

Unverferth[®]

NUTRIMAX FERTILIZER APPLICATOR

16" HYDRAULIC TENSIONING EQUALIZER[®] TRACK SYSTEM

Serial Number B43990100 and Higher

Part No. 416327

Foreward

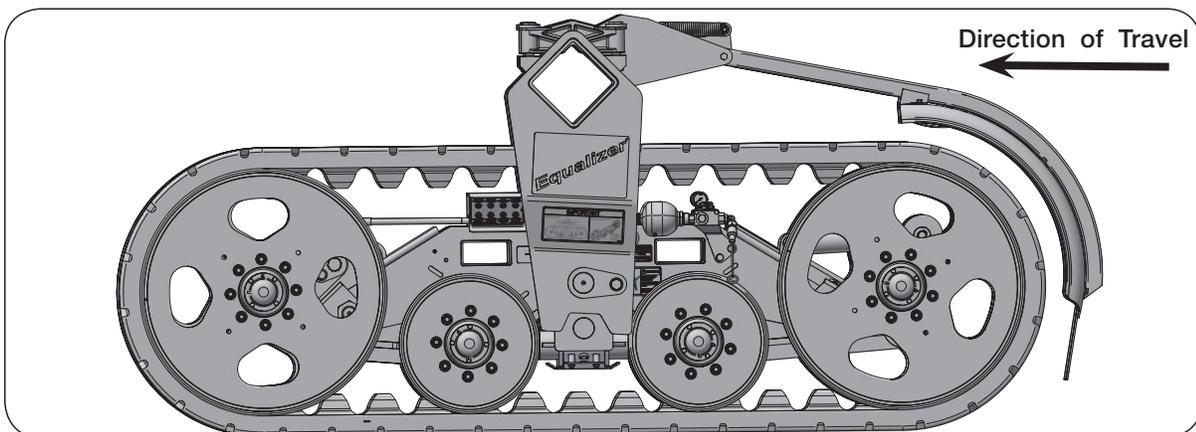


This symbol identifies important safety messages. When you see it, read the message that follows and be alert to the possibility of personal injury.

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
- Model number
- Serial number

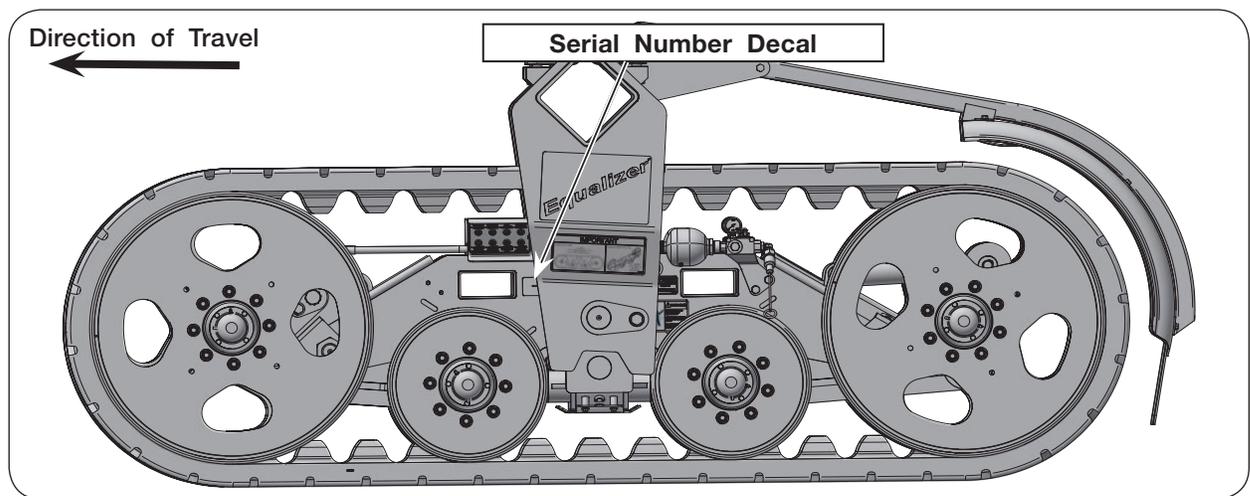
All products manufactured by Unverferth Mfg. Co., Inc. are warranted to be free from material and workmanship defects for one full year from time of consumer delivery. Your local dealer will gladly assist you with any warranty questions.

Please fill out and retain this portion for your records. 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 based on information available at the time it was written. Due to continuing improvements in the design and manufacture of Unverferth products, all specifications and information contained herein are subject to change without notice.*

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Section I Safety

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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



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.

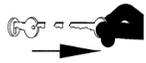


INDICATES AN UNSAFE SITUATION OR ACTION THAT MAY RESULT IN PERSONAL INJURY.



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

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. 

Before Operating or Servicing

- Avoid working under an implement; however, if it becomes absolutely unavoidable, make sure the implement is safely blocked. 
- Always make certain everyone and everything is clear of the machine before beginning operation.
- Verify that all safety shields are in place and properly secured. 
- Ensure that all applicable safety decals are installed and legible.

During Operation

- Regulate speed to working conditions. Maintain complete control at all times.

- Never 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

- This implement may not be equipped with brakes. Ensure that the towing vehicle has adequate weight and braking capacity to tow this unit.

During Transport

- Regulate speed to road conditions and maintain complete control.

- Maximum speed of implement should never exceed 15 mph. Do not exceed 10 mph during off-highway travel.

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

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

Pressurized Oil

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

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

- Accumulators used in this hydraulic system can retain fluid under pressure even after tractor hydraulic valve is placed in FLOAT. Remove residual pressure from by holding main hydraulic switches in DOWN position for at least 20 seconds after cylinders have stopped moving.

- 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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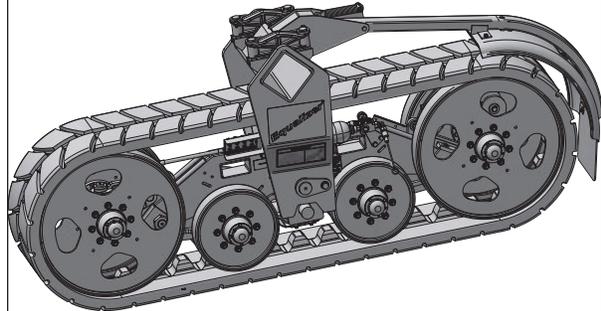
Track Operation

The unit is not equipped with brakes. Ensure that the towing vehicle has adequate weight and braking capacity to tow this implement.

Regulate speed to conditions. Maximum speed should never exceed 15 mph with full tank.

Reduce speed prior to turning to avoid risk of tipping over.

FIG. 2-1



IMPORTANT

- To maximize the life of the tracks, wide turns should be made whenever possible.
- To avoid belt damage, do not exceed 15 mph with full tank.

Belt Conditioning

Condition Track Prior to Initial Usage

A new rubber track, fresh from the mold, tends to be slightly “tacky”. This is a standard consequence of the vulcanization (curing) process. Generally, the rubber track will perform better if this tackiness is removed, thus it is recommended that all new rubber tracks be “conditioned” with talc, dirt, granular floor dry, or some other non-caustic particulate material. This is done by simply spreading a thin layer of the material over the undercarriage-engaging surface of the track, and then running the system for a brief period. This will serve to remove the tackiness of the rubber, and will promote optimum track-undercarriage engagement.

Belt Conditioning (continued)

Belt Conditioning Procedures

IMPORTANT

- *Road transport weight, distance and speed will affect the belt life.*

Before loading the unit, use the following recommendations to maximize the belt life:

1. Prior to transporting, apply generous amounts of clean dry dirt to the inside face, between the idler and bogie wheels, of the track.

NOTE: Clean dry dirt and dust are the most effective dry lubricants. For best results, it is recommended to perform the conditioning procedure for new belts in the field. Talc or floor dry are alternate dry lubricants when clean dry dirt is not an option.

2. Once in the field, reapply generous amounts of clean dry dirt to the inside of the track belt and operate for 20 minutes.
3. Using a temperature gun, measure the guide lug face including the radii between the guide lug and inside face of the track belt and record the highest temperature. Check multiple guide lugs. Repeat for the opposite side of track belt.
4. If the temperature difference of the sides of the guide lugs is greater than 30°, adjust the alignment. Refer to Alignment procedures in this manual.
5. Continue the alignment procedures until tracks are aligned applying clean dry dirt periodically.
6. Once the temperature difference between the sides of the guide lugs is below 30°, continue to run the track in the field stopping once every hour of run time to reapply clean dry dirt.
7. When 20 hours of total field run time has been achieved, then the guide lug temperatures should be checked after a couple miles of unloaded road transport. If guide lug temperatures are within the previous mentioned parameters the unit is ready for use.
8. Check guide lug temperatures daily during road transport AND field operation to assure long track belt life.

Alignment

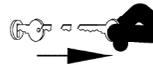
WARNING

- ENTANGLEMENT WITH MOVING PARTS CAN CAUSE SERIOUS INJURY OR DEATH. USE EXTREME CARE WHEN INSPECTING AND ADJUSTING BELT TRACKING. AVOID PERSONAL ATTIRE SUCH AS LOOSE FITTING CLOTHING, SHOESTRINGS, DRAWSTRINGS, PANTS CUFF, LONG HAIR, ETC., THAT MAY BECOME ENTANGLED IN MOVING PARTS.
- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.
- KEEP HANDS CLEAR OF PINCH POINT AREAS.
- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.

The maintenance criteria listed below are very important for proper track operation. Follow these recommendations before and during the adjustment process as necessary. Check these items every day to prevent undue wear to wheels and track.

All tracks have been factory adjusted. But as the tracks wear in they may need to be re-aligned. If wear is noticed on the track lugs, follow the instructions for realignment.

1. Park the unit on a firm, level surface. Set the towing vehicle's parking brake, shut off engine and remove key before checking or adjusting track unit.



2. If adjustment is needed, use the alignment bolt located on the front of the track frame. See FIG. 2-2.

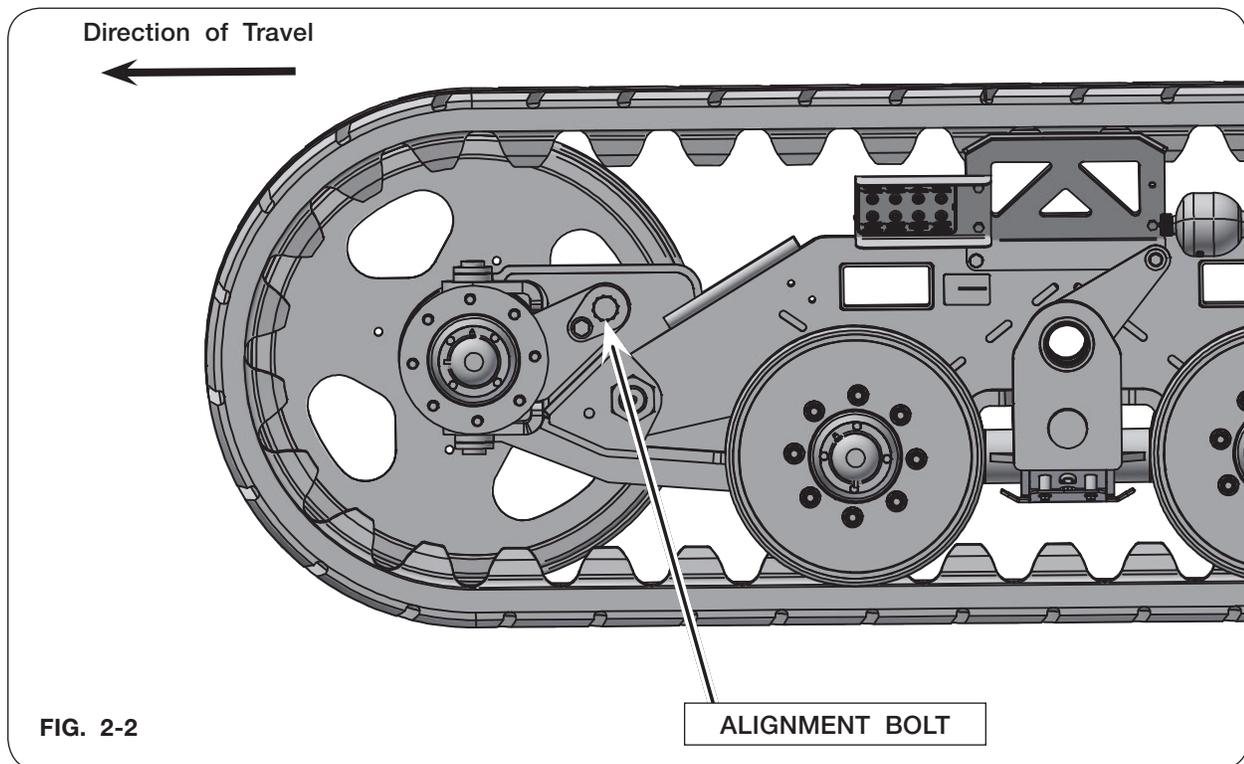
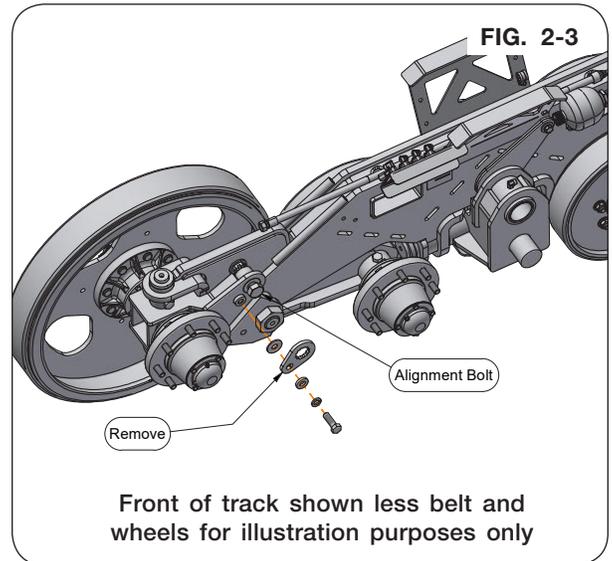


