SERVICE INSTRUCTIONS

OILGEAR TYPE "ER" ELECTRONIC REMOTE PRESSURE COMPENSATOR CONTROLS FOR "PVWH" and "PVW" PUMPS

PURPOSE OF INSTRUCTIONS

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

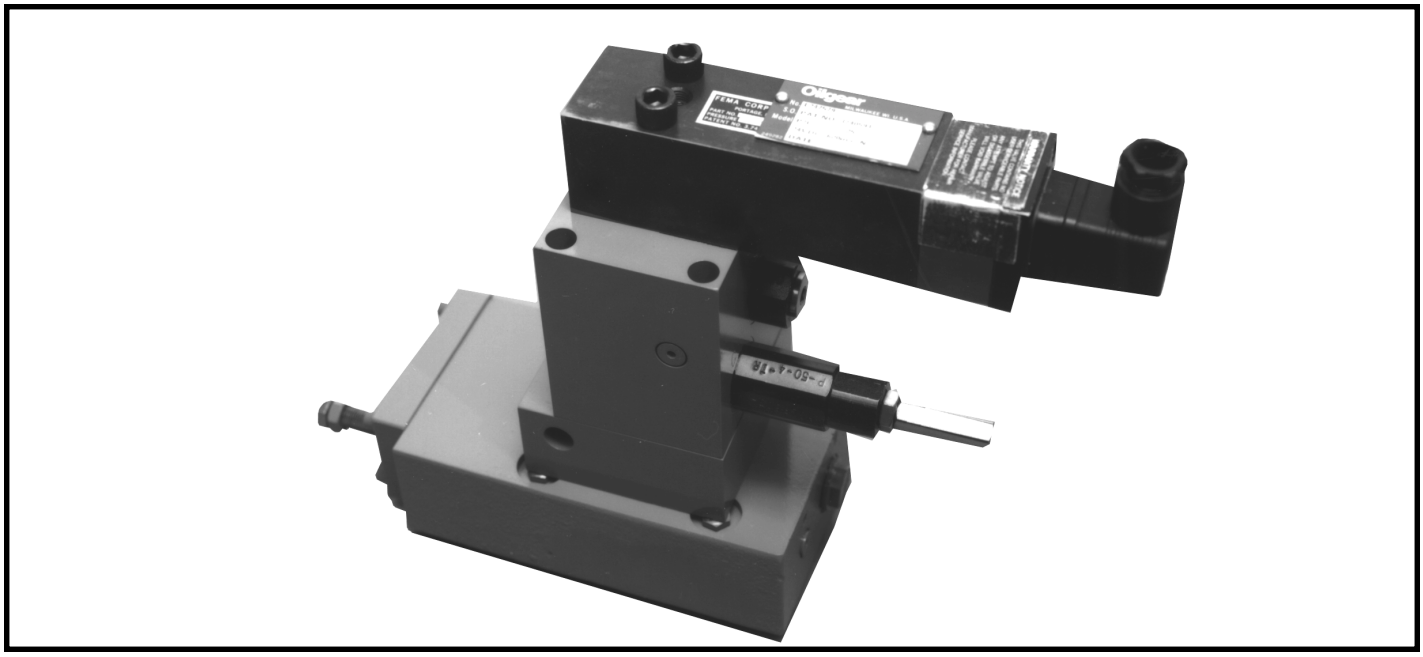

Figure 1. Typical "ER" control for Oilgear "PVWH" and "PVW" pumps (99000).

