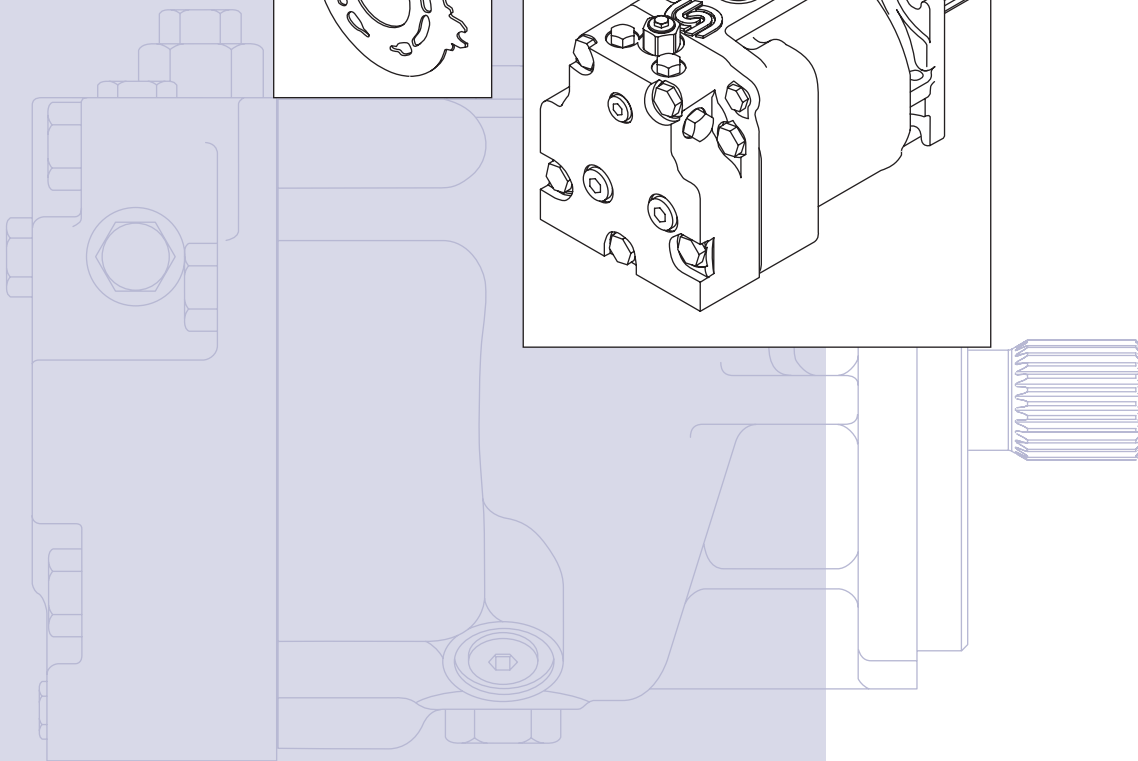
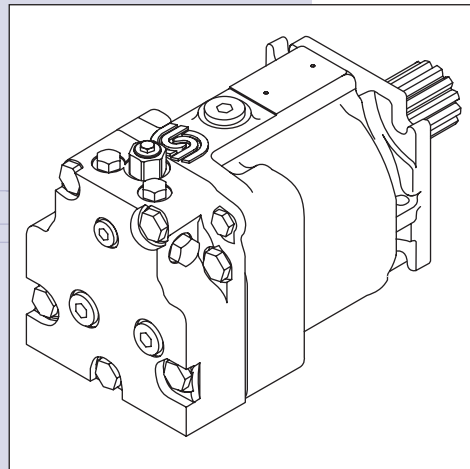
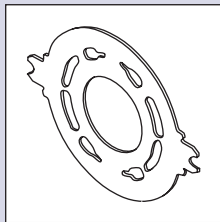
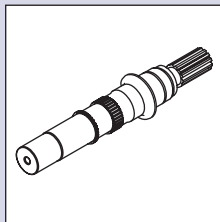
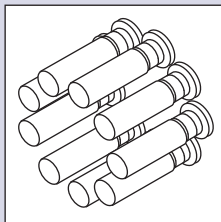


Series 90
55 cc Axial Piston
Motors

Parts Manual





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Front cover illustrations: P100 609, P100 682, P100 683, P100 700

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**SERVICE PARTS
 IDENTIFICATION**

The following information and procedure is used to identify the module group, item number, manufacture date, part number, and part name of the parts included in the Series 90, 55 cc motors.

The parts listed include all parts which may be used when performing either "Minor Repairs," "Major Repairs" or "Conversions" on the Series 90, 55 cc motor.

NAMEPLATE

Each unit will have a nameplate affixed to the housing. The nameplate will include the following information.

Model Code

The Sauer-Danfoss model code completely defines the specific unit and must be used when ordering parts to service this product.

Model Number

The Sauer-Danfoss model number is used by the factory in manufacturing. On repeat orders, a complete unit can be ordered by the model number.

Serial Number

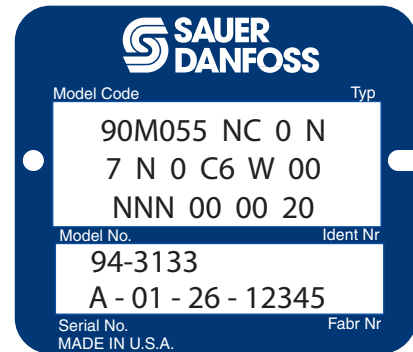
The Sauer-Danfoss serial number is used to identify the manufacture date and the unit sequence in the build. The serial number is also used to identify the units warranty time period.

The letter code indicates the location of original manufacture (assembly). "A" indicates the unit was originally assembled in Ames, Iowa, USA. "N" indicates the unit was originally assembled in Neumunster, Germany.

The first number (2 digits) indicates the year of manufacture. ("01" would indicate the unit was manufactured in 2001)

The second number (2 digits) indicates the calendar week of manufacture.

The third number (5 digits) is a sequential number used to identify a specific unit.



DATE CODE

The date code is defined as the year and week of manufacture. The same item number may list more than one part number. This indicates that there is more than one configuration for that item number. You will see that there are different date codes for the different part numbers. Find the date code of your unit from the nameplate to determine which service part number you need to order.

EXAMPLE: The service part desired is Item H10

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Usage
N	H10	89-38		8800668	Loop flushing spool, defeated	1
	H10	87-02	89-37	8800021	Loop flushing spool, defeated (SB-1989-020)	1

All units using this order code with a date code of 87-02 and up to and including 89-37, must use part number "8800021". All units with a date code of 89-38 and newer must use part number "8800668".

SERVICE BULLETINS

A Service Bulletin Number (SB-____ - ____) may follow the "Part Name" of the part you desire. You must read that Service Bulletin prior to ordering that part. The information contained in these Service Bulletins, as of the print date of this bulletin, are included at the end of this manual. Service Bulletins contain more detailed information such as interchangeability, what additional parts are involved, etc. It is suggested that you add additional Service Bulletins to this manual as you receive them.

PROCEDURE TO IDENTIFY A PART

General

The modular design of Series 90 units results in a simplified service parts list and part number identification procedure.

The same item numbers are used for same part names on all units within a product type. (Example: The lip seal - Item L40 has the same item number on all motors.)

A part number that has another number following it in parentheses is done to make this a world wide manual. The first number is sold in Germany. The number in parentheses is sold in the United States. (Example: 314583 (9008000-0118), customers would order 9008000-0118 if ordering the part in the United States.)

Example of a Part Identification

The nameplate on a Series 90 motor has an Order Code of 90M055 NC 01 N 7 N 0 C6 W 00 NNN 00 00 20. Use the following procedures to determine the part number of the drive shaft used on this motor.

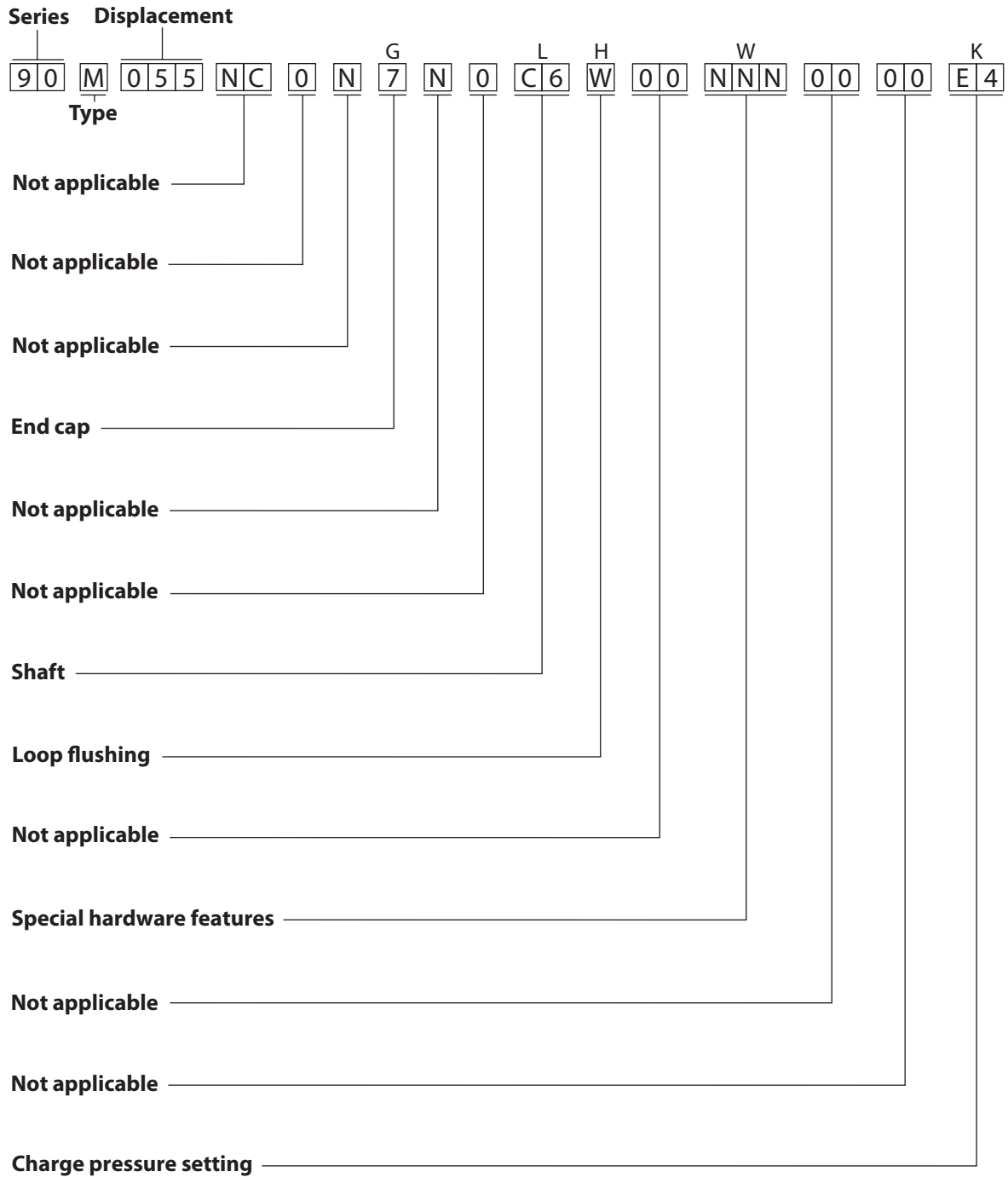
1) Referring to the output shaft module in the Order Code (see page 7), the output shaft option for this motor is identified by the code "C6". (90M055 NC 01 N 7 N 0 C6 W 00 NNN 00 00 20)

2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "C6". The shaft is found to be item L100 and part number 8000825.

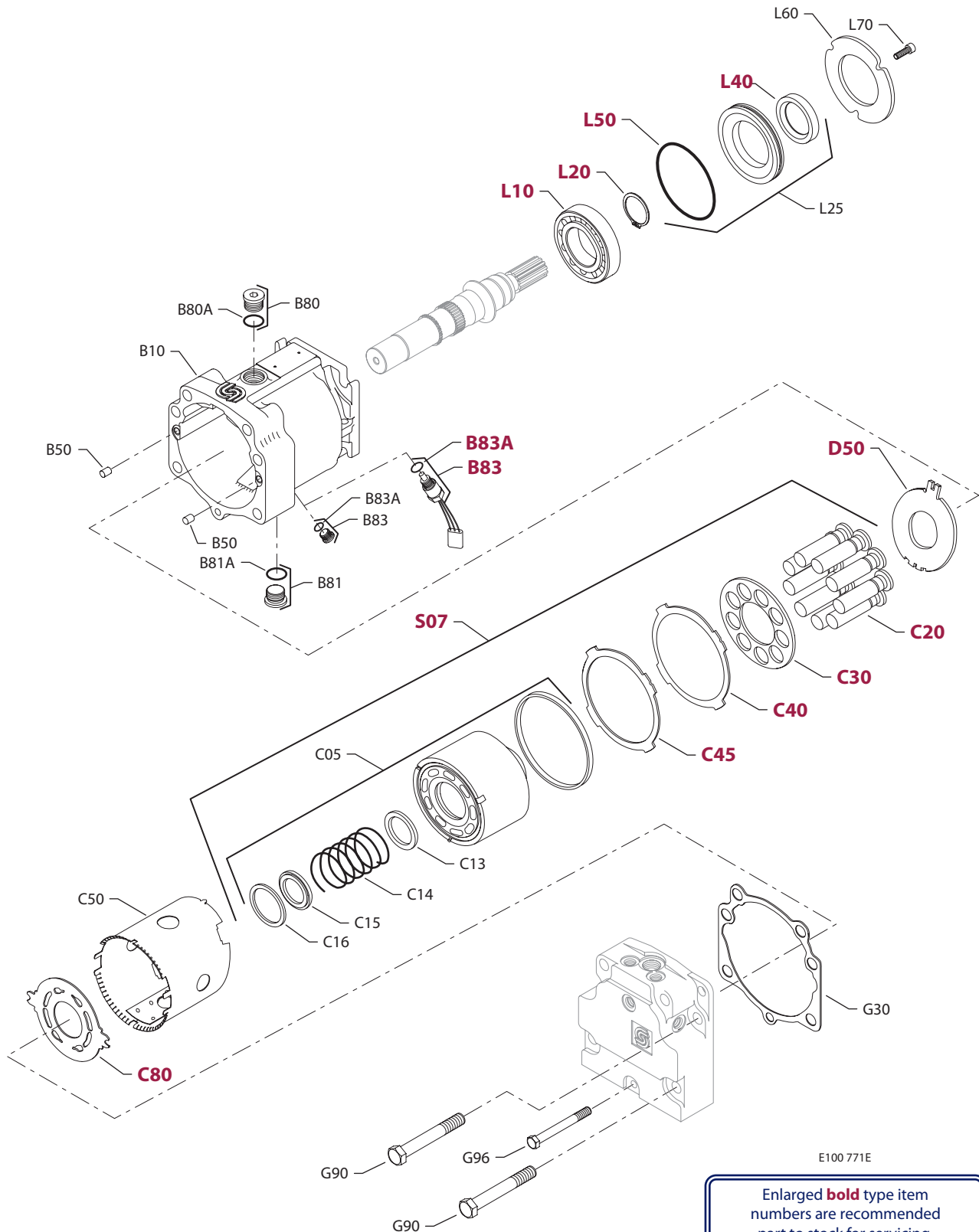


Series 90 55 cc Axial Piston Motors
Parts Manual
Notes





P100 701E



E100 771E

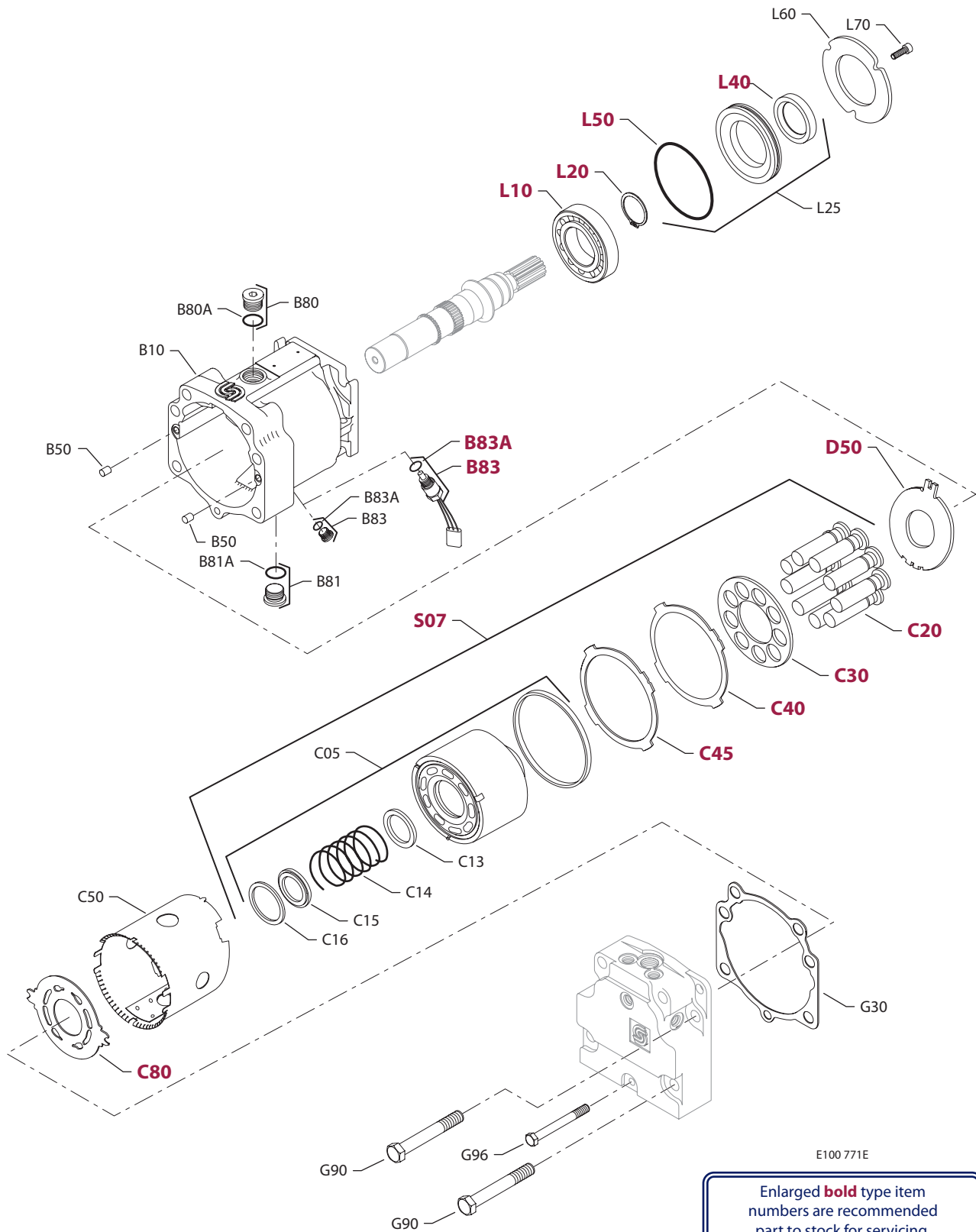
Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON PARTS

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B10	87-02		8000782	Housing (SB-2004-015)	1
	B50	87-02		001289 (9004800-3708)	Pin	2
	B80	87-02		315325 (9005110-8700)	Plug assembly	1
	B80A	87-02		001149 (9004201-6200)	O-ring	1
	B81	87-02		315325 (9005110-8700)	Plug assembly	1
	B81A	87-02		001149 (9004201-6200)	O-ring	1
	C13	87-02		314898 (8000014)	Spring seat	1
	C14	87-02		314864 (8000015)	Cylinder block spring	1
	C15	87-02		314872 (8000091)	Spring retainer	1
	C16	87-02		314880 (9006275-0029)	Retaining ring	1
	C20	87-02		367672	Piston assembly (SB-1988-023)	9
	C30	87-02		314369 (8000007)	Slipper guide	1
	C40	88-43		329714 (8000072)	Slipper guide retainer	1
	C45	88-43		329722 (8000073)	Slipper guide retainer spacer	1
	C50	87-02		8000265	Hold down tube	1
	C80	87-02		329748	Valve plate	1
	D50	87-02		8000374	Thrust plate	1
	G30	87-02		8000721	End cap gasket	1
	G90	05-22		675918 (9007210-1216)	Screw (SB-2004-015)	6
	G90	87-02	05-21	675918 (9007210-1216)	Screw (SB-2004-015)	4
	G95	87-02	05-21	675900 (9007210-1209)	Screw (SB-2004-015)	2
	G96	87-02		329771 (9007210-0816)	Screw	1
	L10	87-02		5000504	Roller beraing	1
	L20	87-02		615245 (9006300-0137)	Retaining ring	1
	L25	87-02		8000390	Seal assembly	1
	L40	87-02		314583 (9008000-0118)	Lip seal	1
	L50	87-02		071845 (9004104-1510)	O-ring	1
	L60	87-02		516766	Retainer plate	1
	L70	87-02		041160 (9007314-0605)	Screw	3

