



MANUFACTURING, CO.

**LOF
LIFT OFFSET HARROW**

**OPERATION ** MAINTENANCE ** SET-UP
INSTRUCTIONS**



AMCO MANUFACTURING COMPANY

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www.amcomfg.com

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Rev. 3/20/2024

TO THE PURCHASER

The care you give your new AMCO LOF Lift Offset Disk Harrow will greatly determine the satisfaction and service you will obtain from it. By observing the instructions and suggestions in this manual, your AMCO LOF Lift Offset Disk Harrow will serve you well for many years.

As an Authorized AMCO Dealer, we stock Genuine AMCO Parts, which are manufactured with the same precision and skill as the original equipment. For the best performance and longer life, use only genuine AMCO replacement parts. Our factory-trained staff is kept fully informed of the most efficient methods of servicing AMCO equipment and is ready and able to assist you.

When you sell your LOF Lift Offset Disk Harrow, you should pass this manual to the new owner.

If you should require additional aid or information, contact us.

YOUR AUTHORIZED AMCO DEALER

OSHA requires that, as a farm employer, you meet certain safety requirements. Become familiar with and comply with those requirements. Be sure anyone who operates this equipment understands all safety related items. If this harrow is repainted, be certain new decals are ordered. Decals pertaining to personal safety must be replaced.



Look for this symbol to point out important safety precautions. It means: ATTENTION! Become Alert! Your safety is involved.

To insure efficient and prompt service, please provide the model number and serial number of your AMCO LOF Lift Offset Disk Harrow in all correspondence or contacts. Remember, the right-and left-hand sides of the harrow are determined by standing at the rear of the harrow and facing the direction of travel.

MODEL NUMBER

SERIAL NUMBER

LIFT OFFSET HARROWS

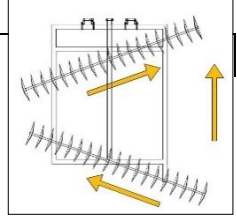
MODEL "LOF"

9" Spacing

(F) Series

STANDARD SPECIFICATIONS

(Metrics in Parentheses)



Axles:	1-1/2" square, high carbon cold rolled steel	Gang Angle:	14° to 18° front to rear
Blades:	24" x 1/4"(6mm) Cut out with right front and right rear blades stepped down 2" less	Hitch:	3-Point - Fits Cat II or Cat III
Spacing:	9 Inches (229mm)	Gang Bearings: (3 Year Warranty) (On Bearings!)	Maintenance-Free gang bearings, heavy duty 1-1/2" square bore, toggle mounted with wear guards to protect the bearing housing.
Scrapers:	HD high carbon steel blades on 1/2" x 1-1/2" shanks, mounted on 2" x 2" x 3/8" angle iron bars	Bearing Risers:	Standard cast gang risers
		Gang Tubing:	3 x 5 x 1/4" Wall rectangular tubing on gangs
		Main Frame Tubing:	3 x 4 x 1/4" Wall rectangular tubing on main frame

SPRING LOADED LEVELING SYSTEM

Model No.	Cutting Width	No. of Discs	No. of Bearings	Approximate Engine HP Required	Approximate Weight lbs (kg)		
LOF-2024	7'6"	20	8	70	2152 (976)		
LOF-2224	8'3"	22	8	80	2272 (1030)		
LOF-2424	9'0"	24	8	90	2392 (1084)		
OPTIONAL EQUIPMENT							
	24" x 1/4" (6mm) Plain Blades in lieu of standard				Add 2.0 (0.9)ea.		
	22" x 1/4" (6mm) Plain Blades in lieu of standard				Ded 7.9 (3.6)ea.		
	22" x 1/4" (6mm) Cut out Blades in lieu of standard				Ded 6.0 (2.7)ea.		
AB-01-0003	Feathering Blade with scraper for rear gang				Add 28 (13)		
	Shock Absorber bearing riser with 1-1/4" x 2" spring steel shank - Add per bearing				Add 21 (9.5) ea.		

