

Instruction
Manual
Speed-Harra
4m & 5m

Introduction to the manual

The provision of this manual is a requirement of the *Supply of Machinery (Safety) Regulations 1992*.

This manual has been written and provided to enable operators of Dowdeswell products to:

- 1) Understand how the machine operates.
- 2) Be able to operate the machine safely and without hazard to either the operator or those in the vicinity.
- 3) Be able to use the machine to its full potential.

The operator or any persons employed to service or maintain the machine must read and fully understand this manual before using or servicing the machine.

The contents of this manual are intended as a guide to the operation and servicing of the machine described herein and as such is not a training manual.

Whilst ever care and attention has been taken in the design and production of all Dowdeswell products as with all machinery there remains a certain amount of risk to personnel whilst the machine is in use.

In accordance with the *Supply of Machinery (Safety) Regulations 1992*,

Note: The equivalent continuous A-weighted sound pressure level at the drivers seat does not exceed 70dB(A).

Important Information

Serial Number

It is important to make a note of the serial number and year of manufacture of your machine in the spaces provided below. This information should always be quoted in any correspondence with Dowdeswell Engineering.

When ordering spares for your machine, you should always quote the serial number and year of manufacture either to Dowdeswell's or to your dealer.

Machine Serial Number: _____

Year of manufacture: _____

Warranty

Should defective material or workmanship used in the manufacture give rise to failure, the products, components or sub-assemblies affected, will be replaced free of charge during the period of warranty offered with the machine at the time of purchase. The fitting of non Dowdeswell parts, or repairs, or modifications carried out by unauthorised persons will invalidate the warranty. No work will be carried out without prior consultation with Dowdeswell Engineering Co. Ltd.

Save to the extent covered by the warranty, the company shall not be liable in any circumstances for any loss, injury or expense, whether direct or indirect, which may arise for any reason whatsoever from any defect in or otherwise in connection with any goods supplied or work done by the company.

Replacement Parts

Use only genuine Dowdeswell spares as these replacement parts are designed for your machine to give the best possible performance and also have the full backing of the warranty cover. See the Parts Manual for the part number and description, when ordering spares always quote the machine serial number.

Definitions

Throughout this manual the terms "Front", "Rear", "Left-hand (LH)" and "Right-hand (RH)" will be used and are derived from the tractor drivers normal position facing forward with the plough in its transport position.

The left-hand components are those which move the soil to the left, and the right-hand components are those which move the soil to the right.

Contents

This manual covers the Dowdeswell folding Speed-Harra range. This range of cultivators are designed to be fitted to the tractor's 3 point linkage and the folding of the machine is achieved by hydraulic power being provided by the tractor. The machine is solely to be used for the cultivation of soil and **must not** be used for any other purpose.

It is essential that the machine is operated in line with the procedures and practices as outlined in this manual.

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All the information given throughout this manual is correct at the time of publication. However, in the course of constant development of Dowdeswell machines, changes in specification are inevitable. Should you find the information given in this book to be of variance with the machine in your possession, please advise the Dowdeswell Service Department where up to date information can be supplied.

The manual can obtain standard and optional features and is not be used as a machine specification.

Speed-Harra Technical Specification

Weight

4m Speed-Harra	-	1280Kg
5m Speed-Harra	-	1600Kg

Tractor Mounting

Linkage categories: Category 2

Hydraulic Specifications

Folding rams:	Bore dia. 6cm	Rod dia. 3cm
Maximum system working pressure:	3000psi. (207Bar)	
Hydraulics supply:	1 single acting service	

Basic Construction

Main frame:	S355 equivalent hollow section and plate fabrication
Wing frame:	S355 equivalent hollow section and plate fabrication
Other sections:	Generally S255 equivalent

Headstock

Lockable for transport. With the ability to float for work, allowing the machine to follow field contours and giving the tractor freedom of movement.

Suitability

General power requirement of 25hp/meter.

Transport

Folding wing sections to bring the machine inside 3meter width and headstock lock to prevent machine sway.

Safety Precautions (1)

Dowdeswell products have been designed, constructed and tested in accordance with the current safety regulations. However, as with all machinery there are inherent dangers whilst operating and carrying out maintenance on the machine. The following is a list that must be brought to the attention of the persons operating or working on the machine and should be complied with at all times.

