

PUMP Brief

Hydraulic Pump Division

AS-0018

Gold Cup Solution Series: Part 4

Filtering of Internal Boost & Servo Pumps

The design of a closed loop hydraulic circuit should ensure that there is no need to filter the boost and servo pumps since the oil tank is protected through filtration from any ingress contamination. However, if the application requires a combination of open and closed circuits sharing a common tank, extra filtration may be necessary to fully protect the closed circuit and its controls.

Due to the design of the three Gold Cup pump frame sizes, filtration of the boost and servo pumps is achieved in different ways. A plug must be fitted on the P6/7/8/11/14 pumps, and a modification made to the standard pump for the P11/14 if both servo and boost flow is to be filtered.

Carefully note: It is advisable not to have a by-pass check valve on the filter. Reason: *Failure to act immediately can have adverse effects on the system and damage the servo control.* Delta P monitoring, or electronic shut down is strongly recommended.

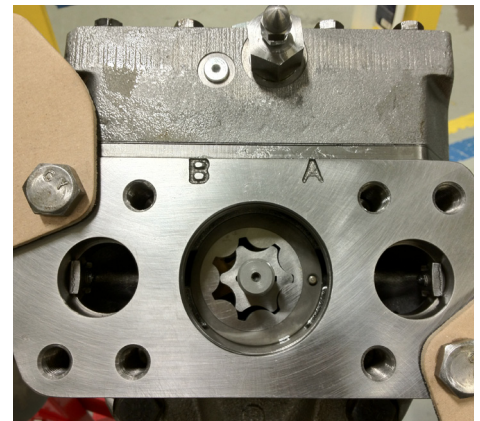
P6/7/8 (98, 119, 131 cc/rev) SAE C & D Mount

This frame size has a single internal Geroter pump (17.5 cc/rev) to supply both the servo and boost flow required for the pump. All three sizes are supplied with a plug, which can be fitted in between ports G and H so that the oil flow can be filtered as it comes out

of G and back into the H port. However, due to the internal galleries within the pump, the control has to be fitted to the “A” side of the pump to ensure that it receives filtered oil (*Figure 1a* – P6/7/8 Control Mounted on “A” Side). If the control is required to be fitted to the “B” side, then a special control (configured for external servo supply) and filter needs to be fitted (*Figure 1b* – P6/7/8 Control Mounted on “B” side).

P11/14 (180, 229 cc/rev) SAE E Mount

This frame size has two internal Geroters (17.5 cc/rev). One to supply the servo, and the other to supply the boost. Both pump sizes are supplied with a plug, which can be fitted between ports J and K so that the oil from the boost pump can be filtered as it comes out of J and back into the K port. However, there is no option to filter the servo flow! If the servo oil is required to be filtered, a modified port block is available which makes it possible to insert a plug and fit a filter as the oil leaves port G3 and comes back into port G2. However, due to the internal galleries within the pump, the control needs to be fitted to the “A” side of the pump to ensure that it receives filtered oil (*Figure 2a* – P11/14 Control Mounted on “A” Side). If the control is to be fitted to the “B” side, then the special control with external servo supply also needs to be incorporated (*Figure 2b* – P11/14 Control Mounted on “B” Side).



Installed Geroter used for servo and boost on Gold Cup P6/7/8 and P11/14 Gold Cup pumps.

P24/30 (404, 500 cc/rev) SAE F Mount

This frame size utilizes an internal spring-loaded vane pump to supply servo and boost flow. Due to the pump's design, this flow is externally piped between ports G and H. This provides the opportunity to place a filter in this line without any need for a plug. The control can be fitted to either side of the pump (*Figure 3* – P24/30 Control Mounted on “A” or “B” side).

Support

Have a question on the filtering of internal boost and servo pumps? Call the Technical Support Team at **937.644.3915**, or contact pumptechsupport@parker.com for assistance.

