

new theets

**LOF - 2424** 

# **LIFT OFFSET HARROW**

PARTS CATALOG

OPERATION — MAINTENANCE — SET-UP INSTRUCTIONS





AMCO Manufacturing, Inc.

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#### 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 percision and skill as the original equipment. For the best pervormance 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 HARROW

#### GENERAL SPECIFICATIONS

**AXLES:** 1-1/2" Square high carbon

are high carbon <u>GANG ANGLE</u>:

· 14° to 18° front & rear

cold rolled steel

**BLADES:** 24 x 1/4" (6mm) cut-out

HITCH:

3-point - fits CAT 2

or CAT 3

blades w/right front and right rear blades stepped

down 2" less BE

**BEARINGS:** 

Protect-O-Shield®, heavy

duty, 1-1/2" squareborè regreaseable, ball-

type, toggle mount

SCRAPERS: Heavy-duty, high carbon

SPACING:

9 Inches

steel blades on 1/2x1-1/2"

shanks, mounted on 2x2x3/8" angle iron bars

**GANG TUBING:** 

3x5x1/4" Wall

rectangular tubing

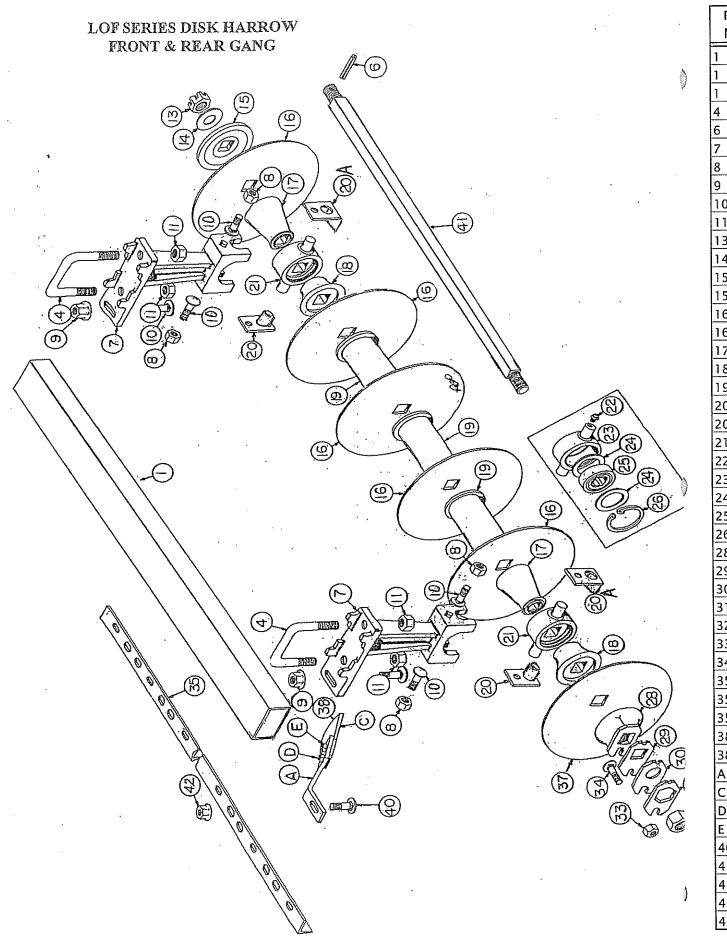
SPRING LOADED LEVELING SYSTEM

MAIN FRAME TUBING: 3x4x1/4" Wall

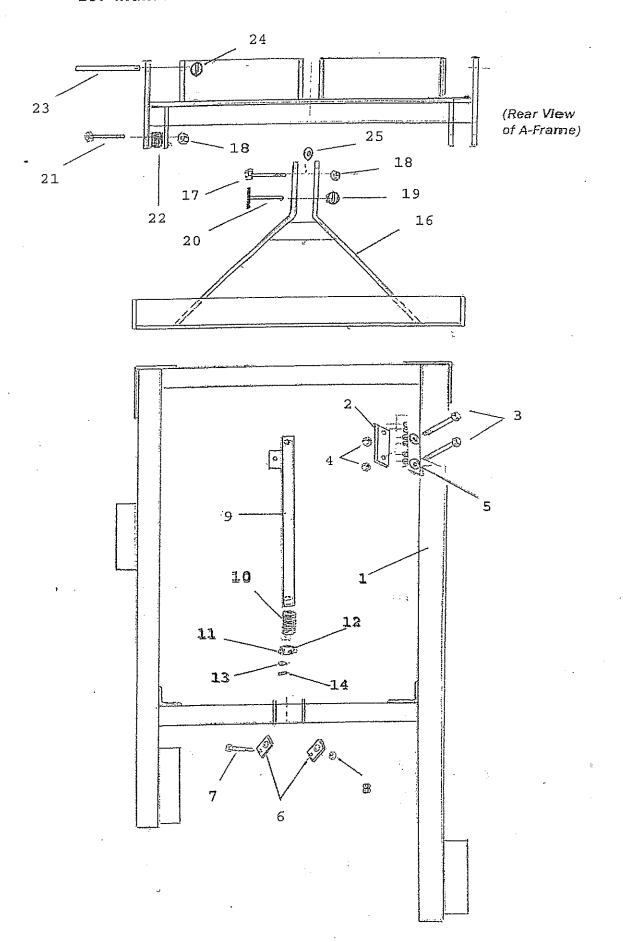
rectangular tubing

| MODEL NO. | CUTTING<br>WIDTH | NO OF<br><u>DISK</u> | NO OF<br>BEARINGS | DISK<br>SIZE<br><u>&amp; TYPE</u> | APPROX<br>SHIPPING<br><u>WEIGHT</u> | RECOMMENDED<br>DRAWBAR<br><u>HORSEPOWER</u> |
|-----------|------------------|----------------------|-------------------|-----------------------------------|-------------------------------------|---|
| LOF-2424  | 9'0"             | 24                   | 8                 | 24" C.O.                          | 2392 lbs                            | 50  |