AMCO Price List Effective January 1, 2024

F.O.B. Yazoo City, Mississippi

SPECIFICATIONS AND PRICES SUBJECT TO CHANGE WITHOUT NOTICE

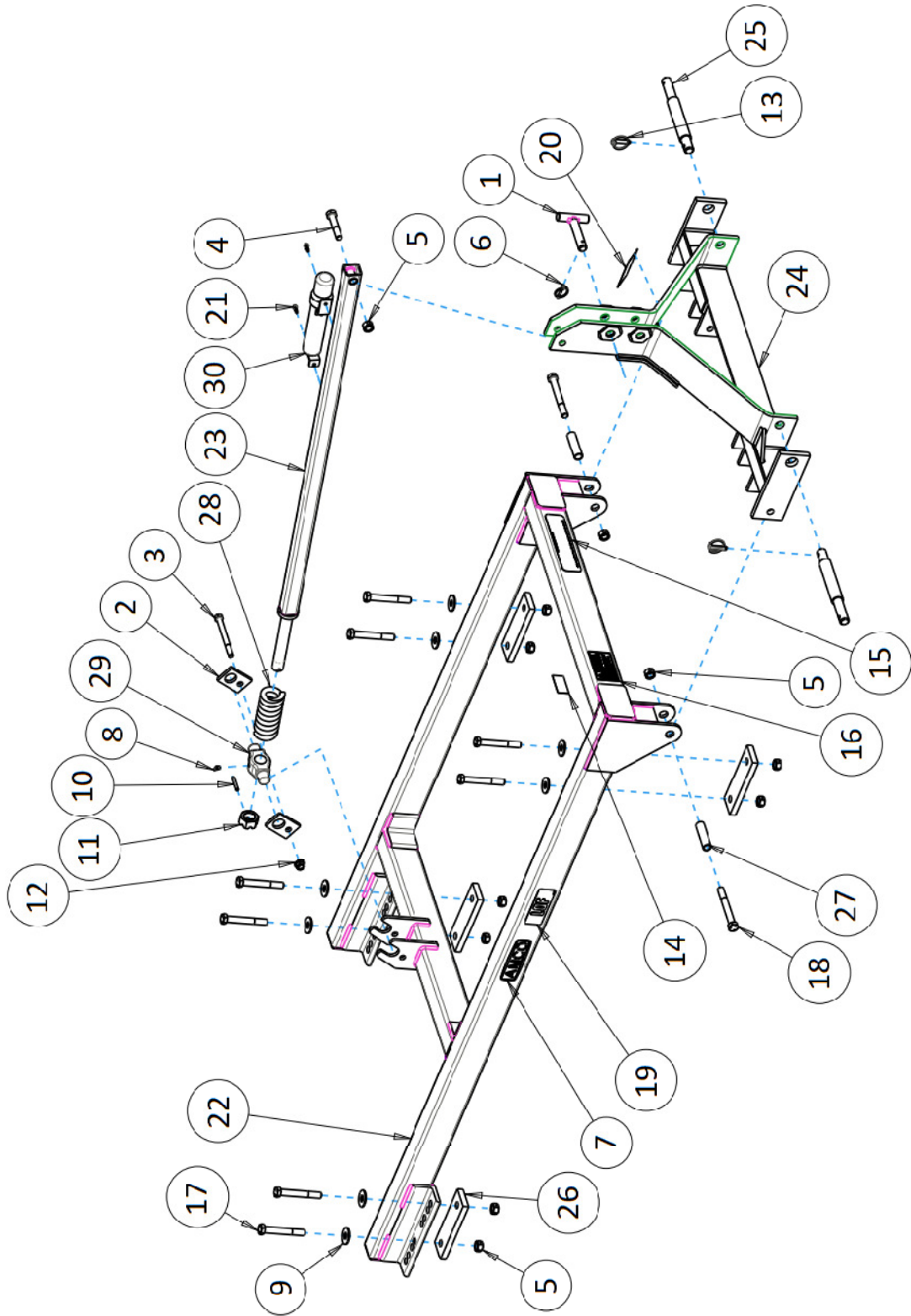
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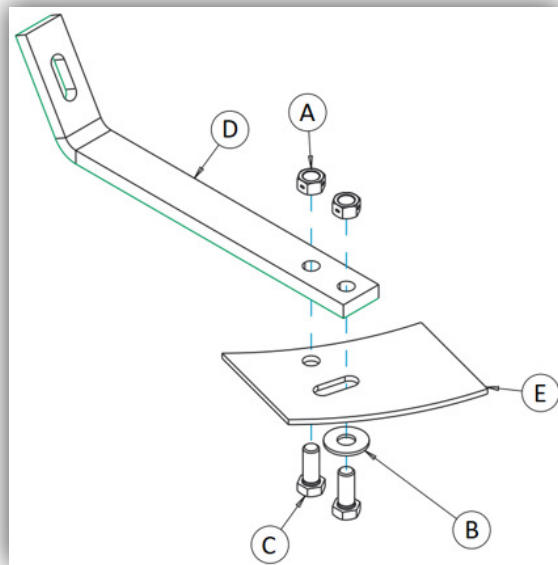
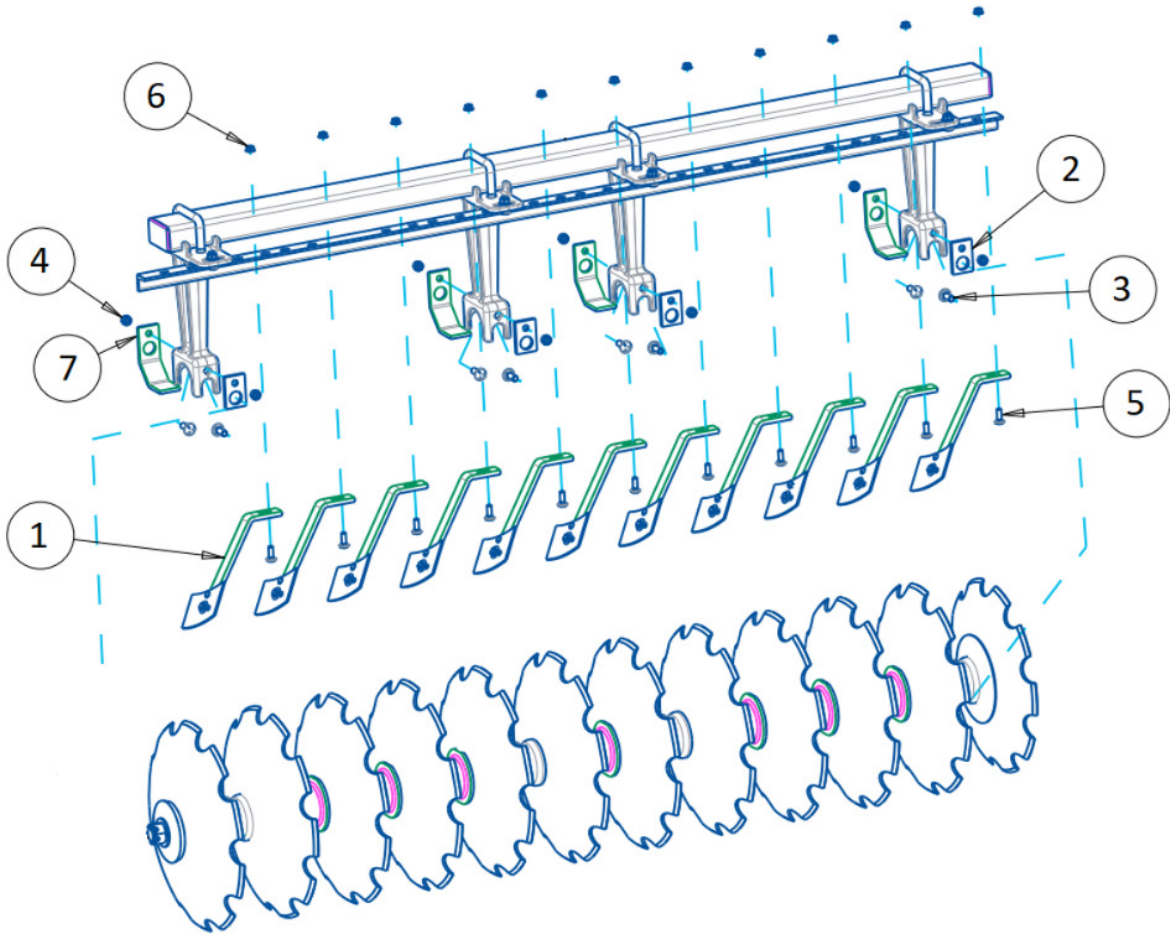
LOF Main Frame and A-Frame Hitch



