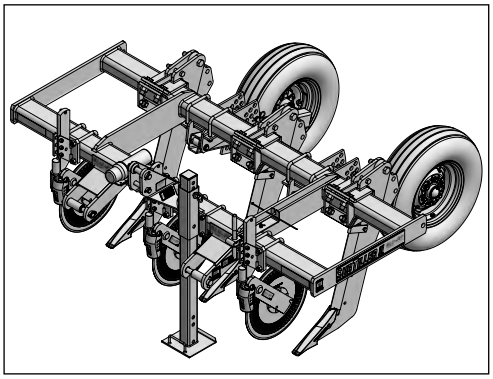
BLU-JET by Unverferth

Primary Tillage



SubTiller® II

3-Point Frame — 3 Shank 30”, 5 Shank 30”/38”, 7 Shank 30”

Beginning with Serial Number A66840100

Part No. J0500000

Foreword

This symbol identifies important safety messages. When you see it, read the message that follows and be alert to the possibility of personal injury.

Remember, safety instructions stated in this manual are for your protection. Read them carefully and follow them closely when working around or using this machine.

Read and study this manual completely before attempting to operate this implement. Take this manual to the field for handy reference when operating, adjusting, or servicing your machine.

When referenced, “Right-Hand” (RH) and “Left-Hand” (LH) side of the machine are determined by standing behind the machine and facing in the direction of travel.

Pre-Delivery Checklist

- ☐ Hardware tightened
- ☐ Machine lubricated
- ☐ Safety and operating procedures reviewed
- ☐ Field adjustment information reviewed
- ☐ Warranty information reviewed

Product Information

When ordering parts or when requesting further information or assistance, always give the following information:

- Machine name
- Model number
- Serial number

All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

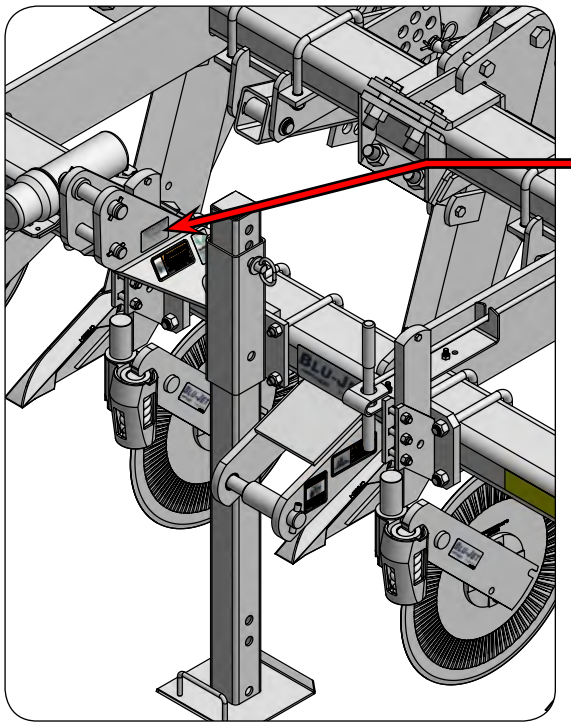
Please fill out and retain this portion for your records.

Purchase Date _____ Model _____Serial No._____

Dealer _____ City _____

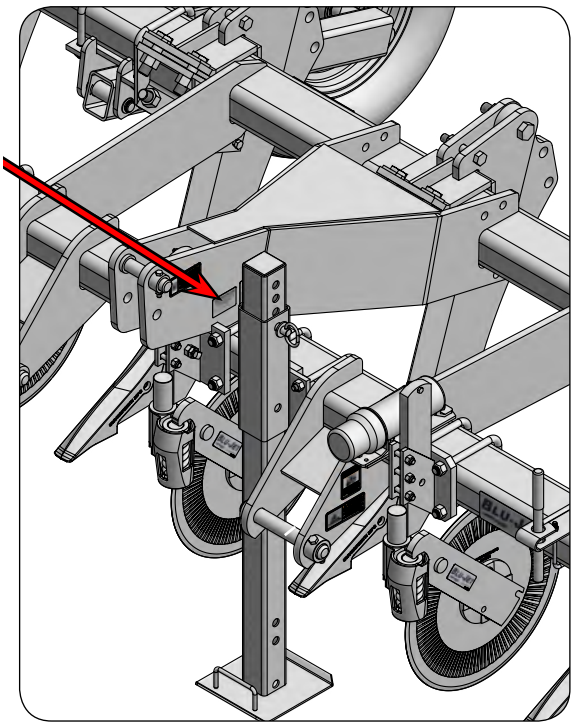
Dealer Contact _____ Phone _____

3 Row Units



Serial Number Location

5 & 7 Row Units



IMPORTANT

The information, specifications, and illustrations in the manual are based on the information available at the time it was written. Due to continuing improvements in the design and manufacture of Unverferth products, all specifications and information contained herein are subject to change without notice.

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SECTION I
Safety

General Hazard Information

No accident-prevention program can be successful without the wholehearted cooperation of the person who is directly responsible for the operation of the equipment.

A large number of accidents can be prevented only by the operator anticipating the result before the accident is caused and doing something about it. No power-driven equipment, whether it be transportation or processing, whether it be on the highway, in the field, or in the industrial plant, can be safer than the person who is at the controls. If accidents are to be prevented--and they can be prevented--it will be done by the operators who accept the full measure of their responsibility.

It is true that the designer, the manufacturer, and the safety engineer can help; and they will help, but their combined efforts can be wiped out by a single careless act of the operator.

It is said that, “the best kind of a safety device is a careful operator.” We, at Unverferth Mfg. Co., Inc. ask that you be that kind of operator.

REMEMBER:

THINK SAFETY

A CAREFUL OPERATOR IS THE BEST INSURANCE AGAINST AN ACCIDENT!

SIGNAL WORDS

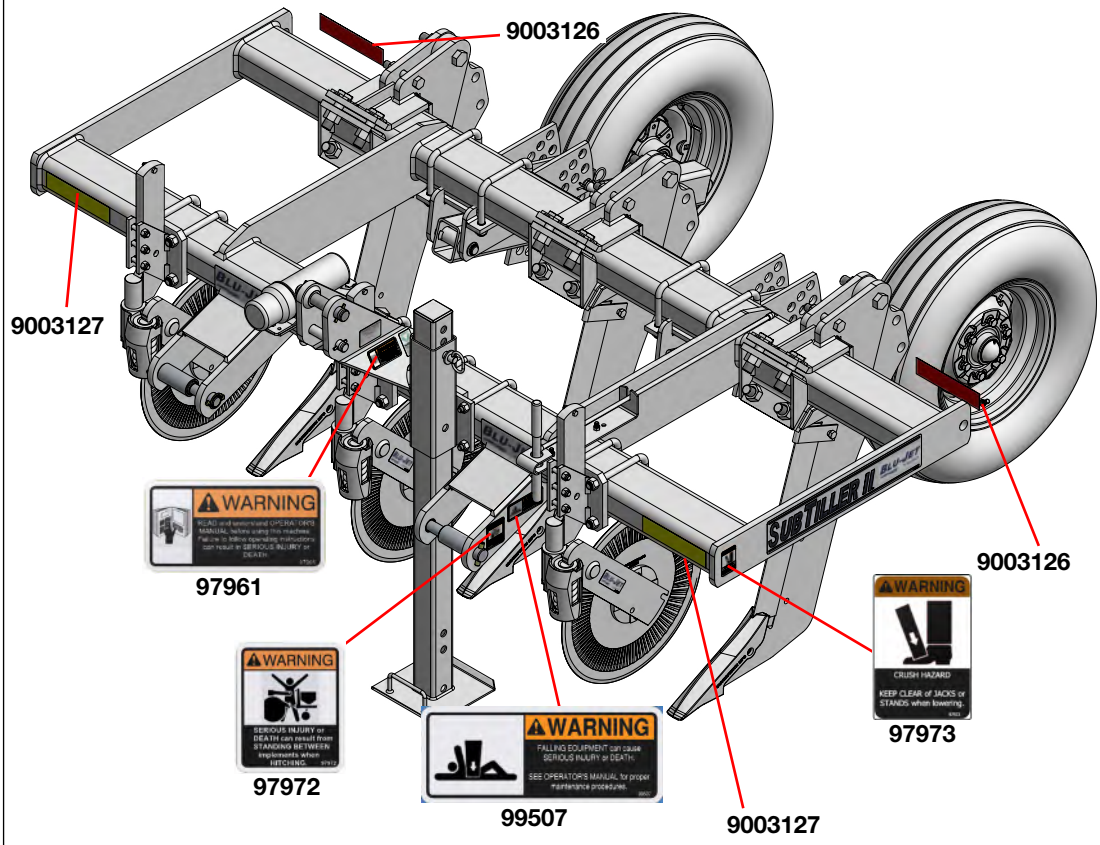
INDICATES AN EXTREMELY HAZARDOUS SITUATION OR ACTION THAT WILL RESULT IN SERIOUS INJURY OR DEATH.

INDICATES A HAZARDOUS SITUATION OR ACTION THAT COULD RESULT IN SERIOUS INJURY OR DEATH.

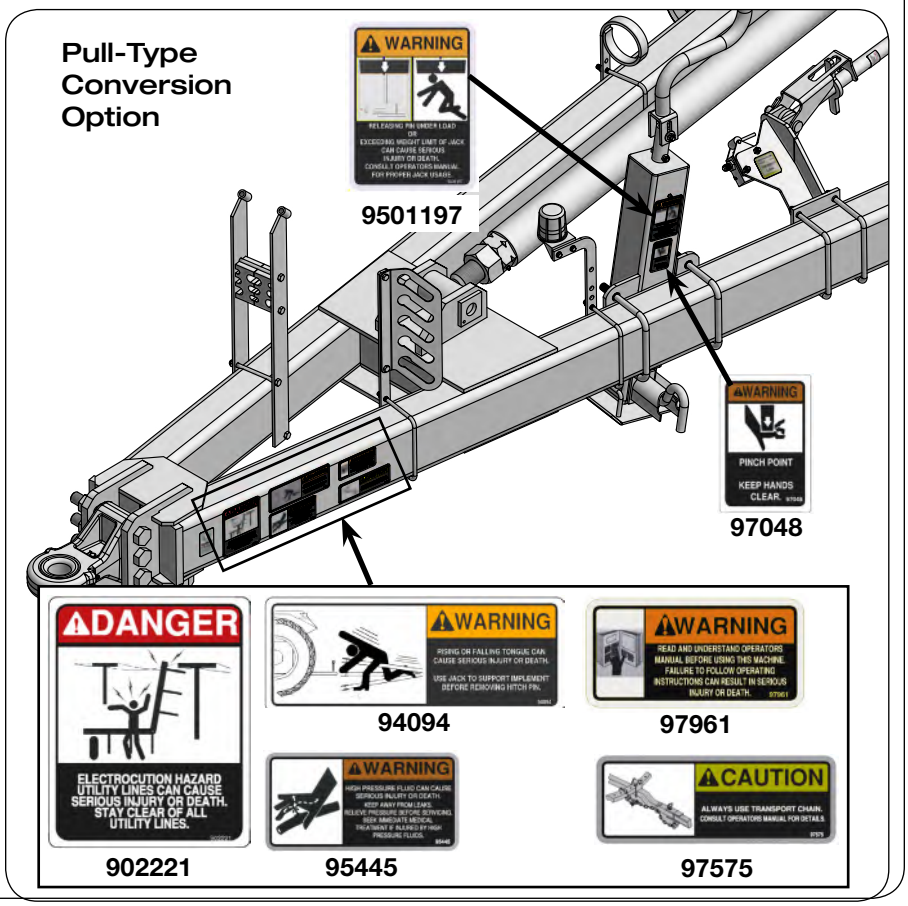
INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.

Is used for instruction on operating, adjusting, or servicing a machine.

Safety Decals



Pull-Type Conversion Option



Following Safety Instructions

- Read and understand this operator's manual before operating.

- All machinery should be operated only by trained and authorized personnel.
- To prevent machine damage, use only attachments and service parts approved by the manufacturer.
- Always shut tractor engine off and remove key before servicing.

- Avoid personal attire such as loose fitting clothing, shoestrings, drawstrings, pants cuffs, long hair, etc., that may become entangled in moving parts.
- Do not allow anyone to ride on the implement. Make sure everyone is clear before operating machine or towing vehicle.

- Never attempt to operate implement unless you are in driver's seat.

Before Servicing or Operating

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked.
- Ensure that all applicable safety decals are installed and legible.

- Do not stand between tractor and implement during hitching.
- When working around the implement, be careful not to be cut by sharp edges.
- Always make certain everyone and everything is clear of the machine before beginning operation.
- Add sufficient ballast to tractor to maintain steering and braking control at all times. Do not exceed tractor's lift capacity or ballast capacity."
- Inspect fields for buried utility lines (electric, natural gas, water, etc.). To find buried lines in the US or Canada contact 1-888-258-0808, in the US you may also contact 811.

During Operation

- Regulate speed to working conditions. Maintain complete control at all times.
- Never service or lubricate equipment when in operation.
- Use extreme care when operating close to ditches, fences, or on hillsides.
- Secure transport chains to towing vehicle before transporting. DO NOT transport with out chaings.
- Do not leave towing vehicle unattended with engine running.

Before Transporting

- Install transport locks before transporting.
- Check for proper function of all available transport lights. Make sure that all reflectors are clean and in place on machine. Make sure that the SMV emblem and SIS decal are visible to approaching traffic.

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- Regulate speed to road conditions and maintain complete control.
- Maximum transport speed of this implement should never exceed 20 mph as indicated on the machine. Maximum transport speed of any combination of implements must not exceed the lowest specified speed of the implements in combination. Do not exceed 10 mph during off-highway travel.
- Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.
- It is probable that this implement is taller, wider and longer than the towing vehicle. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Pressurized Oil

- Relieve the hydraulic system of all pressure before adjusting or servicing. See hydraulic power unit manual for procedure to relieve pressure.

- High-pressure fluids can penetrate the skin and cause serious injury or death. Leaks of high-pressure fluids may not be visible. Use cardboard or wood to detect leaks in the hydraulic system. Seek medical treatment immediately if injured by high-pressure fluids.

- Hydraulic system must be purged of air before operating to prevent serious injury or death.

- Do not bend or strike high-pressure lines. Do not install bent or damaged tubes or hoses.

- Repair all oil leaks. Leaks can cause fires, personal injury, and environmental damage.

- Route hoses and lines carefully to prevent premature failure due to kinking and rubbing against other parts. Make sure that all clamps, guards and shields are installed correctly.

- Check hydraulic hoses and tubes carefully. Replace components as necessary if any of the following conditions are found:

    - End fittings damaged, displaced, or leaking.
    - Outer covering chafed/cut or wire reinforcing exposed.
    - Outer covering ballooning locally.
    - Evidence of kinking or crushing of the flexible part of a hose.

Preparing for Emergencies

- Keep a first aid kit and properly rated fire extinguisher nearby.

- Keep emergency numbers for fire, rescue, and poison control personnel near the phone.

Wearing Protective Equipment

- Wear clothing and personal protective equipment appropriate for the job.

- Wear steel-toed shoes when operating.

- Wear hearing protection when exposed to loud noises.

- Do not wear additional hearing impairing devices such as radio headphones, etc.

Notes

SECTION II
Set Up

Unloading Instructions

⚠ WARNING

- **BEFORE REMOVING SHIPPING CHAINS OR STRAPS FROM LOAD, POSITION UNLOADING EQUIPMENT INTO FORK POCKETS OF SHIPPING FRAME.**
- **READ AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW THE SAFETY SECTION IN THIS MANUAL IF NECESSARY.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 2000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**

Be sure machine is fully supported. If two machines are placed beside each other on bed of truck, be sure the other machine is properly supported by another piece of unloading equipment. Use unloading equipment rated to handle the intended load.

Be sure the safe lifting device is rated for the load. Use the following guidelines for determining safe lifting device capacity requirement:

No. of Shanks	Shank Spacing	Frame Style	Fold Type	Minimum Safe Lifting Device
3	30”	3-Point	Rigid	4000 Lbs.
5	30”	3-Point	Rigid	5500 Lbs.
7	30”	3-Point	Rigid	8000 Lbs.

For ease of assembly, install all hardware loosely until assembly is complete and then tighten according to Torque Chart in the MAINTENANCE section of this manual.

Unloading Instructions (continued)

Be sure to unload in an area that is firm and level. Keep all personnel at least fifteen feet away from unit when removing unit from truck. Before moving to assembly area, lower machine to the ground. DO NOT move over rough or uneven ground. Move machine only over level surfaces. Maintain a maximum speed of 3 MPH or less, depending upon conditions.

With shipping stand still in place, position machine onto a level, firm surface and proceed as follows:

⚠ CAUTION

- **SHARP EDGES ON COULTER BLADES CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND COULTER BLADES.**

1. If coulter blades are attached to unit, remove blades and place in assembly area. Be careful of sharp edges.

NOTE: DO NOT install these blades onto coulter hubs until after machine is safely placed in the working position.

2. Raise front support stands into the field working position and lock into place (FIG. 2-1).

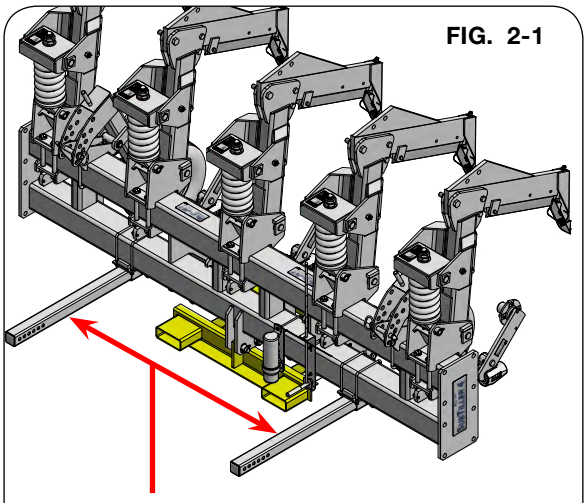


FIG. 2-1

Move Stands into Working Position

3. Be sure load is centered and safe lifting devices are hooked equally and evenly on the machine.

4. Attach lower end of safe lifting device to the back of shank on the machine.

Unloading Instructions (continued)

5. Remove upper mast pin from shipping stand (FIG. 2-2). STAND CLEAR of frame before proceeding.

NOTE: It may be necessary to raise machine slightly to remove load from upper mast pin.

6. With upper mast pin removed, move unit backwards, lowering the shanks to the ground. Be sure to lower as you proceed backwards. Keep the chains tight while lowering unit to the ground. Maintain control of frame as it is being rotated downward. (FIG. 2-2)

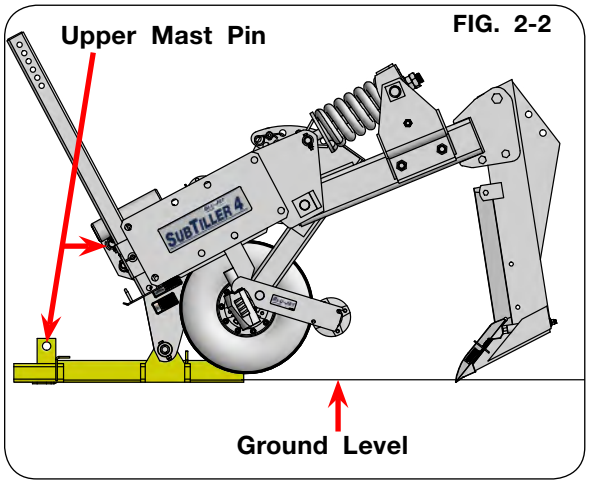


FIG. 2-2

7. After points are resting securely on the ground, relieve tension on safe lifting device.

8. Raise front of machine to a level position. Reposition front storage stands to support the frame and lock into position (FIG. 2-3). Then remove and discard the yellow shipping stand from the front of the machine.

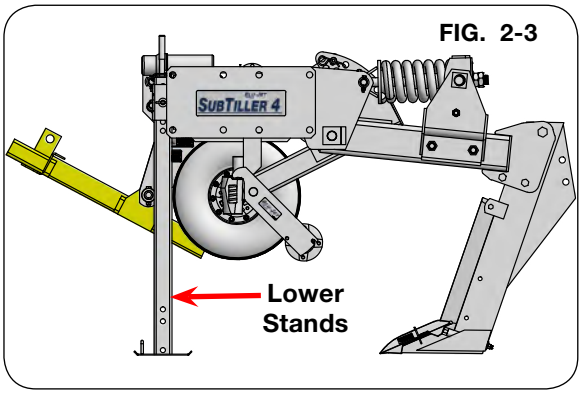


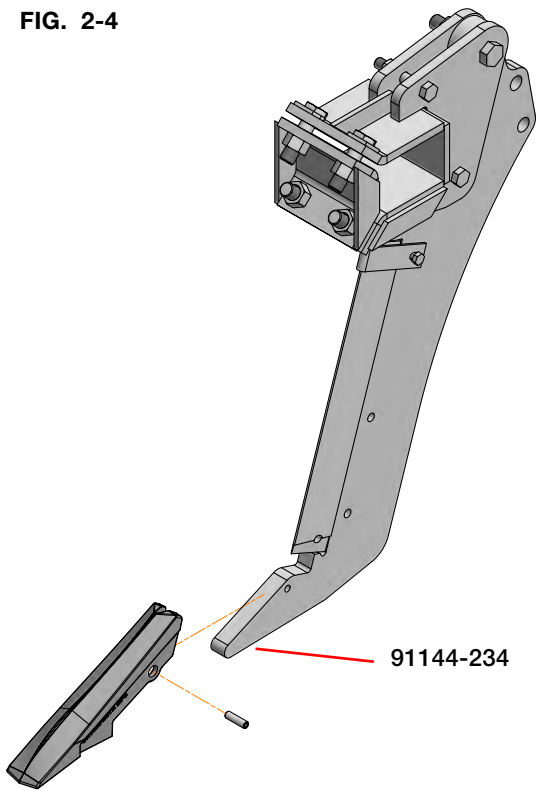
FIG. 2-3

Attaching Shank Points

1. Hook the point over the end of the shank and position “Vee” over wear bar end.

2. Secure with 1/2” Dia. x 1 3/4” spiral pin (91144-234).

FIG. 2-4



Attaching Coulter Blades

⚠ CAUTION

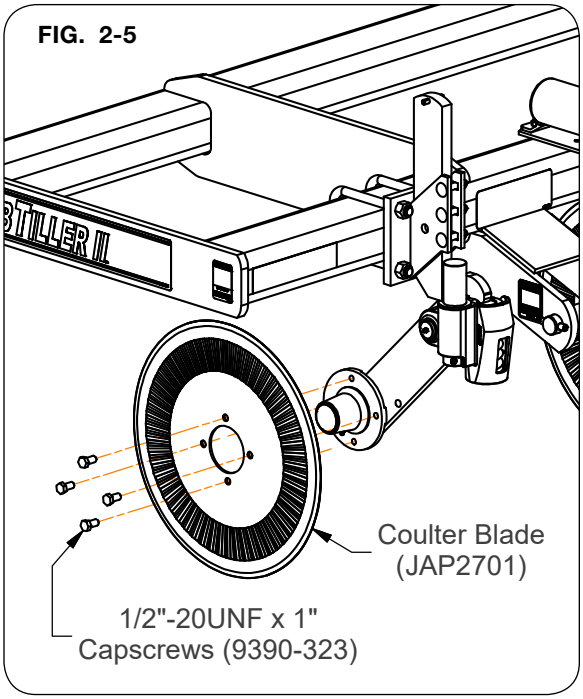
- **SHARP EDGES ON COULTER BLADES CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND COULTER BLADES.**

On some models, the coulter assembly may be repositioned for shipping purposes. Before installing coulter blades, check alignment of coulter assemblies with "Overhead Layouts". Reposition as necessary.

1. Install a coulter blade to each hub using four 1/2"-20UNF x 1" capscrews (9390-323) (FIG. 2-5).

2. Torque hardware. Refer to "Wheel Hardware Torque" chart" in MAINTENANCE section for proper torquing.

FIG. 2-5



Gauge Wheel Pin Adjust Assembly

1. Consult “Overhead Layouts” for row spacing and placement markings.

2. Position gauge wheel pin adjust mounting bracket (JAM24025) on main frame and secure with two 3/4”-10UNC x 6”W x 5 3/4”L U-bolts (JBP3205) and four 3/4”-10UNC lock nuts (9802).

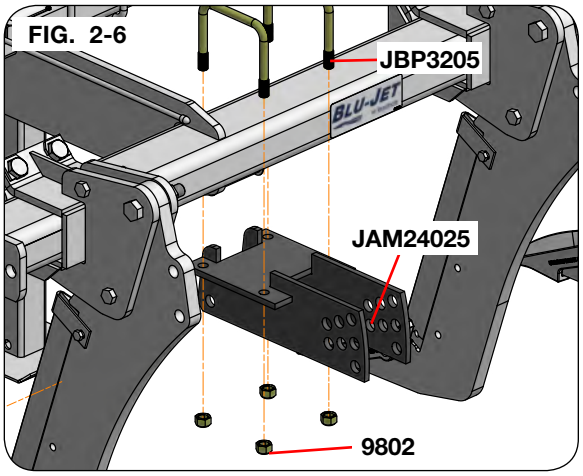


FIG. 2-6

3. Using a safe lifting device rated at a minimum of 100 lbs., position gauge wheel pin adjust leg assembly (JAM24024) into mounting bracket and insert 1” Dia. x 6.03” pin (JBM3650).

4. Secure pin with two 1 1/2” OD x 1” ID machinery bushings (JBP3215) and two 1” retaining rings (91192) on both ends of the pin.

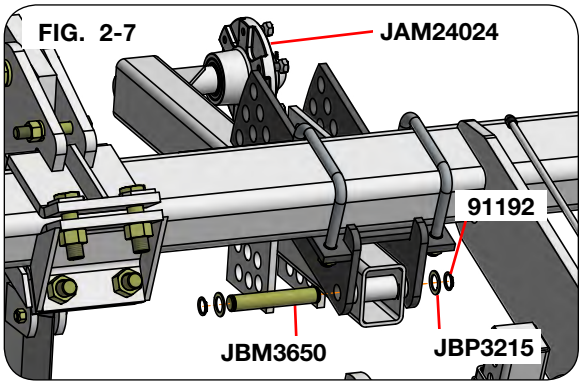


FIG. 2-7

5. With the points on the ground, raise the gauge wheel leg assembly using a safe lifting device rated at a minimum of 100 lbs. to the approximate desired depth. Insert 1” x 8” hitch pin (93950) into bottom hole on the mounting bracket. Secure with .177” Dia. x 3.68” hairpin cotter.

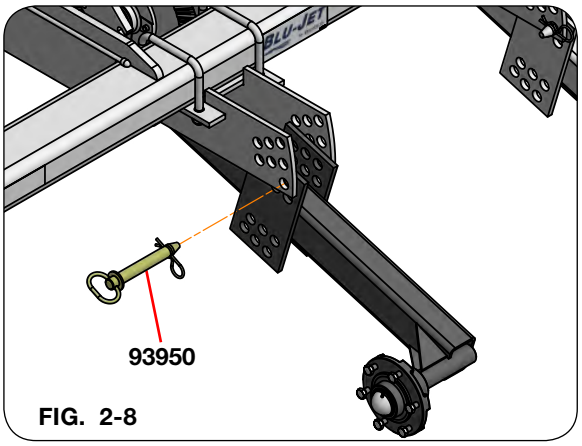


FIG. 2-8

6. Attach implement tire/wheel with 1/2”-20UNF x 1 1/4” wheel bolts (91831).

7. Torque wheel bolts to 75 Ft.-Lbs. Refer to “Wheel Hardware Torque” chart in MAINTENANCE section.

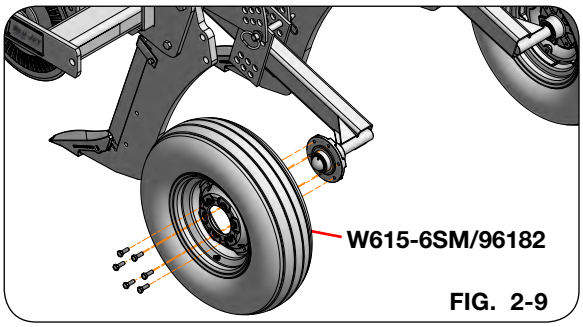


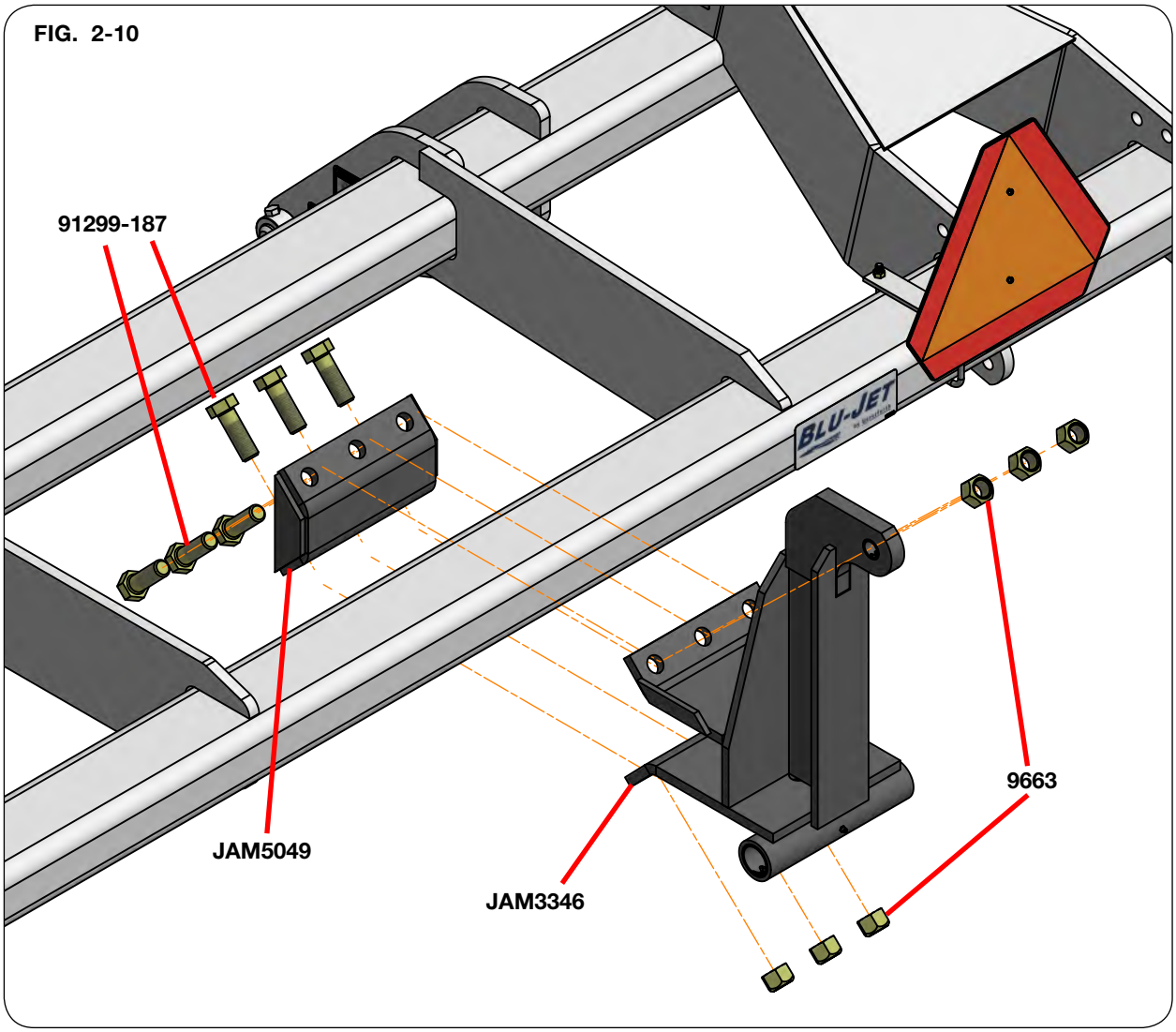
FIG. 2-9

Hydraulic Gauge Wheel Option Common Mounting

1. Consult “Overhead Layouts” for row spacing and placement markings.

2. Using a safe lifting device rated at a minimum of 100 lbs., center upright cylinder weldment (JAM3346). (FIG. 2-10)

FIG. 2-10



3. Secure with cylinder upright clamp bracket weldment (JAM5049), six 1”-8UNC x 3” grade 8 capscrews (91299-187), and six 1”-8UNC lock nuts (9663). (FIG. 2-10)

4. Tighten top and bottom 1”-8UNC lock nuts evenly. The space between clamp and bracket should be even. (FIG. 2-10)

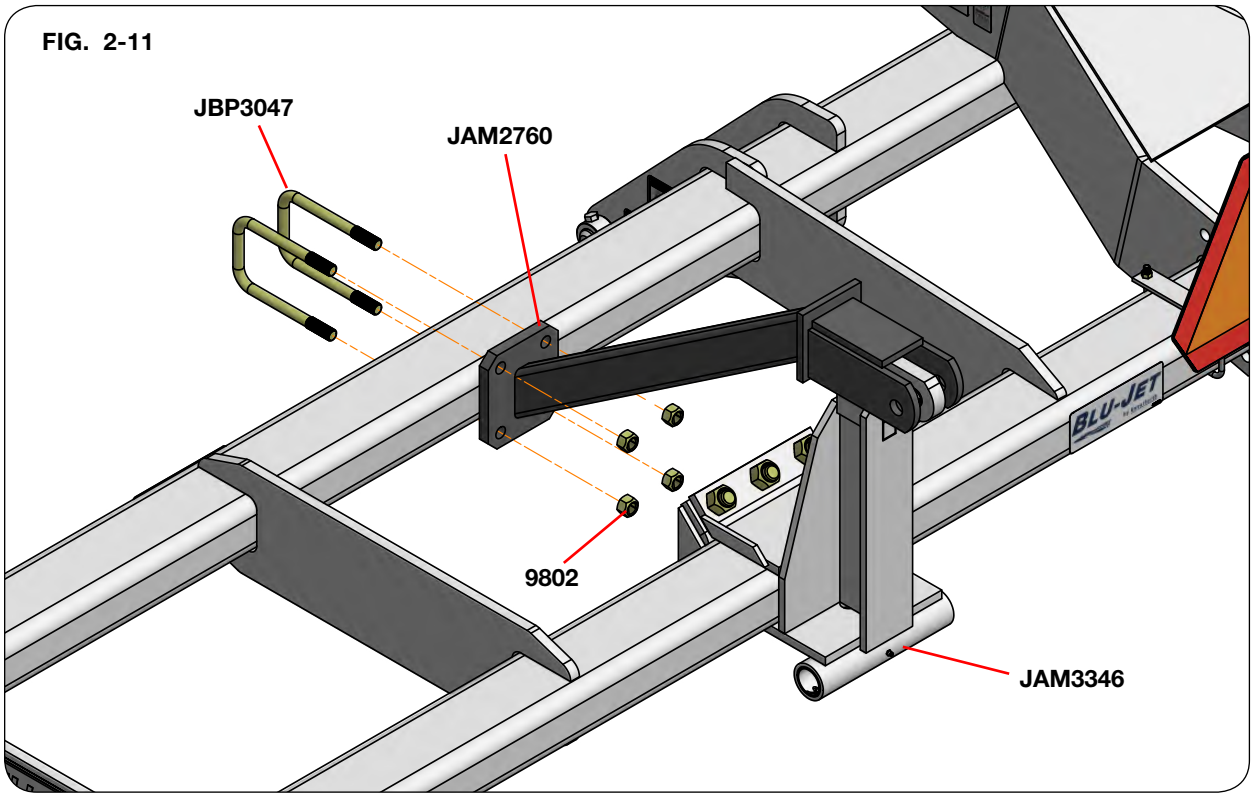
5. Torque hardware. Refer to “Torque Chart” in MAINTENANCE section for proper torquing.

