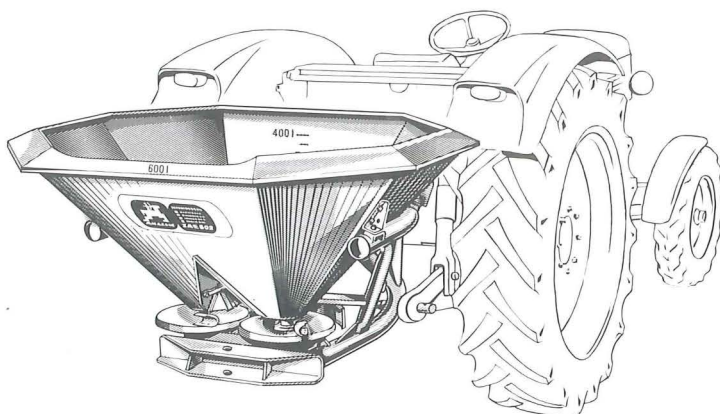


## CENTRIFUGAL TWIN DISC PRECISION BROADCASTER



## 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 Parallel Twin Disc Broadcaster.

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

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**AMAZONEN-WERKE** **H. DREYER**  
GmbH & Co. KG

D-4507 Hasbergen-Gaste · D-2872 Hude (Olbg.) · F 57602 Forbach



Factories for: Mineral-fertilizer spreaders, seed drills, reciprocating harrows, potato grading-machines, fertilizer silos, conveyors universal sprayers, fertilizer containers

**CRAVEN TASKER (Andover) Ltd. Agricultural Division**

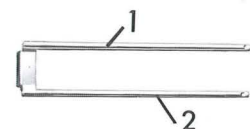
Anna Valley, Andover, Hampshire SP11 7NF, Telephone: 0264 2381 Telex: 47539

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

Before commencing to work with the machine grease the P.T.O. unit package nipples and ensure that the two halves of the P.T.O. shaft move freely (see chapter E.-1.).

### C. SETTING AND WORKING METHOD OF THE MACHINE.

As 540 revolutions on the P. T. O. Shaft **must** be maintained for correct spreading width and the forward speed must only be altered by gear change there may be occasions when the tractor speed is not as required and the quantity shown is not that which is being applied, or when intermediate quantities may be required, alternative quantities may be determined by applying the following formula:



**NOTE:** Adjustments can only be made in this way by calculating in the same speed column.

When turning at headlands shut the feed mechanism by pulling the shut-off lever(s) upward completely.

Also headlands and field-sides can be broadcasted precisely by "one-side spreading". For this, disconnect the combi-lever by pulling out the adjustable extension (Fig. 6) until it can be moved freely. Now both shutters can be controlled independently to your convenience.

If however long distances have to be broadcasted using one side only, the stirrer head (Fig. 3) should be removed from that side which shall **not** be used for broadcasting, to avoid unnecessary wear of the stirrer head and to avoid clogging of the fertilizer.

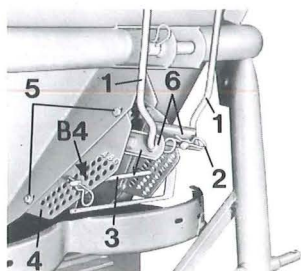


Fig. 1

The ZA-E broadcasters are standardly equipped with detachable stirrer heads. For broadcasting sensitive fertilizers like Urea or prills, the stirrer heads (incl. the finger, fig. 2) may be detached according to the spreading chart.

Whenever detaching the stirrer head (fig. 2) insert the spring clip into the stirrer base according to fig. 3 (note the spinning direction-arrows). For normal fertilizers the stirrer heads must be installed and secured with spring clips again (fig. 2)!

