



TRACK TILL_r
PIVOT TRACK TILLAGE

TRACK TILL_r PIVOT TRACK TILLAGE MAINTENANCE MANUAL

TILLAGE

A TOUGH ACT TO **FOLLOW**

Unverferth
Manufacturing Company, Inc.

SECTION IV

Maintenance

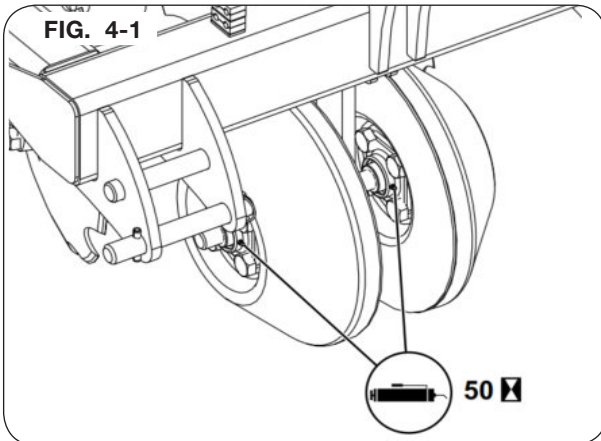
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Lubrication

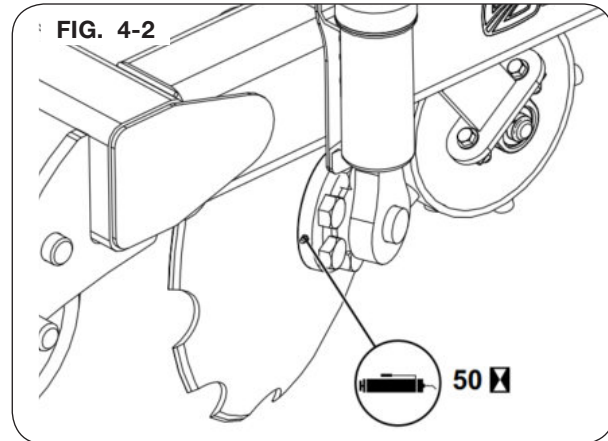
Grease all zerks on the 5|TT TRACK TILLr using a high-quality, multi-purpose grease. Follow the recommended hourly service intervals illustrated below.

Lubrication Service Intervals		
	# of Grease Points	Interval (Hours)
Inner Guide Wheel Bearing	2	50
Outer Guide Wheel Bearing	2	50
Side Wall Buster Disc Bearing	2	50
Disc Gang Bearing	4	50
Disc Gang Cylinder	2	10
Rolling Basket Cylinder (2 used)	4	10
Rolling Basket Bearing	4	50

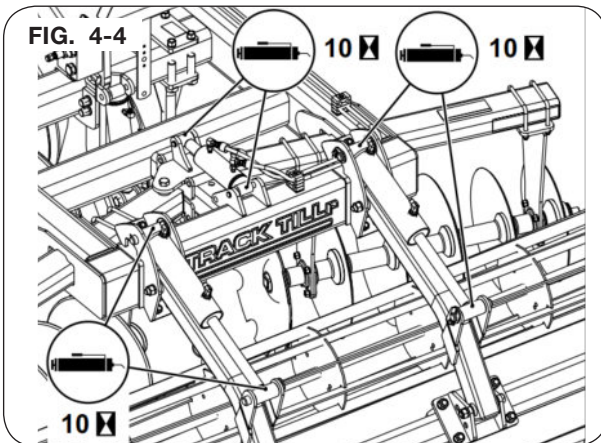
Inner & Outer Guide Wheel Grease Locations



