All Terrain Sprayer
200 Gallon - 30', 45' & 60' Booms

Serial Number D71610100 & Higher

Part No. 47756

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.

Product Information

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

- Machine name
- Serial number

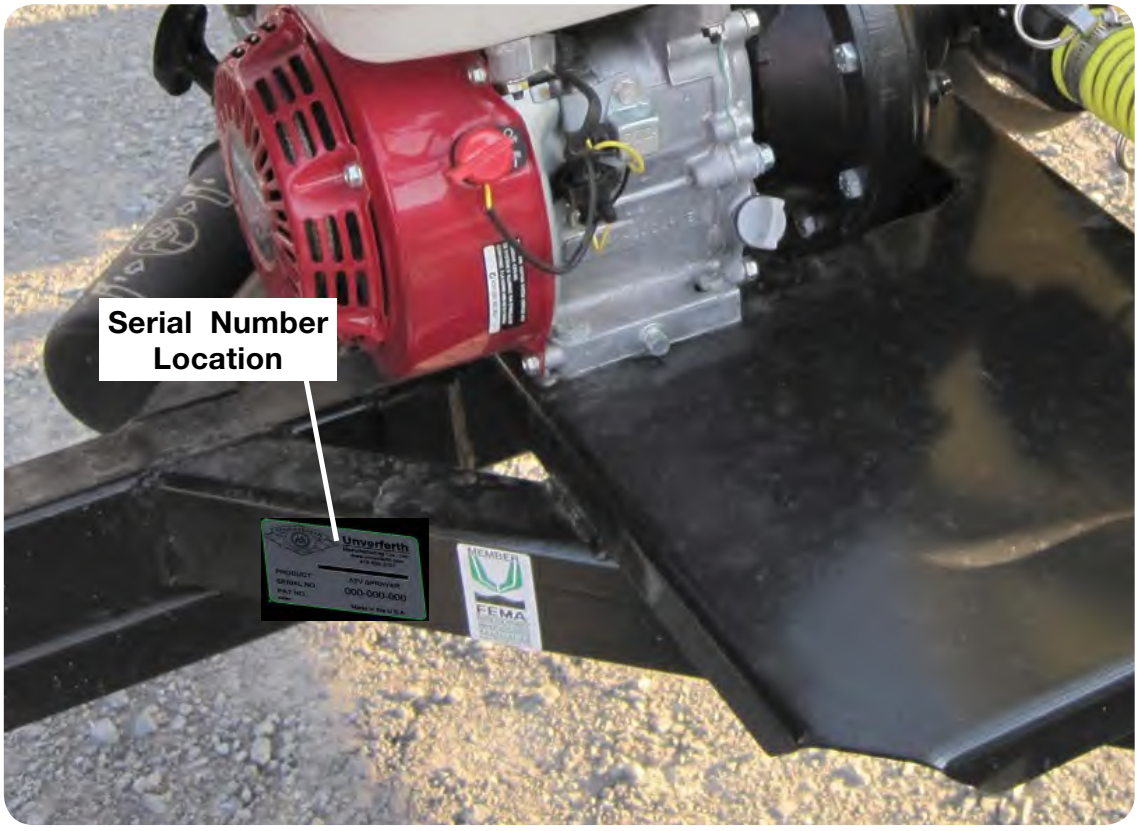
All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

Please fill out and retain this portion for your records. The serial number plate is located on the frame as shown below.

Purchase Date _____ Model _____Serial No._____

Dealer _____ City _____

Dealer Contact _____ Phone _____



IMPORTANT

The information, specifications, and illustrations in the manual are on the basis of 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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FOR FENDER INFORMATION, PLEASE REFER TO YOUR FENDER KIT INSTRUCTION SHEET.
FOR BOOM INFORMATION, PLEASE REFER TO YOUR BOOM MANUAL.

Notes

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

⚠ WARNING

- **REPLACE LOST, DAMAGED, PAINTED, OR UNREADABLE DECALS IMMEDIATELY. IF PARTS THAT HAVE DECALS ARE REPLACED, ALSO MAKE SURE TO INSTALL NEW DECALS. THESE DECALS INFORM AND REMIND THE OPERATOR WITH OPERATIONAL INFORMATION AND SAFETY MESSAGES.**

PART NO. 235161

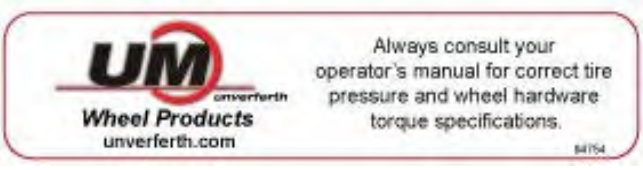
PART NO. 900751

PART NO. 97961

PART NO. 901507

PART NO. 901256

PART NO. 902026

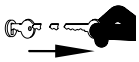


PART NO. 94754

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 towing vehicle engine and hydraulic power unit engine off and remove key before servicing the implement.



- 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.
- To prevent personal injury or death, always ensure that there are people who remain outside the sprayer to assist the person working inside, and that all safe workplace practices are followed. There is restricted mobility and limited exit paths when working inside the implement.
- Secure ball hitch latch with a locking device. Ensure that the towing vehicle drawbar has sufficient strength to support both the draft and vertical tongue load of a fully-loaded sprayer.
- Explosive separation of a tire and rim can cause serious injury or death. Only properly trained personnel should attempt to service a tire and wheel assembly.
- Hitch sprayer to the towing vehicle and clear all personnel from the surrounding area before folding and unfolding wings.
- Check all spray equipment for leaks. Repair any leaks before beginning or resuming operation
- Residual pressure may exist in sprayer plumbing even when unit is not in use. Remove pressure before servicing any plumbing.

During Operation

- Regulate speed to field conditions. Maintain complete control at all times.
- Never service or lubricate the equipment when in operation.
- Keep away from overhead power lines. Electrical shock can cause serious injury or death.
- Use extreme care when operating close to ditches, fences, or on hillsides.
- Do not leave the towing vehicle unattanded with the engine running.
- Carbon monoxide can cause nausea, fainting or death. Do not operate engine in closed or confined areas.
- Explosive fuel can cause fires and severe burns. Stop the engine before filling the fuel tank.
- Hot parts can cause severe burns. Do not touch engine while operating or just after stopping.

Before Transporting

- This sprayer is not equipped with brakes. Ensure that the towing vehicle has adequate weight and braking capacity to tow this implement.
- Secure the transport chains to the towing vehicle before transporting. DO NOT transport without the chains.
- 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.
- Use good judgment when transporting equipment on highways. 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.

Chemical Hazard

- Always wear personal protective equipment when working with or near chemicals. This equipment includes, but is not limited to: protective eye wear, gloves, shoes, socks, long-sleeved shirt, and long pants. Additional protection may be required for many types of chemicals.
- Spray tanks may contain residual toxic chemicals. DO NOT ENTER SPRAY TANK FOR ANY REASON WITHOUT WEARING PROPER VENTILATION EQUIPMENT. Failure to do so may result in asphyxiation and death.
- Seek and receive chemical product training prior to using agricultural chemicals.
- Read and understand the entire label of every chemical being applied with this sprayer.
- Avoid breathing spray mist or vapor.
- Wash hands and exposed skin immediately after contact with spray/fertilizer solution and application equipment.
- Remove clothing immediately if chemicals penetrate clothing and contact skin. Wash thoroughly and put on clean clothing.
- Dispose of unused chemical in accordance with chemical label directions and local/national regulations.

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.

- A clean water tank is provided as standard equipment. It is equipped with a spigot for general washing and a hose for emergency eye washing.
- Always keep clean water in tank. Water in clean water tank is not suitable for human consumption.
- For emergency eyewash, pull hose off of top fitting and flush affected area.

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

Intial Set Up Center Section Latch & Bumper Assy. 60' Boom

⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**

1. Park the unit on a firm, level surface. Block the wheels on the machine to keep it from moving. Set the atv's parking brake, shut-off the engine and remove the ignition key.

2. Before unfolding, latch/bumper weldment will need to be assembled to each end of the center section. (Fig. 2-1)

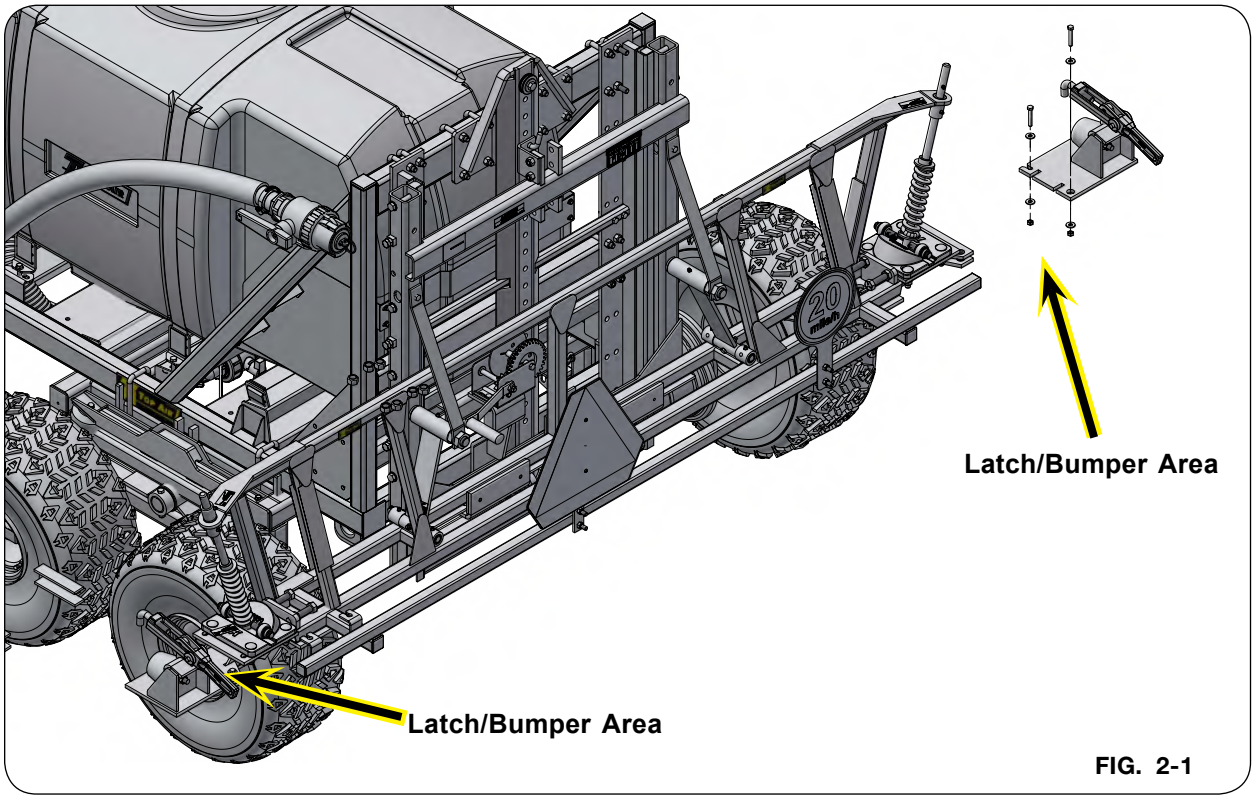


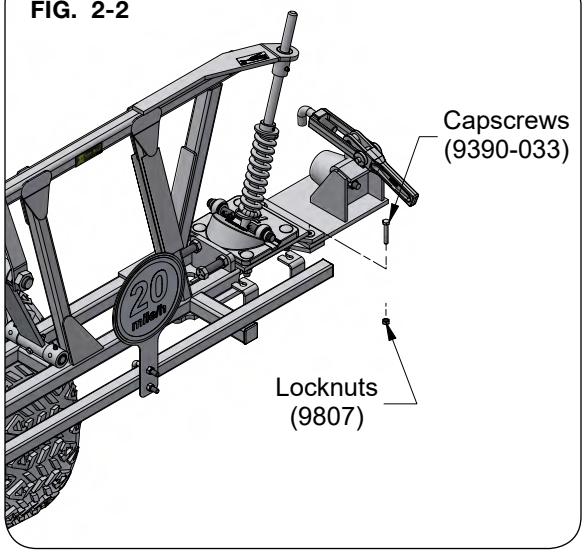
FIG. 2-1

Intial Set Up- Center Section Latch & Bumper Assy. 60' Boom

3. Assemble latch and bumper assembly to ends of center section using two 5/16"-18UNC x 1 3/4" capscrews (9390-033), four 5/16" SAE flat washers (9405-068), and two 5/16"-18UNC locknuts (9807) on left-hand and right-hand sides. (Fig. 2-2)

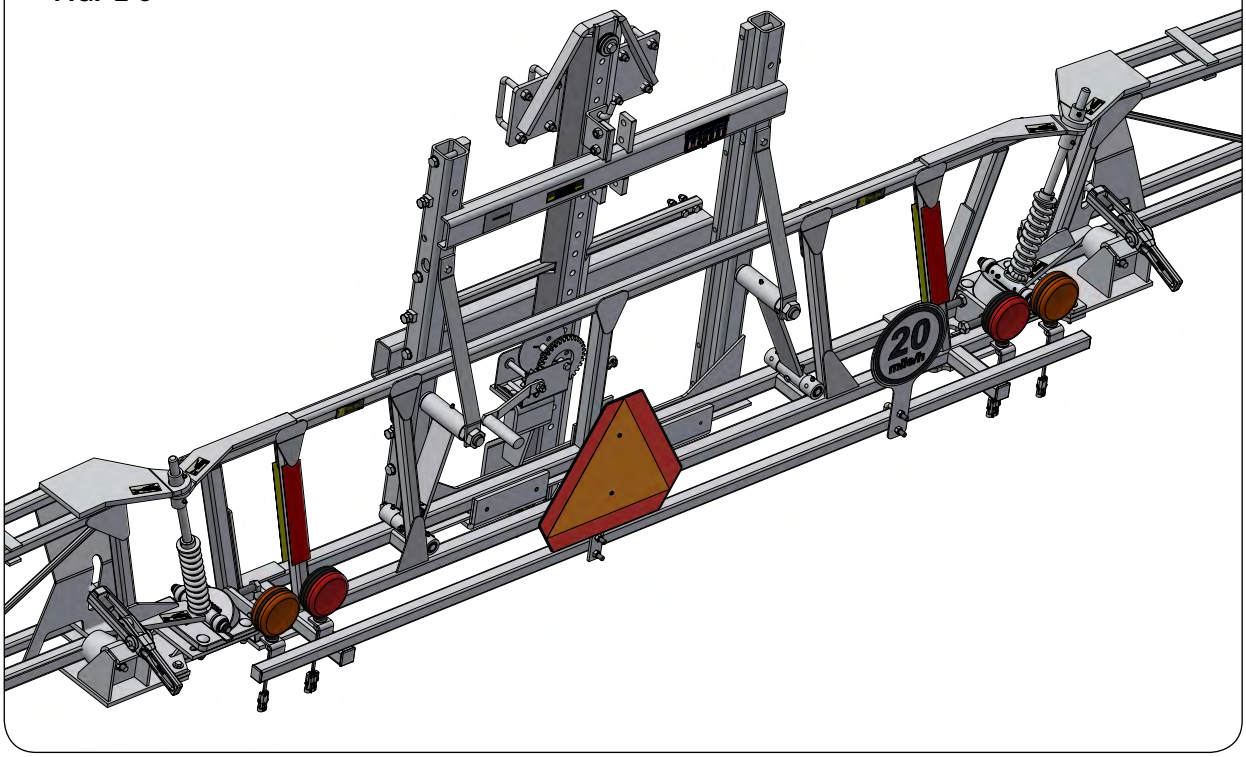
NOTE: Refer to "BOOM OPERATION" for unfolding and folding procedures.

FIG. 2-2



4. Repeat steps 1-3 for each end of center section. (Fig. 2-3)

FIG. 2-3



Intial Set Up - Skid Wheel Assy. 60' Boom

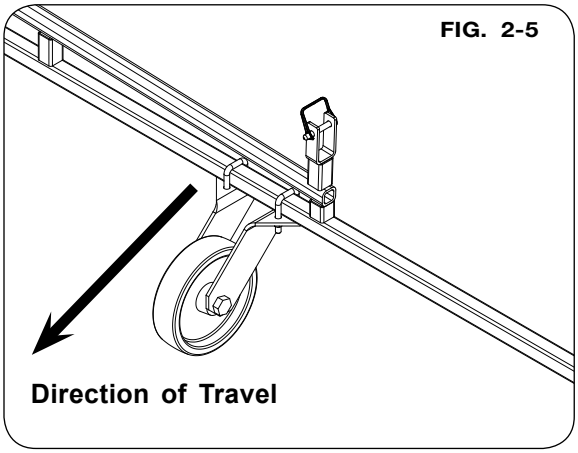
⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**

1. Park the unit on a firm, level surface. Block the wheels on the machine to keep it from moving. Set the ATV's parking brake, shut-off the engine and remove the ignition key.

2. Upon initial unfolding, skid wheels (403091), are assembled on the outer portion of each end of the boom, and are extending towards the rear of the unit (Opposite the direction of travel). (Fig. 2-5)

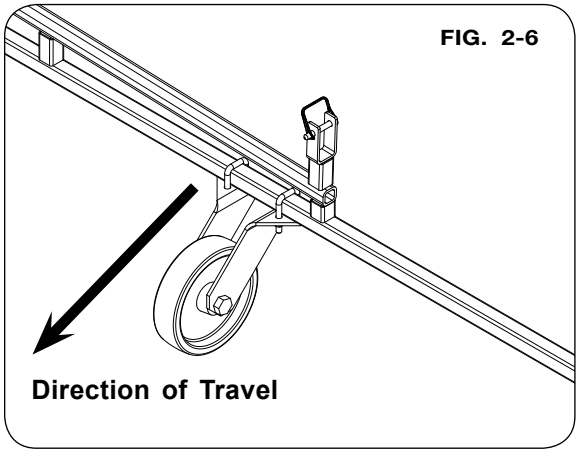
FIG. 2-5



3. Skid wheels will need to be rotated so that they are extending towards the front of the unit (Towards the Direction of Travel). This will keep the skid wheels out of the spray pattern. (Fig. 2-6)

   A. Remove U-bolts (TA510072) & nuts (9394-006) from skid wheel assembly (403091).
   B. Rotate skid wheel assembly so that it is extending towards the direction of travel.
   C. Re-Assemble/Tighten U-bolts and Nuts.

FIG. 2-6



4. Repeat process for skid wheel assembly on each end of boom.

Raven 450 Controller

⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**

IMPORTANT

- *Controller is not weather protected. Store in a dry environment.*

1. Attach the appropriate wire harness cables from the 12' flow cable (9005729) to the flow control valve and flow meter wire harness cables. Attach the remaining wire harness cables from the 12' flow cable (9005729) to the three or six ball valve cables.
2. The opposite end of the 12' flow cable (9005729) is attached to the current console wire harness (TA720563).
3. The opposite end of current console wire harness (TA720563) is attached to the console. The remaining red & white wires are attached to the battery. Attach the Red wire to the positive (+) on the battery. Attach the White wire to the negative (-) on the battery.

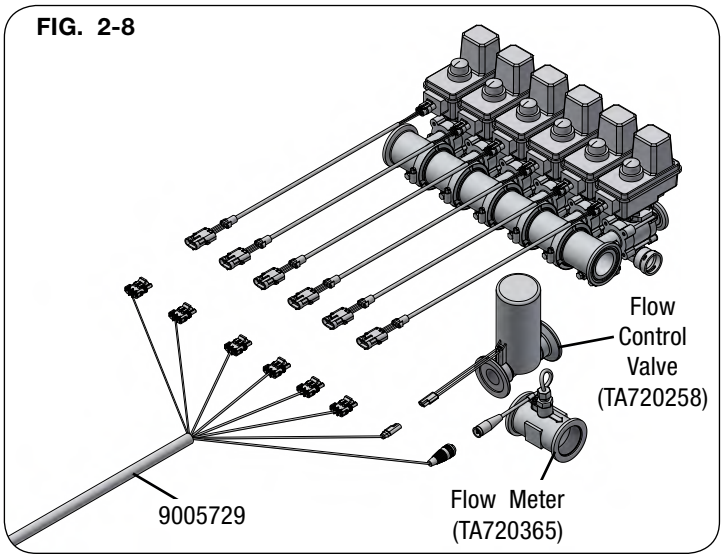
NOTE: Use cable ties to secure harnesses to ATV. Keep harnesses away from engine and keep warning decals viewable.

4. Attach Astro GPS speed sensor to control console (see note below).

NOTE: Refer to Astro GPS speed sensor instructions for proper hook-up and placement of GPS sensor.

Following are websites for your convenience:
Raven Controller = www.ravenprecision.com
Astro GPS = www.micro-trak.com

FIG. 2-8



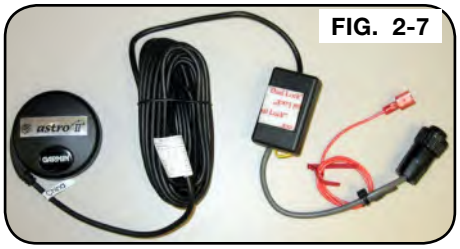


FIG. 2-7

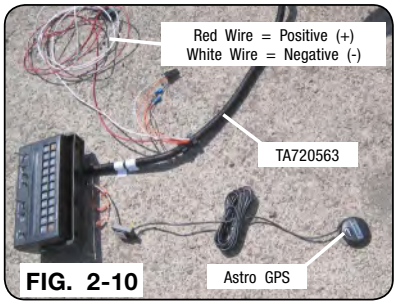


FIG. 2-10

Raven 450 Controller (continued)

Raven 450 Setup Guide

Begin by connecting the Raven 450 Console to the Console Harness 16 pin connector that is connected to power.

1. Toggle the Power switch to the **ON** position.
2. Press **ENTER** to accept "US - Volume per Acre".
3. Press **CE** to toggle to "SP2-Radar". Then Press **ENTER**.
4. Press **ENTER** to select "Standard Valve".
5. Press **BOOM CAL**.
6. Press **ENTER**. Type in the section **width** in inches of section 1. Press **ENTER**.

NOTE: To determine the section width, reference the section width table, or count the number of nozzles in the section and multiply by the nozzle spacing. Section 1 will start on the left-hand side of the machine when facing the machine from the rear. For unused sections, enter 0.

7. Press the **Up Arrow**. Repeat step 6 for each section on the boom.
8. Press **SPEED CAL**. Press **ENTER**. Type in **783**. Press **ENTER**.

NOTE: 783 is the Speed Cal number for the standard Micro-Trac Astro II GPS Speed Sensor. Speed Cal will be different if using any other speed input.

9. Press **METER CAL**. Press **ENTER**. Type in the **Meter Cal #** off the flow meter tag. Press **ENTER**.
10. Press **VALVE CAL**. Press **ENTER**. Type in **2123**. Press **ENTER**.
11. Press **RATE CAL 1**. Press **ENTER**. Type in **10**. Press **ENTER**.
12. Press **RATE CAL 2**. Press **ENTER**. Type in **10**. Press **ENTER**.
13. Press and hold **SPEED CAL** for 5 seconds. Press **ENTER**. Type **1020**. Press **ENTER**.
14. Set up is complete. Toggle the power switch to **OFF** and disconnect the Console from the Console Harness 16 pin connector.

In the event, an initial program setting (Steps 1-4) is entered incorrectly, there are two options to fix it:

1. Hold CE while powering. This clears all settings. Then start from step 1 above.
2. Hold SELF TEST for 30 seconds. Press CE to advance to the setting that's needs changed. Press ENTER. Change the setting. Press ENTER.

To change any other settings, simply press the respective button again and use Enter, #, Enter.

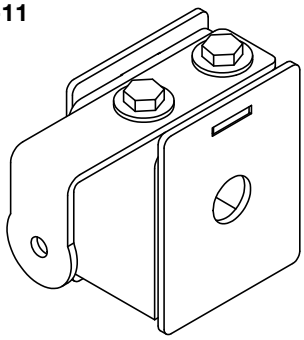
Engine Shut Off Switch

⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**

1. Attach the switch enclosure (41691B) to the mount bracket (41692B) with two 1/4"-20UNC x 3/4" capscrews (9390-003), 1/4" USS flat washers (9405-064), and 1/4"-20UNC locknuts (9936). (FIG. 2-11)

FIG. 2-11



2. Remove the knob from the control console (TA720315). Attach the switch enclosure/ mount bracket assembly with the previously removed knob. (FIG. 2-12)

FIG. 2-12

3. Insert the button switch surround (26906) and push button switch (901885). (FIG. 2-13)

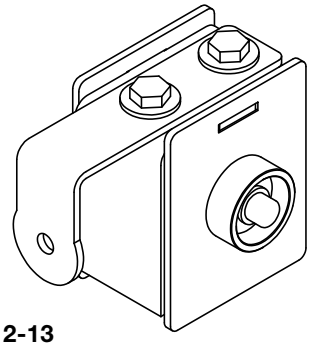
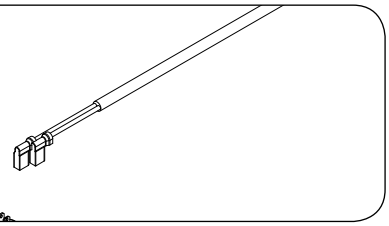


FIG. 2-13

Engine Shut Off Switch (continued)

4. Attach the spade connectors (902139) to the wire harness (41694). Connect the other end of the spade connectors (902139) to the push button switch (901885). (FIG. 2-14)

FIG. 2-14



5. Connect the ring terminal (901907) to one end of the wiring harness (41695) (FIG. 2-15). Ground the ring terminal to the engine as shown in FIG. 2-16.

FIG. 2-15

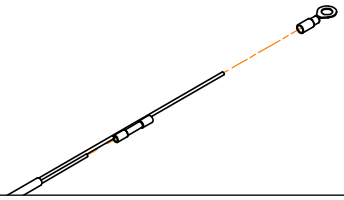


FIG. 2-16

6. Splice the other end of the wiring harness (41695) with splice connector (900367) into the engine power as shown in FIG. 2-17.

7. Route the wiring harnesses (41694 & 41695) along the existing wiring harnesses. Connect the two wiring harnesses.

FIG. 2-17

TeeJet Valve Controller (Optional)

WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**
- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

1. Remove adapter assembly from ball valve by removing pin holding it in place.
2. Attach Tee Jet assembly to end of ball valve where tube was removed. Assemble adapter (902242) and retain with clip pin. Next, assemble reducer bushing (902255), adapter (TA809400), regulating valve (TA854800), adapter (TA814819), coupling (95092), and adapter (TA814872).
3. Remove the caplug from the end of the hose. Attach to the regulating valve assembly (TA854800) and secure with hose clamp.
4. Place corrugated loom over wires of regulating valve. Attach regulating valve to wiring harness (902307). The remaining wires from wiring harness (902307) will attach to the ball valve harnesses.
5. Attach wiring harness (902311) to the console TeeJet 744A (TA884986). The remaining wire for wiring harness (902311) will attach to wiring harness (902306). The opposite end of wiring harness (902311) will attach to the battery.

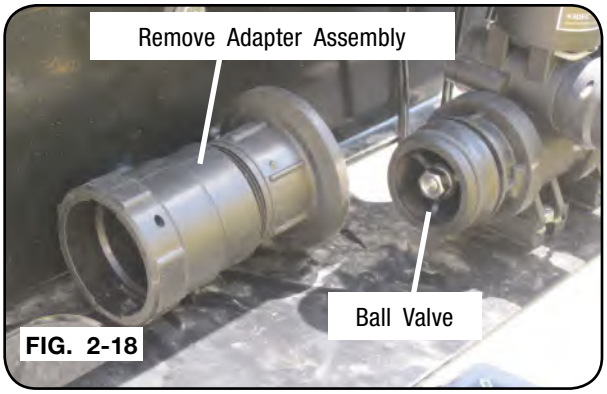


FIG. 2-18

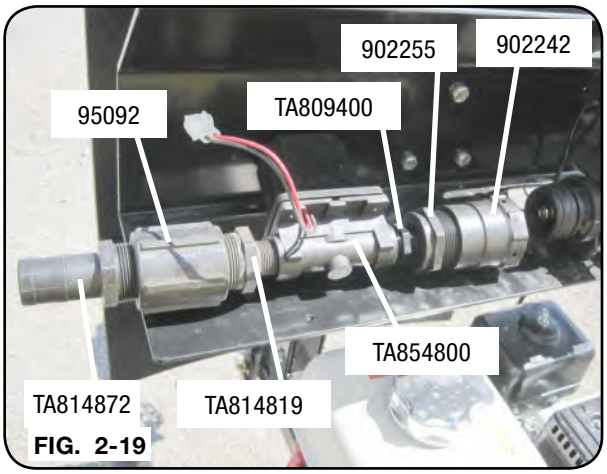


FIG. 2-19

FIG. 2-20

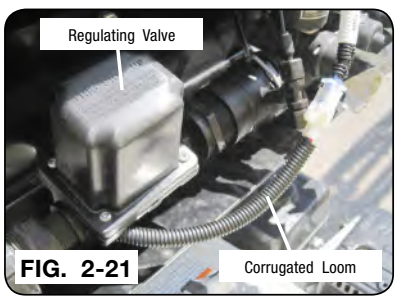


FIG. 2-21

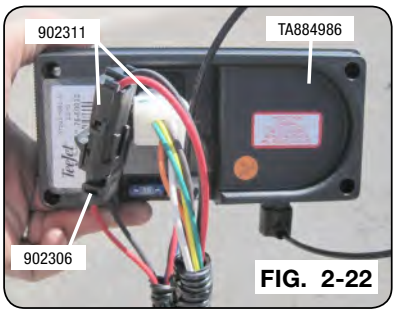


FIG. 2-22

Teejet Valve Controller (Optional) (continued)

6. Remove elbow from adapter assembly connect to ball valves. Assemble connector (902409) to connector (902410). With elbow removed, attach connector (902409) to assembly in its place to the adapter assembly. Attach line in the wiring harness (902307) to connector (902410). Attach remaining line to the end of connector (902409).

7. Attach one end of Power Cable (902311) to the battery. The opposite end of Power Cable (902311) will attach to the console and the remaining connection will attach to the Extension Cable (902306). The remaining connection on Extension Cable (902306) will attach to the console. The opposite end of Extension Cable (902306) will attach to End Cable (902307). The opposite end of End Cable (902307) will attach to the Left/ Right/Center of the Ball Valves. Attach the remaining harness to the Regulating Valve (TA854800).

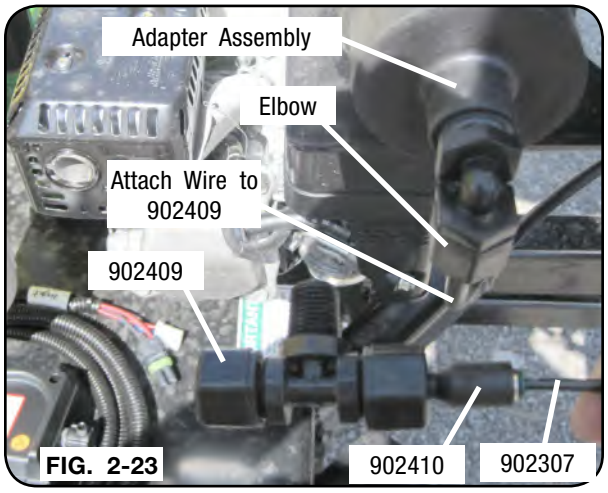
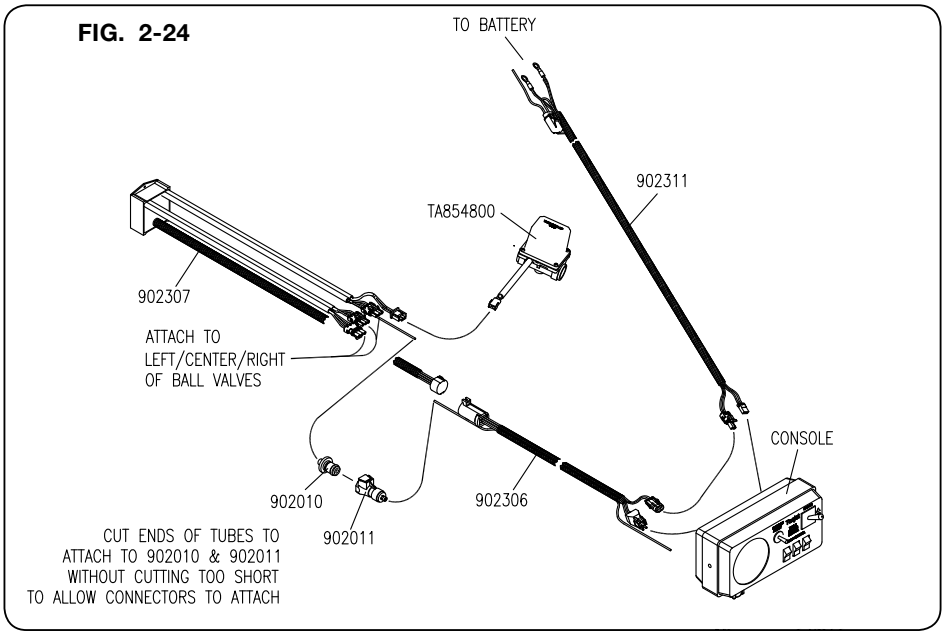


FIG. 2-23

Once End Cable (902307) and Extension Cable (902306) are attached, there are tubes that will need to be cut and attached to Quick Disconnect Fittings (902010 & 902011). Cut off ends of tubing keeping the length long enough for Quick Disconnect Fittings (902010 & 902011) to connect together. Once tubes are cut, dip the ends into 140°F - 160°F water for approximately 30 seconds. Next, push tube ends onto the barb side of the connectors. Connect Quick Disconnect Fittings (902010 & 902011) together.

NOTE: Use cable ties to secure harnesses to ATV. Keep harnesses away from engine and keep warning decals viewable.

FIG. 2-24



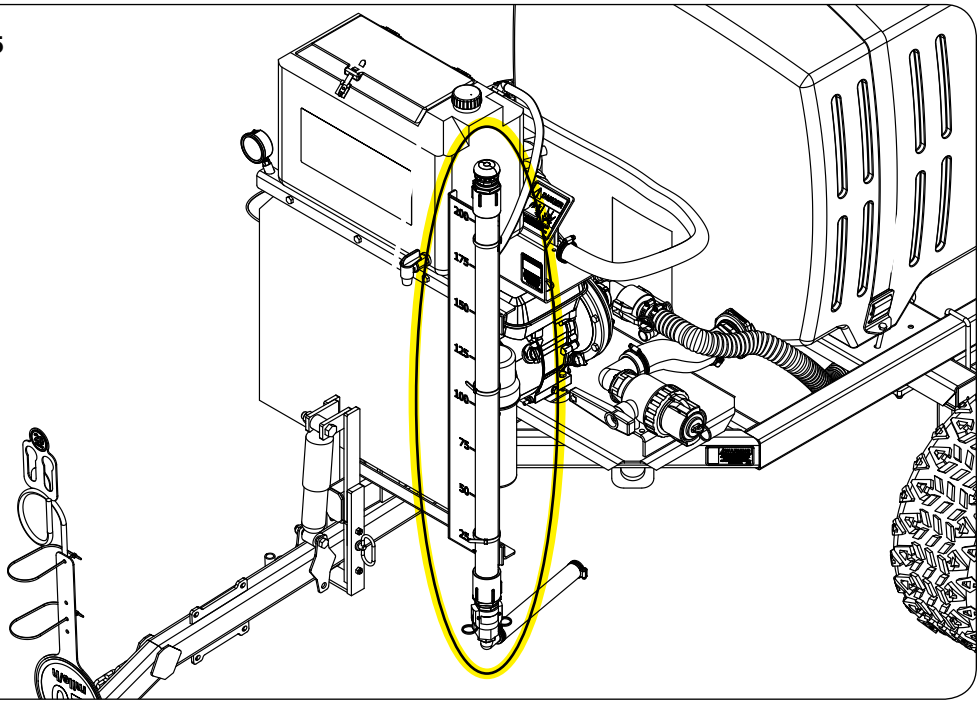
TeeJet Manual Selector Control Valve (Optional)

⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**
- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

1. If applicable, remove sight indicator tube assembly (FIG. 2-25). Install plug (TA814751) into tank port.

FIG. 2-25



TeeJet Manual Selector Control Valve (Optional) (continued)

2. Attach the valve mount stand weldment (42088B) to the tongue using two U-bolts (900076) and four 3/8”-16UNC lock nuts. (FIG. 2-26)

3. Attach the top of the hose retainer plate (42100B) to the valve mount stand weldment with a 1/4”-20UNC x 1-1/4” capscrew (9390-006) and 1/4”-20UNC lock nut (9936). Secure the bottom of the hose retainer plate with lynch pin (9000936). (FIG. 2-26)

4. Fasten the valve mount weldment (42085B) to the top of the valve mount stand weldment (42088B) with four 3/8”-16UNC x 1” capscrews and 3/8”-16UNC lock nuts (9928) as shown in FIG. 2-26.