LOF Main Frame and A-Frame Hitch

Ref No.	Part No	Description	No Req'd.
1	0871	Transport Pin	1
2	9628	Trunnion Clamp	2
3	10043	5/8 x 6-1/2 HHCS, GR 5	1
4	10113	3/4 x 4 HHCS, GR 8	1
5	10300	3/4 Lock Nut	11
6	10317	Klik Pin 1/4"	1
7	10465	AMCO Decal	3
8	10606	1/8" Pipe Thread Grease Fitting	1
9	10866	3/4" Flat Washer	8
10	10910	5/16 x 2-1/4 Roll Pin	1
11	11279	1-3/8" Slotted Nut	1
12	11647	5/8 Lock Nut	1
13	11697	Klik Pin 7/16"	2
14	11713	Serial Plate	1
15	11716	Maintenance Decal	1
16	11741	Warning Decal	1
17	12075	3/4 x 5-1/2 HHCS, GR 5	8
18	12090	3/4 x 6-1/2 HHCS, GR 5	2
19	12458	LOF Decal	3
20	19021	MADE IN USA Decal	1
21	19028	Self-Tapping Screw	2
22	20650	Main Frame	1
23	20651	Back Post Bar	1
24	21086	A-Frame Hitch	1
25	101739	Lower Hitch Pin	2
26	102735	Strap	4
27	102736	Bushing	2
28	10460A	Spring	1
29	9892A	Swivel	1
30	19013	Manual Tube	1