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.



stirrer head  
on stirrer base  
**Fig. 2**



stirrer base  
with spring clip  
**Fig. 3**

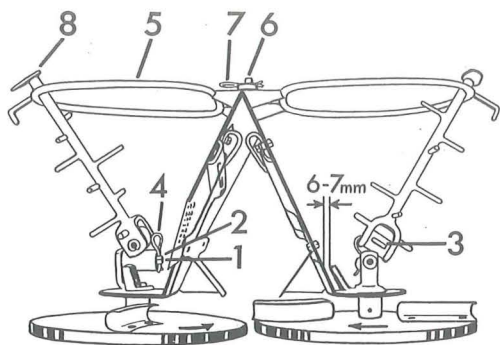


Fig. 4

#### Assembly of the Agitators (see Fig. 4):

Fix both stirrer-shafts sideways onto the pivot (1) so 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 guide rings (5).

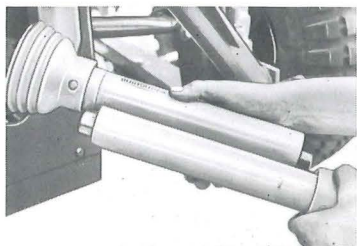


Fig. 5

#### D. OPTIONAL EQUIPMENT.

**1. Agitators (Ring-Type) for damp and powdery Fertilizer** (see Fig. 4) should **only** be installed if the fertilizer is damp or moistened purposely and therefore does not have an even flow onto the spreading discs. **Never** fill with more than 1323 lbs. (600 kgs) of **powdered** fertilizer when having the agitators installed!

All Fertilizers tend 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 while spreading after being filled in layers.

#### E. SPECIAL POINTS TO NOTE.

1. Ensure that at least 2'1/2" (6 cm) 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 to the tractors lower links to avoid swinging to and fro of the Broadcaster during work.

3. At the headlands the shut-off lever of the ZA-E must be shut off by pulling the lever upward all the way.

**The shut off slide handle should be greased frequently where it comes in contact with the hopper and guides. Watch that both shutters open equally. See paragraph E-14 if shutter-corrections are necessary.**

4. Careful use of the clutch preserves both the tractor and broadcaster.

5. If possible sift bulk fertilizer before broadcasting, or use optional griddle for lumpy fertilizers.

6. When spreading damp and not well-stored fertilizer it is advisable to remove all excess fertilizer which is clinging to the bottom of the hopper, to the deflector plates, to the spreading blades and the hopper opening, by using the extension of the side lever (Fig. 6).

7. When spreading soft materials the P.T.O. shaft should be stopped immediately the shut off levers are closed to prevent the grinding of granulars to dust and compaction.

8. The clearance between the hopper wall and upper stirrer finger should be checked periodically, and, if necessary, bent until correct distance of 6-7 mm (1/4"-9/32") is obtained. Replace excessively worn stirrer heads (see Fig. 4 and 8a).

9. The 8 mm (5/16") safety shear bolts supplied with the machine serveto replace broken shear bolts at the implement end of the P.T.O. shaft. **IT IS ESSENTIAL that ONLY GENUINE SHEAR BOLTS ARE USED.** Always grease the end of the inputshaft before replacing the shear bolt to avoid rusting of the yoke to the shaft.

10. Wash broadcaster with water and put grease to all places where paint has been worn off, before storing for longer periods.

11. Periodically check oil level and replace when necessary with 1,5 liters (3 pints) of SAE 60-90!

12. 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 also shearing of the shearbolt can occur.

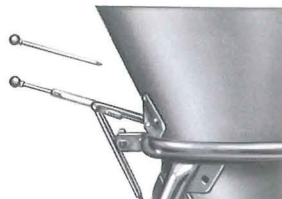


Fig. 6



If it cannot be avoided to travel with the machine longer distances with a filled hopper without broadcasting (travelling to the fields), open the shutters fully (position A11) before beginning to broadcast, i. e. before engaging the P.T.O.-shaft. Hereafter **engage the P.T.O.-shaft slowly** and broadcast shortly on the stand! Hereafter the shutters may be set on the desired setting and the broadcasting may be commenced.

13. The coupling on the rear of the machine may be used for pulling implements as harrows or two-axle trailers. **Attention:** 1. The pulling of a one-axle trailer is not allowed.

