

Bramley ProBender 35t Powered Bender



Service Manual Section

Section 1: Filling unit with oil

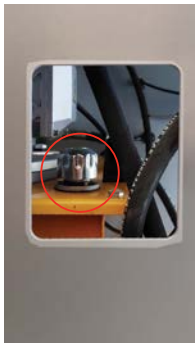
The ProBender is fitted with a 45 litres hydraulic reservoir. Bramley ProBenders are supplied from new full of hydraulic oil.

- Reservoir capacity. 45 litres
- Use ISO 22 hydraulic oil.

If the unit is empty, please check the hydraulic unit's drain bung is secure. This is located at the front of machine below the sight glass.

Fill with ISO 22 grade hydraulic oil through the filler port located at the rear of the machine.

Hydraulic oil should be visible approximately half way up sight glass.



Section 2: Electrical connection

The Probender is fitted with a 3KW 415v 3PH motor.

Electrical connection to this unit must be wired by a registered Electrician.

The hydraulic motor must run in the clockwise direction.

Remove the back cover. Check the motor is running in the clockwise direction as indicated by the arrow on the motor cowling.

If the motor is not running in the correct direction, 2 of the 3 phases will need to be swapped to achieve correct rotation.



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Section 3: Hydraulic Unit / Valve alignment

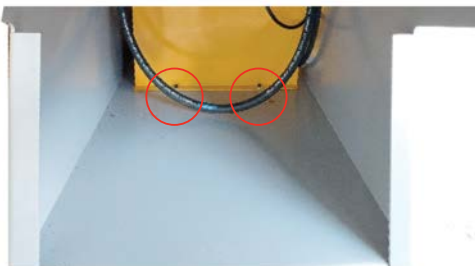
The ProBender utilises a central hydraulic motor, valve and reservoir unit.

The control handle / shaft assembly accesses the valve body located on top of the hydraulic reservoir.

It is possible during transit that the hydraulic unit could move. This may affect the control lever action and overall performance of the unit.

Hydraulic unit alignment

Loosen the 4x m6 cap screws on the base of the hydraulic unit. Move the hydraulic unit until the handle shaft / lever assembly moves evenly through the slot in the machine body.



Retighten 4 x m6 cap screws.

Handle lever location

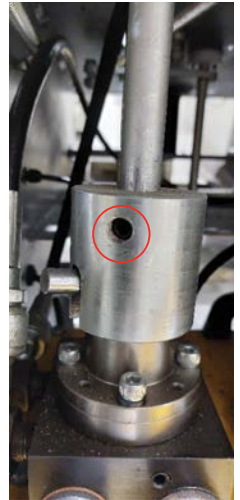
The handle lever assembly is fastened to a boss cap located on top of the valve body.

The handle should be centrally located and after being moved forward or backward, should return back centrally.

The hydraulic valve must be returned to its central neutral detent in this central position.

There is a m12 grub screw on the boss cap. Loosen this, rotate the valve forward and back until the central detent is located. Check the control lever is in the centre of its slot in front of machine.

Retighten grub screw and check movement.



Section 4: Pressure setting

This section only applies if repairs have been performed on the hydraulic unit, or the hydraulic unit is being replaced with a new unit and requires pressure adjustment.

The hydraulic unit fitted to the ProBender is a dual pump 2 speed unit. It uses a high-volume low-pressure pump controlled by the valve on the right (shown in the pic overpage with a plastic cap on it).

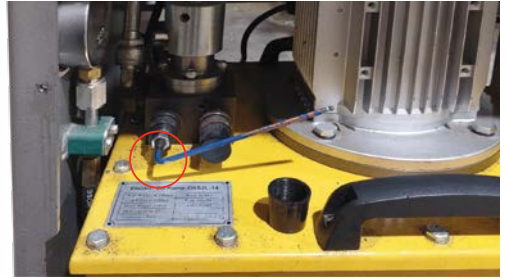
DO NOT ADJUST THIS RIGHT HAND VALVE.
 Adjusting this valve will have no impact on the gauge pressure setting as it controls the **high-volume low-pressure** pump. This cuts out and hands over to high pressure side when this valve is tripped. **DAMAGE CAN BE CAUSED BY INCORRECTLY SETTING THIS VALVE TOO LOW.**

The left-hand valve (*shown here fitted with an allen key inserted*) controls the high-pressure low-volume pump.

