



Soil Moving

Scrapers
Force-Ejection
Models FE 750/775/8120
& FX 750/775

Part No. 125-161

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

Please fill out and retain this portion for your records. 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.

The serial number plate is located as shown below.

Product _____

Serial Number _____

Date of Purchase _____

Dealer _____

City _____ State _____ Zip _____

Please supply this information when you have questions or when ordering repair or replacement parts. Your dealer needs this information to give you prompt, efficient service.

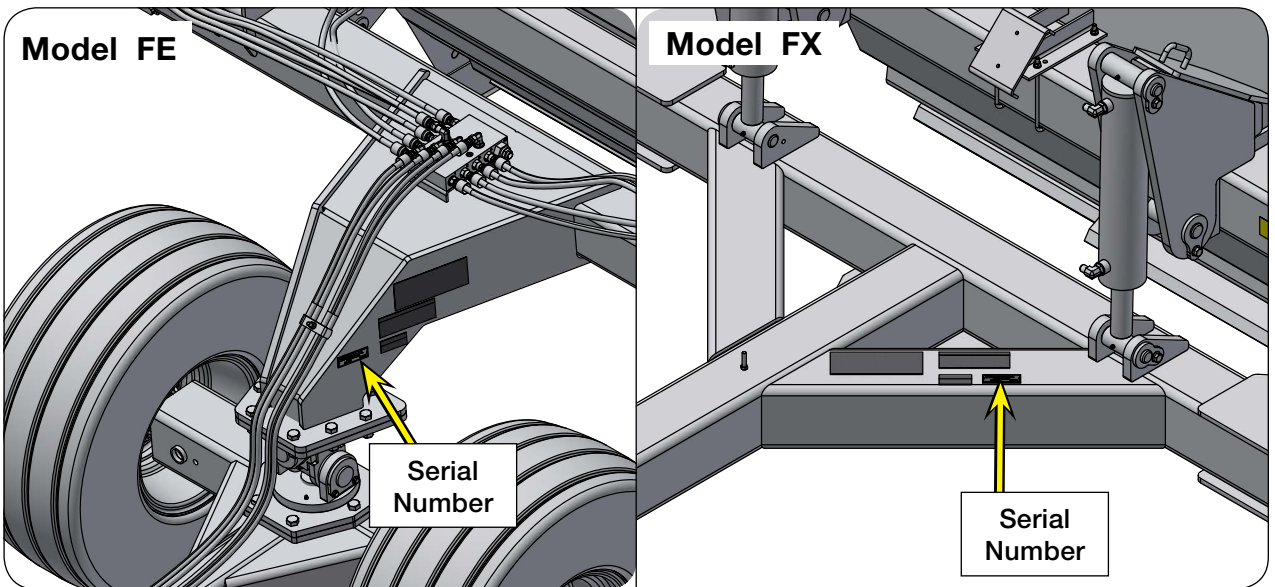


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General Hazard Information

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 is 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

 **DANGER**

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

 **WARNING**

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

 **CAUTION**

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

IMPORTANT

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.

Model FE Shown



PART NO. 153-172

⚠ DANGER
HIGH-PRESSURE FLUID HAZARD
 To prevent serious injury or death:

- Relieve pressure on hydraulic system before servicing or disconnecting hoses.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

153-528

PART NO. 153-528

⚠ CAUTION

1. Read and understand all operator manuals before implement use.
2. Follow all tractor or loader/digger operating procedures and safety guidelines. Do not drive near or over people.
3. Lower implement to the ground, place tractor in park, turn off engine, and remove key.
4. Work for all moving parts to avoid fire, explosion and before working on implement.
5. Be extremely careful working around unshielded sharp edges.
6. Make sure all wiring, lifting and strapping are clean. Use correct lashing when in transport.
7. Display all safety messages clearly, legibly and in writing. Remove equipment.
8. Contact or other proximity to power lines can result in electrocution.
9. Observe all safety instructions with all equipment on a frequent basis.

153-044

PART NO. 153-044

⚠ DANGER

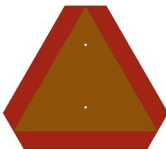
TO PREVENT SERIOUS INJURY OR DEATH FROM PINCHING AND/OR CRUSHING: KEEP ALL PERSONS AND OBJECTS CLEAR WHILE ANY PART OF THIS MACHINE IS IN OPERATION OR MOTION.

PART NO. 153-529



PART NO. 153-173

PART NO. 153-109



PART NO. 153-580

⚠ CAUTION

THIS IS NOT A PUSH PLATE!
 Damage to internal cylinder or cylinder hoses will result from pushing this plate.

153-580

⚠ DANGER

TO PREVENT SERIOUS INJURY OR DEATH FROM PINCHING AND/OR CRUSHING: KEEP ALL PERSONS AND OBJECTS CLEAR WHILE ANY PART OF THIS MACHINE IS IN OPERATION OR MOTION.

PART NO. 153-529

Safety Decals (continued)

Model FX Shown

⚠ DANGER
HIGH-PRESSURE FLUID HAZARD
 To prevent serious injury or death:

- Relieve pressure on hydraulic system before servicing or disconnecting hoses.
- Wear proper hand and eye protection when searching for leaks. Use wood or cardboard instead of hands.
- Keep all components in good repair.

153-528

⚠ DANGER



TO PREVENT SERIOUS INJURY OR DEATH FROM PINCHING AND/OR CRUSHING: KEEP ALL PERSONS AND OBJECTS CLEAR WHILE ANY PART OF THIS MACHINE IS IN OPERATION OR MOTION.

PART NO. 153-529

PART NO. 153-528

⚠ DANGER



TO PREVENT SERIOUS INJURY OR DEATH FROM PINCHING AND/OR CRUSHING: KEEP ALL PERSONS AND OBJECTS CLEAR WHILE ANY PART OF THIS MACHINE IS IN OPERATION OR MOTION.

PART NO. 153-529

PART NO. 153-172

⚠ CAUTION

1. Read and understand all operator manuals before independent use.
2. Follow all safety or warning device operating procedures and safety guidelines.
3. Do not allow riders on implement.
4. Lower implement to the ground, park tractor in park, turn off engine, and remove key.
5. Wait for all moving parts to come to a complete stop before working on implement.
6. Use universal control locking device on all hydraulic control levers when in transport.
7. Hold out all travel, right, left, and down.
8. Engage all safety devices before transporting or working beneath implement.
9. Control or other controls to prevent fire and avoid fire destruction.
10. Review all safety instructions with all operators on a frequent basis.

153-044

PART NO. 153-044

PART NO. 153-173

⚠ DANGER



TO PREVENT SERIOUS INJURY OR DEATH FROM PINCHING AND/OR CRUSHING: KEEP ALL PERSONS AND OBJECTS CLEAR WHILE ANY PART OF THIS MACHINE IS IN OPERATION OR MOTION.

PART NO. 153-173

PART NO. 153-529

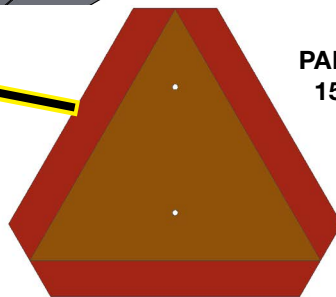
PART NO. 153-084

PART NO. 153-580

⚠ CAUTION

THIS IS NOT A PUSH PLATE!
 Damage to internal cylinder or cylinder hoses will result from pushing this plate.

153-580



Following Safety Instructions

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



- All machinery should be operated only by trained and authorized personnel.

- To prevent machine damage, use only attachments and service parts approved by the manufacturer.

- Always shut tractor engine off and remove key before servicing.



- Avoid personal attire such as loose fitting clothing, shoestrings, drawstrings, pants cuffs, long hair, etc., that may become entangled in moving parts.

- Do not allow anyone to ride on the implement. Make sure everyone is clear before operating machine or towing vehicle.



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



Before Servicing or Operating

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked.



- Ensure that all applicable safety decals are installed and legible.

- When working around the implement, be careful not to be cut by sharp edges.

- Secure drawbar pin with safety lock and lock tractor drawbar in fixed position.

- 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.

- Do not stand between towing vehicle and implement during hitching.

- Always make certain everyone and everything is clear of the machine before beginning operation.

During Operation

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


Before Transporting

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

During Transport

- Comply with all laws governing highway safety when moving machinery.
- Use transport lights as required by all laws to adequately warn operators of other vehicles.
- 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.

Pressurized Oil

- Relieve the hydraulic system of all pressure before adjusting or servicing. See hydraulic power unit manual for procedure to relieve pressure.
- High-pressure fluids can penetrate the skin and cause serious injury or death. Leaks of high-pressure fluids may not be visible. Use cardboard or wood to detect leaks in the hydraulic system. Seek medical treatment immediately if injured by high-pressure fluids. 
- Hydraulic system must be purged of air before operating to prevent serious injury or death.
- Do not bend or strike high-pressure lines. Do not install bent or damaged tubes or hoses.
- Repair all oil leaks. Leaks can cause fires, personal injury, and environmental damage.
- Route hoses and lines carefully to prevent premature failure due to kinking and rubbing against other parts. Make sure that all clamps, guards and shields are installed correctly.
- Check hydraulic hoses and tubes carefully. Replace components as necessary if any of the following conditions are found:
 - End fittings damaged, displaced, or leaking.
 - Outer covering chafed/cut or wire reinforcing exposed.
 - Outer covering ballooning locally.
 - Evidence of kinking or crushing of the flexible part of a hose.

Preparing for Emergencies

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



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



Wearing Protective Equipment

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



- Wear steel-toed shoes when operating.



- Wear hearing protection when exposed to loud noises.



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



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General Set Up Information

This section contains all of the instructions required for the complete assembly of the scraper.

For your safety, and the safety of others, use proper tools and equipment and always use safe working procedures. Refer to these instructions before starting any work on your machine.

IMPORTANT

- *The procedures for assembling this unit are intended for two or more people.*

For ease of assembly, install all hardware loosely until assembly is complete and then tighten according to “Torque Chart” in MAINTENANCE section unless otherwise specified.

WARNING

- **KNOW AND UNDERSTAND SAFETY RULES BEFORE OPERATING OR SERVICING THIS MACHINE. REVIEW "SAFETY" SECTION IN YOUR MANUAL IF NECESSARY.**
- **EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING THE IMPLEMENT.**
- **KEEP HANDS CLEAR OF PINCH POINT AREAS.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 5,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**
- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE THE MACHINE IS SECURELY BLOCKED.**
- **MOVING PARTS CAN CRUSH AND CUT. KEEP AWAY FROM MOVING PARTS.**

Basic Set Up

Due to shipping requirements and various dealer-installed options, some initial implement set up will be required after it arrives from the factory. Use the following procedures as needed for initial implement set up.

Hydraulic System

Check all hoses and cylinders for signs of leakage. Hoses should not be kinked, twisted or rubbing against sharp edges. Re-route or repair hoses as necessary. Refer to SAFETY section for additional information on safe repair and inspection of hydraulic components.

Wheel/Tire Set Up

Tire Pressure

Tire pressure must be verified before first use and adjusted as necessary. Refer to MAINTENANCE section of this manual for information on tire pressure.

Wheel Nuts

CAUTION

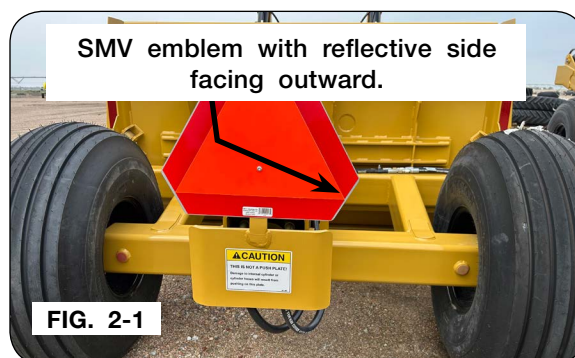
- IMPROPERLY TORQUED WHEEL NUTS/BOLTS CAN CAUSE A LOSS OF IMPLEMENT CONTROL AND MACHINE DAMAGE. WHEEL NUTS/BOLTS MUST BE CHECKED REGULARLY. SEE TORQUE PAGE IN THE "MAINTENANCE" SECTION FOR PROPER WHEEL NUT/BOLT SPECIFICATIONS. WARRANTY DOES NOT COVER FAILURES CAUSED BY IMPROPERLY TORQUED WHEEL NUTS/BOLTS.

SMV Emblem & SIS Decal

Before the implement is used the reflective surface of the SMV must face rearward. This may require removal of film protecting the reflective surface or removing and reinstallation of the SMV.

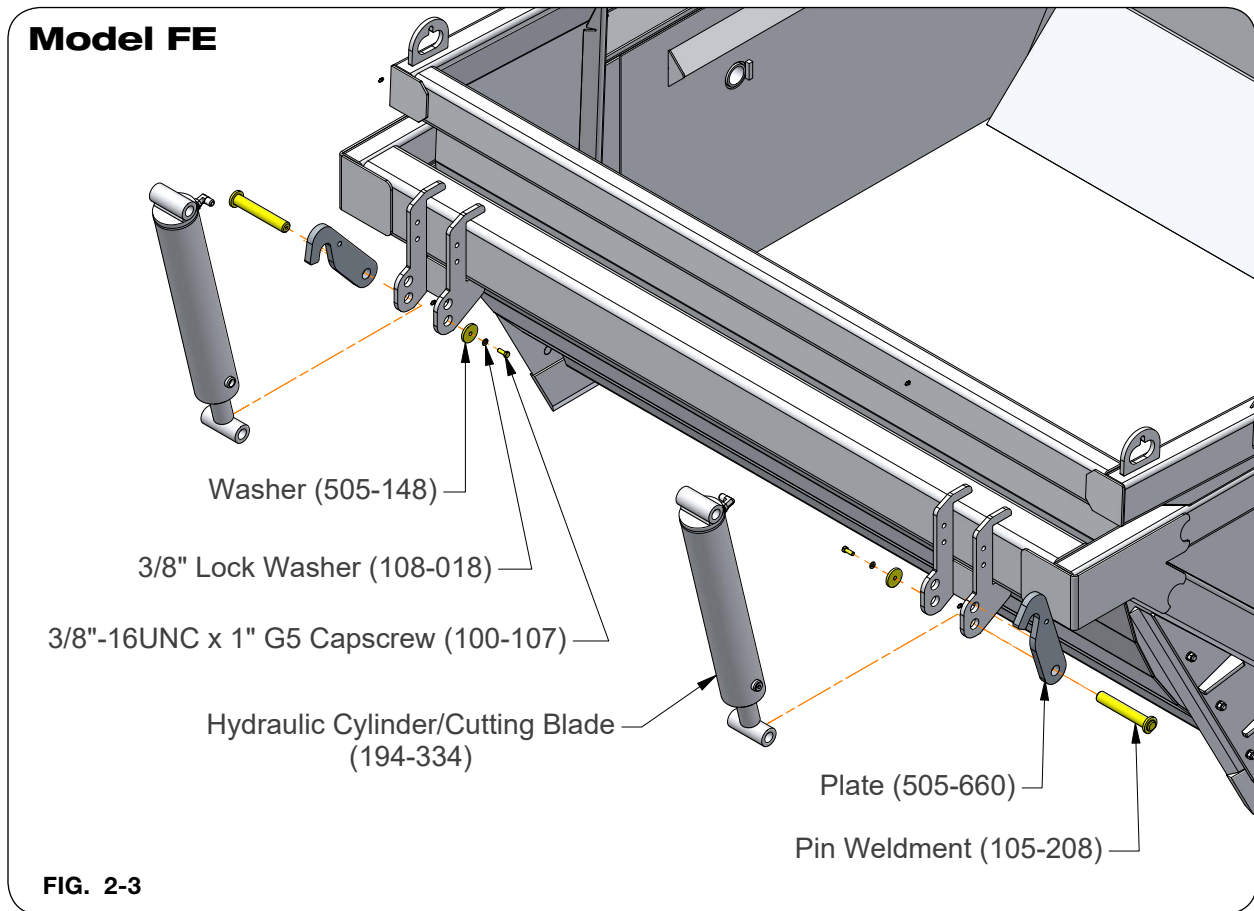
When reinstalling the SMV make sure that it is mounted with the wide part of the SMV at the bottom.

If applicable, ensure the SIS decals (one on the front and one on the rear of the implement) are clean and visible.



Tongue Assembly — Model FE

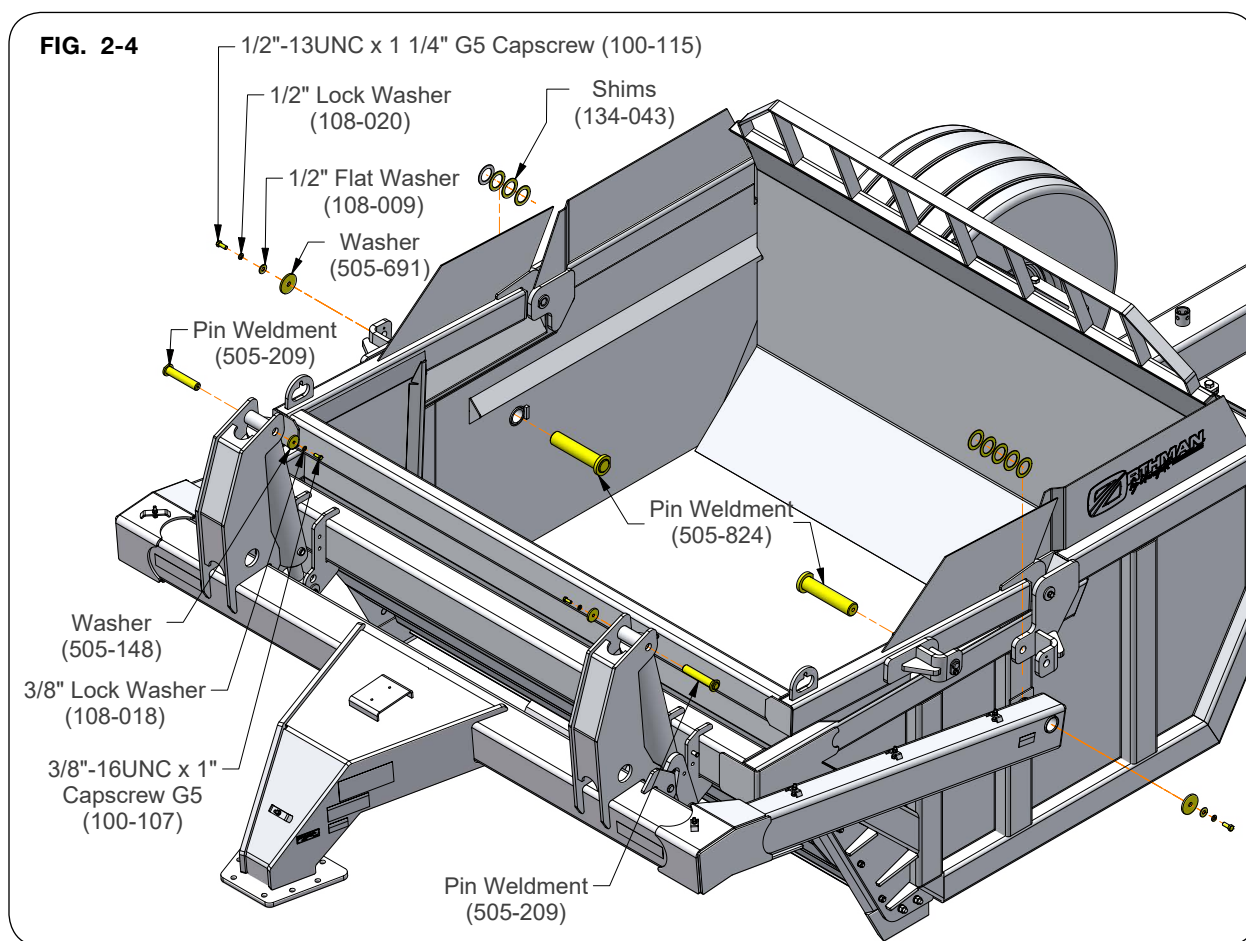
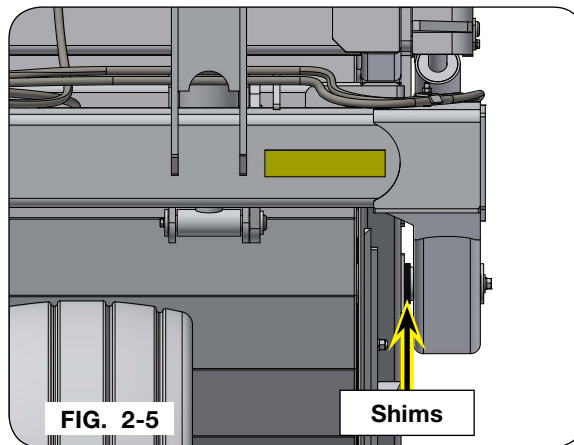
1. Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
2. Using a safe lifting device rated at a minimum of 1,500 lbs., secure tongue assembly to main frame.
3. Attach the rod end of hydraulic cylinder/cutting blade (194-334) to front of scraper with plates (505-660), pin weldments (105-208), washers (505-148), 3/8" lock washers (108-018) and 3/8"-16UNC x 1" grade 5 capscrews (100-107). (FIG. 2-3)



