



STALK PULLr

CROP STALK PULLER

STALK PULLr CROP STALK PULLER MAINTENANCE MANUAL

TILLAGE

A TOUGH ACT TO FOLLOW

Unverferth
Manufacturing Company, Inc.

SECTION IV

Maintenance

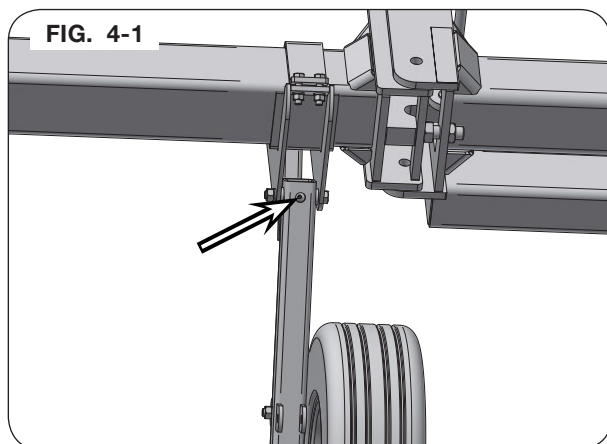
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Lubrication

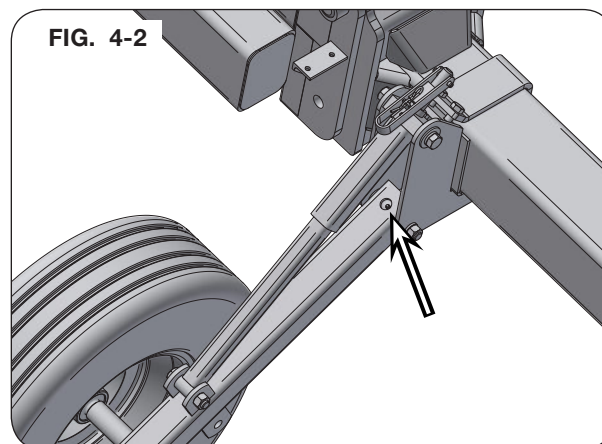
Grease all zerks on the 5|TT TRACK TILLr® using a high-quality, multi-purpose grease. Follow the recommended hourly service intervals illustrated below.

Lubrication Service Intervals		
	# of Grease Points	Interval (Hours)
Gauge Wheel Pivot	4	50
Adjustment Crank	2	50
Wheel Hub Bearing	2	50
Wing Pivot	2	50
Wing Fold Linkage	6 (Single Folding Toolbar)	50
	12 (Double Folding Toolbar)	
Chopper Units Bearings	2 Per Chopper Unit	50

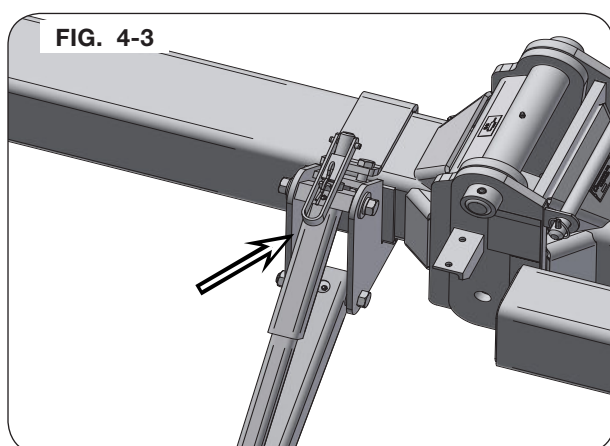
Gauge Wheel Pivot (Bottom)



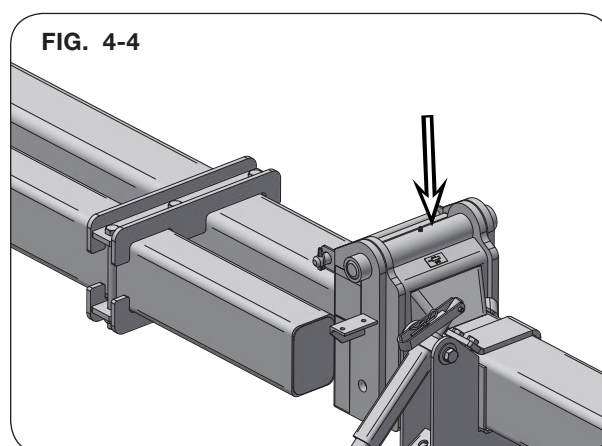
Gauge Wheel Pivot (Top)



