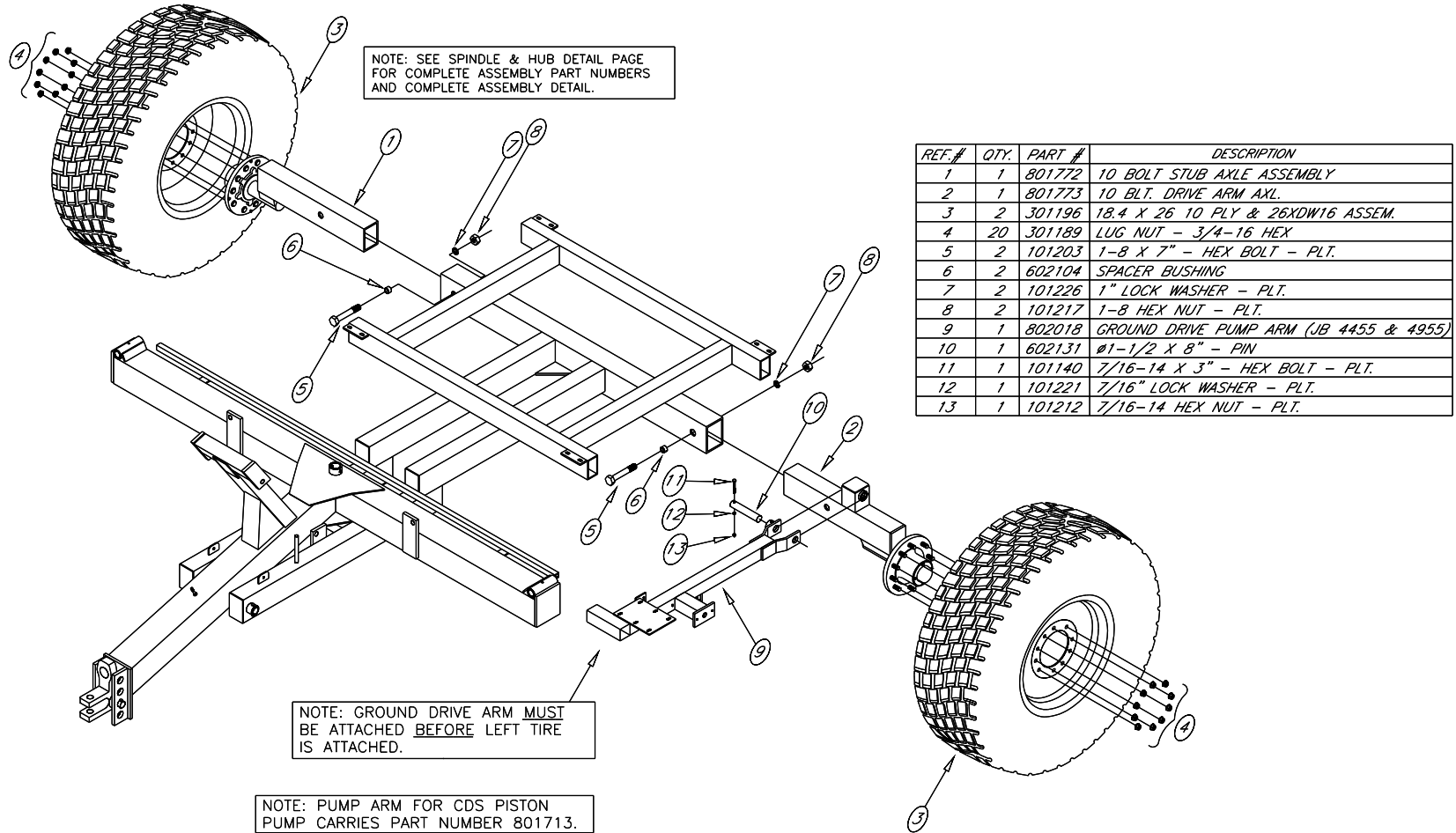
# *TONGUE/MAINFRAME ATTACHMENT*



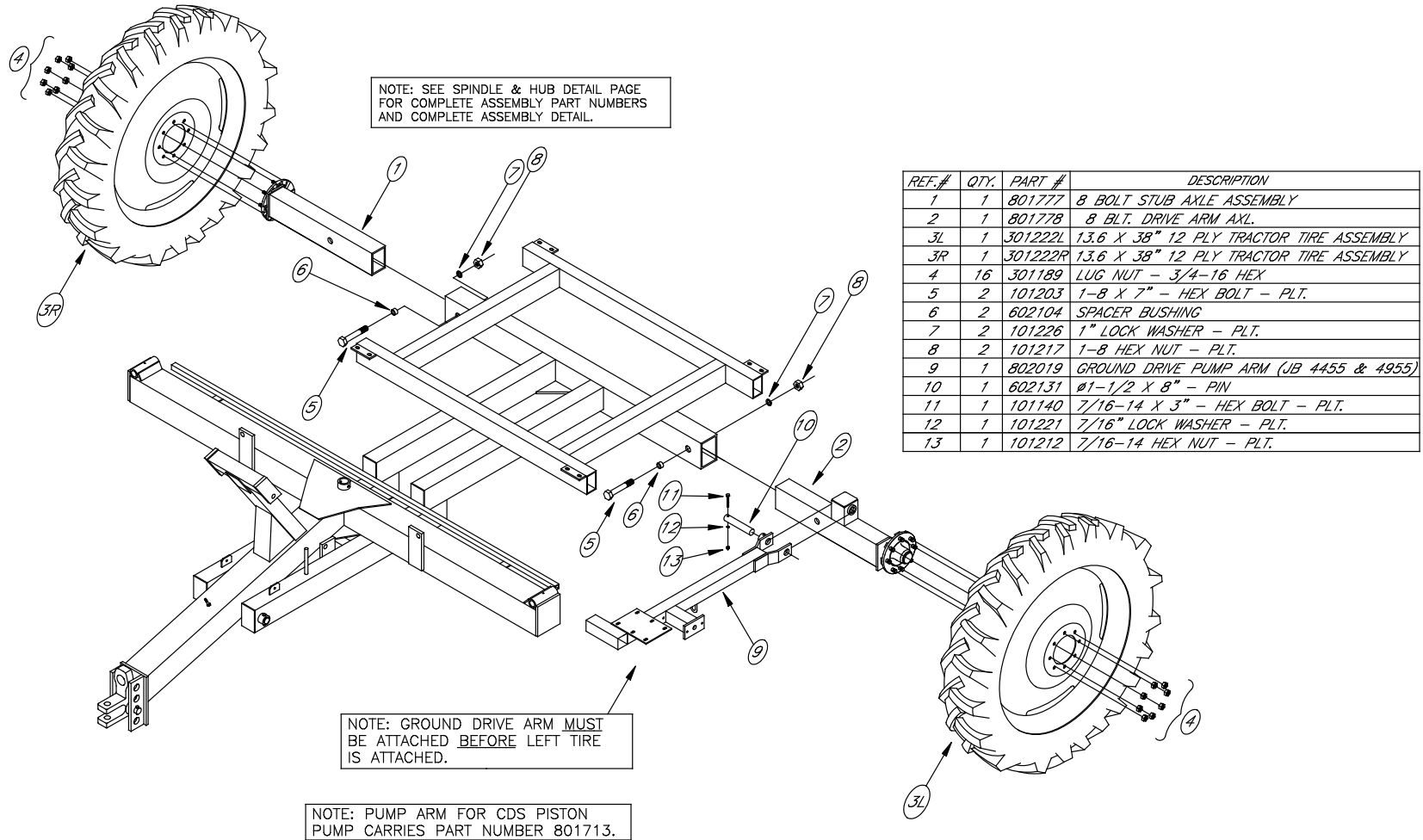
| REF.# | QTY. | PART #    | DESCRIPTION                     |
|-------|------|-----------|---------------------------------|
| 1     | 1    | 801820    | 2450 TONGUE/MAINFRAME           |
| 2     | 1    | 801653    | 2400/2450 SIDEDRESS CHASSIS     |
| 3     | 1    | 602215    | Ø2 X 26-1/2" - PIVOT PIN        |
| 4     | 1    | 101152    | 1/2-13 X 3-1/2" HEX BOLT - PLT. |
| 5     | 1    | 101457    | 1/2"-13 TOP LOCK NUT            |
| 6     | 1    | 450016    | COMBINATION CLEVIS              |
| 7     | 1    | 602178    | Ø1-5/8 X 8-1/2" - CLEVIS PIN    |
| 8     | 2    | 101128    | 3/8-16 X 2-1/2" - HEX BOLT-PLT. |
| 9     | 2    | 101455    | 3/8"-16 TOP LOCK NUT            |
| 10    | 1    | 600461011 | 3/8 GR. 70 SAFETY CHAIN         |
| 11    | 1    | 600356002 | BOLT 1" X 3" GR. 5              |
| 12    | 5    | 600381018 | FLATWASHER 1"                   |
| 13    | 1    | 600366032 | LOCKNUT 1"                      |

REV: 05/01/13 AU

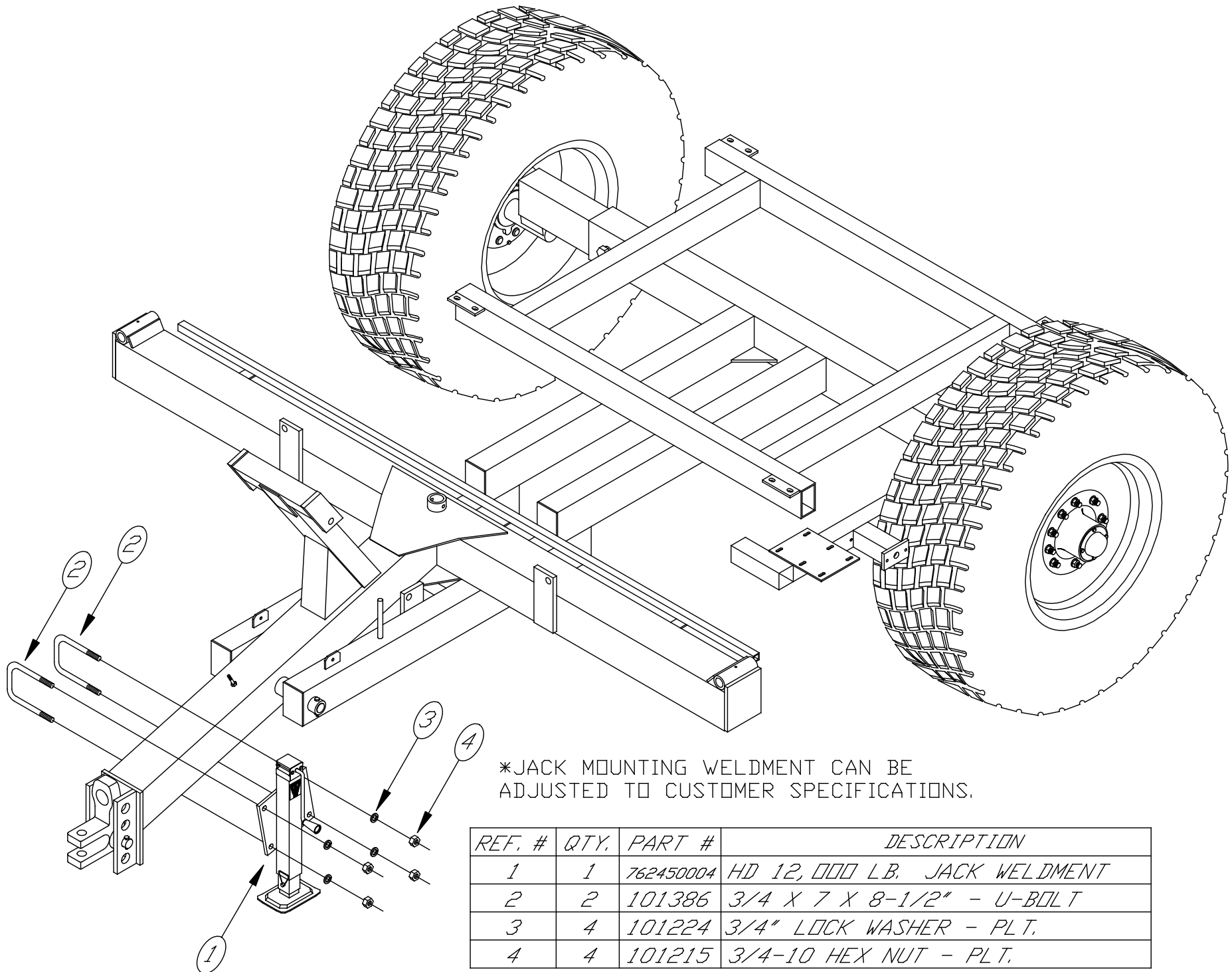
# STUB AXLE AND WHEEL ASSEMBLY



OPTIONAL 13.6 X 38 STUB AXLE AND WHEEL ASSEMBLY

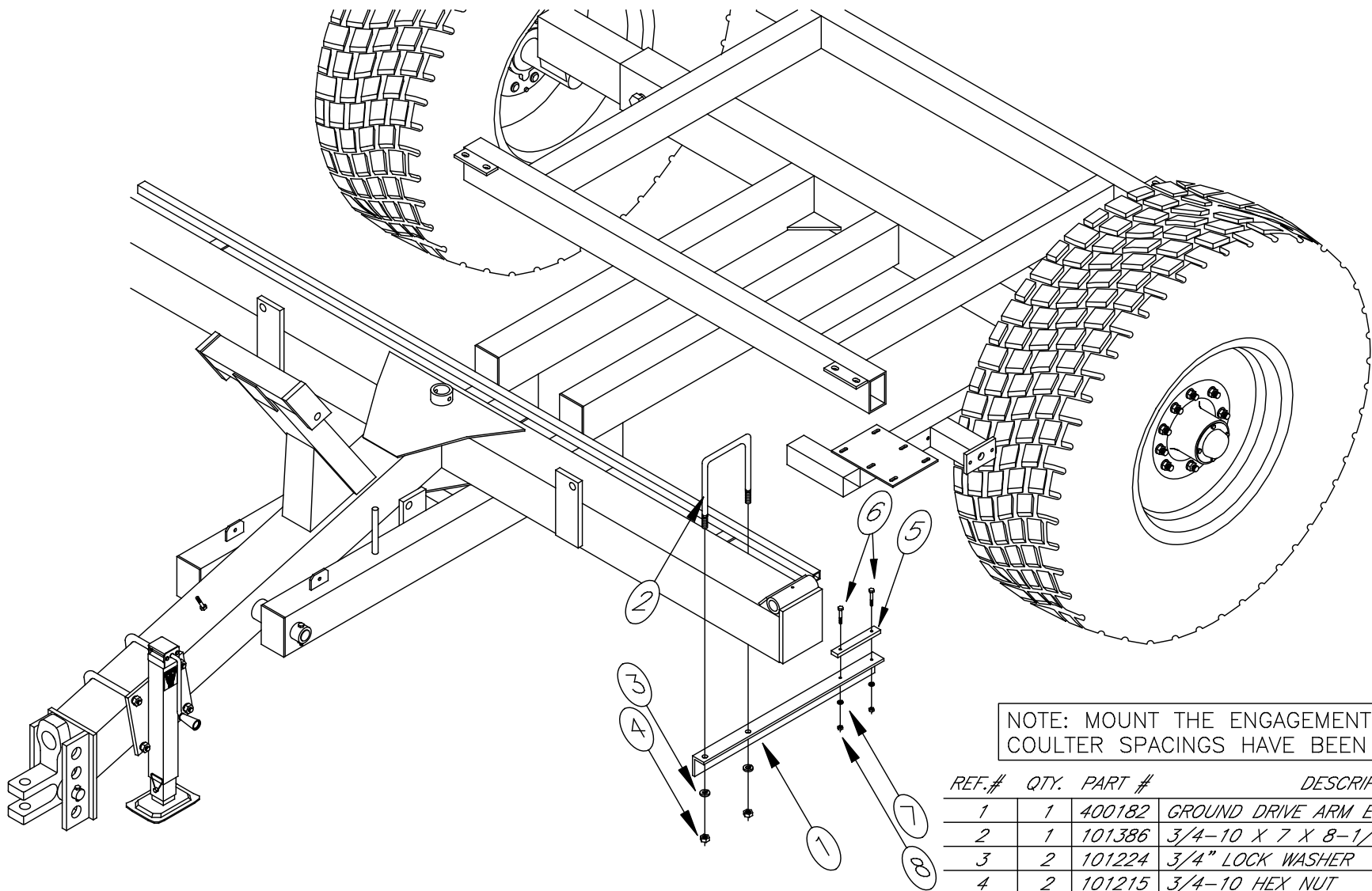


## ATTACHING THE DROP LEG JACK



| REF. # | QTY. | PART #    | DESCRIPTION                  |
|--------|------|-----------|------------------------------|
| 1      | 1    | 762450004 | HD 12, 000 LB. JACK WELDMENT |
| 2      | 2    | 101386    | 3/4 X 7 X 8-1/2" - U-BOLT    |
| 3      | 4    | 101224    | 3/4" LOCK WASHER - PLT.      |
| 4      | 4    | 101215    | 3/4-10 HEX NUT - PLT.        |

ATTACHING THE ENGAGEMENT ARM

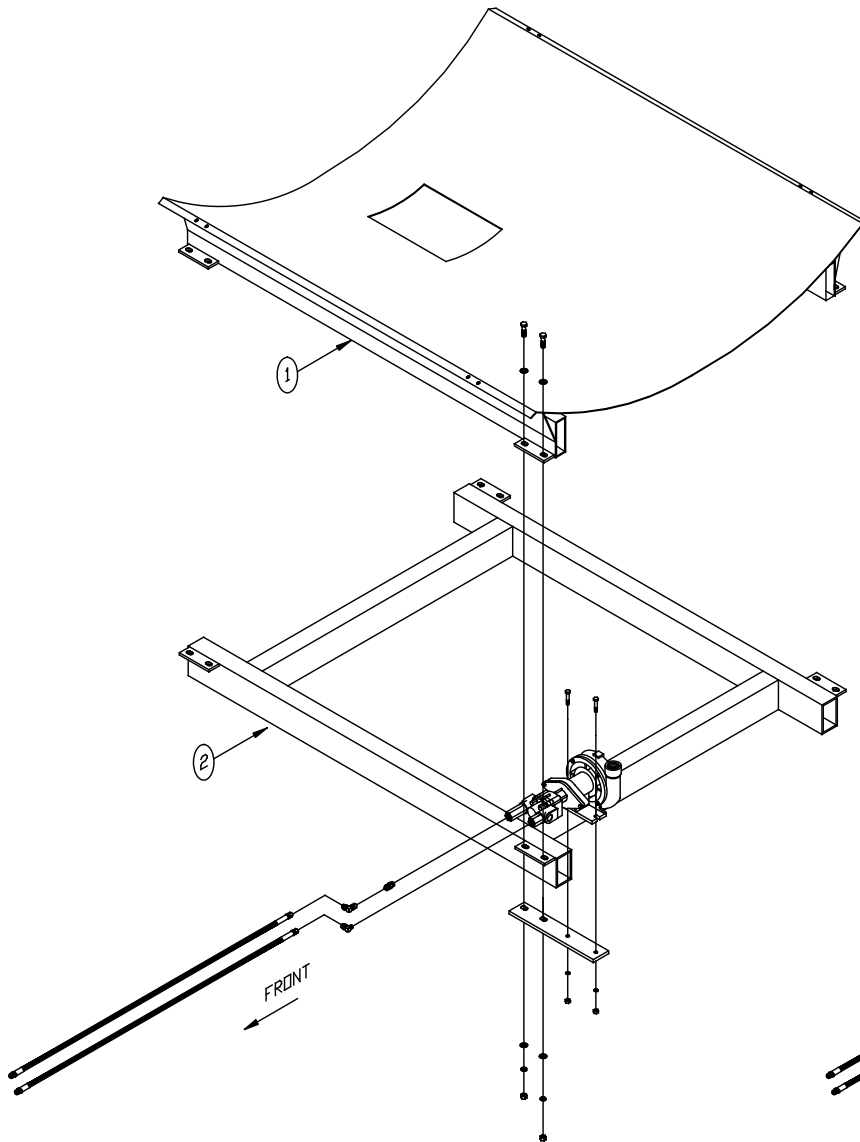


NOTE: THIS ENGAGEMENT ARM IS THE SAME ARM USED FOR THE 13.6 X 38 TIRE OPTION.

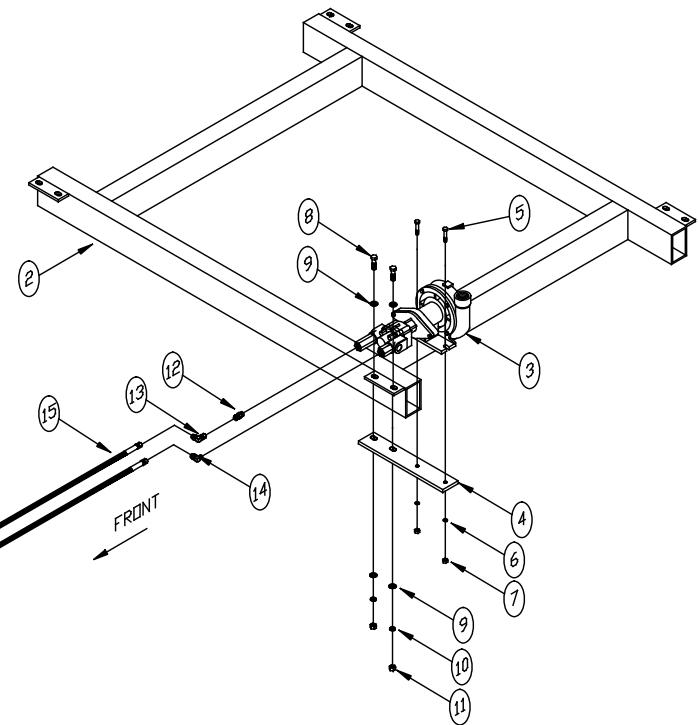
NOTE: MOUNT THE ENGAGEMENT ARM AFTER COULTER SPACINGS HAVE BEEN MARKED OUT.

| REF.# | QTY. | PART # | DESCRIPTION                     |
|-------|------|--------|---------------------------------|
| 1     | 1    | 400182 | GROUND DRIVE ARM ENGAGEMENT ARM |
| 2     | 1    | 101386 | 3/4-10 X 7 X 8-1/2"-U-BOLT      |
| 3     | 2    | 101224 | 3/4" LOCK WASHER                |
| 4     | 2    | 101215 | 3/4-10 HEX NUT                  |
| 5     | 1    | 400228 | 1 X 2 X 12" - PLASTIC BUMPER    |
| 6     | 2    | 101452 | 1/4-20 X 2"-CARRIAGE BOLT       |
| 7     | 2    | 101218 | 1/4" LOCK WASHER                |
| 8     | 2    | 101209 | 1/4-20 HEX NUT                  |

*HYDRAULIC PUMP AND MOUNT ATTACHMENT  
(HYDRAULIC PUMP MODELS ONLY)*



*1000 GALLON TANK MODEL*



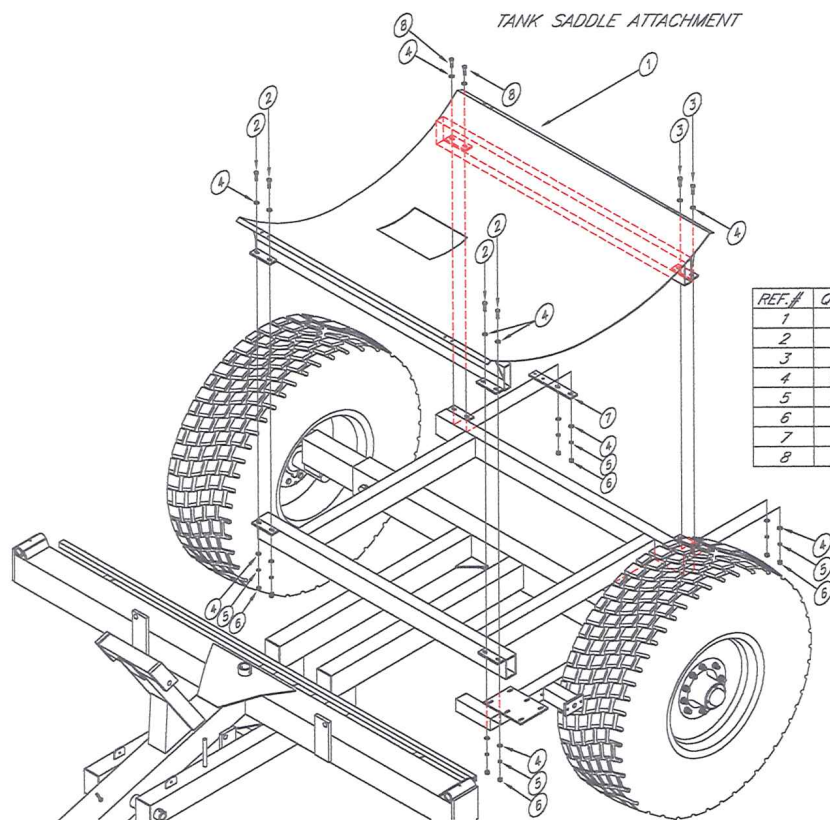
*750 GALLON TANK MODEL*

*HYDRAULIC PUMP AND MOUNT ATTACHMENT  
(HYDRAULIC PUMP MODELS ONLY)*

*NOTES:*

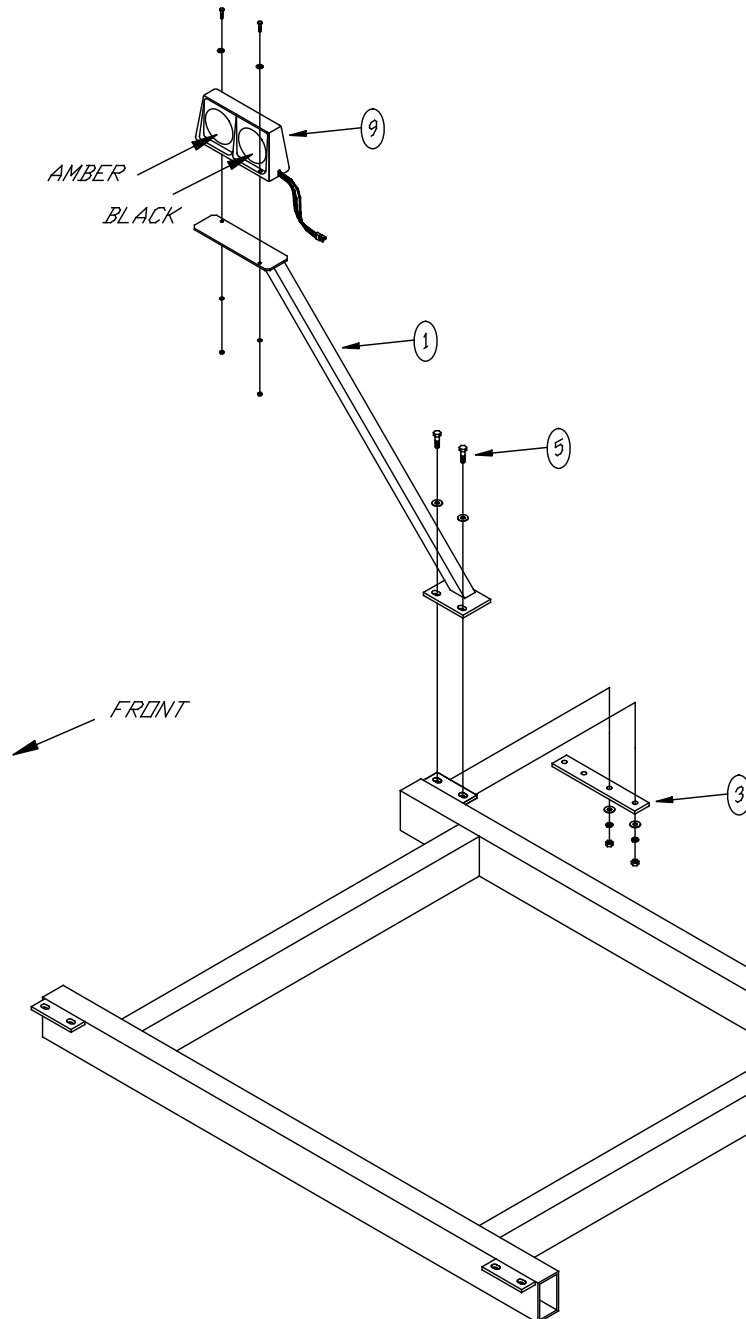
| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i> | <i>DESCRIPTION</i>                    |
|-------------|------------|--------------|---------------------------------------|
| 1           | 1          | 76801009     | 1000 GALLON TANK SADDLE               |
| 2           | 1          | 76801653     | CHASSIS (PARTIAL VIEW)                |
| 3           | 1          | 76750039     | HYDRAULIC PUMP                        |
| 4           | 1          | 762450006    | HYDRAULIC PUMP MOUNT                  |
| 5           | 2          | 76101127     | 3/8-16 X 2" HEX BOLT PLT. GR. 5       |
| 6           | 2          | 76101220     | 3/8" LOCK WASHER PLT.                 |
| 7           | 2          | 76101211     | 3/8" HEX NUT PLT.                     |
| 8           | 2          | 76101151     | 1/2"-13 X 3"-PLT-GR5                  |
| 9           | 4          | 76101231     | 1/2" FLAT WASHER PLT.                 |
| 10          | 2          | 76101222     | 1/2" LOCK WASHER PLT.                 |
| 11          | 2          | 76101213     | 1/2-16 HEX NUT PLT.                   |
| 12          | 1          | 76201057     | #8 MJIC X 1/2" MNPT STRAIGHT          |
| 13          | 1          | 76201059     | #8 MJIC X #8 FJIC SWIVEL 90           |
| 14          | 1          | 76201034     | #8 MJIC X 1/2" MNPT 90                |
| 15          | 2          | 762022802    | 1/2" X 186" X 1/2" MPT X #8 FJIC HOSE |

*SAME HARDWARE IS USED ON BOTH MODELS.*



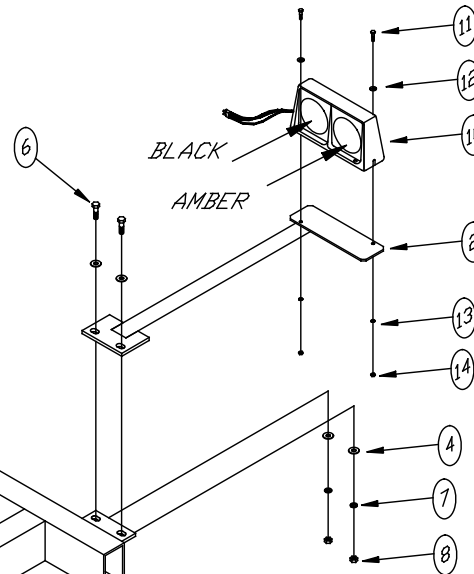
| REF. # | QTY. | PART # | DESCRIPTION                       |
|--------|------|--------|-----------------------------------|
| 1      | 1    | 801009 | 1000 GALLON TANK SADDLE           |
| 2      | 4    | 101149 | 1/2-13 X 2"-HEX BOLT-PLT.GR.5     |
| 3      | 2    | 101150 | 1/2-13 X 2-1/2"-HEX BOLT-PLT.GR.5 |
| 4      | 16   | 101231 | 1/2" FLAT WASHER - PLT.           |
| 5      | 8    | 101222 | 1/2" LOCK WASHER - PLT.           |
| 6      | 8    | 101213 | 1/2-13 HEX NUT - PLT.             |
| 7      | 1    | 400168 | 3/8 X 2 X 12" - O/FILL MOUNT TAB  |
| 8      | 2    | 101151 | 1/2-13 X 3"-HEX BOLT-PLT.GR.5     |