#### LOF SERIES DISK HARROW



| REF.          |            |  | 20 BLADE |       | 22 BLADE |       | 24 BLADE |       |
|---------------|------------|--|----------|-------|----------|-------|----------|-------|
| NO.           | PART NO.   | FRONT & REAR GANG                        | F        | R     | F        | R     | F        | R     |
| 1             | 20661      | ASSEMBLY GANG FRAME                      | 1        | 1     |          |       |          |       |
| <u>:</u><br>1 | 20654      | ASSEMBLY GANG FRAME                      |          |       | 1        | 1     |          |       |
| 1             | 20653      | ASSEMBLY GANG FRAME                      |          |       |          |       | 1        | 1     |
| 4             | 11280      | U BOLT 7/8" DIA.                         | 4        | 4     | 4        | 4     | 4        | 4     |
| 6             | 10910      | ROLL PIN 5/16 X 2-1/4"                   | 1        | 1     | 1        | 1     | 1        | 1     |
| 7             | 16012A     | BEARING RISER                            | 4        | 4     | 4        | 4     | 4        | 4     |
| 8             | 10299      | LOCK NUT 5/8 NC, PLT                     | 8 '      | 8     | 8        | 8     | 8        | 8     |
| 9             | 11647      | FLANGE LOCK NUT 5/8 NC, PLT              | 4        | 4     | 4        | 4     | 4        | 4     |
| 10            | 10135      | CARRIAGE BOLT 5/8 X 1-3/4" NC, PLT       | 12       | 12    | 12       | 12    | 12       | 12    |
| 11            | 10396      | LOCK NUT 7/8 NC, PLT                     | 8        | 8     | 8        | 8     | 8        | 8     |
| 13            | 10226      | GANG BOLT NUT 1-1/2" NF SLOTTED          | 1        | 1     | 1        | 1     | 1        | 1     |
| 14            | 10872      | CUT WASHER 1-3/8" PLT                    | 1        | 1     | 1        | 1     | 1        | 1     |
| 15            | 2404       | BUMPER WASHER                            | 1        |       | 1        |       | 1        |       |
| 15A           | 100738A    | BUMPER WASHER (DRILLED & TAPPED)         |          | 1     |          | ī     |          | 1     |
| 16            | 3250       | BLADE 24 X 1/4" CUT OUT                  | 9        | 9     | 10       | 10    | 11       | 11    |
| 16            | 3275       | BLADE 22 X 1/4" CUT OUT (STEP DOWN)      | 1        | 1     | 1        | 1     | 1        | 7     |
| 17            | 17014      | END BELL – SMALL                         | 4        | 4     | 4        | 4     | 4        | 4     |
| 18            | 17010      | END BELL – LARGE                         | 4        | 4     | 4        | 4     | 4        | 4     |
| 19            | 0522       | SPACER SPOOL                             | 5        | 5     | 6        | 6     | 7        | 7     |
| 20            | 20579      | GREASE FITTING GUARD                     | 4        | 4     | 4        | 4     | 4        | 4     |
| 20A           | 102489     | WEAR GUARD                               | 4        | 4     | 4        | 4     | 4        | 4     |
| 21            | FB-09-0015 | SUB ASSEMBLY BEARING & HOUSING           | 4        | 4     | 4        | 4     | 4        | 4     |
| 22            | 12384      | GREASE FITTING MPT 1/8" STRAIGHT         | 1        | 1     | 1        | 11    | 1        | 1 .   |