5. Postion Tee-Jet manual selector control valve (9502060) on top of the valve mount weldment (42085B) as shown in FIG. 2-26. Secure with two 3/8”-16UNC x 1-1/4” capscrews (9390-056) and 3/8”-16UNC lock nuts (9928).

6. Insert two pipe plugs (TA814751) into the Tee-Jet manual selector control valve (9502060) (FIG. 2-26).

7. Attach the gauge (TA801155) to the top of the Tee-Jet manual selector control valve (9502060) (FIG. 2-26).

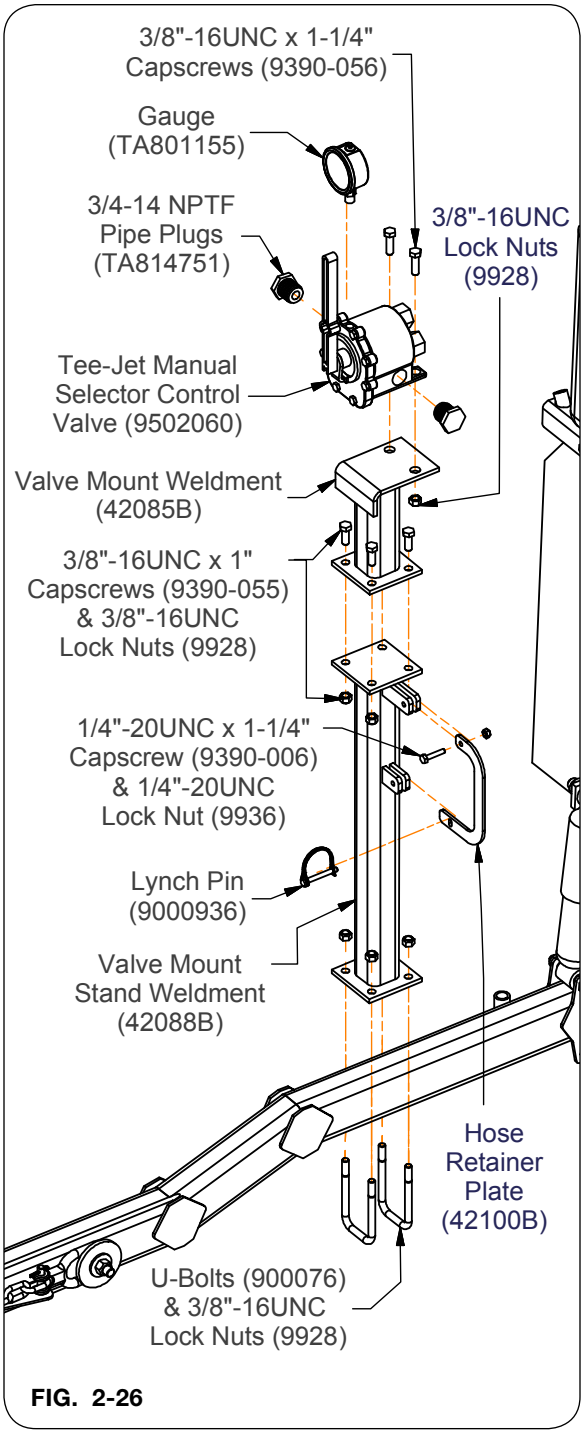


FIG. 2-26

TeeJet Manual Selector Control Valve (Optional) (continued)

8. Assemble the three 3/4”-14 MPT hose barb fittings (TA814861) and one 1” NPT hose barb (9502042) to the Tee-Jet manual selector control valve (9502060) as shown in FIG. 2-27.

9. Secure the 1-1/4” ID hose (TA806300) to the 1” NPT hose barb (9502042) on the Tee-Jet manual selector control valve with hose clamp (TA800916). (FIG. 2-27)

10. Attach the 3/4” ID hoses (TA806250) to the three 3/4”-14 MPT hose barb fittings (TA814861) on the Tee-Jet manual selector control valve. Secure with hose clamps (TA800912). (FIG. 2-27)

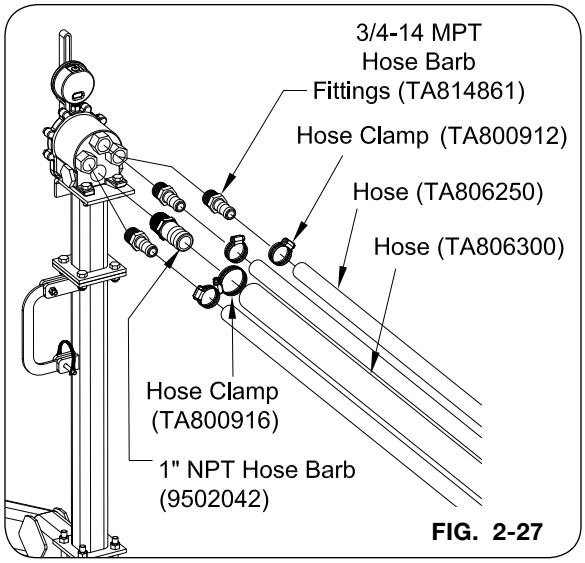


FIG. 2-27

11. Route all hoses through the hose retainer plate. (FIG. 2-28)

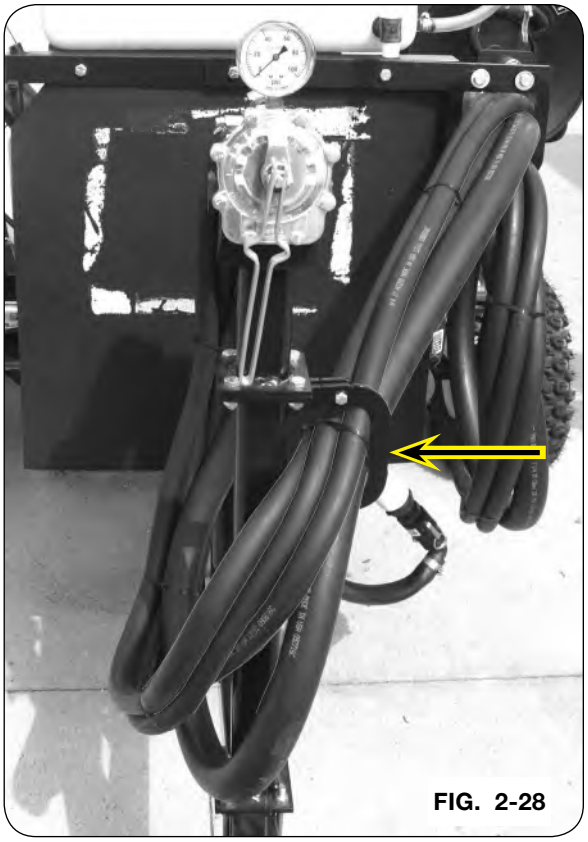


FIG. 2-28

TeeJet Manual Selector Control Valve (Optional) (continued)

12. Attach the plates (42106B) to the valve mount weldment with existing hardware as shown in FIG. 2-29. Assemble the bottom of the two plates with 3/8”-16UNC x 1” capscrew (9390-055) and 3/8”-16UNC hex nut.

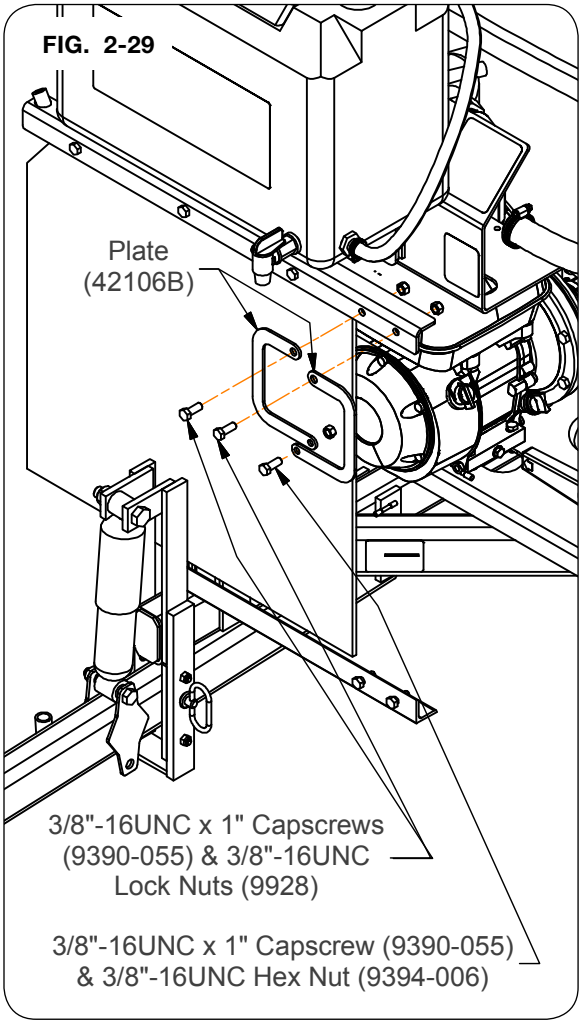


FIG. 2-29

13. Assemble the 1-1/2” ball valve (TA811521) and hose barb (TA814874) as shown in FIG. 2-30. Attach nipple reducer (TA814825) and 90 degree elbow (TA814693) to the opposite end of the 1-1/2” ball valve.

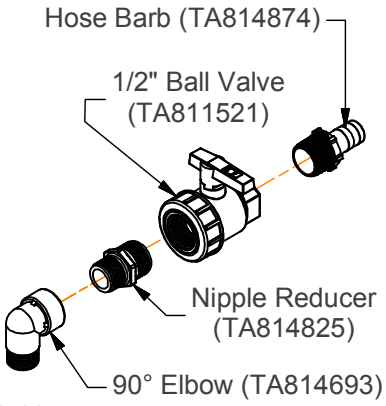


FIG. 2-30

TeeJet Manual Selector Control Valve (Optional) (continued)

14. Attach the opposite end of the 90 degree elbow to the tee. (FIG. 2-31A - Shown Less Hose Reel/Spray Gun Option; FIG. 2-31B - Shown With Hose Reel/Spray Gun Option)

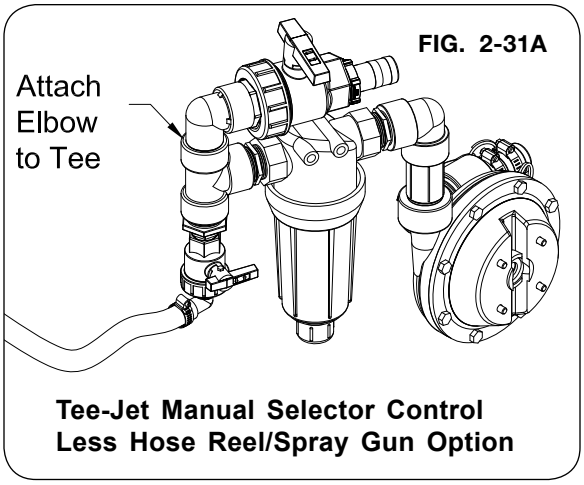


FIG. 2-31A

Tee-Jet Manual Selector Control
Less Hose Reel/Spray Gun Option

Tee-Jet Manual Selector Control
With Hose Reel/Spray Gun Option

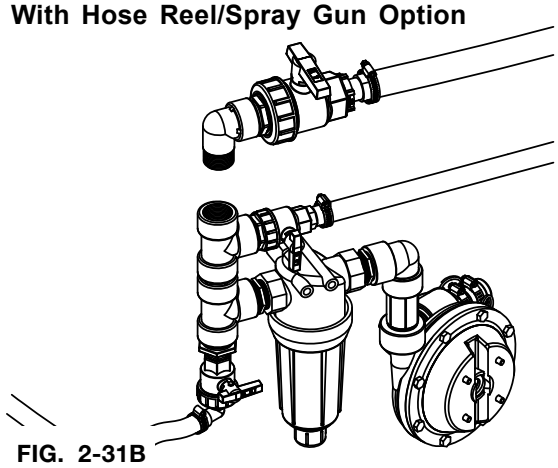


FIG. 2-31B

15. Route the hoses through the plates on the valve mount weldment. (FIG. 2-32)

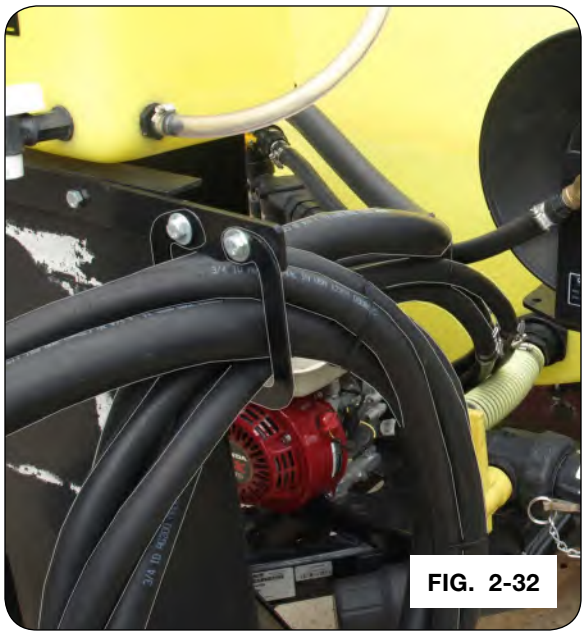


FIG. 2-32

TeeJet Manual Selector Control Valve (Optional) (continued)

16. Secure the 1-1/4” ID hose (TA806300) to the hose barb on the ball valve with a hose clamp (TA800916). (FIG. 2-33)

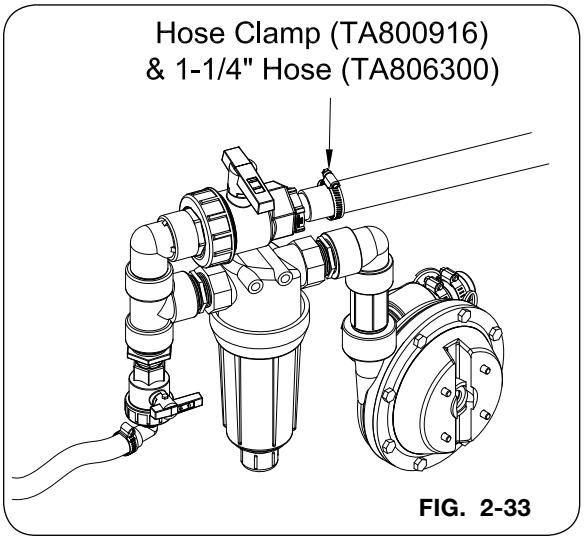


FIG. 2-33

17. Connect the 3/4” ID hoses from the valve to the boom 3/4” ID hoses with hose menders (TA814923) and hose clamps (TA800912) (FIG. 2-34).

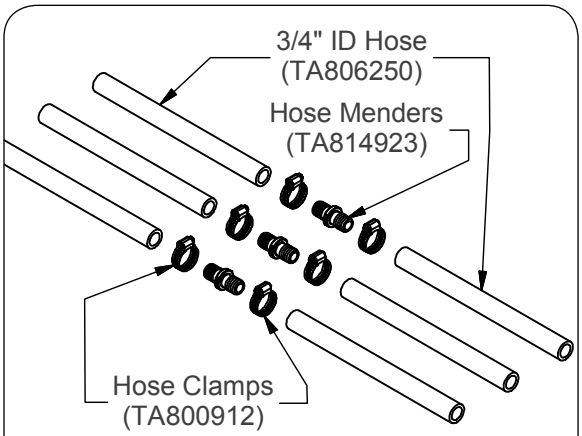


FIG. 2-34

Hose Reel & Sprayer Gun Assembly (Optional)

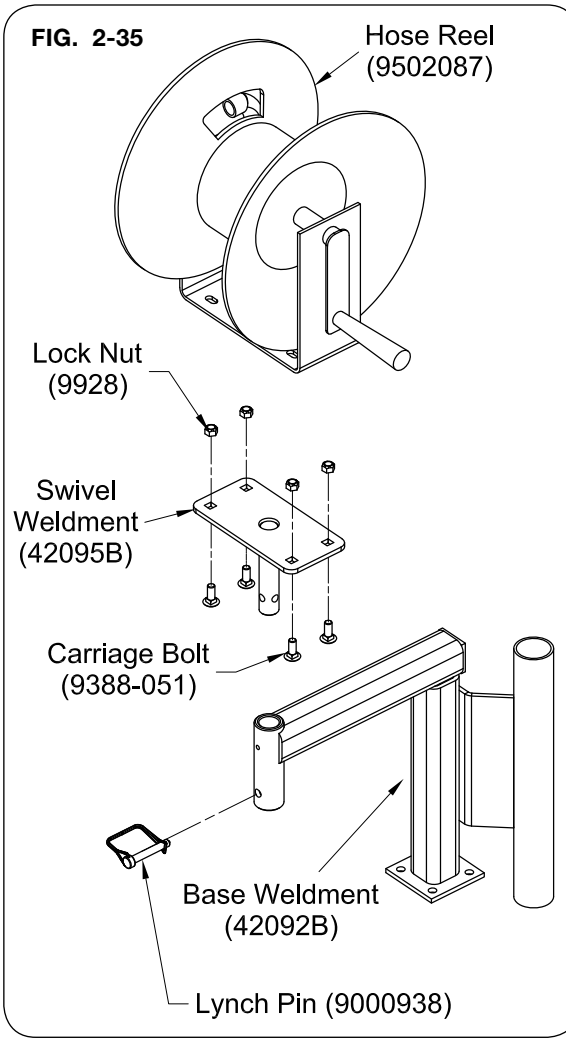
⚠ WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IF NECESSARY.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **WHEN WORKING AROUND THE MACHINE, BE SURE IT IS SECURELY BLOCKED; FAILURE TO DO SO COULD RESULT IN TIPPING OR MOVEMENT OF MACHINE, CAUSING SERIOUS INJURY OR DEATH.**
- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

1. Assemble swivel weldment (42095B) to hose reel (9502087) using four 3/8"-16UNC x 1" carriage bolts (9388-051) and 3/8"-16UNC lock nuts (9928). (FIG. 2-35)

2. Attached swivel weldment and hose reel to base weldment (42092B). Lock in place using lynch pin (9000938). (FIG. 2-35)

FIG. 2-35



Hose Reel & Sprayer Gun Assembly (Optional) (continued)

3. Assemble hose barb (TA814855) to hose reel outlet as shown in FIG. 2-36.

4. Attach 25' length of 3/8" ID hose (TA806200) to hose reel outlet using hose barb (TA814855), hose clamp (TA800910), and wind hose around reel. (FIG. 2-36)

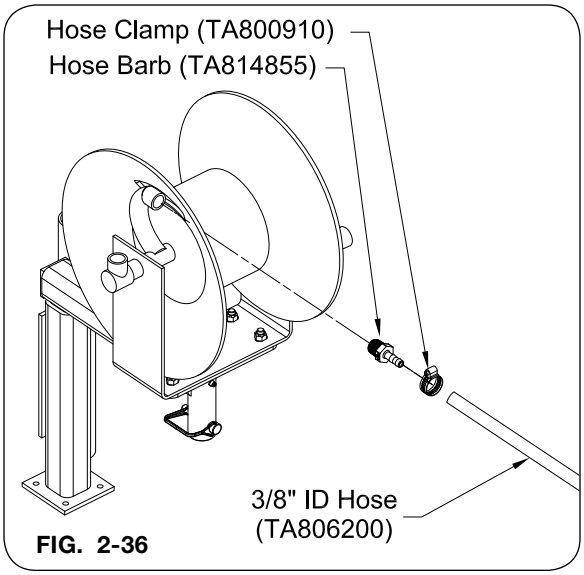


FIG. 2-36

5. Assemble hose barb (TA814855) to spray gun (9502044). (FIG. 2-37)

6. Attach the 3/8" ID hose (TA806200) on the hose reel to the hose barb (TA814855) on the spray gun with hose clamp (TA800910). (FIG. 2-37)

7. Place sprayer gun into round retainer on base weldment. (FIG. 2-37)

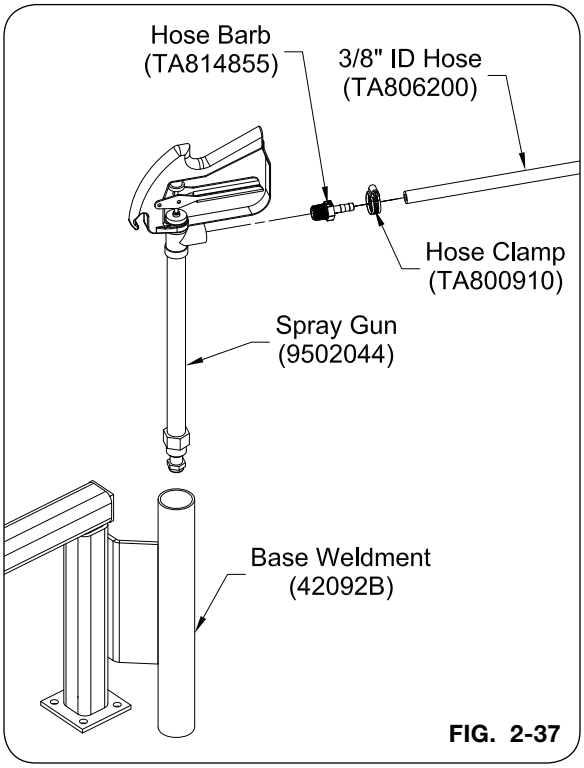


FIG. 2-37

Hose Reel & Sprayer Gun Assembly (Optional) (continued)

8. Mount entire assembly to the front, left-hand portion of ATV Sprayer engine platform using four 3/8”-16UNC x 1” capscrews (9390-055) and four 3/8”-16UNC lock nuts (9928). (FIG. 2-38)

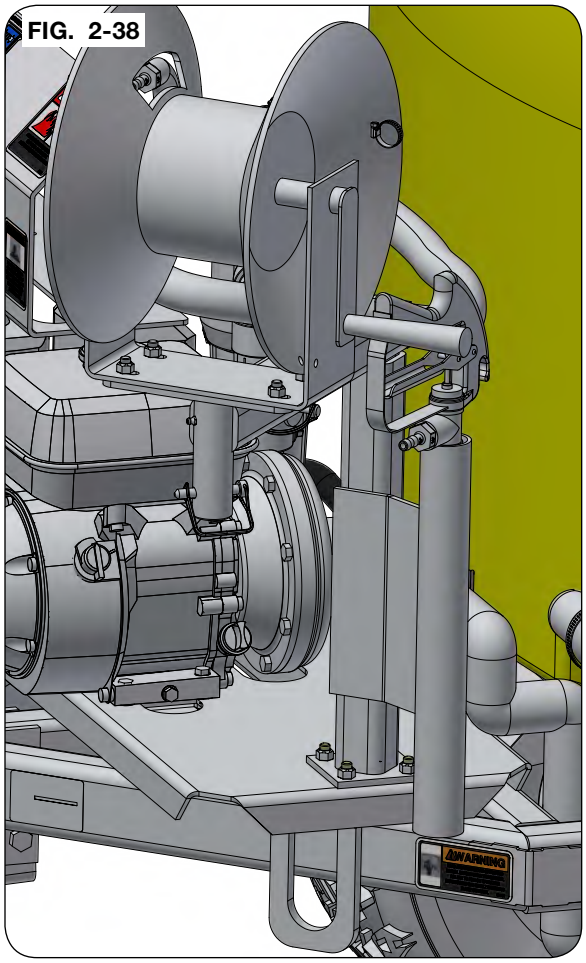


FIG. 2-38

9. Assemble the hose barb (9502043) to the hose reel inlet. (FIG. 2-39)

10. Attach 3/4” ID hose (TA806250) to hose reel inlet hose barb (902043) using hose clamp (TA800912). (FIG. 2-39)

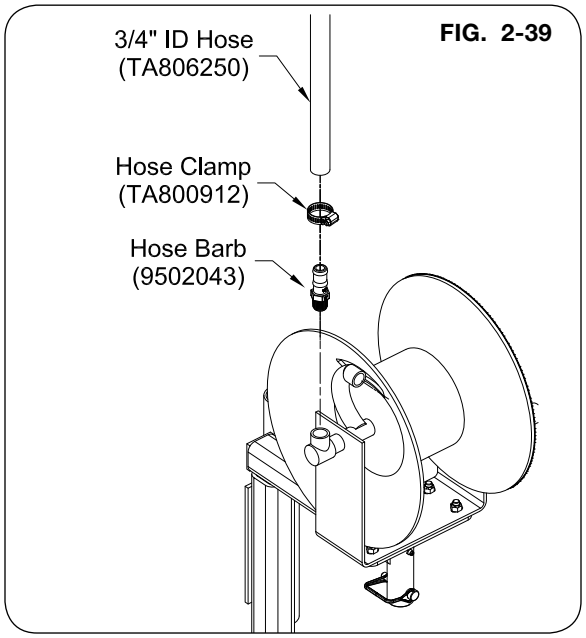


FIG. 2-39

Hose Reel & Sprayer Gun Assembly (Optional) (continued)

11. Remove 90 degree elbow from the tee (FIG. 2-40 OR FIG. 2-41).

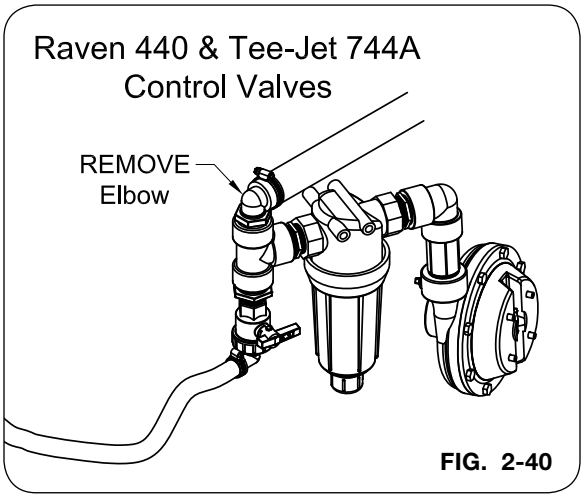


FIG. 2-40

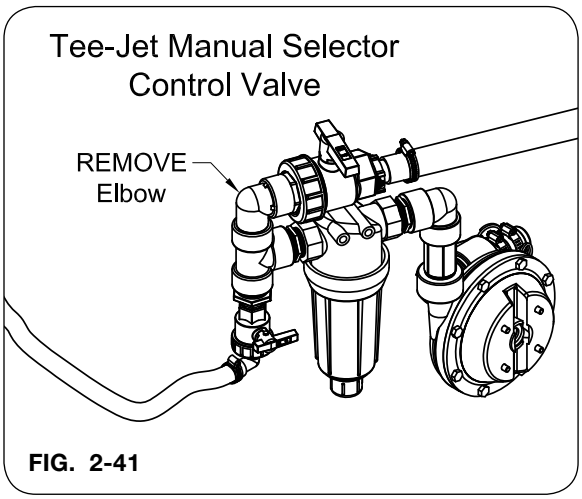


FIG. 2-41

12. Insert hose barb (TA814861) into one end of the 3/4" ball valve (TA811515) as shown FIG. 2-42. Insert nipple reducer (TA814819) into the opposite end of the 3/4" ball valve (TA811515).

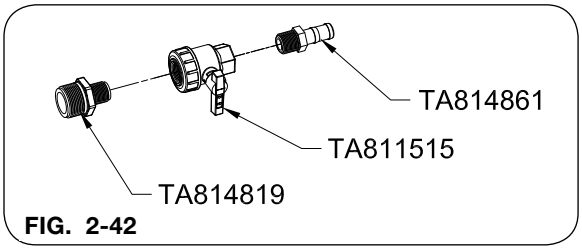


FIG. 2-42

13. Insert nipple (TA814615) into one end of the tee (TA814783). Attach the opposite end of the nipple to the existing tee. (FIG. 2-43)

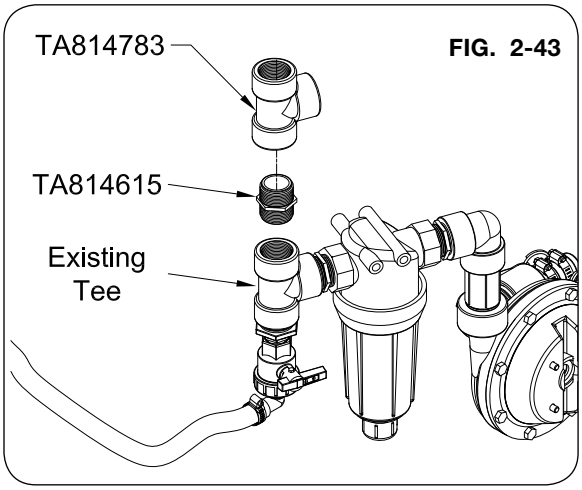


FIG. 2-43

Hose Reel & Sprayer Gun Assembly (Optional) (continued)

14. Assemble the 3/4” ball valve, nipple reducer to the tee (TA814783). (FIG. 2-44)

15. Secure 3/4” ID hose (TA806250) from the hose reel to the 3/4” ball valve, hose barb with hose clamp (TA800912). (FIG. 2-44)

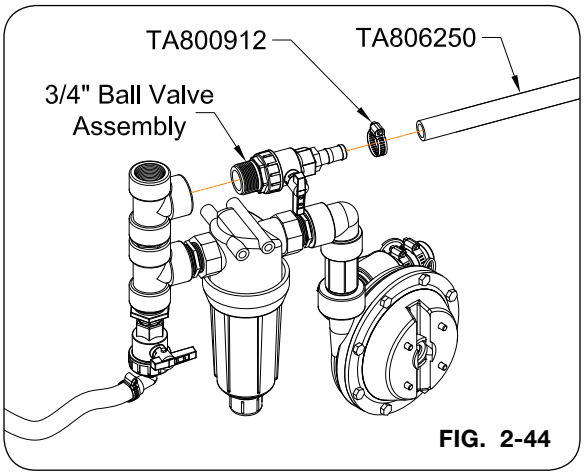


FIG. 2-44

16. Assemble the 90 degree elbow removed in step #11 into the opposite end of the tee (TA814783). (FIG. 2-45 OR FIG. 2-46)

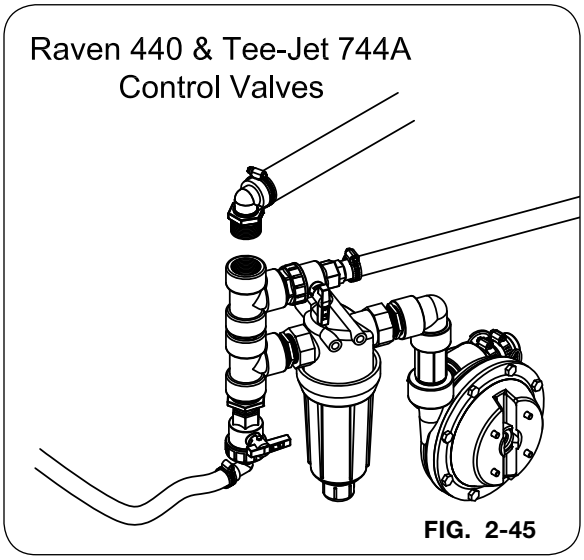


FIG. 2-45

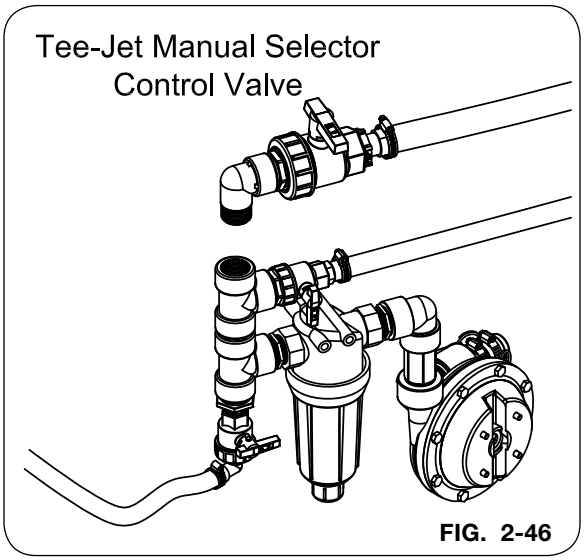
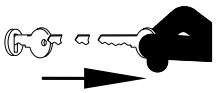


FIG. 2-46

Walking Tandem Axle - 90” Wheel Spacing Option

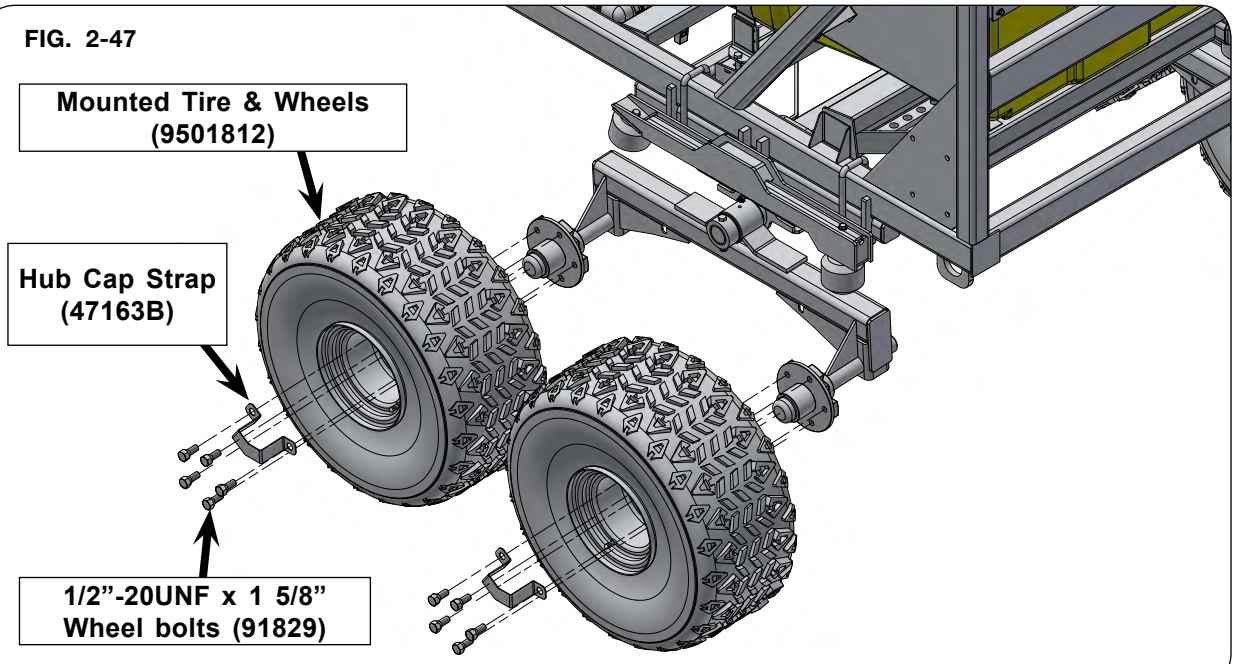
1. Park the unit on a firm, level surface. Set the vehicle parking brake, shut off the engine and remove the ignition key.



