

## IMPROVED HYDRAULIC CLUTCH AND BRAKE LIFE AND PERFORMANCE

### CATEGORY: Mandatory At Next Maintenance

**SUMMARY:** CarnaudMetalbox Engineering in conjunction with Ortlinghaus, the manufacturers of the hydraulic clutch and brake fitted to the 5000 series bodymakers, have carried out a number of extensive trials aimed at improving the life and performance of the clutch and brake plates.

As a result of these trials CarnaudMetalbox Engineering can now recommend the following upgrades to existing machines.

The current recommended operating pressure for the clutch and brake is 60 Bar (870 psi). We now strongly recommend that this be increased to 70 Bar (1015 psi) to prevent clutch plate wear. This can be done by re-adjusting the on line pressure relief valve mounted on the clutch and brake power pack tank.

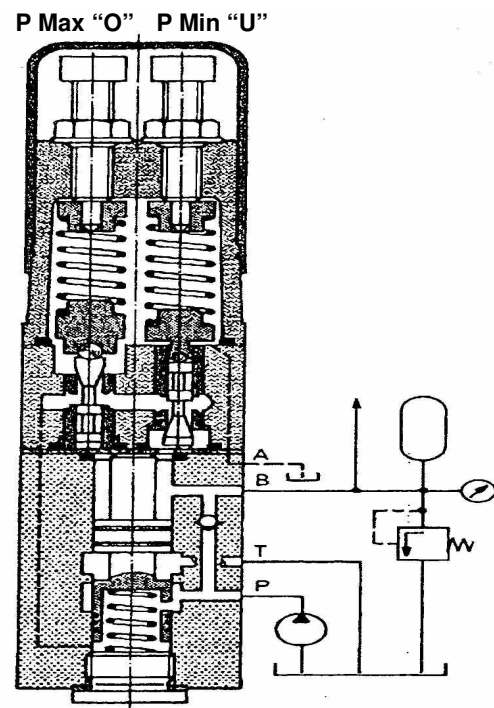
**Note:** Early power packs were fitted with a Bosch unloader valve system. It is also possible to reset this valve to act as a standard on line relief valve. On the existing setting you will note that when the clutch is engaged the high pressure oil to the clutch and brake rises and falls as the unloader valve switches the supply on and off line depending upon the valves upper and lower settings.

To reset this valve proceed as follows:

1. Remove protective cap from head of valve to expose the two pressure setting screws. (see illustration opposite)
2. Release locking nut on setting screw "P max O" and adjust to give new max peak setting pressure of 70 bar on the pressure gauge by winding screw in. Note the pres-

sure reading on the gauge will still continue to rise and fall at this stage

3. Release locking nut on setting screw "P min U" and adjust by winding screw in until pressure setting on the pressure gauge stabilizes at the 70 bar setting and the pressure ceases to rise and fall. Then retighten locknuts and replace protective cap.



*In order to cope with the new increased operating pressure, it will be necessary to upgrade the Ortlinghaus rotary union on the end of the jackshaft to the latest version (Ref Carnaud-Metalbox Engineering part No 2633411). If your machines are not fitted with this or have*

*not already been upgraded please see technical bulletin **TB5000-009** for details.*

In addition to increasing the operating pressure an additional bearing should be fitted outboard of the clutch and brake. The bearing is mounted between the outer clutch plate housing and an extension on the crankshaft. This provides extra support for the clutch plate housing and assists in maintaining alignment of the clutch plates with the main body of the clutch.

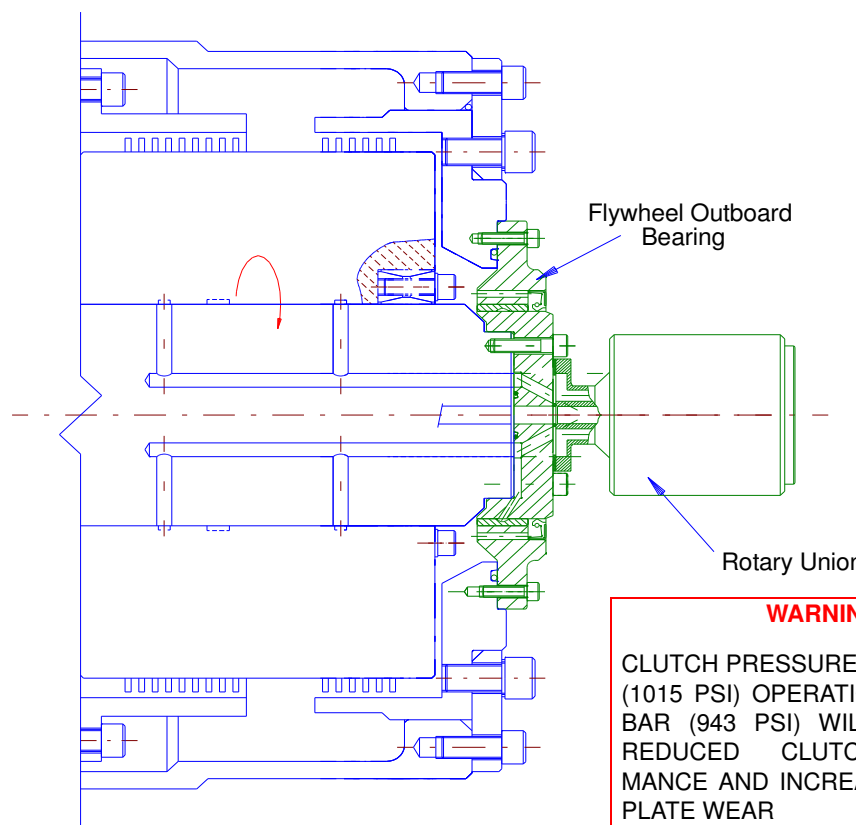
Unless your 5000 Bodymakers have already been partially or fully upgraded the following upgrades are as follows:-

70 Bar clutch and brake operating pressure is applicable for machines prior to serial No 195s.

The upgrade to Ortlinghaus rotary union and outboard bearing is applicable for machines prior to serial No 151s

A complete retrofit package should take approximately four hours to fit.

For further information about improvements to the hydraulic clutch and brake life and performance, please contact either of the references at CarnaudMetalbox Engineering detailed below, quoting the technical bulletin number **TB5000-015**



**WARNING**  
CLUTCH PRESSURE TO BE 70 BAR (1015 PSI) OPERATION BELOW 65 BAR (943 PSI) WILL RESULT IN REDUCED CLUTCH PERFORMANCE AND INCREASED CLUTCH PLATE WEAR

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