



**SERIES 32 DISC HARROW
PRODUCT MANUAL**

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DISC HARROW SERIES 32

PRODUCT MANUAL

This Product Manual must be given to the Owner of the Harrow and the Operator(s) of the Harrow and any person(s) who carry out any service work / repairs to the Harrow.

This Product Manual contains important information about the Harrow and its Intended Use, Safety, Set Up & Assembly Instructions and Operating Instructions.

Please read this Product Manual. Thank you.

Additional copies of this publication are readily available direct from Murray Agricultural Equipment.

SERIES 32 DISC HARROW

Thank-you for selecting an item of equipment or service part manufactured or supplied by Murray Agricultural Equipment – building quality & value priced harrows for Australia & export markets. This product manual covers complete harrow sets, components and service parts

Please study the information contained in this product manual. Please retain this product manual for reference and re-read it from time to time to refresh your memory. Please ensure all future operators and owners of this product study this manual or the latest edition of this manual. Additional copies of this publication or the most recent edition are readily available direct from Murray Agricultural Equipment.

Correctly assembled, operated & maintained, and used for the purpose for which it was designed, this product should provide productive service. Your attention is drawn to information contained in this manual. Following the appropriate guidelines and instructions will contribute to reliable, effective performance and maintain the manufacturer's product warranty cover.

SAFETY

“A Special note – Please read it”

- Work safely and promote safety at all times.
- Familiarize yourself, employees & contractors and other people with all and any safety warnings, marks or instructions issued, marked or affixed to this product. Work in accordance with these instructions at all times when around this product.
- This product is intended to be pulled (towed) by a tractor correctly fitted with an approved rollover protection structure. This product is NOT intended for use with an “ATV” or “Ride on Lawn Mower” or similar machine.
- This equipment is not intended to be used or operated, serviced or repaired by children under the age of 18 years or persons who are not medically fit.
- Children, especially young children, should be supervised to ensure that they do not play with or near this equipment. Encourage children to keep away from farm machinery including this product.
- Do Not climb on Agricultural Equipment including this product.
- You and other people must be especially aware of the dangers from moving, sharp, falling or mobile components or equipment including tractors and engines, and of the danger from mechanisms or assemblies that can be activated remotely by other people.
- Wear and use the appropriate safety clothing and equipment.

- This equipment is not intended to be used on or travel on roads or freeways.
- When transporting this product in conjunction with (connected to) a tractor or another vehicle, transport only when safe to do so and **transport speed** (not work speed) should not exceed 20 kph.
- Electrical Safety; “Look Up And Live” When near powerlines, always Look Up And Live & Look Around And Live. Contact with powerlines and other electrical wires can end in tragedy.
- Replace any safety or warning labels on this product if they become damaged, unclear or unreadable. Labels are available as a service part.

SERIES 32 DISC HARROW: USAGE INFORMATION

The Murray Series 32 Disc Harrow is a tandem disc harrow for operation with tractors equipped with category II Three Point Linkage.

It is available in two sizes; 16 Disc machine covering 1.83m (6') approx; and 20 Disc machine covering 2.28m (7'6") approx, and may be equipped with 508mm (20") or 560mm (22") diameter Plain or Scalloped discs.

The Disc Harrow features a frame of RHS steel construction which is hinged between the front and rear gangs. This permits the Harrow to have three possible working configurations.

In the standard form the Series 32 Disc Harrow is a medium duty, four gang Disc Harrow for use with light to medium powered tractors.

By removing the rear frame section and rear gangs, the Series 32 Disc Harrow becomes a handy two gang implement for lighter work.

Under uneven ground conditions, the rear frame section and gangs can be allowed to "float" over undulations to assist in even cultivation.

Other features include: Gang angles can be individually adjusted by separate screw assemblies, disc gangs are mounted on "sealed-for-life" bearings set in rubber.

The machine with its 228mm (9") spacing between discs, good clearance, and heavy construction, should result in good penetration even under difficult conditions.

Optional Equipment includes; Fixed Blade Scrapers or Centre Tine Assembly.