Tongue Assembly — Model FE (continued)

- Secure pivot tongue bracket assembly sides to the scraper with pin weldments (505-824), shims (134-043), washers (505-691), 1/2" flat washers (108-009), 1/2" lock washers (108-020), and 1/2"-13UNC x 1 1/4" grade 5 capscrews (100-115). (FIG. 2-4)

NOTE: Shims (134-043) should be placed between the frame and the tongue brackets. (FIG. 2-5)

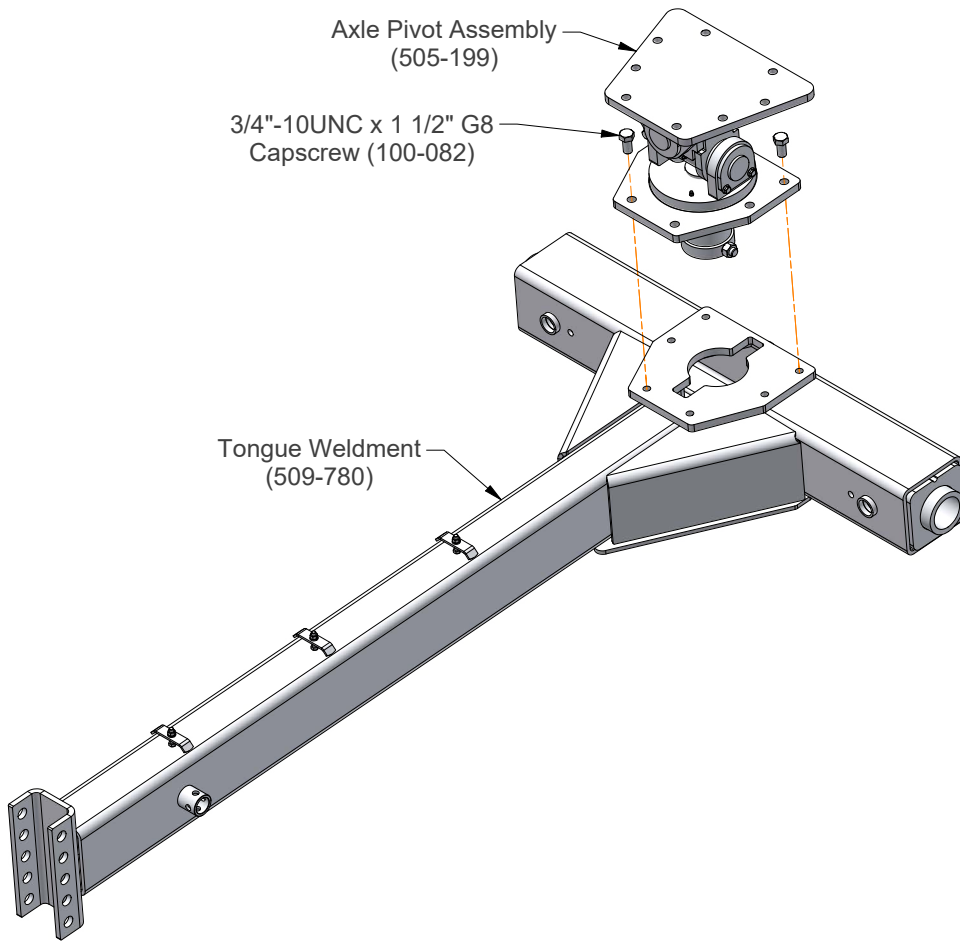


- Attach the pivot tongue bracket assembly to the front of the scraper hydraulic cylinder/cutting blade (194-334) base end with pin weldments (505-209), washers (505-148), 3/4" lock washers (108-018), and 3/4"-10UNC x 1" grade 5 capscrews (100-107).

Tongue Assembly — Model FE (continued)

6. Attach the axle pivot assembly (505-199) to the tongue weldment with six 3/4"-10UNC x 1 1/2" grade 8 capscrews (100-082).

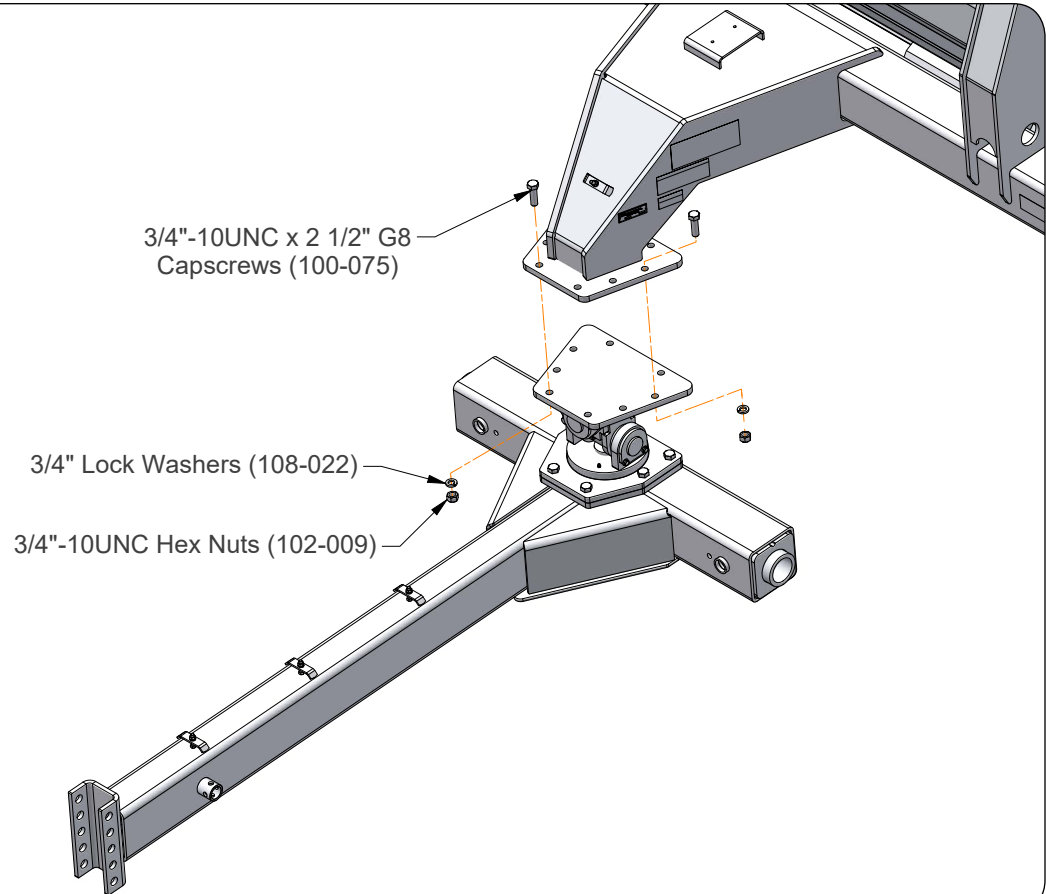
FIG. 2-6



Tongue Assembly — Model FE (continued)

7. Secure the tongue weldment with axle pivot assembly to the pivot tongue bracket assembly with eight 3/4"-10UNC x 2 1/2" grade 8 capscrews (100-075), 3/4" lock washers (108-022), and 3/4"-10UNC hex nuts (102-009).

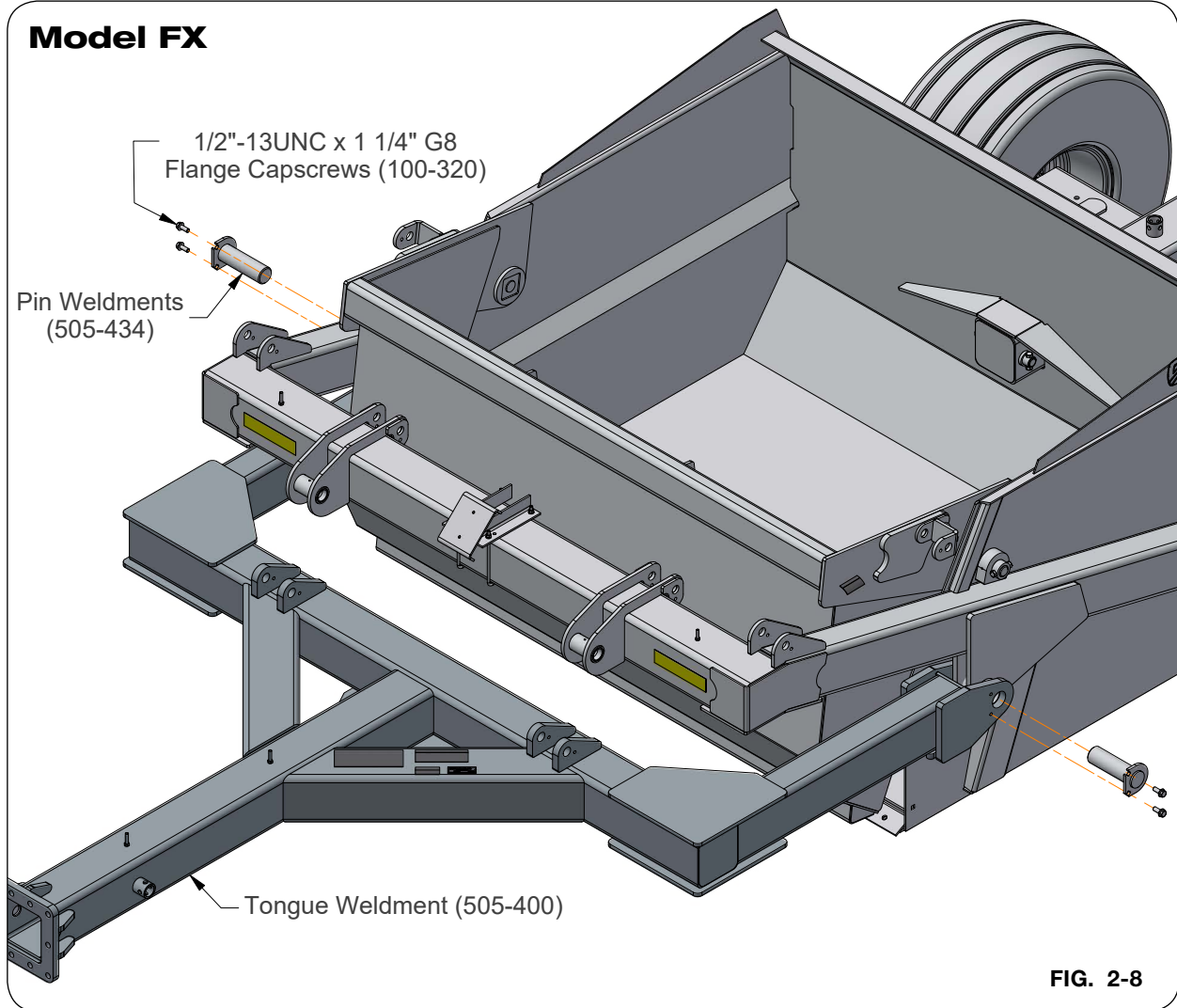
FIG. 2-7



8. Torque hardware accordingly. Refer to "Torque Chart" in MAINTENANCE section.

Tongue Assembly — Model FX

1. Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
2. Using a safe lifting device rated at a minimum of 1,500 lbs., secure tongue assembly to main frame.
3. Use two pin weldments (505-434) and four 1/2"-13UNC x 1 1/4" grade 8 flange capscrews (100-320).



4. Torque hardware accordingly. Refer to "Torque Chart" in MAINTENANCE section.

Hitch Assembly — Model FE

1. Using a safe lifting device and support stands rated at a minimum of 1,500 lbs., support the tongue.
2. Assemble the hitch assembly with 3/4"-10UNC x 5 1/2" grade 8 capscrew (100-083) and 3/4"-10UNC lock nut (102-215).
3. Secure the assembled hitch to the tongue with two 1"-8UNC x 6 1/2" grade 8 capscrews (100-283) and 1"-8UNC lock nuts (102-214).

Model FE

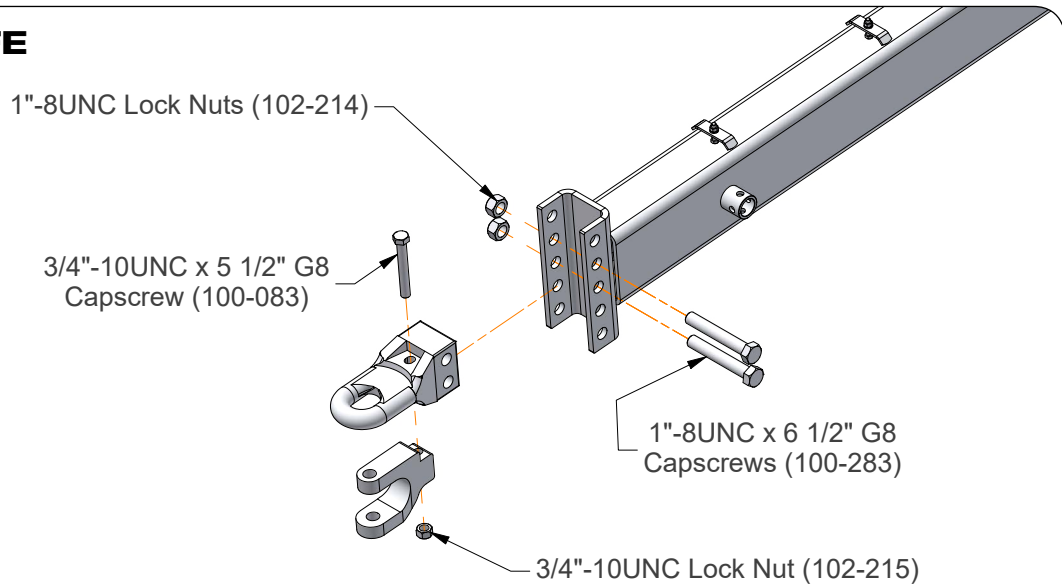


FIG. 2-9

Hitch Assembly — Model FX

1. Using a safe lifting device and support stands rated at a minimum of 1,500 lbs., support the tongue.
2. Slide washer (505-418) onto hitch adapter weldment (505-419).
3. Insert hitch adapter weldment (505-419) into hitch plate weldment (505-417 or 505-413) and secure with washer (505-418), 2"-12UNF slotted hex nut (102-088) and 3/8" Dia. x 3 1/2" cotter pin (104-038). Ensure hitch is snug, but can turn freely.
4. Secure hitch plate weldment (505-413) to the tongue with ten 3/4"-10UNC x 3" grade 8 capscrews (100-344), 3/4" lock washers (108-022), and 3/4"-10UNC hex nuts (102-009).
5. Attach hitch to hitch adapter weldment (505-419) with two 1"-8UNC x 7 1/2" grade 8 capscrews (100-405) and 1"-8UNC lock nut (102-214).

Model FX

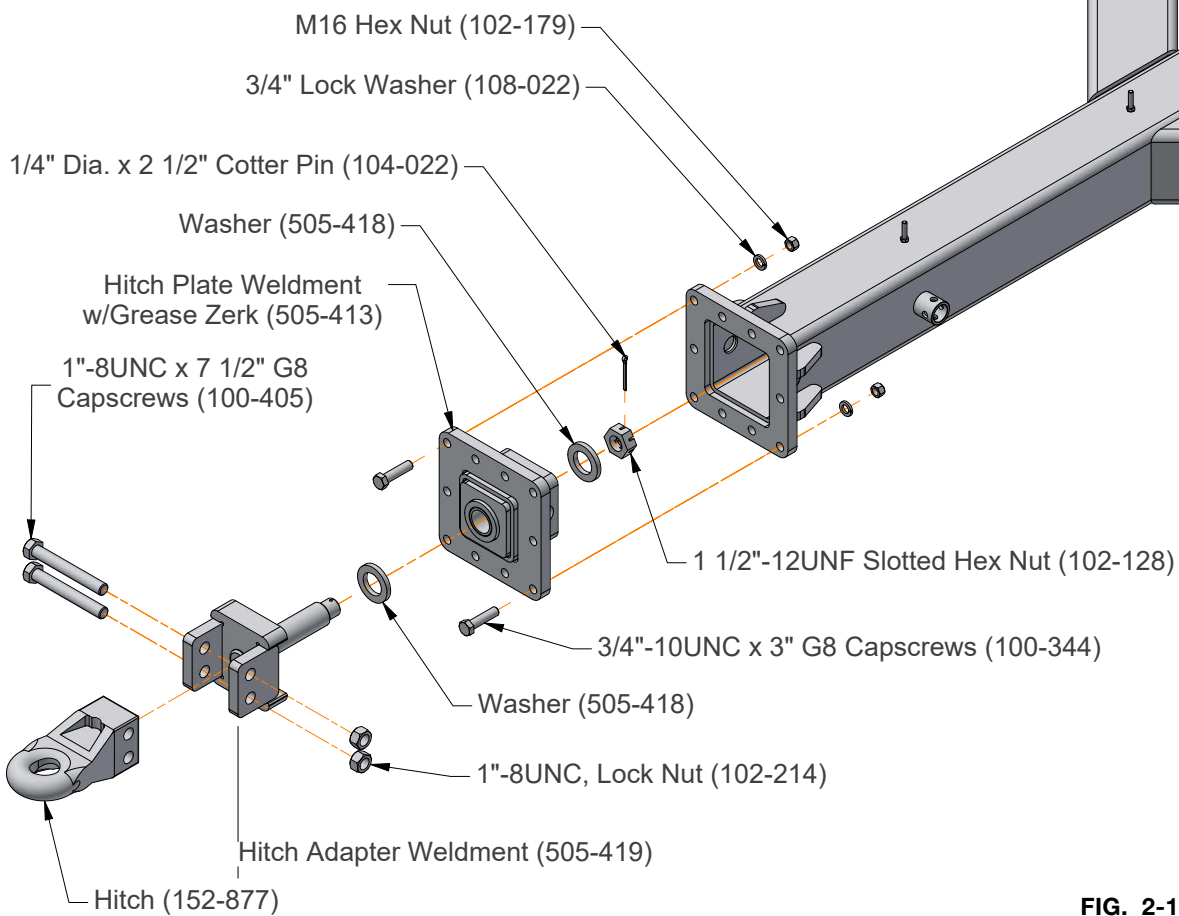
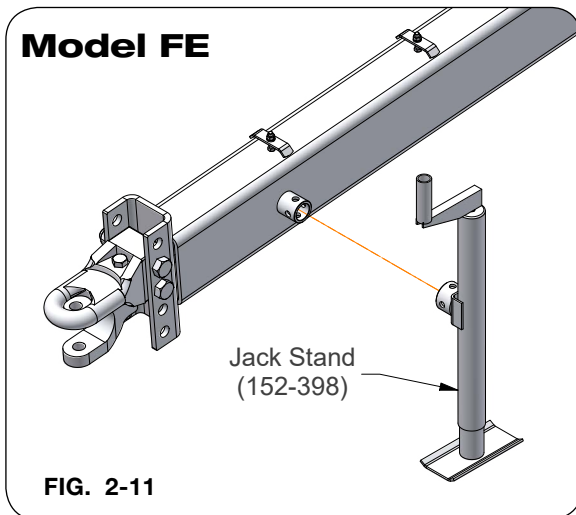