FIG. 2-2

ALIGNMENT BOLT

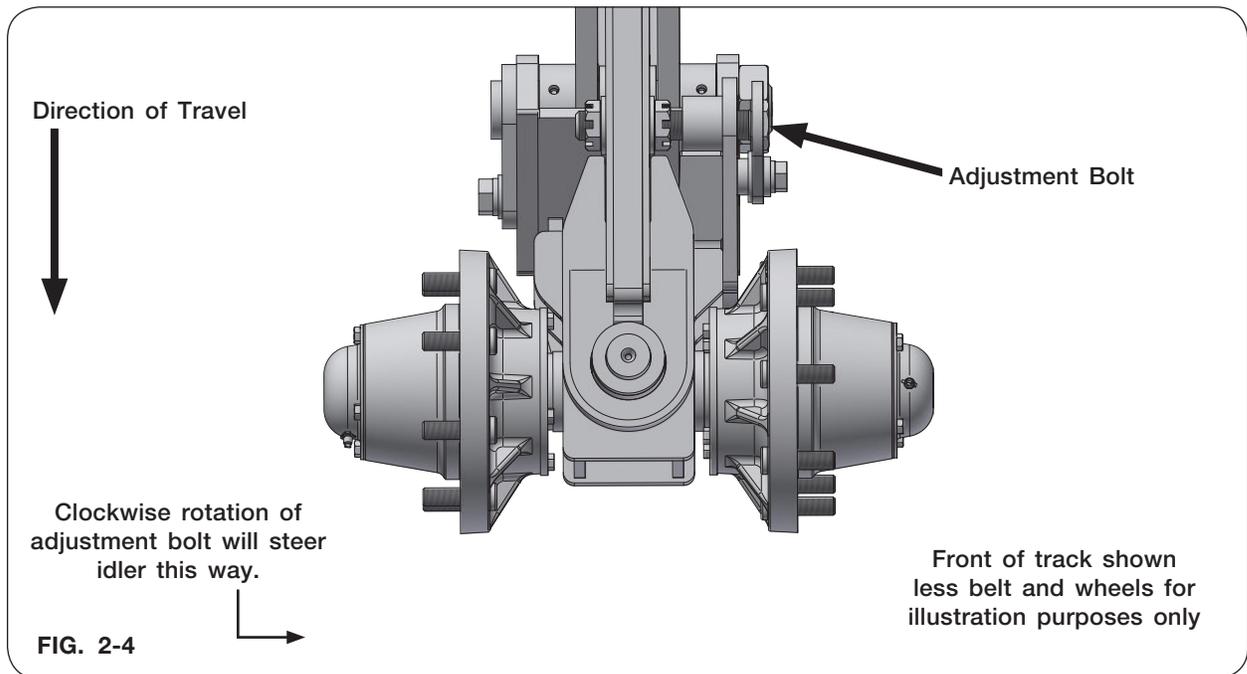
Alignment (continued)

3. Remove the alignment bolt retaining hardware. (FIG. 2-3)



4. Clockwise rotation of alignment bolt will steer idler as shown in FIG. 2-4. Counter-clockwise rotation will steer the idler in the opposite direction. Idler should be steered towards the “hot” side of the guide lugs. When the guide lugs are “hot” on the outside, rotate alignment bolt clockwise. When the guide lugs are “hot” on the inside, rotate alignment bolt counter-clockwise*.

Make adjustments in no more than 1/4 turn increments of the alignment bolt. Check guide lug temperatures on both sides of the guide lugs in 1 mile increments. Continue to adjust until temperature difference on the lugs is no more than 30 degrees Fahrenheit.



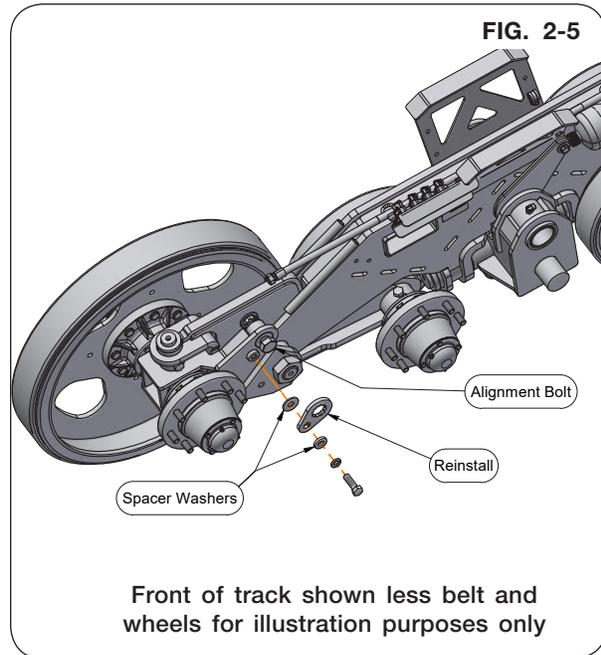
***NOTE:** Tracks should be assembled with the alignment bolts facing towards the outside of the unit. If alignment bolts are towards the inside of the unit, the rotation of the bolt for alignment adjustment will be opposite the above stated directions.

Alignment (continued)

5. Reinstall the alignment bolt retaining hardware. (FIG. 2-5) Use supplied spacer washers to properly space alignment bolt locking plate to ensure hex of the bolt head is fully engaged in the locking plate. Bolt head should not protrude beyond or below thickness of the locking plate.

IMPORTANT

- For new rubber belts, follow "Conditioning" instructions listed in Track Maintenance Section.



Maintenance

Track Tensioning & Detensioning

WARNING

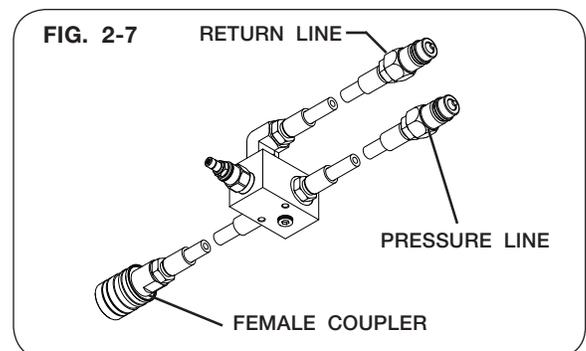
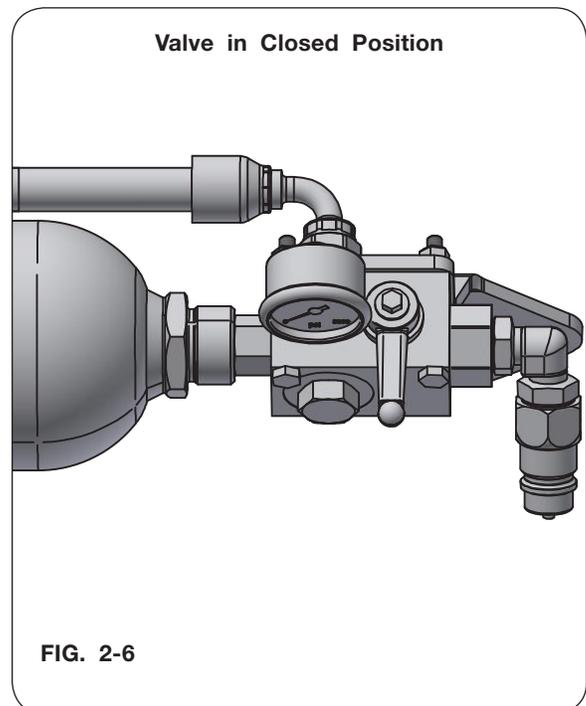
- **HIGH-PRESSURE FLUIDS CAN PENETRATE THE SKIN AND CAUSE SERIOUS INJURY OR DEATH. LEAKS OF HIGH-PRESSURE FLUIDS MAY NOT BE VISIBLE. USE CARDBOARD OR WOOD TO DETECT LEAKS IN THE HYDRAULIC SYSTEM. SEEK MEDICAL TREATMENT IMMEDIATELY IF INJURED BY HIGH-PRESSURE FLUIDS.**
- **THE HYDRAULIC SYSTEM MAINTAINS OIL AT A HIGH PRESSURE. PRESSURE MUST BE RELIEVED PRIOR TO ANY TRACK MAINTENANCE.**
- **ACCUMULATOR MAINTAINS PRESSURE IN HYDRAULIC SYSTEM. DO NOT SERVICE HYDRAULIC SYSTEM WITHOUT FIRST DISCHARGING HYDRAULIC PRESSURE IN ACCUMULATOR.**

The accumulator in the hydraulic system is precharged with nitrogen to 850 PSI. Do not puncture or dent shell and do not weld near accumulator. Do not break fittings in accumulator. The accumulator itself is under pressure at all times. Once connected into the hydraulic system, the accumulator will maintain pressure in the system until pressure is relieved by the tractor's hydraulic system.

Use the tensioner hose kit provided with the tracks to add or relieve tension to tracks.

Make sure the valve is in the closed position before attaching hose to tracks, see (FIG. 2-6).

Attach the pressure and return couplers to the tractor and the female coupler to the track. (FIG. 2-7)



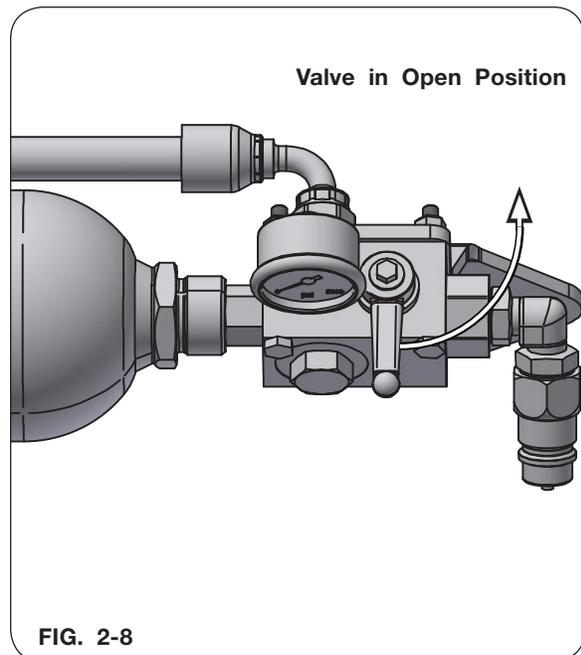
Maintenance (continued)

Tensioning (continued)

NOTE: When repressurizing the track system, do not exceed 5 gpm on the tractor SCV remote during the procedure. Exceeding 5 gpm will result in inaccurate PSI or allow air into the hydraulic system of the track.

1. Start Tractor and pressurize line to full pressure. The valve in the tensioner hose will regulate the pressure for the track.
2. Open the valve on the track and allow track to pressure up to 1000 PSI. See FIG. 2-8.
3. Once the track has been pressurized close the valve on the track and replace cover on track coupler.
4. Relieve the pressure in the hydraulic hoses and turn off tractor.
5. Remove tensioner hose.

NOTE: If system does not hold pressure, it is possible that there is air in the lines. Follow steps 1-3 but leave the track valve open and cycle the hydraulics on the tractor from extend to float. Engage the hydraulics long enough to completely tension the track then switch it to float and allow the track to detension. Follow these steps 3 to 4 times then retension to 1000 PSI and shut the track valve.



