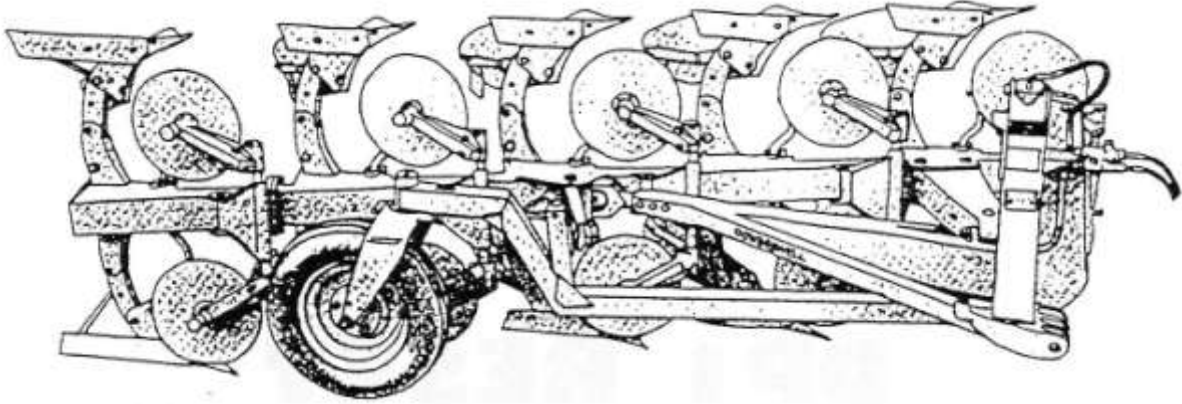


DP1 RESET

DP1 in Ploughing Position



DP1 in Transport Position

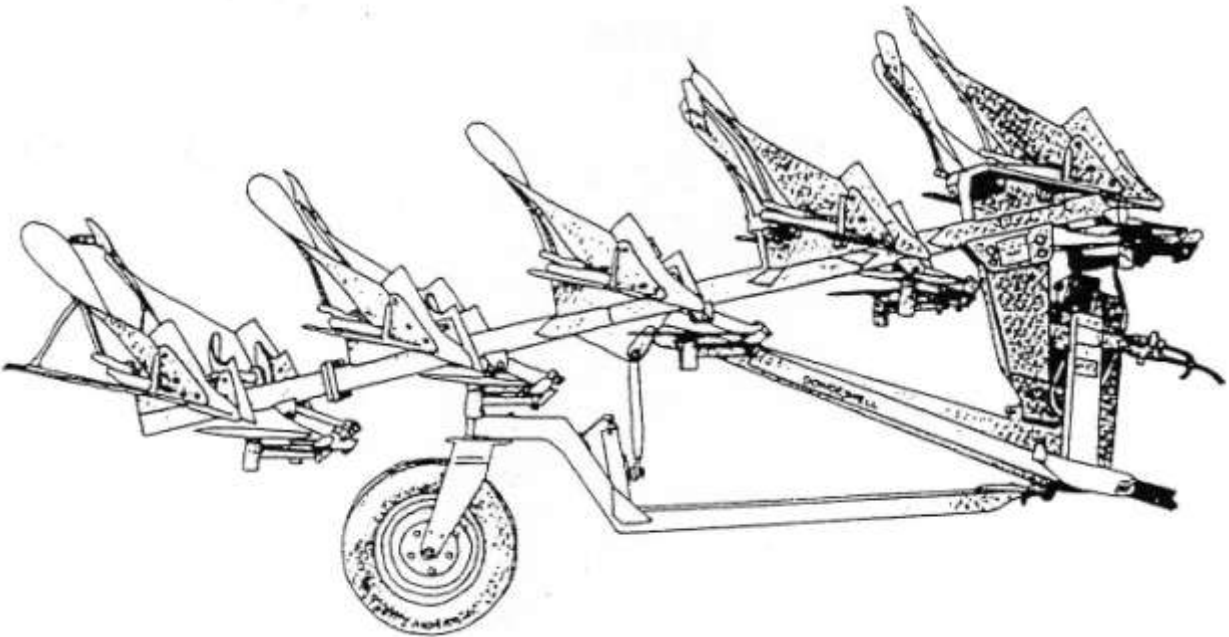
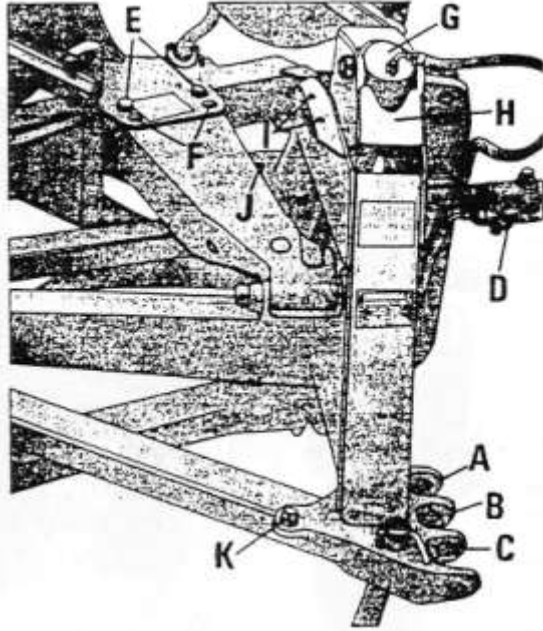