# LIGHT BRACKET ASSEMBLY

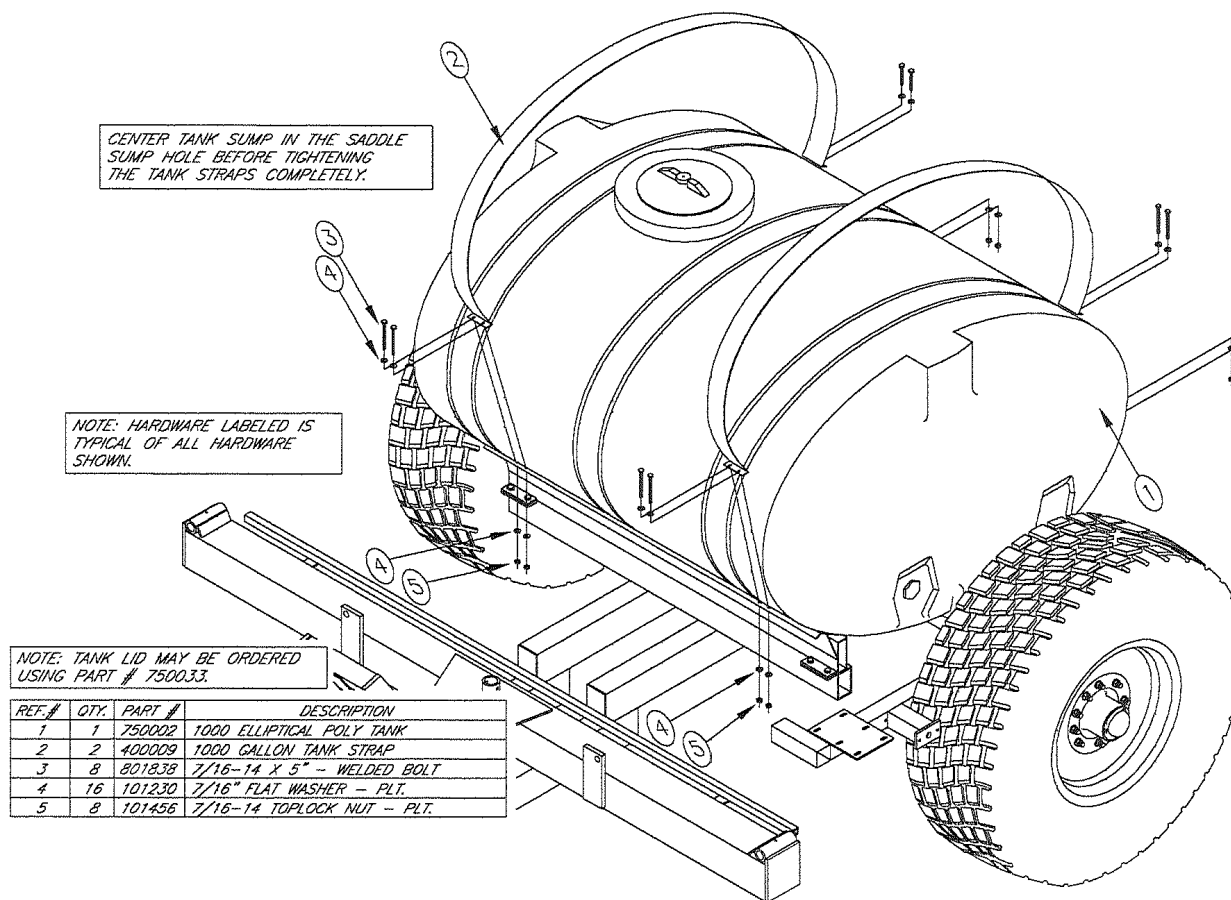


| ITEM | QTY | PART#  | DESCRIPTION                       |
|------|-----|--------|-----------------------------------|
| 1    | 1   | 801835 | LIGHT BRACKET WELDMENT - RIGHT    |
| 2    | 1   | 801836 | LIGHT BRACKET WELDMENT - LEFT     |
| 3    | 1   | 400168 | 3/8 X 2 X 12" MOUNTING TAB        |
| 4    | 8   | 101231 | 1/2" FLAT WASHER - PLT.           |
| 5    | 2   | 101150 | 1/2-13 X 2-1/2" - HEX BOLT - PLT. |
| 6    | 2   | 101149 | 1/2-13 X 2" - HEX BOLT - PLT.     |
| 7    | 4   | 101222 | 1/2" - LOCK WASHER - PLT.         |
| 8    | 4   | 101213 | 1/2-13 HEX NUT - PLT.             |
| 9    | 1   | 500015 | RIGHT HAND LIGHT UNIT             |
| 10   | 1   | 500016 | LEFT HAND LIGHT UNIT              |
| 11   | 4   | 101137 | 7/16-14 X 1-1/2" HEX BOLT         |
| 12   | 4   | 101230 | 7/16" FLAT WASHER                 |
| 13   | 4   | 101221 | 7/16" LOCK WASHER                 |
| 14   | 4   | 101212 | 7/16-14 HEX NUT                   |

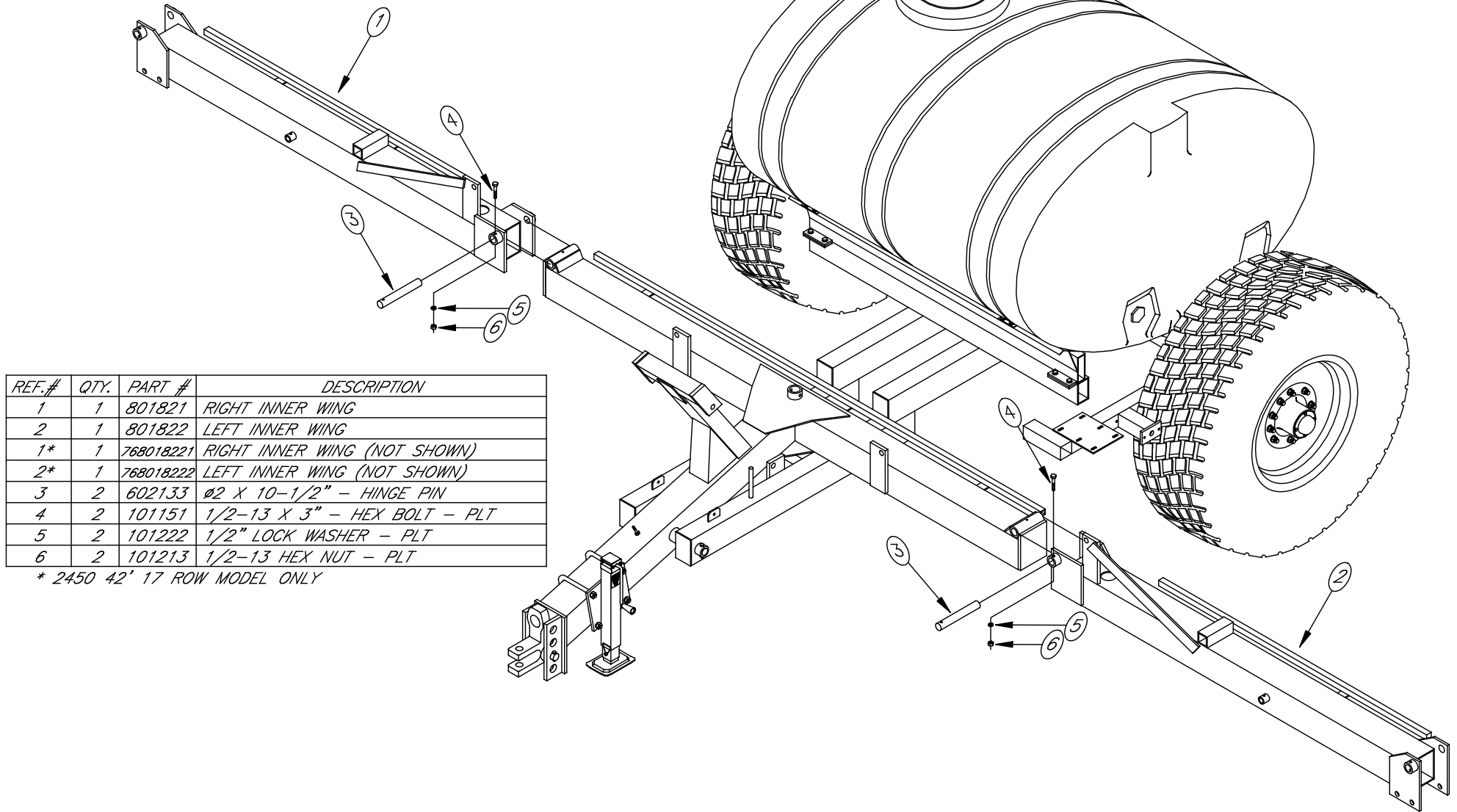
NOTE THAT ON LIQUID UNITS, TANK SADDLE HARDWARE IS USED TO ATTACH LIGHT MOUNTING BRACKETS.

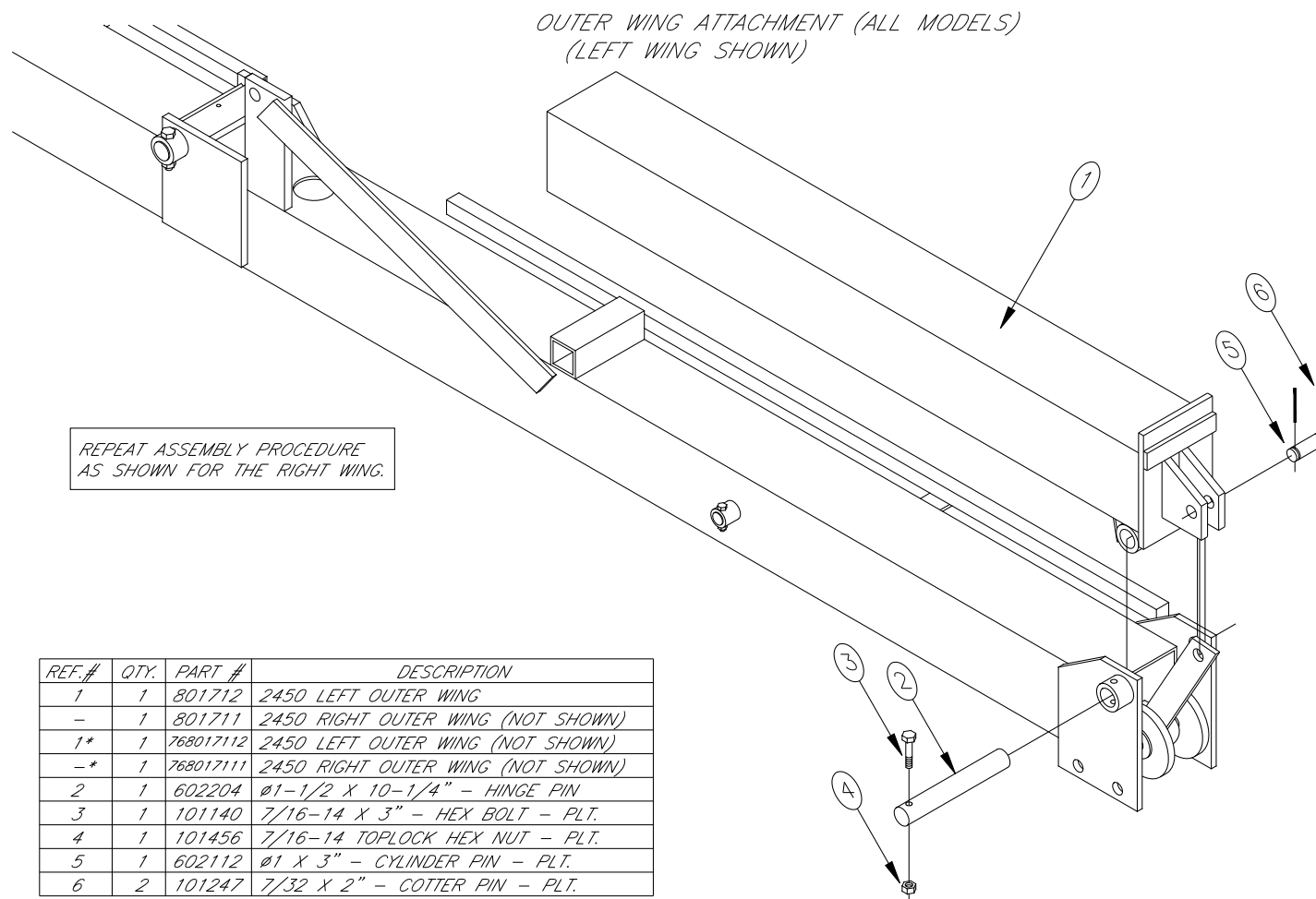


# ATTACHING THE 1000 GALLON TANK

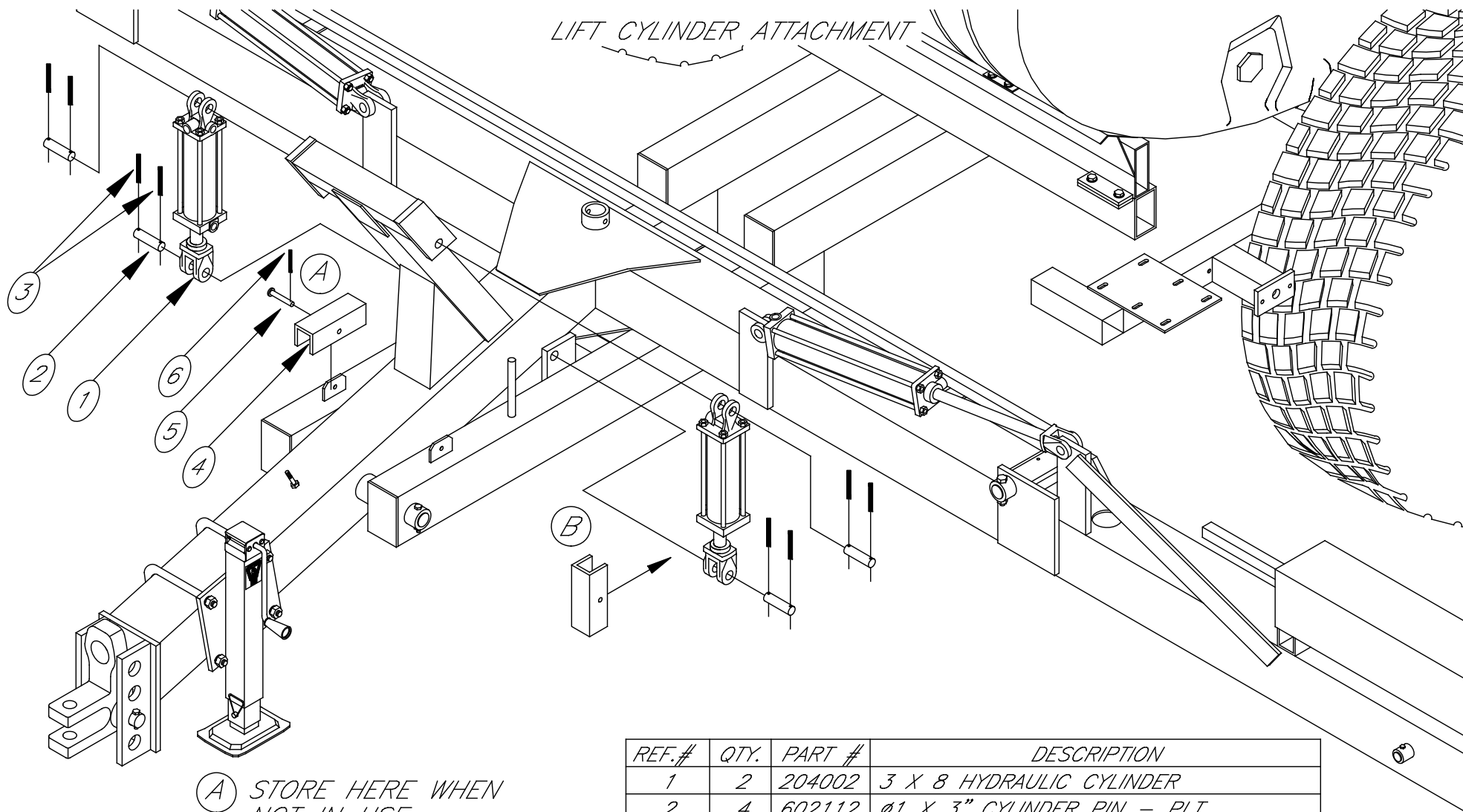


## ATTACHING THE INNER WINGS



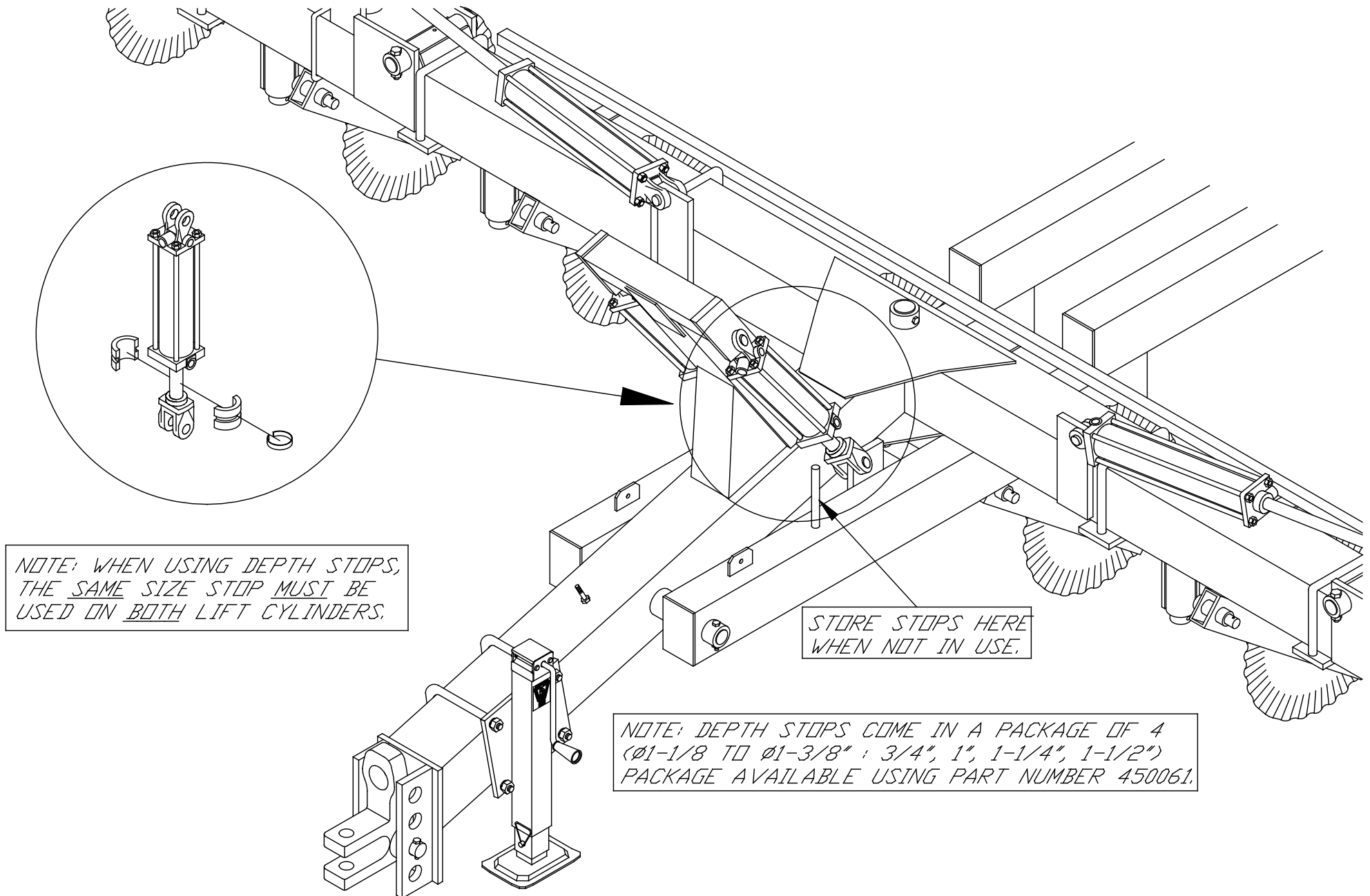


\* USED ON 2450 42' 17 ROW MODELS ONLY

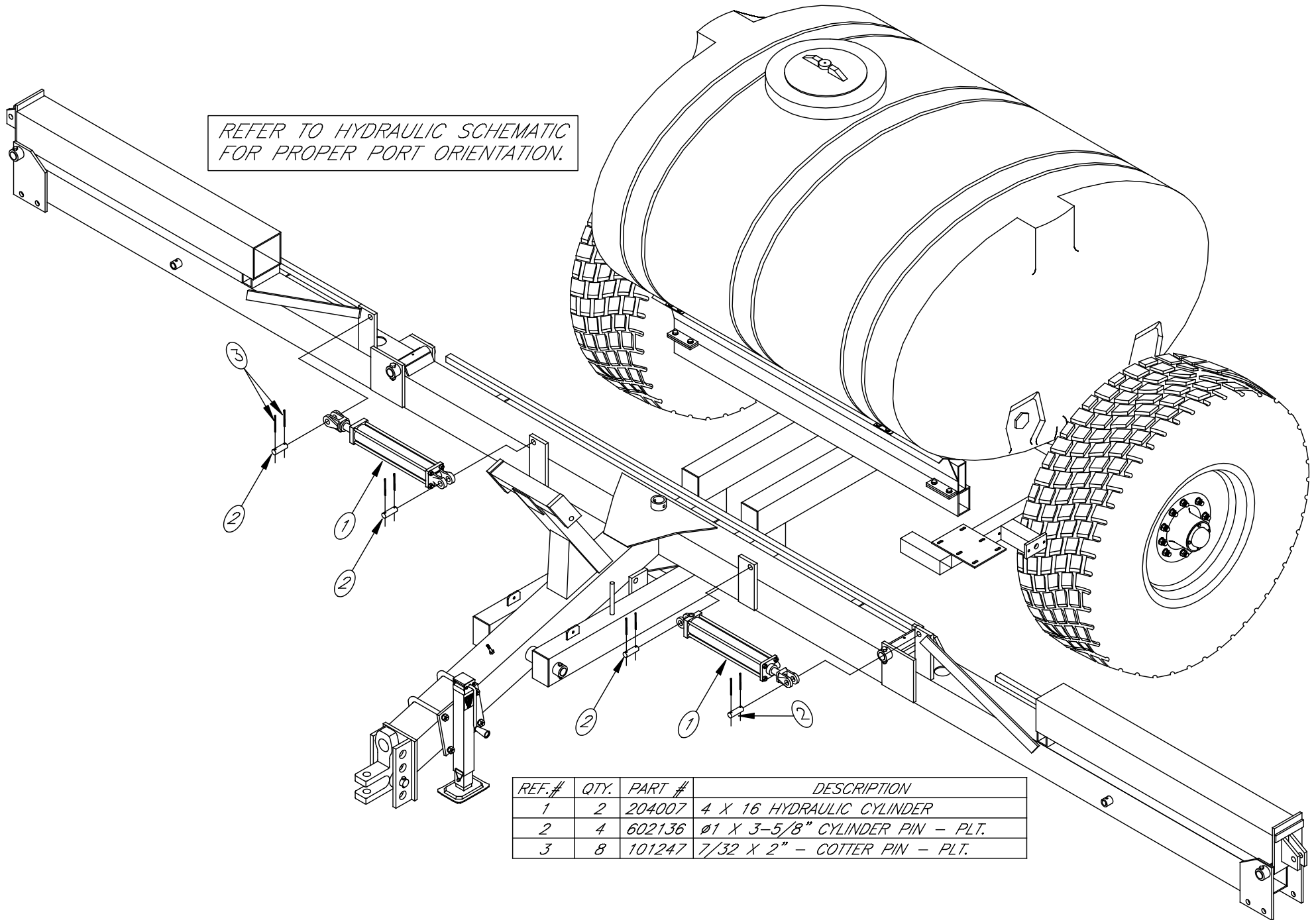


| REF.# | QTY. | PART # | DESCRIPTION                     |
|-------|------|--------|---------------------------------|
| 1     | 2    | 204002 | 3 X 8 HYDRAULIC CYLINDER        |
| 2     | 4    | 602112 | Ø1 X 3" CYLINDER PIN - PLT.     |
| 3     | 8    | 101247 | 7/32 X 2" - COTTER PIN - PLT.   |
| 4     | 2    | 400083 | 8" STROKE CYLINDER SAFETY LOCK  |
| 5     | 2    | 101257 | 3/8 X 3" - LATCH PIN - PLT.     |
| 6     | 2    | 101258 | 3/32 X 1-1/2" - HAIR PIN - PLT. |

## CYLINDER DEPTH STOP USE

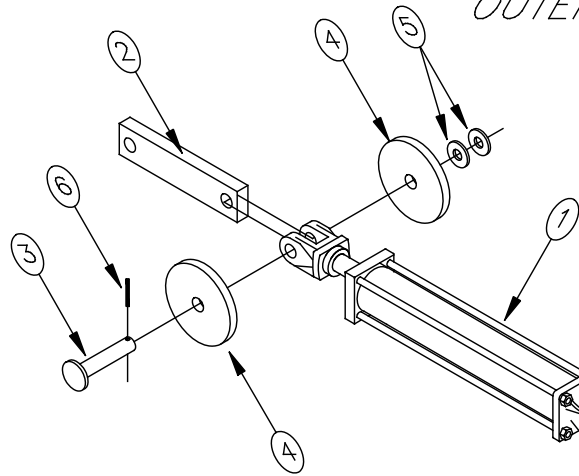


# INNER WING CYLINDER ATTACHMENT



| REF.# | QTY. | PART # | DESCRIPTION                     |
|-------|------|--------|---------------------------------|
| 1     | 2    | 204007 | 4 X 16 HYDRAULIC CYLINDER       |
| 2     | 4    | 602136 | Ø1 X 3-5/8" CYLINDER PIN - PLT. |
| 3     | 8    | 101247 | 7/32 X 2" - COTTER PIN - PLT.   |

## OUTER WING FOLD CYLINDER ATTACHMENT



ASSEMBLE DRAG LINK ASSEMBLY  
BEFORE INSTALLING CYLINDER.

OUTER WING REMOVED FOR  
SAKE OF CLARITY.

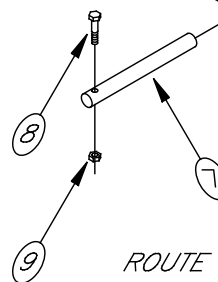
| REF.# | QTY. | PART # | DESCRIPTION                     |
|-------|------|--------|---------------------------------|
| 1     | 1    | 204005 | 3 X 16 HYDRAULIC CYLINDER       |
| 2     | 1    | 400050 | 1 X 2-1/2 X 11" - DRAG LINK     |
| 3     | 1    | 602193 | Ø1 X 5" - WELDED CYLINDER PIN   |
| 4     | 2    | 400204 | 5/8 X Ø6" - ROLLER              |
| 5     | 2    | 101235 | 1" FLAT WASHER - PLT.           |
| 6     | 1    | 101246 | 3/16 X 1-1/2" - COTTER PIN-PLT. |
| 7     | 1    | 602166 | 1 X 10" - STRESSPROOF PIN       |
| 8     | 1    | 101127 | 3/8-16 X 2" - HEX BOLT - PLT.   |
| 9     | 1    | 101238 | 3/8-16 - SELF-LOCK NUT GR. C    |

REPEAT ASSEMBLY PROCEDURE  
AS SHOWN FOR THE LEFT WING.

BE CERTAIN TO PLUMB CYLINDER BEFORE INSTALLATION  
ROUTING HOSES THROUGH ACCESS HOLE IN WING.  
ROUTE HYDRAULIC HOSES THROUGH DRY FERTILIZER HOSE  
TO PREVENT CHAFFING ON WING TUBE ACCESS HOLE.

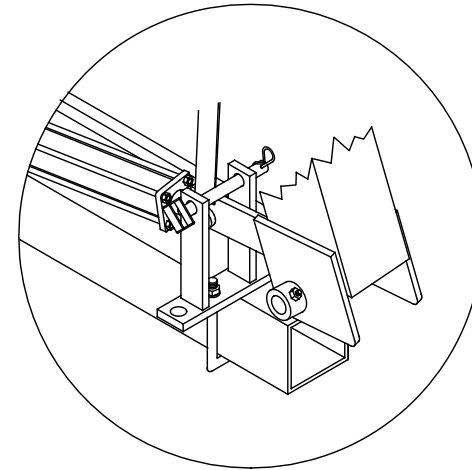
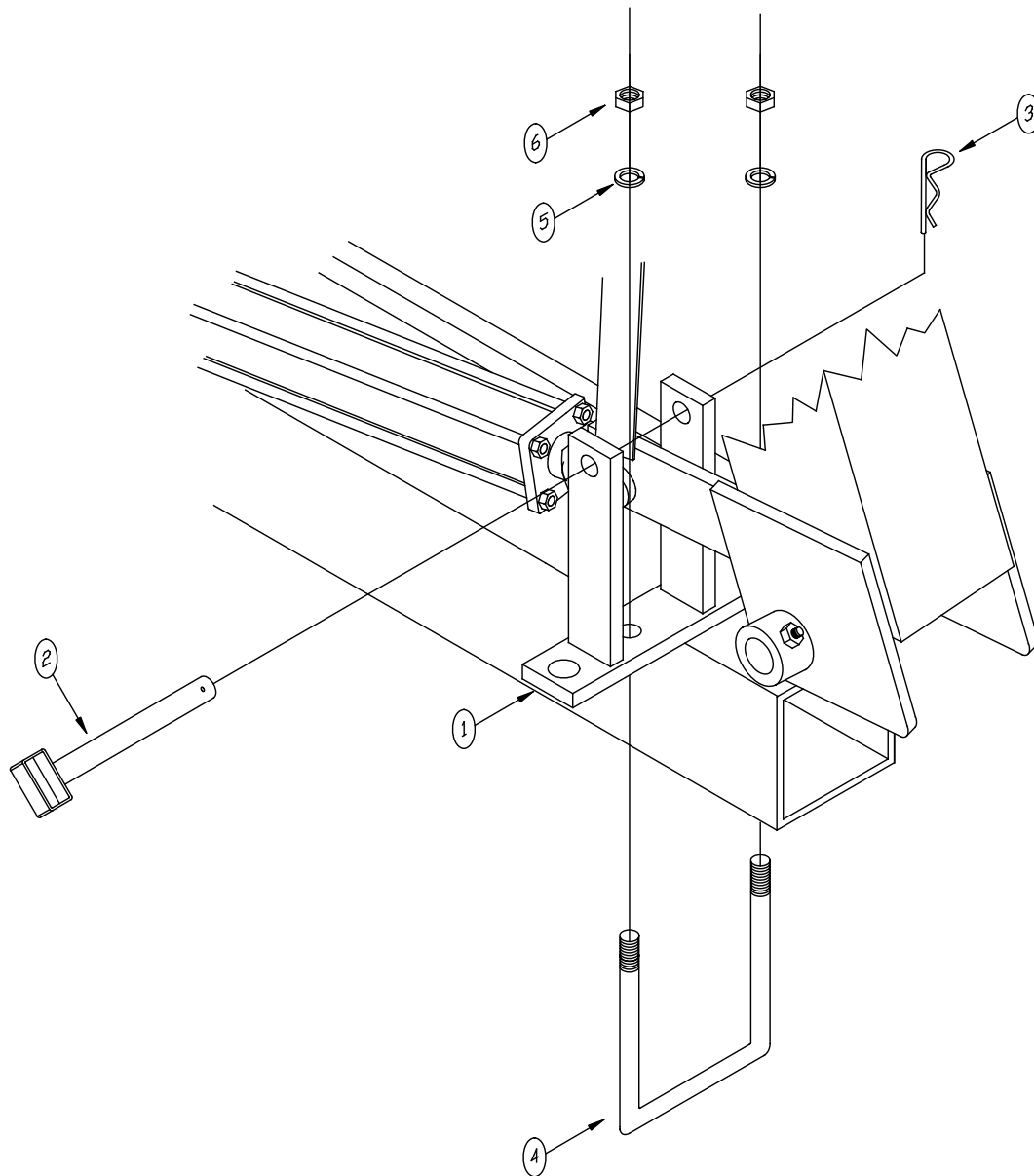
\* DRY FERTILIZER HOSE IS SOLD BY THE FOOT, PART # 202170

REFER TO HYDRAULIC SCHEMATIC  
FOR PROPER CYLINDER PLUMBING.

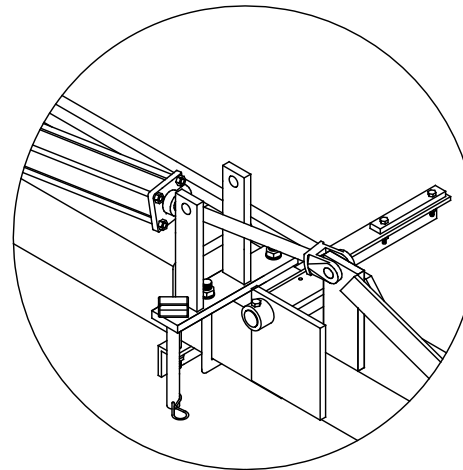


ROUTE HYDRAULIC HOSES UNDER THE  
CYLINDER PIN BUSHING INSIDE THE WING.