2. Using a safe lifting device and support rated at a minimum of 1,500 lbs., support the sprayer frame.

3. Using a safe lifting device rated at a minimum of 100 lbs., remove and save the wheels.

FIG. 2-47



4. Using a safe lifting device rated at a minimum of 400 lbs., remove and save the four 1/2”-13UNC x 6 1/4” U-bolts (9503929), four mounting plates (45712B) and eight 1/2”-13UNC locknuts (9800) to lower the walking tandem axle from the main frame.

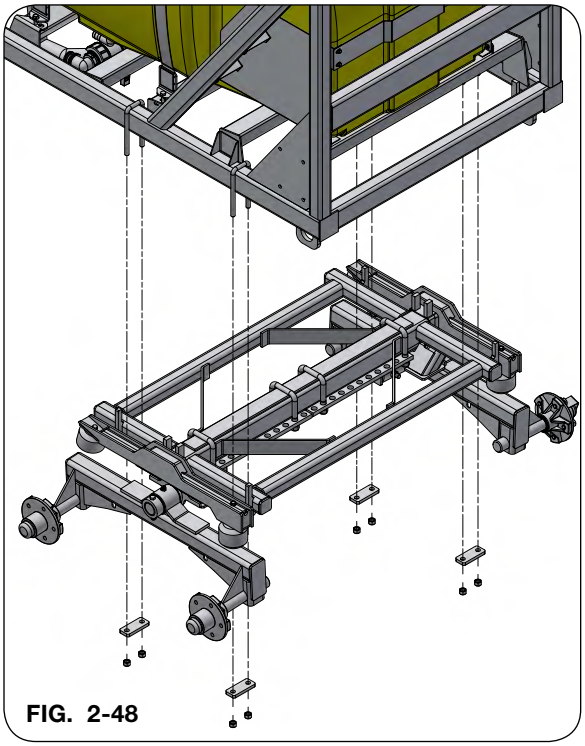
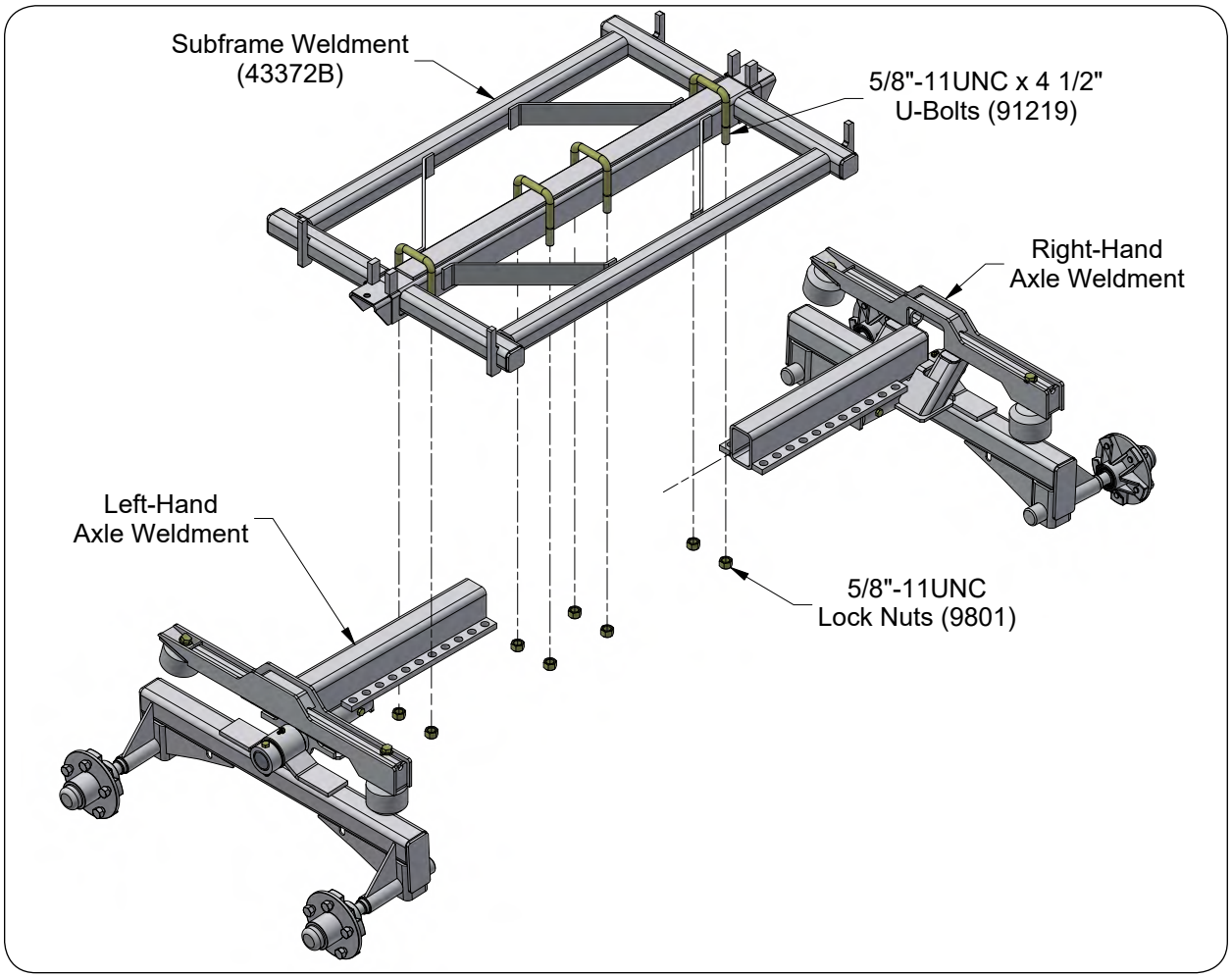


FIG. 2-48

Walking Tandem Axle - 90” Wheel Spacing Option (continued)

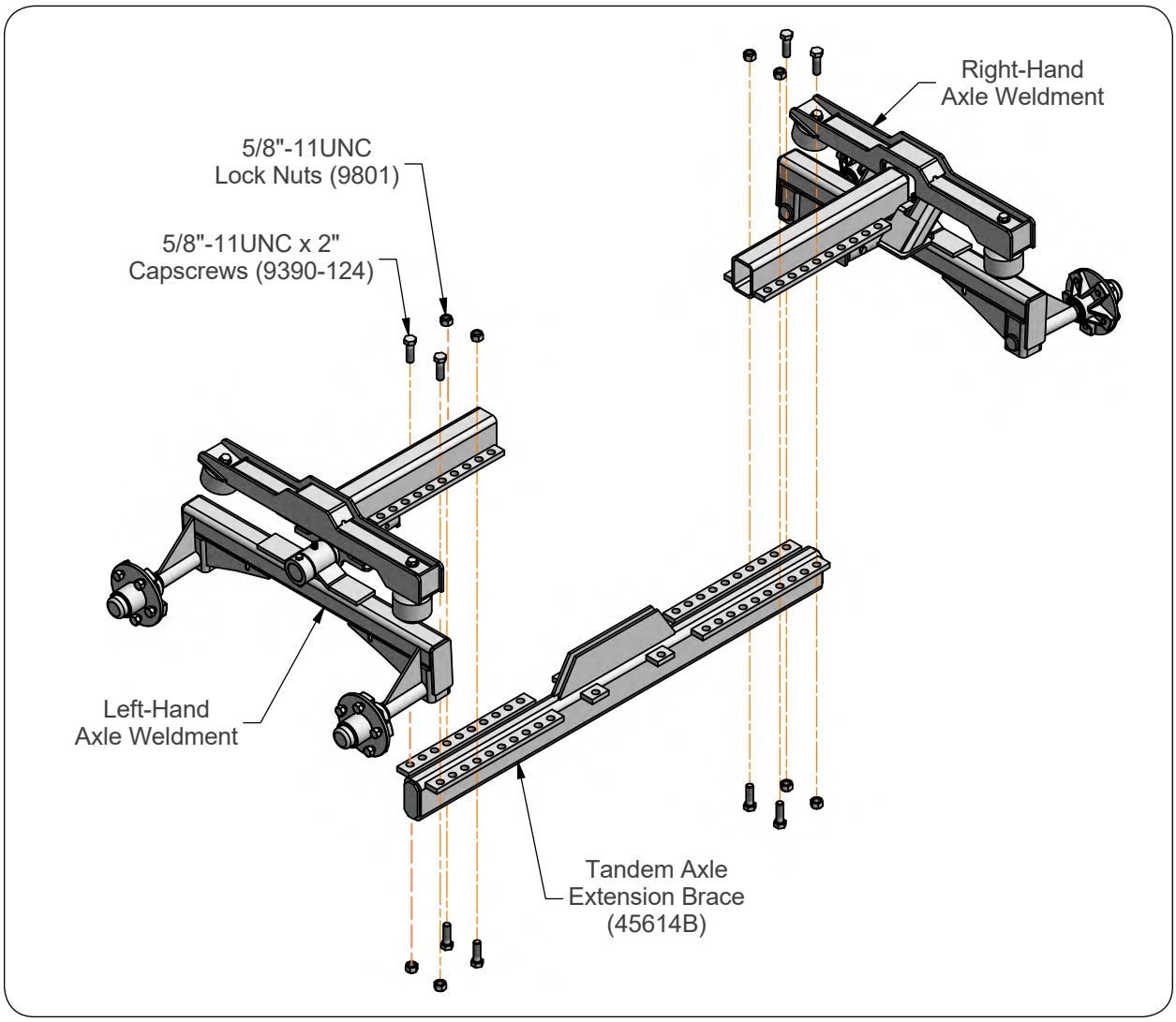
5. Using a safe lifting device rated at a minimum of 100 lbs., remove and save the subframe weldment (43372B), 5/8”-11UNC x 4 1/2” U-bolts (91219) and 5/8”-11UNC lock nuts (9801).



6. Separate the left-hand and right-hand side axle weldments.

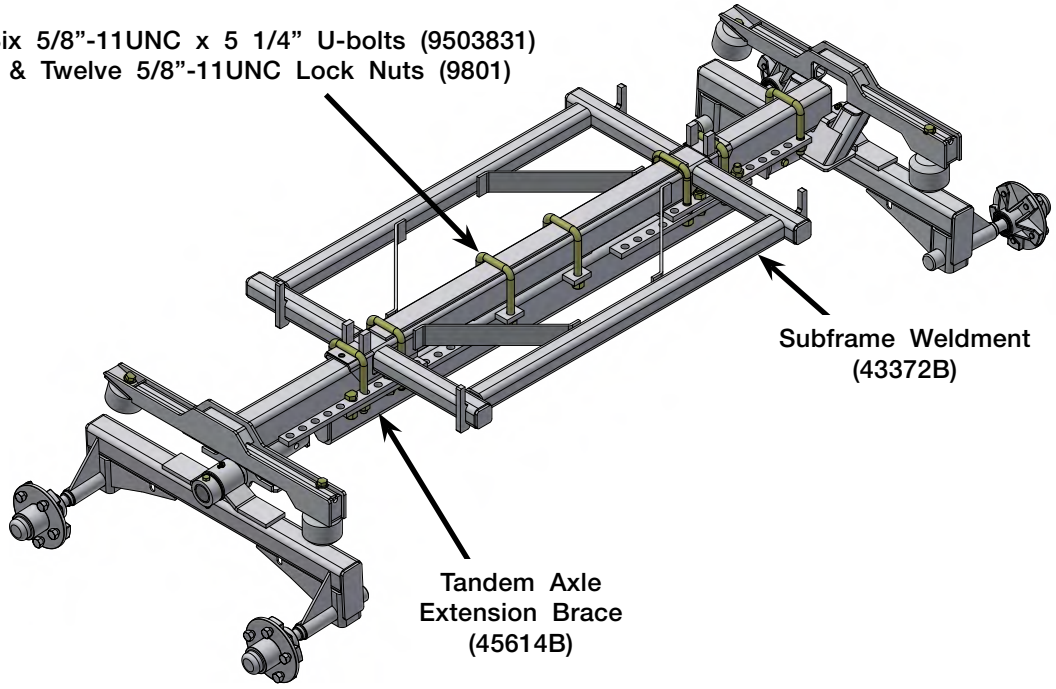
Walking Tandem Axle - 90” Wheel Spacing Option (continued)

7. Using a safe lifting device rated at a minimum of 100 lbs., position the tandem axle extensions brace (45614B) under the side axle weldments. Secure with eight 5/8”-11UNC x 2” capscrews (9390-124) and 5/8”-11UNC lock nuts (9801).

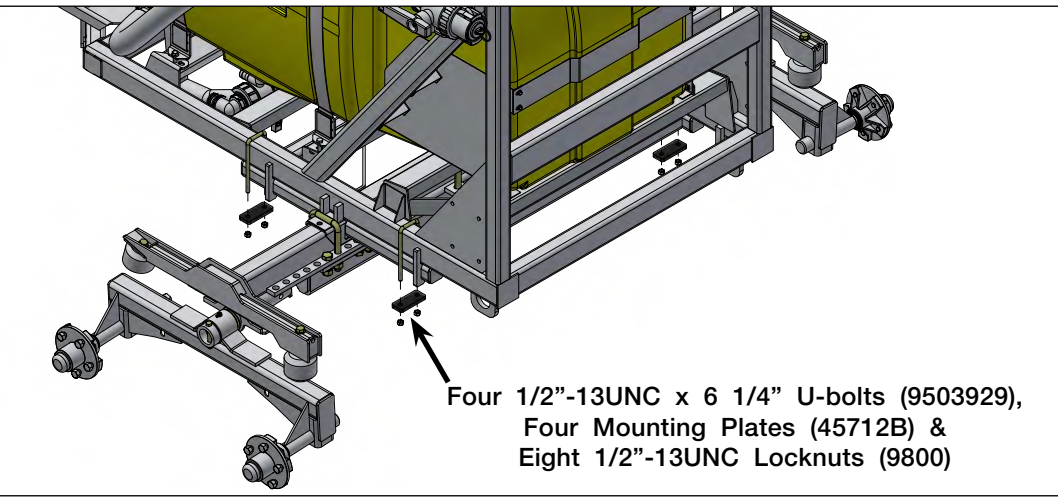


Walking Tandem Axle - 90” Wheel Spacing Option (continued)

8. Using a safe lifting device rated at a minimum of 100 lbs., attach the subframe weldment (43372B) to the tandem axle extension brace (45614B) with six 5/8”-11UNC x 5 1/4” U-bolts (9503831) and twelve 5/8”-11UNC lock nuts (9801).



9. Using a safe lifting device rated at a minimum of 500 lbs., position the extended walking tandem axle under the main frame. Secure using the four 1/2”-13UNC x 6 1/4” U-bolts (9503929), four mounting plates (45712B) and eight 1/2”-13UNC locknuts (9800).



10. Torque all hardware according to “Torque Chart” in MAINTENANCE section.

11. Reinstall wheels using safe lifting device at a minimum of 100 lbs. and torque wheel bolts according to “Wheel Nut Torque Requirements” in MAINTENANCE section.

12. Remove supports and lower to ground.

Notes

SECTION III
Operation

Preparing ATV

⚠ WARNING

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

Read this operation section thoroughly. Acquaint yourself with the adjustments required to obtain efficient and trouble-free operations.

Before operating sprayer, read the ATV operator's manual and gain an understanding of its safe methods of operation.

Check the ATV brakes and warning lights. Make sure they are in proper working order.

Preparing Sprayer

Inspection

Perform the service checks as outlined below. 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.

Tires/Wheels: Check tire pressures and maintain at recommended values listed in the MAINTENANCE section of this manual.

⚠ CAUTION

- **IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. TORQUE WHEEL NUTS/BOLTS TO THE VALUES IN THE TABLE IN THE MAINTENANCE SECTION. CHECK THE TORQUE BEFORE THE INITIAL USE, AFTER ONE HOUR OF USE, AFTER THE FIRST LOAD AND EACH LOAD UNTIL THE WHEEL NUTS/BOLTS MAINTAIN THEIR TORQUE VALUE. CHECK THE TORQUE EVERY 10 HOURS OF USE THEREAFTER. AFTER EACH WHEEL REMOVAL, START THE TORQUE PROCESS FROM THE BEGINNING. WARRANTY IS VOID ON ANY DAMAGE CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

Lubrication

Lubricate the sprayer as outlined in the MAINTENANCE SECTION of this manual.

Hitching to ATV

Drawbar Connection

⚠ WARNING

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

Connect the drawbar hitch only to the ATV drawbar. Do not attempt to hitch to any other location on the ATV.

The sprayer is equipped standard with a ball hitch, which requires a 1 7/8” ball. Optional clevis hitch requires a 7/8” hitch pin.

After hitching, secure latch with insert clip pin to lock the latch.

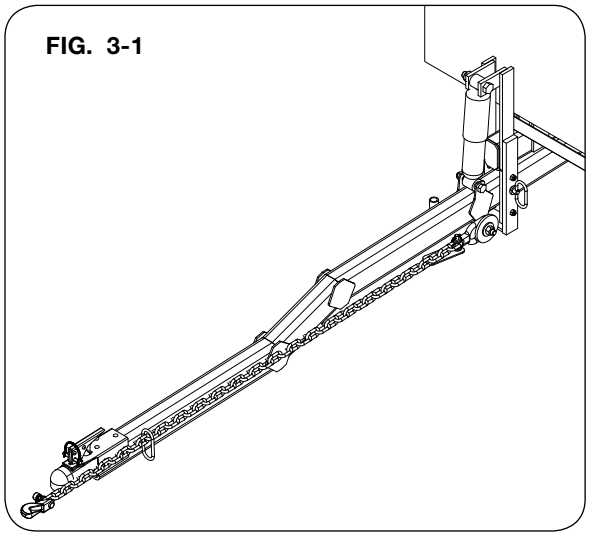


FIG. 3-1

⚠ CAUTION

- **ALWAYS USE TRANSPORT CHAIN WHEN TRANSPORTING IMPLEMENTS. FAILURE TO USE A TRANSPORT CHAIN COULD CAUSE PERSONAL INJURY OR DAMAGE IF IMPLEMENTS BECOME DISENGAGED.**

Transport Chain Connection

ATV must be equipped with a transport chain support. Attach chain in manner illustrated.

Transport chain should have a minimum rating equal to the gross weight of implement and all attachments. Use only ASABE approved chains. Allow no more slack in chain than necessary to permit turning.

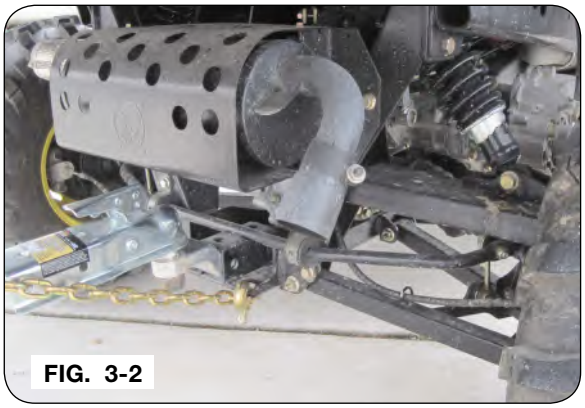


FIG. 3-2

Hitching to ATV (continued)

IMPORTANT

- *Replace transport chain if any link or end fitting is broken, stretched, or damaged. DO NOT WELD TRANSPORT CHAIN.*

Transporting

⚠ CAUTION

- **THIS IMPLEMENT IS NOT EQUIPPED WITH BRAKES. ENSURE THAT THE TOWING VEHICLE HAS ADEQUATE WEIGHT AND BRAKING CAPACITY TO TOW THIS IMPLEMENT.**

See towing vehicle manual for towing and braking capacities. Maximum speed of sprayer should not exceed 20 m.p.h..

Secure drawbar latch with a locking device

Secure transport chain to ATV chain support before transporting if required.

Use good judgment when transporting equipment on highways. Regulate speed to road conditions and maintain complete control.

It is probable that this implement is taller, wider, heavier, and longer than the towing ATV. Become aware of and avoid all obstacles and hazards in the travel path of the equipment, such as power lines, ditches, etc.

Slow down before making sharp turns to avoid tipping. Drive slowly over rough ground and side slopes.

Boom Operation

⚠ DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. THE SPRAYER IS NOT INSULATED. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT.**

⚠ WARNING

- **KEEP ALL PERSONNEL A SAFE DISTANCE AWAY FROM THE SPRAYER WHEN UNFOLDING OR FOLDING THE BOOM. PERSONAL INJURY CAN RESULT FROM IMPACT WITH BOOM.**

Boom Operation (continued)

IMPORTANT

- *When sprayer tank is empty, the pump can run dry leading to premature pump seal failure. Immediately activate the remote kill switch provided to turn off the engine.*

Unfolding 30’ Manual Fold Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.

IMPORTANT

- *Never unfold the unit without attaching to ATV first. For proper boom suspension operation, do not operate boom in the fully lowered position. The minimum spray height is attained by lowering the boom fully, then raising it approximately 4 inches to permit adequate suspension travel.*

2. Remove the transport locking pin from the main boom transport latch.
3. Lower the right-hand boom into operating position.
4. Lower the left-hand boom into operating position.
5. Replace the locking pins in the transport latch for storage purposes.

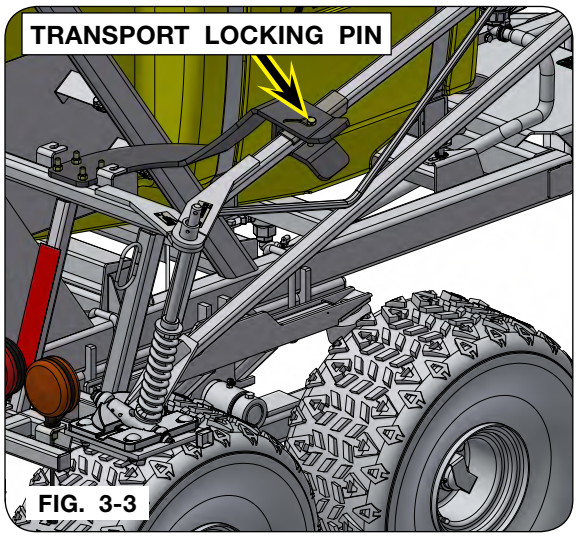


FIG. 3-3

6. Remove the transport locking pin from the end boom transport latch.
7. Raise the right-hand end boom and then lower into operating position.
8. Raise the left-hand end boom and then lower into operating position.
9. Replace the transport locking pins in the transport latch for storage purposes.

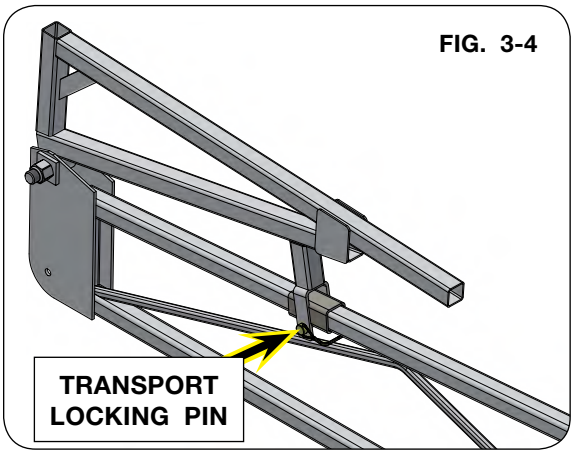


FIG. 3-4

Boom Operation (continued)

Folding 30’ Manual Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.
2. Remove the transport locking pins from the end boom transport latch.
3. Raise the left-hand end boom and then lower into transport position.
4. Raise the right-hand end boom and then lower into transport position.
5. Slide protective cover into place and replace the transport locking pins to secure the end booms.
6. Remove the locking pin from the main boom transport latch.
7. Raise the left-hand boom into transport position.
8. Raise the right-hand boom into transport position.
9. Slide protective cover into place and replace the transport locking pins to secure booms.

Boom Operation (continued)

DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. THE SPRAYER IS NOT INSULATED. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT.**

WARNING

- **KEEP ALL PERSONNEL A SAFE DISTANCE AWAY FROM THE SPRAYER WHEN UNFOLDING OR FOLDING THE BOOM. PERSONAL INJURY CAN RESULT FROM IMPACT WITH BOOM.**

IMPORTANT

- *When sprayer tank is empty, the pump can run dry leading to premature pump seal failure. Immediately activate the remote kill switch provided to turn off the engine.*

Unfolding 45' Manual Fold Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.

IMPORTANT

- *Never unfold the unit without attaching to ATV first. For proper boom suspension operation, do not operate boom in the fully lowered position. The minimum spray height is attained by lowering the boom fully, then raising it approximately 4 inches to permit adequate suspension travel.*

2. Remove the transport locking pin from the main boom transport latch.
3. Unfold the right-hand boom into operating position.
4. Unfold the left-hand boom into operating position.
5. Replace the locking pins in the transport latch for storage purposes.

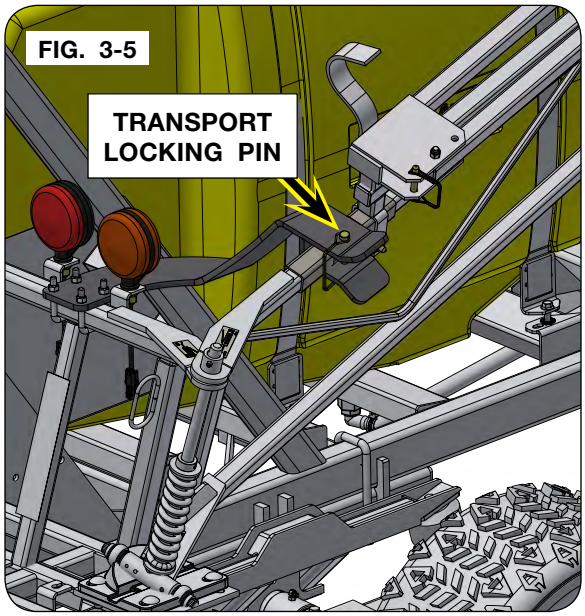


FIG. 3-5

Boom Operation (continued)

6. Remove the transport locking pin from the mid boom transport latch.

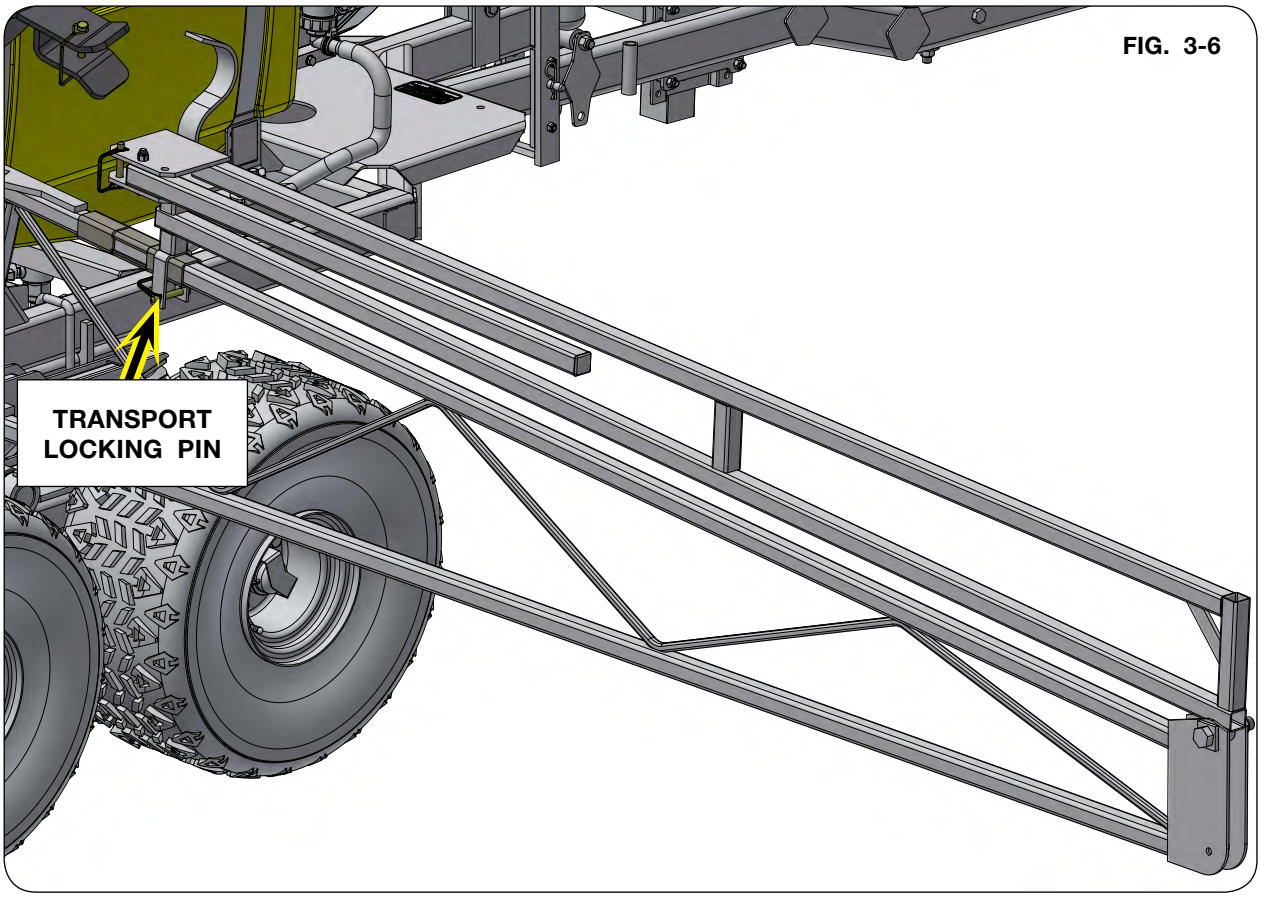


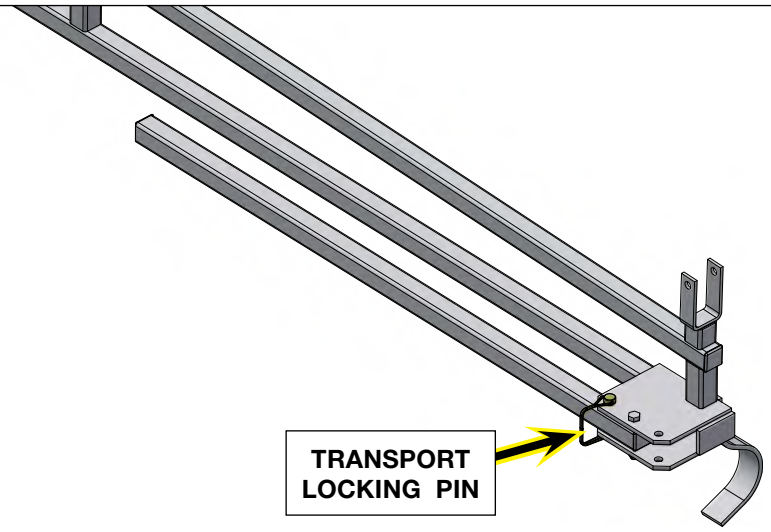
FIG. 3-6

7. Unfold the right-hand mid boom and then lower into operating position.
8. Unfold the left-hand mid boom and then lower into operating position.
9. Replace the transport locking pins in the transport latch for storage purposes.

Boom Operation (continued)

10. Remove the transport locking pin from the outer boom transport latch.

FIG. 3-7



11. Swing the right-hand outer boom into operating position.
12. Swing the left-hand outer boom into operating position.
13. Replace the locking pins in the transport latch for storage purposes.

Folding 45' Manual Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.
2. Remove the transport locking pins from the end boom transport latch.
3. Swing the left-hand end boom into transport position and secure with transport locking pin.
4. Swing the right-hand end boom into transport position and secure with transport locking pin.
5. Remove the transport locking pins from the mid boom transport latch.
6. Raise the left-hand mid boom and then lower into transport position.
7. Raise the right-hand mid boom and then lower into transport position.
8. Slide protective cover into place and replace the transport locking pins to secure mid booms.
9. Remove the locking pin from the main boom transport latch.
10. Raise the left-hand main boom into transport position.
11. Raise the right-hand main boom into transport position.
12. Slide protective cover into place and replace the transport locking pins to secure main booms.

Boom Operation (continued)

DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. THE SPRAYER IS NOT INSULATED. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT.**

WARNING

- **MOVING BOOMS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING BOOMS.**

Unfolding 60’ Manual Fold Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.

2. Remove lynch pin from boom rest weldment latch and lift the latch. Unfold main wing toward the back of the unit. Latch the main wing over center latch.

3. Remove lynch pin from mid wing lock. Unfold mid wing toward the front of the unit. Latch the mid wing over center latch.

4. Remove lynch pin from outer wing lock. Vertically unfold outer wing.

5 Repeat steps 2-4 on the opposite end of the boom.

IMPORTANT

- *Never unfold the unit without attaching to ATV first. For proper boom suspension operation, do not operate boom in the fully lowered position. The minimum spray height is attained by lowering the boom fully, then raising it approximately 4 inches to permit adequate suspension travel.*

Boom Operation (continued)

Folding 60’ Manual Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.

2. Vertical fold outer wing onto mid wing and lock in place using lynch pin (9000938.)

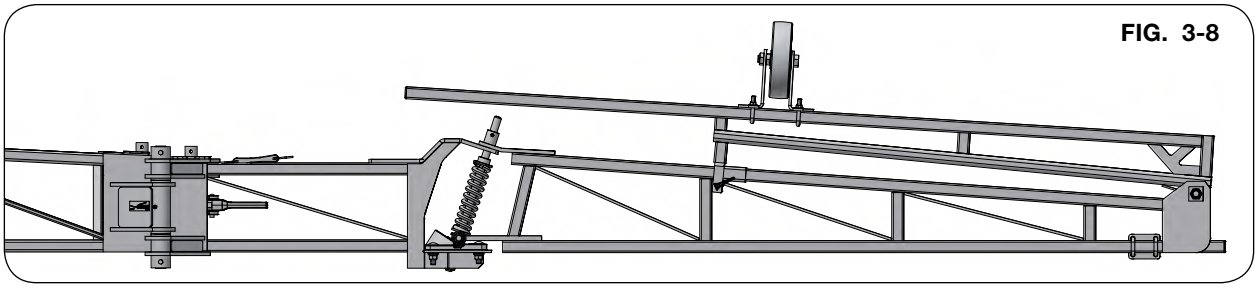


FIG. 3-8

3. Unlatch mid wing over center latch and fold towards the rear of the unit. Lock wing in place using lynch pin (9000938).