6. Install 1 1/4” OD x 1” OD x 1” split tension bushing (91268) in top hole of each upright (FIG. 2-10).

Hydraulic Gauge Wheel Option Common Mounting (continued)

7. Position upright brace (JAM2760) behind upright cylinder weldment (JAM3346) (FIG. 2-11).

FIG. 2-11



8. Insert 3/4”-10UNC x 7 3/4” u-bolts (JBP3047) over frame into upright brace (JAM2760). Loosely secure 3/4”-10UNC lock nuts (9802) on each U-bolt (JBP3047) (FIG. 2-11).

9. Align upright brace (JAM2760) and center upright cylinder weldment (JAM3346).

10. Tighten 3/4”-10UNC grade 5 hex nuts on u-bolts.

11. Torque hardware. Refer to “Torque Chart” in MAINTENANCE section for proper torquing.

Hydraulic Gauge Wheel Option Common Mounting (continued)

12. Insert pivot arm bracket “A” (JAM5038) into right-hand side from the rear, of the upright cylinder weldment (JAM3346). (FIG. 2-12)

13. Insert pivot arm bracket “B” (JAM5039) into left-hand side from the rear, of the upright cylinder weldment (JAM3346). (FIG. 2-12)

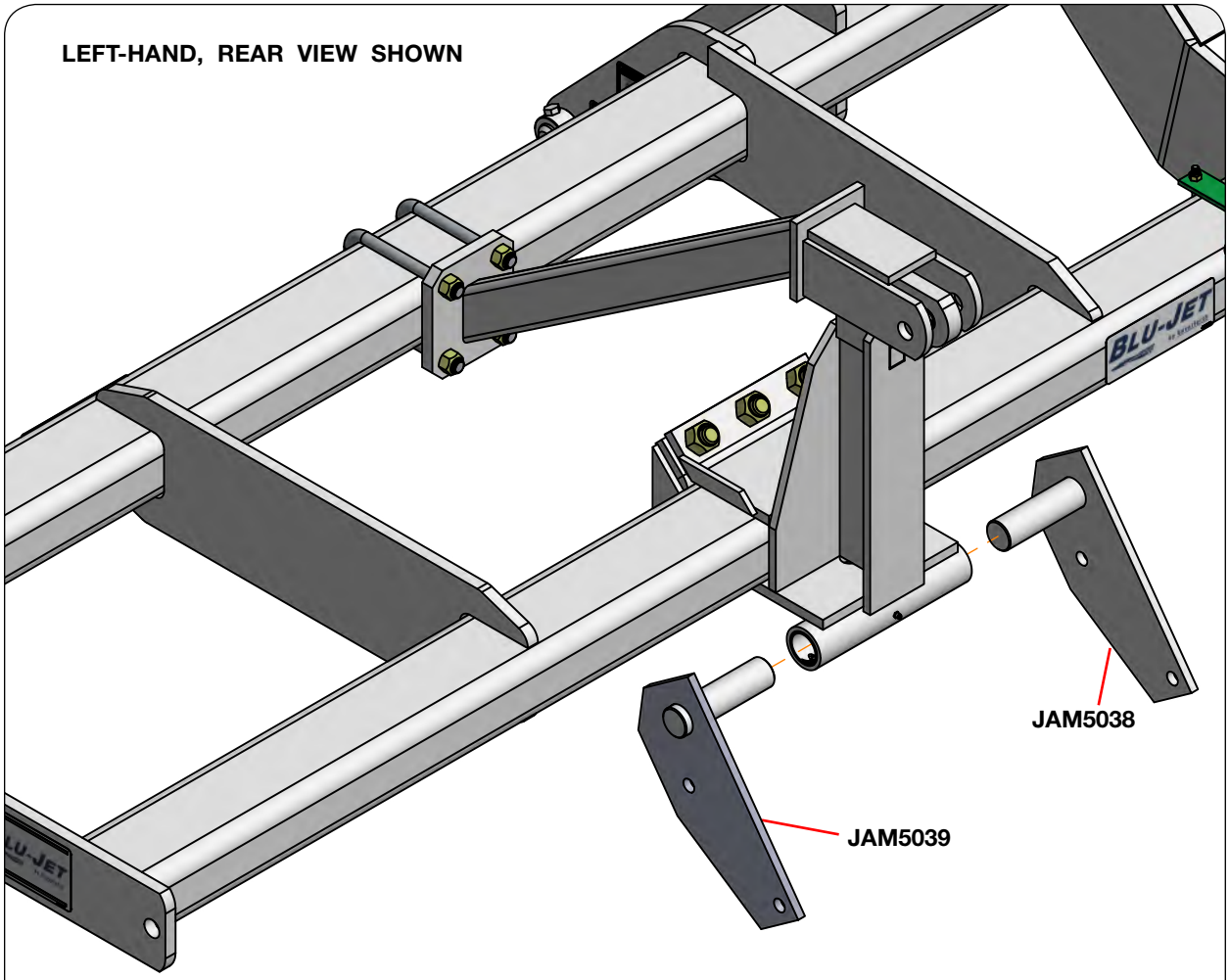


FIG. 2-12

Hydraulic Gauge Wheel Option Common Mounting (continued)

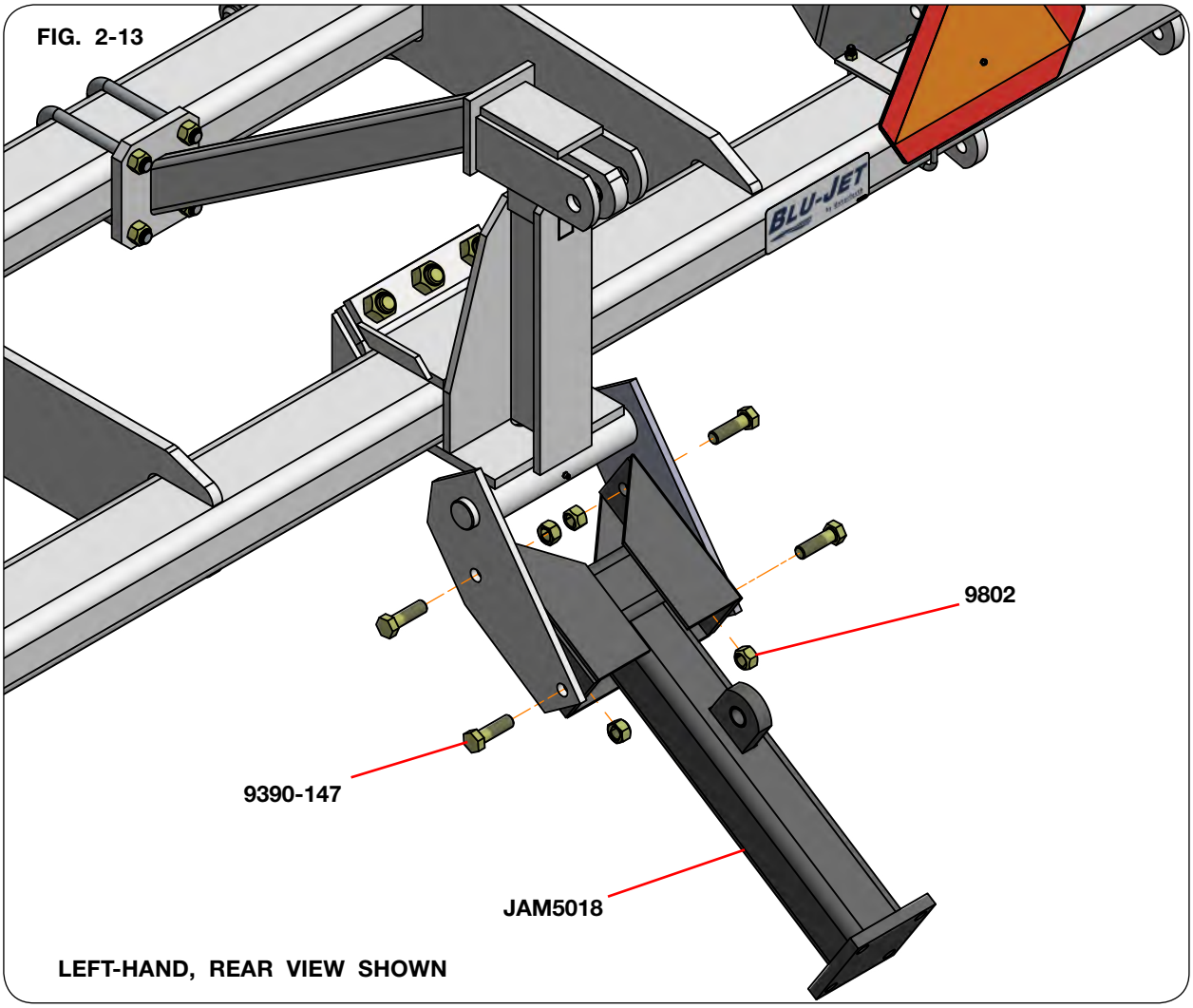
14. Using a safe lifting device rated at a minimum of 100 lbs., position wheel leg bolt-on spindle loop weldment (JAM5018) between pivot brackets (FIG. 2-13).

15. Insert 3/4"-10UNC x 2 1/2" grade 5 capscrews (9390-147).

16. Secure with 3/4"-10UNC lock nuts (9802).

17. Torque hardware. Refer to "Torque Chart" in MAINTENANCE section for proper torquing.

FIG. 2-13

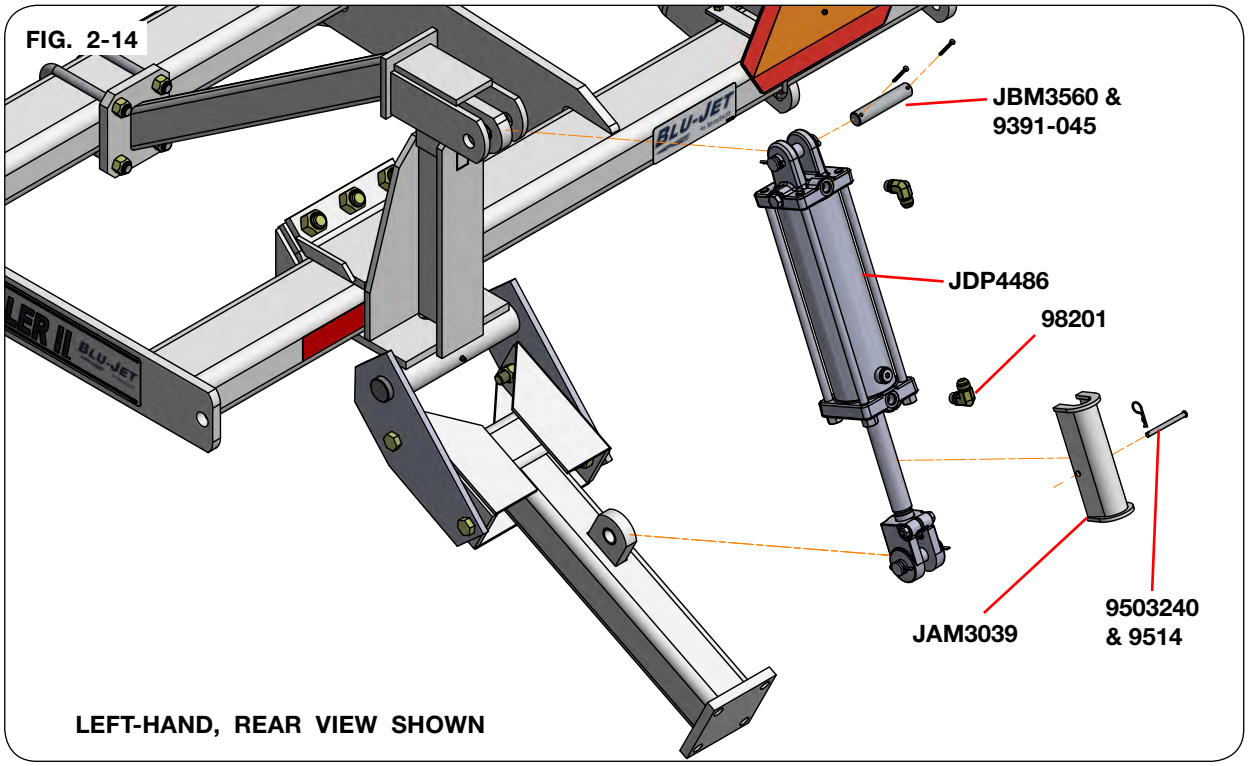


LEFT-HAND, REAR VIEW SHOWN

Hydraulic Single Gauge Wheel Option For 5 Row Units

1. Remove upright rephasing cylinder pin. Using a safe lifting device rated at a minimum of 100 lbs., install 4" x 12" rephase cylinder (JDP4486) with the ports facing towards the rear, on the left-hand side of the unit. (FIG. 2-14)

FIG. 2-14



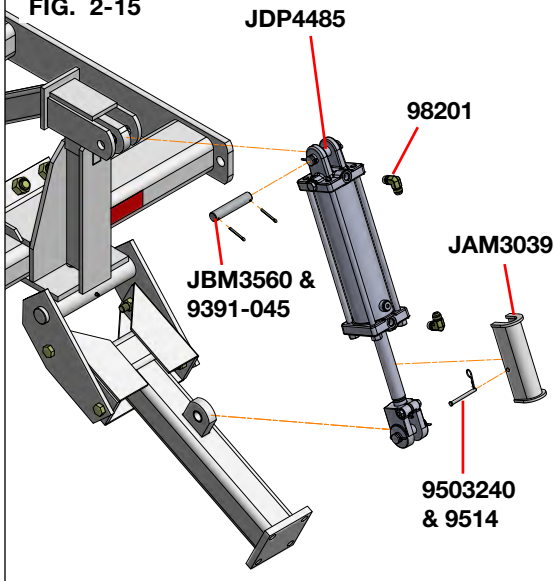
LEFT-HAND, REAR VIEW SHOWN

2. Remove upright rephasing cylinder pin. Using a safe lifting device rated at a minimum of 100 lbs., install 3 3/4" x 12" rephase cylinder (JDP4485) with the ports facing towards the rear, on the right-hand side of the unit. (FIG. 2-15)

3. Install transport cylinder locks (JAM3039) and secure with 5/16" Dia. x 3 1/2" clevis pins (9503240) and .092" Dia. x 1 7/8" hairpin cotters (9514).

4. Install 90 degree 7/8"-14 JIC male x 3/4"-16 O-ring male elbows in both rephase cylinders. (FIG. 2-14)

FIG. 2-15



RIGHT-HAND, REAR VIEW SHOWN

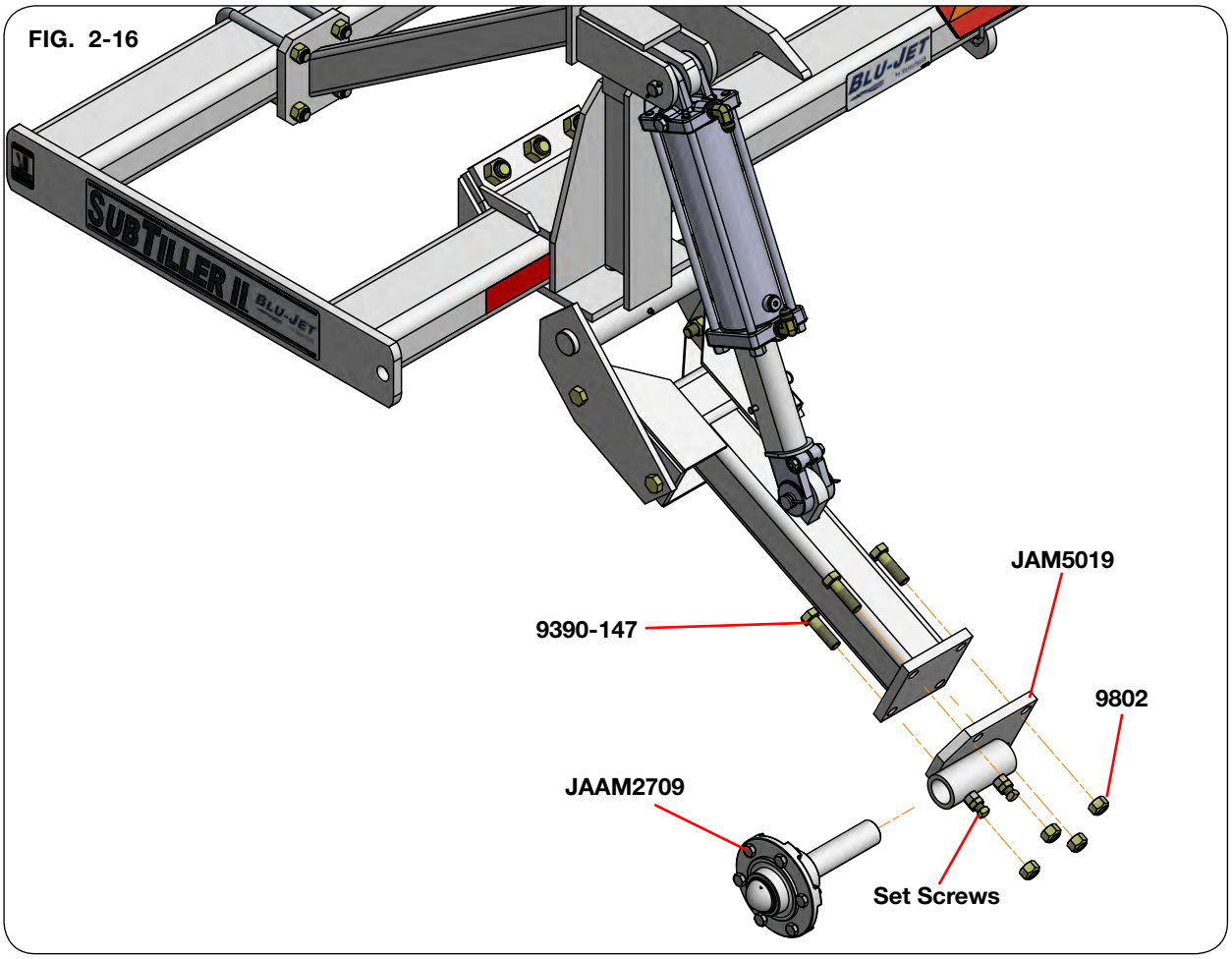
Hydraulic Single Gauge Wheel Option For 5 Row Units (continued)

5. Refer to “Overhead Layouts” to determine proper positioning. Mount single wheel bolt-on adapter bracket weldment (JAM5019) to wheel leg bolt-on spindle loop weldment (JAM5018) with 3/4”-10UNC x 2 1/2” grade 5 capscrews (9390-147) and 3/4”-10UNC lock nuts (9802). (FIG. 2-16)

6. Torque 3/4” hardware. Refer to “Torque Chart” in MAINTENANCE section for proper torquing.

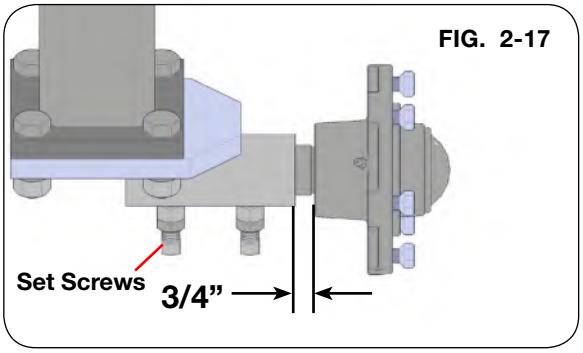
7. Turn set screws out. Apply anti-seize to the spindle and insert the hub and spindle assembly (JAAM2709). (FIG. 2-16)

FIG. 2-16



8. Allow 3/4” inch between the hub and spindle assembly (JAAM2709) and single wheel bolt-on adapter bracket weldment (JAM5019) (FIG. 2-17). Tighten set screws.

FIG. 2-17



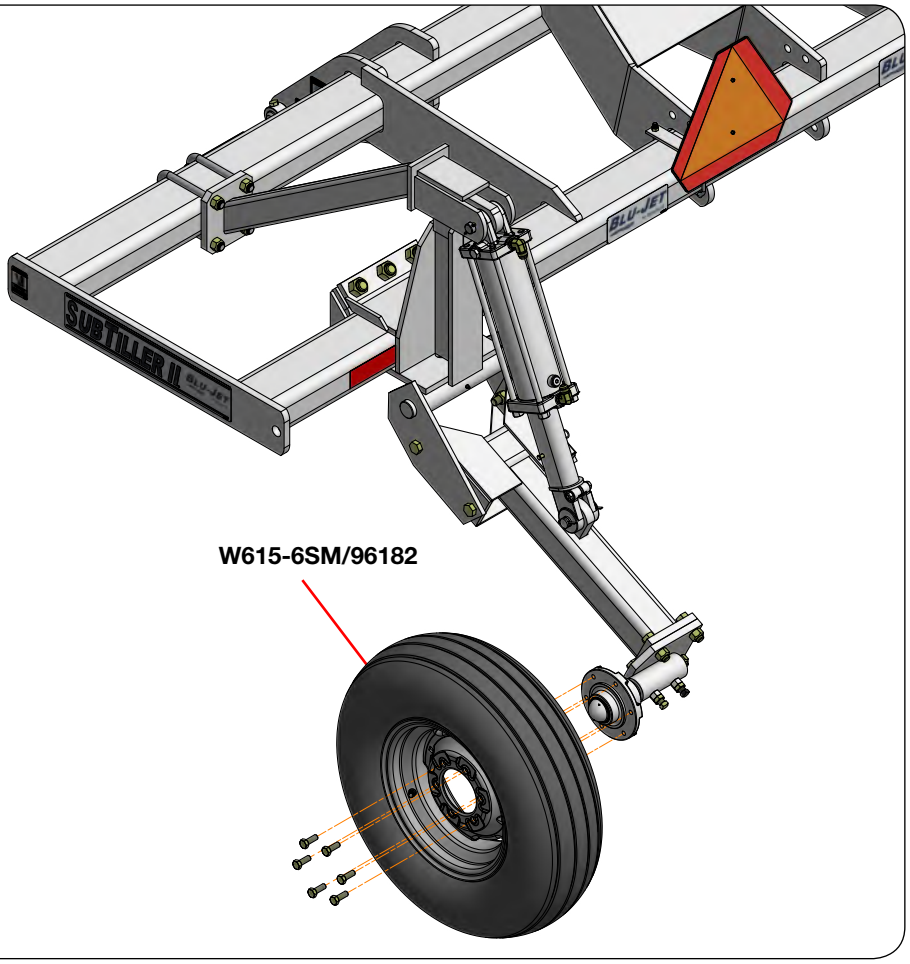
Hydraulic Single Gauge Wheel Option For 5 Row Units (continued)

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

9. Remove the six 1/2"-20UNF x 1 1/4" grade 5 wheel bolts (91831) and attach the 6 x 15 mounted implement wheel (W615-6SM/96182) with the valve stem away from the wheel drop leg. (FIG. 2-18)

FIG. 2-18



10. Torque wheel bolts. Refer to "Wheel Hardware Torque" in MAINTENANCE section for proper torquing.

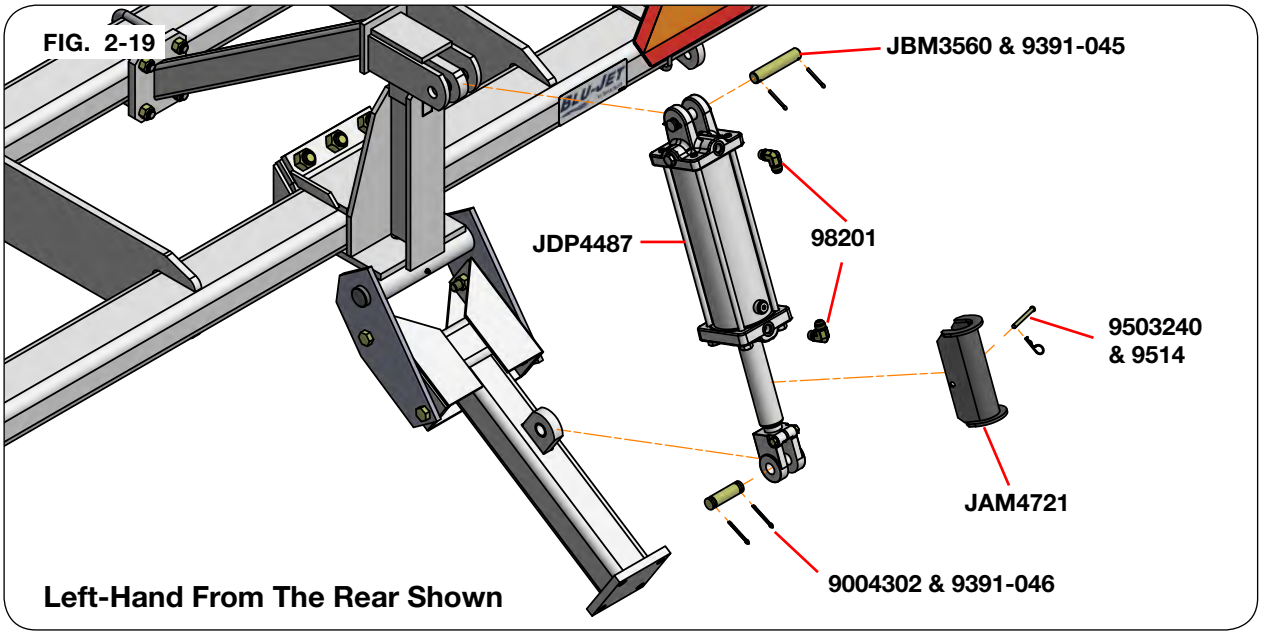
Hydraulic Dual Gauge Wheel Option For 5 & 7 Row Units

1. Remove upright rephasing cylinder pins. Using a safe lifting device rated at a minimum of 100 lbs., install 4 1/2" x 12" rephase cylinder (JDP4487) on the rear, left-hand side. (FIG. 2-19)

2. Install transport cylinder lock (JAM4721) and secure with 5/16" Dia. x 3 1/2" clevis pin (9503240) and .092" Dia. x 1 7/8" hairpin cotter (9514). (FIG. 2-19)

3. Install 90 degree 7/8"-14 JIC male x 3/4"-16 O-ring male elbows in 4 1/2" x 12" rephase cylinders. (FIG. 2-19)

FIG. 2-19



Left-Hand From The Rear Shown

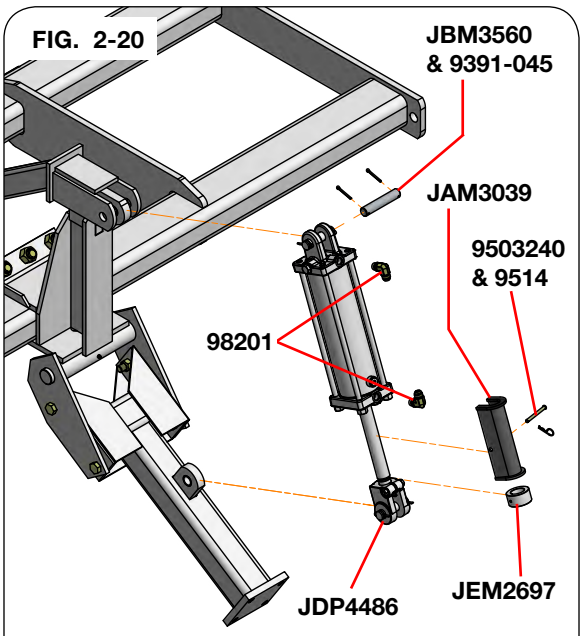
4. Remove clevis from the upright rephase cylinder (JDP4486). Using a safe lifting device rated at a minimum of 100 lbs., install 3" OD x 1.5" ID x 1 5/16" hydraulic spacer (JEM2697). (FIG. 2-20)

5. Remove upright rephasing cylinder pin and install 4" x 12" rephase cylinder (JDP4486) on the rear, right-hand side. (FIG. 2-20

6. Install transport cylinder locks (JAM3039) and secure with 5/16" Dia. x 3 1/2" clevis pins (9503240) and .092" Dia. x 1 7/8" hairpin cotters (9514). (FIG. 2-20)

7. Install 90 degree 7/8"-14 JIC male x 3/4"-16 O-ring male elbows in both rephase cylinders. (FIG. 2-20)

FIG. 2-20



Right-Hand From The Rear Shown

Hydraulic Dual Gauge Wheel Option For 5 & 7 Row Units (continued)

8. Mount dual wheel bolt-on adapter bracket weldment (JAM5020) to wheel leg bolt-on spindle loop weldment (JAM5018) with 3/4”-10UNC x 2 1/2” grade 5 capscrews (9390-147) and 3/4”-10UNC lock nuts (9802). (FIG. 2-21)

9. Torque 3/4” hardware. Refer to “Torque Chart” in MAINTENANCE section for proper torquing.

10. Turn set screws out. Apply anti-seize to the spindle and insert the hub and spindle assemblies (JAAM2709). (FIG. 2-21)

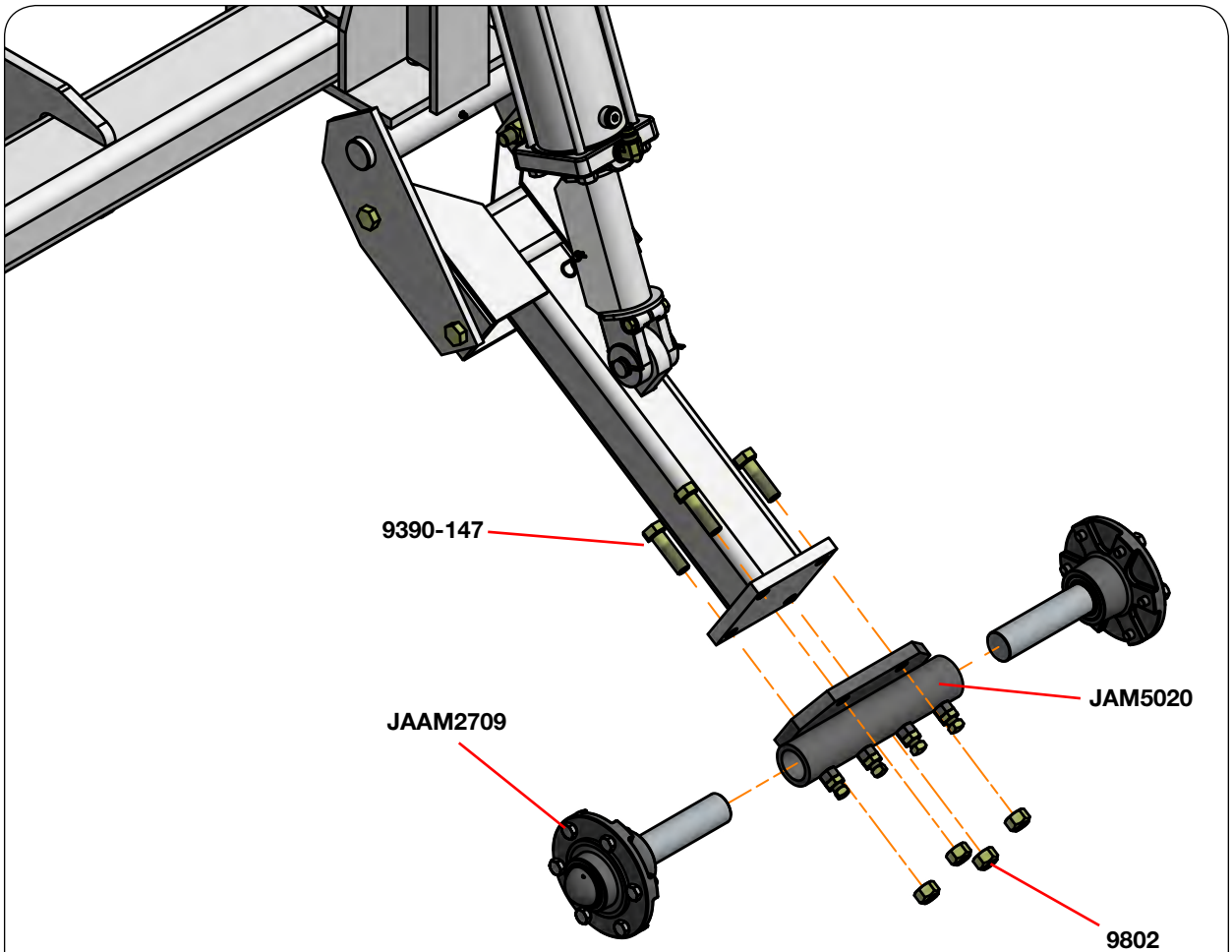
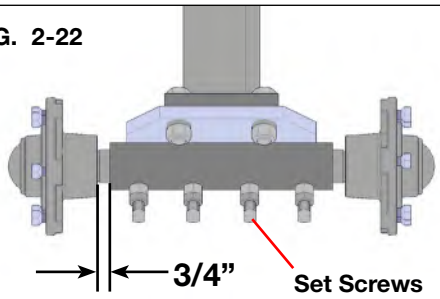


FIG. 2-21

11. Allow 3/4” inch between the hub and spindle assembly (JAAM2709) and single wheel bolt-on adapter bracket weldment (JAM5019) (FIG. 2-22). Tighten set screws.