| 23            | 16003      | BEARING HOUSING                          | 1        | 1     | 7        | 1     | 1        | 1     |
| 24            | 100104     | WASHER                                   | 2        | 2     | 2        | 2     | 2        | 2     |
| 25            | 11503      | BEARING                                  | 1        | 1     | 7        | 1     | 1        | 1     |
| 26            | 11064      | RETAINER RING                            | 1        | 1     | 1        | 1     | 1        | 1     |
| 28            | 1222A      | END GANG WASHER                          | 1        | 1     | 1        | 1     | 1        | 1 /   |
| 29            | 100099     | SPACER PLATE                             | 1        | 1     | 11       | ו     | 1        | 11    |
| 30            | 100098     | BEARING PLATE                            | 1        | 1     | 1        | 1     | 1        | 1     |
| 31            | 5622A      | LOCK PLATE                               | 1        | 1     | 1        | 11    | 1        | 1     |
| 32            | 10489      | GANG BOLT NUT 1-1/2" NF                  | 1        | 1     | 1        | 1     | 1        | 1     |
| 33            | 10395      | LOCK NUT 1/2 NC, PLT                     | 1        | 1     | 1        | 1     | 1        | 1     |
| 34            | 10710      | CARRIAGE BOLT 1/2 X 2" NC, PLT, GR5      | 1        | 11    | 1        | 1     | 1        | 1     |
| 35            | 100367     | SCRAPER BAR 10 BLADE                     | 1        | 11    |          |       |          |       |
| 35            | 100534     | SCRAPER BAR 11 BLADE                     |          |       | 11       | 1     |          |       |
| 35            | 100366     | SCRAPER BAR 12 BLADE                     |          |       |          |       | 1        | 1 1   |
| 38            | 0788       | ASSEMBLY SCRAPER RH                      | 9        |       | 10       |       | 11       |       |
| 38A           | 0789       | ASSEMBLY SCRAPER LH                      |          | 9     |          | 10    |          | 11    |
| A             | 100271     | SCRAPER SHANK                            | 1 ea.    | 1 ea. | 1 ea.    | l ea. | 1 ea.    | 1 ea. |
| С             | 100270     | SCRAPER BLADE                            | 1 ea.    | 1 ea. | 1 ea.    | 1 ea. | 1 ea.    | 1 ea. |
| D             | 10785      | MACHINE BOLT (BLACK) 1/2 X 1-1/2 NC, PLT | 2 ea.    | 2 ea. | 2 ea.    | 2 ea. | 2 ea.    | 2 ea. |
| E             | 10395      | LOCK NUT 1/2 NC, PLT                     | 2 ea.    | 2 ea. | 2 ea.    | 2 ea. | 2 ea.    | 2 ea. |
| 40            | 10870      | CARRIAGE BOLT 1/2 X 1-1/2 NC, PLT        | 9        | 9     | 10       | 10    | 11       | 11    |
| 41            | 9446       | GANG BOLT                                | 1        | 11    |          |       |          |       |
| 41            | 9447       | GANG BOLT                                |          |       | 1        | 1     |          |       |
| 41            | 9448       | GANG BOLT                                |          |       |          |       | 1        | 1     |
| 42            | 11646      | FLANGE LOCK NUT 1/2 NC, PLT, GR5         | 9        | 9     | 10       | 10    | 11       | 11    |