# LOCKING PIN ASSEMBLY



DETAIL B:  
FOLDED VIEW



DETAIL A:  
UNFOLDED VIEW

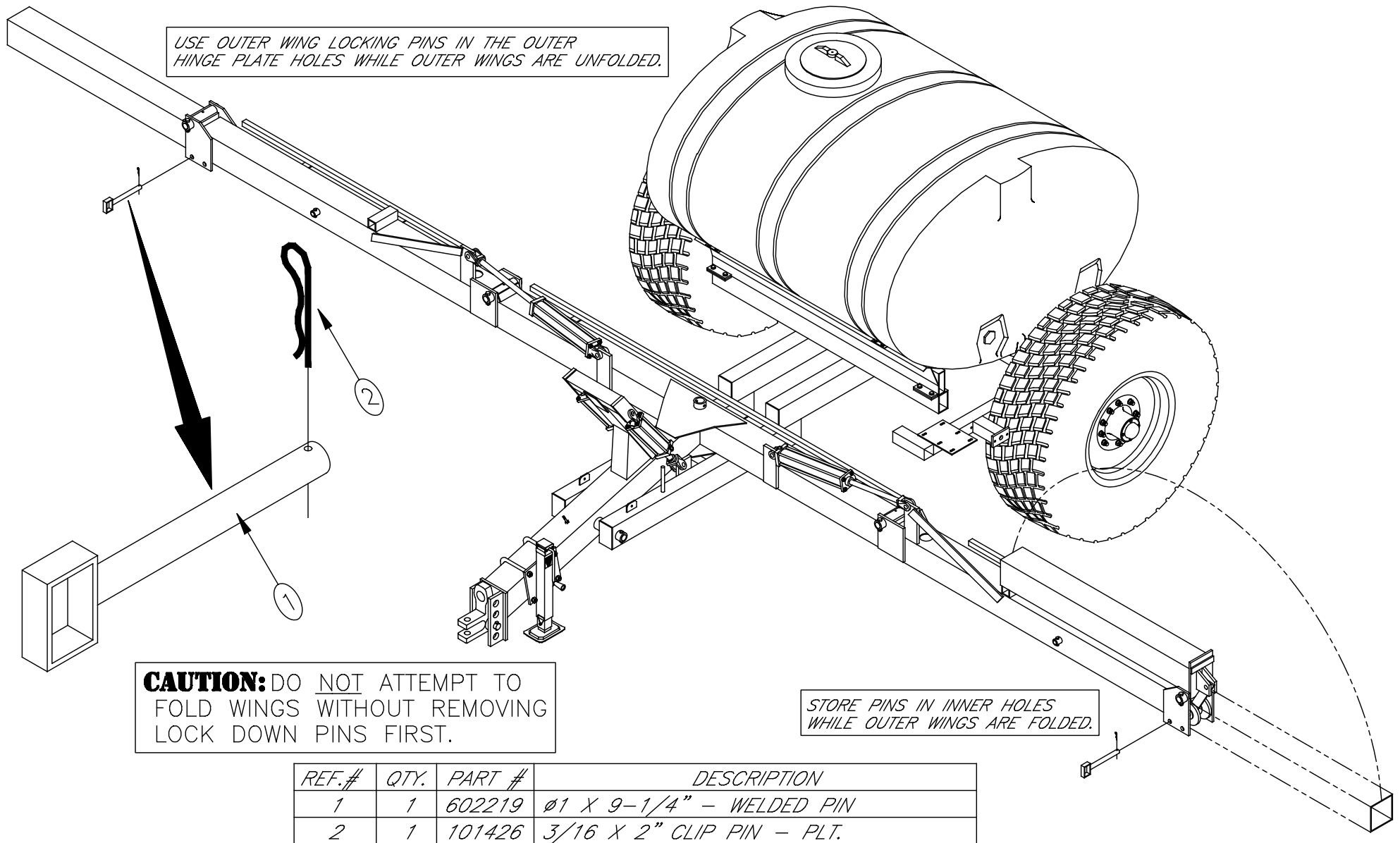
# LOCKING PIN ASSEMBLY

## NOTES:

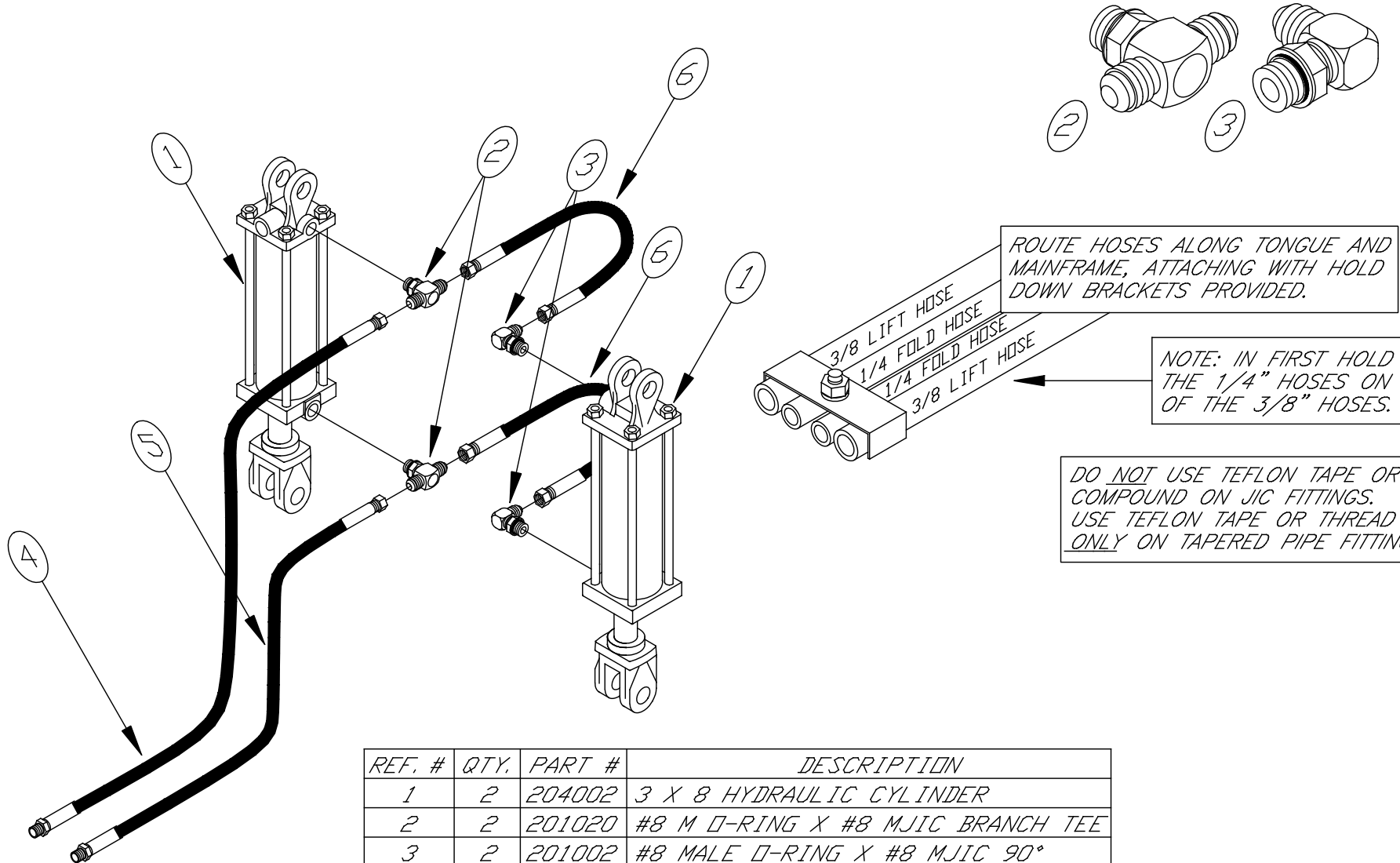
| ITEM | QTY | PART#  | DESCRIPTION                    |
|------|-----|--------|--------------------------------|
| 1    | 1   | 801828 | 2400/2450 SAFETY WING WELDMENT |
| 2    | 1   | 602219 | Ø1 X 9-1/4", WELDED PIN        |
| 3    | 1   | 101426 | 3/16 X 2" CLIP PIN, PLT        |
| 4    | 1   | 101316 | 3/4-10 X 7 X 9" U-BOLT         |
| 5    | 2   | 101224 | 3/4" LOCK WASHER               |
| 6    | 2   | 101215 | 3/4"-10 HEX NUT                |

DETAIL A: SAFETY WING WELDMENT  
SHOULD BE 4" OFF INNER EDGE OF  
HINGE PLATE.

## OUTER WING LOCK DOWNS

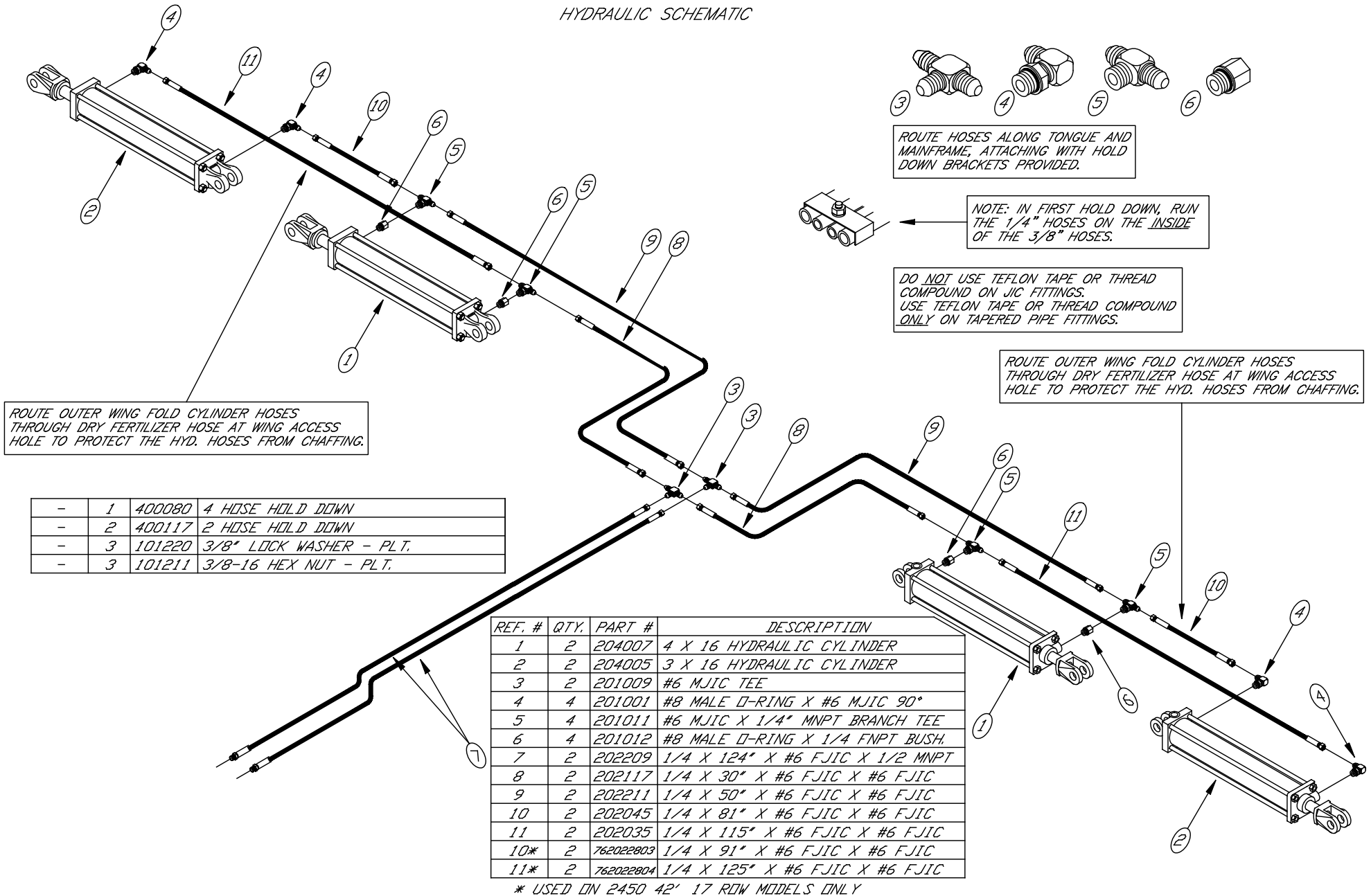


# LIFT TOWER HYDRAULIC SCHEMATIC

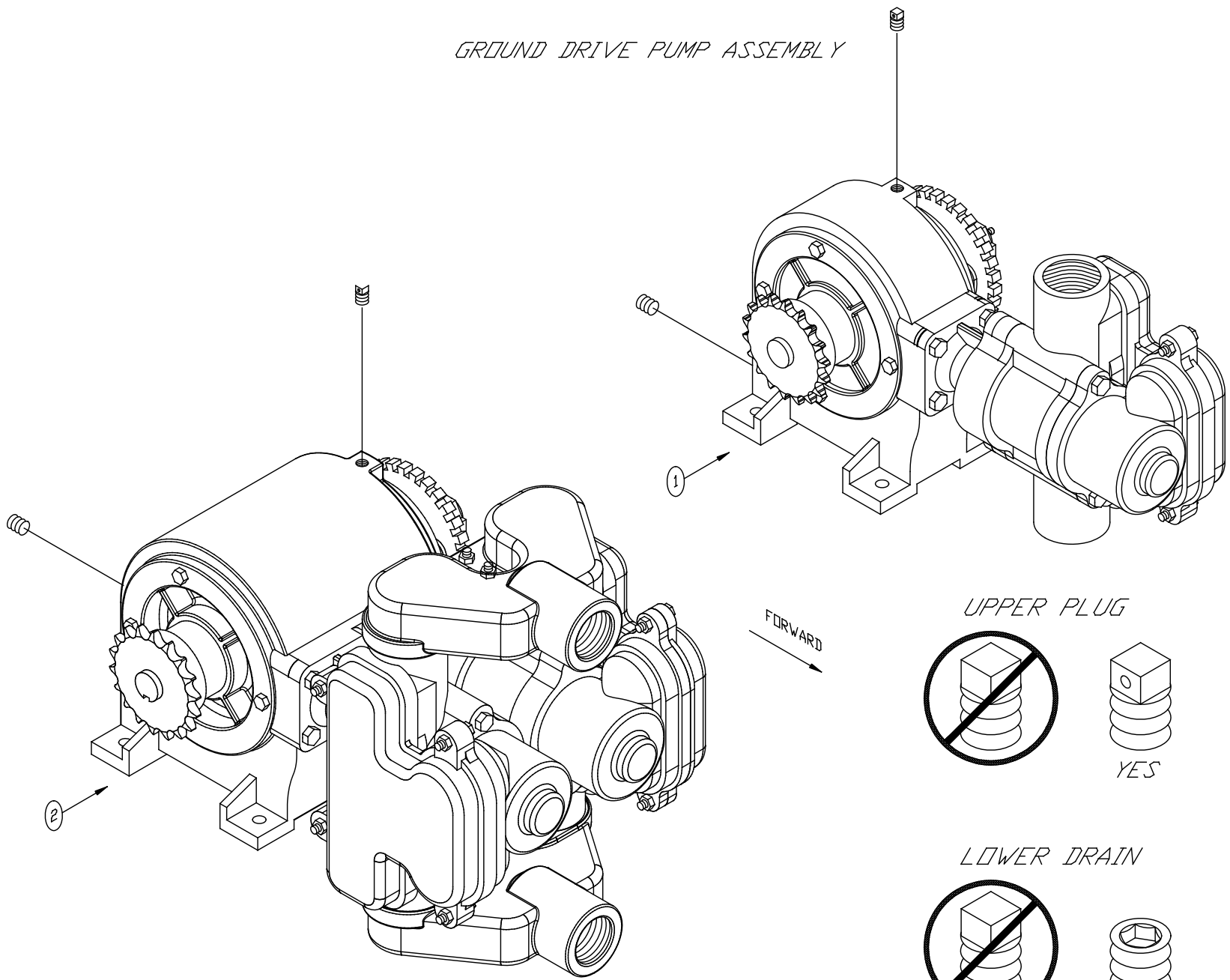


| REF. # | QTY. | PART # | DESCRIPTION                      |
|--------|------|--------|----------------------------------|
| 1      | 2    | 204002 | 3 X 8 HYDRAULIC CYLINDER         |
| 2      | 2    | 201020 | #8 M O-RING X #8 MJIC BRANCH TEE |
| 3      | 2    | 201002 | #8 MALE O-RING X #8 MJIC 90°     |
| 4      | 1    | 202200 | 3/8 X 120" X #8FJIC X 1/2 MNPT   |
| 5      | 1    | 202199 | 3/8 X 108" X #8FJIC X 1/2 MNPT   |
| 6      | 2    | 202028 | 3/8 X 20" X #8 FJIC X #8 FJIC    |

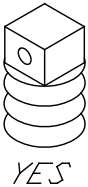
# HYDRAULIC SCHEMATIC



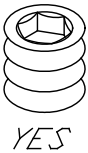
*GROUND DRIVE PUMP ASSEMBLY*



*UPPER PLUG*



*LOWER DRAIN*



*GROUND DRIVE PUMP ASSEMBLY*

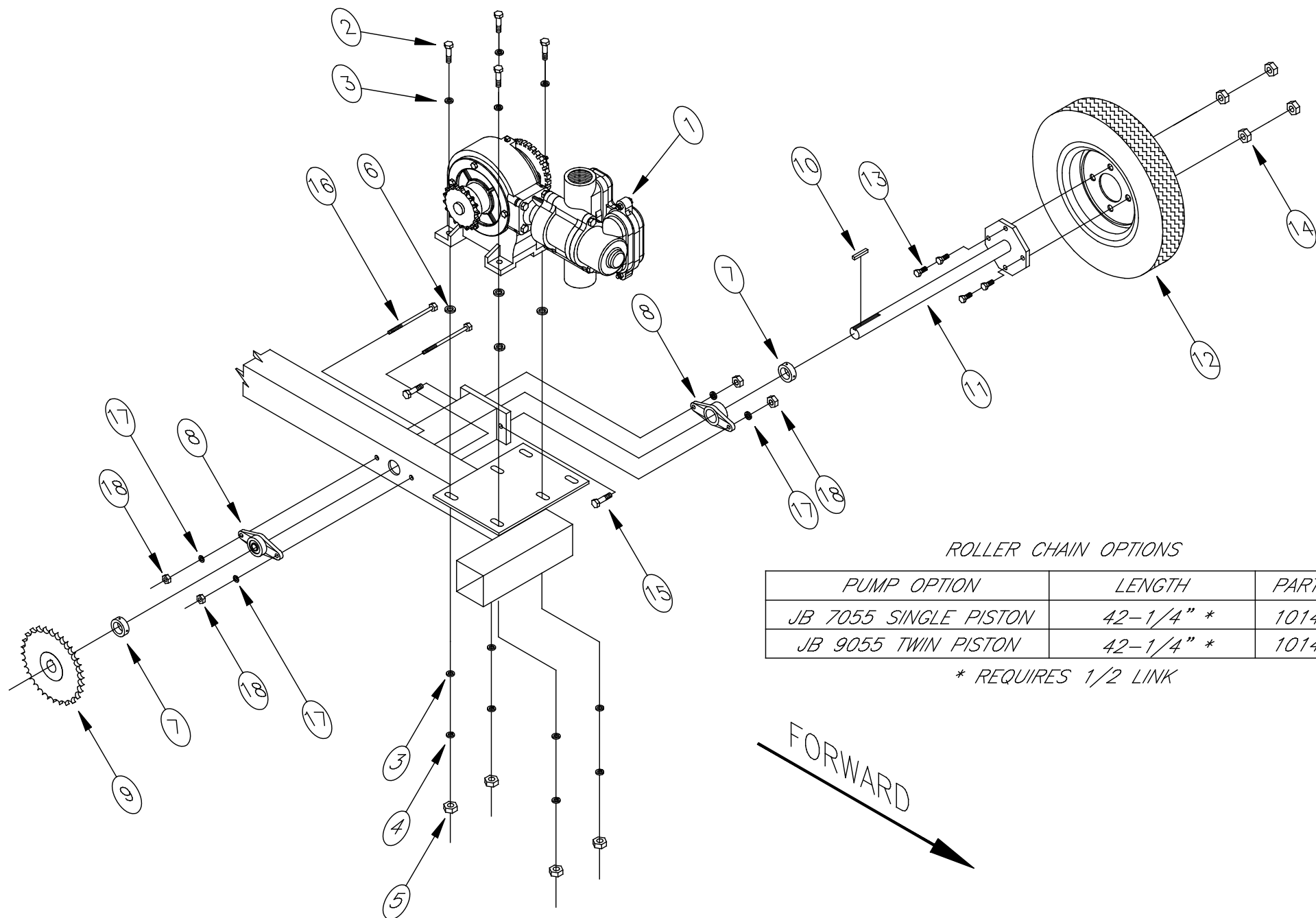
| REFERENCE# | DATE     | REV |
|------------|----------|-----|
| GNDRVPLG   | 01/08/07 |     |

*NOTES:*

| ITEM | QTY | PART#  | DESCRIPTION                  |
|------|-----|--------|------------------------------|
| 1    | 1   | 750040 | SINGLE PISTON JOHN BLUE PUMP |
| 2    | 1   | 750041 | DOUBLE PISTON JOHN BLUE PUMP |

REPLACE THE UPPER MOST PLUG  
WITH THE VENTED PLUG PROVIDED, ALSO,  
REPLACE THE SQUARE HEAD DRAIN PLUG  
WITH THE ALLEN HEAD DRAIN PLUG.

# 18.4 X 26 TIRE GROUND DRIVE PUMP ASSEMBLY



## ROLLER CHAIN OPTIONS

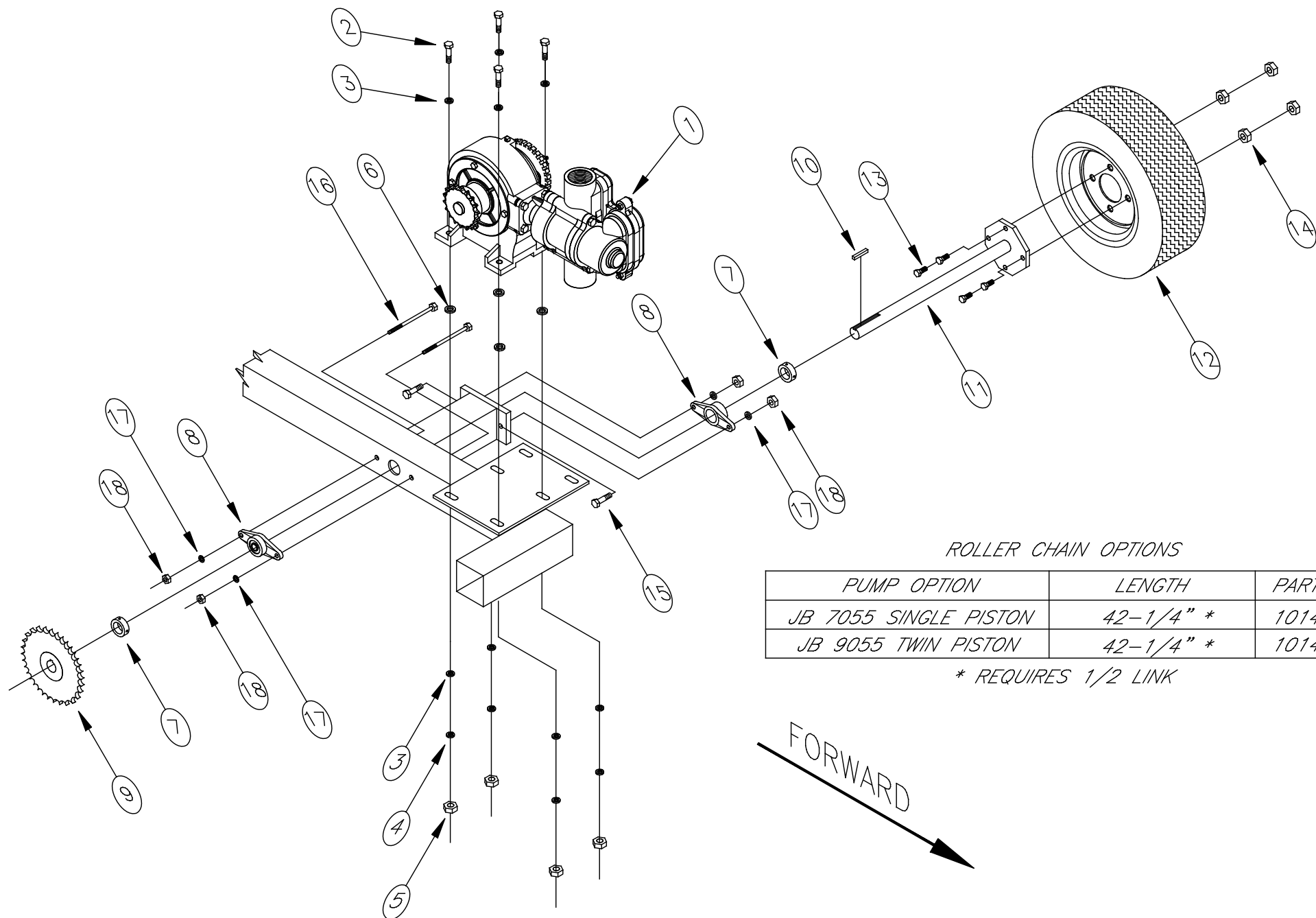
| PUMP OPTION           | LENGTH    | PART # |
|-----------------------|-----------|--------|
| JB 7055 SINGLE PISTON | 42-1/4" * | 101432 |
| JB 9055 TWIN PISTON   | 42-1/4" * | 101432 |

\* REQUIRES 1/2 LINK

# GROUND DRIVE PUMP ASSEMBLY FOR 18.4 X 26 TIRE CONFIGURATION

| REF # | QTY | PART # | DESCRIPTION                                     |
|-------|-----|--------|-------------------------------------------------|
| 1     | 1   | 750040 | JOHN BLUE PUMP – MODEL NGP – 7055               |
| –     | –   | 750041 | JOHN BLUE PUMP – MODEL NGP – 9055               |
| 2     | 4   | 101126 | 3/8–16 X 1–1/2" – HEX BOLT PLT.                 |
| 3     | 8   | 101229 | 3/8" – FLAT WASHER PLT.                         |
| 4     | 4   | 101220 | 3/8" – LOCK WASHER PLT.                         |
| 5     | 4   | 101211 | 3/8–16 – HEX NUT PLT.                           |
| 6     | 4   | –      | RUBBER MOUNTING WASHER (INCLUDED WITH PUMP)     |
| 7     | 2   | 450066 | 1–1/4" BORE LOCK COLLAR                         |
| 8     | 2   | 450067 | CAST 2 BOLT BEARING HOLDER FOR 1–1/4" BEARING   |
| 9     | 1   | 450065 | 36 X 50 X 1–1/4" BORE SPROCKET                  |
| 10    | 1   | 450010 | 1/4 X 1/4 X 1–1/2" – SQUARE KEY                 |
| 11    | 1   | 801779 | Ø1–1/4 X 18" DRIVE SHAFT                        |
| 12    | 1   | 301197 | 4.8 X 8 4-PLY TIRE AND WHL. ASSEMBLY            |
| 13    | 4   | 301193 | 1/2–20 X 1–1/4" – WHIZ BOLT                     |
| 14    | 4   | 301243 | 1/2–20 LUG NUT                                  |
| 15    | 2   | 101138 | 7/16–14 X 2" – HEX BOLT PLT.                    |
| 16    | 2   | 101143 | 7/16–14 X 4–1/2" – HEX BOLT PLT.                |
| 17    | 4   | 101221 | 7/16–14 – LOCK WASHER PLT.                      |
| 18    | 4   | 101212 | 7/16–14 – HEX NUT PLT.                          |
| –     | –   | 101432 | NO. 50 – STAINLESS ROLLER CHAIN (42–1/4 INCHES) |
| –     | 1   | 101430 | NO. 50 – STAINLESS ROLLER CHAIN 1/2 LINK        |
| –     | 1   | 101429 | NO. 50 – STAINLESS ROLLER CHAIN MASTER LINK     |

# 13.6 X 38 TIRE GROUND DRIVE PUMP ASSEMBLY



## ROLLER CHAIN OPTIONS

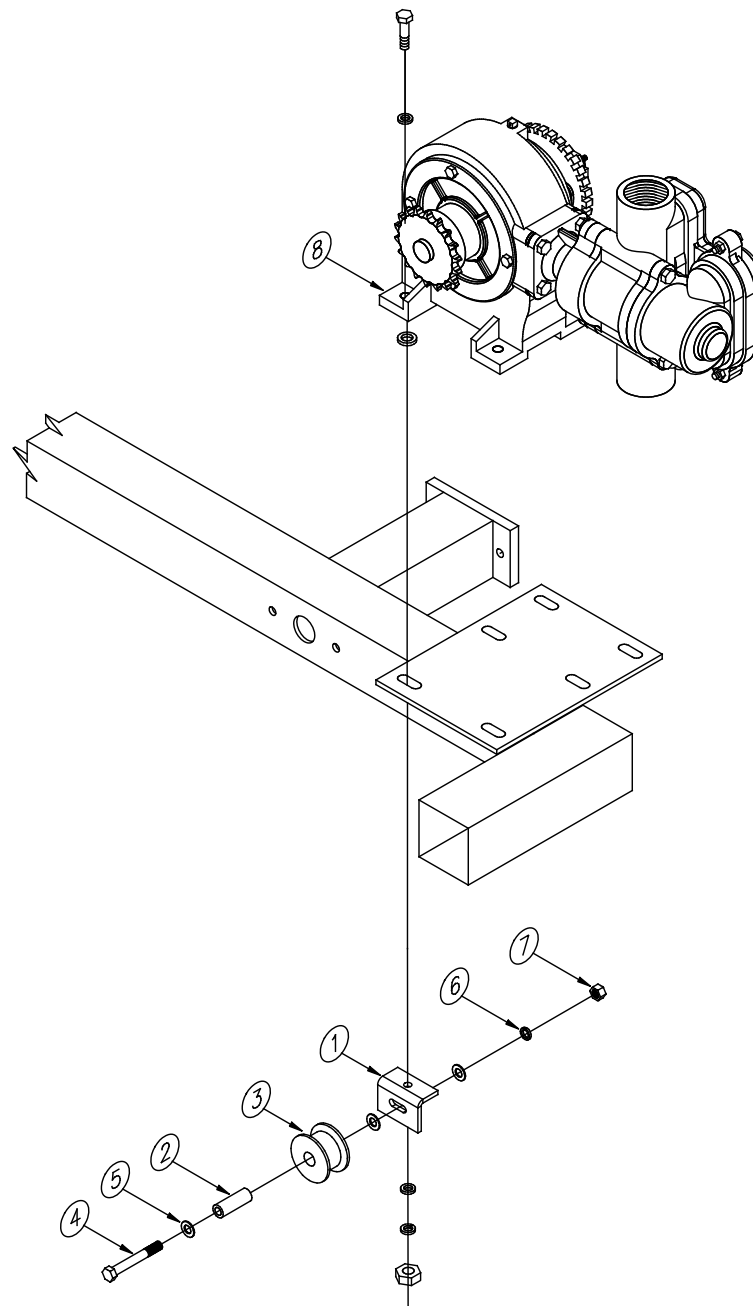
| PUMP OPTION           | LENGTH    | PART # |
|-----------------------|-----------|--------|
| JB 7055 SINGLE PISTON | 42-1/4" * | 101432 |
| JB 9055 TWIN PISTON   | 42-1/4" * | 101432 |

\* REQUIRES 1/2 LINK

*GROUND DRIVE PUMP ASSEMBLY FOR 13.6 X 38 TIRE CONFIGURATION*

| <i>REF #</i> | <i>QTY</i> | <i>PART #</i>   | <i>DESCRIPTION</i>                                     |
|--------------|------------|-----------------|--------------------------------------------------------|
| <i>1</i>     | <i>1</i>   | <i>750040</i>   | <i>JOHN BLUE PUMP – MODEL NGP – 7055</i>               |
| <i>–</i>     | <i>–</i>   | <i>750041</i>   | <i>JOHN BLUE PUMP – MODEL NGP – 9055</i>               |
| <i>2</i>     | <i>4</i>   | <i>101126</i>   | <i>3/8–16 X 1–1/2” – HEX BOLT PLT.</i>                 |
| <i>3</i>     | <i>8</i>   | <i>101229</i>   | <i>3/8” – FLAT WASHER PLT.</i>                         |
| <i>4</i>     | <i>4</i>   | <i>101220</i>   | <i>3/8” – LOCK WASHER PLT.</i>                         |
| <i>5</i>     | <i>4</i>   | <i>101211</i>   | <i>3/8–16 – HEX NUT PLT.</i>                           |
| <i>6</i>     | <i>4</i>   | <i>–</i>        | <i>RUBBER MOUNTING WASHER (INCLUDED WITH PUMP)</i>     |
| <i>7</i>     | <i>2</i>   | <i>450066</i>   | <i>1–1/4” BORE LOCK COLLAR</i>                         |
| <i>8</i>     | <i>2</i>   | <i>450067</i>   | <i>CAST 2 BOLT BEARING HOLDER FOR 1–1/4” BEARING</i>   |
| <i>9</i>     | <i>1</i>   | <i>450065</i>   | <i>36 X 50 X 1–1/4” BORE SPROCKET</i>                  |
| <i>10</i>    | <i>1</i>   | <i>450010</i>   | <i>1/4 X 1/4 X 1–1/2” – SQUARE KEY</i>                 |
| <i>11</i>    | <i>1</i>   | <i>801779</i>   | <i>Ø1–1/4 X 18” DRIVE SHAFT</i>                        |
| <i>12</i>    | <i>1</i>   | <i>76301248</i> | <i>16.5 X 6.5 X 8 TIRE/WHEEL ASSEMBLY</i>              |
| <i>13</i>    | <i>4</i>   | <i>301193</i>   | <i>1/2–20 X 1–1/4” – WHIZ BOLT</i>                     |
| <i>14</i>    | <i>4</i>   | <i>301243</i>   | <i>1/2–20 LUG NUT</i>                                  |
| <i>15</i>    | <i>2</i>   | <i>101138</i>   | <i>7/16–14 X 2” – HEX BOLT PLT.</i>                    |
| <i>16</i>    | <i>2</i>   | <i>101143</i>   | <i>7/16–14 X 4–1/2” – HEX BOLT PLT.</i>                |
| <i>17</i>    | <i>4</i>   | <i>101221</i>   | <i>7/16–14 – LOCK WASHER PLT.</i>                      |
| <i>18</i>    | <i>4</i>   | <i>101212</i>   | <i>7/16–14 – HEX NUT PLT.</i>                          |
| <i>–</i>     | <i>–</i>   | <i>101432</i>   | <i>NO. 50 – STAINLESS ROLLER CHAIN (42–1/4 INCHES)</i> |
| <i>–</i>     | <i>1</i>   | <i>101430</i>   | <i>NO. 50 – STAINLESS ROLLER CHAIN 1/2 LINK</i>        |
| <i>–</i>     | <i>1</i>   | <i>101429</i>   | <i>NO. 50 – STAINLESS ROLLER CHAIN MASTER LINK</i>     |