Before use

- 1) Read and familiarise yourself with the operator's instruction manual for both the tractor which is being used and this machine.
- 2) Consult the tractor manufacturers manual for instructions on mounting implements and safe working practices.
- 3) Ensure that the work area is clear of bystanders.
- 4) Ensure that all guards, covers, warning decals and safety devices are in position and in working order. Any guard that is damaged must be replaced immediately.
- 5) Inspect the work area for obstructions that may constitute a hazard.
- 6) Ensure the tractor is of a suitable size to lift the machine safely. The addition of ballast in the tyres and/or the fitting of front weights may be required to ensure that the combination is stable and safe for use.

During use

- 1) Observe all safe working procedures, for example, reducing speed on slopes and turning sharply as the rear of the machine will travel quickly over a wide arc during turning.
- 2) Avoid working on ground where there is a risk of overturning.
- 3) Do not cut across the face of slopes.
- 4) Avoid inhalation of dust and fumes generated by the machine.
- 5) Be alert for hidden obstructions. Should the machine hit an obstacle, stop immediately and check for damage before proceeding.
- 6) Observe all relevant regulations during the transport of the machine while on private and public highways.

Safety Precautions (2)

After use

- 1) Inspect the machine for damage and replace parts as necessary.
- 2) Carry out lubrication and maintenance as detailed in this manual to maintain the machine in a safe working condition.
- 3) Check all bolts, nuts and screws are tight.

Always

- 1) Wear safety footwear.
- 2) Avoid loose clothing that may become entangled in moving parts.
- 3) Take care when working on the machine as there are many sharp and protruding components that could cause serious injury.
- 4) Lower the machine gently to the ground.

Never

- 1) Carry out any adjustments on the machine unless the tractor engine is stopped, handbrake applied and the machine is either lowered to the ground or it is safely supported.
- 2) Leave the tractor unattended unless the machine is lowered, the engine is stopped and the parking brake is applied.
- 3) Allow children or untrained persons on or near the machine.
- 4) Touch any moving parts or parts that may become hot in the operation of the machine.
- 5) Stand on the machine to carry out adjustments or maintenance.
- 6) Stand or sit on the machine while the machine is moving.
- 7) Stand under the machine unless it is safely supported.

Remember

- 1) Safety is the responsibility of the operator or persons working on the machine.
- 2) Think safety at all times.

Safety decal description (1)



Caution

Stop the tractor's engine and remove the key before starting any servicing or maintenance on the machine.

Caution

Check that all nuts and bolts are tight before commencement of daily work. It is also advisable to check the nuts and bolts on new machines, or on re-worked areas, after the first two hours of work.

Caution

Any operator is advised to fully read the operators manual prior to using the machine. If there are any areas of doubt, it is important to contact Dowdeswells before proceeding. It is advisable to keep the instruction manual in the cab of the tractor to ensure that any new operators can familiarise themselves with the machine before use.

Safety decal description (2)



Caution

Do not stand underneath the machine when it is raised. If you need to get access to the underside, you must ensure that the machine is safely supported.



Caution

Do not stand between tractor and machine when the machine is being fitted to the tractor.



Caution

Do not stand on the machine at any time.



Safety decal description (3)



Caution

Some of the components on the machine have sharp edges or corners. Caution must be used when servicing or maintaining the machine and appropriate protection for the hands should be worn. It is advisable for people who are unfamiliar with the machine to wear a hard hat to protect themselves from injury.



Caution

There are areas on the machine that could crush a part on the body. You should never enter these areas when the machine is being used. You should only enter these areas when the machine is lowered to the ground and the tractor's engine has been stopped and the key removed.



Caution

To ensure that the machine will function correctly, it is important to grease the machine. The greasing intervals are outlined in the instruction manual.

Safety decal description (4)



Caution

To ensure that damage does not occur to any component, it is vital that only Dowdeswell genuine shearbolts are used. Failure to do so will invalidate any warranty on the machine.

Caution

Some of the components on the machine will become hot during the use. Caution must be used when servicing or maintaining the machine and appropriate protection for the hands should be worn.