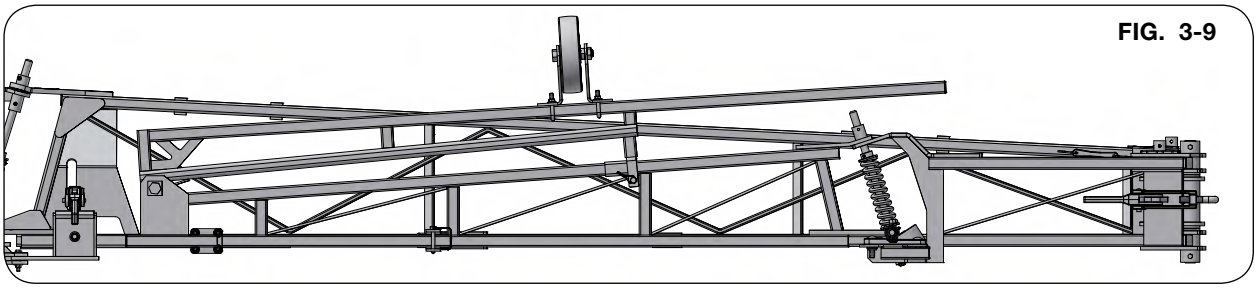


FIG. 3-9

4. Fold main wing forward toward the front of the unit and lock into boom rest weldment. Note: Boom rest weldment will latch the main wing in place. Lock in place using lynch pin (9000938).

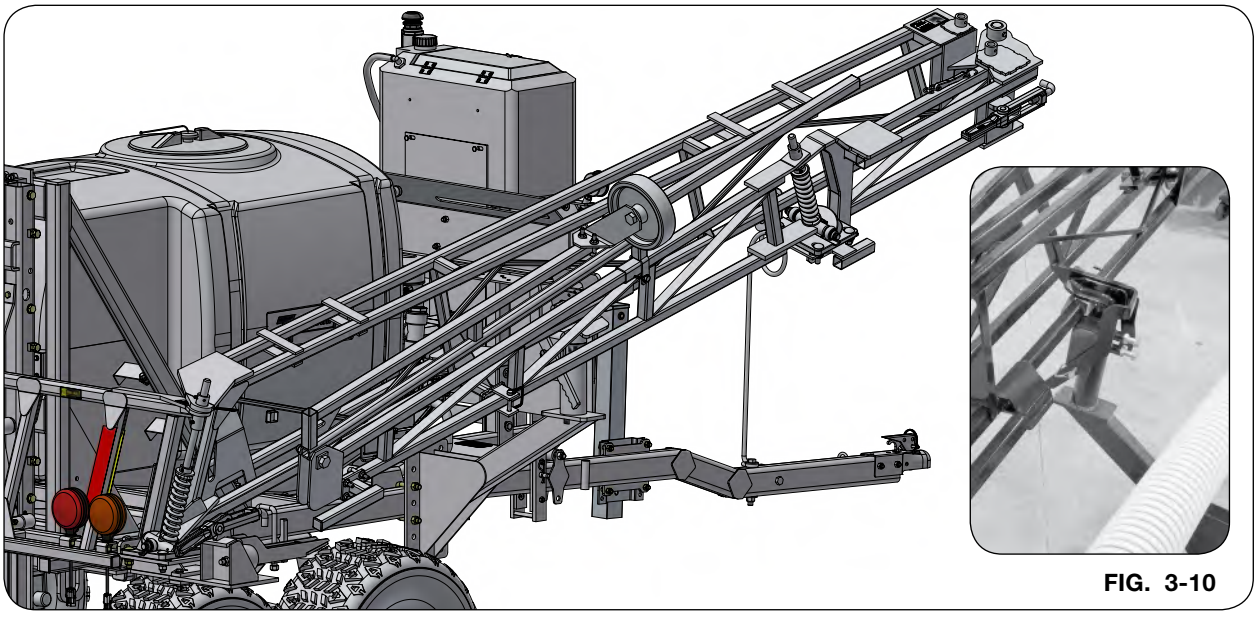


FIG. 3-10

5. Repeat steps 2-4 on the opposite end of the boom.

Boom Operation (continued)

DANGER

- **ELECTROCUTION WILL CAUSE SERIOUS INJURY OR DEATH. THE SPRAYER IS NOT INSULATED. KEEP AWAY FROM ALL ELECTRICAL LINES AND DEVICES. ELECTROCUTION CAN OCCUR WITHOUT DIRECT CONTACT.**

WARNING

- **MOVING BOOMS CAN CAUSE SERIOUS INJURY OR DEATH. KEEP AWAY FROM FOLDING AND UNFOLDING BOOMS.**

Unfolding 60' Hydraulic Fold Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.
2. Turn battery charging shutoff keyswitch to "ON". (FIG. 3-11)
3. Toggle actuator switch to turn the power unit on.
4. Remove lynch pin from left-hand and right-hand main wing and mid wing locks.
5. Use the push/pull cable bracket to unlatch the left-hand and right-hand transport latches. (FIG. 3-12)

IMPORTANT

- *Never unfold the unit without attaching to ATV first. For proper boom suspension operation, do not operate boom in the fully lowered position. The minimum spray height is attained by lowering the boom fully, then raising it approximately 4 inches to permit adequate suspension travel.*

6. Unfold the boom by operating the lever for main wing and the lever for mid wing. (FIG. 3-11)
7. Remove lynch pin from LH and RH outer wing locks. Vertically unfold LH and RH outer wings.
8. Keep the battery charging shutoff "ON" when the towing vehicle is running. Turn the battery charging shutoff to "OFF" when the towing vehicle is shut down.

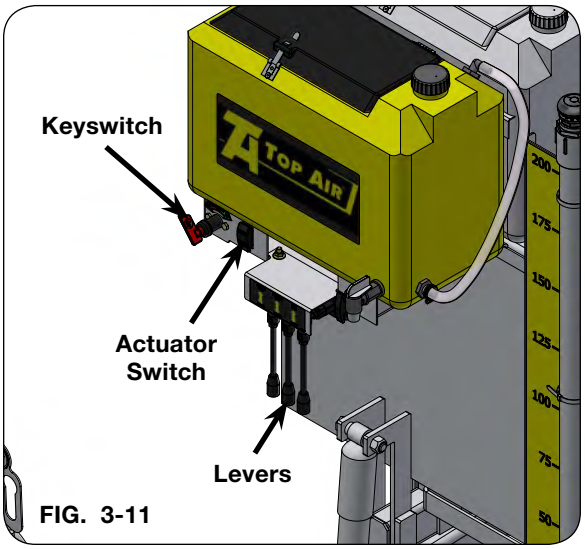


FIG. 3-11

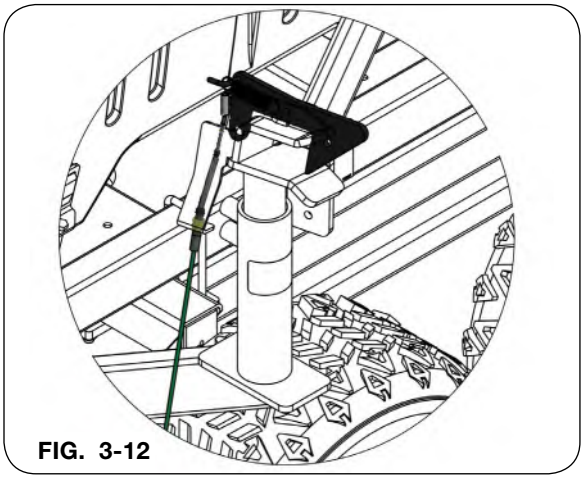


FIG. 3-12

Boom Operation (continued)

Folding 60' Hydraulic Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.
2. Vertical fold LH and RH outer wings onto mid wing and lock in place using lynch pin.
3. Turn battery charging shutoff keyswitch to "ON". (FIG. 3-13)
4. Toggle actuator switch to turn the power unit on.
5. Fold the boom by operating the lever for mid wing and the lever for main wing. (FIG. 3-13)
6. Lock mid wing and main wing in place using lynch pin.
7. Keep the battery charging shutoff "ON" when the towing vehicle is running. Turn the battery charging shutoff to "OFF" when the towing vehicle is shut down.

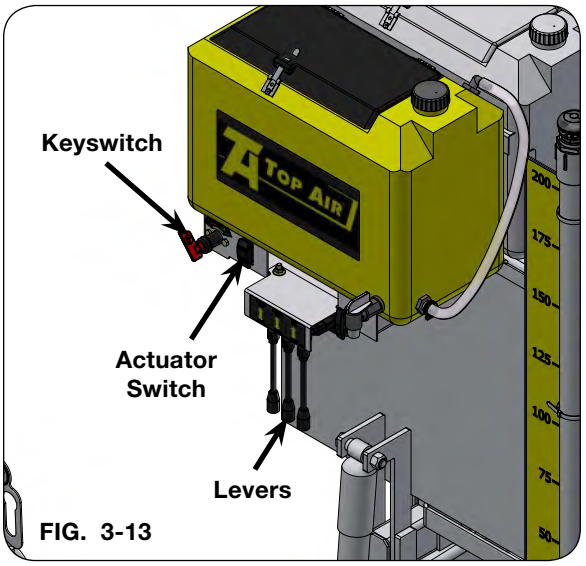


FIG. 3-13

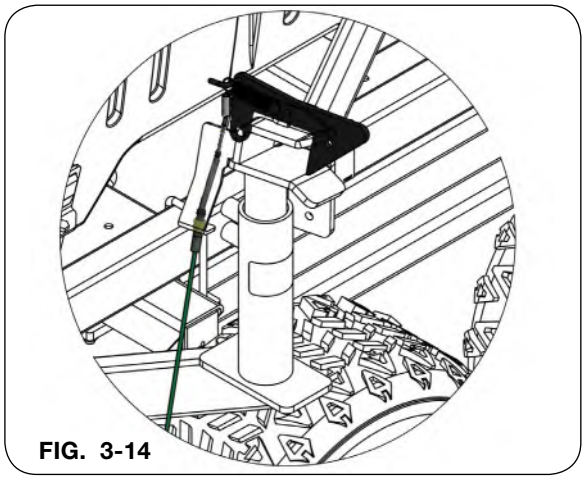


FIG. 3-14

Boom Operation (continued)

Lowering & Raising Manual Boom

1. Securely hold the winch handle and remove the height locking pin to lower or raise the boom frame.

2. Turn winch handle to lower or raise the boom into operating or transport position.

3. Setscrews are located on both sides of the guide assembly to adjust the guide for unrestricted boom operations.

NOTE: Adjust guide screws so the boom will slide up and down the H-frame removing side to side movement.

NOTE: Releasing the sway lock allows the boom to float over uneven terrain.

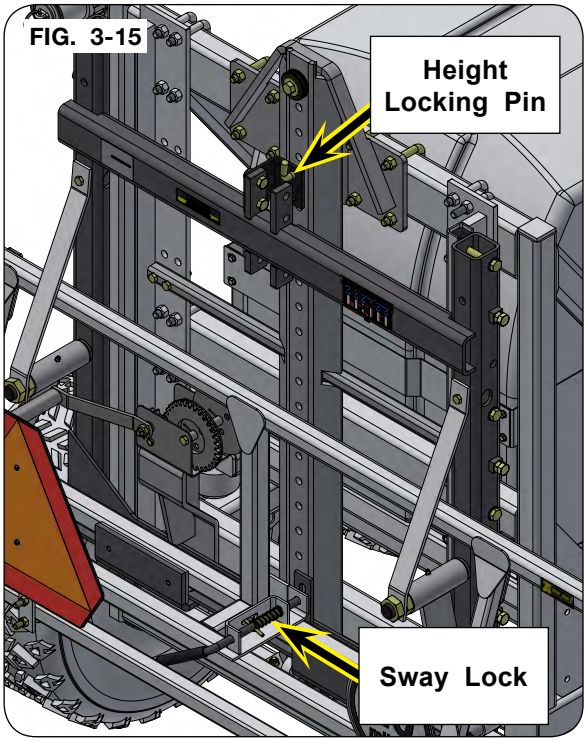


FIG. 3-15

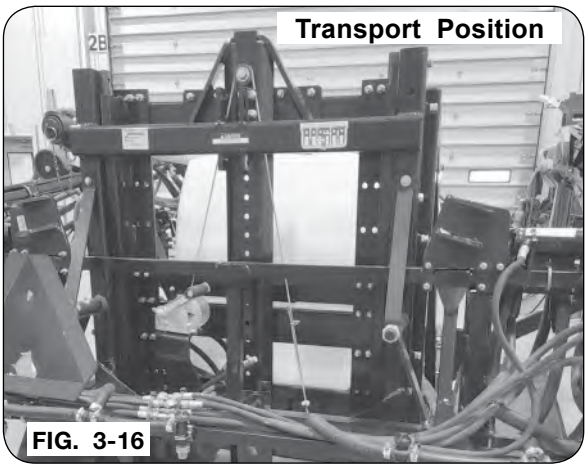


FIG. 3-16

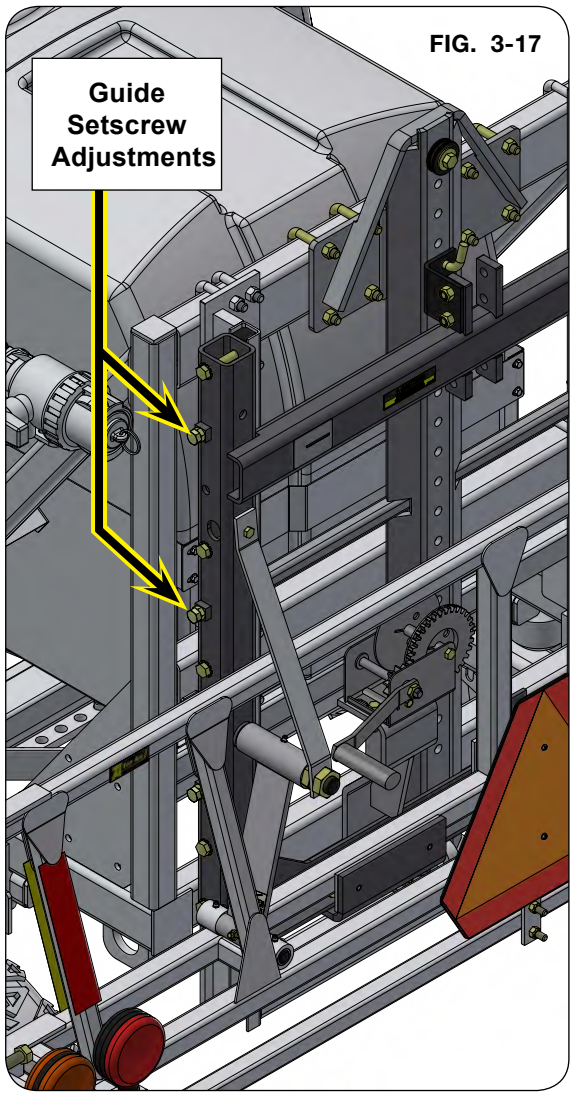


FIG. 3-17

Boom Operation (continued)

Lowering & Raising Hydraulic Boom

1. Park the unit on a firm level surface. Set the vehicle parking brake, shut off the engine, and remove the ignition key.

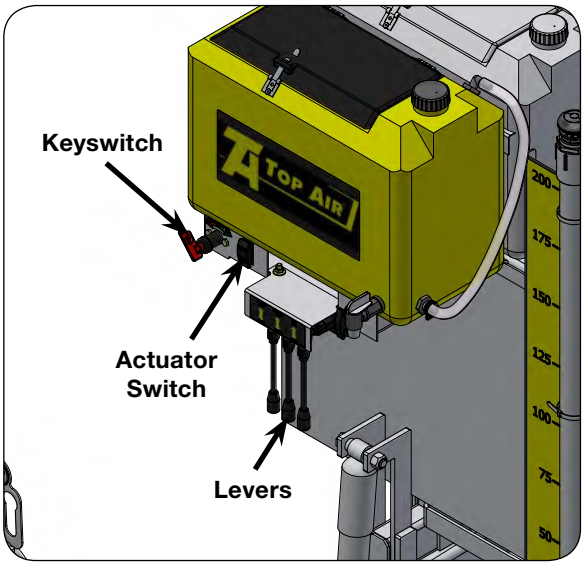
2. Remove the height locking pin to lower or raise the boom frame.

3. Turn battery charging shutoff keyswitch to "ON".

4. Toggle actuator switch to turn the power unit on.

5. Lower or raise the boom by operating the lever for boom.

6. Setscrews are located on both sides of the guide assembly to adjust the guide for unrestricted boom operations.



NOTE: Adjust guide screws so the boom will slide up and down the H-frame removing side to side movement.

NOTE: Releasing the sway lock allows the boom to float over uneven terrain.

7. Keep the battery charging shutoff "ON" when the towing vehicle is running. Turn the battery charging shutoff to "OFF" when the towing vehicle is shut down.

Filling Sprayer

Water or chemical solutions can be added to the solution tank using the top tank access hatch or by using the quick fill option.

Quick Fill

⚠ CAUTION

- **NEVER LEAVE SPRAYER UNATTENDED WHILE FILLING. TANK CONTENTS MAY SPILL OUT OF AIR VENTS IF OVERFILLED.**

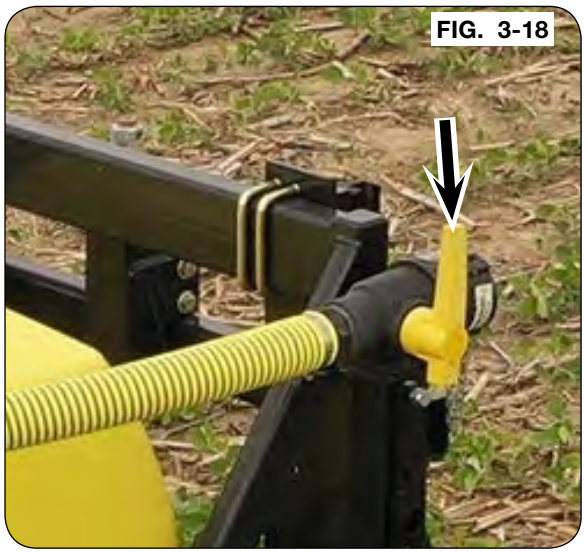


FIG. 3-18

1. Ensure that QUICK-FILL valve is <OFF>.
2. Connect fill hose to quick-fill coupler.
3. Turn valve to <ON> to fill solution tank.

The solution tank is designed with additional air expansion space in excess of the rated capacity.

4. Return valve to <OFF> when filling is complete.

Tank Mixing

Spray chemicals can be added to the solution tank by pouring them directly into the top tank access hatch. Before adding chemicals, ensure that the tank contains at least 50 gallons of water.

⚠ WARNING

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYEWEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**

The solution tank is equipped with agitation jets, which use a fraction of the pump output to keep chemicals in solution. Always allow enough time for complete mixing of the tank contents before starting any spraying operation.

It is important to note that the amount of agitation may need to be adjusted during the spraying operation in order to minimize foaming of certain chemicals.

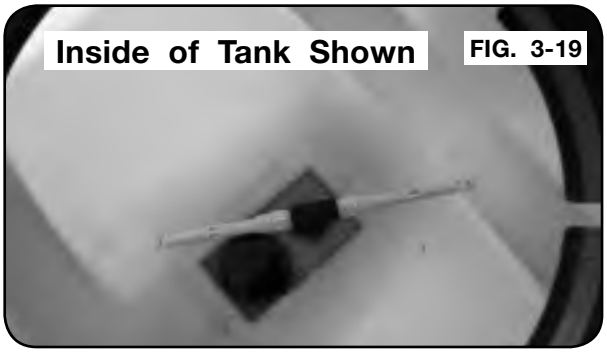


FIG. 3-19

Basic Raven Flow Control Operation

Refer to your Raven Flow Control manual for detailed mounting, operating and servicing needs.

IMPORTANT

- *This console requires selection of* **US** *(acres),* **SI** *(hectares), or* **TU** *(1,000 sq. ft.) area;* **SP1** *(wheel drive, etc.) or* **SP2** *(radar) speed sensor; and* **C-Sd** *(Standard Valve) or* **C-FC** *(Fast Control Valve). Hold* **[SELF TEST]** *key to view selections.*
- *Disconnect console before jump starting, charging battery, or welding on equipment.*

Selects manual or fully automatic control.

Manual override control provides capability for spot spraying.

Booms can be controlled individually, or all at once with MASTER **[ON/OFF]** switch

The motor can be shut off with the Engine Shut Off Switch.

[CE] - Press once to toggle. Hold to clear.

Selects POWER **[ON/OFF]**.

[ENTER] - used only to enter data into the console.

Displays actual rate of application, calibration, and function data.

Spray Tank & Boom Rinsing

WARNING

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYE WEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**

1. Fill the main tank with approximately 50 gallons of water. Run pump for approximately 30 seconds to purge agitation and filter plumbing.
2. Dispense rinse water through boom by running pump, stopping pump when solution tank is empty.
3. Rinse main tank by running pump and fill the tank with approximately 100 gallons of water.

IMPORTANT

- *When sprayer tank is empty, the pump can run dry leading to premature pump seal failure. Immediately activate the remote kill switch provided to turn off the engine.*

4. Dispense rinse water through boom by running pump, stopping pump when solution tank is empty.

Foam Marker Option

The optional foam marker for this sprayer provides nearly instant foam side switching.


FIG. 3-20

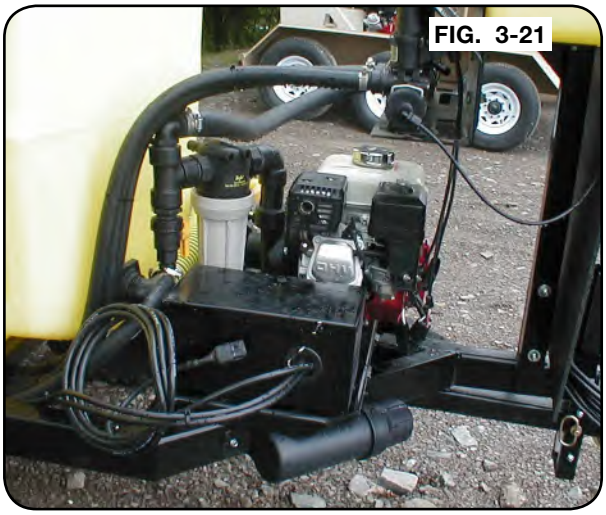


FIG. 3-21

⚠ WARNING

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYE WEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**

Filling

Mix the foam concentrate and water in a clean separate container at a ratio require for desired results.

To fill the foam concentrate tanks (located on each side of the sprayer), remove the cap and add the solution. If spraying at temperatures below 40°F, dilute concentrate 50/50 with water to ensure good flow characteristics.

Foam Collector Height

Adjust foam collector drop hose until collector is at least one foot above the ground, or to desired height.

Foam Marker Option (continued)

Basic Operation

Before starting spray operation, test foam output to ensure that foam density and delivery rate are acceptable. (Additional information on trouble-shooting foam output can be found in the MAINTENANCE SECTION).

1. Press rocker switch LEFT or RIGHT to activate system. Foam should begin to drop from foam heads within approximately 1 to 3 minutes.
2. Observe foam appearance after approximately 1 to 3 minutes of operation. If output is unsatisfactory, adjust FOAM FREQUENCY and/or FOAM MIXTURE. Allow approximately 1 to 3 minutes after each adjustment for new foam setting to take effect.

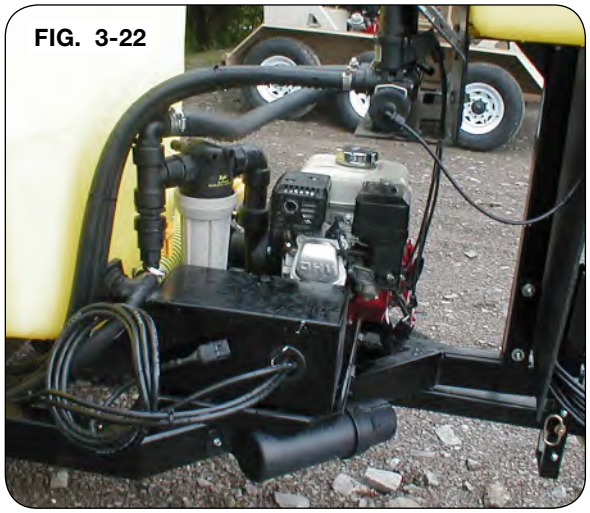


FIG. 3-22

IMPORTANT

- *Boom electrical control box must be in the <ON> position for the 45' or 60' foam redirection to occur.*

3. Move rocker switch to center position to stop flow of foam.

Hose Reel & Sprayer Gun (Optional)

⚠ WARNING

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYEWEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**

1. Remove spray gun from retainer (located on Base/Mount Weldment).
2. Unwind from Reel as needed.
3. Spray as necessary.
4. Flow rate can be regulated by the trigger on the Spray Gun, or by the Ball Valve located before the hose reel inlet.
5. Hose reel can be rotated or swiveled by removing locking pin 900938. NOTE: ALWAYS LOCK SWIVEL BEFORE TRANSPORT.
6. Upon Completion of Spraying, wind up excess hose and place Spray Gun into retainer.

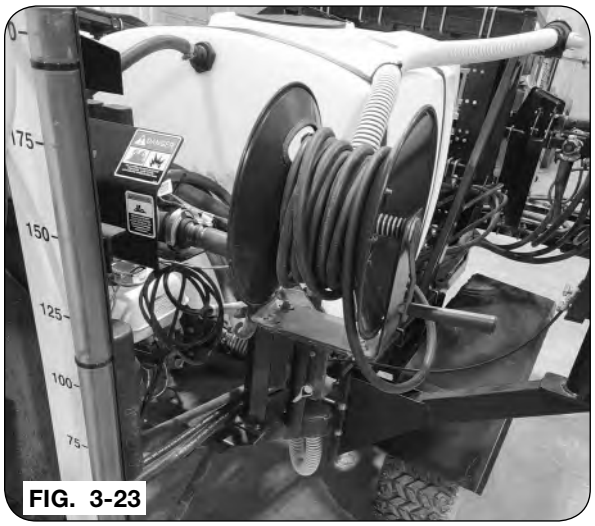


FIG. 3-23

SECTION IV
Maintenance

Filters

This sprayer uses a single primary filter and individual secondary filter(s) for each section to help ensure proper spraying operation. These filters will need to be cleaned periodically during use and prior to sprayer storage.

⚠ WARNING

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYE WEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**
- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

Primary Filter

Primary filter has a threaded cap on the bottom that can be twisted off to clean out large contaminates. Eventually, however, the filter will need to be removed for cleaning.

To clean the filter located at the rear of the engine on the right side of the sprayer, first rotate the pump outlet valve to <OFF>. Next, unscrew the filter housing by turning counter-clockwise and remove the filter screen. After cleaning, reassemble filter and check for leaks.

FIG. 4-1

Filters (continued)

Secondary Filters

Secondary filters are located on the main boom section. These filters, similar in construction to the primary filter, are used to eliminate the need for strainers at the spray tips. To clean these filters, unscrew the filter housing and remove the screen. After cleaning, re-assemble filters and check for leaks.

NOTE: For servicing or reassembly of pump, see pump manual.

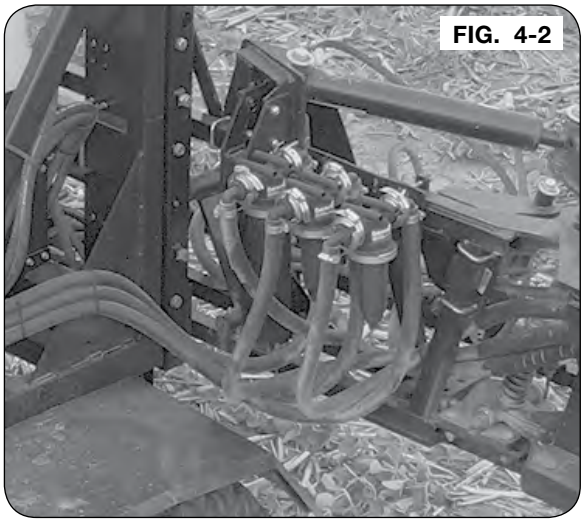


FIG. 4-2

Hose Reel and Spray Gun

FIG. 4-2 **WARNING**

- **ALWAYS WEAR PERSONAL PROTECTIVE EQUIPMENT WHEN WORKING WITH OR NEAR CHEMICALS. THIS EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: PROTECTIVE EYEWEAR, GLOVES, SHOES, SOCKS, LONG-SLEEVED SHIRT AND LONG PANTS. ADDITIONAL PROTECTION MAY BE REQUIRED FOR MANY TYPES OF CHEMICALS.**
- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

1. Grease swivel mechanism annually.
2. Remove all spray contents prior to storage/ winterizing.

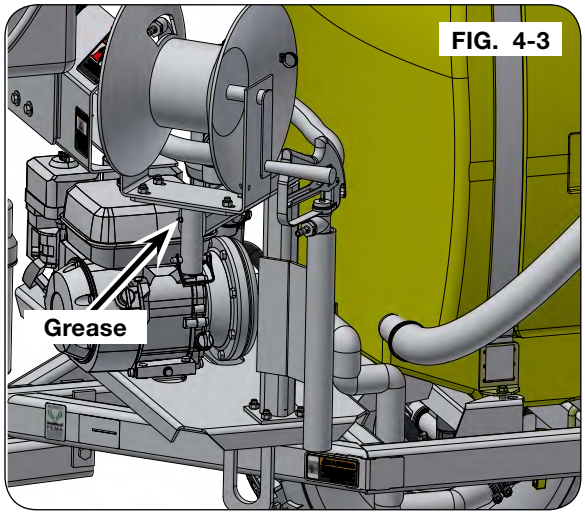


FIG. 4-3

Foam Marker System

Filter Maintenance

Air Filters

Clean the primary filter pad, (located behind the louvered openings on the power unit box) after every 100 hours of use. To clean filter, remove from power unit box and wash in warm soapy water or blow dust free with compressed air.

Foamhead Screens

The foamhead screens, located on the outer wings, can be cleaned by disassembling and washing with hot water.

Foam Marker Winterization

The liquid lines and tank must be drained completely prior to storage. If liquid in the system is allowed to freeze, several components may be damaged. Use the following procedure to winterize the foam marking system.

1. Drain the foam concentrate tank and line by disconnecting at the bulkhead connector on the power unit box. Disconnect the line by pushing the hose fully into the fitting, then while pushing the inner collar firmly onto the connector, pull the hose from the connector.
2. Flush out concentrate tank with warm water.
3. Reconnect hose by pushing fully into bulkhead connector. Pull carefully on hose near connector to verify that proper connection has been made.
4. Add approximately ½ pint of RV antifreeze solution to concentrate tank.
5. Disconnect liquid line at rinse tank.
6. Attach hose to a suitable temporary container. Fill container with approximately 1 pint of RV antifreeze solution.
7. Set mix ratio and foam output to their maximum values.
8. Run foamer unit until antifreeze solution from temporary container is empty.
9. Reconnect liquid line to rinse tank.

Winterizing Sprayer

Before storing the sprayer in freezing climates, perform the following winterizing procedure.

1. Perform a complete system rinse using procedure in the OPERATION SECTION of this manual.

2. Wash the sprayer thoroughly inside and out with a high-pressure washer.

3. Remove as much water from solution tanks as possible. Close drain valve on solution tank after draining.

4. Pour approximately 5 gallons of R.V. antifreeze into tank.

5. Run the pump with the following valve settings to flush antifreeze solution throughout system. Discharge spray through boom.

IMPORTANT

- *When sprayer tank is empty, the pump can run dry leading to premature pump seal failure. Immediately activate the remote kill switch provided to turn off the engine.*

Valve Settings
AGITATION CONTROL
<PARTIALLY OPEN>

6. Loosen diaphragm caps on nozzle bodies to release pressure and allow excess antifreeze to drain from boom.

Troubleshooting

Use this section to assist with Troubleshooting problems. The most common solutions for each problem are listed. Contact your Top Air dealer if additional assistance is needed.

⚠ WARNING

- **RESIDUAL PRESSURE MAY EXIST IN SPRAYER PLUMBING EVEN WHEN UNIT IS NOT IN USE. REMOVE PRESSURE BEFORE SERVICING ANY PLUMBING.**

IMPORTANT

- *When sprayer tank is empty, the pump can run dry leading to premature pump seal failure. Immediately activate the remote kill switch provided to turn off the engine.*

PROBLEM	SOLUTION
Erratic spray nozzle operation.	1. Inadequate pressure. Nozzle bodies are designed to open at approximately 10 psi. Be sure that there is adequate pressure to open the nozzle diaphragm valve. 2. Obstruction. Remove the spray tip(s) and clean/inspect. Remove nozzle body diaphragm(s) and clean/inspect. 3. Worn spray nozzles. Replace nozzles.
No spray nozzle operation.	1. Incorrect spray monitor setting. Ensure that boom section and master control switches are in <ON> position.
Inadequate boom pressure	1. Clogged filter. Remove, clean, and inspect filter. 2. Speed too slow. Sprayer flow and pressure requirements are decreased with lower speeds. Increase speed. Smaller nozzles may be required to keep tip pressure within desired target range. Also, if reduced speed operation is only momentary, the spray controller may permit a minimum flow to be set. See rate controller manual for additional information. 3. Excessive agitation flow. Reduce flow by rotating agitation valve lever closer to <OFF> setting.

Sprayer Calibration

Use the following procedure to assist with spray nozzle sizing and calibrating the sprayer. Additional information can be found in the spray controller owner's manual and also obtained from spray nozzle manufacturers.

NOTE: The following procedure assumes that an electronic spray rate controller is being used.

Determine Required Nozzle Size

1. Decide the typical operating speed (in MPH) and coverage rate (in GPA) that will be used.

2. Calculate nozzle flow:

$$\text{Nozzle GPM} = \frac{\text{MPH x GPA x Nozzle spacing x DCF*}}{5940}$$

Weight of Solution	Specific Gravity	Density Conversion Factor (DCF)
7.0 lb/gal.	0.84	0.92
8.0 lb/gal.	0.96	0.98
8.34 lb/gal. (Water)	1.00	1.00
9.0 lb/gal.	1.08	1.04
10.0 lb/gal.	1.20	1.10
10.65 lb/gal. (28% Nitrogen)	1.28	1.13
11.0 lb/gal.	1.32	1.15
12.0 lb/gal.	1.44	1.20
14.0 lb/gal.	1.68	1.30

Example:
Speed = 8 miles per hour
Rate = 10 gallons per acre
Nozzle spacing = 20 inches
Liquid = Water

$$\text{Nozzle GPM} = \frac{\text{8 MPH x 10 GPA x 20 inches x 1.0}}{5940}$$

= 0.27 GPM

3. Select nozzle.

Choose a nozzle that will provide the calculated GPM within the nozzle's operating pressure range. Typically, 2 or 3 nozzle sizes will be found that meet the calculated GPM. However, it is usually a good practice to choose a flow size that lists this GPM in the mid-portion of the nozzle's advertised ratings.

Sprayer Calibration (continued)

Verify Nozzle Flow

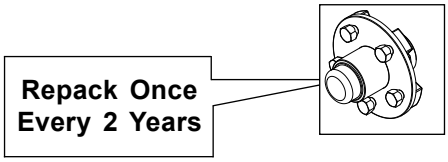
The following procedure should be repeated periodically to verify the flow rate of the spray nozzles.

1. Install a new tip on a nozzle body near center of sprayer boom.
2. Turn on sprayer and set flow such that tip pressure is within the nozzles' pressure range. Choose a pressure setting that coincides with a listing for nozzle being used, in order to have a comparison to the advertised flow value.
3. Using a calibrated container (TA890020), collect flow from new tip for exactly one minute. Compare with advertised value at the pressure setting chosen. (Divide by 128 to obtain GPM, if ounces are being measured.)
4. Measure flow from several other nozzles for the same one-minute interval.
5. Compare flow rate of other tips with flow rate from the new tip. If flow rate from any tip varies by more than 10% from the new tip, replacement is necessary.