| No. | Part No.     | Description                                | No. Reg'd |
|-----|--------------|--|-----------|
|     | OF Main Fram | ne   |           |
| 1   | 20650        | Main Frame                                 | 1         |
| 2   | 102735       | Set Bracket 3/4 x 3 x 8-1/2" Long          | 4         |
| 3   | 12075        | Hex Bolt 3/4 x 5-1/2 NC, PLT               | 8         |
| 4   | 10300        | Lock Nut 3/4 NC PLT Gr B                   | 8         |
| 5   | 102737       | Washer                                     | 8         |
| 6   | 9628         | Trunion clamp                              | 2         |
| 7   | 10818        | Hex Bolt 5/8 x 1-1/2 NC PLT                | 2         |
| 8   | 11647        | Flange Locknut 5/8 NC PLT                  | 2         |
|     |              | · .  |           |
| LC  | F Spring Lo  | aded Level System                          |           |
| 9   | 20651        | Back Post Bar                              | 1         |
| 10  | 10460        | Spring                                     | 1         |
| 11  | 9919         | Swivel                                     | 1         |
| 12  | 10606        | Grease Fitting                             | 1         |
| 13  | 11279        | Slotted Nut 1-3/8 NC                       | 1         |
| 14  | 10910        | Roll Pin                                   | 1         |
|     |              | :  |           |
| LC  | OF A-Frame F | litch                                      |           |
| 6   | 20652        | Top Hitch                                  | 1         |
| 17  | 10113        | Hex Bolt 3/4 x 4 NC PLT Gr 5               | 1         |
| 18  | 10300        | Lock Nut 3/4 NC PLT Gr B                   | 3         |
| 19  | 10317        | Klik Pin 1/4"                              | 1         |
| 20  | 0871         | Upper Hitch Pin                            | 1         |
| 21  | 12090        | Hex Bolt 3/4 x 6-1/2 NC PLT                | 2         |
| 22  | 102736       | Bushing 3/4 x 6-1/2                        | 2         |
| 23  | 101739       | Lower Hitch Pin 1-7/16 Dia. x 12-9/16 Long | 2         |
| 24  | 11697        | Klik Pin 7/16"                             | 2         |
| 25  | 10866        | Flat Washer 3/4 PLT                        | . 1       |

LOFMainFramePartsList.xls

#### SAFETY SUGGESTIONS

#### 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

Note: These values apply to fasteners as received from supplier, dry, or when lubricated with normal engine oil. They do not apply if special graphited or moly-disulphide greases or other extreme pressure lubricants are used. This applies to both UNF and UNC threads.

| SAE Grade No.   |             | 2           |      |          | 5           |      |     | 8 *  |           |              |   |  |
|---|-------------|-------------|------|----------|-------------|------|-----|--|-----------|--------------|---|--|
| Bolt head identification<br>marks as per grade<br>NOTE: Manufacturing |             | per grade   |      |          |             |      |     | $\bigcirc \ \ \textcircled{*} \ \textcircled{3}$ |           |              |   |  |
| Marks Wi  | II Vary     | Torque      |      |          | Torque      |      |     | Torque   |           |              |   |  |
| Bolt Size   |             | Foot Pounds |      |          | Foot Pounds |      |     | Foot Pounds                                      |           |              |   |  |
| Inches  | Millimeters | Min.        | Max. |          | Min.        | Max. |     | M  | in.       | Max.         |   |  |
| 1/4   | 6.35        | 5           | 6    |          | 9           | 11   |     | 1 1  | 12        | 15           |   |  |
| 5/16  | 7.94        | 1.0         | 12   |          | 17          | 20,5 |     |  | 24        | 29           |   |  |
| 3/8   | 9.53        | 20          | 23   |          | . 35        | 42   |     | <del></del>                                      | 45        | 54           |   |  |
| 7/16  | 11.11       | 30          | 35   |          | 54          | 64   | 1   |  | 70        | 84           |   |  |
| 1/2   | 12.70       | 45          | 52   | 1        | 80          | 96   | 1   | i  | 10        | 132          |   |  |
| 9/16  | 14,29       | 65          | 75   | -        | 110         | 132  |     | 1  | 60        | 192          |   |  |
| 5/8   | 15.88       | 95          | 105  |          | 150         | 180  |     |  | 20        | 264          | • |  |
| 3/4   | 19.05       | 150         | 1.85 |          | 270         | 324  | - 1 | 3:   | 80        | 456          |   |  |
| 7/8   | 22,23       | ` 160       | 200  |          | 400         | 480  |     |  | 00        | 720          |   |  |
| 1   | 25.40       | 250         | 300  |          | 580         | 696  | 1   |  | DÒ        | 1080         |   |  |
| 1-1/8   | 25.58       |             |      | <u> </u> | 800         | 880  |     | 12   |           | 1440         |   |  |
| 1-1/4   | 31.75       |             |      |          | 1120        | 1240 |     | 18   |           | 2000         |   |  |
| 1-3/8   | 34.93       |             |      |          | 1460        | 1680 | - 1 | 238  |           | 2720         |   |  |
| 1-1/2   | 38.10       |             |      |          | 1940        | 2200 |     | 316  | 11. 42. 4 | 2720<br>3560 |   |  |



