



DESIGNED
AND
BUILT IN
BRITAIN

SETTING UP a reversible plough for work initially is a straightforward task, and, providing a few simple rules are followed, should take less than a couple of hours.

To make things easier, the job can be divided into three areas to cover (a) the tractor: (b) the plough: and (c) field settings. Assuming the plough is in good order, the only tools required should be 11/16in, 15/16in and 1 1/2in (for the DP7 plough) spanners, a tape measure, marker pen and a ball of string. A level piece of concrete or firm ground will also make the task considerably easier.

Please note that the following guidelines assume that the plough is in good condition, that wearing parts are evenly worn, that the plough beam and legs are straight and that all nuts and bolts are fully tightened. If a plough is to produce a good finish and work economically, it must be correctly maintained.

Vital Statistics

Model	P - P (in)	U/B (in)	Inside Tyres (in)
DP7	34	26	50-56
DP7 HI-LONG	39	27.5	50-56
DP7 HYD RESET	34 / 39	27	50-56
DP7F	33	26.5	50-56
DP8A	35.5	26.5	44-56
DP8B	35.5	26.5	48-64
DP8B SPRING RESET	32	25.5	48-64

NB. All DP7 wheel width settings depend on furrow width.



SETTING UP THE TRACTOR

Front weights

Sufficient front weight should be added to ensure that the tractor can cope with the load behind it. With the plough raised, the tractor should feel stable.

Four wheel drive tractors may also require front weights to ensure that maximum traction is maintained.

Inside tyre measurements

The single most common omission when matching a plough and tractor is not taking tractor wheel width settings into account. Measure the front wheel internal width at the bottom to accommodate camber, and between the fat part of the tyres. This measurement should be no more than 2in wider than at the rear (pics 1 & 2). If incorrect, alter the setting accordingly. (See the Vital Statistics box for different Dowdeswell plough models)



Tyre Pressures

Tyre pressures across an axle should be equal. A difference of only 5psi can affect ploughing depth by up to 2in. Adjust tyre pressures to those recommended for ploughing to give maximum traction.

Lift Arms

These should be set level for reversible ploughing. Measure down to the lift arms from the same point on each lift rod to ensure both arms are at the same height. Also make sure that the lift rods are the correct length to allow complete plough turnover and adequate cab clearance (pic 3).



PLOUGH SETTINGS – IN THE FARMYARD

Most of the basic plough settings can be carried out in the yard. The opportunity should also be taken at this time to check for damage, replacing worn or broken parts.

Replacement should always be carried out as a complete set. On a correctly adjusted plough, wear should be even across all the bodies and skims.

Top link setting

The initial top link setting can be made in the yard. Set the plough down on level ground and adjust the top link so that it is two turns longer than slack. Only slight adjustment should then be necessary in the field.

Check for turnover

Raise the plough to full height, keeping an eye on cab clearance as the implement is raised. Turn the plough over gently and ensure that the lowest point of the implement clears the ground by at least 10in. Check also that the depth wheel clears cleanly, and that it reverts correctly to its working position (pic 4).



Vertical setting bolts

Both of these should show a similar length of thread below the block. On a DP8 working at 8", this will equate to about 1 1/2in to 1 3/4in (pic 5).



Mouldboard adjustment

Make a mark on the top of the front mouldboard, a measured distance from a fixed non-wearing part of the plough. Repeat this on all the bodies (pic 8). Measure from



each mark back to the centre of the shear pin on the leg behind it (pic 9). This helps



isolate a mouldboard that is out of adjustment, and makes the following operation easier. Assuming all measurements are the same, start with the second body and measure from its mark to the one on the mouldboard behind (pic 10).



This measurement should be the same as the interbody clearance listed for your plough. If it is not, adjust the plough to correct minor misalignment (pic 11). If the



initial measurements are not the same, check the legs and the beam for damage.

Skim settings (without discs)

On all shearbolt ploughs, and in average conditions, the skim cranks should be set to run with the cranked section running in line with the landside, and not offset. This gives the best clearance between the body and the skim. For trashy conditions and/or fast ploughing, the rear mounting position should be used. For slow work and on grassland, the skim should be mounted in the front position.

The skims angle should be set so each point extends 3/4in – 1in outside the share (pic 12). On grassland this can be increased to about 1 1/2in.



Underbeam clearance

This setting, which applies to all Dowdeswell ploughs, can only be checked accurately with new points fitted to the plough. Working back from the second body (having first checked that the point to beam measurement is in accordance with the plough specification), run a piece of string across all the points. All the bodies should be level (pic 6). If not, they can be



adjusted by slackening the two frog to leg bolts and the side hold bolt on the plate (for UCN/SCN only). The two adjustment bolts (or the eye bolt on YCN/DD bodies), can be used to move the required body in the correct direction (pic 7). When all bodies are the same level, run the string from the front point to the rear, and adjust the latter as necessary.