P6/7/8 Control Mounted on "A" Side

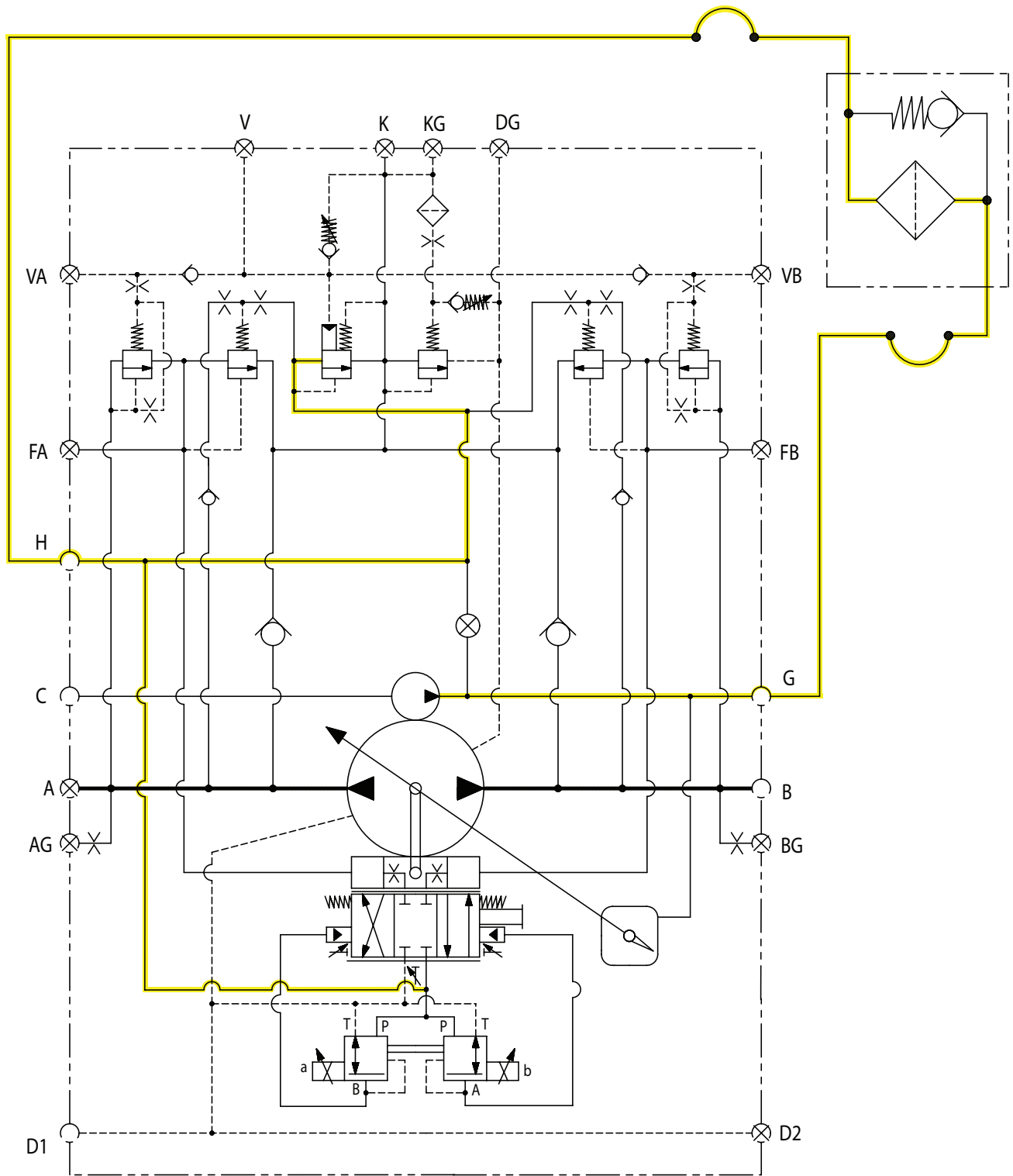


Figure 1a