2. If a two-axle trailer shall be pulled over public roads, please consult with your local traffic authorities concerning the regulations to be considered.

14. Check occasionally the correct position of the aperture openings if you want to ensure a correct and symmetrical distribution of the fertilizer. To obtain a symmetrical cast, both aperture openings should be identical. This can easily be checked by inserting the thick control rod into the position B4 (Fig. 1/3) of the quadrant-plate (Fig. 1/4). Then push downward the side-lever, so that both shutter levers are touching the control rod. In this position the aperture should be opened exactly the way as is shown in Fig. 7, i. e. the lower edge of the shutter (Fig. 7/2) should point exactly into the lower corner of the aperture opening (Fig. 7/3). Should in position B4 the aperture opening not be as described adjust the quadrant-plates (Fig. 1/4) by slightly undoing the nuts (Fig. 1/5), adjust and re-tighten.

15. After re-adjusting of the quadrant-plate (Fig. 1/4) check whether both shutter arms (Fig. 1/2) are leaning against the control rod (Fig. 1/3). If this is not the case, the one-hand side lever must be re-adjusted too. This is to be done at the lever adjustment-plate at the upper end of one of the lifting rods (Fig. 1/7). Should you wish to be certain that any adjustment made is expertly done it is suggested that you take your broadcaster to your nearest AMAZONE-dealer, who has a gauge for checking.

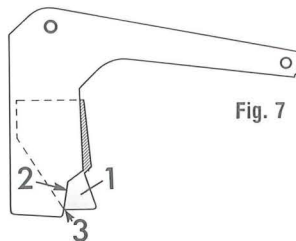


Fig. 7

## F. REPLACEMENT INSTRUCTIONS FOR STIRRER BASES AND GEAR BOX

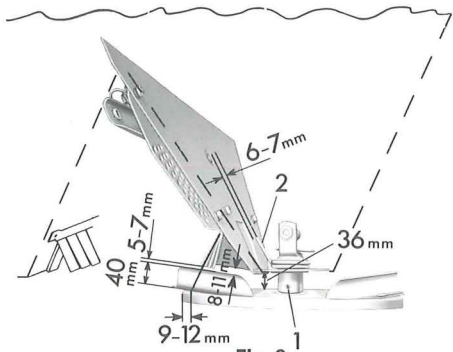


Fig. 8

### Important Measurements:

6-7 mm	≅ (1/4" - 9/32")
5 mm	≅ (9/16")
40 mm	≅ (1 9/16")
9-12 mm	≅ (3/8" - 1/2")
36 mm	≅ (1 7/16")
8-9 mm	≅ (5/16" - 3/8")

### 2. ZA-E gear box

- Working method as 1 a), 1 b) above.
- Take off trailer coupling.
- Loosen and take off the fastening bolts of the gear box.
- Remove spreader discs and mark "offside" and "nearside" accordingly.
- Place spreader discs onto new gear box according to marking.
- Mount new gear box and screw down!
- Reinstall trailer coupling.
- Working method as 1 c) and 1 d) above!
- Check measurements for blades as illustrated in Fig. 8.

### 1. Stirrer Bases

- Remove-expansion pin out of the stirrer bases (between hopper and spreading disc, Fig. 8/1).
- Pull off stirrer bases and mark "offside" and "near-side". If no special pulling-device is on hand, drive with chisel and hammer a groove into both sides of the stirrer base near the pin holes to widen the bushing of the stirrer base. Then insert chisel between disc and base and lever it up. **Never apply heat to remove the stirrer bases!**
- When replacing stirrer heads ensure that the hardened surface on the cutting knife points in the direction of travel (Fig. 2).  
The stirrer finger (Fig. 8/2) must have a clearance of 6-7 mm (1/4" to 9/32") and the stirrer base must not bind against the hopper bottom (see Fig. 8). If this does occur, the bottom of the hopper should be pushed downward slightly.
- Re-secure stirrer bases and spreader discs by means of double heavy expansion pins!