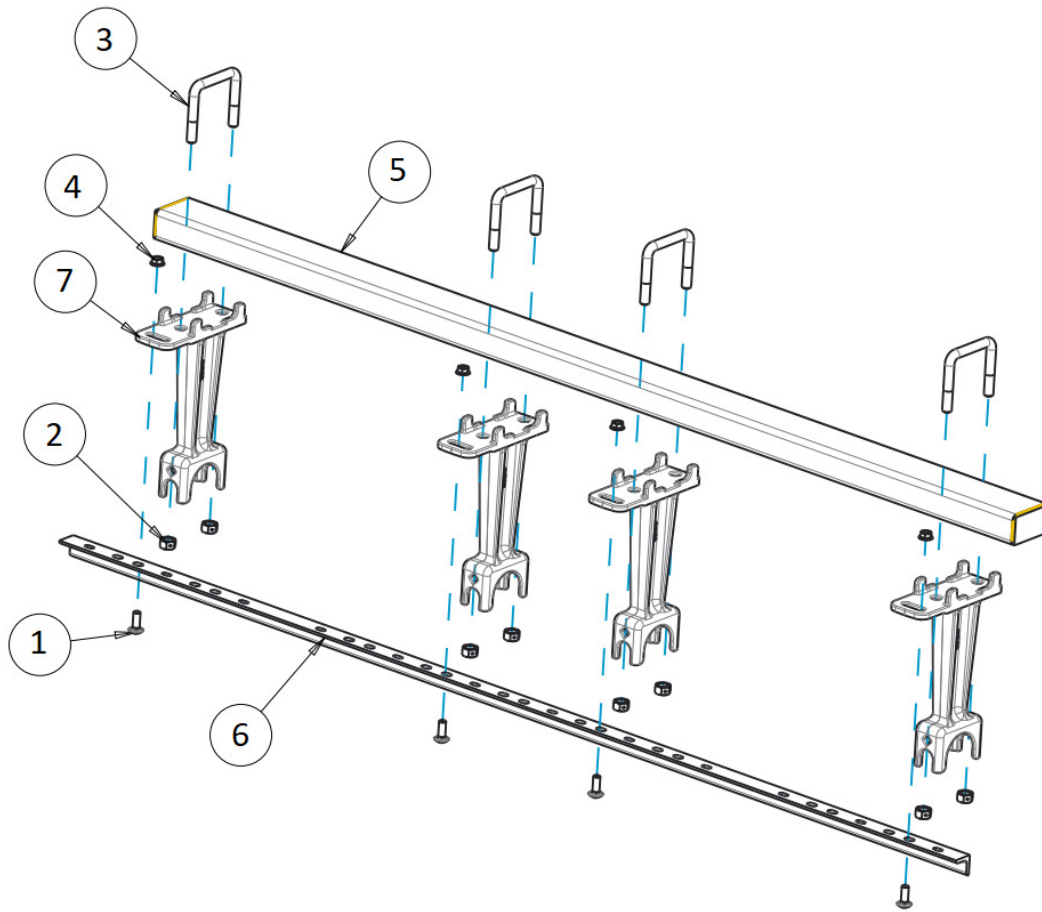
Front & Rear Gang Frame



Front and Rear Gang Frame

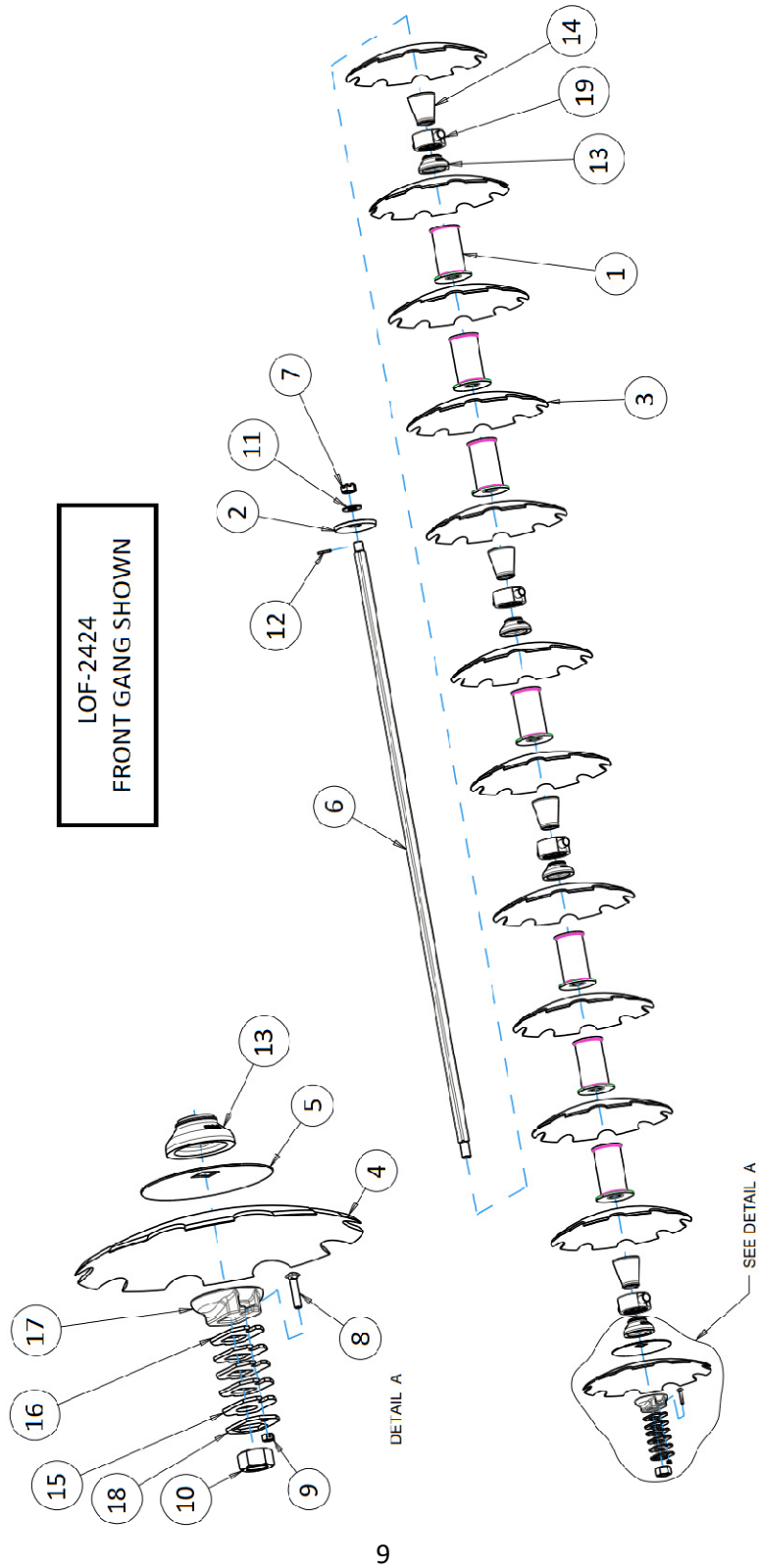
Ref No.	Part No.	Description	20 Blade		22 Blade		24 Blade	
			F	R	F	R	F	R
1	0788	Scraper Assembly- RH (Front)	9		10		11	
1	0789	Scraper Assembly - LH (Rear)		9		10		11
A	10395	1/2 Lock Nut	2					
B	10832	1/2 Flat Washer	1					
C	11652	1/2 x 1-1/4 HHCS, GR 5	2					
D	100271	Scraper Leg	1					
E	102533	Scraper Blade	1					
2	9628	Trunnion Clamp	4	4	4	4	4	4
3	10135	5/8 x 1-3/4 Carriage Bolt, GR 5	8	8	8	8	8	8
4	10299	5/8 Lock Nut	8	8	8	8	8	8
5	10870	1/2 x 1-1/2 Carriage Bolt, GR 5	9	9	10	10	11	11
6	11646	1/2 Flange Lock Nut	9	9	10	10	11	11
7	102489	Wear Guard	4	4	4	4	4	4

Front and Rear Gang Frame Components



Ref No.	Part No.	Description	20 Blade		22 Blade		24 Blade	
			F	R	F	R	F	R
1	10135	5/8 x 1-3/4 Carriage Bolt, GR 5	4	4	4	4	4	4
2	10396	7/8 Lock Nut	8	8	8	8	8	8
3	11280	U-Bolt	4	4	4	4	4	4
4	11647	5/8 Flange Lock Nut	4	4	4	4	4	4
5	20661	Gang Frame - 5 x 3 x 84"	1	1				
5	20654	Gang Frame - 5 x 3 x 91"			1	1		
5	20653	Gang Frame - 5 x 3 x 102"					1	1
6	100367	Scraper Bar - 2 x 2 x 88.50"	1	1				
6	100534	Scraper Bar - 2 x 2 x 97.625"			1	1		
6	100366	Scraper Bar - 2 x 2 x 106.875"					1	1
7	16012A	Bearing Riser	4	4	4	4	4	4