Adjustment Crank

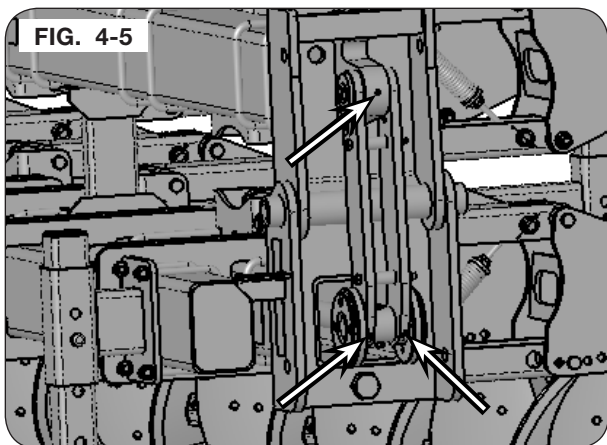


Wing Pivot

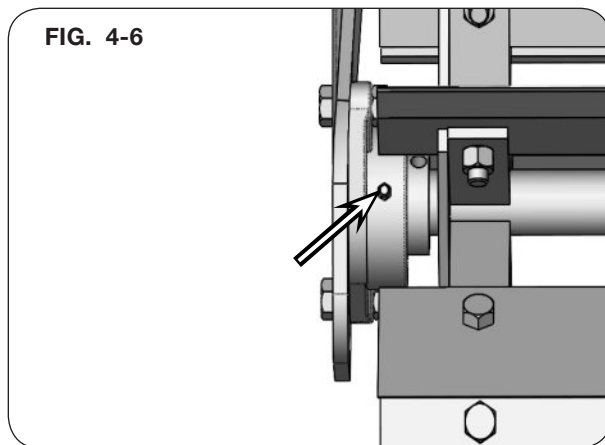


Lubrication

Wing Fold Linkage



Chopper Unit Bearings



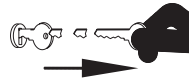
Mount and Parallel Linkage Disassembly and Assembly

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 500 LBS. SPECIFIC LOAD RATINGS FOR INDIVIDUAL LOADS WILL BE GIVEN AT THE APPROPRIATE TIME IN THE INSTRUCTIONS.**

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Remove the U-bolts and flange nuts from the the row unit mount, then remove the row unit from the tool bar using a safe lifting device rated for a minimum of 500 lbs.

4. Remove the front capscrews, flange nuts, and bushings from the parallel linkages. (Fig. 4-7)

5. Remove the capscrews, trunnion, flat washer and hex nut from the spring tension assembly. (Fig. 4-8)

6. Remove the tension spring from the lower parallel linkage. (Fig. 4-8)

FIG. 4-7

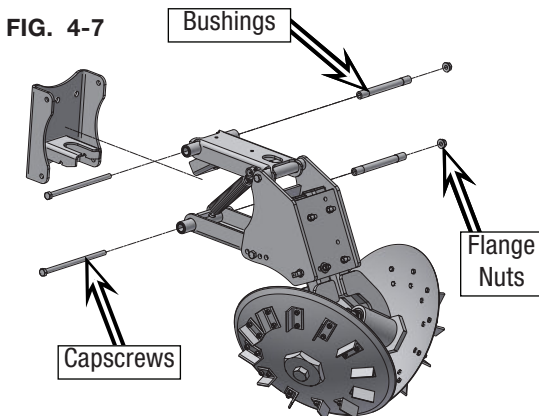
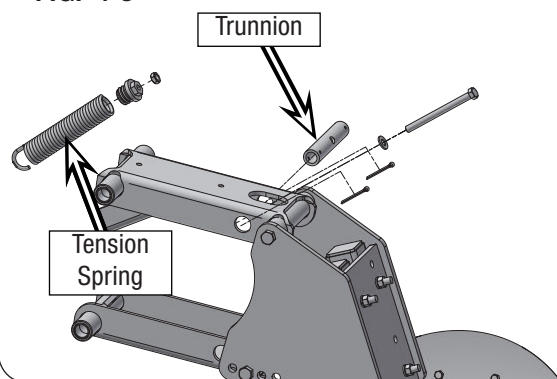