SPECIAL HARDWARE

EAA	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly. w/speed ring	1
	B83	87-02		KPPG12508	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EAG	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly. w/speed ring	1
	B83	87-02		KPPG16511	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EAJ	S07	06-48		8510396	Cylinder block kit, w/speed ring	1
	C05	06-48		8000808	Cylinder block assembly. w/speed ring	1
	B83	06-48		KPPG165	Speed sensor	1
	B83A	06-48		085043 (9004201-3700)	O-ring	1

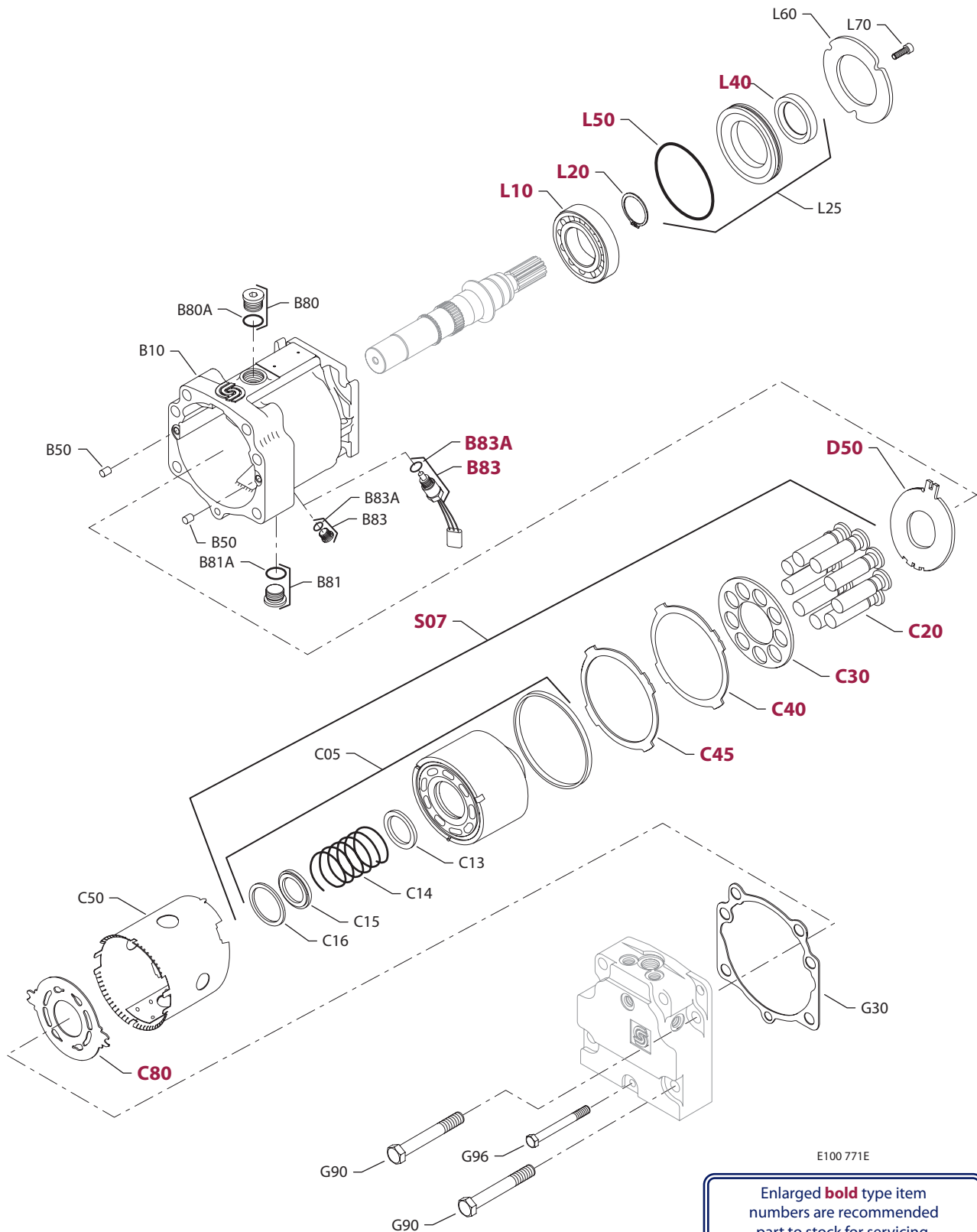


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Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EBA	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG13408	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
ECA	C05	87-02		8000809	Cylinder block assembly, w/impulse speed ring	1
	B83	87-02		8800861	Special plug assembly	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EEA	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		515965 (9005110-5600)	Plug assembly	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EEK	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		515965 (9005110-5600)	Plug assembly	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EFA	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG136	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EFC	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG156	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EFE	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG136	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EGG	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG17708	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EGH	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG13703	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EGJ	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG13708	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1

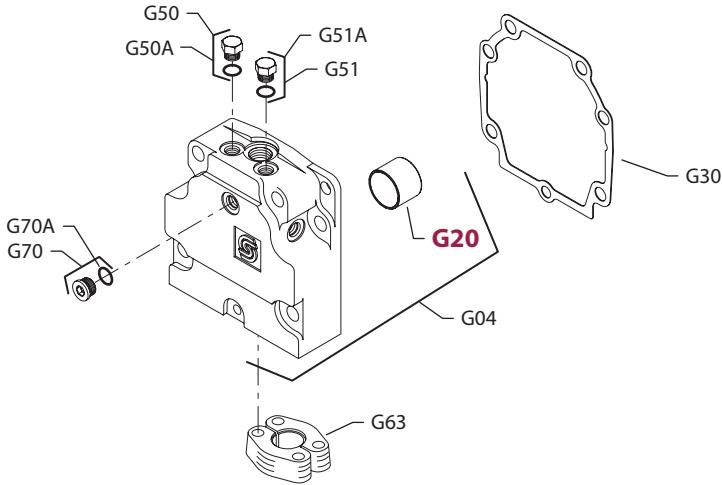


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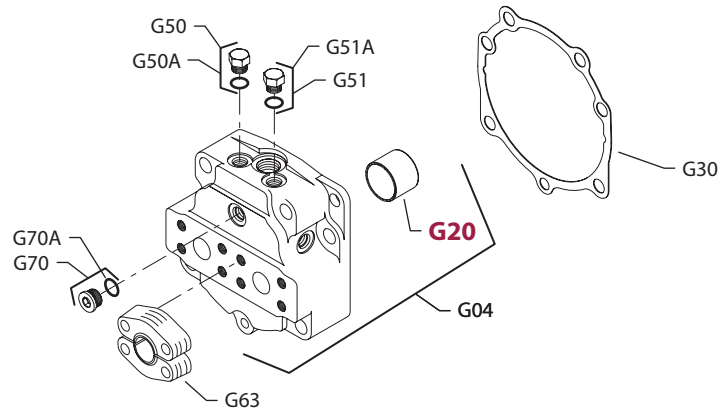
Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

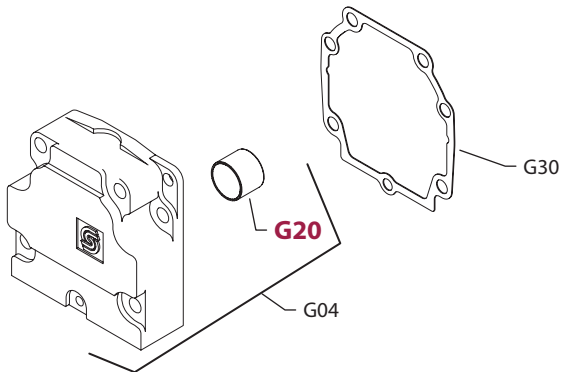
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EHD	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG16408	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
JAB	S07	87-02	06-28	8510361	Cylinder block kit, w/o speed ring	1
	C05	87-02	06-28	8000804	Cylinder block assembly, w/o speed ring	1
	B83	87-02	06-28	515965 (9005110-5600)	Plug assembly	1
	B83A	87-02	06-28	085043 (9004201-3700)	O-ring	1
JAC	S07	87-02	06-28	8510361	Cylinder block kit, w/o speed ring	1
	C05	87-02	06-28	8000804	Cylinder block assembly, w/o speed ring	1
	B83	87-02	06-28	515965 (9005110-5600)	Plug assembly	1
	B83A	87-02	06-28	085043 (9004201-3700)	O-ring	1
JAD	S07	06-17		8510361	Cylinder block kit, w/o speed ring	1
	C05	06-17		8000804	Cylinder block assembly, w/o speed ring	1
	B83	06-17		515965 (9005110-5600)	Plug assembly	1
	B83A	06-17		085043 (9004201-3700)	O-ring	1
JAG	S07	06-12		8510361	Cylinder block kit, w/o speed ring	1
	C05	06-12		8000804	Cylinder block assembly, w/o speed ring	1
	B83	06-12		515965 (9005110-5600)	Plug assembly	1
	B83A	06-12		085043 (9004201-3700)	O-ring	1
JAH	S07	06-12		8510361	Cylinder block kit, w/o speed ring	1
	C05	06-12		8000804	Cylinder block assembly, w/o speed ring	1
	B83	06-12		515965 (9005110-5600)	Plug assembly	1
	B83A	06-12		085043 (9004201-3700)	O-ring	1
JAK	S07	06-13		8510361	Cylinder block kit, w/o speed ring	1
	C05	06-13		8000804	Cylinder block assembly, w/o speed ring	1
	B83	06-13		515965 (9005110-5600)	Plug assembly	1
	B83A	06-13		085043 (9004201-3700)	O-ring	1
JAL	S07	06-17		8510361	Cylinder block kit, w/o speed ring	1
	C05	06-17		8000804	Cylinder block assembly, w/o speed ring	1
	B83	06-17		515965 (9005110-5600)	Plug assembly	1
	B83A	06-17		085043 (9004201-3700)	O-ring	1
NNN	S07	87-02		8510361	Cylinder block kit, w/o speed ring	1
	C05	87-02		8000804	Cylinder block assembly, w/o speed ring	1
	B83	87-02		515965 (9005110-5600)	Plug assembly	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1



Twin port end cap



Axial port end cap



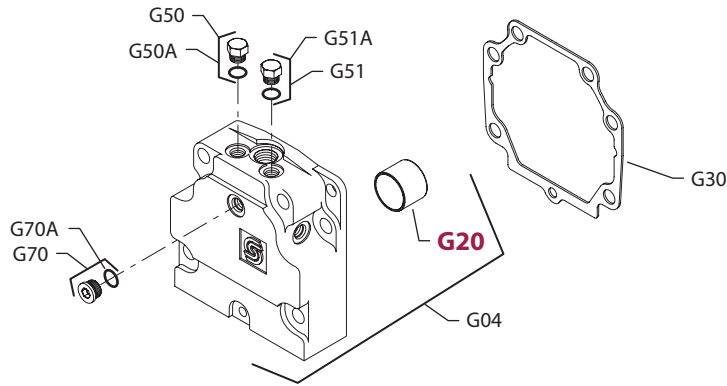
**Twin port end cap
without loop flushing**

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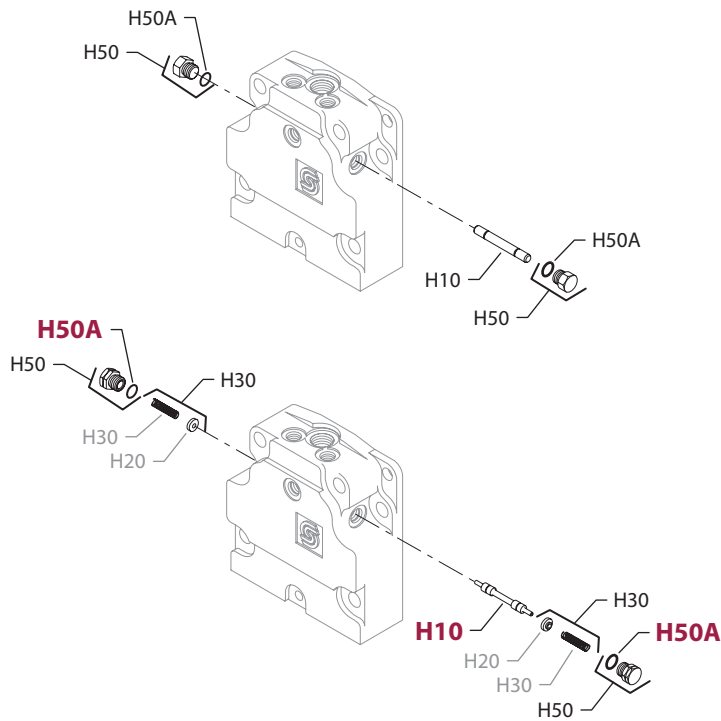
Enlarged **bold** type item numbers are recommended part to stock for servicing.

END CAP

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
1	G04	89-38		8000594	End cap assembly, twin ports (SB-1998-007)	1
	G20	87-02		333278 (8700018)	Journal bearing	1
	G50	87-02		046151 (9005100-5600)	Plug assembly	1
	G50A	87-02		085043 (9004201-3700)	O-ring	1
	G51	87-02		046151 (9005100-5600)	Plug assembly	1
	G51A	87-02		085043 (9004201-3700)	O-ring	1
	G63	87-02		314179 (8700074)	Split clamp (code 61 hose)	4
	G70	87-02		515965 (9005110-5600)	Plug assembly	1
	G70A	87-02		085043 (9004201-3700)	O-ring	1
3	G04	89-38		8000595	End cap assembly, axial ports (SB-1998-007)	1
	G20	87-02		333278 (8700018)	Journal bearing	1
	G50	87-02		046151 (9005100-5600)	Plug assembly	1
	G50A	87-02		085043 (9004201-3700)	O-ring	1
	G51	87-02		046151 (9005100-5600)	Plug assembly	1
	G51A	87-02		085043 (9004201-3700)	O-ring	1
	G63	87-02		314179 (8700074)	Split clamp (code 61 hose)	4
	G70	87-02		515965 (9005110-5600)	Plug assembly	1
	G70A	87-02		085043 (9004201-3700)	O-ring	1
7	G04	89-38		8000595	End cap assembly, axial ports (SB-1998-007)	1
	G20	87-02		333278 (8700018)	Journal bearing	1
	G50	87-02		046151 (9005100-5600)	Plug assembly	1
	G50A	87-02		085043 (9004201-3700)	O-ring	1
	G51	87-02		046151 (9005100-5600)	Plug assembly	1
	G51A	87-02		085043 (9004201-3700)	O-ring	1
	G70	87-02		515965 (9005110-5600)	Plug assembly	1
	G70A	87-02		085043 (9004201-3700)	O-ring	1
	8	G04	89-38		8000594	End cap assembly, twin ports (SB-1998-007)
G20		87-02		333278 (8700018)	Journal bearing	1
G50		87-02		046151 (9005100-5600)	Plug assembly	1
G50A		87-02		085043 (9004201-3700)	O-ring	1
G51		87-02		046151 (9005100-5600)	Plug assembly	1
G51A		87-02		085043 (9004201-3700)	O-ring	1
G70		87-02		515965 (9005110-5600)	Plug assembly	1
G70A		87-02		085043 (9004201-3700)	O-ring	1
C		G04	94-19		8000346	End cap assembly, twin ports, without loop flushing
	G20	94-19		333278 (8700018)	Journal bearing	1
D	G04	95-40		8000593	End cap assembly, twin metric ports (SB-1998-007)	1
	G20	95-40		333278 (8700018)	Journal bearing	1
	G50	95-40		046151 (9005100-5600)	Plug assembly	1
	G50A	95-40		085043 (9004201-3700)	O-ring	1
	G51	95-40		046151 (9005100-5600)	Plug assembly	1
	G51A	95-40		085043 (9004201-3700)	O-ring	1
	G70	95-40		515965 (9005110-5600)	Plug assembly	1
	G70A	95-40		085043 (9004201-3700)	O-ring	1



Twin port end cap



E100 773E

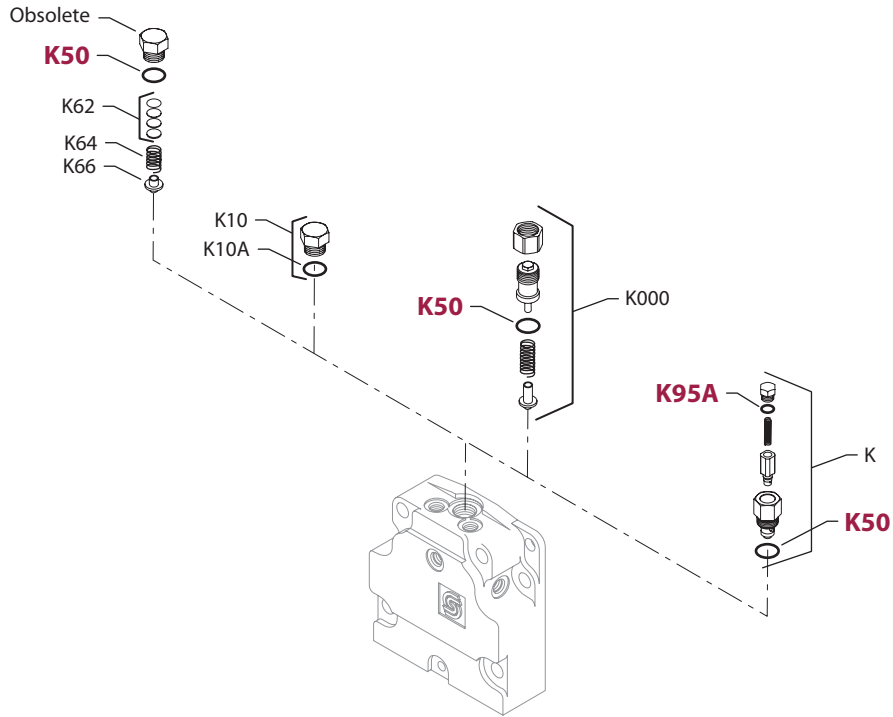
Enlarged **bold** type item numbers are recommended part to stock for servicing.

END CAP

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J	G04	05-32		8000816	End cap assembly, threaded twin ports 1 1/16 - 12	1
	G20	05-32		8700018	Journal bearing	1
	G50	05-32		046151 (9005100-5600)	Plug assembly	1
	G50A	05-32		085043 (9004201-3700)	O-ring	1
	G51	05-32		046151 (9005100-5600)	Plug assembly	1
	G51A	05-32		085043 (9004201-3700)	O-ring	1
	G70	05-32		515965 (9005110-5600)	Plug assembly	1
	G70A	05-32		085043 (9004201-3700)	O-ring	1
L	G04	97-28		8000531	End cap assembly, twin metric ports, special	1
	G20	97-28		333278 (8700018)	Journal bearing	1
	G50	97-28		046151 (9005100-5600)	Plug assembly	1
	G50A	97-28		085043 (9004201-3700)	O-ring	1
	G51	97-28		046151 (9005100-5600)	Plug assembly	1
	G51A	97-28		085043 (9004201-3700)	O-ring	1
	G70	97-28		515965 (9005110-5600)	Plug assembly	1
	G70A	97-28		085043 (9004201-3700)	O-ring	1

LOOP FLUSHING

N	H10	89-38		740944 (8800668)	Loop flushing spool, defeated	1
	H10	87-02	89-37	308486 (8800021)	Loop flushing spool, defeated (SB-1989-020)	1
	H50	87-02		046151 (9005100-5600)	Plug assembly	2
	H50A	87-02		085043 (9004201-3700)	O-ring	2
W	H10	89-38		365544 (8800550)	Shuttle spool	1
	H10	89-38	89-37	674473 (8800069)	Loop flushing spool, defeated (SB-1989-020)	1
	H20	87-02	89-37	674481 (8800265)	Spring guide (SB-1989-020)	2
	H30	89-38		513596	Spring guide assembly (SB-2000-047)	2
	H30	87-02	89-37	8800067	Spring (SB-1989-020)	2
	H50	89-38		518016	Plug assembly	2
	H50	87-02	89-37	674507 (9005475-0069)	Plug assembly (SB-1989-020)	2
	H50A	87-02		085043 (9004201-3700)	O-ring	2
X		97-28		none		

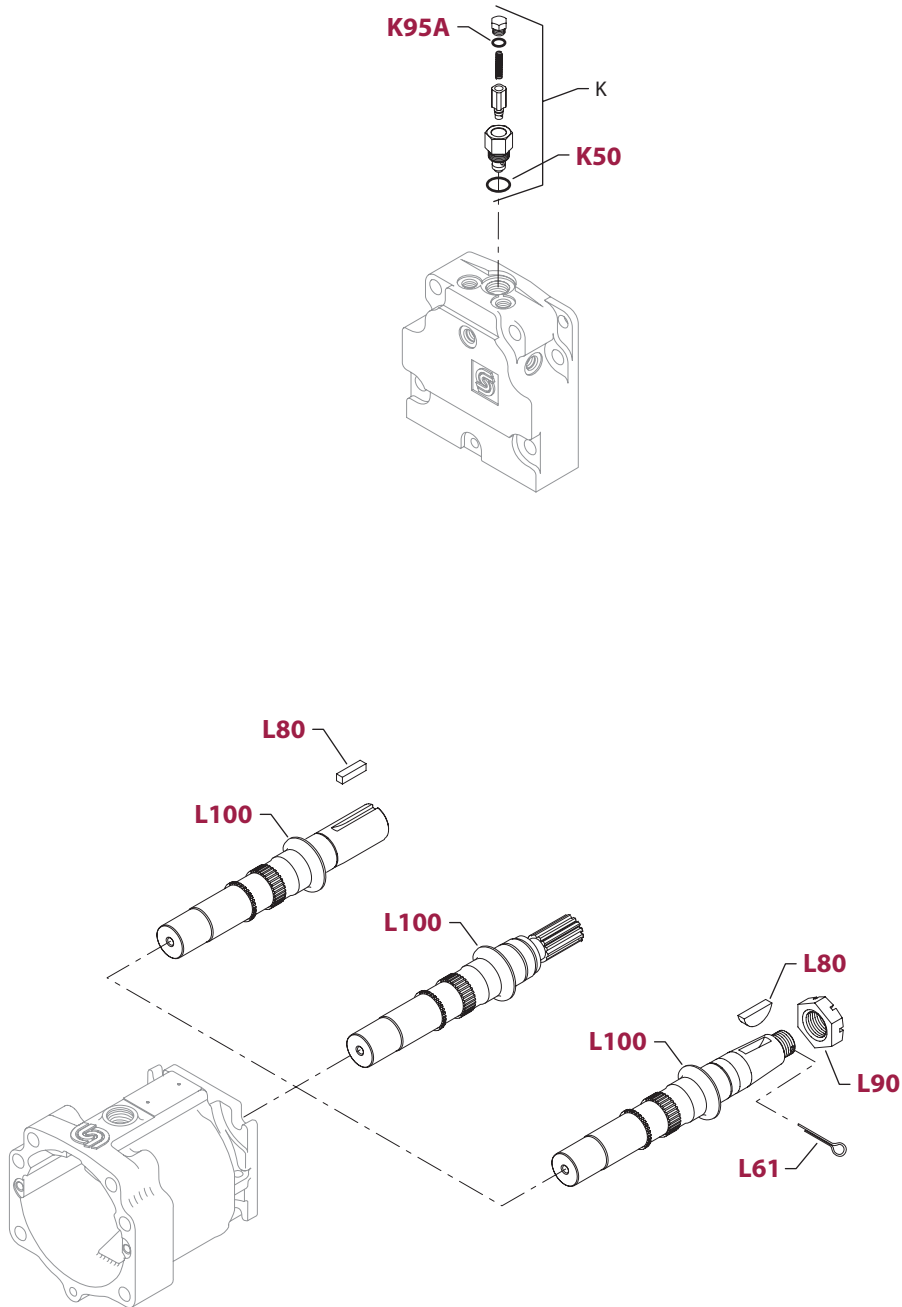


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Enlarged **bold** type item numbers are recommended part to stock for servicing.