FIG. 2-22



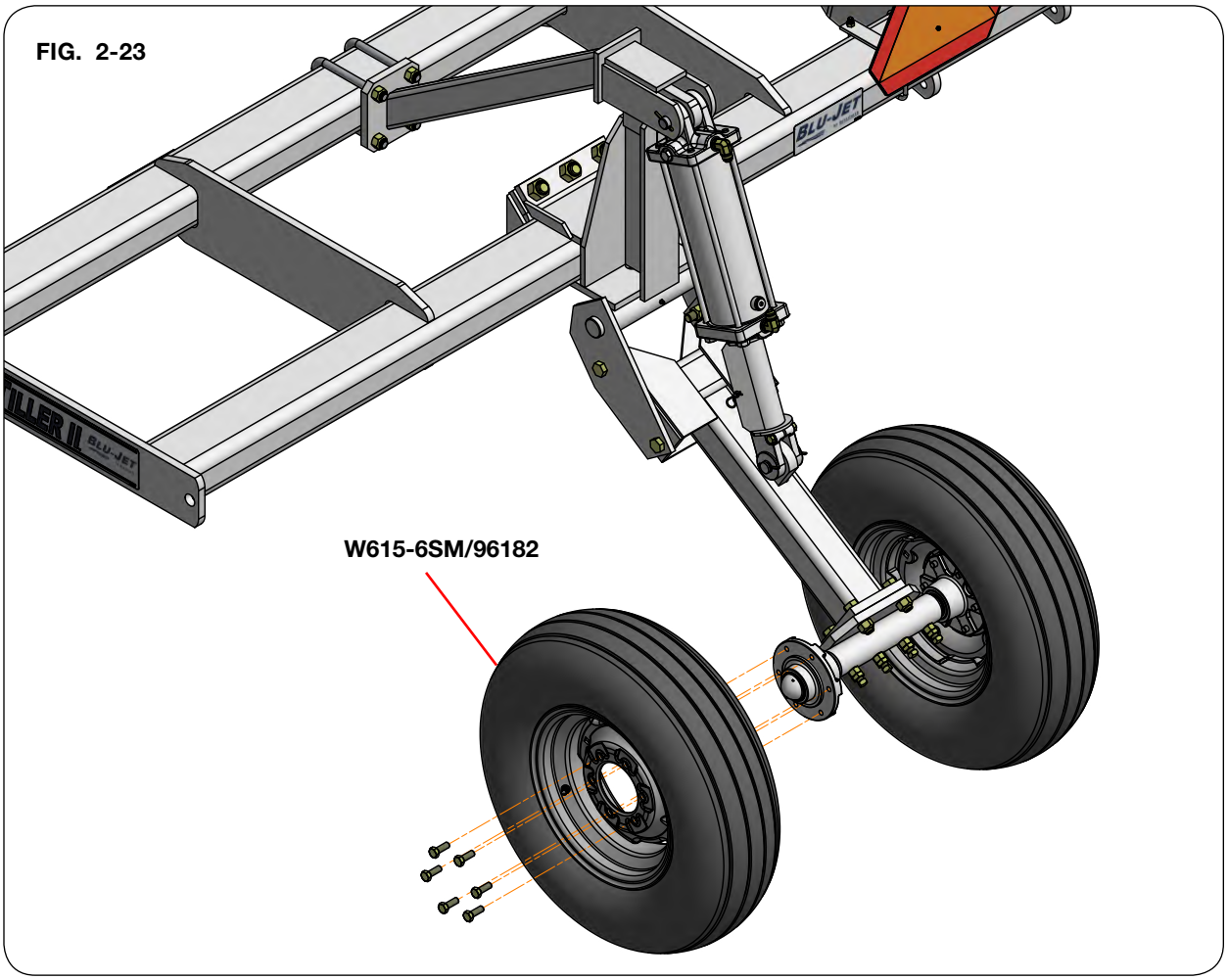
Hydraulic Dual Gauge Wheel Option For 5 & 7 Row Units (continued)

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

12. Remove the twelve 1/2"-20UNF x 1 1/4" grade 5 wheel bolts (91831) and attach the 6 x 15 mounted implement wheels (W615-6SM/96182) with the valve stems away from the wheel drop leg. (FIG. 2-23)

FIG. 2-23



13. Torque wheel bolts. Refer to "Wheel Hardware Torque" in MAINTENANCE section for proper torquing.

Hydraulic Gauge Wheel Option

Mounting Depth Collar Brackets & SMV

1. Position depth collar brackets (JAM2090) near uprights. Secure with 3/8”-16UNC x 5” U-bolt (JBP3045) and 3/8”-16UNC lock nuts (9928). (FIG. 2-24)

2. Place 1 1/4” to 1 1/2” winged stroke control/depth collar sets (JBP3076) on each bracket. (FIG. 2-24)

3. Attach SMV mounting bracket (JAM4077) near the center of the toolbar with 3/8”-16UNC x 5” U-bolt (JBP3045) and 3/8”-16UNC lock nuts (9928). (FIG. 2-24)

4. Attach SMV mounting spade bracket (TA510516) to SMV mounting bracket (JAM4077) with 5/16”-18UNC x 1 1/4” carriage bolts (9388-026) and 5/16”-18UNC lock nuts (9807). (FIG. 2-24)

5. Install SMV sign (TA510514) to SMV mounting spade bracket (TA510516) with hardware provided. (FIG. 2-24)

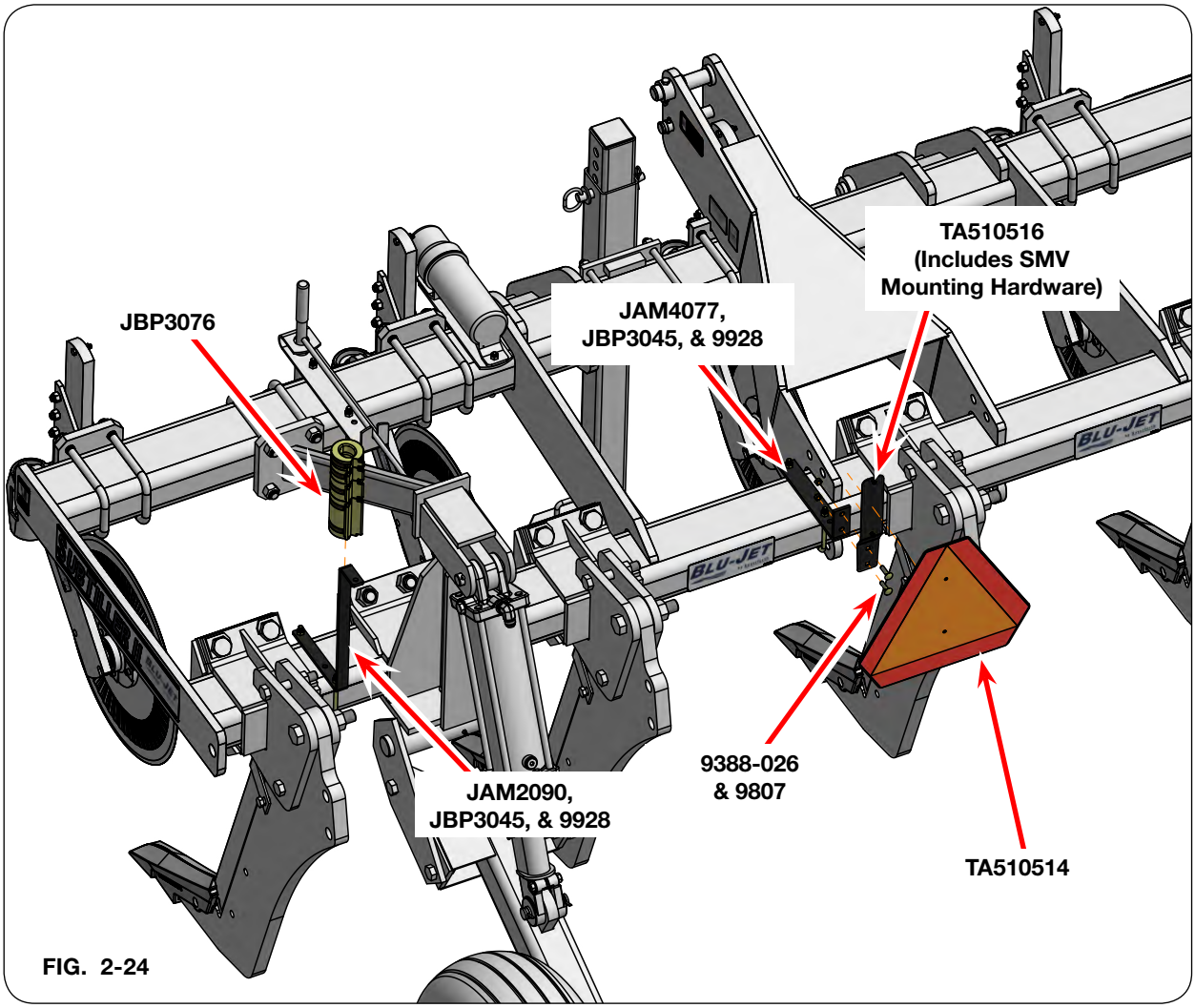


FIG. 2-24

Pull-Type Conversion Option

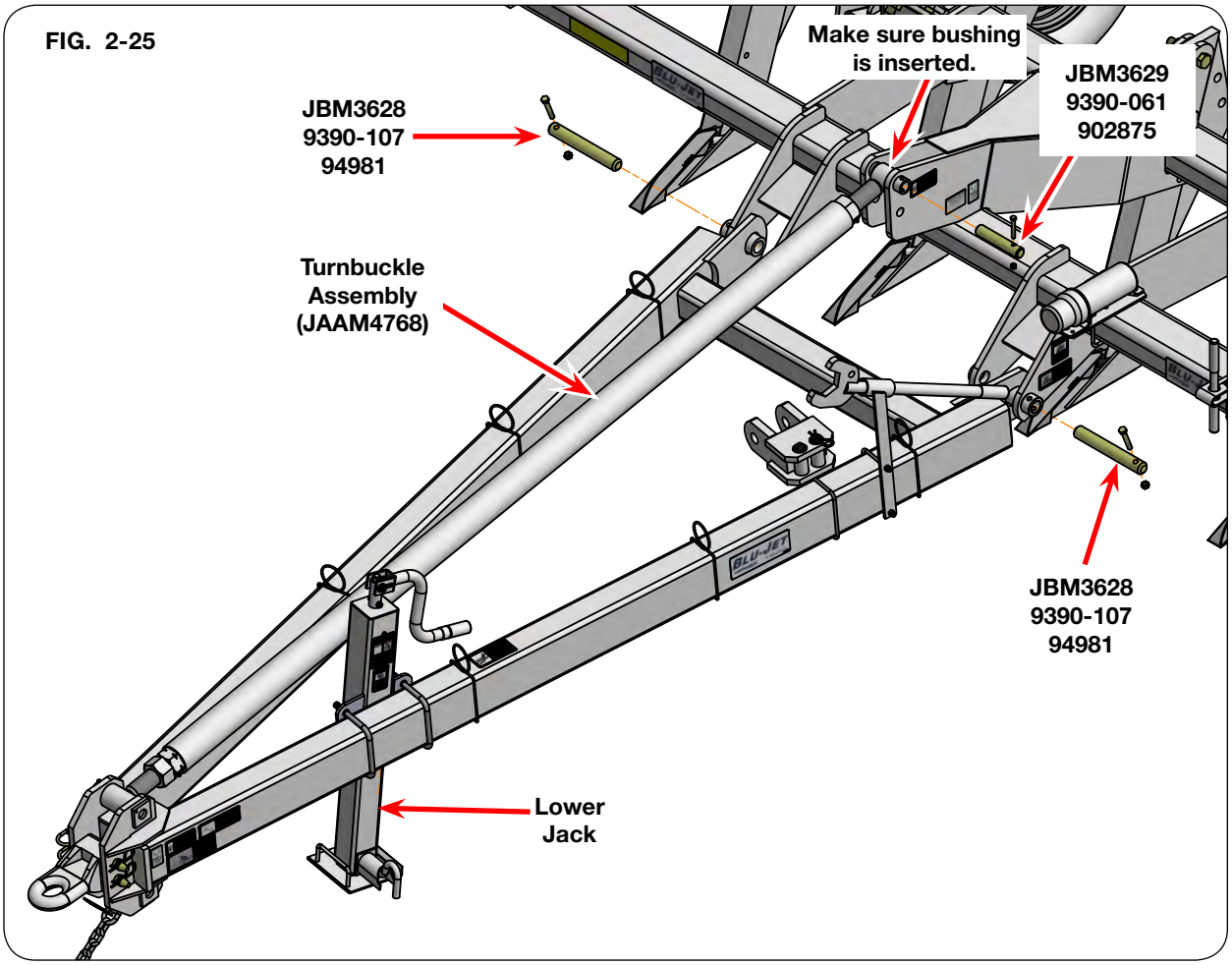
Mounting Tongue Assembly

1. Remove and save the 1 1/4” Dia. x 6 1/2” upper link CAT3 pin (JBM3629), 3/8”-16UNC x 2 1/2” capscrew (9390-061) and 3/8”-16UNC lock nut (902875). (FIG. 2-25)

2. Remove and save the 1 7/16” Dia. x 10 3/8” lower link CAT3 pins (JBM3628), 1/2”-13UNC x 3” capscrews (9390-107) and 1/2”-13UNC lock nuts (94981). (FIG. 2-25)

3. Using a safe lifting device and supports rated at a minimum of 800 lbs., install tongue conversion assembly (J70210364). Secure using the previously removed 1 7/16” Dia. x 10 3/8” lower link CAT3 pins (JBM3628), 1/2”-13UNC x 3” capscrews (9390-107) and 1/2”-13UNC lock nuts (94981). (FIG. 2-25)

FIG. 2-25



NOTE: Make sure 1 3/4” OD x 1.274” ID x 2 1/8” bushing (JEM3735) is inserted into the turnbuckle assembly (JAAM4768). (FIG. 2-25)

4. Secure the turnbuckle assembly (JAAM4768) to the main frame with the previously removed 1 1/4” Dia. x 6 1/2” upper link CAT3 pin (JBM3629), 3/8”-16UNC x 2 1/2” capscrew (9390-061) and 3/8”-16UNC lock nut (902875). (FIG. 2-25)

5. Lower jack into parked position before removing the safe lifting device and supports from the tongue assembly. (FIG. 2-25)

Pull-Type Conversion Option (continued)

Attaching Hydraulic Hoses For Single or Dual Gauge Wheels

NOTE: Refer to "Overhead Layouts" for reference.

1. Attach 3/8" Dia. x 276" hose (9503829) to rod end of right-hand cylinder. Extend hose down right-hand side of tongue to hitch.
2. Install 3/4"-16NPT male tip coupling (91383) to the end of the hose.
3. Attach 3/8" Dia. x 276" hose (9503829) to base end of left-hand cylinder. Extend hose down left-hand side of tongue to hitch.
4. Install 3/4"-16NPT male tip coupling (91383) to the end of the hose.
5. Attach 3/8" Dia. x 180" hose (JDP5011) to base end of right-hand cylinder. Extend to left-hand cylinder and attach to rod end.

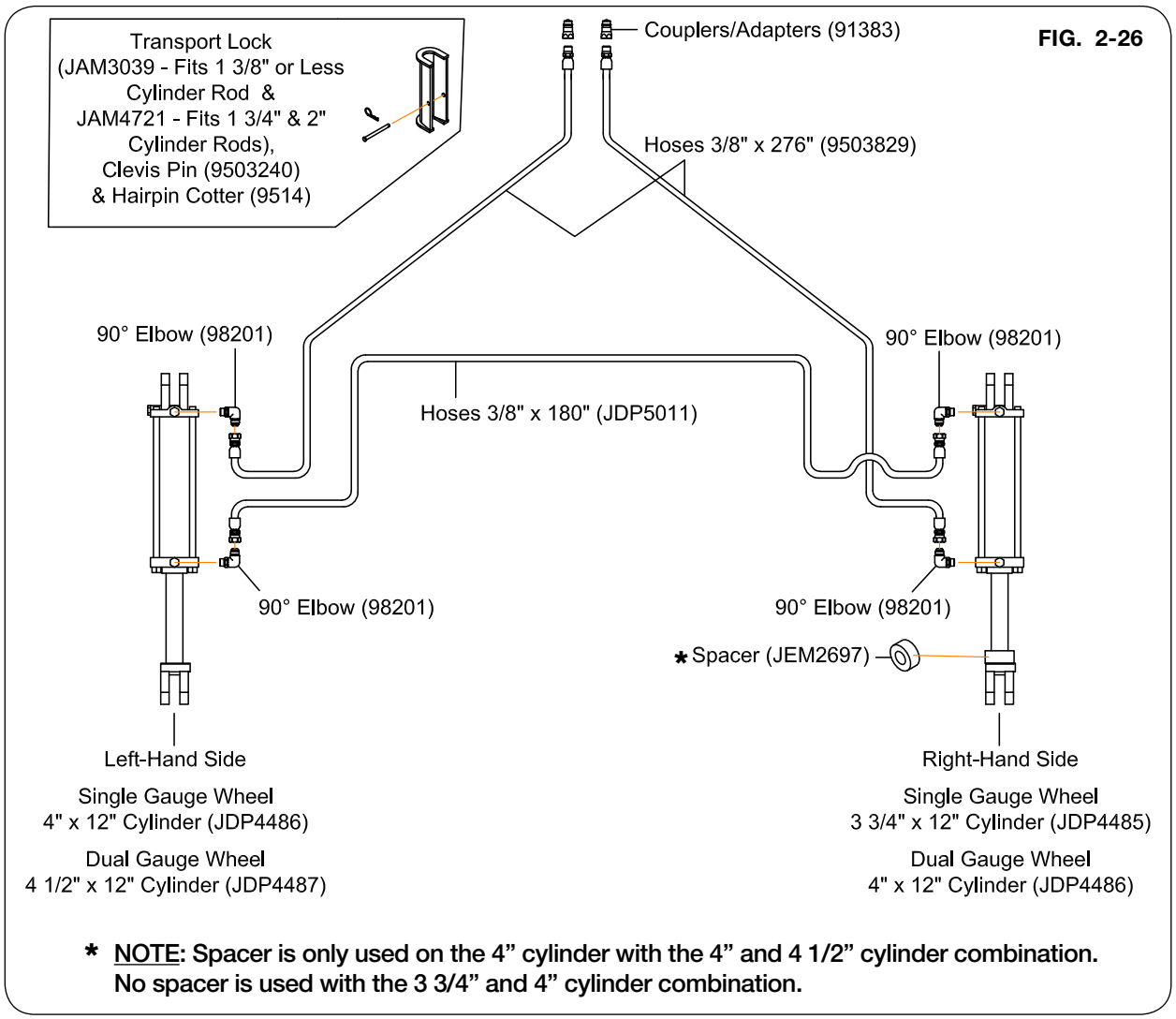


FIG. 2-26

* NOTE: Spacer is only used on the 4" cylinder with the 4" and 4 1/2" cylinder combination. No spacer is used with the 3 3/4" and 4" cylinder combination.

Pull-Type Conversion Option (continued)

Purging Hydraulic System

⚠ WARNING

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

Purge air from system as follows:

A. Clear all personnel and objects from the area, including where the machine will have full range of motion during the hydraulic movement. Remove transport locks from the machine.

B. Pressurize the system and maintain the system at full pressure for at least 5 seconds after the cylinder rods stop moving, or hydraulic motors have completed the required movement. Check that all movements are fully completed.

C. Check oil reservoir in the hydraulic power source and refill as needed.

D. Pressurize the system again to reverse the motion of step B. Maintain pressure on the system for at least 5 seconds after the cylinder rods stop moving, or hydraulic motors have completed the required movement. Check that all movements are fully completed.

E. Check for hydraulic oil leaks using cardboard or wood. Tighten connections according to directions in the Torque Specifications in the MAINTENANCE section.

F. Repeat steps in B, C, D, and E 10-12 times.

HYDRAULIC SYSTEM CHECKS ON ALL UNITS -- CHECK THE FOLLOWING:
ROUTING OF ALL HYDRAULIC HOSES: Hoses should not be kinked, twisted, or rubbing against sharp edges.

FITTINGS AND CONNECTIONS: Check for leaks. Refer to "Torque Chart" in MAINTENANCE section.

HOSES: Be sure hoses have room to "FLEX" (for folding) in hinge areas. Hoses must be secured with cable ties.

Pull-Type Conversion Option (continued)

Light Kit Adapter

NOTE: Refer to "Electrical Schematic" in MAINTENANCE section for reference.

1. Extend rear wiring harness from lights to right-hand side from the rear of frame.

2. Attach main electrical wiring harness (JAP2824) main wiring harness to rear wiring harness and extend through hose retainers to dust cap.

3. Mount dust cap holder bracket (JAM4575) to tongue with 3/8"-16UNC x 5" U-bolt (JBP3045). Secure with 3/8"-16UNC elastic lock nuts (9398-012).

4. Attach connector holder/dust cap (9001968) to mounting bracket with 1/4"-20UNC x 1" capscrews (9390-005) and 1/4"-20UNC hex nuts (9394-002).

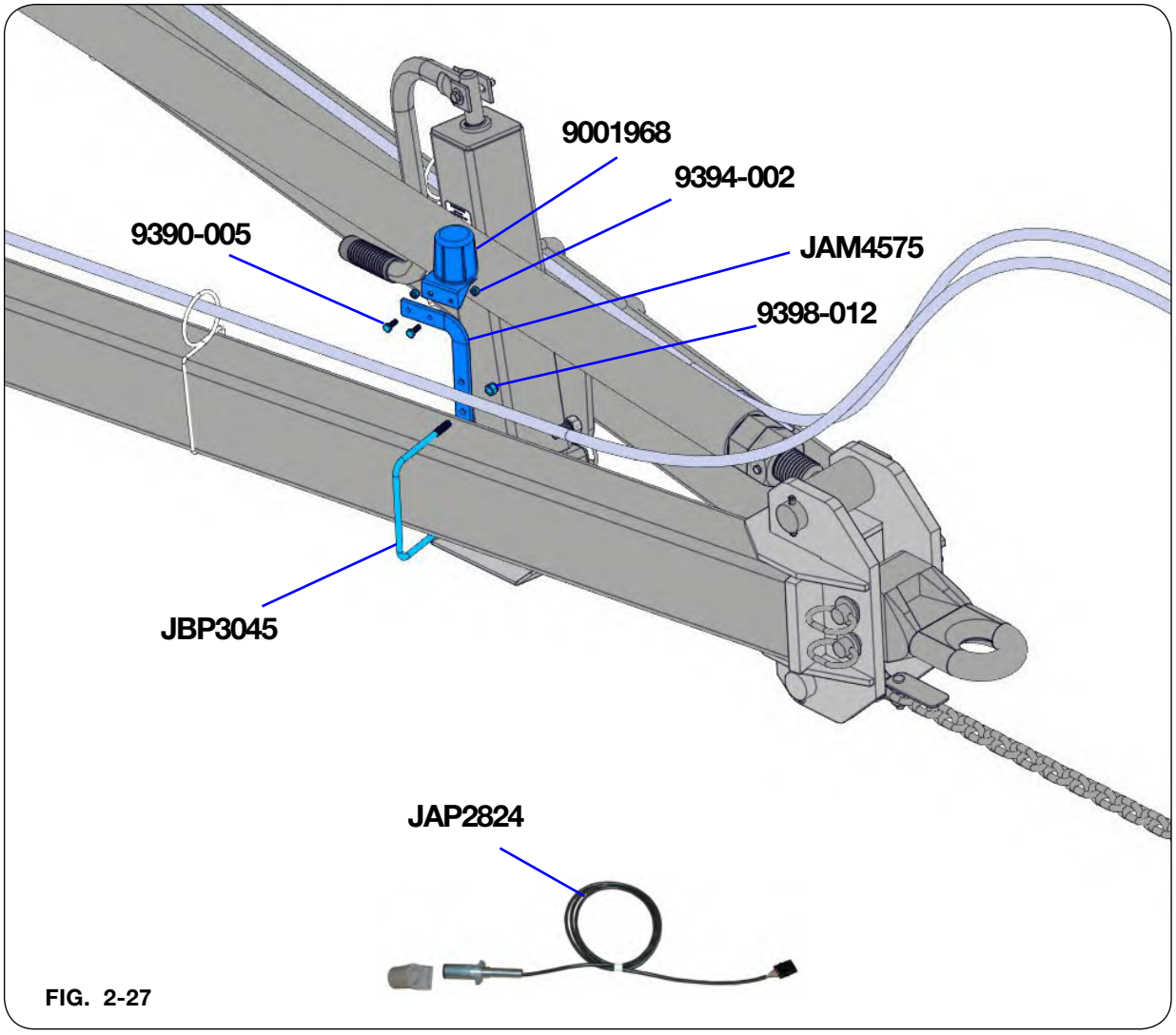
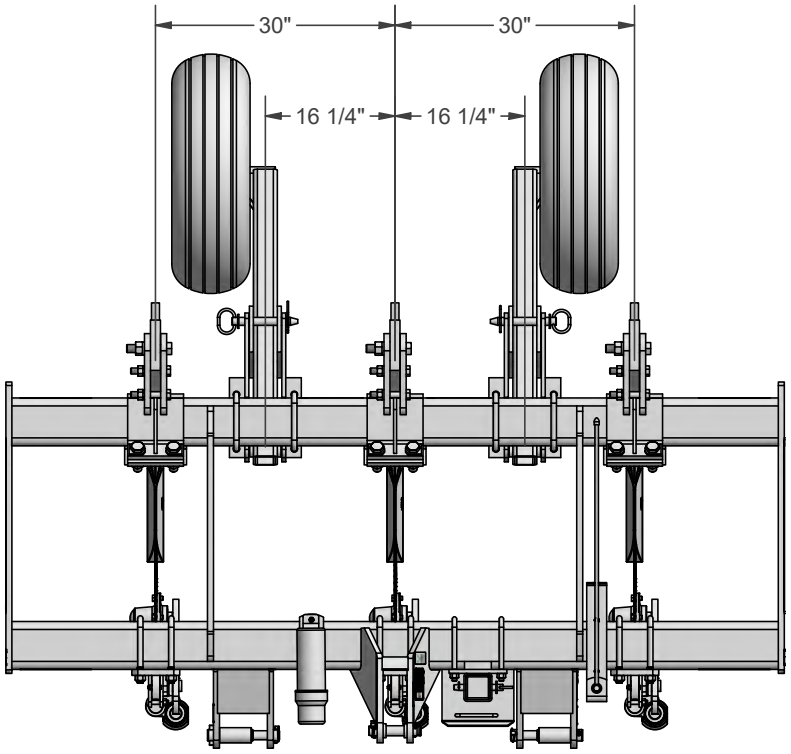


