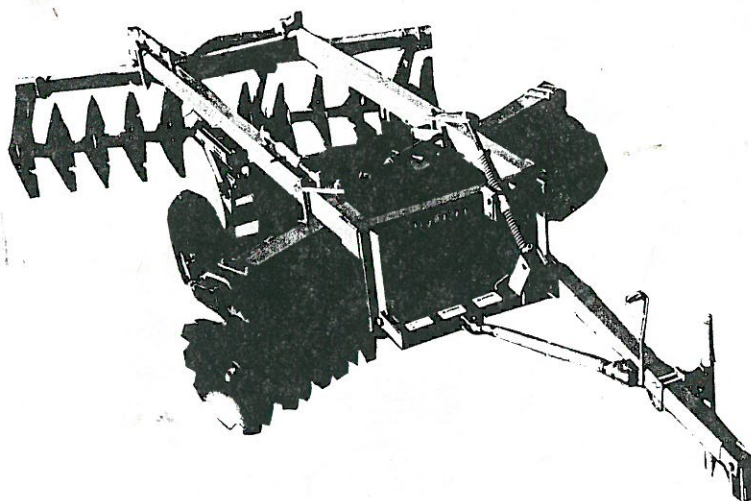


38 & 42 SERIES OFFSET DISC HARROWS BY TUFLINE

ASSEMBLY & OPERATING INSTRUCTIONS



MONROE-TUFLINE MANUFACTURING CO., INC.

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INTRODUCTION

We are pleased that you have chosen a TUFLINE product. To assist you in the assembly and safe operation of your unit, we are providing this booklet. We urge you to read this booklet and thoroughly familiarize yourself with all aspects of safety, assembly, and operation. **Note:** All information contained in this booklet is general in nature and to be used for instructional purposes only. Actual appearance, material and specifications may vary somewhat depending on the specific model being assembled or adjusted.

All references made to the left or right in this booklet are determined by standing at the rear of the machine and facing the direction of travel.

** DISCLAIMER **

Any modifications to this product without the specific permission of TUFLINE are not allowed. Unauthorized modifications beyond the original factory specifications could cause damage to the unit and void the warranty.

** LIMITED WARRANTY **

Monroe Tufline Mfg. Co. Inc., the manufacturer, warrants only to the original purchaser of new TUFLINE equipment that they are free of defects in material and workmanship under normal use and service. This warranty is applicable for six months from date of purchase if for personal use; 90 days for commercial or rental purposes. This warranty does not apply to any equipment which has been improperly assembled or which has been subjected to abuse, negligence, normal wear and tear, modifications, tampering or failure to follow operating instructions, or which has been used for a purpose for which the product is not designed. This warranty does not cover any parts not manufactured by Monroe-Tufline Mfg., Inc.

Claims shall be made to the dealer who originally sold the equipment. Warranty coverage is not valid unless the owner registration card below is completed and returned. All claims must be submitted within 30 days of equipment failure and faulted parts or equipment are subject for return to TUFLINE at TUFLINE'S expense and discretion. Monroe-Tufline reserves the right to make improvements and/or changes in specifications of the product at any time without notice or obligation to modify previously manufactured unit.

No other warranty of any kind whatsoever, express or implied, is made with respect to this sale; and all implied warranties of merchantability and fitness for a particular purpose which exceed the obligations set forth in this written warranty are hereby disclaimed and excluded from this sale.

Please fill out the registration card below and mail it to:
Monroe Tufline MFG. Attention: Owner Registration
P.O. Box 7755 Columbus, MS 39705

OWNER REGISTRATION

Name _____ Address/City _____

State _____


Dealer Name _____ City/State _____


Date of Purchase _____ Model No. _____ Serial # _____

Comments _____


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 Never transport at night without adequate caution lights.

 Never transport at over 20 MPH on highways. On roads where bumps may exist, be aware that heavy implements cannot withstand severe bouncing. Hitting even small bumps at speeds faster than field speed can cause dangerous accidents.


OPERATION:


 Stop the tractor engine and PTO and apply the parking brake before leaving the tractor seat!


 Always operate at reasonable field speeds. Absolute maximum for earth-working implements is 7 MPH. If rocks or other obstructions are present, slow to 1 1/2 to 3 MPH. This is a good speed if the terrain is uneven..

 Use extra caution and slow speeds on steep slopes, near power lines, gullies, and overhanging tree limbs.