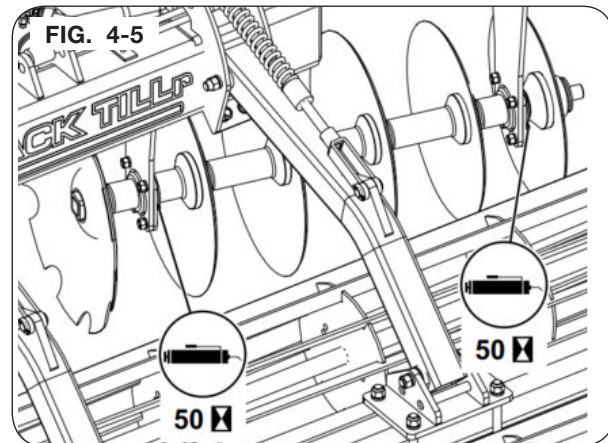
Side Wall Buster Disc Grease Locations



Disc Gang Cylinder & Rolling Basket Cylinder Grease Locations

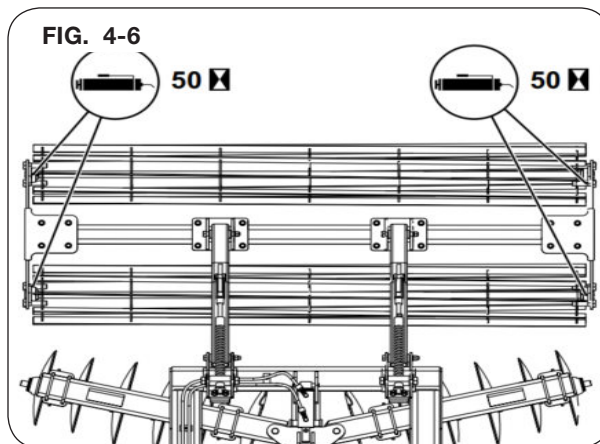


Disc Gang Grease Locations



Lubrication (continued)

Rolling Basket
Grease Locations



Purging Hydraulic System

WARNING

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

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.

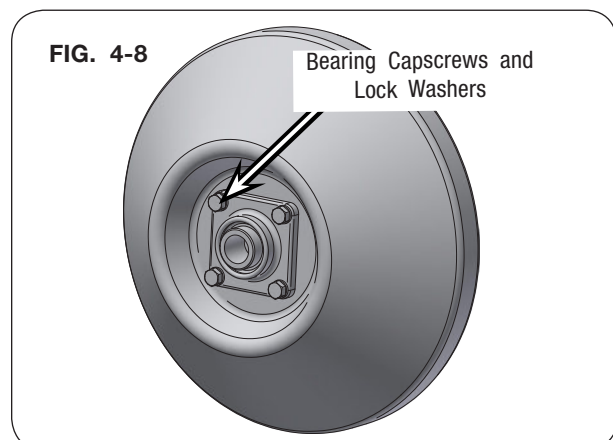
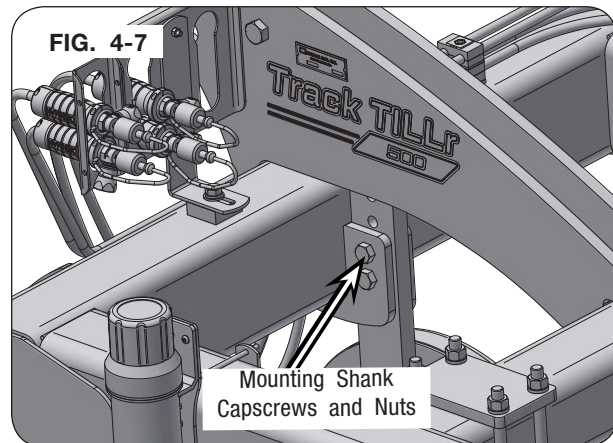
Guide Wheel Disassembly and Assembly

WARNING

- **TIPPING OR MOVEMENT OF THE MACHINE CAN CAUSE SERIOUS INJURY OR DEATH. BE SURE MACHINE IS SECURELY BLOCKED.**
- **FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 3,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

1. Park the implement on a firm, level surface and un-hitch from tractor.
2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
3. Remove capscrews and nuts from guide wheel mounting shank and remove guide wheel assembly from the implement. (Fig. 4-7)
4. Loosen the inner and outer bearing set screws. Remove the guide wheels and bearings.
5. Remove the capscrews and lock washers from the guide wheels and bearings. (Fig. 4-8)
6. Inspect parts for wear or damage and replace if necessary.
7. Install bearings onto guide wheels. Tighten the cap screws and lock washers. (Fig. 4-8)
8. Install the guide wheel and bearing assemblies onto the guide wheel mounting shank.
9. Set the guide wheels to the desired width, then tighten the bearing set screws.
10. Install the guide wheel assembly onto the implement, then install and tighten the capscrews and nuts. (Fig. 4-7)

NOTE: The guide wheels are set at 5.5" from inside to inside of the guide wheels from the factory but can be adjusted if needed.



Side Wall Buster Disc Disassembly and Assembly

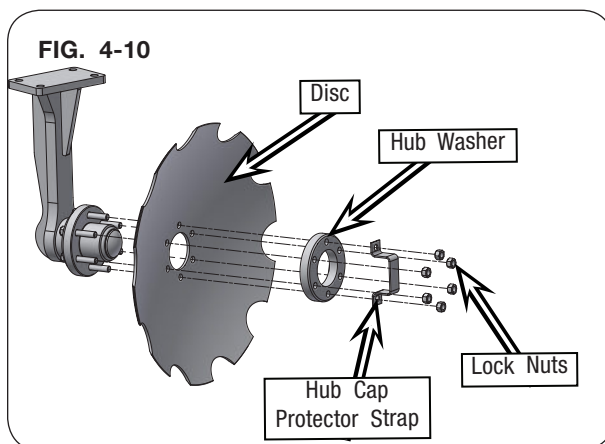
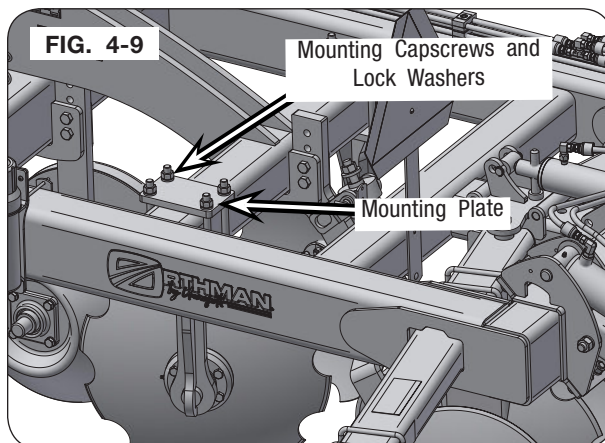
WARNING

