

CENTRIFUGAL TWIN DISC PRECISION BROADCASTER

AMAZONE ZA-S

INSTRUCTION BOOK



We invite you to study these instructions carefully, and by adhering to them, make fullest use of your machine. You will then enjoy trouble-free and accurate Broadcasting with your new Amazone Precision Twin Disc Broadcasters.

No responsibility can be accepted by us if complaints and break-ages are due to faulty manipulation or lack of maintenance.

MANUFACTURED BY:



AMAZONEN - WERKE

Gaste/Osnabrück - Western Germany

A. ON RECEIPT OF THE BROADCASTER,

check that no damage has been caused in transit and that all parts are present. Claims must be made within three days upon receipt, otherwise no responsibility can be accepted by us or the carriers.

B. COMMENCING WORK.

Before commencing to work with the machine grease all Grease Nipples (P. T. O. Unit Packages).

FITTING:

- a) Fig. 1. The Amazone Twin Disc Fertilizer Broadcasters have been designed for quick and easy attachment to all Tractors with either Category I or II linkage. When fitting to the Hydraulic Lincage of a category II Tractor the three bushes (3) supplied for the hitch points (1 and 2) should be fitted. Ensure that the machine is level, that the P. T. O. guards are fitted and the P. T. O. shaft DOES NOT RUN AT AN ACUTE ANGLE.

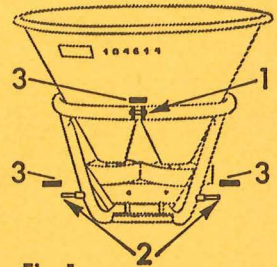


Fig. 1

C. SETTING AND WORKING METHOD.

To set the distribution rate, select the amount of fertilizer required per acre and find this reading on the distribution table (ensure that the reading taken is in the correct column for the fertilizer being distributed). In all probability the amount per acre required will be listed two or three times at different speeds; select the required speed and read off the setting at the top of the page.

Ref. Calibration Chart

Example: When spreading granular compound at $2\frac{1}{2}$ cwt. per acre (i. e. 290 lbs.), setting B 3 or C 4 can be used at $2\frac{1}{2}$ or $6\frac{1}{4}$ m. p. h. respectively. The quantities of fertilizer given in the distribution table are those obtained when inserting the thick end of the control rod. Should intermediate quantities be required, these may be obtained by inserting the thin end of the rod. The control rod (Fig. 2) is U-shaped with a thick (1) and a thin (2) rod. The thin rod to be used only for intermediate quantities.

Example: For spreading granular compound at 3 cwt. (i. e. 336 lbs.) per acre at 5 m. p. h. insert the **thin end of the rod** in position B 4 whereby approximately 336 lbs. will be obtained as opposed to **325 lbs. when the thick end** of the control rod is inserted.



Control Rod

Fig. 2

When spreading powdery or damp fertilizer. If, owing to its condition, too little fertilizer is being spread behind the tractor, the two bent blades on the distributor discs should be brought forward (Illustration 9/1).

These bent blades are fastened by two nuts under the spinning discs and can be removed with the aid of the control rod (Fig. 2/3).

Also headlands can be worked exactly by "one-side-spreading". This is done as follows: After having loosened the spring cotter (2) pull the rod (1) out of the shut-off lever at that side, at which spreading is not wanted. Hereby the shut-off slide only at the spreading side can be opened or shut by the side lever.

Several kinds of dry fertilizers with the same spreading qualities (viz. basic slag and potash) can be spread at the same time without previous mixing. Both kinds of fertilizers are filled into the hopper either together or in layers. During the first filling the fertilizers are mixed by hand in the hopper bottoms. Fertilizer has to be refilled as soon as the hopper empties down to the roofplate during spreading.