Tractor preparation

Tractor ballast

The tractor must have the appropriate amount of ballast for the length and weight of the plough to ensure maximum safety during transport and turnover, and optimum traction and balance in work. Weight should be added, as required to the front of the tractor and, if required, to the rear wheels and/or tyres in the case of wheeled tractors. The most cost effective method of increasing the weight at the rear is to add water ballast. This is best done by a competent tyre fitter and should not exceed the amount as specified by the tyre manufacturer, if in doubt, seek advice from your dealer.

It is important that the maximum axle loads are not exceeded, as this could cause failure of the axles. This can be checked by placing the front and rear axles on a weighbridge and matching the results to the maximum axle loadings that should be stated in the tractor instruction manual.

It is also important to check that the tractor and implement combination does not exceed the maximum permissible vehicle weight. This weight includes the tractor, implement, ballast and the operator and any tools carried. This weight can be checked by placing the tractor and implement combination on a weighbridge and matching the result to the tractor instruction manual.

Tyre pressures

The tyre pressures should be set equal on both front and rear axles in accordance with the tractor instruction manual or tyre manufacturer's recommendations.

General tractor condition

To get the best from your equipment, the tractor must be maintained in accordance with the tractor manufacturers recommendations.

Safe road transport

The tractor and implement should be driven on the public highway in accordance with current regulations for such a combination. Also it is advisable that a flashing beacon be fitted to the tractor to ensure that the tractor is visible to other road users.

Connecting to tractor

To ensure safe and efficient connection of the front press linkage to the tractor, it is important that the following procedure is followed;

Lower lift arms

Both lift arms should be set at the same height from the ground. Check this by measuring the length of the drop arms on both sides and adjusting as necessary.



- 1) Ensure that the tractor and implement are on a firm and level surface.
- 2) Engage the tractors lower links with the bottom link pins on the implement.
- 3) Engage the tractors top link with the top link pin on the implement.
- 4) Ensure that the transport pin in the headstock is in place if the machine is to be moved from the farm yard.
- 5) Ensure that the tractors check-chains or blocks have enough slack for the implement to swing a little and that the implement misses the drawbar (if fitted).

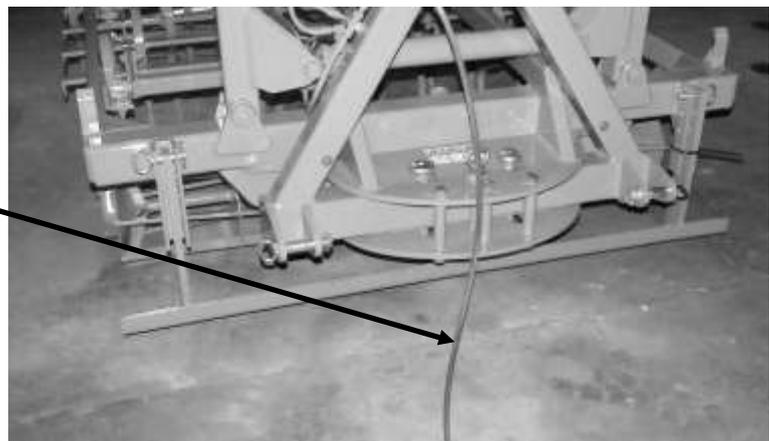
Hydraulic connection

The 4 & 5 Meter Speed Harra's need only one single acting hydraulic service from the tractor. Please ensure that the hydraulic probes are clean before fitting to the tractor or oil contamination problems may occur.

The hydraulic pipes have the following function;

- 1) Hydraulic hose (Item 1) is for the folding of the machine for transport.

Item 1



Preparation for work

Grease all crumbler bearings and hydraulic cylinder joints daily and twice daily in wet conditions. Once the implement is connected to the tractor and in the field ready to use, the transport pin (Item 1) must be removed from the headstock.