CHARGE PRESSURE SETTING

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
00	K10	89-44		001537 (9005100-8700)	Plug assembly	1
	K10	87-02	89-43	001529 (9005100-7500)	Plug assembly (SB-1989-020)	1
	K10A	89-44		001149 (9004201-6200)	O-ring	1
	K10A	87-02	89-43	001131 (9004201-5000)	O-ring (SB-1989-020)	1
20-24	K000	89-44		8510012	Adjustable charge relief valve kit	1
	K50	89-44		001149 (9004201-6200)	O-ring	1
	K50	87-02	89-43	001131 (9004201-5000)	O-ring	1
	K62	87-02	89-43	314716 (8800259-0001)	Shim, 010" (SB-1989-020)	1
	K62	87-02	89-43	314724 (8800259-0002)	Shim, 020" (SB-1989-020)	1
	K62	87-02	89-43	314732 (8800259-0003)	Shim, 030" (SB-1989-020)	1
	K62	87-02	89-43	314740 (8800259-0004)	Shim, 040" (SB-1989-020)	1
	K64	87-02	89-43	8800146	Spring (SB-1989-020)	1
	K66	87-02	89-43	674465 (8800238)	Poppet (SB-1989-020)	1
11	K000	89-38		8510012	Adjustable charge relief valve kit	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
A0	K	89-38		8510253	Cartridge CPRV kit, 13 bar, 11 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
A3	K	89-38		8510256	Cartridge CPRV kit, 13 bar, 16 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
E4	K	89-38		8510261	Cartridge CPRV kit, 16 bar, 4 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
E6	K	89-38		8510252	Cartridge CPRV kit, 16 bar, 7 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
F0	K	89-38		8510259	Cartridge CPRV kit, 16 bar, 11 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
F3	K	89-38		8510262	Cartridge CPRV kit, 16 bar, 16 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
G0	K	89-38		8510260	Cartridge CPRV kit, 16 bar, 22 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
N4	K	89-38		8510255	Cartridge CPRV kit, 13 bar, 4 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2



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Enlarged **bold** type item numbers are recommended part to stock for servicing.

CHARGE PRESSURE SETTING

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N6	K	89-38		8510251	Cartridge CPRV kit, 13 bar, 7 L/min	1
	K50	89-38		001149 (9004201-6200)	O-ring	1
	K95A	89-38		085043 (9004201-3700)	O-ring	2
NN				none		

SHAFT

C6	L100	87-02		8000825	Shaft, 21 tooth spline	1
D9	L100	96-43		11014500	Shaft, 21 tooth spline, M10 thread	1
K1	L100	87-02		11014512	Shaft, straight key	1
	L80	87-02		331868 (9003261-3124)	Key, .3125 x 1.5	1
S1	L100	87-02		11012275	Shaft, 14 tooth spline	1
T1	L100	87-02		11012276	Shaft, tapered	1
	L61	87-02		9004600-1230	Cotter pin	1
	L80	87-02		047878 (9003310-3724)	Woodruff key, .3730 x 1.5	1
	L90	87-02		5000606	Slotted nut	1

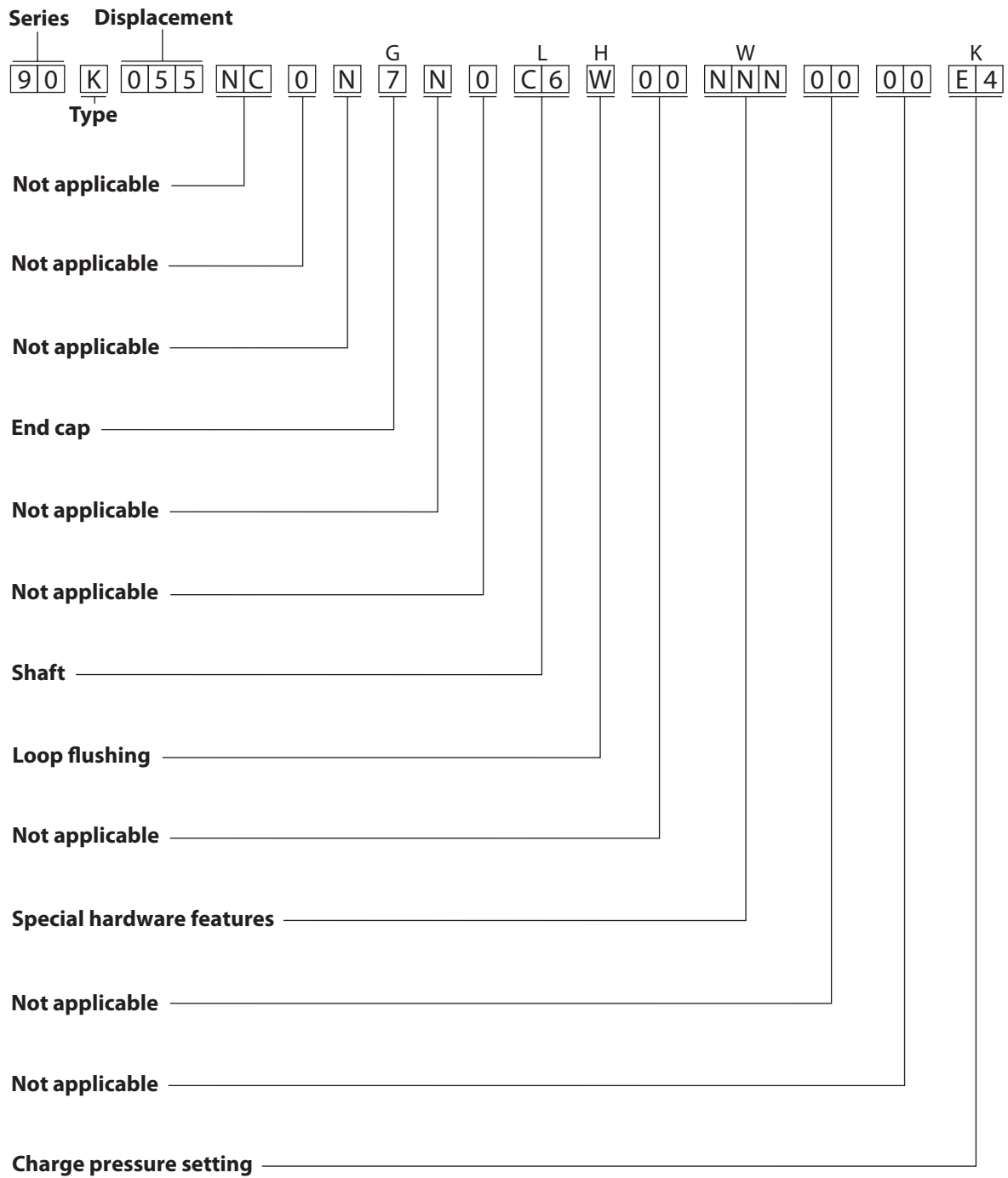
OVERHAUL SEAL KIT

		87-02		80030530	Overhaul seal kit, 90K/M055	1
	B80A	87-02		01149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B81A	87-02		01149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B83A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G30	87-02		8000721	End cap gasket	1
	G50A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G51A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G70A	87-02		0085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	H50A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	K50	89-38		01149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	K95A	89-38		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	L40	87-02		314583 (9008000-0118)	Lip seal	1
	L50	87-02		071845 (9004104-1510)	O-ring, 2.987 x .103, viton, 75D	1

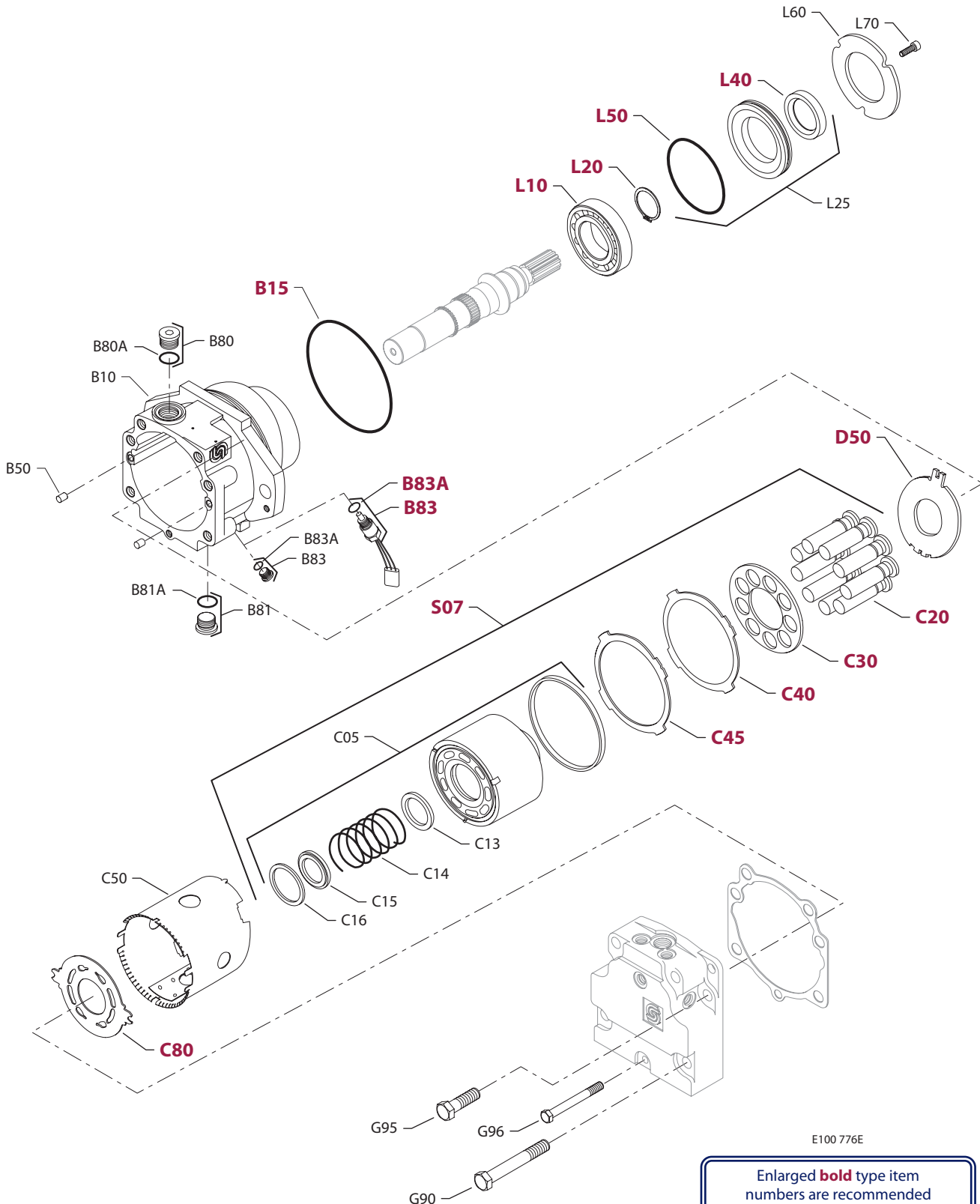


Series 90 55 cc Axial Piston Motors
Service Parts Manual
Notes





P100 702E



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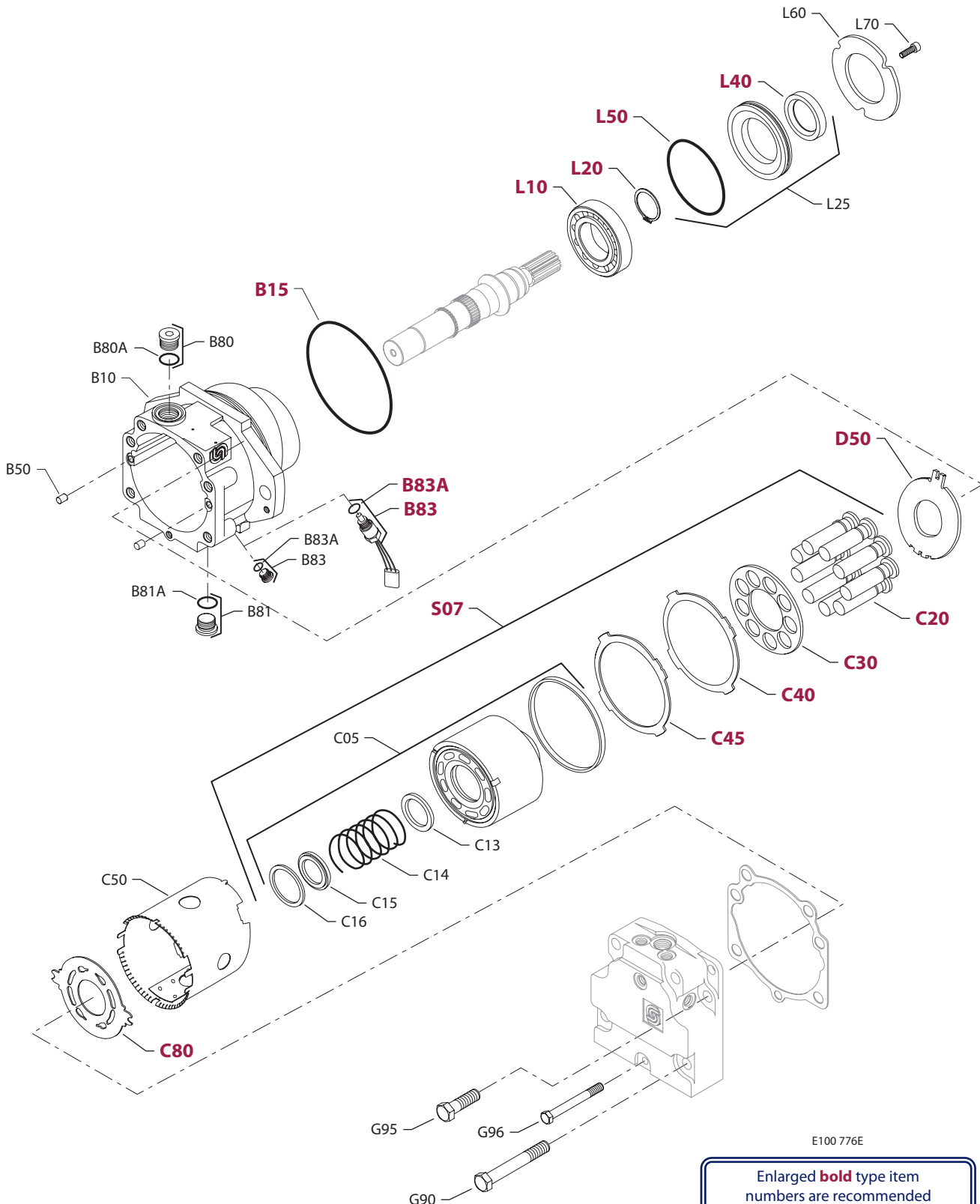
Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON PARTS

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B10	92-31		8000264	Housing	1
	B15	92-31		729319	O-ring	1
	B50	92-31		001289 (9004800-3708)	Pin	2
	B80	92-31		315325 (9005110-8700)	Plug assembly	1
	B80A	92-31		001149 (9004201-6200)	O-ring	1
	B81	92-31		315325 (9005110-8700)	Plug assembly	1
	B81A	92-31		001149 (9004201-6200)	O-ring	1
	C13	92-31		314898 (8000014)	Spring seat	1
	C14	92-31		314864 (8000015)	Cylinder block spring	1
	C15	92-31		314872 (8000091)	Spring retainer	1
	C16	92-31		314880 (9006275-0029)	Retaining ring	1
	C20	92-31		367672	Pistong assembly (SB-1988-023)	9
	C30	92-31		314369 (8000007)	Slipper guide	1
	C40	92-31		329714 (8000072)	Slipper guide retainer	1
	C45	92-31		329722 (8000073)	Slipper guide retainer spacer	1
	C50	92-31		8000265	Hold down tube	1
	C80	92-31		329748	Valve plate	1
	D50	92-31		8000374	Thrust plate	1
	G90	92-31		675918 (9007210-1216)	Screw	4
	G95	92-31		675900 (9007210-1209)	Screw	2
	G96	92-31		329771 (9007210-0816)	Screw	1
	L10	92-31		5000504	Roller beraing	1
	L20	92-31		615245 (9006300-0137)	Retaining ring	1
	L25	92-31		8000390	Seal assembly	1
	L40	92-31		314583 (9008000-0118)	Lip seal	1
	L50	92-31		071845 (9004104-1510)	O-ring	1
	L60	92-31		516766	Retainer plate	1
	L70	92-31		041160 (9007314-0605)	Screw	3

SPECIAL HARDWARE

EBA	S07	92-31		8510396	Cylinder block kit, w/speed ring	1
	C05	92-31		8000808	Cylinder block assembly. w/speed ring	1
	B83	92-31		KPPG13408	Speed sensor	1
	B83A	92-31		085043 (9004201-3700)	O-ring	1
EEA	S07	92-31		8510396	Cylinder block kit, w/speed ring	1
	C05	92-31		8000808	Cylinder block assembly. w/speed ring	1
	B83	92-31		515965 (9005110-5600)	Plug assembly	1
	B83A	92-31		085043 (9004201-3700)	O-ring	1

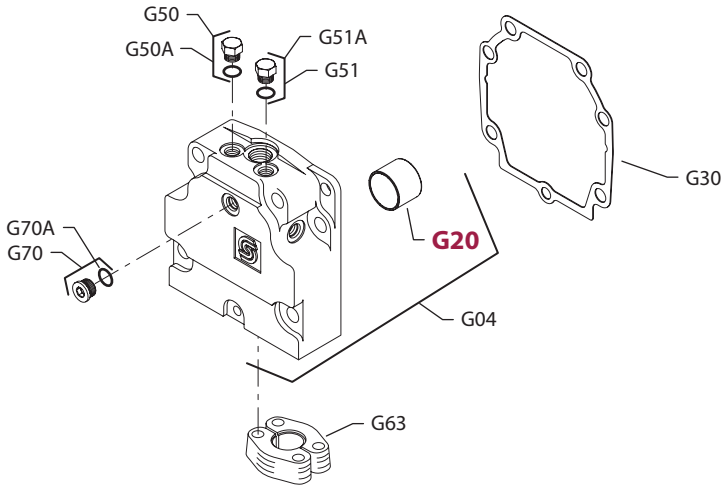


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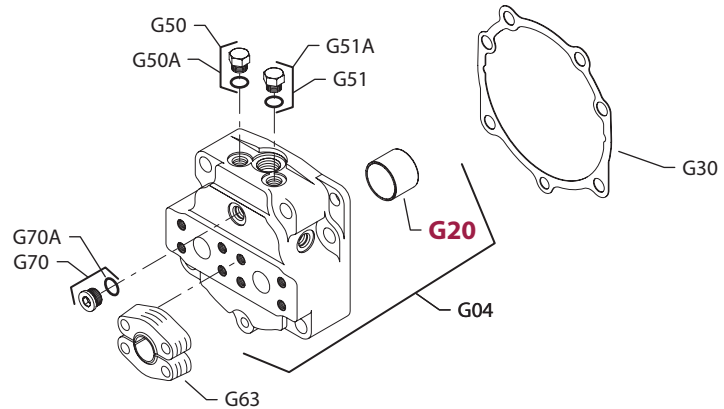
Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