Figure 3



Basic requirements of the tractor:

The tractor must have a three point linkage, preferably of the swinging type with a spare hydraulic double for successful operation, particularly on headlands, it is advisable to have additional weight on the front of the tractor to give stability when the plough is being carried. This also reduces roller and track wear and increases the tractors gripping performance when wet. Before attaching the plough to the tractor, check that the lift arm ball ends are of equal height from the ground. Fig. 3, pulling lug position 'A' is the standard Category 2 position. Position 'B' is standard Category 3 position, position 'C' is Aveling

Marshall wide spread Category 3 position. Both Category 2 and 3 positions are provided for top link. Hydraulic valve 'D' Fig. 3 is to protect the plough from excess pressure and to lock the hydraulic when in work to prevent creep.

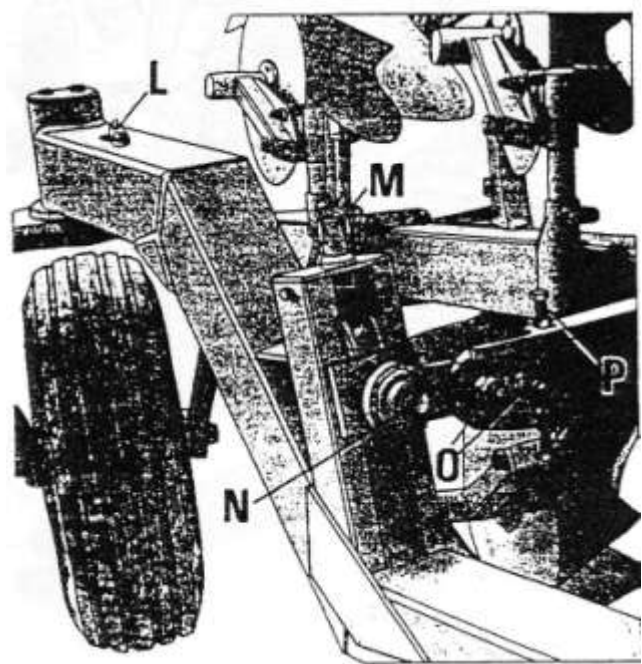
The hoses from this valve should be connected to the tractors spare double acting service. When attaching the plough a good initial guide for top link length is to connect it when all bodies are flat on the ground, but caution should be used when first lifting the plough because if the top link is too short damage to the fuel tank or tractor cab may result when turning the plough over. To operate the plough turnover contract the turnover ram, as plough passes over centre reverse direction of the valve to complete turnover, with practice a smooth turnover can be obtained. When the plough turnover box is seated on Stud 'K' continue to extend the ram until the rocker 'H' has gone to the opposite side. Once movement has stopped release the valve. There should be a gap of approximately 1" between rocker 'H' and the side of the A Frame, in this position the plough is locked. Should you be unable to get the plough to go over the top dead centre extend turnover ram until the turnover box has returned to stud 'K' and rocker 'H' is lying away from the main beam as the plough will not turn over when the rocker 'H' and beam are the same side.

There are two offset positions provided on the plough, when bolts are in holes 'E' Fig. 3, the offset is suitable for the narrower gauge crawlers e.g. Aveling Marshall crawlers and if extra offset is required for wider crawlers e.g. Fiat and Caterpillar, or for very wet conditions or soft soil conditions, extra offset can be obtained by moving bolts to holes 'F' Fig. 3. These bolts have lock nuts inside the turnover box which can only be got at properly by removing the disc brackets from either side. When re-assembling it is essential that these bolts and lock nuts are tightened up as tight as possible and must be checked at regular intervals during the ploughs first

Figure 4

few weeks of working life. Once movement has been allowed to develop it is very difficult to keep these bolts tight afterwards. For transporting moderate distances it is advisable to set the plough as shown in Fig. 2 as this takes weight off the crawler linkage and track rollers.