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IMPORTANT

- *Remove only one disc assembly at any given time in the following procedure.*

1. Park the implement on a firm, level surface and un-hitch from tractor.
2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
3. Remove the nuts and lock washers from the mounting capscrews. (Fig. 4-9)
4. Remove the disc assembly and mounting plate.
5. Remove the lock nuts, hub cap protecting strap, hub washer, and disc. (Fig. 4-10)
6. Inspect parts for wear or damage and replace if necessary.
7. Install the disc, hub washer, hub cap protecting strap, and tighten lock nuts. (Fig. 4-10)
8. Install disc assembly and mount plate onto the implement frame with the capscrews, lock washers and nuts. (Fig. 4-9)



Side Wall Buster Hub Adjustment and Replacement

IMPORTANT

- *Do not allow dirt and debris to contaminate the hub and its internal components. Neglecting to do so could result in failure of the hub and its components due to excessive wear.*
1. Check the disc hub and bearing for looseness or wobble by gripping the ends of the disc. Rotate and laterally push and pull on the side wall buster disc. A tight hub will have no wobble and will rotate smoothly with a slight resistance.
 2. If there is wobble in the hub, the hub must be tightened to the spindle. To do this, remove the hub cap protector strap and the hub cap. Remove the cotter pin and tighten the slotted nut. The nut should be torqued to 40-45 foot-pounds. Increase the tightness to reinsert the cotter pin (Fig. 4-11).
 3. After tightening, retest the hub for wobble by repeating Step #1. If wobble still exists, continue with the following guidelines.

IMPORTANT

- *When tightening slotted nut onto spindle, rotate hub back and forth so that flats do not form on bearings.*
4. Turn the disc and feel for any roughness in the rotation. Also, check the base of the hub to see if the seal is intact and in position. If either problem exists, the hub must be dismantled, cleaned, inspected for damage, and repacked with grease. Refer to the following guidelines for this procedure (Fig. 4-11).
 - A. Remove the disc, hub cap protector strap, and hub cap. Remove the cotter pin securing the slotted nut.

IMPORTANT

- *When removing the hub and its components, be sure to keep them free of debris and dirt. Failure to do so will result in contamination of hub and bearing failure.*
- B. Unscrew the nut and carefully remove the hub from the spindle.
 - C. Remove the components, clean, and inspect for any damage or wear. If even the slightest imperfection exists, replace the component(s). Once the hub is dismantled, always replace the bearings and seals.