Front & Rear Gang Components



Front & Rear Gang Components

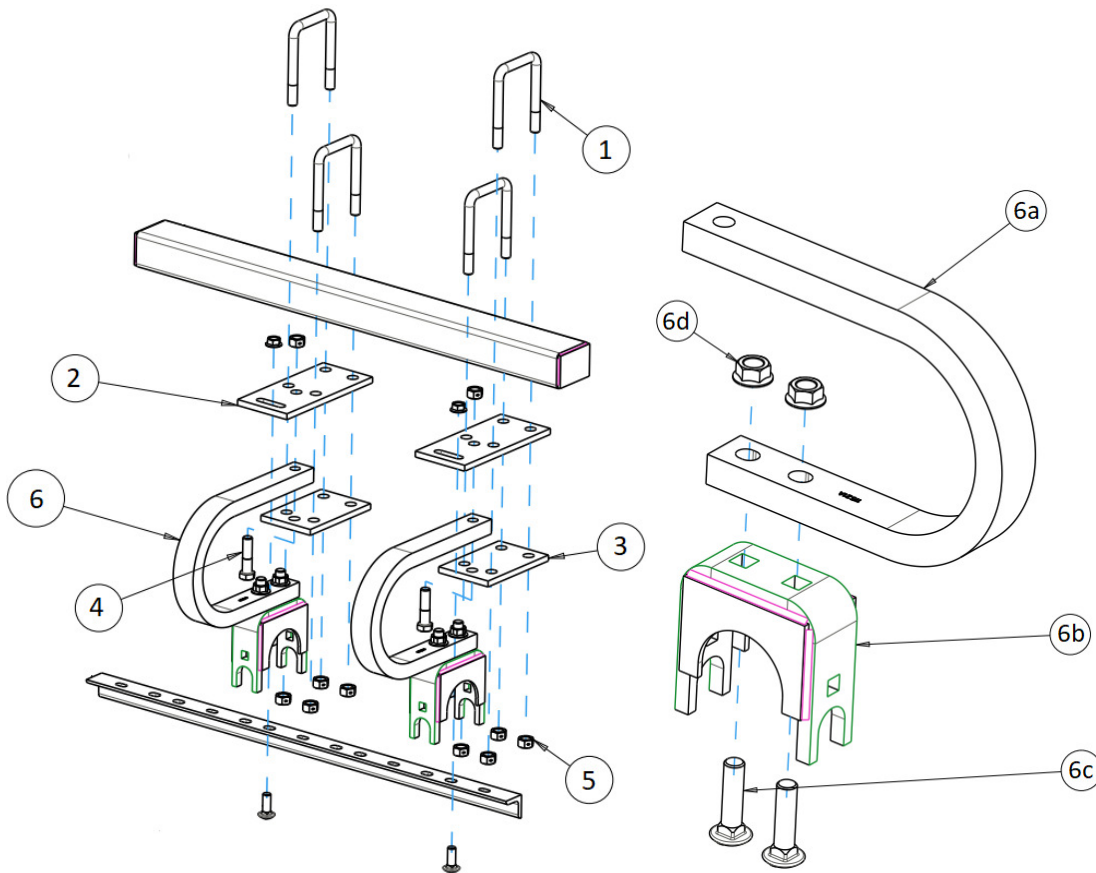
Ref No.	Part No.	Description	20 Blade		22 Blade		24 Blade	
			F	R	F	R	F	R
1	545	Spacer Spool	5	5	6	6	7	7
2	2404	Bumper Washer	1		1		1	
2	100738A	Bumper Washer - Drilled & Tapped		1		1		1
3	3250	Blade - 24" x 1/4" Cutout	9	9	10	10	11	11
3	3255	Blade - 24" x 1/4" Plain	9	9	10	10	11	11
4	3275	Blade - 22" x 1/4" Cutout (Step-down)	1	1	1	1	1	1
4	3276	Blade - 22" x 1/4" Plain (Step-down)	1	1	1	1	1	1
5	3278	Blade - 10" (Back-up)	1		1		1	
6	9446	1.5" x 89.125" Square Axle (10-blade)	1	1				
6	9447	1.5" x 98.375" Square Axle (11-blade)			1	1		
6	9448	1.5" x 107.625" Square Axle (12-blade)					1	1
7	10226	1-1/2" - 12 UNF Slotted Nut	1	1	1	1	1	1
8	10238	1/2" x 2.5" Carriage Bolt, GR 5	1	1	1	1	1	1
9	10395	1/2" Lock Nut	1	1	1	1	1	1
10	10489	1-1/2" - 12 UNF Hex Nut, GR 8	1	1	1	1	1	1
11	10872	1-3/8" Flat Washer	1	1	1	1	1	1
12	10910	Roll Pin 5/16" x 2-1/4"	1	1	1	1	1	1
13	17010	End Bell, Large	4	4	4	4	4	4
14	17014	End Bell, Small	4	4	4	4	4	4
15	100098	Bearing Plate	1	1	1	1	1	1
16	100099	Spacer Plate	4	4	4	4	4	4
17	1222A	End Washer	1	1	1	1	1	1
18	5622A	Lock Plate	1	1	1	1	1	1
19	FB-09-0021	Bearing Assy (Maintenance-Free)	4	4	4	4	4	4

Manufactured before April 2019, use FB-09-0015 Bearing Assembly (Greaseable)

FLEX GANG BEARING RISER

Ref No.	Part No	Description	No Req'd.
1	12335	3/4 x 4.063 x 6.125 U-Bolt	2
2	102596	Top Plate	1
3	102597	Bottom Plate	1
4	10727	3/4 x 3 HHCS, GR 5	1
5	10300	3/4" Lock Nut	5
6	BC-09-0001	Bearing Riser Bundle	1
6a	11521A	Rockflex Shank	1
6b	0944A	Trunnion Mount	1
6c	10579	3/4 x 3 Carriage Bolt, GR 5	2
6d	12069	3/4" Flange Lock Nut	2








Note: Parts 1-6 are required to convert bearing riser #16012A to a Shock Absorber



OPTIONAL SHOCK ABSORBER BEARING RISER

GENERAL TORQUE SPECIFICATION TABLE

**ALL BOLTS SHOULD BE TIGHTENED TO THE
RECOMMENDED TORQUES SHOWN IN THE
"GENERAL TORQUE SPECIFICATION TABLE"**

GENERAL TORQUE SPECIFICATION TABLE							
USE THE FOLLOWING TORQUES WHEN SPECIAL TORQUES ARE NOT GIVEN							
SAE Grade No.		2		5		8*	
Bolt head identification marks as per grade NOTE: Manufacturing Marks Will Vary				  		  	
		Torque Foot Pounds		Torque Foot Pounds		Torque Foot Pounds	
Bolt Size							
inches	Millimeters	Min.	Max.	Min.	Max.	Min.	Max.
1/4	6.35	5	6	9	11	12	15
5/16	7.94	10	12	17	20.5	24	29
3/8	9.53	20	23	35	42	45	54
7/16	11.11	30	35	54	64	70	84
1/2	12.70	45	52	80	96	110	132
9/16	14.29	65	75	110	132	160	192
5/8	15.88	95	105	150	180	220	264
3/4	19.05	150	185	270	324	380	456
7/8	22.23	160	200	400	480	600	720
1	25.40	250	300	580	696	900	1080
1-1/8	25.58			800	880	1280	1440
1-1/4	31.75			1120	1240	1820	2000
1-3/8	34.93			1460	1680	2380	2720
1-1/2	38.10			1940	2200	3160	3560