*CHAIN IDLER ARM ATTACHMENT*



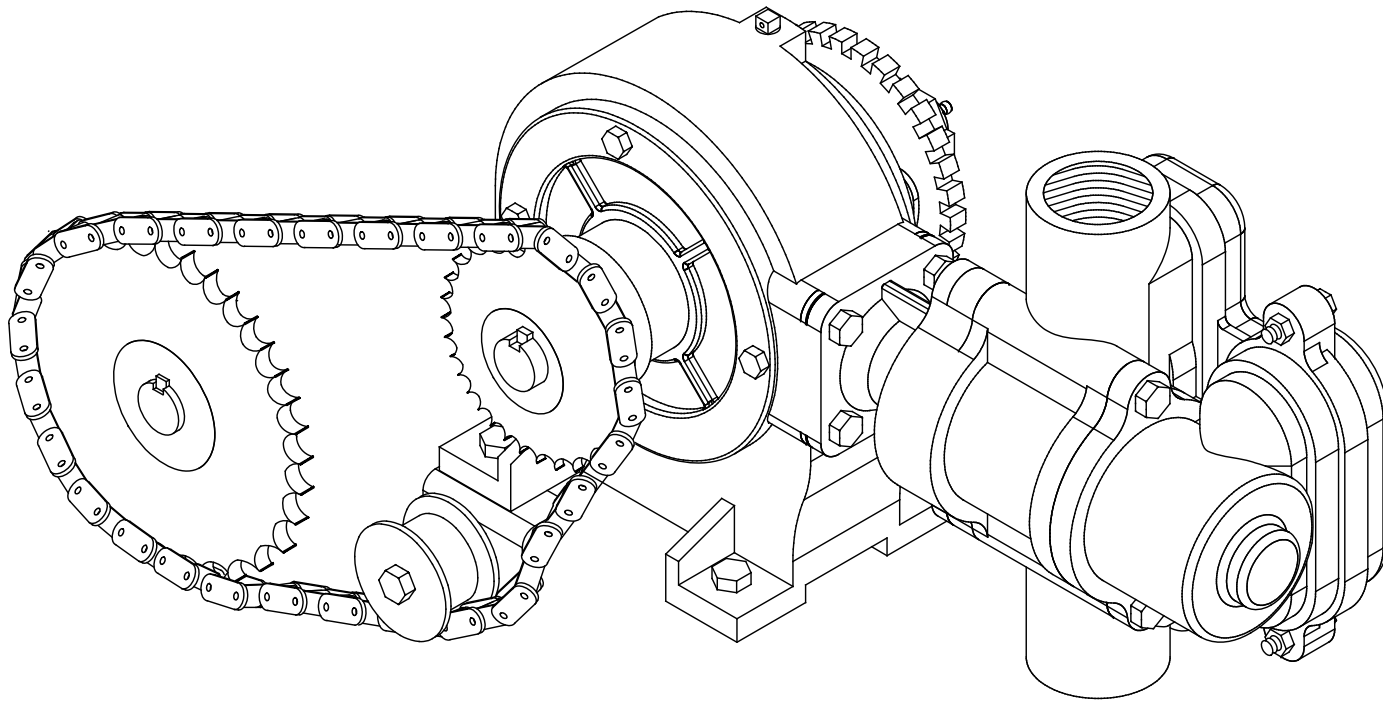
# *CHAIN IDLER ARM ATTACHMENT*

## *NOTES:*

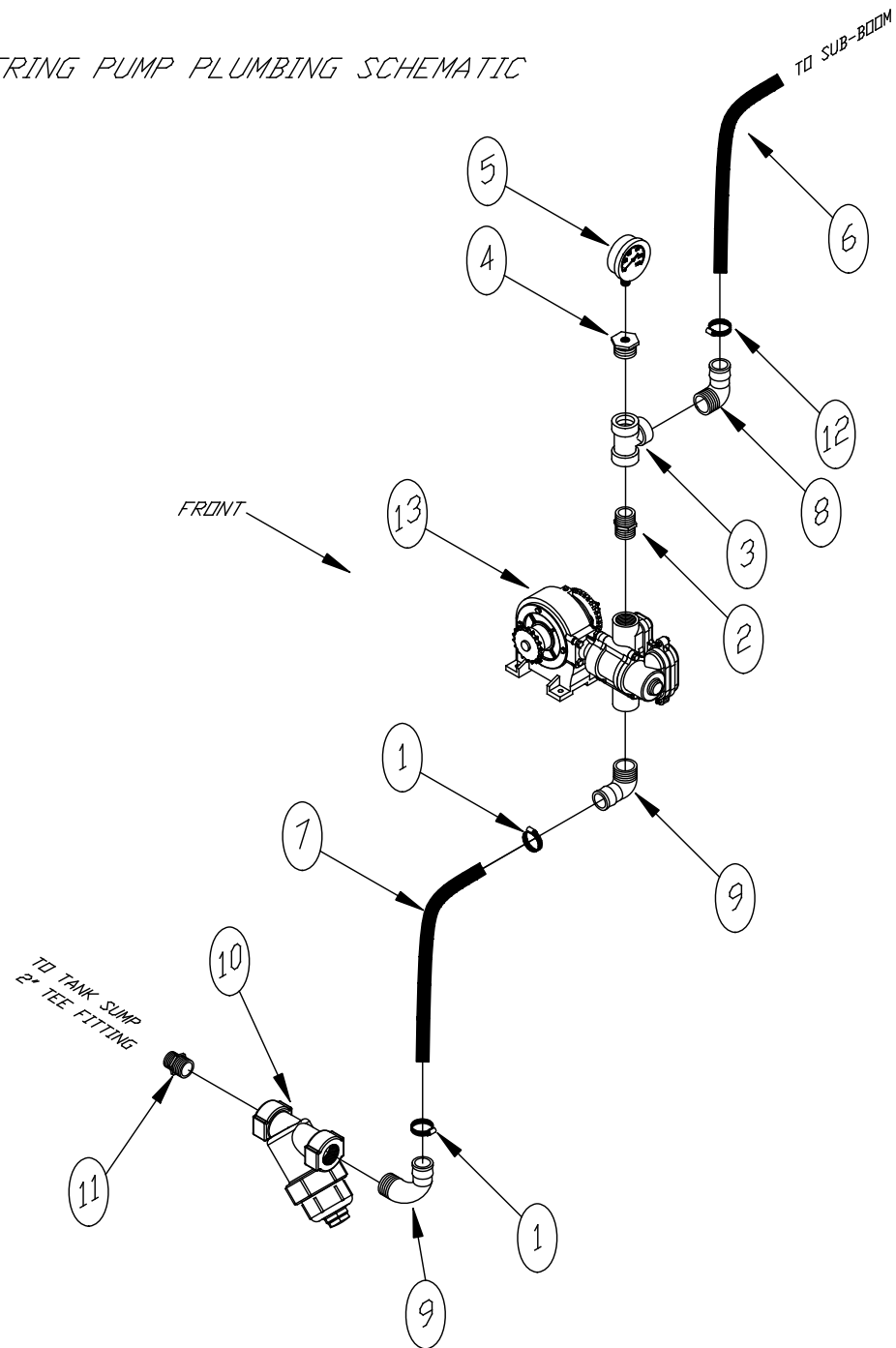
| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i>     | <i>DESCRIPTION</i>                             |
|-------------|------------|------------------|------------------------------------------------|
| <i>1</i>    | <i>1</i>   | <i>760000121</i> | <i>CHAIN IDLER ARM</i>                         |
| <i>2</i>    | <i>1</i>   | <i>76400053</i>  | <i>ROLLER BUSHING</i>                          |
| <i>3</i>    | <i>1</i>   | <i>76400054</i>  | <i>CHAIN ROLLER</i>                            |
| <i>4</i>    | <i>1</i>   | <i>76101129</i>  | <i>3/8-16 X 3" HEX BOLT - PLATED</i>           |
| <i>5</i>    | <i>3</i>   | <i>76101229</i>  | <i>3/8" FLAT WASHER - PLATED</i>               |
| <i>6</i>    | <i>1</i>   | <i>76101220</i>  | <i>3/8" LOCK WASHER - PLATED</i>               |
| <i>7</i>    | <i>1</i>   | <i>76101211</i>  | <i>3/8-16 HEX NUT - PLATED</i>                 |
| <i>8</i>    | <i>1</i>   | <i>76750040</i>  | <i>NGP-7055 SINGLE PISTON PUMP</i>             |
| <i>8</i>    | <i>-</i>   | <i>76750041</i>  | <i>NGP-9055 DOUBLE PISTON PUMP (NOT SHOWN)</i> |

*USE PUMP HARDWARE TO MOUNT CHAIN IDLER ARM.*

## *METERING PUMP CHAIN ROUTING*



# *SINGLE METERING PUMP PLUMBING SCHEMATIC*



*SINGLE METERING PUMP PLUMBING SCHEMATIC*

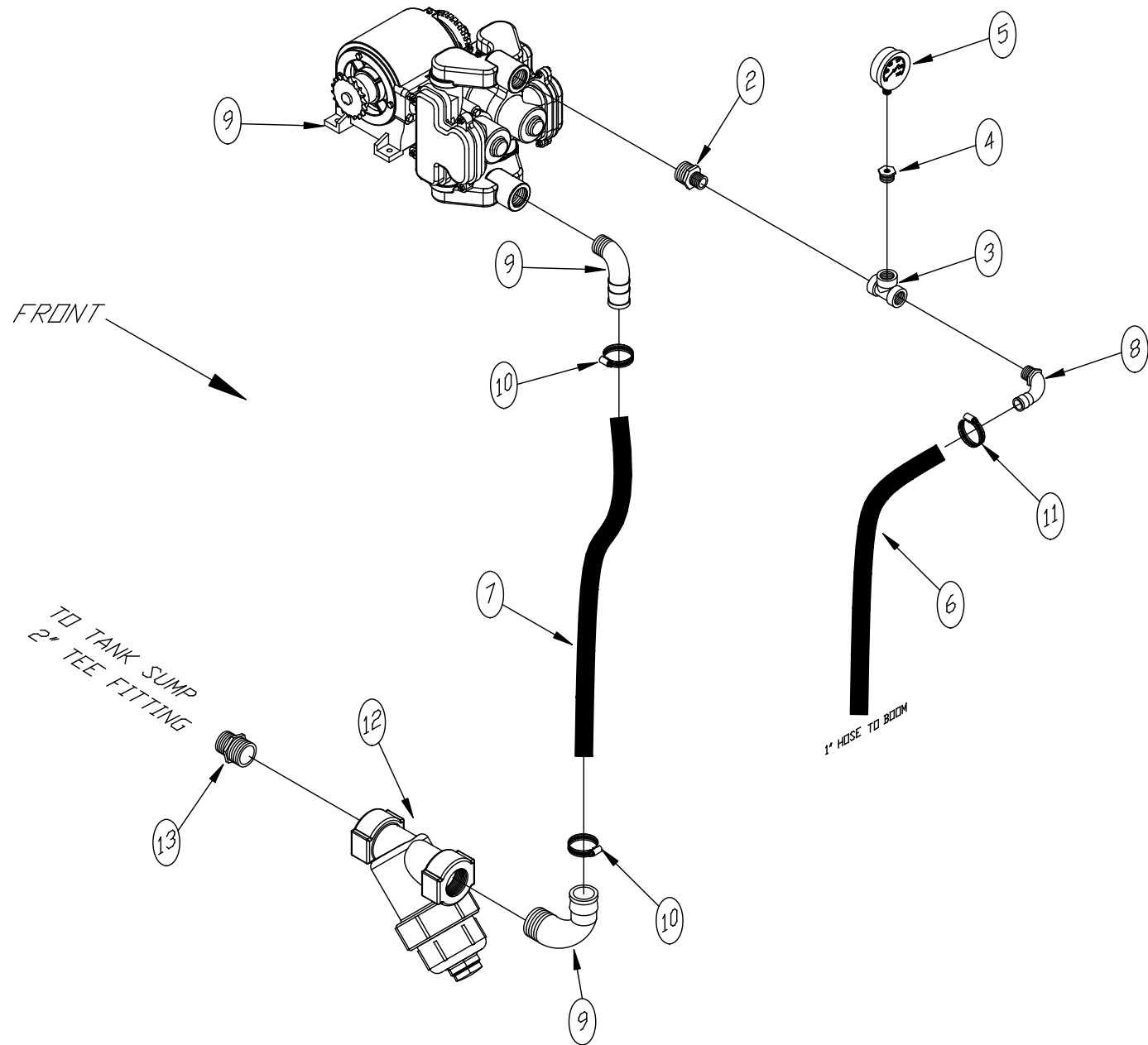
*NOTES:*

| <i>ITEM #</i> | <i>QTY.</i> | <i>PART #</i>   | <i>DESCRIPTION</i>                          |
|---------------|-------------|-----------------|---------------------------------------------|
| <i>1</i>      | <i>2</i>    | <i>700129</i>   | <i>1-1/2" STAINLESS HOSE CLAMP</i>          |
| <i>2</i>      | <i>1</i>    | <i>700066</i>   | <i>1-1/2 X 1" - REDUCER BUSHING</i>         |
| <i>3</i>      | <i>1</i>    | <i>700074</i>   | <i>1" NPT TEE</i>                           |
| <i>4</i>      | <i>1</i>    | <i>700290</i>   | <i>1" NPT X 1/4" NPT REDUCING BUSHING</i>   |
| <i>5</i>      | <i>1</i>    | <i>700237</i>   | <i>4" GLYCERIN FILLED PRESSURE GAUGE</i>    |
| <i>6</i>      | <i>1</i>    | <i>700119</i>   | <i>1" X 48" - EPDM HOSE</i>                 |
| <i>7</i>      | <i>1</i>    | <i>700121</i>   | <i>1-1/2" X 96" - EPDM HOSE</i>             |
| <i>8</i>      | <i>2</i>    | <i>700022</i>   | <i>1 NPT X 1" HOSE BARB - 90</i>            |
| <i>9</i>      | <i>2</i>    | <i>700026</i>   | <i>1-1/2 NPT X 1-1/2" BARB - 90</i>         |
| <i>10</i>     | <i>1</i>    | <i>76700214</i> | <i>1-1/2" NPT BANJO FILTER</i>              |
| <i>11</i>     | <i>1</i>    | <i>76700186</i> | <i>2" MNPT X 1-1/2" MNPT REDUCER NIPPLE</i> |
| <i>12</i>     | <i>1</i>    | <i>76700128</i> | <i>1" STAINLESS STEEL HOSE CLAMP</i>        |
| <i>13</i>     | <i>1</i>    | <i>76750040</i> | <i>NGP-7055 SINGLE PISTON PUMP</i>          |

*ITEM 6 IS SOLD BY THE  
FOOT AND IS AVAILABLE  
USING PART NUMBER - 700118.*

*ITEM 7 IS SOLD BY THE  
FOOT AND IS AVAILABLE  
USING PART NUMBER - 700121.*

# DOUBLE PISTON METERING PUMP PLUMBING



*DOUBLE PISTON METERING PUMP PLUMBING*

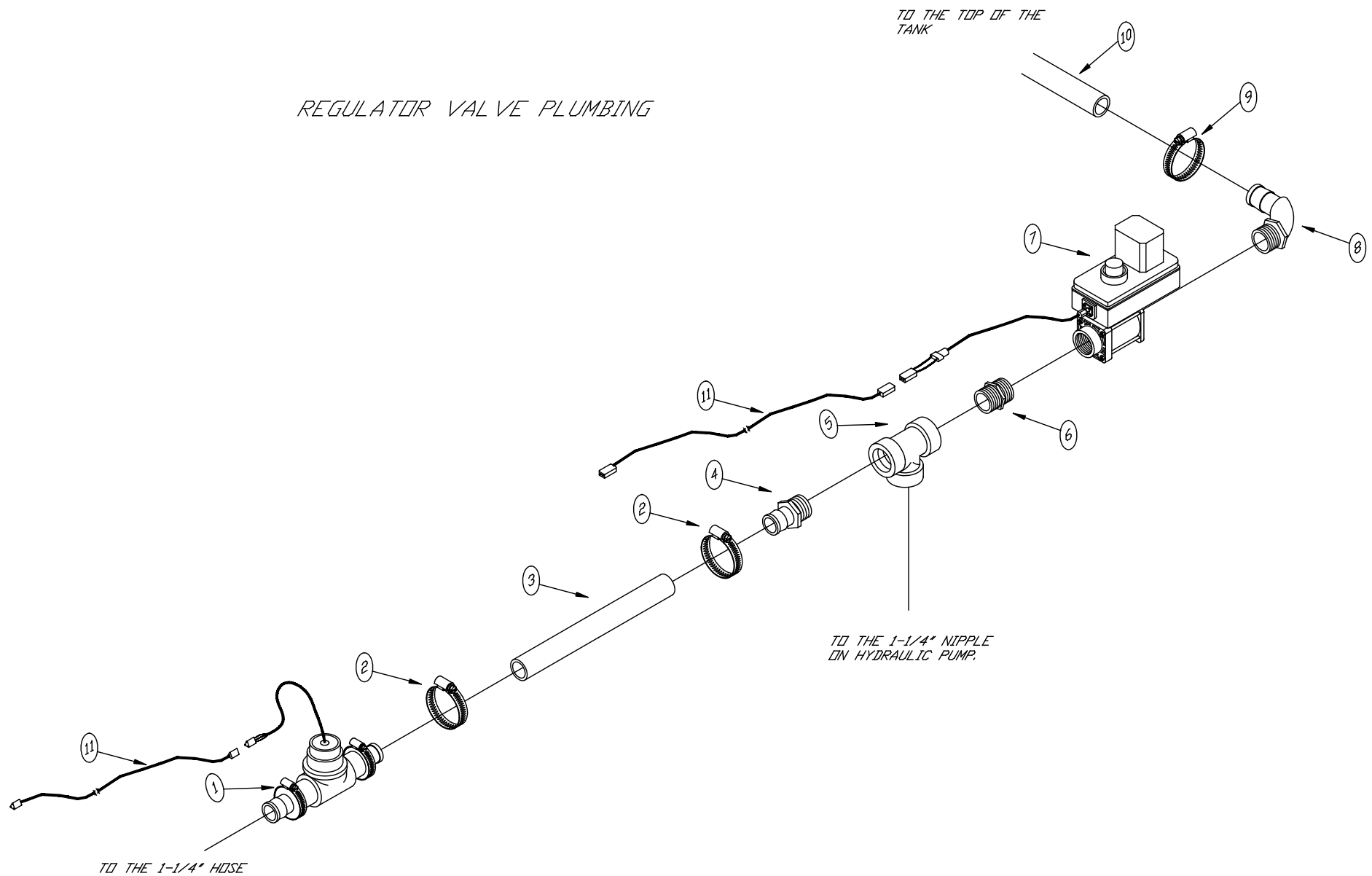
*NOTES:*

| <i>ITEM #</i> | <i>QTY.</i> | <i>PART #</i>   | <i>DESCRIPTION</i>                          |
|---------------|-------------|-----------------|---------------------------------------------|
| <i>1</i>      | <i>1</i>    | <i>750041</i>   | <i>NGP-9055 DOUBLE PISTON PUMP</i>          |
| <i>2</i>      | <i>1</i>    | <i>700066</i>   | <i>1-1/2 X 1" - REDUCER BUSHING</i>         |
| <i>3</i>      | <i>1</i>    | <i>700074</i>   | <i>1" NPT TEE</i>                           |
| <i>4</i>      | <i>1</i>    | <i>700290</i>   | <i>1" NPT X 1/4" NPT REDUCING BUSHING</i>   |
| <i>5</i>      | <i>1</i>    | <i>700237</i>   | <i>4" GLYCERIN FILLED PRESSURE GAUGE</i>    |
| <i>6</i>      | <i>1</i>    | <i>700119</i>   | <i>1" X 48" - EPDM HOSE</i>                 |
| <i>7</i>      | <i>1</i>    | <i>700121</i>   | <i>1-1/2" X 96" - EPDM HOSE</i>             |
| <i>8</i>      | <i>1</i>    | <i>700022</i>   | <i>1 NPT X 1" HOSE BARB - 90</i>            |
| <i>9</i>      | <i>1</i>    | <i>700026</i>   | <i>1-1/2 NPT X 1-1/2" BARB - 90</i>         |
| <i>10</i>     | <i>1</i>    | <i>700129</i>   | <i>1-1/2" - STAINLESS HOSE CLAMP</i>        |
| <i>11</i>     | <i>1</i>    | <i>700128</i>   | <i>1" - STAINLESS HOSE CLAMP</i>            |
| <i>12</i>     | <i>1</i>    | <i>76700214</i> | <i>1-1/2" NPT BANJO FILTER</i>              |
| <i>13</i>     | <i>1</i>    | <i>76700186</i> | <i>2" MNPT X 1-1/2" MNPT REDUCER NIPPLE</i> |

*ITEM 6 IS SOLD BY THE FOOT AND IS AVAILABLE USING PART NUMBER - 700118.*

*ITEM 7 IS SOLD BY THE FOOT AND IS AVAILABLE USING PART NUMBER - 700121.*

# REGULATOR VALVE PLUMBING

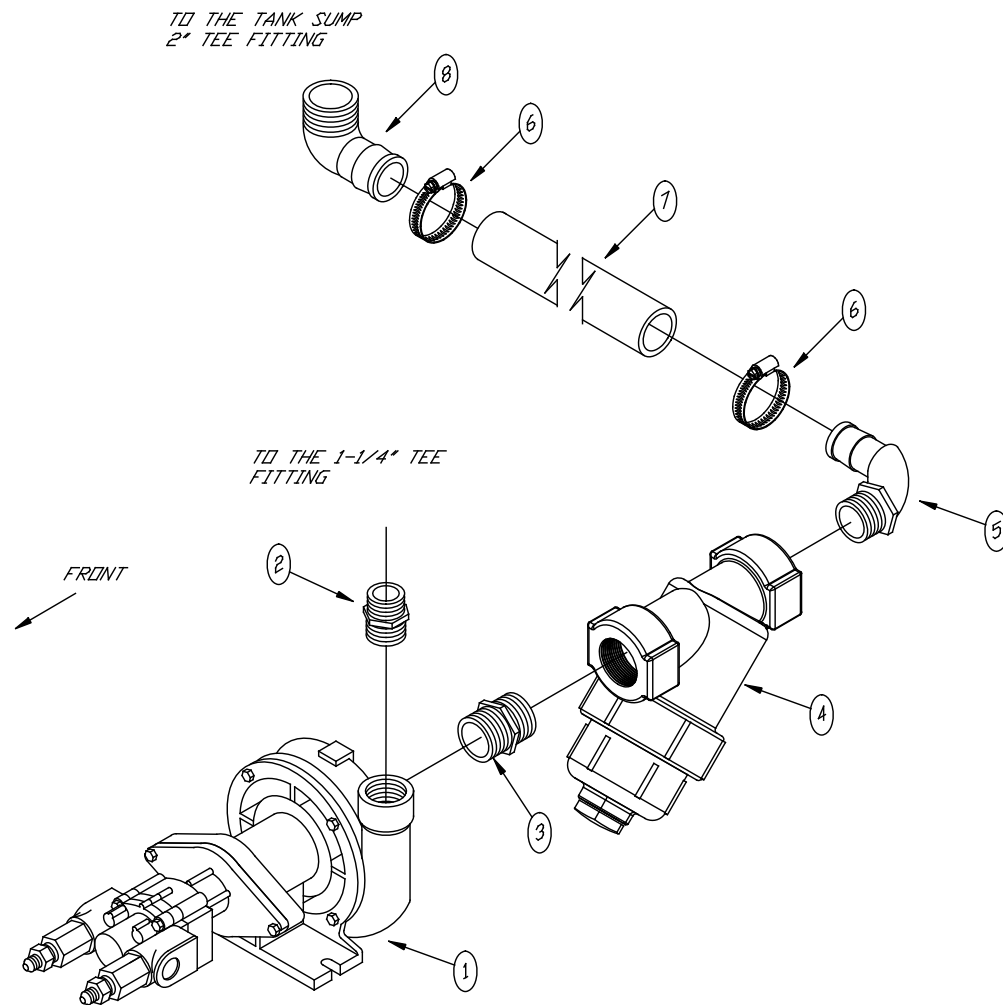


# *REGULATOR VALVE PLUMBING*

*NOTES:*

| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i>     | <i>DESCRIPTION</i>                         |
|-------------|------------|------------------|--------------------------------------------|
| <i>1</i>    | <i>1</i>   | <i>767800371</i> | <i>1-1/4" FLOW METER</i>                   |
| <i>2</i>    | <i>2</i>   | <i>767800128</i> | <i>1-1/4" STAINLESS STEEL HOSE CLAMP</i>   |
| <i>3</i>    | <i>1</i>   | <i>767001191</i> | <i>1-1/4" EPDM HOSE (30")</i>              |
| <i>4</i>    | <i>1</i>   | <i>76700011</i>  | <i>1-1/4" NPT X 1-1/4" BARB - STRAIGHT</i> |
| <i>5</i>    | <i>1</i>   | <i>76700075</i>  | <i>1-1/4" NPT FEMALE TEE</i>               |
| <i>6</i>    | <i>1</i>   | <i>76700115</i>  | <i>1-1/4" X 1" REDUCING NIPPLE</i>         |
| <i>7</i>    | <i>1</i>   | <i>76780038</i>  | <i>REGULATOR VALVE</i>                     |
| <i>8</i>    | <i>1</i>   | <i>76700021</i>  | <i>1" NPT X 3/4" - 90</i>                  |
| <i>9</i>    | <i>1</i>   | <i>76700127</i>  | <i>3/4 - 1" STAINLESS STEEL HOSE CLAMP</i> |
| <i>10</i>   | <i>1</i>   | <i>76700118</i>  | <i>3/4 X 76" - EPDM HOSE</i>               |
| <i>11</i>   | <i>2</i>   | <i>76780035</i>  | <i>EXTENSION CABLE 15'</i>                 |

## HYDRAULIC PUMP PLUMBING



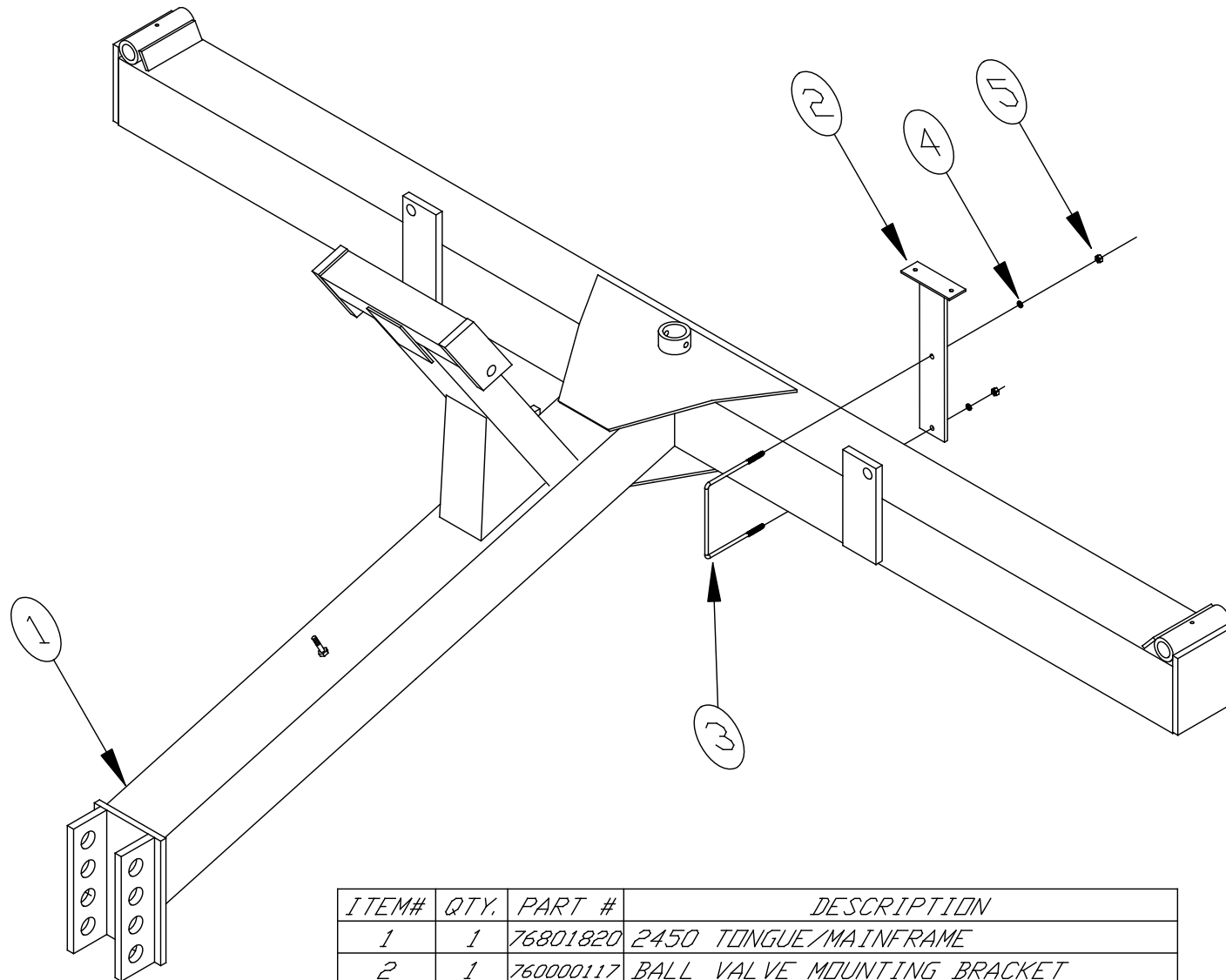
*HYDRAULIC PUMP PLUMBING*

*NOTES:*

| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i>     | <i>DESCRIPTION</i>                       |
|-------------|------------|------------------|------------------------------------------|
| <i>1</i>    | <i>1</i>   | <i>7670039</i>   | <i>HYDRAULIC PUMP</i>                    |
| <i>2</i>    | <i>1</i>   | <i>76700036</i>  | <i>1-1/4" NPT CLOSE NIPPLE</i>           |
| <i>3</i>    | <i>1</i>   | <i>76700037</i>  | <i>1-1/2" NPT CLOSE NIPPLE</i>           |
| <i>4</i>    | <i>1</i>   | <i>76700214</i>  | <i>1-1/2" NPT BANJO FILTER</i>           |
| <i>5</i>    | <i>1</i>   | <i>76700026</i>  | <i>1-1/2" NPT X 1-1/2" BARB 90</i>       |
| <i>6</i>    | <i>2</i>   | <i>76700130</i>  | <i>1-1/2" STAINLESS STEEL HOSE CLAMP</i> |
| <i>7</i>    | <i>1</i>   | <i>767000121</i> | <i>1-1/2 X 42" - EPDM HOSE</i>           |
| <i>8</i>    | <i>1</i>   | <i>76700186</i>  | <i>2" MNPT X 1/2" BARB 90</i>            |

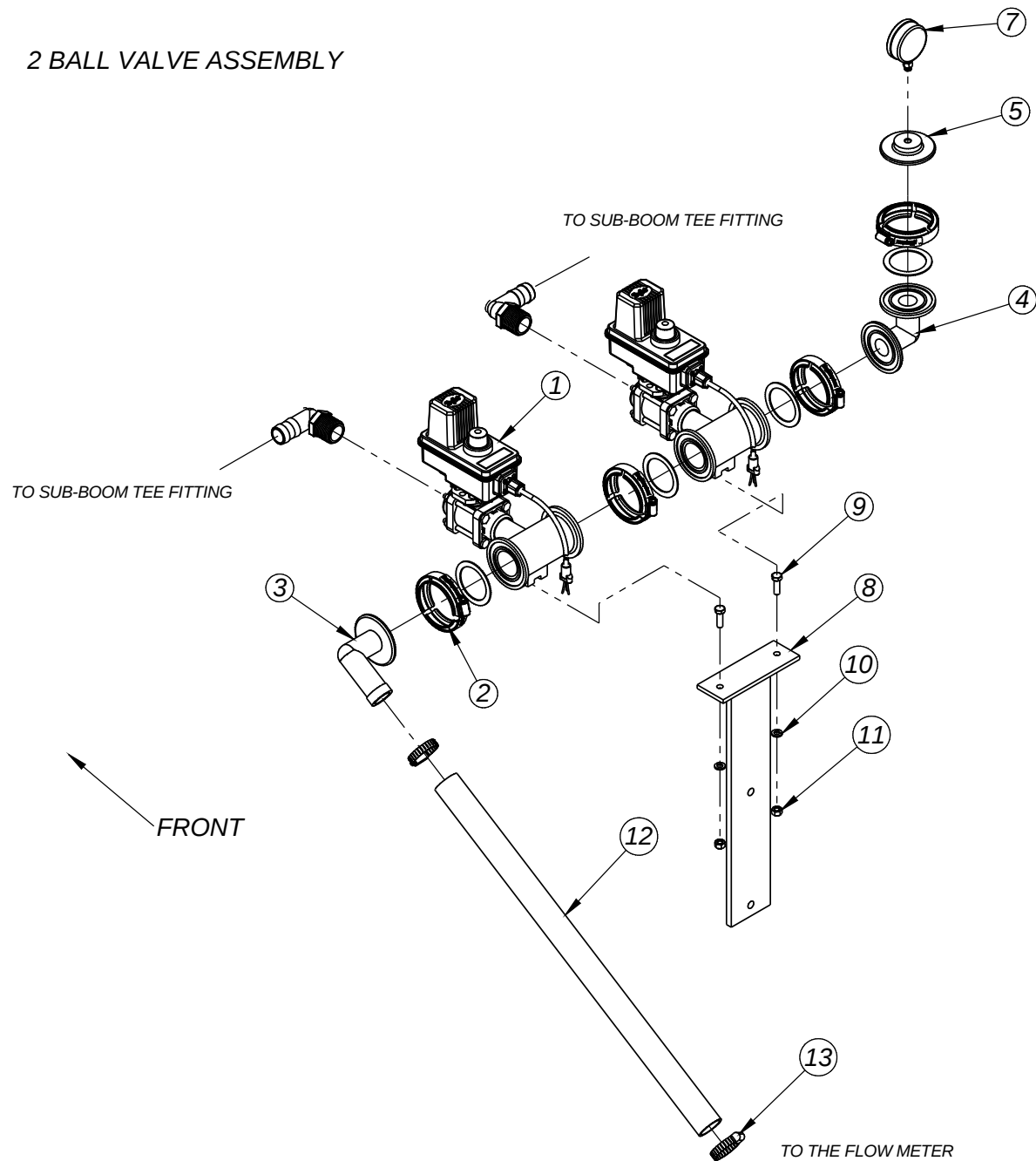
# BALL VALVE BRACKET ATTACHMENT

\*HYDRAULIC PUMP MODELS ONLY



| ITEM# | QTY. | PART #    | DESCRIPTION                    |
|-------|------|-----------|--------------------------------|
| 1     | 1    | 76801820  | 2450 TONGUE/MAINFRAME          |
| 2     | 1    | 760000117 | BALL VALVE MOUNTING BRACKET    |
| 3     | 1    | 76101329  | 3/8"-16 X 7" X 8.5" U-BOLT-PLT |
| 4     | 2    | 76101220  | 3/8" LOCK WASHER - PLT.        |
| 5     | 2    | 76101211  | 3/8"-16 HEX NUT-PLT            |