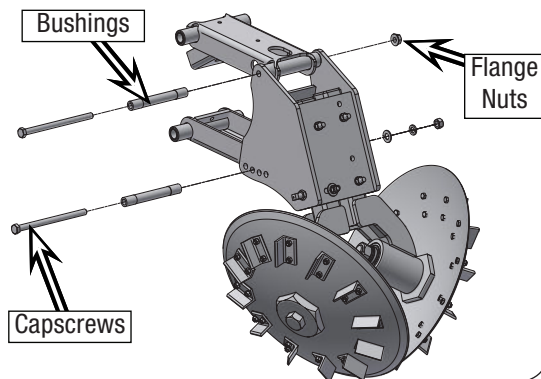
FIG. 4-8



Mount and Parallel Linkage Disassembly and Assembly (Continued)

7. Remove the rear capscrews, flange nuts, and bushings from the parallel linkages, then remove the parallel linkages from the row unit. (Fig. 4-9)
8. Inspect parts for wear or damage and replace if necessary.
9. Install the rear bushings, capscrews, and flange nuts into the parallel linkages. (Fig. 4-9)
10. Install the tension spring into the lower parallel linkage. (Fig. 4-8)
11. Install the capscrew, flat washer, hex nut, and trunnion onto the spring tension assembly. (Fig. 4-8)
12. Install the front bushings, capscrews, and flange nuts into the parallel linkages. (Fig. 4-7)
13. Using a safe lifting device rated for a minimum of 500 lbs, install the row unit onto the tool bar with the U-bolts and flange nuts. (Fig. 4-7)
14. Tighten all hardware to the specification listed in the maintenance section.

FIG. 4-9



V-Disc Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.
3. Remove the v-disc capscrew, outer washer, v-disc, and inner washer. from the row unit assembly. (Fig. 4-10)
4. Remove the capscrews, nuts, and cleats from the v-disc. (Fig. 4-11)
5. Inspect parts for wear or damage and replace if necessary.
6. Install the cleats, capscrews, and nuts onto the v-disc. (Fig. 4-11)
7. Install the inner washer, v-disc, outer washer and capscrew onto the row unit assembly. (Fig. 4-10)
8. Tighten all hardware to the specification listed in the maintenance section.



FIG. 4-10

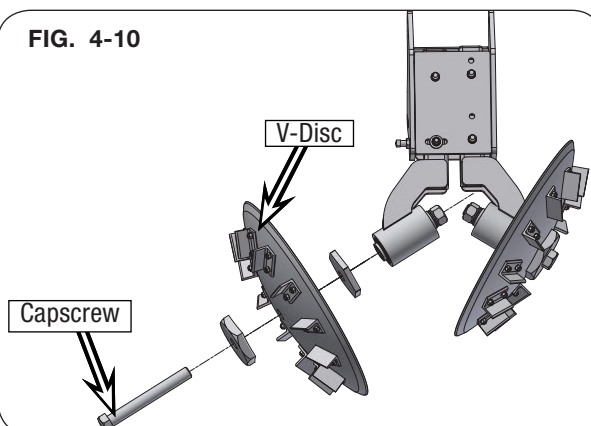
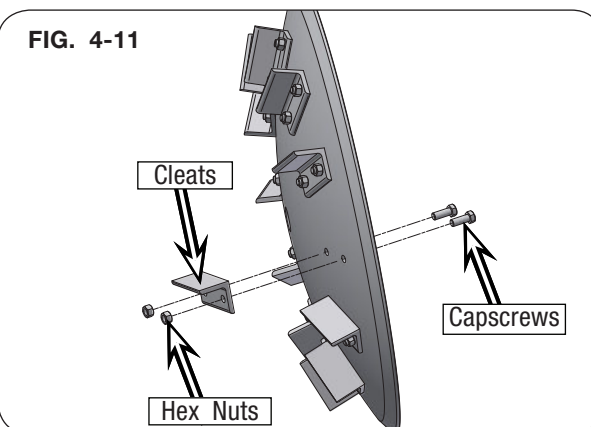


FIG. 4-11



V-Disc Mount Leg Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key. 
3. Remove the mount arm set crew and jam nut, along with the mounting capscrews, lock washers, flat washers and nuts. (Fig. 4-12)
4. Remove the inner and outer bearings along with the mounting leg hub spacer. (Fig. 4-13)
5. Inspect parts for wear or damage and replace if necessary.
6. Install the mounting leg hub spacer, align with the inner and outer bearings. (Fig. 4-13)
7. Install the mount leg into the row unit with the capscrews, lock washers, flat washer, and nuts. (Fig. 4-12)
8. Install the pinch point set screw and jam nut and set the v-disc pinch point pressure. (Fig. 4-12)
9. Tighten all hardware to the specification listed in the maintenance section.