REFERENCE MATERIAL

Fluid Recommendations	Bulletin	90000
Filtration Recommendations	Bulletin	90007
Piping Information	Bulletin	90011
"PVWH" and "PVW" Open-Loop Pumps	Bulletin	947015
HSLR Relief Valve	Data Sheet	82550-B2.1A
HSCF Contamination Fuse	Data Sheet	84952-C15.1

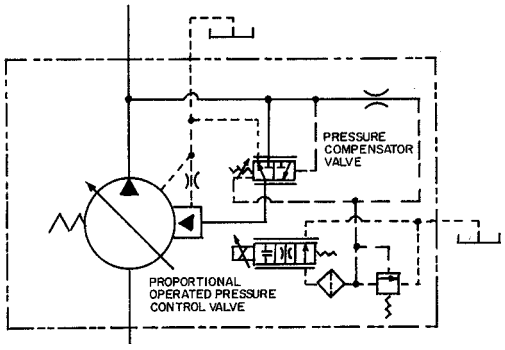

Figure 2. ASA diagram for "ER" controls shown with typical pumps (5V-12076-L)

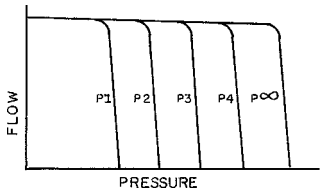

Figure 3. Typical flow vs. pressure curves for "ER" controlled pumps.

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PRINCIPLE OF OPERATION

"ER" controls are designed to provide an infinite number of independent, remotely adjustable pressure settings. The control converts an electric signal to a pressure value. With closed loop electronics (essentially, the use of a pressure transducer for feedback), the control is accurate within a 10 psi (0,7 bar) range.

The pressure compensator control ensures maximum pump flow until the system reaches the setting of the pressure compensator valve. The control then regulates the output flow to match the flow requirements of the system while maintaining the set output pressure. When system no longer requires flow, the control destrokes the pump while maintaining the set pressure.

Hydraulic pressure adjustment (setting) is accomplished by use of a electronic proportional operated pressure control valve used to adjust pressure in the compensator spring chamber. Therefore, the pump output pressure is varied by operation of this remote electronic control.

Should there be a loss of electrical input command, the unit will drop to minimum pressure (with use of a normally open proportional valve) or will rise to maximum pressure as set by compensator valve adjustment (with use of a normally closed proportional valve).

Standard pressure settings can be made from 500 psi (34,5 bar) to 5000 psi (345 bar).