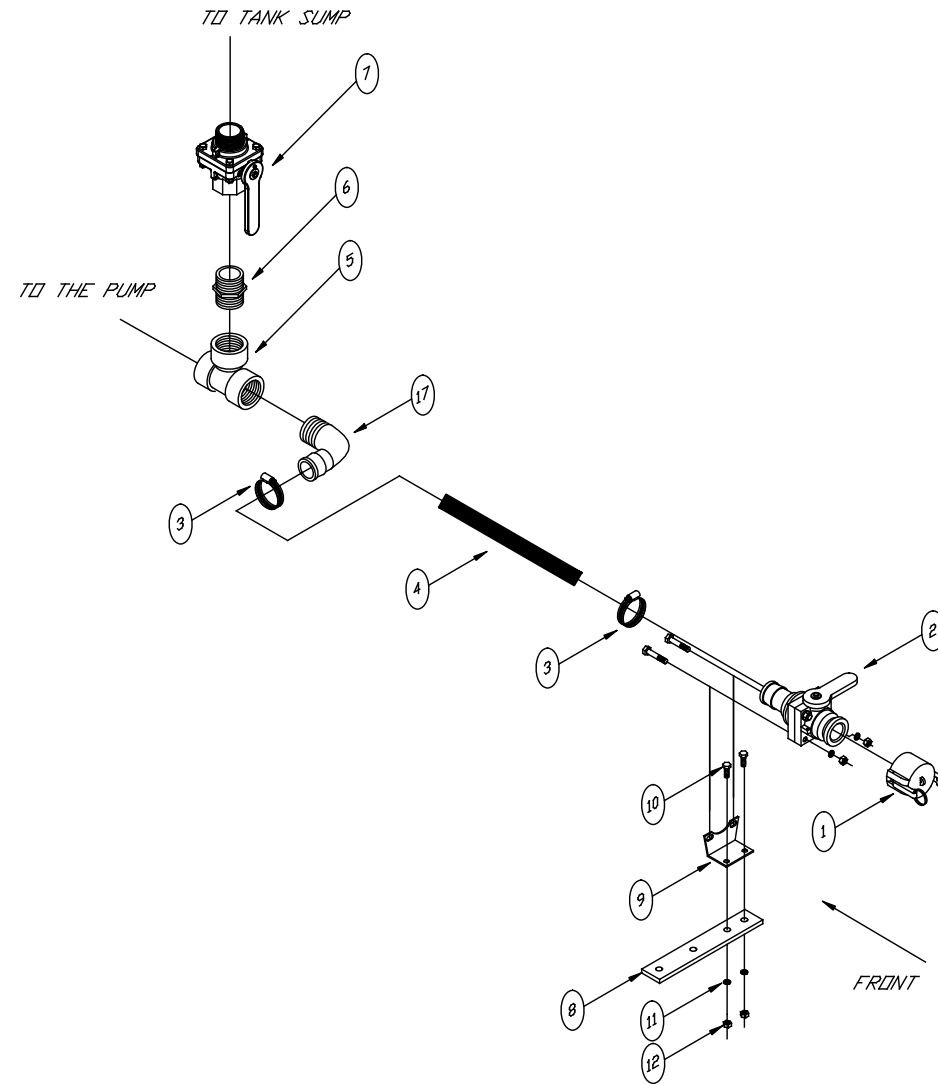
## 2 BALL VALVE ASSEMBLY



**2 BALL VALVE ASSEMBLY****NOTES**

| <i>ITEM NO.</i> | <i>PART NUMBER</i> | <i>Description1</i>                  | <i>QTY.</i> |
|-----------------|--------------------|--------------------------------------|-------------|
| <i>1</i>        | <i>767800362</i>   | <i>BALL VALVE (1) - 451</i>          | <i>2</i>    |
| <i>2</i>        | <i>767002904</i>   | <i>S.S. FLANGE CLAMP</i>             | <i>4</i>    |
| <i>3</i>        | <i>767002901</i>   | <i>1-1/4" BARB ELBOW FLANGE</i>      | <i>1</i>    |
| <i>4</i>        | <i>767002902</i>   | <i>1-1/4" FLANGE ELBOW</i>           | <i>1</i>    |
| <i>5</i>        | <i>767002903</i>   | <i>1-1/4" FLANGE ADAPTER</i>         | <i>1</i>    |
| <i>6</i>        | <i>76700022</i>    | <i>1" NPT X 1" BARB - 90</i>         | <i>2</i>    |
| <i>7</i>        | <i>76700237</i>    | <i>4" PRESSURE GAUGE (0-100 PSI)</i> | <i>1</i>    |
| <i>8</i>        | <i>760000117</i>   | <i>VALVE MOUNT</i>                   | <i>1</i>    |
| <i>9</i>        | <i>76101114</i>    | <i>5/16"-18 X 1"-PLT-GR5</i>         | <i>2</i>    |
| <i>10</i>       | <i>76101219</i>    | <i>5/16" LOCK WASHER-PLT</i>         | <i>2</i>    |
| <i>11</i>       | <i>76101210</i>    | <i>5/16"-18 HEX NUT-PLT</i>          | <i>2</i>    |
| <i>12</i>       | <i>767001191</i>   | <i>1-1/4" EPDM HOSE</i>              | <i>7 ft</i> |
| <i>13</i>       | <i>76700129</i>    | <i>1-1/2" HOSE CLAMP</i>             | <i>2</i>    |

# QUICK FILL PLUMBING SCHEMATIC



*QUICK FILL PLUMBING SCHEMATIC*

| <i>ITEM#</i> | <i>QTY.</i> | <i>PART #</i>    | <i>DESCRIPTION</i>                       |
|--------------|-------------|------------------|------------------------------------------|
| <i>1</i>     | <i>1</i>    | <i>700191</i>    | <i>2" CAP FOR MALE ADAPTER</i>           |
| <i>2</i>     | <i>1</i>    | <i>700321</i>    | <i>2" M-M BALL VALVE X 2" M-C FLANGE</i> |
| <i>3</i>     | <i>2</i>    | <i>700130</i>    | <i>2" STAINLESS HOSE CLAMP</i>           |
| <i>4</i>     | <i>1</i>    | <i>700124</i>    | <i>2" X 60" - EPDM HOSE</i>              |
| <i>5</i>     | <i>1</i>    | <i>700077</i>    | <i>2" NPT TEE</i>                        |
| <i>6</i>     | <i>1</i>    | <i>76700038</i>  | <i>2" NPT CLOSE NIPPLE</i>               |
| <i>7</i>     | <i>1</i>    | <i>767805251</i> | <i>2" MNPT X 2" FNPT X BALL VALVE</i>    |
| <i>8</i>     | <i>1</i>    | <i>76400168</i>  | <i>MOUNTING TAB</i>                      |
| <i>9</i>     | <i>1</i>    | <i>700192</i>    | <i>90° STAINLESS MOUNTING BRACKET</i>    |
| <i>10</i>    | <i>2</i>    | <i>101125</i>    | <i>3/8-16 X 1" HEX BOLT - PLT. GR.5</i>  |
| <i>11</i>    | <i>2</i>    | <i>101220</i>    | <i>3/8" LOCK WASHER - PLT.</i>           |
| <i>12</i>    | <i>2</i>    | <i>101211</i>    | <i>3/8-16 HEX NUT - PLT.</i>             |
| <i>13</i>    | <i>1</i>    | <i>700027</i>    | <i>2" NPT X 2" HOSE BARB 90</i>          |

*NOTES:*

*USE RECTORSEAL NO. 5,  
NO. 7, OR NO. 21 ON PIPE  
THREADS INSTEAD OF  
TEFLON TAPE.*

*REMOVE THE TOP NUTS &  
WASHERS FROM THE BALL  
VALVE & ATTACH THE MOUNTING  
BRACKET ON THOSE BOLTS.*

*1-1/2" HOSE IS SOLD BY THE  
FOOT USING PART# - 700121.*

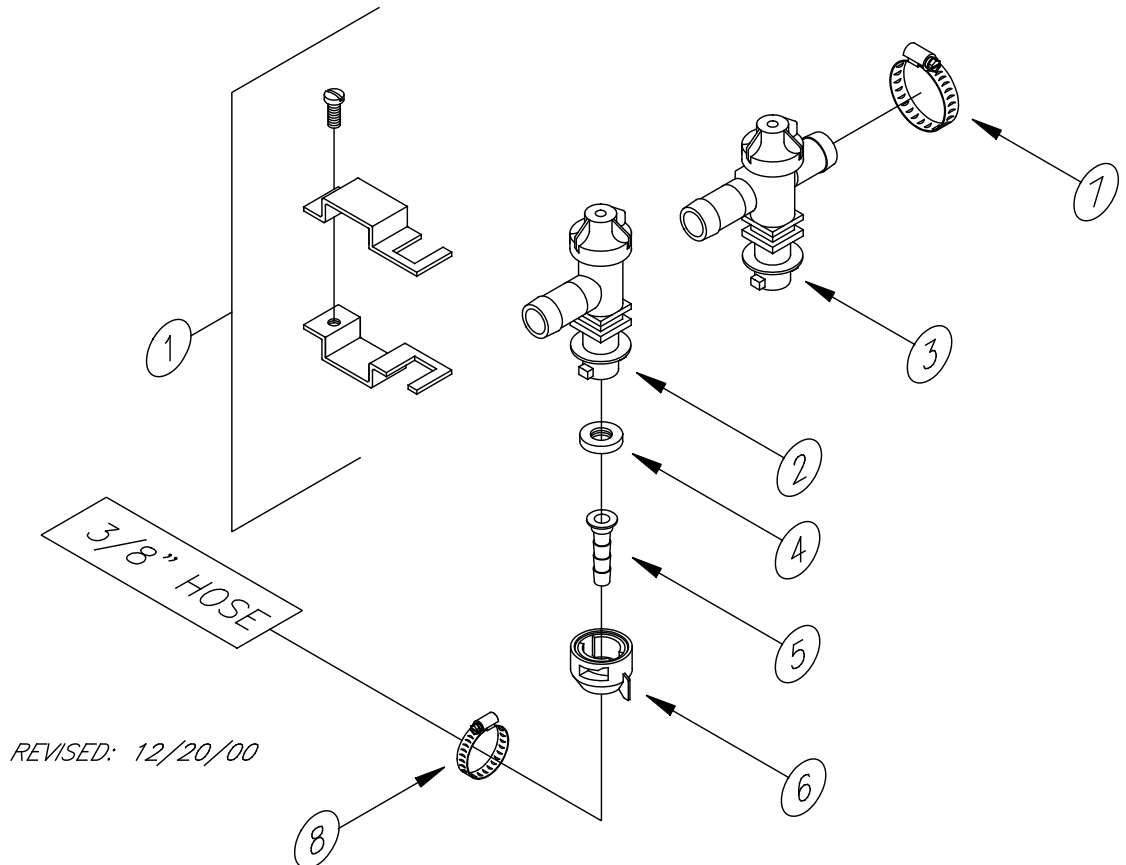
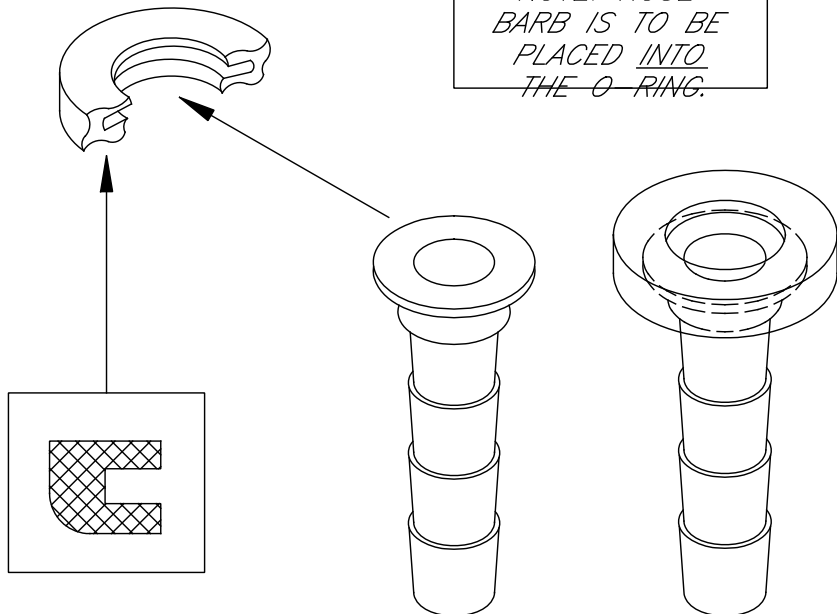
*2" HOSE IS SOLD BY THE  
FOOT USING PART# - 700124.*

# NOZZLE ASSEMBLY (EXPLODED)

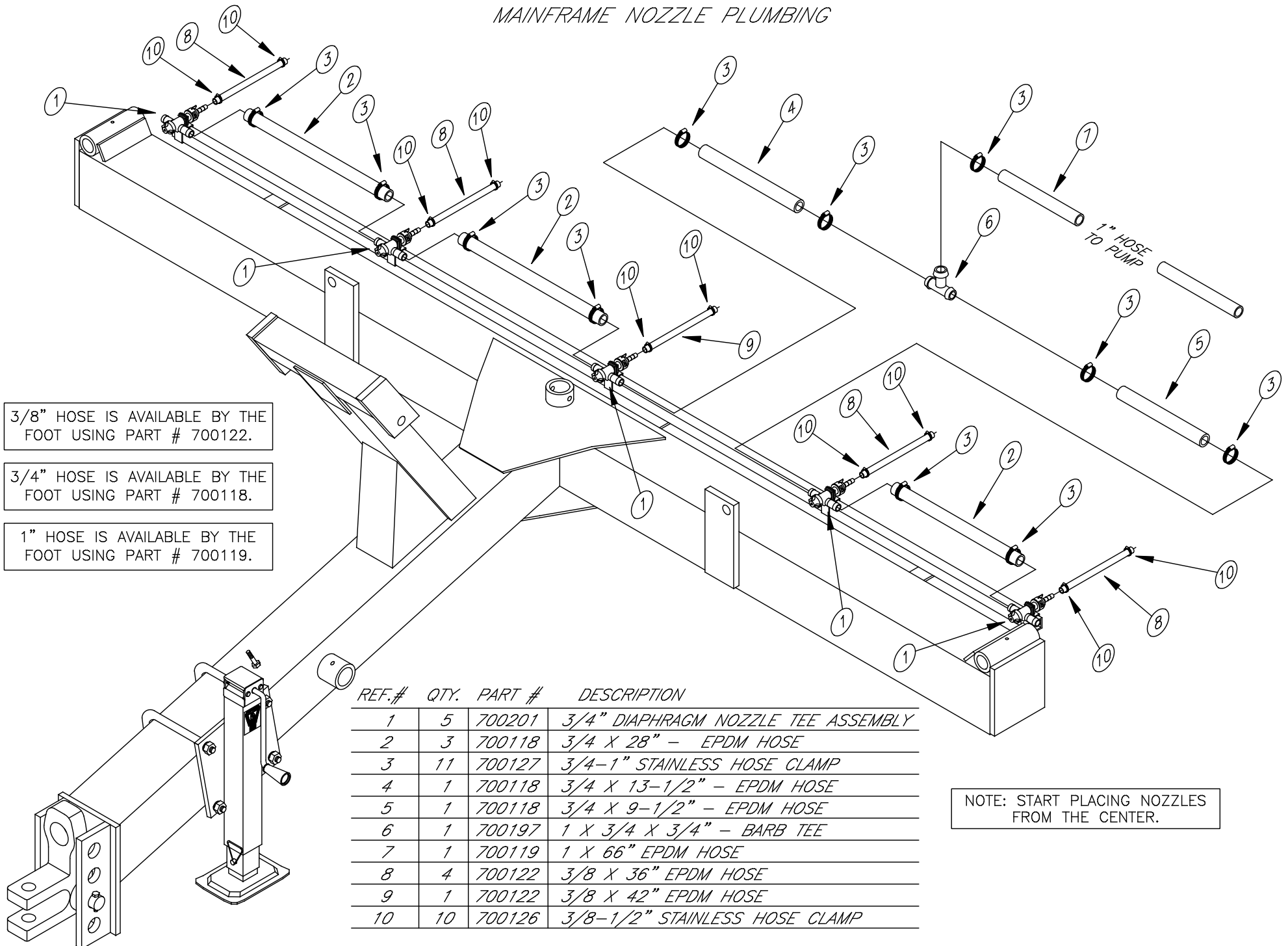
| REF. # | QTY. | PART # | DESCRIPTION                   |
|--------|------|--------|-------------------------------|
| 1      | 1    | 700203 | 1-1/4" SQUARE NOZZLE CLAMP    |
| 2      | 1    | 700199 | 3/4" DIAPHRAGM NOZZLE ELBOW   |
| 3      | 1    | 700201 | 3/4" DIAPHRAGM NOZZLE TEE     |
| 4      | 1    | 700305 | SPLIT HOSE BARB O-RING        |
| 5      | 1    | 700302 | 1/4" HOSE BARB FOR NOZZLE CAP |
| 6      | 1    | 700303 | NOZZLE CAP - BLUE             |
| 7      | 1-2  | 700127 | 3/4" STAINLESS HOSE CLAMP     |
| 8      | 1    | 700126 | 3/8-1/2" STAINLESS HOSE CLAMP |

NOTE: QUANTITIES LISTED ARE FOR ONE (1) NOZZLE ONLY.

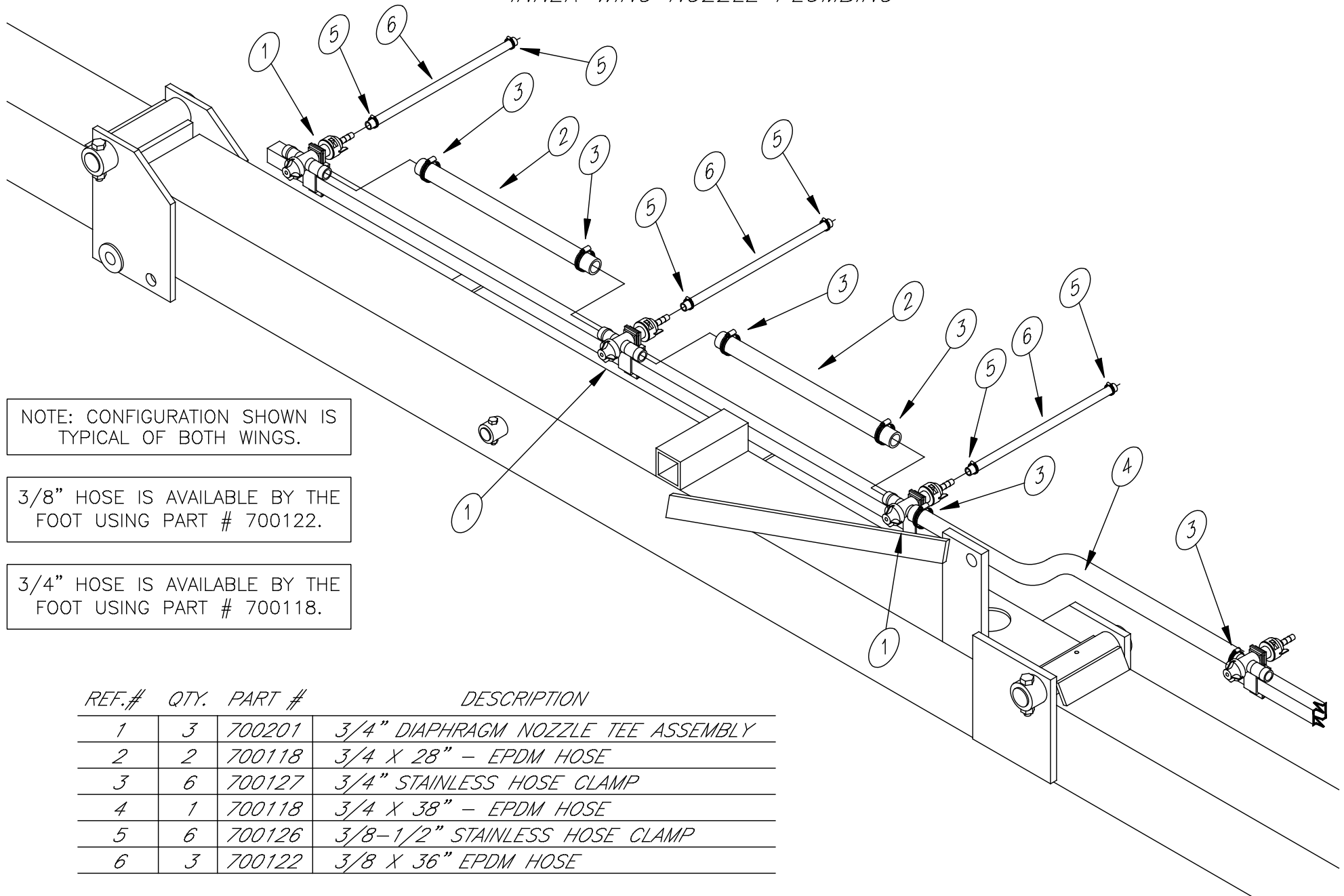
NOTE: HOSE BARB IS TO BE PLACED INTO THE O-RING.



## MAINFRAME NOZZLE PLUMBING



# INNER WING NOZZLE PLUMBING



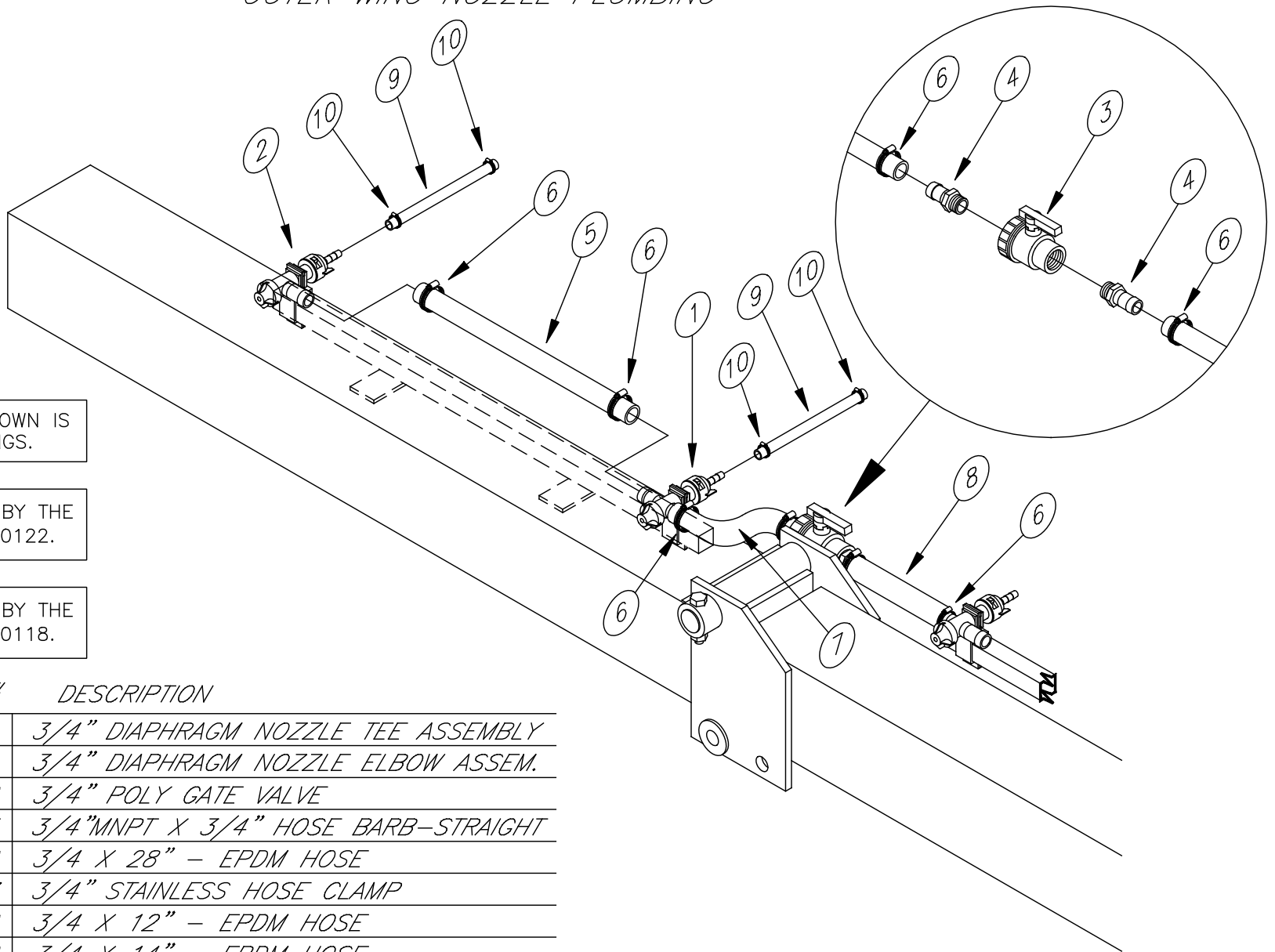
NOTE: CONFIGURATION SHOWN IS  
TYPICAL OF BOTH WINGS.

3/8" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700122.

3/4" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700118.

| REF.# | QTY. | PART # | DESCRIPTION                        |
|-------|------|--------|------------------------------------|
| 1     | 3    | 700201 | 3/4" DIAPHRAGM NOZZLE TEE ASSEMBLY |
| 2     | 2    | 700118 | 3/4 X 28" - EPDM HOSE              |
| 3     | 6    | 700127 | 3/4" STAINLESS HOSE CLAMP          |
| 4     | 1    | 700118 | 3/4 X 38" - EPDM HOSE              |
| 5     | 6    | 700126 | 3/8-1/2" STAINLESS HOSE CLAMP      |
| 6     | 3    | 700122 | 3/8 X 36" EPDM HOSE                |

## OUTER WING NOZZLE PLUMBING



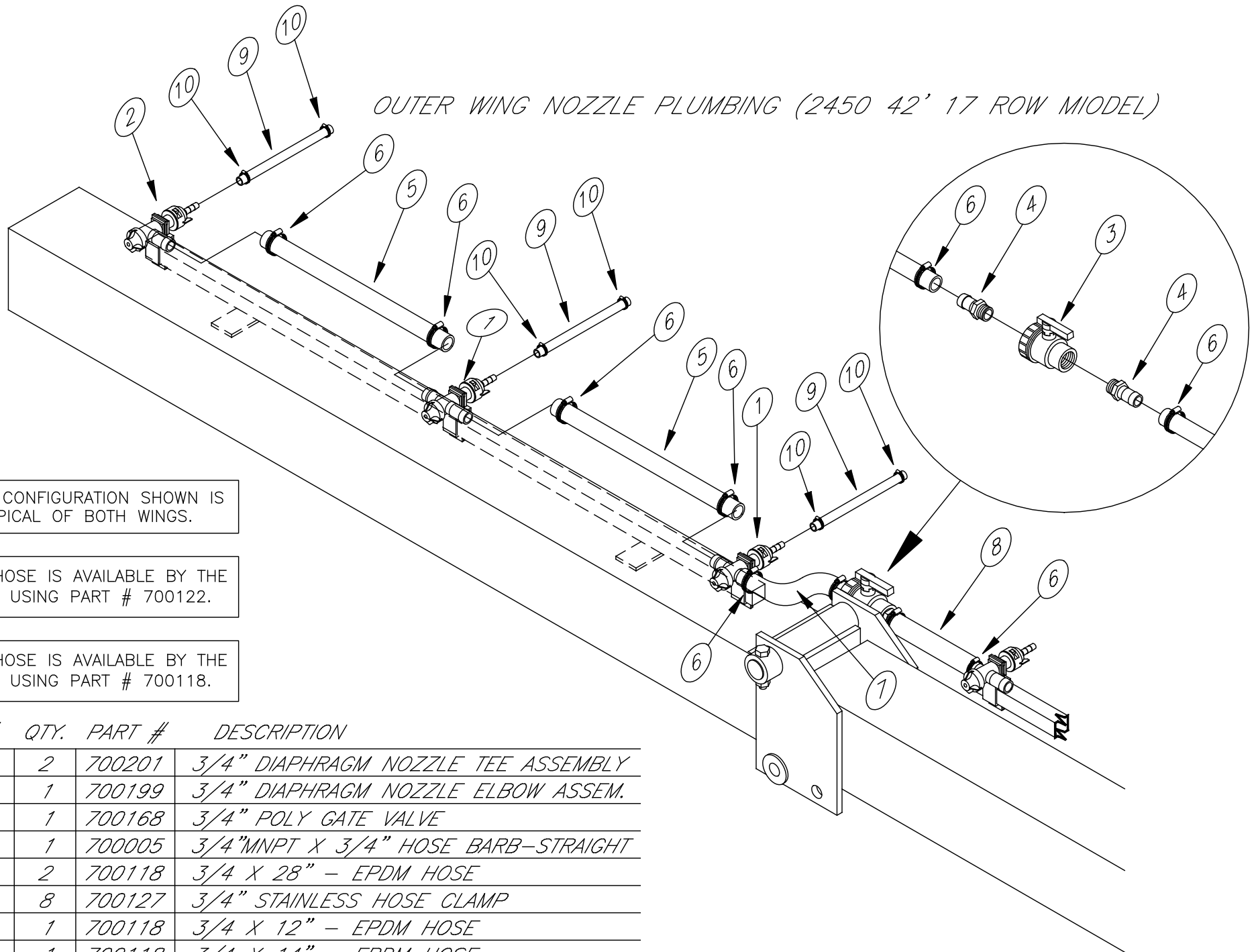
NOTE: CONFIGURATION SHOWN IS  
TYPICAL OF BOTH WINGS.

3/8" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700122.

3/4" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700118.

| REF.# | QTY. | PART # | DESCRIPTION                         |
|-------|------|--------|-------------------------------------|
| 1     | 1    | 700201 | 3/4" DIAPHRAGM NOZZLE TEE ASSEMBLY  |
| 2     | 1    | 700199 | 3/4" DIAPHRAGM NOZZLE ELBOW ASSEM.  |
| 3     | 1    | 700168 | 3/4" POLY GATE VALVE                |
| 4     | 1    | 700005 | 3/4" MNPT X 3/4" HOSE BARB-STRAIGHT |
| 5     | 1    | 700118 | 3/4 X 28" - EPDM HOSE               |
| 6     | 6    | 700127 | 3/4" STAINLESS HOSE CLAMP           |
| 7     | 1    | 700118 | 3/4 X 12" - EPDM HOSE               |
| 8     | 1    | 700118 | 3/4 X 14" - EPDM HOSE               |
| 9     | 2    | 700122 | 3/8 X 36" EVA HOSE                  |
| 10    | 4    | 700126 | 3/8-1/2" STAINLESS HOSE CLAMP       |

# OUTER WING NOZZLE PLUMBING (2450 42' 17 ROW MODEL)



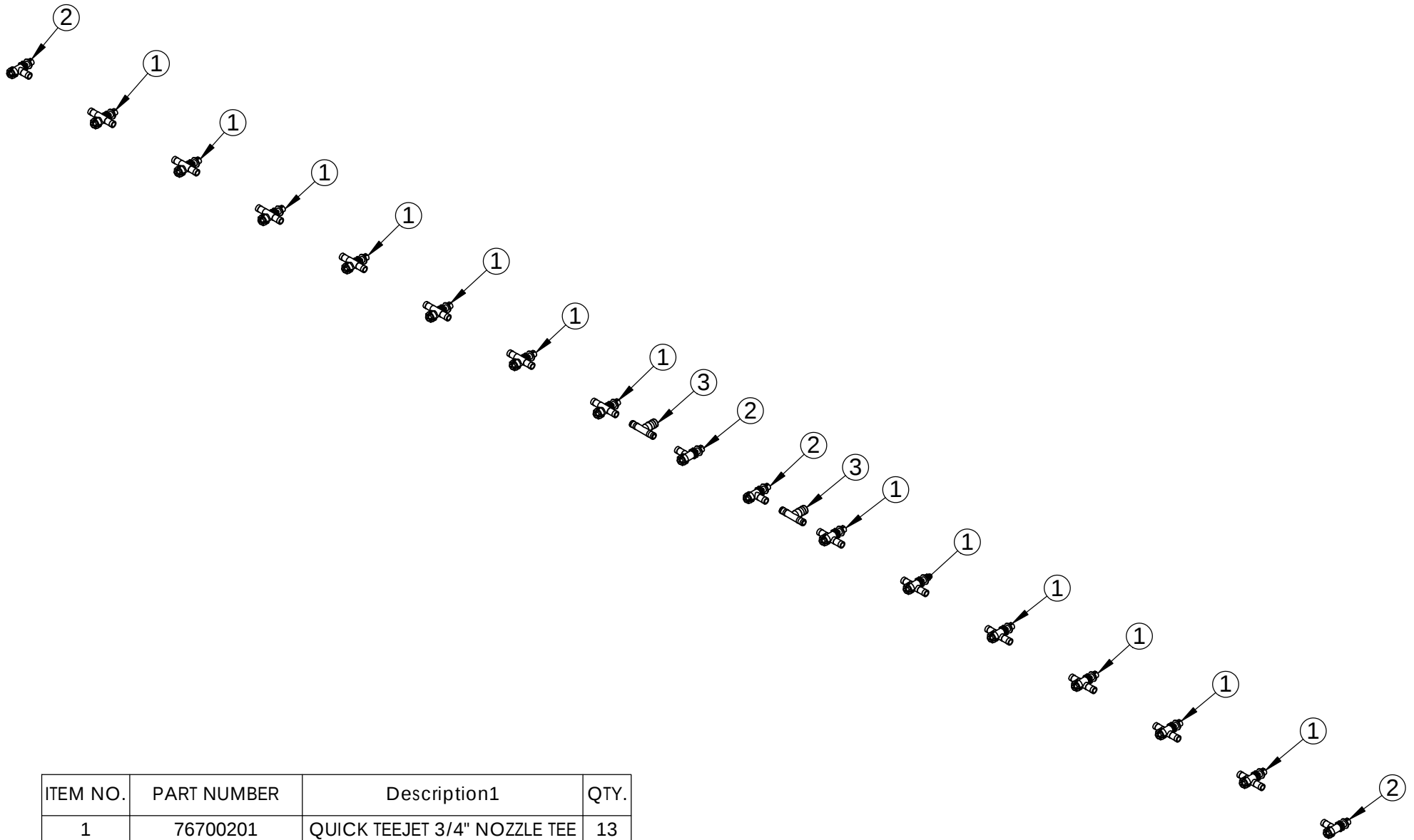
NOTE: CONFIGURATION SHOWN IS  
TYPICAL OF BOTH WINGS.

