

Holman-Wilfley

Holman-Wilfley Ltd, Forth Kegyn,
Pool, Redruth, TR15 3QU,
Cornwall, TR3 6EE, UK

Tel: - +44 (0) 845 872 1820

Fax: - +44 (0) 845 872 1807

E-mail: - mail@holmanwilfley.co.uk

OPERATING & MAINTENANCE MANUAL

Holman-Wilfley Model 800 Table



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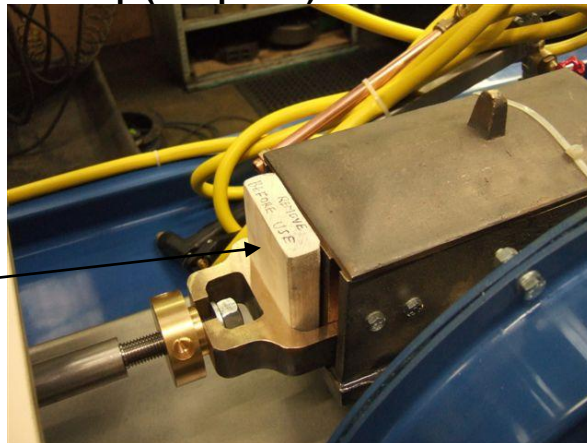
1.0 Installation Instructions

IMPORTANT PRECAUTIONS

A. The unit is packed with plastic securing ties holding the table deck shaft, onto its support half bearings, and also securing the gearbox cover and ancillary yellow piping. **These must be removed before use.**

B. THERE IS A SMALL WOODEN BLOCK INSERTED BETWEEN THE DRIVE THRUST YOKE (PART 133) AND THE GEARBOX CASING. This is to prevent movement of internal parts during transport and **MUST** be removed prior to electrical connection and start-up (see photo)

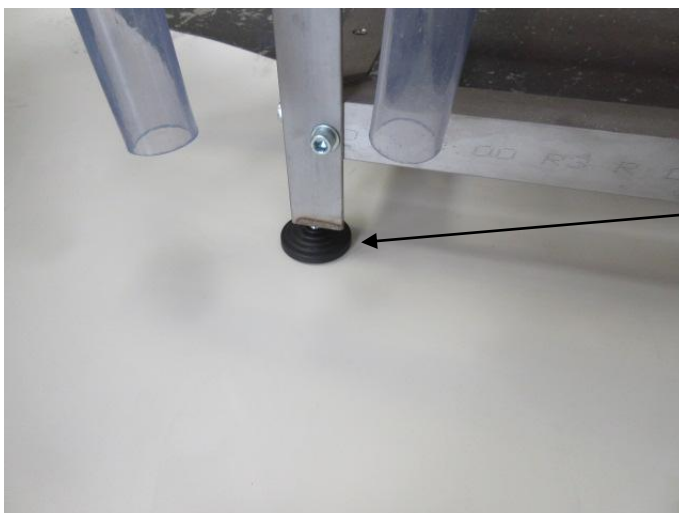
IMPORTANT
REMOVE WOOD
PACKER PRIOR TO
START UP



C. Raise the water manifold support after removal from timber crate and securely bolt in upright position.

D. Ensure the head motion is filled with SAE 20W/50 oil (Automotive grade) to the correct level as shown in the maintenance section of this manual before running.

E. Adjustable “feet” mountings (FOUR off) are pre-fitted to the base legs. These will require adjustment to level the machine in its location prior to operation.



FOUR off adjustable
mounts PREFITTED FOR
LEVELLING THE UNIT.

1.1 Location.

The machine is mobile for use, with adjustable feet for levelling prior to operation. Position on a flat level surface ideally at a level suitable for the operator to observe separation and provide sufficient room for the operator to walk around the machine.

DO NOT INSTALL AGAINST A WALL THUS REDUCING OPERATOR ACCESS TO THE REAR OF THE MACHINE.

1.2 Water Supply.

Connect the water pipe nozzle to a clear water supply using flexible rubber hose.

Typical wash water requirement is 5 – 10 litres/minute.

Recommended feed dilution water is 3 parts water to 1 part solid. i.e. 25% Solids w/w

A spray gun and hose are provided to assist with washing off the decks, launders and washing products out of the buckets.

DO NOT WASH DOWN THE MOTOR.