Side Wall Buster Hub Adjustment and Replacement

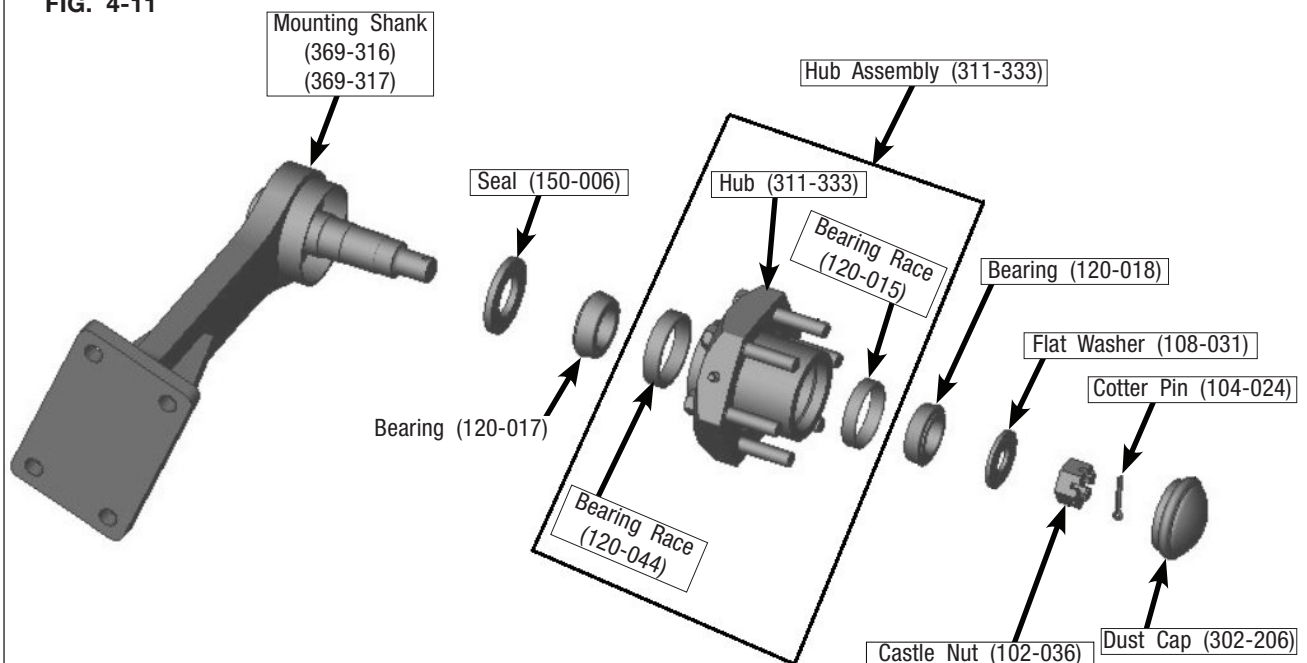
IMPORTANT

- Always replace the seals if dismantling the hub. Failure to do so could result in premature failure of hub and its components.
- D. Replace any damaged parts before reassembling the components. Be sure to remove any debris or dirt and repack bearings with an SAE approved hub grease.
- E. After reassembling the hub, position the slotted nut back onto the spindle and torque to 40-45 foot-pounds. Slightly tighten the nut to align slot (in nut) with the closest cotter pin hole and install the cotter pin. (Fig. 4-11).

IMPORTANT

- Rotate sided wall buster disc hub when torquing slotted nut. Doing this will prevent flats from forming on bearings.
- G. Reinstall the hub cap, hub cap protector strap, and disc.

FIG. 4-11



Track Packer Disassembly and Assembly

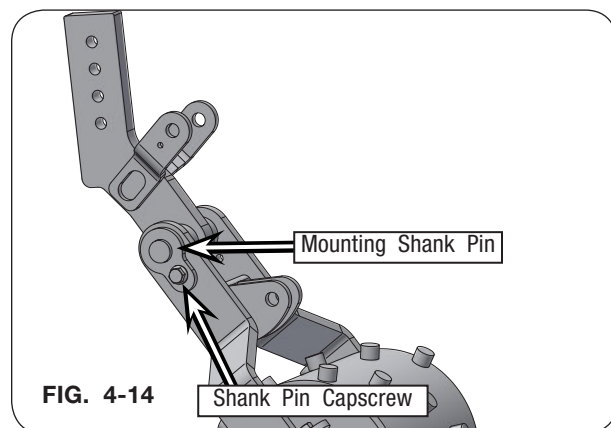
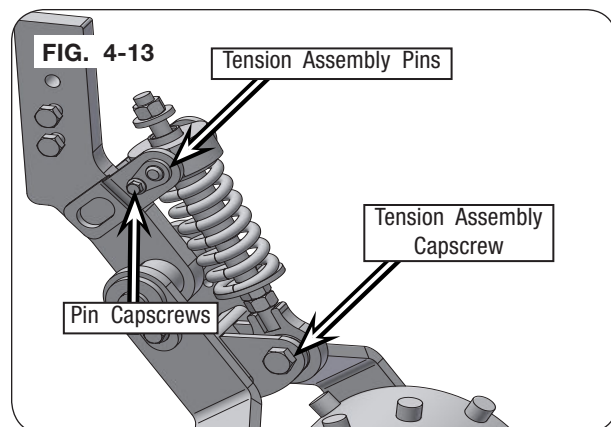
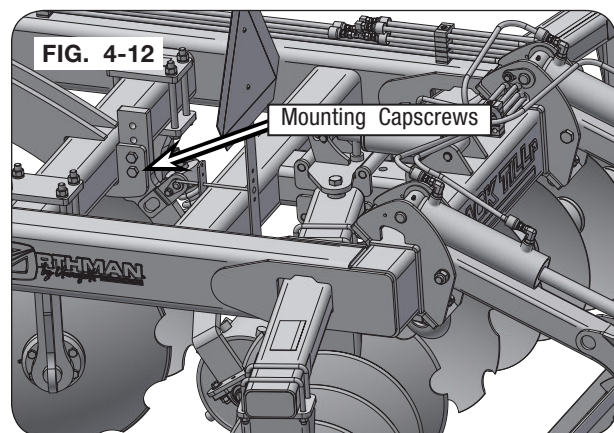
WARNING

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- FALLING OBJECTS CAN CAUSE SERIOUS INJURY OR DEATH. DO NOT WORK UNDER THE MACHINE AT ANY TIME WHILE BEING HOISTED. BE SURE ALL LIFTING DEVICES AND SUPPORTS ARE RATED FOR THE LOADS BEING HOISTED. THESE ASSEMBLY INSTRUCTIONS WILL REQUIRE SAFE LIFTING DEVICES UP TO 3,000 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.