Hub Maintenance

1. Use grease to lubricate the seal lip.
2. Place the hub onto the spindle. 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.
3. Be sure the outer cone slides on the spindle and into the cup.
4. Assemble the washer and the nut onto the spindle and tighten the nut to 30-40 ft.-lbs. while rotating the hub to seat the bearings. Do not move the hub after this step is complete.
5. Back off the nut until it becomes loose.
6. Hand tighten the nut without moving the hub.
7. Install the cotter pin if possible. If not, loosen the nut to align the next slot to the hole in the spindle.
8. Insert the cotter pin and bend the legs of the cotter pin.
9. Install the hub cap.

Hub Lubrication



Wheel, Hub and Spindle Disassembly and Assembly

⚠ WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **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 3,000 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 IMPLEMENT.**

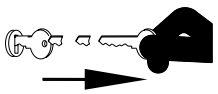
⚠ CAUTION

- **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 USE, AFTER ONE HOUR OF UNLOADED USE OR AFTER FIRST LOAD, AND EACH LOAD UNTIL WHEEL NUTS/BOLTS MAINTAIN TORQUE VALUE. CHECK TORQUE EVERY 10 HOURS OF USE THERE-AFTER. AFTER EACH WHEEL REMOVAL START TORQUE PROCESS FROM BEGINNING. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.**

IMPORTANT

- *Remove only one wheel and tire from a side at any given time in the following procedure.*

1. Hitch sprayer to ATV. Park the empty sprayer on a firm, level surface. Set the ATV's parking brake, shut off engine and remove key.



2. With sprayer empty, use a safe lifting device rated at 1.5 ton to support the weight of your sprayer. Place the lifting device under the axle closest to the tire.
3. Use a safe lifting device rated for 50 lbs. to support the wheel and tire during removal.
4. If only changing wheel and tire, skip to Step 8; otherwise continue with Step 4.

   Remove the hardware retaining the hubcap. Next, remove the hubcap, cotter pin, castle nut and spindle washer. Remove hub with bearings from old spindle.

Wheel, Hub and Spindle Disassembly and Assembly (continued)

5. Remove seal and inspect bearings, spindle washer, castle nut and cotter pin. Replace if necessary. Pack both bearings with approved grease and reinstall inner bearing. Install new seal in hub with garter spring facing the hub by tapping on flat plate that completely covers seal while driving it square to hub. Install until flush with back face of hub. Using a 50 lb. rated lifting device, install hub assembly onto spindle. Install outer bearing, spindle washer and castle nut.

6. Slowly tighten castle nut while spinning the hub until hub stops rotating. Do not use an impact! Turn castle nut counterclockwise until the hole in the spindle aligns with the next notch in castle nut. Hub should spin smoothly with little drag and no end play. If play exists, tighten to next notch of castle nut. If drag exists, then back castle nut to next notch of castle nut. Spin and check again. Install cotter pin. Clean face for hub cap gasket and install gasket, grease filled hub cap and retain hubcap with hardware removed. Tighten hubcap hardware in alternating pattern.

7. Attach the wheel(s) and tire(s) to the hub using the same rated lifting device for removal. Tighten wheel nuts to appropriate requirements and recheck as outlined in the Wheel and Tire section of this manual.

8. Raise sprayer, remove lifting device and lower tire to the ground.

Wheels and Tires

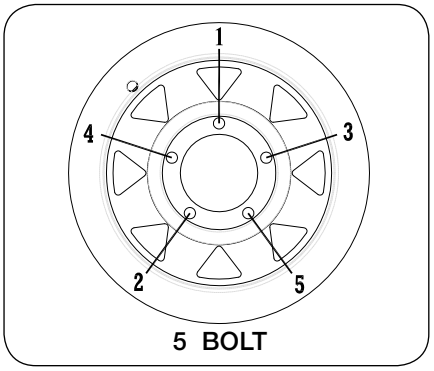
Wheel Nut Torque Requirements

⚠ 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 USE, AFTER ONE HOUR OF UNLOADED USE OR AFTER FIRST LOAD, AND EACH LOAD 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 load may damage wheel nut/bolt seats. Once seats are damaged, it will become impossible to keep nuts/bolts tight. Tighten nuts/bolts to applicable torque value shown in table. 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.



5 BOLT

DIAGRAM 1

Wheels and Tires (continued)

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.**

TIRE SIZE	Load Index/Ply Rating	PSI
22.5 x 10-8	3 Ply	10
22 x 11 x 8	3 Ply	7
24 x 10.5 x 10	4 Ply	20
(All tire pressures in psi)		

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

Honda Warranty

NOTE: Honda engines are warranted for 3 years. For maintenance of engine and warranty information, refer to Operator's Manual provided with engine. Following are phone numbers and Websites for your convenience:

US www.honda-engines.com
Phone 800-426-7701

Canada www.honda.ca
Phone 888-9HONDA9

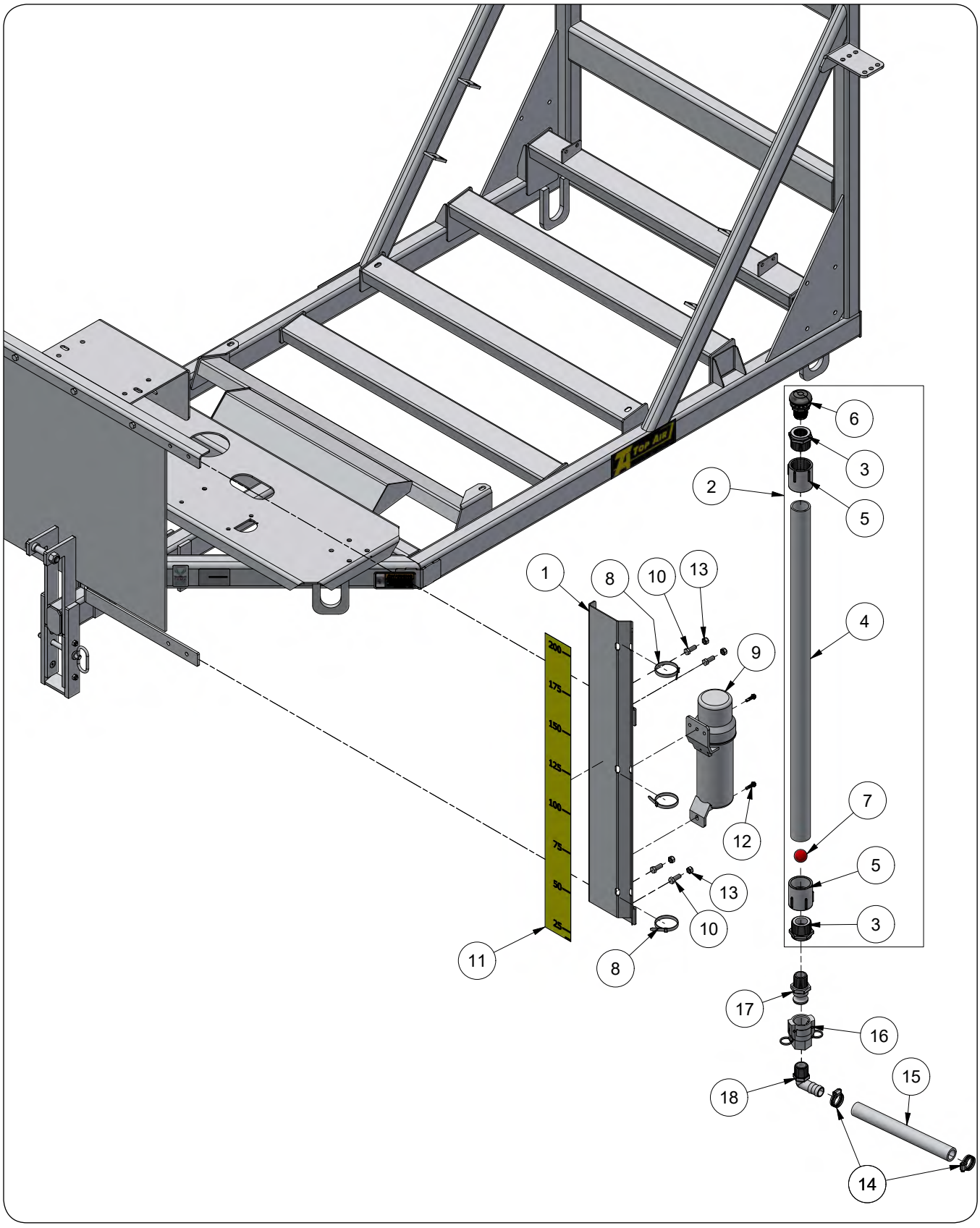
Please provide Honda with the following engine information:
4.8 NET HP/9.9 CU IN

Section V
Parts

FOR FENDER INFORMATION, PLEASE REFER TO YOUR FENDER KIT INSTRUCTION SHEET.
FOR BOOM INFORMATION, PLEASE REFER TO YOUR BOOM MANUAL.

Tank Fill Level Indicator Assembly

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



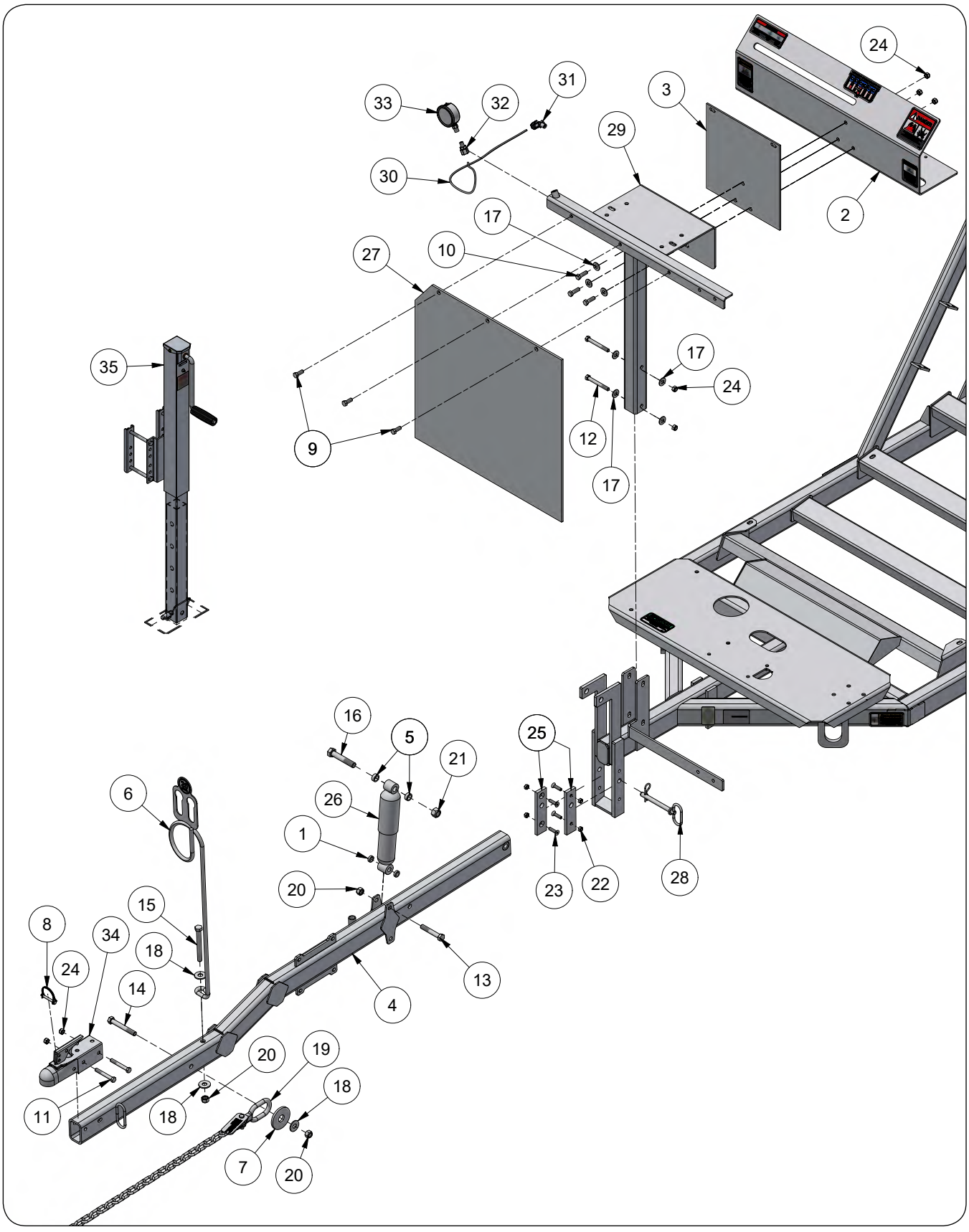
Tank Fill Level Indicator Assembly

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

ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
1	Sight Gauge Weldment	40929B	1	
2	Sight Tube Assembly	40964	1	
3	Reducer Bushing 1 1/2-11 1/2 NPTF Male x 1-11 1/2 NPTF Female	TA814661	2	
4	Sight Gauge Tube	40931	1	
5	Adapter 1 1/2 SCH40 Female x 1 1/2 NPT Female	9004547	2	
6	Breather Vent	9005558	1	
7	Indicator Ball 1 1/4" (RED)	9003683	1	
8	Cable Tie 21 1/2"	9000104	3	
9	Manual Holder	900552	1	
10	Capscrew, 3/8"-16UNC x 1" G5	9390-055	4	
11	Decal, Level Indicator	9500878	1	
12	Self-Drilling Screw, 1/4"-14 x 1"	9512	2	
13	Locknut, 3/8"-16UNC	9928	4	
14	Hose Clamp (SAE #16)	TA800912	2	
15	Hose, 1" Dia. x 12" EPDM (Specify Qty by Feet)	TA806275	1	
16	100D 1" Female Coupler	TA810925	1	
17	Quick Disconnect Coupling Poly 1" Male Adapter x 1-11 1/2 NPTF Male #100F	TA811175	1	
18	90° Elbow Hose Barb, 1-11 1/2 NPTF Male x 1" Hose Shank #HB100-90	TA814966	1	

Tongue Mounting & Valve Mount Components

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



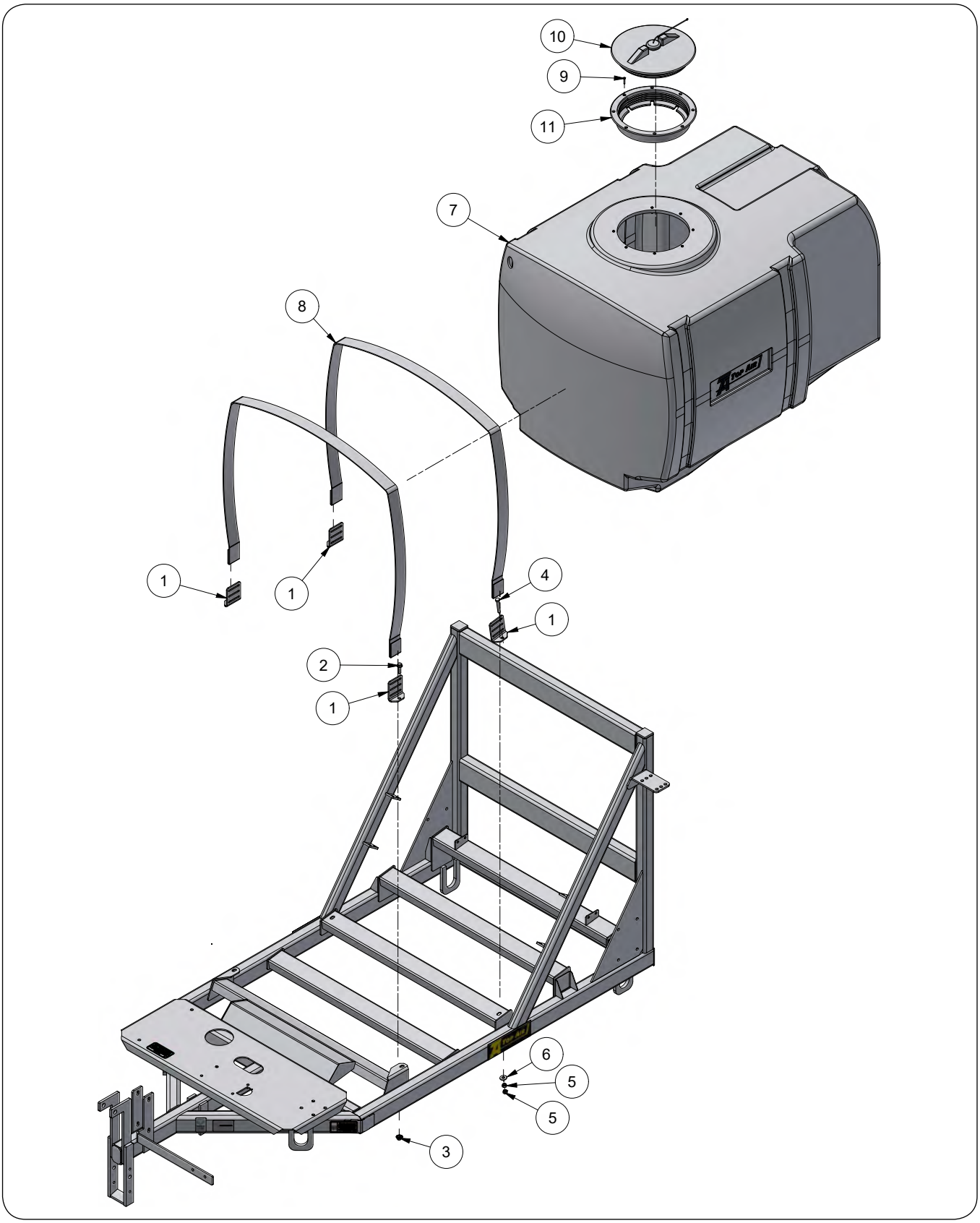
Tongue Mounting & Valve Mount Components

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

ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
1	Bushing 3/4" OD	281369	2	
2	Valve Mount Bracket with Decals	40848B	1	
3	Plate 12" x 12"	40840B	1	
4	ATV Tongue Weldment 70 1/2" Long (SHOWN)	41098B	1	
5	Spacer Bushing	47227	2	
6	Hose Holder w/Decal Plate	79337B	1	
7	Hardened Washer	85723	1	
8	Lynch Pin 1/4" Dia.	9000936	1	
9	Capscrew, 3/8"-16UNC x 1" G5	9390-055	7	
10	Capscrew, 3/8"-16UNC x 1 1/4" G5	9390-056	3	
11	Capscrew, 3/8"-16UNC x 2 3/4" G5	9390-062	2	
12	Capscrew, 3/8"-16UNC x 3 1/4" G5	9390-064	2	
13	Capscrew, 1/2"-13UNC x 3" G5	9390-107	3	
14	Capscrew, 1/2"-13UNC x 3 3/4" G5	9390-110	1	
15	Capscrew, 1/2"-13UNC x 4 1/2" G5	9390-112	1	
16	Capscrew, 5/8"-11UNC x 3 1/2" G5	9390-130	1	
17	Flat Washer, 3/8" USS	9405-076	14	
18	Flat Washer, 1/2" USS	9405-088	3	
19	Transport Chain	94098	1	
20	Locknut, 1/2"-13UNC	9800	4	
21	Locknut, 5/8"-11UNC	9801	29	
22	Locknut, 5/16"-18UNC	9807	8	
23	Socket Screw, Flat Head 5/16"-18UNC x 1 1/4"	98552	4	
24	Locknut, 3/8"-16UNC	9928	26	
25	Wear Pad, 1 1/2" x 6"	TA510228-1	2	
26	Shock	TA510230B	1	
27	Mud Flap	TA510233	1	
28	Hitch Pin w/ Clip	TA510236	1	
29	Valve Mount Weldment	TA540447B	1	
30	Gauge Tubing, 1/4" Dia. x 12"	TA720620	1	
31	90° Elbow, 1/4" NPT x 1/4" Gauge Tube	TA720802	1	
32	Gauge Tube Adapter, 1/4" MPT x 1/4	TA720808		
33	Gauge, 0-100, 2 1/2" Dial	TA801155	1	
34	Hitch Coupler 1 7/8"	TA510238	1	
35	Drop Leg Jack	9501478	1	

Tank Mounting

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



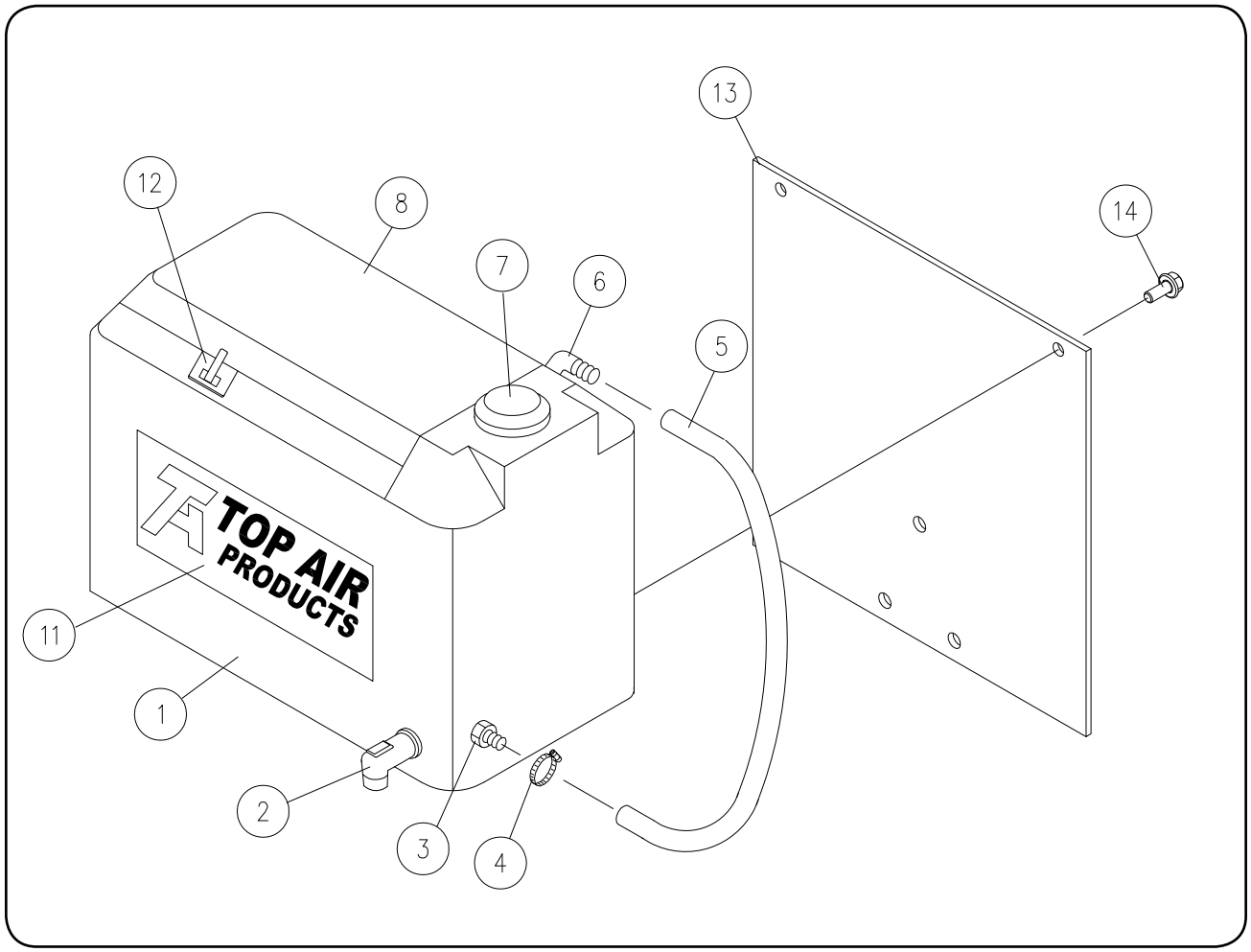
Tank Mounting

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

ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
1	Clip, Tank	40844	4	
2	Flange Screw, 3/8"-16UNC x 1 1/4"	9003259	2	
3	Nut/Large Flange, 3/8"-16UNC	91263	10	
4	Capscrew, 3/8"-16UNC x 2 1/4" G5	9390-060	2	
5	Hex Nut, 3/8"-16 UNC	9394-006	4	
6	Flat Washer, 3/8"	9405-076	2	
7	Tank with Lid, Inner Ring & Screws	9504198	1	Includes Items 9, 10 & 11
8	9504598	9504598	2	
9	Phillips Screw, #8 x 1" Flat Head	TA805185	8	Stainless Steel
10	Lid, 10"	TA805187	1	
	Lanyard	TA805186	1	
11	Inner Ring, Lid	TA805189	1	

Clean Water Tank Mounting Components

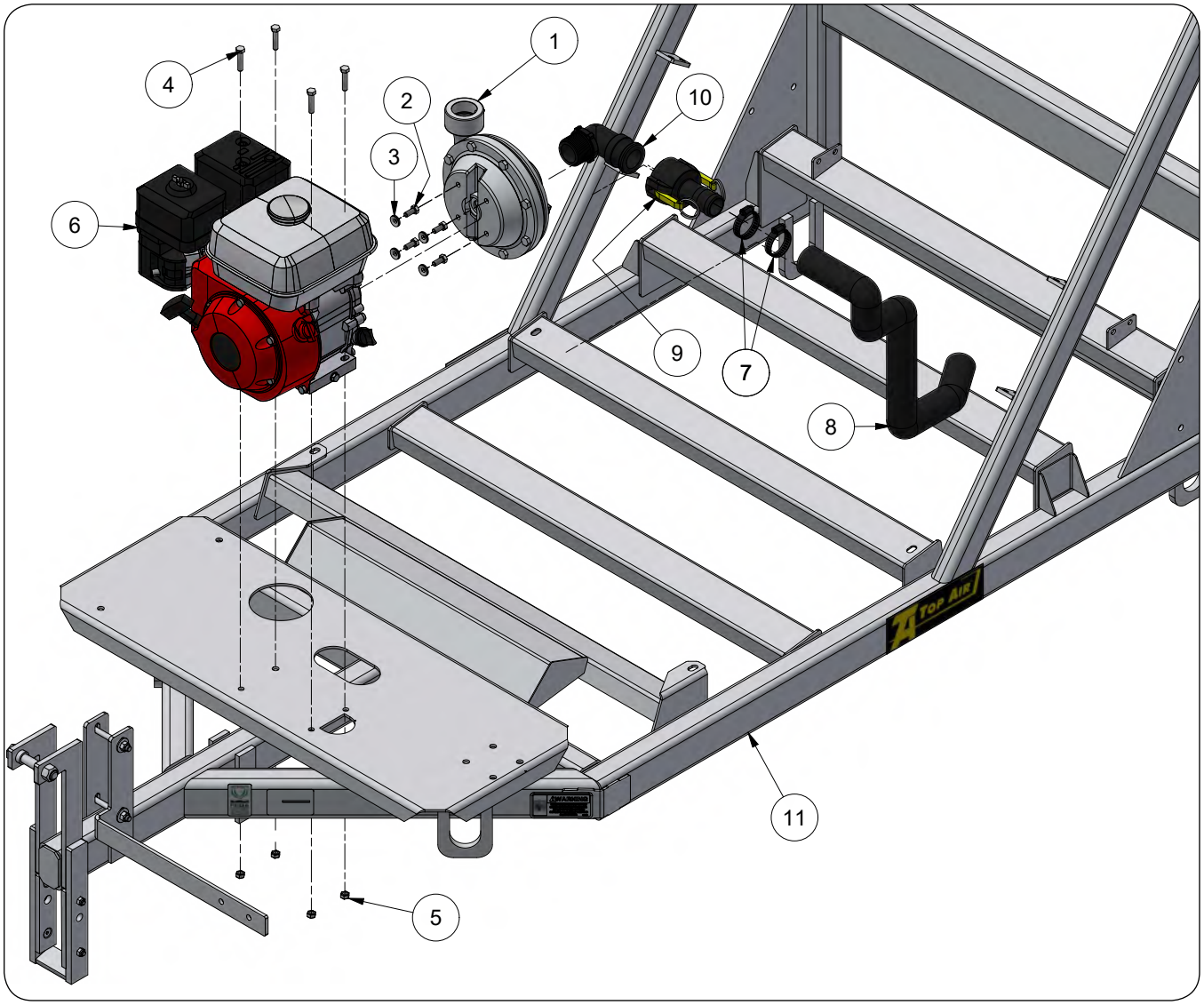
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	NOTES
1	Clean Water Tank Assembly	TA580278	
2	KBI Fitting (Spigot)	TA510073	
3	Straight, 3/4 MPT x 1/2 HB	TA810300	
4	Hose Clamp, M-6	TA800902	
5	Clear Vinyl Tubing, 1/2”	TA806554	
6	Elbow, 3/4 MPT x 1/2 HB	TA808275	
7	Kelch Cap	TA510074	
8	Lid for Storage Compartment	TA510066	
9	Tank Hinge (Not Shown)	TA510070	
10	Rivet, 3/16 x 1/4 (Hinge) (Not Shown)	9003503	
	Rivet, 3/16 x 1/8 (Latch) (Not Shown)	9003502	
11	Decal, “TOP AIR”	TA510041	
12	Snap Latch	TA510071	
13	Mounting Bracket for Tank	40840B	
14	Large Flange Screw, 5/16-18 x 3/4	91256	

Engine & Pump Mounting

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

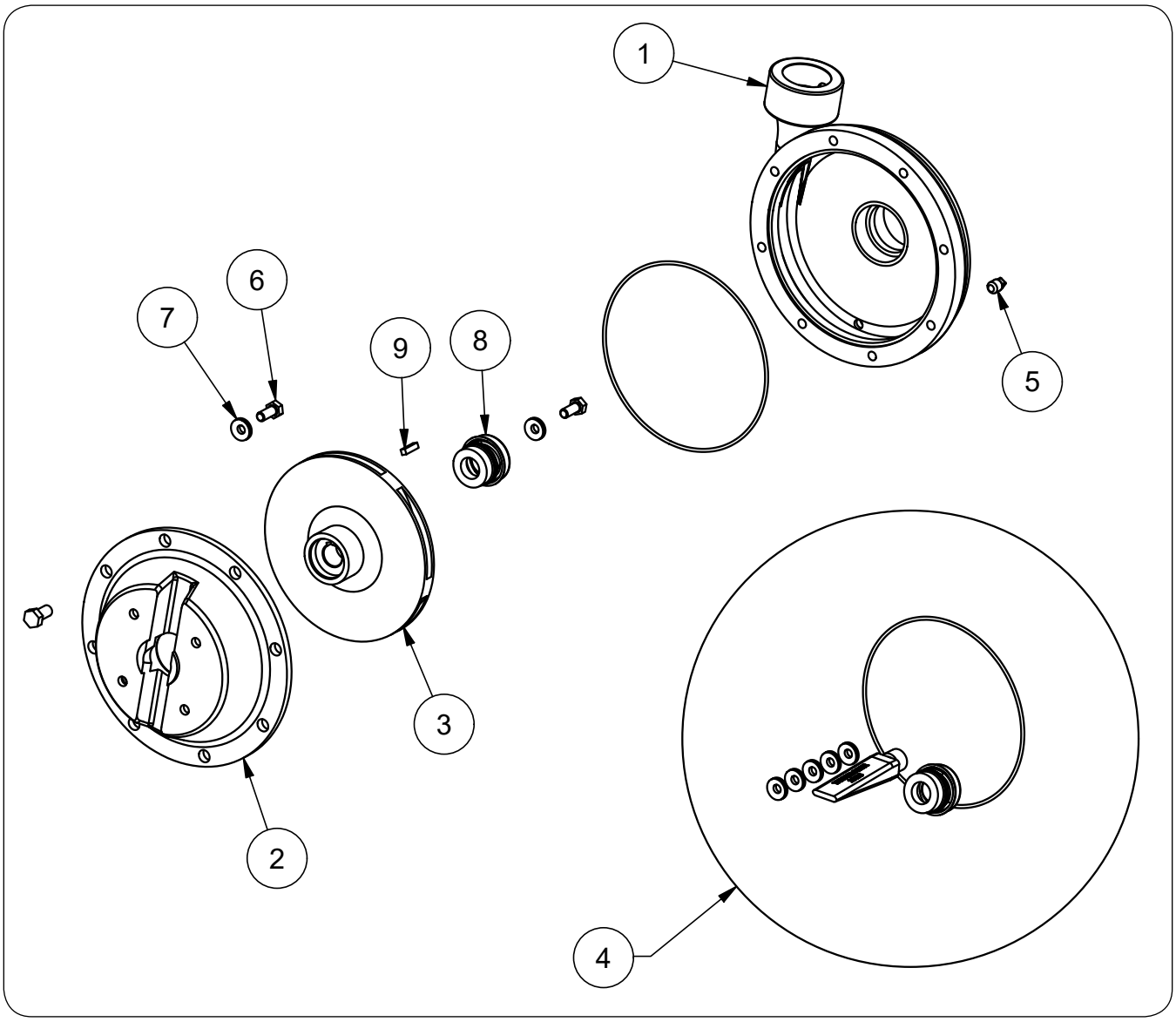


ITEM	DESCRIPTION	PART NO.	NOTES
1	Pump Direct Coupled 1 1/2" & 1 1/4" Ports	902140	Repair Kit #902869
2	Capscrew, 5/16"-24UNF x 3/4" (Stainless Steel)	902856	
3	Washer, Sealing 5/16" ID	902857	
4	Capscrew, 5/16"-18UNC x 1 1/2" G5	9390-032	
5	Lock Nut/Top, 5/16"-18UNC	9807	
6	Honda Gas Engine, 4.8 NET HP/9.9 CU	TA500648	
7	Hose Clamp, 1 1/4"-2 1/2" (Stainless Steel)	TA800918	
8	Hose, 1 1/2" Dia.	TA806331	Specify Length in Feet
9	Hose Shank 1/2" Female Coupling	TA810850	
10	90° Elbow Coupling, 1/2" Male x 1 1/2-11 1/2 NPTF Male	TA811827	
11	Main Frame Weldment =Black=	47192B	

NOTE: For servicing or reassembly of pump or engine, refer to the pump and engine manuals.