P6/7/8 Control Mounted on "B" Side

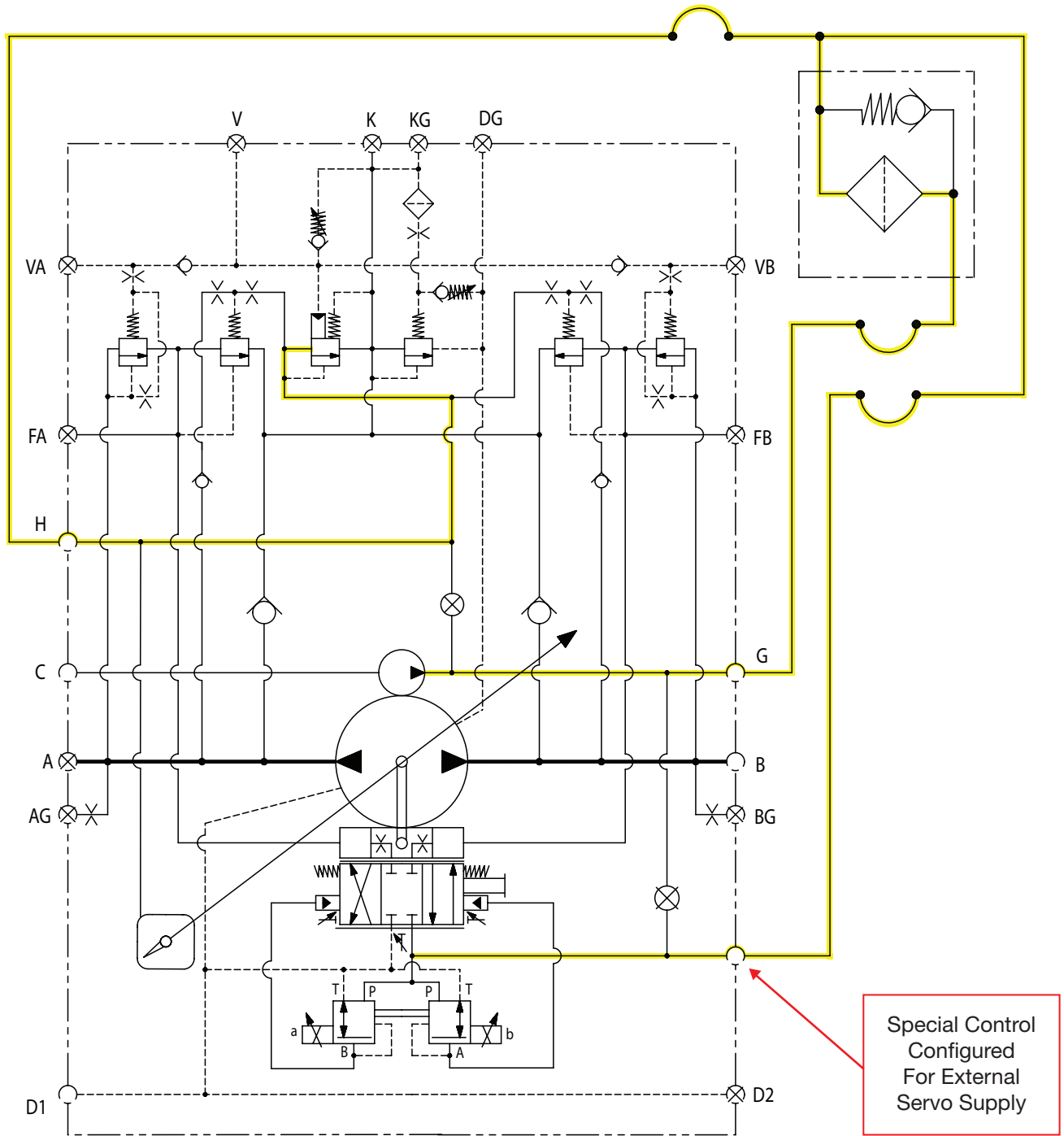


Figure 1b