ADJUSTMENT AND MAINTENANCE:

 Lower the implement to the ground whenever possible before performing adjustment or maintenance.

 If the implement cannot be lowered, keep all parts of the body clear and block it up securely.

 Do not step on top of implement wheels or walk on the frames. Falls can result in serious injury.

 Never operate implement without all wheels in place.

38 & 42 SERIES OFFSET

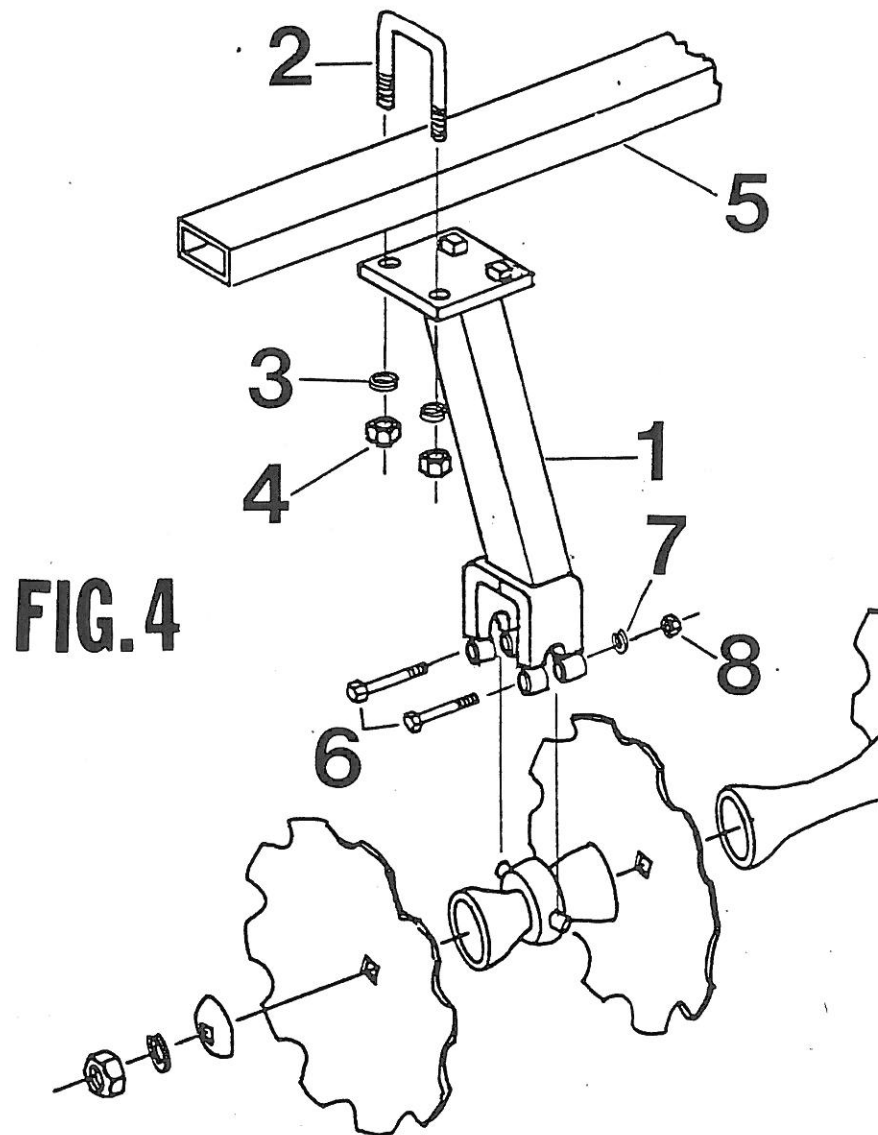
REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	11141	Main Frame, 38 Series	36	T-18	Hex Nut, 1 1/8"
	11140	Main Frame, 42 Series	37	11896	GB Tumbuckle Shift Bracket 38 Series
2	11378	Drawbar, 34", 38 Series		11899	GB Tumbuckle Shift Bracket 42 Series
	11379	Drawbar, 38", 42 Series	38	11895	Bottom Clamp Plate, 38 Series
3	T-2661	Pin 1" x 4"		11898	Bottom Clamp Plate, 42 Series
4	9979	Hair Pin Clip	39	12179	Hex Bolt, 1/2" x 5" Gr. 2, 38 Series
5	13604	Hex Bolt, 1" x 4", Gr. 5 Plain		T-736	Hex Bolt, 1/2" x 6" Gr. 2, 42 Series
6	T-934	Pin, 1" x 5"	40	11975	U-Bolt, 7/8", 38 Series
7	11380	Tongue, 56"		12030	U-Bolt, 1", 42 Series
8	T-2662	Hex Bolt, 1" x 6 1/2", Gr. 5	41	12166	Tube Gang Hanger, 38 Series
9	T-2665	Clevis		12214	Tube Gang hanger, 42 Series
10	T-772	Hex Bolt, 7/8" x 5", Gr. 5	42	12163	Hex Bolt, 1/2" x 3 1/2", Gr. 5
11	11469	RH Adjusting Screw, 12"	43		Axle, 1 1/2" Sq.
12	11470	LH Adjusting Screw, 12"	44	T-491	Bumper Washer, 1 1/2" Sq.
13	9876	Tumbuckle Barrel, 24"	45	T-105	Spacer Spool, 9" Spacing **
				T-106	
				T-104	Spacer Spool, 10 1/2" Spacing
15	T-933	Tongue Jack Assembly	46		Disc Blade
16	11596	Leveling Rod Screw, 31"	47	T-495	End Spacer, 1 1/2" Sq. x 3 7/8" (9" Sp.)
