

**SERIES 84**

**DISC HARROW**

## ADJUSTING THE GANG ANGLE

1. Raise the machine until the discs are clear of the ground.
2. Set the diverter valve ( Fig. 1) to the angle position
3. Remove the appropriate angling pin (Fig 2 ) and replace it to stop the gang beam at the required position.
4. Operate the tractor valve to move the gang beam up to the pin.
5. Remove the other angling pin and replace it to hold the gang beam at the required angle.

NOTE; The gang beam angle must not be adjusted unless the wings are locked in the unfolded position. It will not be possible to remove the angling pin if the gang beam is pressing against it; Operate the tractor valve to move the gang beam slightly so that the pin can be removed.

## ADJUSTING THE DEPTH

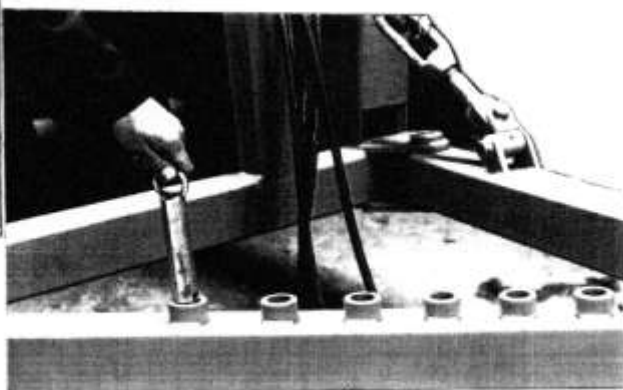
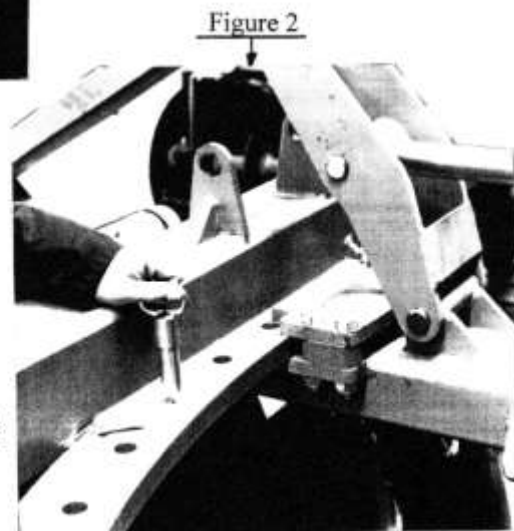
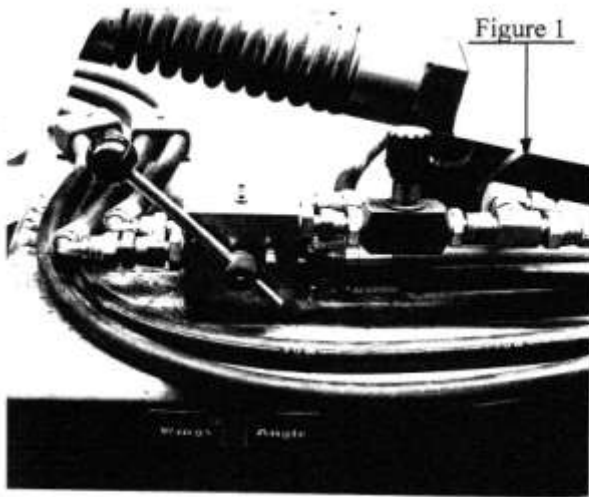
1. Operate the tractor valve to raise the machine fully.
2. Remove the depth pin (Fig .3)
3. Slide the depth sleeve (Fig .3) to the required position and insert the depth pin through one pair of holes in the sleeve to hold it in place. The top position is for transport and will hold the discs clear of the ground.
4. Operate the tractor valve to lower the machine until the frame rests on the depth sleeve.

## DRAWBAR OFFSET

1. Remove the adjusting pin (Fig 4)
2. Swing the drawbar sideways to the required position.
3. Replace the adjusting pin.

## LEVELLING THE MACHINE

1. Remove the 'R' clip located at the end of the threaded section of the turnbuckle at the front machine (Fig 7).
2. Lengthen or shorten the turnbuckle to raise or lower the front discs respectively.  
Replace the 'R' Clip.



## MAINTENANCE

After the first days work use the spanners provided and check the tightness of the disc shaft end nuts.

Periodically inspect and adjust the scrapers. It is not often necessary to adjust them individually.

All the scrapers on one scraper bar can be adjusted together by moving the scraper bar. Loosen the bolts holding the scraper bar to the bearing bracket, slide the scraper bar along and re-tighten the bolts.

As the discs wear the disc shafts may be adjusted left or right to give the required alignment between the front and rear discs. Loosen the bolts holding the bearing brackets to the gang beams, move the disc shaft and re-tighten the bolts.