To set the maximum working pressure, remove the plastic cap, loosen the lock nut and fit the allen key as shown.

You will need to have the bending mandrel fitted and either the small or large V former fitted to the chuck.

Turn the unit on and move the ram and V former forward until it reaches the mandrel.



Momentarily bring the unit up to pressure by feeding V former against the mandrel. Adjustments are small. Half a turn to a turn max should be all that is required. Turning counter clockwise will reduce pressure. Adjust to 4000 PSI/28 MPa.

Retighten lock nut and re-check.

Replace cap.

Trouble-shooting Section

ProBender runs slowly and has no pressure	Low oil level	Check Oil level on sight gauge on front of machine. Fill if required, see section 1. (Oil Requirement's).
	Motor running wrong direction.	Check motor is running in the clockwise direction. Remove back cover. Check the motor is running in the clockwise direction as indicated by the arrow on the motor cowling. See section 2. (electrical connections)
	Ram Stop set incorrectly.	Loosen ram stop knob. Move stop slide assembly to the right of stop rod.
	Control lever set incorrectly.	Control lever shaft assembly has rotated in boss cap. Remove rear guard, loosen boss cap grub screw. Rotate boss cap in both directions finding the central detent. Move the control lever shaft assembly until it is central and runs in the middle of slot in front panel. Re tighten boss cap grub screw. See section 3 (Hydraulic unit alignment).
ProBender will not run or start.	EMG stop activated	Release EMG stop. Rotate stop clockwise until it pops out.
	No power at all, or 1 or more phase missing.	Check power supply to unit.

Control lever does not move freely backwards or forwards or no reverse or forward movement possible.	Hydraulic unit has shifted in transit.	Re align hydraulic unit. Remove rear panel. Loosen 4 x m6 cap screws on the base of the hydraulic unit. Move hydraulic unit until handle shaft assembly moves evenly in slot in front of machine. Retighten 4 x m6 cap screws. See section 3. (Hydraulic unit alignment).
The maximum working pressure is above or below 4000PSI/28MPa	For safety reasons the maximum working pressure must not exceed 4000PSI/28MPa	The high-pressure low volume controlling valve requires adjusting (LH valve when viewed from the rear, rear cover removed) THIS IS FACTORY SET. See section 4. (Pressure setting).
Oil leaking from hose connections from hydraulic unit to ram.	Check hydraulic hose quick connections.	The ProBender uses quick connectors between the hydraulic unit and the ram. Check the outer barrel is tightened as these may have worked loose. If there is oil leakage from these connections after tightening, the connectors o-ring or the o-ring backer needs replacing.
Hydraulic pressure does not reach maximum working pressure with ram fully engaged.	Ram piston seals may have failed.	Check stop is fully returned and not stopping ram from moving forward. Move ram back completely, hold lever in reverse position. Maximum working pressure should be achieved. If pressure not achieved, ram seals need replacing. Bramley ram seal kit 88-P03.
Hydraulic oil leaking from front of hydraulic ram.	Ram front seal failed.	Ram seals need replacing. Bramley Ram seal Kit 88-P03.
Hydraulic oil leaking from rear of hydraulic ram.	Rear bung o ring failed.	Remove rear bung, replace o-ring and refit bung.
Oil leaking from top of valve body and not achieving working pressure.	Valve seals failed.	Replace valve seals. Bramley valve seal kit 88-P04.

New Zealand

R.R. Bramley & Co Ltd

184 Marua Road, Mt Wellington
(PO Box 14-114, Panmure)

Auckland, New Zealand.

Ph: + 64 9 579 2036

Fax: +64 9 525 0735

Email: sales@bramley.co.nz

www.bramley.co.nz

Australia

Garrick Herbert Pty Lyd

460-462 The Boulevarde (PO Box 3118)

Kirrawee, NSW 2232, Australia

Ph: + 61 2 9545 6633

Fax: +61 2 9545 4222

Email: sales@garrickherbert.com.au

www.garrickherbert.com.au

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