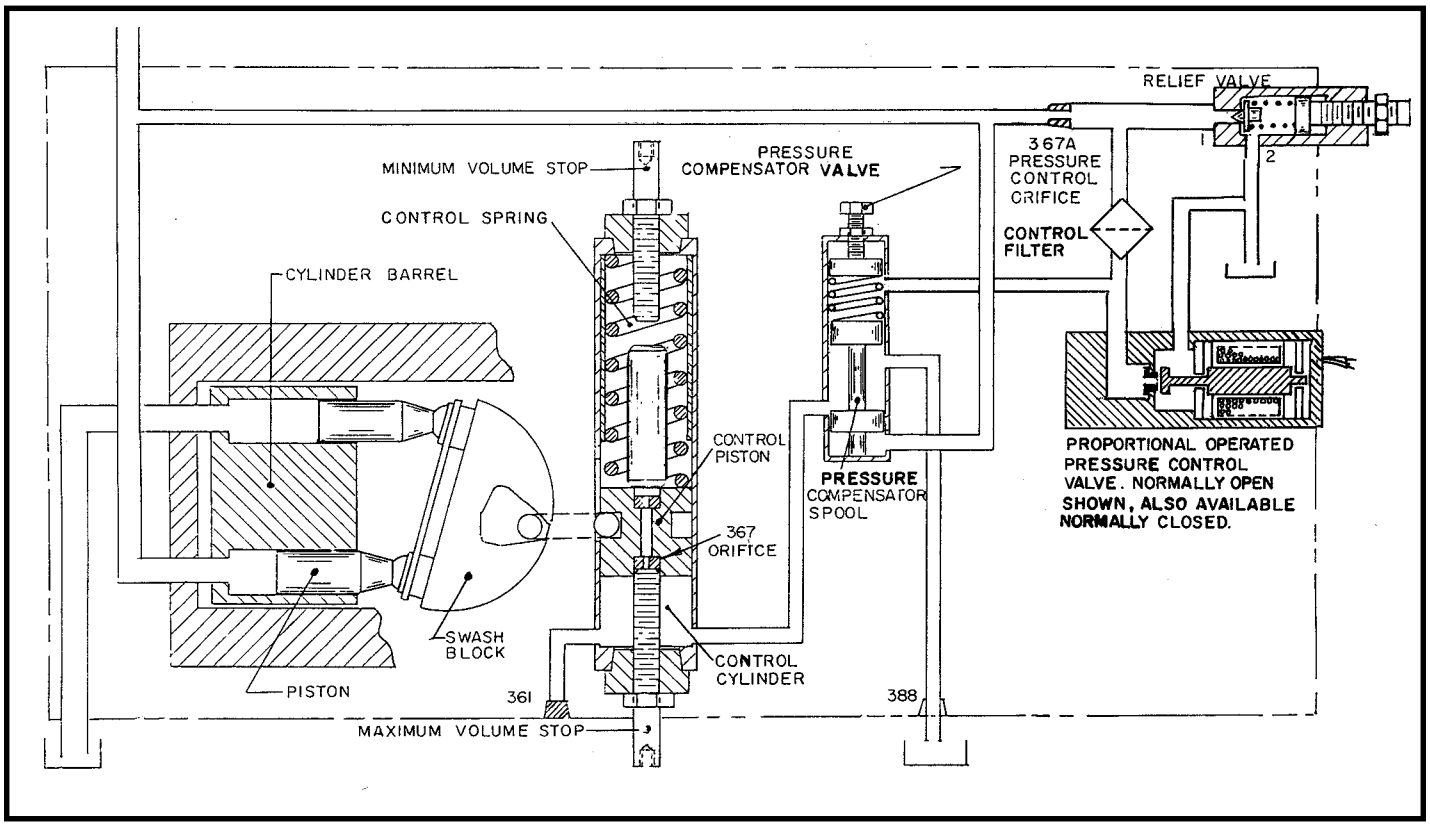

Figure 4. Cut-a-way diagram of "ER" Electronic Remote Pressure Compensator Control (E-51839, sh. 7)

PARTS LISTS

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.

ITEM NO.	DESCRIPTION
303	Screw, H.H.C. Mounting
	Also see DS-82550-B2.1A
	for following
339	Body, HSLR Relief Valve
339A	Bonnet, HSLR Relief Valve
339B	Screw, HSLR Relief valve
339C	Cap, HSLR Tamper Resistant
339D	Nut, Jam
339E	Spring, HSLR Relief Valve

ITEM NO.	DESCRIPTION
339F	Poppet, HSLR Relief Valve
339G	Seal, HSLR Relief Valve
339H	Orifice, Plug
339J	Seal, O'ring
339K	Seal, O'ring
339L	Seal, O'ring
339M	Ring, Back-up
339N	Seal, O'ring
339P	Ring, Back-up

ITEM NO.	DESCRIPTION
339R	Seal, O'ring
	Also see DS-84952-C15.1
	for following
340	Body, HSCF Containment Fuse
340A	Element, HSCF Fuse
340B	Spring, HSCF Fuse
340C	Plug, SAE
340D	Seal, O'ring
340E	Seal, O'ring