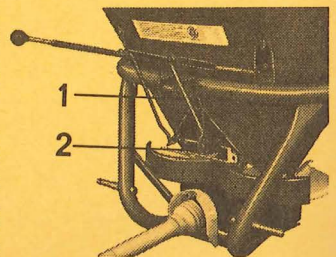


Fig. 3

D. OPTIONAL EQUIPMENT.

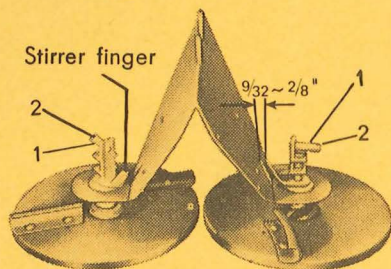
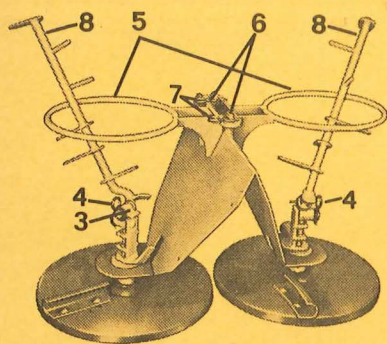
1. AGITATORS (Ring-Type) for damp and powdery

Fertilizer (see Fig. 4).

All Fertilizers are inclined to 'cake' when damp and form heavy solid lumps. Powdery and "sticky" types of Fertilizers frequently form a bridge, leaving an empty hollow in the centre. With our ring-type agitators several types of moistened fertilizers can be mixed in the hopper after being filled in in layers.

Assembly of the Agitators:

Fix both stirrer-shafts sideways so to the pivot (1) that the pin-hole (2) will not be covered by the flat bar (3) and secure by spring cotters (4). Put both rings (5) on the roof-plate so that both flat bars (6) on the roof-plate are fixed into the slit of the ring-connection and then secure both sides also with spring cotters (7). Of course both stirrer shafts (8) have to run within the rings (5).



2. DUST COVER (see Fig. 5).

The Dust Cover enables all types of powdery and dry fertilizers (such as Basic Slag) to be spread, no matter what weather conditions prevail.

FITTING INSTRUCTIONS. Secure bolts (2) then fix chain, attaching to hook (3). The dust cover is laid around the front part of the Broadcaster, and can be fitted to the frame by being fastened and tied as illustrated in Diagram 4 below. See that the machine is kept in a level position, so that the height of the discs from the top of the crop should be 21" (55 cm). It should be noted that the sides of the dust protection cover should just clear the ground, and that the rear of the dust sheet should drag on the ground.

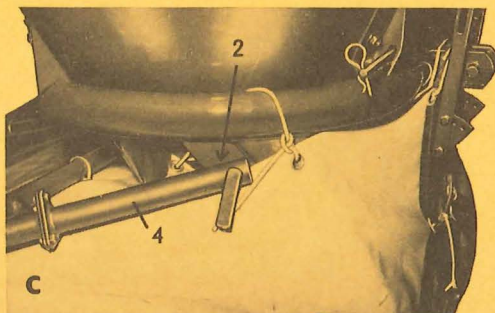
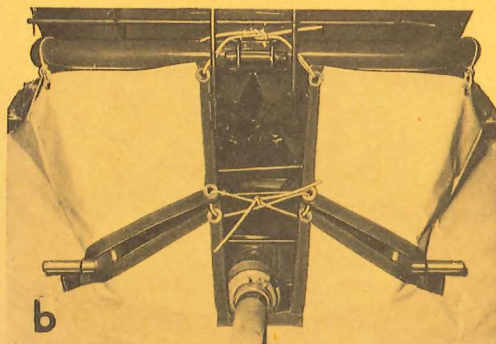
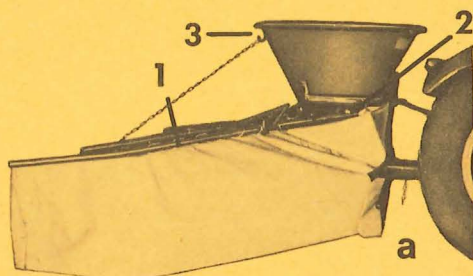
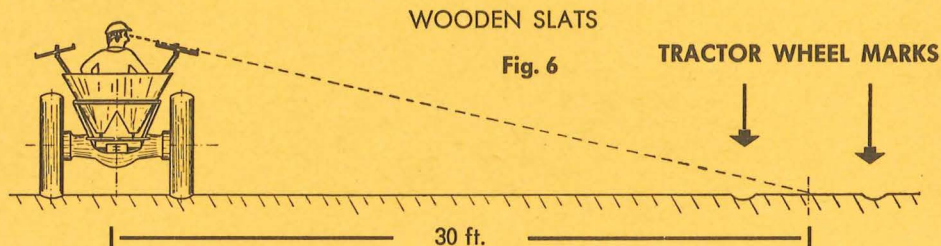


Fig. 5

3. SIGHTING DEVICE

The sighting device reduces the need for markers on fields, if your previous wheel marks can be clearly seen. The device is fitted to the main frame of the broadcaster, utilising the two brackets which hold the cleaning rod (Dia. 7).