Skims working depth should be about one third of the ploughing depth. As this is difficult to measure in the yard, a simplified system is to subtract the ploughing depth from the underbeam clearance and add 1/2in to the resulting figure. This will give an indicator measurement from the beam to the skim point which can then be used as its initial setting.

Example: A DP8 plough working at 8in with an underbeam clearance of 26 1/2in. The difference is 18 1/2in + 1/2in = 19in. This is the initial setting (*pic 13*). Fine



tuning should be carried out in the field. Skims should be all set at the same height, and this can be checked with a piece of string (*pic 14*).



Skims and disc setting

Where discs are fitted, the skims should be set in line with the share and the disc should not come into contact with the skim point when in work (*pic 15*).



To set the disc swivel correctly, a single measurement should be taken from the centre of the disc swivel to the shearbolt of the leg in front. The distance should be between 15 1/4in and 15 1/2in on a 14in plough; 2in more for a 16in model, 2in less for a 12in model. These figures are the same for all Dowdeswell ploughs (*pic 16*).



Adjustment is made by moving the whole swivel (*pic 17*).



Disc depth is relative to ploughing depth. As an initial setting, the disc should work no more than half the ploughing depth. For 8in work, up to 4in disc depth is a guide to disc setting (*pic 18*).

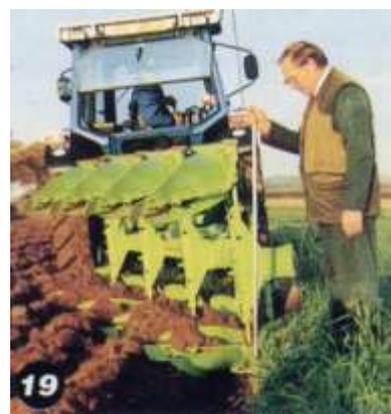


PLOUGH SETTINGS – IN THE FIELD

Providing all the setting previously given are adhered to, the plough and tractor can be set to work with only minor adjustments being necessary in the field. In work turning a proper furrow, the plough can then be fine tuned to achieve the optimum results.

Plough attitude

In work, the plough's legs should be vertical when viewed from the rear. If adjustment is necessary (*pic 19*), it should be carried



Out by altering the vertical setting bolts. In the example illustrated the bolts were lengthened. Both left and right hand bolts should be set at the same level.

It is important that the lift rods are not used to correct plough vertical attitude.

Top link

If the top link is too short, the furrows will not turn over properly. If it is too long the plough will have difficulty entering the soil, particularly in hard conditions. Make only small adjustments to the top link, as these will be exaggerated along the length of the plough.

Depth wheel

Preferably check this setting on level ground. The wheel should be adjusted to take a minimum of plough weight. The adjustment bolts should be set approximately the same on both sides.

Plough alignment

Looking down on the linkage, the top link should be in a straight line behind the tractor in work (*pic 20 – shows correct setting, pic 21 – shows incorrect setting*). On a DP8B



plough, there are three basic steps for correct adjustment:

- For most tractor wheel settings, the front furrow width adjustment ram actuator arm should be set with three holes showing. At wider settings, this can be reduced to two holes (*pic 20*).
- The front furrow width adjuster ram should be set at the centre of its stroke (*pic 20*).
- The headstock to beam adjuster turnbuckle can now be used to move the plough beam in the direction required to centralise the top link (*pic 22*).



COMMON FAULTS

Inside tyre measurement

The internal wheel widths on the front and rear axles should ideally be the same, and equal as measured from the centre of the tractor.

Tyre Pressures

These should always be the same on each axle. Set pressures according to manufacturers recommendations for maximum traction.

Check chains

These are frequently set too tight, which can affect the way the tractor and plough steer, making it difficult to work around obstacles.

Lower links

The tractor's lower links should always be set level and the link rods adjusted to provide adequate cab and ground clearance when the plough is raised and turned over.

Disc and skims

In work, the skim should not come into contact with the disc, as this can offset the disc sufficiently to steer the plough, making it crab. It also causes rapid wear.

Skims set too deep

This causes premature wear and greatly increases draught forces on the plough. Trash burial is also reduced (*pic 23*).



Vertical setting bolts

These need to be adjusted so that the plough works in a vertical plane. Normally, they will be set the same on both sides.

Top link

This is frequently set too short to give the plough sufficient turnover clearance. If there is still a problem, the lower lift arm rods are too long.

Too long a top link makes it harder for the plough to enter the ground.