To set the plough in this position, firstly lift the complete plough clear of the ground, extend turnover ram 'G'; until the ram rocker 'H' lays away from the beam. Place pin in the hole 'I' furthest from the beam and slowly contract the ram until stop 'J' comes up against pin 'I' and the insert second pin 'I'. this mechanically holds the plough in the transport position enabling the hoses to be disconnected with no ill effect. When



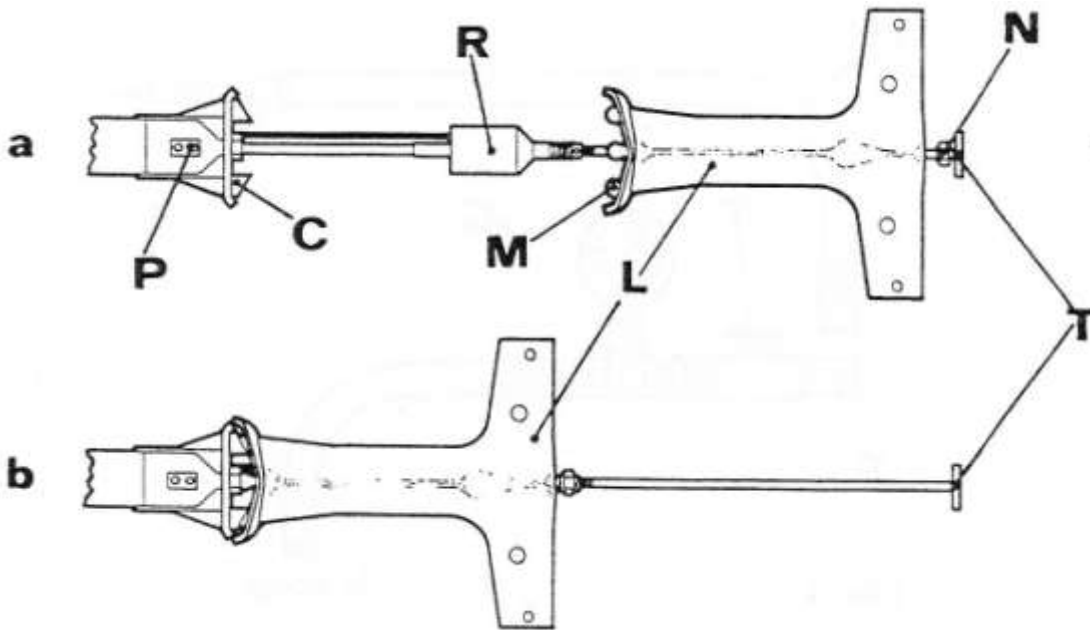
travelling in the transport position behind a crawler the three point linkage must be in the float position or with the top link disconnected. Wheel tractors can also transport the plough from site to site using lower lift arms i.e. no top link. Firstly, remove pin 'L' Fig. 4, from wheel beam. On arrival in the field lift the plough into the fully mounted position, removed either of pins 'I' and slowly extend the hydraulic cylinder, a slight push to get the plough off balance may be required. Suds 'K' are used to set plough legs vertical when in work, this adjustment also compensates for wear in the tractor linkage. Before commencing work place pin 'L' in the front hole, rear hole is used when the land is very sticky it make the wheel crab a little which helps to keep it clean. When ploughing, the three point linkage must be in the float position. The depth of the front of the plough is controlled by top link length, longer for less depth, shorter for more depth. The rear is controlled by handle 'M' Fig. 4, to deepen the plough wind the handle so that ball joint 'N' moves down. Always return the handle to the latch provided or it will become bent when the plough turns over. When first setting up or ploughing headlands care should be taken no to allow the front body to go too deep as this will force the mouldboard back. The best way to reduce depth is to lengthen the hydraulic top link on Turner and Caterpillar linkage, or shortening the hydraulic drop arms on the Marshall linkage, care should be taken no to drive too wide as this imposes extra strain on the front mouldboards. Once uniform depth has been obtained and the legs are more or less upright, any slight discrepancy between right hand and left hand depth can be corrected by slackening bolts 'O' and adjusting studs 'P' Fig. 4, in the appropriate direction which will offset Ball 'N'. Remember any movement made has double effect when the plough is rolled over. When satisfied with the setting, these bolts ad studs must be locked tight. We consider that the best method of turning on the headland is a reverse turn as there is less likelihood of smashing the plough up against any obstruction in the hedge. If you intend to go straight round you will need a much larger headland.