NOT INTENDED FOR USE WITH AN "ATV" OR "RIDE ON LAWN MOWER"

THE MURRAY SERIES 32 DISC HARROW (OR ANY OTHER MURRAY HARROW) IS NOT TO BE ATTACHED TO / USED IN CONJUNCTION WITH OR PULLED BY AN "ATV" OR "RIDE ON LAWN MOWER" OR SIMILAR MOTIVE POWER MACHINE.

Murray Agricultural Equipment expressly prohibit the attachment to / use with or pulling by an "ATV" or "Ride On Lawn Mower" or similar form of machine regarding a Series 32 Disc Harrow or any other Murray Harrow.

If, for whatever reason, attachment / or use in conjunction with or pulling by an "ATV" or "Ride On Mower" or similar form of machine was being considered **STOP NOW!**

DO NOT PROCEED WITH ASSEMBLY OR ATTACHMENT!

If you purchased this Harrow **brand new** contact the Murray Dealer that sold this Harrow to you or Murray Agricultural Equipment NOW to **arrange a return of this Harrow.**

SET UP INSTRUCTIONS

DANGER; Use extreme caution to prevent injury when handling or working with the harrow components.

When assembling equipment for delivery or in preparation for field work please follow these general instructions.

Always refer to the appropriate assembly drawings and / or instructions during assembly.

“Left” and “Right” are relative to a position behind the implement looking forward to the hitch point.

Assemble the implement on solid, level surface wherever possible.

Tighten lock nuts to eliminate play only. Do NOT over tighten.

Lubricate all moving parts as you proceed and check that they work freely. Where appropriate grease all hinges and pivot pins.

MAINTENANCE OF EQUIPMENT

A general inspection of equipment should be made before the commencement of work and any adjustments or maintenance indicated performed immediately. Particular attention should be paid to the following points, prior to equipment's first use and periodically thereafter.

Check and retighten all arbour bolts and nuts, disc gang square cornered "U" Bolts and nuts, other fastenings and fittings.

CAUTION: Damage to machine and loss of components may result if disc gangs are not maintained correctly.

Lubricate all moving parts.

Check ground-engaging componentry for wear and replace when necessary.

The frame, including the 3 Point Linkage attachment, mechanism, should be checked for safe and correct operation.

Contact your Dealer, Distributor or Murray Agricultural Equipment for authorized service parts.

SERIES 32 DISC HARROW: NORMAL PACKAGING

The following items should be included;

“DRAG” TYPE SET;

Quantity	Description
-----------------	--------------------

- | | |
|---|---|
| 1 | Pallet with 3 frames, 4 axles, 4 disc arms, 8 hanger brackets, 16 or 20 discs and a box of parts. |
| 1 | Centre Tine (if ordered) and/or |
| 4 | sets of Scrapper Blades (if ordered). |



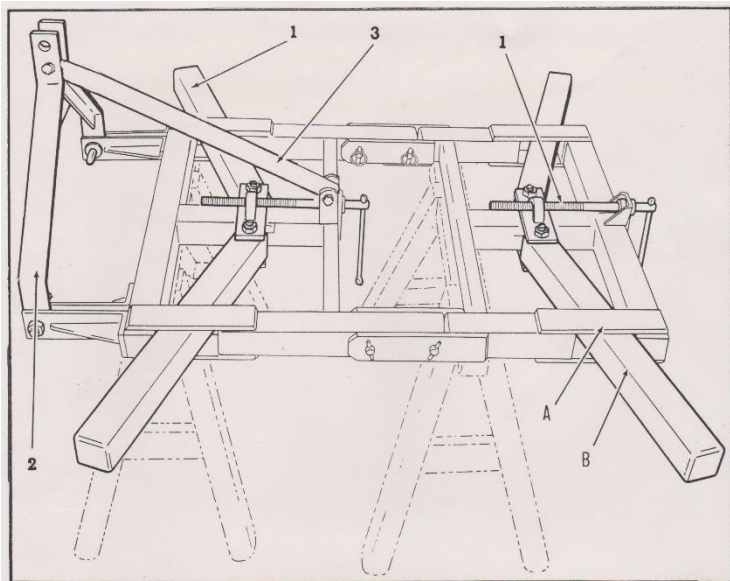
SERIES 32 DISC HARROW SET: ASSEMBLY INSTRUCTIONS

SAFETY TIP: Safety Glasses should be correctly worn by the person(s) removing tie-wires.