1.3 Electrical Connection – Power Up.

The AC Inverter Unit should be connected to a **230 Volt or 110 volt Single Phase** (dependant on customer selection and clearly marked on the inverter), protected electrical supply.

**!!DANGER!! ! ELECTRIC SHOCK RISK
DISCONNECT THE MAINS SUPPLY AND LEAVE FOR 2 MINUTES
BEFORE WORKING ON THE EQUIPMENT**

Connect the single phase mains supply (refer to technical specification for voltage requirements) to the terminals marked “L” and “N”, the earth wire must be connected to the Earth terminal marked “E” (or the earth stud on the heatsink).

2.0 Operating Instructions

2.1 Choosing and Changing Decks.

The standard unit comes complete with Sand (Parallel Riffle Pattern for Coarser particle/easier separations) and Fine Sand decks. (Angled Riffle pattern for Finer/More difficult separations)

Installing a deck is easy. Simply lower the deck onto the half bearings gently and connect up the deck support shaft to the head motion by tightening the M16 nut with a 24mm spanner. Connect up the water supply to the wash water pipe.

The decks are changed by simply releasing the locking nut on the deck support shaft using the Tommy bar provided, uncoupling the wash water pipe and removing the deck.

2.2 Preparing for Operation.

Turn on the wash water and ensure that the water is running evenly over the deck and is free of any dry patches. Start the machine and run for a few minutes on water only to wet all table edges.

Prepare the table feed by mixing the dry solids with water to give a 25% solids by weight mixture. Some feed stocks are “Non – wetting” and will require addition of a wetting agent to assist settling of these particles which would otherwise float to tailings without having been influenced by their gravitational forces.

Place all sample buckets under the product off takes.

The feed material will also respond better on the table if the feed has been sized beforehand so that all particles are in a narrow size particle band. This avoids coarse “lights” reporting with fine “heavies” (Stokes Law) and therefore gives better separating performance. The degree of sizing will be specific to the material and should be determined by experimentation.

Operational Parameters.

2.3 Feed rate.

Feed rate is a function of particle size and specific density differences between particles. This can vary from a few kgs/hour upwards. However, as a general rule, the finer and/or more close density the separation between particles the lower the feed rate will be. (Typical max. 70 kg/hour)

IT IS IMPORTANT TO FEED THE TABLE AT A CONSTANT FEED RATE AND AVOID SURGES.

2.4 Table Tilt

The angle of tilt is adjusted by slackening the M16 nut at the drive connection (24mm Spanner). This will release the deck and it can be adjusted to the angle required.

The correct slope can only be determined by visual inspection of separation. However, as a general rule, the greater the slope the cleaner the concentrate grade and lower the recovery and vice versa.

The angle of the table from feed to concentrate end can be adjusted using the hand wheel located under the support beam at the concentrate end of the table. This angle can only be optimised by trial and error. However, the higher the concentrate end the longer the material remains on the table.

2.5 Wash Water

The wash water should flow evenly over the deck. The quantity of wash water can only be determined by experimentation. Higher wash water volume results in cleaner concentrates and lower recovery and vice versa.

2.6 Stroke Length.

The stroke length can be adjusted by the Stroke Adjusting Screw (Part No 163) located under the lid at the front end of the Head Motion.

Lowering the stroke adjusting block increases the stroke length.

Coarse Particles require a longer stroke length than finer particles.

2.7 Stroke Speed, rpm

Turning the AC Inversion box control dial varies the stroke Speed.

We have set the mid-point (setting 50) to maximum setting on the inverter to coincide with the most useful range of speeds i.e. 200 – 300 rpm. The instruction leaflet for the AC Inverter is in the control box.

See Section 2.8 for Stroke Speed versus dial settings.

2.8 Stroke Speed Setting. (Approximate) – Note “soft start” at initial start up

AC Inverter Dial Setting	Stroke Speed, rpm
Minimum Setting.....	130
10	145
40	190
50	210
80	270
90	285
100	300

2.9 Product Cutters

Two cutters are provided (for customers with launders only) to assist with guiding products into the appropriate launder off takes.

DO NOT TRY TO SET THE TABLE TO SUIT THE LAUNDER – USE THE CUTTERS TO ACHIEVE THE DESIRED PRODUCT SPLITS.

DO NOT ALLOW HOT OBJECTS TO REST OR FALL ONTO THE DECK.