FIG. 2-10

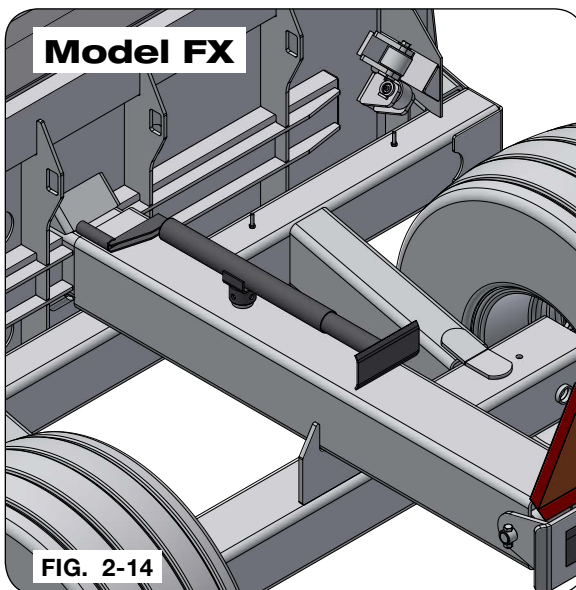
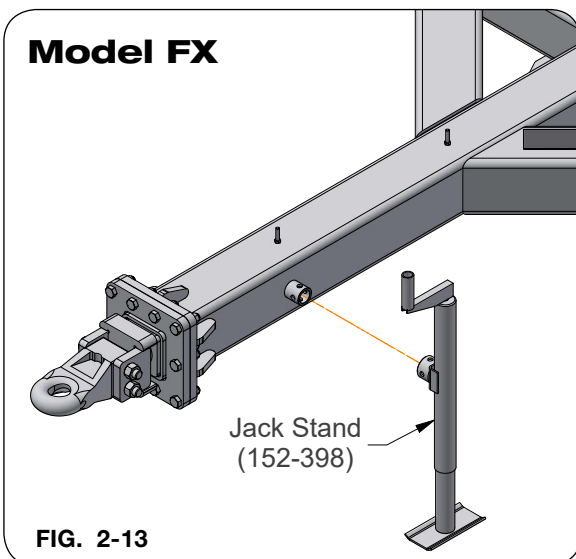
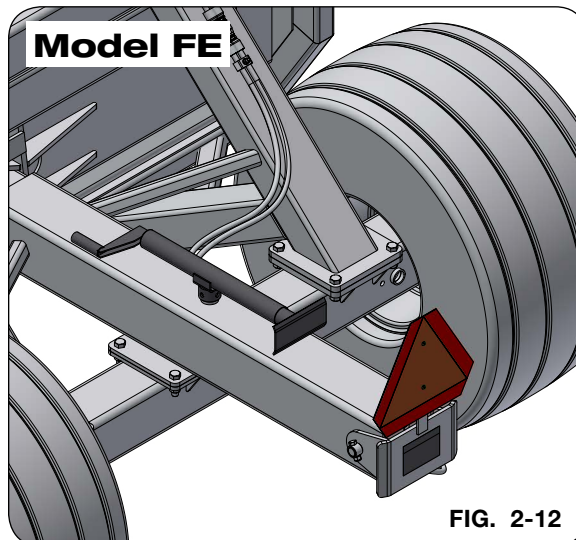
Jack Stand Assembly

1. Using a safe lifting device and support stands rated at a minimum of 1,500 lbs., support the tongue.
2. Secure jack stand assembly to tongue.

Parked Position

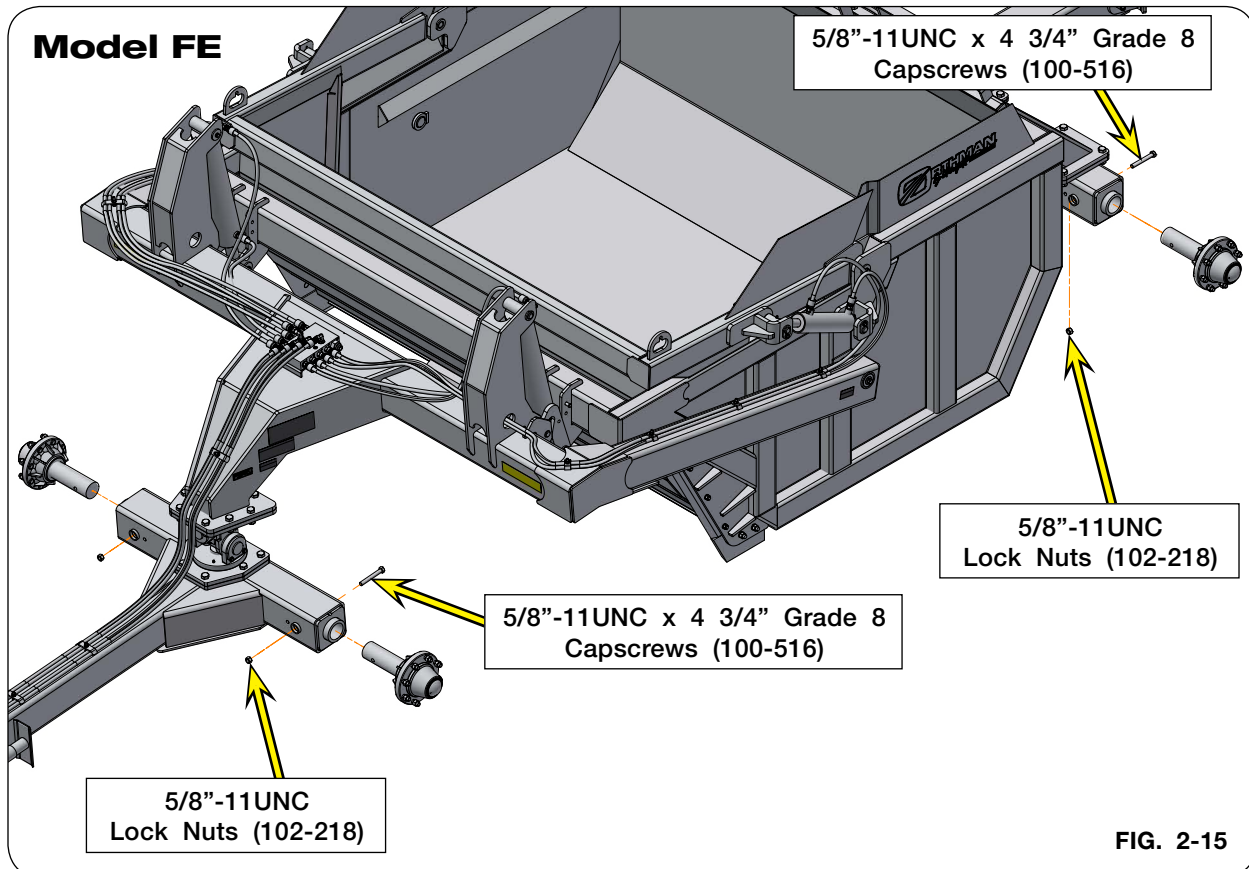


Transport Position



Spindle & Hub Assembly — Model FE

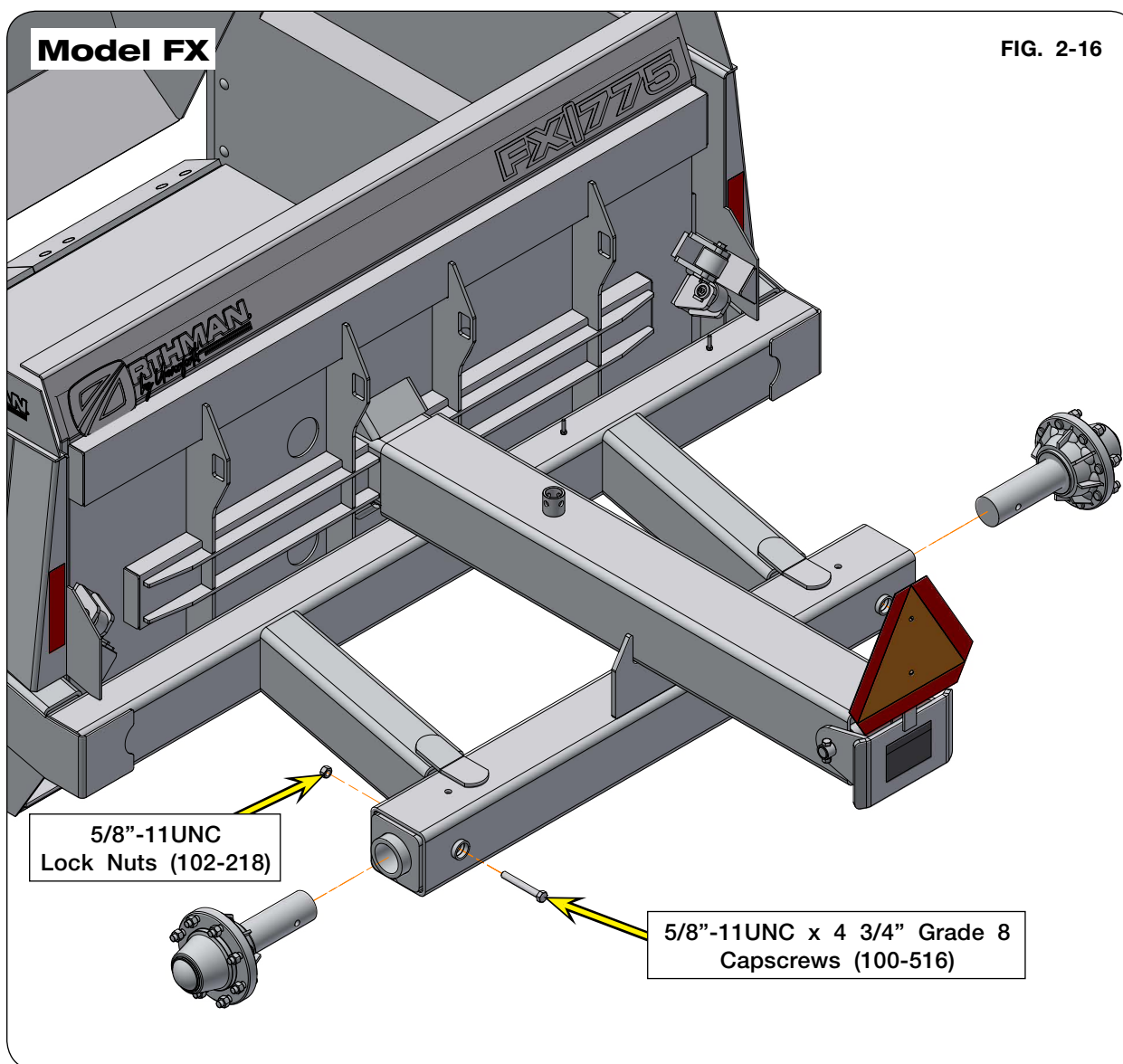
1. Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
2. Insert the spindle and hub 8-bolt assemblies to the left-hand and right-hand sides of the axles. Secure with 5/8"-11UNC x 4 3/4" grade 8 capscrews (100-516) and 5/8"-11UNC lock nuts (102-218).



3. Torque hardware accordingly. Refer to "Torque Chart" in MAINTENANCE section.

Spindle & Hub Assembly — Model FX

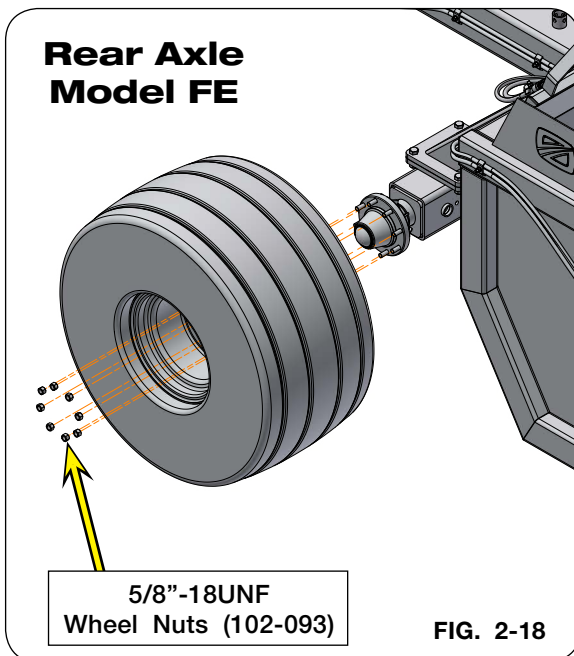
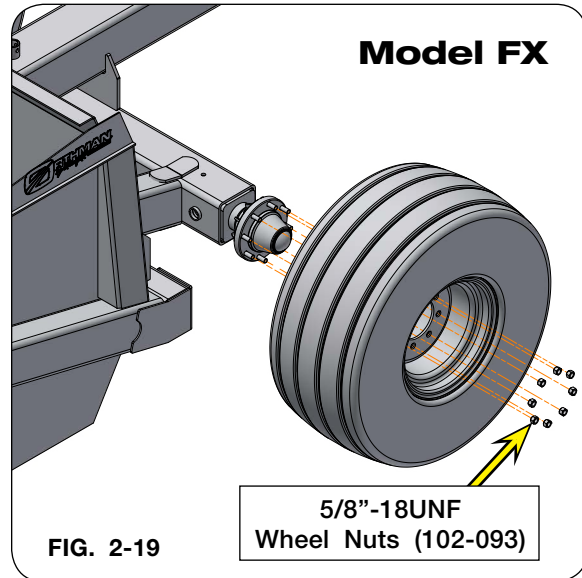
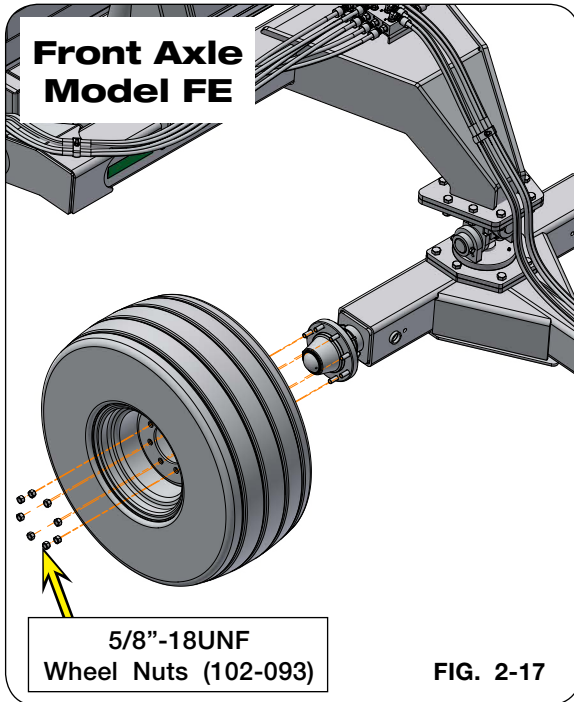
1. Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
2. Insert the spindle and hub 8-bolt assemblies to the left-hand and right-hand sides of the axles. Secure with 5/8"-11UNC x 4 3/4" grade 8 capscrews (100-516) and 5/8"-11UNC lock nuts (102-218).



3. Torque hardware accordingly. Refer to "Torque Chart" in MAINTENANCE section.

Wheel & Tire Assembly

1. Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
2. Using a safe lifting device rated for at least 100 lbs., attach wheel and tire assemblies to left-hand and right-hand side of the axle assembly with 5/8"-18UNF wheel nuts (102-093).



3. Torque hardware accordingly. Refer to "Wheel Nut Torque" in MAINTENANCE section.

Hydraulic Assembly

WARNING

- HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.

IMPORTANT

- *Do not use any tape or thread sealant as all fittings have mechanical or o-ring seals. This prevents contamination from tape or thread sealants from entering the tractor's hydraulic system.*

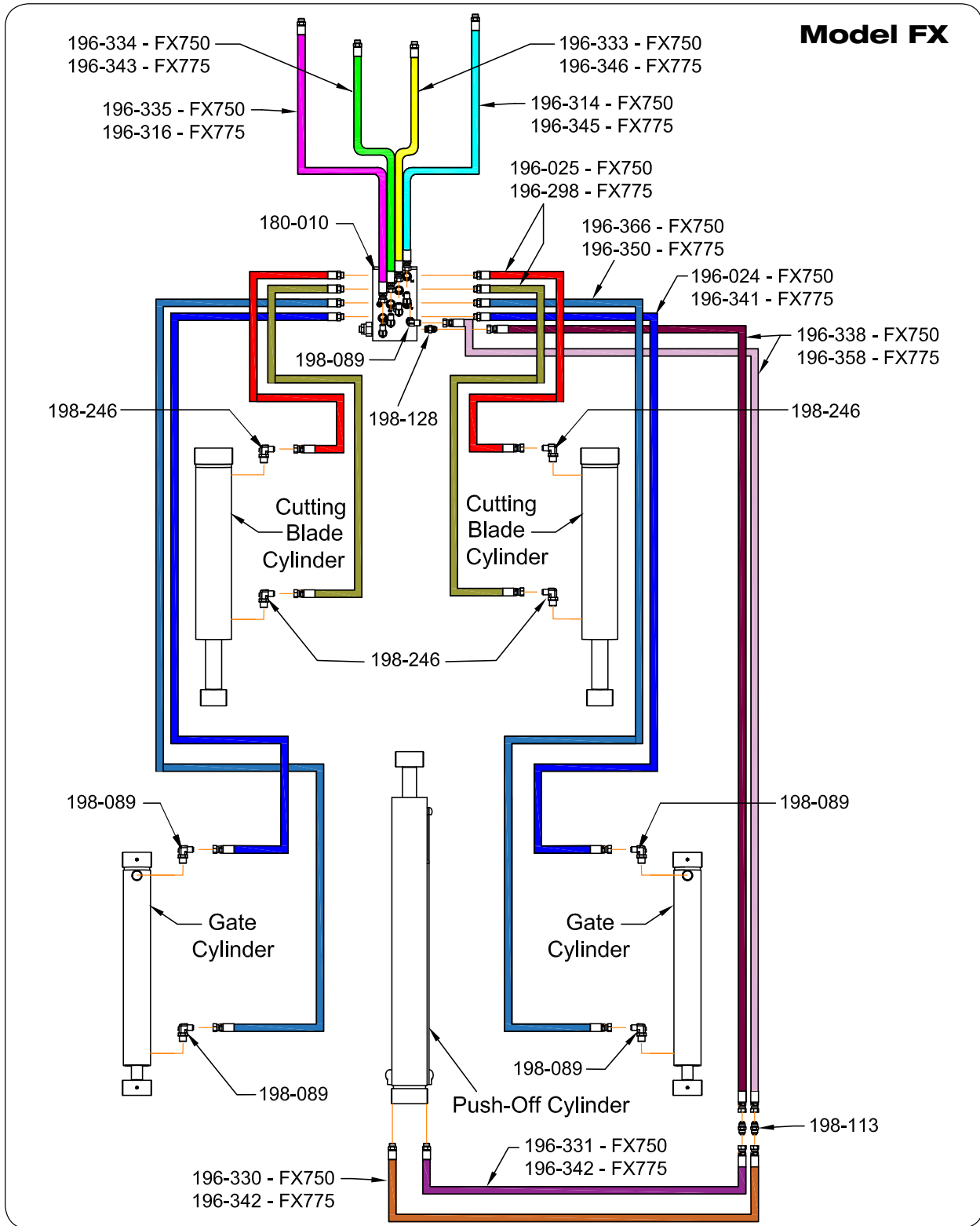
NOTE: It is recommended to run the electrical harness with the hydraulic hoses when installing them.