1. Park the implement on a firm, level surface and un-hitch from tractor.
2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
3. Remove the capscrews, nuts, and lock washers from the track packer mounting shank then remove the track packer assembly from the implement frame. (Fig. 4-12)
4. Remove the capscrews and pins from the upper side of the tension assembly then remove the capscrew and nut from the bottom side of the tension assembly. (Fig. 4-13)
5. Remove the tension assembly from the track packer assembly.

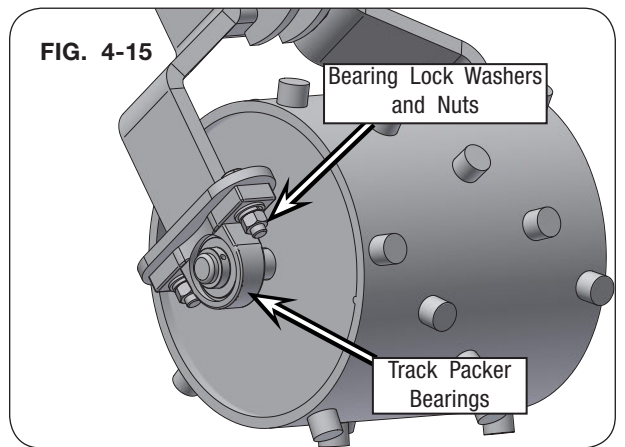
NOTE: The spring tension assembly is standard, optional hydraulic cylinder can also be used.

6. Remove the pin, capscrew and mounting shank from the track packer assembly. (Fig. 4-13)



Track Packer Disassembly and Assembly (Continued)

7. Remove the capscrews, lock washers, and nuts from the bearings. (Fig. 4-15)
8. Loosen the bearing set screws and remove the bearings from the roller. (Fig. 4-15)
9. Inspect parts for wear or damage and replace if necessary.
10. Install bearings onto the roller and leave the bearing set screws loose. (Fig. 4-15)
11. Install the capscrews, flat washers, lock washers, and nuts into the bearings, then tighten the bearing set screws. (Fig. 4-15)
12. Install the pin and capscrew into the fork mount and mounting shank. (Fig. 4-14)
13. Install the tension assembly along with the cap screw and nut on the lower side of the tension assembly. Install the pins and capscrews on the upper side of the tension assembly. (Fig. 4-13)
14. Install the track packer assembly onto the implement frame along with the cap screws, lock washers, and nuts in the mounting shank. (Fig. 4-12)



Rear Disc Gang Disassembly and Assembly

⚠ WARNING

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IMPORTANT

- Remove only one disc gang from a side at any given time in the following procedure.
1. Park the implement on a firm, level surface and un-hitch from tractor.
 2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
 3. Remove the U-bolts, nuts and lock washers from the disc gang hangers, then remove the disc gang from the implement frame. (Fig. 4-16)
 4. Remove the lock nut and washers from the disc gang rod. (Fig. 4-17)
 5. Remove the bumper washer, outer 16" disc, and spacer from the disc rod. (Fig. 4-17)
 6. Remove the disc gang hanger and bearing, then remove the carriage bolts, lock nuts and washers from the disc gang hanger bearing. (Fig. 4-18)