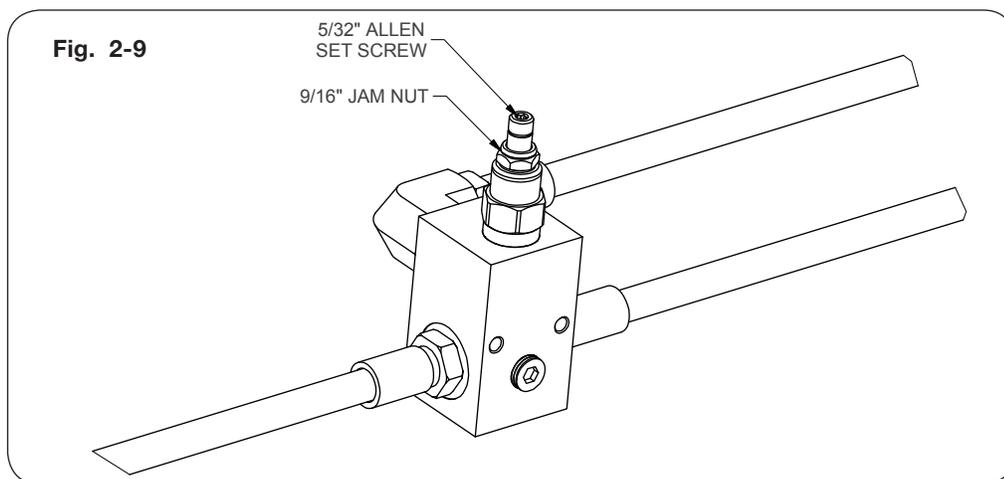
If the track pressure is high or low using the procedure above to tension the track, the valve in the tensioner hose assembly can be adjusted to get the pressure set to 1000 PSI. Follow the procedure below to make this adjustment.

1. Loosen the 9/16" jam nut.
2. Turn the 5/32" set screw counter-clockwise all the way out until it stops.
3. Set the tractor SCV remote to 5 gpm.
4. Attach the hose to the tractor SCV remote and to the track valve.
5. Turn the handle on the track valve to the open position.
6. Set the tractor SCV remote in detent.

Maintenance (continued)

Tensioning (continued)

7. Turn the 5/32" set screw clockwise slowly, while watching the pressure gauge on the track frame until it reaches 1000 PSI. (FIG. 2-9)
8. Tighten the 9/16" jam nut. (FIG. 2-9)
9. Turn the handle on the track valve to the closed position.
10. Put the tractor SCV remote in the float position and detach the hose from the tractor and track valve.



Detensioning

1. Install the tensioner hose to the track valve and to the tractor **BEFORE** opening the track valve.
2. Place the hydraulic lever in retract and open the valve on the track.
3. Allow track to detension for 5 minutes.
4. Close valve on track, and make sure there is no pressure in the hydraulic line.
5. Turn off tractor and remove hose.

Maintenance (continued)

Cylinder Replacement

WARNING

- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING IMPLEMENT.

- KEEP HANDS CLEAR OF PINCH POINT AREAS.

- 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.

- ACCUMULATOR MAINTAINS PRESSURE IN HYDRAULIC SYSTEM. DO NOT SERVICE HYDRAULIC SYSTEM WITHOUT FIRST DISCHARGING HYDRAULIC PRESSURE IN ACCUMULATOR.

- 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 20,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.

The accumulator in the hydraulic system is precharged with nitrogen to 850 PSI. Do not puncture or dent shell and do not weld near accumulator. Do not break fittings in accumulator. The accumulator itself is under pressure at all times. Once connected into the hydraulic system, the accumulator will maintain pressure in the system until pressure is relieved by the tractor's hydraulic system.

1. Use a safe lifting device and supports rated at a minimum of 20,000 lbs., then raise the axle and support.
2. Detension track using procedure listed on the previous page.

Maintenance (continued)

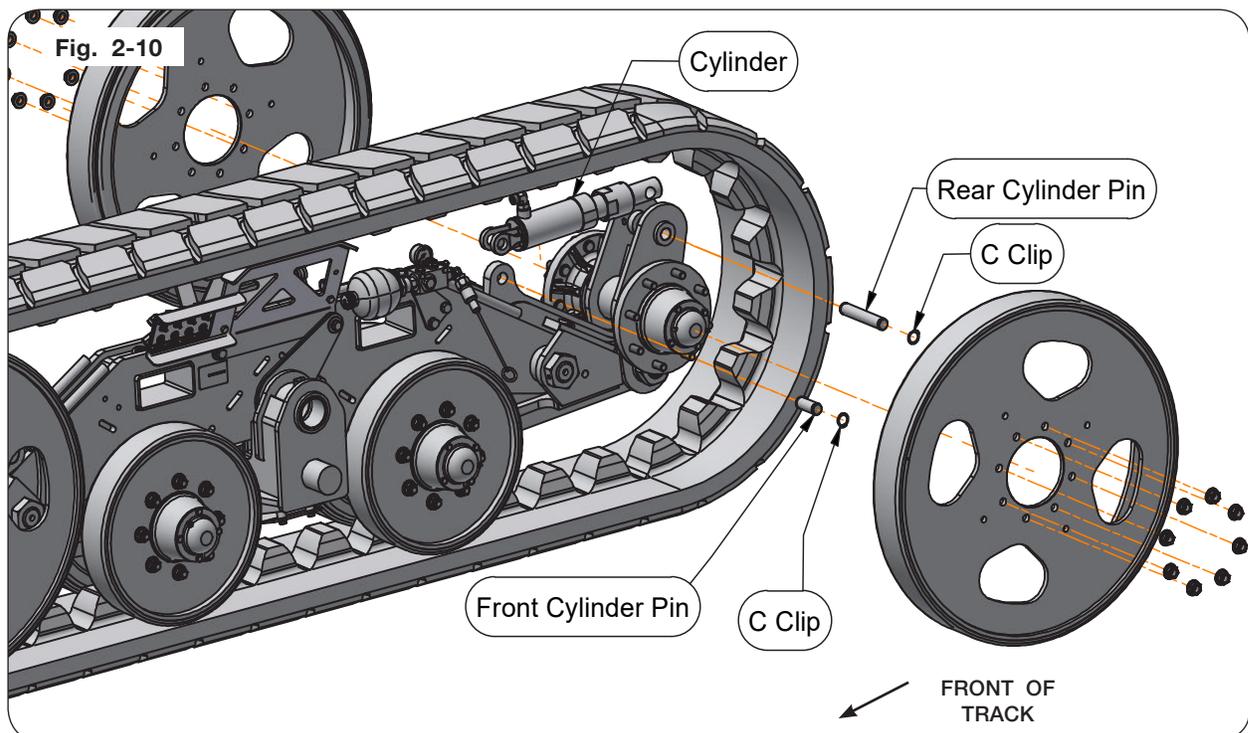
3. Remove front outside idler wheel by removing nuts securing the wheel to the hub. (FIG. 2-10)
4. Remove rod end cylinder pin from the track tensioner by removing the securing hardware. (FIG. 2-10)
5. Rotate rod end of cylinder up toward the top of the track exposing the fitting on the bottom of the base end of the cylinder.
6. Remove fitting and plug with a 3/4"-16 O-ring port plug to prevent excess oil leaking out.
7. Remove base end cylinder pin and replace cylinder using hardware previously removed.
8. Align, assemble and tighten hose fittings. Check hose routing clearance.

NOTE: Route hoses away from areas that may cause abrasion or kinking of hoses during operation.

9. Replace idler wheel using nuts previously removed. Torque wheel nuts per torque charts in this manual.

CAUTION

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



Maintenance (continued)

Hub Seal Installation

When installing the seal make sure the spring on the inside of the seal is facing towards the outside of the hub, closest to the seal guard. The seal guard will cover the seal using capscrews.

NOTE: The spring side of the seal must face the outside of the hub to allow the grease to purge.

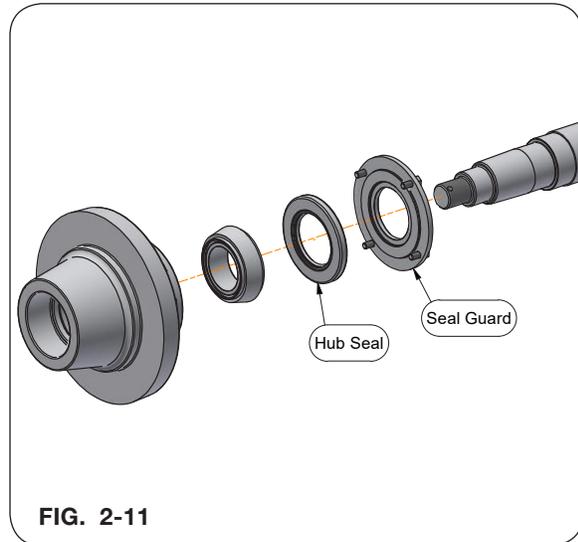


FIG. 2-11

Trunnion Replacement

WARNING

- TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.

- EYE PROTECTION AND OTHER APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT MUST BE WORN WHILE SERVICING 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 16,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.

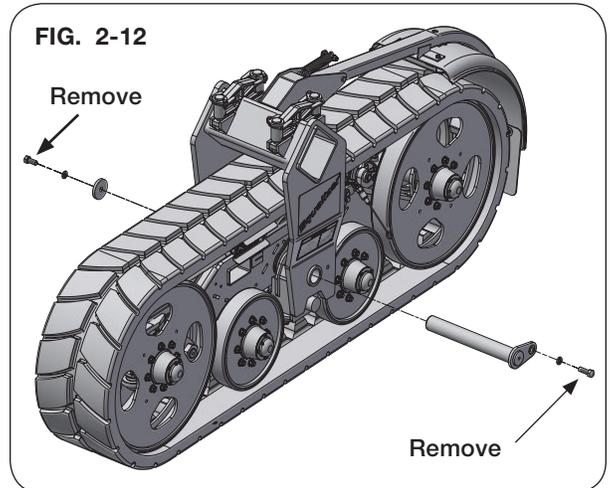
1. Attach sprayer to tractor. Park the empty unit on a firm, level surface. Set the tractor's parking brake, shut off the engine, and remove the ignition key from the tractor.



Maintenance (continued)

Trunnion Replacement

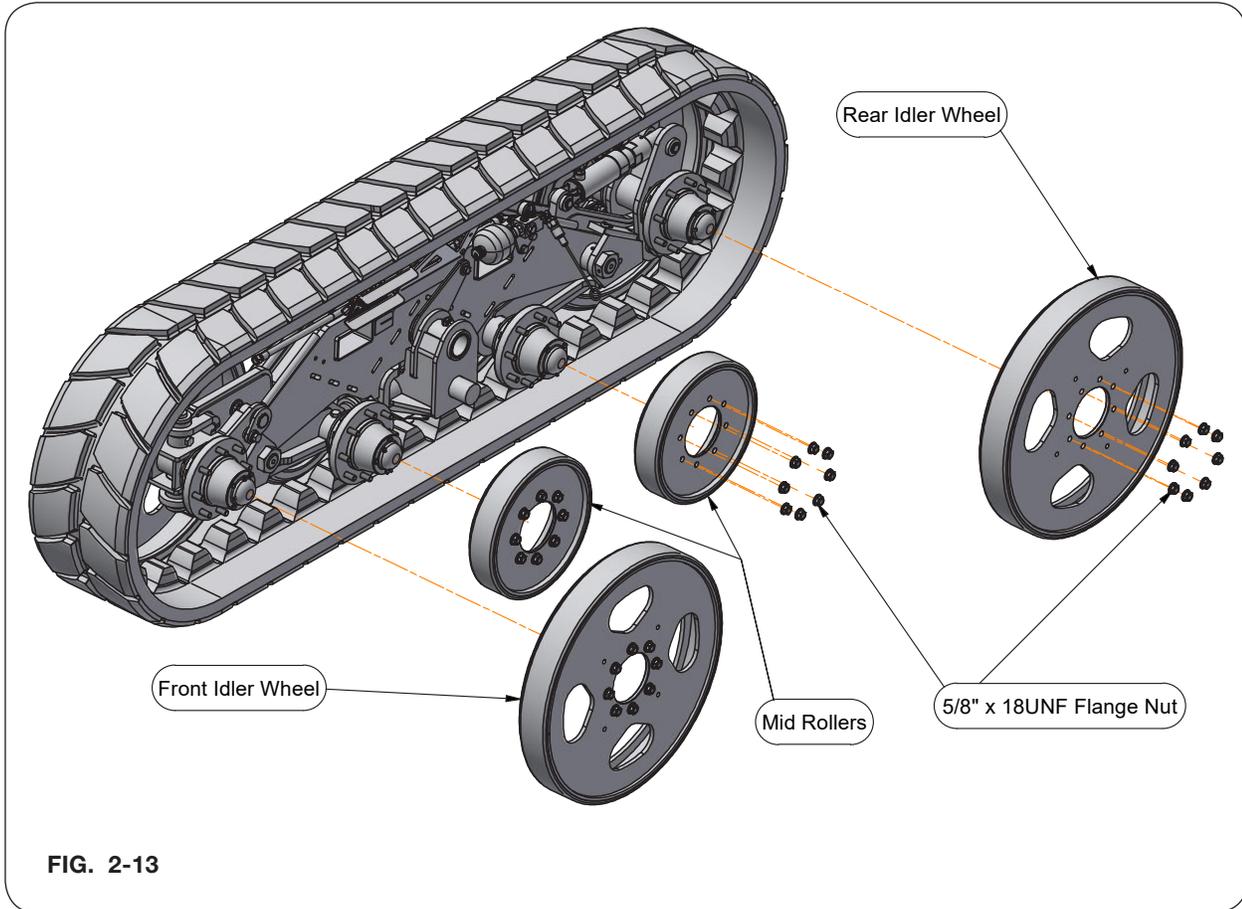
2. Using a safe lifting device and support rated at a minimum of 8 ton, lift and support one side of the unit under the axle nearest to the track that will be removed.
3. Remove the track pivot pin and retaining hardware. (FIG. 2-12) Move track assembly out of track fork and away from the unit.