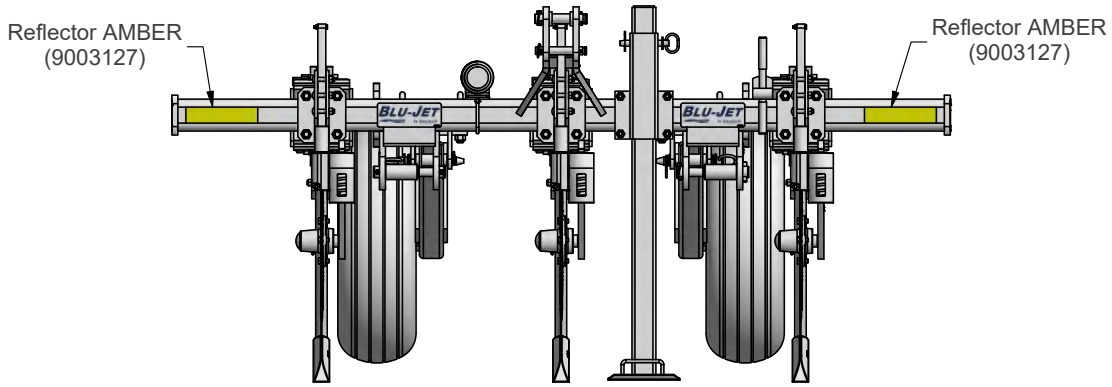
FIG. 2-27

Overhead Layout - 3 Row 30” Spacing, 8’ Frame SubTiller II

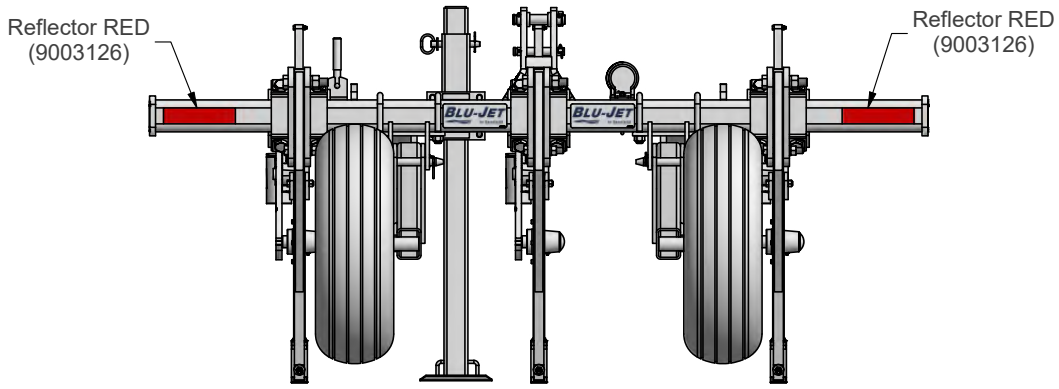
Overhead View



Front View

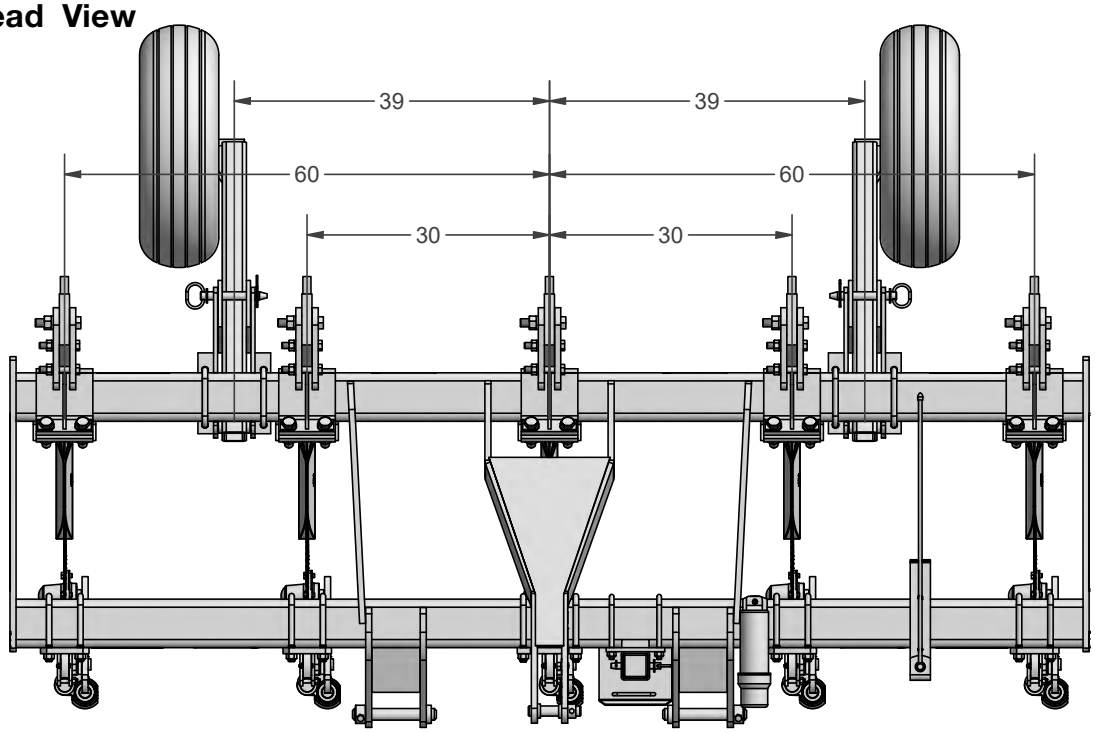


Rear View

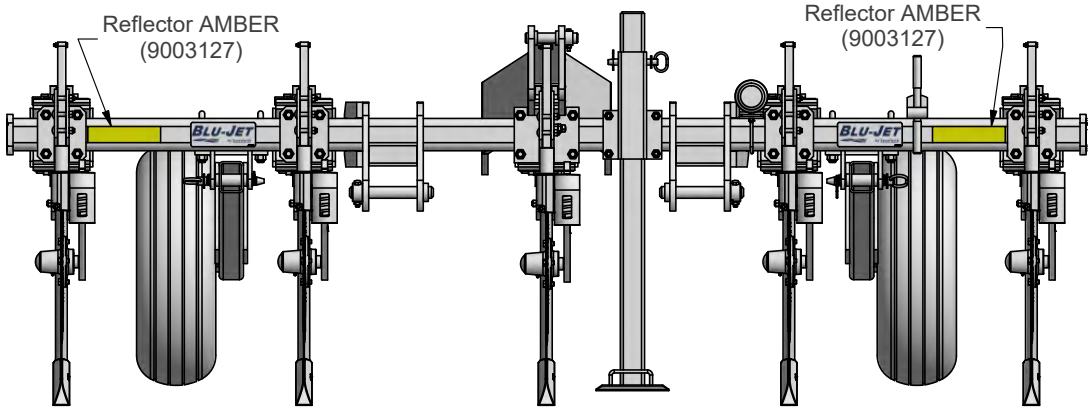


Overhead Layout - 5 Row 30” Spacing, 11’ Frame SubTiller II

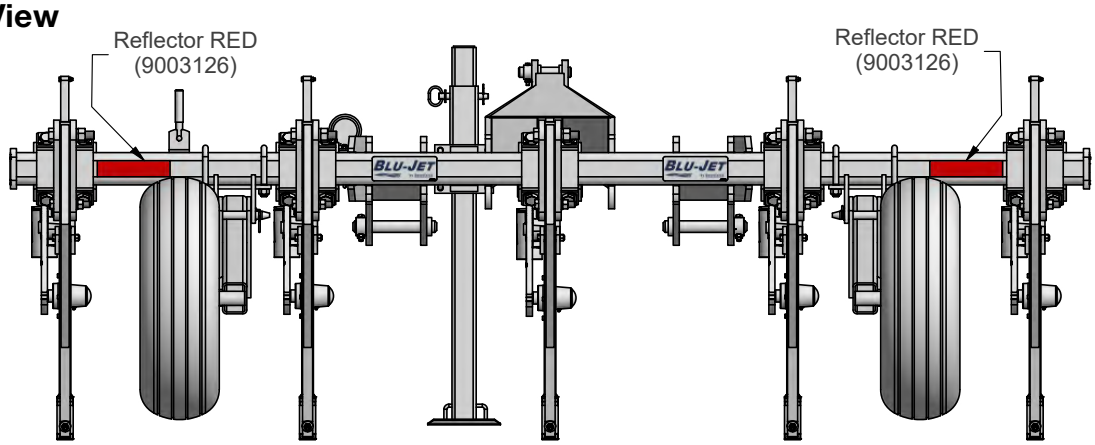
Overhead View



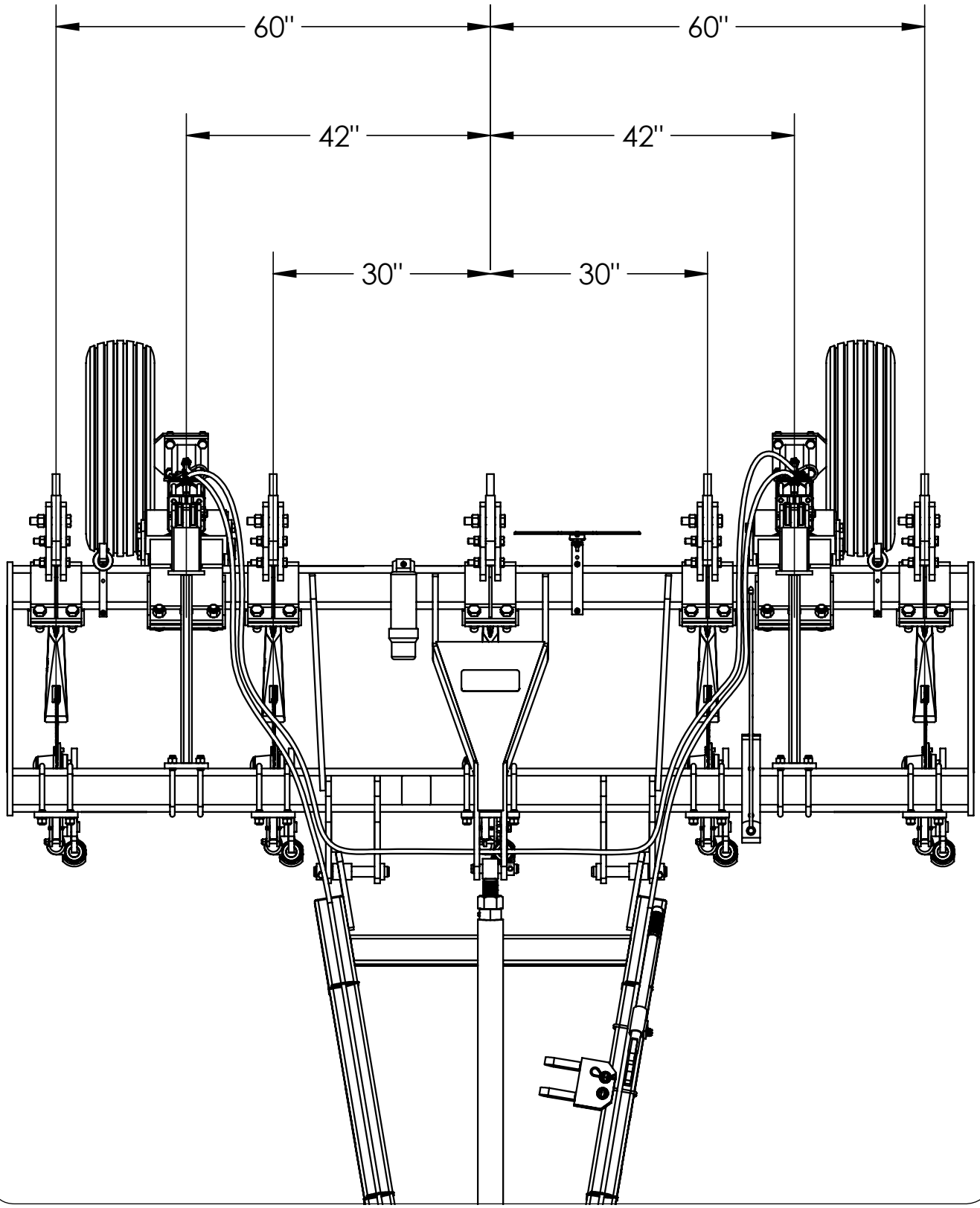
Front View



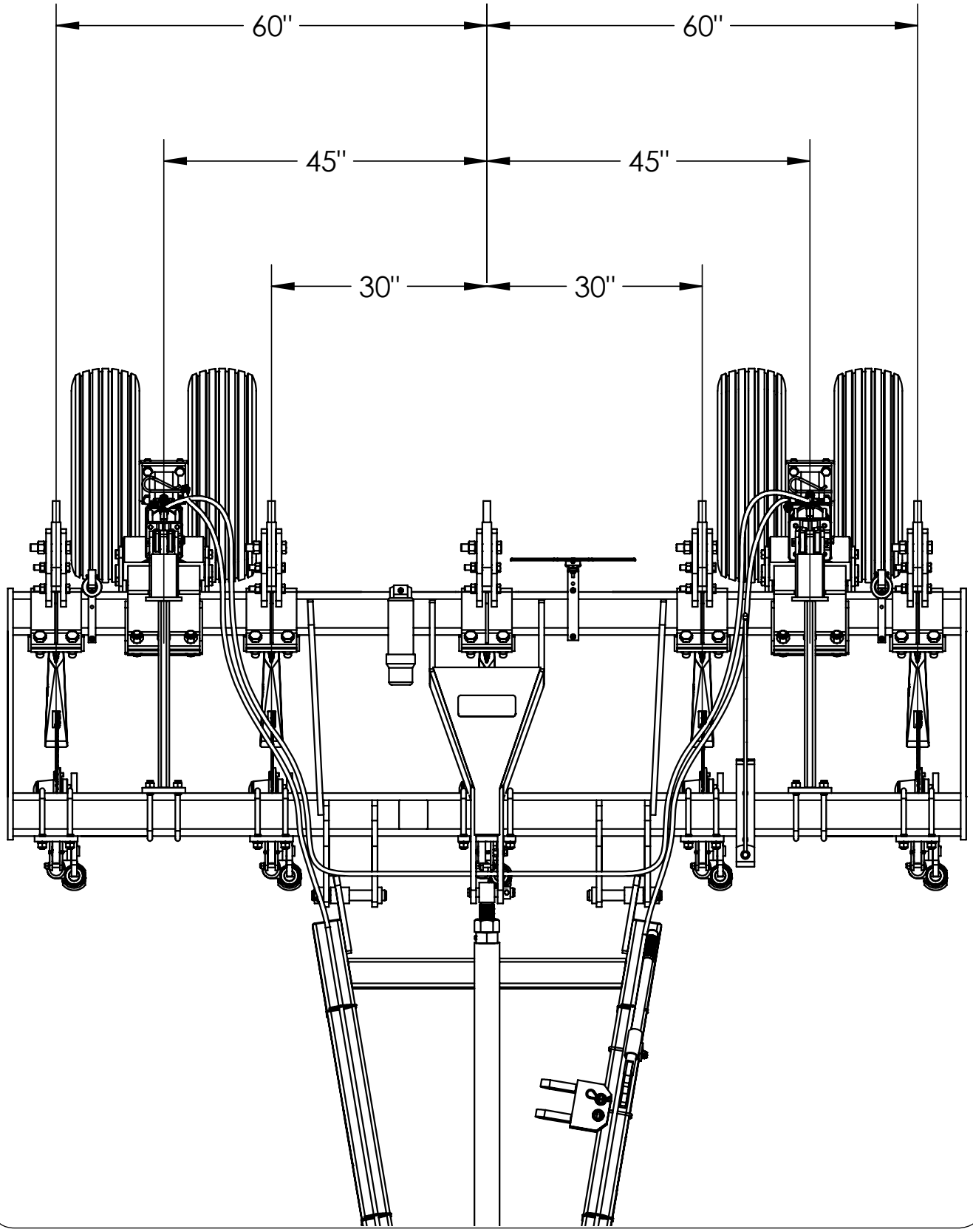
Rear View



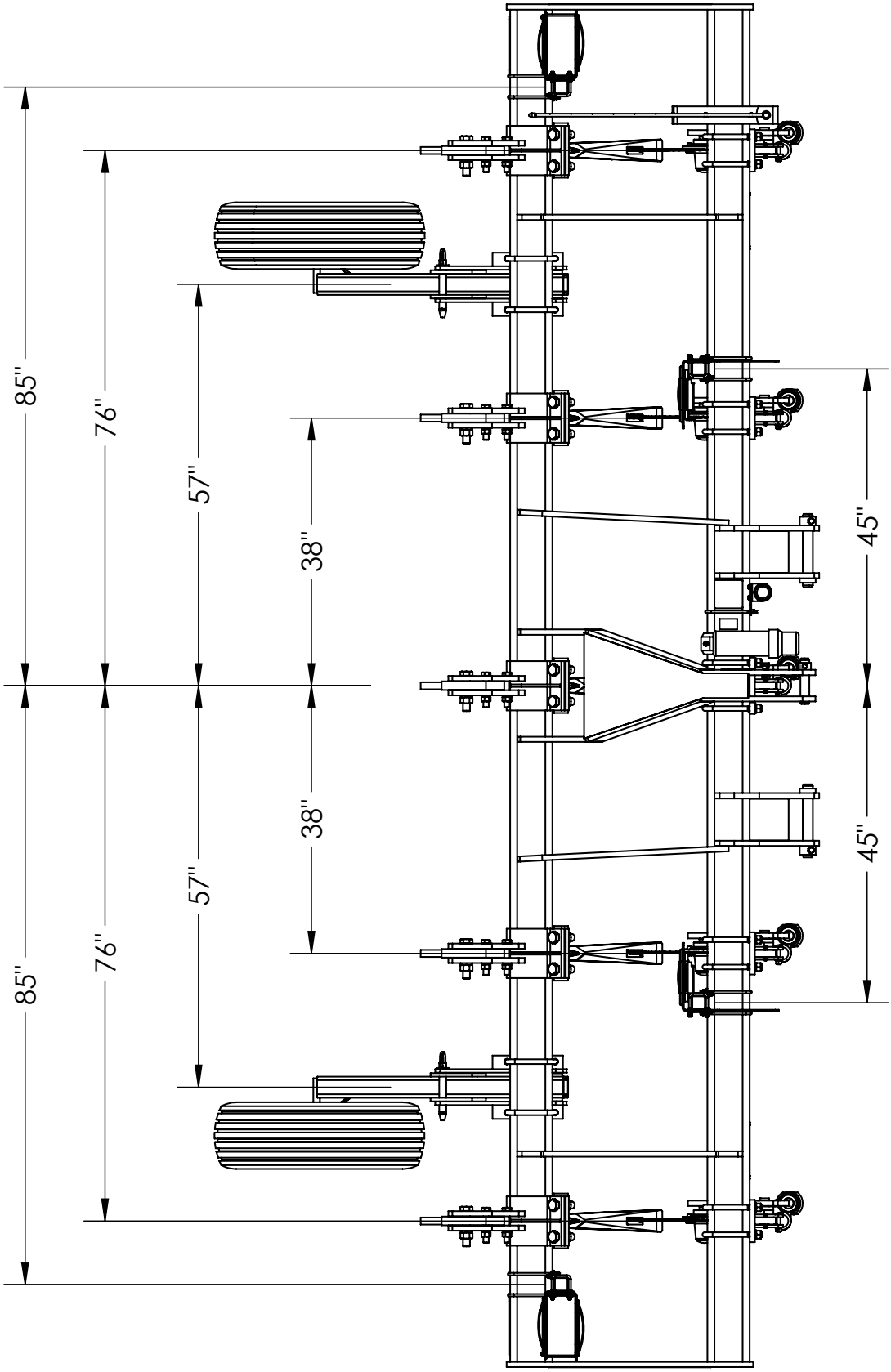
Overhead Layout - 5 Row 30” Spacing, 11’ Frame SubTiller II With Single Hydraulic Wheels



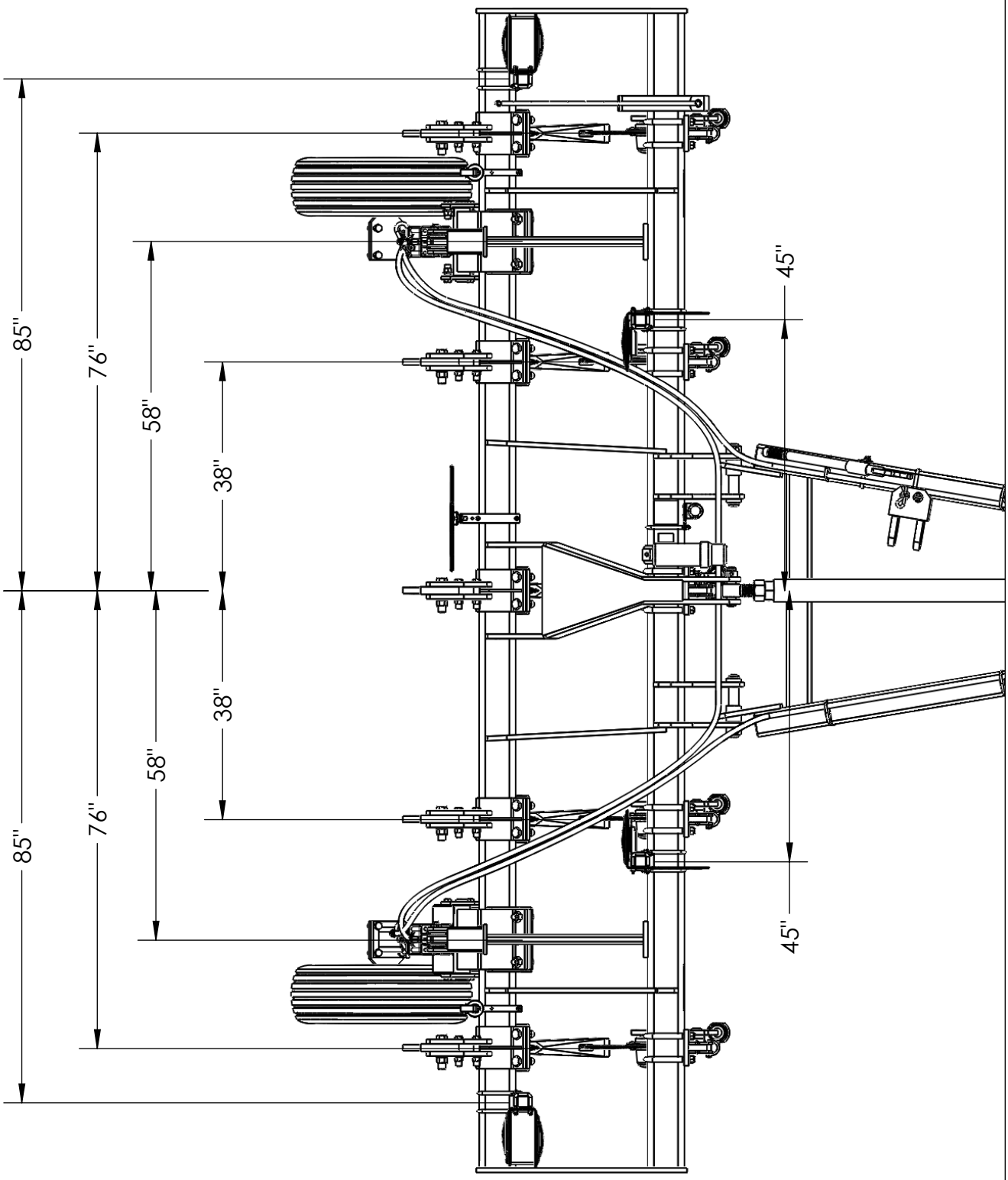
Overhead Layout - 5 Row 30” Spacing, 11’ Frame SubTiller II With Dual Hydraulic Wheels



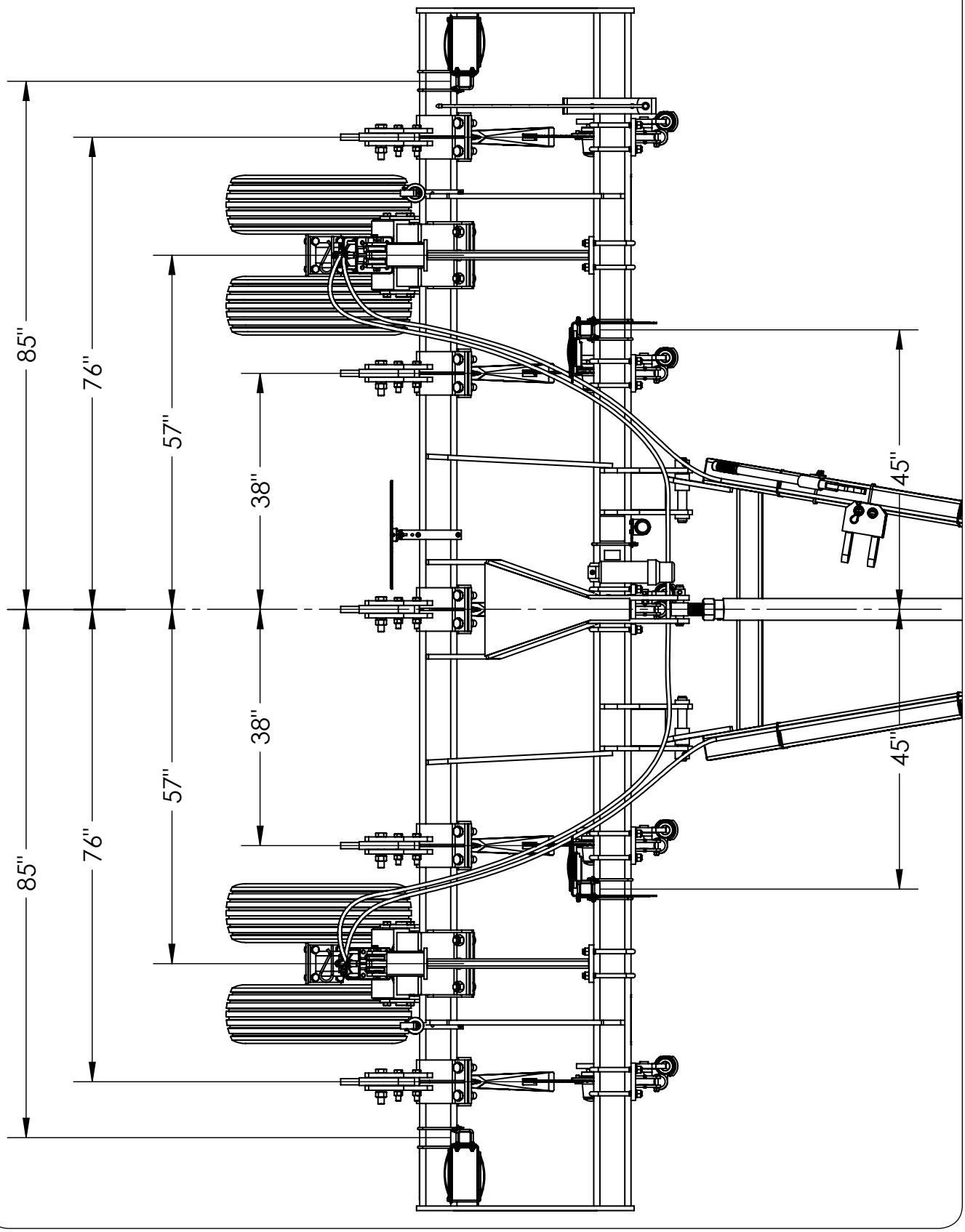
Overhead Layout - 5 Row 38” Spacing, 16’ Frame SubTiller II



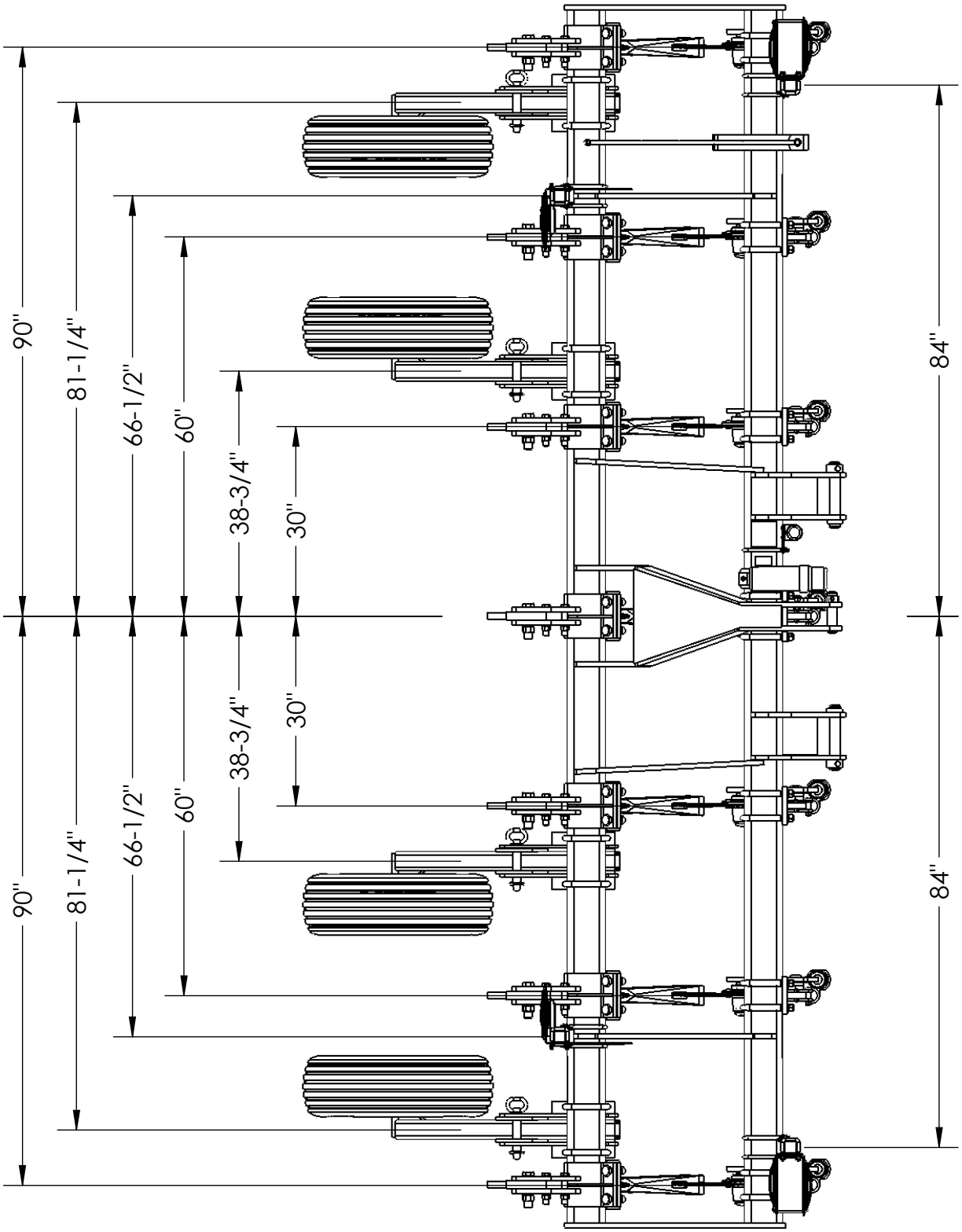
Overhead Layout - 5 Row 38” Spacing, 16’ Frame SubTiller II With Single Hydraulic Wheels



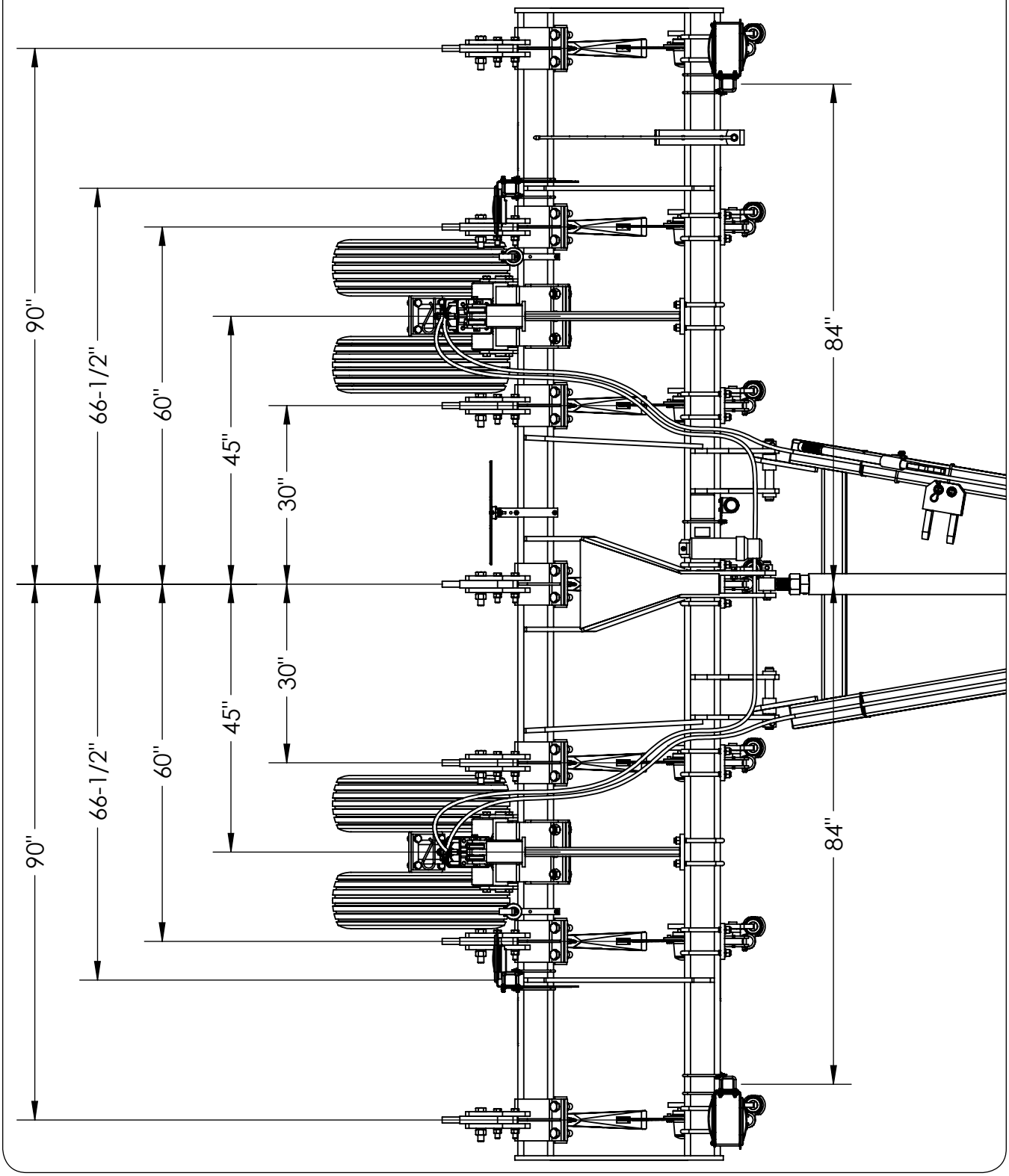
Overhead Layout - 5 Row 38” Spacing, 16’ Frame SubTiller II With Dual Hydraulic Wheels



Overhead Layout - 7 Row 30” Spacing, 16’ Frame SubTiller II



Overhead Layout - 7 Row 30” Spacing, 16’ Frame SubTiller II With Dual Hydraulic Wheels



Notes

SECTION III
Operation

Preparing Tractor

Before operating implement refer to tractor operator's manual for information concerning safe methods of operation, and tire inflation.

Check tractor brakes and transport lights. Make sure they are in proper working order.

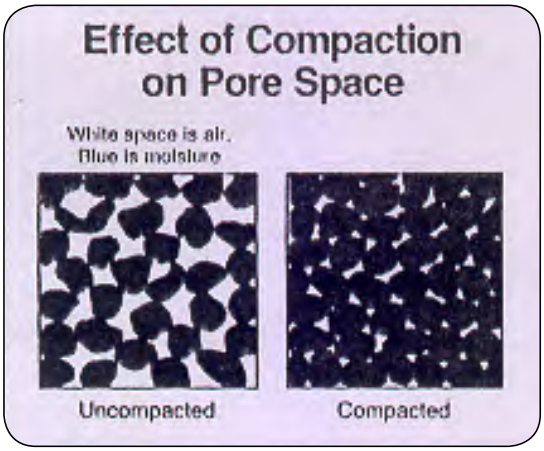
Check tractor hydraulic oil reservoir and add oil if needed.

⚠ WARNING

- **TRANSPORTING THE IMPLEMENT SIGNIFICANTLY CHANGES THE WEIGHT AND BALANCE OF YOUR TRACTOR. MAKE SURE THE TRACTOR IS PROPERLY BALLASTED.**

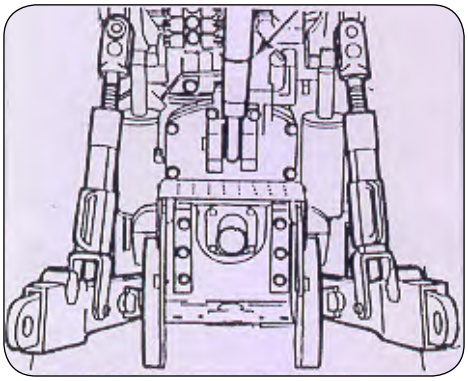
Soil Compaction

Soil Compaction is the compression of soil particles from excessive weight on moist soils. Ideal soil conditions for best sub tilling results are when the soil is dry. The dryness of the soil is directly related to the amount of fracturing that can be accomplished with the BLU-JET SubTiller II. Positive results have been documented after sub-tilling in wet conditions; however, the probability of greatest response is when the soil is dry. Do not run livestock on sub-tilled soils until the ground has frozen and remove them before thawing to avoid compaction. Avoid operating tillage tools on wet sub-tilled fields. Compaction can easily reoccur.



3-Point Installation

Measure tractor linkages on pull arms to insure equal length for level operation as viewed across the rear of the tractor. Check tractor tire pressure for equal inflation. Install SubTiller frame onto the tractor. Be certain that the proper pins are used in either CAT2 or CAT3 hookup.

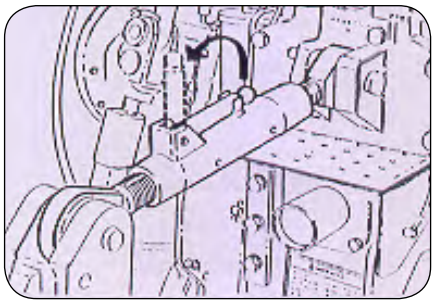


Soil Probe

A soil probe is an effective way to test for compacted soil. The ideal time to check conditions is when the soil is at maximum moisture capacity. At this time you can most easily find out if a compacted zone exists. By applying steady pressure on the probe, a stronger resistance should be felt through the compacted layer.

Preparing SubTiller II

Soil surface disturbance may be modified by using the third link adjustment. The SubTiller implement will normally be operated in a “level” tool bar position or slightly tipped back position. By shortening the turnbuckle and running at shallower depths, soil surface disturbance will be increased. Tractor speed should be between 4 m.p.h. and 6 m.p.h. for optimum fracturing effect.



Perform the service checks as outlined. Repair or replace any damaged or worn parts before operating.

Hardware

Check for loose bolts and nuts, and tighten as needed. Check again after the first half-day of operation.

Pivot Pins

Check that all pins are in place and in good condition. Replace any worn, damaged or missing pins.

Pull-Type Conversion Option Hydraulics

Check routing of all hydraulic hoses. Hoses should not be kinked, twisted, or rubbing against sharp edges. Hoses should be secure with tie straps.

Check hoses and fittings for hydraulic leaks. Tighten or replace as required.

⚠ WARNING

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR’S MANUAL FOR PROPER PROCEDURES.**

Preparing SubTiller II (continued)

Tire Pressure

Check tire pressure, see "MAINTENANCE" section for recommended air pressure. Be sure tire pressure is equal in all tires.

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty. Tire manufacturers' phone numbers and web sites are listed in the "MAINTENANCE" Section of this manual for your convenience.

Pins And Retaining Rings

Before going to the field, check that all pins are in place and are in good condition. Replace any worn, damaged, or missing pins.

Check that locking hardware for pins are in place and tight.

Points

Fall Till Points

The fall till point is designed to fracture compacted soil when operated at a depth of 14" to 18" deep. Ideally the point of the shoe should be run 1" to 2" below the compacted "zone" which generally will be found at the 8"-14" depth. Do not run the SubTiller II point too deep. This may result in wasted horsepower and a slicing effect through the hardpan rather than a lifting and shattering effect directly under the compacted zone.

Summer Till Points

The summer till point is designed to penetrate the soil for air filtration and water penetration combined with a slight fracturing effect. It is ideally suited for pivot irrigated crops and also may be used successfully on dry land row crops, pasture and hay land.

By penetrating soil from 10" to 14" the summer till point is most effective. If the soil appears to be lifting the dry land row crop excessively it may be advisable to quit. In extremely hard soil when weather conditions are hot and dry, the summer till point may injure roots structures, especially when water cannot immediately be applied.

Preparing SubTiller II (continued)

Shanks

Replace the Shear bolt on the standard shank model only with 3/4" x 4 1/2" grade 2 bolts. Use of grade 5 or harder bolts will void the warranty of the machine. Do not attempt to hard surface the SubTiller II summer till or fall till points. These cast items have undergone a special heat treating process that will be modified if additional heat is encountered.

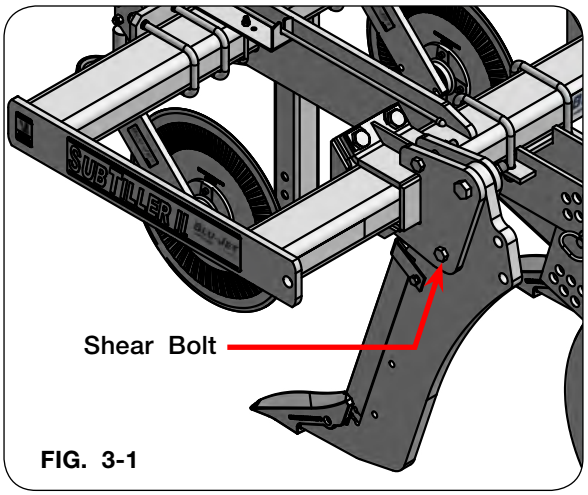


FIG. 3-1

Changing Points

The fall and summer points should rest flatly on the lower shank. Refer to "Shank Wear Bar & Point Replacement" in MAINTENANCE section for replacement instructions.

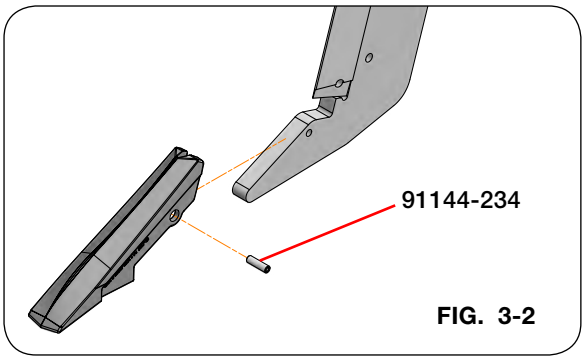


FIG. 3-2

Coulters

Coulter should be adjusted to slice 3" to 4" deep during operation. Running coulters too deep may result in premature bearing failure. Grease coulter pivot shaft generously and often.

Coulter is adjusted by loosening the coulter mounting bracket 1/2" clamping hardware. Adjust each coulter equally. Torque all hardware. Refer to "Torque Chart" in MAINTENANCE section.

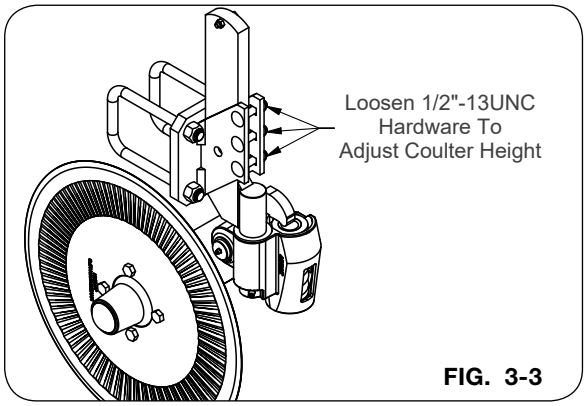


FIG. 3-3

Lubrication

Lubricate unit as outlined in MAINTENANCE section.

Attaching SubTiller To Tractor

⚠ WARNING

- **CRUSHING CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT STAND BETWEEN THE TOWING VEHICLE AND IMPLEMENT WHEN HITCHING. ALWAYS ENGAGE THE PARKING BRAKE AND STOP THE ENGINE BEFORE INSERTING THE HITCH PINS OR SECURING LATCHES.**

Attach the unit to the tractor as specified in the tractor operator's manual. Use the appropriate size hitch pins and lock in place.

Pull-Type Conversion Option Hydraulic Hookup

When connecting the hydraulic lines to a hydraulic source, the lines may be connected into a separate two-way hydraulic control circuit (on back of the tractor).

⚠ WARNING

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**
- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HYDRAULIC SYSTEM MUST BE PURGED OF AIR BEFORE OPERATING TO PREVENT SERIOUS INJURY OR DEATH.**

NOTE: Refer to SET UP section for purging process.

NOTE: Refer to MAINTENANCE section when checking hydraulic circuit operation.

Transporting

⚠ WARNING

- **ALWAYS TRAVEL AT A SPEED WHICH PERMITS COMPLETE CONTROL OF TOWING VEHICLE AND IMPLEMENT.**

⚠ CAUTION

- **USE APPROVED ACCESSORY LIGHTS AND REFLECTORS WHEN TRANSPORTING AT NIGHT, DURING PERIODS OF POOR VISIBILITY, AND AS REQUIRED BY LOCAL LAW.**

NOTE: Unverferth Manufacturing has designed the transport lighting and marking kit to meet all laws and ASABE standards at the time of manufacture. Machine modifications, including additional features or changes to the intended configurations, may require updates to the lighting and marking as well.

Compliance with all lighting and marking laws is the responsibility of the operator at the time of travel.