Assembly time guide; 16 Disc model 2 people approximately 3 ¼ hours. 20 Disc model approximately 3 ½ hours.

STEP 1: Remove all tie-wires, packaging and shipping tags from components. Arrange parts conveniently so that they are in easy reach whilst assembling machine.

Assemble Main Frame, Disc Arms and Head Stock.



Step 2: Place front and rear frames on a suitable support, the frames have already been joined in the packing process.

Step 3: The wear plates (4 off) fit between the main frame and the top of the disc arms. (Each wear plate should be positioned along the main frame with the turned up edges facing upwards.) Assembly note: Fit the wear plates before attaching the disc arms. Hammer edges over to secure.

Step 4: Attach the four disc arms and the top and bottom angle adjusting plates using the four $\frac{7}{8}$ " \times 5 $\frac{1}{2}$ " bolts and nyloc nuts. (Important: Ensure that the bolts are positioned so that the head is located underneath the Disc Harrow frame and the thread and the nyloc nut are located on the top of the frame. This will avoid the bolt from hitting the Disc Gang.)

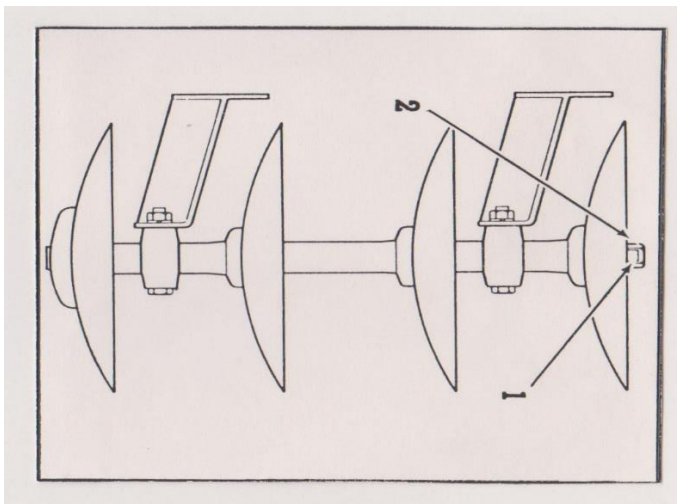
Step 5: Fit adjusting screws and lock in position using the collars and grub screws.

Step 6: Attach headstock to the main frame by using Category II pins (position the pins with the pin facing the outside) and by assembling the headstock bracket. (The longer bolt, $\frac{3}{4}$ " \times 4 $\frac{1}{2}$ " is for the top of the bracket and the shorter bolt, $\frac{3}{4}$ " \times 4" is for the bottom of the bracket.

Assemble the Disc Harrow Gangs.

The correct assembly of front and rear disc gangs for the 16 and 20 disc size harrows is shown in the illustrations.

NOTE: We recommend a suitable thread locking liquid be used when attaching the arbour nuts and half nuts.



Assembly note: On occasions to assist in the shipping Series 32 Disc Harrow, the disc gangs are loosely assembled at the factory. Please ensure the rubber bearing mounts are correctly positioned in the groove of the bearing cast housings prior to final assembly and tightening of the disc gangs.

Step 7: Assemble bearings, rubber bearing mounts, bearing cast housings and disc gang hangers using $\frac{5}{8}$ " \times 6" bolts, nuts and spring washers. (Note: To assist in protecting the thread of the $\frac{5}{8}$ " \times 6" bolt from soil damage, assemble bolts with the head underneath the bearing housing.)

FOR SINGLE ENDED THREADED ARBOUR BOLTS (FRONT ARBOUR BOLTS)

The front gang arbour bolts have a “Head” at one end. When assembling the front disc gangs locate each with the raised centre of the disc facing downwards (\ /).

Step 8: Stand arbour bolt in vertical position with the head at the bottom and assemble the large cast washer, cast spacing spools (single ended), discs (with raised centre facing downwards), bearings with cast bearing housings, cast spacing spools (double ended), small outside cast washer, half nut and nut.

Step 9: Tighten arbour nuts and ensure the disc gang assembly is firmly and securely in position. The use of a hammer in carefully tapping the head of the arbour bolt maybe considered.