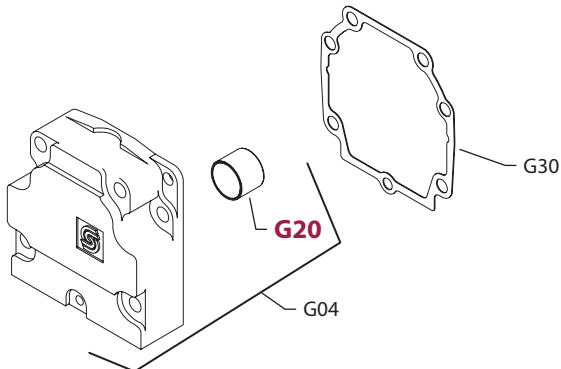
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EFA	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG136	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EFJ	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG176	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
EHD	S07	87-02		8510396	Cylinder block kit, w/speed ring	1
	C05	87-02		8000808	Cylinder block assembly, w/speed ring	1
	B83	87-02		KPPG16408	Speed sensor	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1
NNN	S07	87-02		8510361	Cylinder block kit, w/o speed ring	1
	C05	87-02		8000804	Cylinder block assembly, w/o speed ring	1
	B83	87-02		515965 (9005110-5600)	Plug assembly	1
	B83A	87-02		085043 (9004201-3700)	O-ring	1



Twin port end cap



Axial port end cap



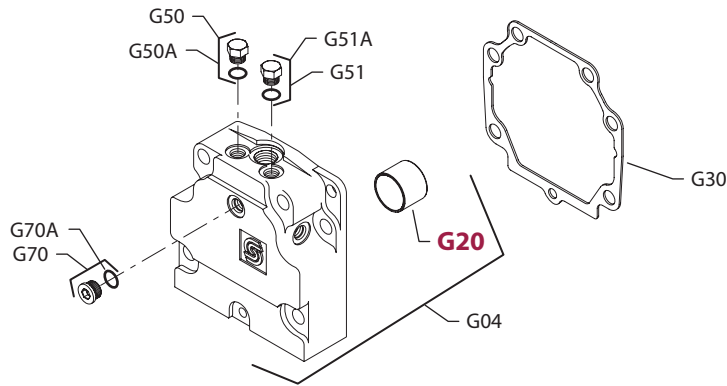
**Twin port end cap
without loop flushing**

E100 772E

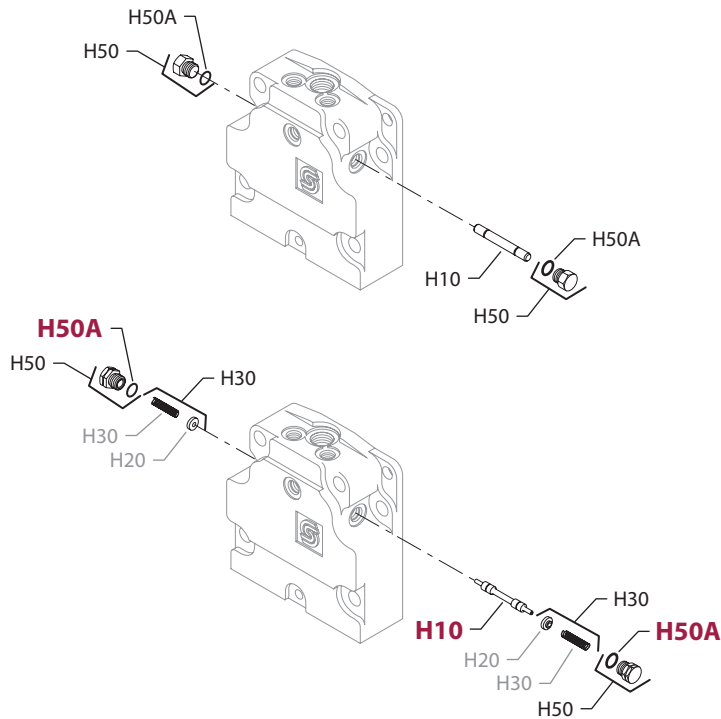
Enlarged **bold** type item numbers are recommended part to stock for servicing.

END CAP

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
1	G04	92-31		8000594	End cap assembly, twin ports	1
	G20	92-31		333278 (8700018)	Journal bearing	1
	G30	92-31		8000720	End cap gasket	1
	G50	92-31		046151 (9005100-5600)	Plug assembly	1
	G50A	92-31		085043 (9004201-3700)	O-ring	1
	G51	92-31		046151 (9005100-5600)	Plug assembly	1
	G51A	92-31		085043 (9004201-3700)	O-ring	1
	G63	92-31		314179 (8700074)	Split clamp (code 61 hose)	4
	G70	92-31		515965 (9005110-5600)	Plug assembly	1
	G70A	92-31		085043 (9004201-3700)	O-ring	1
3	G04	92-31		8000595	End cap assembly, axial ports	1
	G20	92-31		333278 (8700018)	Journal bearing	1
	G30	92-31		8000721	End cap gasket	1
	G50	92-31		046151 (9005100-5600)	Plug assembly	1
	G50A	92-31		085043 (9004201-3700)	O-ring	1
	G51	92-31		046151 (9005100-5600)	Plug assembly	1
	G51A	92-31		085043 (9004201-3700)	O-ring	1
	G63	92-31		314179 (8700074)	Split clamp (code 61 hose)	4
	G70	92-31		515965 (9005110-5600)	Plug assembly	1
	G70A	92-31		085043 (9004201-3700)	O-ring	1
7	G04	92-31		8000595	End cap assembly, axial ports	1
	G20	92-31		333278 (8700018)	Journal bearing	1
	G30	92-31		8000721	End cap gasket	1
	G50	92-31		046151 (9005100-5600)	Plug assembly	1
	G50A	92-31		085043 (9004201-3700)	O-ring	1
	G51	92-31		046151 (9005100-5600)	Plug assembly	1
	G51A	92-31		085043 (9004201-3700)	O-ring	1
	G70	92-31		515965 (9005110-5600)	Plug assembly	1
	G70A	92-31		085043 (9004201-3700)	O-ring	1
	8	G04	92-31		8000594	End cap assembly, twin ports
G20		92-31		333278 (8700018)	Journal bearing	1
G30		92-31		8000720	End cap gasket	1
G50		92-31		046151 (9005100-5600)	Plug assembly	1
G50A		92-31		085043 (9004201-3700)	O-ring	1
G51		92-31		046151 (9005100-5600)	Plug assembly	1
G51A		92-31		085043 (9004201-3700)	O-ring	1
G70		92-31		515965 (9005110-5600)	Plug assembly	1
G70A		92-31		085043 (9004201-3700)	O-ring	1
C		G04	94-19		8000346	End cap assembly, twin ports, without loop flushing
	G20	94-19		333278 (8700018)	Journal bearing	1
	G30	94-19		8000720	End cap gasket	1



Twin port end cap



E100 773E

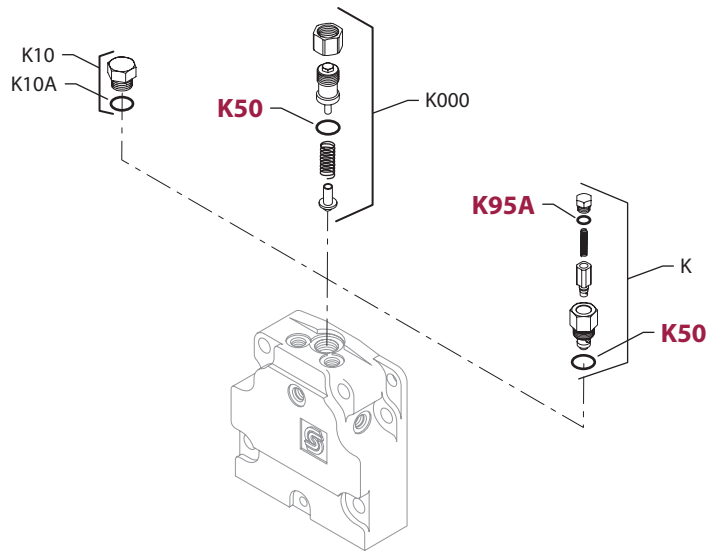
Enlarged **bold** type item numbers are recommended part to stock for servicing.

END CAP

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D	G04	95-40		8000593	End cap assembly, twin metric ports	1
	G20	95-40		333278 (8700018)	Journal bearing	1
	G30	95-40		8000720	End cap gasket	1
	G50	95-40		046151 (9005100-5600)	Plug assembly	1
	G50A	95-40		085043 (9004201-3700)	O-ring	1
	G51	95-40		046151 (9005100-5600)	Plug assembly	1
	G51A	95-40		085043 (9004201-3700)	O-ring	1
	G70	95-40		515965 (9005110-5600)	Plug assembly	1
	G70A	95-40		085043 (9004201-3700)	O-ring	1

LOOP FLUSHING

N	H10	92-31		8800668	Loop flushing spool, defeated	1
	H50	92-31		046151 (9005100-5600)	Plug assembly	2
	H50A	92-31		085043 (9004201-3700)	O-ring	2
W	H10	92-31		365544 (8800550)	Shuttle spool	1
	H30	92-31		513596	Spring guide assembly (SB-2000-047)	2
	H50	92-31		518016	Plug assembly	2
	H50A	92-31		085043 (9004201-3700)	O-ring	2

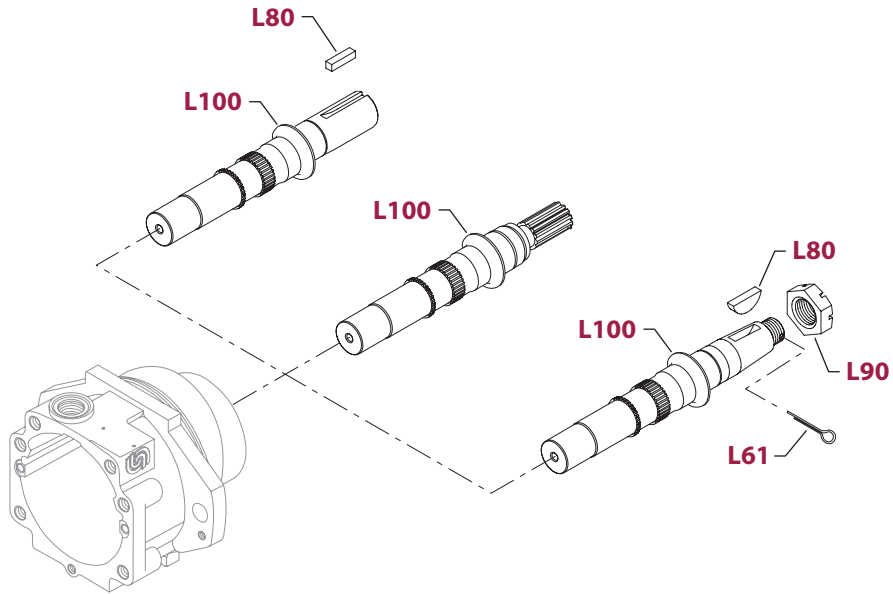


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Enlarged **bold** type item numbers are recommended part to stock for servicing.

CHARGE PRESSURE SETTING

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
00	K10	93-07		001537 (9005100-8700)	Plug assembly	1
	K10A	93-07		001149 (9004201-6200)	O-ring	1
20-24	K000	93-07		8510012	Adjustable charge relief valve kit	1
	K50	93-07		001149 (9004201-6200)	O-ring	1
A3	K	92-31		8510256	Cartridge CPRV kit, 13 bar, 16 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
E4	K	92-31		8510261	Cartridge CPRV kit, 16 bar, 4 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
E6	K	92-31		8510252	Cartridge CPRV kit, 16 bar, 7 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
F0	K	92-31		8510259	Cartridge CPRV kit, 16 bar, 11 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
F3	K	92-31		8510262	Cartridge CPRV kit, 16 bar, 16 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
N4	K	92-31		8510255	Cartridge CPRV kit, 13 bar, 4 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
N6	K	92-31		8510251	Cartridge CPRV kit, 13 bar, 7 L/min	1
	K50	92-31		001149 (9004201-6200)	O-ring	1
	K95A	92-31		085043 (9004201-3700)	O-ring	2
NN				none		



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Enlarged **bold** type item numbers are recommended part to stock for servicing.

SHAFT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C6	L100	92-31		8000825	Shaft, 21 tooth spline	1
K1	L100	92-31		11014512	Shaft, straight key	1
	L80	92-31		331868 (9003261-3124)	Key, .3125 x 1.5	1
S1	L100	92-31		11012275	Shaft, 14 tooth spline	1
T1	L100	92-31		11012276	Shaft, tapered	1
	L61	92-31		9004600-1230	Cotter pin	1
	L80	92-31		047878 (9003310-3724)	Woodruff key, .3730 x 1.5	1
	L90	92-31		5000606	Slotted nut	1

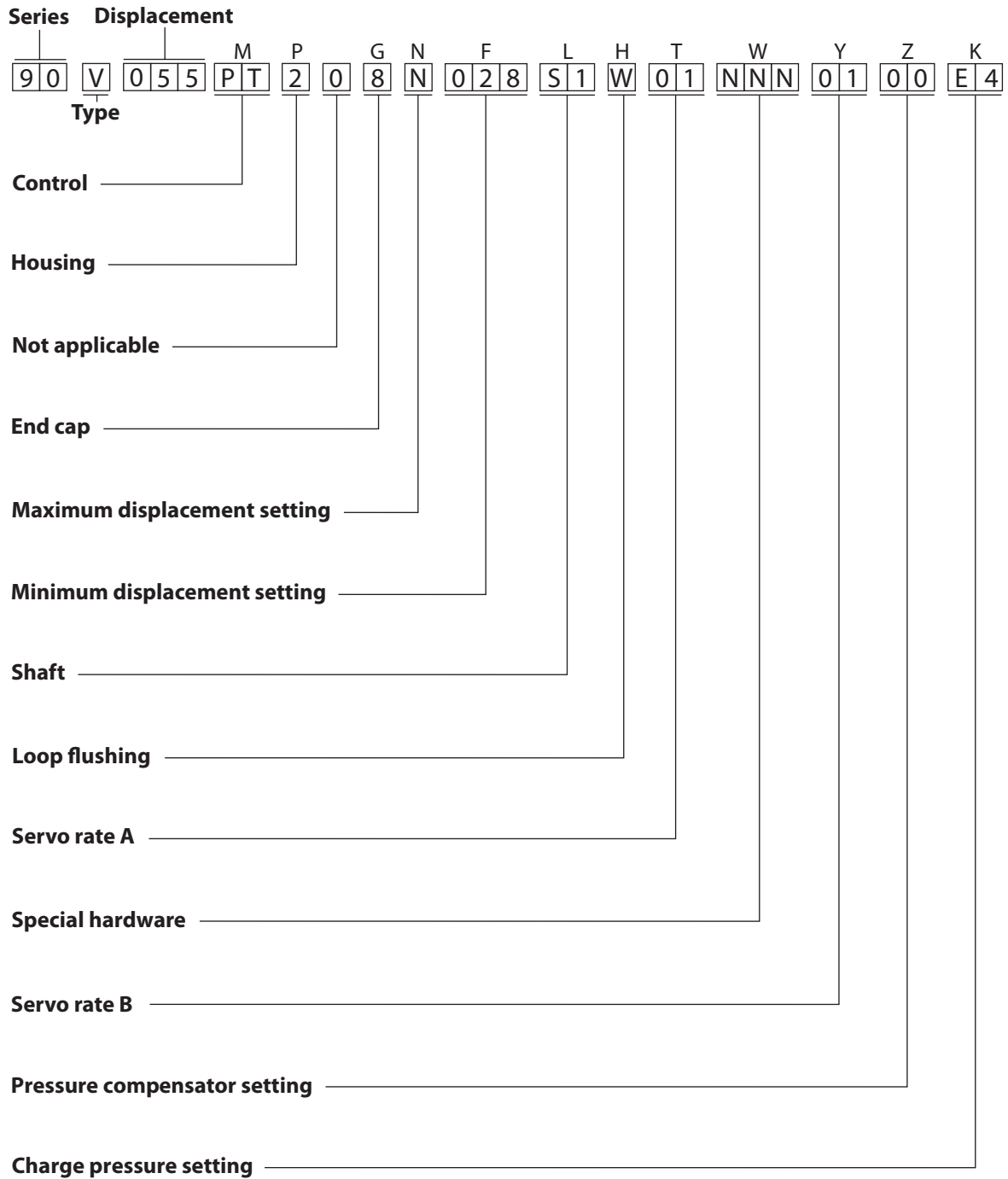
OVERHAUL SEAL KIT

		87-02		80030530	Overhaul seal kit, 90K/M055	1
	B80A	87-02		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B81A	87-02		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B83A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G30	87-02		8000720	End cap gasket, twin	1
	G30	87-02		8000721	End cap gasket, axial	1
	G50A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G51A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G70A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	H50A	87-02		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	K50	89-38		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	K95A	89-38		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	L40	87-02		314583 (9008000-0118)	Lip seal	1
	L50	87-02		071845 (9004104-1510)	O-ring, 2.987 x .103, viton, 75D	1

