



Midlift DL Ram Seal Replacement Procedure

As each site presents different situations, this procedure does not describe or suggest a safe system of work. It is a description of a method to remove the seal housing, replace the seal and replace the seal housing.

As sales constraints placed on this model limit the total travel available, it is unlikely the cylinder head will be lower than or further than 1 meter above the top of the lift car when the car is resting on the pit floor

Assuming the lift has been moved to a suitable position to access the cylinder head and seal housing and has had its electrical supply suitably isolated.

It must be noted that working directly from the roof of the lift car is strictly forbidden. A suitable platform must be constructed above the car roof should it be required.

Tools Required

1 off GMV Ram Clamp to fit 120mm diameter.
1 off 120mm diameter x 6mm pin 'C' spanner.
46mm AF "flogging" ring spanner. (Cromwell Tools Stock N° KEN 580-7070K)
Step Ladder or suitable working platform either inside the lift car or above it.

Hand tools to include:

Hexagon socket wrenches 2.5mm and 3mm
Hammer
Vice grip pliers
Screw drivers

Sundries:

Clean rag
Medium grade emery cloth (no courser than 180 grit)



Method

With the lift car resting on the pit floor and switched off, suspend the ram cross head pulley. This can be done by either drilling a 10mm Ø hole in the crosshead guides below each of the shoe housings and using a scotch device or suspending from suitable equipment.



Unscrew adjuster K on the Blain KV1P valve that is situated below and left of the manual lowering knob (7 o'clock) until slack and lower the ram cross head pulley onto the suspension device.



Remove the 46mm AF bolt that secures the pulley assembly to the ram and lower the ram fully into the cylinder (extra weight may need to be applied to the ram to get it to move).

Once the ram is fully collapsed and resting on the bottom of the cylinder fit a clamp to the cylinder below the larger diameter seal housing. It may be necessary to remove the car-operating panel and fit the ram clamp through an access hole in the car panel.





Remove the countersunk socket screw from the woodruff key fitted to the outside of the ram seal housing and remove the key from the keyway. Disconnect the ram overflow tube and remove the plastic elbow from the cylinder head.



Clean the exposed ram thoroughly and check for anything that could damage the new seal whilst it is being replaced.



Unscrew the ram seal housing using the 'C' spanner, it may require a sharp tap to overcome the friction caused by the O ring seal, taking care not to allow the cylinder to rotate. Once removed, protect the open cylinder from debris.



Remove the wiper ring and split bearing rings from the seal housing, leaving the ram seal removal until last. The seal is fitted into a machined undercut in the housing and has to be eased out with two screw drivers, taking extreme care not to damage the machined finish of the steel housing that may cause damage to the new seal whilst it is being fitted.



When the old seal has been removed, clean the housing thoroughly and check for any damage to the machined surface or debris left inside.

Use the emery cloth to clean or dress any damage.



To replace the main seal, it would benefit from being warmed up to make it more supple as it has to be formed into a 'Clowns Lips' shape to allow it to be fitted into the undercut. **MAKE SURE IT IS THE CORRECT WAY UP**, the wider flared part must be at the bottom. Once fitted, replace the split bearing rings and wiper ring.



Before the seal housing is re-fitted, lubricate the seal and ram with some hydraulic oil, replace the "O" ring seal between the seal housing and cylinder and reassemble in the reverse order to removal.

Once all equipment has been re-assembled and prior to the lift being returned to normal service, adjuster 'K' must be reset to lower the lift but not allow the ram to descend under its own weight.

The setting instructions for this are as follows:

- 1 Position the lift approximately 1500 mm above the bottom terminal floor
- 2 Switch off main power supply.
- 3 Screw adjuster 'K' in until the screw is flush with the valve casing
- 4 Operate the manual lowering knob to prove the lift will descend, then screw in adjuster 'K' further until the lift stops. At this point unscrew the adjuster until the lift moves again. This should now be set.
- 5 Lower the lift into the pit and check that the ram does not continue to descend after the car has landed. If it does, repeat 4 above and check the operation again.