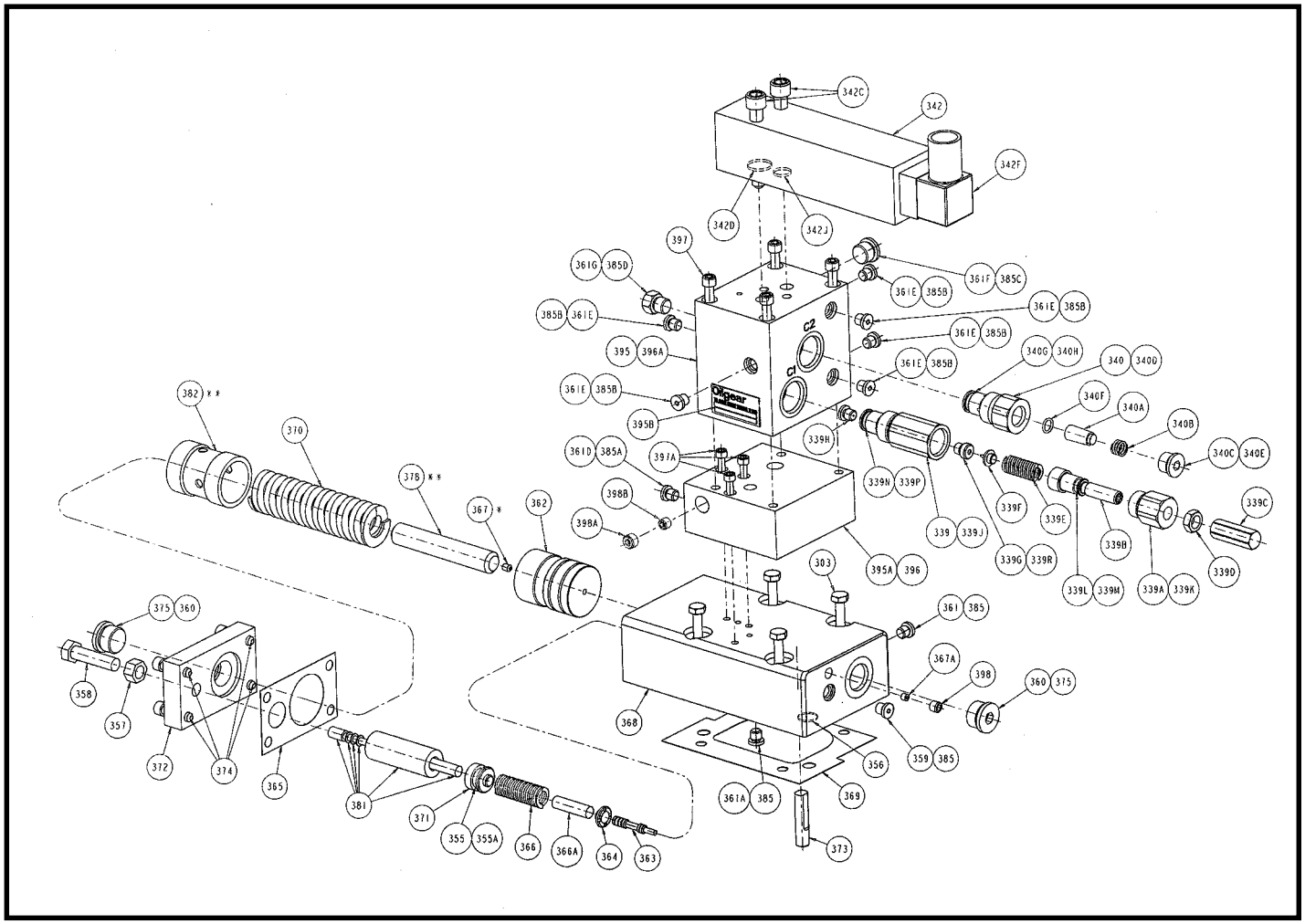

Figure 5a. Exploded Parts Drawing Oilgear Type “ER” Control (E-51839 sh. 3).

PARTS LISTS– (Cont’d)

ITEM NO.	DESCRIPTION
340F	Seal, O’ring
340G	Seal, O’ring
340H	Ring, Back-up
342	Valve, Basic Electronic Proportional
342C	Screw, S.H.C.
342D	Seal, O’ring
342F	Connector, Electrical
342J	Seal, O’ring
355	Seal, O’ring
355A	Ring, Back-up
356	Seal, O’ring
357	Nut, Hex.
358	Screw, Pressure Comp.
359	Plug, SAE
360	Plug, SAE
361	Plug, SAE
361A	Plug, SAE
361D	Plug, SAE
361E	Plug, SAE