HYDRAULIC AUTO – RESET

ASSEMBLY OF LEG BRACKET (Fig. 1)

- 1) Connect ram assembly 'R' to the beam with pin 'P'.
- 2) Connect the hydraulic hose and set the pressure at 1100 p.s.i. (See separate section for setting pressures).
- 3) Slide nut 'N' onto Tee bar 'T' and inset through leg bracket 'L' from the rear.
- 4) Screw Tee bar into end of ram assembly 'R'.
- 5) Slide leg bracket over ram assembly until nut can be started on ram thread.
- 6) Remove Tee bar and tighten nut until balls 'M' are all sitting firmly in cups 'C'.
- 7) Release hydraulic pressure and tighten nut 'N' a further 2 full turns to pre-load the ram.
- 8) Reset the hydraulic pressure to 1100 p.s.i

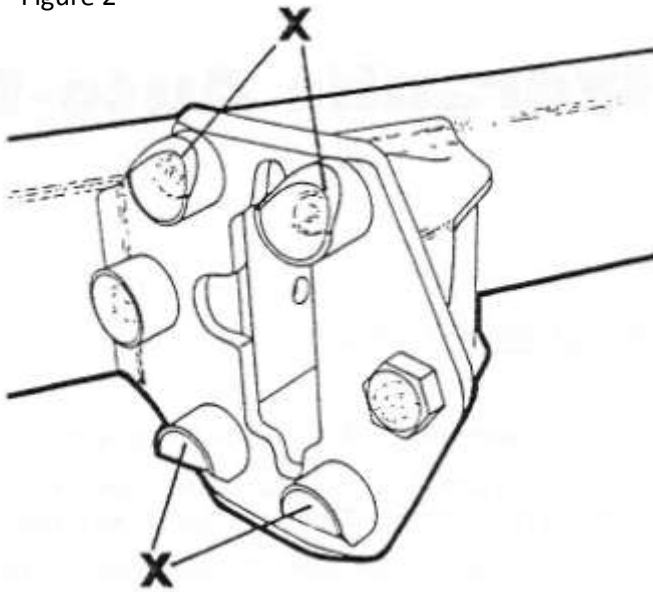
Figure 1



DISMANTLING OF LEG BRACKET

- 1) Connect hydraulic hose 'H' (Fig. 3) to the tractor and release the pressure.
- 2) Remove nut 'N' (Fig. 1)
- 3) Slide leg bracket 'L' rearwards off the ram assembly (Tee bar 'T' is not required for dismantling the leg bracket).

Figure 2



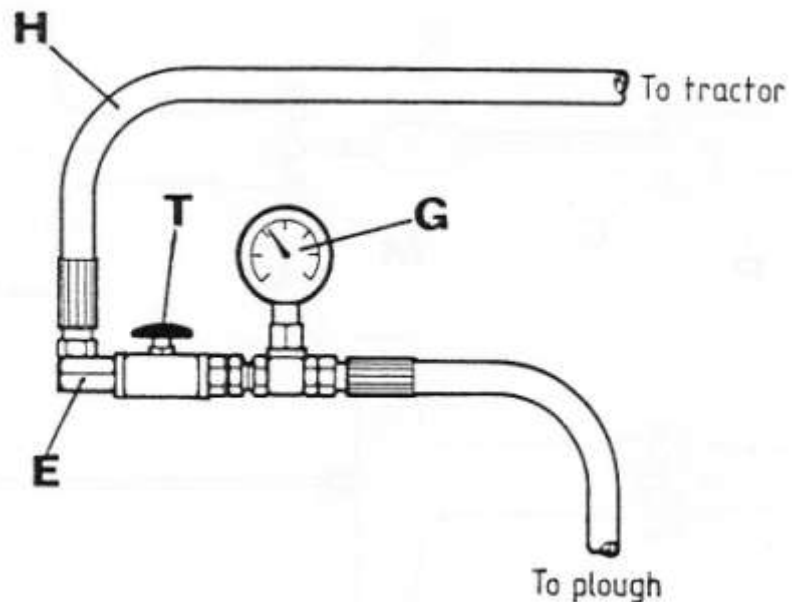
CUPS (Fig. 2)

It is essential that the three different types of cup are positioned correctly as shown in Fig. 2. Always ensure that the nuts are kept tight and that beveled cups 'X' do not turn from the positions shown or damage will occur.

SETTING OF HYDRAULIC PRESSURE (Fig. 3)

- 1) Check the tap 'T' is closed and attach the supplied hydraulic hose 'H' to elbow 'E'.
- 2) Fit the required adaptor and attach the free end of the hose to the tractor hydraulics.
- 3) Open tap 'T' and operate the tractor hydraulics until the pressure reads 1100 p.s.i. on gauge 'G'.
- 4) Close tap 'T' and disconnect the hose 'H'.
- 5) To release pressure, connect the hose, undo the tap and operate the hydraulics to allow oil to return to tractor.

Figure 3



! SAFETY PRECAUTIONS !

- 1) Read and familiarise yourself with the operating instructions 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 keys.
- 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 Manufacturer's Manual for instructions 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.
- 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.