*Thick nuts must be used with Grade 8 bolts

DECALS



WARNING

1. BEFORE OPERATING--STUDY OPERATORS MANUAL SAFETY MESSAGES AND SAFE OPERATING PROCEDURES, READ SAFETY SIGNS ON THIS MACHINE.
2. TRANSPORT ON PUBLIC ROADS -- OBSERVE FEDERAL, STATE AND LOCAL REGULATIONS; DISPLAY SMV EMBLEM; ATTACH PROPER STRENGTH SAFETY CHAIN TO TOWED IMPLEMENT; AND LIMIT MAXIMUM SPEED TO 20 MPH (32 KM/H).
3. LOWER OR BLOCK ALL ELEVATED COMPONENTS BEFORE SERVICING OR LEAVING THIS MACHINE.

MAINTENANCE INSTRUCTIONS

1. Keep all bolts tight. Check after first 50 hours or one week's operation. Visually inspect all bolts daily.
2. Keep wheel bearings properly adjusted. Clean and repack each season or every 300 hours. Replace all worn or damaged parts when repairing.
3. Keep gang bolts tight! Tighten after first day's operation. Do not run with loose disk blades. If gang bolts have been operated in a loose condition, retighten, then tighten again after 30 minutes use, again after 4 to 5 hours. and again after 8 to 10 hours.
4. Grease gang bearings daily with a hand grease gun and a good grade of clean, number 2, lithium soap base grease. Always wipe fittings clean before greasing. Apply grease until old or dirty grease is purged from bearings. Avoid high-pressure greasing.
5. Inspect, for damaged or misaligned parts if gangs do not turn smoothly by hand. Bearings will fail prematurely if operated with misaligned or damaged gang parts. If a gang is operated for one or more hours following a bearing failure replace all bearings on the gang

Refer to the operator's manual for other important maintenance instructions.

AMCO LOF DECALS

<u>Part No.</u>	<u>Description</u>	<u>No. Req'd.</u>
12458	LOF Decal	3
10465	AMCO Decal	3
11716	Maintenance Decal	1
11741	Warning Decal	1
19021	Made in USA Decal	1

SAFETY SUGESTIONS



THIS SAFETY ALERT SYMBOL INDICATES IMPORTANT SAFETY MESSAGES IN THIS MANUAL. WHEN YOU SEE THIS SYMBOL, CAREFULLY READ THE MESSAGE THAT FOLLOWS AND BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY.



CAUTION Never stand between tractor and disk harrow when hitching unless all controls are in neutral, and the brakes are locked.



CAUTION Park or block the disk harrow so it will not roll when disconnected from the tractor drawbar.



CAUTION When working on disk harrows, care should be exercised in handling or tightening bolts near disk blades to avoid injury.



CAUTION Always secure for transport by using the lock pin and wing lock pins.



CAUTION Never clean, adjust or lubricate a disk harrow that is in motion.



CAUTION When transporting machinery over public roads, comply with your local and state laws regarding length, width, and lighting.



CAUTION When trailing the harrow over public roads, the SMV Emblem must be used, for protection of tractor and motor vehicle operators



CAUTION When transporting farm implements on public roads after dusk it is the responsibility of the operator to provide lighting and reflectors on the rear of the implement in accordance with your state law.



CAUTION All hydraulically or mechanically elevated operating components must be blocked to prevent accidental lowering or must be lowered to the ground when making adjustments or when the equipment is idle.

MOST OFTEN ENCOUNTERED DISK BLADE FAILURES

Most disk blade failures can be prevented by selecting, the correct blade size and thickness for individual conditions. When buying disk. Reduction of speed areas containing rocks and stumps will greatly lengthen the blade life. Keeping gang belts properly torqued and raising the harrow while turning will also reduce disk blade breakage.

FIGURE 1 — Laminated Disc —defective steel. Eligible for warranty consideration.