NOTE: Refer to the PARTS section for fitting type, hose size, and length required.

NOTE: Refer to Purging A Hydraulic System in this section for purging instructions and warnings after assembly of the hydraulic components is completed.

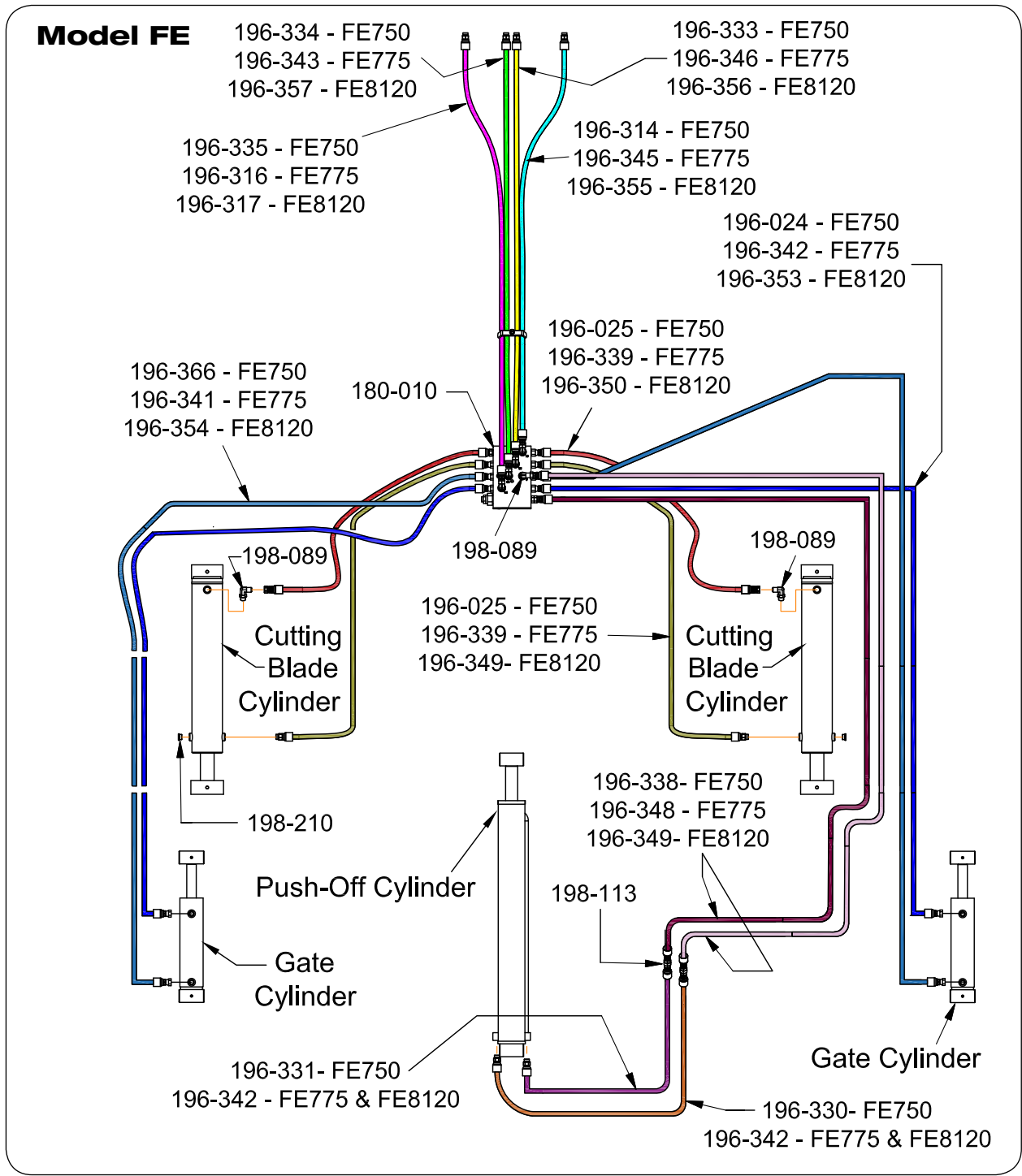
Hydraulic Assembly (continued)

- Using a safe lifting device and support stands rated at a minimum of 5,000 lbs., support the main frame.
- If applicable, route hose from hydraulic manifold to the tractor as shown below.



Hydraulic Assembly (continued)

2. (continued)



Hydraulic Assembly (continued)

Purging A Hydraulic System

WARNING

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

1. Purge air from system as follows:
 - A. Clear all personnel and objects from the area, including where the machine will have full range of motion during the hydraulic movement.
 - B. Pressurize the system and maintain the system at full pressure for at least 5 seconds after the cylinder rods stop moving. Check that all cylinders have fully extended or retracted.
 - C. Check oil reservoir in the hydraulic power source and refill as needed.
 - D. Pressurize the system again to reverse the motion of step B. Maintain pressure on the system for at least 5 seconds after the cylinder rods stop moving. Check that all cylinders have been fully extended or retracted.
 - E. Check for hydraulic oil leaks using cardboard or wood. Tighten connections according to directions in the Torque Specifications in the MAINTENANCE section.
 - F. Repeat steps in B, C, D, and E 10-12 times.

SECTION III

Operations

- General Operation Information 3-2
- Preparing Tractor..... 3-2
- Preparing Scraper 3-3
 - Bolts & Nuts..... 3-3
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- Capacity 3-5
- Horsepower Requirements 3-5
- Hydraulic Hook-Up 3-6
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General Operation Information

WARNING

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

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

Preparing Tractor

Follow these recommendations if the box scraper will be connected directly to a tractor.

Before operating implement, refer to tractor operator's manual for information concerning safe methods of operation, hydraulics, hitch adjustment, tire inflation, wheel adjustments, and tractor weights.

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

Check tractor hydraulic oil reservoir and add oil if needed.

Be sure tractor drawbar has sufficient capacity to operate the scraper implement.

Adjust the tractor drawbar vertically so the top side of the bar is approximately 17 inches from the ground, and lock on centerline of tractor.

Secure the tractor 3-Point linkage so that it does not swing into the tractor tires or onto the hoses.

Preparing Scraper

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

Bolts And Nuts

Before going to the field, check all hardware for tightness. Recheck all bolts for tightness, after the unit has been operated for several hours.

Pins

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

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

Hydraulics

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

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

Lubrication

Lubricate unit as outlined in MAINTENANCE section.

Wheels and Tires

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



CAUTION

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

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

Preparing Scraper (continued)

Field Adjustments

Cylinder Transport Stops - Models FE/FX

Remove the cylinder stops before operating the scraper.

Be sure the hose from the base end of the cutting blade cylinder is connected to the tractor. With the scraper properly attached to the tractor, extend the cutting blade cylinders slightly (thus, raising the cutting blade). Remove the cylinder stops. Store the cylinder stops in a convenient location. When transporting the scraper long distances, the cylinder stops should be reinstalled.

Transport Hooks - Model FE 8120

Unlatch the transport hooks before operating the scraper.

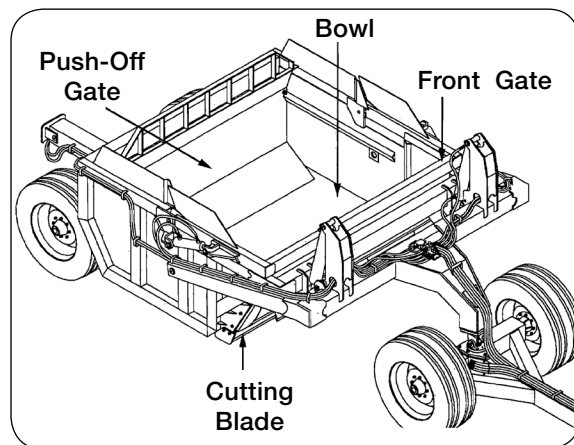
Be sure the hose from the rod end of the cutting blade cylinder is connected to the tractor. With the scraper properly attached to the tractor, retract the cutting blade cylinders slightly (thus, raising the cutting blade). Unlatch the tow hook on each cutting blade cylinder. Once unlatched, the transport hooks can either be secured in the holes provided with a pin or bolt, or they can be left to hang downward. When transporting the scraper long distances, relatch the transport hooks.

Loading Suggestions

1. Return the push-off gate to the retracted position.
2. Open the front gate approximately two feet.
3. Lower the cutting blade to the desired cutting depth with the tractor moving at 3 to 6 m.p.h.
4. It is best to maintain operating speed and use a modest cutting depth.

NOTE: Cutting too deep will not give optimum performance. Too deep a cut may cause the tractor to spin out and slow down.

5. Fill the bowl until the material is overflowing.
6. Shut the front gate.
7. Pull to the dumping area.
8. Lower the cutting blade to the desired dumping grade.
9. Open the front gate completely.
10. Start the push-off gate moving forward to complete the unloading of the material.
11. Return all cylinders to the empty position.



Preparing Scraper (continued)

Rear Push Plate

A reinforced plate installed in the rear of the Forced-Ejection Scraper allows the scraper to be pushed from behind. Using the rear cylinder guard for a push plate will damage the cylinder and void the warranty. Available on the 10-yard model (at time of order from factory only).

Laser Adapter

Allows use of laser-controlled planing equipment to be installed on the Forced-Ejection Scraper. Available on all models. Laser mounting adapters simplify the installation of a laser controller. These types of controls are commonly used on the FX/FE series to provide optimum finishing control.

Capacity

Model Number	FE/FX 750	FE/FX 775	FE 8120
Capacity (heaped)	5 cu yd	7.5 cu yd	10 cu yd

Horsepower Requirements

Model Number	FE 750	FX 750	FE 775	FX 775	FE 8120
Horsepower Requirements	75-125 HP	75-125 HP	100-150 HP	100-150 HP	185-250 HP

Hydraulic Hook-Up

WARNING

- **ALWAYS RELIEVE HYDRAULIC SYSTEM PRESSURE BEFORE DISCONNECTING HOSES FROM TRACTOR OR SERVICING HYDRAULIC SYSTEM. SEE TRACTOR OPERATOR'S MANUAL FOR PROPER PROCEDURES.**
- **HYDRAULIC CYLINDERS MUST BE PURGED BEFORE HYDRAULIC SYSTEMS MAY BE USED. FAILURE TO DO THIS COULD RESULT IN SERIOUS INJURY.**

NOTE: Refer to SET UP section for purging process.

1. Connect the hoses to the tractor.

Gate cylinders control the front gate of the forced-ejection scraper.

Extend the gate cylinders to open the gate.

Retract the gate cylinders to close the gate.

Push-off cylinder controls the push-off gate on the forced-ejection scraper.

Extend the push-off cylinder to move the push-off gate forward as when unloading material from the scraper.

Retract the push-off cylinder to move the push-off gate back as when preparing the scraper for loading.

Cutting blade cylinders control the cutting blade on the forced-ejection scraper.

On all 5 & 7.5 yard models (FX750, FX775, FE750, FE775):

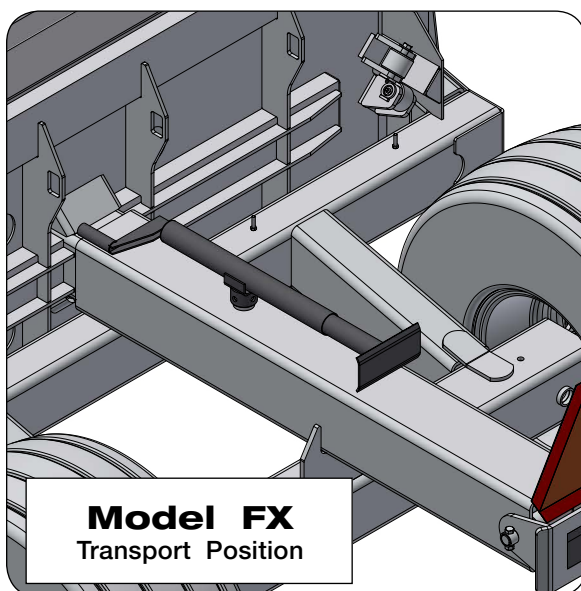
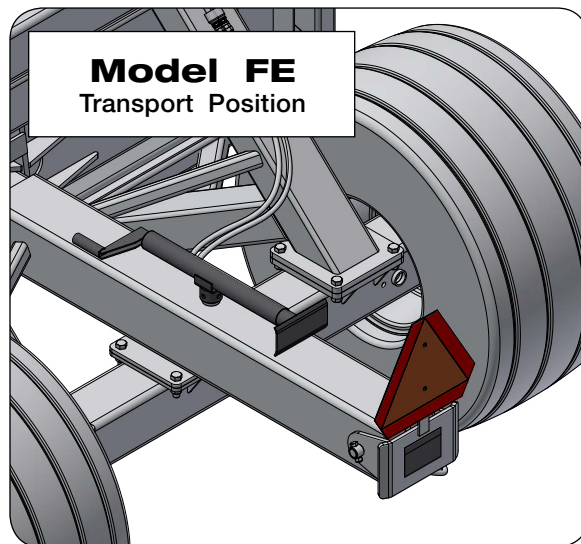
- **Retract** the cutting blade cylinders to lower the cutting blade.
- **Extend** the cutting blade cylinders to raise the cutting blade.

On 10 yard models with dolly hitch (FE8120):

- **Extend** the cutting blade cylinders to lower the cutting blade
- **Retract** the cutting blade cylinders to raise the cutting blade.

Transporting

Before unit is transported, be sure the jack stand is in the “Transport Position”.



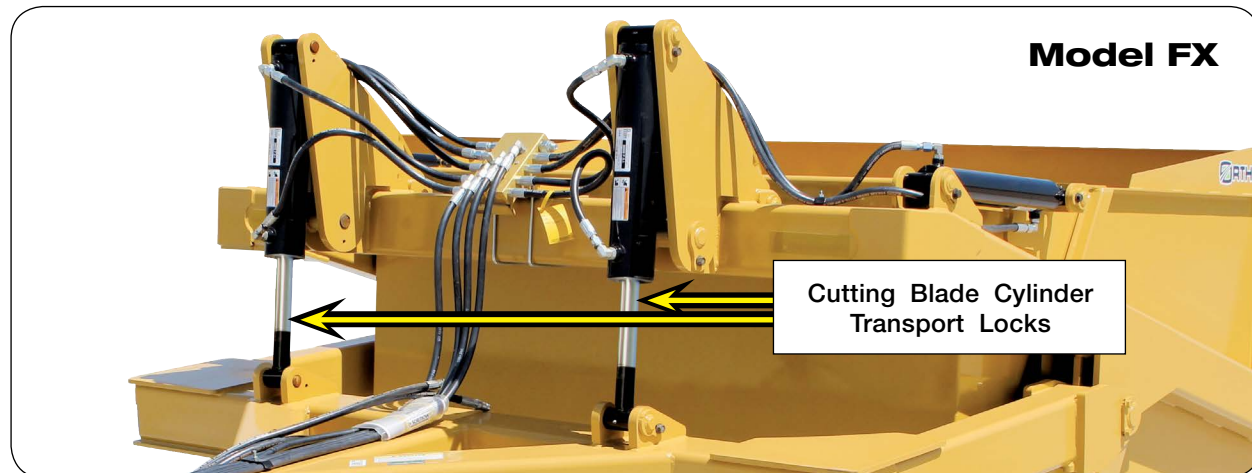
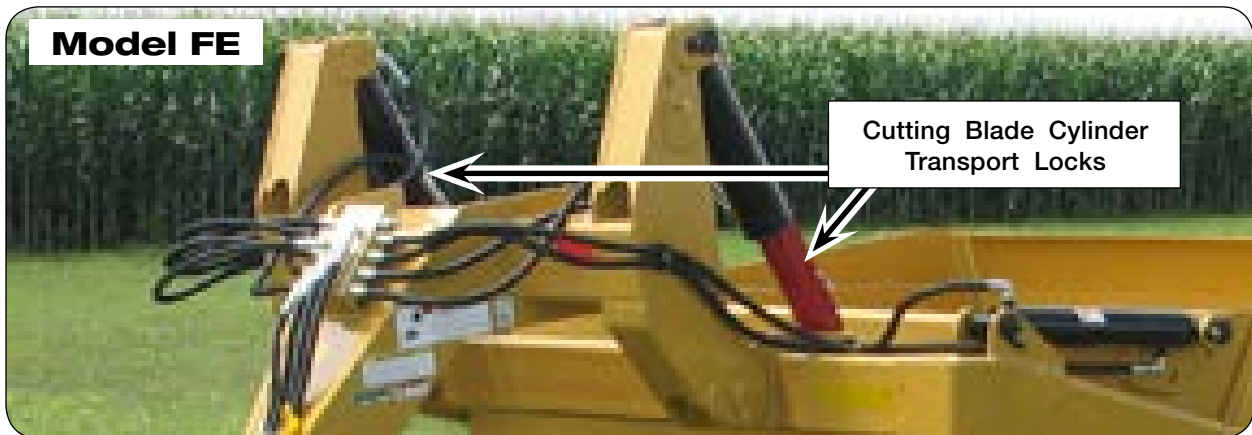
Transporting (continued)

CAUTION

- **INSTALL HYDRAULIC CYLINDER TRANSPORT LOCKS BEFORE TRANSPORTING.**

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

Be sure SMV Emblem is in place and clearly visible on the rear of the implement. See SMV Emblem in SET UP section.



CAUTION

- **USE APPROVED ACCESSORY LIGHTS AND REFLECTORS WHEN TRANSPORTING AT NIGHTS, DURING PERIODS OF POOR VISIBILITY, AND AS REQUIRED BY ALL LAWS.**

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

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

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

SECTION IV

Maintenance

Storage	4-2
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Troubleshooting	4-4
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Tire Pressure	4-9
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SCRAPERS — Maintenance

Storage

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

Do the following before placing the implement in storage:

1. Remove dirt and trash which could cause rusting.
2. Repaint any chipped or scraped areas.
3. Coat all earth moving surfaces with grease or suitable rust preventative.
4. Inspect for damage or worn parts, replace before next season.
5. Store implement inside, away from livestock.
6. Block up implement to keep tires and ground tools off ground.
7. Replace all worn, torn or faded decals and reflectors.