FIG. 4-12

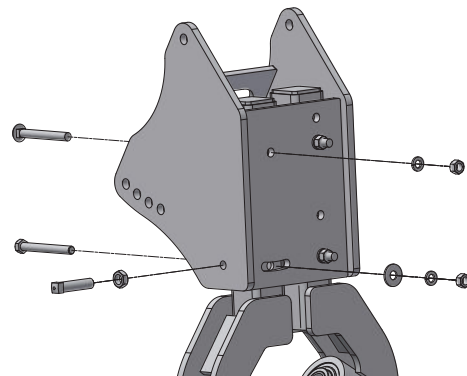
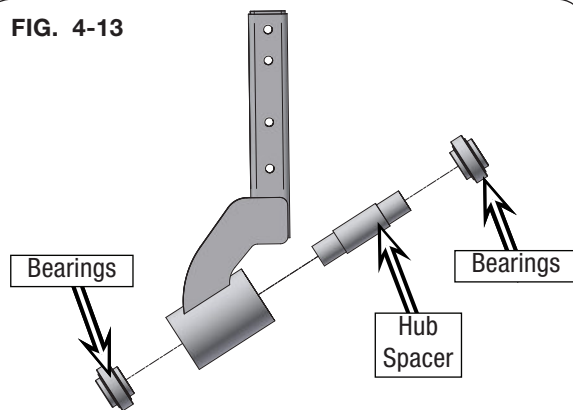


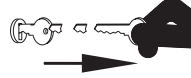
FIG. 4-13



Chopper Unit Disassembly and Assembly

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.

2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key.



3. Remove the nuts, lock washers, and capscrews from the chopper unit mounting plate, then remove the upper mounting plate from the chopper unit. (Fig. 4-14)

4. Remove the capscrews and nuts from the lower mounting plate, then remove the lower mounting plate from the chopper unit. (Fig. 4-15)

5. Loosen the bearing set screws and remove the bearings from the chopper unit. (Fig. 4-16)

6. Remove the capscrews and lock nuts from the chopper blades, then remove the blades from the chopper unit assembly. (Fig. 4-16)

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

8. Install the blades onto the chopper assembly using the capscrews and lock nuts, then install the bearings onto the assembly and tighten the bearing set screws. (Fig. 4-16)

9. Install the lower mounting plate using the capscrews and lock washers. (Fig. 4-15)

10. Install the upper mounting plate onto the chopper unit using the capscrews, lockwashers, and nuts. (Fig. 4-14)

11. Tighten all hardware to the specification listed in the maintenance section.

FIG. 4-14

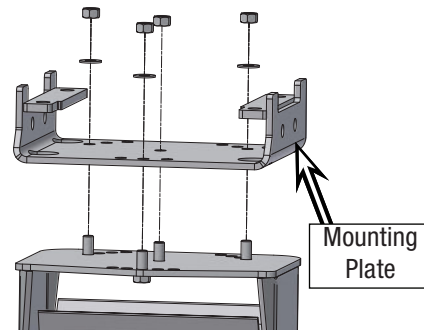


FIG. 4-15

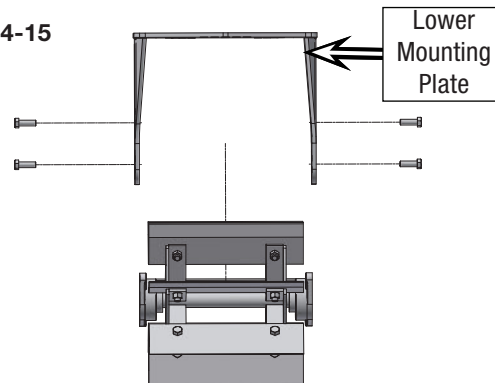
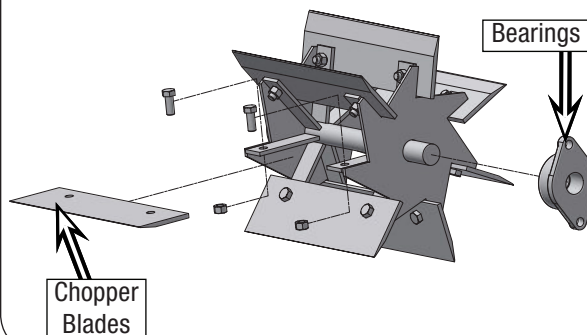