ITEM NO.	DESCRIPTION
361F	Plug, SAE
361G	Plug, SAE
362	Piston, Control
363	Spool, Pressure Comp.
364	Seat, Spring
365	Gasket, Cover
366	Spring, Pressure Comp.
366A	Rod, Compensator
367*	Orifice, Control Piston
367A	Orifice, Pressure Control
368	Housing, Control
369	Gasket, Control Housing
370	Spring, Control Piston
371	Plug, Control
372	Cover, Control Housing
373	Pin, Control Piston
374	Screw, S.H.C.
375	Seal, O’ring
378**	Stop, Control Piston Min. Volume

ITEM NO.	DESCRIPTION
381	Assembly, Pressure Comp.
382***	Sleeve, Control Piston Stop
385	Seal, O’ring
385A	Seal, O’ring
385B	Seal, O’ring
385C	Seal, O’ring
385D	Seal, O’ring
395	Housing, Relief Valve and Fuse Modules
395A	Adapter, “ER” Control
395B	Plate, Name
396	Seal, O’ring
396A	Seal, O’ring
397	Screw, S.H.C.
397A	Screw, S.H.C.
398	Plug, Pipe
398A	Plug, Pipe
398B	Plug, Pipe

* Spring side of control piston for “PVWH” 11 thru 20 sizes: for “PVW” sizes 15 thru 60 sizes. Opposite side of control piston for all others.