See federal regulation 49 CFR 562; available at www.govinfo.gov for US federal law requirements.

See your Unverferth dealer for additional brackets, reflectors, or lights to meet your requirements.

Do not operate near electrical lines. Know height and width of implement.

For safe transporting of this implement, the transport speed should never exceed 10 m.p.h. in the field or over rough terrain. Reduce transport speed to maintain full control of the implement and tractor at all times. Do not exceed 20 m.p.h. when transporting the implement on the highway.

Comply with all laws governing highway safety and regulation when moving machinery on public roads.

Be sure SMV Emblem, lights and reflectors are in place and clearly visible to approaching traffic.

Unhitching From Tractor

⚠ WARNING

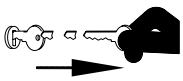
- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING OR LOWERING.**

- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**

- **RELIEVE THE HYDRAULIC SYSTEM OF ALL PRESSURE BEFORE ADJUSTING OR SERVICING. SEE THE HYDRAULIC POWER UNIT OPERATOR'S MANUAL FOR PROPER PROCEDURES.**

Select a firm, level surface for parking the machine. Lower all support stands to the same height. Lower unit with tractor's 3-point hitch until stands and shank points contact the ground.

Set parking brake and remove key from ignition before dismounting from tractor.



For Pull-Type Hitch units, lower implement to ground. Use jack to raise tongue. Remove hitch pin and disconnect hydraulic lines and electric connection.

Leveling Frame

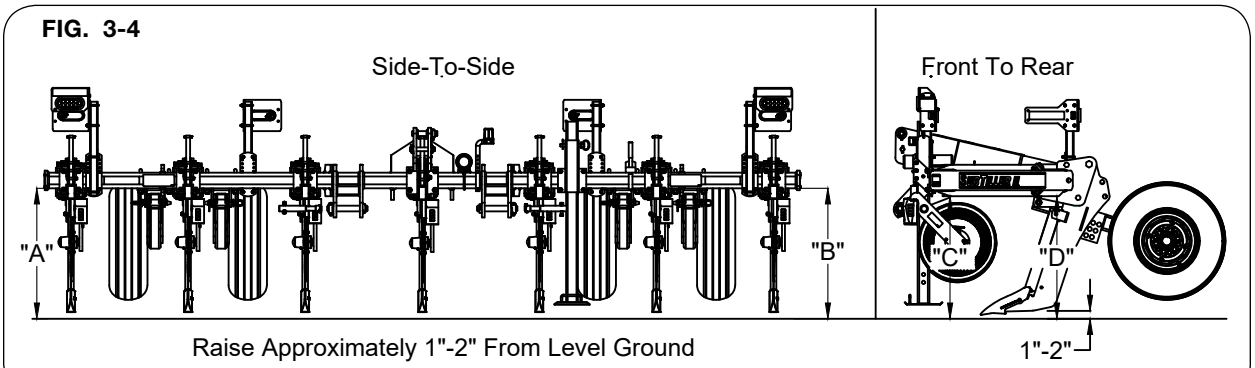
For best results, when leveling the implement, position the tractor with implement on a level floor. Check tractor tire pressure and inflate equally from side-to-side. See your tractor operator's manual for correct tire inflation pressure.

Side-to-Side Leveling

With the implement attached to tractor, raise the unit 1 to 2 inches off the floor. Shut-off engine and lock brakes on tractor. Measure to the bottom edge of the rear frame tube on each side of the machine. Frame will be level when dimension "A" is the same as dimension "B", Fig. 3-4. Level frame from side to side by adjusting the lift links on tractor 3-point hitch.

Before adjusting 3-point links see your tractor operator's manual for correct adjustment procedures and safety requirements.

FIG. 3-4



Front-to-Rear Leveling

Before setting the coulter and gauge wheels it is necessary to level the frame from the front to the rear.

For initial adjustment keep the machine raised off the ground 1 to 2 inches (being sure bottom of shanks clear floor). Measure to the bottom of the front frame tube "C" and the rear frame tube "D".

The SubTiller is normally operated level or slightly tipped back. Begin with the SubTiller level front-to-rear and adjust the tractor third linkage to achieve different field results. Tipping the SubTiller back (by lengthening the third linkage) will decrease the surface soil disturbance. Operating with the toolbar tipped back too far may prevent the SubTiller from entering the soil and may result in premature wear on the unhardened areas of the point and shank. Operating with the toolbar tipped forward from the level position will increase the surface soil disturbance and horsepower requirements. A properly leveled SubTiller will create a "wave" effect when operating where the points lift and fracture the hardpan with minimal disturbance on the surface.

Before adjusting 3-point links see your tractor operator's manual for correct adjustment procedures and safety requirements.

Further front to back adjustment may be required once machine is operated in the field.

Depth of Penetration

Before adjusting the depth of your coulter and shank, first test your soil for the depth of the hardpan. For optimum performance from your implement, the penetration of the shank should be 1-2 inches below the hardpan. The hardpan is the area in your soil which acts as a barrier preventing the roots of your crops from benefiting from the water and nutrients below this area.

To determine the precise location of the hardpan, use the "soil probe" located on the front, left-hand side. For more information on this device, refer to your local Unverferth dealer or contact us, at Unverferth Mfg. Co., Inc.

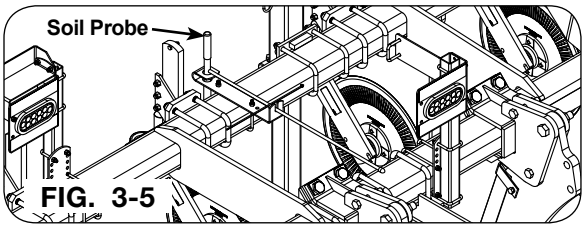
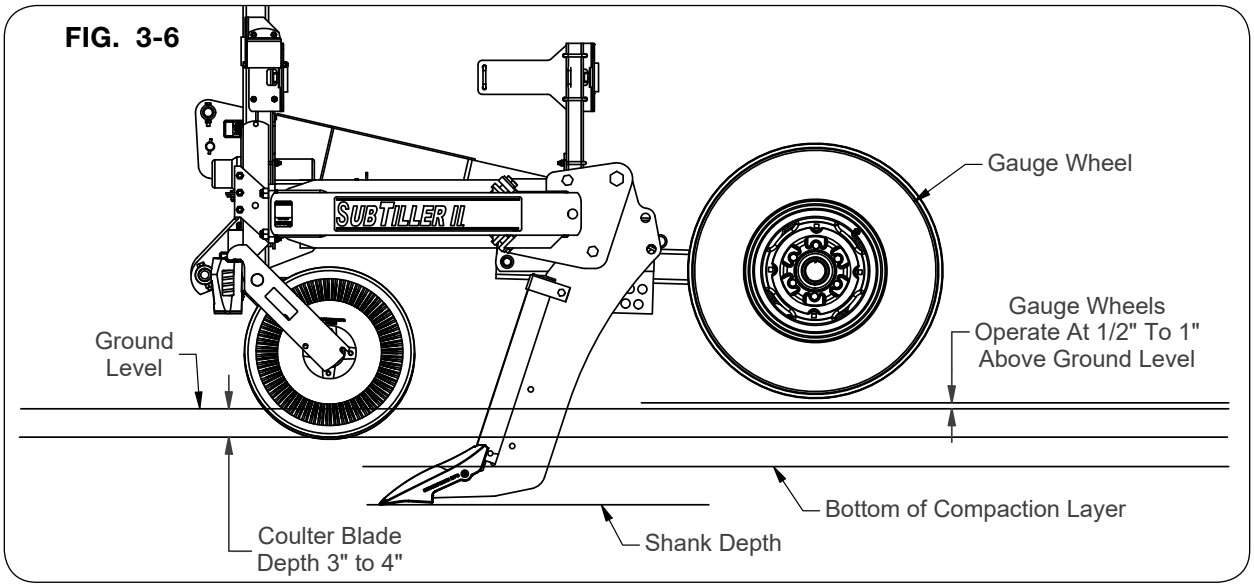


FIG. 3-5

An alternate method of locating the hardpan is to dig a hole to a depth of 24" or greater. Using a knife, slice the side wall of the hole vertically downward. You will be able to feel an increase in resistance upon entering the hardpan from the top. Repeat the knife slice from the bottom of the hole upward to determine the bottom of the hardpan.

Once the depth of the hardpan is determined, adjust the gauge wheels so that the shank will penetrate at least 2-3 inches below this barrier (Fig. 3-6).

FIG. 3-6



Use a safe lifting device rated at a minimum of 200 lbs. to adjust the gauge wheel. Remove the hitch pin, reposition gauge wheel, then reinsert hitch pin Fig. 3-7.

IMPORTANT

- *It is recommended that the gauge wheels are 1/2" to 1" off the ground during operation. This transfers more draft and weight onto the tractor rear tires for maximum traction.*

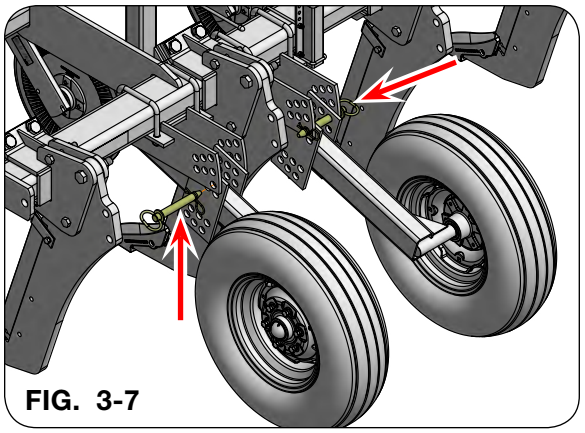


FIG. 3-7

Support Stand

WARNING

- **FALLING OR LOWERING EQUIPMENT CAN CAUSE SERIOUS INJURY OR DEATH. KEEP EVERYONE AWAY FROM EQUIPMENT WHEN SUSPENDED, RAISING OR LOWERING.**

Before field operation can begin, support stands must be raised and locked into position. Raise unit into transport position and raise support stand by removing pin, raising the support stand and reinstalling the pin into the bottom hole (Fig. 3-8).

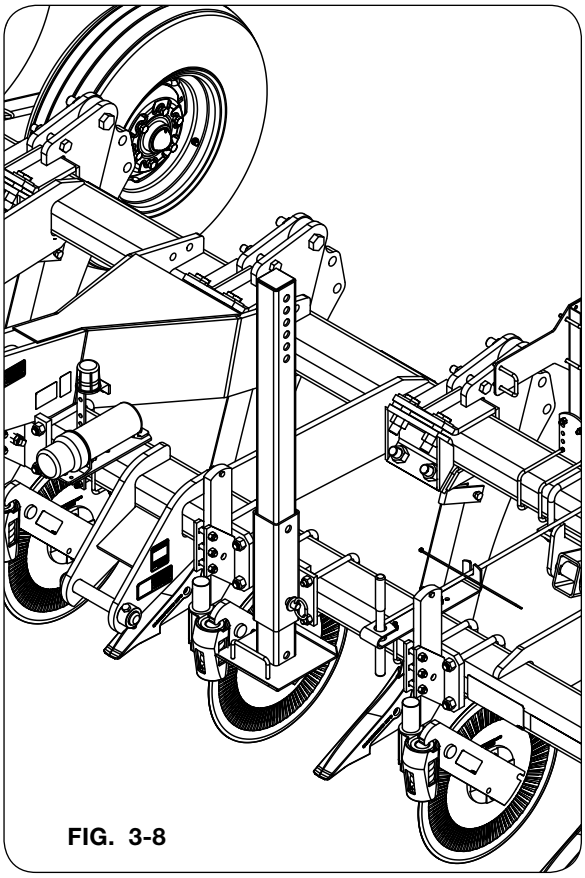


FIG. 3-8

Notes

SECTION IV
Maintenance

Lubrication

IMPORTANT

- *Do not use a high pressure grease gun to lubricate these bearings. Damage to bearing seals could occur.*

Wheel Bearings

Lubricate with an SAE multi-purpose grease. All fittings must be free from dirt and paint to insure entry of lubrication inside bearing.

The gauge wheel bearing should be cleaned, repacked and adjusted once per season. Use a number 2 wheel bearing grease to repack the bearings and adjust per the Hub Assembly instructions in this section.

Daily Service

Beginning of Day

NOTE: Before initial use, ensure all lubrication points have been greased.

Check all U-bolts and bolts for tightness. This is especially important during the first days of operation. See "Torque Chart" in this section.

IMPORTANT

- *Inspect mast pins for any wear or damage. Replace any worn or damaged pins.*

Perform any daily lubrication outlined in "Lubrication" in this section.

Check tire air pressure and inflate to correct pressure, if necessary.

IMPORTANT

- *To assure level penetration of shanks, both tires must be inflated to the same pressure.*

End of Day

Clean off dirt and residue which may have accumulated on implement during operation.

Check implement for damage which could have occurred during operation, and repair.

Hydraulic System

MODELS WITH OPTIONAL PULL-TYPE CONVERSION KIT

NOTE: For plumbing diagram - refer to images below. Refer to PARTS Section for hydraulic components detailed listing.

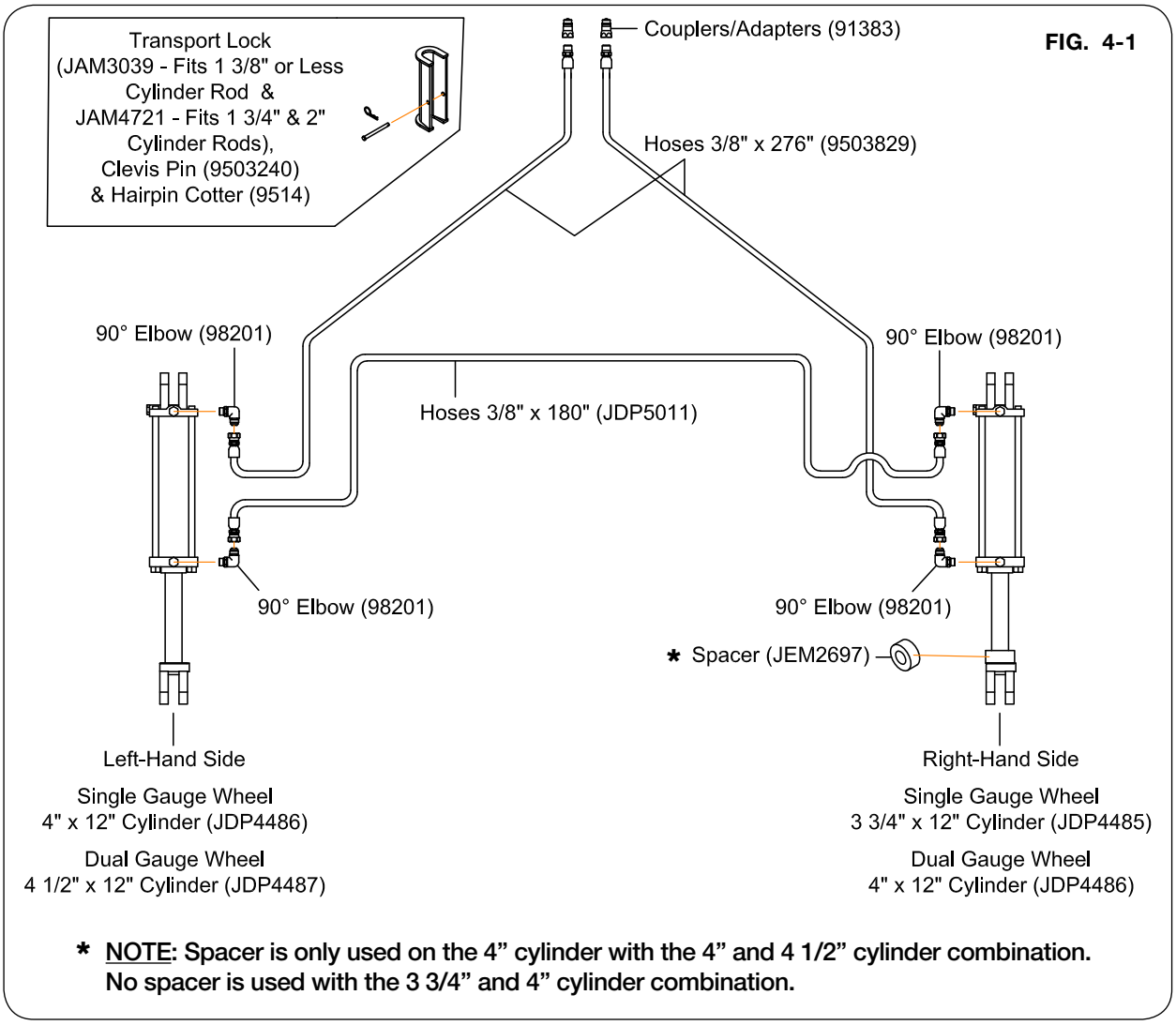


FIG. 4-1

* NOTE: Spacer is only used on the 4" cylinder with the 4" and 4 1/2" cylinder combination. No spacer is used with the 3 3/4" and 4" cylinder combination.

Shank Wear Bar & Point Replacement

The shanks have a replaceable wear bar and point which, after a period of time, will need to be replaced. To replace these components on your machine, refer to the following guidelines:

⚠ WARNING

- **CHANGE ONLY ONE SHANK AT A TIME. IF PRESSURE IS RELIEVED ON ALL SHANKS THE UNIT COULD TIP OVER BACKWARDS.**

⚠ CAUTION

- **WEAR BAR IS RETAINED TO THE SHANK BY THE POINT. KEEP A HOLD OF WEAR BAR AS POINT IS REMOVED TO PREVENT PERSONAL INJURY.**

With implement attached to a tractor, find a firm level surface. Lower the unit's jack stands until they are 1-2 inches below the points, and lower machine to the ground so that the stands support the entire implement and all points are off the ground. Shut off tractor engine, set parking brake, and remove the ignition key.

Wear Bar Replacement

1. Remove the hex nut (9394-010), lock washer (9404-025), and flat washers (9405-088). Remove carriage bolt and point.

2. Remove the capscrew (9390-107) and lock nut (9800) in order to remove the wear bar.

3. Replace with new wear bar (JCP5026) and secure with previously removed hardware.

NOTE: The wear bars are reversible and should be rotated or replaced often for maximum life of shank.

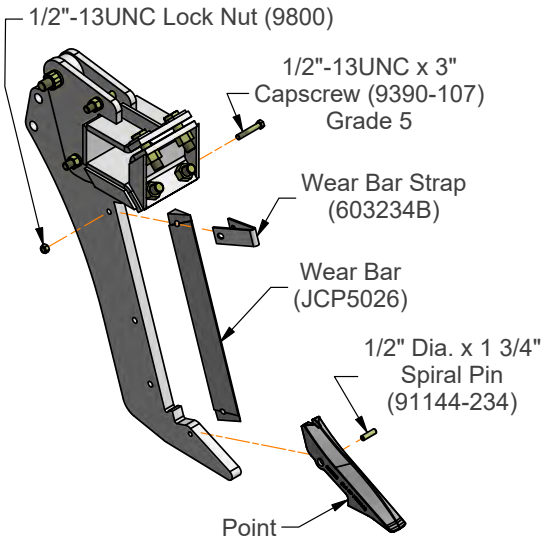


FIG. 4-2

Shank Wear Bar & Point Replacement (continued)

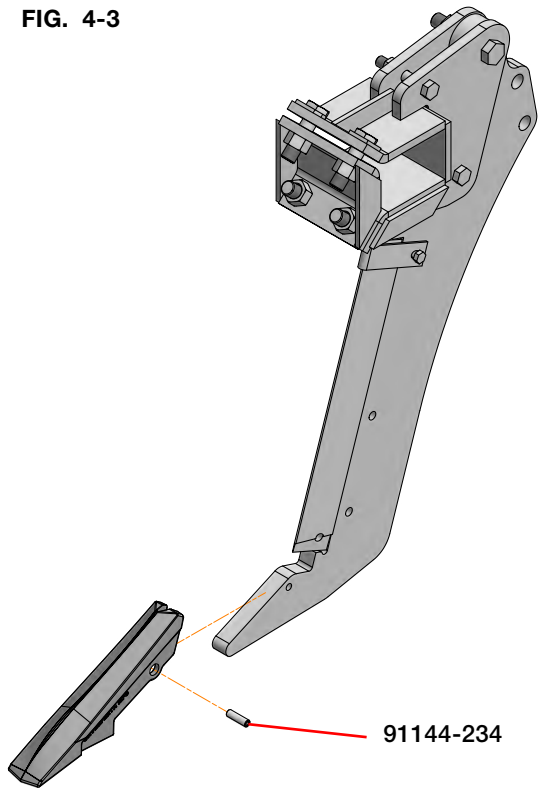
Point Replacement

1. Remove and save the 1/2” Dia. x 1 3/4” spiral pin (91144-234).

2. Hook the point over the end of the shank and position “Vee” over wear bar end.

3. Secure with 1/2” Dia. x 1 3/4” spiral pin (91144-234).

FIG. 4-3



IMPORTANT

- *Periodically check the lower half of the shank for wear - excessive shank wear will occur if point and wear bar are not replaced (or reversed).*

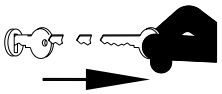
Shear-Bolt Replacement

The shear-bolt should shear only when the shank encounters an obstacle.

⚠ WARNING

- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**

1. With implement attached to a tractor, find a firm level surface. Lower the unit's jack stands until they are 1-2 inches below the points, and lower machine to the ground so that the stands support the entire implement and all points are off the ground. Shut off tractor engine, set parking brake, and remove the ignition key.



2. Remove any remaining portions of the shear-bolt from the shank assembly. Inspect shear-bolt holes in the shank. Severely distorted holes will result in shorter shear-bolt life and should be repaired or replaced.

3. Align the holes and install UNVERFERTH 3/4"-10UNC x 4 1/2" grade 2 capscrew/ shear-bolt (JBP3021), 3/4" lock washer (9404-033) and 3/4"-10UNC hex nut (9394-016). Do not use a different size or different grade of shear-bolt; unsatisfactory performance and or shank damage may occur. Tighten the nut to 150 ft.-lbs.

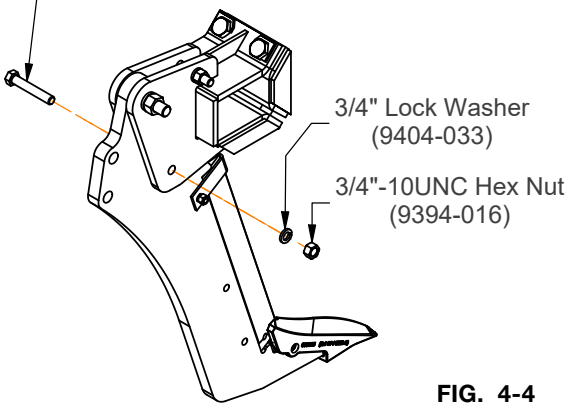


FIG. 4-4

NOTE: Additional shear-bolt, lock washer, and hex nut are stored in the front of the shank.

Horizontal Spring Coulter Replacement

The following guidelines are for replacing the spring on the coulters.

⚠ WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**

⚠ CAUTION

- **SHARP EDGES ON COULTER BLADES CAN CAUSE INJURY. BE CAREFUL WHEN WORKING AROUND COULTER BLADES.**

IMPORTANT

- *The spring should only be adjusted when repairs are being made. The springs have been preset before leaving the factory.*

1. Loosen the set screw retaining the spring bolt on the coulter arm (FIG. 4-5).
2. Slowly unscrew the spring bolt which will relieve spring pressure (FIG. 4-5).
3. Once the bolt is removed, replace with new spring and re-insert bolt.

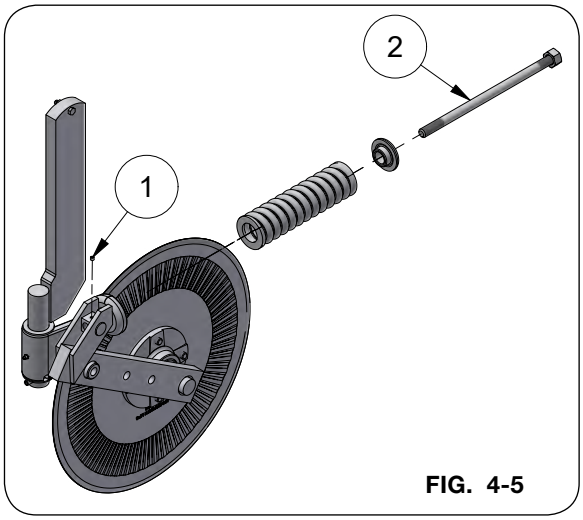


FIG. 4-5

4. Tighten bolt until a deflection of 1” is obtained on spring (FIG. 4-6).

The coulter springs are preset at the factory to 9 3/8”. This measurement is the total amount of exposed spring.

NOTE: Adjusting the spring below 9 3/8” could cause premature part failure and void any warranty considerations.

5. Tighten set screw to secure bolt.

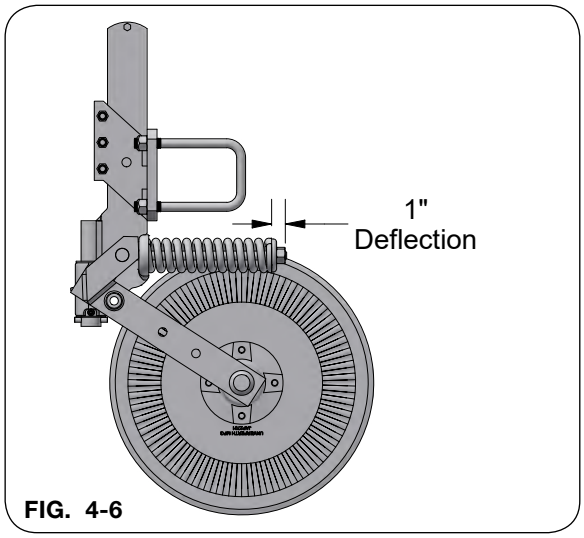


FIG. 4-6

Hub Assembly

1 Use grease to lubricate the seal lip.

2. Place the hub onto the spindle.

NOTE: Make sure the bearing is seated in the cone before the seal is put in place.

3. Rotate the hub while doing this so that the seal lip does not fold under as the lip goes on the seal lip of the spindle.

4. Be sure the outer cone slides on the spindle and into the cup.

5. Assemble the washer and the nut onto the spindle and tighten the nut to 20-25 Ft.-Lbs. Rotate the hub while tightening the nut.

6. Back off the nut until it becomes loose.

7. While rotating the hub, retighten the nut to remove all clearance.

8. Line up the next slot in the nut with the hole in the spindle, insert the cotter pin and bend the cotter pin.

9. Install the hub cap.

Annual Service

Beginning of Season

WARNING

- **READ AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN THIS MANUAL IF NECESSARY.**

Check all bolts, U-bolts, and wheel bolts for tightness. Refer to “Torque Chart” in this section.

Lubricate implement (see “Lubrication” in this section).

Check air pressure in tires and inflate to correct pressure if necessary (see “Daily Service” in this section).

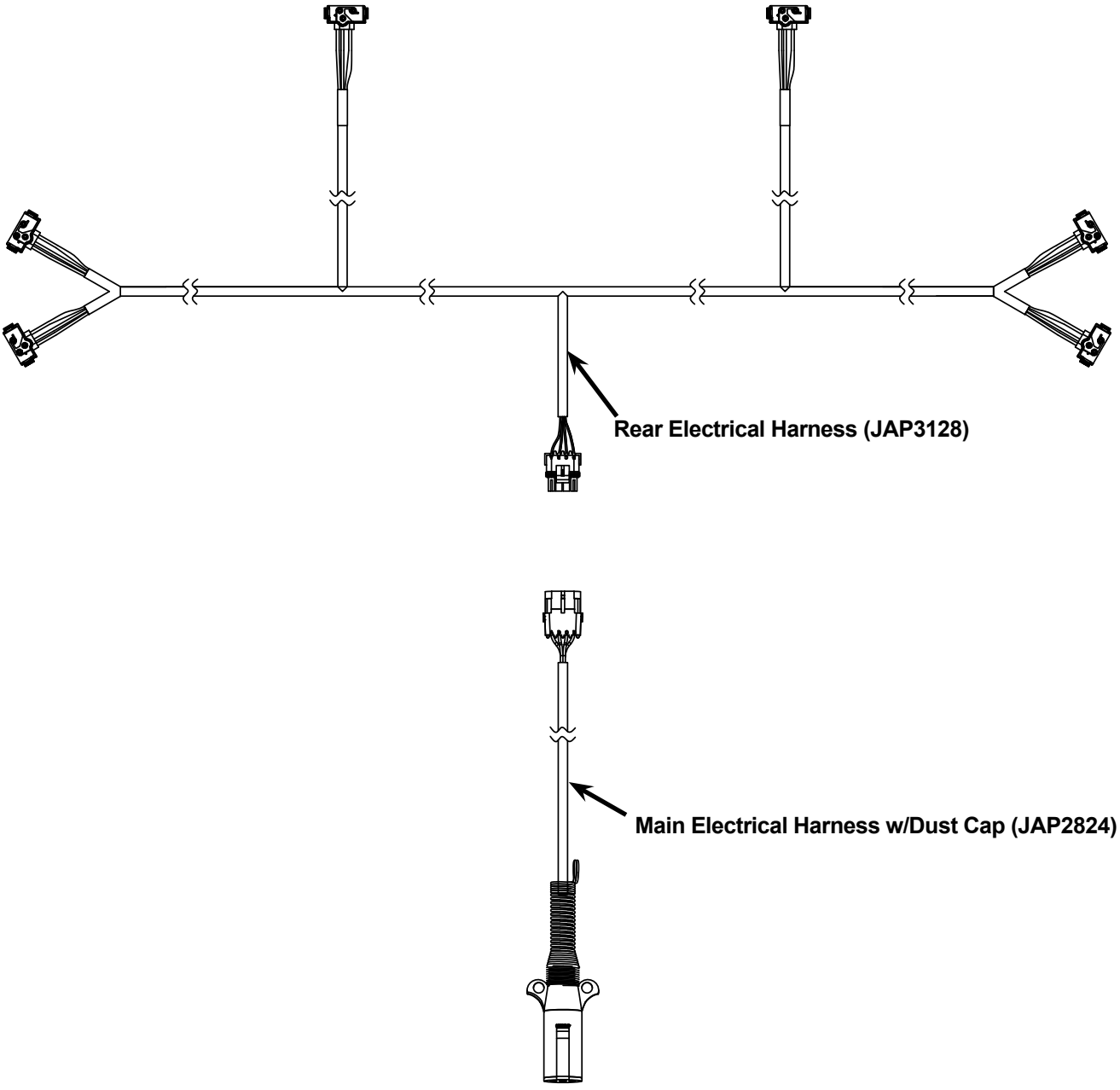
End of Season

Your implement is an important investment. Spend a little time to protect it from destructive rust and corrosion. You will be repaid in longer service life and better performance.

Perform the following before placing the implement in storage:

1. Remove dirt and residue which could cause rusting.
2. Repaint any chipped or scraped areas.
3. Lubricate implement (see “Lubrication” in this section).
4. Coat all earth moving surfaces with grease or suitable rust preventatives.
5. Inspect for damaged parts. Replace before next season.
6. Store implement inside, away from livestock.
7. Use blocking to keep implement tires and points up off bare ground.
8. Replace all worn, torn or faded decals and reflectors.

Electrical Schematic



Wheels and Tires

Wheel Hardware Torque

CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. TORQUE WHEEL NUTS/BOLTS TO VALUES IN TABLE. CHECK TORQUE BEFORE INITIAL USE, AFTER ONE HOUR OF USE, AND EACH HOUR UNTIL WHEEL NUTS/BOLTS MAINTAIN TORQUE VALUE. CHECK TORQUE EVERY 10 HOURS OF USE THEREAFTER. AFTER EACH WHEEL REMOVAL START TORQUE PROCESS FROM BEGINNING. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

Failure to check torque before first use may damage wheel nut/bolt seats. Once seats are damaged, it will become impossible to keep nuts/bolts tight. Tighten nuts/bolts to the applicable torque value shown below. Start all nuts/bolts by hand to prevent cross threading. Torque nuts/ bolts in the recommended sequence as shown in Diagram 1.

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
1/2-20 (UNF)	75 Ft.-Lbs.

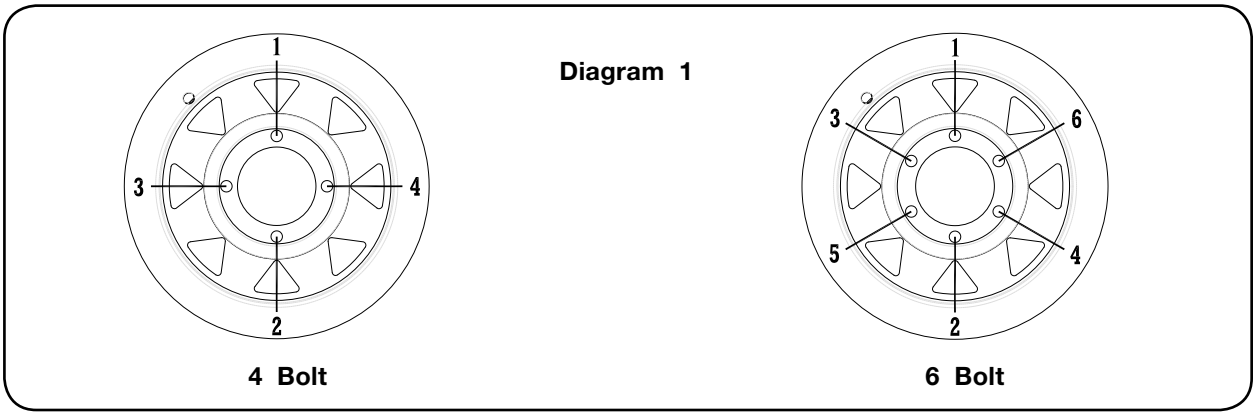


Diagram 1

4 Bolt

6 Bolt

Tire Pressure

- The following is to be used as a general guide for tire inflation and figures can vary depending on specific brand of tire used. **It is important that tires are inspected after unit is loaded.** Start with minimum pressure indicated. The tire should stand up with no side-wall buckling or distress as tire rolls. Record the pressure needed to support the full load and maintain this pressure to achieve proper tire life. **Do not exceed maximum recommended tire pressure.**

  For new tires consult tire side wall for PSI information.

Wheels and Tires (continued)

Tire Warranty

For questions regarding new tire warranty, please contact your local original equipment tire dealer. Used tires carry no warranty. Following are phone numbers and Websites for your convenience:

Carlisle
www.carlisletire.com
Phone 800-260-7959
Fax 800-352-0075

Complete Torque Chart

Capscrews - Grade 5

NOTE:

- Grade 5 capscrews can be identified by three radial dashes on the head.
- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.