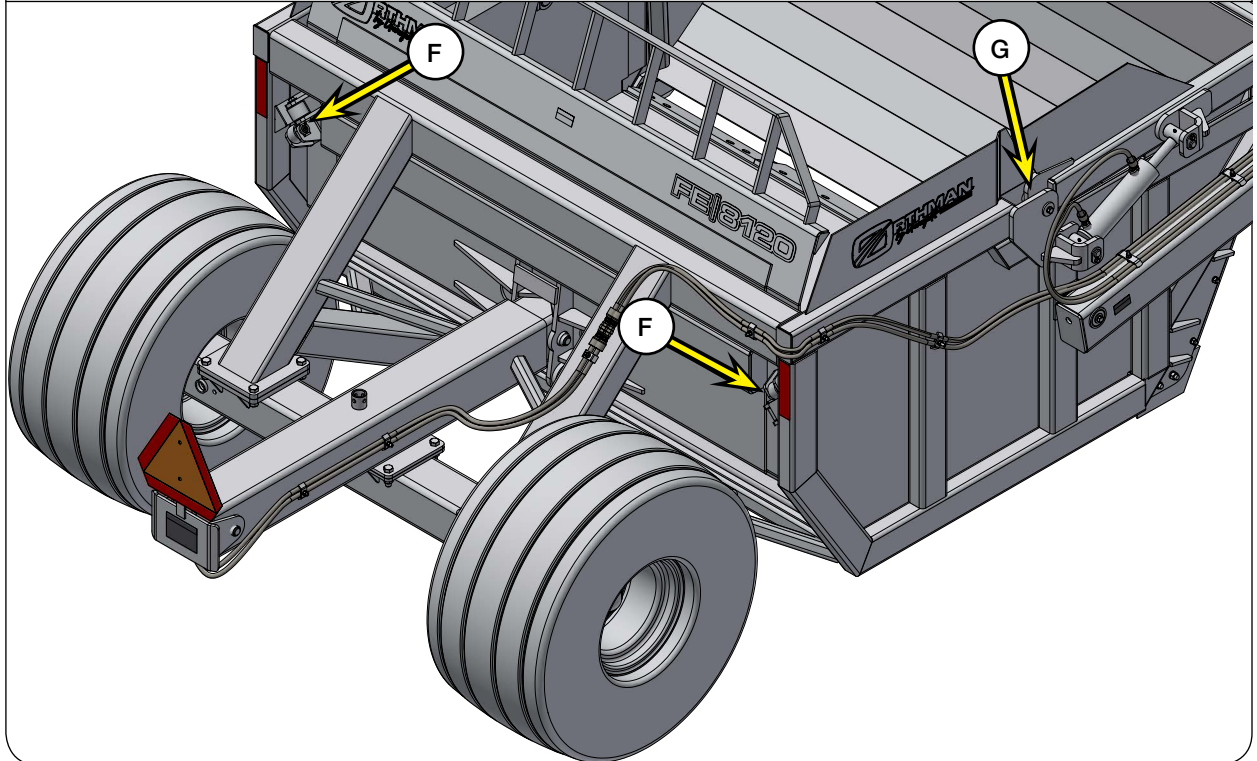
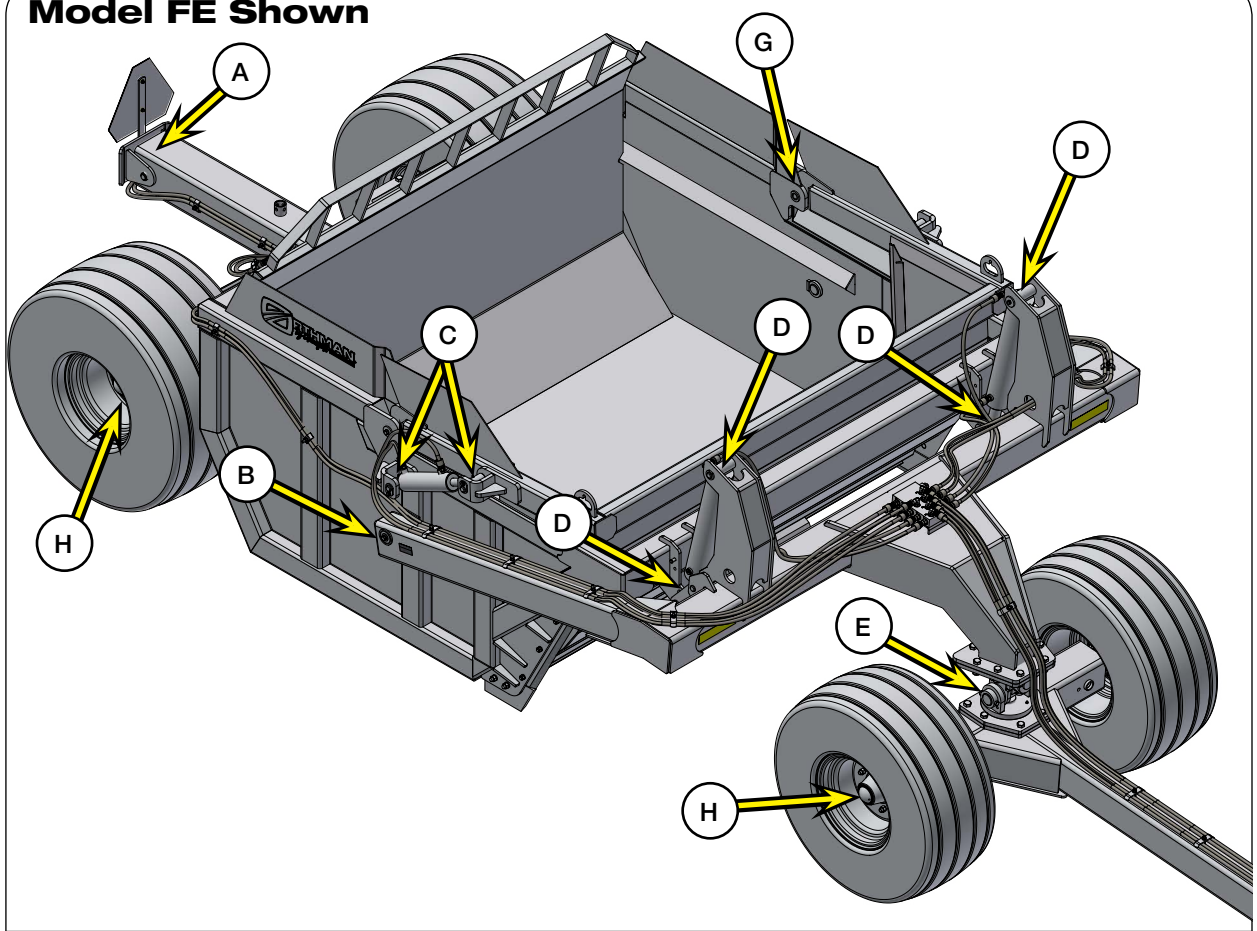
Lubrication

Be sure to lubricate the indicated points of the scrapers as outlined.

ITEM	DESCRIPTION	POINT		QTY	HOURS
		MODEL FE	MODEL FX		
A	Push-Off Cylinder	1	1	2 Shots	Daily
B	Pull Arm Pivot (1 on each side of machine)	2	2	2 Shots	Daily
C	Gate Cylinders - 2 Zerks per Cylinder (1 on each side of machine)	4	4	2 Shots	Daily
D	Cutting Blade Cylinders 2 Zerks per Cylinder (1 on each side of machine)	4	4	2 Shots	Daily
E	Axle Pivot	5	-	2 Shots	Daily
F	Push Rollers (2 on each side of machine)	4	4	2 Shots	Daily
G	Front Gate Pivot (1 on each side of machine)	2	2	2 Shots	Daily
H	Wheel Hubs	4	2	Repack	Once Every Season

Lubrication (continued)

Model FE Shown



Trouble Shooting

PROBABLE CAUSE	CORRECTION
CYLINDER WILL NOT HOLD IN A PRESET POSITION	
Seals leaking internally.	Remove and replace seal kit.
MACHINE CUT UNEVENLY	
Cutting blade needs adjustment.	Install proper shims required to adjust the cutting blade.
Improperly inflated tires.	Check air pressure in tires. Refer to the Tire Pressure Chart.
MACHINE WILL NOT OPERATE PROPERLY WITH TRACTOR HYDRAULICS	
Hoses are not plugged into the tractor properly.	Refer to SET UP section and tractor operator manual.
GREASE ZERK WILL NOT TAKE GREASE	
Grease zerk is plugged.	Remove and replace grease zerk.
The pin is frozen.	Remove and replace the pin.

Hub Assembly

1. Use grease to lubricate the seal lip.
2. Place the hub onto the spindle. Rotate the hub while installing the hub so that the seal does not fold under as the lip goes on the seal face of the spindle.
3. Be sure the outer cone slides on the spindle and into the cup.
4. Assemble the washer and nut onto the spindle and tighten the nut to 30-40 ft.-lbs. while rotating the hub to seat bearings. Do not move the hub after this step is complete.
5. Back off the nut until it becomes loose.
6. Finger tighten the nut by hand without moving the hub.
7. Tighten the nut to align to the next slot with the hole in the spindle and install the cotter pin. Do not bend the cotter pin.
8. Check for looseness in the hub. There should not be any wiggle. If it does, remove the cotter pin, tighten the nut one more slot, insert the cotter pin and repeat step 8.
9. Check for drag while rotating the hub. The hub should rotate with slight resistance. If it drags excessively, repeat the procedure starting at step 4.
10. Bend the legs of the cotter pin.
11. Install the hub cap.

Complete Torque Chart

Capscrews - Grade 5

NOTE:

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



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

IMPORTANT

- Follow these torque recommendations except when specified in text.

Complete Torque Chart (continued)

Capscrews - Grade 8

NOTE:

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



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

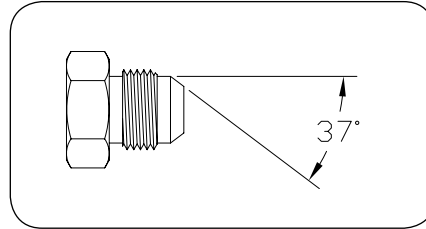
IMPORTANT

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

Hydraulic Fittings - Torque and Installation

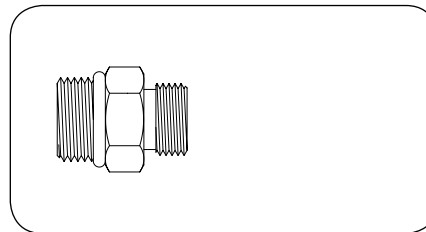
SAE Flare Connection (J. I. C.)

1. Tighten nut with finger until it bottoms the seat.
2. Using a wrench, rotate nut to tighten. Turn nut 1/3 turn to apply proper torque.



SAE Straight Thread O-Ring Seal

1. Back off jam nut and washer to expose smooth surface for O-ring seal.
2. Lubricate o-ring.
3. Thread into port until washer bottoms onto spot face.
4. Position elbows by backing up adapter.
5. Tighten jam nut.



Wheels and Tires

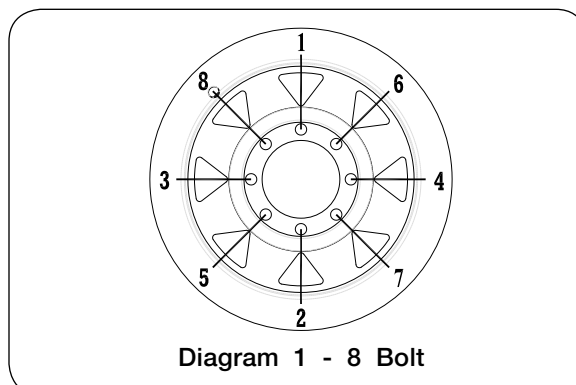
Wheel Nut Torque

⚠ CAUTION

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

Failure to check torque before first use may damage wheel nut/bolt seats. Once seats are damaged, it will become impossible to keep nuts/bolts tight. Tighten nuts/bolts to the applicable torque value shown below. Start all nuts/bolts by hand to prevent cross threading. Torque nuts/ bolts in the recommended sequence as shown in Diagram 1 & 2.

WHEEL HARDWARE	
SIZE	FOOT-POUNDS
5/8-18 (UNF)	125 - 135 Ft.-Lbs.



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.**

MODELS	TIRE SIZE	PSI
FE 750 / FX 750	11L x 15	40
FE 750 / FX 750 / FE 8120 (Front)	16.5L x 16.1	36
FE 8120 (Rear)	21.5L x 16.1	36

Wheels and Tires (continued)

Tire Warranty

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

<u>Firestone</u>	www.firestoneag.com Phone 800-847-3364
Continental/Mitas	www.mitas-tires.com Phone 704-542-3422 Fax 704-542-3474
<u>Titan</u> or <u>Goodyear</u>	www.titan-intl.com Phone 800-USA-BEAR Fax 515-265-9301
<u>Carlisle/Ironman</u>	www.carlisletire.com Phone 800-260-7959 Fax 800-352-0075
Carlisle	www.carlisletire.com Phone 800-260-7959 Fax 800-352-0075
Greenball	www.greenball.com Phone nearest location: California 800-937-5204 Georgia 800-283-4569 Florida 800-935-0200 Indiana 800-426-4068 Tennessee 800-946-9412 Ohio 800-840-7295 Pennsylvania 800-869-6787

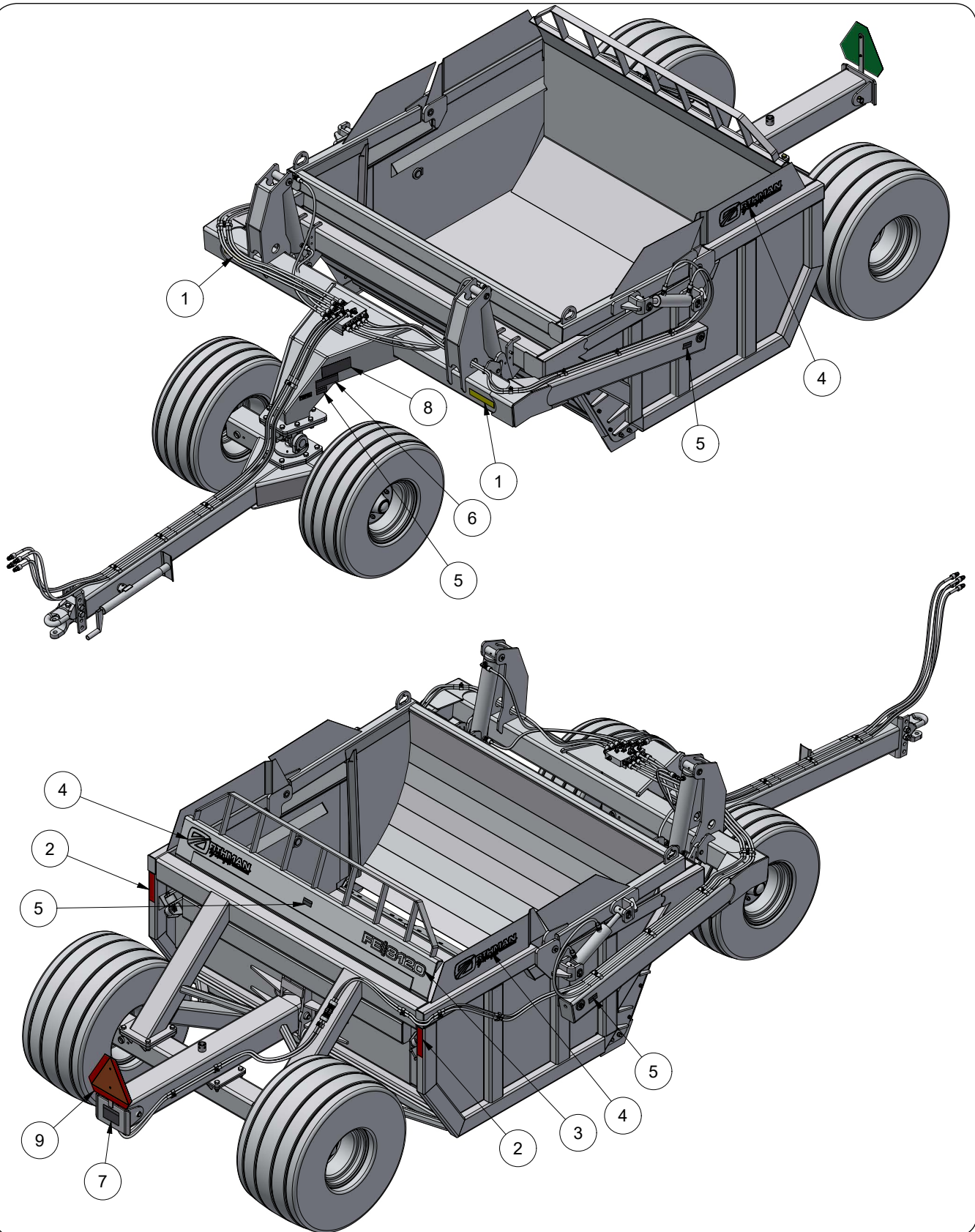
SECTION V

Parts

- Decals - Model FE 5-2
- Decals - Model FX 5-4
- Tongue, Hitch, & Jack Stand Components - Model FE 5-8
- Tongue, Hitch, & Jack Stand Components - Model FX 5-10
- Rear Axle Components - Model FE 5-14
- Hub, Wheel & Tire Components - Model FE & FX 5-12
- Blades - Model FE 5-14
- Blades - Model FX 5-16
- Hydraulic Cylinder & Pin Components - Model FX 5-18
- Hydraulic Hoses & Fitting Components - Model FX 5-20
- Hydraulic Cylinder & Pin Components - Model FE 5-22
- Hydraulic Hoses & Fitting Components - Model FE 5-24

Decals - Model FE

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



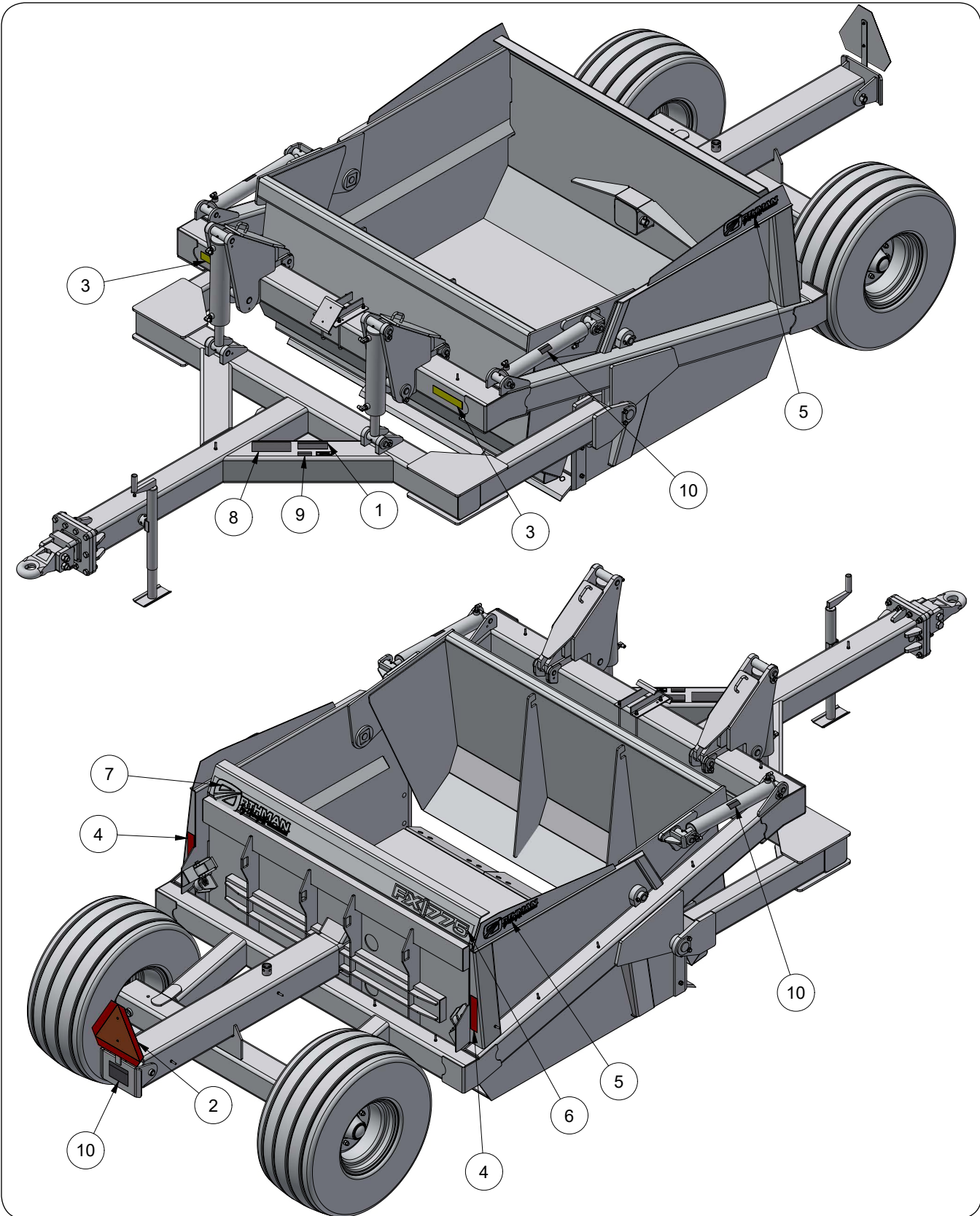
Decals - Model FE

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	153-172	Reflector, RED	2	
2	153-173	Reflector, AMBER	2	
3	153-456	Decal, Model FE 8120	1	
	153-455	Decal, Model FE 775		
	153-454	Decal, Model FE 750		
4	153-460	Decal, Orthman by Unverferth	3	
5	153-529	Decal, DANGER "Crush"	4	
6	153-044	Decal, IMPORTANT (Read & Understand)	1	
7	153-580	Decal, CAUTION (Not Push Plate)	1	
8	153-528	Decal, WARNING (High-Pressure Fluid)	1	
9	153-109	Mounted SMV Emblem	1	