17	T-699	Wing Nut, 1 1/8"		T-106	End Spacer, 1 1/2" Sq. x 4 1/2" (10 1/2")
18	T-698	Flatwasher, 1 1/8"	48	T-729	Snap Ring, 4"
19	T-509	Adjusting Spring, 8 1/2"	49	T-604	Bearing, 1 1/2" Sq. (W211PP3)
20	T-511	Adjusting Spring, 4 1/2"	50	TMD	Trunnion Bearing Housing, 1 1/2" Sq.
21	T-510	Spring Housing	51	T-495	End Spacer, 1 1/2" Sq. x 3 7/8" (9" Sp.)
22	9006	Retainer Strap		T-105	End Spacer, 1 1/2" Sq. x 4 1/2" (10 1/2")
23	11600	RH Adjusting Screw, 9"	52	T-492	End Washer, 1 1/2" Sq.
24	11601	LH Adjusting Screw, 9"	53	T-728	Lockwasher, 1 1/2"
25	10234	Tumbuckle Barrel, 12"	54	T-727	Hex Nut, 1 1/2"
26	11314	Wheel Carriage Axle, 49 1/2" (38)	55	T-564	Spindle, 1 5/8"
	11315	Wheel Carriage Axle, 53 1/2" (42)	56	T-576	Seal, 1 1/2"
27	11313	LH Wheel Arm	57	T-575	Inner Wheel Bearing, 1 1/4" LM67048
28	11312	RH Wheel Arm	58	T-583	Inner Wheel Bearing Cup
29	T-5746	Wheel Carriage Bearing Top, 4 1/2"	59	T-562	Lug Stud, 1/2" x 1 1/2"
30	T-5745	Wheel Carriage Bearing Bottom, 4 1/2"	60	T-582	Outer Wheel Bearing Cup
31	9192	Hex Bolt, 5/8" x 2 1/2", Gr. 5	61	T-574	Outer Wheel Bearing, 3/4"
32		Gang Beam	62	T-603	Spindle Washer, 3/4" ID x 1 1/2" OD
33	11384	Bottom Clamp Plate, 38 Series	63	T-567	Slotted Nut, 3/4"
	11389	Bottom Clamp Plate, 42 Series	64	T-577	Hub Cap
34	11385	Top Clamp Plate, 38 Series	65	T-612	Wheel Rim (5 Hole)
	11390	Top Clamp Plate, 42 Series	66	T-566	Hub Only (Available in Assembly Only)
35	11387	Top Clamp Plate w/ TB Stud 38 Series	58,59, 60,66	T-572	Hub Assembly
	11392	Top Clamp Plate w/TB Stud 42 Series	55,62, 63	T-565	Spindle Assembly, 1 5/8"