FIG. 4-16



Gauge Wheel Disassembly and Assembly

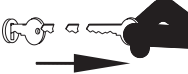
1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key. 
3. Remove the capscrews and tire from the gauge wheel assembly. (Fig. 4-17)
4. Remove the capscrews, lock washers, and nuts, then remove the mounting strap from the gauge wheel assembly and the gauge wheel assembly from the tool bar. (Fig. 4-18)
5. Remove the capscrews, flat washers, and lock washers from the lower gauge wheel arm and gauge wheel adjuster assembly. (Fig. 4-19)
6. Inspect parts for wear or damage and replace if necessary.
7. Install the lower gauge wheel arm and adjuster with the capscrews, lock washers and flat washers. (Fig. 4-19)
8. Install the gauge wheel assembly onto the toolbar using the nuts, lock washers, mounting strap, and capscrews. (Fig. 4-18)
9. Install the gauge wheel tire onto the assembly using the capscrews. (Fig. 4-17)
10. Tighten all hardware to the specification listed in the maintenance section.

FIG. 4-17

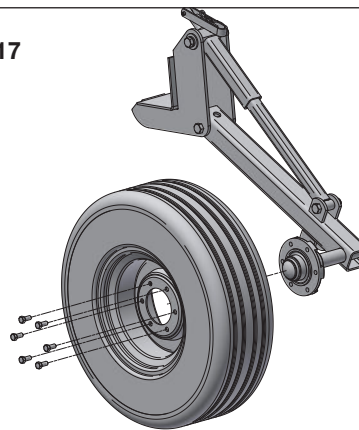


FIG. 4-18

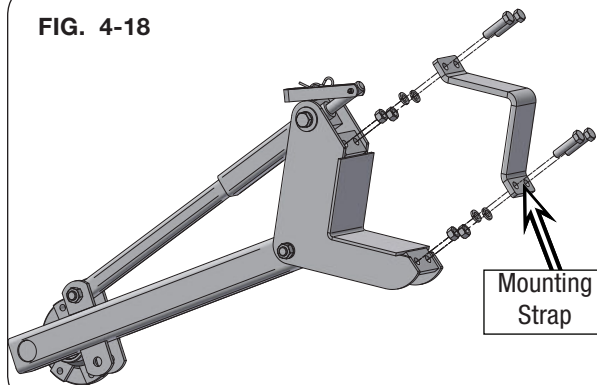
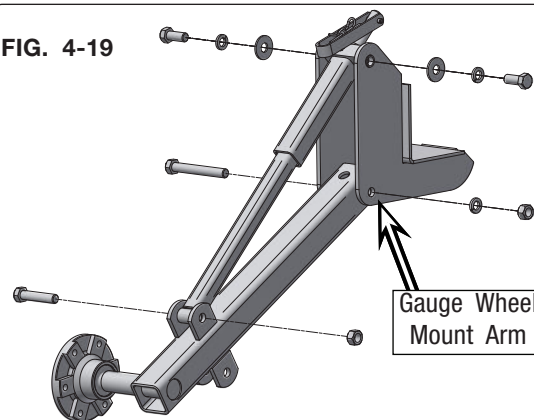


