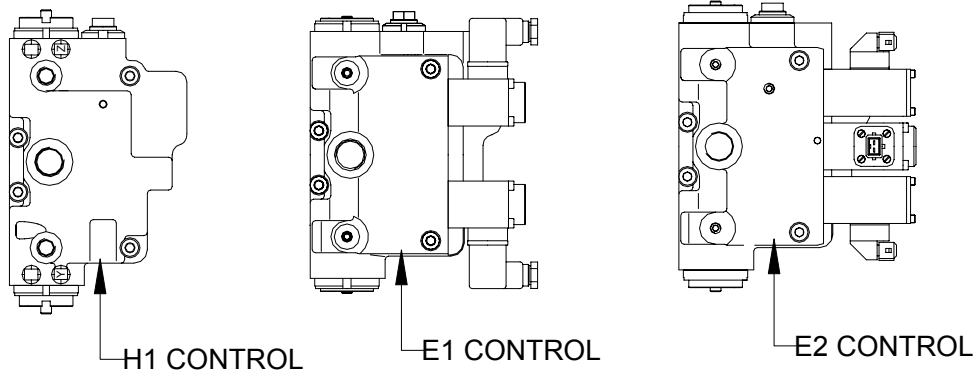


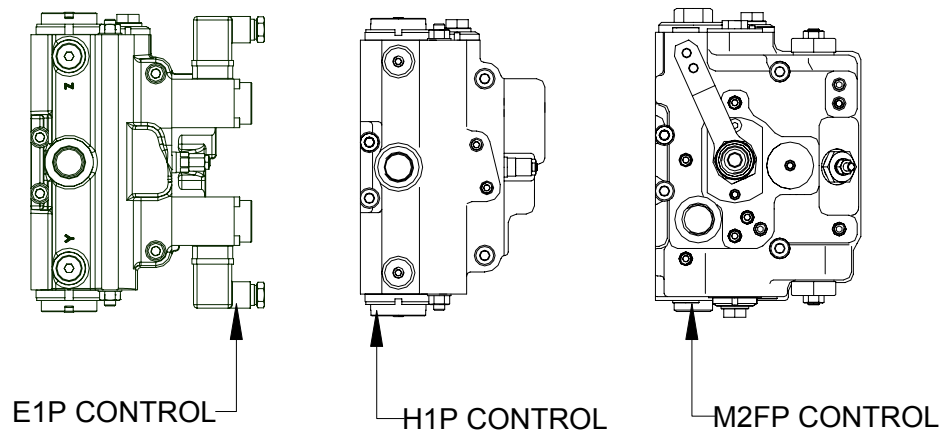
**IMPORTANT:**

Not all HPV-02 controls are directly or indirectly interchangeable with each other. Those HPV-02 controls which contain the integrated pressure override (POR) feature, can **ONLY** be interchanged with pumps controls which also contain the POR feature. **You CANNOT interchange HPV-02 pump controls without the POR feature, with the controls that have the POR feature.**



The pump controls (**Henceforth called Type-A Controls**) illustrated directly below are completely interchangeable with each other and no special considerations must be made:

The pump controls (**Henceforth called Type-B Controls**) illustrated directly below are completely interchangeable with each other and no special considerations must be made:





## Procedure to Exchange Controls On HPV-02 Pumps

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### Note:

The standard HPV-02 Cam control is indirectly interchangeable with those HPV-02 controls without the POR feature ("Type-A" Controls). However, special instructions are required to do this conversion. Please refer to Linde Conversion Bulletin "HPV-CONTROLS\_A" for detailed instructions on how to make this conversion. The standard HPV-02 Cam control is completely non-interchangeable with those HPV-02 controls with the POR feature ("Type-B" Controls).