** The combination of these two half spacers replaces the use of part no. 10051 spacer spool.

38 SERIES OFFSET ASSEMBLY

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	15789	38 OFFSET FRAME WELDMENT	1
2	15790	WHEEL CARRIAGE WELDMENT	1
3	T-58	WHEEL CARRIAGE BEARING TOP	2
4	T-57	WHEEL CARRIAGE BEARING BOTTOM	2
5	10610	CYLINDER	1
6	9192	HEX BOLT, 5/8" X 2 1/2" GR. 5	4
7	T-895	HEX BOLT, 3/8" X 3" GR. 5	2
8	T-780	HEX BOLT, 1" X 3 1/2" GR. 5	2
9	13254	HEX BOLT, 1" X 7" GR. 5	1
10	15567	HEX BOLT, 7/8" X 6" GR. 5	1
11	T-749	HEX BOLT, 5/8" X 6 1/2" GR. 5	1
12	15349	HEX BOLT, 1" X 6" GR. 5	8
13	T-24	LOCK WASHER, 5/8"	5
14	T-21	LOCK WASHER, 7/8"	1
15	T-34	LOCK WASHER, 1"	9
16	T-22	HEX NUT, 5/8"	5
17	T-19	HEX NUT, 7/8"	1
18	T-18A	LOCK NUT, 1"	9
19	12511	EXTENDED GREASE FITTING	2
20	13630	SPINDLE & HUB ASSY.	2
21	12899	FLANGE LOCKNUT, 3/8"	2
22	T-18A	LOCK NUT, 1 1/8"	2
23	15374	CYLINDER PIN	2
24	9979	COTTOR HAIR PIN	10
25	15791	DEPTH CONTROL BAR	1
26	9690	DEPTH CONTROL PIN	1
27	11378	DRAWBAR WELDMENT	1
28	11380	TONGUE WELDMENT	1
29	T-2665	TONGUE CLEVIS WELDMENT	1
30	9876	TURNBUCKLE BARRELL 24"	1
31	11470	LH ADJUSTING SCREW, 12"	1
32	11469	RH ADJUSTING SCREW, 12"	1
33	15186	SAFETY CHAIN	1
34	15569	FLAT WASHER, 7/8"	1
35	T-698	FLAT WASHER, 1 1/8"	2
36	13311	PIN, 1" X 3 1/2"	3
37	11596	LEVELING ROD SCREW, 31"	1
38	T-699	WING NUT	2
39	T-509	ADJUSTING SPRING 8 1/2"	2
40	T-511	ADJUSTING SPRING 4 1/2"	1
41	T-510	SPRING HOUSING	1
42	9006	RETAINER STRAP	2
43	T-934	PIN, 1" X 5"	1
44		GANG BEAM SEE CHART	2
45	15792	GANG STRAP	4
46	T-933	TONGUE JACK	1
47	T-465	HOSE HOLDER	1
48	T-612	RIM	1
49	95L156T	TIRE	1

TUBE HANGER ASSEMBLY DIAGRAM



<u>REF. NO.</u>	<u>DESCRIPTION</u>
1	TUBE HANGER, 1 1/2" AXLE
2	U-BOLT, 7/8"
3	LOCKWASHER, 7/8"
4	HEX NUT, 7/8"
5	GANG BEAM
6	HEX BOLT, 1/2" x 3 1/2", GR. 5
7	LOCKWASHER, 1/2"
8	HEX NUT, 1/2"

MOUNTING GANGS TO GANG BEAMS

1. Refer to the correct gang diagram for your model, pages 18 - 33, and roll the gangs into place underneath the gang beams as indicated.