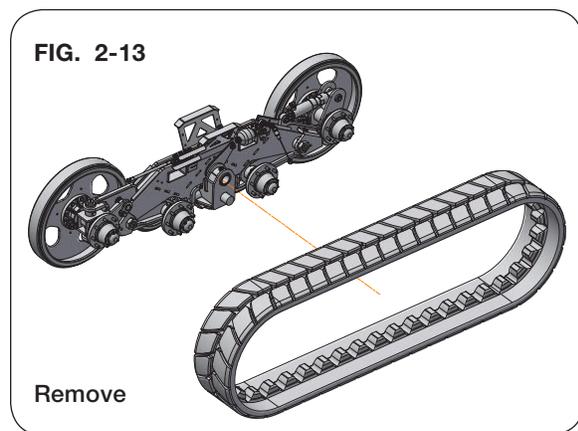
4. Detension track using procedure in "MAINTENANCE" section of this manual.

Maintenance (continued)

- Using a fork lift rated for 3,000 lbs., support the track assembly using the support tubes in the track frame. Remove all the outside idler wheels (111109B) and midrollers (111110B). (FIG. 2-13)

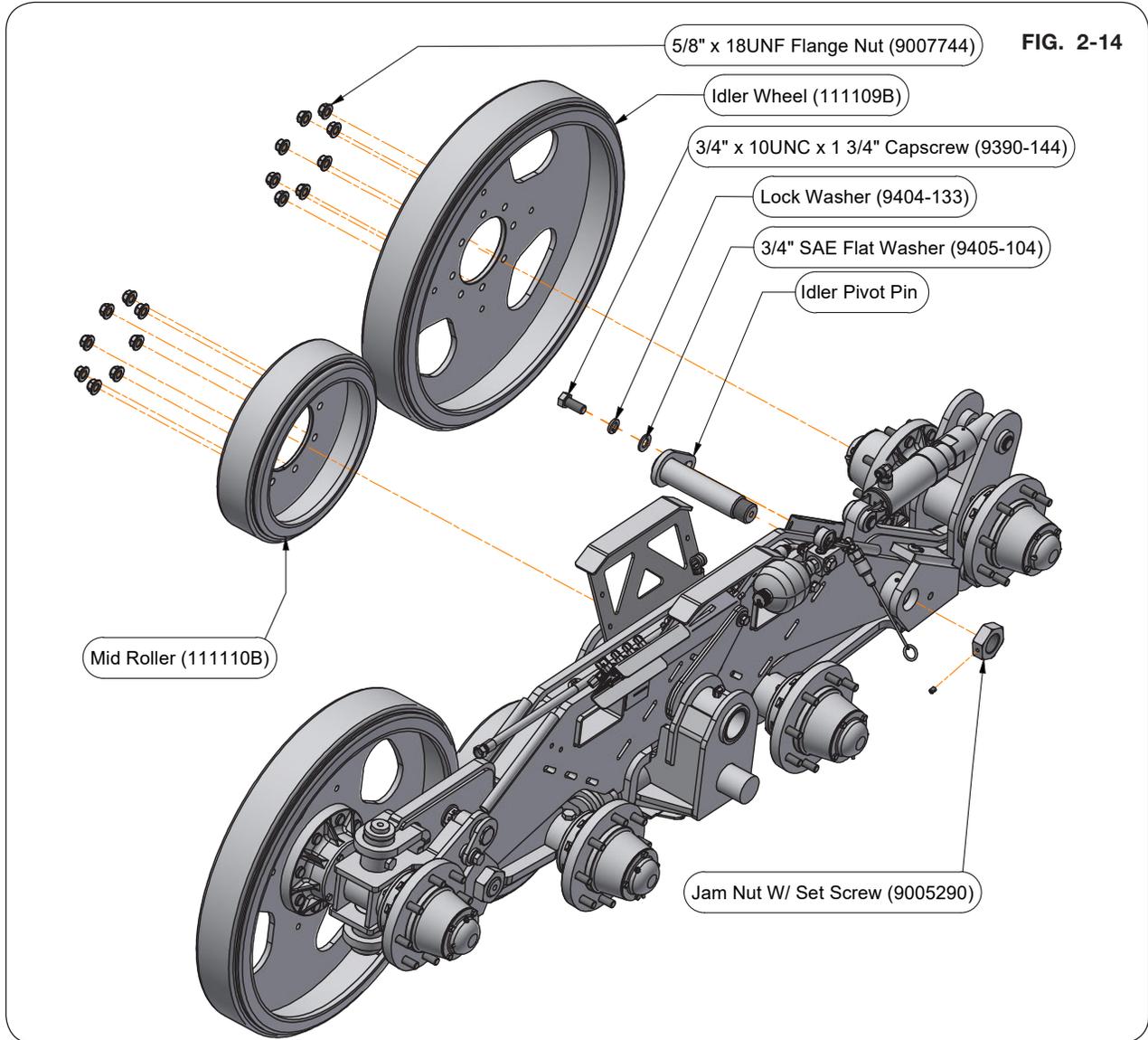


- Remove the track belt (FIG. 2-13).



Maintenance (continued)

7. Remove the front, inside idler wheel (111109B) and midroller (111110B). (FIG. 2-14)

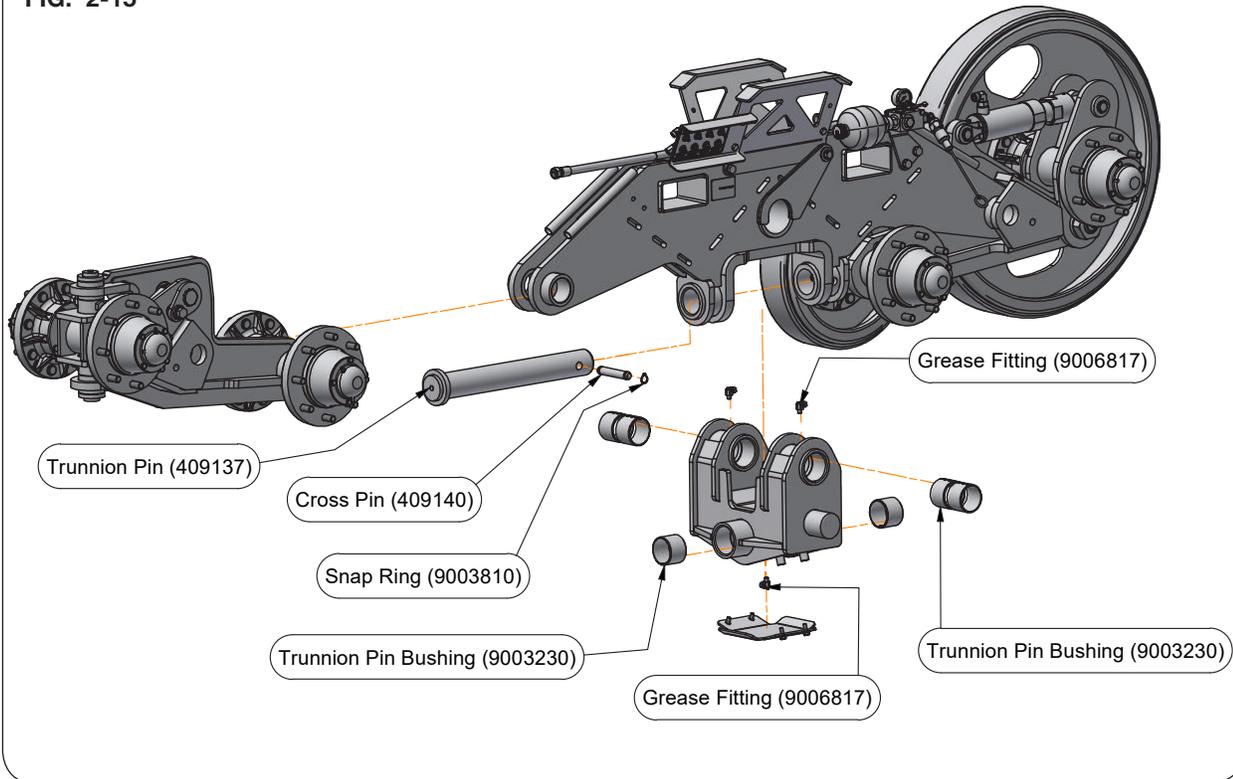


8. Remove the set screw in jam nut (9005290) and remove the nut. Remove the idler pivot pin and retaining hardware as shown in FIG. 2-14. Using safe lifting devices rated at a minimum of 400 lbs., remove the front idler pivot assembly. (FIG. 2-14)

Maintenance (continued)

9. Remove the track trunnion pin (409140) and retaining hardware as shown in FIG. 2-15.

FIG. 2-15



10. Using safe lifting device rated at 400 lbs., lower the trunnion weldment (408982B) to the ground.

11. Remove the bushings (9003230) and grease fittings (serial number B35640099 and Lower - part number 91160) from the trunnion weldment (408982B), then install new bushings (9003230) in the new trunnion weldment (408982B).

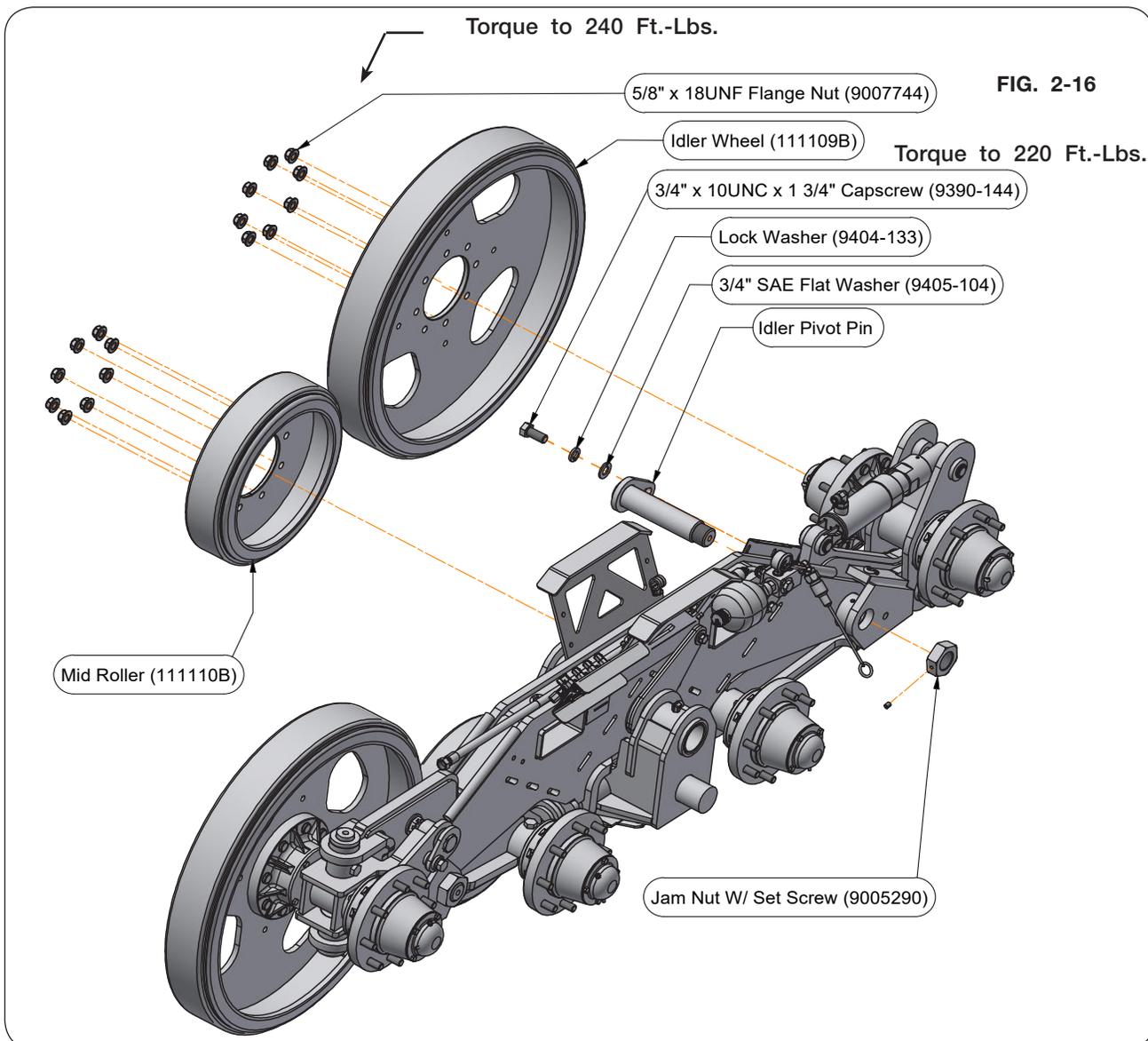
NOTE: If replacing trunnion weldment on serial numbers below B35640100, grease fittings (91160) will need to be replaced with grease fittings (93426).