P11/14 Control Mounted on "A" Side

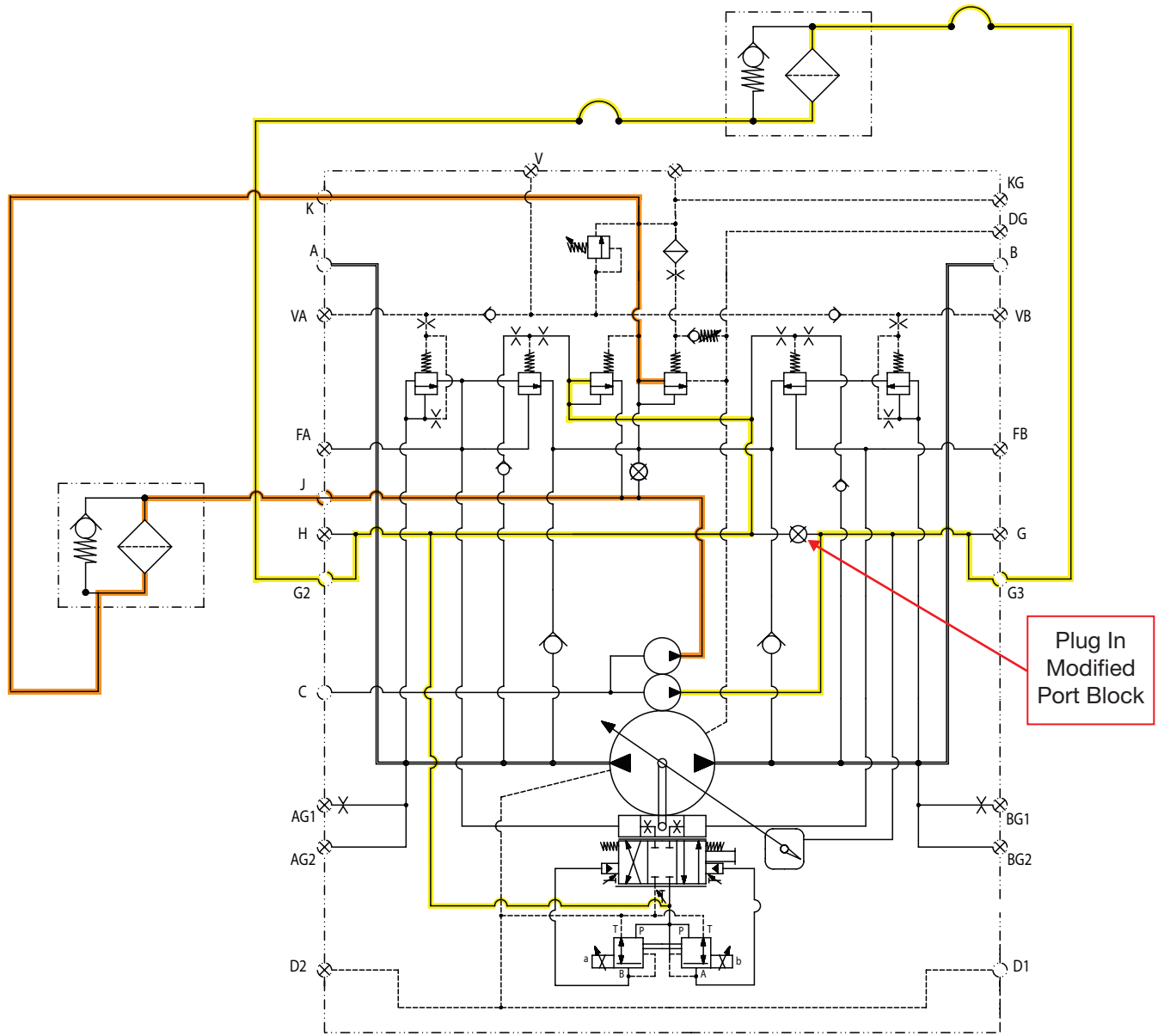


Figure 2a