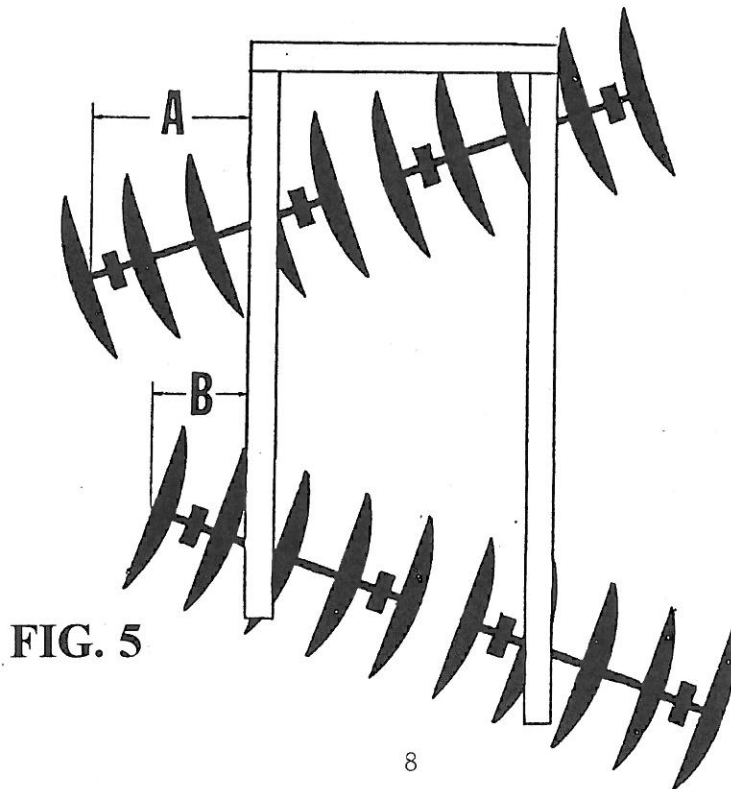
⚠ CAUTION: Keep clear from underneath the frame and handle sharp disc blades carefully.

Allow the same spacing between the gangs as between each blade. You may have to slide the gang beams so that the ends will line up with the outer hangers on the gangs.

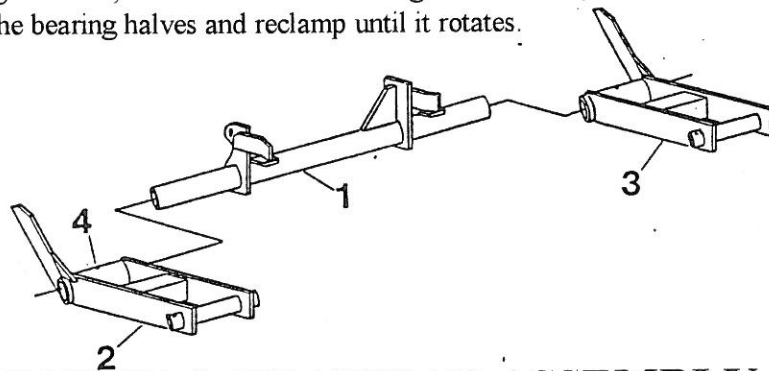
2. Mount the tubular gang hangers onto the disc gangs at the bearing trunnion housing using the 1/2" x 3 1/2" Gr. 5 hex bolts, Ref. 6, Fig. 4. Attach the hangers to the gang beams with the 7/8" U-bolt, Ref. 2, and loosely tighten the lockwasher and hex nut, Ref. 3 & 4. Align the gangs and check the blade spacing between the gangs and then securely tighten the U-bolts.

FRONT TO REAR SHIFT RECHECK

1. Refer to Fig. 5 and measure from the top center edge of the blade on the left hand side of the harrow to the main frame a distance of A and B as shown in Fig. 5. These distances are specified on the gang diagram used for arranging the gangs. Distance A should be about 4" to 5" more than distance B for 9" spacing and 5" to 6" for 10 1/2" spacing.
2. Screw the front and rear lateral turnbuckles, Ref. 25, Fig. 1, out about 2 1/2" on each end and attach one end to the main frame as shown in Fig. 1. Mount the turnbuckle anchor clamp, Ref. 37, Fig. 1, to the gang beam and to the other end of the turnbuckle and tighten securely to both.



2. Lift wheel carriage and bolt into place between the bearing sets with the 5/8" x 2 1/2" Gr. bolts. After tightening the bolts, check to see if the carriage will rotate by hand. If it won't, insert a shim between the bearing halves and reclamp until it rotates.



TONGUE & DRAWBAR ASSEMBLY

1. Select the hole position in the main frame front hitch angle, Ref. J, Fig. 2, that will best suit your tractor and operating adjustment needs.
2. Generally, the lower hole can be used for tractors with drawbars not over 19", but the upper hole should be used for higher drawbar tractors.
3. Attach the drawbar with the 1" x 3 1/2" Gr. 5 hex bolts, Ref. 2, Fig. 8, in the hole you have selected on the main frame. Next attach the tongue to the drawbar with the 1" x 6 1/2" Gr. 5 hex bolt, Ref. 2, Fig. 9. Tighten this bolt until the tongue yoke begins to clamp on the drawbar. The tongue turnbuckle will then be mounted on the tongue and drawbar with the 1" x 4" pins, Ref. 3, Fig. 8 & 9. Secure the pins with 3/16" x 1 1/2" cotter pins, Ref. 4.