SIZE	FOOT POUNDS	NEWTON METERS
1/4-20 1/4-28	8-10 9-11	11-13 12-15
5/16-18 5/16-24	15-17 17-19	20-23 23-26
3/8-16 3/8-24	25-28 28-31	34-38 38-42
7/16-14 7/16-20	40-45 45-50	54-61 61-68
1/2-13 1/2-20	62-68 68-75	84-92 92-102
9/16-12 9/16-18	90-98 100-110	122-133 134-148
5/8-11 5/8-18	120-135 124-137	162-183 168-186
3/4-10 3/4-16	200-220 210-230	270-300 285-310
7/8-9 7/8-14	330-350 360-380	425-475 460-515
1-8 1-14	500-525 540-560	675-710 730-760
1 1/8-7 1 1/8-12	600-635 665-700	815-860 920-950
1 1/4-7 1 1/4-12	850-895 940-990	1150-1215 1275-1340
1 3/8-6 1 3/8-12	1125-1175 1280-1335	1525-1590 1735-1810
1 1/2-6 1 1/2-12	1500-1560 1685-1755	2035-2115 2285-2380

IMPORTANT

- *Follow these torque recommendations except when specified in text.*

Complete Torque Chart

Capscrews - Grade 8

NOTE:

- Grade 8 capscrews can be identified by six radial dashes on the head.
- For wheel torque requirements, refer to Wheels and Tires.
- Tighten U-bolts evenly and equally to have the same number of threads exposed on each end.

SIZE	FOOT POUNDS	NEWTON METERS
5/16-18 5/16-24	20-22 21-23	27-30 28-31
3/8-16 3/8-24	35-39 36-41	47-53 49-55
7/16-14 7/16-20	54-58 55-60	73-78 75-80
1/2-13 1/2-20	82-88 94-99	110-120 125-135
9/16-12 9/16-18	127-134 147-155	170-180 199-210
5/8-11 5/8-18	160-170 165-175	215-230 225-235
3/4-10 3/4-16	280-295 330-365	380-400 445-495
7/8-9 7/8-14	410-430 420-440	555-580 570-595
1-8 1-14	630-650 680-700	850-880 920-950
1 1/8-7 1 1/8-12	900-930 930-950	1220-1260 1260-1290
1 1/4-7 1 1/4-12	1250-1300 1280-1320	1695-1760 1735-1790

IMPORTANT

- *Follow these torque recommendations except when specified in text.*

Hydraulic Fittings – Torque and Installation

Tightening O-Ring Fittings

1. Inspect components for damage or contamination. Do not connect any other type of fitting to an O-ring fitting.
2. For adjustable fittings, insure the jam nut and washer are fully backed up.
3. Lubricate the O-ring and threads on the fitting.
4. Turn the fitting into the port until it is finger tight.
5. For adjustable fittings, set in the desired position.
6. Using a wrench, torque the fitting to the value in the below table. For adjustable fittings the jam nut will be tightened.

NOTE: Never use a power tool to install a fitting.

Dash Size	Thread Size	Straight Stud Torque (Ft-Lbs)	Adjust-able Stud Torque (Ft-Lbs)
-5	1/2-20	14-19	10-14
-6	9/16-18	18-24	12-16
-8	3/4-16	27-43	20-30
-10	7/8-14	36-48	30-36
-12	1-1/16-12	65-75	44-54
-14	1-3/16-12	75-99	53-70
-16	1-5/16-12	85-123	59-80
-20	1-5/8”-12	115-161	75-100
-24	1-7/8”-12	125-170	105-125

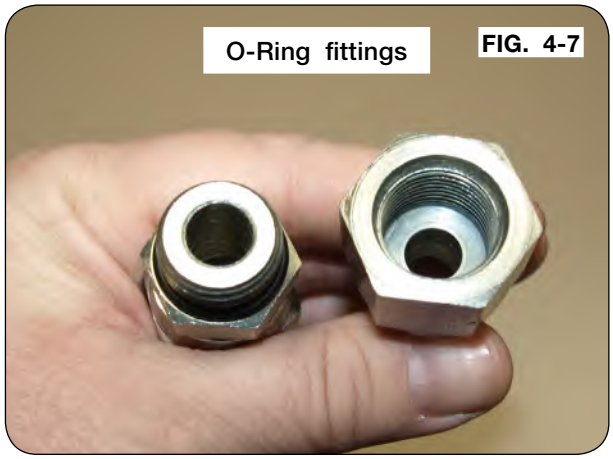


FIG. 4-7

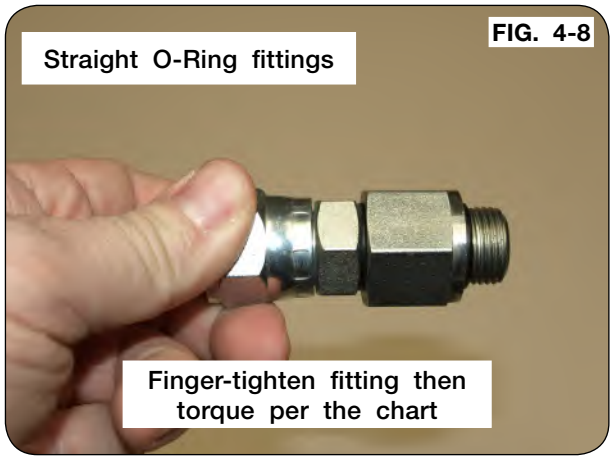


FIG. 4-8

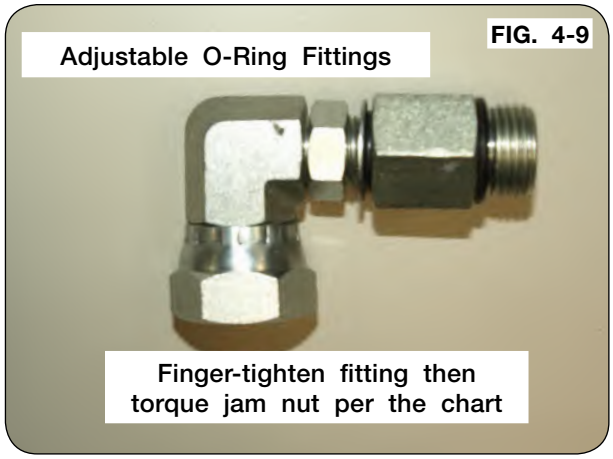


FIG. 4-9

Hydraulic Fittings - Torque and Installation (continued)

Tightening JIC Fittings

1. Inspect all components for damage or contamination. Do not connect any other type of fitting to a JIC fitting.
2. Lubricate the threads.
3. Turn the fitting into the port until it bottoms out.
4. Use one wrench on the fixed hex on the hose to prevent twisting and a second on the swivel. Tighten the fitting another 60 degrees (or one flat)

NOTE: Never use a power tool to install a fitting.

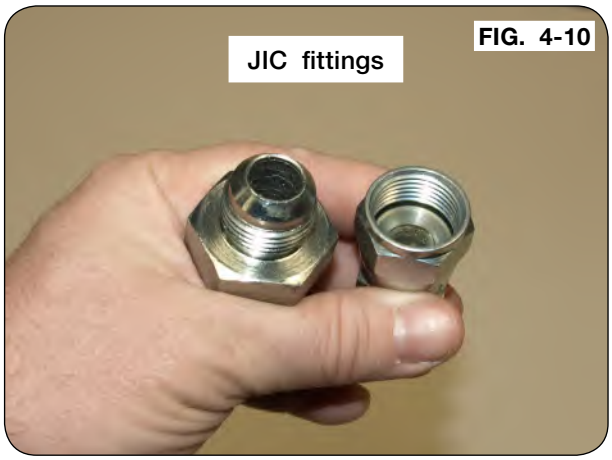


FIG. 4-10

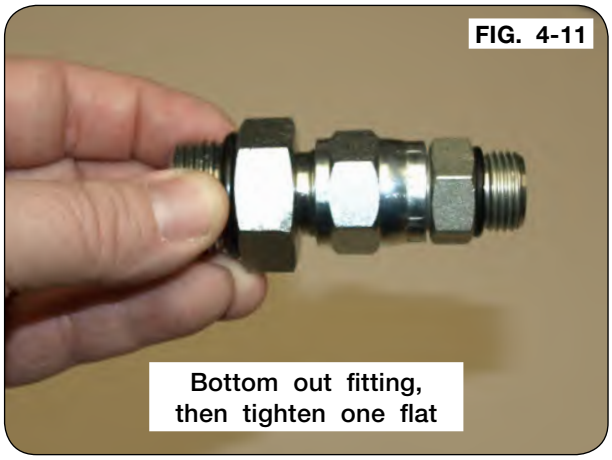
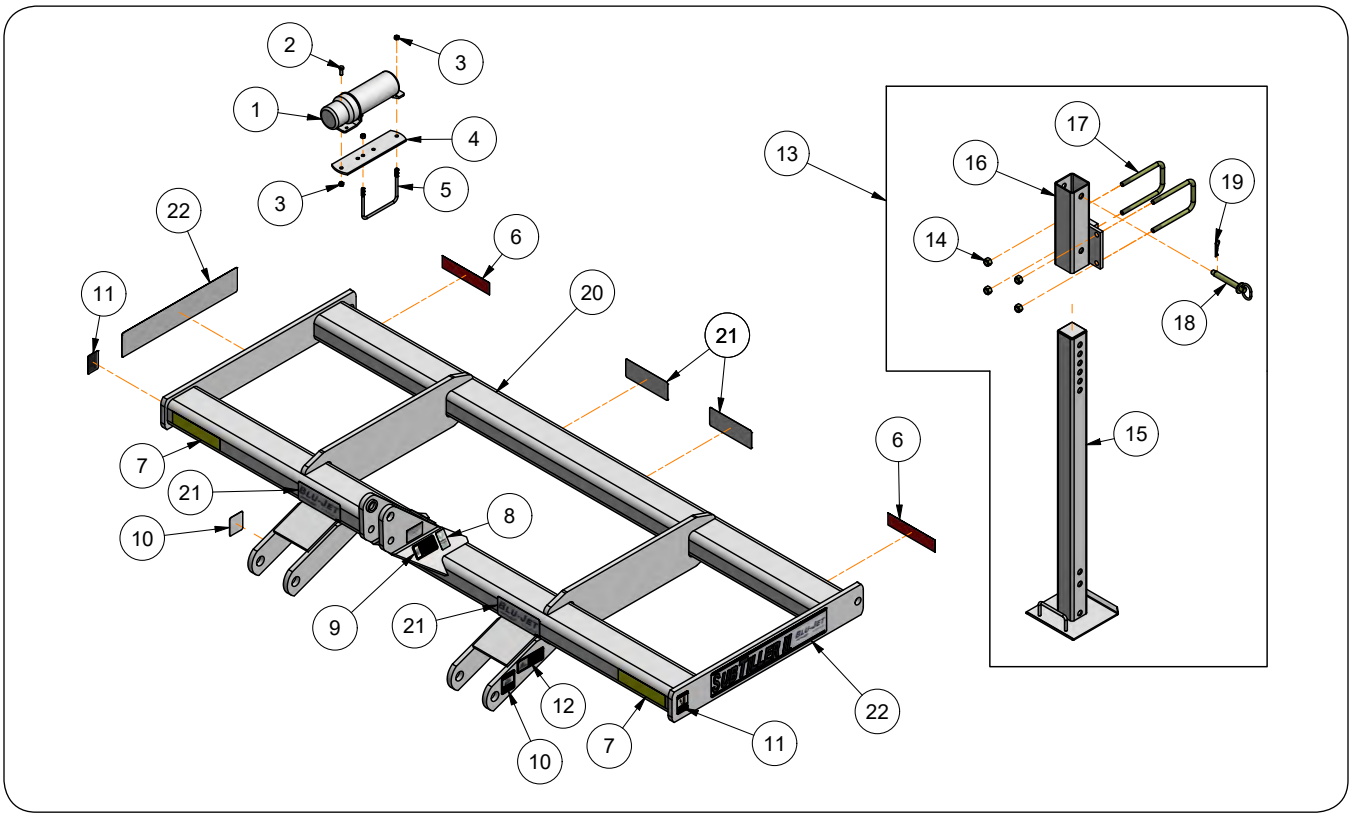


FIG. 4-11

SECTION V
Parts

Frame Assembly, 8' Base Components

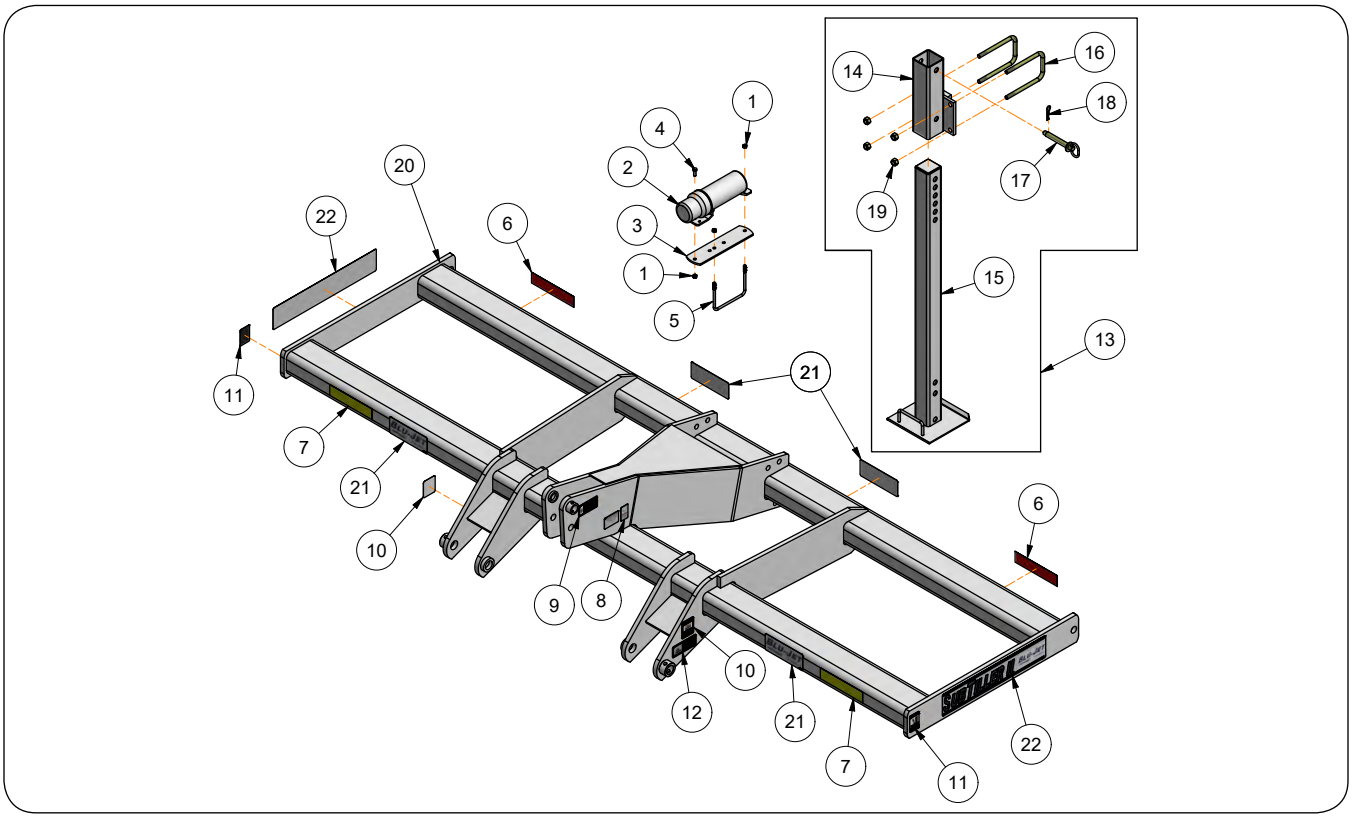
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	1	900552	Manual Holder	
2	1	9390-055	Capscrew, 3/8"-16UNC x 1" G5	
3	3	9928	Lock Nut, 3/8"-16UNC	
4	1	JAM7640	Manual Holder Mounting Bracket	
5	1	JBP3045	U-Bolt, 3/8"-16UNC x 6"W x 5"L	
6	2	9003126	Reflector RED (2" x 9")	
7	2	9003127	Reflector AMBER (2" x 9")	
8	1	91605	Decal, FEMA (2 1/2" x 1 1/2")	
9	1	97961	Decal, WARNING "Read Manual"	
10	2	97972	Decal, WARNING "Hitching"	
11	2	97973	Decal, WARNING "Crush"	
12	1	99507	Decal, WARNING "Falling Equipment"	
13	1	JAAM2442	Parking Stand Assembly	Includes Items 14-19
14	4	9801	Lock Nut, 5/8"-11UNC	
15	1	JAM4682	Parking Stand w/Tube Cap =Black=	
16	1	JAM5054	Parking Stand Mounting Bracket =Black=	
17	2	JBP3331	U-Bolt, 5/8"-11UNC x 7 1/2", 4 11/16" C/C	
18	1	JBP3502	Hitch Pin, 3/4" Dia. x 4 1/2"	
19	1	JBP3504	Hairpin Cotter, 1/8" Dia. x 2 1/2"	
20	1	JAM2421	Main Frame Weldment =Blu-Jet Blue=	
21	4	JAP2215	Decal, Blu-Jet (3" x 8")	
22	2	JAP2217	Decal, SubTiller II (4" x 20")	

Frame Assembly, 11' Base Components

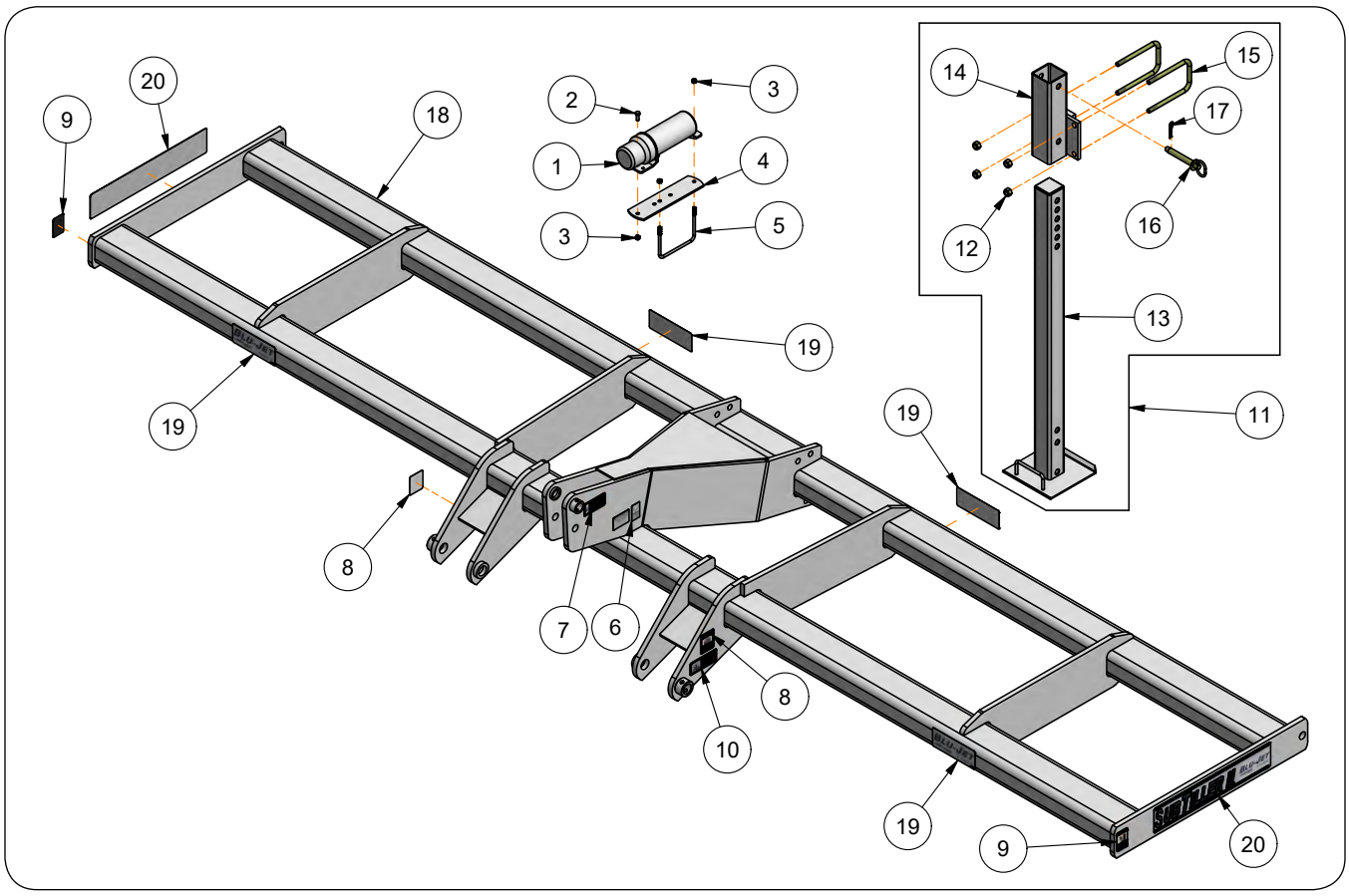
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	3	9928	Lock Nut, 3/8"-16UNC	
2	1	900552	Manual Holder	
3	1	JAM7640	Manual Holder Mounting Bracket	
4	1	9390-055	Capscrew, 3/8"-16UNC x 1" G5	
5	1	JBP3045	U-Bolt, 3/8"-16UNC x 6"W x 5"L	
6	2	9003126	Reflector RED (2" x 9")	
7	2	9003127	Reflector AMBER (2" x 9")	
8	1	91605	Decal, FEMA (2 1/2" x 1 1/2")	
9	1	97961	Decal, WARNING "Read Manual"	
10	2	97972	Decal, WARNING "Hitching"	
11	2	97973	Decal, WARNING "Crush"	
12	1	99507	Decal, WARNING "Falling Equipment"	
13	1	JAAM2442	Parking Stand Assembly	Includes Items 14-19
14	1	JAM5054	Parking Stand Mounting Bracket =Black=	
15	1	JAM4682	Parking Stand w/Tube Cap =Black=	
16	2	JBP3331	U-Bolt, 5/8"-11UNC x 7 1/2", 4 11/16" C/C	
17	1	JBP3502	Hitch Pin, 3/4" Dia. x 4 1/2"	
18	1	JBP3504	Hairpin Cotter, 1/8" Dia. x 2 1/2"	
19	4	9801	Lock Nut, 5/8"-11UNC	
20	1	JAM24002	Main Frame Weldment =Blu-Jet Blue=	
21	4	JAP2215	Decal, Blu-Jet (3" x 8")	
22	2	JAP2217	Decal, SubTiller II (4" x 20")	

Frame Assembly, 16’ Base Components (J70210095)

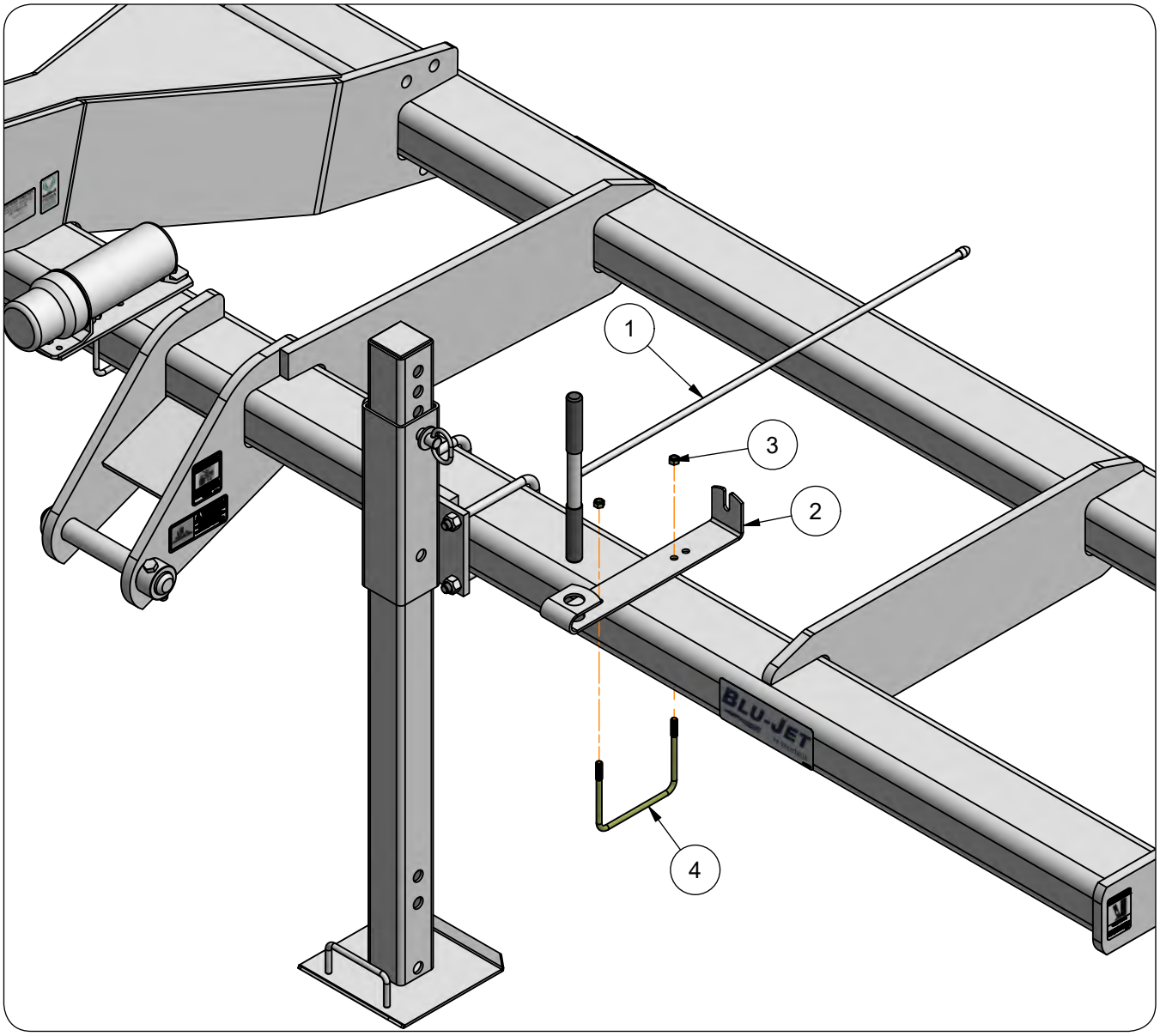
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	1	900552	Manual Holder	
2	1	9390-055	Capscrew, 3/8”-16UNC x 1” G5	
3	3	9928	Lock Nut, 3/8”-16UNC	
4	1	JAM7640	Manual Holder Mounting Bracket	
5	1	JBP3045	U-Bolt, 3/8”-16UNC x 6”W x 5”L	
6	1	91605	Decal, FEMA (2 1/2” x 1 1/2”)	
7	1	97961	Decal, WARNING “Read Manual”	
8	2	97972	Decal, WARNING “Hitching”	
9	2	97973	Decal, WARNING “Crush”	
10	1	99507	Decal, WARNING “Falling Equipment”	
11	1	JAAM2442	Parking Stand Assembly	Includes Items 14-19
12	4	9801	Lock Nut, 5/8”-11UNC	
13	1	JAM4682	Parking Stand w/Tube Cap =Black=	
14	1	JAM5054	Parking Stand Mounting Bracket =Black=	
15	2	JBP3331	U-Bolt, 5/8”-11UNC x 7 1/2”, 4 11/16” C/C	
16	1	JBP3502	Hitch Pin, 3/4” Dia. x 4 1/2”	
17	1	JBP3504	Hairpin Cotter, 1/8” Dia. x 2 1/2”	
18	1	JAM24005	Main Frame Weldment =Blu-Jet Blue=	
19	4	JAP2215	Decal, Blu-Jet (3” x 8”)	
20	2	JAP2217	Decal, SubTiller II (4” x 20”)	

Soil Probe Components

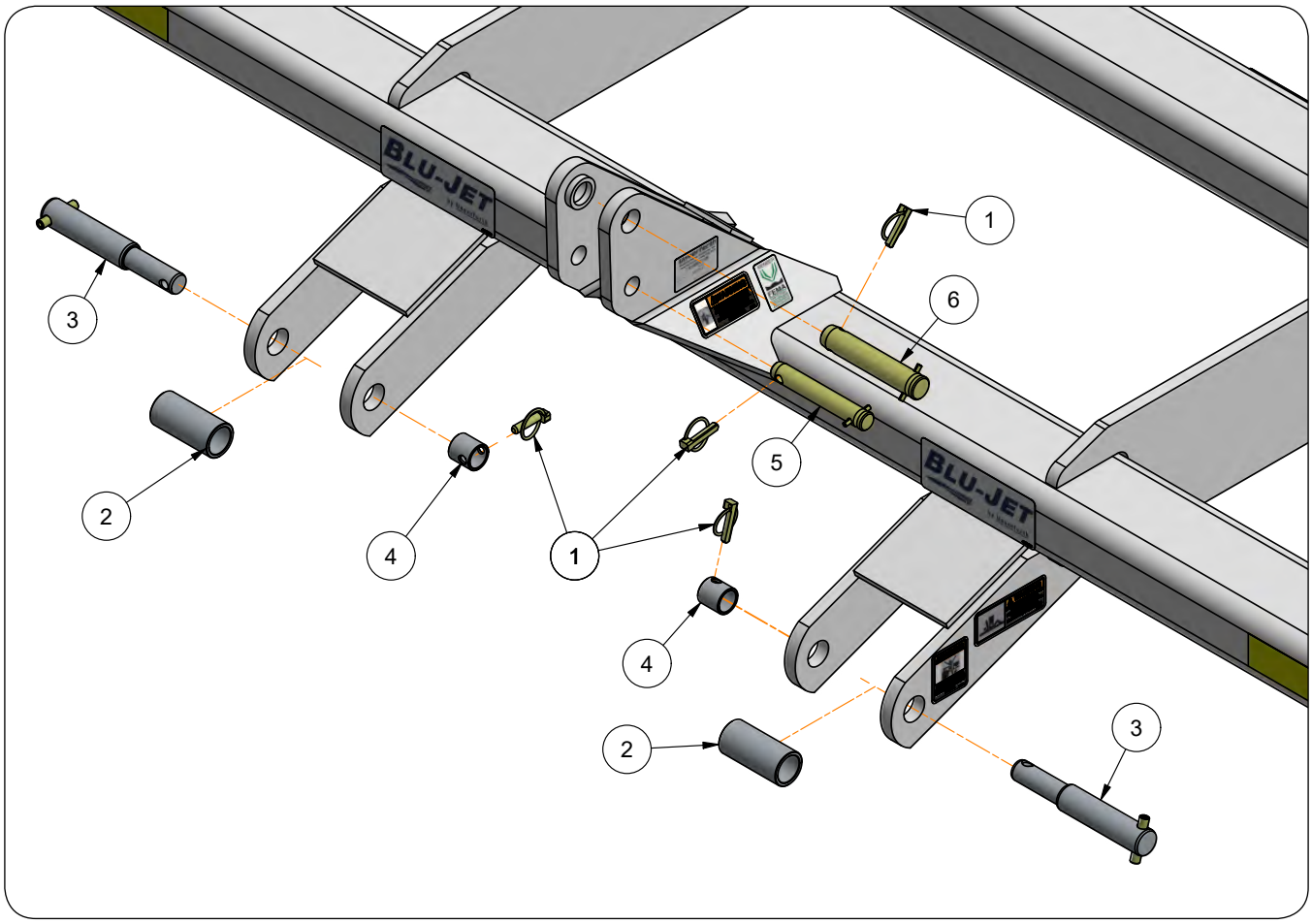
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION	NOTES
1	1	JAM7647	Soil Probe	
2	1	JAM7646	Soil Probe Storage Bracket	
3	2	9928	Lock Nut, 3/8”-16UNC	
4	1	JBP3045	U-Bolt, 3/8”-16UNC x 5”, 6 7/16”C/C	

Pull Pin, CAT3 Components For 3 Row Units

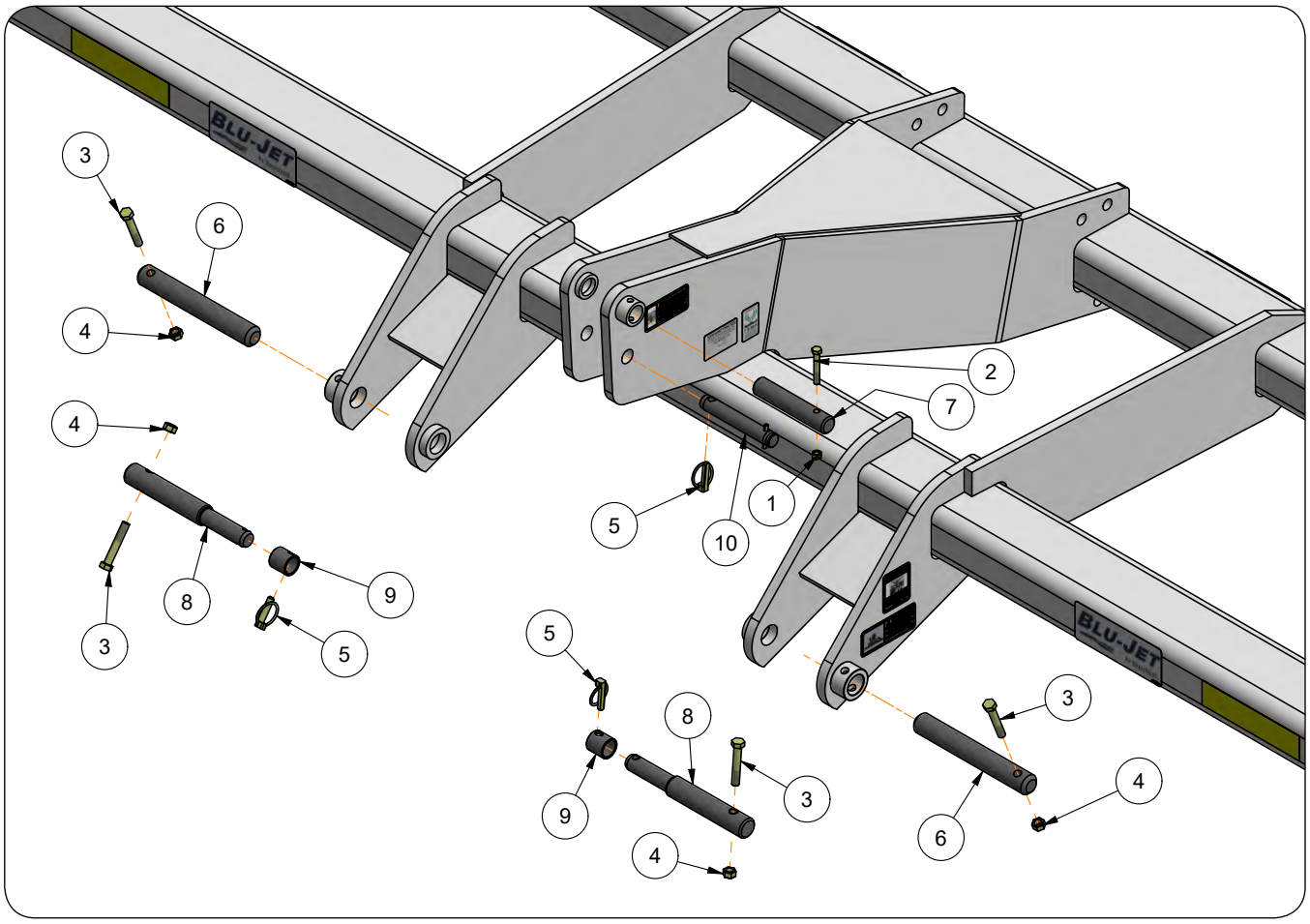
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	9951	Lynch Pin, 7/16" Dia. x 1 3/4"
2	2	JBM3512	Bushing/Pipe, 1 1/2" SCH80 x 4"
3	2	JBM3807	Pin, 1 7/16" Dia. x 9.03" Assembly with Roll Pin
4	2	JBM3808	Bushing/Tube, 1 7/16" OD x 1.170" ID x 1 7/16"
5	1	JBP3508	Top Link Pin with Roll Pin, 1" Dia. x 4 5/8", CAT2
6	1	JBP3509	Top Link Pin with Roll Pin, 1 1/4" Dia. x 4 23/32", CAT3

Pull Pin, CAT2 & CAT3 Components For 5 & 7 Row Units

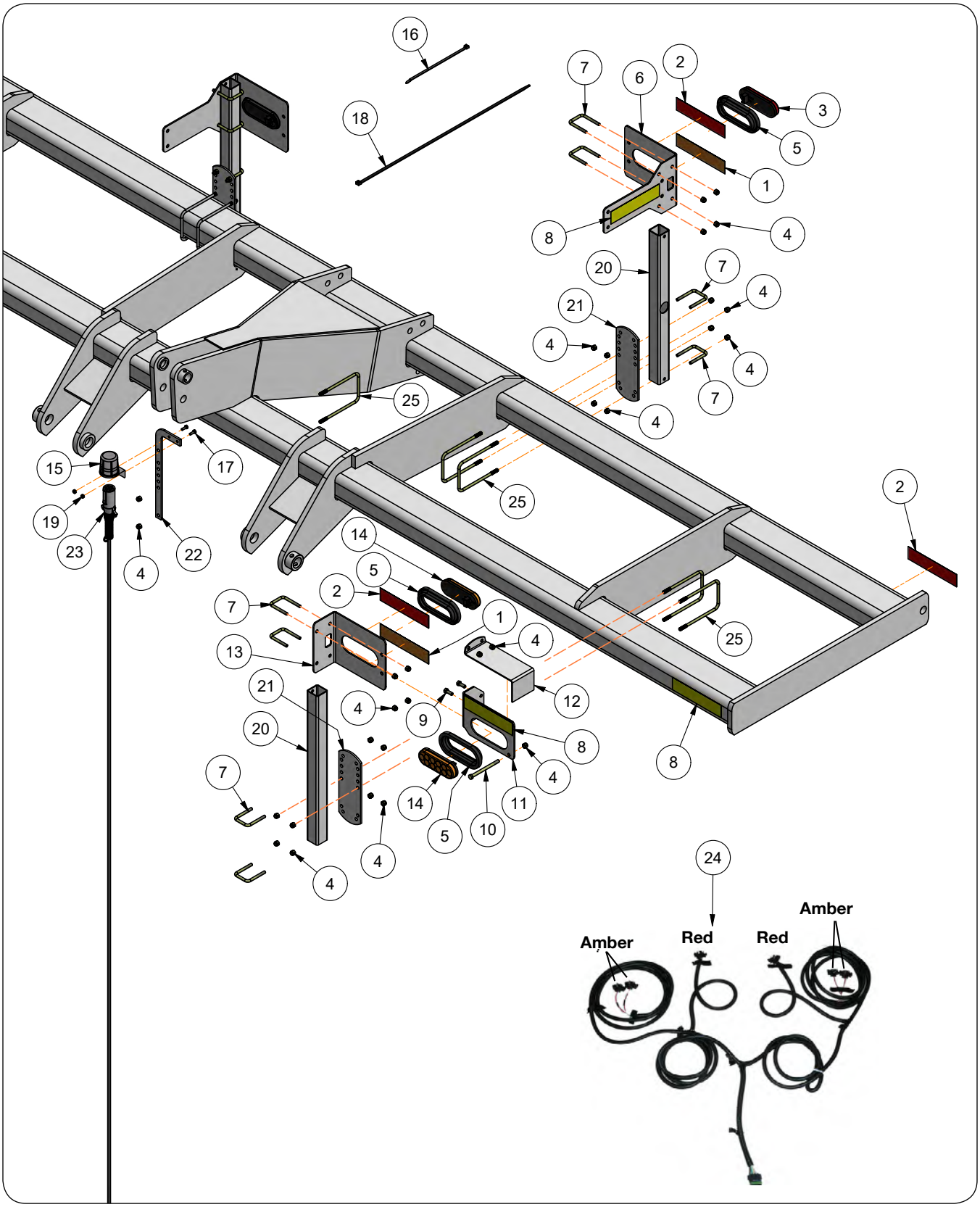
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	902875	Lock Nut/Center, 3/8”-16UNC
2	1	9390-061	Capscrew, 3/8”-16UNC x 2 1/2” G5
3	2	9390-107	Capscrew, 1/2”-13UNC x 3” G5
4	2	94981	Lock Nut/Center, 1/2”-13UNC
5	3	9951	Lynch Pin, 7/16” Dia. x 1 3/4”
6	2	JBM3628	Lower Link Pin, 1 7/16” Dia. x 10 3/8”, CAT3
7	1	JBM3629	Upper Link Pin, 1 1/4” Dia. x 6 1/2”, CAT3
8	2	JBM3630	Lower Link Pin, 1 7/16” Dia. x 10.88”, CAT2
9	2	JBM3808	Bushing/Tube, 1 7/16” OD x 1.170” ID x 1 7/16”
10	1	JBP3508	Top Link Pin with Roll Pin, 1” Dia. x 4 5/8”, CAT2

Lighting Kit (J41000033), Rigid Frame

Please visit www.unverferth.com/parts/ for the most current parts listing.