Pump Components

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



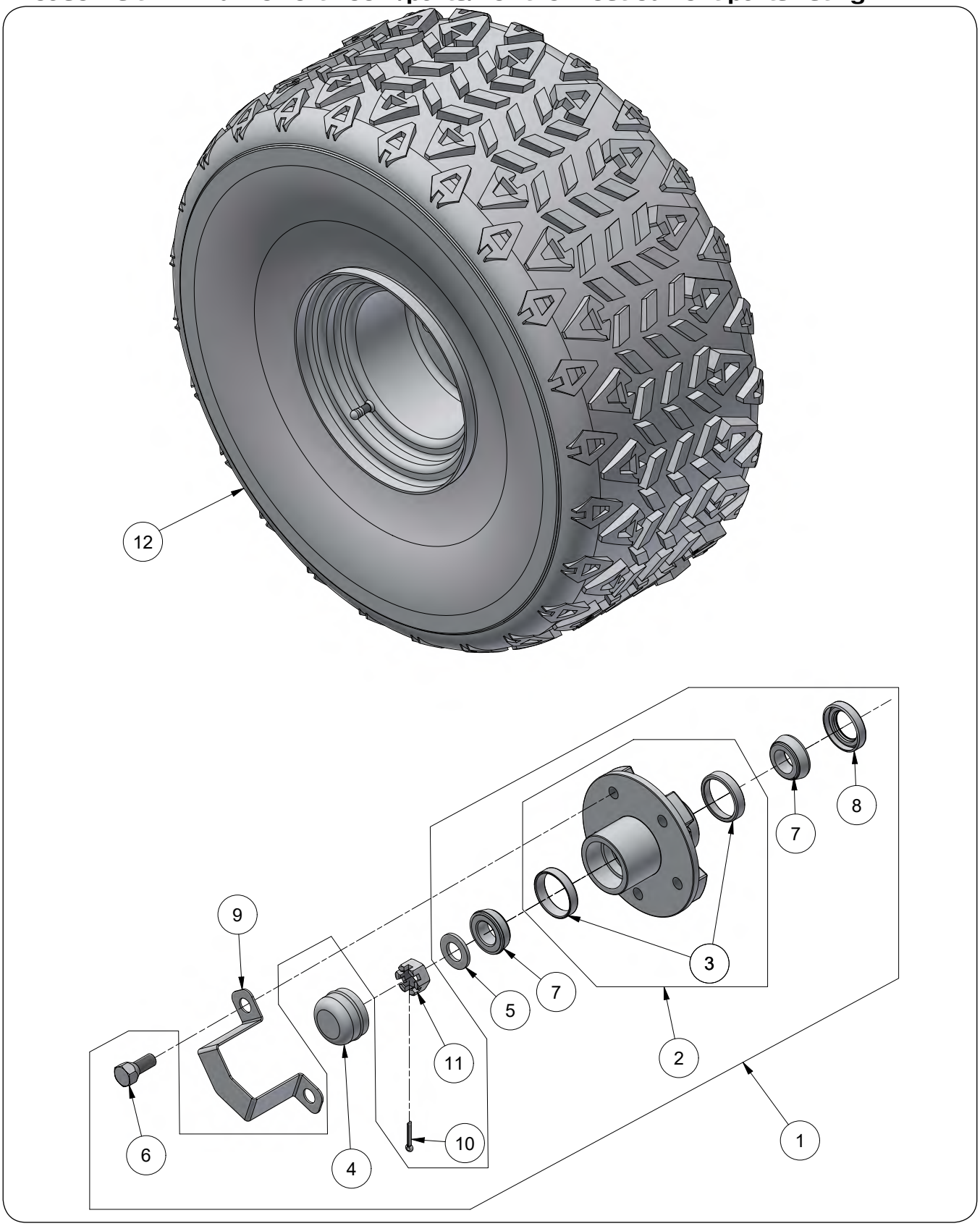
Pump Components

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

ITEM	DESCRIPTION	PART NO.	NOTES
	Ace Pump Assembly	902140	Includes items 1-9
1	Volute	902861	
2	Bracket with Keyed Shaft	902862	
3	Impeller	902865	
4	Repair Kit	902869	
5	Pipe Plug 1/8” NPT	902864	
6	Capscrew 5/16”-24UNF x 3/4”	902856	Stainless Steel
7	Sealing Washer 5/16” ID	902857	
8	Pump Seal	902867	
9	Key 3/16 x 3/16 x .725	902866	
10	Pressure Transducer Kit	TA720359	NOT SHOWN

Wheel & Hub Assembly Components

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



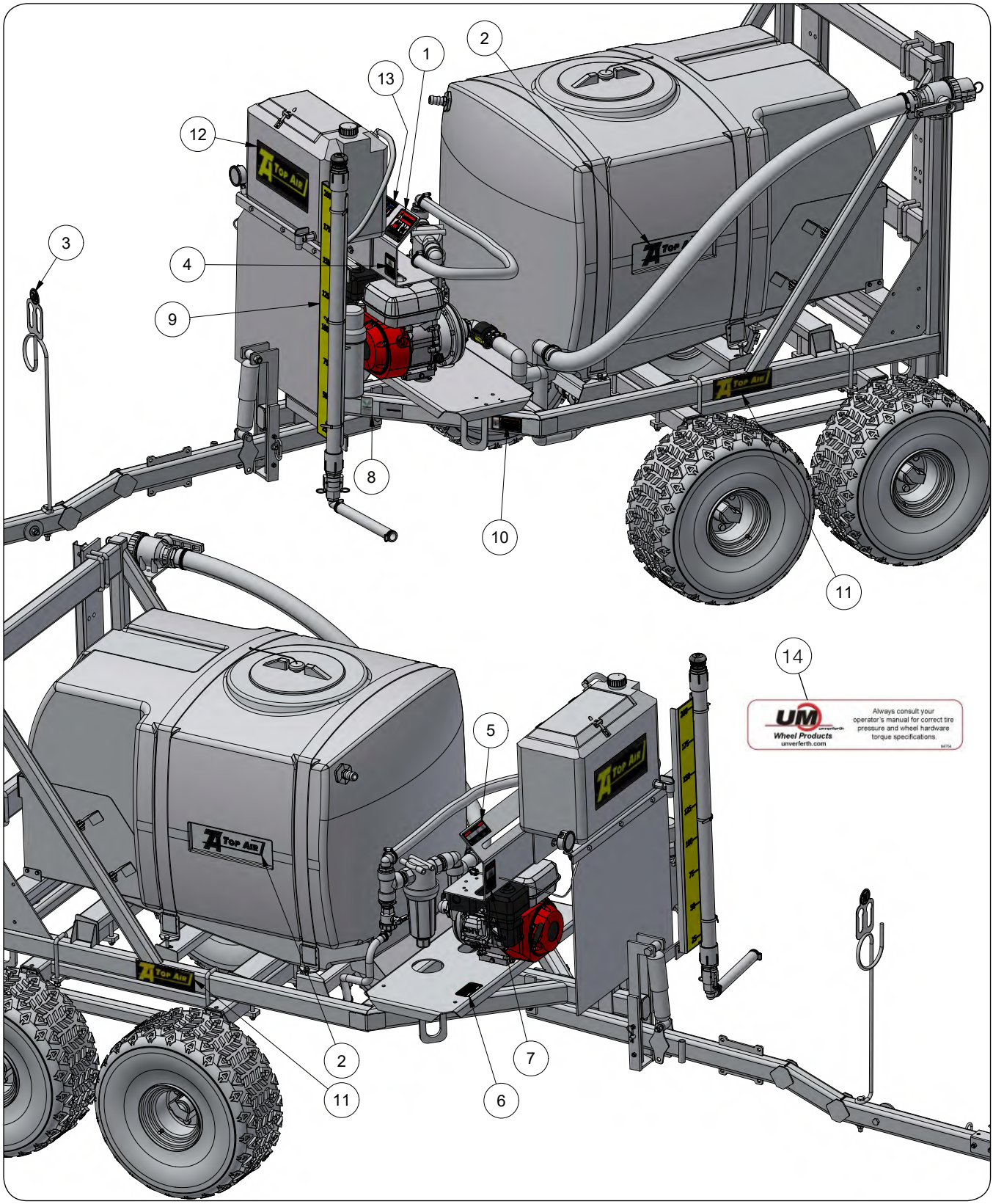
Wheel & Hub Assembly Components

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

ITEM	DESCRIPTION	PART NO.	NOTES
1	Hub 5 Bolt Asy Complete (Black)	31051B	Includes Items 2-8
2	Hub with Cups Pressed In (Black)	31050B	Includes Item 3
3	Bearing Cup	92522	
4	Hub Cap	91827	
5	Flat Washer, 13/16" I.D.	91050	
6	Wheel Bolt, 1/2"-20UNF x 1 5/8"	91829	
7	Bearing Cone	92523	
8	Seal	92525	
9	Hub Cap Strap =Black=	47163B	
10	Cotter Pin, 5/32" Dia. x 1"	9391-033	
11	Slotted Nut 3/4"-16UNF	9393-016	
12	Wheel & Tire - 24 x 10.5 x 10 - 5 Bolt	9501812	
	Wheel & Tire - 22.5 x 10 x 8 - 5 Bolt	9500343	

Decals

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



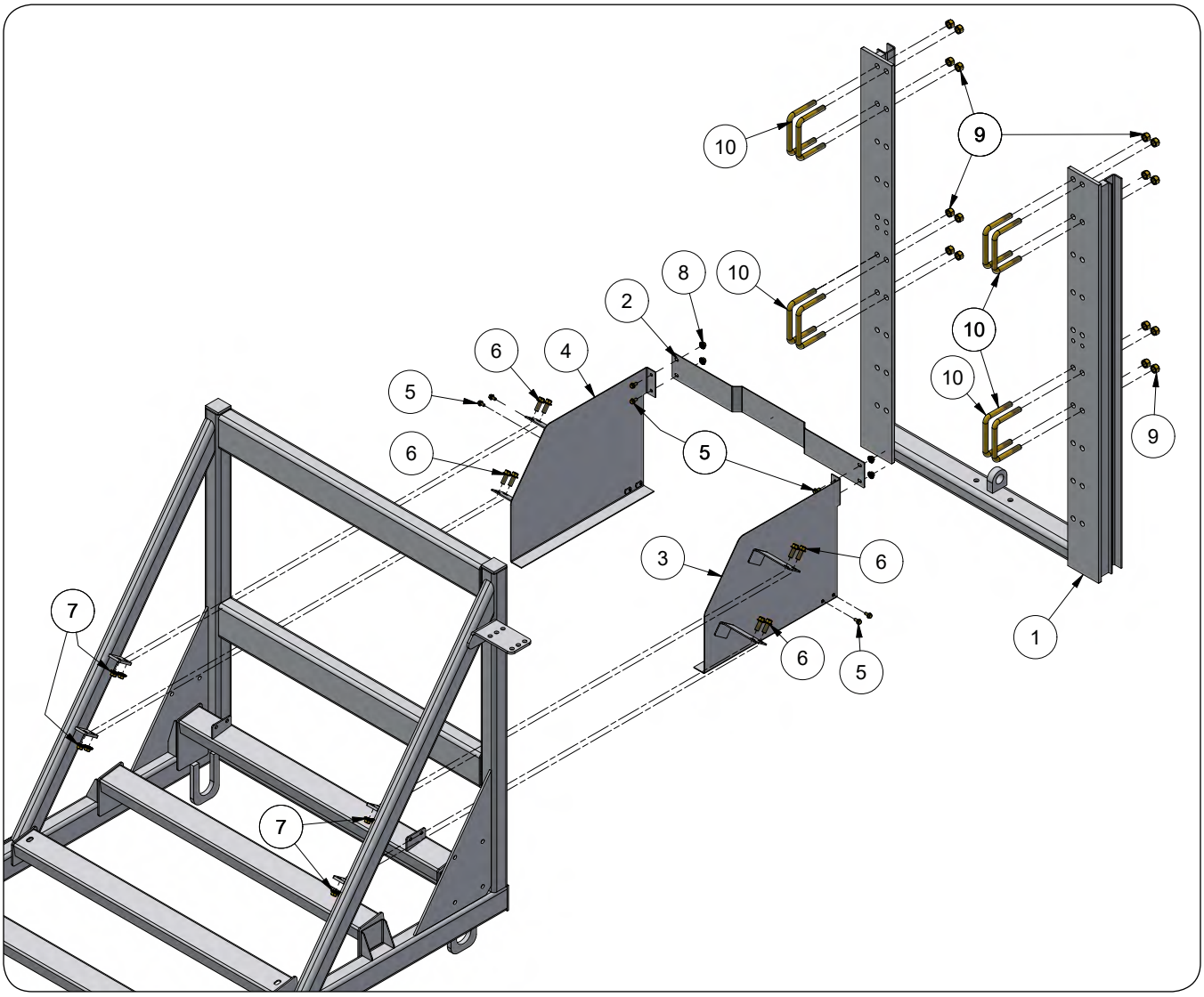
Decals

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

ITEM	DESCRIPTION	PART NO.	NOTES
1	Decal, DANGER "Flammable"	235161	
2	Decal, TOP AIR (3.5" x 11.67")	47409	
3	Hose Holder with Decal	79337B	
	Decal, Front SIS 20 MPH	9008715	
4	Decal, WARNING "Falling Equipment"	900751	
5	Decal, DANGER "Chemical Exposure"	901256	
6	Decal, IMPORTANT "Close Fuel Valve"	901507	
7	Decal, WARNING "Operation Of Equipment"	902026	
8	Decal, FEMA	91605	
9	Decal, Level Indicator (200 Gallon)	9500878	
10	Decal, WARNING "Read and Understand"	97961	
11	Decal, TOP AIR (8.75" x 2.75")	TA510007	
12	Decal, TOP AIR (5.5" x 13")	TA510041	
13	Decal, USA	TA510031	
14	Decal, Wheel PSI	94754	

Frame Panels & Boom Mount Components

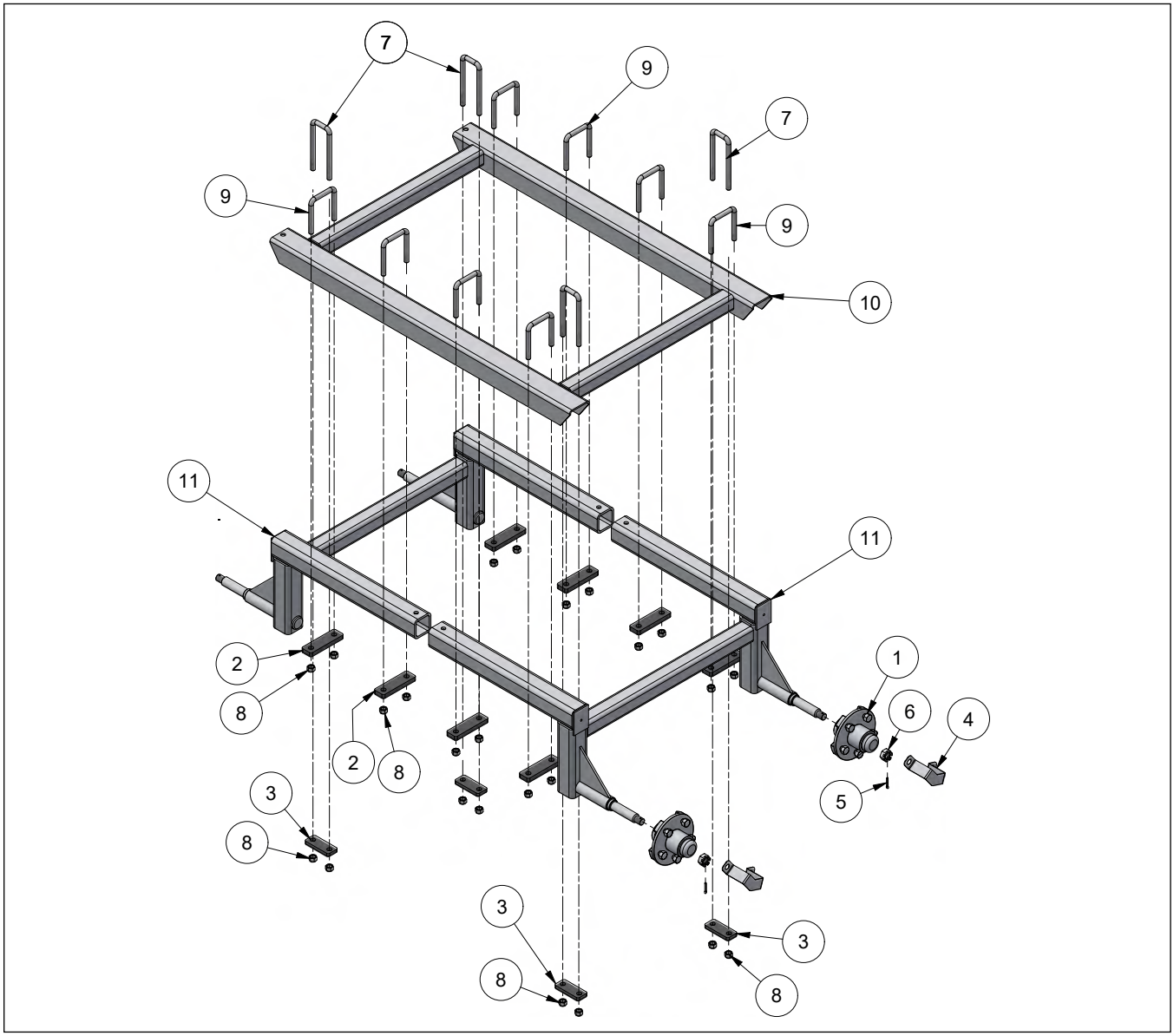
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	NOTES
1	Boom Mount =Black=	46020B	
2	Panel, Rear =Black=	47202B	
3	Panel Weldment, Left-Hand =Black=	47229B	
4	Panel Weldment, Right-Hand =Black=	47230B	
5	Flange Screw, 1/4"-20UNC x 1/2" G5	903161-002	
6	Flange Screw, 3/8"-16UNC x 1" G5	91262	
7	Nut/Large Flange, 3/8"-16UNC	91263	
8	Hex Nut/Large Flange, 1/4"-20UNC	97189	
9	Lock Nut/Top, 1/2"-13UNC	9800	
10	U-Bolt, 1/2"-13UNC x 3 1/4", 4 1/2" C/C	TA510000	

Rigid Axle Assembly Components

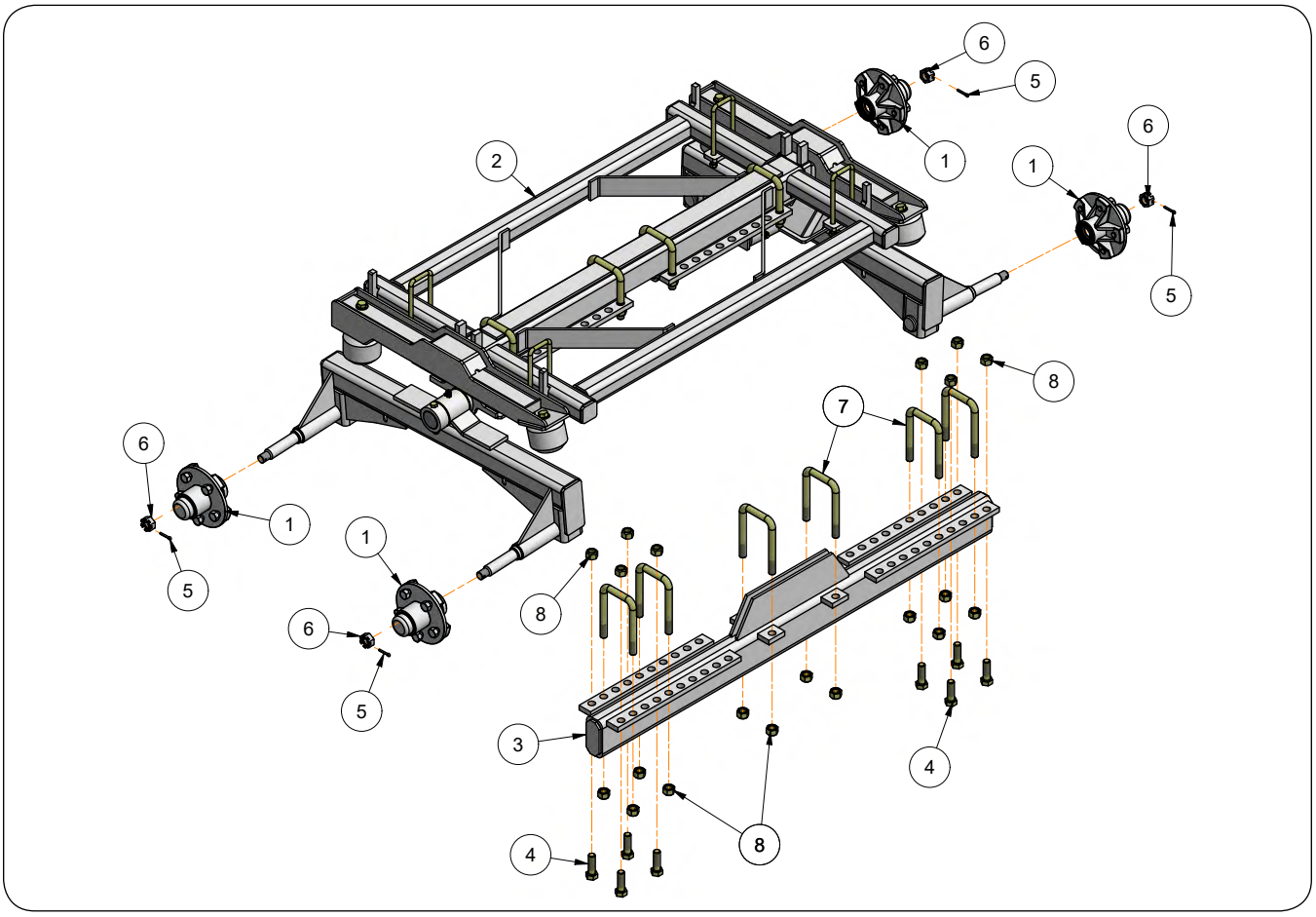
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
1	Hub 5 Bolt Assembly	31051B	4	
2	Plate, 1 1/2" x 5" =Black=	40836B	8	
3	Plate, 1 1/2" x 3 5/8" =Black=	45712B	4	
4	Hub Cap Strap =Black=	47163B	4	
5	Cotter Pin, 5/32" Dia. x 1"	9391-033	4	
6	Slotted Nut, 3/4"-16UNF G2	9393-016	4	
7	U-Bolt, 1/2"-13UNC x 6 1/4", 2 1/2" C/C	9503929	4	
8	Lock Nut/Top, 1/2"-13UNC	9800	44	
9	U-Bolt, 1/2"-13UNC x 4", 3 1/2" C/C	TA510547	8	
10	Subframe Weldment =Black=	TA580362B	1	
11	ATS Axle Weldment =Black=	TA580363B	2	

Walking Tandem Axle Bundle

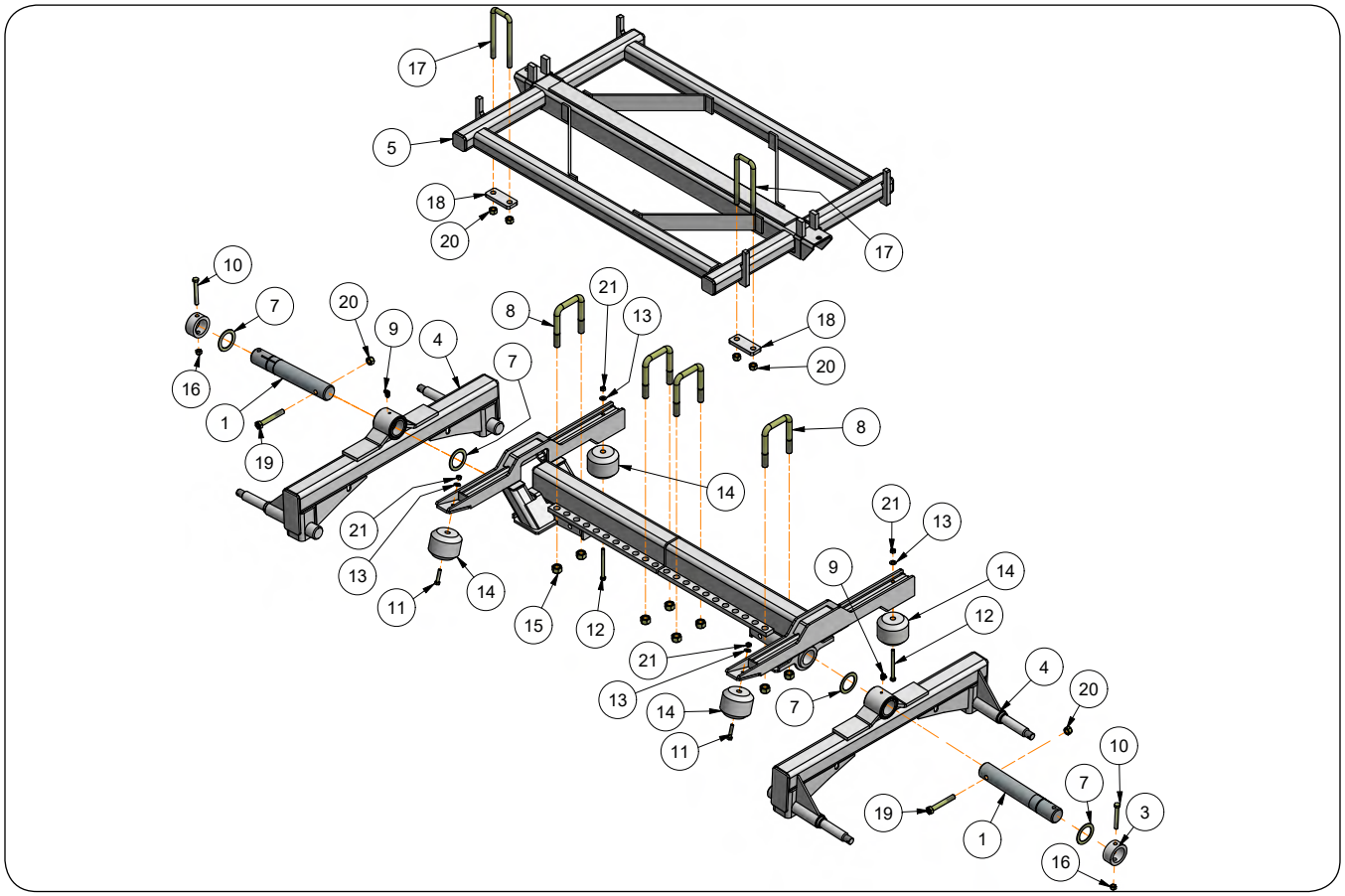
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	QTY.	NOTES
1	Hub 5 Bolt Assembly	31051B	4	
2	Walking Tandem Axle Assembly	43371B	1	
3	Tandem Axle Extension Brace	45614B	1	Required for 90” Wheel Spacing
4	Capscrew, 5/8”-11UNC x 2” G5	9390-124	8	Required for 90” Wheel Spacing
5	Cotter Pin, 5/32” Dia. x 1”	9391-033	4	
6	Slotted Nut, 3/4”-16UNF G2	9393-016	4	
7	U-Bolt, 5/8”-11UNC x 5 1/4”, 3 11/16 C/C	9503831	6	Required for 90” Wheel Spacing
8	Lock Nut/Top, 5/8”-11UNC	9801	20	Required for 90” Wheel Spacing

Walking Tandem Axle Assembly Components

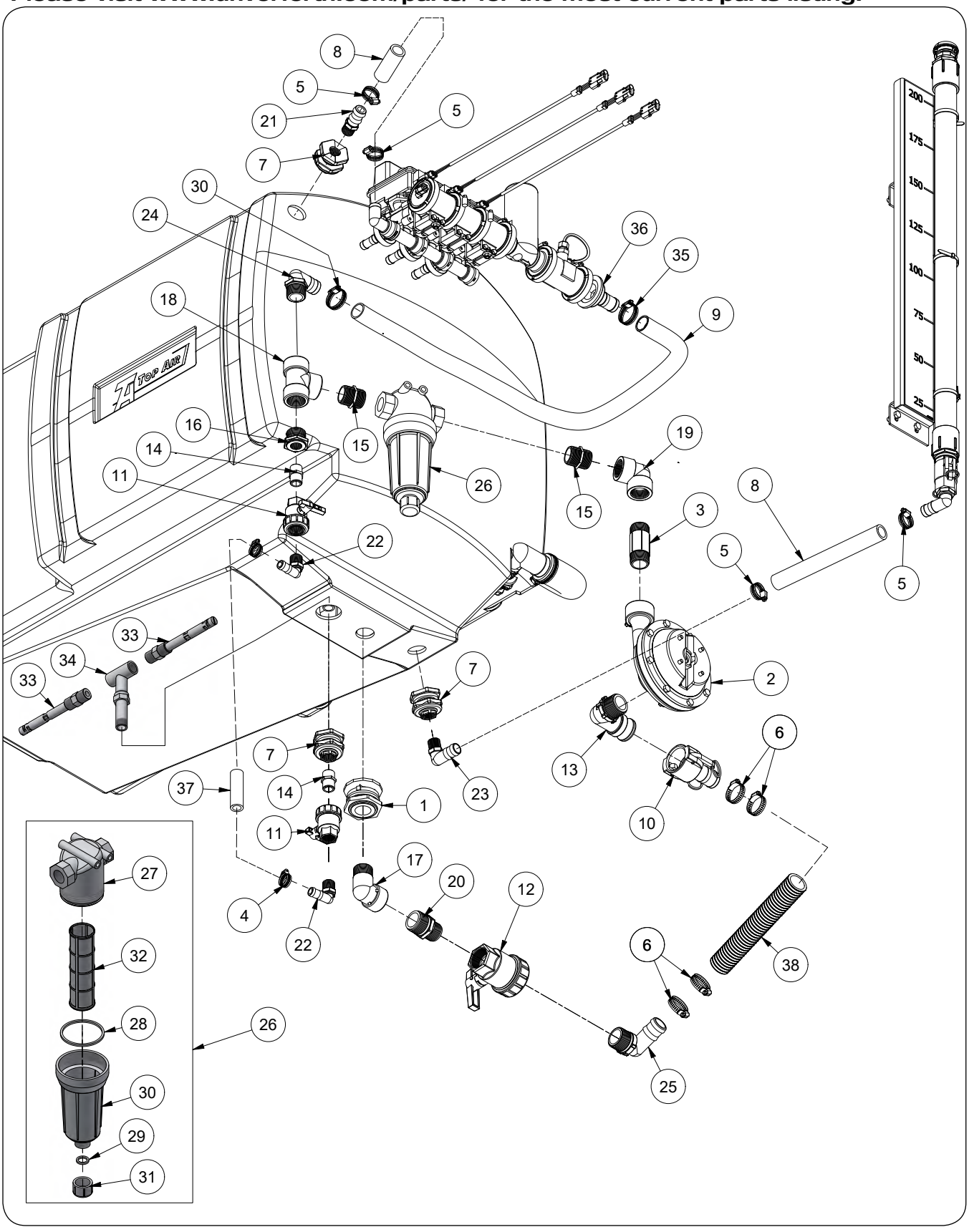
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	DESCRIPTION	PART NO.	NOTES
	Walking Tandem Axle Assembly	43371B	Includes Items 1-21
1	Axle Pivot Pin	43343	
2	Axle Weldment Right-Hand	43352B	
3	Collar	43353B	
4	Walking Beam Weldment	43370B	
5	Sub-Frame Walking Tandem Axle	43372B	
6	Axle Weldment Left-Hand	43382B	
7	Washer	9002072	
8	U-Bolt, 5/8”-11UNC x 4 1/2”	91219	
9	Grease Zerk 90°	93415	
10	Capscrew, 3/8”-16UNC x 3” G5	9390-063	
11	Capscrew, 5/16”-18UNC x 1 1/2” G5	9390-032	
12	Capscrew, 5/16”-18UNC x 3 3/4” G5	9390-041	
13	Flat Washer, 1/2”	9405-068	
14	Rubber Spring	9503204	
15	Lock Nut, 5/8”-11UNC	9801	
16	Lock Nut, 3/8”-16UNC	9928	
17	U-Bolt, 1/2”-13UNC x 6 1/4”, 2 1/2”CC	9503929	
18	Mounting Plate	45712B	
19	Capscrew, 1/2”-13UNC x 3 1/2” G8	91299-109	
20	Lock Nut, 1/2”-13UNC	9800	
21	Lock Nut, 5/16”-18UNC	9807	

Plumbing

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



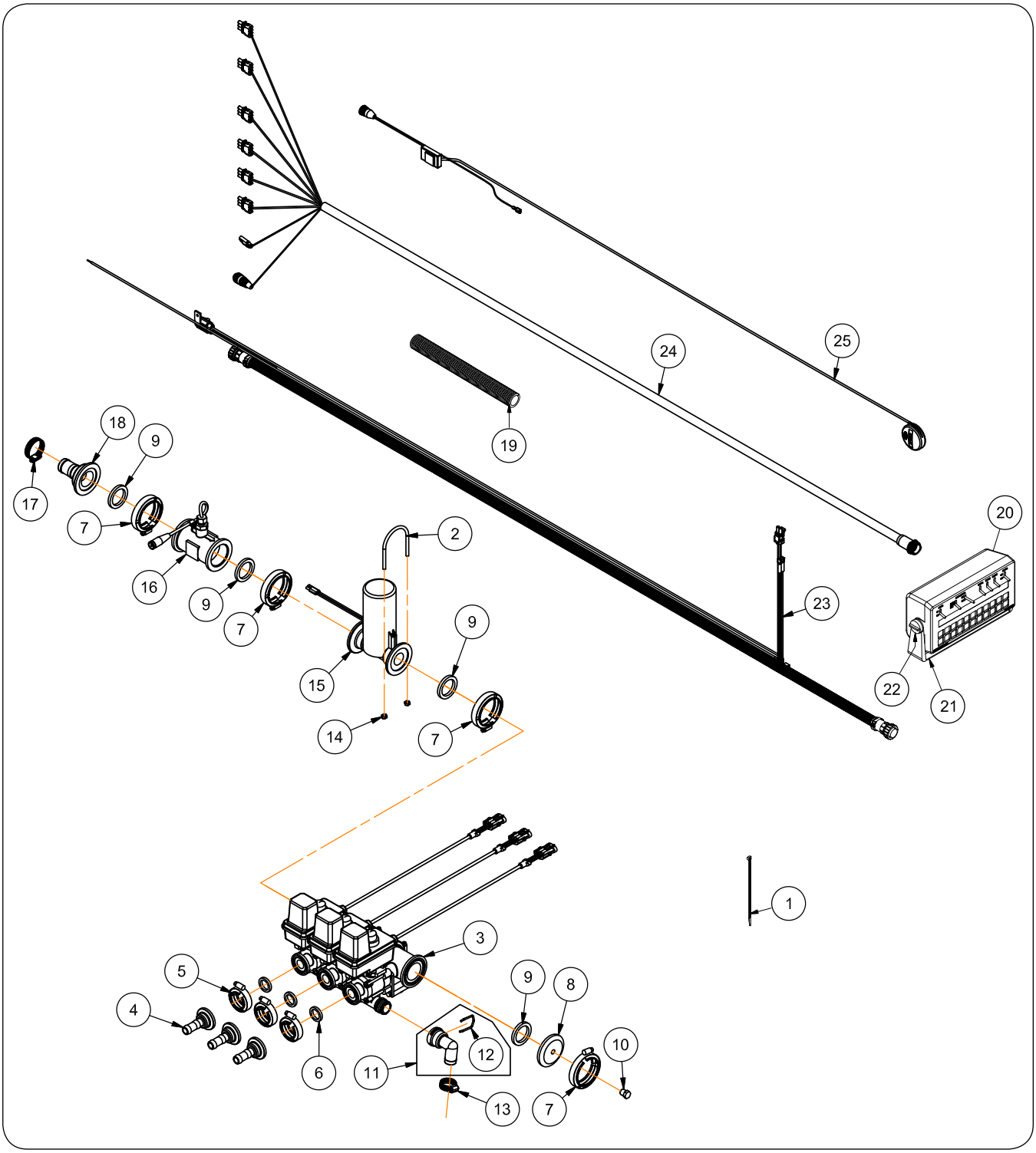
Plumbing

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

ITEM	DESCRIPTION	PART NO.	NOTES
1	Anti-Vortex Fitting	901968	
2	Ace Pump, FMC-CW-150	902140	
3	Poly Nipple, 1 1/4"	95087	1 1/4-11 1/2 NPTF Male x 4"
4	Hose Clamp, SC-12 (Stainless Steel)	TA800910	
5	Hose Clamp, 13/16" to 1 1/2"	TA800912	Stainless Steel
6	Hose Clamp, 1 1/2"	TA800918	Stainless Steel
7	Manifold Fitting 3/4" Double Threaded	TA805408	
8	Hose EPDM, 1" Dia.	TA806275	Specify in Feet
9	Hose EPDM, 1 1/4" Dia.	TA806300	Specify in Feet
10	Female Coupler - Hose Shank 1 1/2"	TA810850	1 1/2-11 1/2 NPTF Female x 1 1/2 Hose Shank
11	Ball Valve, 3/4"	TA811515	
12	Ball Valve, 1 1/2"	TA811521	
13	Elbow Coupler 90° Poly Adapter, 2"	TA811827	2-11 1/2 NPTF Male
14	Short Poly Pipe Nipple, 3/4"	TA814605	3/4-14 NPTF Male x 3/4-14 NPTF Male
15	Nipple, 1 1/4" NPTF Male	TA814615	
16	Poly Pipe Reducer Bushing, 1 1/4" x 3/4"	TA814657	1 1/4-11 1/2 NPTF Male x 3/4-14 NPTF Female
17	Poly Elbow 90°, 1 1/4"	TA814693	1 1/4-11 1/2 NPT Male x 1 1/4-11 1/2 NPT Female
18	Poly Pipe Tee, 1 1/4"	TA814783	1 1/4-11 1/2 NPTF Female x 1 1/4-11 1/2 NPTF Female x 1 1/4-11 1/2 NPTF Female
19	Poly Elbow 90°, 1 1/4"	TA814793	1 1/4-11 1/2 NPT Female x 1 1/4-11 1/2 NPT Female
20	Reducer Nipple	TA814825	1 1/2-11 1/2 NPT Male x 1 1/4-11 1/2 NPT Male
21	Straight Pipe Fitting	TA814863	3/4-14 Male NPT x 1" Hose Barb
22	Elbow 90° Poly Hose Barb, 3/4"	TA814961	3/4-14 NPTF Male x 3/4 Hose Shank
23	Poly Pipe Street Elbow 90°	TA814693	1 1/4-11 1/2 NPT Male x 1 1/4-11 1/2 NPT Female
24	Elbow 90° Poly Hose Barb, 1 1/2"	TA814972	1 1/4-11 1/2 NPTF Male x 1 1/4 Hose Shank
25	Elbow 90° Poly Hose Barb, 1 1/2"	TA814975	1 1/2-11 1/2 NPTF Male x 1 1/2 Hose Shank
26	Line Strainer, 1 1/4" w/50 Mesh Screen	TA855538	1 1/4-11 1/2 NPTF Female x 1 1/4-11 1/2 NPTF Female
27	Head, Strainer Line 1 1/4"	TA856015	
28	Gasket, 3.84" OD x 3.5" ID x .175"	TA856055	
29	Gasket, 1 3/32" OD x 13/16" ID x 5/32"	TA856065	
30	Strainer Bowl 1" NPT	TA868842	
31	Poly Cap	TA868844	
32	Strainer, 50 Mesh Stainless Steel Screen	TA869070	
33	Agitator Jet 3/4"	TA801250	
34	Agitator Tee 3/4"	TA801255	
35	Hose Clamp 1"-2"	TA800916	
36	2" Flange Barb	TA815014	
37	Hose EPDM 3/4"	TA806250	Specify in Feet
38	Fertilizer Solution Hose 1 1/2"	TA806331	Specify in Feet