### **IMPORTANT:**

**This Conversion Bulletin can be used if exchanging "Type-A" controls with each other or if exchanging "Type-B" controls with each other.**

### **Tools/Equipment Required:**

- 6mm Allen wrench
- torque wrench capable of setting 25 N-m (18 ft-lb).....[For "Type-A" controls ONLY]
- torque wrench capable of setting 34 N-m (25 ft-lb).....[For "Type-B" controls ONLY]

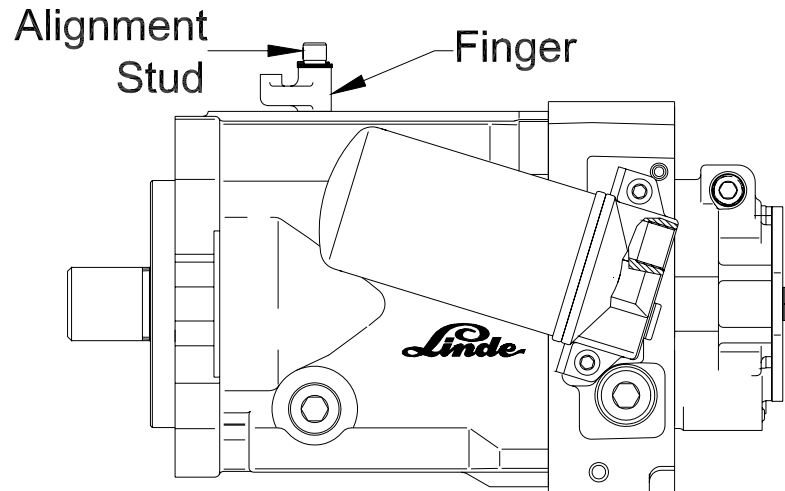
### **Procedure to Exchange Controls:**

1. Remove the four *S.H.C.S.* with the 6mm Allen wrench, then set them aside.
2. Pull the existing control straight off of the pump.

### Note:

There will be two metal split pins used to hold the control in place after the four *S.H.C.S.* are remove. There will be a slight resistance to remove the existing control - This is due to the split pins. You can over come this resistance by pulling the control straight off of the pump.

3. There will be one large o-ring and several small o-rings on the bottom of the existing control. Some or all of the o-rings may stick to the pump when the existing control is removed. Make sure to remove all o-rings from the pump and keep them all with the existing control.
4. Set aside the existing control, the o-rings, and the four *S.H.C.S.* as an assembly - Do not reuse any of these parts for this conversion.
5. Once the existing control is removed, the *Finger* will protrude from the pump as illustrated below.



6. The *Alignment Stud* must mate with the female linkage inside of the new control. Take this opportunity to locate the female linkage inside of the new control.
7. Prior to installing the new control, check it to insure that the following things are present:
  - a. Two metal split pins pressed into two passages on the bottom of the control
  - b. One large o-ring in good condition (i.e. undamaged) and properly placed in the o-ring groove (Note: You can use a little petroleum jelly to help hold the o-ring in place)
  - c. Several small o-rings in good condition (i.e. undamaged) and properly placed in the o-ring grooves (Note: You can use a little petroleum jelly to help hold the o-rings in place).
8. Install the new control onto the pump making sure that:
  - a. The *Alignment Stud* on the *Finger* is properly positioned into the female linkage inside the new control.
  - b. The metal split pins are aligned with the corresponding passages in the pump.
9. Fasten the new control with four new *S.H.C.S.* Tighten the *S.H.C.S.* with the 6mm Allen wrench and torque each one to:
  - 25 N-m (18 ft-lb).....[For "*Type-A*" controls ONLY]
  - 34 N-m (25 ft-lb).....[For "*Type-B*" controls ONLY]
10. Test the pump for functionality using Linde Test Procedures and adjust the control if necessary to achieve desired settings.



**\*\*\*\*\*ATTENTION\*\*\*\*\***

You have been provided information on conversion, repair and/or service of Linde components. Proper application of the information requires specific training and may require use of specialized tooling and equipment. If you choose to proceed with the conversion, repair and/or service of the Linde component(s) absent the necessary training and/or these specialized tools, you do so at your risk.

Linde Hydraulics Corporation will accept no claim for warranty or other consideration resulting from deficiencies in the conversion, repair and/or service done in accordance with the guidance offered herein when the necessary training has not been conducted and/or required specialized tooling and equipment has not been utilized.

All requests for training must be coordinated through your Linde Account Manager. He can also provide you price and availability of any specialized tooling.

Questions regarding the information provided or this disclaimer should be addressed to the Warranty & Service Department, Linde Hydraulics Corporation.

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