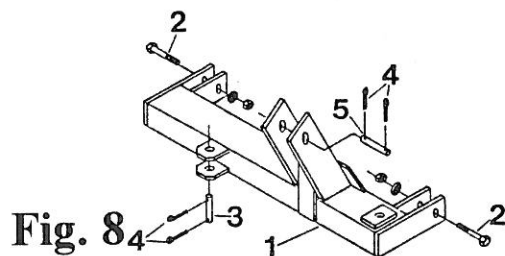
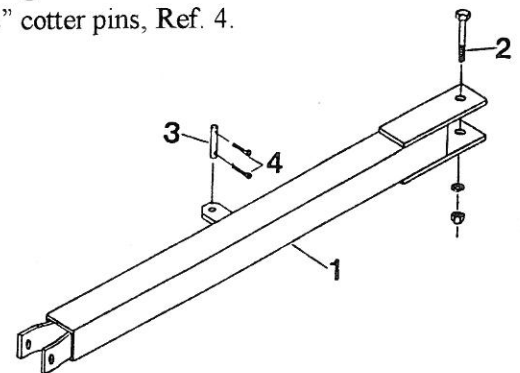


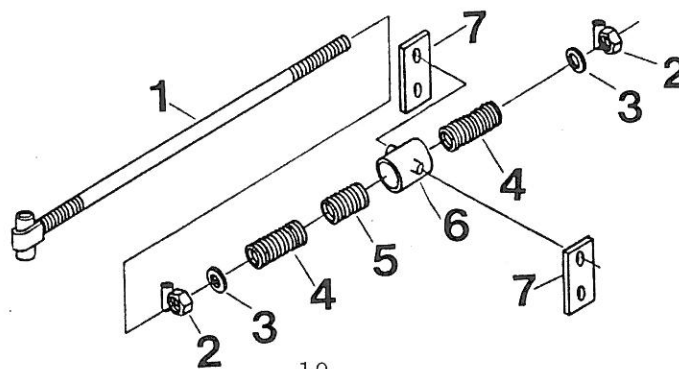
Fig. 9

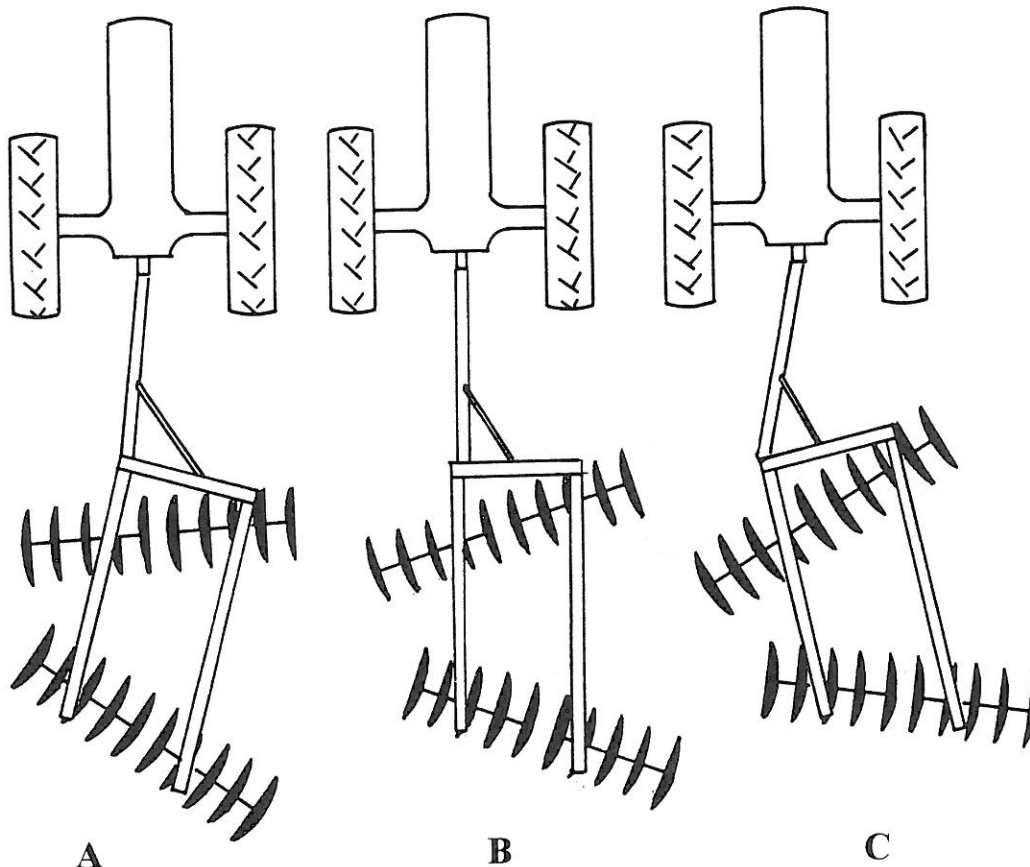


LEVELING ASSEMBLY

1. Position the leveling assembly as shown in Fig. 1. Pin the leveling rod screw, Ref. 16, into the mounting ears on the drawbar with the 1" x 5" pin, Ref. 6. Lock the trunnion, Ref. 6, Fig. 10, into place on the main frame with the retainer straps, Ref. 7, Fig. 10.

Fig. 10





TRACKING TO LEFT

1. Usually causes severe side draft.
2. Front gang won't break the soil and the rear skips.

CAUSE OR SOLUTION

1. Tongue set too far to the left.
2. Not enough pressure on the rear. See "Leveling."
3. Too much angle in front gangs and not enough in the rear gangs.

CORRECT TRACKING

1. Accomplish this by making one adjustment at a time from error at A or C.
2. If the harrow is level, try the tongue first.

3. Check front and rear penetration next.

TRACKING TO RIGHT

1. Front gang plows but skips and the rear gang does almost nothing.