Standard Raven 450 Automatic Rate Controller

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



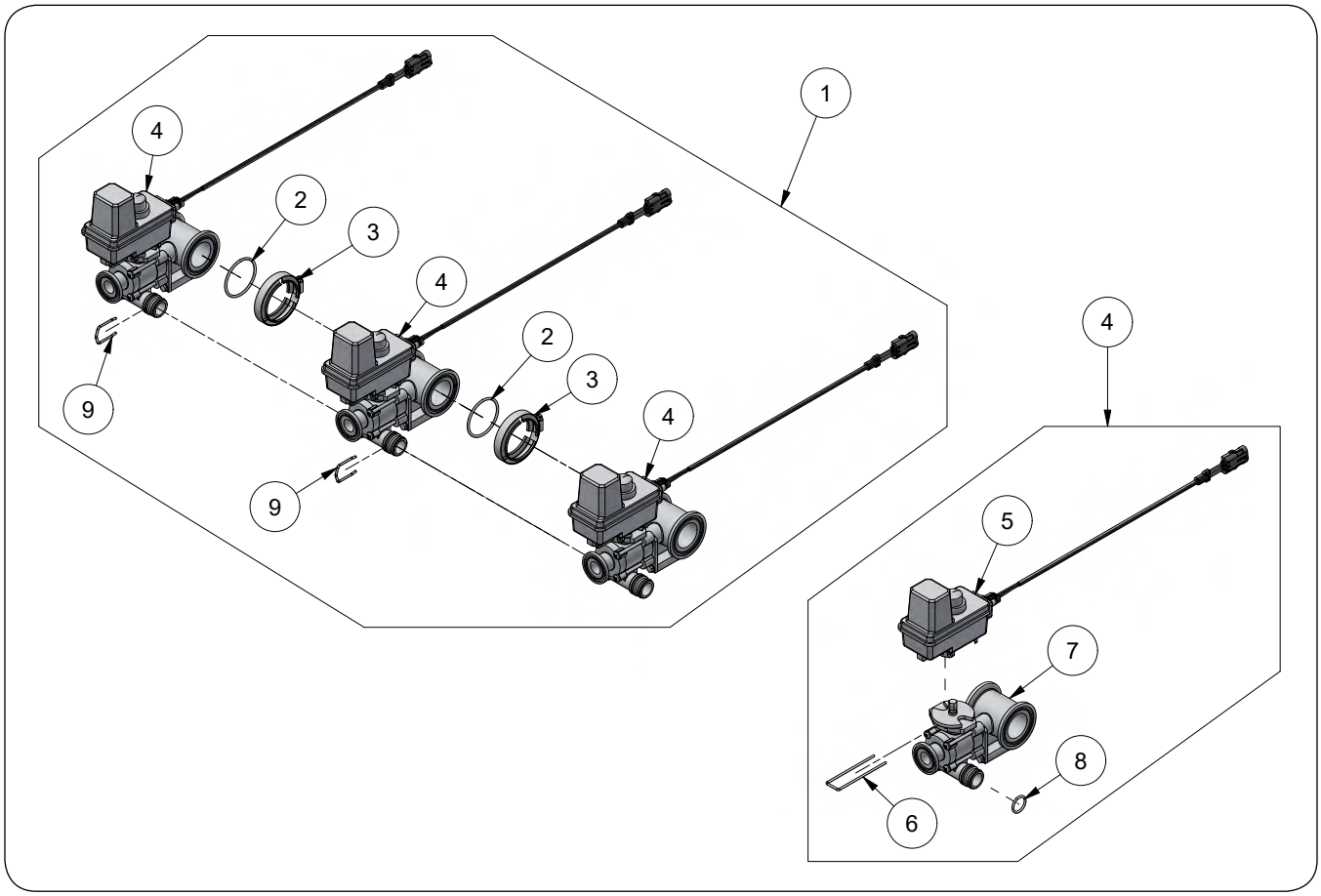
Standard Raven 450 Automatic Rate Controller

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

ITEM	PART NO.	QTY	DESCRIPTION	NOTES
1	9000106	6	Cable Tie	
2	9001114	1	U-Bolt	
3	9006627	1	Flo-Bak Ball Valve Assembly - 3 Section (SHOWN)	
	9006629		Flo-Bak Ball Valve Assembly - 6 Section	
4	TA815012	3	Hose Barb 1" Flange x 3/4" Hose Shank	
5	TA815026	3	1" Flange Clamp, 100 Series Port Worm Screw Clamp	
6	TA815029	3	Gasket/Seal, 1 3/8" x 1" x 1/4"	
7	TA815025	1	2" Flange Clamp, 200 Series Port Worm Screw Clamp	
8	TA883114	1	Plug, 2" Flanged	
9	TA811944	1	Gasket, 2 3/16" OD x 1 5/8" ID x 1/4"	
10	901484	1	Pipe Plug, 1/4" NPT	
11	TA854886	1	Hose Barb 1" 90 Degree Quick Connect Kit	
12	TA854883	1	Retaining Clip	
13	TA800912	2	Hose Clamp, 13/16" - 1 1/2" (Stainless Steel)	
14	9936	2	Locknut 1/4-20UNC	
15	TA720258	1	Flow Control Valve 1"	
16	TA720365	1	Flow Meter	
17	TA800916	2	Hose Clamp SC-24	
18	TA815014	1	2" Flange Barb	
19	TA510211	6	1" Flex Conduit	
20	TA720315	1	Control Console Raven 450	
21	TA720444	1	Mounting Bracket	
22	TA720446	2	Knob	
23	TA720563	1	Console Control Cable	
24	9005729	1	Flow Cable 12 Ft.	
25	TA723025	1	Astro GPS Speed Sensor	

Ball Valve Assembly Components

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



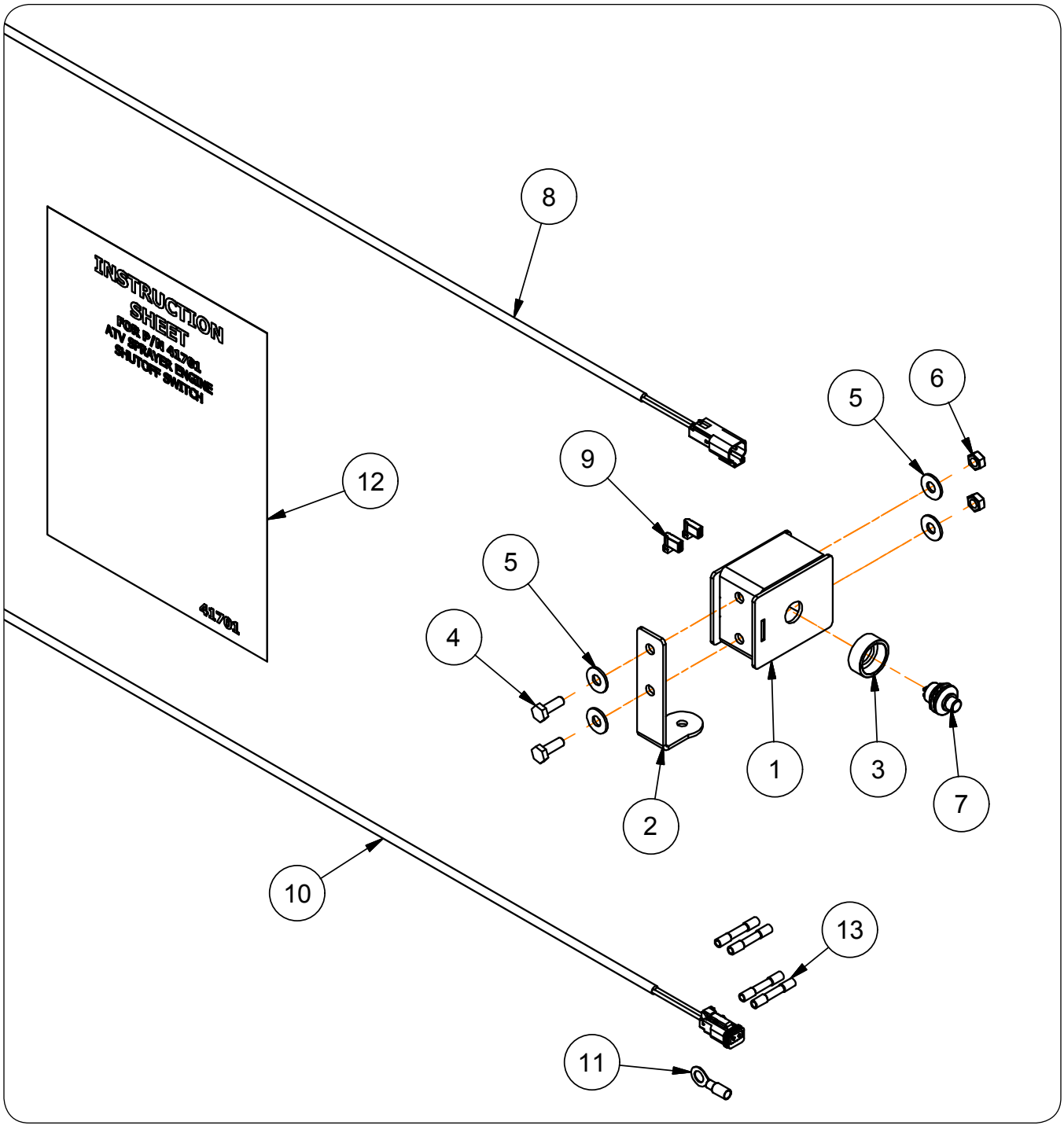
Ball Valve Assembly Components

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

ITEM	PART NO.	QTY		DESCRIPTION	NOTES
		3 SECTION	6 SECTION		
1	9006627	1	-	Ball Valve Manifold Assembly (SHOWN)	Includes Items 2-9
	9006629	-	1	Ball Valve Manifold Assembly	
2	9006626	2	5	O-Ring, 2 5/8" OD x 1/8" Thick	
3	TA815025	2	5	2" Flange Clamp, Port Worm Screw Clamp	
4	TA854881	3	6	Ball Valve 450 Flo-Bak, Single Manifold	Includes Items 5-8
5	TA854874	1	1	Shutoff Ball Valve, Motor Head	
6	TA854875	1	1	Retainer Clip	
7	TA854882	1	1	Ball Valve, 450 Flo-Bak Less Valve Only	
8	TA854887	1	1	O-Ring For Quick Connect Kit	
9	TA854883	2	5	Retainer Clip	

Engine Shut Off Switch Components

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



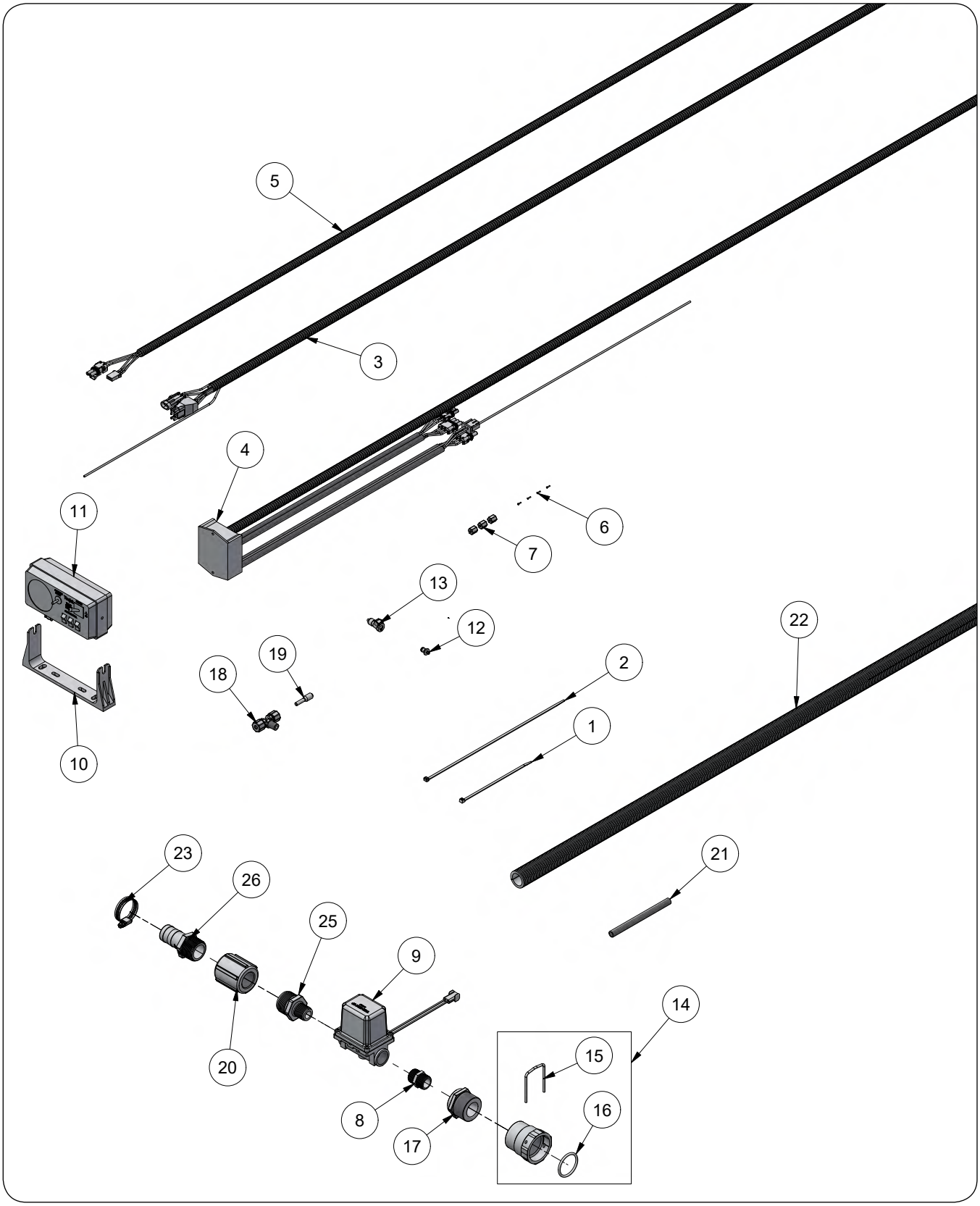
Engine Shut Off Switch Components

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

ITEM	PART NO.	QTY	DESCRIPTION	NOTES
	41693B	1	Kill Switch Assembly	Includes Items 1-8
1	41691B	1	Switch Enclosure	
2	41692B	1	Mounting Bracket	
3	26906	1	Button Switch Surround	
4	9390-003	2	Capscrew 1/4"-20UNC x 3/4"	
5	9405-064	4	Flat Washer 1/4" USS	
6	9936	2	Locknut 1/4"-20UNC	
7	901885	1	Push-Button Switch	
8	41694	1	Harness 96" with Female Deutsch 2-Pin Receptacle	
9	902139	2	Flag Connector .187	
10	41695	1	Harness 78" with Male Deutsch 2-Pin Receptacle	
11	901907	1	Ring Terminal 5/16"	
12	41701	1	Instruction Sheet	
13	900367	4	Butt Connector	

Tee-Jet 744A Manual Controller (Optional)

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



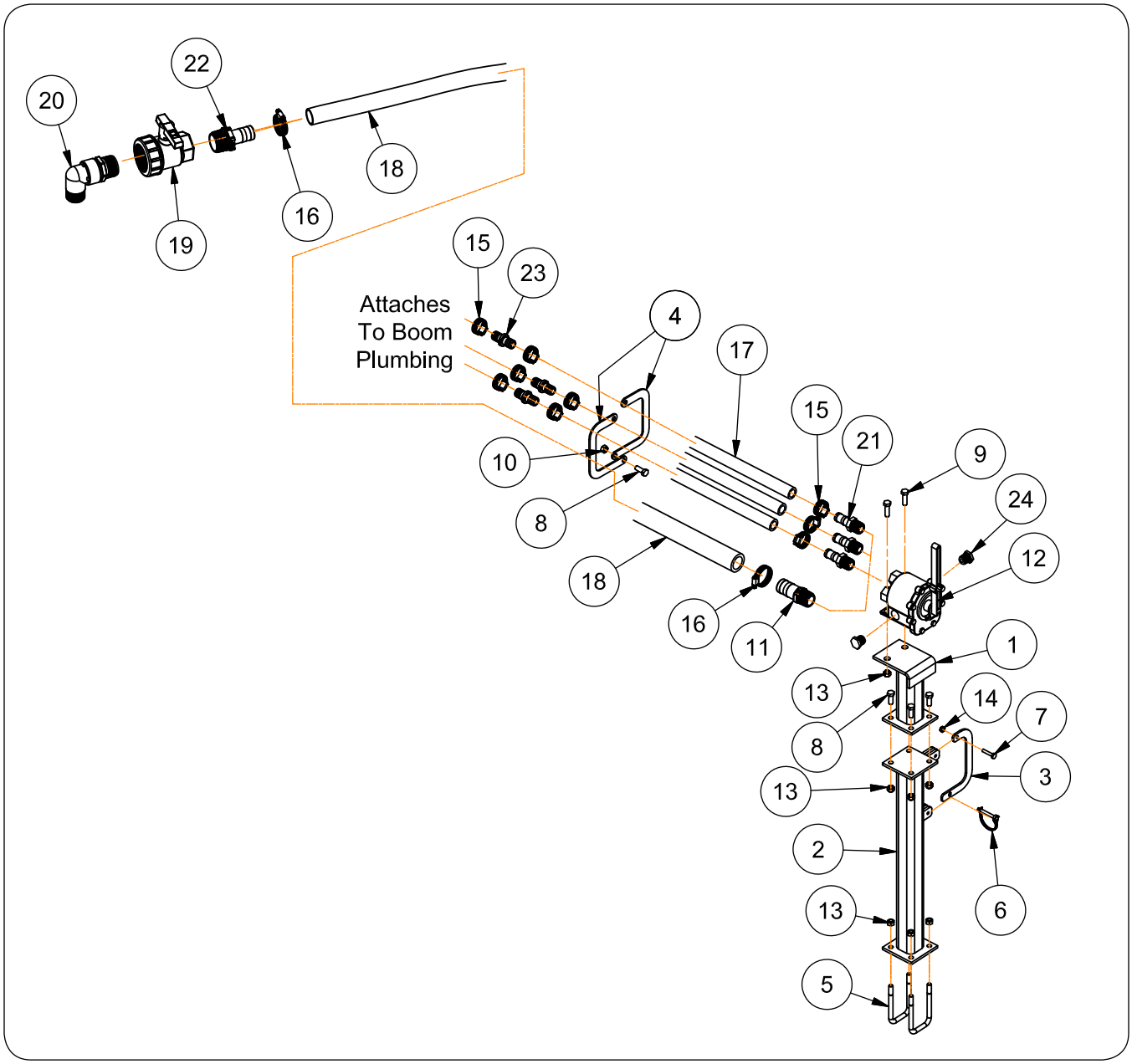
Tee-Jet 744A Manual Controller (Optional)

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

ITEM	PART NO.	QTY	DESCRIPTION	NOTES
1	9000106	4	Cable Tie, 7 1/2"	
2	9000107	30	Cable Tie, 14 1/2"	
3	902306	1	Wiring Harness, 166 1/2"	
4	902307	1	Ball Valve Wiring Harness, 86 1/4"	
5	902311	1	Battery End Cable	
6	902373	4	Brass Insert	
7	902375	3	Nylon Nut 5/16"-24UNF	
8	TA809400	1	Nipple 3/4-14 NPT	
9	TA854800	1	Regulating Valve 244C Remote Electrical	
10	TA884822	1	Mounting Bracket	
11	TA884986	1	Console Only, TeeJet 744A-3	
12	902010	1	Quick Disconnect, Male 1/8" Gauge Tube	
13	902011	1	Quick Disconnect, Female 1/8" Gauge Tube	
14	902242	1	Adapter Fitting with Retaining Clip and O-Ring	
15	902187		Retaining Clip	
16	902188		O-Ring	
17	902255	1	Reducer Bushing 1 1/2" NPT Male/3/4" NPT Female	
18	902409	1	Branch Tee Male 1/4" NPT	
19	902410	1	Connector Male, 7/16" OD x 1/8" ID	
20	95092	1	Coupling Poly, 1 1/4"-11 1/2 NPTF Female x 1 1/4"-11 1/2 NPTF Female	
21	98729	6 Inches	Corrugated Loom	
22	TA510211	6	1" Flex Conduit	
23	TA800916	2	Hose Clamp SC-24	
24	TA810515	AR	Rectorseal 21 1/2 Pint	NOT SHOWN
25	TA814819	1	Reducer Nipple, 1 1/4"-11 1/2 NPT Male x 3/4"-14 NPT Male	
26	TA814872	1	Hose Barb, 1 1/4"-11 1/2 NPTF x 1 1/4" HS (HB125)	

Tee-Jet Manual Selector Controller Valve (Optional)

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



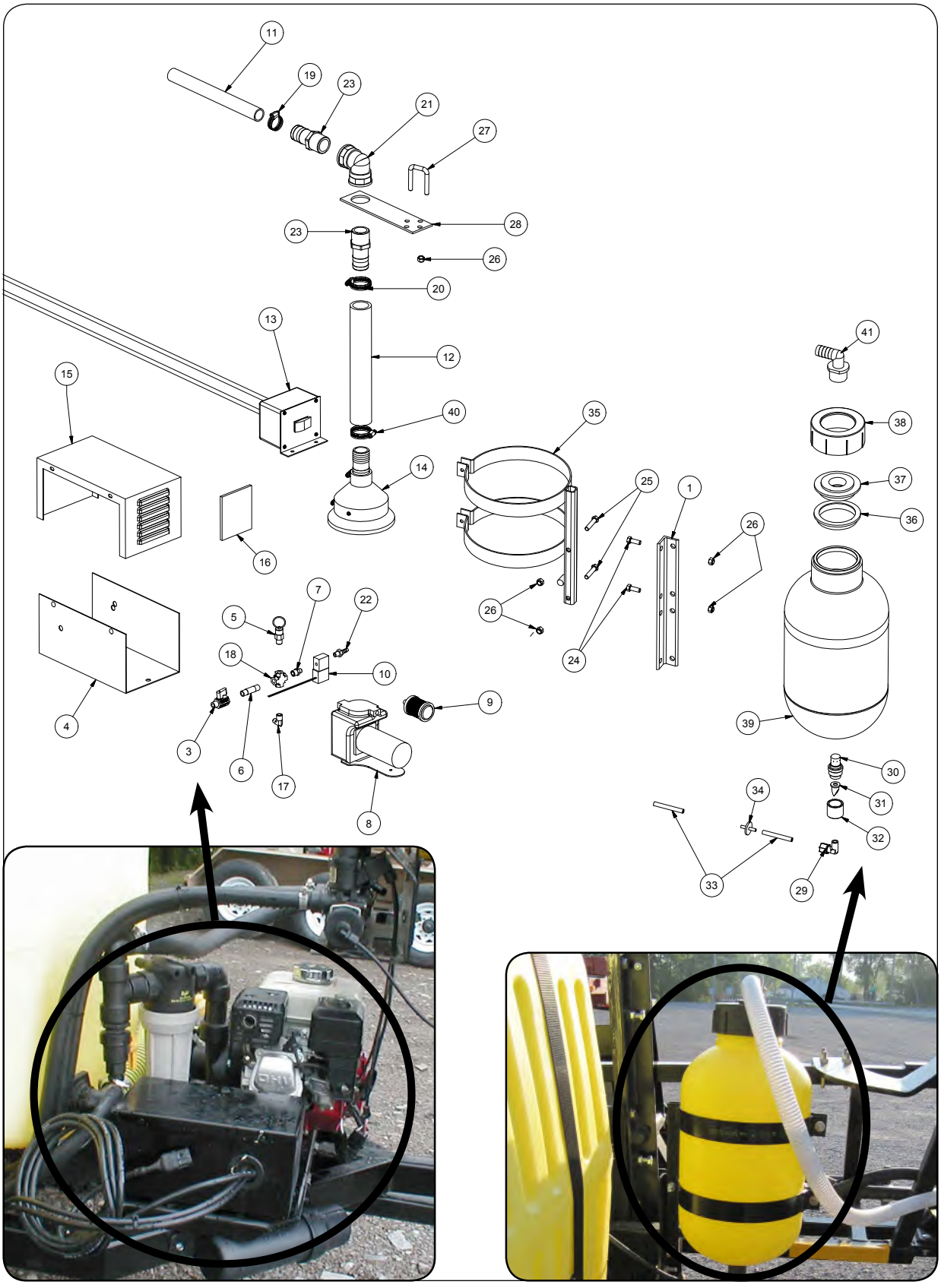
Tee-Jet Manual Selector Controller Valve (Optional)

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

ITEM	PART NO.	QTY	DESCRIPTION
1	42085B	1	Valve Mount Weldment =Black=
2	42088B	1	Valve Mount Stand Weldment =Black=
3	42100B	1	Hose Retainer Plate =Black=
4	42106B	2	Plate =Black=
5	900076	4	U-Bolt 3/8”-16UNC
6	9000936	1	Lynch Pin 1/4” Dia.
7	9390-006	1	Capscrew, 1/4”-20UNC x 1 1/4” G5
8	9390-055	5	Capscrew, 3/8”-16UNC x 1” G5
9	9390-056	2	Capscrew, 3/8”-16UNC x 1 1/4” G5
10	9394-006	1	Hex Nut 3/8”-16UNC
11	9502042	1	Straight Pipe Fitting, 1 Male NPT x 1 1/4 Hose Barb
12	9502060	1	Tee-Jet Manual Control Valve 300 PSI
13	9928	10	Lock Nut/Top, 3/8”-16UNC
14	9936	1	Lock Nut/Top, 1/4”-20UNC
15	TA800912	9	Hose Clamp 13/16”-1 1/2”
16	TA800916	2	Hose Clamp 1”-2”
17	TA806250	30 Feet	Hose 3/4” ID x 1 3/32” OD
18	TA806300	10 Feet	Hose 1 1/4” ID x 1 25/32” OD
19	TA811521	1	Ball Valve 1 1/2 NPT Single Union Full Port
20	TA814693	1	Elbow 90 Degree, 1 1/4-11 1/2 NPT Male x 1 1/4-11 1/2 NPT Female
21	TA814861	3	Hose Barb 3/4-14 MPT x 3/4 Hose Shank
22	TA814874	1	Hose Barb 1 1/2-11 1/2 MPT x 1 1/4 Hose Shank
23	TA814923	3	Hose Mender 3/4 Hose Barb x 3/4 Hose Barb
24	TA814751	3	Pipe Plug 3/4-14 NPTF

Foam Mark Master 1 Mounting Option Kit #TA108016-2

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



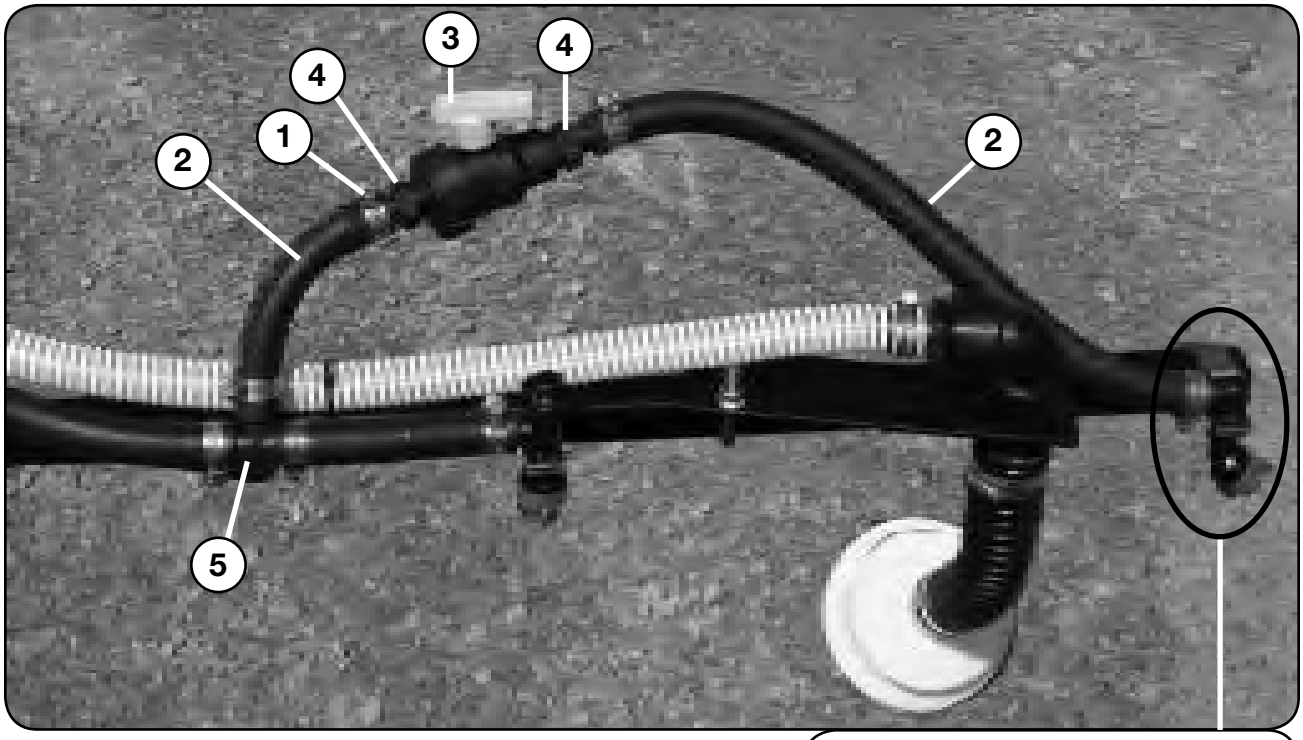
Foam Mark Master 1 Mounting Option Kit #TA108016-2

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

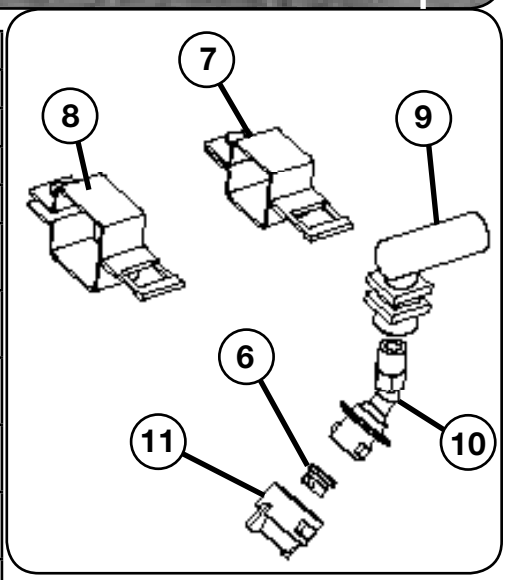
ITEM	PART NO.	QTY	DESCRIPTION
1	40835B	1	Angle
2	9003468	1	Mark Master Boom Parts Kit
3	902313	1	Air Bypass Valve
4	902381	1	Compressor Box
5	902382	1	Brass Fitting 1/4" MPT (11/16 x 1 1/2)
6	902384	1	Brass Nipple 1/4" MPT (17/32 x 2)
7	902385	1	Brass Fitting 1/4" MPT (9/16 x 1 1/32)
8	TA750019	1	Diaphragm Compressor
9	TA750020	1	Compressor Air Filter Diaphragm
10	TA750024	1	Electric Air Valve
11	TA750034	A/R	Hose 1" Foam (Specify in Feet)
12	TA750036	1	Collector Hose 1 1/2"
13	TA750053	1	Control Box Mark Master I Complete
14	TA750062	1	Collector Head 1 1/2" Asy Complete
15	TA750162	1	Cover
16	TA750163	1	Primary Filter
17	TA750164	1	Brass Elbow 1/8 MPT x 1/4 MPT
18	TA750165	1	Brass Cross Fitting
19	TA800912	1	Hose Clamp 13/16" to 1 1/2"
20	TA800916	1	Hose Clamp 1" to 2"
21	TA809516	1	Female Elbow 1 1/4"
22	TA810040	1	Hose Barb 1/8"
23	TA810450	2	Hose Barb 1 1/2"
24	9390-055	6	Capscrew 3/8-16UNC x 1 (Grade 5)
25	9390-058	4	Capscrew 3/8-16UNC x 1 3/4 (Grade 5)
26	9928	18	Locknut 3/8-16UNC
27	TA510072	2	U-Bolt 3/8-16UNC x 2 1/2 (Grade 5)
28	TA750004B	2	Collector Head Bracket
29	TA750031	1	Airline Elbow
30	TA750047	1	Aerator Nipple (1 3/8" Dia. x 2 7/32)
31	TA750048	1	Check Valve
32	TA750049	1	Cap
33	TA750051	2	Airline 1/4"
34	TA750052	1	Inline Check Valve
35	TA750071	1	Tank Stand
36	TA750153	1	Gasket
37	TA750154	1	Tank Cap Disk
38	TA750155	1	Tank Cap Threaded
39	TA750175	1	Tank
40	TA800916	2	Hose Clamp 1" to 2"
41	TA808400	1	Hose Barb 1 1/4"