Decals - Model FX

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



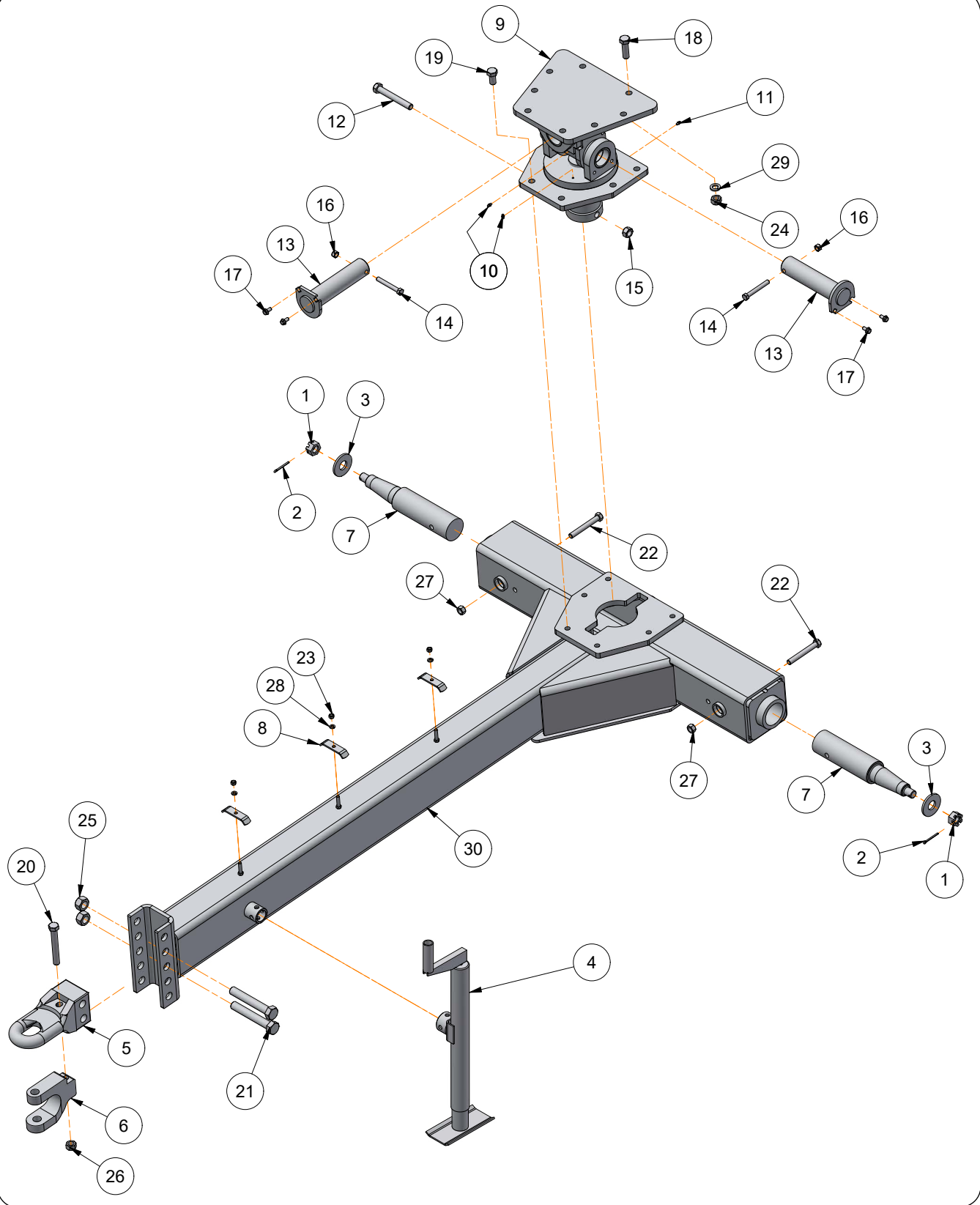
Decals - Model FX

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	153-044	Decal, IMPORTANT (Read & Understand)	1	
2	153-109	SMV Emblem	1	
3	153-172	Reflector, RED	2	
4	153-173	Reflector, AMBER	2	
5	153-430	Decal, Orthman by Unverferth	2	
6	153-458	Decal, Model FX 775	1	
	153-457	Decal, Model FX 750		
7	153-460	Decal, Orthman by Unverferth	1	
8	153-528	Decal, WARNING (High-Pressure Fluid)	1	
9	153-529	Decal, DANGER "Crush"	1	
10	153-580	Decal, CAUTION (Not Push Plate)	1	

Tongue, Hitch, & Jack Stand Components - Model FE

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



SCRAPERS — Parts

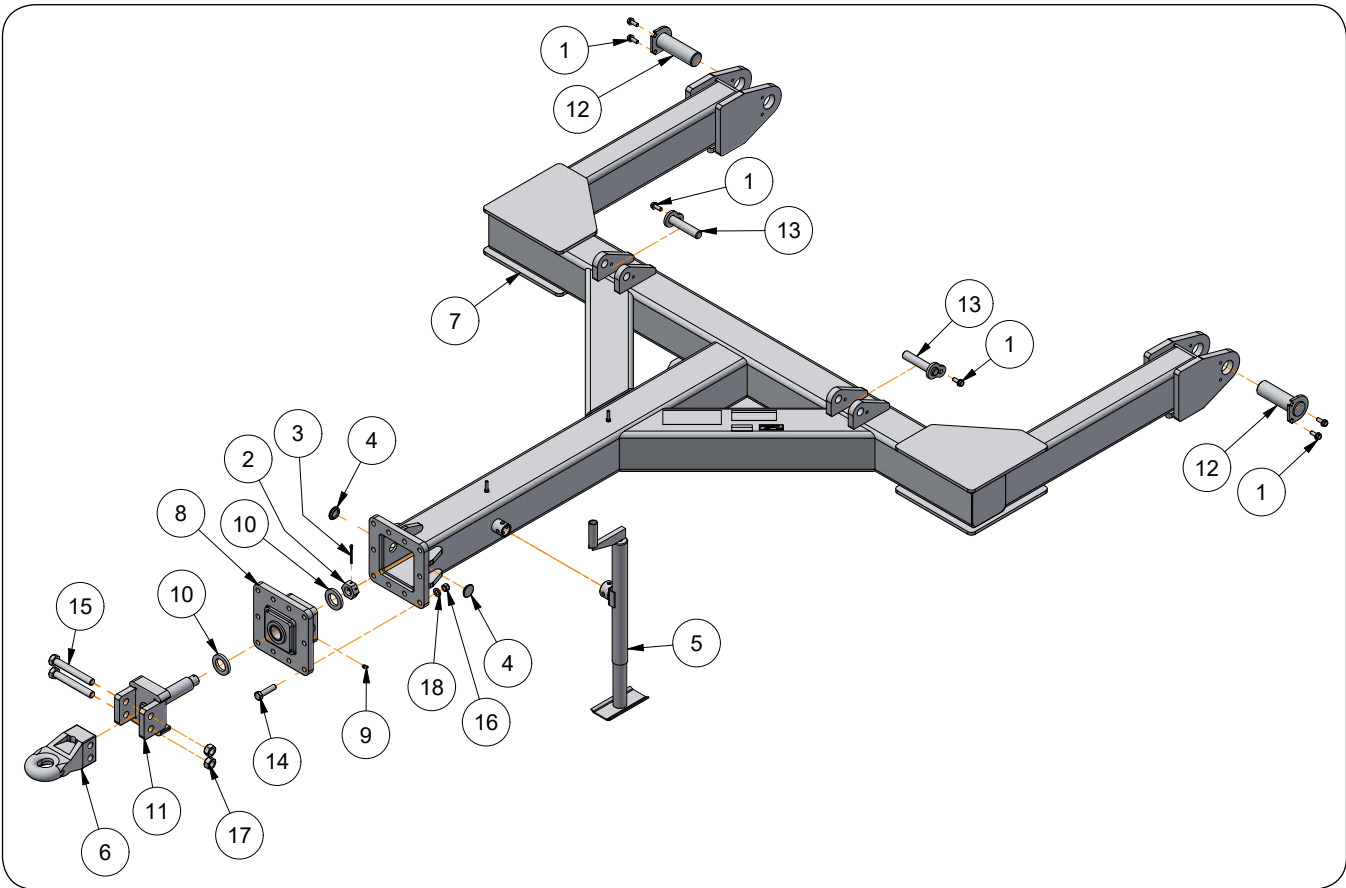
Tongue, Hitch, & Jack Stand Components - Model FE

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	102-062	Slotted Hex Nut, 1"-14UNF	4	
2	104-030	Cotter Pin, 3/16" Dia. x 2"	4	
3	108-023	Flat Washer, 2 1/8" x 1 1/16" x 1/4"	4	
4	152-398	Jack Stand w/Handle	1	
5	152-886	Hitch, Perfect Hitch	1	
6	152-887	Clevis, Perfect Hitch	1	
7	188-010	Spindle	4	
8	301-352	Hose Holder	8	
9	505-199	Axle Swivel Assembly	1	Includes Items 10-17
10	110-001	Grease Zerk	4	
11	110-010	Grease Zerk	1	
12	100-083	Capscrew, 3/4"-10UNC x 5 1/2" G8	1	
13	505-810	Pin Weldment	2	
14	100-319	Capscrew, 1/2"-13UNC x 3 3/4" G8	2	
15	102-223	Lock Nut, 3/4"-10UNC G5	1	
16	102-224	Lock Nut, 1/2"-13UNC G5	2	
17	100-305	Flange Capscrew, 1/2"-13UNC x 1" G8	4	
18	100-075	Capscrew, 3/4"-10UNC x 2 1/2" G8	8	
19	100-082	Capscrew, 3/4"-10UNC x 1 1/2" G8	6	
20	100-083	Capscrew, 3/4"-10UNC x 5 1/2" G8	1	
21	100-283	Capscrew, 1"-8UNC x 6 1/2" G8	2	
22	100-516	Capscrew, 5/8"-11UNC x 4 3/4" G8	4	
23	102-005	Hex Nut, 3/8"-16UNC G2	18	
24	102-009	Hex Nut, 3/4"-10UNC G5	8	
25	102-214	Lock Nut/Nylon, 1"-8UNC G8	2	
26	102-215	Lock Nut/Nylon, 3/4"-10UNC	1	
27	102-218	Lock Nut, 5/8"-11UNC G5	4	
28	108-018	Lock Washer, 3/8"	22	
29	108-022	Lock Washer, 3/4"	8	
30	509-780	Tongue Weldment	1	

Tongue, Hitch, & Jack Stand Components - Model FX

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



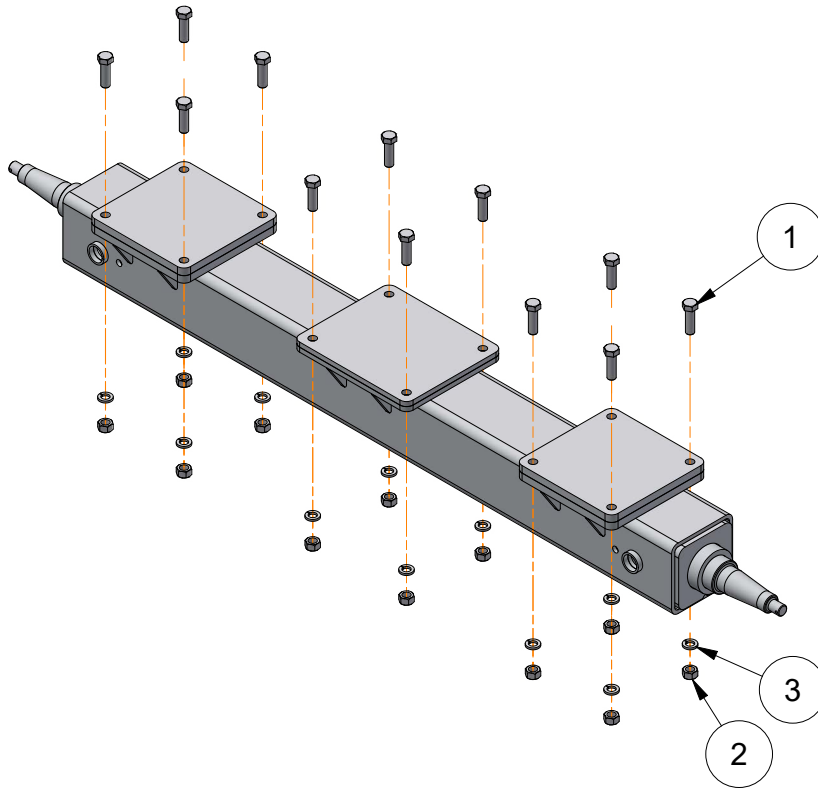
Tongue, Hitch, & Jack Stand Components - Model FX

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	100-320	Flange Capscrew, 1/2"-13UNC x 1 1/4" G8	10	
2	102-128	Slotted Hex Nut, 1 1/2"-12UNF	1	
3	104-022	Cotter Pin, 1/4" Dia. x 2 1/2"	1	
4	150-090	Plug	2	
5	152-398	Jack Stand w/Handle	1	
6	152-877	Hitch	1	
7	505-400	Tongue Weldment	1	
8	505-413	Hitch Plate Weldment w/Grease Zerk	1	
9	110-002	Grease Zerk	1	
10	505-418	Washer	2	
11	505-419	Hitch Adapter Weldment	1	
12	505-434	Pin Weldment	2	
13	505-441	Pin Weldment	2	
14	100-344	Capscrew, 3/4"-10UNC x 3" G8	10	
15	100-405	Capscrew, 1"-8UNC x 7 1/2" G8	2	
16	102-179	Hex Nut, M16 G2	10	
17	102-214	Lock Nut/Nylon, 1"-8UNC G8	2	
18	108-022	Lock Washer, 3/4"	10	

Rear Axle Components - Model FE

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



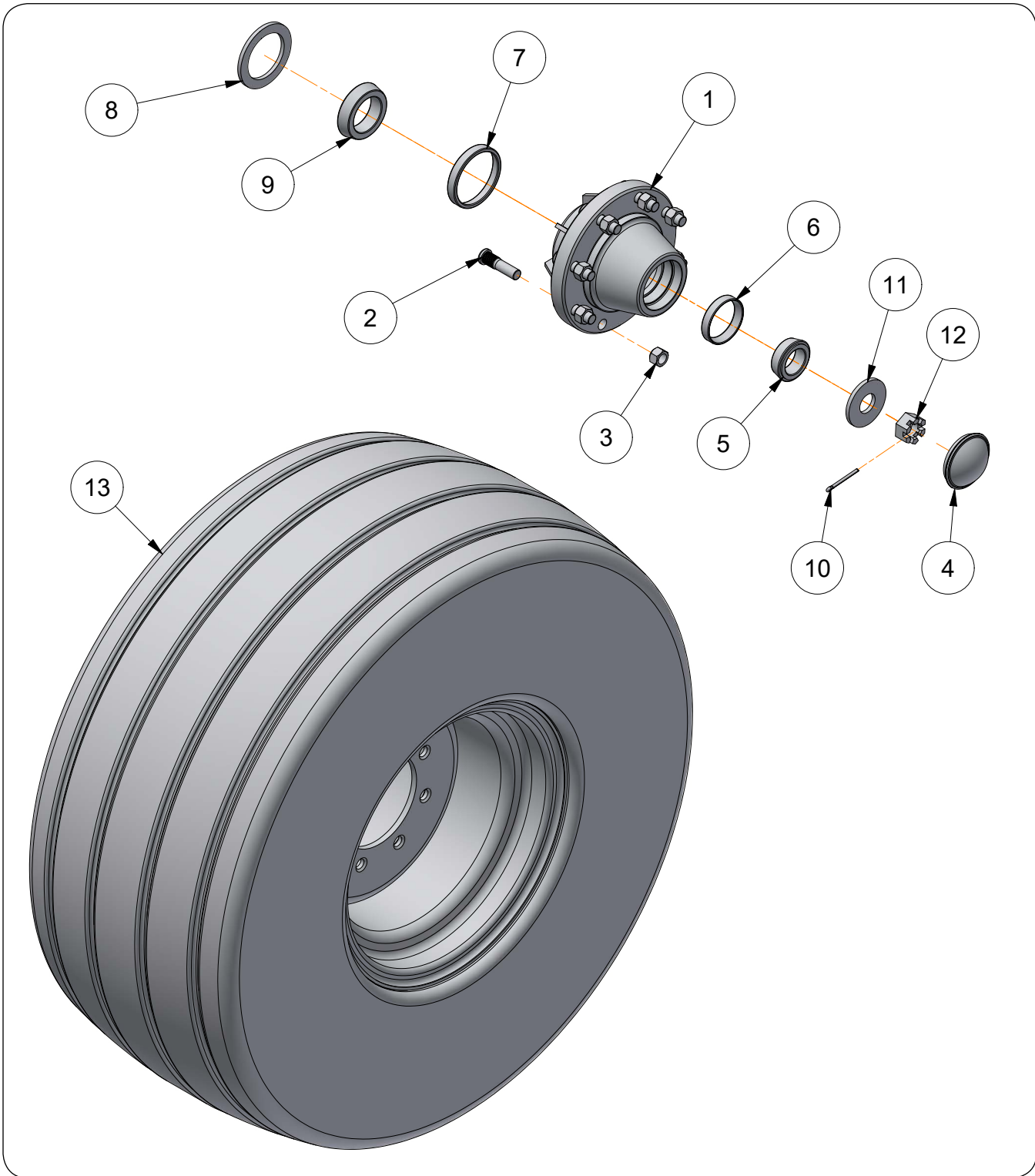
Rear Axle Components - Model FE

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	100-158	Capscrew, 3/4"-10UNC x 2 1/2" G5	12	
2	102-009	Hex Nut, 3/4"-10UNC G5	12	
3	108-022	Lock Washer, 3/4"	12	