2. Tongue may be too far to the right because of effort to cut the left tractor wheel track out. Tongue could be over adjusted to reduce side draft.

CAUSE OR SOLUTION

1. Lower front to apply more pressure.
2. Swing the tongue to the left slightly and/or decrease rear gang angle.

TUFLINE BOLT TIGHTENING TORQUE CHART

*A = Ft. lbs. B = Lbs. on 7' Lever C = Kilograms (Metric)

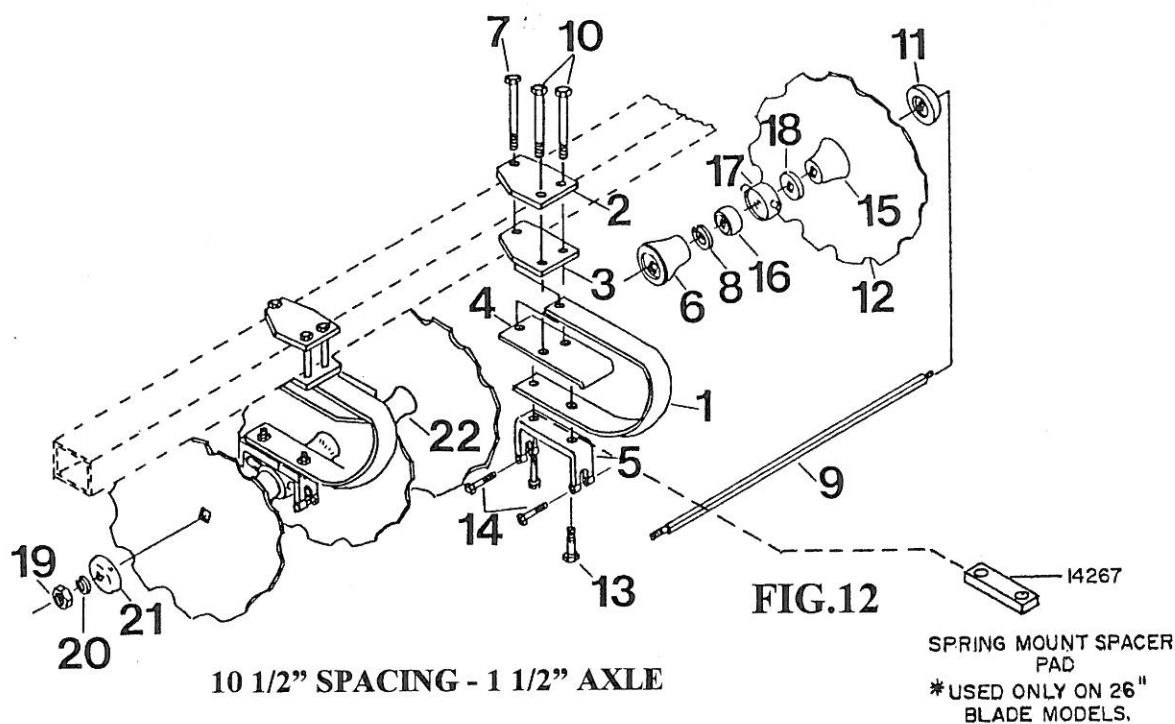
		GRADE			SAE GRADE			GRADE		
		2			5			8		
SIZE	DESCRIPTION	A	B	C	A	B	C	A	B	C
1/2"	Hex Bolt	45		6	75		10	100		15
5/8"	Hex Bolt	90		12	150		20	200		30
3/4"	Hex Bolt	150		21	250	36	35	350	50	50
7/8"	Hex Bolt	165		30	350	55	50	550	80	75
7/8"	Gang Axle				250	36	35			
1"	Hex Bolt	245	43	40	580	85		825	120	110
1 1/8"	Hex Bolt	474	68	65	780	115	80	1300	185	175
1 1/8"	Gang Axle				500	72	67			
1 1/2"	Hex Bolt	1050	150	145	1700	240	230	2900	415	395
1 1/2"	Gang Axle (Thread each end)				1000	143	133			
1 1/2"	Gang Axle (with head)	1200	172	165						