FIG. 4-16

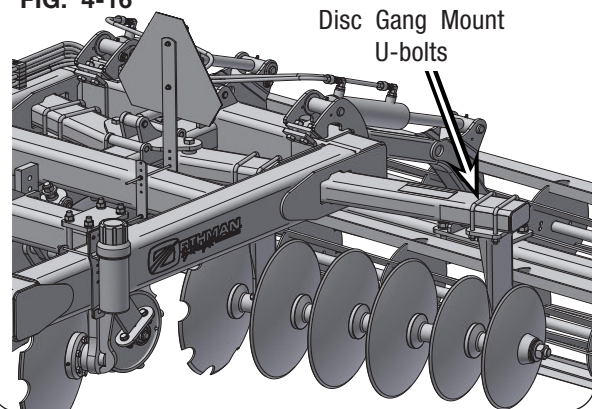


FIG. 4-18

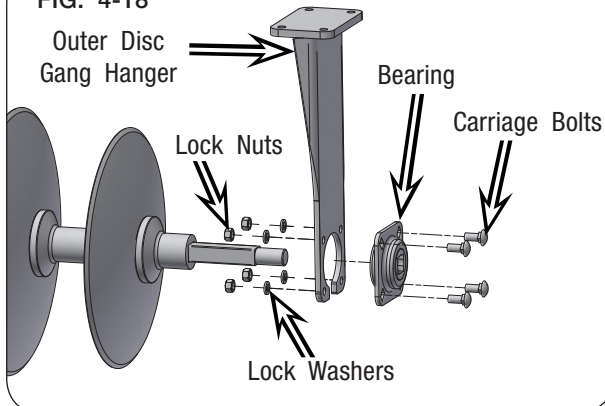
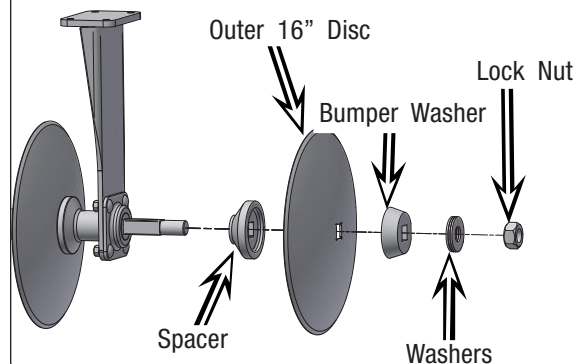


FIG. 4-17



Rear Disc Gang Disassembly and Assembly (Continued)

7. Remove the outer 16" disc, all three 18" discs, and their spacers. (Fig. 4-19)
8. Remove the inner disc gang hanger and bearing, then remove the carriage bolts, lock washers and nuts from the disc gang hanger bearing. (Fig. 4-20)
7. Remove the spacer, notched disc and bumper washer. (Fig. 4-21)
8. Inspect parts for wear or damage and replace if necessary.
9. Install the spacer, bumper washer and notched disc onto the disc gang rod. (Fig. 4-21)
10. Install the spacer and inner bearing onto the disc gang rod, then install the inner disc gang hanger, carriage bolts, lock washers and nuts. (Fig. 4-20)
11. Install the spacers, three 18" discs, and the inner 16" disc. (Fig. 4-19)
12. Install the spacer and outer bearing onto the disc gang rod, then install the outer disc gang hanger, carriage bolts, lock washers, and nuts. (Fig. 4-18)
13. Install the spacer, outer 16" disc, and bumper washer. (Fig. 4-17)
14. Install the washers and lock nut onto the outside of the disc gang rod. (Fig. 4-17)
45. Install the disc gang assembly onto the implement frame. Install the u-bolts, lock washers and nuts. (Fig. 4-16)

FIG. 4-19

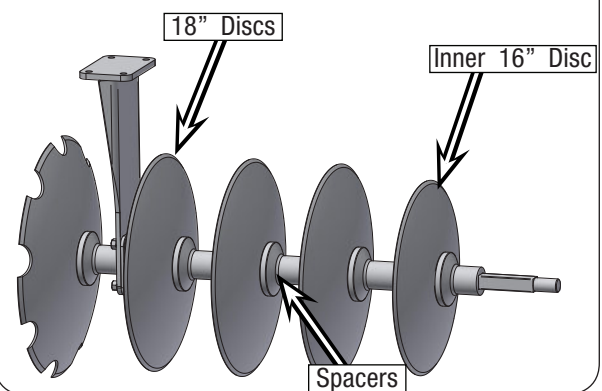


FIG. 4-20

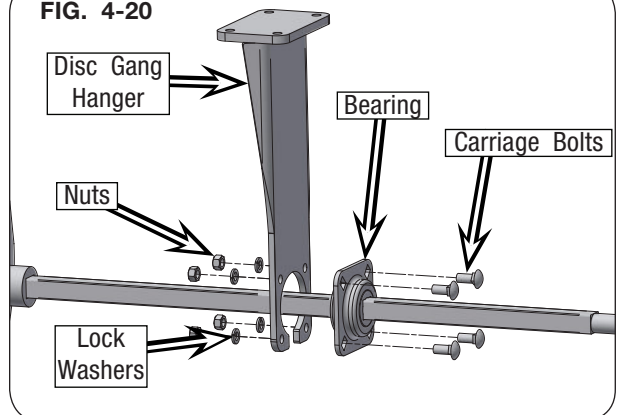
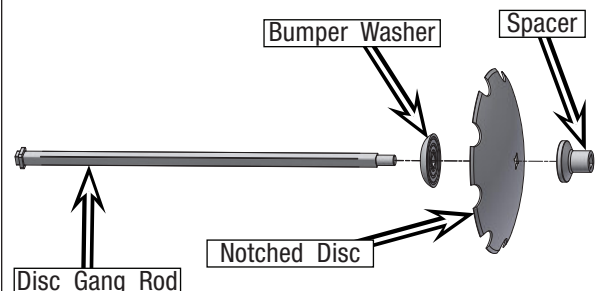