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

*** Used only on “PVW” 34 thru 60 size units.

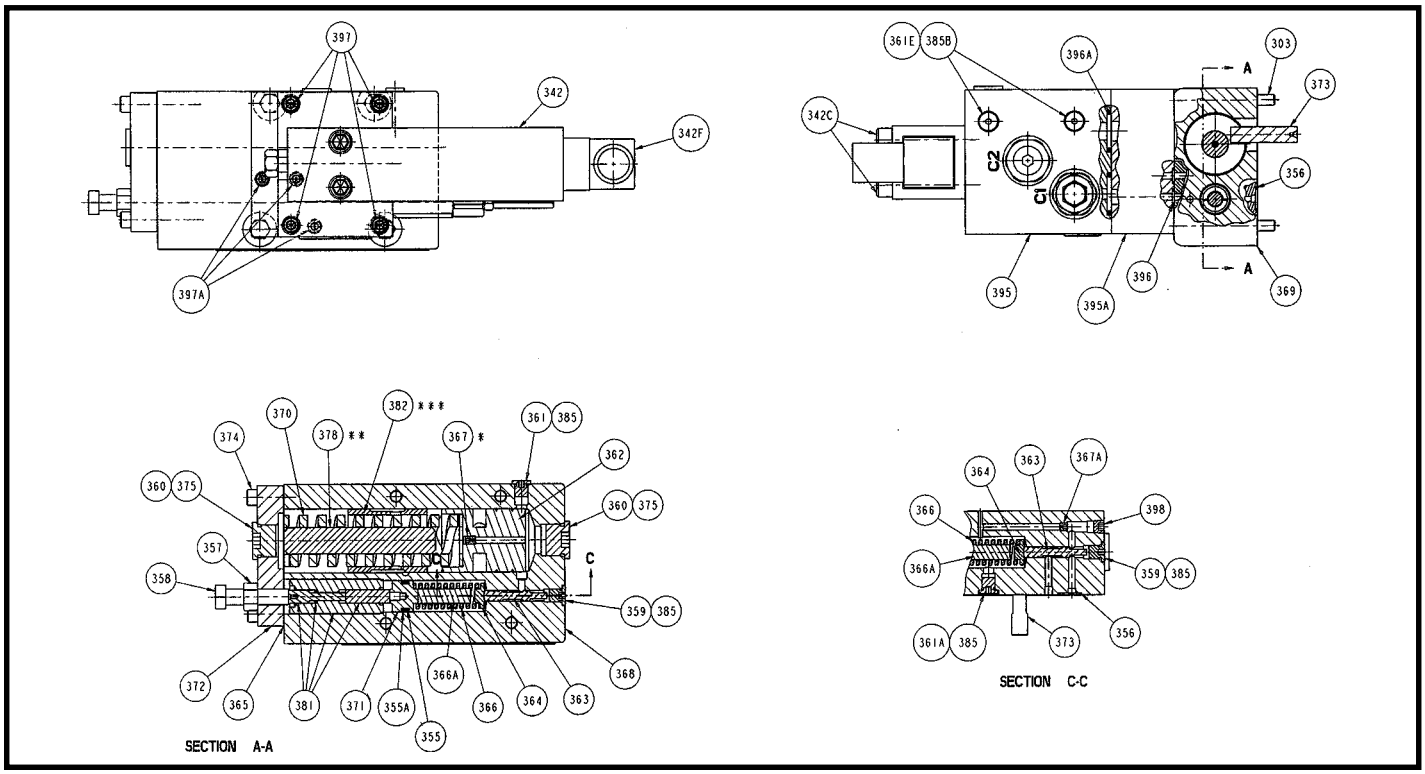

Figure 5b. Plan View Parts Drawing Oilgear Type “ER” Control (E-51839 sh. 1).

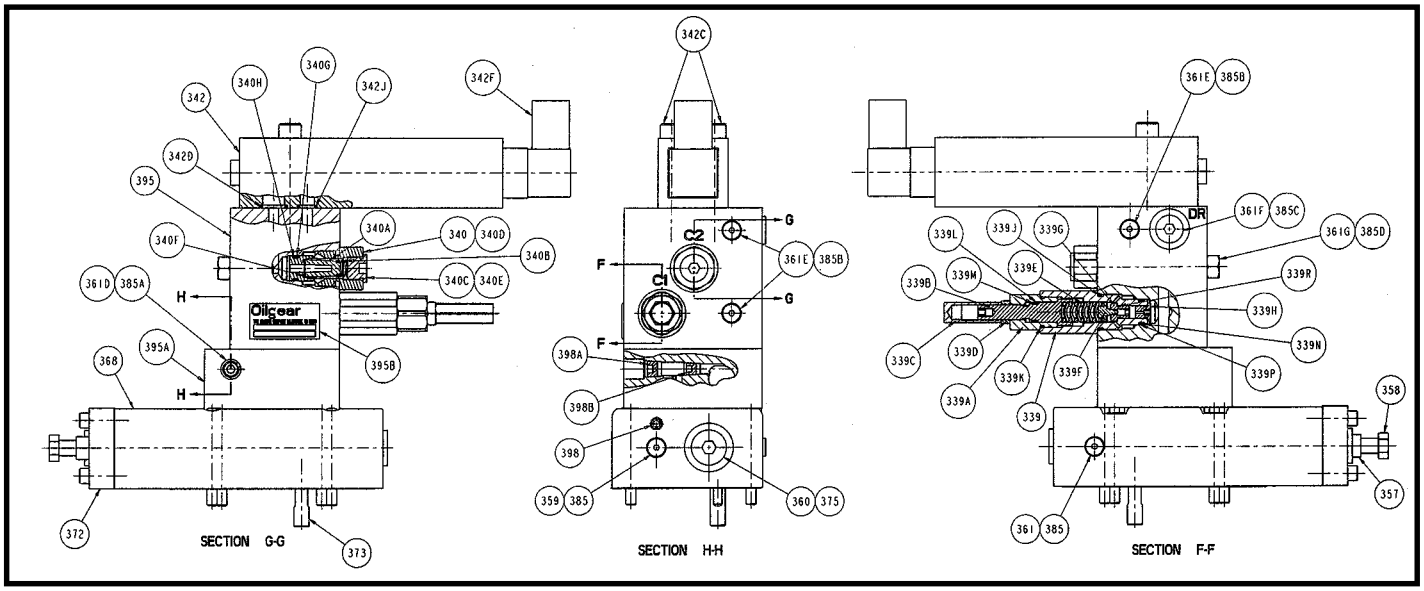

Figure 5c. Plan View Parts Drawing Oilgear Type “ER” Control (E-51839 sh. 2).

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