

# Bramley ProBender Ram Repair

**Seal Kit part number is 88-P03**

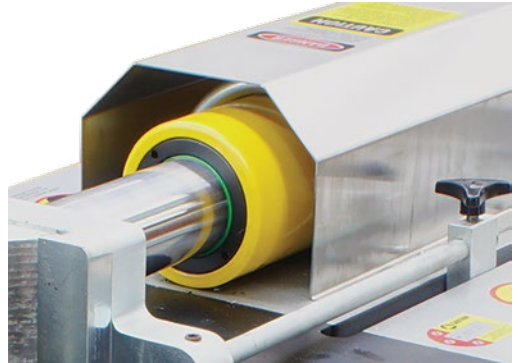
**The ProBender uses a 50T rated double acting Hydraulic Ram.**

**Full hydraulic pressure may be applied to either end of Ram depending on the operating direction of the Ram.**

Where possible, identifying the fault or origin of any leak will determine how much of the Ram needs to come apart and which end to start from.

- If the Ram is functioning correctly at full operating pressure but oil leaking from the front of Ram, the likely cause is either the Gland Nut outer O-ring or the inner seals.
- If there is an oil leak from the rear of the Ram, the fault is likely the O-ring on the Rear Plug.
- If the Ram lacks pushing power and will not run up to full working pressure, the fault is likely the Piston Seals (although this may also be a pump or valve related problem).

Before removing the Ram from the machine, return the Ram to the fully retracted position (if possible).



# Bramley ProBender Ram Repair

## 1. Removing the front sleeve

Place the Cylinder firmly in a vice.

You will need a spanner that engages in two of the holes on the Gland Nut and has clearance around the Ram (as in the image below).

The Gland Nut has a right-hand thread.

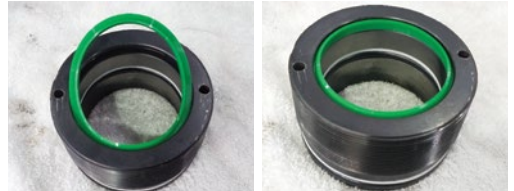
Fully withdraw the Gland Nut.



Next install the inner O-ring Backing Ring and then the Inner O-ring. Again, install all by hand, do not use tools, and ensure the O-ring Backing Ring is against the outer shoulder of the Gland Nut.

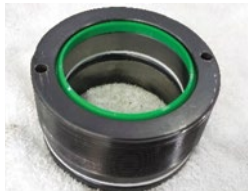


Finally, install the Wiper Seal ensuring the lip of the seal (stepped edge) is facing out of the Gland Nut.



## 2. Replacing front sleeve seals

Remove all old seals - careful not to damage seal surfaces on the Gland Nut.



Fit the outer O-ring Backing Ring first. Fit this by hand, do not use tools as the Backing Ring may be easily damaged.

Next fit the outer O-ring, again fit this by hand, do not use tools. O-ring must be fitted with the Backing Ring at the outer shoulder (nearest the threads) of the Gland Nut.



If the fault was just oil seepage out of the front of the Ram, then the Ram may now be reassembled.

Apply hydraulic oil, or a thin coating of grease, to the seals and re-assemble. It is not necessary to apply any permanent or semi-permanent sealant to the thread as this will make removal difficult.

## 3. Removal of Rear Plug

With the Ram secured firmly in a vice, fit 2 x high tensile M8 bolts or cap screws into the threads in the Rear Plug. Placing a suitable flat lever between the bolts / screws unwind the End Plug.

End Plug has a right hand thread.



Replace O-ring and Backing Ring where necessary.

It is not necessary to apply any permanent or semi-permanent sealant to the thread as this will make removal difficult.

## 4. Removal of Ram Spear and Piston Seals replacement

**CAUTION:** Replacement and refitting of the Ram into the Cylinder will require a special seal guide or use of Steel Shim to protect seals from being damaged by the threads during refitting.



First, secure the Ram firmly in a vice.

Removing the Gland Nut (see Section 1 overpage).

Screw an M10 eye or something similar, onto to front of Ram to enable withdrawing the Ram Spear.

**CAUTION:** If there is any chance the Piston Seals are to be re-used, they must be protected from damage from the Cylinder thread. Fit a seal guide or use Steel Shim before pulling the piston clear of Cylinder.



### Piston Seals consist of:

2x Seal Backing Rings, 1x O-ring, 2x Wear Strips



The Seal Backing Rings must be split at one end for assembly.

Using a sharp blade, cut each Backing Ring at an approximately 30° angle to minimise any possible gap the O-ring could be forced through under pressure.



Next, check each Wear Strip in the Piston groove. These must not overlap and can be trimmed to length if required.

Carefully install the 2x Seal Backing Rings and the O-ring onto the Piston. Do not use any tools to install these.

Lubricate with hydraulic oil for assembly.



Next, fit the first Wear Strip onto the Piston, lubricate with hydraulic oil and then slide the seal guide over the Wear Strip and up over the Seal Backing Rings and O-ring.



Then, fit the second Wear Strip onto the Piston, lubricate and install into the seal guide.



You are now ready for assembly into Cylinder. (See overpage.)

Inspect the bore of the Cylinder, ensuring the surface is clean and free of imperfections. The Cylinder can be lightly honed if necessary.



Install the Ram Spear and Piston assembly into the Cylinder.

Note, the front of Cylinder (Ram end) has 2 x M10 holes on the either side.

Once the Ram Spear is securely inside the Cylinder, you can remove the seal guide (or Steel Shim) and reinstall the Gland Nut. Lubricate all seals well with hydraulic oil before installation.

Next, reinstall the Rear Plug (if not already installed).

Then fully install the Ram Spear to the bottom of the Cylinder.

Note, it is not necessary to pre-fill the Ram assembly or bleed air from Ram assembly after installation. Several passes of Ram backwards and forwards on the machine will achieve this.



If you are using Steel Shim to reassemble the Ram you will need to install the Steel Shim past the internal thread in the Cylinder, lubricate the inside of the Steel Shim with hydraulic oil, then feed the Ram Spear and Piston assembly into the Steel Shim and Cylinder until the first Wear Strip and the Seal Backing Rings and O-ring are inside the Steel Shim

This may require two people to execute.

Supporting the Ram Spear, then install the second Wear Strip and slide the Ram Spear and Piston fully inside the Cylinder, then complete assembly of Ram as detailed.

## 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](mailto:sales@bramley.co.nz)

[www.bramley.co.nz](http://www.bramley.co.nz)

## Australia

### Garrick Herbert Pty Ltd

460-462 The Boulevard (PO Box 3118)  
Kirrawee, NSW 2232, Australia

Ph: + 61 2 9545 6633

Fax: +61 2 9545 4222

Email: [sales@garrickherbert.com.au](mailto:sales@garrickherbert.com.au)

[www.garrickherbert.com.au](http://www.garrickherbert.com.au)

# BRAMLEY

**Precision and Mechanical Engineers  
Machine Tool Manufacturers**