STORE THE DECK NOT IN USE AWAY FROM HOT OBJECTS AND SAFE FROM DAMAGE.

DO NOT STAND ON THE DECKS.

3.0 Maintenance Instructions

3.1 Head Motion

Maintain the oil level so that the eccentric shaft is just immersed in oil and is able to lubricate the upper parts by splashing. (**approximately 0.5 litre**)

At Monthly intervals and/or after a longer period of non use, remove the head motion lid and apply a small quantity of oil to the exposed working parts.

The Head motion oil (**SAE 20W/50**) level should be visually checked by removing the head motion lid and topping up as necessary.

DO NOT USE HEAVY GEAR OIL.

If the machine is in constant or daily frequent use, change the oil after 1 month of operation from new and every 6 months subsequently.

3.2 Table Deck Half Bearings.

The Table Deck assembly rests in two Half Bearings which are self – lubricating. (**Do not grease**)

3.3 Table Decks.

The Deck should be thoroughly wetted before use and washed down after use.

Any grease spots may be removed with a detergent.

TWO decks are supplied as standard.

One deck for fine sand samples (particle size $\sim < 250$ microns)

[This deck has angled ends to alternate riffles]

One deck for coarse sand (particle size $\sim > 250$ microns, up to ~ 1000 microns).

[This deck has ALL parallel riffles]

When changing decks it is necessary to refit the deck FEED BOX, and DECK THRUST SHAFT.

PLEASE REFER INSTRUCTIONS BELOW:

Feed box change over (pics A + B below)

Removal

Remove 2 x M6 x 50mm bolts, 4 x washers & 2 x nuts

Remove 2 x plastic spacers

Remove feed box

Fitting

Insert 2 x M6 x 50 bolts into holes in deck

Insert 2 x plastic spacers over holes

Fit feed box

Fit 4 x washers and 2 x nuts and tighten



A



B

Deck change over (pics C, D, E below)

Deck Removal

Loosen M16 nut (24mm spanner) on thrust yoke

Lift deck from machine (**wt. approx... 25 kg SAFETY!**)

On underside of deck:

Loosen 3 x grub screws (4mm hex) and remove shaft from deck

Fitting Shaft into new deck

Slide shaft into new deck to be used to a point indicated at the drive end (threaded end) by a dimple on the shaft. Dimple should line up with edge of deck – see photo.

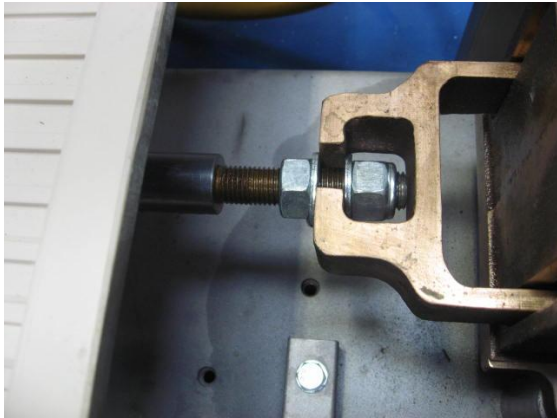
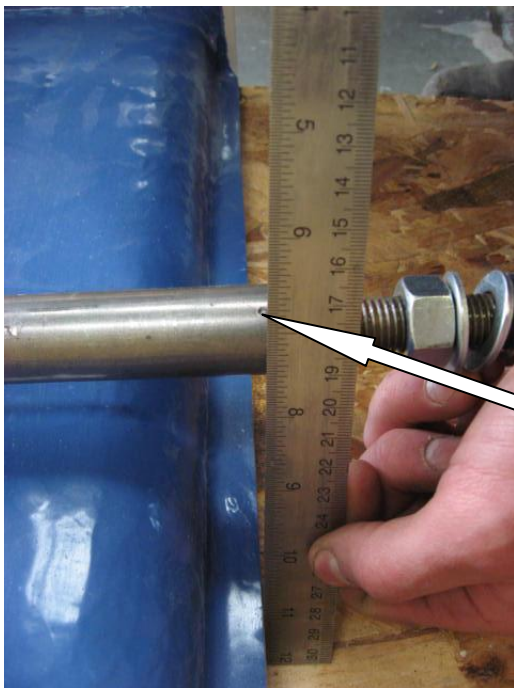
Tighten 3 x grub screws (4mm hex)