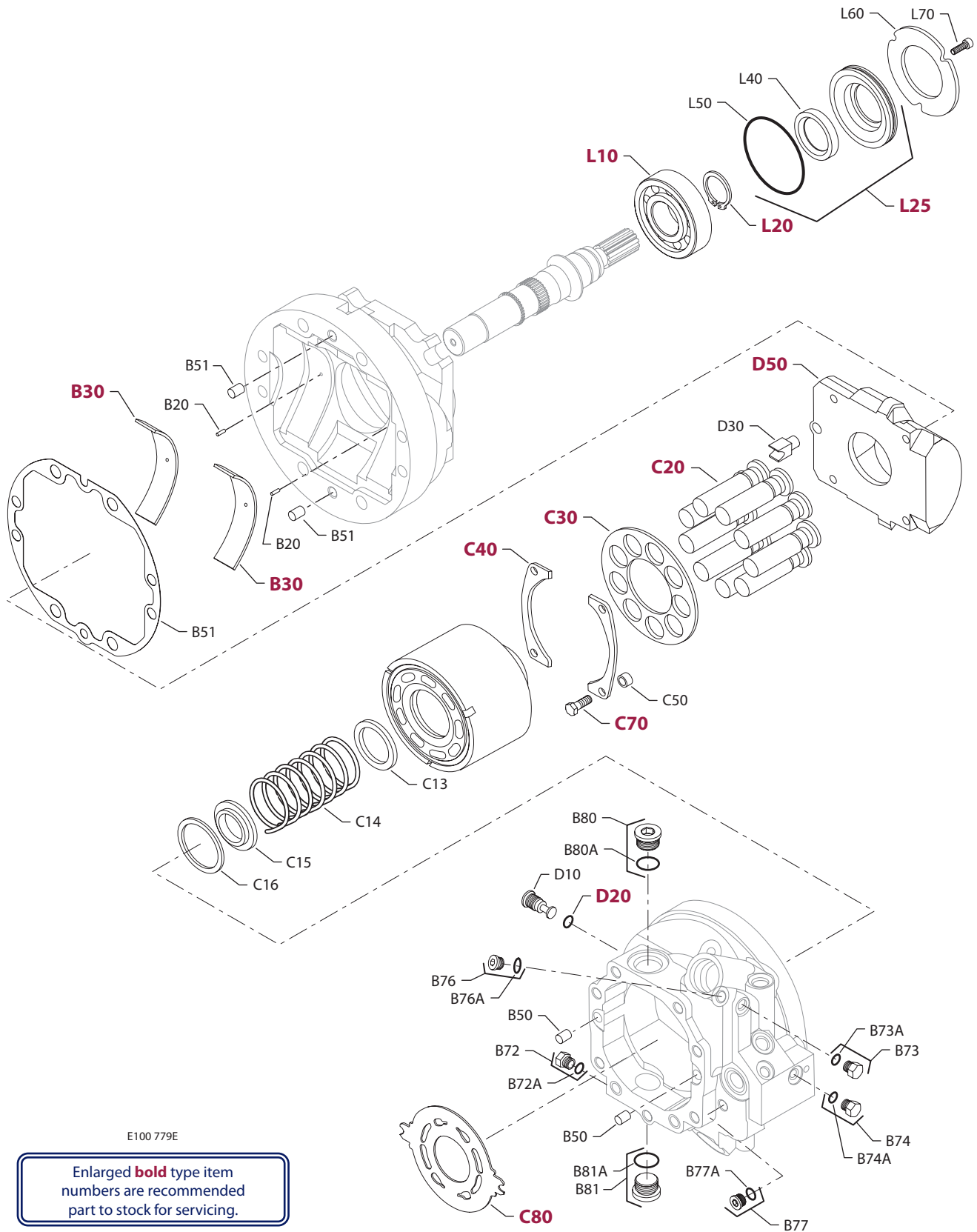


Series 90 55 cc Axial Piston Motors
Service Parts Manual
Notes





P100 703E

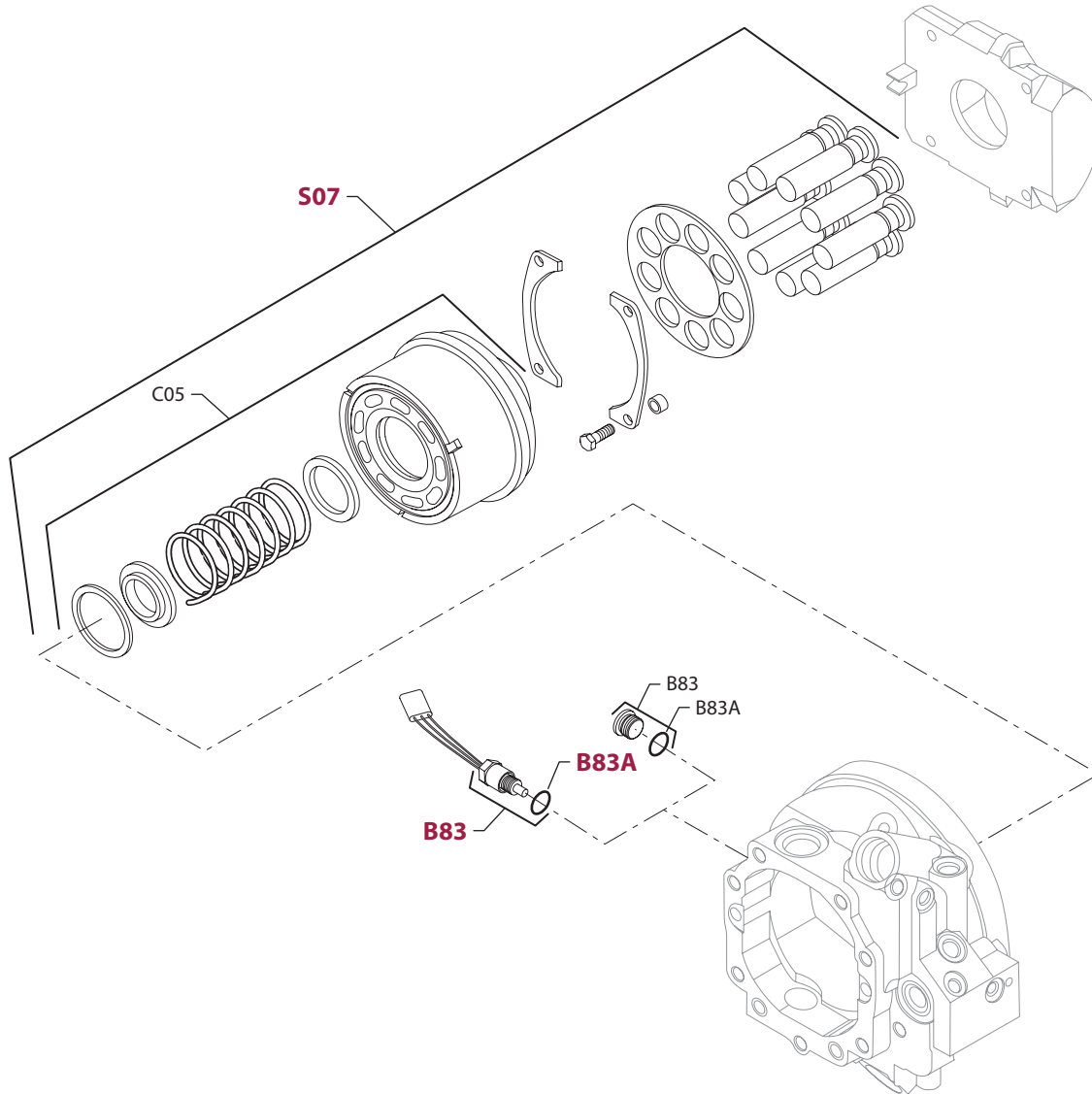


E100 779E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON PARTS

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B20	90-34		5000621	Grooved pin (SB-2000-046)	1
	B30	90-34		8000539	Cradle bearing	2
	B50	90-34		001289 (9004800-3708)	Pin	2
	B51	90-34		001289 (9004800-3708)	Pin	2
	B72	90-34		001511 (9005100-4400)	Plug assembly	1
	B72A	90-34		001123 (9004201-2500)	O-ring	1
	B73	90-34		001511 (9005100-4400)	Plug assembly	1
	B73A	90-34		001123 (9004201-2500)	O-ring	1
	B74	90-34		001511 (9005100-4400)	Plug assembly	1
	B74A	90-34		001123 (9004201-2500)	O-ring	1
	B76	90-34		327007 (9005110-4400)	Plug assembly	1
	B76A	90-34		001123 (9004201-2500)	O-ring	1
	B77	90-34		327007 (9005110-4400)	Plug assembly	1
	B77A	90-34		001123 (9004201-2500)	O-ring	1
	B80	90-34		315325 (9005110-8700)	Plug assembly	1
	B80A	90-34		001149 (9004201-6200)	O-ring	1
	B81	90-34		315325 (9005110-8700)	Plug assembly	1
	B81A	90-34		001149 (9004201-6200)	O-ring	1
	C13	90-34		314898 (8000014)	Spring seat	1
	C14	90-34		314864 (8000015)	Cylinder block spring	1
	C15	90-34		314872 (8000091)	Spring retainer	1
	C16	90-34		314880 (9006275-0029)	Retaining ring	1
	C20	90-34		367672	Piston assembly (SB-1988-023)	9
	C30	90-34		314369 (8000007)	Slipper guide	1
	C40	90-34		342337 (8000137)	Slipper guide bearing	2
	C50	90-34		8000619	Slipper hold down spacer (SB-1998-041)	4
	C70	90-34		648477	Screw (SB-1998-041)	4
	C80	90-34		329748	Valve plate	1
	D10	90-34		8800758	Hold down pin (SB-1994-024)	1
	D20	90-34		085043 (9004201-3700)	O-ring	1
	D30	90-34		8100406	Hold down arm (SB-1994-015)	1
	D50	90-34		8000618	Swashplate (SB-1994-015 & SB-1998-080)	1
	L10	90-34		5000504	Roller bearing	1
	L20	90-34		615245 (9006300-0137)	Retaining ring	1
	L25	90-34		8000390	Seal assembly	1
	L40	90-34		314583 (9008000-0118)	Lip seal	1
	L50	90-34		071845 (9004104-1510)	O-ring	1
	L60	90-34		516766	Retainer plate	1
	L70	90-34		041160 (9007314-0605)	Screw	3
	L85	90-34		8000240	Front cover gasket	1

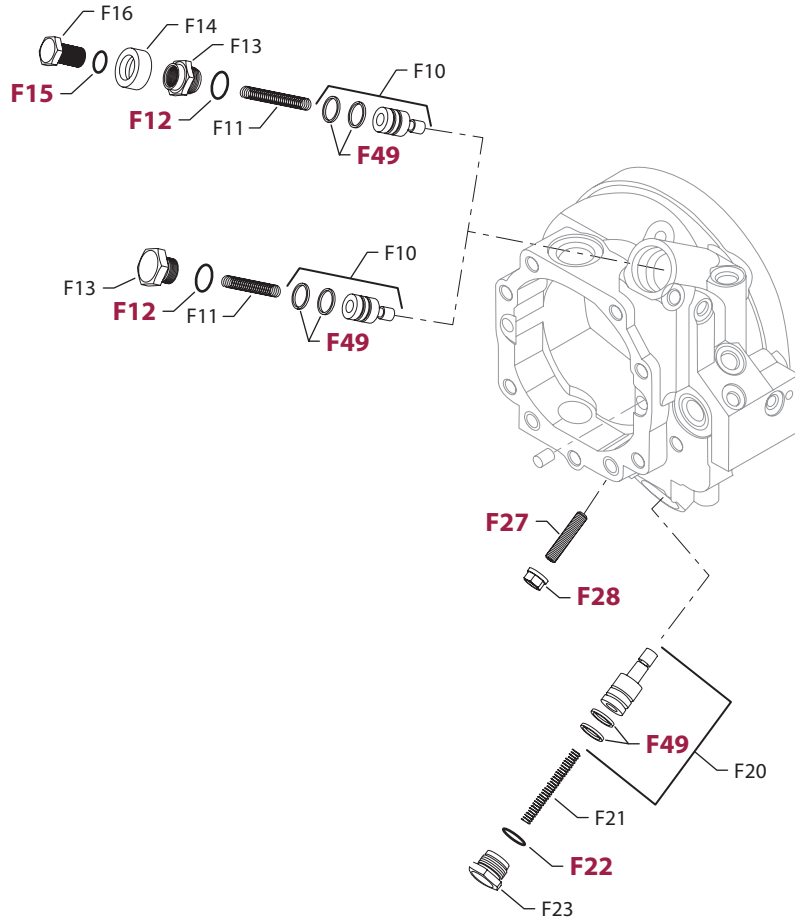


E100 780E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EBA	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		KPPG13408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EEA	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EEB	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EFA	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		KPPG136	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EGD	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		KPPG12730A	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EGH	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		KPPG18708	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EHD	S07	90-34		8510362	Cylinder block kit, w/speed ring	1
	C05	90-34		8000808	Cylinder block assembly. w/speed ring	1
	B83	90-34		KPPG16408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
JAF & JAG	S07	90-34		8510363	Cylinder block kit, without speed ring	1
	C05	90-34		8000804	Cylinder block assembly. w/speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
JAK	S07	90-34		8510363	Cylinder block kit, without speed ring	1
	C05	90-34		8000804	Cylinder block assembly. w/speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
NNN	S07	90-34		8510363	Cylinder block kit, without speed ring	1
	C05	90-34		8000804	Cylinder block assembly. w/o speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1

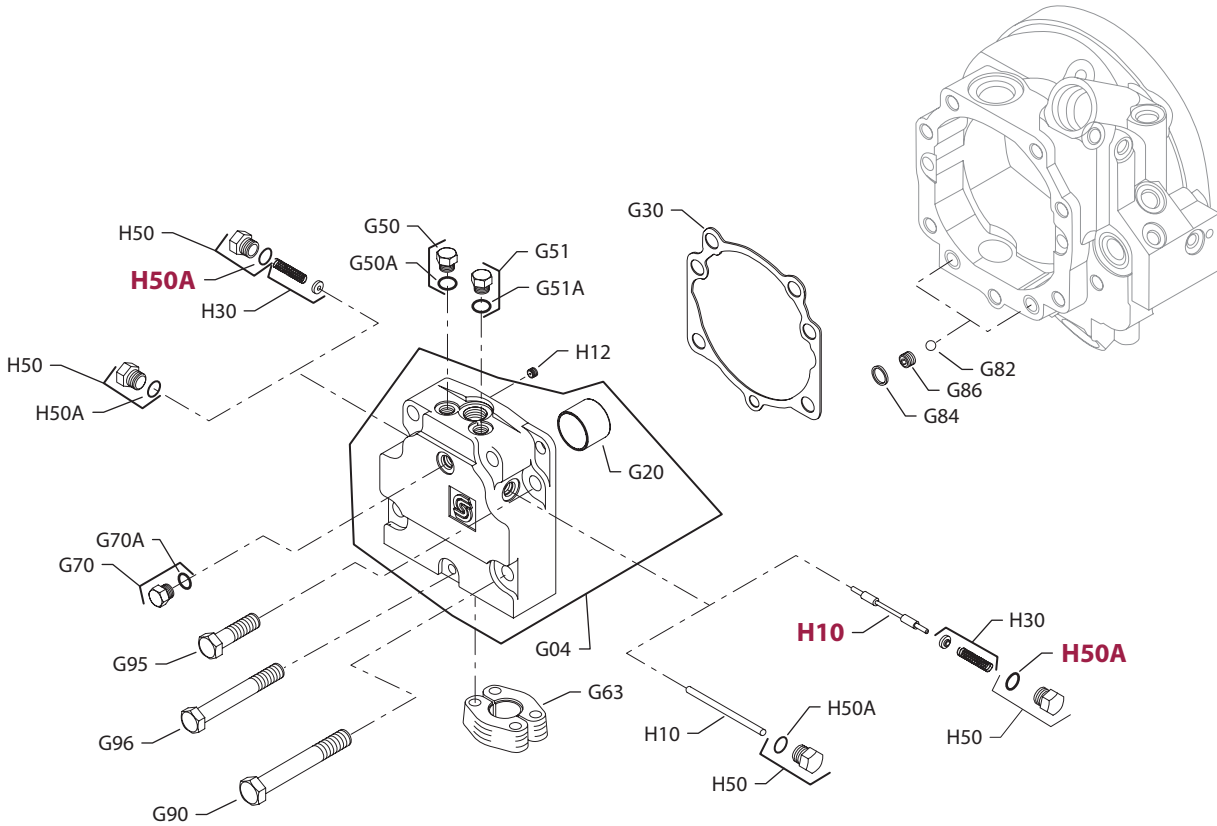


E100 781E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

MINIMUM DISPLACEMENT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit	
019 - 045	F10	90-34		8100441	Servo piston assembly	1	
	F11	90-34		8800619	Spring	1	
	F12	90-34		038281	O-ring	1	
	F13	90-34		9005475-0099	Plug. special	1	
	F20	90-34		8100441	Servo piston assembly	1	
	F21	90-34		8100435	Spring	1	
	F22	90-34		038281	O-ring	1	
	F23	90-34		9005475-0099	Plug. special	1	
	F27	90-34		330415	Set screw	1	
	F28	90-34		076042 (9003509-0012)	Seal nut	1	
	F49	90-34		8700089	Piston seal ring	4	
	M32	F10	99-24		8801165	Servo piston assembly	1
		F11	99-24		8801161	Spring	1
F12		99-24		038281	O-ring	1	
F13		99-24		8801212	Fitting	1	
F14		99-24		8801214	Servo shield	1	
F15		99-24		012559 (9004202-6200)	O-ring	1	
F16		99-24		8801213	Servo plug	1	
F20		99-24		8801165	Servo piston assembly	1	
F21		99-24		8801160	Spring	1	
F22		99-24		038281	O-ring	1	
F23		99-24		8801162	Plug. special	1	
F27		99-24		330415	Set screw	1	
F28		99-24		076042 (9003509-0012)	Seal nut	1	
F49	99-24		8700089	Piston seal ring	4		



E100 782E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON END CAP PARTS

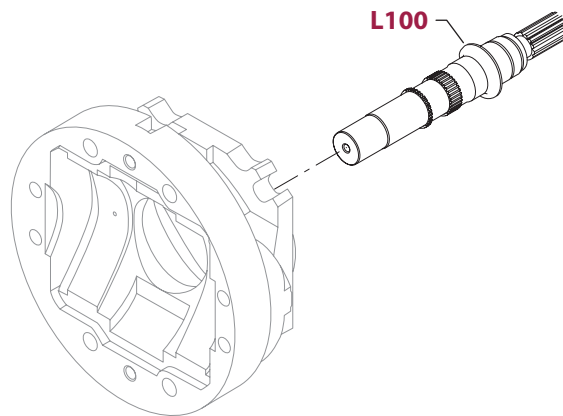
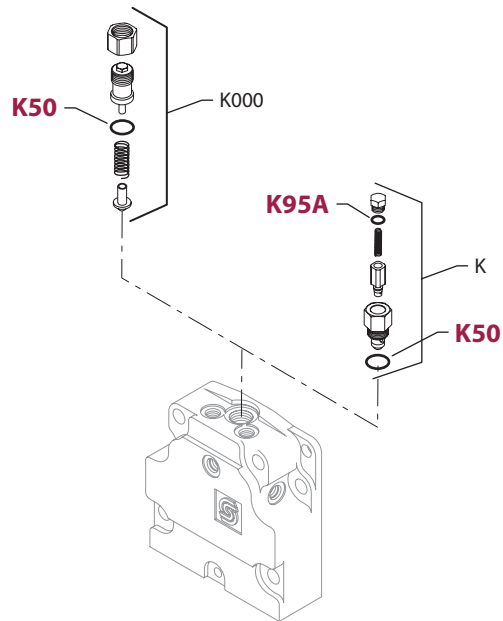
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	G30	90-34		8000231	End cap gasket	1
	G50	90-34		046151 (9005100-5600)	Plug assembly	1
	G50A	90-34		085043 (9004201-3700)	O-ring	1
	G51	90-34		046151 (9005100-5600)	Plug assembly	1
	G51A	90-34		085043 (9004201-3700)	O-ring	1
	G70	90-34		515965 (9005110-5600)	Plug assembly	1
	G70A	90-34		085043 (9004201-3700)	O-ring	1
	G82	90-34		9001214-2800	Ball	2
	G84	90-34		8800865	Crush ring	2
	G86	90-34		8100392	Pipe plug orifice	2
	G90	90-34		9007210-1215	Screw	4
	G95	90-34		9007210-1208	Screw	2
	G96	90-34		9007210-0815	Screw	1

END CAP

1	G04	90-34		8000599	End cap assembly, twin ports	1
	G20	90-34		8700018	Journal bearing	1
	G63	90-34		314179 (8700074)	Split clamp (code 61 hose)	4
8	G04	90-34		8000599	End cap assembly, twin ports	1
	G20	90-34		8700018	Journal bearing	1
R	G04	90-34		8000598	End cap assembly, metric twin ports	1
	G20	90-34		8700018	Journal bearing	1

LOOP FLUSHING

A	H10	94-18		365544 (8800550)	Shuttle spool	1
	H12	94-18		8800242-0009	Orifice plug	1
	H30	94-18		513596	Spring guide assembly (SB-2000-047)	2
	H50	94-18		518016	Plug assembly	2
	H50A	94-18		085043 (9004201-3700)	O-ring	2
N	H10	90-34		740944 (8800668)	Loop flushing spool, defeated	1
	H50	90-34		046151 (9005100-5600)	Plug assembly	2
	H50A	90-34		085043 (9004201-3700)	O-ring	2
W	H10	90-34		365544 (8800550)	Shuttle spool	1
	H30	90-34		513596	Spring guide assembly (SB-2000-047)	2
	H50	90-34		518016	Plug assembly	2
	H50A	90-34		085043 (9004201-3700)	O-ring	2



E100 783E

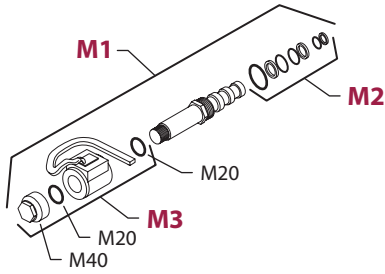
Enlarged **bold** type item numbers are recommended part to stock for servicing.