FIG. 4-19



Toolbar Internal Cylinder Removal

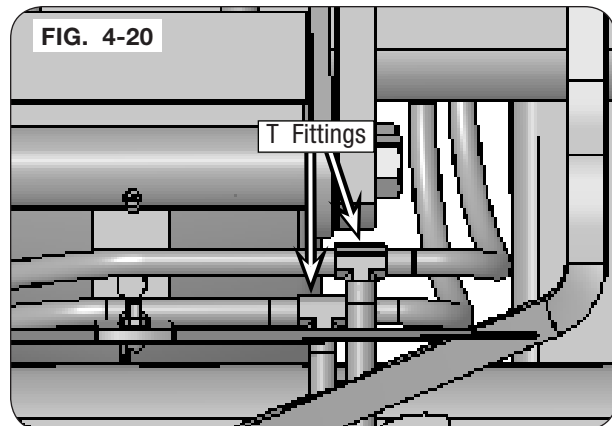
WARNING

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

1. Leave the unit attached to the tractor, raise the unit, then lower the support stands to the ground.
2. Lower the unit until it is supported by the stands, then set the tractors parking brake and remove the key. 
3. Ensure that the cylinder locking pins are in the storage position, then fold the wings until they are fully resting on the wing stops.
4. Relieve hydraulic pressure from the lines, then store the hydraulic lines on the courtesy plaque.

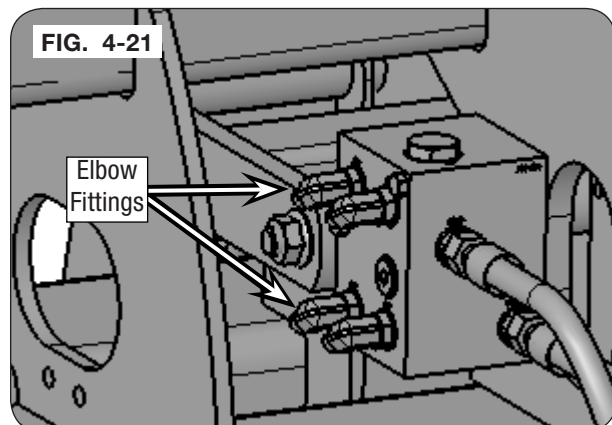
For Single Cylinder Wings:

5. Locate the T fittings near the center of the toolbar. Mark the ends of the hoses and fitting for easy re-installation. (Fig. 4-20)
6. Remove the cylinder hoses from the fittings and cover the ends of the hoses and fitting to protect from debris.



For Dual Cylinder Wings:

7. Locate the hydraulic manifold elbow fittings, then mark the hoses and elbows for easy re-installation. (Fig. 4-21)
8. Remove the hoses from the elbow fittings, then cover the ends of the hoses and fittings to protect from debris.

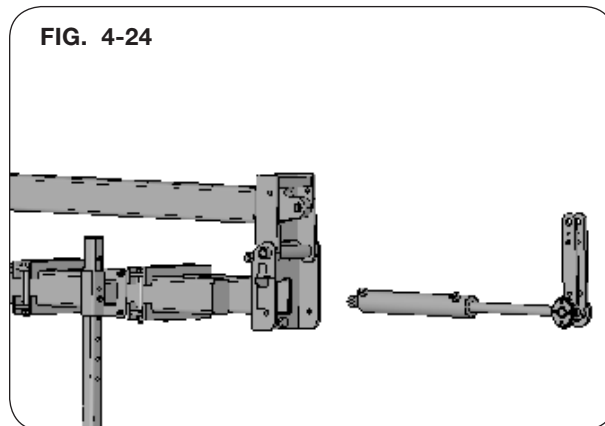
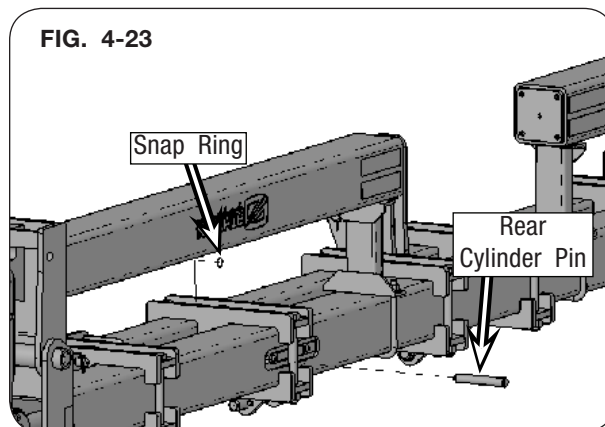
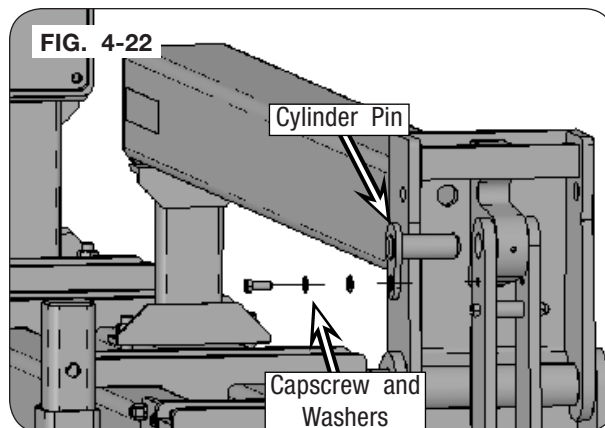