P11/14 Control Mounted on "B" Side

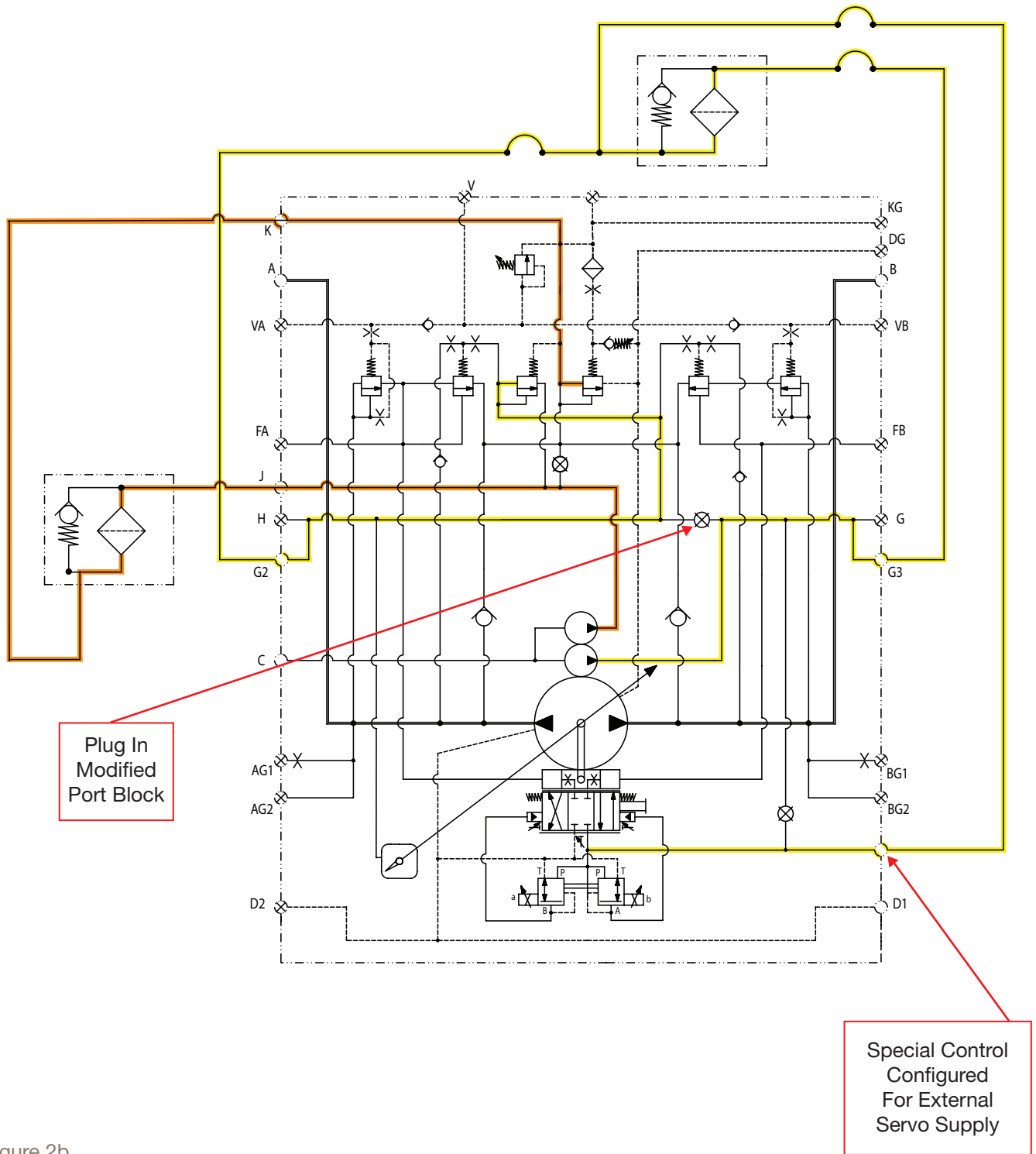


Figure 2b