Re fitting deck

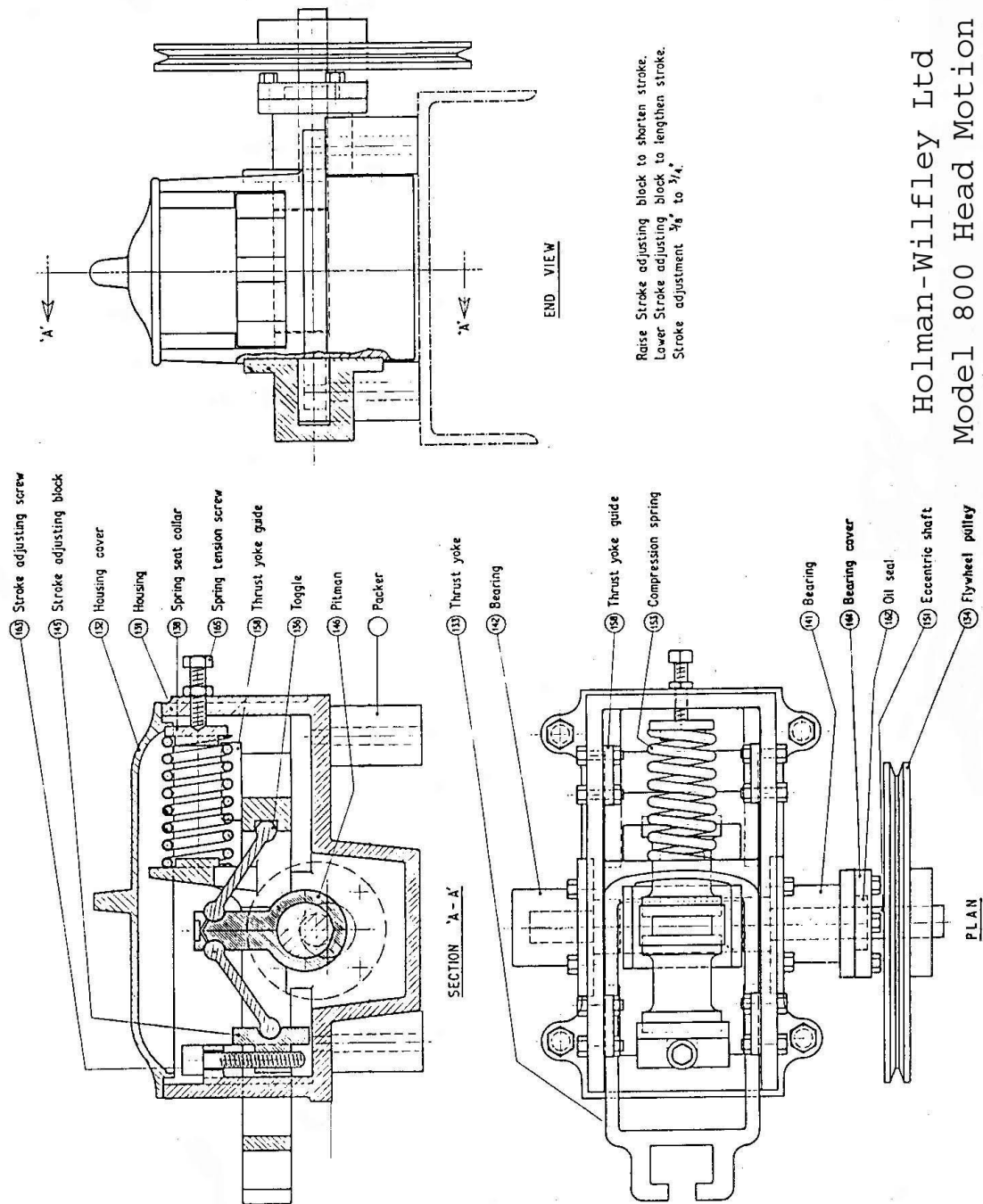
Re fit deck so shaft sits into shaft supports. Ensure there is a washer either side of the Thrust Yoke

Tighten the M16 nut to thrust yoke (24mm spanner)

The deck concentrate discharge end should rest approx. mid point in the product launder.

**C****D****E**

SHAFT DIMPLE (MARK)



Holman-Wilfley Ltd
Model 800 Head Motion

Fig. 1 Head Motion