12. Install the new trunnion assembly. (FIG. 2-15)

13. Install the track trunnion pin (409137) and retaining hardware as shown in FIG. 2-15.

Maintenance (continued)

14. Using a safe lifting device rated at a minimum of 400 lbs., install the rear idler pivot assembly. (FIG. 2-16) Install the idler pivot pin (412331) and retaining hardware as shown in FIG. 2-16. Jam nut with setscrew (9005290), snug tighten the jam nut against the idler pivot plate and tighten the setscrew. Use thread lock on the setscrew. Torque 3/4"-10UNC x 1 3/4" capscrew (9390-144) to 220 Ft.-Lbs.



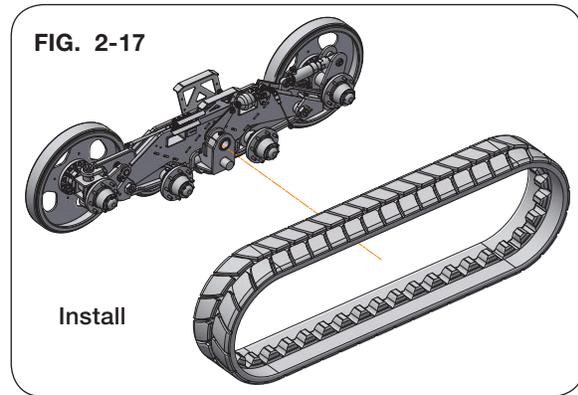
15. Install the front, inside idler wheel (111109B) and midroller (111110B). (FIG. 2-16) Torque 5/8"-18UNF wheel flange nuts (9007744) to 240 Ft.-Lbs.

CAUTION

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

Maintenance (continued)

16. Install the track belt (FIG. 2-17).



17. Attach all the outside idler wheels (111109B) and midrollers (111110B). (FIG. 2-18) Torque 5/8"-18UNF wheel flange nuts (9007744) to 240 Ft.-Lbs.



CAUTION

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

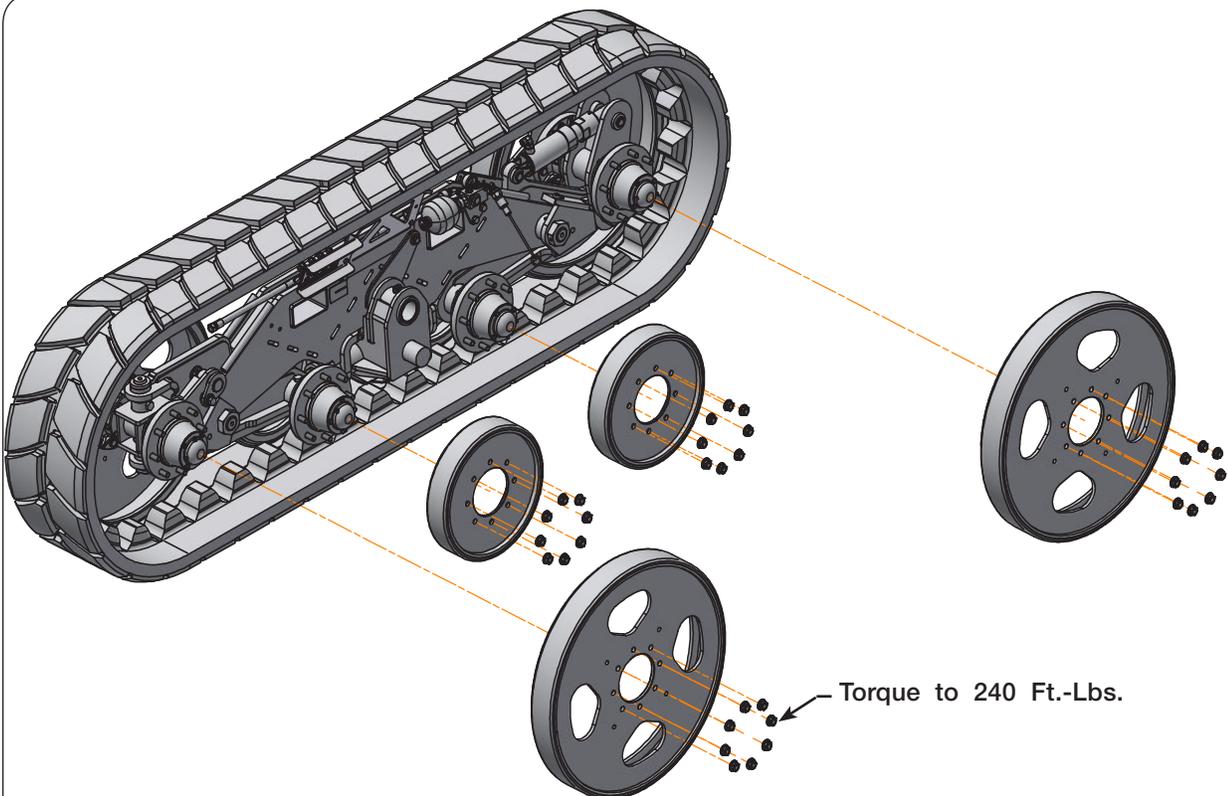
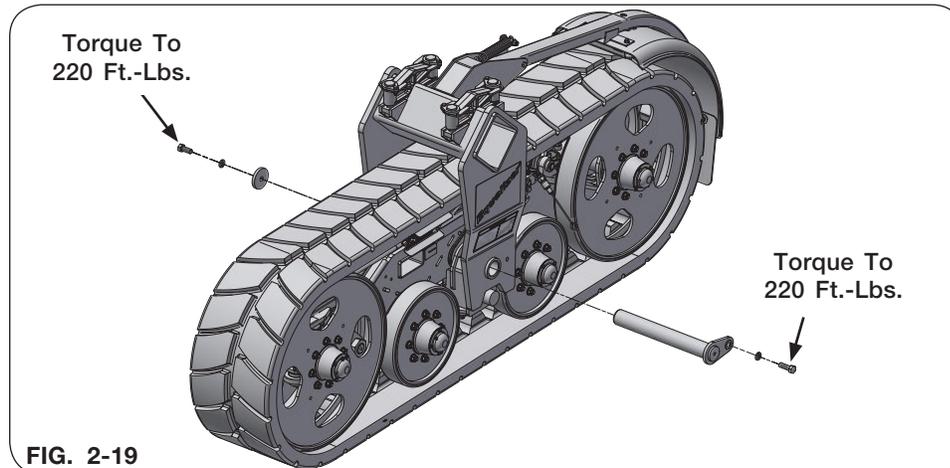


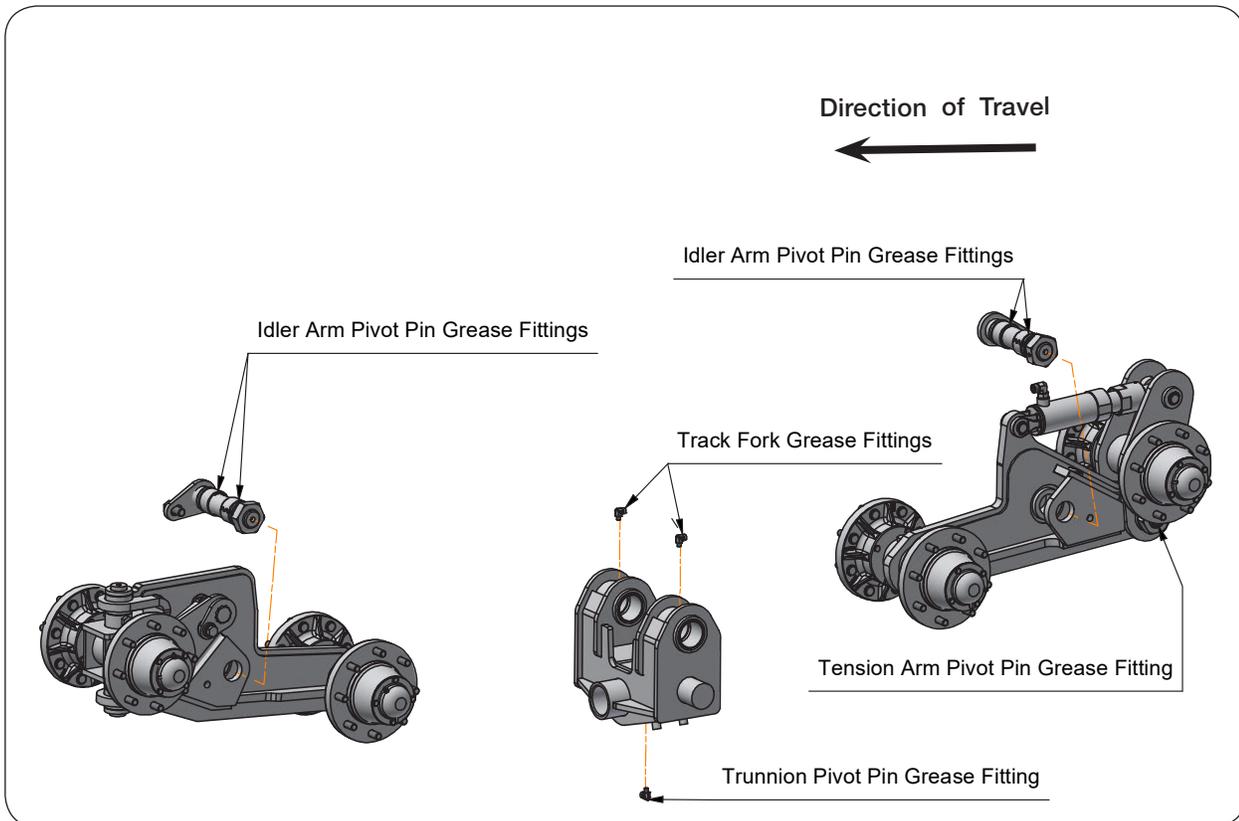
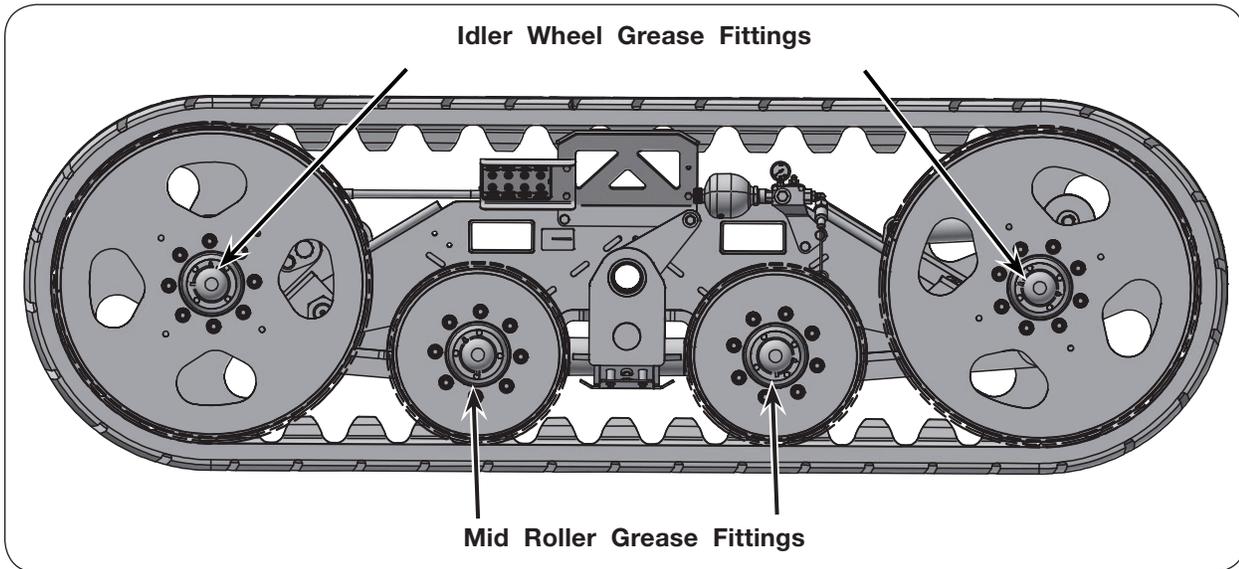
FIG. 2-18

