SERVICE INSTRUCTIONS

OILGEAR TYPE “2F” DUAL PRESSURE COMPENSATOR W/LOAD SENSOR CONTROLS FOR “PVWH” AND “PVW” PUMPS

PURPOSE OF INSTRUCTIONS

These instructions have been prepared to simplify and minimize your work of operating Oilgear type “2F” controlled units. This material will inform you as to basic construction, principle of operation and service parts listings. Some controls may be modified for specific applications from those described and other changes may be made without notice.

REFERENCE MATERIAL

- Fluid Recommendation ............................... Bulletin 90000
- Filtration Recommendations ....................... Bulletin 90007
- “PVWH” and “PVW” Open Loop Pumps .......... Bulletin 947015
- HSLRReliefValve ..................................... Section 5, Page B2.1
- HS2VOTwo-Way Valve ............................... Section 5, Page C1.1

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**PRINCIPLE OF OPERATION**

"2F" load sensing controls match pump flow and (either of two) pressures to load demand. As the load on the system increases, pump pressure will also increase but the flow (volume) will remain constant.

Refer to figure 4. The control senses and maintains a constant pressure differential across an orifice (flow control valve) in the delivery line resulting in pump flow becoming a function of control valve position. For a given flow control valve setting, the pump will maintain a constant flow regardless of changes in pump input speed and/or working pressure.

The flow compensator has no tank port. Therefore, the pressure compensator valve takes priority and short strokes the pump when compensator setting is reached. With solenoid de-energized and when pressure in the delivery line reaches a pressure high enough to shift the pressure compensator spool against its’ spring, high pressure is ported into the control chamber behind the piston which compresses the control spring and shifts the pump (swashblock) for reduced delivery until pressure in delivery line holds the preset pressure compensator valve setting. With solenoid energized, the pressure in the pressure compensator valve spring chamber is raised to the level of the high pressure relief valve. This pressure adds to spring setting of the pressure compensator valve, raising the pressure at which the pump compensates (reduces delivery).

As load pressure falls below the compensator setting, the load sensing function automatically resumes.

Lower pressure settings (P1) can be made from 400 psi (27.6 bar) and to 1500 psi (103 bar) higher pressure settings (P2) from 900 psi (60 bar) to units rated pressure.

**NOTE:**

Higher ranges are available (and may be used) for the lower (P1) range.
### PARTS LIST

Parts used in this assembly are per Oilgear specifications. Use Oilgear parts to ensure compatibility with assembly requirements. When ordering replacement parts, be sure to include pump type designation and serial number stamped on nameplate, bulletin and item number. To assure seal and packing compatibility, specify type of hydraulic fluid used.

<table>
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<td>Screw, HHC Mounting</td>
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<tr>
<td>361</td>
<td>Plug, SAE</td>
<td>367A</td>
<td>Orifice, Pressure Control</td>
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</tbody>
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* Spring side of control piston for “PVWH” 11 thru 20 sizes and for “PVW” 15 thru 60 sizes. Opposite side of control piston for all others.

** Used only for “PVWH” 11 thru 60 sizes, and “PVW” 15 thru 60 sizes.

*** Used only on “PVW” 34 - 60 units.