FOR DOUBLE ENDED THREADED ARBOUR BOLTS (REAR ARBOUR BOLTS)

The rear gang arbour bolts are threaded both ends. The length of the thread is not the same, on one end the length of thread is shorter than the other threaded end. When assembling the rear gangs locate each disc with the raised centre of the disc facing upwards (/ \). (Note; this is opposite to the way referred to in the front gang assembly instructions above.)

Step 10: Fit one nut to the short threaded end. Stand arbour bolt assembly in vertical position and assemble small cast washer, cast spacing spools (single ended), discs

(with raised centre facing upwards), bearings with cast bearing housings, cast spacing spools (double ended), medium outside cast washer, half nut and nut.

SPECIAL NOTE: FINAL TIGHTENING OF REAR ARBOUR BOLT.

Step 11: After components have been assembled, check for correct positioning of components on the arbour bolt to ensure adequate thread and both ends, align where necessary. Tighten half nut and standard nut (long thread end). Then proceed to check standard nut at the other end for tightness (tighten if required) and then, finally fit the last half nut (on the short threaded end) and tighten.

IMPORTANT: It is very important that the arbour bolts and nuts are fully tight at all times during machine operation.

CAUTION: Damage to machine and loss of components may result if Disc Gangs are not maintained correctly.

Attach Disc Gangs to Main Frame.

Step 12: During the initial setting up loosely attach the disc gangs to the disc arms using the square cornered "U" bolts, $\frac{5}{8}$ " nuts and spring washers.

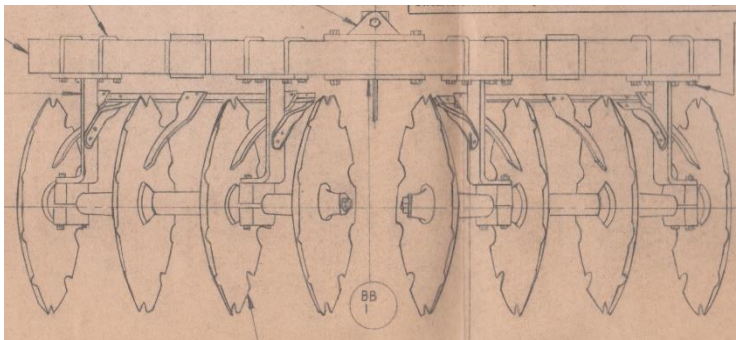
Step 13: Set the front disc gangs an equal amount each side of the harrow centreline to suit. Adjust the rear gangs laterally to ensure that the rear discs are splitting the work done by the front discs to give thorough soil penetration.

Step 14: After the four disc gangs have been correctly aligned on the disc arms, firmly tighten the nuts and the square cornered “U” bolts.

OPTIONAL EQUIPMENT

BLADE SCRAPERS

Step 15: Attach scrapers as shown and adjust so that each scraper blade clears its corresponding disc by 3 to 6mm.



CENTRE TINE

Step 16: Bolt centre tine clamp on to the second last RHS middle support, adjacent to the rear gang angle adjustment screw so the centre tine point is as close as possible to the machine's centre line.

SERIES 32 DISC HARROW: OPERATING INSTRUCTIONS

Before putting the machine to work, check to see that all bolts, nuts and other fasteners are tight. Bolts should be checked daily or more regularly depending on work until they have seated themselves and no further loosening occurs. Pay particular attention to the following items; arbour bolts and nuts, the bolts that secure the cast bearing housings and gang hangers and square cornered “U” bolts and nuts.

DISCS

SPECIAL NOTE: The following advice concerning discs has been received by our Company: “A critical period in the life of a disc is the breaking-in before the “ground” edge takes soil polish (polishing by the soil due to work). DO NOT use discs in stony conditions or ground with root matter until discs have been given a soil polish. This will avoid dinting and chipping of the edge and premature failure.”

IMPORTANT: Do Not allow Discs to become loose on the arbour bolts when working as damage to components will result.

LUBRICATION

The two gang adjusting screws should have graphite or dry lubricant applied on the thread area as required. This will reduce the effort required to adjust the gang angles.

NOTE: The disc bearings are factory sealed, thus completely eliminating the requirement for regular lubrication.