CHARGE PRESSURE SETTING

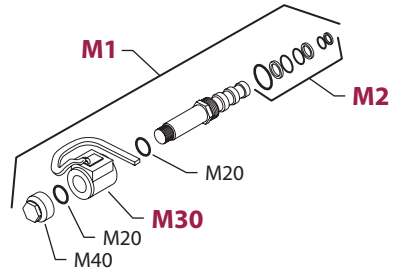
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
00	K10	90-34		001537 (9005100-8700)	Plug assembly	1
	K10A	90-34		001149 (9004201-6200)	O-ring	1
20-24	K000	90-34		8510012	Adjustable charge relief valve kit	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
A3	K	90-34		8510256	Cartridge CPRV kit, 13 bar, 16 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
E4	K	90-34		8510261	Cartridge CPRV kit, 16 bar, 4 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
E6	K	90-34		8510252	Cartridge CPRV kit, 16 bar, 7 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
F0	K	90-34		8510259	Cartridge CPRV kit, 16 bar, 11 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
F3	K	90-34		8510262	Cartridge CPRV kit, 16 bar, 16 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
N4	K	90-34		8510255	Cartridge CPRV kit, 13 bar, 4 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
N6	K	90-34		8510251	Cartridge CPRV kit, 13 bar, 7 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2

SHAFT

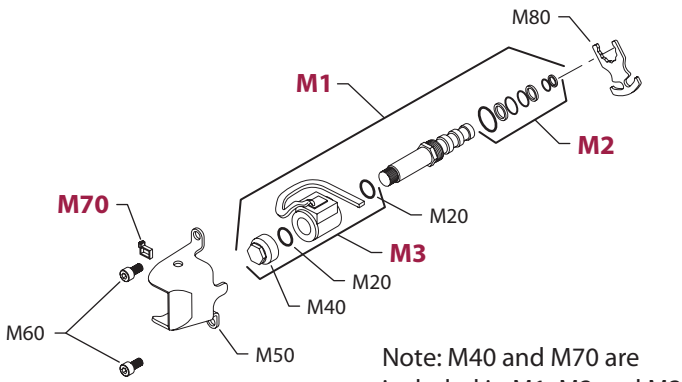
C6	L100	98-19		11014230	Shaft, 21 tooth spline, 16/32	1
S1	L100	90-34		11014229	Shaft, 14 tooth spline, 12/24	1



NA, NB, NC, ND, & NH

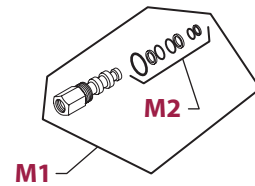


NE



Note: M40 and M70 are included in M1, M2 and M3

NG



PT & PX

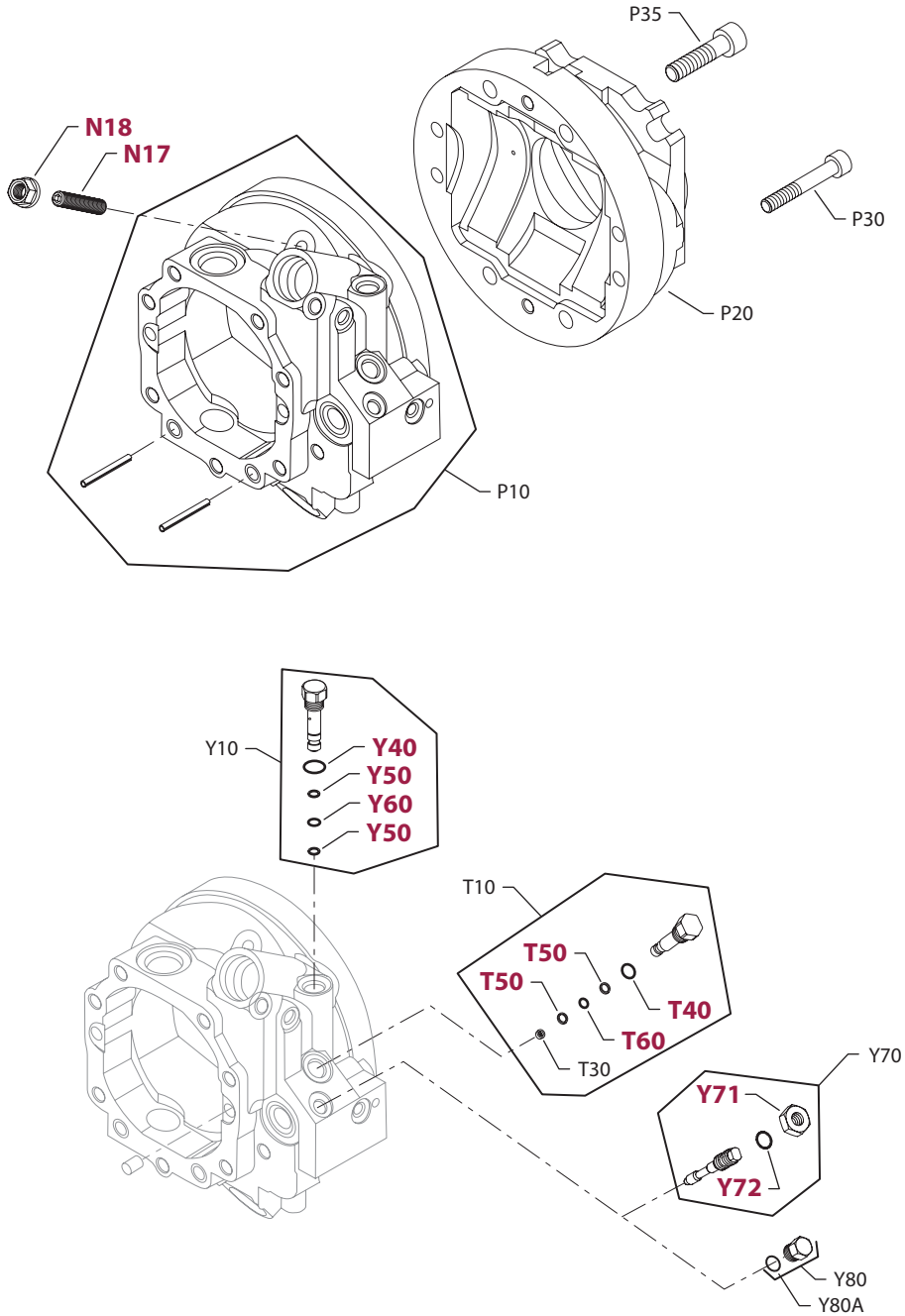
Note: This drawing shows generic coils

E100 784E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

CONTROL

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
NA	M1	90-34		8510218	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510214	Coil kit, 12V, MS connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NB	M1	90-34		8510216	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510212	Coil kit, 12V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NC	M1	90-34		8510219	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510215	Coil kit, 24V, MS connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
ND	M1	90-34		8510217	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510213	Coil kit, 24V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NE	M1	90-34		8510250	Solenoid control valve kit, 12V, M-Pack 150.2 connector	1
	M2	90-34		8700133	Seal kit	1
	M20	90-34		5000512	O-ring	2
	M30	90-34		8700135	Coil, 12V, M-Pack 150.2 connector	1
	M40	90-34		5000511	Coil nut, special	1
NG	M1	90-34		8510284	Solenoid control valve kit, 24V, Packard conn.,special	1
	M2	90-34		8700206	Seal kit	1
	M3	90-34		8510283	Coil kit, 24V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
	M50	90-34		8100714	Solenoid cover	1
	M60	90-34		5000514	Screw	2
	M70	90-34		5000509	Cable tie	1
	M80	90-34		8100781	Solenoid locking plate	1
NH	M1	90-34		11018154	Solenoid control valve kit, 12V, Deutsch connector	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		11018155	Coil kit, 12V, Deutsch connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
PT	M1	90-34		8700088	Control valve	1
	M2	90-34		8510178	Seal kit	1
PX	M1	90-34		8700118	Control valve	1



E100 785E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

MAXIMUM DISPLACEMENT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
A - N	N17	90-34		330415	Set screw M12 x 60	1
	N18	90-34		076042 (9003509-0012)	Seal nut	1

HOUSING

2	P10	90-34		8510057	Housing assembly	1
	P20	90-34		8000234	Front cover	1
	P30	90-34		654053 (9007314-1012)	Screw	4
	P35	90-34		672295 (9007314-1010)	Screw	4

SERVO RATE, A

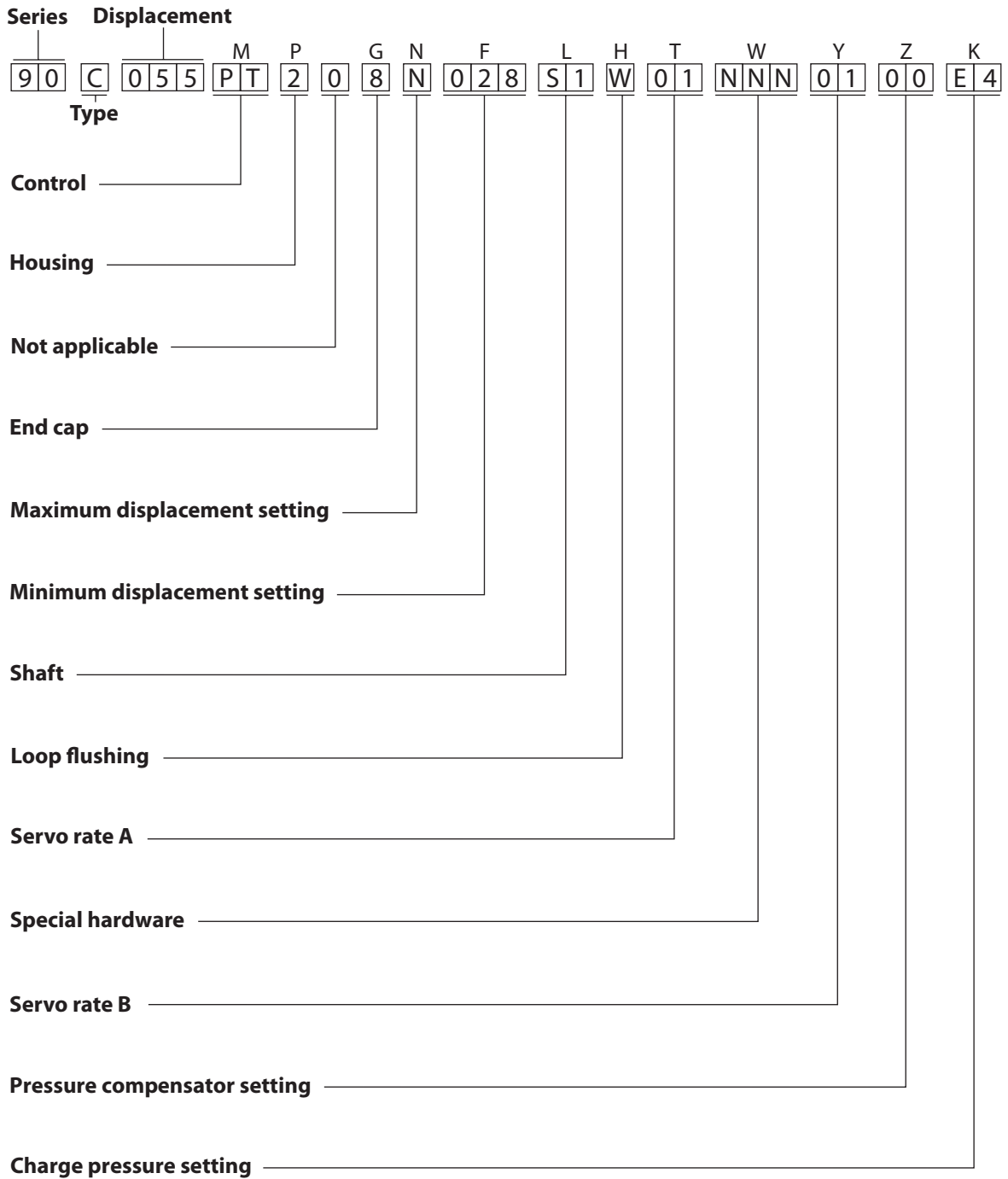
1	T10	90-34		8510077	Orifice valve assembly	1
	T30	90-34		8800532	Filter screen	1
	T40	90-34		085043 (9004201-3700)	O-ring	1
	T50	90-34		512036 (9006150-0100)	Back up ring	2
	T60	90-34		732479 (9004105-0100)	O-ring	1

SERVO RATE, B

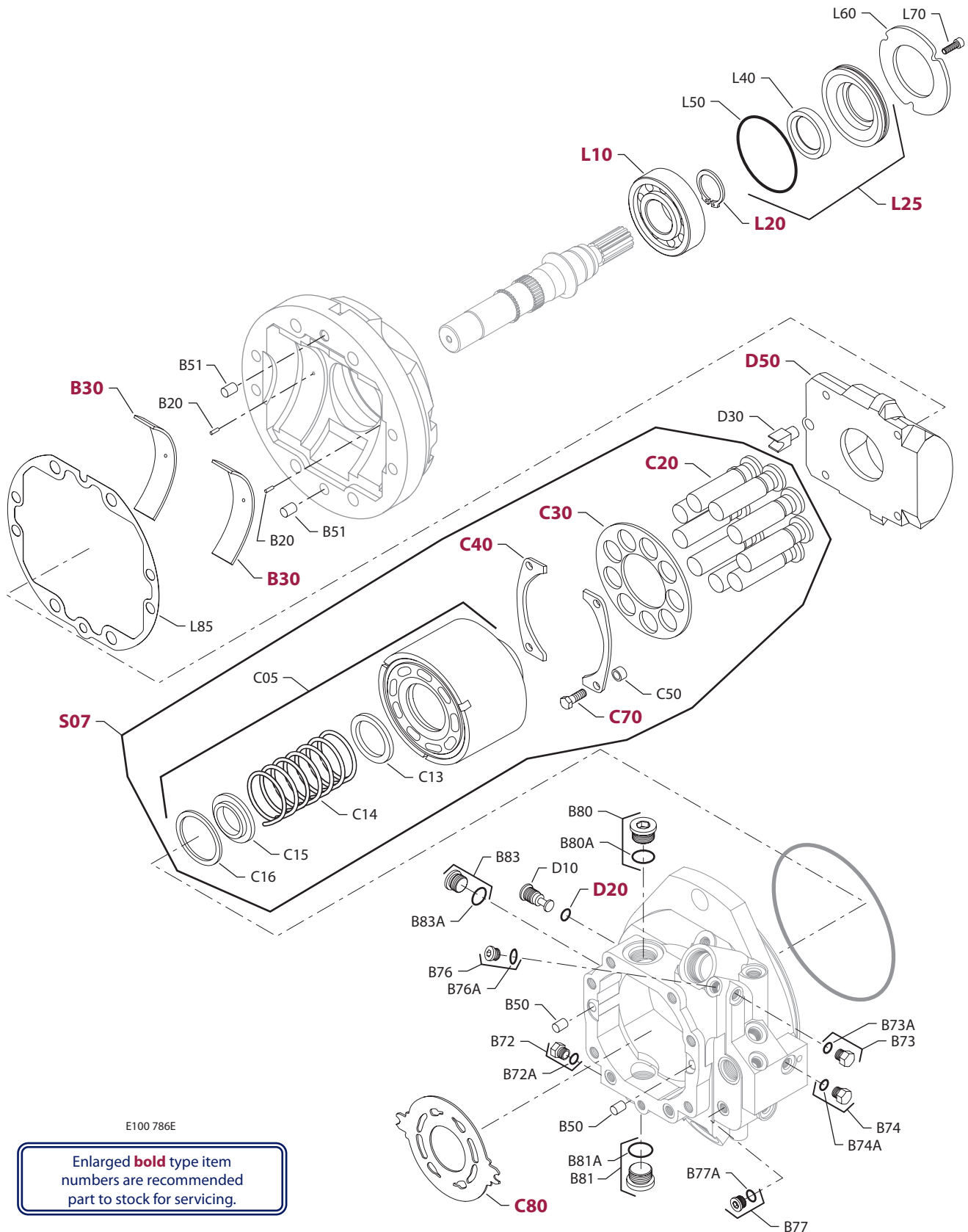
1	Y10	90-34		8510074	Servo orifice assembly, fast	1
	Y40	90-34		085043 (9004201-3700)	O-ring	1
	Y50	90-34		512036 (9006150-0100)	Back up ring	2
	Y60	90-34		732479 (9004105-0100)	O-ring	1
	Y80	90-34		9005100-4400	Plug assembly	1
	Y80A	90-34		001123 (9004201-2500)	O-ring	1
2	Y10	90-34		8510075	Orifice valve assembly, slow	1
	Y40	90-34		085043 (9004201-3700)	O-ring	1
	Y50	90-34		512036 (9006150-0100)	Back up ring	2
	Y60	90-34		732479 (9004105-0100)	O-ring	1
	Y70	90-34		8510076	Orifice valve assembly, slow	1
	Y71	90-34		5000120	Seal nut	1
	Y72	90-34		001123 (9004201-2500)	O-ring	1

OVERHAUL SEAL KIT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
		90-34		80040530	Overhaul seal kit	1
	B72A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B73A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B74A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B76A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B77A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B80A	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B81A	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B83A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	C70	90-34		648477	Screw, M6 x 16, Scotch Grip	4
	D20	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	F12	90-34		038281	O-ring, 1.17 x .116, viton, 90D	1
	F22	90-34		038281	O-ring, 1.17 x .116, viton, 90D	1
	F28	90-34		076042 (9003509-0012)	Seal nut, M12	1
	F49	90-34		8700089	Piston seal ring	4
	G30	90-34		8000231	End cap gasket	1
	G50A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G51A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G70A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G84	90-34		8800865	Crush ring	2
	H50A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	K50	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	K95A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	L40	90-34		314583 (9008000-0118)	Lip seal	1
	L50	90-34		071845 (9004104-1510)	O-ring, 2.987 x .103, viton, 75D	1
	L85	90-34		8000240	Front cover gasket	1
	N18	90-34		076042 (9003509-0012)	Seal nut, M12	1
	T40	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	T50	90-34		512036 (9006150-0100)	Back up ring, .265 x .053	2
	T60	90-34		732479 (9004105-0100)	O-ring, .239 x .070, viton, 90D	1
	Y40	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	Y50	90-34		512036 (9006150-0100)	Back up ring, .265 x .053	2
	Y60	90-34		732479 (9004105-0100)	O-ring, .239 x .070, viton, 90D	1



P100 704E



E100 786E

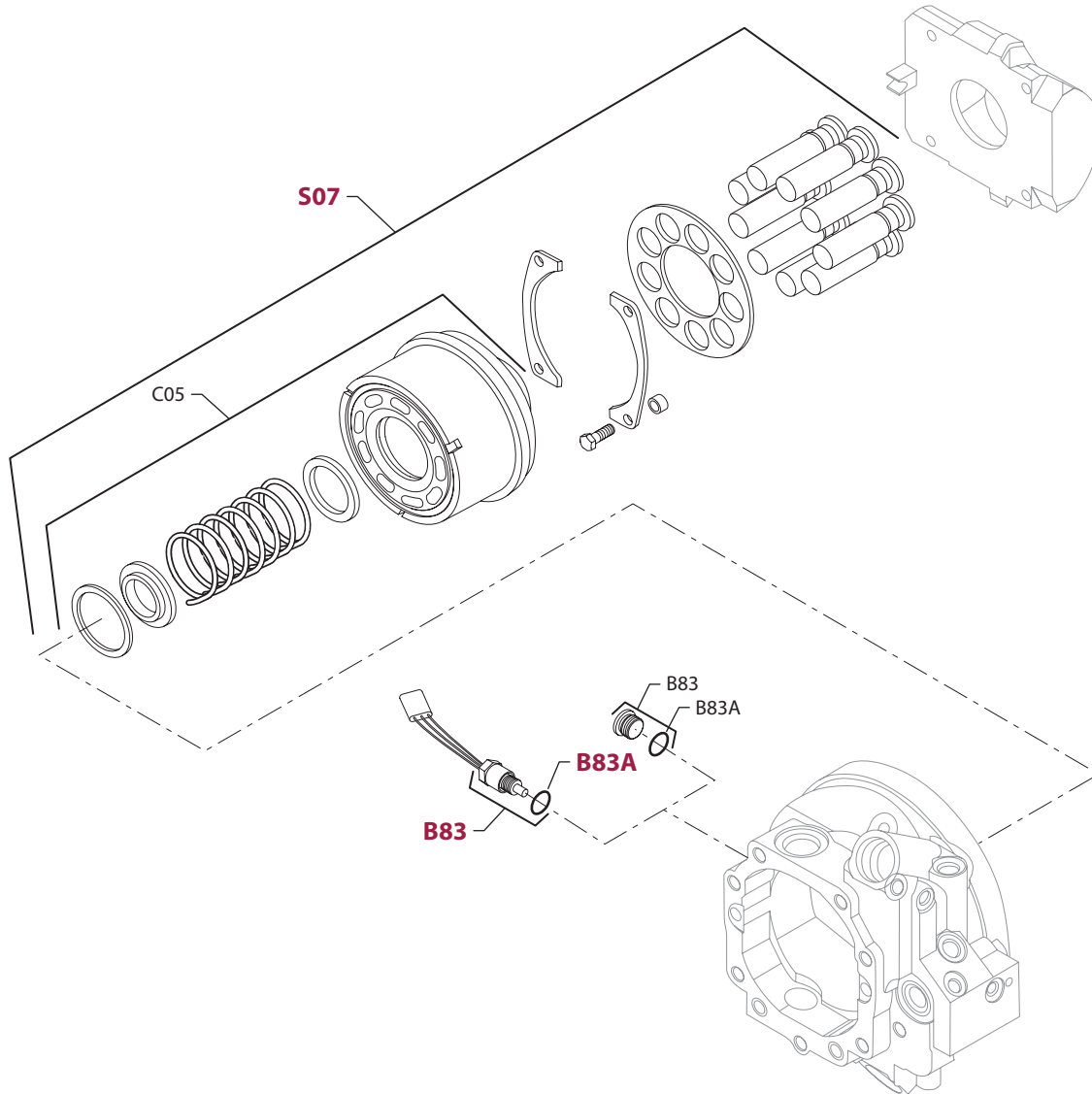
Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON PARTS

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B20	90-34		5000621	Grooved pin (SB-2000-046)	1
	B30	90-34		8000539	Cradle bearing	2
	B50	90-34		001289 (9004800-3708)	Pin	2
	B51	90-34		001289 (9004800-3708)	Pin	2
	B72	90-34		001511 (9005100-4400)	Plug assembly	1
	B72A	90-34		001123 (9004201-2500)	O-ring	1
	B73	90-34		001511 (9005100-4400)	Plug assembly	1
	B73A	90-34		001123 (9004201-2500)	O-ring	1
	B74	90-34		001511 (9005100-4400)	Plug assembly	1
	B74A	90-34		001123 (9004201-2500)	O-ring	1
	B76	90-34		327007 (9005110-4400)	Plug assembly	1
	B76A	90-34		001123 (9004201-2500)	O-ring	1
	B77	90-34		327007 (9005110-4400)	Plug assembly	1
	B77A	90-34		001123 (9004201-2500)	O-ring	1
	B80	90-34		315325 (9005110-8700)	Plug assembly	1
	B80A	90-34		001149 (9004201-6200)	O-ring	1
	B81	90-34		315325 (9005110-8700)	Plug assembly	1
	B81A	90-34		001149 (9004201-6200)	O-ring	1
	C13	90-34		314898 (8000014)	Spring seat	1
	C14	90-34		314864 (8000015)	Cylinder block spring	1
	C15	90-34		314872 (8000091)	Spring retainer	1
	C16	90-34		314880 (9006275-0029)	Retaining ring	1
	C20	90-34		367672	Piston assembly (SB-1988-023)	9
	C30	90-34		314369 (8000007)	Slipper guide	1
	C40	90-34		342337 (8000137)	Slipper guide bearing	2
	C50	90-34		8000619	Slipper hold down spacer (SB-1998-041)	4
	C70	90-34		648477	Screw (SB-1998-041)	4
	C80	90-34		329748	Valve plate	1
	D10	90-34		8800758	Hold down pin (SB-1994-024)	1
	D20	90-34		085043 (9004201-3700)	O-ring	1
	D30	90-34		8100406	Hold down arm (SB-1994-015)	1
	D50	90-34		8000618	Swashplate (SB-1994-015 & SB-1998-080)	1
	L10	90-34		5000504	Roller bearing	1
	L20	90-34		615245 (9006300-0137)	Retaining ring	1
	L25	90-34		8000390	Seal assembly	1
	L40	90-34		314583 (9008000-0118)	Lip seal	1
	L50	90-34		071845 (9004104-1510)	O-ring	1
	L60	90-34		516766	Retainer plate	1
	L70	90-34		041160 (9007314-0605)	Screw	3
	L85	90-34		8000240	Front cover gasket	1