P24/30 Control Mounted on "A" or "B" Side

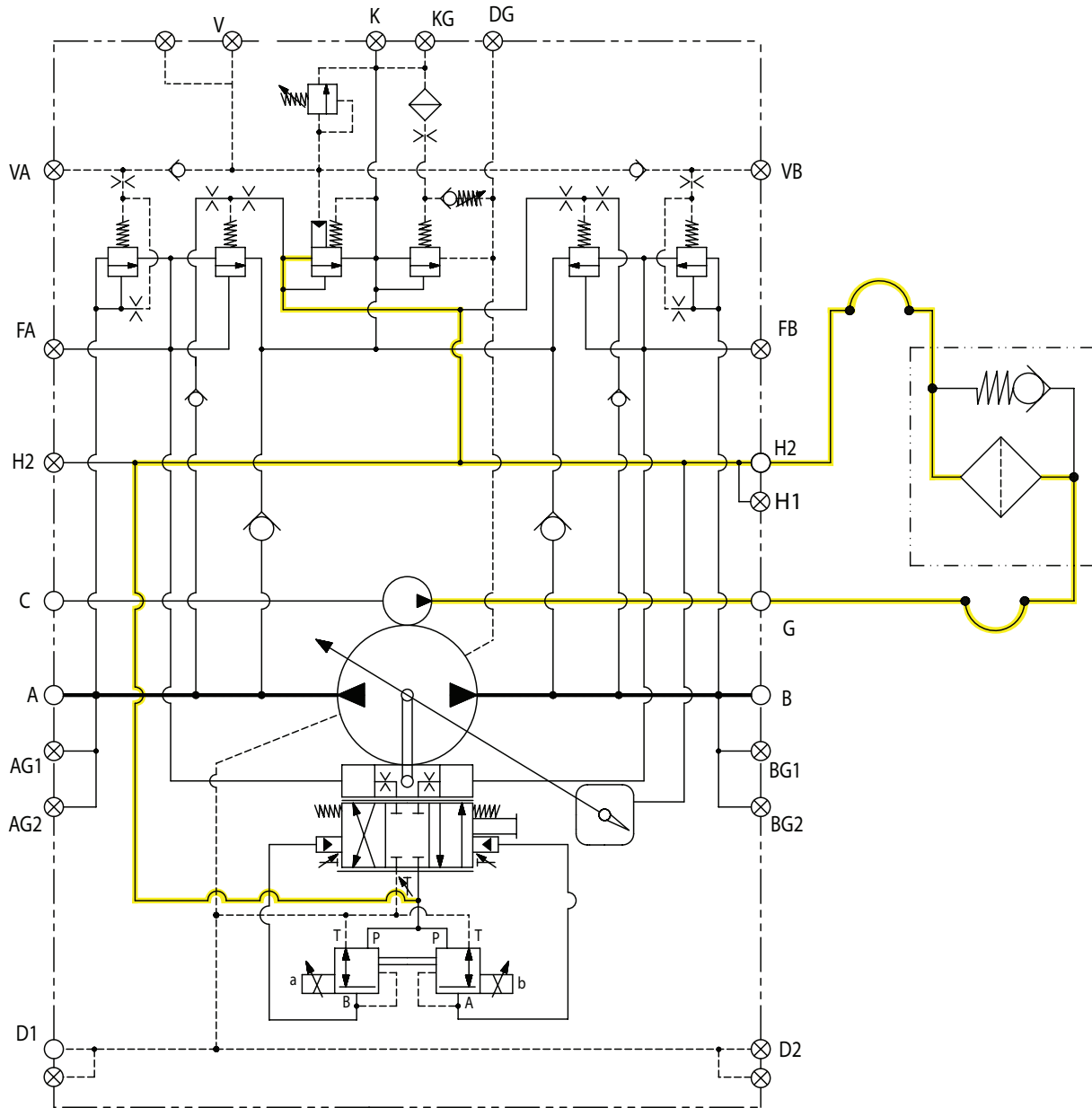


Figure 3