** Torque wrenches may not be available for over 300 ft. lbs. Use a 7' lever and spring scales

SHOCK FLEX GANGS

These gangs provide limited cushioning when obstructions are present. Although this added protection is present with these gangs, do not disregard the standard safe operating procedures that are outlined in the general safety instructions.

1. For gang assembly, refer to Fig. 12 & 13. Attach the trunnion mounting weldment, Ref. 5, to the spring hanger shank, Ref. 1, with the two 3/4" x 3" Gr. 5 hex bolts.
2. Place the spring mount top plate, Ref. 2, on top of the gang beam and the alignment plate, Ref. 3, underneath the gang beam. Place the 7/8" x 7" and 5/8" x 7" hex bolts (3" x 5" gang beam) or the 7/8" x 8" and 5/8" x 8" hex bolts (4" x 6" gang beam), Ref. 7 & 10, through these two plates. Pull the shank with the mounting weldment, Ref. 1, up to the alignment plate. Under the shank place the bottom plate, Ref. 4, and tighten bolts in order to clamp the shank between the plates.



REF. NO.	PART NO.	DESCRIPTION
1	9553	Spring Hanger Shank
2	10635	Spring Mount Top Plate 3 x 5
	10393	Spring Mount Top Plate 4 x 6
3	10636	Alignment Plate 3 x 5
	10394	Alignment Plate 4 x 6
4	10637	Bottom Plate 3 x 5
	10392	Bottom Plate 4 x 6
5	12159	Trunnion Mounting Weldment
6	9559	Offset Bearing Spacer
7	10641	Hex Bolt 7/8" x 7" Gr.5 3 x 5
	10483	Hex Bolt 7/8" x 8" Gr.5 4 x 6
8	T-729	Snap Ring, 4"
9		Axle, 1 1/2" Sq.
10	T-750	Hex Bolt 5/8" x 7" Gr.5 3 x 5
	T-753	Hex Bolt 5/8" x 8" Gr.5 4 x 6

REF. NO.	PART NO.	DESCRIPTION
11	T-491	Bumper Washer, 1 1/2" Sq.
12		Disc Blade, 1 1/2" Sq.
13	T-763	Hex Bolt, 3/4" x 3" Gr. 5
14	12163	Hex Bolt, 1/2" x 3 1/2" Gr. 5
15	T-106	End Bearing Spool - Front
16	T-604	Bearing, 1 1/2"
17	TMD	Trunnion Bearing Housing
18	9560	Offset Brg Spacer - Rear
19	T-727	Hex Nut, 1 1/2"
20	T-728	Lockwasher, 1 1/2"
21	T-492	End Washer, 1 1/2"
22	T-104	Spacer Spool, 10 1/2"

*3/4" x 4" Gr.5 (#9859)
IS USED ON SHOCK FLEX
GANGS W/26" BLADES.

FRONT