Fence Row Nozzle Option

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

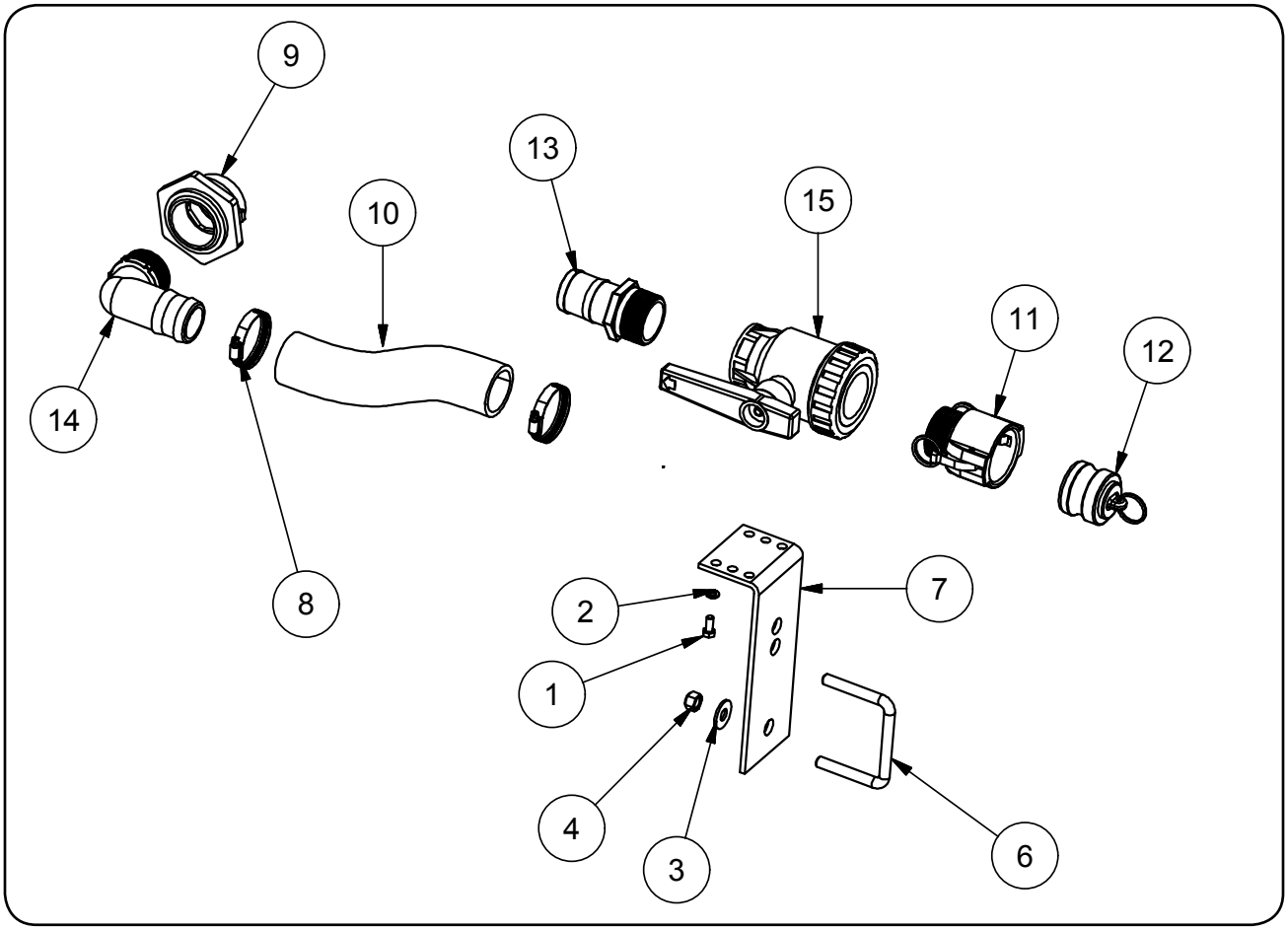


ITEM	PART NO.	QTY	DESCRIPTION
	TA300070	1	FENCE ROW NOZZLE KIT
1	TA800910	12	Hose Clamp, SC-12 (Stainless Steel)
2	TA806250	6	Hose EPDM 3/4 RH34
3	TA908101	2	Ball Valve, 3/4"
4	TA814861	4	Adapter Poly 3/4-14 NPTF Male x 3/4 Hose Shank
5	TA814891	2	Tee Poly 3/4 Hose Barb x 3/4 Hose Barb Run x 3/4 Hose Barb Branch
6	TA847211	2	Tip, Off-Center w/.06 Orifice, 30-60 PSI (Stainless Steel)
7	TA880027	2	Clamp, 1 1/4" Square (QJ111) (Stainless Steel)
8	TA880031	2	Clamp, 1 1/2" Square -304 (QJ111) (Stainless Steel)
9	TA880114	2	Hose Shank, 18724-NYB-785
10	TA880276	2	45° Adapter, 22674-1/4-NYB
11	TA881010	2	Cap & Seat Gasket 25608-3-NYR-RED



2” End Fill (Option)

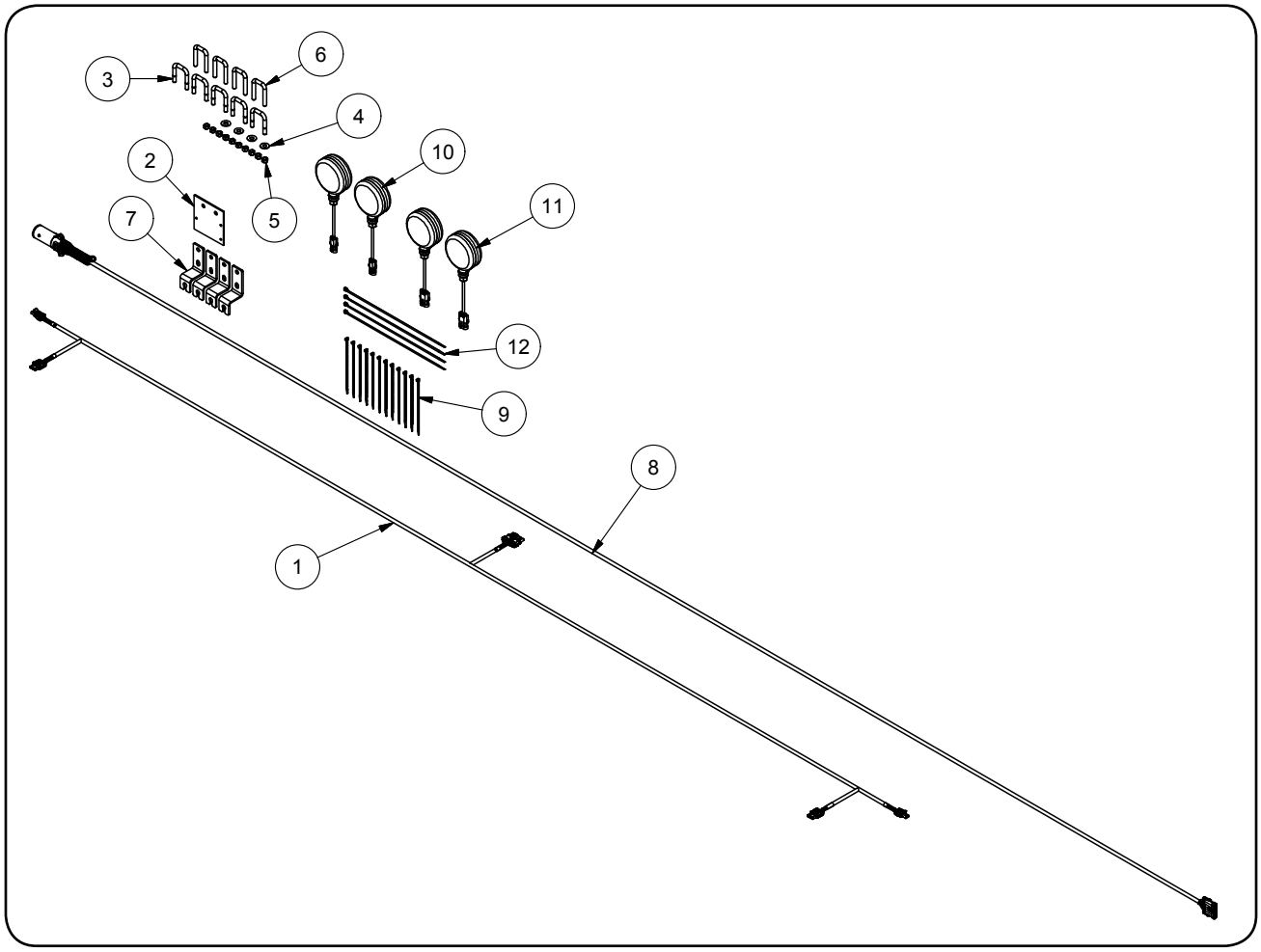
Please visit www.unverferth.com/parts/ for the most current parts listing.



ITEM	PART NO.	QTY.	DESCRIPTION
	TA300300	-	2” End Fill Option
1	9390-028	1	Capscrew 5/16-18UNC x 3/4
2	9404-019	1	Lock Washer 5/16”
3	9405-088	1	Flat Washer 1/2” USS
4	9800	1	Locknut 1/2-13UNC
5	TA0-903700-0	2	Chain
6	TA510000	1	U-Bolt 1/2-13UNC
7	TA521275B	1	End Fill Bracket
8	TA800922	2	Hose Clamp
9	TA805428	1	Tank Fitting
10	TA806332	1	2” Fertilizer Hose
11	TA810750	1	Quick Disconnect Coupling
12	TA811375	1	2” Dust Plug
13	TA814880	1	Hose Barb
14	TA814980	1	90° Elbow
15	TA908105	1	2” Ball Valve

Transport Light - Kit #41332B

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



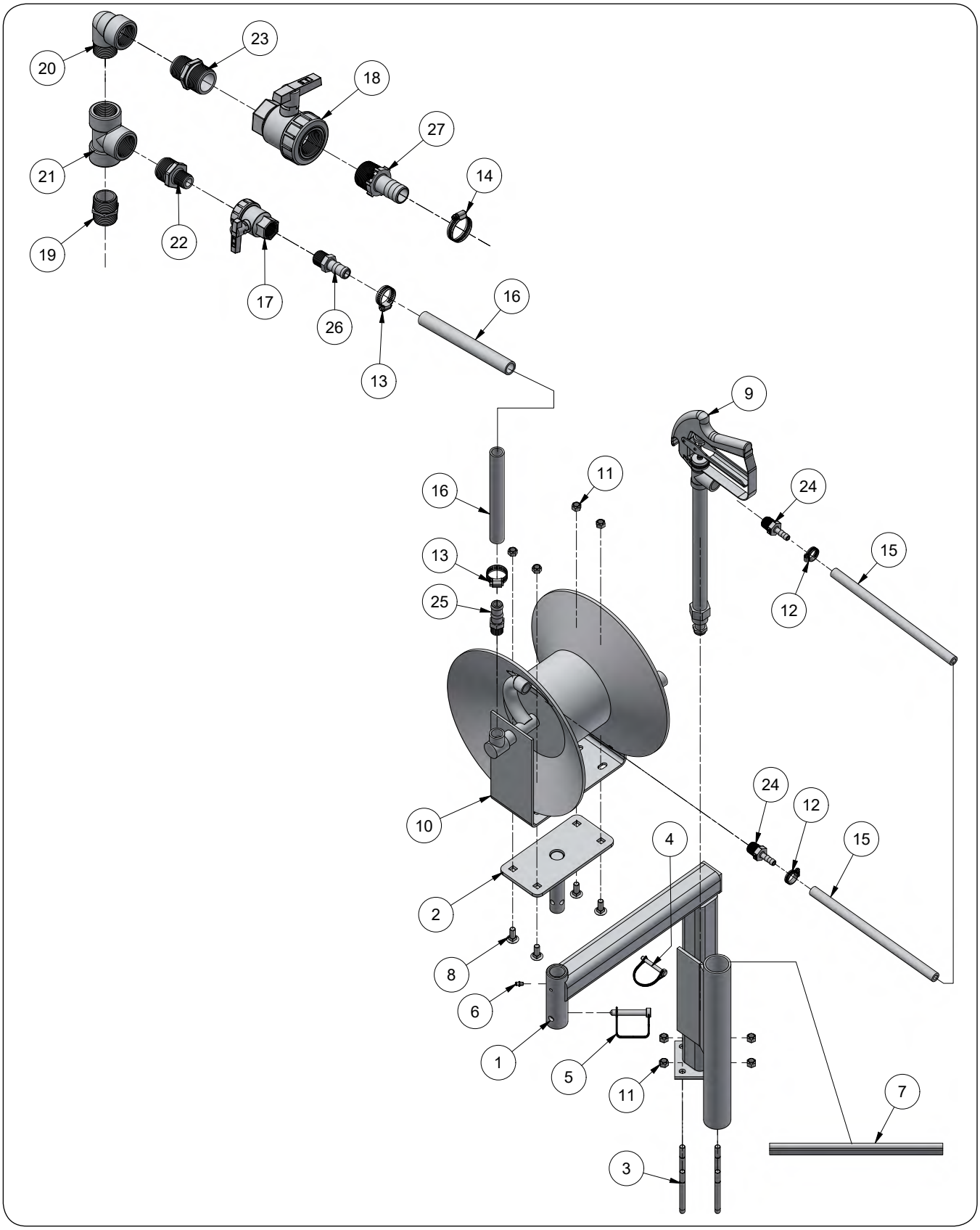
Transport Light - Kit #41332B

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

ITEM	PART NO.	QTY.	DESCRIPTION
	41332B	-	Transport Light
1	22790	1	Wiring Harness
2	40785B	1	Plate
3	91163	5	U-Bolt
4	9405-076	4	Flat Washer 3/8" USS
5	9928	10	Locknut/Top 3/8"-16UNC
6	TA510072	4	U-Bolt
7	40849B	4	Bracket
8	41333	1	Main Wiring Harness
9	9000106	12	Cable Tie 7 1/2"
10	9003876	2	Light Round Amber
11	9003877	2	Light Round Red
12	94037	4	Cable Tie 15 1/2"

Hose Reel & Spray Gun Components

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



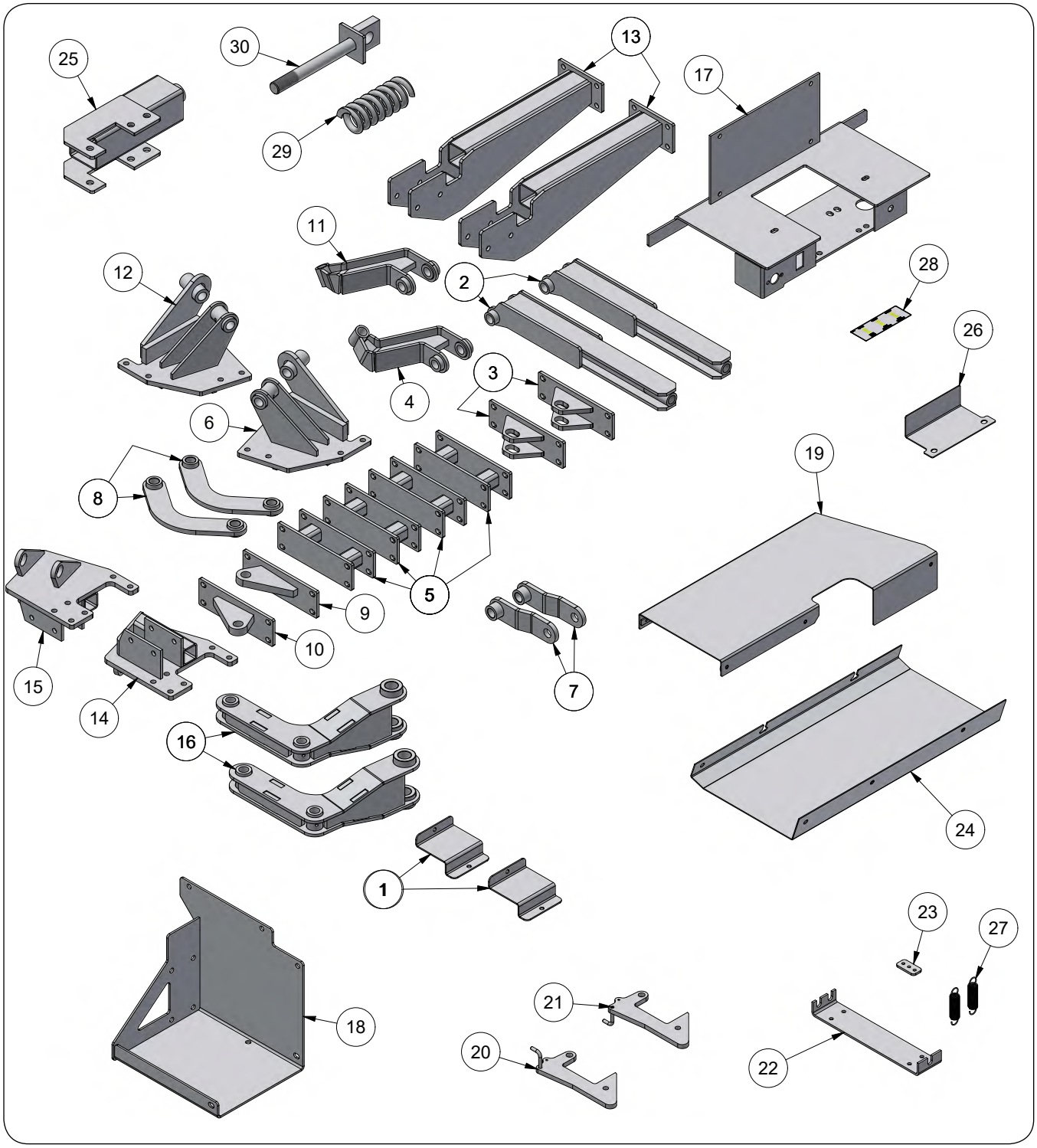
Hose Reel & Spray Gun Components

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

ITEM	PART NO.	QTY.	DESCRIPTION
	42105B	-	Hose Reel/Sprayer Gun Kit
1	42092B	1	Reel Mount Weldment
2	42095B	1	Reel Swivel Weldment
3	900076	2	U-Bolt 3/8"-16UNC
4	9000936	1	Lynch Pin 1/4" x 1 1/2"
5	9000938	1	Lynch Pin 3/8" x 2 1/4"
6	91160	1	Zerk 1/4-28 STT
7	92444	6 Inches	Trim-Edge EPDM
8	9388-051	4	Carriage Bolt 3/8"-16UNC x 1" G5
9	9502044	1	Gun Jet Spray Gun
10	9502087	1	Hose Reel
11	9928	8	Locknut/Top 3/8"-16UNC
12	TA800902	2	Hose Clamp M-6, 7/8" (Stainless Steel)
13	TA800912	2	Hose Clamp 0.8125" - 1.5"
14	TA800916	2	Hose Clamp SC-24, 1" - 2"
15	TA806200	25 Feet	Hose EPDM 3/8" ID, 0.6875" OD
16	TA806250	3 Feet	Hose EPDM 3/4" ID, 1.0937" OD
17	TA811515	1	Ball Valve 3/4" NPT Single Union, Full Port (UV075FP)
18	TA811521	1	Ball Valve 1 1/2" NPT Single Union, Full Port (UV150FP)
19	TA814615	1	Nipple, 1 1/4" NPTF Male
20	TA814693	1	90° Elbow, 1 1/4-11 1/2NPT Male x 1 1/4-11 1/2NPT Female
21	TA814783	1	Tee, 1 1/4-11 1/2NPT Female x 1 1/4-11 1/2NPT Female x 1 1/4-11 1/2NPT Female
22	TA814819	1	Nipple Reducer 1 1/4-11 1/2NPT Male x 3/4-14NPT Male
23	TA814825	1	Nipple Reducer 1 1/2-11 1/2NPT Male x 1 1/4-11 1/2NPT Male
24	TA814855	2	Hose Barb 1/2-14MPT x 3/8 HS Straight Poly (HB050-038)
25	TA814857	1	Hose Barb 1/2-14MPT x 3/4 HS Straight Poly (HB050-075)
26	TA814861	2	Hose Barb 3/4-14MPT x 3/4 HS Straight Poly (HB075)
27	TA814874	1	Hose Barb 1 1/2-11 1/2NPTF x 1 1/4 HS Straight Poly (HB150-125)

Hydraulic Kit Brackets and Springs for 60’ Boom

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



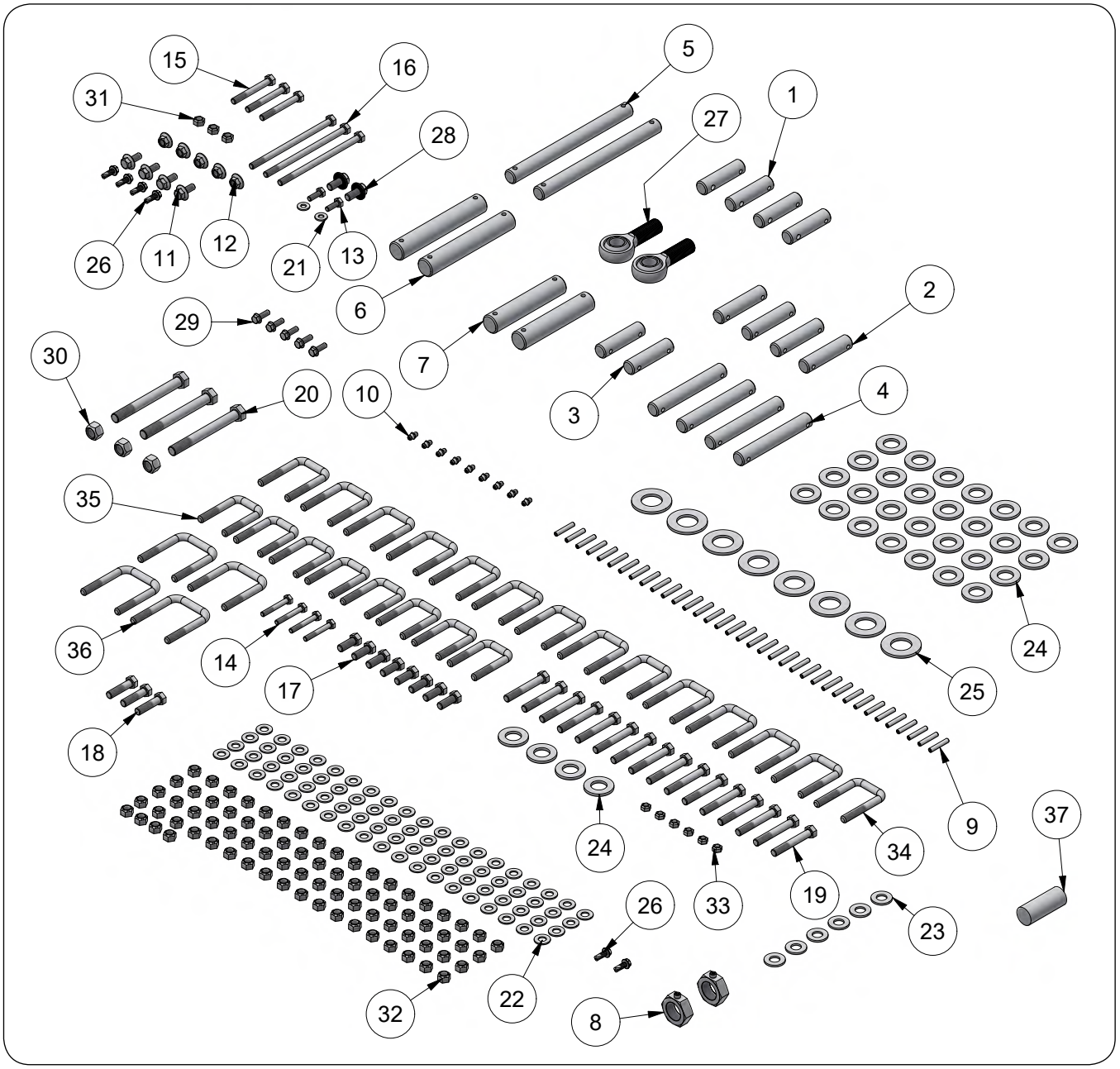
Hydraulic Kit Brackets and Springs for 60' Boom

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	28418B	Battery Bracket	2	
2	43044B	Connecting Link Weldment	2	
3	43053B	Main Wing Mount Weldment	2	
4	43054B	Link Left-Hand Weldment	1	
5	43055B	Main Frame Brace Weldment	4	
6	43059B	Main Pivot Mount LH Weldment	1	
7	44364B	Mid Wing Link Weldment	2	
8	44365B	Upper Link Weldment	2	
9	44369B	Mid Wing Mount LH Weldment	1	
10	44430B	Mid Wing Mount RH Weldment	1	
11	44434B	Link RH Weldment	1	
12	44441B	Main Pivot Mount RH Weldment	1	
13	44444B	Center Section Vertical Cylinder Mount Weldment	2	
14	44705B	Cylinder Mount RH Weldment	1	
15	44706B	Cylinder Mount LH Weldment	1	
16	44713B	Linkage Weldment	2	
17	45031B	Tank Mount Weldment	1	
18	45128B	Battery Mount Weldment	1	
19	45310B	Cover Weldment	1	
20	45330B	Latch Plate Right-Hand Weldment	1	
21	45331B	Latch Plate Left-Hand Weldment	1	
22	45349B	Cable Bracket	1	
23	45350B	Cable Coupler Plate	1	
24	45963B	Power Unit Cover Plate Weldment =Black=	1	
25	46826B	Cylinder End Mount Weldment =Black=	1	
26	47242B	Tank Mount Plate =Black=	1	
27	92971B	Extension Spring, .75" Dia. x 3.375"	2	
28	9504636	Decal, Boom Function	1	
29	TA510062	Compression Spring, 2 7/16" Dia. x 6 1/8"	1	
30	TA640000B	Cylinder Mounting Weldment =Black=	1	

Hydraulic Kit Hardware for 60’ Boom

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



Hydraulic Kit Hardware for 60' Boom

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	47027	Mid Wing Pin, 3/4" Dia. x 2 25/32"	4	
2	47028	Mid Wing Pin, 3/4" Dia. x 3 1/8"	4	
3	47029	Mid Wing Cylinder Pin, 3/4" Dia. x 2 7/8"	2	
4	47030	Pin, 3/4" Dia. x 4 29/32"	4	
5	47031	Main Wing Pivot Shaft/Pin, 3/4" Dia. x 8 11/32"	2	
6	47032	Main Wing Cylinder Pin, 3/4" Dia. x 5 15/16"	2	
7	47035	Main Wing Cylinder Pin, 3/4" Dia. x 4 15/16"	2	
8	805660	Hex Jam Nut, 1-14UNS w/Setscrew 5/16"-18UNC x 7/16"	2	
9	91144-141	Spiral Pin, 7/32" Dia. x 1 1/4"	36	
10	91160	Grease Zerk, 1/4-28 STT	9	
11	91256	Flange Screw, 5/16"-18UNC x 3/4"	4	
12	91257	Hex Nut/Large Flange, 5/16"-18UNC	5	
13	9390-003	Capscrew, 1/4"-20UNC x 3/4" G5	2	
14	9390-008	Capscrew, 1/4"-20UNC x 1 3/4" G5	4	
15	9390-036	Capscrew, 5/16"-18UNC x 2 1/2" G5	3	
16	9390-045	Capscrew, 5/16"-18UNC x 5 1/2" G5	3	
17	9390-055	Capscrew, 3/8"-16UNC x 1" G5	8	
18	9390-057	Capscrew, 3/8"-16UNC x 1 1/2" G5	3	
19	9390-061	Capscrew, 3/8"-16UNC x 2 1/2" G5	16	
20	9390-112	Capscrew, 1/2"-13UNC x 4 1/2" G5	3	
21	9405-062	Flat Washer, 1/4" SAE	2	
22	9405-074	Flat Washer, 3/8" SAE	76	
23	9405-086	Flat Washer, 1/2" SAE	6	
24	9405-104	Flat Washer, 3/4" SAE	32	
25	9405-116	Flat Washer, 1" SAE	8	
26	9473	Screw, Self Drilling, 1/4"-14 x 3/4"	6	
27	9503459	Male Rod End 3/4" Bore	2	
28	95585	Capscrew/Large Flange, 3/8"-16UNC x 3/4" G5	2	
29	97420	Flange Screw, 1/4"-20UNC x 3/4"	5	
30	9800	Lock Nut/Top, 1/2"-13UNC	3	
31	9807	Lock Nut/Top, 5/16"-18UNC	3	
32	9928	Lock Nut/Top, 3/8"-16UNC	76	
33	9936	Lock Nut/Top, 1/4"-20UNC	6	
34	TA510036	U-Bolt, 3/8"-16UNC x 2 3/4"	14	
35	TA510072	U-Bolt, 3/8"-16UNC x 2 1/2"	8	
36	TA510563	U-Bolt, 3/8"-16UNC x 2 7/8"	4	
37	TA620064	Cylinder Pin, 1" Dia. x 2 1/2"	1	

Hydraulic Kit Hydraulic & Electrical Components for 60’ Boom

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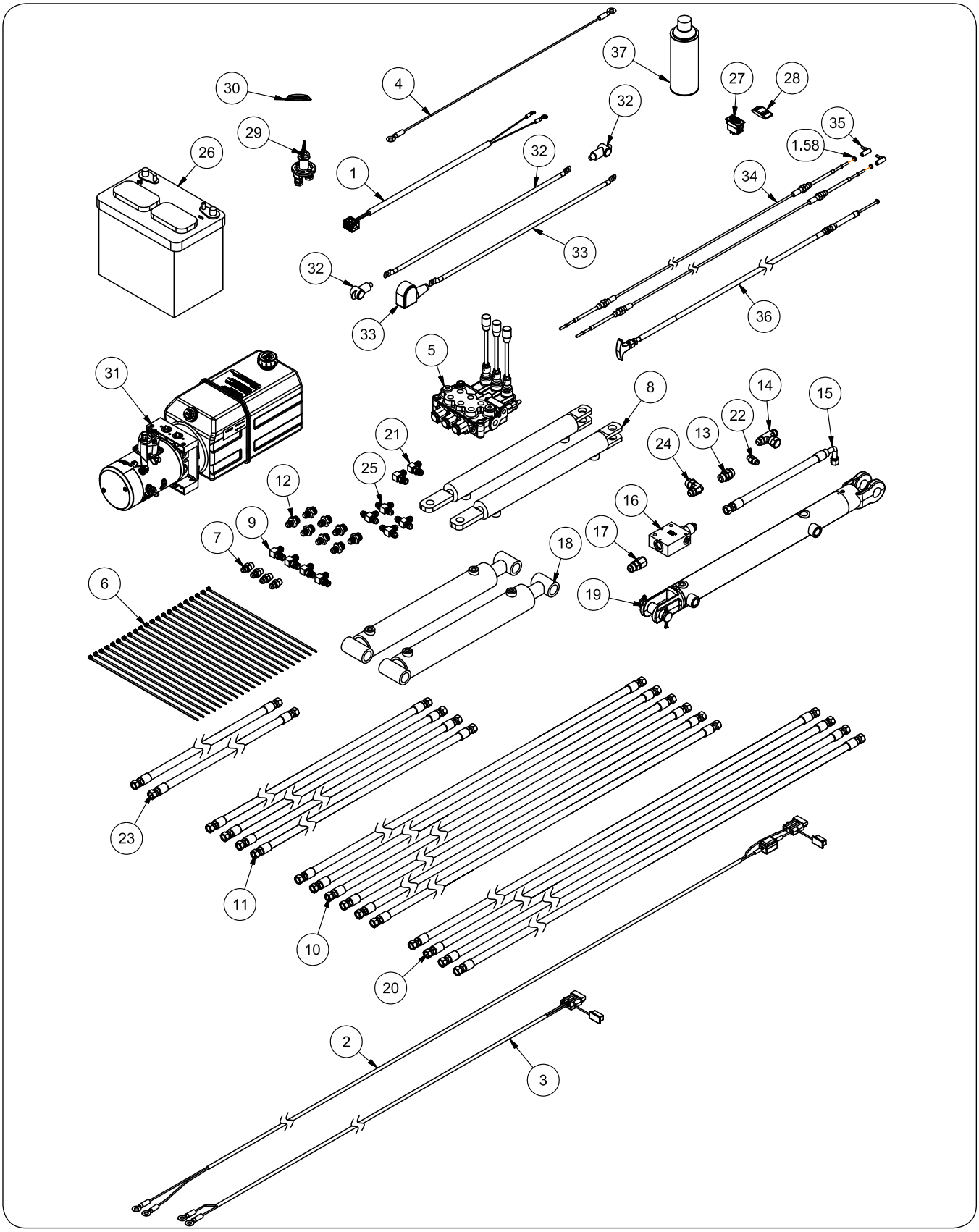

Hydraulic Kit Hydraulic & Electrical Components for 60' Boom

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	2010512	Wire Harness 26" On/Off	1	
2	45142	240 1/2" Charging Wire Harness	1	
3	45143	120 1/2" Charging Wire Harness	1	
4	45633	30" Wiring Harness	1	
5	46084B	Monoblock Control Valve - 3 Spool	1	
6	9000107	Cable Tie, 14 1/2"	32	
7	9001495	Adapter, 9/16-18 JIC Male x 9/16-18 O-Ring Male	4	
8	9003534	Hydraulic Cylnder, 1 1/2" x 12"	2	
9	9003744	90° Adapter, 9/16-18 JIC Male x 9/16-18 O-ring Male w/ 0.030 Restrictor	4	
10	902998	Hydraulic Hose, 3/8" x 166"	6	
11	91197	Hydraulic Hose, 3/8" x 64"	4	
12	92927	Adapter, 9/16-18 JIC Male x 3/4-16 O-Ring Male	8	
13	94969	Adapter, 3/4-16 O-Ring Male x 3/4-16 O-Ring Male	1	
14	94997	Tee, 3/4-16 Jic Male x 3/4-16 JIC Male x 3/4-16 JIC Female	1	
15	9500354	Hydraulic Hose, 3/8" x 14 1/2"	1	
16	9502229	Counterbalance Valve Assembly	1	
17	9503029	Reducer Adapter, 9/16-18 Female Nut x 3/4-16 JIC Male	1	
18	9503519	Hydraulic Cylinder, 2" x 12"	2	
19	9504014	Hydraulic Cylinder, 2" x 18"	1	
20	96851	Hydraulic Hose, 3/8" x 174"	4	
21	97445	90° Elbow, 9/16-18 JIC Male	2	
22	97711	Adapter, 9/16-18 JIC Male x 7/16-20 O-Ring Male	1	
23	98437	Hydraulic Hose, 3/8" x 36"	2	
24	9863	90° Elbow, 3/4-16 JIC Male x 3/4-16 O-Ring Male	1	
25	9875	Tee, 9/16-18 JIC Male x 9/16-18 JIC Male x 9/16-18 JIC Male	4	
26	N/A	Battery, 12V Marine Top Post	1	
27	9500977	Rocker Switch Body (Contura III)	1	
28	9500978	Rocker Switch Actuator (Contura III)	1	
29	9502619	Battery Disconnect Switch w/Removable Key & Rubber Cap	1	
30	9502623	Decal, Battery On/Off Switch	1	
31	9503595	Power Unit 12V DC	1	
32	9503658	Battery Cable 24" (Red)	1	
33	9503659	Battery Cable 24" (Black)	1	
34	9503729	Control Cable 72" Push/Pull	2	
35	9503747	Ball Joint, 10-32UNF Threaded Both Ends	2	
36	9503748	Control Cable 60" Push/Pull	1	
37	97013	Spray Paint (Black)	1	


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