FIG. 4-21

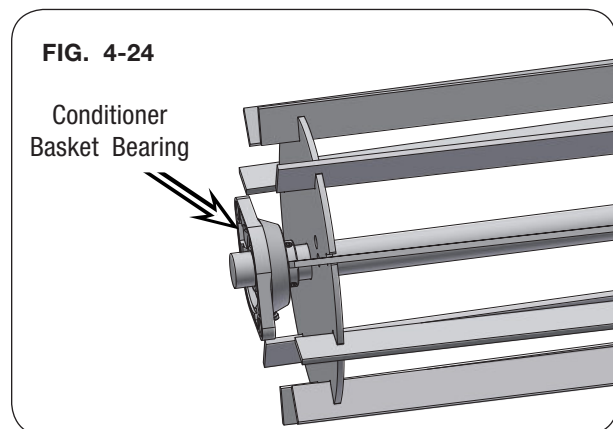
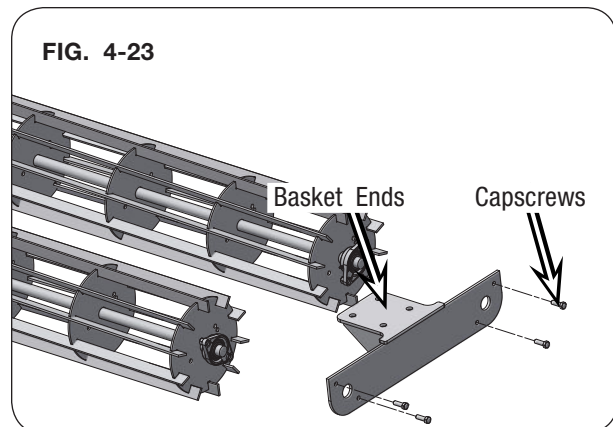
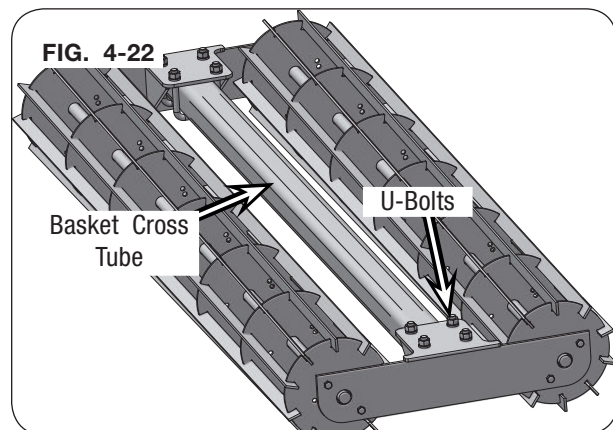


Conditioner Basket Disassembly and Assembly

WARNING

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1. Park the implement on a firm, level surface and un-hitch from tractor.
2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
3. Remove conditioner basket assembly from mount arms.
4. Remove U-bolts, lock washers, and nuts from the baskets ends, then remove the basket cross tube. (Fig. 4-22)
5. Remove the basket end capscrews, then remove the basket ends from the conditioner baskets. (Fig. 4-23)
6. Loosen bearing set screws and remove the bearing from the conditioner baskets. (Fig. 4-24)
7. Inspect parts for wear or damage and replace if necessary.
8. Install the basket bearings and leave the set screws loose. (Fig. 4-24)
9. Install the basket ends and capscrews onto the conditioner baskets. (Fig. 4-23)
10. Install the basket cross tube, u-bolts, lock washers, and nuts. (Fig. 4-22)
11. Tighten the bearing set screws and install the conditioner basket assembly onto the mount arms.



Conditioner Basket Mount Arm Disassembly and Assembly

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1. Park the implement on a firm, level surface and un-hitch from tractor.
2. Use safe lifting and load holding devices rated at 3,000 lbs. to support the weight of your implement.
3. Remove the conditioner basket assembly from the mount arms.

3. Remove capscrews, nuts and lock washers from the arm mount and mount strap, then remove the mount arm assembly. (Fig. 4-25)

4. Remove the tension assembly from the mount arm.

NOTE: Spring tension assembly is standard equipment, hydraulic option is available.