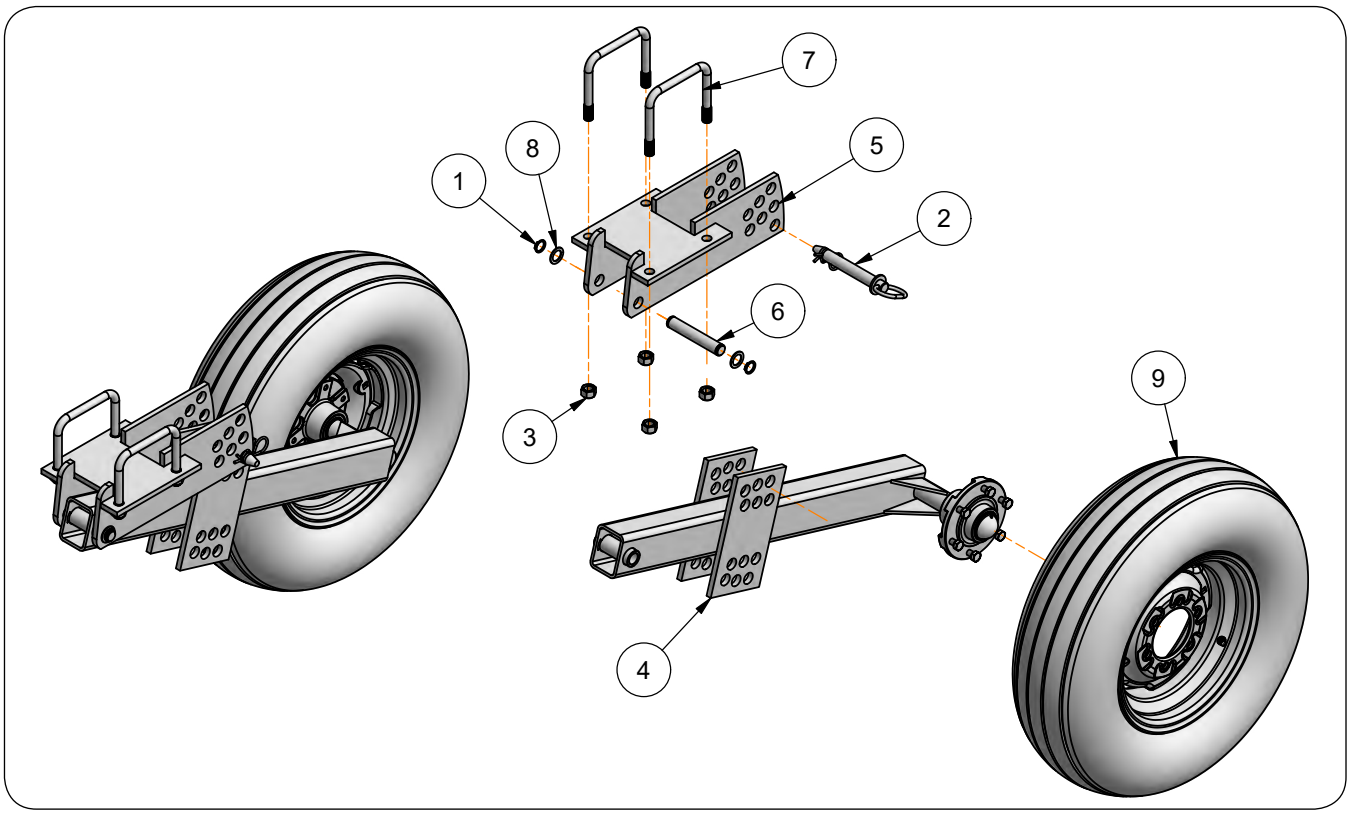
Lighting Kit (J41000033), Rigid Frame

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY
	J41000033	Lighting Kit - Rigid Frame	1
1	9003125	Decal, Fluorescent RED-ORANGE (2" x 9")	4
2	9003126	Reflector RED (2" x 9")	4
3	902217	Light, RED LED 10 Diode	2
4	9398-012	Elastic Lock Nut, 3/8"-16UNC	56
5	97182	Grommet, Oval	6
6	JAM3414	Rear Light Bracket	2
7	JBP3736	U-Bolt, 3/8"-16UNC x 2"W x 3"L	16
8	9003127	Reflector AMBER (2" x 9")	4
9	9390-055	Capscrew, 3/8"-16UNC x 1" G5	4
10	9390-069	Capscrew, 3/8"-16UNC x 5" G5	2
11	JAM3417	Light Bracket Right-Hand Front SHOWN	1
	JAM3415	Light Bracket Left-Hand Front	1
12	JAM3418	Light Bracket Shield	2
13	JAM3421	Side Mount Light Bracket	2
14	JAP4415	Light, AMBER LED Turn Signal	4
15	9001968	Connector Holder	1
16	9003735	Cable Tie, 11" Long	8
17	9390-003	Capscrew, 1/4"-20UNC x 3/4" G5	2
18	94038	Cable Tie, 32" Long	14
19	9936	Lock Nut, 1/4"-20UNC	2
20	JAM3407	Light Bracket Tube 2" x 2" x 23 7/8"	4
21	JAM3408	Light Post Mounting	4
22	JAM4575	Dust Cap Holder Bracket	1
23	JAP2824	Electrical Harness 10' Main w/Dust Cap	1
25	JBP3214	U-Bolt, 3/8"-16UNC x 4"W x 7"L	9
24	JAP3128	Electrical Harness, 27' Rear	1

Gauge Wheel Pin Adjust 9.5L-15 Wheel

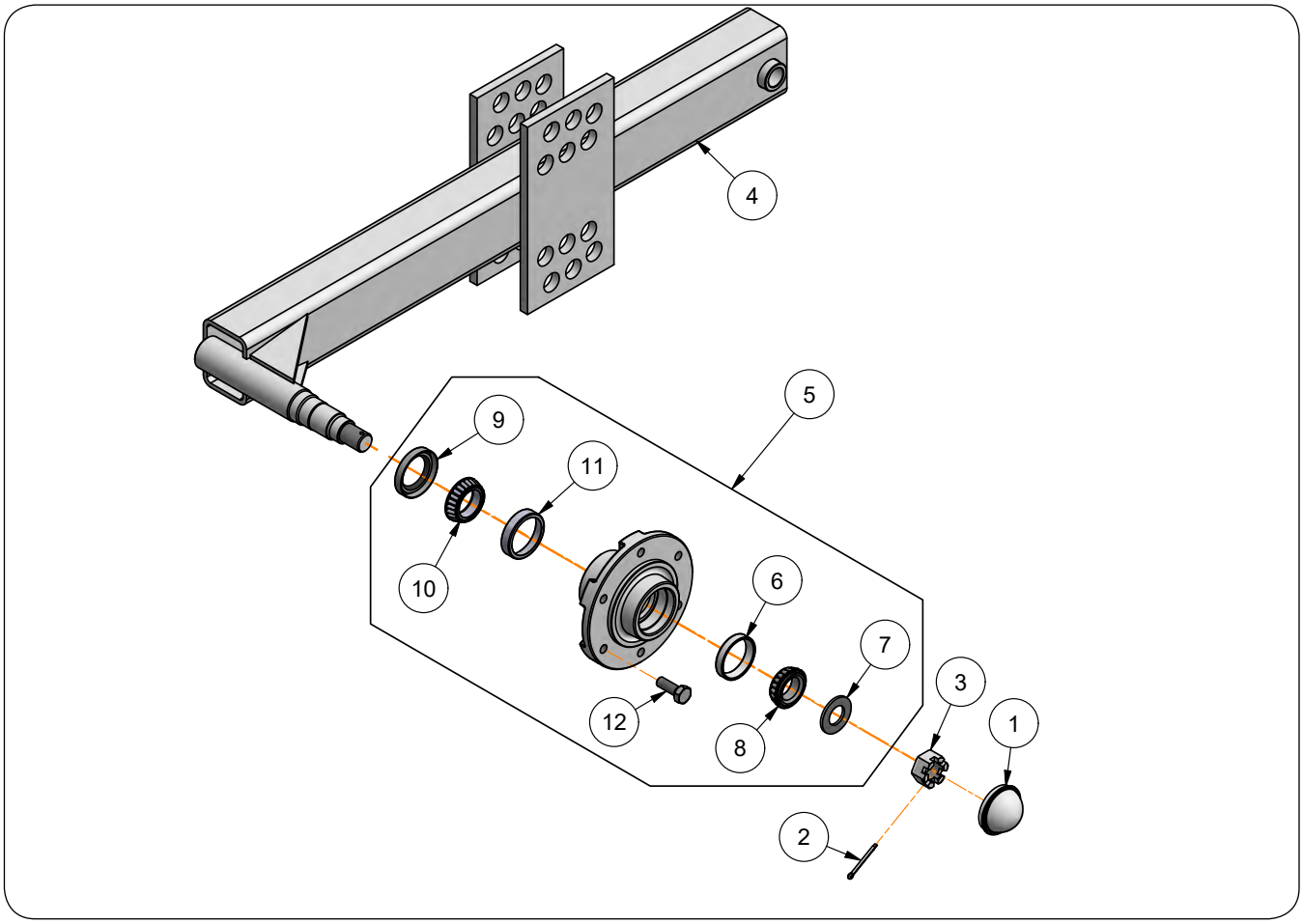
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY
	J70210150	Gauge Wheel Pin Adjust 9.5L-15 Wheel (Set of 2)	1
1	91192	Retaining Ring 1"	4
2	93950	Hitch Pin, 1" Dia. x 8"	2
3	9802	Lock Nut, 3/4"-10UNC	8
4	JAM24024	Gauge Wheel Leg Assembly, Pin Adjust	2
5	JAM24025	Bracket, Pin Adjust Gauge Wheel Mounting	2
6	JBM3650	Pin, 1" Dia. x 6.03"	2
7	JBP3208	U-Bolt, 3/4"-10UNC x 5 11/16", 6 13/16" C/C	4
8	JBP3215	Machinery Bushing, 1 1/2" OD x 1" ID x 14GA	4
9	W615-6SM/96182	Mounted W615-6 Implement Wheel w/TL9.5LB15 I-1	2
	W615-6SM	6 x 15 Implement Wheel (6 Bolt)	2
	N/A	Tire TL9.5LB15 8-Ply I-1	2
	9002500	Valve Stem	2

Gauge Wheel Leg Assembly, Pin Adjust (JAM24024)

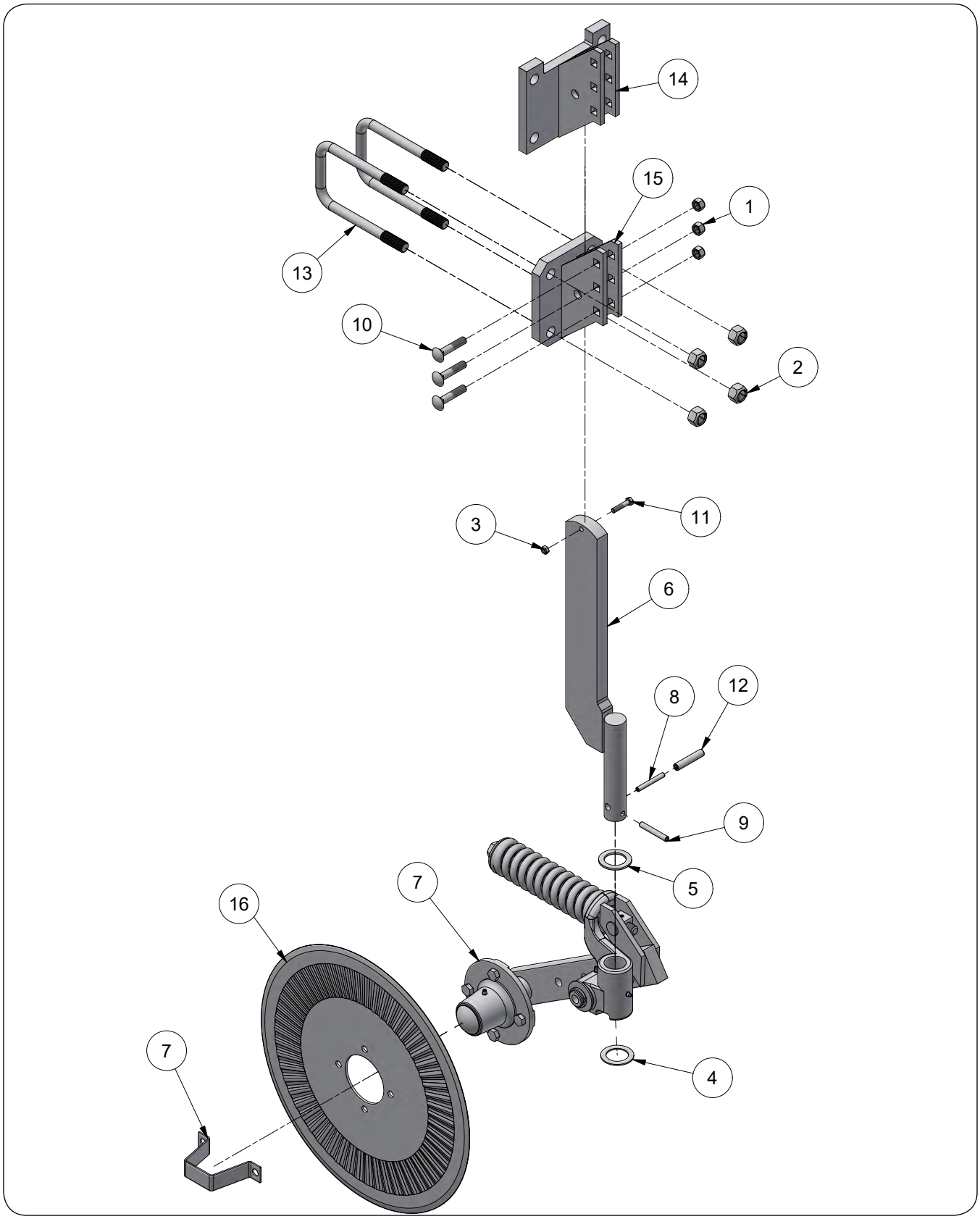
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY
1	9162	Hub Cap	1
2	9391-036	Cotter Pin, 5/32" Dia. x 1 3/4"	1
3	9393-020	Slotted Nut, 1"-14UNS	1
4	JEM3700	Gauge Wheel Leg Weldment, Pin Adjust	1
5	9503448B	Hub 6-Bolt Assembly	1
6	9345	Bearing Cup, 2.328" Dia. (LM67010)	1
7	JAP2146	Spindle Washer, 2" O.D. x 1.063" I.D.	1
8	9165	Bearing Cone, 1.25" Bore (LM67048)	1
9	91833	Seal, 2.562" O.D. x 1.625" I.D. , Single Lip (CR16289)	1
10	91818	Bearing Cone, 1.496" Bore (JL69349)	1
11	91815	Bearing Cup, 2.48" Dia. (JL69310)	1
12	91831	Wheel Bolt, 1/2"-20UNF x 1 1/4" G5	6

Horizontal Spring Coulter Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



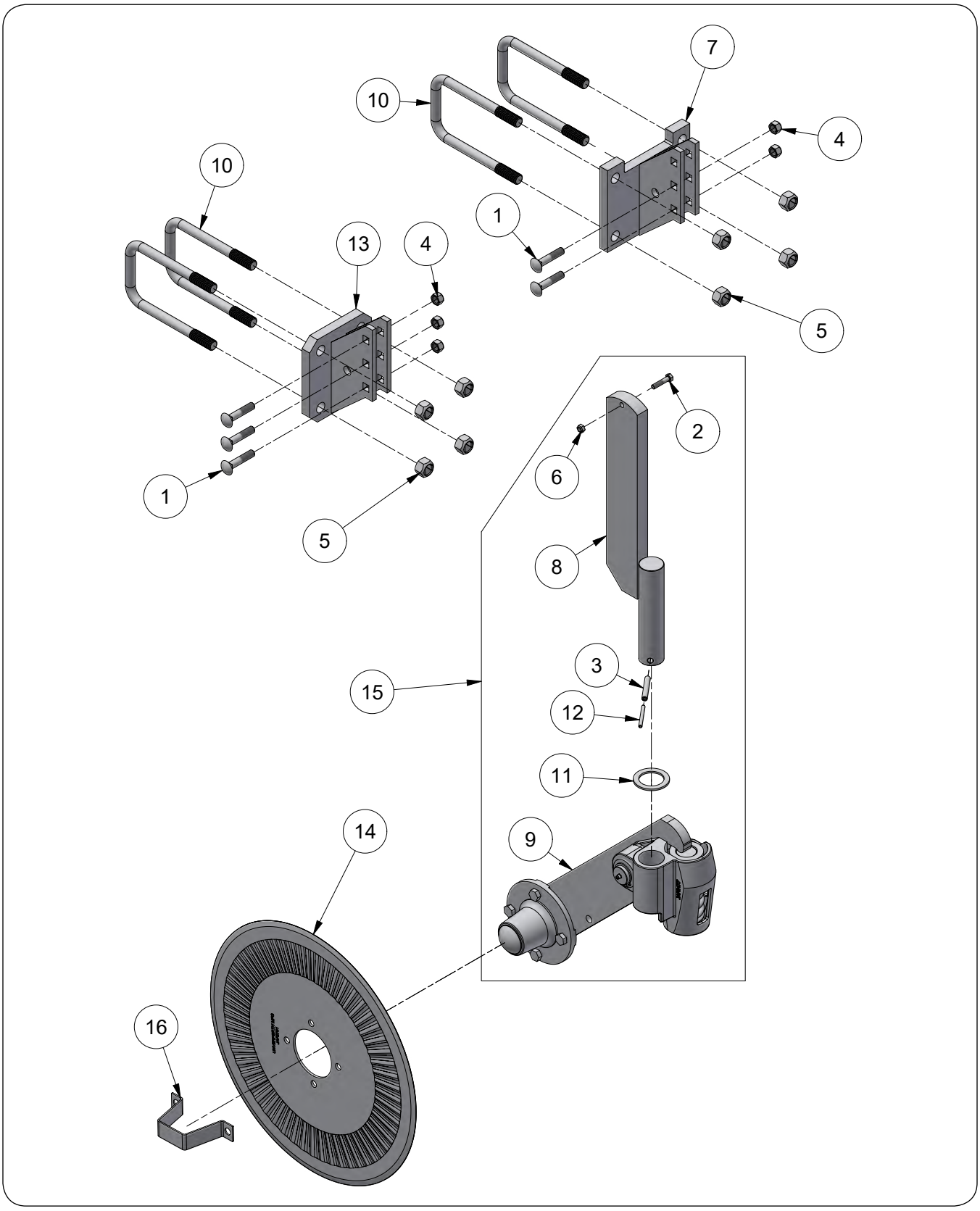
Horizontal Spring Coulter Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	604743B	Horizontal Spring Coulter Assembly, Center Mounting Bracket	-	Includes Items 1-14
	604744B	Horizontal Spring Coulter Assembly	-	Includes Items 1-13 & 15
1	9800	Locknut, 1/2"-13UNC	3	
2	9802	Locknut, 3/4"-10UNC	4	
3	9807	Locknut, 5/16"-18UNC	1	
4	96581	Machinery Bushing, Washer 2 1/4" OD x 1 1/2" ID x 14GA	1	
5	97798	Machinery Bushing, Washer 2 1/4" OD x 1 1/2" ID x 10GA	1	
6	45652B	Coulter Shank Weldment 18"	1	
7	45663B	Horizontal Spring Coulter Arm & Spring Left-Hand Assembly	1	
8	91144-188	Spiral Pin, 5/16" Dia. x 2 1/2"	1	
9	91144-209	Spiral Pin, 3/8" Dia. x 2 1/2"	1	
10	9388-108	Carriage Bolt, 1/2"-13UNC x 2 1/2" G5	3	
11	9390-032	Capscrew, 5/16"-18UNC x 1 1/2" G5	1	
12	9392-210	Roll Pin, 1/2" Dia. x 2 1/2"	1	
13	JBP3047	U-Bolt, 3/4"-10UNC x 7 3/4", 4 13/16" C/C	2	
14	JAM24011	Coulter Bracket Weldment, Center	1	
15	JAM24034	Coulter Bracket Weldment, Flatback	1	
16	JAP2701	Coulter Blade 20" Dia. Fluted		

Super 1200 Coulter Mounting Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



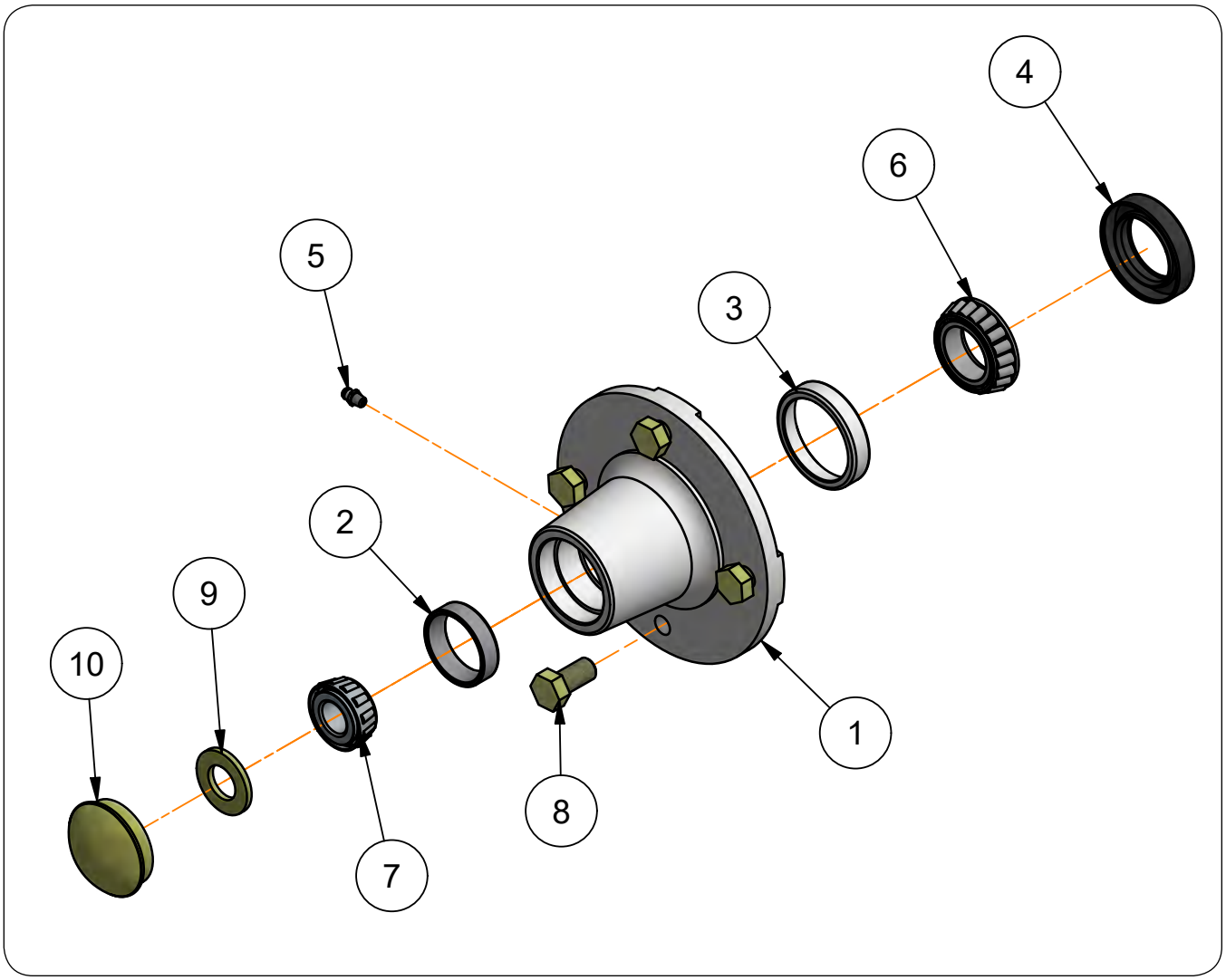
Super 1200 Coulter Mounting Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY		
			3 Row Units	5 Row Units	7 Row Units
1	9388-108	Carriage Bolt, 1/2"-13UNC x 2 1/2" G5	9	14	20
2	9390-032	Capscrew, 5/16"-18UNC x 1 1/2" G5	3	5	7
3	9392-182	Roll Pin, 3/8" Dia. x 2 1/2"	3	5	7
4	9800	Hex Nut, 1/2"-13UNC	9	14	20
5	9802	Lock Nut, 3/4"-10UNC	12	20	28
6	9807	Lock Nut, 5/16"-18UNC	3	5	7
7	JAM24011	Center Super 1200 Coulter Bracket	-	1	1
8	JAM2735	Super 1200 Coulter Shank Weldment 16"	3	5	7
9	JAM2799	Super 1200 Coulter Arm Assembly	3	5	7
10	JBP3047	U-Bolt, 3/4"-10UNC x 7 3/4", 4 13/16" C/C	6	10	14
11	JBP3205	Machinery Bushing 2 1/2" OD x 1 3/4" ID x 10GA	3	5	7
12	JBP3534	Roll Pin, 7/32" Dia. x 2 1/2"	3	5	7
13	JAM24034	Flatback Bracket Weldment	3	4	6
14	JAP2701	Coulter Blade 20" Dia. Fluted	3	5	7
15	JAAM2728	Super 1200 Coulter Assembly, Includes Items 2, 3, 10, 11, 13, 14, 16	3	5	7
16	46842B	Hub Cap Strap	3	5	7

Coulter Hub Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



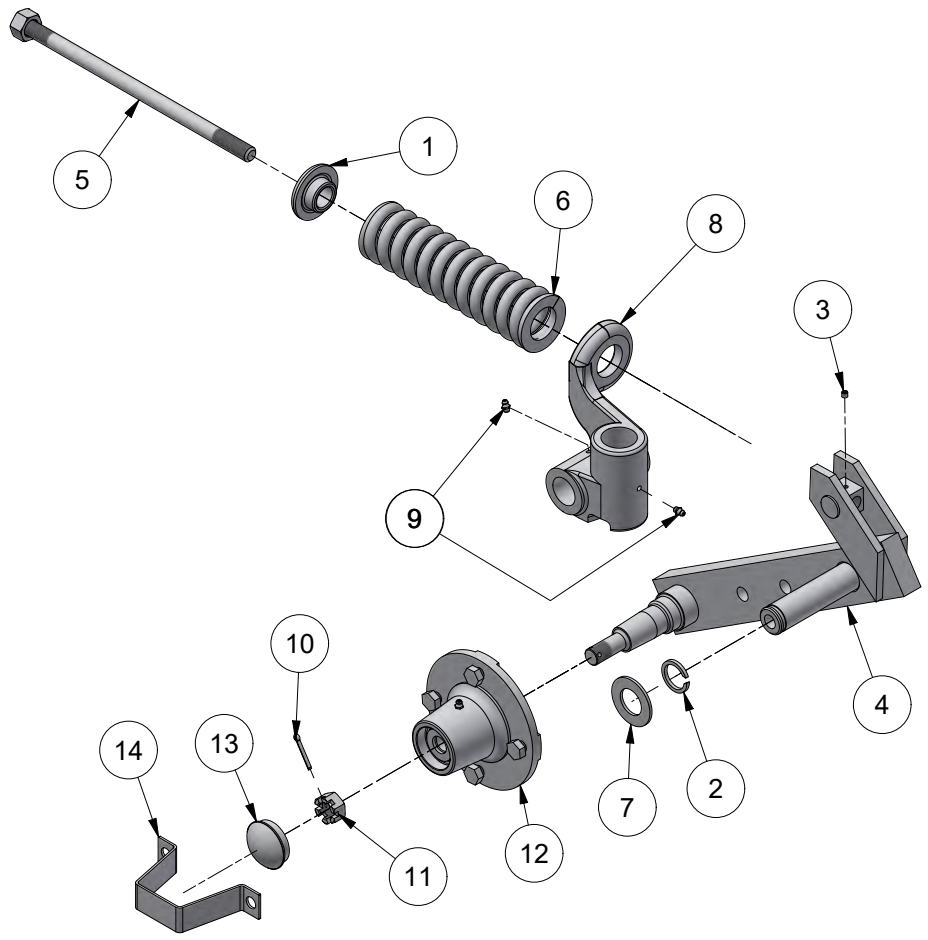
Coulter Hub Assembly Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	JAP2707	Hub 4-Bolt Assembly with Cap	1	Includes Items 1-10
1	JAP2706-1	Hub 4-Bolt Subassembly w/Cups & Grease Zerk	1	Includes Items 2 & 3
2	9784	Bearing Cup 1.780" Dia. (LM11910)	1	
3	9345	Bearing Cup 2.328" Dia. (LM67010)	1	
4	JAP2747	Seal 2.328" OD x 1.500" ID, Double Lip (15235TB)	1	
5	91160	Grease Zerk 1/4"-28 STT	1	
6	9165	Bearing Cone 1.25" Bore (LM67048)	1	
7	9789	Bearing Cone (LM11949)	1	
8	9390-323	Capscrew, 1/2"-20UNF x 1" G5	4	
9	9405-103	Flat Washer, 3/4" SAE	1	
10	90024	Hub Cap	1	