Hub, Wheel & Tire Components - Model FE & FX

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



SCRAPERS — Parts

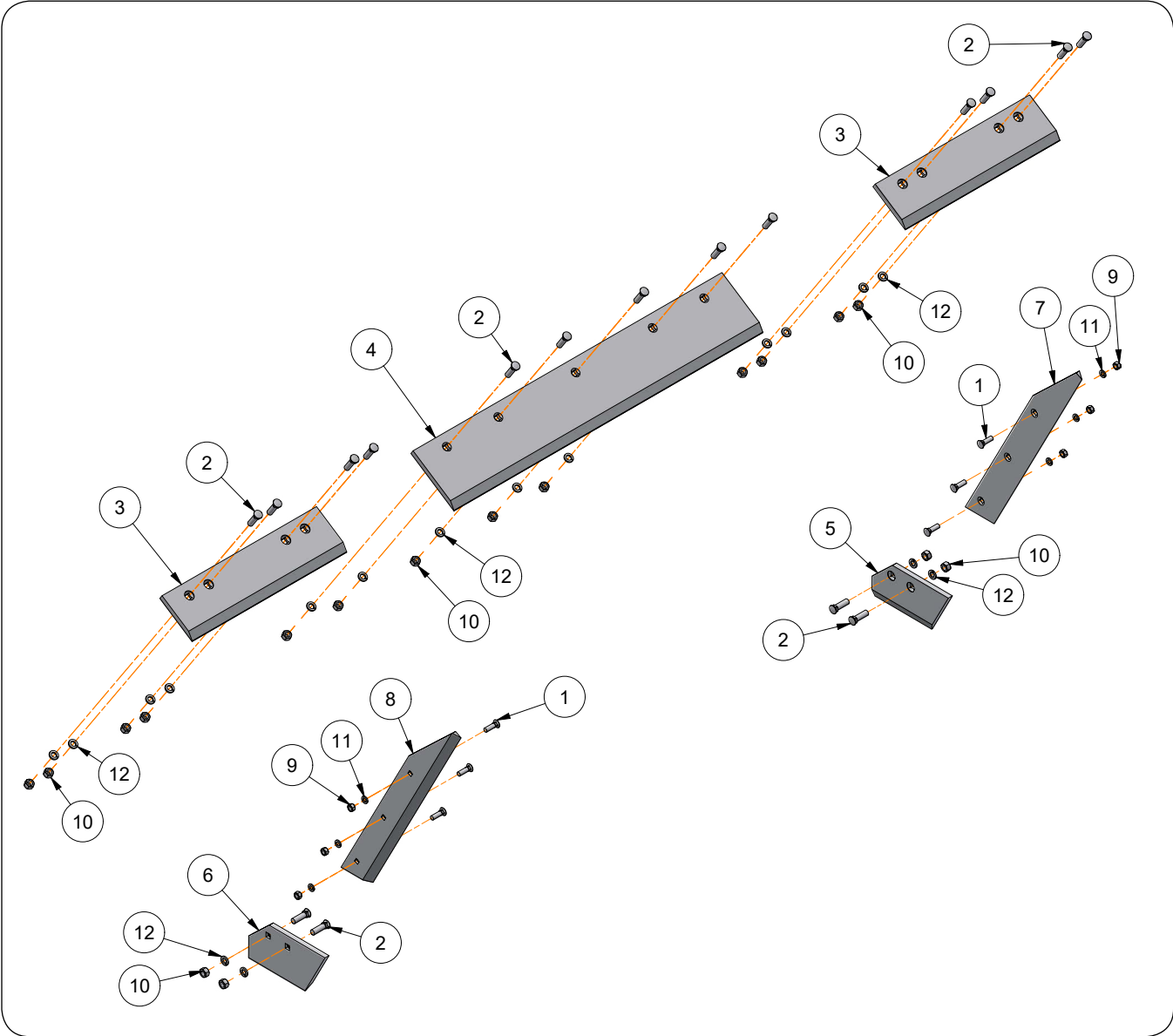
Hub, Wheel & Tire Components - Model FE & FX

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

ITEM	PART NO.	DESCRIPTION	QTY	NOTES
1	170-059	Hub 8-Bolt Assembly	4	Includes Items 5-12
2	100-425	Stud, 5/8"-18UNF x 2 1/2" G5	32	
3	102-093	Wheel Nut, 5/8"-18UNF G2	32	
4	150-108	Hub Cap	4	
5	120-127	Bearing Cone	4	
6	120-135	Bearing Cup	4	
7	120-131	Bearing Cone	4	
8	150-104	Seal	4	
9	120-123	Bearing Cup	4	
10	104-030	Cotter Pin, 3/16" Dia. x 2"	4	
11	108-023	Flat Washer, 2 1/8" x 1 1/16" x 1/4"	4	
12	102-062	Slotted Hex Nut, 1"-14UNF	4	
13	190-075	Wheel & Tire Assembly, 11Lx15 (8 Ply)	4	Model FE/FX 750
	190-077	Wheel & Tire Assembly, 16.5Lx16.1 (10 Ply)	4	Model FE/FX 775
			2	Model FE 8120 (Front)
			2	Model FE 8120 (Rear)
190-079	Wheel & Tire Assembly, 21.5Lx16.1 (14 Ply)	2		

Blades - Model FE

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



SCRAPERS — Parts

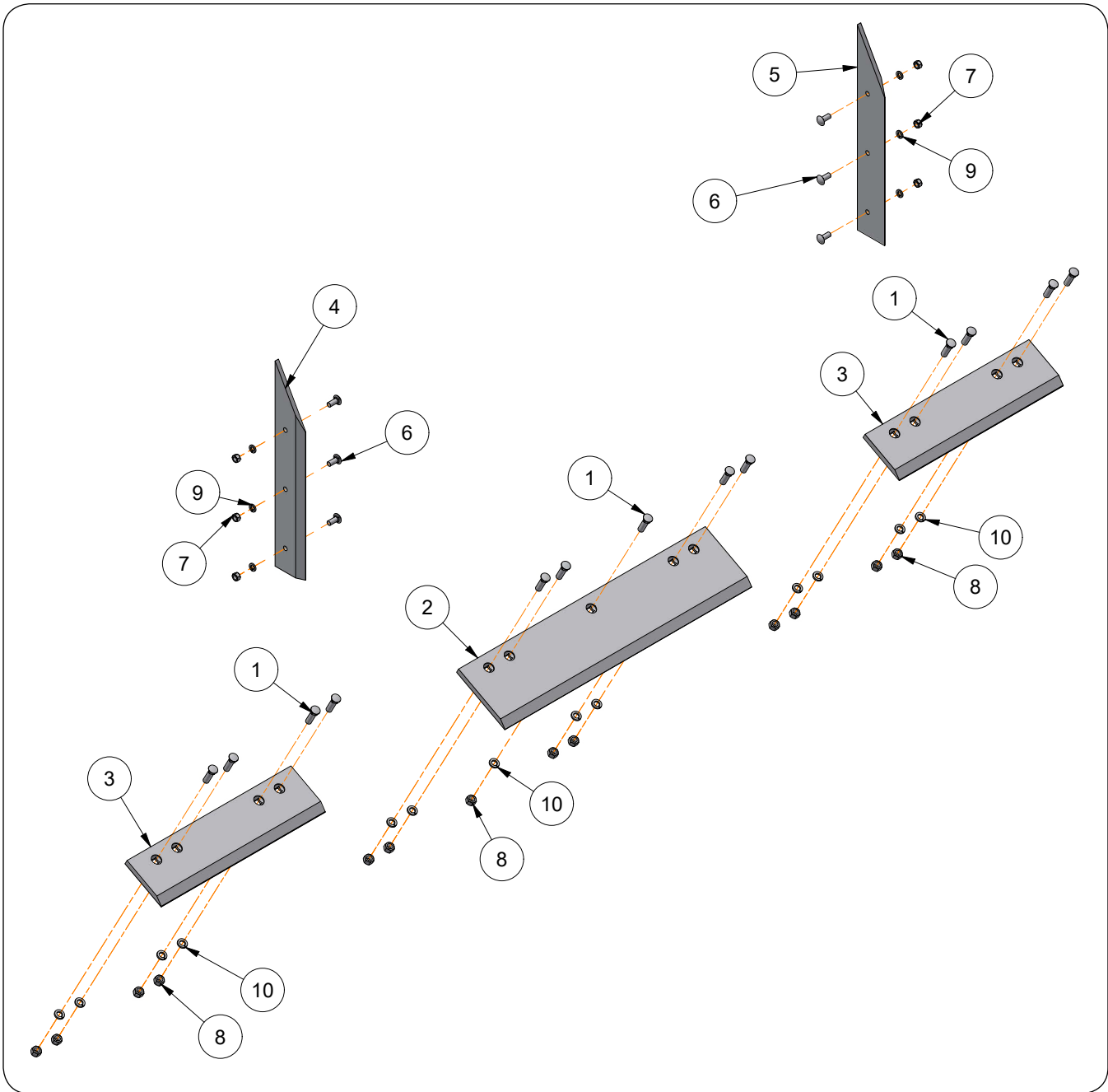
Blades - Model FE

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

ITEM	PART NUMBER	DESCRIPTION	QTY			NOTES
			Model FE 750	Model FE 775	Model FE 8120	
1	100-407	Plow Bolt, 1/2"-13UNC x 1 3/4" G5	6	6	6	
2	100-557	Grader Capscrew, 5/8"-11UNC x 2 1/4" G8	17	17	17	
3	152-897	Blade/Outer, 5/8" x 6" x 24"	-	2	2	
	152-880	Blade/Left-Hand, 1/2" x 4" x 27"	1	-	-	
	152-882	Blade/Right-Hand, 1/2" x 4" x 27"	1	-	-	
4	152-898	Blade/Center, 5/8" x 8" x 48"	-	-	1	
	152-896	Blade/Center, 5/8" x 8" x 36"	-	1	-	
	152-881	Blade/Center, 1/2" x 6" x 30"	1	-	-	
	152-885	Blade/Center, 84" (Option)	1	-	-	
5	505-783	Blade/Router Left-Hand	-	1	1	
6	505-784	Blade/Router Right-Hand	-	1	1	
7	505-898	Blade/Side Left-Hand	-	-	1	
	505-268	Blade/Side Left-Hand, 1/2" x 4"	-	1	-	
	505-081	Blade/Side Left-Hand	1	-	-	
8	505-899	Blade/Side Right-Hand	-	-	1	
	505-269	Blade/Side Right-Hand, 1/2" x 4"	-	1	-	
	505-082	Blade/Side Right-Hand	1	-	-	
9	102-007	Hex Nut, 1/2"-13UNC G5	6	6	6	
10	102-008	Hex Nut, 5/8"-11UNC G5	17	17	17	
11	108-020	Lock Washer, 1/2"	10	10	10	
12	108-021	Lock Washer, 5/8"	17	17	17	

Blades - Model FX

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



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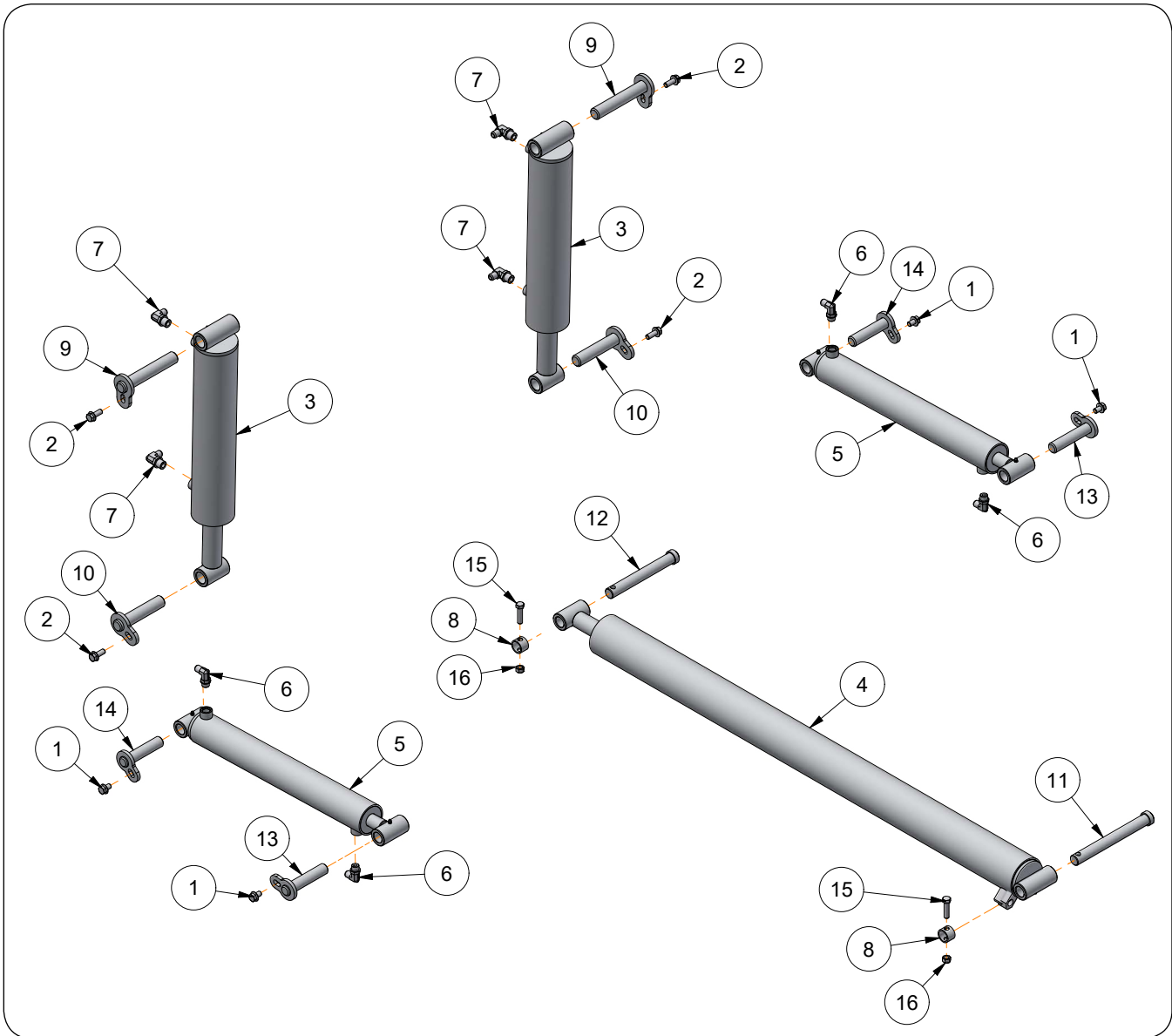
Blades - Model FX

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

ITEM	PART NUMBER	DESCRIPTION	QTY		NOTES
			Model FX 750	Model FX 775	
1	100-557	Grader Capscrew, 5/8"-11UNC x 2 1/4" G8	13	13	
2	152-896	Blade/Center, 5/8" x 8" x 36"	-	1	
	152-881	Blade/Center, 1/2" x 6" x 30"	1	-	
	152-885	Blade/Center, 84" (Option)	1	-	
3	152-897	Blade/Outer, 5/8" x 6" x 24"	-	2	
	152-880	Blade/Left-Hand, 1/2" x 4" x 27"	1	-	
	152-882	Blade/Right-Hand, 1/2" x 4" x 27"	1	-	
4	505-268	Blade/Side Left-Hand, 1/2" x 4"	-	1	
	505-081	Blade/Side Left-Hand	1	-	
5	505-269	Blade/Side Right-Hand, 1/2" x 4"	-	1	
	505-082	Blade/Side Right-Hand	1	-	
6	100-057	Carriage Bolt, 1/2"-13UNC x 1 1/4" G5	6	6	
7	102-007	Hex Nut, 1/2"-13UNC G5	6	6	
8	102-008	Hex Nut, 5/8"-11UNC G5	13	13	
9	108-020	Lock Washer, 1/2"	6	6	
10	108-021	Lock Washer, 5/8"	13	13	

Hydraulic Cylinder & Pin Components - Model FX

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



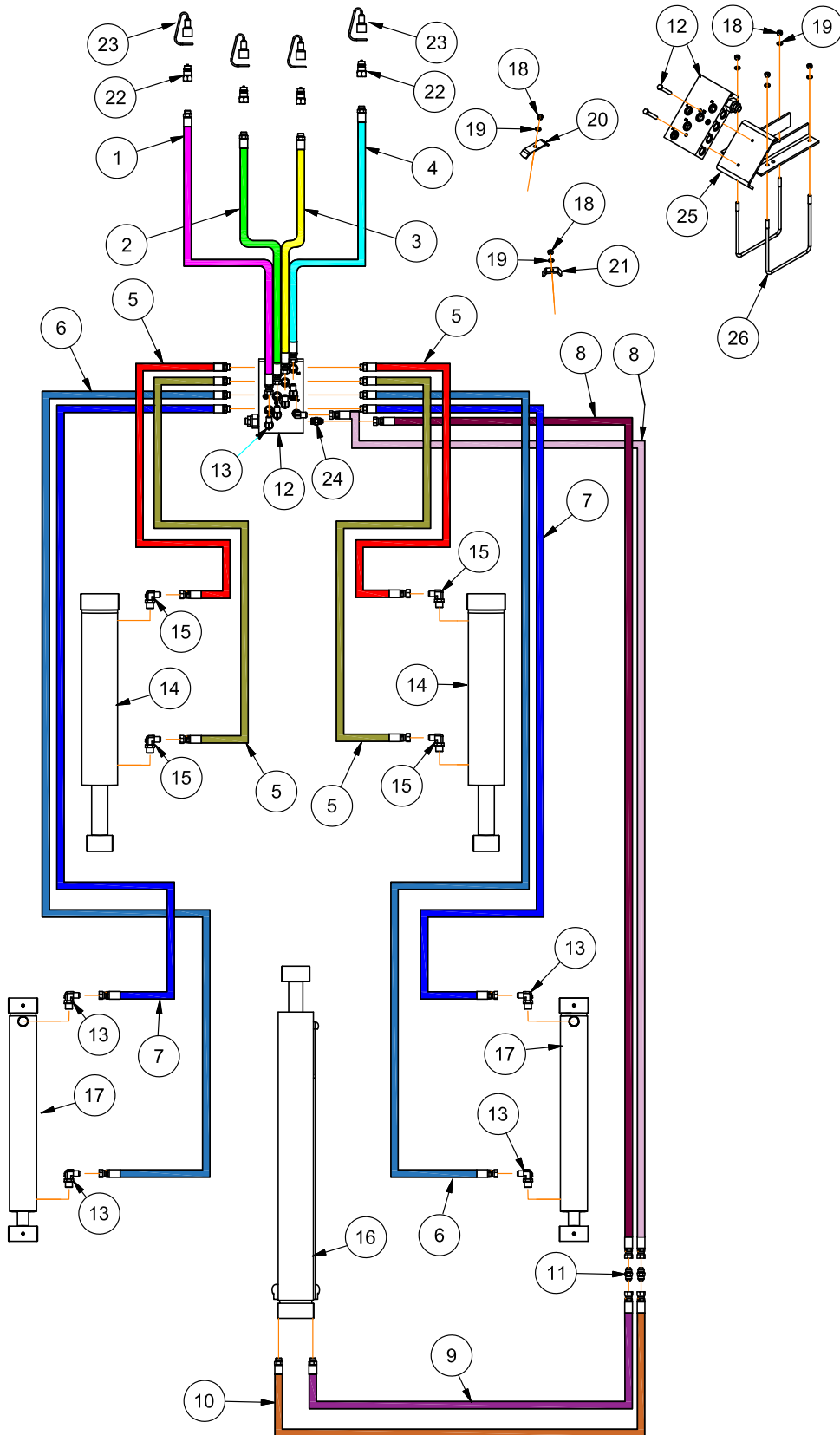
Hydraulic Cylinder & Pin Components - Model FX