Maintenance (continued)

18. Tension track using procedure in "MAINTENANCE" section of this manual.
19. Install the track pivot pin and retaining hardware. Torque hardware accordingly. (FIG. 2-19)

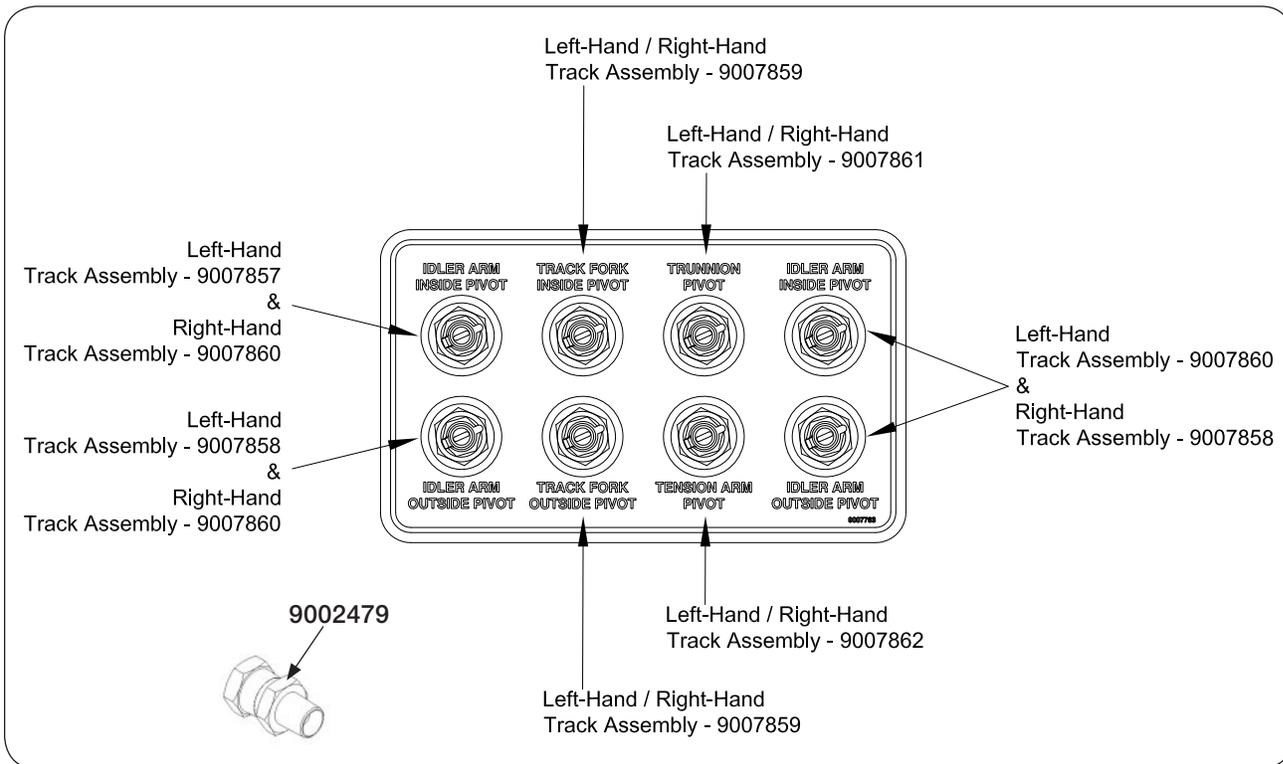


Lubrication



DESCRIPTION	POINTS	LUBRICANT	QTY	HOURS
Track Idler Wheel & Midroller Hubs	8 per Track	EP-2	2 Shots	20 Hours
			Repack	2 Years
Idler Arm Pivot Pin	4 per Track	EP-2	2 Shots	Daily
Track Fork Pivot Pin	2 per Track	EP-2	2 Shots	Daily
Trunnion Pivot Pin	1	EP-2	2 Shots	Daily
Tension Arm Pivot Pin	1 per Track	EP-2	Until Grease is Purged	10 Hours

Lubrication



DESCRIPTION	PART NO.	QTY.	NOTES
Swivel Pipe Adapter	9002479	A/R	
Hose, 3/16 x 24 - Grease 3250PSI	9007857	1	
Hose, 3/16 x 20 - Grease 3250PSI	9007858	1	
Hose, 3/16 x 36 - Grease 3250PSI	9007859	2	
Hose, 3/16 x 44 - Grease 3250PSI	9007860	2	
Hose, 3/16 x 50 - Grease 3250PSI	9007861	1	
Hose, 3/16 x 68 - Grease 3250PSI	9007862	1	

Storage

1. Avoid storing in sunlight.
2. Avoid excessive moisture.

Ideally, rubber tracks should be stored indoors, in a draft-free area. If tracks must be stored outdoors, a tarpaulin or other covering should be used to protect them from the weather.

Wheel Torque Chart

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 THERE-AFTER. 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
5/8-18 (UNF)	240 Ft.-Lbs.

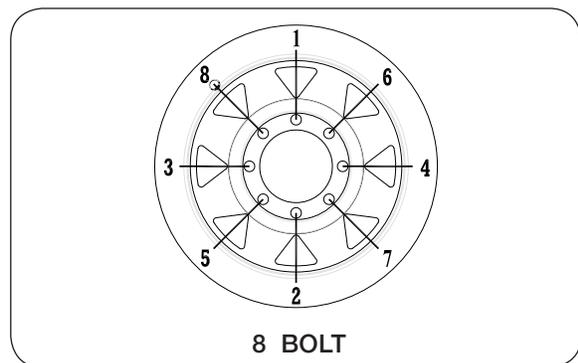


DIAGRAM 1

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

IMPORTANT

- Follow these torque recommendations except when specified in text.

Complete Torque Chart

Capscrews - Grade 8

NOTE:

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



SIZE	FOOT POUNDS	NEWTON METERS
5/16-18	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.*

Section III Parts

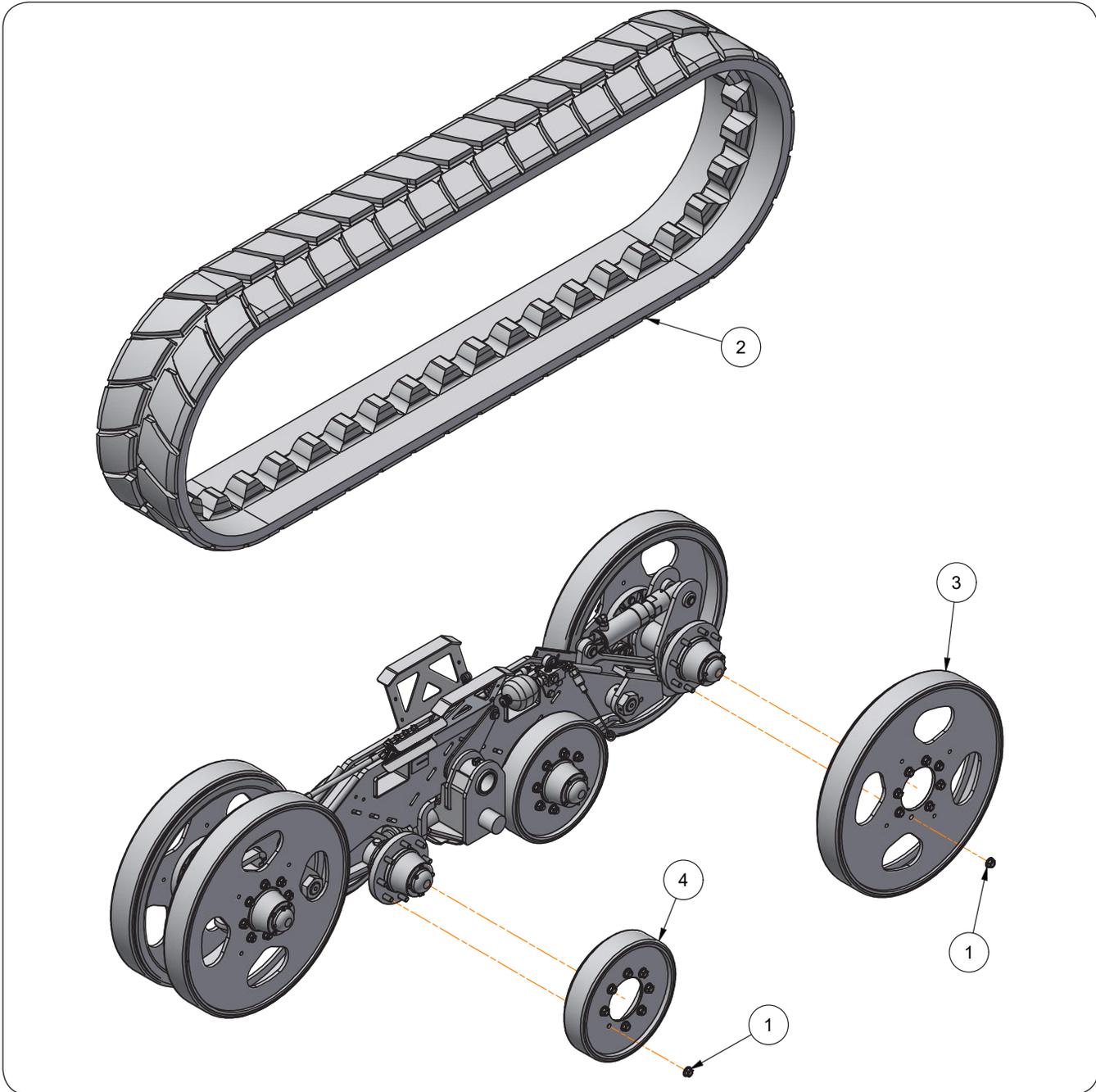
Please visit www.unverferth.com/parts/ for the most current parts listing.

Track Belt, Idler Wheels & Midrollers	3-2
Track Frame Components	3-4
Front Idler Pivot Components	3-6
Rear Idler Pivot Components	3-8
Idler Hub Components	3-10
Accumulator & Tension Hose Components.....	3-12

16" Hydraulic Tension Equalizer Track — Parts

Track Belt, Idler Wheels, & Midrollers

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



ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	9007744	Flange Nut 5/8-18UNF Grade 8	64	
2	9009116	Track Belt - 252" x 16"	1	
3	111109B	Idler Wheel Weldment =Black=	4	
4	111110B	Midroller Weldment =Black=	4	