SPECIAL HARDWARE

NNN	S07	90-34		8510363	Cylinder block kit, without speed ring	1
	C05	90-34		8000804	Cylinder block assembly, without speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1

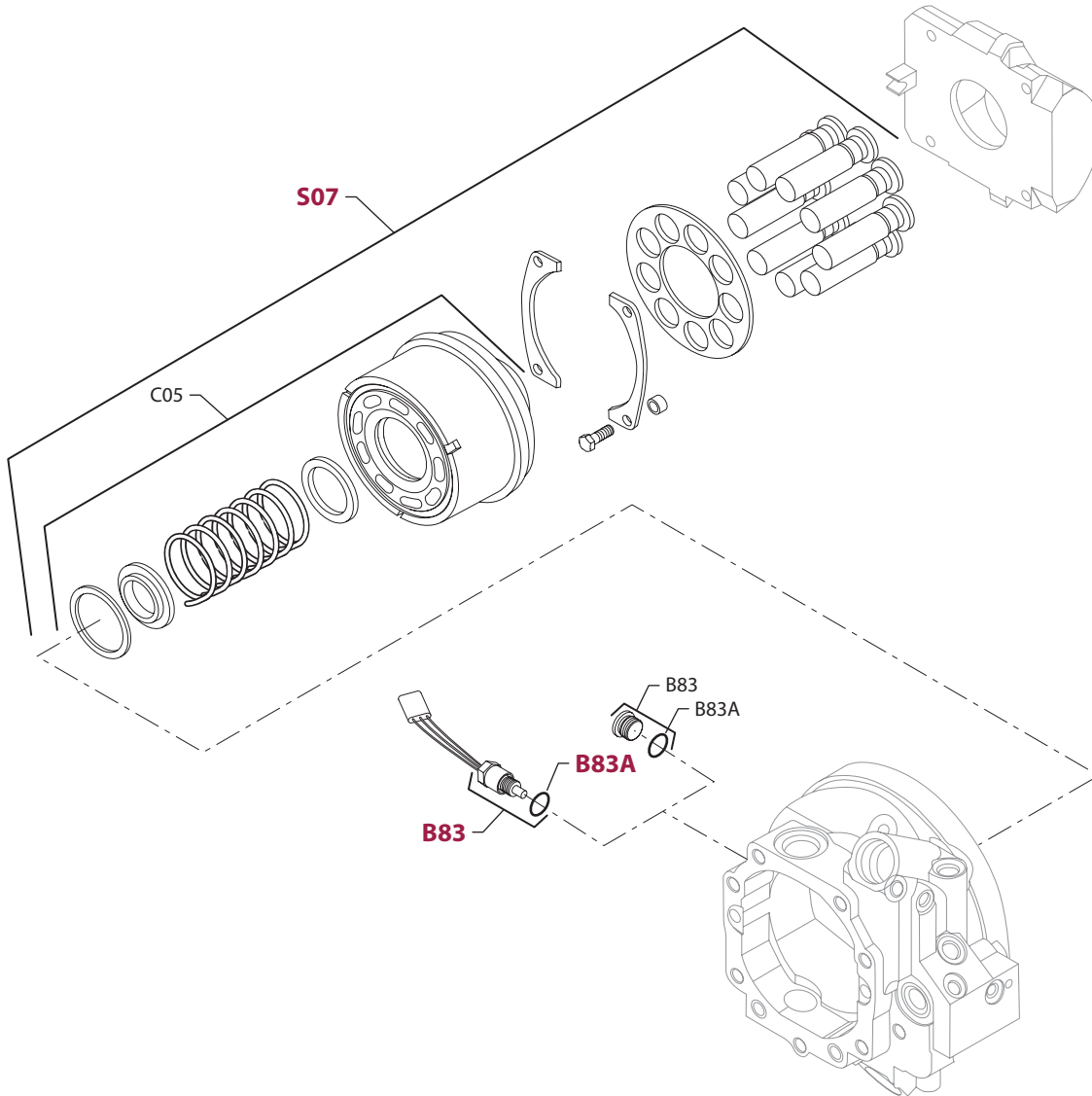


E100 780E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EBA	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG13408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EBD	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG12408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EBG	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG15408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EBH	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG18408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EEA	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EEB	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EEK	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EFA	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG136	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EGD	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG12730A	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EGH	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG18708	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1

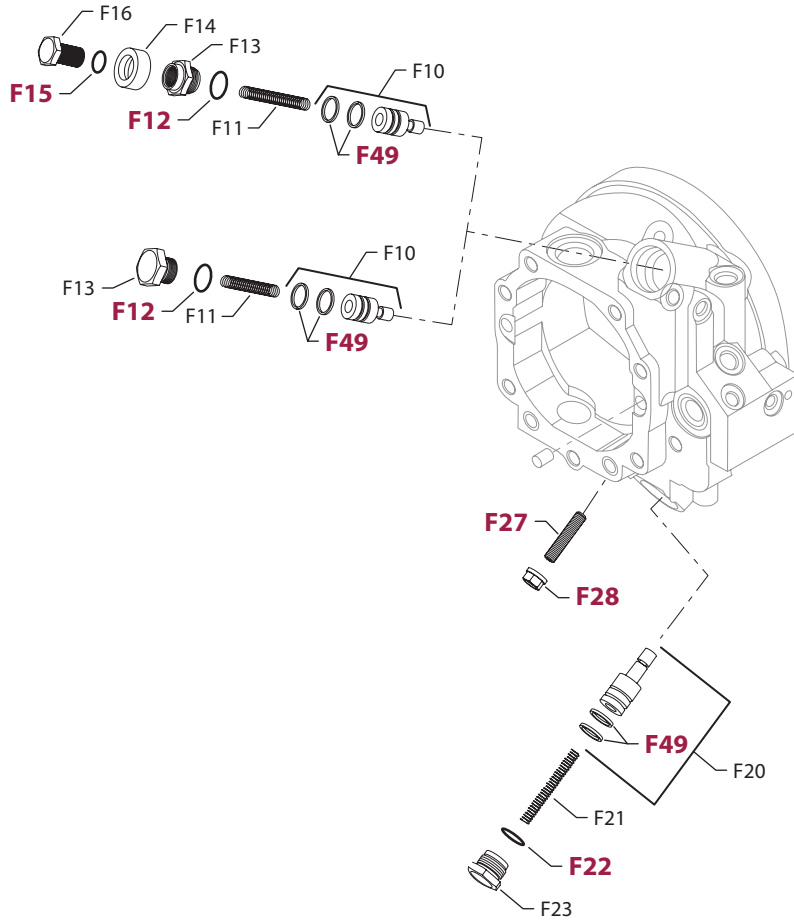


E100 780E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

SPECIAL HARDWARE

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
EHD	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG16408	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EHE	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG16008	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
EHH	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		KPPG16008	Speed sensor	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
JAF	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
JAG	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1
JAK	S07	90-34		8510362	Cylinder block kit, with speed ring	1
	C05	90-34		8000808	Cylinder block assembly, with speed ring	1
	B83	90-34		515965 (9005110-5600)	Plug assembly	1
	B83A	90-34		085043 (9004201-3700)	O-ring	1

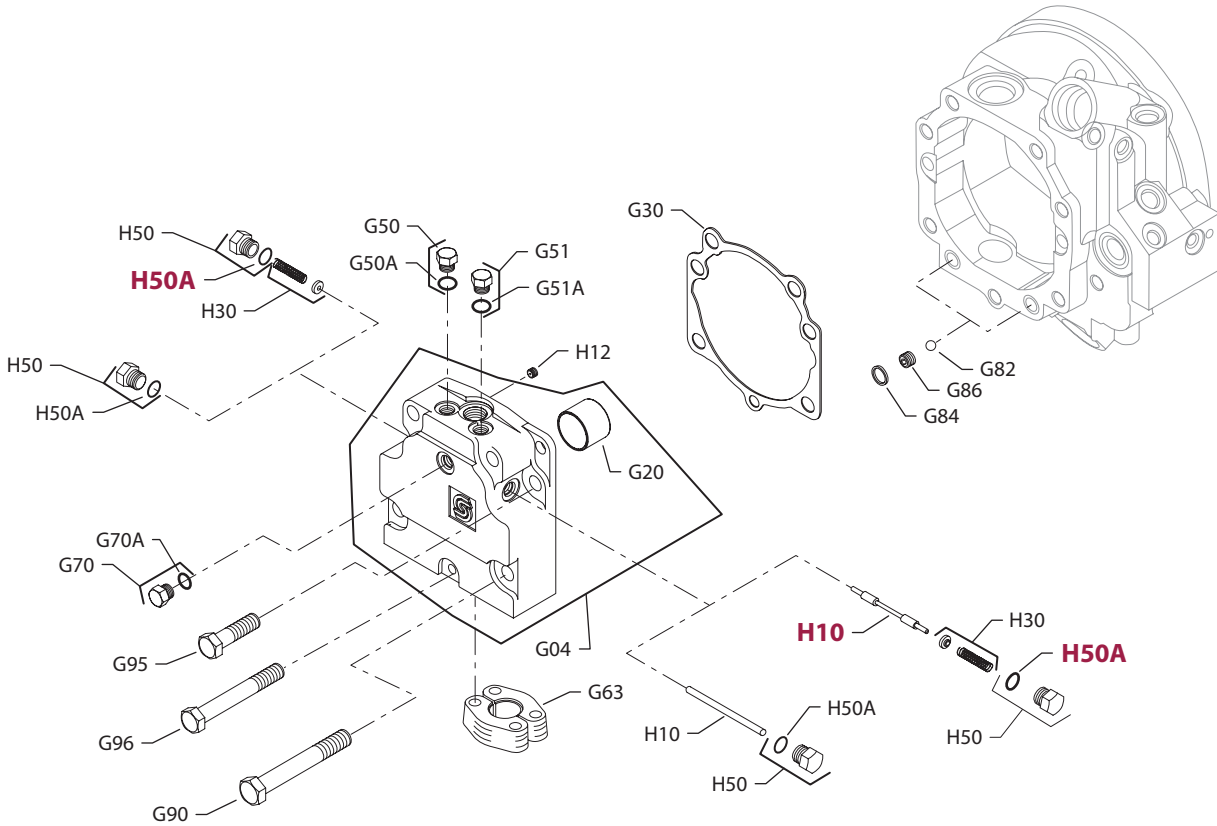


E100 781E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

MINIMUM DISPLACEMENT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit	
019 - 040	F10	90-34		8100441	Servo piston assembly	1	
	F11	90-34		8800619	Spring	1	
	F12	90-34		038281	O-ring	1	
	F13	90-34		9005475-0099	Plug. special	1	
	F20	90-34		8100441	Servo piston assembly	1	
	F21	90-34		8100435	Spring	1	
	F22	90-34		038281	O-ring	1	
	F23	90-34		9005475-0099	Plug. special	1	
	F27	90-34		330415	Set screw	1	
	F28	90-34		076042 (9003509-0012)	Seal nut	1	
	F49	90-34		8700089	Piston seal ring	4	
	M32	F10	99-24		8801165	Servo piston assembly	1
		F11	99-24		8801161	Spring	1
F12		99-24		038281	O-ring	1	
F13		99-24		8801212	Fitting	1	
F14		99-24		8801214	Servo shield	1	
F15		99-24		012559 (9004202-6200)	O-ring	1	
F16		99-24		8801213	Servo plug	1	
F20		99-24		8801165	Servo piston assembly	1	
F21		99-24		8801160	Spring	1	
F22		99-24		038281	O-ring	1	
F23		99-24		8801162	Plug. special	1	
F27		99-24		330415	Set screw	1	
F28		99-24		076042 (9003509-0012)	Seal nut	1	
F49	99-24		8700089	Piston seal ring	4		



E100 782E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

COMMON END CAP PARTS

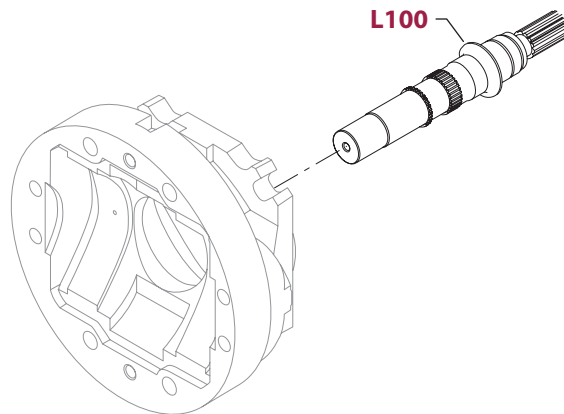
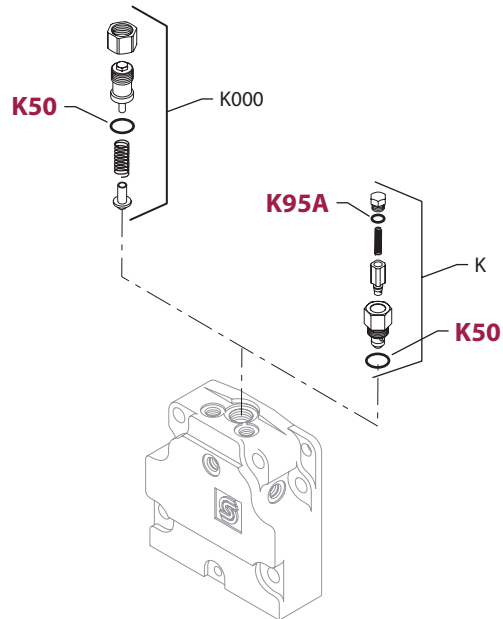
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	G30	90-34		8000231	End cap gasket	1
	G50	90-34		046151 (9005100-5600)	Plug assembly	1
	G50A	90-34		085043 (9004201-3700)	O-ring	1
	G51	90-34		046151 (9005100-5600)	Plug assembly	1
	G51A	90-34		085043 (9004201-3700)	O-ring	1
	G70	90-34		515965 (9005110-5600)	Plug assembly	1
	G70A	90-34		085043 (9004201-3700)	O-ring	1
	G82	90-34		9001214-2800	Ball	2
	G84	90-34		8800865	Crush ring	2
	G86	90-34		8100392	Pipe plug orifice	2
	G90	90-34		9007210-1215	Screw	4
	G95	90-34		9007210-1208	Screw	2
	G96	90-34		9007210-0815	Screw	1

END CAP

1	G04	90-34		8000599	End cap assembly, twin ports	1
	G20	90-34		8700018	Journal bearing	1
	G63	90-34		314179 (8700074)	Split clamp (code 61 hose)	4
8	G04	90-34		8000599	End cap assembly, twin ports	1
	G20	90-34		8700018	Journal bearing	1

LOOP FLUSHING

A	H10	94-18		365544 (8800550)	Shuttle spool	1
	H12	94-18		8800242-0009	Orifice plug	1
	H30	94-18		513596	Spring guide assembly (SB-2000-047)	2
	H50	94-18		518016	Plug assembly	2
	H50A	94-18		085043 (9004201-3700)	O-ring	2
N	H10	90-34		740944 (8800668)	Loop flushing spool, defeated	1
	H50	90-34		046151 (9005100-5600)	Plug assembly	2
	H50A	90-34		085043 (9004201-3700)	O-ring	2
W	H10	90-34		365544 (8800550)	Shuttle spool	1
	H30	90-34		513596	Spring guide assembly (SB-2000-047)	2
	H50	90-34		518016	Plug assembly	2
	H50A	90-34		085043 (9004201-3700)	O-ring	2

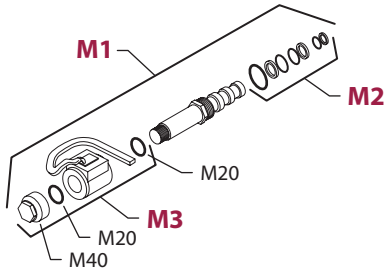


E100 783E

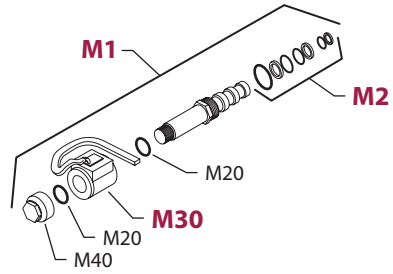
Enlarged **bold** type item numbers are recommended part to stock for servicing.

CHARGE PRESSURE SETTING

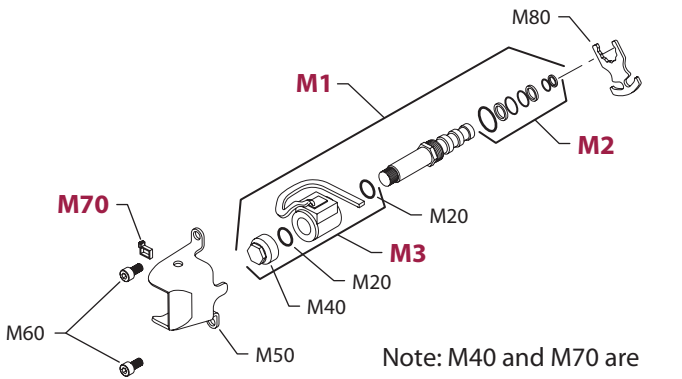
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
00	K10	90-34		001537 (9005100-8700)	Plug assembly	1
	K10A	90-34		001149 (9004201-6200)	O-ring	1
20-24	K000	90-34		8510012	Adjustable charge relief valve kit	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
A3	K	90-34		8510256	Cartridge CPRV kit, 13 bar, 16 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
E4	K	90-34		8510261	Cartridge CPRV kit, 16 bar, 4 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
E6	K	90-34		8510252	Cartridge CPRV kit, 16 bar, 7 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
F0	K	90-34		8510259	Cartridge CPRV kit, 16 bar, 11 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
F3	K	90-34		8510262	Cartridge CPRV kit, 16 bar, 16 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
N4	K	90-34		8510255	Cartridge CPRV kit, 13 bar, 4 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
N6	K	90-34		8510251	Cartridge CPRV kit, 13 bar, 7 L/min	1
	K50	90-34		001149 (9004201-6200)	O-ring	1
	K95A	90-34		085043 (9004201-3700)	O-ring	2
SHAFT						
S7	L100	90-34		8000506	Shaft, 14 tooth spline, 12/24	1



NA, NB, NC, ND, & NH

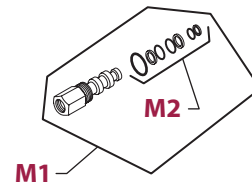


NE



Note: M40 and M70 are included in M1, M2 and M3

NG



PT & PX

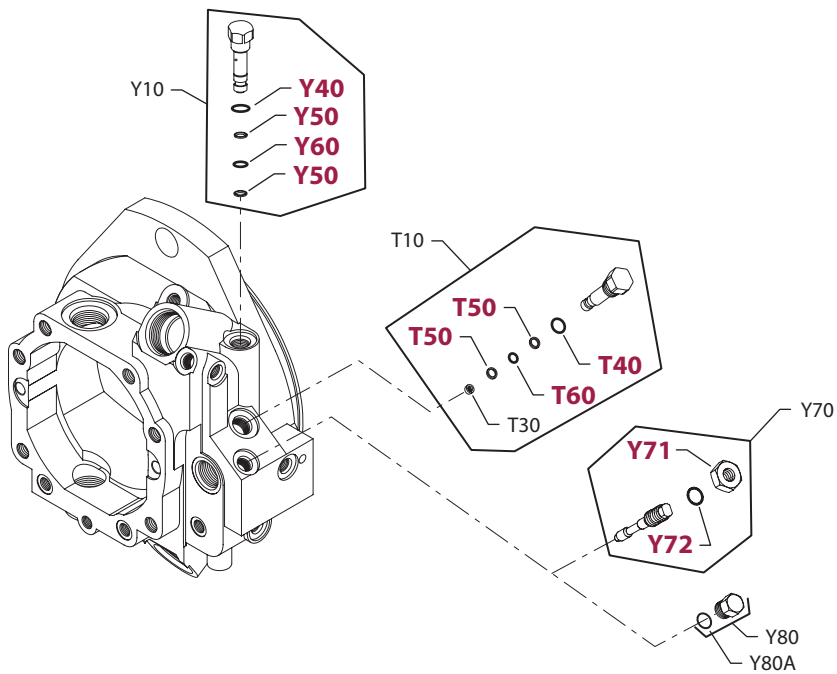
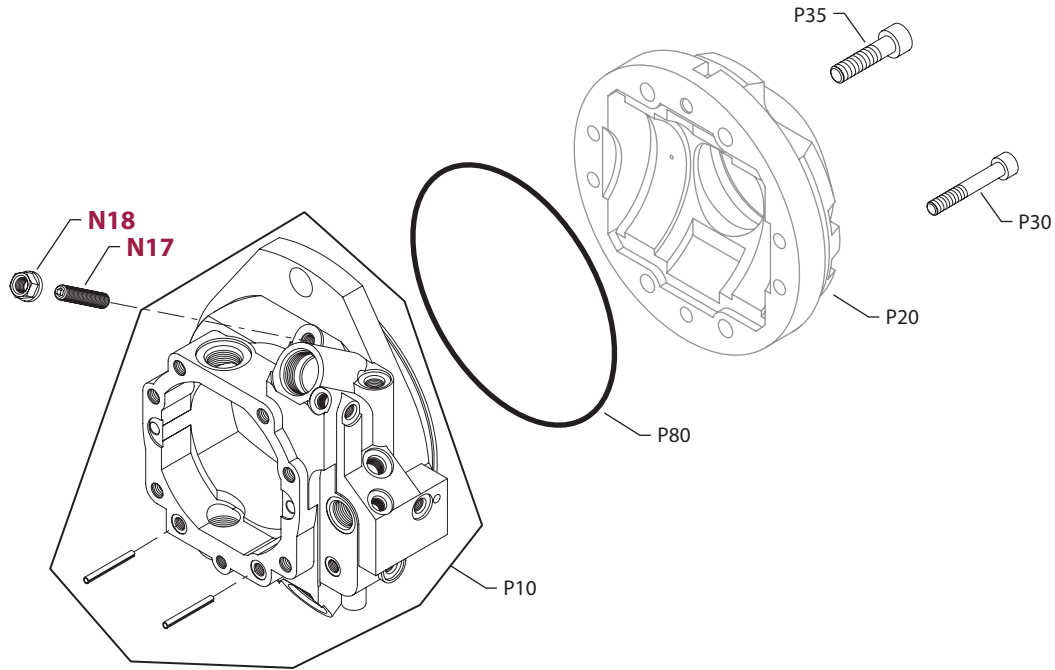
Note: This drawing shows generic coils