The large pivot bolts and the clamp plates holding the gang beams to the frame should not be tight; they should be loose enough to allow the gang beams to pivot.

Before storing the machine grease all points and coat the discs with a rust preventative.

DAILY - Check the tightness of the wheel nuts.

WEEKLY – Check the tyre pressures; 5 bar ( 72 P.S.I.)

Grease the disc bearings, the spring loaded trunnion and the wheel frame pivot pins . Smear grease along the gang angling slideways and along the drawbar inner tie bar.

MONTHLY- Inspect hydraulic hoses for cuts or abrasions; replace if damaged.

Grease all other points on the wing folding links, the drawbar, the wheel frame assembly and the drawbar to wheel frame linkage.

## **Operating instructions**

Read through all the instructions before operating the machine.

The terms left and right hand apply to the machine as viewed from the rear of the machine, looking in the normal direction of travel.

All pins are retained by lynch pins unless otherwise stated, always replace these after removing the pins.

Ensure all personnel stand well clear while folding / unfolding the wings, raising / lowering the machine and angling the gangs.

### **CONNECTING TO THE TRACTOR**

- 1) Adjust the height of the machine draw-bar with the turn buckle (fig 7) and connect to the tractor draw-bar. Ensure that the tractor draw-bar pin is securely retained in position.
- 2) Connect the two pairs of hydraulic hoses to two double acting hydraulic valves on the tractor. One valve will raise and lower the machine, the other acts through a diverter valve on the machine and will fold and unfold the wings and adjust the angle of the gang beams.

### **FOLDING THE WINGS**

1. Raise the machine until the discs are clear of the ground.
2. Set the diverter valve to the 'wings' position (Fig1)
3. Remove all four locking pins holding the wings down (Fig 5)
4. Operate the tractor valve to fold the wings.
5. Insert the four locking pins to secure the wings in the folded position (Fig 6)

Note; Before moving the wings, the gang beams must be angled square to the frame and held in place with angling pins.

The adjustable restrictor valve (Fig 8) may be adjusted to set the speed at which the gangs unfold.

Turn clockwise to decrease the speed or turn anti-clockwise to increase the speed.

Before adjusting loosen the locking screw in the side knob, re-tighten this after adjustment.

## SAFETY PRECAUTIONS

- 1) Read and familiarise your-self with the operating instruction book.
- 2) Take all possible precautions when leaving the tractor unattended, such as lowering the attachment (s), shifting into neutral, setting the parking brake, stopping the tractor engine and removing the key.
- 3) Keep all nuts, bolts, and screws tight and be sure that the equipment is regularly lubricated to keep it in safe working condition.
- 4) Ensure all guards and covers are in working order and in position before starting work.
- 5) Only use the machine for the tasks mentioned in this book.
- 6) Never operate the machine with persons on or near it.
- 7) Consult the tractor Manufacturers Manual for instruction on mounting implements and safe working methods.
- 8) Observe all safe driving procedures such as reducing speed on slopes and sharp turns.
- 9) Avoid working on ground where there is a risk of the tractor overturning.
- 10) Do not cultivate across the face of slopes.
- 11) Always wear substantial or safety footwear.
- 12) Always avoid loose clothing which may be caught in moving parts with sharp edges
- 13) Always wear gloves when handling machines or parts with sharp edges.
- 14) Never allow children or untrained persons to operate the machine.
- 15) Never carry out repairs or adjustments to a mounted machine unless the tractor engine is stopped and the machine firmly supported or lowered to the ground.

## TRANSPORT

Before transporting the machine;

1. Remove locking pin (Fig 5 ),Fold the wings up using the tractor hydraulics, replace the locking pin (Fig 6 ) and secure using a lynch pin. Unfolding is a reversal of this, use the flow control valve (Fig 8 ) to achieve gentle unfolding of the wings.
2. Position the drawbar eye on the centre line of the machine (Fig 4) so that there is no offset.
3. Raise the machine fully, pin the depth sleeve in the top position( Fig 3) and lower the machine slightly to allow the frame to rest on the depth sleeve.
4. Ensure that the tractor drawbar pin, Disc Harrow drawbar offset pin (Fig 4), the angling pins (Fig 2) and the wing locking pins (Figs 5/6) are in position and secured.
5. Level the machine.

## WORKING

1. If when working, the tractor pulls to the right, make one or any combination of the following adjustments;
  - A. Offset the drawbar eye towards the left of the machine,
  - B. Decrease the angle of the front gang.
  - C. Decrease the angle of the rear gang.
  - D. Decrease the working depth.
2. If when working the tractor pulls to the left, make one one or any combination of the following adjustments;
  - A. Offset the drawbar eye towards the right of the machine.
  - B. Increase the angle of the front gang.
  - C. Increase the angle of the rear gang.
  - D. Increase the working depth.
3. Increase the disc gang angles will aid penetration, but will also increase the power required to pull the machine.