3/8" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700122.

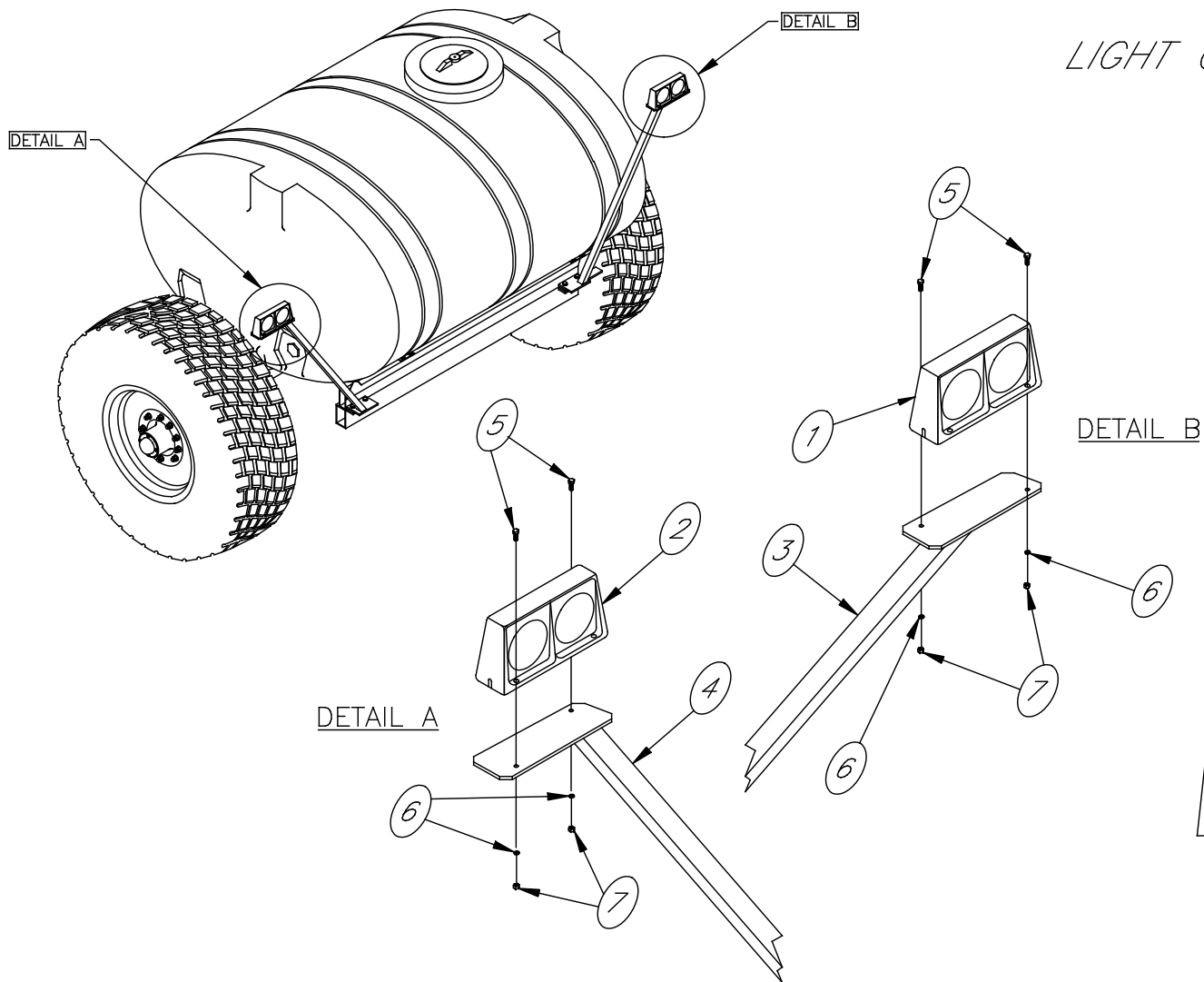
3/4" HOSE IS AVAILABLE BY THE  
FOOT USING PART # 700118.

| REF.# | QTY. | PART # | DESCRIPTION                         |
|-------|------|--------|-------------------------------------|
| 1     | 2    | 700201 | 3/4" DIAPHRAGM NOZZLE TEE ASSEMBLY  |
| 2     | 1    | 700199 | 3/4" DIAPHRAGM NOZZLE ELBOW ASSEM.  |
| 3     | 1    | 700168 | 3/4" POLY GATE VALVE                |
| 4     | 1    | 700005 | 3/4" MNPT X 3/4" HOSE BARB-STRAIGHT |
| 5     | 2    | 700118 | 3/4 X 28" - EPDM HOSE               |
| 6     | 8    | 700127 | 3/4" STAINLESS HOSE CLAMP           |
| 7     | 1    | 700118 | 3/4 X 12" - EPDM HOSE               |
| 8     | 1    | 700118 | 3/4 X 14" - EPDM HOSE               |
| 9     | 3    | 700122 | 3/8 X 36" EVA HOSE                  |
| 10    | 6    | 700126 | 3/8-1/2" STAINLESS HOSE CLAMP       |

## Typical Nozzle Layout For 2 Ball Valves - 17-30 Inch Rows

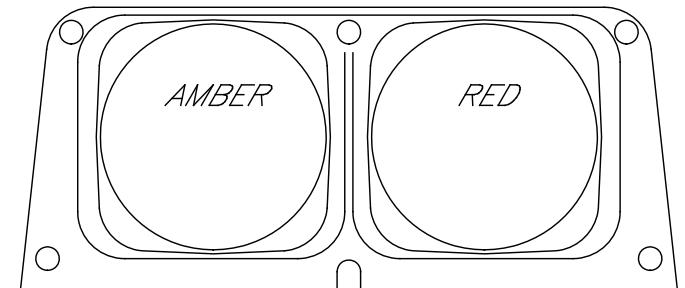


| ITEM NO. | PART NUMBER | Description1                   | QTY. |
|----------|-------------|--------------------------------|------|
| 1        | 76700201    | QUICK TEEJET 3/4" NOZZLE TEE   | 13   |
| 2        | 76700199    | QUICK TEEJET 3/4" NOZZLE ELBOW | 4    |
| 3        | 76700197    | 1" x 3/4" x 3/4" - BARB TEE    | 2    |

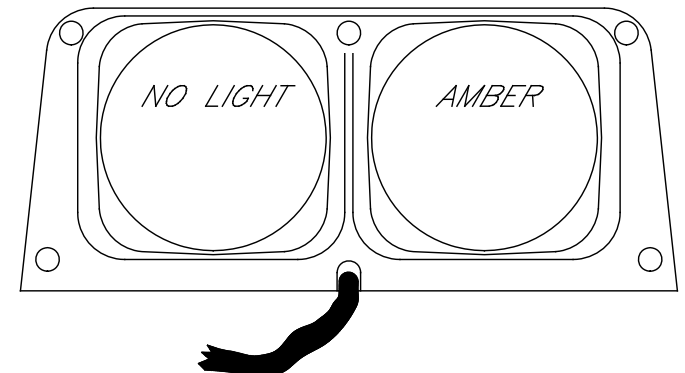


## LIGHT ORIENTATION & ASSEMBLY

BACK OF LEFT LIGHT WITH  
YOU FACING REAR OF  
IMPLEMENT

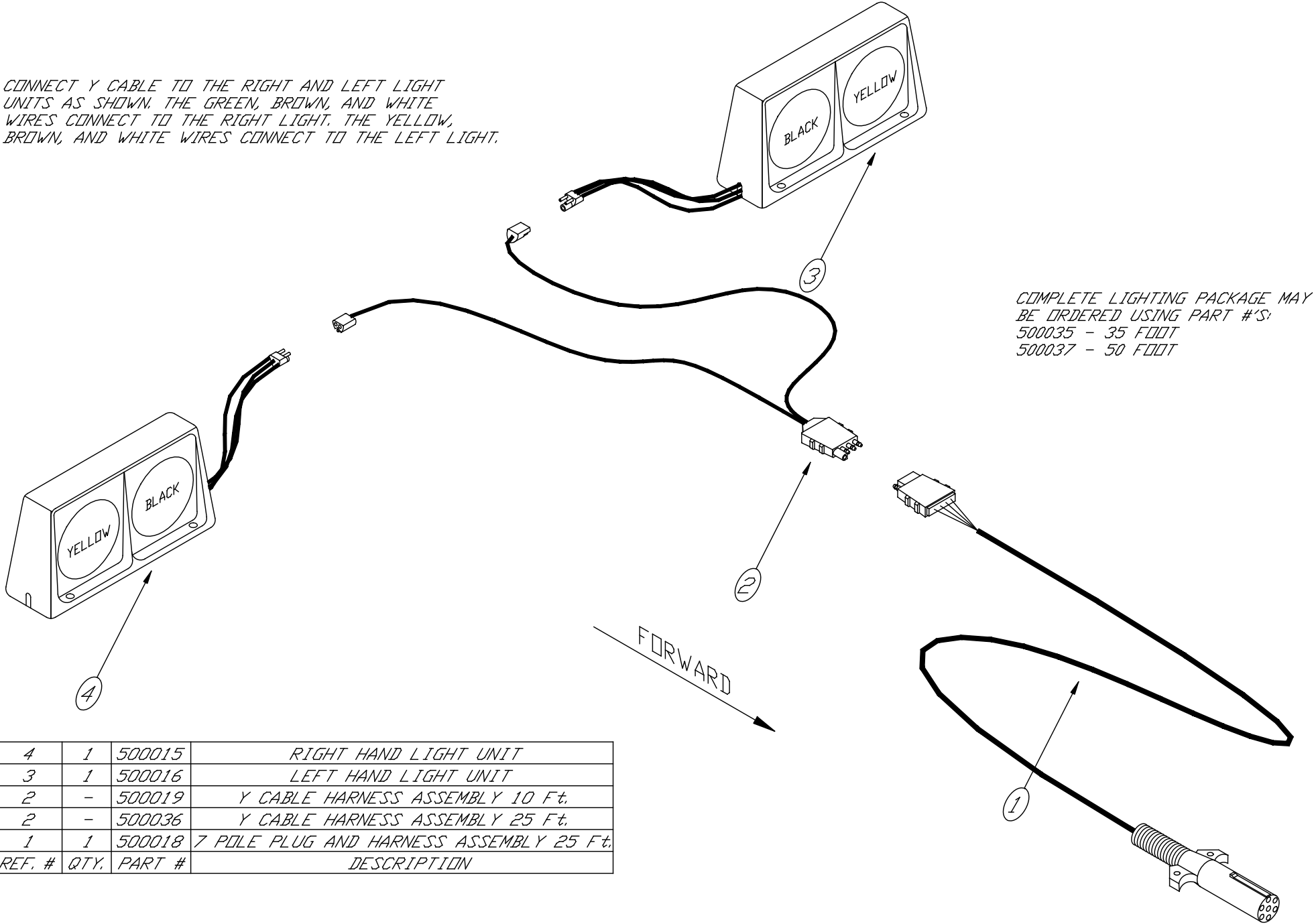


FRONT OF LEFT LIGHT WITH  
YOU FACING FRONT OF  
IMPLEMENT



| REF.# | QTY. | PART # | DESCRIPTION                    |
|-------|------|--------|--------------------------------|
| 1     | 1    | 500015 | RIGHT HAND LIGHT UNIT          |
| 2     | 1    | 500016 | LEFT HAND LIGHT UNIT           |
| 3     | 1    | 801835 | LIGHT BRACKET WELDMENT - RIGHT |
| 4     | 1    | 801836 | LIGHT BRACKET WELDMENT - LEFT  |
| 5     | 4    | 101102 | 1/4-20 X 1" - HEX BOLT - PLT.  |
| 6     | 4    | 101218 | 1/4" - LOCK WASHER - PLT.      |
| 7     | 4    | 101209 | 1/4-20 HEX NUT - PLT.          |

CONNECT Y CABLE TO THE RIGHT AND LEFT LIGHT  
UNITS AS SHOWN. THE GREEN, BROWN, AND WHITE  
WIRES CONNECT TO THE RIGHT LIGHT. THE YELLOW,  
BROWN, AND WHITE WIRES CONNECT TO THE LEFT LIGHT.

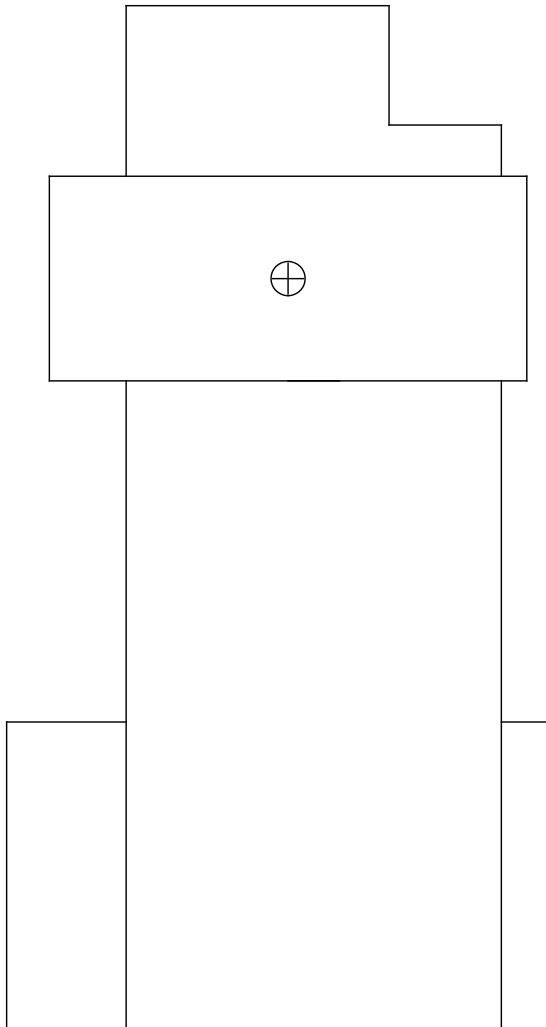


COMPLETE LIGHTING PACKAGE MAY  
BE ORDERED USING PART #'S:  
500035 - 35 FOOT  
500037 - 50 FOOT

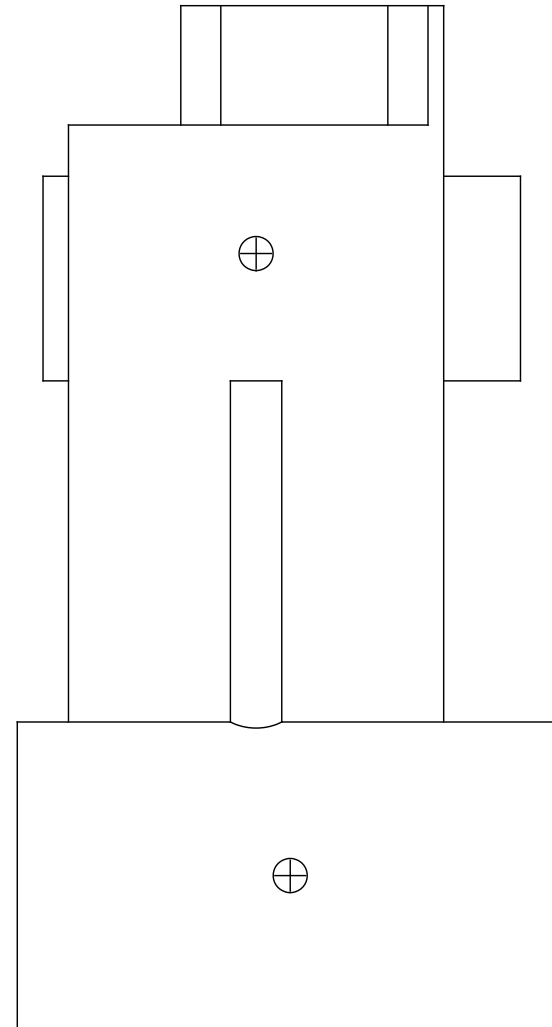
|        |      |        |                                         |
|--------|------|--------|-----------------------------------------|
| 4      | 1    | 500015 | RIGHT HAND LIGHT UNIT                   |
| 3      | 1    | 500016 | LEFT HAND LIGHT UNIT                    |
| 2      | -    | 500019 | Y CABLE HARNESS ASSEMBLY 10 Ft.         |
| 2      | -    | 500036 | Y CABLE HARNESS ASSEMBLY 25 Ft.         |
| 1      | 1    | 500018 | 7 POLE PLUG AND HARNESS ASSEMBLY 25 Ft. |
| REF. # | QTY. | PART # | DESCRIPTION                             |

# GREASE ZERK LOCATION FOR SWIVEL COULTER CASTING

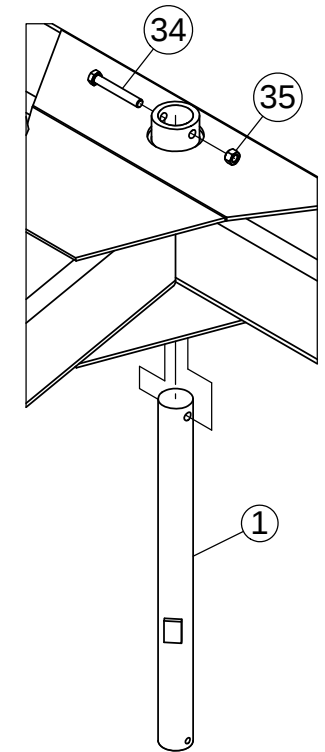
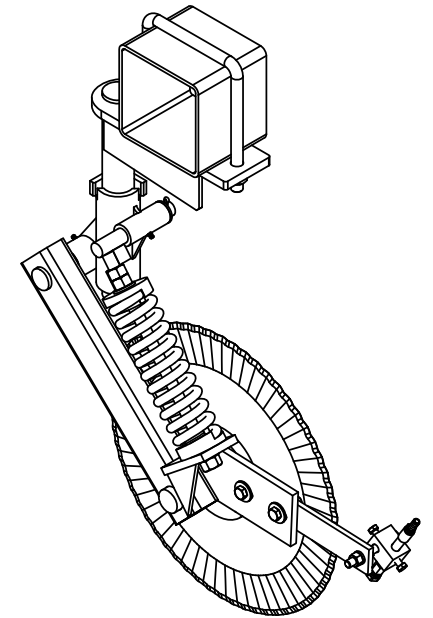
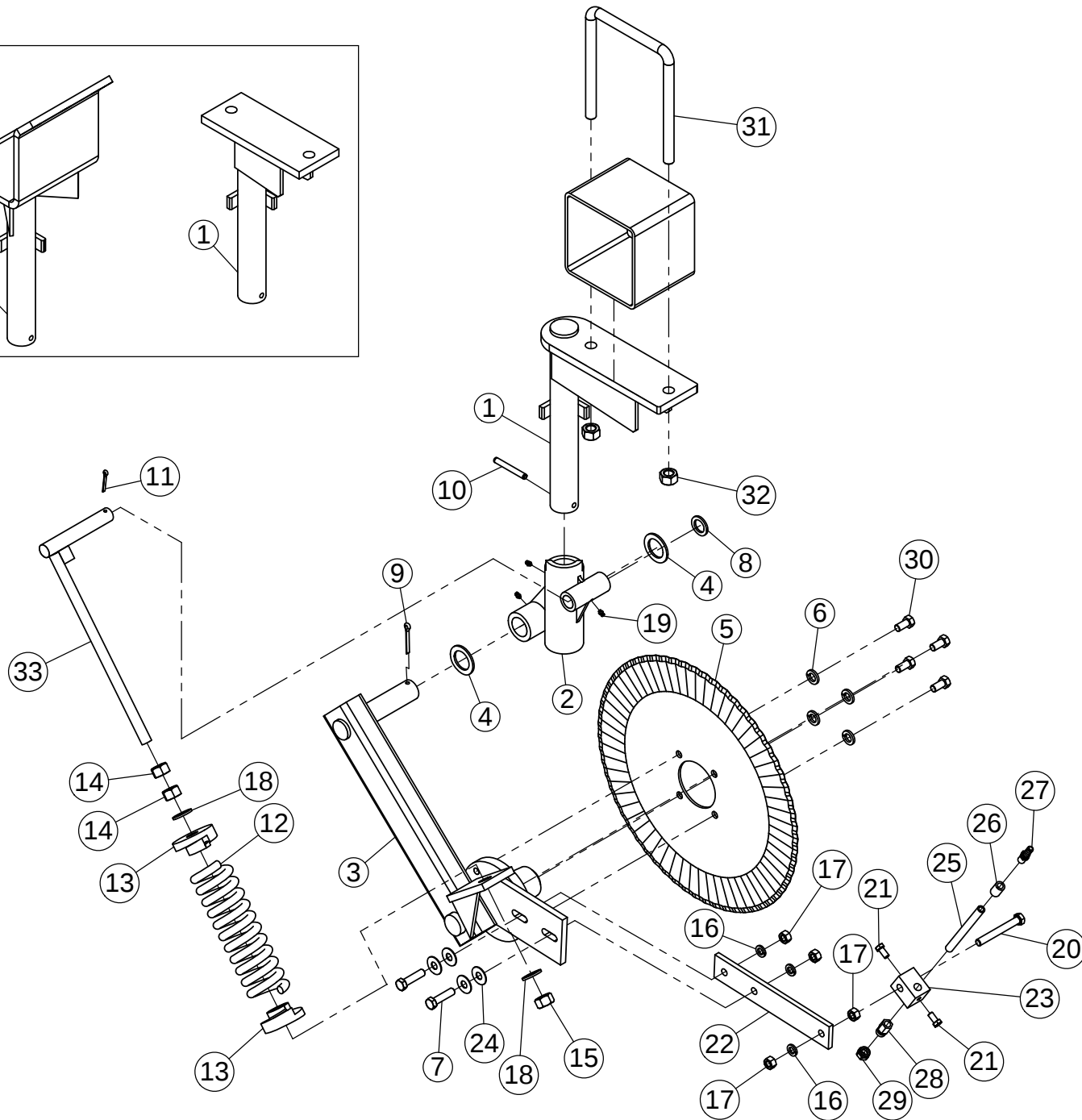
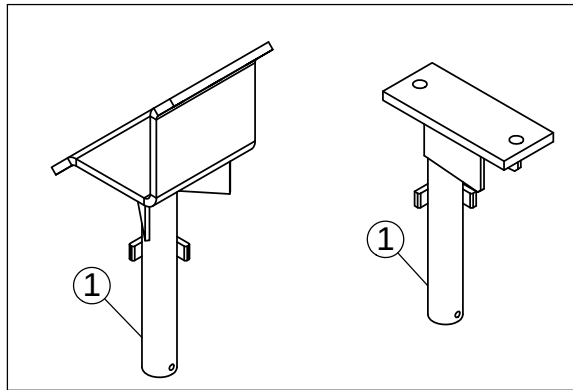
*BACK*



*FRONT*



# LIQUID INJECTION SWIVEL COULTER ASSEMBLY

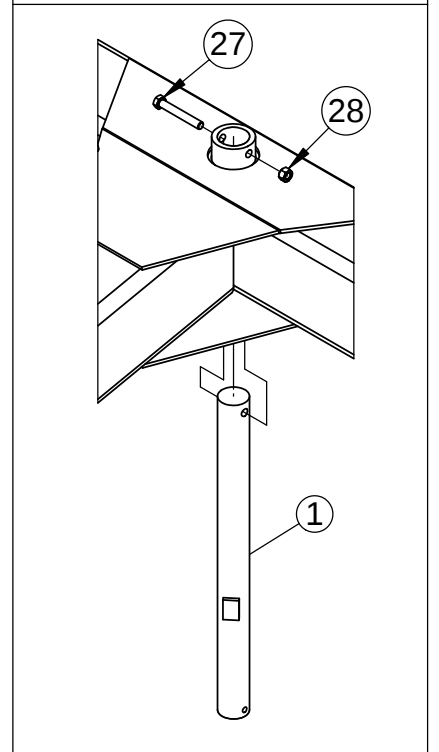
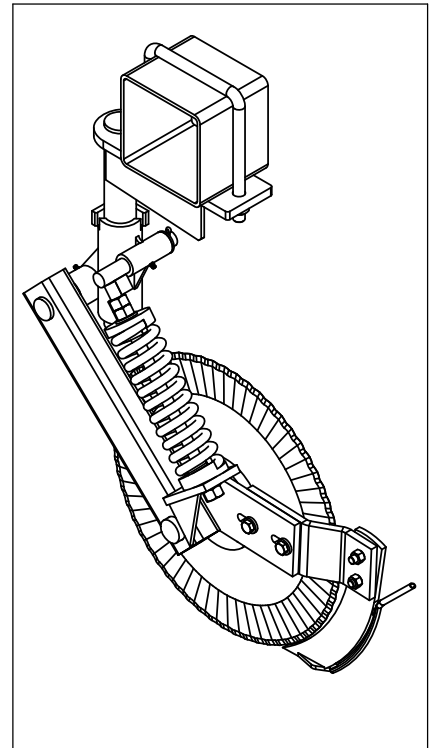
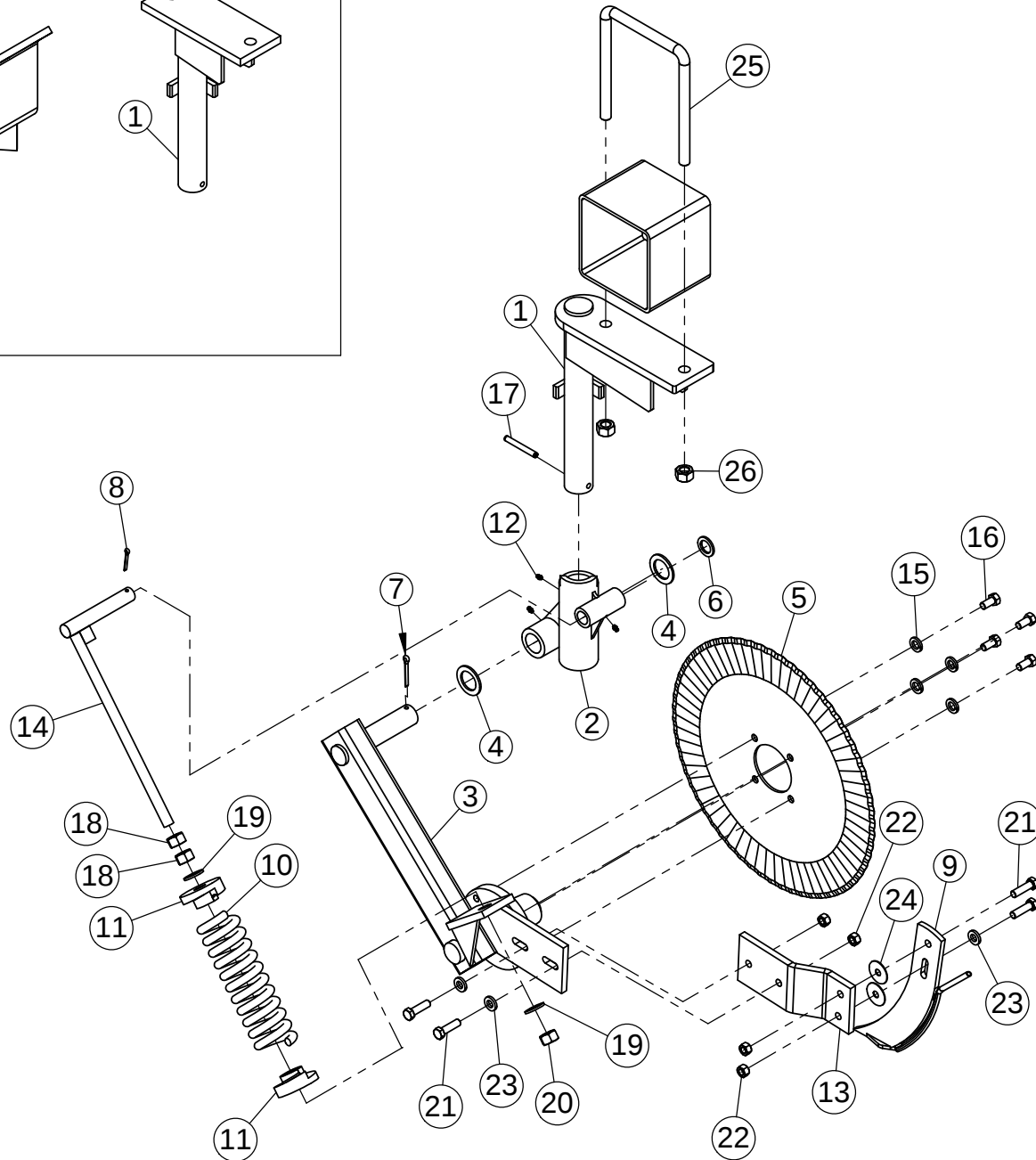
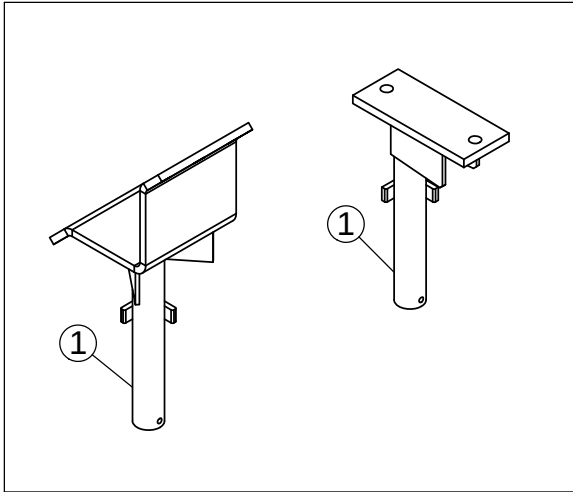


# LIQUID INJECTION SWIVEL COULTER ASSEMBLY

NOTES:

| ITEM NO. | PART NUMBER | Description1                                 | QTY. |
|----------|-------------|----------------------------------------------|------|
| 1        | 76801698    | Swivel Coulter Mounting Bracket Weldment     | 1    |
| -        | 76802076    | SWIVEL COULTER OFFSET MOUNT                  | -    |
| -        | 76801884    | WHEEL CLAMP WELDMENT                         | -    |
| -        | 76801701    | CENTER SWIVEL COULTER PIN WELDMENT           | -    |
| 2        | 76450063    | LIQUID COULTER CAST SWIVEL                   | 1    |
| 3        | 768017881   | LIQUID COULTER ARM WELDMENT                  | 1    |
| 4        | 76101462    | 10 GA. X 1-1/2" MACHINE WASHER (ZINC PLATED) | 2    |
| 5        | 76400101    | 20" RIPPLE COULTER BLADE STRAIGHT            | 1    |
| -        | 764000097   | 20" SMOOTH COULTER - BLACK (NOT SHOWN)       | -    |
| 6        | 600382054   | LOCK WASHER 5/8"                             | 4    |
| 7        | 76101149SS  | 1/2"-13 X 2" HEX BOLT SS                     | 2    |
| 8        | 76101435    | 10 GA. X 1" MACHINE WASHER                   | 1    |
| 9        | 76101265    | 1/4" X 2" Cotter Pin                         | 1    |
| 10       | 76101425    | 3/8" X 3" ROLL PIN                           | 1    |
| 11       | 76101246    | 3/16" X 1-1/2" COTTER PIN                    | 1    |
| 12       | 76400095    | 10 1/4" COULTER COMPRESSION SPRING - BLACK   | 1    |
| 13       | 76400096    | SPRING CASTING FOR OUR#400095 - BLACK        | 2    |
| 14       | 76101215    | 3/4"-10 HEX NUT-PLT                          | 2    |
| 15       | 600365019   | STANDARD NUT 3/4"                            | 1    |
| 16       | 76101222SS  | 1/2" LOCK WASHER-STAINLESS STEEL             | 3    |
| 17       | 76101213SS  | 1/2"-13 HEX NUT-STAINLESS STEEL              | 4    |
| 18       | 76101233    | 3/4" FLAT WASHER-PLT                         | 2    |
| 19       | 76101252    | 1/4"-28 STRAIGHT GREASE ZERK                 | 3    |
| 20       | 76101153SS  | 1/2"-13 X 4" HEX BOLT SS                     | 1    |
| 21       | 76101281SS  | 3/8"-16 X 3/4" HEX BOLT SS                   | 2    |
| 22       | 760000136   | COULTER INJECTION ARM                        | 1    |
| 23       | 76400103    | INJECTION TUBE MOUNTING BLOCK                | 1    |
| 24       | 76101231SS  | 1/2" FLAT WASHER-STAINLESS STEEL             | 4    |
| 25       | 76700279    | 1/4 NPT X 6 STAINLESS STEEL NIPPLE"          | 1    |
| 26       | 76700307    | 1/4" FNPT STAINLESS BUSHING                  | 1    |
| 27       | 76700277    | 1/4 NPT X 3/8 HOSE BARB"                     | 1    |
| 28       | 76700289    | TEEJET T-BODY FITTING                        | 1    |
| 29       | 76700288    | TEEJET CAP S.S. - CP1325-SS                  | 1    |
| 30       | 76301150    | LUG BOLT - 1/2"-20 X 1"                      | 4    |
| 31       | 76101316    | 3/4"-10 X 7" X 9" U-BOLT-PLT                 | 1    |
| 32       | 600366024   | STOVER LOCKNUT TYPE C - 3/4" - UNC           | 2    |
| 33       | 76801789    | TENSION ROD WELDMENT FOR CAST                | 1    |
| 34       | 600356137   | BOLT 1/2" X 3 1/2" GR. 5                     | 1    |
| 35       | 600366030   | STOVER LOCKNUT TYPE C - 1/2" - UNC           | 1    |