Toolbar Internal Cylinder Removal (Continued)

9. Remove the locking capscrew, lock washer and flat washer that hold the cylinder pin in place, then remove the cylinder pin from the assembly. (Fig. 4-22)
10. Remove the snap ring and rear cylinder pin, then remove the cylinder from the toolbar. (Fig. 4-23 and 4-24)

NOTE: Depending on configuration the rear cylinder pin may be hidden behind a row unit.

11. Inspect parts for wear or damage and replace if necessary.
12. Route the hydraulic lines and install the wing cylinder into the tool bar, then install the rear cylinder pin and snap ring. (Fig. 4-24 and 4-23)
13. Install the wing pin and the capscrew that holds it in place. (Fig. 4-22)
14. Install the hydraulic lines onto the T fittings or elbow fittings depending on what the unit is equipped with, then torque all hardware to the specification listed in the maintenance section. Purge the hydraulic system and test for proper function. (Fig. 4-21 and 4-20)



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.

Troubleshooting

Problem	Possible Cause	Corrective Action
Disks Are Plugging With Debris	Speed is too low	Increase speed to between 10 and 12 MPH
	Conditions are too wet	Let field dry
	Too much down pressure	Reduce disk down pressure
	Pinch point angle is too aggressive	Reduce pinch point angle
	Failed hub bearing	Replace the hub bearing
Stalks Not Being Cut	Speed is too low	Increase speed to between 10 and 12 MPH
	Pinch point pressure is too low	Increase pinch point pressure
Disks Won't Stay In The Ground	Pinch point angle is too low	Increase pinch point angle
	Row unit down pressure too low	Tighten row unit down pressure spring
Disks Are Skipping Stalks	Row unit down pressure too low	Increase row unit down pressure
	Pinch point pressure too low	Increase pinch point pressure
Voids In The Soil After Operation	V-Disks are operating too deep	Decrease pinch point angle

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.

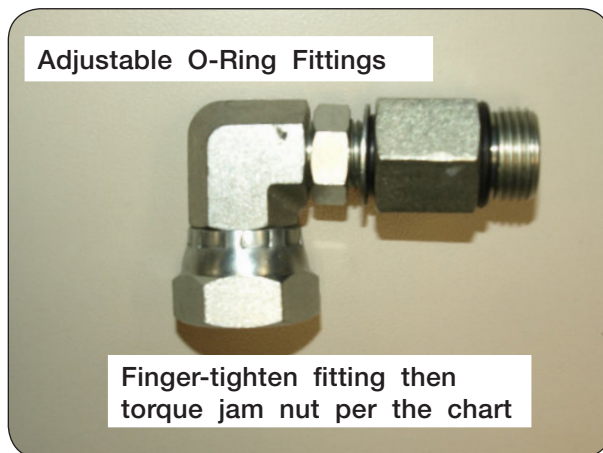
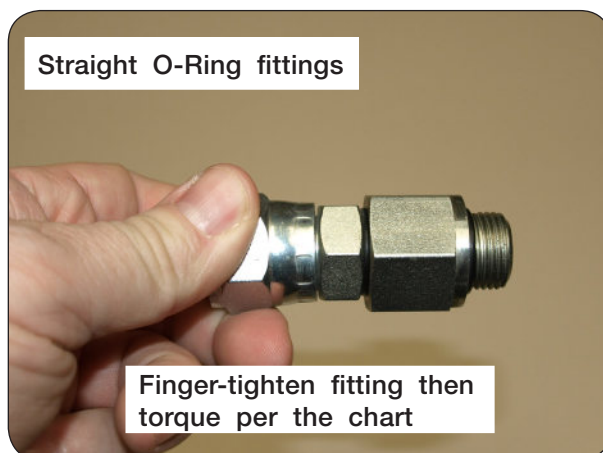
Hydraulic Fittings - Torque and Installation

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



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