CAUTION: As the disc bearings are rubber mounted, the application of lubricating oil in any form could be harmful to the rubber mountings.

SPEED OF OPERATION

A maximum working speed of 4 – 6 km/hr (3 – 4 mph) is recommended.

This equipment is not intended to be used on or travel on roads or freeways. When transporting this product in conjunction with (connected to) a tractor or another vehicle, transport only when safe to do so and **transport speed** (not work speed) should not exceed 20 kph.

When towing equipment combinations, the maximum equipment combination ground speed shall be limited to the lowest specified ground speed of any of the towed machines.

The maximum travel speed is that specified in the operator's manual(s), Speed Identification Symbol (S I S), or information sign of towed equipment, or the limit of the road conditions, **whichever is the lesser**.

DANGER: SUITABLE TRACTOR FRONT WEIGHT

Tractor stability must be maintained at all times. **DO NOT** operate any tractor and/or machine combination if there is any doubt, what so ever, as to the stability of the tractor or equipment. Correct the situation immediately.

Work safely and promote safety at all times.

When the Disc Harrow is operated with small tractors it is **ESSENTIAL** that the appropriate weight be fitted or added to the front of the tractor. It is recommended appropriate front end weights and/or front wheel weights are fitted as well as front tyres weighted with water.

With larger tractors, it may be necessary to add weight to the front of the tractor and water to the front tyres to maintain stability.

SPECIAL NOTE: Check with the tractor manufacturer or the distributor or your local machinery supplier if you are in any doubt regarding the operation of your tractor in conjunction with an implement.

LEVELLING THE DISC HARROW

The Murray Series 32 Disc Harrow is levelled for and aft by means of the Three Point Linkage top link fitted on the tractor.

To ensure the best operation of the Disc Harrow in most conditions, the vertical links of the Three Point Linkage should be set in the float position to allow the machine to follow the contours of the ground. (Refer to your tractor's product manual.)

SETTING THE DISC GANGS

Screw adjustments provide independent adjustment of the front and rear gang angles from 0 – 20 degrees.

This adjustment is easier when the machine is raised clear of the ground.

The rear gangs are adjusted laterally so that the rear discs are splitting the work done by the front discs to give thorough soil preparation. To adjust the rear gangs raise the harrow and loosen the square cornered “U” bolts and associated nuts then move the gangs sideways as required. Firmly retighten nuts and square cornered “U” bolts upon completion.

SPECIAL NOTE: The left and right gangs should be set equally from the centre line of the disc harrow.

ADJUSTMENT OF THE DISC HARROW HINGE

The versatility of the Murray Series 32 Disc Harrow is highlighted by three possible working configurations which are selected by the main frame pins.

1. **RIGID POSITION:** The two frames fitted together with the four pins in position.
2. **FLOATING POSITION:** The two frames fitted together with only two pins fitted in the two forward holes.
3. **FRONT TWO GANGS:** Removing the four pins and rear frame and rear gangs, the front two gangs can be used by themselves.

OPTIONAL BLADE SCRAPPERS

An optional set of blade scrapers is also available to help keep discs clean and working efficiently in wet or sticky conditions.

Adjust blade scrapers so they clear the corresponding disc by 3 – 6mm.

OPTIONAL CENTRE TINE

Under certain conditions Disc Harrows can throw up a furrow between the inner discs. The option of a centre spring tine is available which will maintain a level of finish behind the Harrow in these situations.

GENERAL

As per our standard policy, we do not recommend the adding of extra weight to the machine.

If you require assistance in any way with the Murray Series 32 Disc Harrow please contact your Dealer or Murray Agricultural Equipment.

Due to a policy of continual product research and evaluation Murray Agricultural Equipment reserves the right to change specifications without notice and without incurring obligation. Information contained herein is from data available at time of publication.

NEVER GET UNDERNEATH A HARROW; Safe work practice directs that operators and other persons never get underneath a Harrow Set or components of a Harrow at any time while attempting to clear or clean the Harrow of grass matter or any other material or blockage and when carrying out maintenance or at any other time whether the Harrow Set or components of a Harrow are attached to a 3 point

Linkage Lift frame or a drag type set. Failure to do so will / may result in death or serious injury.