# LIQUID SIDEDRESS SWIVEL COULTER ASSEMBLY



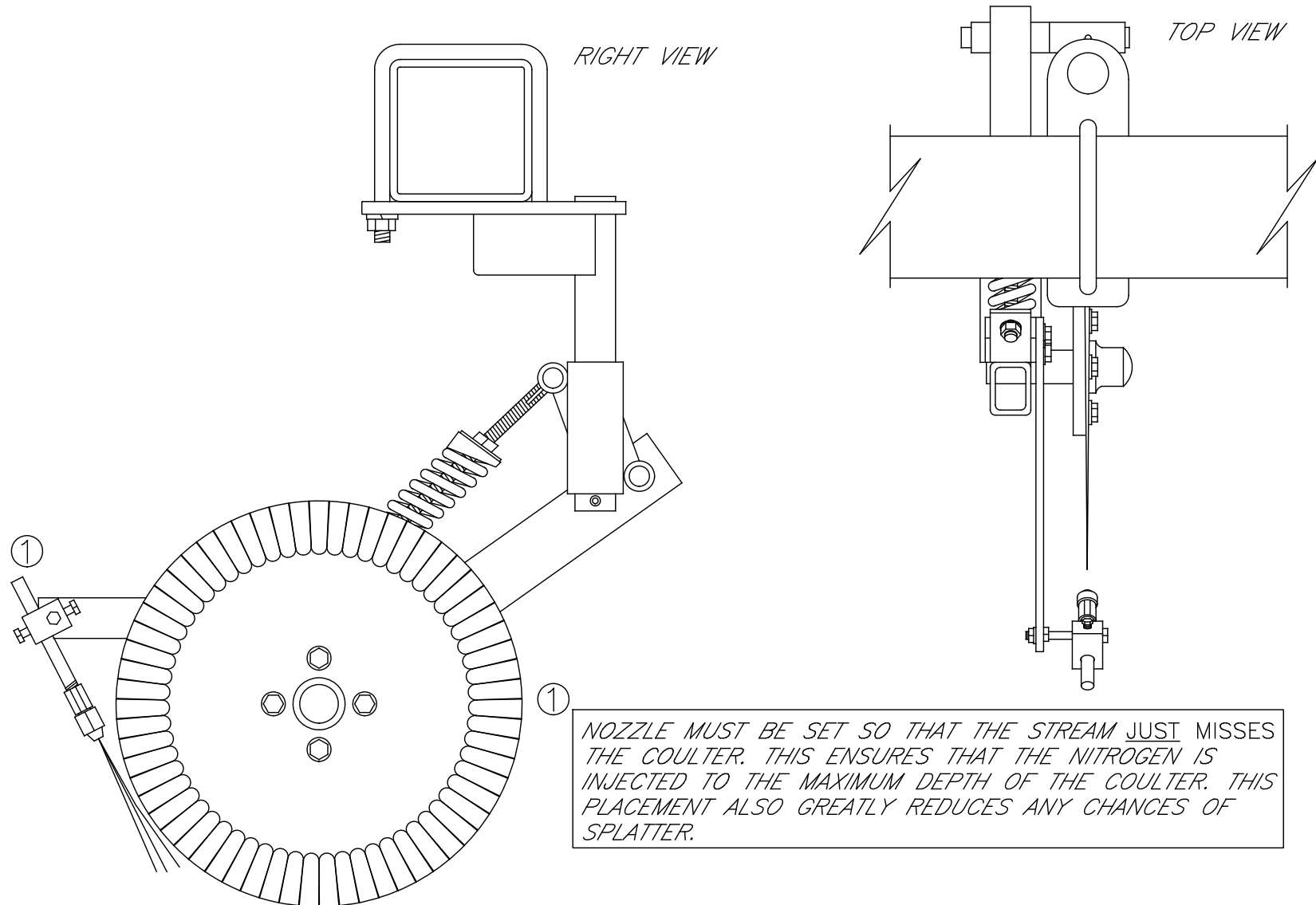
# LIQUID SIDEDRESS SWIVEL COULTER ASSEMBLY

NOTES: IF NEEDED, USE SHIM(S) (24)  
SO KNIFE IS TRUE WITH BLADE

| ITEM NO. | PART NUMBER | Description1                                     | QTY. |
|----------|-------------|--------------------------------------------------|------|
| 1        | 76801698    | Swivel Coulter Mounting Bracket Weldment         | 1    |
| -        | 76802076    | SWIVEL COULTER OFFSET MOUNT                      | -    |
| -        | 76801884    | WHEEL CLAMP WELDMENT                             | -    |
| -        | 76801701    | CENTER SWIVEL COULTER PIN WELDMENT               | -    |
| 2        | 76450063    | LIQUID COULTER CAST SWIVEL                       | 1    |
| 3        | 768017881   | LIQUID COULTER ARM WELDMENT                      | 1    |
| 4        | 76101462    | 10 GA. X 1-1/2" MACHINE WASHER (ZINC PLATED)     | 2    |
| 5        | 76400101    | 20" RIPPLE COULTER BLADE STRAIGHT                | 1    |
| -        | 764000097   | 20" SMOOTH COULTER - BLACK (NOT SHOWN)           | -    |
| 6        | 76101435    | 10 GA. X 1" MACHINE WASHER                       | 1    |
| 7        | 76101265    | 1/4" X 2" Cotter Pin                             | 1    |
| 8        | 76101246    | 3/16" X 1-1/2" COTTER PIN                        | 1    |
| 9        | 76450078    | LIQUID SIDEDRESS KNIFE                           | 1    |
| 10       | 76400095    | 10 1/4" COULTER COMPRESSION SPRING - BLACK       | 1    |
| 11       | 76400096    | SPRING CASTING FOR OUR#400095 - BLACK            | 2    |
| 12       | 76101252    | 1/4"-28 STRAIGHT GREASE ZERK                     | 3    |
| 13       | 760000134   | KNIFE BRACKET                                    | 1    |
| 14       | 76801789    | TENSION ROD WELDMENT FOR CAST                    | 1    |
| 15       | 600382054   | LOCK WASHER 5/8"                                 | 4    |
| 16       | 76301150    | LUG BOLT - 1/2"-20 X 1"                          | 4    |
| 17       | 76101425    | 3/8" X 3" ROLL PIN                               | 1    |
| 18       | 76101215    | 3/4"-10 HEX NUT-PLT                              | 2    |
| 19       | 76101233    | 3/4" FLAT WASHER-PLT                             | 2    |
| 20       | 600365019   | STANDARD NUT 3/4"                                | 1    |
| 21       | 7600356139  | 1/2"-20 X 1-3/4" HEX BOLT PLT. GR.5 UNF          | 4    |
| 22       | 7600366050  | STOVER LOCK NUT 1/2" TYPE C PLATED UNF           | 4    |
| 23       | 7600381055  | FLAT WASHER 1/2" (.172" THICK )                  | 3    |
| 24       | 7600381015  | FLAT WASHER 1/2" X 1-3/4" O.D. X .062" THICKNESS | 2    |
| 25       | 76101316    | 3/4"-10 X 7" X 9" U-BOLT-PLT                     | 1    |
| 26       | 600366024   | STOVER LOCKNUT TYPE C - 3/4" - UNC               | 2    |
| 27       | 600356137   | BOLT 1/2" X 3 1/2" GR. 5                         | 1    |
| 28       | 600366030   | STOVER LOCKNUT TYPE C - 1/2" - UNC               | 1    |

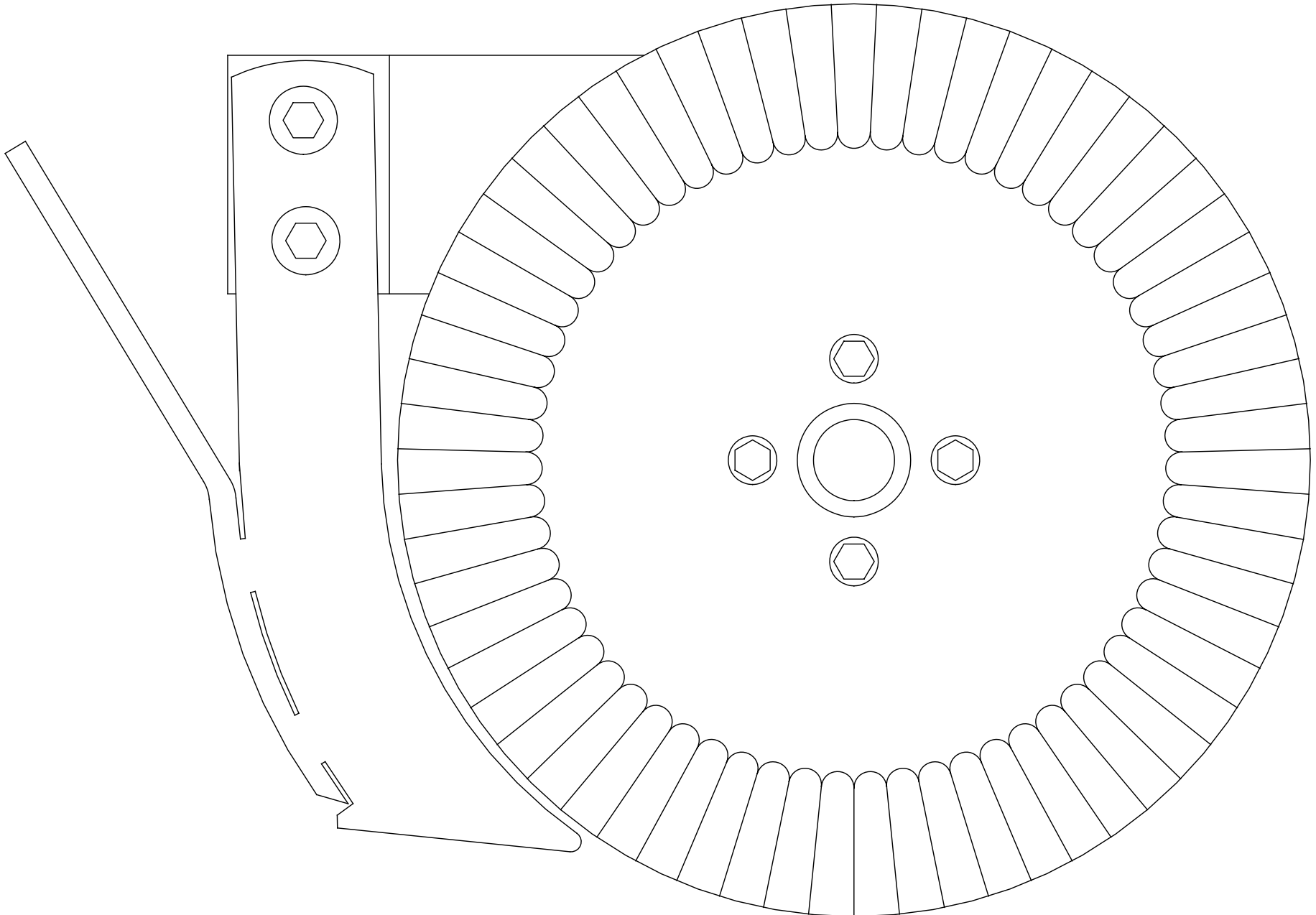
## INJECTOR PLACEMENT

AS ILLUSTRATED ON THE COULTER ASSEMBLY PAGE, ASSEMBLE  $1/4"$  COUPLER, AND THE  $1/4 \times 3/8"$  HOSE BARB TO  $3/8 \times 6"$  NIPPLE. PLACE NIPPLE THROUGH BLOCK AND TIGHTEN INTO THE PROPER POSITION. ATTACH THE TYPE-T NOZZLE BODY, PROPER SIZE STAINLESS ORIFICE AND THE NOZZLE CAP. THE PROPER SIZE NOZZLE SHOULD BE CHOSEN TO MAINTAIN 40 TO 60 p.s.i. FOR THE RATE AND SPEED THAT WILL BE USED.

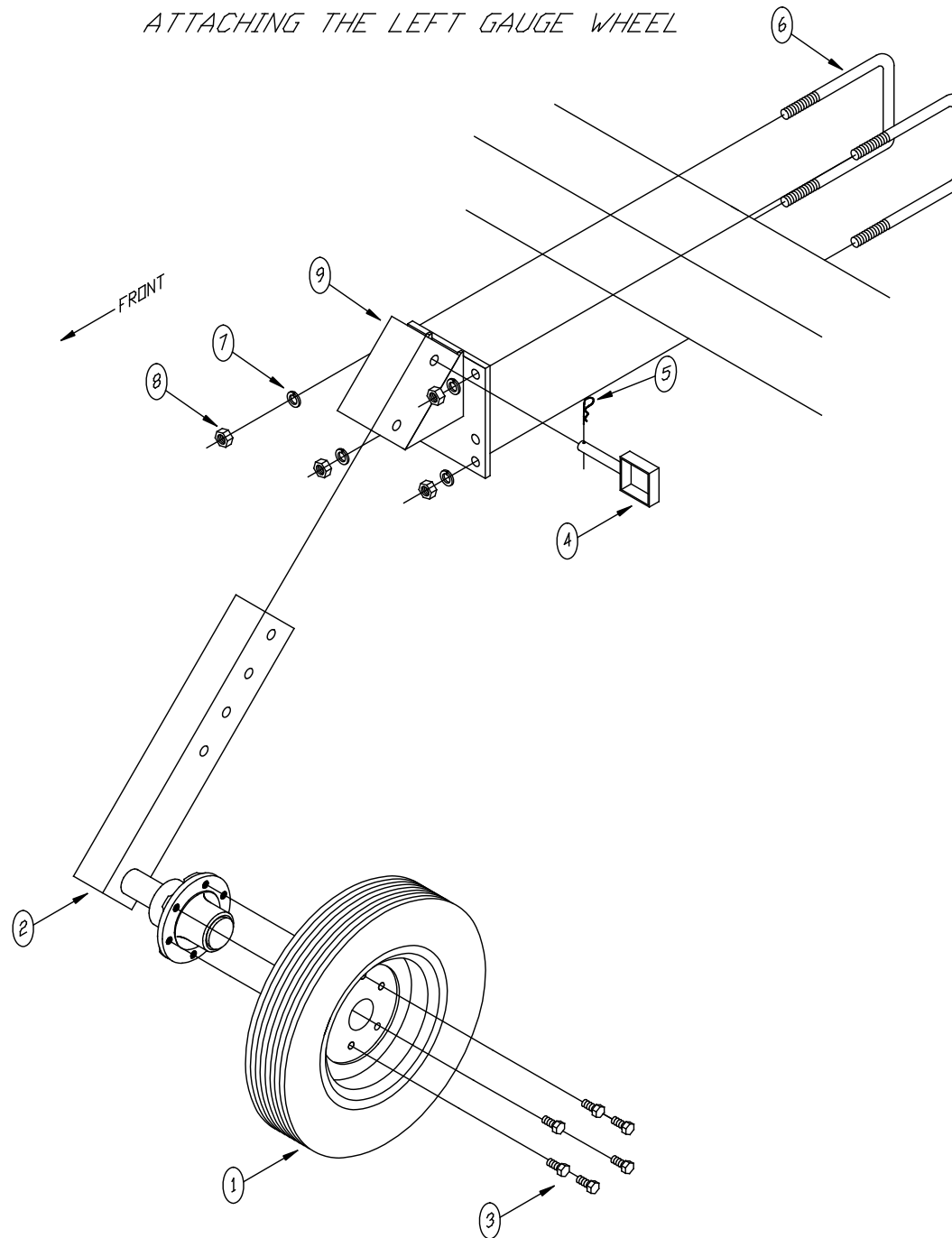


## INJECTOR KNIFE PLACEMENT (2450InJ/KnPlc)

PLACE POINT OF KNIFE AS CLOSE TO DISC AS  
POSSIBLE WITHOUT TOUCHING, THEN MOVE TOP OF KNIFE BACK 1/4".  
BE SURE KNIFE IS CENTERED WITH DISC BLADE.



*ATTACHING THE LEFT GAUGE WHEEL*



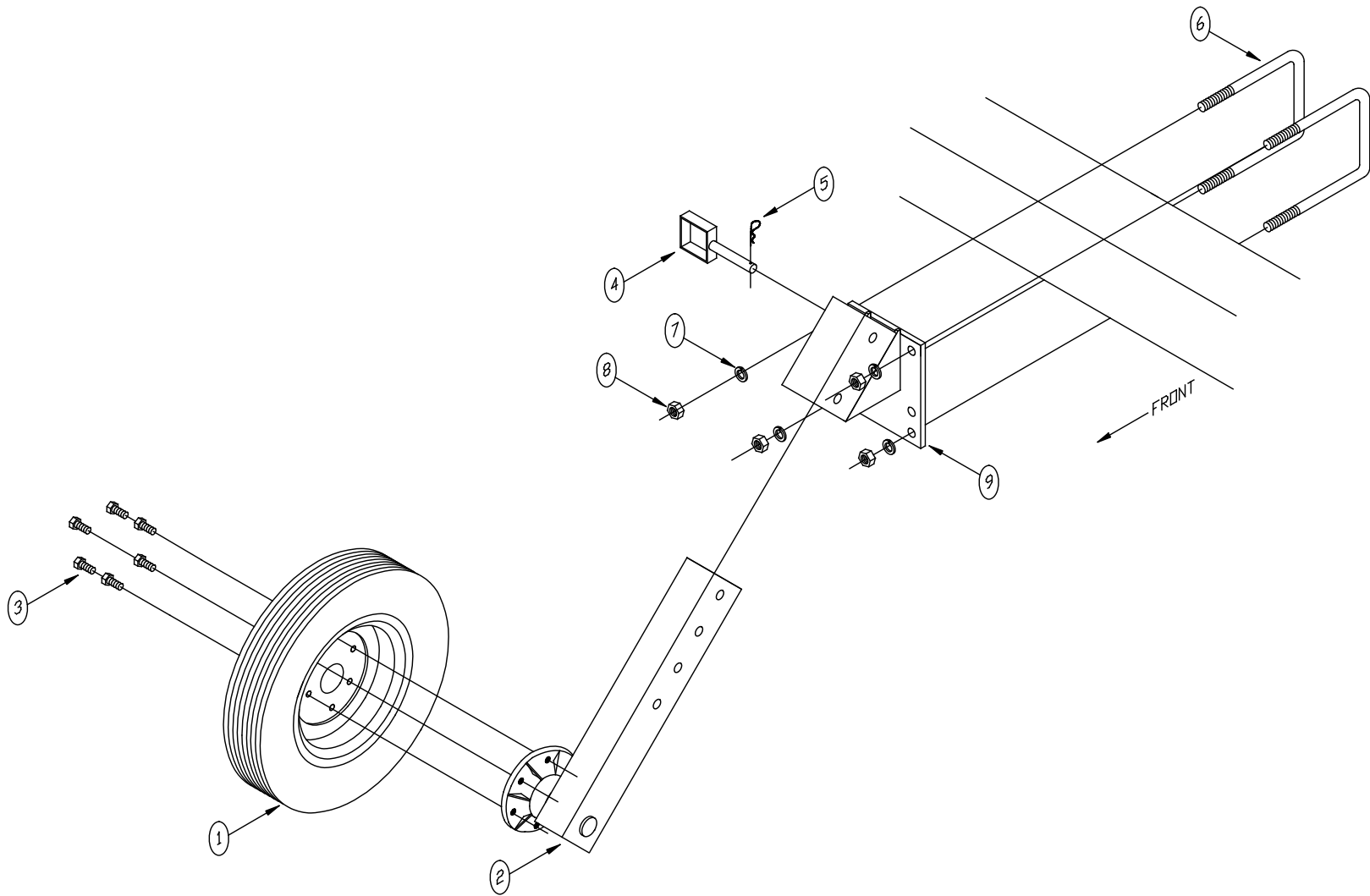
# *ATTACHING THE LEFT GAUGE WHEEL*

## *NOTES:*

| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i>     | <i>DESCRIPTION</i>                                    |
|-------------|------------|------------------|-------------------------------------------------------|
| <i>1</i>    | <i>1</i>   | <i>301259</i>    | <i>9.5L15 8 PLY TIRE &amp; 6X15-6 HOLE WHEEL ASS.</i> |
| <i>2</i>    | <i>1</i>   | <i>763012661</i> | <i>LEFT GAUGE WHEEL ASSEMBLY</i>                      |
| <i>3</i>    | <i>6</i>   | <i>301151</i>    | <i>9/16-18 UNF. X 1-1/8" - LUG BOLT</i>               |
| <i>4</i>    | <i>1</i>   | <i>802046</i>    | <i>GAUGE WHEEL PIN</i>                                |
| <i>5</i>    | <i>1</i>   | <i>101265</i>    | <i>1/4 X 2" - COTTER PIN</i>                          |
| <i>6</i>    | <i>2</i>   | <i>76101316</i>  | <i>3/4-10 X 7 X 9" - U-BOLT PLT.</i>                  |
| <i>7</i>    | <i>4</i>   | <i>101224</i>    | <i>3/4" LOCK WASHER - PLT.</i>                        |
| <i>8</i>    | <i>4</i>   | <i>101215</i>    | <i>3/4-10 HEX NUT - PLT.</i>                          |
| <i>9</i>    | <i>1</i>   | <i>802045</i>    | <i>GAUGE WHEEL MOUNTING BRACKET</i>                   |

*THE GAUGE WHEEL MOUNTING BRACKET (ITEM #9) ATTACHES TO THE OUTER WING.*

*ATTACHING THE RIGHT GAUGE WHEEL*



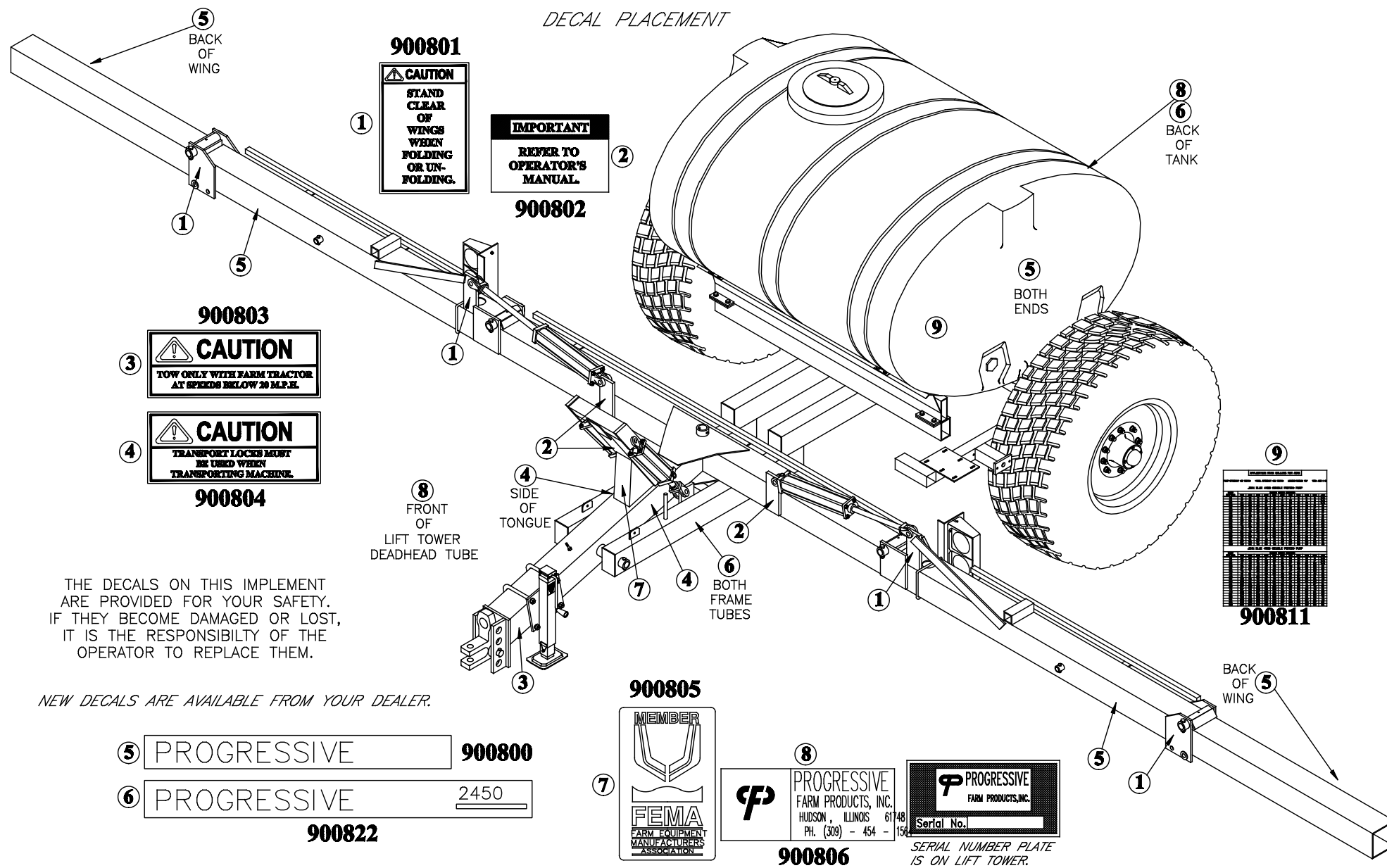
# *ATTACHING THE RIGHT GAUGE WHEEL*

## *NOTES:*

| <i>ITEM</i> | <i>QTY</i> | <i>PART#</i>     | <i>DESCRIPTION</i>                                    |
|-------------|------------|------------------|-------------------------------------------------------|
| <i>1</i>    | <i>1</i>   | <i>301259</i>    | <i>9.5L15 8 PLY TIRE &amp; 6X15-6 HOLE WHEEL ASS.</i> |
| <i>2</i>    | <i>1</i>   | <i>763012661</i> | <i>RIGHT GAUGE WHEEL ASSEMBLY</i>                     |
| <i>3</i>    | <i>6</i>   | <i>301151</i>    | <i>9/16-18 UNF. X 1-1/8 - LUG BOLT</i>                |
| <i>4</i>    | <i>1</i>   | <i>802046</i>    | <i>GAUGE WHEEL PIN</i>                                |
| <i>5</i>    | <i>1</i>   | <i>101265</i>    | <i>1/4 X 2" - COTTER PIN</i>                          |
| <i>6</i>    | <i>2</i>   | <i>76101316</i>  | <i>3/4-10 X 7 X 9" - U-BOLT PLT.</i>                  |
| <i>7</i>    | <i>4</i>   | <i>101224</i>    | <i>3/4" LOCK WASHER - PLT.</i>                        |
| <i>8</i>    | <i>4</i>   | <i>101215</i>    | <i>3/4-10 HEX NUT - PLT.</i>                          |
| <i>9</i>    | <i>1</i>   | <i>802045</i>    | <i>GAUGE WHEEL MOUNTING BRACKET</i>                   |

*THE GAUGE WHEEL MOUNTING BRACKET (ITEM #9) ATTACHES TO THE OUTER WING.*

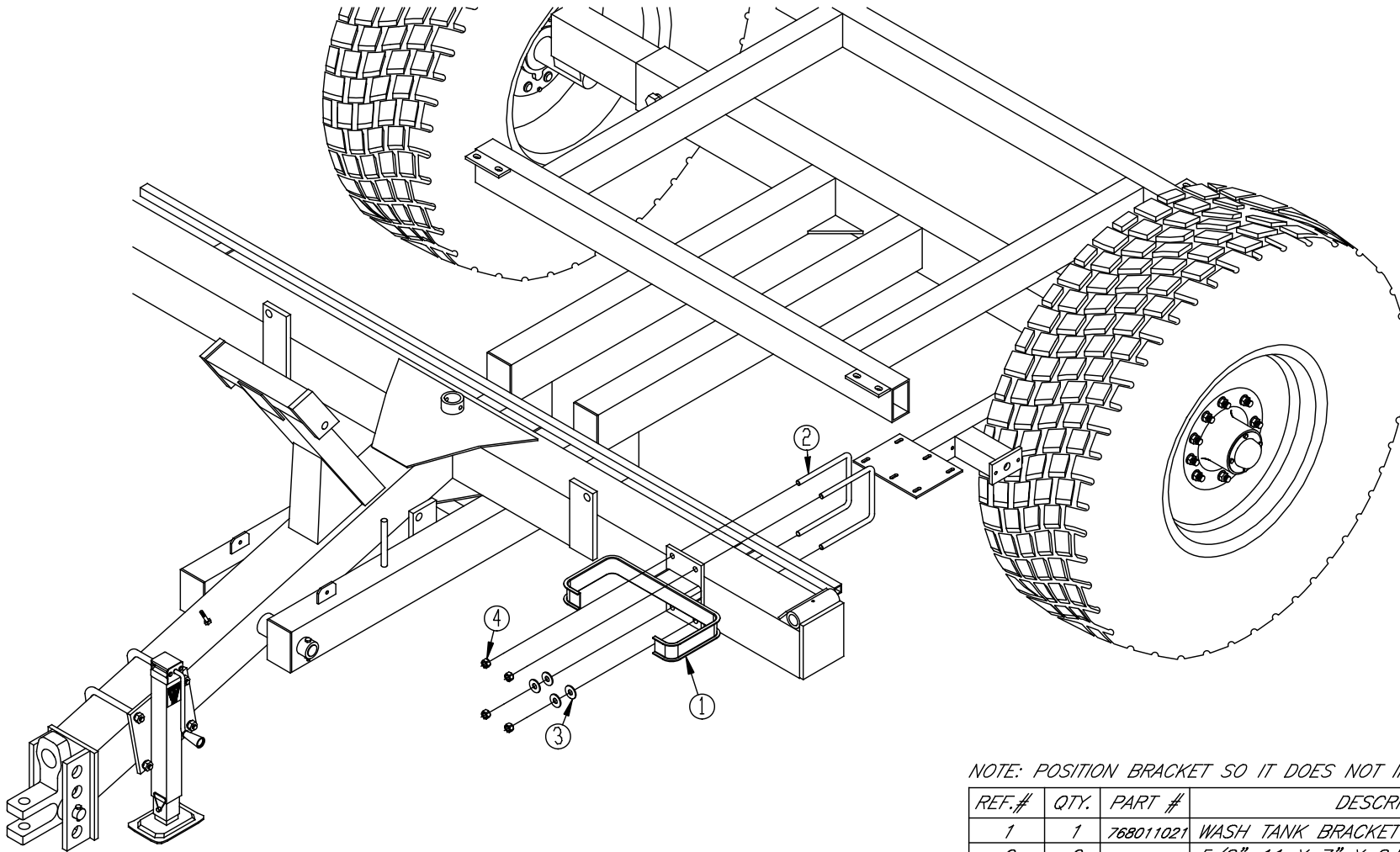
# DECAL PLACEMENT



THE DECALS ON THIS IMPLEMENT ARE PROVIDED FOR YOUR SAFETY. IF THEY BECOME DAMAGED OR LOST, IT IS THE RESPONSIBILITY OF THE OPERATOR TO REPLACE THEM.

NEW DECALS ARE AVAILABLE FROM YOUR DEALER.

