

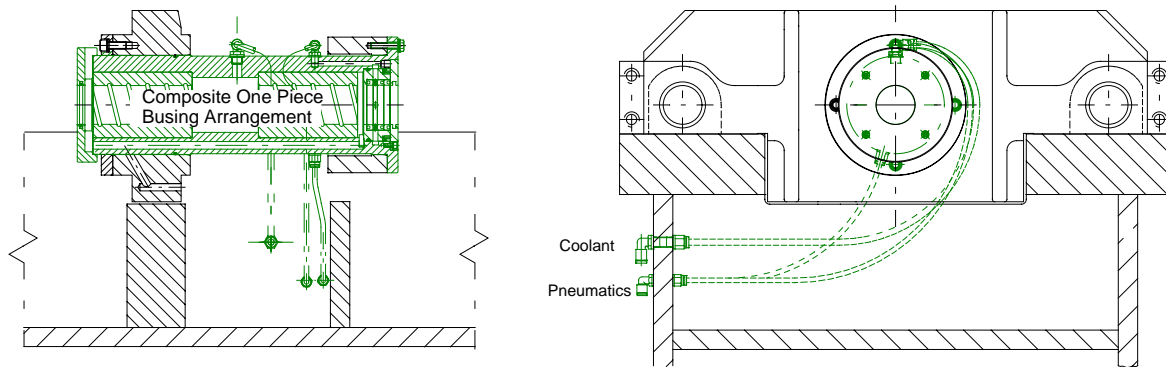
## Composite One Piece Primary and Secondary Ram Bushing Arrangement

**CATEGORY:** Advised at next overhaul

**Summary:** The continuing development of new materials has made further improvements possible for the One Piece Primary and Secondary Front Bushing arrangement previously offered in Technical Bulletin TB-B3/B4-012.

In the new arrangement the bronze Hydrostatic Bushes have been replaced by a new composite material. The low wear, friction and coefficient of expansion properties of the new material have enabled the Ram to Bush clearances to be reduced to such a degree that it is no longer necessary to use oil fed Hydrostatic Bushes to provide accurate Ram guidance and lubrication.

The only requirement is to feed the bushes with a small flow of clean process coolant to remove heat and provide a stable running temperature for both the Ram and Bushes.



Advantages of the new arrangement are:

1. Provides further improvement to Ram stability and guidance accuracy.
2. Removes requirement for high pressure oil feed into the Ram Seal Pack area.
3. Removes the need for small diameter Oil Jets that control the Ram alignment

Upgrade kits already exist for this and have been fitted to most vintage of CarnaudMetalbox / Standun B series Bodymakers and all CarnaudMetalbox 5000 series Bodymakers.

Each kit includes all the necessary parts complete with all assembly and any rework drawings required.

N.B. In some cases it is necessary to modify the Primary and Secondary Bulkheads. In most cases where this is necessary it will only require the drilling and tapping of a few additional holes.

New Bulkheads can be provided and / or rework of existing Bulkheads done where practical, but this will be at extra cost.

The upgrade kit is applicable to all CarnaudMetalbox / Standun B series Bodymakers and all CarnaudMetalbox 5000 series Bodymakers prior serial number 238s (except ser. no. 231s).

This upgrade could easily be included with other maintenance work, and should take approximately one day to fit. Additional time may be required for machine alignment.

For further details about the Composite One Piece Primary and Secondary Ram Bushing upgrade kit please contact either of the contacts below quoting Technical Bulletin Number **TB-B3/B4-019**

Note: A complete Library of Technical Bulletins is accessible on the Company Web Site.

Adrian Long,  
CarnaudMetalbox Engineering Plc,  
Dockfield Road, Shipley,  
West Yorkshire, BD17 7AY, UK  
Tel: +44 1274 846208, Fax: +44 1274 846201  
email: adrian.long@eur.crowncork.com

Paul J Orsino III,  
CarnaudMetalbox Engineering Plc,  
79 Rockland Road, Norwalk,  
Connecticut 06854, USA  
Tel: +1 203 853 7325, Fax: +1 203 866 7627  
email: porsino@crowncork.com