16" Hydraulic Tension Equalizer Track — Parts

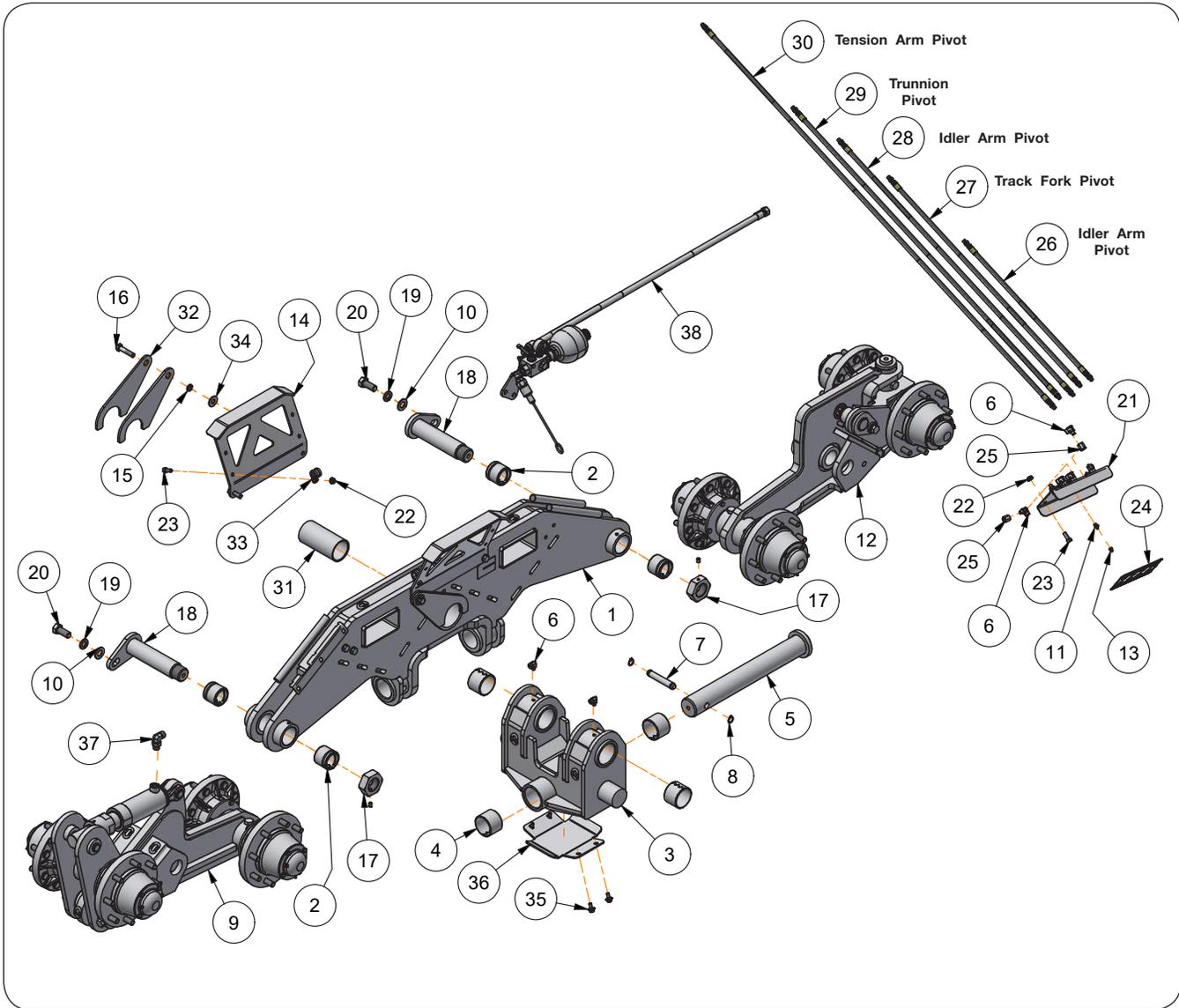
Notes

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

16" Hydraulic Tension Equalizer Track — Parts

Track Frame Components

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



16" Hydraulic Tension Equalizer Track — Parts

Track Frame Components

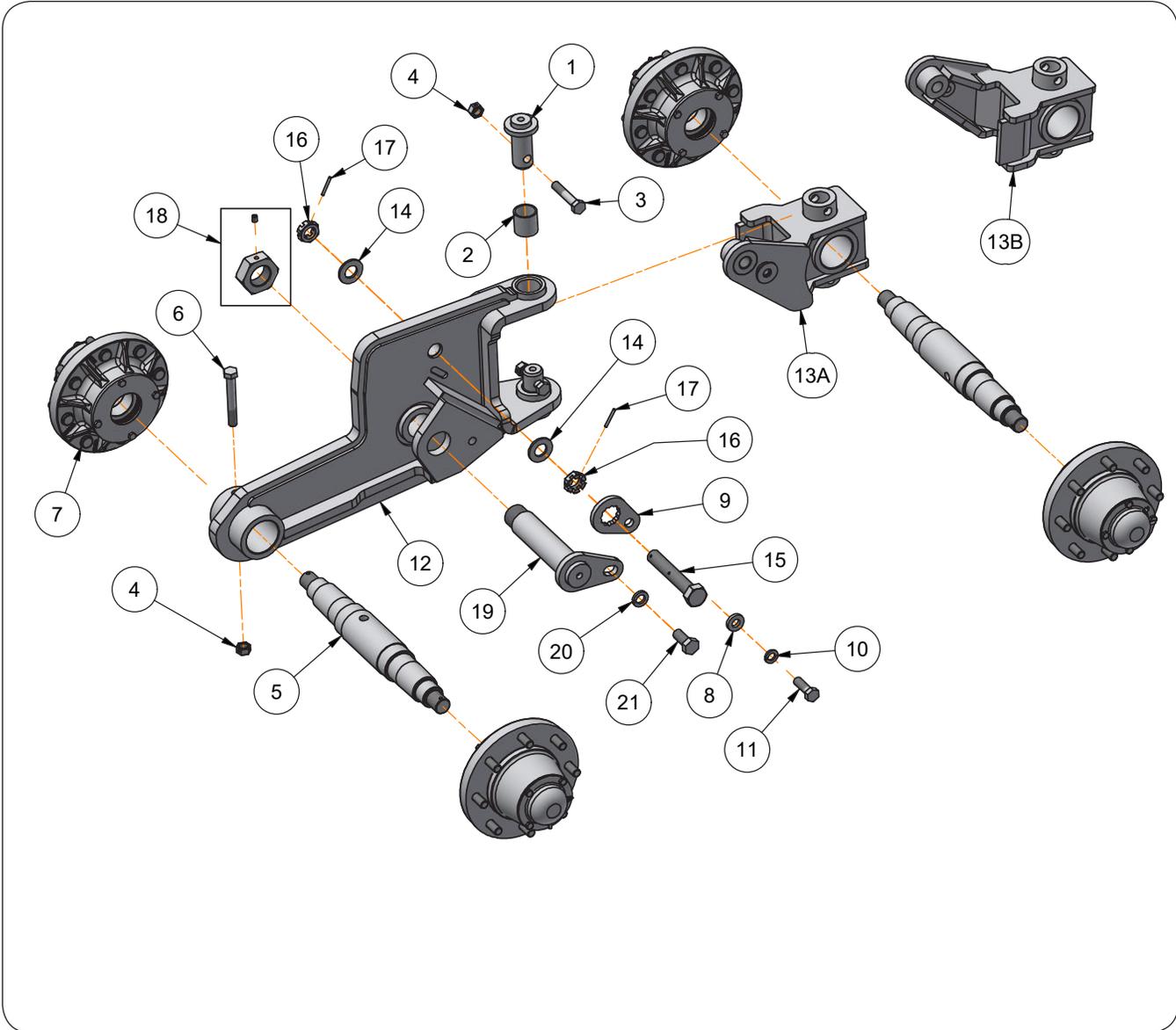
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	409127B	Track Frame Weldment	1	
2	9007695	Tension Spring Bushing	4	
3	408982B	Track Trunnion Weldment =Black=	1	
4	9003230	Split Bushing	6	
5	409137	Track Trunnion Pin Weldment	1	
6	9006817	90° Grease Fitting, 1/8-27 Male x 1/8-27 Female	11	
7	409140	Cross Pin 3/4" Dia. x 4 3/8"	1	
8	9003810	Snap Ring 3/4"	2	
9	--	Idler Pivot Assembly (Rear)	1	See pages 3-8 & 3-9
10	9405-104	Flat Washer 3/4" SAE	2	
11	93426	Grease Zerk	8	
12	--	Idler Pivot Right-Hand Assembly (Front) (SHOWN)	1	See pages 3-6 & 3-7
	--	Idler Pivot Left-Hand Assembly (Front)		
13	9006849	Grease Zerk Cap	8	
14	409885B	Support Belt Weldment =Black=	2	
15	9404-025	Lock Washer 1/2"	4	
16	9390-101	Capscrew 1/2"-13UNC x 1 1/2" Grade 5	4	
17	9005290	Heavy Hex Jam Nut, 1 3/4"-5UNC w/Set Screw Grade 5	2	
18	412331	Idler Pivot Pin Weldment	2	
19	9404-033	Lock Washer, 3/4"	2	
20	9390-144	Capscrew, 3/4"-10UNC x 1 3/4" Grade 5	2	
21	411999B	Bank Grease Plate =Black=	1	
22	9003396	Locknut 3/8"-16UNC (Automation)	2	
23	9390-055	Capscrew 3/8"-16UNC x 1" Grade 5	2	
24	9007763	Decal, Bank Grease	1	
25	9003949	Pipe Coupling 1/8"	8	
26	9007857	Idler Arm Pivot Hose 3/16" Dia. x 24"	2	
27	9007859	Track Frok Pivot Hose 3/16" Dia. x 36"	4	
28	9007860	Idler Arm Pivot Hose 3/16" Dia. x 44"	2	
29	9007861	Trunnion Pivot Hose 3/16" Dia. x 50"	1	
30	9007862	Tension Arm Pivot Hose 3/16" Dia. x 66"	1	
31	412541	Spacer, Tube Bushing	1	
32	413998	Pivot Lock Shim	4	
33	9007555	Hose Clamp 3/4"	1	
34	9405-088	Flat Washer 1/2"	1	
35	91256	Flange Screw 5/16"-18UNC x 3/4" Grade 5	4	
36	413988	Gaurd Plate	1	
37	TA0-934612-0	Hydraulic Fitting 13/16" FS x 3/4"	1	
38	-----	Accumulator Assembly	1	See pages 3-10 & 3-11

16" Hydraulic Tension Equalizer Track — Parts

Front Idler Pivot Components

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



16" Hydraulic Tension Equalizer Track — Parts

Front Idler Pivot Components

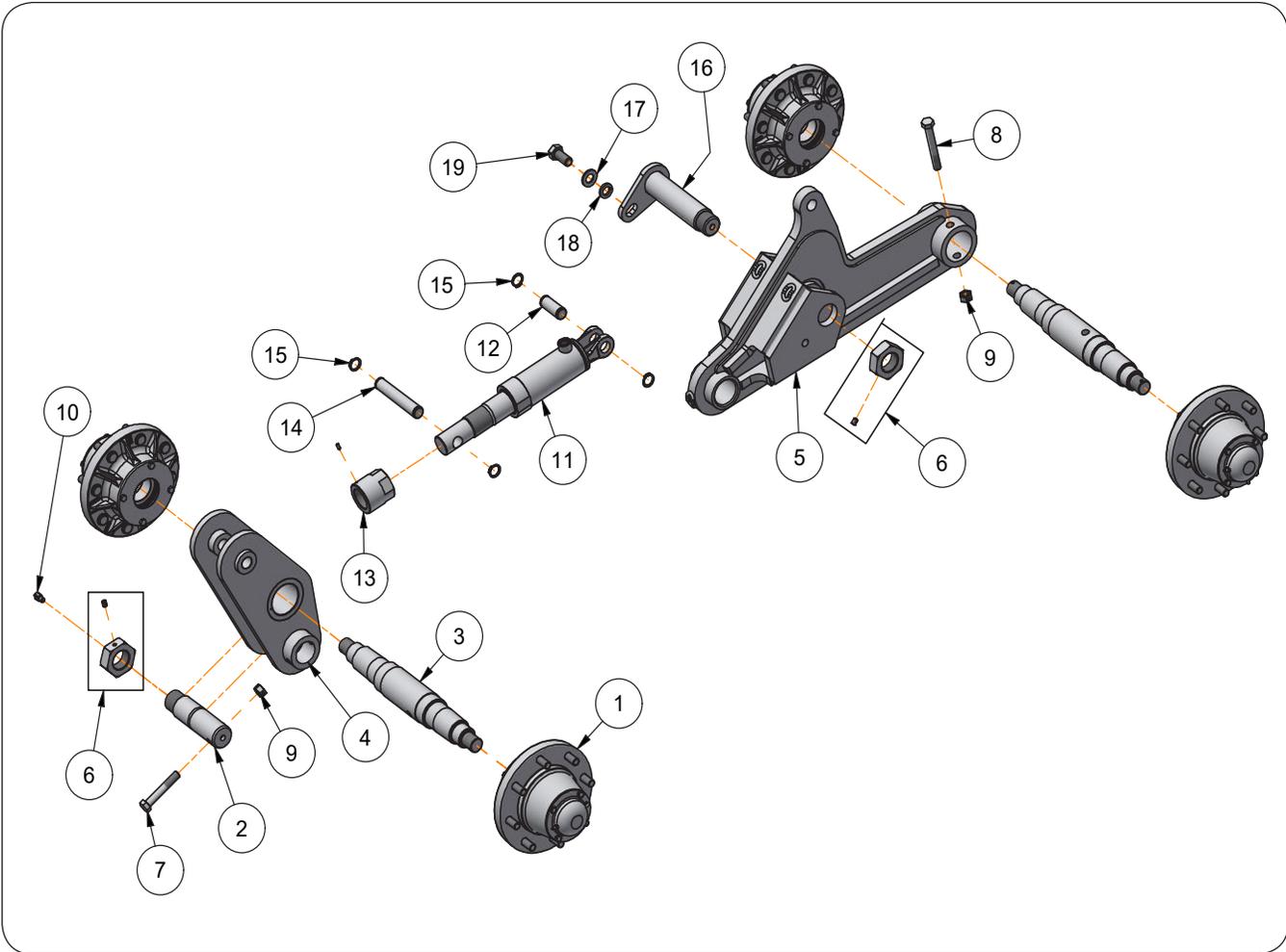
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	407983	Idler Pivot Pin	2	
2	9004613	Self Lubrication Bushing	2	
3	9390-129	Capscrew 5/8"-11UNC x 3 1/4" Grade 5	2	
4	95905	Locknut 5/8"-11UNC	3	
5	407958	Spindle	2	
6	9390-133	Capscrew 5/8"-11UNC x 4 1/2" Grade 5	2	
7	-----	Hub Assembly	4	See Pages 3-10 and 3-11
8	9746	Flat Washer	1	
9	409855	Bolt Retainer Plate	1	
10	9404-029	Lock Washer 5/8"	1	
11	9390-124	Capscrew 5/8"-11UNC x 2" Grade 5	1	
12	411479B	Idler Pivot Weldment =Black=	1	
13A	411484B	Right Hand Idler Pivot Weldment =Black=	1	
13B	411485B	Left Hand Idler Pivot Weldment =Black=		
14	804685	Washer	2	
15	9006648	Capscrew 1"-14UNS x 6" (Full Thread) Grade 8	1	
16	9007674	Slotted Jam Nut 1"-14UNS	2	
17	91144-124	Spiral Pin 3/16" x 1 1/2"	2	
18	9395-049	Hex Jam Nut 1 3/4"-5UNC W/ Set Screw	1	
19	412332	Idler Pivot Pin	1	
20	9404-033	Lock Washer 3/4"	1	
21	9390-144	Cap Screw 3/4"-10UNC x 1 3/4" Grade 5	1	