NO RIDING ON A HARROW; Owners and Operators must ensure that no person(s) or animals ride or are carried etc on a Murray Harrow. Failure to do so will / may result in death or serious injury.

STAND CLEAR OF “PINCH POINTS”; Owners and Operators must ensure no person(s) or animal(s) are permitted to stand within or be allowed to be nearby a “Pinch Point”. A Pinch Point example maybe an area between the front of a Hoist Frame & Harrow Front Lift Drawbar and the rear of a tractor when the Hoist Frame is connected to a tractor.

A Pinch Point maybe an area between a Harrow Set and the rear of a tractor when the Harrow Set is NOT connected to a tractor and the tractor is being reversed so as to enable the Harrow Set to be attached to the tractor. A Pinch Point maybe an area between the tractor’s rear tyres and a drag type Harrow Front Drawbar when the tractor and attached Harrow Set is turning a corner.

GENERAL

Additional copies of this publication are readily available. Please contact Murray Agricultural Equipment.

We do not recommend the adding of any extra weight to this harrow.

If you require assistance in any way with the Murray Series 32 Disc Harrow please contact your dealer, area distributor (where applicable) or Murray Agricultural Equipment.

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E. & O. E

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NOTES

SERIES 32 DISC HARROW: PARTS BREAKDOWN

Ref No.	Part No.	Description
1	132144	Top Link Pin (c/w #5 Fitted)
2	132008	Bottom Link Pin Cat II (7/8" UNF)
3	132188	Collar
4	132009	Lynch Pin
5	132083	Bush (Fitted to #1)
6	132136	Wear Strip
7	190300	3/8" x 1/2" Grubscrew
8	132024	5/8" U Bolt Square Cornered
9	190313	5/8" x 6 Bolt & Nut
10	190297	3/4" x 4" Bolt & Nut
11	190292	3/4" x 4 1/2" Bolt & Nut
12	190299	7/8" x 5 1/2" Bolt Only
13	190268	5/8" Nut Only
14	132094	RHS Gang Arms
15	190316	7/8" Nut Only UNF
16	190279	1 1/8" Nut Only
17	190283	1 1/8" Half Nut Only
18	190298	7/8" Nyloc Nut
19	190570	5/8" Spring Washer
20	190500	3/4" Spring Washer
21	190318	7/8" Spring Washer
22	132800	22" Disc Scalloped
23	1LY1702	Front Frame Assembly
24	1LY1727	Rear Frame Assembly
25	1LY1711	3 Point Linkage Frame Assembly
26	1LY1760	Bracket W/Ass – Linkage Assembly
27	132145	Adjusting Screw Assembly
28	132037	Hanger Bracket

Ref No.	Part No.	Description
29	132020	Bearing
30	132019	Rubber Pad
31	132017	Large Cast Washer – Front Arbor Bolt
32	132018	Medium Cast Washer – Rear Arbor Bolt
33	132021	Small Cast Washer – Outside
34	132084	Single Ended Spacing Spool
35	132060	Bearing Housing – Half
36	132014	Double Ended Spacing Spool
37	132010	1 1/8" Arbor Bolt – Threaded Both Ends 4
38	132012	1 1/8" Arbor Bolt – Threaded One End 4
39	132011	1 1/8" Arbor Bolt – Threaded Both Ends 5
40	132013	1 1/8" Arbor Bolt – Threaded One End 5
41	190582	"Murray" Label
42	190581	"Caution" Label
43	132147	Adjusting Screw Top Plate
44	132085	Adjusting Screw Bottom Plate
44	132146	Main Frame Pin

OPTIONAL EQUIPMENT: Fixed Blade Scraper

OPTIONAL EQUIPMENT: Centre Tine
Assembly

Murray Agricultural Equipment reserves the right to substitute items of similar specifications without notice and or obligation.

**MURRAY AGRICULTURAL EQUIPMENT CONTACT
INFORMATION:**

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Murray Agricultural Equipment.
One Pickett Street
Dandenong VIC 3175
Australia

Phone (03) 9791-7033
Fax (03) 9791-1894
Email sales@murrayag.com.au
Web www.murrayag.com.au

CUSTOMER PURCHASE INFORMATION:

Date of Purchase:

Dealer Purchased From:

Model No.:

The above information will help us to service any warranty
claims.