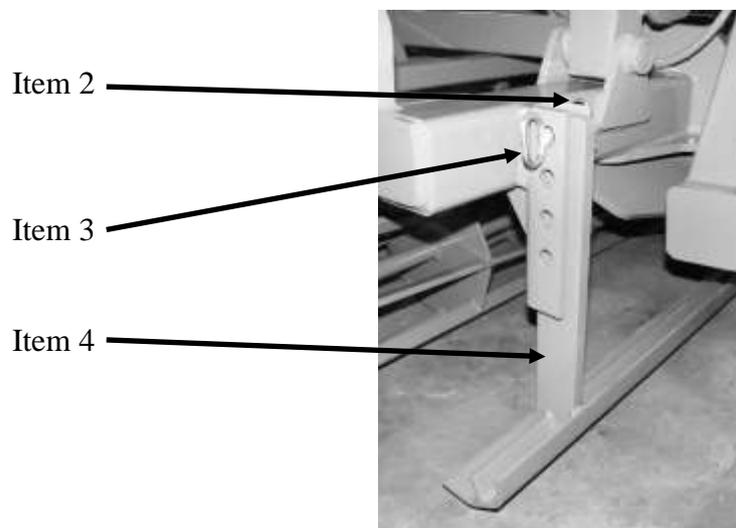


Levelling board adjustment

The levelling board is used to carry a small amount of soil ahead of the first row of crumblers to allow for a more even soil level into the machine, it is not a cultivation element and care should be taken not to overload the levelling board.

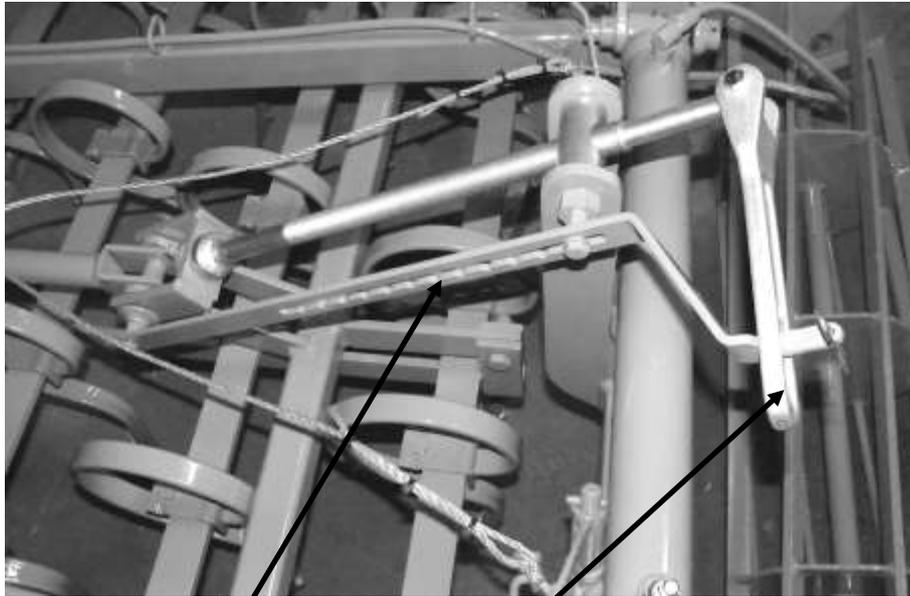
To adjust the working depth of the levelling board, these instructions should be followed:

- 1) Remove the 'R' clips (Item 2).
- 2) Remove the mounting pins (Item 3) from the bracket.
- 3) Re-position the levelling board (Item 4) to the required depth.
- 4) Replace the mounting pins (Item 3) and 'R' clips (Item 2).



Depth adjustment

Depth adjustment of the tines is achieved by turning the depth adjuster handle (Item 1), either clockwise to decrease depth or counter-clockwise to increase depth. This should be set equally across the mainframe and each of the wing frames, a depth guide strip (Item 2) can be used as an indicator.