SURFACE VIEW

EDGE VIEW

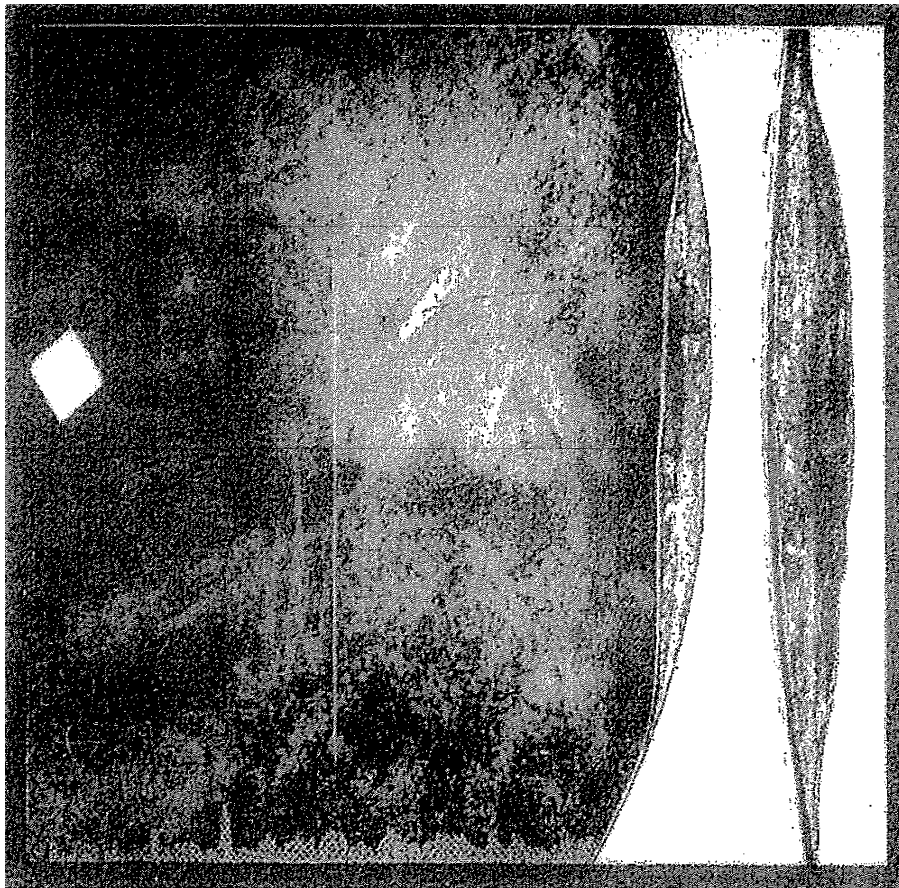


FIGURE 2 — Straight directional break caused by defective steel. Eligible for warranty consideration.

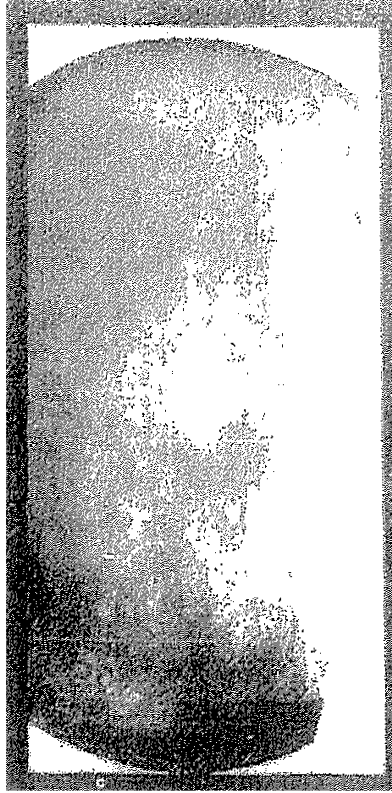


FIGURE 3, 4, 5 Irregular breaks caused by contact against rocks or stumps. Not covered by warranty.

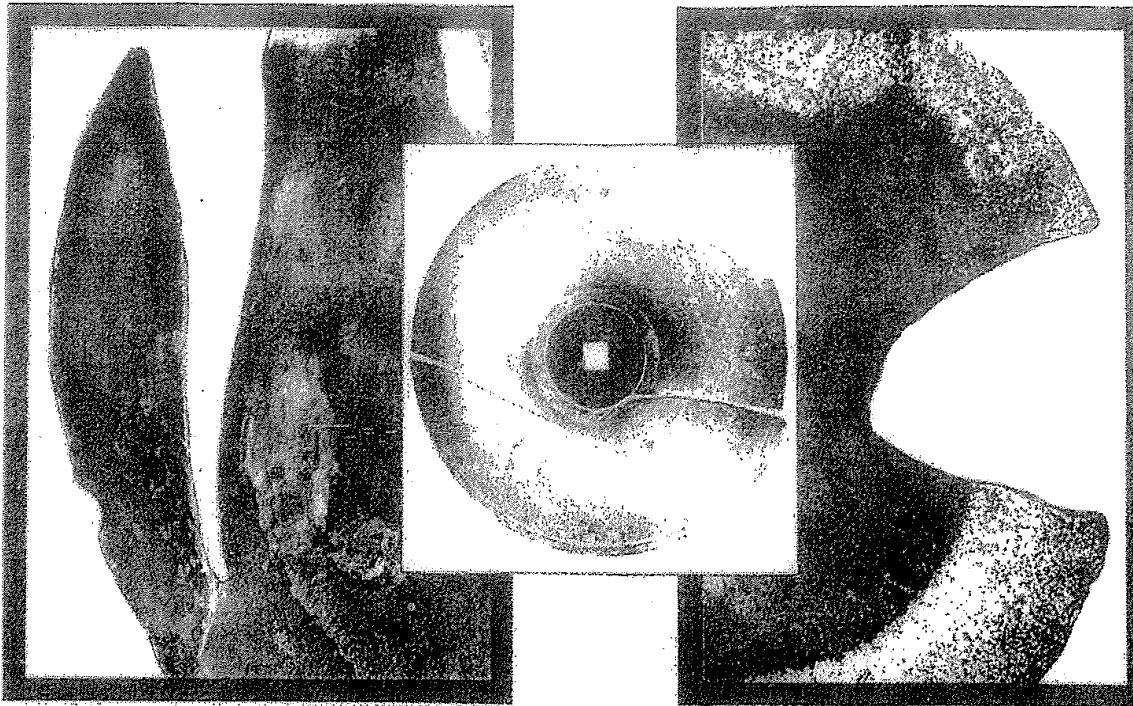


FIGURE 6 — Clipped or dented edges resulting from use in areas containing rocks or stumps. Not covered by warranty.



FIGURE 7 — Center broken out – Experience has show that this is usually caused by loose bolts, excessive flexing or by contact with rocks and stumps. Not covered by warranty



ASSEMBLY INSTRUCTIONS — AMCO LOF HARROW

The AMCO LOF Harrow is shipped from the factory with maximum pre-assembly. The following bundles are required for a complete harrow.



- A. Main Frame (w/set plate and fasteners)
- B. A-Frame Hitch & Back post bar (assembly)
- C. Front gang and frame, complete with scrapers
- D. Rear gang and frame, complete with scrapers



CAUTION Use study stands to prevent frame from falling.