5. Remove the capscrews, bushings, lock washer, and nuts from the upper and lower side of the mount arm. (Fig. 4-26)

6. Inspect parts for wear or damage and replace if necessary.

7. Install the capscrews, bushings, lock washer, and nuts from the upper and lower side of the mount arm. (Fig. 4-26)

8. Install the tension assembly onto the mount arm.

9. Install the mount arm onto the implement frame using the mount plate, capscrews, lock washers, and nuts. (Fig. 4-25)

10. Install the conditioner basket assembly onto the mount arm assemblies.

FIG. 4-25

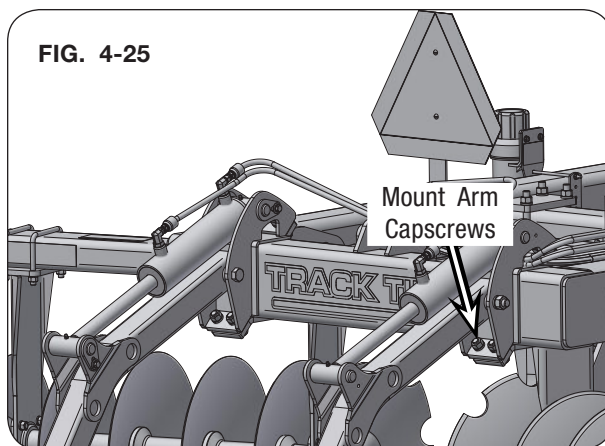
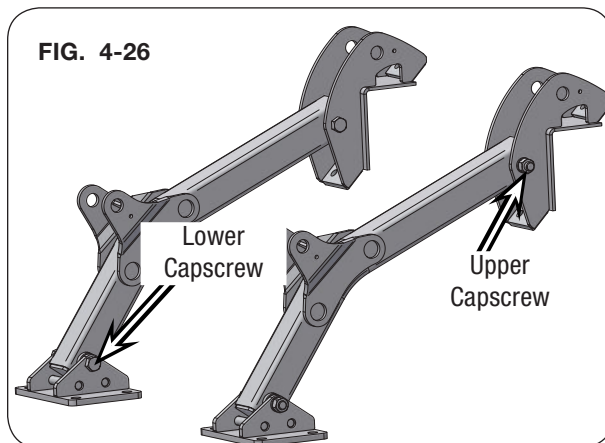


FIG. 4-26



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.

Trouble Shooting

PROBABLE CAUSE	CORRECTION
CYLINDER WILL NOT HOLD IN POSITION	
Seals leaking internally.	Remove and replace seal kit.
TILLAGE DEPTH NOT CORRECT	
Guide Wheel not properly adjusted.	Adjust Guide Wheel up for deeper tillage.
	Adjust Guide Wheel down for shallower tillage.
IMPLEMENT LEAVING TOO LARGE OF A BERM	
Conditioner Baskets not properly adjusted.	Adjust Conditioner Basket until desired result is achieved.
PIVOT TRACK SIDEWALL NOT BEING BROKEN	
Sidewall Buster Disc not properly adjusted.	Adjust Sidewall Buster Disc in or out until issue is resolved.
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.

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 (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.

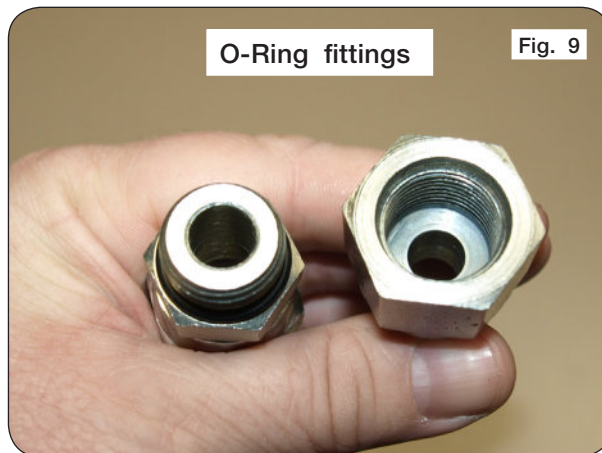
Hydraulic Fittings - Torque and Installation

Tightening O-Ring Fittings

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

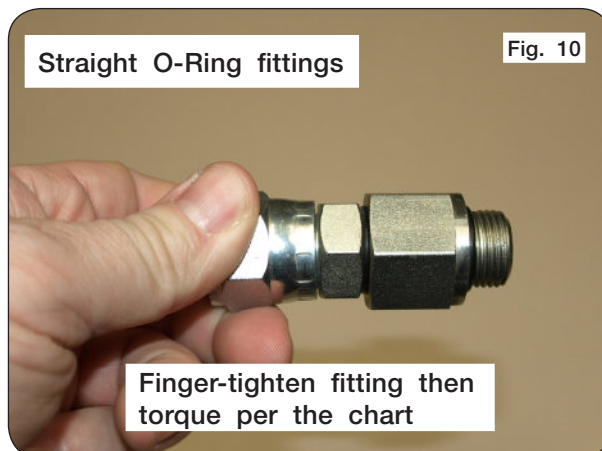
Note: Never use a power tool to install a fitting.

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



O-Ring fittings

Fig. 9



Straight O-Ring fittings

Fig. 10

Finger-tighten fitting then torque per the chart

Hydraulic Fittings - Torque and Installation

Tightening JIC Fittings

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

Note: Never use a power tool to install a fitting