16" Hydraulic Tension Equalizer Track — Parts

Rear Idler Pivot Components

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



16" Hydraulic Tension Equalizer Track — Parts

Rear Idler Pivot Components

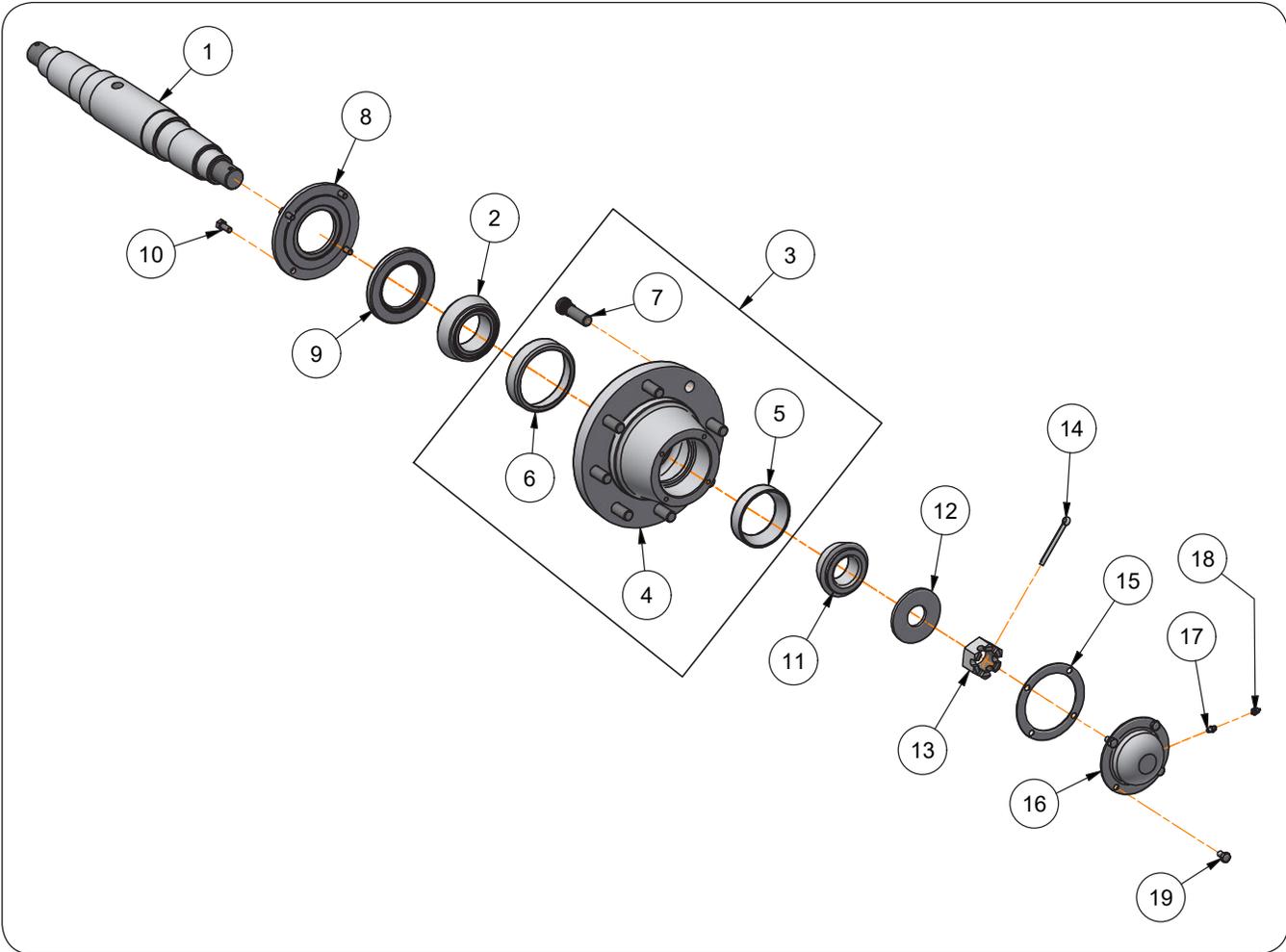
Please visit www.unverferth.com/parts/ for the most current parts listing.

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	-----	Hub Assembly	4	See Pages 3-10 and 3-11
2	411458	Pivot Pin Weldment	1	
3	407958	Spindle	2	
4	416324B	Tensioner Arm Weldment =Black=	1	
5	411790B	Idler Pivot Weldment =Black=	1	
6	9395-049	Hex Jam Nut 1 3/4" UNC	2	
7	9390-131	Capscrew 5/8"-11UNC x 3 3/4" Grade 5	1	
8	9390-133	Capscrew 5/8"-11UNC x 4 1/2" Grade 5	1	
9	95905	Locknut 5/8"-11UNC	2	
10	9006785	90 Degree Grease Fitting 1/8"-27 Male x 1/8"-27 Female	1	
11	9009006	Tensioning Cylinder	1	
12	416328	Front Cylinder Pin	1	
13	416293	Rod Stop Bushing	1	
14	416329	Rear Cyindler Pin	1	
15	91192	Retaining Ring	4	
16	412332	Idler Pivot Pin	1	
17	9405-104	Flat Washer 3/4" SAE	1	
18	9404-033	Lock Washer 3/4"	1	
19	9390-144	Capscrew 3/4"-10UNC x 1 3/4" Grade 5	1	

16" Hydraulic Tension Equalizer Track — Parts

Idler Hub Components

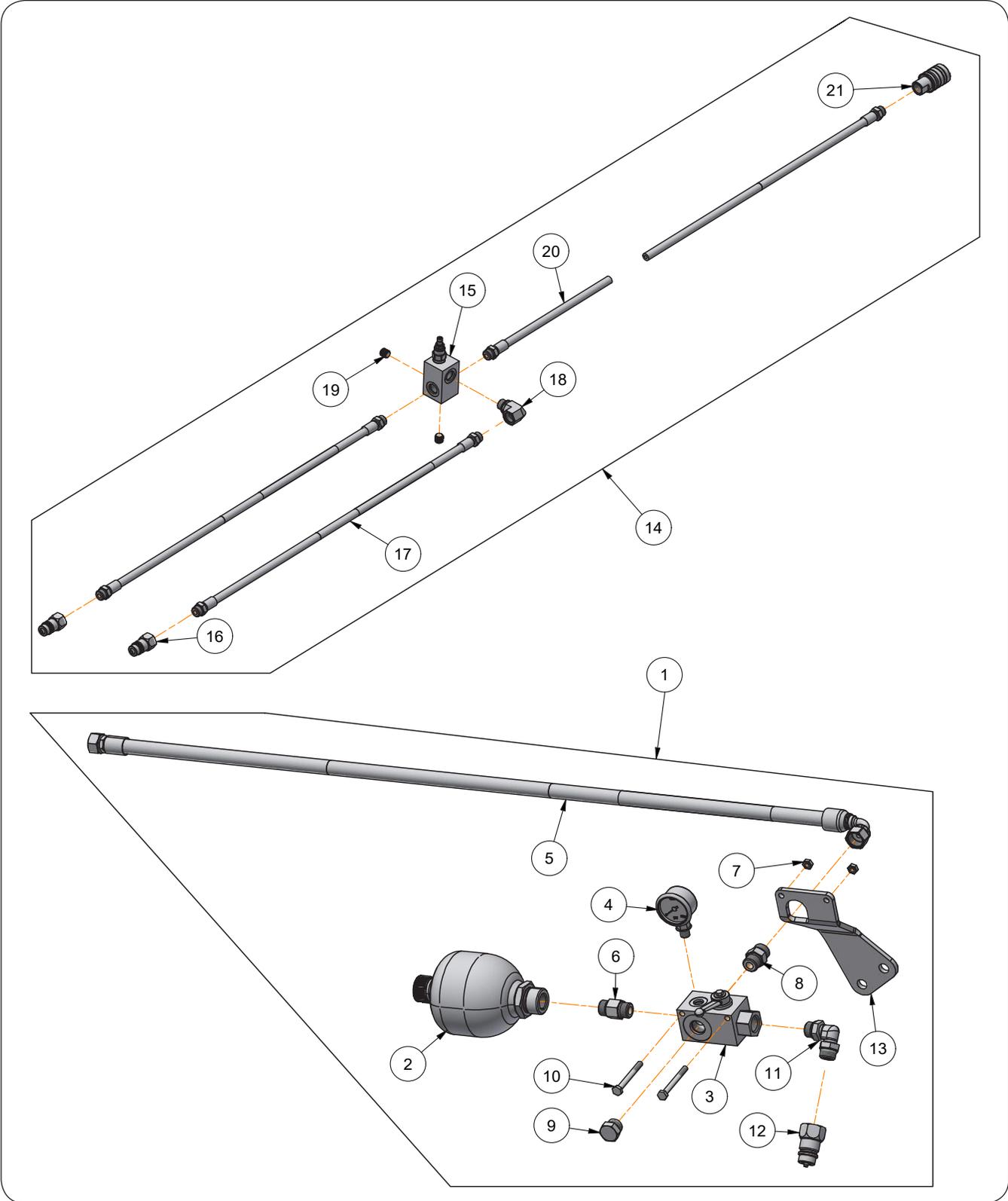
Please visit www.unverferth.com/parts/ for the most current parts listing.



16" Hydraulic Tension Equalizer Track — Parts

Accumulator & Tensioner Hose Components

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16" Hydraulic Tension Equalizer Track — Parts

Accumulator & Tensioner Hose Components

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

ITEM	PART NO.	DESCRIPTION	QTY.	NOTES
1	416033	Accumulator Assembly	1	Includes Items 2 through 13
2	9004408	Hydraulic Accumulator	1	
3	9008373	High Pressure Ball Valve	1	
4	9008368	2 1/2" Hydraulic Gauge (0-3000 PSI)	1	
5	9009510	Hydraulic Hose 3/8" x 42" (3000 PSI)	1	
6	98508	Adapter 3/4"-16 x 3/4"-16	1	
7	9936	Locknut 1/4"-20UNC	2	
8	9005438	Adapter 3/4"-16 x 13/16"-16	1	
9	93657	Plug 3/4"-16	1	
10	9390-011	Capscrew 1/4"-20UNC x 2 1/2" Grade 5	2	
11	TA0-924696-0	90 Degree Elbow 3/4"-16	1	
12	91383	Coupling 3/4"-16 (3000 PSI)	1	
13	416333	Valve Bracket Plate	1	
14	286345	Tensioner Hose Assembly	1	Includes Items 15 through 21
15	9005671	Valve Body	1	
16	91383	Coupling 3/4"-16 (300 PSI)	2	
17	9005563	Hydraulic Hose 1/4" x 30"	2	
18	9005566	90 Degree Fitting 3/4"-16UNF	1	
19	98522	Plug 1/4"-18NPTF	2	
20	9005564	Hydraulic Hose 1/4" x 305" (3000 PSI)	1	
21	97286	Coupler 3/4"-16	1	



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