TOOLS NEEDED:

- Impact
- Tape Measurer
- Lift Strap
- 15/16 Wrench and Socket
- 1-1/8" Wrench and Socket

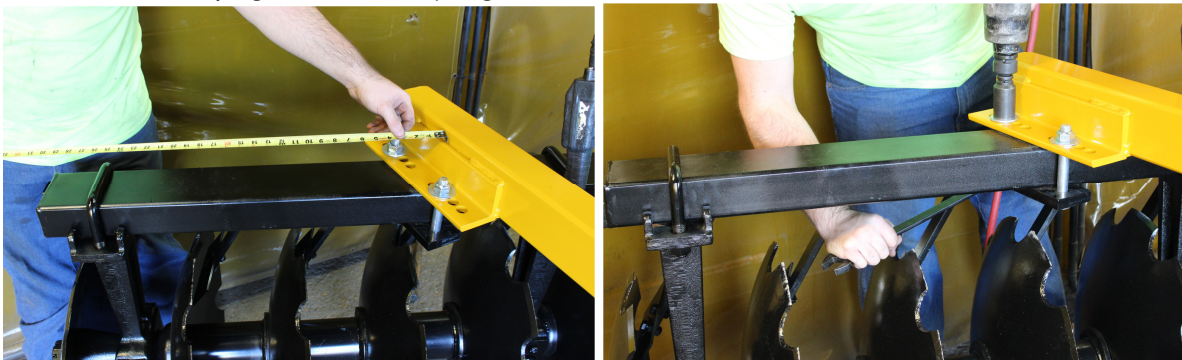


Step 1: Select a clean, level area to assemble the harrow.

Step 2: Place the main frame (right side up) on sturdy stands at least 33" high.



Step 3: Attach front and rear gangs under main frame (see gang placement reference on last page of manual.) Tighten all nuts.





Step 4: Place bushings in lower bolt holes.



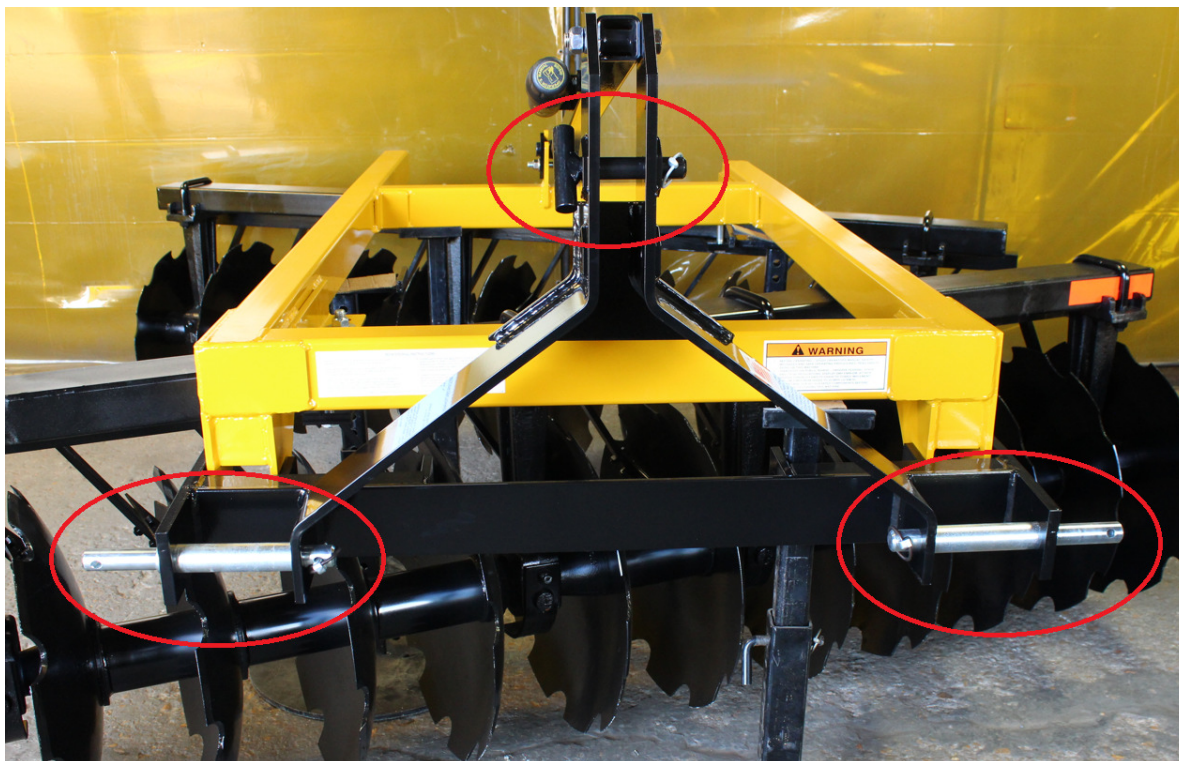
Step 5: Attach A-Frame Hitch to Main Frame using two 3/4 x 6-1/2 bolts and 3/4 Lock Nuts on the bottom mounts. Tighten both nuts.



Step 6: Attach back-post bar to hitch (top hole) using one 3/4 x 4 bolt & 3/4 locknut & main frame using one 5/8 x 6-1/2 bolt, 5/8 locknut & two trunnion clamps. Tighten nuts.



Step 7: Insert lower hitch pins and upper T-pin. Secure with klik pins.



CAUTION *When working on disk harrows, care should be exercised in handling or tightening bolts near disk blades to avoid injury.*



CAUTION *When transporting farm implements on public roads after dusk it is the responsibility of the operator to provide lighting and reflectors on the rear of the implement in accordance with your state law.*

LUBRICATION

Be sure fittings are free of dirt before greasing. If a fitting is lost or damaged, replace it immediately. Lubricate all parts thoroughly with a good grade No. 2 gun grease (Lithium Base).

Miscellaneous working parts not provided with lubrication fittings should be oiled occasionally with a good grade of lubrication oil.

Gang Bearings

The AMCO LOF Harrow gangs are equipped with Maintenance-Free, Protect-o-Shield® ball bearings. Triple-lip sealed with a protective shield that covers both sides of the bearing to defend against dirt and debris.



Back-Post Bar

The swivel on the back-post bar should be greased every 50 hours of operation.



LOF GANG PLACEMENT CHART

Model	Measurement "A"
LOF-2024 (7'6")	16.75"
LOF-2224 (8'3")	21.50"
LOF-2424 (9'0")	26"