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 for individual conditions when buying a disk. Reduction of speed in areas containing rocks and stumps will greatly lengthen the blade life. Keeping gang bolts 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** 

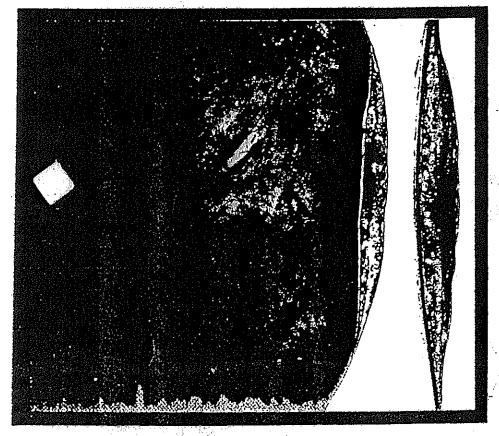


FIGURE 2 — Straight directional break caused by defective steel. Eligible for warranty consideration.



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



IGURE 6 — Chipped or dented edges resulting from se in areas containing rocks or stumps. Not covered by arranty.

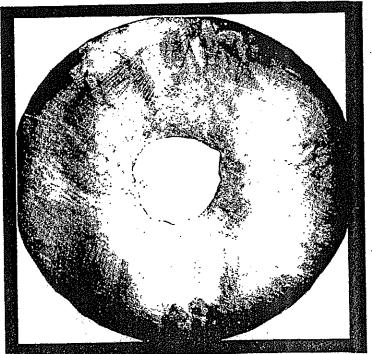


FIGURE 7 — Center broken out—Experience has shown that this is usually caused by loose bolts, excessive flexing, or by contact with rocks and stumps. Not covered by warranty.

#### 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. Back post bar (assembly)
- C. Front gang and frame, complete with scrapers
- D. Rear gang and frame, complete with scrapers



### CAUTION Use sturdy stands to prevent frame from falling.

- Step 1: Select a clean, level area to assemble the harrow.
- Step 2: Place the main frame (right side up) on sturdy stands at lease 33" high.
- Step 3: Attach A-Frame to main frame.
- Step 4: Attach back-post bar to top hitch (top hole) and main frame.
- Step 5: Attach front and rear gangs under main frame, (set gang angle location reference on last page of manual.) Tighten all nuts and secure pins with klik pins.



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

#### GANG BEARING LUBRICATION

The AMCO LOF Harrow gangs are equipped with regreasable Protect-o-Shield® ball bearings. The grease fitting is located on the rear of each bearing housing. They should be greased every 50 hours of operation with a good grade of lithium soap base chassis grease, preferably with a low volume, low pressure, hand operated grease gun. All bearings should be greased at the beginning and end of each disking season. To protect the seals from the elements, raise the harrow on its wheels and slowly spin the gangs so the grease wraps around the seals.

More frequent greasing is recommended when working in very sandy or wet conditions.



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.

Model #LOF-2424

NOTE: Measurement "A" is equal to 26"