Horizontal Spring Coulter Arm & Spring Components

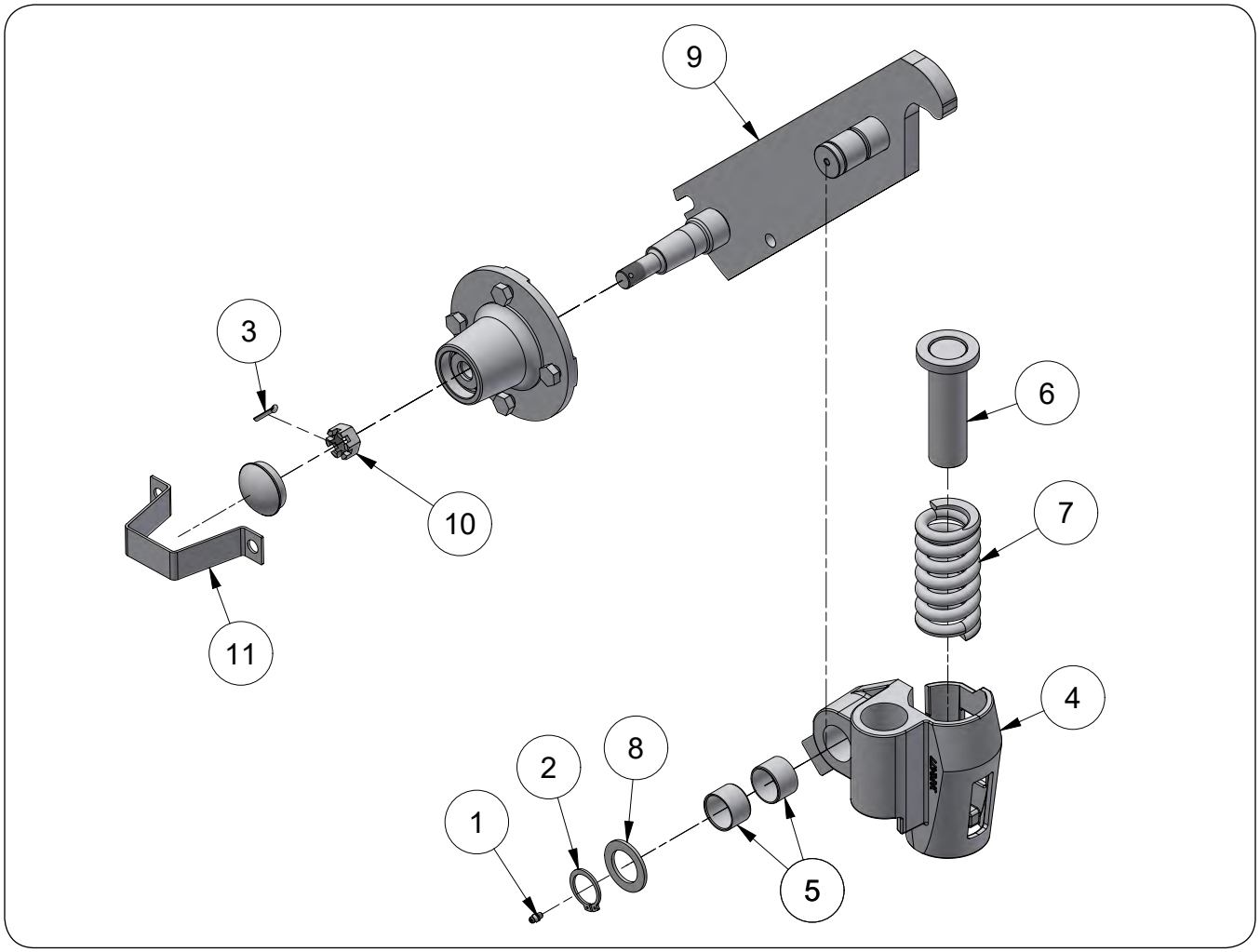
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	45663B	Horizontal Spring Coulter Arm & Spring Left-Hand Assembly	1	Includes Items 1-13
1	82826B	Spring Washer Casting	1	
2	94144	Retaining Ring, 1 1/4" Dia. Shaft	1	
3	9399-057	Set Screw, 1/4-20UNC x 1/4"	1	
4	45662B	Coulter Arm Left-Hand Weldment	1	
5	83371B	Spring Rod Wedment 3/4" Dia.	1	
6	94756B	Spring/Compression, 2 5/8" Dia. x 10 5/8"	1	
7	92528B	Bushing, 2 1/4" OD x 1 1/4" ID x 10GA	1	
8	68280B	Swivel Left-Hand Bracket	1	
9	9501603	Grease Zerk	2	
10	9391-034	Cotter Pin, 5/32" Dia. x 1 1/4"	1	
11	9393-016	Slotted Nut, 3/4"-16UNF G2	1	
12	N/A	Hub 4-Bolt Assembly Less Hub Cap	1	
13	90024	Hub Cap	1	
14	46842B	Hub Cap Strap	1	

Super 1200 Coulter Arm Components

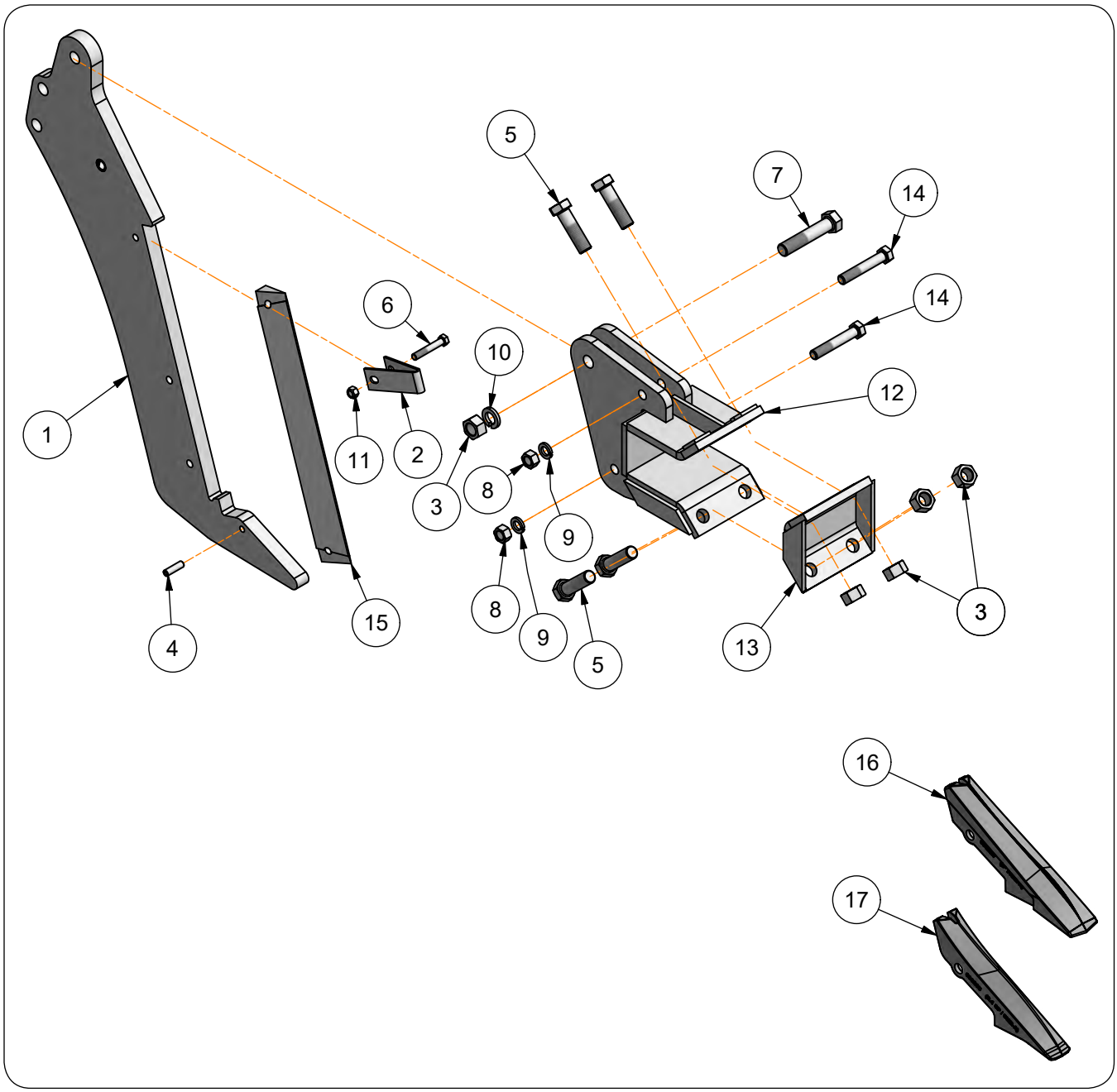
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
	JAM2799	Super 1200 Coulter Arm Assembly w/Hub & Knee	1	Includes Items 1-10
1	91160	Grease Zerk 1/4"-28 STT	1	
2	91575	Retaining Ring, 1 3/8" Dia. Nom.	1	
3	9391-034	Cotter Pin, 5/32" Dia. x 1 1/4"	1	
4	JAM2743B	Super 1200 Coulter Knee with Bushings	1	Includes Item 5
5	JAP2274	Self-Lubricating Bushing, 1 17/32" OD x 1 3/8" ID x 1"	2	
6	JAM2796	Spring Cap & Guide Weldment	1	
7	JAP2881B	Compression Spring 2.472" Dia. x 5 7/8"	1	
8	JBP3404	Machinery Bushing, 2 1/8" OD x 1 3/8" ID x 10GA	1	
9	JAM2797	Super 1200 Coulter Arm Weldment	1	Includes Item 10
10	9393-016	Slotted Nut, 3/4"-16UNF	1	
11	46842B	Hub Cap Strap	1	

Shank Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



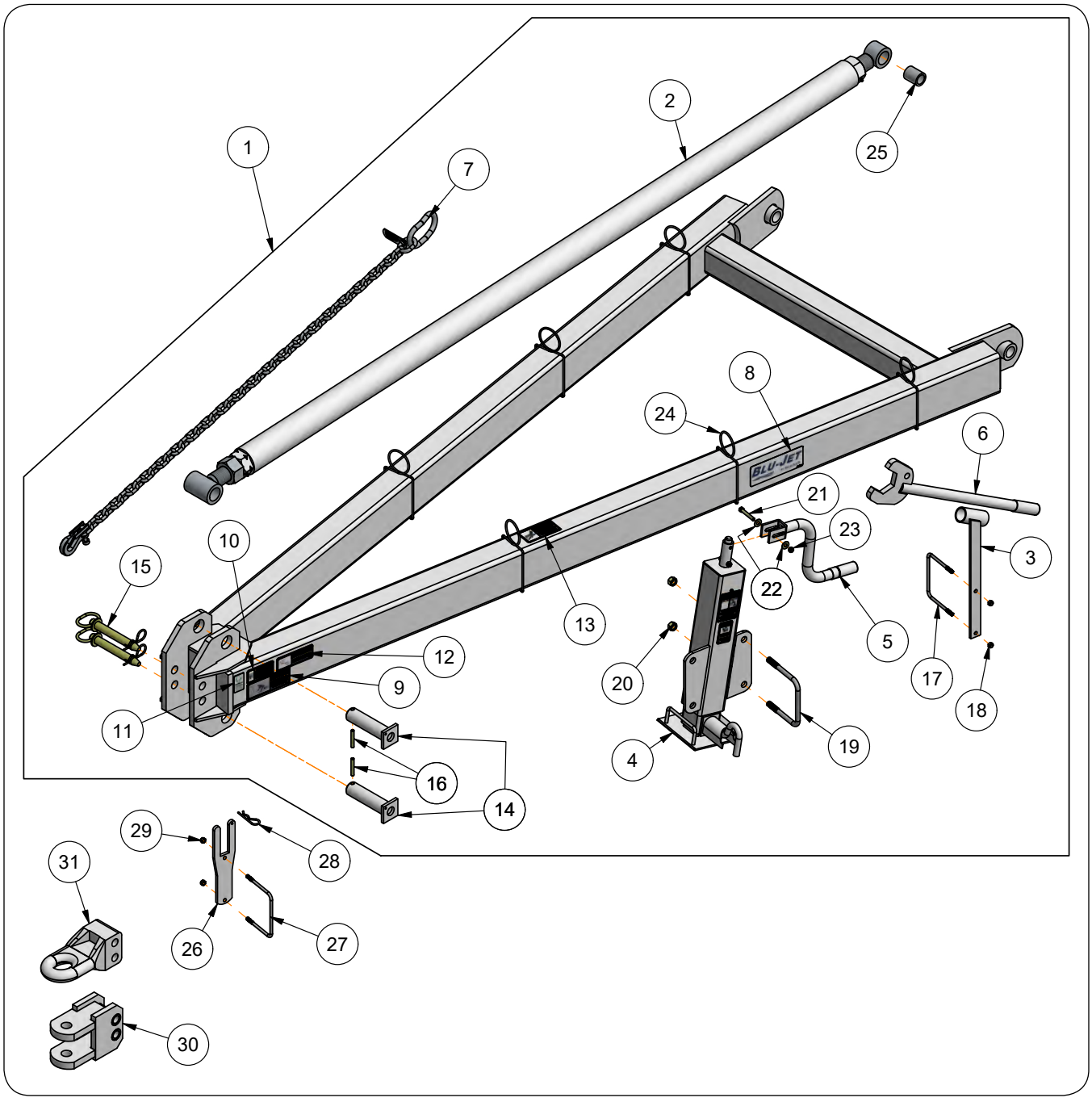
Shank Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	603230B	Shank Weldment, Reinforced	1	Includes Bushing
	JBP3528	Split Tension Bushing, 1" OD x 3/4" ID x 1 1/4"	1	
2	603234B	Wear Bar Strap	1	
3	9663	Locknut, 1"-8UNC	4	
4	91144-234	Spiral Pin, 1/2" Dia. x 1 3/4"	1	
5	91299-189	Capscrew, 1"-8UNC x 3 1/2" G8	4	
6	9390-107	Capscrew, 1/2"-13UNC x 3" G5	1	
7	9390-193	Capscrew, 1"-8UNC x 5" G5	1	
8	9394-016	Hex Nut, 3/4"-10UNC G5	2	
9	9404-033	Lock Washer, 3/4"	2	
10	9404-041	Lock Washer, 1"	1	
11	9800	Lock Nut/Top, 1/2"-13UNC	1	
12	JAM7550	Shank Mount Weldment	1	
13	JAM7551	Mounting Clamp Bracket Weldment	1	
14	JBP3021	Capscrew, 3/4"-10UNC x 4 1/2" G2	2	
15	JCP5026	Reversible Wear Bar/Cutting Edge	1	
16	603227SM	Point, 3" Fall	1	
17	603235SM	Point, 2 1/8" Spring/Summer	1	

Pull-Type Hitch Option Components

Please visit www.unverferth.com/parts/ for the most current parts listing.



Pull-Type Hitch Option Components

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY	NOTES
1	J70210364	Tongue Conversion Assembly, CAT3	1	Includes Items 2-25
2	JAAM4768	Turnbuckle Assembly	1	
3	JAM2197	Wrench Storage Bracket Weldment	1	
4	JAM2549	Jack, 12,000# Top Wind Drop Leg Weldment	1	
5	JAM2580	Crank, 90° Top Wind Swivel Grip	1	
6	JAM4759	Turnbuckle Wrench Weldment	1	
7	9003278	Transport Chain (20,200#)	1	
8	JAP2215	Decal, “Blu-Jet”	2	
9	94094	Decal, WARNING “Tongue”	1	
10	97961	Decal, WARNING “Read and Understand”	1	
11	91605	Decal, FEMA (2 1/2” x 1 1/2”)	1	
12	97575	Decal, CAUTION “Transport Chain”	1	
13	95445	Decal, WARNING “High-Pressure Fluids”	1	
14	JBM3610	Pin Weldment, 1 3/4” Dia. x 6 5/16”	2	
15	93950	Hitch Pin, 1” Dia. x 6”	1	
16	9392-182	Roll Pin, 3/8” Dia. x 2 1/2”	2	
17	JBP3045	U-Bolt, 3/8”-16UNC x 5”, 6 7/16” C/C	1	
18	9928	Lock Nut/Top, 3/8”-16UNC	2	
19	JBP3099	U-Bolt, 5/8”-11UNC x 6”, 6 11/16” C/C	2	
20	9394-014	Hex Nut, 5/8”-11UNC	4	
21	9390-061	Capscrew, 3/8”-16UNC x 2 1/2” G5	1	
22	9405-076	Flat Washer, 3/8” USS	2	
23	902875	Lock Nut/Center, 3/8”-16UNC	1	
24	JAP2282-1	Wire Hose Retainer w/Plastic Caps	6	
25	JEM3735	Bushing/Tube, 1 3/4” OD x 1.274” ID x 2 1/8”	1	
26	JAM2145	Hitch Storage Bracket	1	
27	JBP3045	U-Bolt, 3/8”-16UNC x 5”, 6 7/16” C/C	1	
28	JBP3500	Hairpin Cotter, 0.172” Dia. x 3 1/2”	1	
29	9928	Lock Nut/Top, 3/8”-16UNC	2	
30	JAM2144	Clevis Hitch Weldment	1	
31	JAP2850	Perfect Hitch CAT3	1	

Hydraulic Gauge Wheels, Single

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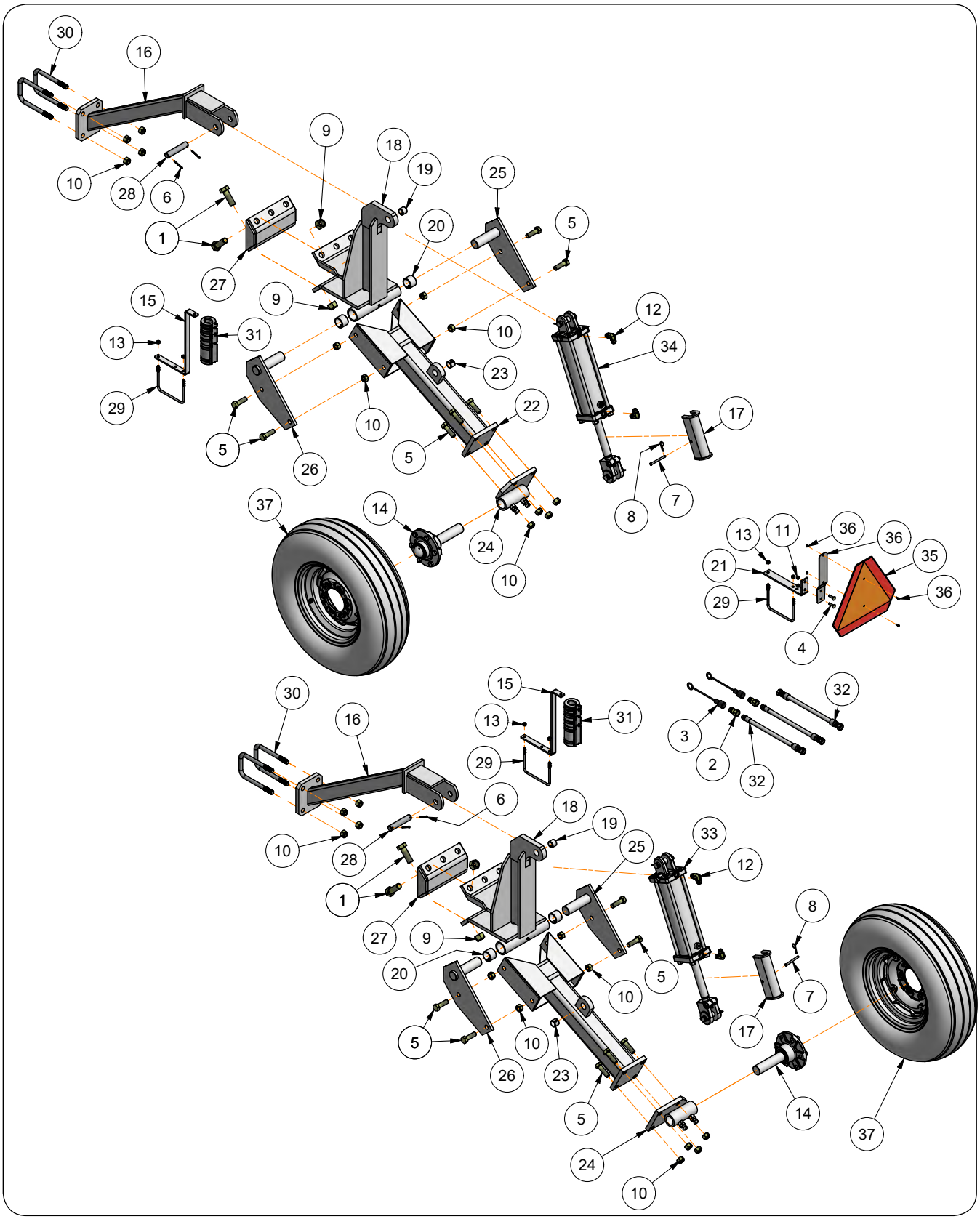


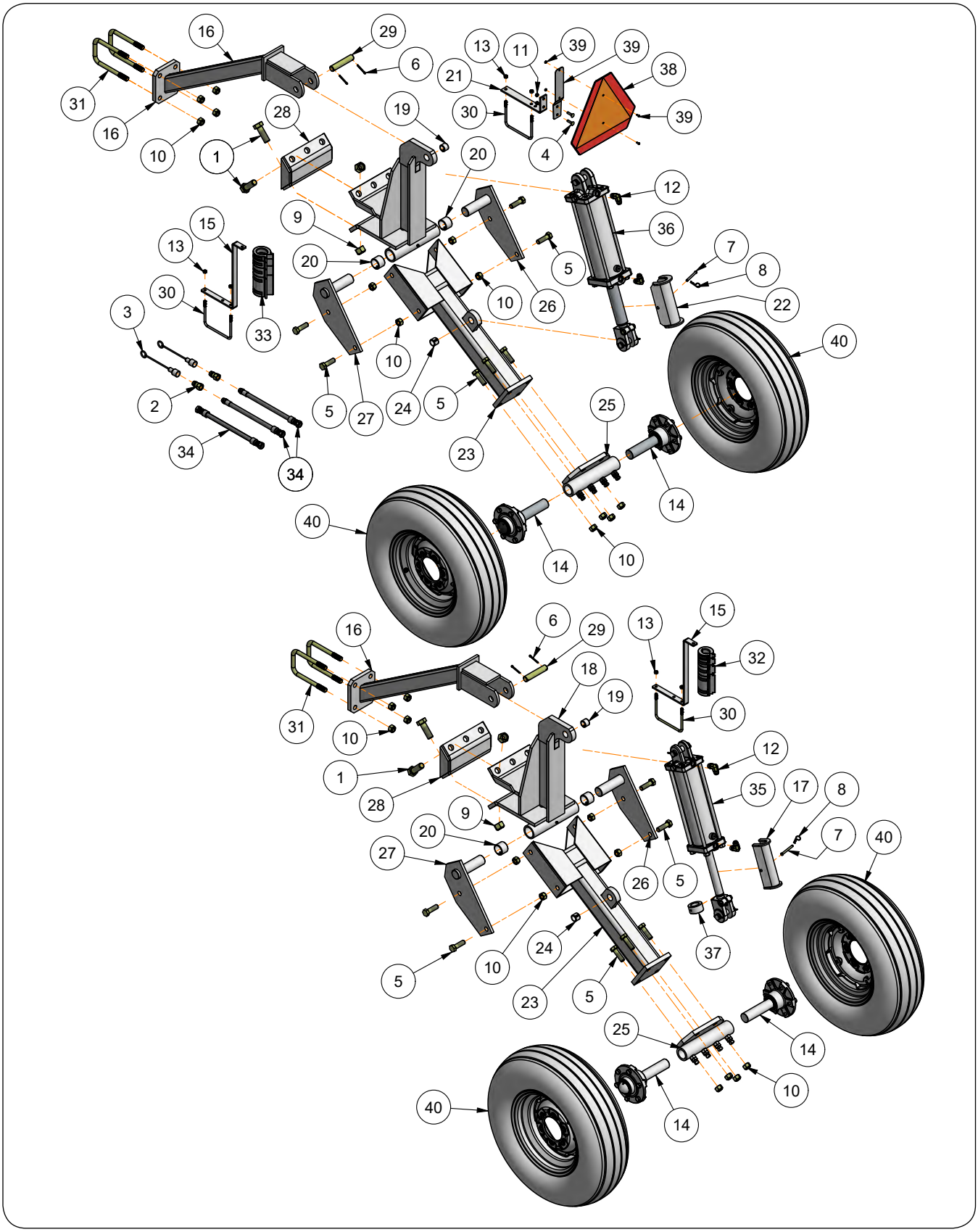
Hydraulic Gauge Wheels, Single

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY
1	91299-187	Capscrew, 1”-8UNC x 3” G8	12
2	91383	Male Tip Coupling 3/4-16 NPT	2
3	91511	Dust Cap/ISO Coupler	2
4	9388-026	Carriage Bolt, 5/16”-18UNC x 1 1/4” G5	2
5	9390-147	Capscrew, 3/4”-10UNC x 2 1/2” G5	16
6	9391-045	Cotter Pin, 3/16” Dia. x 1 3/4”	4
7	9503240	Clevis Pin, 5/16” Dia. x 3 1/2”	2
8	9514	Hairpin Cotter, .092” Dia. x 1 7/8”	
9	9663	Lock Nut/Top, 1”-8UNC	12
10	9802	Lock Nut/Top, 3/4”-10UNC	16
11	9807	Lock Nut/Top, 5/16”-18UNC	2
12	98201	90° Elbow, 7/8-14 JIC Male x 3/4-16 O-Ring Male	4
13	9928	Lock Nut, 3/8”-16UNC	4
14	JAAM2709	Hub and Spindle Assembly, 6-Bolt	2
15	JAM2090	Depth Collar & Lockup Storage Bracket	2
16	JAM2760	Upright Brace Weldment	2
17	JAM3039	Transport Lock Weldment, Fits 1 3/8” or Less Cylinder Rod	2
18	JAM3346	Upright Cylinder Weldment	2
19	91268	Split Tension Bushing, 1 1/4” OD x 1” ID x 1”	1
20	JBP3538	Split Tension Bushing, 2” OD x 1 3/4” ID x 1 1/2”	4
21	JAM4077	SMV Mounting Bracket	1
22	JAM5018	Wheel Leg Weldment, Bolt-On Spindle Loop	2
23	91268	Split Tension Bushing, 1 1/4” OD x 1” ID x 1”	1
24	JAM5019	Bolt-On Adapter, Single Wheel, 1 3/4” LOOP	2
25	JAM5038	Pivot Arm Bracket, “A” Hydraulic Gauge Wheel	2
26	JAM5039	Pivot Arm Bracket, “B” Hydraulic Gauge Wheel	2
27	JAM5049	Cylinder Upright Clamp Bracket Weldment	2
28	JBM3560	Pin, 1” Dia. x 4 1/8”	2
29	JBP3045	U-Bolt, 3/8”-16UNC x 5”, 6 7/16” C/C	2
30	JBP3047	U-Bolt, 3/4”-10UNC x 7 3/4”, 4 13/16” C/C	4
31	JBP3076	Stroke Control Kit/Depth Collar Set (Fits 1 1/4 to 1 1/2” Shaft)	2
32	JDP5011	Hydraulic Hose, 3/8” Dia. x 180” (7/8-14 JIC Female x 7/8-14 JIC Female)	1
	9503829	Hydraulic Hose, 3/8” Dia. x 276” (7/8-14 JIC Female x 3/4-16 O-Ring Male)	2
33	JDP4485	Right-Hand Side Rephase Cylinder, 3 3/4” x 12”	1
34	JDP4486	Left-Hand Side Rephase Cylinder, 4” x 12”	1
35	TA510514	SMV Emblem	1
36	TA510516	SMV Spade Mount with Hardware	1
37	W615-6SM/96182	Mounted W615-6 Implement Wheel w/TL9.5LB15 I-1	2
	W615-6SM	6 x 15 Implement Wheel (6 Bolt)	2
	N/A	Tire TL9.5LB15 8-Ply I-1	2
	9002500	Valve Stem	2

Hydraulic Gauge Wheels, Duals

Please visit www.unverferth.com/parts/ for the most current parts listing.



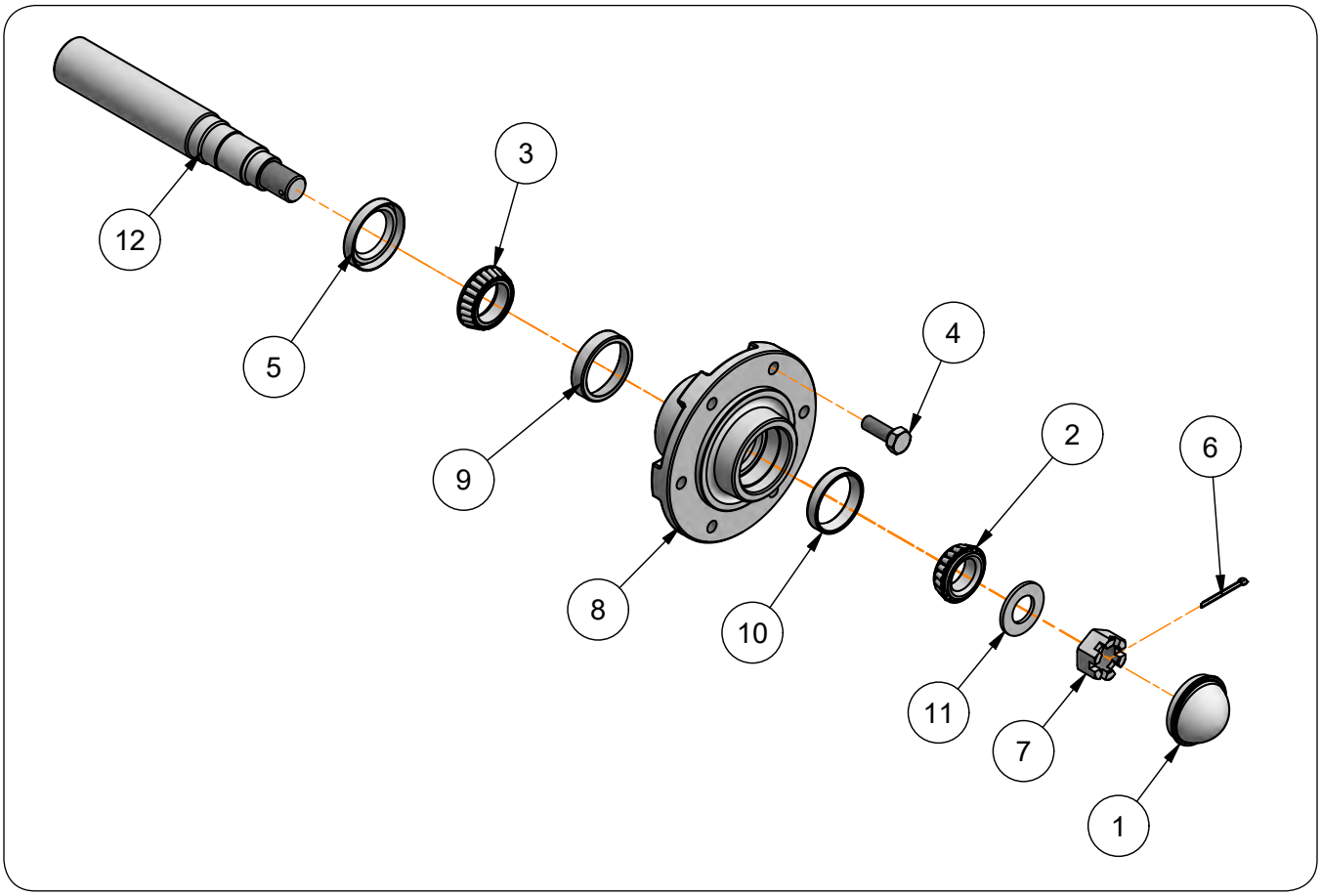
Hydraulic Gauge Wheels, Duals

Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NUMBER	DESCRIPTION	QTY
1	91299-187	Capscrew, 1"-8UNC x 3" G8	12
2	91383	Male Tip Coupling 3/4-16 NPT	2
3	91511	Dust Cap/ISO Coupler	2
4	9388-026	Carriage Bolt, 5/16"-18UNC x 1 1/4" G5	2
5	9390-147	Capscrew, 3/4"-10UNC x 2 1/2" G5	16
6	9391-045	Cotter Pin, 3/16" Dia. x 1 3/4"	4
7	9503240	Clevis Pin, 5/16" Dia. x 3 1/2"	2
8	9514	Hairpin Cotter, .092" Dia. x 1 7/8"	2
9	9663	Lock Nut/Top, 1"-8UNC	12
10	9802	Lock Nut/Top, 3/4"-10UNC	8
11	9807	Lock Nut/Top, 5/16"-18UNC	2
12	98201	90° Elbow, 7/8-14 JIC Male x 3/4-16 O-Ring Male	4
13	9928	Lock Nut, 3/8"-16UNC	2
14	JAAM2709	Hub and Spindle Assembly, 6-Bolt	4
15	JAM2090	Depth Collar & Lockup Storage Bracket	2
16	JAM2760	Upright Brace Weldment	2
17	JAM3039	Transport Lock Weldment, Fits 1 3/8" or Less Cylinder Rod	1
18	JAM3346	Upright Cylinder Weldment	2
19	91268	Split Tension Bushing, 1 1/4" OD x 1" ID x 1"	1
20	JBP3538	Split Tension Bushing, 2" OD x 1 3/4" ID x 1 1/2"	4
21	JAM4077	SMV Mounting Bracket	1
22	JAM4721	Transport Lock Weldment, Fits 1 3/4" & 2" Cylinder Rod	1
23	JAM5018	Wheel Leg Weldment, Bolt-On Spindle Loop	2
24	91268	Split Tension Bushing, 1 1/4" OD x 1" ID x 1"	1
25	JAM5020	Bolt-On Adapter, Dual Wheel, 1 3/4" LOOP	2
26	JAM5038	Pivot Arm Bracket, "A" Hydraulic Gauge Wheel	2
27	JAM5039	Pivot Arm Bracket, "B" Hydraulic Gauge Wheel	2
28	JAM5049	Cylinder Upright Clamp Bracket Weldment	2
29	JBM3560	Pin, 1" Dia. x 4 1/8"	2
30	JBP3045	U-Bolt, 3/8"-16UNC x 5", 6 7/16" C/C	3
31	JBP3047	U-Bolt, 3/4"-10UNC x 7 3/4", 4 13/16" C/C	4
32	JBP3076	Stroke Control Kit/Depth Collar Set (Fits 1 1/4 to 1 1/2" Shaft)	1
33	JBP3218	Stroke Control Kit/Depth Collar Set (Fits 1 3/4" to 2" Shaft)	1
34	JDP5011	Hydraulic Hose, 3/8" Dia. x 180" (7/8-14 JIC Female x 7/8-14 JIC Female)	1
	9503829	Hydraulic Hose, 3/8" Dia. x 276" (7/8-14 JIC Female x 3/4-16 O-Ring Male)	2
35	JDP4486	Right-Hand Side Rephase Cylinder, 4" x 12"	1
36	JDP4487	Left-Hand Side Rephase Cylinder, 4 1/2" x 12"	1
	JDP4469	Seal Kit	-
37	JEM2697	Spacer, 3" OD x 1.500" ID x 1 5/16"	1
38	TA510514	SMV Emblem	1
39	TA510516	SMV Spade Mount with Hardware	1
40	W615-6SM/96182	Mounted W615-6 Implement Wheel w/TL9.5LB15 I-1	4
	W615-6SM	6 x 15 Implement Wheel (6 Bolt)	4
	N/A	Tire TL9.5LB15 8-Ply I-1	4
	9002500	Valve Stem	4

Hub and Spindle Components (JAAM2709)

Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NUMBER	DESCRIPTION	QTY
1	9162	Hub Cap	1
2	9165	Bearing Cone (LM67048)	1
3	91818	Bearing Cone (JL69349)	1
4	91831	Wheel Bolt, 1/2"-20UNF x 1 1/4" G5	6
5	91833	Seal, Single Lip, 2.562" OD x 1.625" ID (CR16289)	1
6	9391-036	Cotter Pin, 5/32" Dia. x 1 3/4"	1
7	9393-020	Slotted Nut, 1"-14UNS	1
8	JAP2123	Hub 6-Bolt SubAssembly with Cups	1
9	91815	Bearing Cup (JL69310)	1
10	9345	Bearing Cup (LM67010)	1
11	JAP2146	Spindle Washer, 2" OD x 1.063" ID	1
12	JAP2167	Spindle, 1 3/4" Dia. x 11"	1

Notes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