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

ITEM	PART NUMBER	DESCRIPTION	QTY		NOTES
			FX750	FX775	
1	100-106	Capscrew, 1/2"-13UNC x 3/4" G8	4	4	
2	100-320	Flange Capscrew, 1/2"-13UNC x 1 1/4" G8	4	4	
3	194-436	Hydraulic Cylinder/Cutting Blade, 3 1/2" x 15 1/8"	2	-	
	194-441	Seal Kit (Prince)	-	-	
	194-507	Seal Kit (Monarch)	-	-	
	194-317	Hydraulic Cylinder/Cutting Blade, 4" x 16"	-	2	
4	194-435	Hydraulic Cylinder/Push-Off, 4" x 12"	1	-	
	194-552	Seal Kit (Prince)	-	-	
	194-442	Seal Kit (Monarch)	-	-	
	194-328	Hydraulic Cylinder/Push-Off, 4" x 55"	-	1	
	194-444	Seal Kit (Monarch)	-	-	
5	194-437	Hydraulic Cylinder/Gate, 3" x 40"	2	-	
	194-553	Seal Kit (Prince)	-	-	
	194-443	Seal Kit (Monarch)	-	-	
	194-329	Hydraulic Cylinder/Gate, 3" x 18"	-	2	
	194-551	Seal Kit (Prince)	-	-	
	194-443	Seal Kit (Monarch)	-	-	
6	198-089	90° Elbow, 3/4-16 JIC Male x 3/4-16 O-Ring Male	4	4	
7	198-246	90° Elbow	4	4	
8	505-195	Spacer/Bushing	2	2	
9	505-438	Pin Weldment, Top	2	2	
10	505-441	Pin Weldment, Rear	2	2	
11	505-743	Pin Weldment, Push Gate Cylinder Base End	1	1	
12	505-744	Pin Weldment, Push Gate Cylinder Rod End	1	1	
13	505-748	Pin Weldment, Gate Cylinder (Front)	2	2	
14	505-797	Pin Weldment, Gate Cylinder (Front)	2	2	
15	100-510	Capscrew, 1/2"-13UNC x 2" G8	2	2	
16	102-224	Lock Nut, 1/2"-13UNC	2	2	

Hydraulic Hoses & Fitting Components - Model FX

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



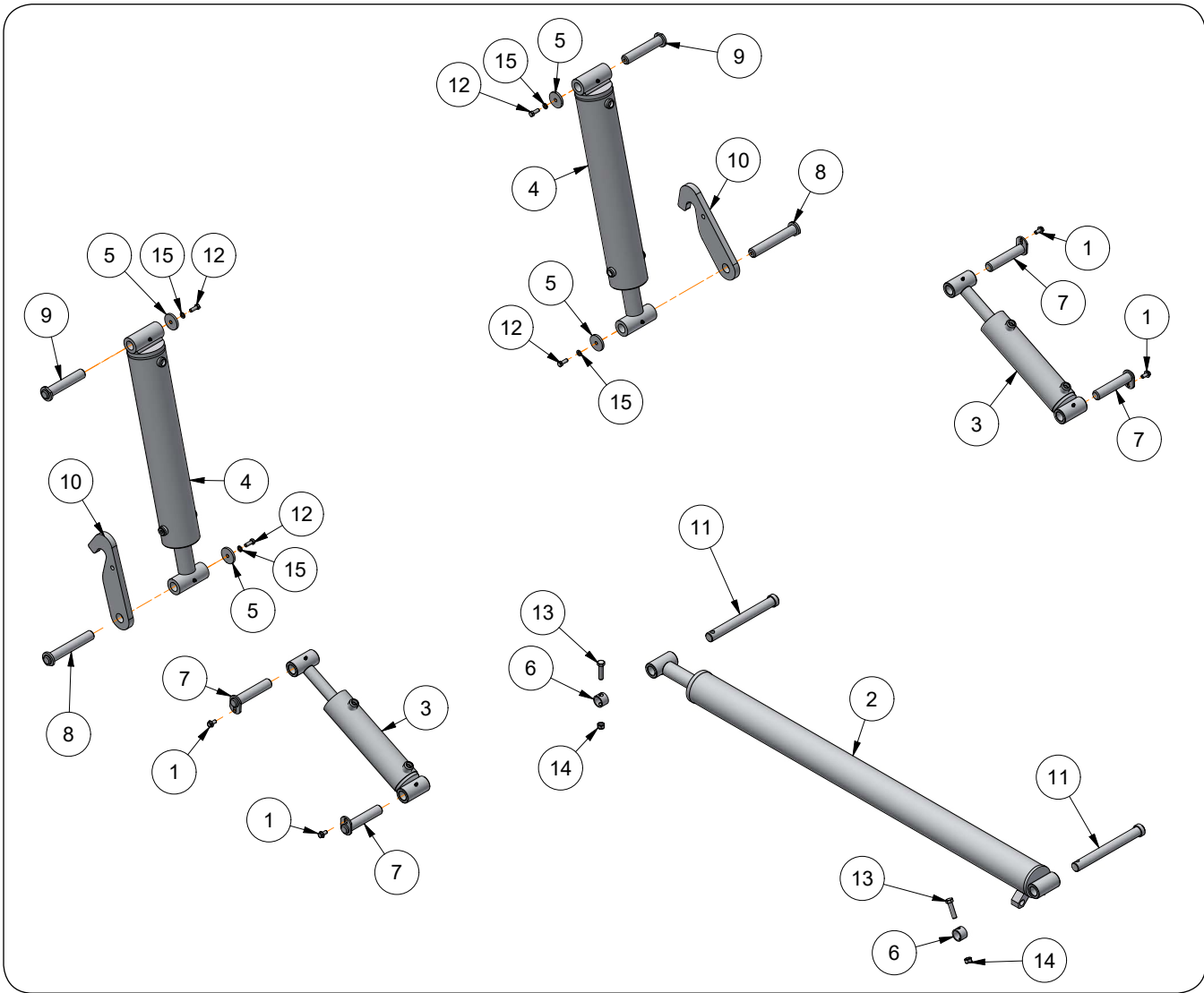
Hydraulic Hoses & Fitting Components - Model FX

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

ITEM	PART NUMBER	DESCRIPTION	QTY	
			FX750	FX775
1	196-335	Hydraulic Hose, 3/8" x 132" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-316	Hydraulic Hose, 1/2" x 146" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
2	196-334	Hydraulic Hose, 3/8" x 130" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-343	Hydraulic Hose, 1/2" x 144" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
3	196-333	Hydraulic Hose, 3/8" x 128" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-346	Hydraulic Hose, 1/2" x 142" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
4	196-314	Hydraulic Hose, 3/8" x 126" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-345	Hydraulic Hose, 1/2" x 140" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
5	196-025	Hydraulic Hose, 1/2" x 210" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	2	-
	196-298	Hydraulic Hose, 1/2" x 30" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2
6	196-366	Hydraulic Hose, 3/8" x 60" (9/16-18 JIC Female x 3/4-16 O-Ring Male)	2	-
	196-350	Hydraulic Hose, 1/2" x 54" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2
7	196-024	Hydraulic Hose, 3/8" x 78" (9/16-18 JIC Female x 3/4-16 O-Ring Male)	2	-
	196-341	Hydraulic Hose, 1/2" x 75" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2
8	196-338	Hydraulic Hose, 3/8" x 180" (3/4-16 JIC Female x 3/4-16 JIC Female)	2	-
	196-358	Hydraulic Hose, 1/2" x 168" (3/4-16 JIC Female x 3/4-16 JIC Female)	-	2
9	196-331	Hydraulic Hose, 3/8" x 102" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-342	Hydraulic Hose, 1/2" x 90" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
10	196-330	Hydraulic Hose, 3/8" x 60" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-
	196-342	Hydraulic Hose, 1/2" x 90" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1
11	198-113	Adapter, 3/4-16 JIC Male x 3/4-16 JIC Male	2	2
12	180-010	Manifold Block	1	1
	100-099	Capscrew, 3/8"-16UNC x 2 1/2" G5	2	2
13	198-089	90° Elbow, 3/4-16 JIC Male x 3/4-16 O-Ring Male	9	9
14	194-436	Hydraulic Cylinder/Cutting Blade, 3 1/2" x 15 1/8"	2	-
	194-317	Hydraulic Cylinder/Cutting Blade, 4" x 16"	-	2
15	198-246	90° Elbow, 3/4-16 JIC Male x 7/8-14 O-Ring Male	4	4
16	194-435	Hydraulic Cylinder/Push-Off, 4" x 12"	1	-
	194-328	Hydraulic Cylinder/Push-Off, 4" x 55"	-	1
17	194-437	Hydraulic Cylinder/Gate, 3" x 40"	2	-
	194-329	Hydraulic Cylinder/Gate, 3" x 18"	-	2
18	102-005	Hex Nut, 3/8"-16UNC	22	22
19	108-018	Lock Washer, 3/8"	22	22
20	301-352	Hose Retainer Bracket (4 Hoses)	8	8
21	318-460	Hose Retainer Bracket (2 Hoses)	10	10
22	140-092	ISO Tip #8010-15	4	4
23	152-714	Dust Cap, ISO Tip RED	2	2
	152-710	Dust Cap, ISO Tip ORANGE	2	2
24	198-128	Adapter, 3/4-16 JIC Male x 3/4-16 O-Ring Male	1	1
25	505-832	Manifold Mounting Bracket	1	1
26	315-026	U-Bolt, 3/8"16UNC	2	2

Hydraulic Cylinder & Pin Components - Model FE

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



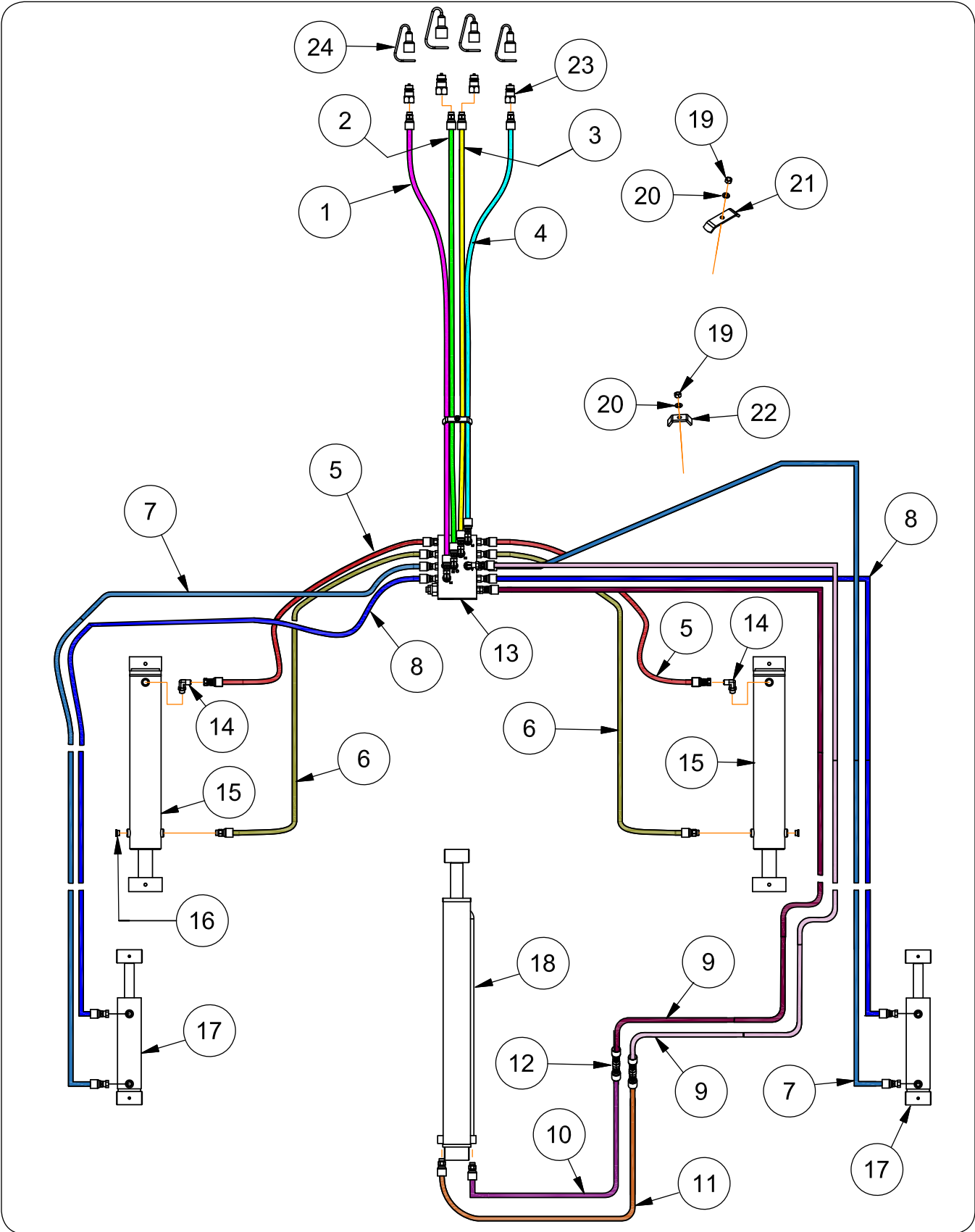
Hydraulic Cylinder & Pin Components - Model FE

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

ITEM	PART NUMBER	DESCRIPTION	QTY			NOTES
			FE750	FE775	FE8120	
1	100-305	Flange Capscrew, 1/2"-13UNC x 1" G8	4	4	4	
2	194-435	Hydraulic Cylinder,	1	-	-	
	194-552	Seal Kit (Prince)	-	-	-	
	194-442	Seal Kit (Monarch)	-	-	-	
	194-331	Hydraulic Cylinder,	-	1	-	
	194-442	Seal Kit (Monarch)	-	-	-	
	194-332	Hydraulic Cylinder,	-	-	1	
	194-517	Seal Kit (Prince)	-	-	-	
	194-511	Seal Kit (Monarch)	-	-	-	
3	194-437	Hydraulic Cylinder,	2	-	-	
	194-441	Seal Kit (Prince)	-	-	-	
	194-507	Seal Kit (Monarch)	-	-	-	
	194-329	Hydraulic Cylinder,	-	2	-	
	194-551	Seal Kit (Prince)	-	-	-	
	194-443	Seal Kit (Monarch)	-	-	-	
	194-333	Hydraulic Cylinder,	-	-	2	
	194-518	Seal Kit (Prince)	-	-	-	
4	194-439	Seal Kit (Monarch)	-	-	-	
	194-436	Hydraulic Cylinder,	2	-	-	
	194-553	Seal Kit (Prince)	-	-	-	
	194-443	Seal Kit (Monarch)	-	-	-	
	194-328	Hydraulic Cylinder,	-	2	-	
	194-444	Seal Kit (Monarch)	-	-	-	
	194-334	Hydraulic Cylinder,	-	-	2	
194-554	Seal Kit (Prince)	-	-	-		
194-410	Seal Kit (Monarch)	-	-	-		
5	505-148	Washer	4	4	4	
6	505-195	Spacer/Bushing	2	2	2	
7	505-207	Pin Weldment, Front Gate Cylinder	4	4	4	
8	505-208	Pin Weldment, Lower Cutting Blade Cylinder	2	2	2	
9	505-209	Pin Weldment, Upper Cutting Blade Cylinder	2	2	2	
10	505-660	Lock Mechanism Plate	2	2	2	
11	505-743	Pin Weldment, Push Gate Cylinder Base End	2	2	2	
12	100-107	Capscrew, 3/8"-16UNC x 1" G5	4	4	4	
13	100-510	Capscrew, 1/2"-13UNC x 2" G8	2	2	2	
14	102-224	Lock Nut, 1/2"-13UNC	2	2	2	
15	108-018	Lock Washer, 3/8"	4	4	4	

Hydraulic Hoses & Fitting Components - Model FE

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



SCRAPERS — Parts

Hydraulic Hoses & Fitting Components - Model FE

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

ITEM	PART NUMBER	DESCRIPTION	QTY		
			FE750	FE775	FE8120
1	196-335	Hydraulic Hose, 3/8" x 132" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-316	Hydraulic Hose, 1/2" x 146" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	-
	196-317	Hydraulic Hose, 1/2" x 168" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	1
2	196-334	Hydraulic Hose, 3/8" x 130" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-343	Hydraulic Hose, 1/2" x 144" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	-
	196-357	Hydraulic Hose, 1/2" x 166" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	1
3	196-333	Hydraulic Hose, 3/8" x 128" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-346	Hydraulic Hose, 1/2" x 142" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	-
	196-356	Hydraulic Hose, 1/2" x 164" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	1
4	196-314	Hydraulic Hose, 3/8" x 126" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-345	Hydraulic Hose, 1/2" x 140" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	-
	196-355	Hydraulic Hose, 1/2" x 162" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	1
5	196-025	Hydraulic Hose, 1/2" x 210" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	2	-	-
	196-339	Hydraulic Hose, 1/2" x 42" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2	-
	196-350	Hydraulic Hose, 1/2" x 54" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	2
6	196-025	Hydraulic Hose, 1/2" x 210" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	2	-	-
	196-339	Hydraulic Hose, 1/2" x 42" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2	-
	196-349	Hydraulic Hose, 1/2" x 40" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	2
7	196-366	Hydraulic Hose, 3/8" x 60" (9/16-18 JIC Female x 3/4-16 O-Ring Male)	2	-	-
	196-341	Hydraulic Hose, 1/2" x 75" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2	-
	196-354	Hydraulic Hose, 1/2" x 156" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	2
8	196-024	Hydraulic Hose, 3/8" x 78" (9/16-18 JIC Female x 3/4-16 O-Ring Male)	2	-	-
	196-342	Hydraulic Hose, 1/2" x 90" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	2	-
	196-353	Hydraulic Hose, 1/2" x 150" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	-	2
9	196-338	Hydraulic Hose, 3/8" x 180" (3/4-16 JIC Female x 3/4-16 JIC Female)	2	-	-
	196-348	Hydraulic Hose, 1/2" x 198" (3/4-16 JIC Female x 3/4-16 JIC Female)	-	2	-
	196-349	Hydraulic Hose, 1/2" x 210" (3/4-16 JIC Female x 3/4-16 JIC Female)	-	-	2
10	196-331	Hydraulic Hose, 3/8" x 102" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-342	Hydraulic Hose, 1/2" x 90" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	1
11	196-330	Hydraulic Hose, 3/8" x 60" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	1	-	-
	196-342	Hydraulic Hose, 1/2" x 90" (3/4-16 JIC Female x 3/4-16 O-Ring Male)	-	1	1
12	198-113	Adapter, 3/4-16 JIC Male x 3/4-16 JIC Male	2	2	2
13	180-010	Manifold Block	1	1	1
	100-099	Capscrew, 3/8-16UNC x 2 1/2" G5	2	2	2
14	198-089	90° Elbow, 3/4-16 JIC Male x 3/4-16 O-Ring Male	7	7	7
15	194-436	Hydraulic Cylinder,	2	-	-
	194-328	Hydraulic Cylinder,	-	2	-
	194-334	Hydraulic Cylinder,	-	-	2
16	198-210	Plug,	2	2	2
17	194-437	Hydraulic Cylinder,	2	-	-
	194-329	Hydraulic Cylinder,	-	2	-
	194-333	Hydraulic Cylinder,	-	-	2
18	194-435	Hydraulic Cylinder,	1	-	-
	194-331	Hydraulic Cylinder,	-	1	-
	194-332	Hydraulic Cylinder,	-	-	1
19	102-005	Hex Nut, 3/8"-16UNC	18	18	18
20	108-018	Lock Washer, 3/8"	18	18	18
21	301-352	Hose Retainer Bracket (4 Hoses)	8	8	8
22	318-460	Hose Retainer Bracket (2 Hoses)	10	10	10
23	140-092	ISO Tip #8010-15	4	4	4
24	152-714	Dust Cap, ISO Tip RED	2	2	2
	152-710	Dust Cap, ISO Tip ORANGE	2	2	2



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