The sighting device has to be adjusted by means of the two sights, according to the working width of the fertilizer being distributed (see Fig. 5). NOTE: It should be noted that approximately 6 ft. overlap should be allowed for granular and crystallised material. When fitting it should be noted that there are nearside and offside parts, and that the brackets should be fitted to the correct side of the machine.



4. TRANSPORT COVER.

The hopper should not be used for transporting fertilizer over long distances from the barn to the field as this compresses the fertilizer and bridging can occur. If, however, it is more economical to use this method, the transport cover should be fitted to avoid all danger of clogging.

5. INTERMEDIATE FRAME FOR TOP DRESSING HIGH CROPS,

such as beans, Brussels prouts and Blackcurrants, enabling the machine to be lifted up 5 to 6 ft. and ensuring maximum width of spread.

6. SPECIAL SHUT-OFF DEVICE,

enabling long distances to be travelled, using one side of the hopper only,
a) along headlands, b) orchard cultivations.

7. ROW CROP DEVICE.

This latest addition to the AMAZONE optional equipment makes fertilizing in "lanes" of variable widths possible, necessitated in orchards or soft fruit cultivations, for applying both insecticides, herbicides and fertilizer.

E. SPECIAL POINTS TO NOTE.

1. Ensure that at least 3" of the male half of the P. T. O. shaft is inserted into the female half, and that also under all working conditions the angle of the shaft is not more than 25°. Grease universal joints daily!
2. Stabilizer bars should be fitted between tractor and spreader to avoid swinging to and fro of the Broadcaster during work.
3. At the headlands both shut-off levers must be shut off. With the ZA this can be done simultaneously by pulling the cord.

The shut off slide handle should be greased frequently where it comes in contact with the hopper and guides.

4. Careful use of the clutch preserves both the tractor and broadcaster.
5. If possible sift bulk fertilizer before broadcasting.
6. Fit agitators only for powdery and damp material.
7. When spreading damp or powdery material the bent blades should be adjusted as described in Paragraph C. Ensure that the blades are returned to normal position (N) when spreading granular fertilizer.
8. When spreading damp and well-stored fertilizer it is advisable to remove all excess fertilizer which is clinging to the bottom of the hopper and to the deflector plates and spreading blades. by the hopper opening, using the extension of the side lever (Fig. 7).
9. When spreading soft materials the P. T. O. shaft should be stopped immediately the shut off levers are closed to prevent the grinding of fertilizer to dust.
10. The clearance between the hopper wall and upper stirrer finger should be checked periodically, and, if necessary, bent until correct distance is obtained ($\frac{3}{8}$ "- $\frac{7}{16}$ "). Replace excessively worn stirrer heads.
11. The 8 mm ($\frac{5}{16}$ ") tapered safety shear pins supplied with the machine serve to replace broken shear pins at the implement end of the P. T. O. shaft. IT IS ESSENTIAL that ONLY GENUINE SHEAR PINS ARE USED.
12. Periodically check oil level and replace annually (with 3 pints of SEA 60-90)!