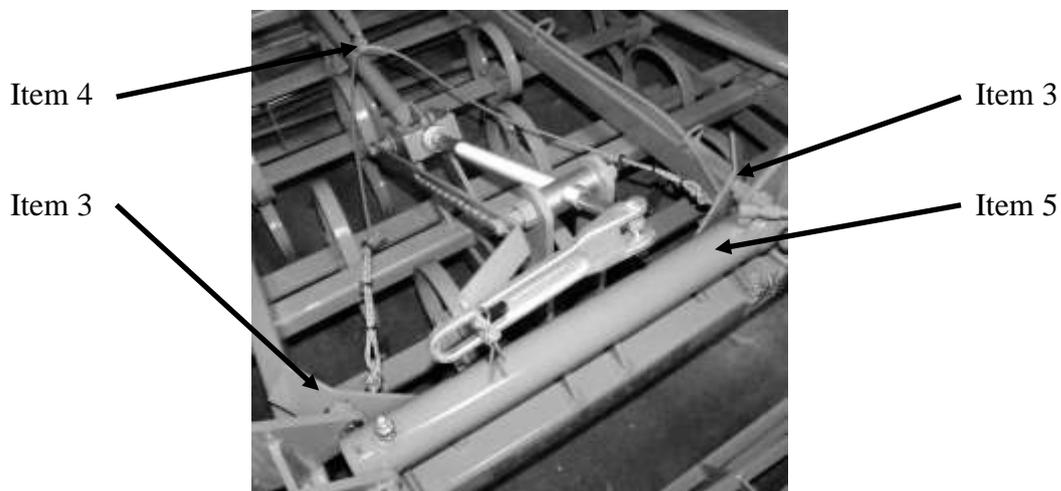
Item 2

Item 1

Transport 1 of 2

Wing locks

To release the wing locks to allow the wings to be folded down, you must pull on the release rope (Item 4) and at the same time, open the hydraulic line to the folding ram (Item 5) to lower the wings into the working position. To lock the wings for transport simply operate the hydraulic service to the folding ram and the wing locks will automatically clip into position.



Item 4

Item 3

Item 3

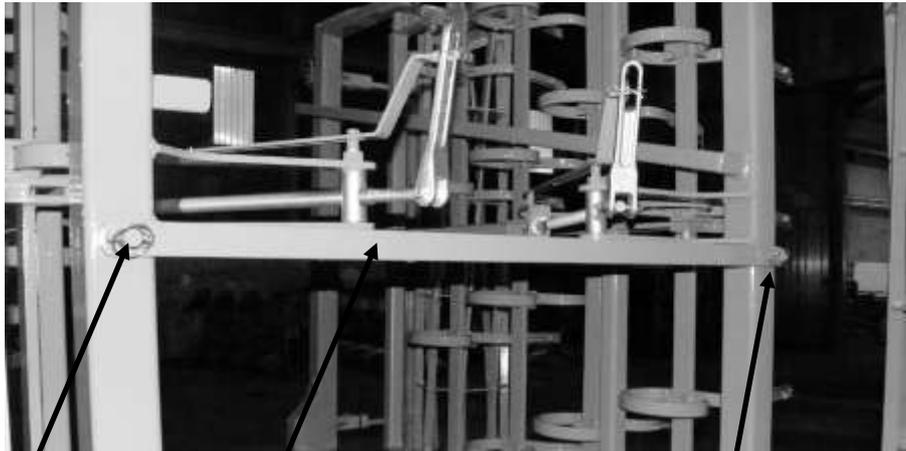
Item 5

Transport 2 of 2

Transport locking bar

The transport locking bar must be used at all times during road transport. To attach the transport locking bar these instructions should be followed:

- 1) Remove the transport locking bar (Item 2) from its stowage mountings on one of the wing frames.
- 2) Fold up the wing frames (refer to wing locks section).
- 3) Fit the transport locking bar as shown in the below image.
- 4) Fit the lynch pins (item 1) to retain the transport locking bar.



Item 1

Item 2

Item 1

The Speed-Harra is now ready for transport.

To return the Speed-Harra to its working position the procedure above should be followed in reverse.

Maintenance instructions

To ensure your implement continues to operate correctly, the following maintenance must be carried out :-

- 1) Grease all disc bearings daily and twice daily in wet conditions.
- 2) Check all nuts and bolts for tightness daily.
- 3) Check hydraulic hoses daily for damage and replace as necessary.
- 4) Replace wearing parts as necessary to prevent damage to non wearing parts.
- 5) Check joints and bearings weekly for wear and replace as necessary to prevent damage to housings.

Note: The recommended lubrication grease is a lithium based grease with EP additives or a lithium based grease with a silicone oil lubricant.

Storage

Before storing your Speed-Harra, the following points must be observed :-

- 1) Clean the machine thoroughly.
- 2) Lubricate all grease points.
- 3) Replace any wearing parts as necessary.
- 4) Cover wearing parts with a rust preventative.
- 5) Touch up paint work as necessary.