# ATTACHING THE WASH TANK BRACKET WELDMENT

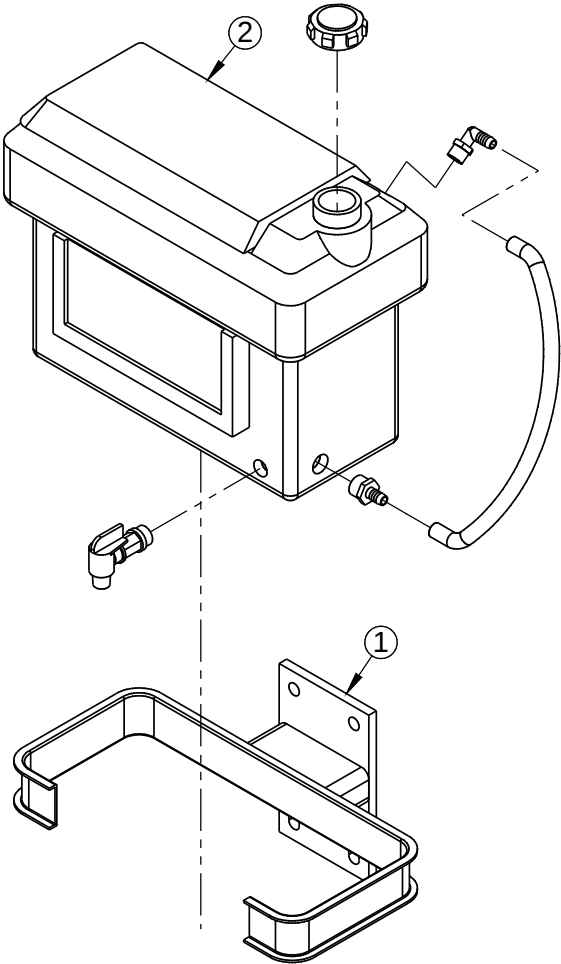


NOTE: POSITION BRACKET SO IT DOES NOT INTERFERE WITH ROW UNITS

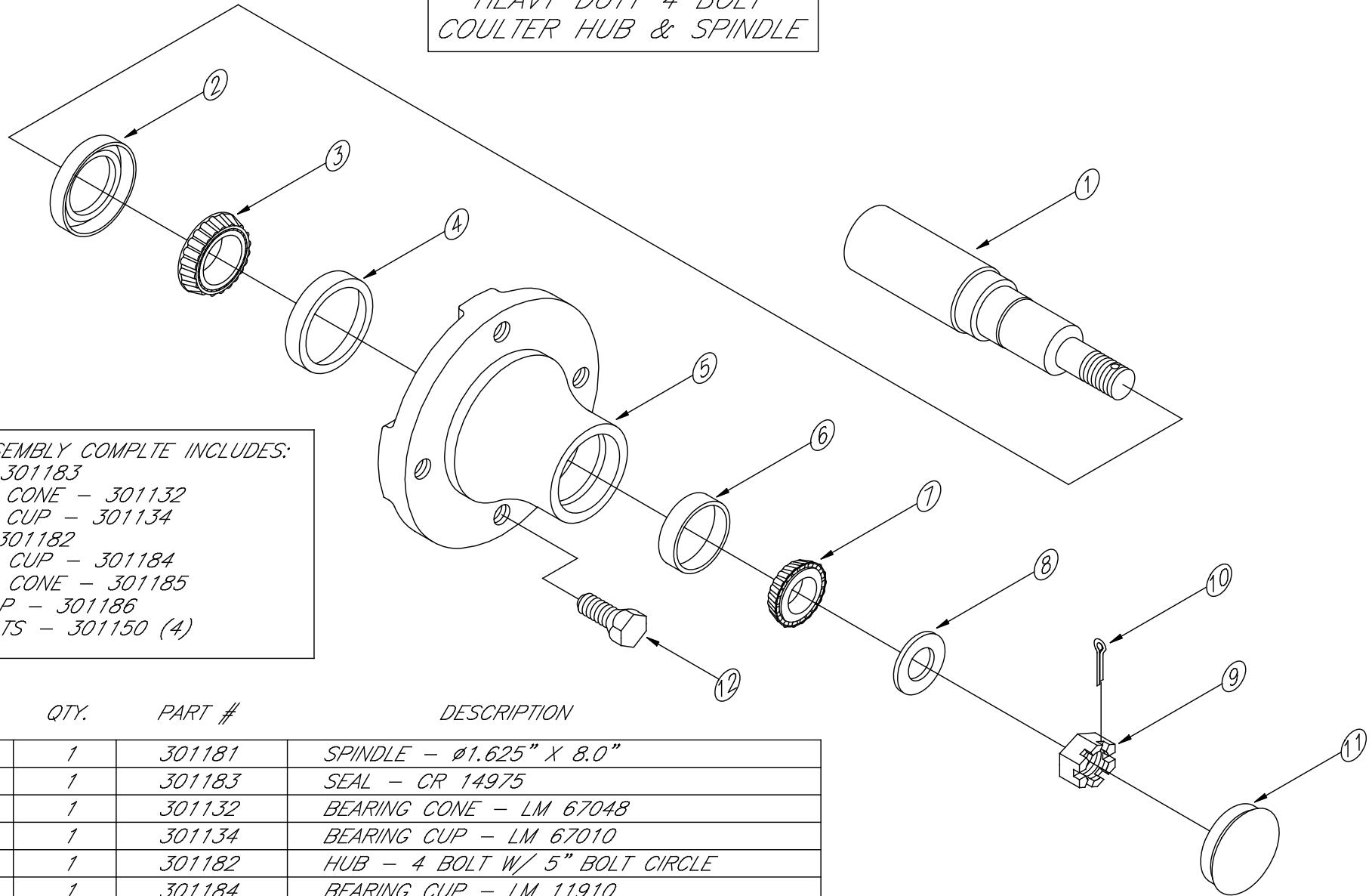
| REF.# | QTY. | PART #    | DESCRIPTION                       |
|-------|------|-----------|-----------------------------------|
| 1     | 1    | 768011021 | WASH TANK BRACKET WELDMENT        |
| 2     | 2    | 76101311  | 5/8"-11 X 7" X 8.5" U-BOLT-PLT    |
| 3     | 4    | 600381020 | FLAT WASHER 5/8"                  |
| 4     | 4    | 600366031 | STOVER LOCKNUT TYPE C - 5/8" -UNC |

ATTACHING THE WASH TANK

| ITEM NO. | PART NUMBER | Description1               | QTY. |
|----------|-------------|----------------------------|------|
| 1        | 768011021   | WASH TANK BRACKET WELDMENT | 1    |
| 2        | 767500030   | WASH TANK - COMPLETE       | 1    |



# HEAVY DUTY 4 BOLT COULTER HUB & SPINDLE

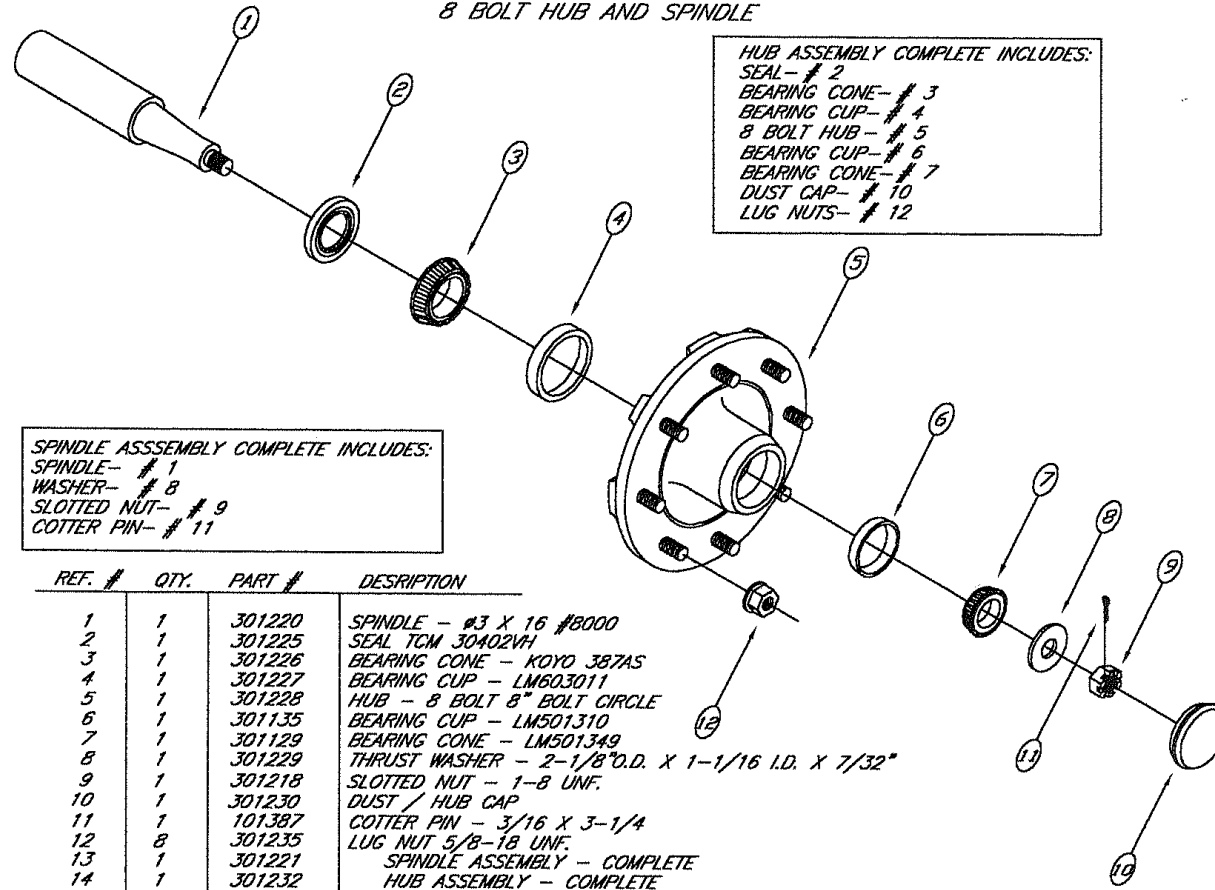


HUB ASSEMBLY COMPLTE INCLUDES:  
 SEAL - 301183  
 BEARING CONE - 301132  
 BEARING CUP - 301134  
 HUB - 301182  
 BEARING CUP - 301184  
 BEARING CONE - 301185  
 DUST CAP - 301186  
 LUG BOLTS - 301150 (4)

SPINDLE ASSEMBLY COMPLETE INCLUDES:  
 SPINDLE - 301181  
 WASHER - 301142  
 CASTELLATED NUT - 301153  
 COTTER PIN - 301152

| REF. # | QTY. | PART # | DESCRIPTION                                |
|--------|------|--------|--------------------------------------------|
| 1      | 1    | 301181 | SPINDLE - $\varnothing 1.625" \times 8.0"$ |
| 2      | 1    | 301183 | SEAL - CR 14975                            |
| 3      | 1    | 301132 | BEARING CONE - LM 67048                    |
| 4      | 1    | 301134 | BEARING CUP - LM 67010                     |
| 5      | 1    | 301182 | HUB - 4 BOLT W/ 5" BOLT CIRCLE             |
| 6      | 1    | 301184 | BEARING CUP - LM 11910                     |
| 7      | 1    | 301185 | BEARING CONE - LM 11949                    |
| 8      | 1    | 301142 | THRUST WASHER - 1.5" O.D. X .8125" I.D.    |
| 9      | 1    | 301153 | CASTELLATED NUT - 3/4-16 UNF               |
| 10     | 1    | 301152 | COTTER PIN - 5/32" X 1-3/4"                |
| 11     | 1    | 301186 | DUST CAP                                   |
| 12     | 4    | 301150 | LUG BOLT - 1/2-20 UNF X 1"                 |
| 13     | 1    | 301188 | SPINDLE ASSEMBLY - COMPLETE                |
| 14     | 1    | 301187 | HUB ASSEMBLY - COMPLETE                    |

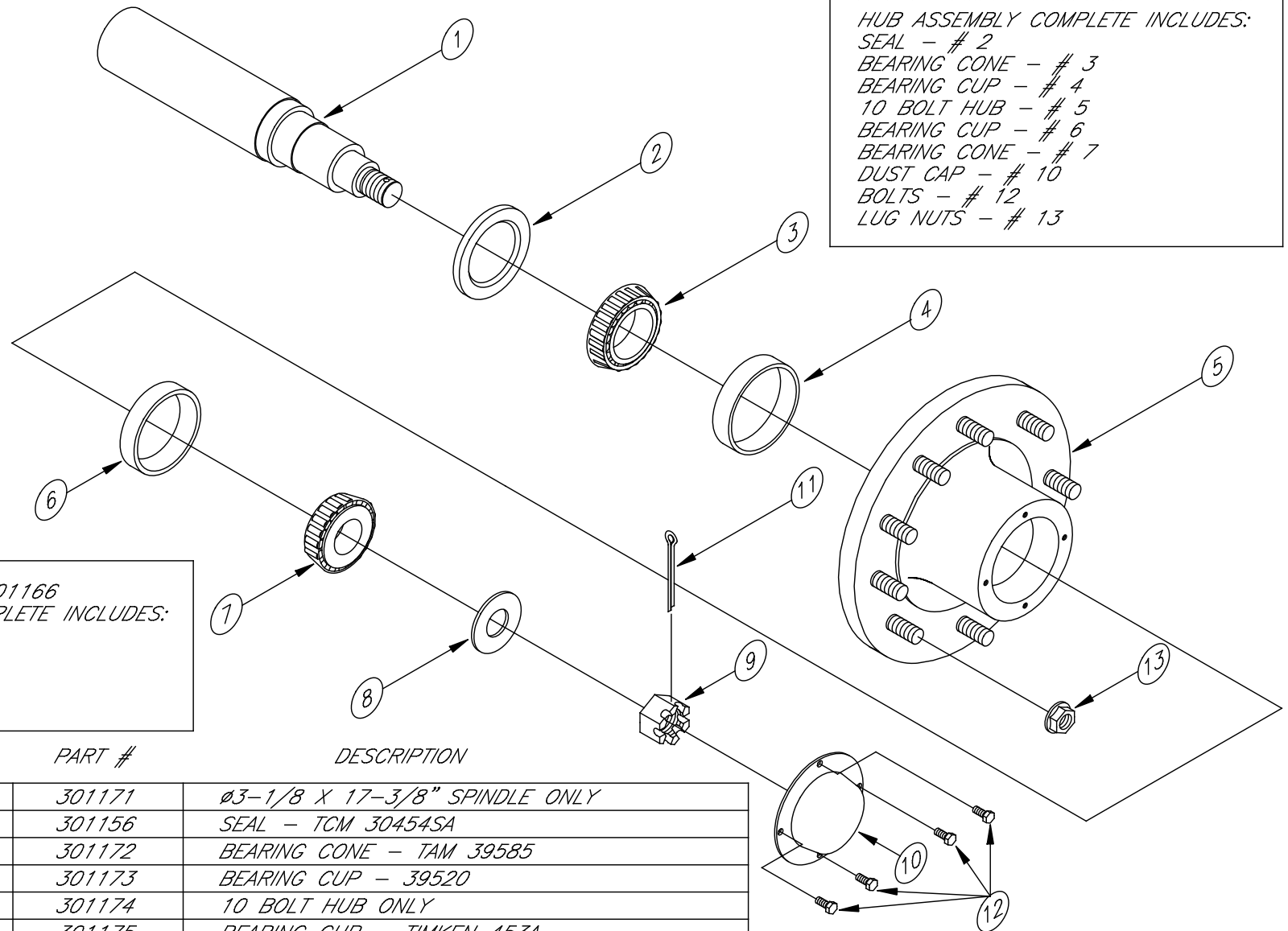
# 8 BOLT HUB AND SPINDLE



# 10 BOLT HUB & SPINDLE

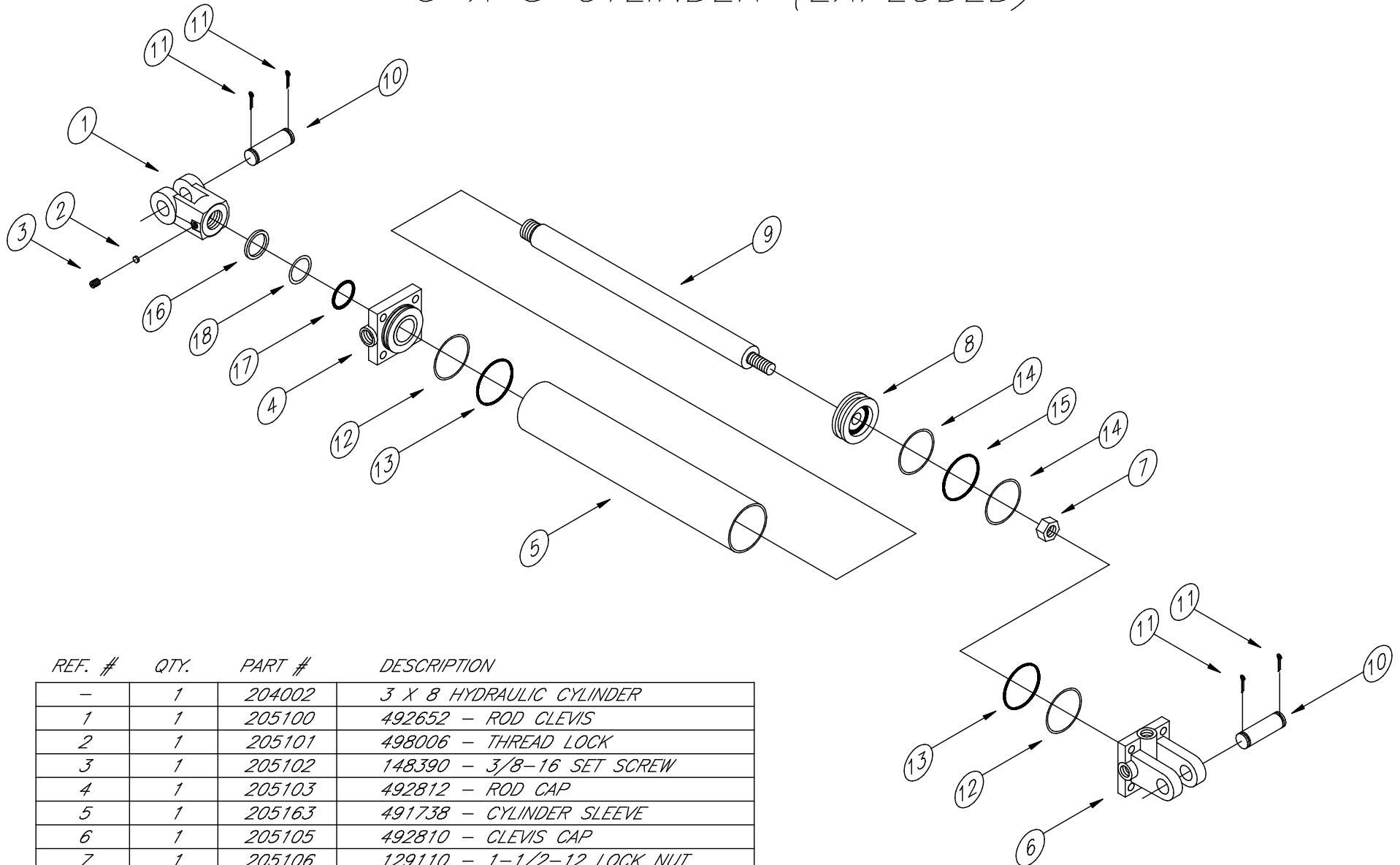
HUB ASSEMBLY COMPLETE - 301162  
HUB ASSEMBLY COMPLETE INCLUDES:  
SEAL - # 2  
BEARING CONE - # 3  
BEARING CUP - # 4  
10 BOLT HUB - # 5  
BEARING CUP - # 6  
BEARING CONE - # 7  
DUST CAP - # 10  
BOLTS - # 12  
LUG NUTS - # 13

SPINDLE COMPLETE - 301166  
SPINDLE ASSEMBLY COMPLETE INCLUDES:  
SPINDLE - # 1  
WASHER - # 8  
SLOTTED NUT - # 9  
COTTER PIN - # 11



| REF. # | QTY. | PART # | DESCRIPTION                                 |
|--------|------|--------|---------------------------------------------|
| 1      | 1    | 301171 | Ø3-1/8 X 17-3/8" SPINDLE ONLY               |
| 2      | 1    | 301156 | SEAL - TCM 30454SA                          |
| 3      | 1    | 301172 | BEARING CONE - TAM 39585                    |
| 4      | 1    | 301173 | BEARING CUP - 39520                         |
| 5      | 1    | 301174 | 10 BOLT HUB ONLY                            |
| 6      | 1    | 301175 | BEARING CUP - TIMKEN 453A                   |
| 7      | 1    | 301176 | BEARING CONE - TIMKEN 460                   |
| 8      | 1    | 301177 | WASHER - 3"O.D. X 1-1/4".I.D. X .160" THICK |
| 9      | 1    | 301178 | SPINDLE NUT 1-1/4-12                        |
| 10     | 1    | 301179 | DUST CAP                                    |
| 11     | 1    | 101265 | COTTER PIN - 1/4" X 2"                      |
| 12     | 4    | 101113 | 5/16-18 X 3/4" HEX BOLT                     |
| 13     | 10   | 301189 | LUG NUT - 3/4-16                            |

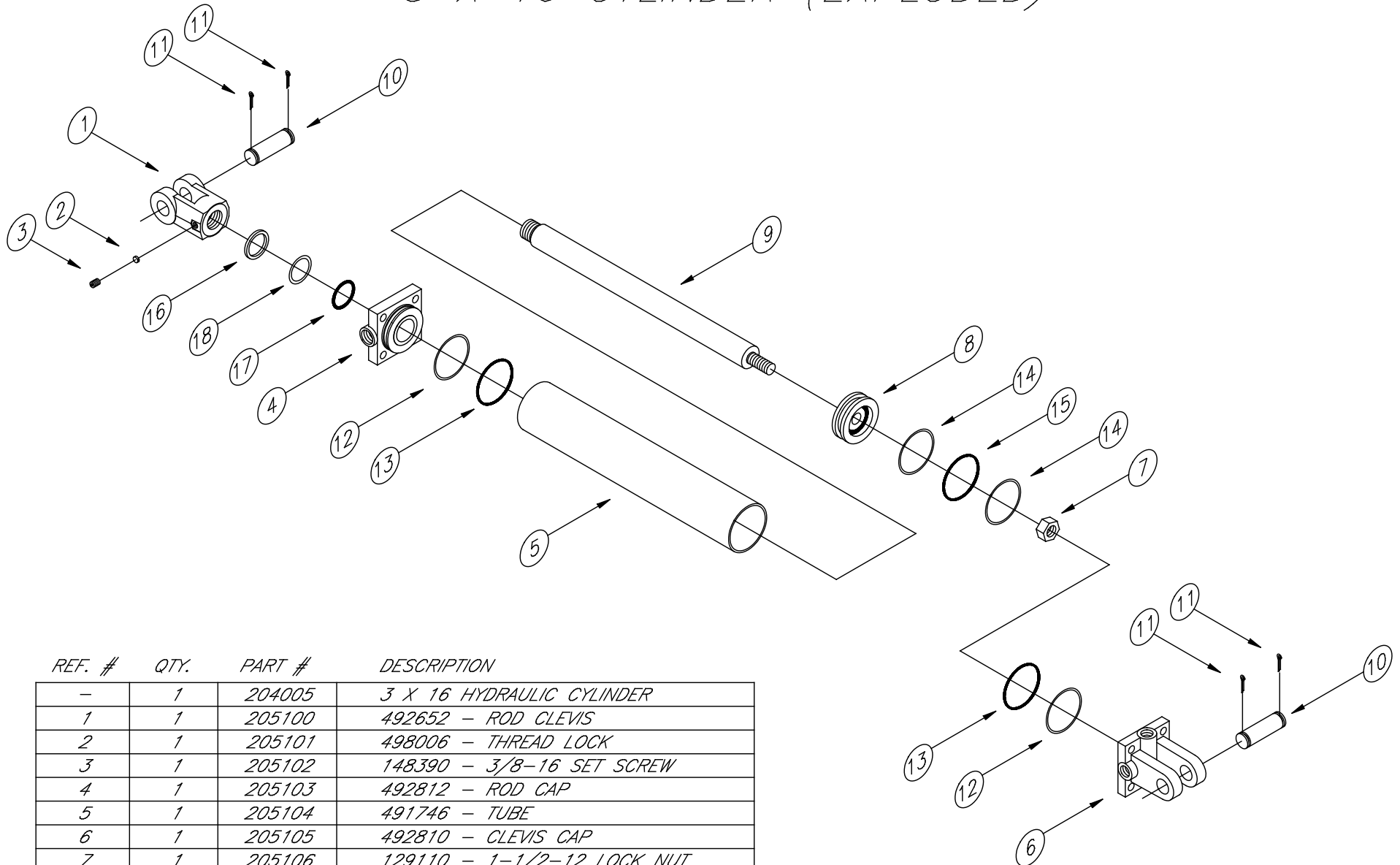
# LION 2500 TL SERIES 3 X 8 CYLINDER (EXPLODED)



| REF. # | QTY. | PART # | DESCRIPTION                      |
|--------|------|--------|----------------------------------|
| —      | 1    | 204002 | 3 X 8 HYDRAULIC CYLINDER         |
| 1      | 1    | 205100 | 492652 — ROD CLEVIS              |
| 2      | 1    | 205101 | 498006 — THREAD LOCK             |
| 3      | 1    | 205102 | 148390 — 3/8-16 SET SCREW        |
| 4      | 1    | 205103 | 492812 — ROD CAP                 |
| 5      | 1    | 205163 | 491738 — CYLINDER SLEEVE         |
| 6      | 1    | 205105 | 492810 — CLEVIS CAP              |
| 7      | 1    | 205106 | 129110 — 1-1/2-12 LOCK NUT       |
| 8      | 1    | 205107 | 492520 — PISTON                  |
| 9      | 1    | 205162 | 492700 — CYLINDER ROD            |
| 10     | 2    | 602136 | Ø1" X 3-5/8" PLATED CYLINDER PIN |
| 11     | 4    | 101266 | Ø3/16" HAIRPIN                   |
| 12     | 2    | 205017 | #40 O-RING B.U.                  |
| 13     | 2    | 205018 | #10 O-RING                       |
| 14     | 2    | 205019 | #14 O-RING B.U.                  |

| REF. # | QTY. | PART # | DESCRIPTION       |
|--------|------|--------|-------------------|
| 15     | 1    | 205020 | #12 O-RING        |
| 16     | 1    | 205021 | #13 WIPER         |
| 17     | 1    | 205022 | #11 ROD O-RING    |
| 18     | 1    | 205023 | #24 ROD B.U.      |
| —      | 1    | 205016 | SEAL KIT COMPLETE |

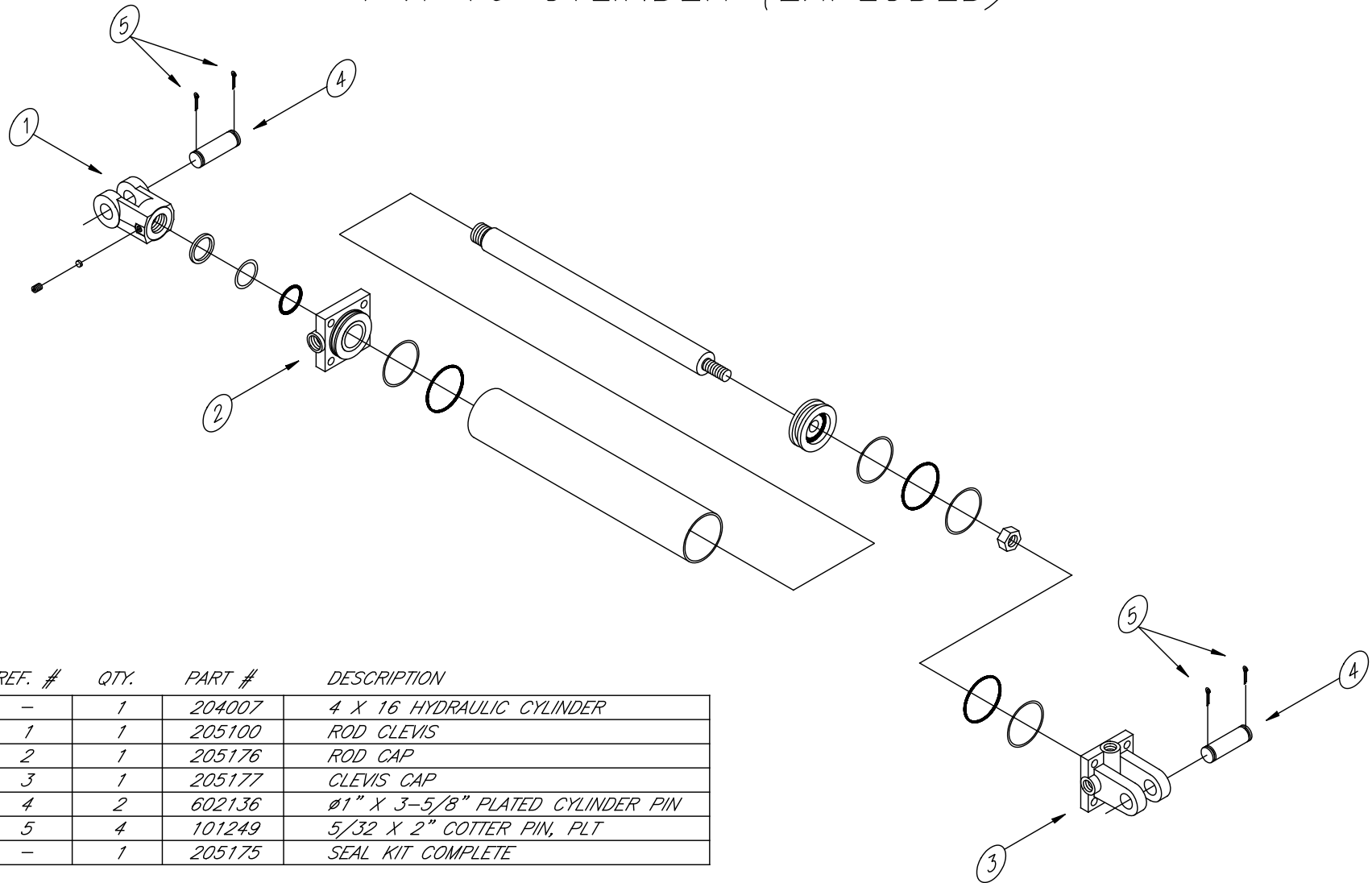
# LION 2500 TL SERIES 3 X 16 CYLINDER (EXPLODED)



| REF. # | QTY. | PART # | DESCRIPTION                      |
|--------|------|--------|----------------------------------|
| —      | 1    | 204005 | 3 X 16 HYDRAULIC CYLINDER        |
| 1      | 1    | 205100 | 492652 — ROD CLEVIS              |
| 2      | 1    | 205101 | 498006 — THREAD LOCK             |
| 3      | 1    | 205102 | 148390 — 3/8-16 SET SCREW        |
| 4      | 1    | 205103 | 492812 — ROD CAP                 |
| 5      | 1    | 205104 | 491746 — TUBE                    |
| 6      | 1    | 205105 | 492810 — CLEVIS CAP              |
| 7      | 1    | 205106 | 129110 — 1-1/2-12 LOCK NUT       |
| 8      | 1    | 205107 | 492520 — PISTON                  |
| 9      | 1    | 205108 | 492873 — ROD                     |
| 10     | 2    | 602136 | Ø1" X 3-5/8" PLATED CYLINDER PIN |
| 11     | 4    | 101266 | Ø3/16" HAIRPIN                   |
| 12     | 2    | 205017 | #40 O-RING B.U.                  |
| 13     | 2    | 205018 | #10 O-RING                       |
| 14     | 2    | 205019 | #14 O-RING B.U.                  |

| REF. # | QTY. | PART # | DESCRIPTION       |
|--------|------|--------|-------------------|
| 15     | 1    | 205020 | #12 O-RING        |
| 16     | 1    | 205021 | #13 WIPER         |
| 17     | 1    | 205022 | #11 ROD O-RING    |
| 18     | 1    | 205023 | #24 ROD B.U.      |
| —      | 1    | 205016 | SEAL KIT COMPLETE |

# LION 2500 SERIES 4 X 16 CYLINDER (EXPLODED)



| REF. # | QTY. | PART # | DESCRIPTION                      |
|--------|------|--------|----------------------------------|
| —      | 1    | 204007 | 4 X 16 HYDRAULIC CYLINDER        |
| 1      | 1    | 205100 | ROD CLEVIS                       |
| 2      | 1    | 205176 | ROD CAP                          |
| 3      | 1    | 205177 | CLEVIS CAP                       |
| 4      | 2    | 602136 | Ø1" X 3-5/8" PLATED CYLINDER PIN |
| 5      | 4    | 101249 | 5/32 X 2" COTTER PIN, PLT        |
| —      | 1    | 205175 | SEAL KIT COMPLETE                |





# Progressive Farm Products



19500 N 1425 East Road • Hudson, IL 61748-9450 • (309) 454-1564 • FAX (309) 452-1610

## WARRANTY

**Main Frame, Wings, Wheel Supports ..... Three (3) Years**  
**All Other Components, except tires .....One (1) Year**

Progressive Farm Products Inc. (PFP, Inc.) warrants each new PFP, Inc. product to be free from defects in material and workmanship. This warranty is in effect from the date of delivery to the original purchaser and is applicable only for the normal life expectancy of the machine or components, not to exceed the time periods listed above. Tires on PFP, Inc. equipment are warranted through the respective tire manufacturer. Contact a dealer of the manufacturer in your local area.

Under no circumstances will it cover any merchandise or components thereof which, in the opinion of the company, has been subjected to negligent handling, misuse, alternation, an accident, or if repairs have been made with parts other than those obtainable through PFP, Inc.

Our obligation under this warranty shall be limited to repairing or replacing, free of charge to the original purchaser any part that in our judgement shall show evidence of such defect, provided further that such part shall be returned within thirty (30) days from date of failure to PFP, Inc. through a dealer from whom the purchase was made, transportation charges prepaid.

This warranty shall not be interpreted to render us liable for injury or damages of any kind of nature, direct, consequential, or contingent to person or property. This warranty does not extend to loss of crops, loss because of delay or any expense of loss incurred for labor, supplies, substitute machinery, rental, or for any other reason.

There are no warranties, either expressed or implied, of merchantability of fitness for particular purpose intended or fitness for any other reason.

This warranty is subject to any existing conditions of supply, which may directly affect our ability to obtain materials or manufacture replacement parts.

PFP, Inc. reserves the right to make improvements in design or changes in specifications at any time without incurring any obligations to owners of units previously sold.

No one is authorized to alter, modify, or enlarge this warranty nor the exclusions, limitations, and reservations.

**Progressive Farm Products Warranty does not include  
cost of travel time, mileage, hauling, or labor.**