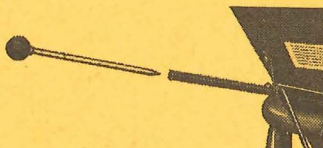


Fig. 7

IMPORTANT SPARE PARTS

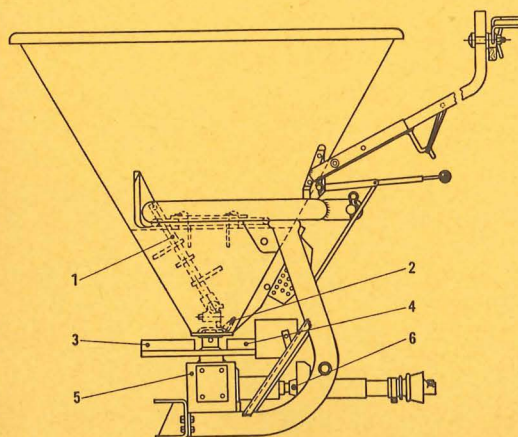


Fig. 8

Fig. 8 No.	Description	Spare Part No.
FOR ZA-S		
1	1 Ring Agitator, complete	1.4.10-15-00.00-1
2	1 Pair of Stirrer Heads, compl. offside and nearside	1.4.10-05-03.00-0
	1 Stirrer Finger, offside	1.4.03-05-02.30-0
	1 Stirrer Finger, nearside	1.4.03-05-02.20-0
	2 Stirrer Finger Shafts	1.4.02-05-02.10-0
3	2 straight spreader blades offside and nearside	1.4.02-05-03.13-0
4	1 bent spreader blade, offside	1.4.02-05-03.14-0
	1 bent spreader blade, nearside	1.4.02-05-03.15-0
5	1 Gear-Box complete	1.4.02-03-00.00-3
6	1 Expansion Pin	8x50 DIN 1471
	2 Spring clips	1.4.02-01-03.02-0
	1 Control Rod complete with spanner	1.4.02-05-04.80-2

For further spare parts see your local Agricultural Engineer for the comprehensive spare parts list.

G. REPLACEMENT INSTRUCTIONS FOR ZA-S STIRRER HEADS and GEAR BOX

1. ZA-S AGITATOR HEADS

- a) Remove expansion pin out of the stirrer heads (between hopper and spreading disc).
- b) Pull off agitator heads and mark 'offside' and 'nearside'.
- c) When replacing stirrer heads ensure that the agitator knife is immediately above the bent blade on the spreading disc and that the hardened surface on the cutting knife points in the direction of travel (see Fig. 9).

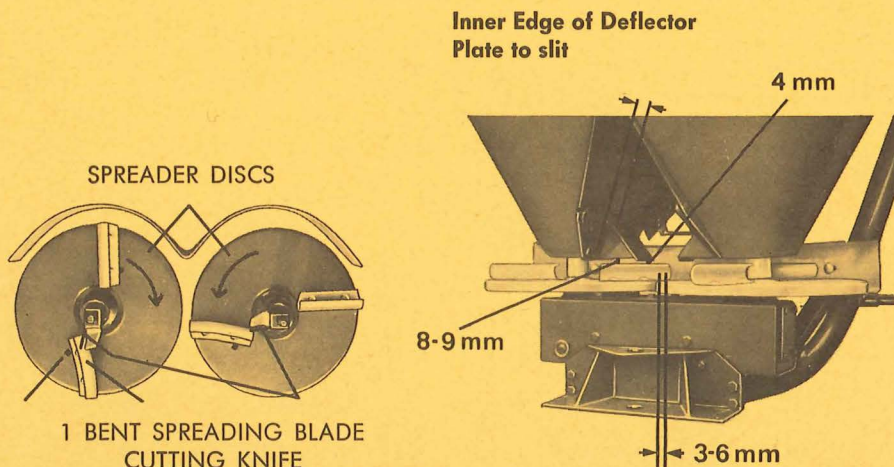
The cutting knife must have a clearance of 6-7 mm ($\frac{3}{8}$ " to $\frac{7}{16}$ ") (see Fig. 4) and the agitator head must not bind against the hopper bottom. If this does occur, the bottom of the hopper should be pushed downward.

- d) Re-secure agitator heads and spreader disc by means of double heavy expansion pins!

2. ZA-S GEAR BOX

- a) Working method as 1 a), 1 b) above.
- b) Take off hopper.
- c) Remove spreader discs and mark 'offside' and 'nearside' accordingly.
- d) Loosen and take off the fastening bolts of the gear box.
- e) Mount new gear box and screw down.
- f) Re-fit the spreader discs, according to their markings, and fit hopper.
- g) Working method as 1 c) and 1 d) above.
- h) Check measurements for blades as illustrated in Fig. 10.

Measurements for screwing down the Deflector Plate



For damp, pulverised fertilizer the bent spreading blades for each disc must be adjusted forward (see Fig. 9/1).

Fig. 9

Fig. 10