E100 784E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

CONTROL

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
NA	M1	90-34		8510218	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510214	Coil kit, 12V, MS connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NB	M1	90-34		8510216	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510212	Coil kit, 12V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NC	M1	90-34		8510219	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510215	Coil kit, 24V, MS connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
ND	M1	90-34		8510217	Solenoid control valve kit, (SB-1998-084)	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		8510213	Coil kit, 24V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
NE	M1	90-34		8510250	Solenoid control valve kit, 12V, M-Pack 150.2 connector	1
	M2	90-34		8700133	Seal kit	1
	M20	90-34		5000512	O-ring	2
	M30	90-34		8700135	Coil, 12V, M-Pack 150.2 connector	1
	M40	90-34		5000511	Coil nut, special	1
NG	M1	90-34		8510284	Solenoid control valve kit, 24V, Packard conn.,special	1
	M2	90-34		8700206	Seal kit	1
	M3	90-34		8510283	Coil kit, 24V, Packard connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
	M50	90-34		8100714	Solenoid cover	1
	M60	90-34		5000514	Screw	2
	M70	90-34		5000509	Cable tie	1
	M80	90-34		8100781	Solenoid locking plate	1
NH	M1	90-34		11018154	Solenoid control valve kit, 12V, Deutsch connector	1
	M2	90-34		8700133	Seal kit	1
	M3	90-34		11018155	Coil kit, 12V, Deutsch connector	1
	M20	90-34		5000512	O-ring	2
	M40	90-34		5000511	Coil nut, special	1
PT	M1	90-34		8700088	Control valve	1
	M2	90-34		8510178	Seal kit	1
PX	M1	90-34		8700118	Control valve	1



E100 789E

Enlarged **bold** type item numbers are recommended part to stock for servicing.

MAXIMUM DISPLACEMENT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
A - N	N17	90-34		330415	Set screw M12 x 60	1
	N18	90-34		076042 (9003509-0012)	Seal nut	1

HOUSING

0	P10	90-34		8510056	Housing assembly	1
	P20	90-34		8000228	Front cover	1
	P30	90-34		654053 (9007314-1012)	Screw	4
	P35	90-34		672295 (9007314-1010)	Screw	4
	P80	90-34		508347 (9004100-1680)	O-ring	1

SERVO RATE, A

1	T10	90-34		8510077	Orifice valve assembly	1
	T30	90-34		8800532	Filter screen	1
	T40	90-34		085043 (9004201-3700)	O-ring	1
	T50	90-34		512036 (9006150-0100)	Back up ring	2
	T60	90-34		732479 (9004105-0100)	O-ring	1

SERVO RATE, B

1	Y10	90-34		8510074	Servo orifice assembly, fast	1
	Y40	90-34		085043 (9004201-3700)	O-ring	1
	Y50	90-34		512036 (9006150-0100)	Back up ring	2
	Y60	90-34		732479 (9004105-0100)	O-ring	1
	Y80	90-34		9005100-4400	Plug assembly	1
	Y80A	90-34		001123 (9004201-2500)	O-ring	1
2	Y10	90-34		8510075	Orifice valve assembly, slow	1
	Y40	90-34		085043 (9004201-3700)	O-ring	1
	Y50	90-34		512036 (9006150-0100)	Back up ring	2
	Y60	90-34		732479 (9004105-0100)	O-ring	1
	Y70	90-34		8510076	Orifice valve assembly, slow	1
	Y71	90-34		5000120	Seal nut	1
	Y72	90-34		001123 (9004201-2500)	O-ring	1

OVERHAUL SEAL KIT

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
		90-34		80040530	Overhaul seal kit	1
	B72A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B73A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B74A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B76A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B77A	90-34		001123 (9004201-2500)	O-ring, .351 x .072, nitrile, 90D	1
	B80A	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B81A	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	B83A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	C70	90-34		648477	Screw, M6 x 16, Scotch Grip	4
	D20	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	F12	90-34		038281	O-ring, 1.17 x .116, viton, 90D	1
	F22	90-34		038281	O-ring, 1.17 x .116, viton, 90D	1
	F28	90-34		076042 (9003509-0012)	Seal nut, M12	1
	F49	90-34		8700089	Piston seal ring	4
	G30	90-34		8000231	End cap gasket	1
	G50A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G51A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G70A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	G84	90-34		8800865	Crush ring	2
	H50A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	2
	K50	90-34		001149 (9004201-6200)	O-ring, .755 x .097, nitrile, 90D	1
	K95A	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	L40	90-34		314583 (9008000-0118)	Lip seal	1
	L50	90-34		071845 (9004104-1510)	O-ring, 2.987 x .103, viton, 75D	1
	L85	90-34		8000240	Front cover gasket	1
	N18	90-34		076042 (9003509-0012)	Seal nut, M12	1
	P80	90-34		508347 (9004100-1680)	O-ring	1
	T40	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	T50	90-34		512036 (9006150-0100)	Back up ring, .265 x .053	2
	T60	90-34		732479 (9004105-0100)	O-ring, .239 x .070, viton, 90D	1
	Y40	90-34		085043 (9004201-3700)	O-ring, .468 x .078, nitrile, 90D	1
	Y50	90-34		512036 (9006150-0100)	Back up ring, .265 x .053	2
	Y60	90-34		732479 (9004105-0100)	O-ring, .239 x .070, viton, 90D	1

PRODUCTS AFFECTED

Series 90 pumps and motors

SUBJECT

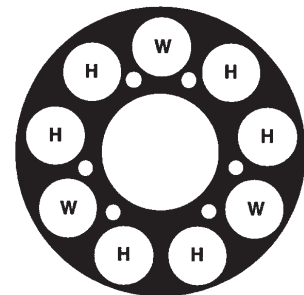
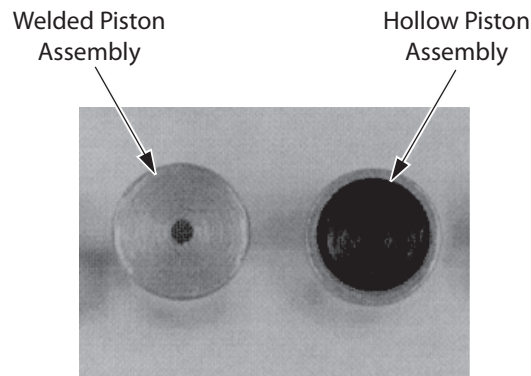
Piston improvement

DESCRIPTION

Product Information Bulletin PIB-8801 (March, 1988) announced the incorporation of fabricated (welded) piston assemblies, replacing non-fabricated (hollow) piston assemblies, in the cylinder blocks of all Series 90 pumps and motors. This change increases the overall efficiency of the Series 90 product line.

To simplify service parts inventory for all Series 90 units, only individual welded piston assemblies will be available as spare parts. The hollow pistons will be obsolete. Part numbers for individual welded piston assemblies are listed in this bulletin.

Since all Series 90 pumps and motors have nine (9) pistons, welded pistons being used to replace hollow pistons during repair **MUST** be install in the cylinder block symmetrically, in multiples of three (3).



When replacing hollow pistons with welded pistons, it is mandatory that the welded pistons be incorporated symmetrically in multiples of three.

MODELS AFFECTED

All series 90 pumps and motors: 93-xxxx, 94-xxxx, 95-xxxx, and 96-xxxx pumps

SERIAL NUMBERS

Welded pistons will be incorporated into all series 90 pumps and motors by the end of the first quarter of 1998.

PART NUMBERS AFFECTED

Part number	Description
706101	Piston assembly, welded - 42 cc
367672	Piston assembly, welded - 55 cc
708230	Piston assembly, welded - 75 cc
364000	Piston assembly, welded - 100 cc

PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED

Series 90 fixed displacement motors

SUBJECT

Incorporation of adjustable charge relief valve

DESCRIPTION

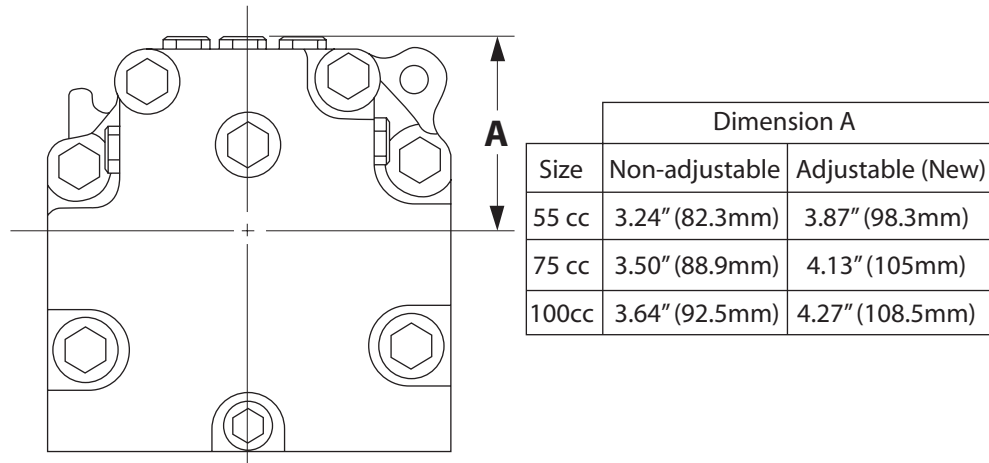
As a product improvement, Sauer-Danfoss is incorporating an externally adjustable charge relief valve on all series 90 fixed displacement motors. This design replaces the previous shimmed relief valve. The new design valve provides a range of pressure adjustment from 10 to 32 bar.

The diameter of the loop flushing shuttle spool increases from .25" (6.35mm) to .375" (9.53mm) at the same incorporation date as the charge relief valve change.

This is a non-interchangeable change. Adjustable style charge relief valves can not be added to motors manufactured before this incorporation date. Old style end caps, which house the charge relief and loop flushing valves, will not be available as service parts. If new end caps are required, new style charge relief and loop flushing parts must also be installed.

Charge relief valve adjustment procedures can be found in the Series 90 Service Manual (BLN-9947 Rev. B). Charge pressure increases/decreases at the rate of 78 psi (5.4 bar) per turn clockwise/counterclockwise.

The new style charge relief plug protrudes from the motor end cap approximately .63" (16mm) farther than the shimmed design. New dimensions from the center line to the top of the charge relief valve plug are shown below.



MODELS AFFECTED

All 94-3xxx, 95-3xxx, and 96-3xxx fixed displacement motors

SERIAL NUMBERS AFFECTED

All 55 cc motors (94-3xxx) will change at s/n A-89-38-xxxxx
 All 75 cc motors (95-3xxx) will change at s/n A-89-44-xxxxx
 All 100 cc motors (96-3xxx) will change at s/n A-90-20-xxxxx

PART NUMBERS AFFECTED

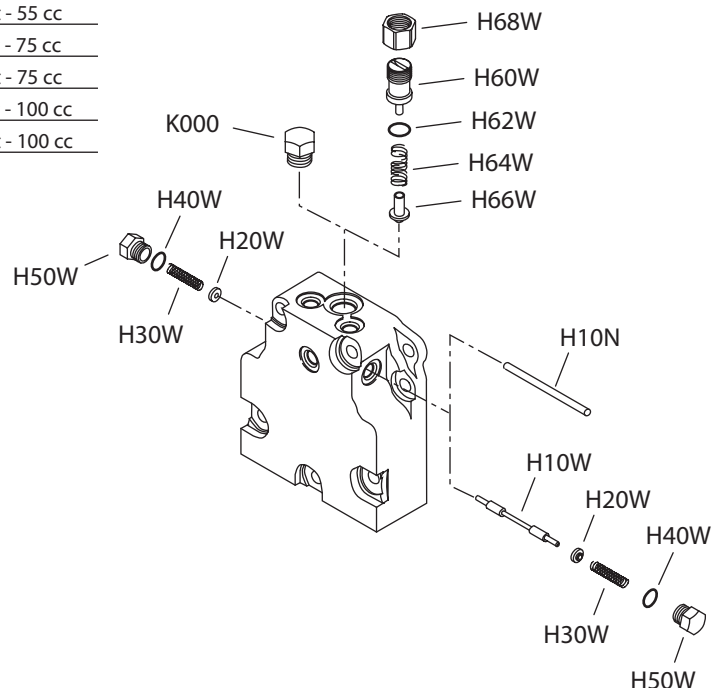
Charge relief and loop flushing hardware for old vintage motors can be found in the Series 90 Service Parts Manual (520L0890). The new part numbers are as follows:

New charge relief and loop flushing hardware

Item	Part number	Description	Qty
K90	9003575-0101	Nut	1
K10	8800488-1000	Plug assembly	1
K50	9004201-6200	O-ring	1
K70	8800476	Spring	1
K80	8800449	Poppet	1
K000	9005100-8700	Plug assembly	1
H10W	8800550	Shuttle valve spool	1
H20W	8800551	Washer	2
H30W	364950	Spring	2
H40W	9004201-3700	O-ring	2
H50W	9005475-0097	Plug assembly	2
H10N	8800552	Loop flushing spool, defeated	1

New end caps

Part number	Description
8000196	Twin port - 55 cc
8000197	Axial port - 55 cc
8100373	Twin port - 75 cc
8100374	Axial port - 75 cc
8200188	Twin port - 100 cc
8200189	Axial port - 100 cc



PARTS DISPOSITION

■ Non-interchangeable

PRODUCTS AFFECTED

Series 90 55 cc variable motors

SUBJECT

Swashplate and pivot arm change

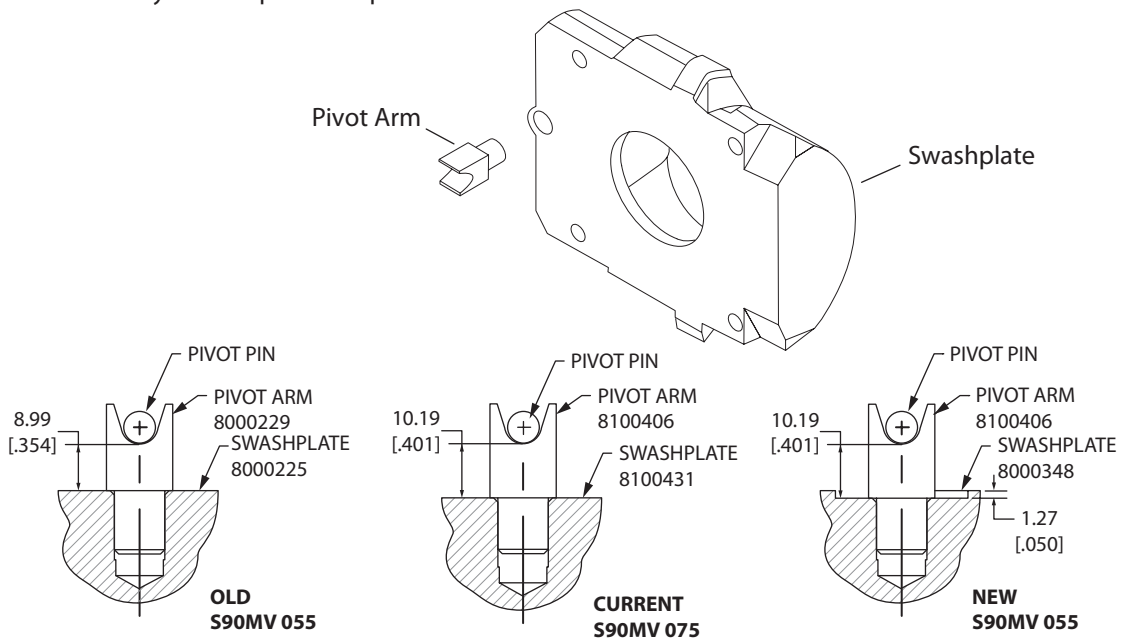
DESCRIPTION

Sauer-Danfoss is changing the design of the 55 cc variable motor swashplate to allow for a common pivot arm to be used for both the 55 cc and the 75 cc variable motor.

The accompanying figures show the current configuration of the swashplate pivot arm and pivot pin for the 55 and 75 frame sizes respectively. The only difference between the two pivot arms is their length.

The new design for the 55 cc moves the difference in dimensions from the pivot arm to the swashplate, which allows a common pivot arm to be used for both 55 and 75 frame sizes.

The old style swashplate and pivot arm will be obsoleted and will not be available as service parts. The new and old style swashplates and pivot arms are not interchangeable as individual parts. If either of these parts must be replaced during repair, both a new style swashplate and pivot arm must be installed.



MODELS AFFECTED

All 94-4xxx and 944xxx variable motors

SERIAL NUMBERS

A-94-51-xxxxx

PART NUMBERS AFFECTED

Frame size	Old swashplate	Old pivot arm	New swashplate	New pivot arm
55 cc	8000225	8000229	8000348	8100406
75 cc	8100431	8100406	No change	No change

PARTS DISPOSITION

■ Interchangeable - If BOTH swashplate and holddown arm are changed.

PRODUCTS AFFECTED

Series 90 55 and 75 cc variable motors

SUBJECT

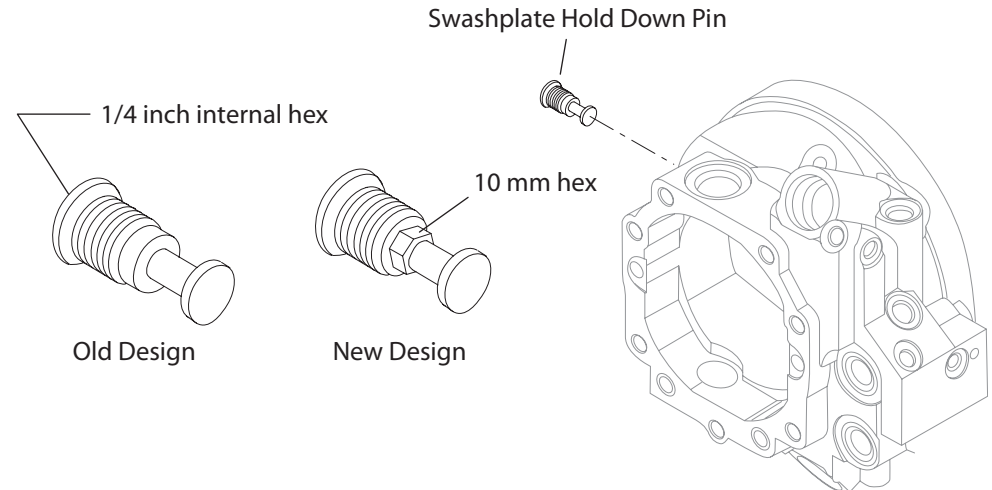
Swashplate hold down pin

DESCRIPTION

As a product improvement, Sauer-Danfoss is changing the design of the swashplate hold down pin used on 55 and 75 cc variable motors.

The previous design used a 1/4 inch internal socket head drive, whereas the new design incorporates a 10 mm drive hex that is not externally accessible. The part number of the hold down pin does not change and is totally interchangeable with the previous design.

Any unit at first repair should be changed to the new style hold down pin. Torque the hold down pin to 27 N•m [20 lbf•ft].

**MODELS AFFECTED**

All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable motors

SERIAL NUMBERS

A-94-10-xxxxx and beyond

PART NUMBERS AFFECTED

8800758

PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED

Series 90 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

SUBJECT

Charge relief seat

DESCRIPTION

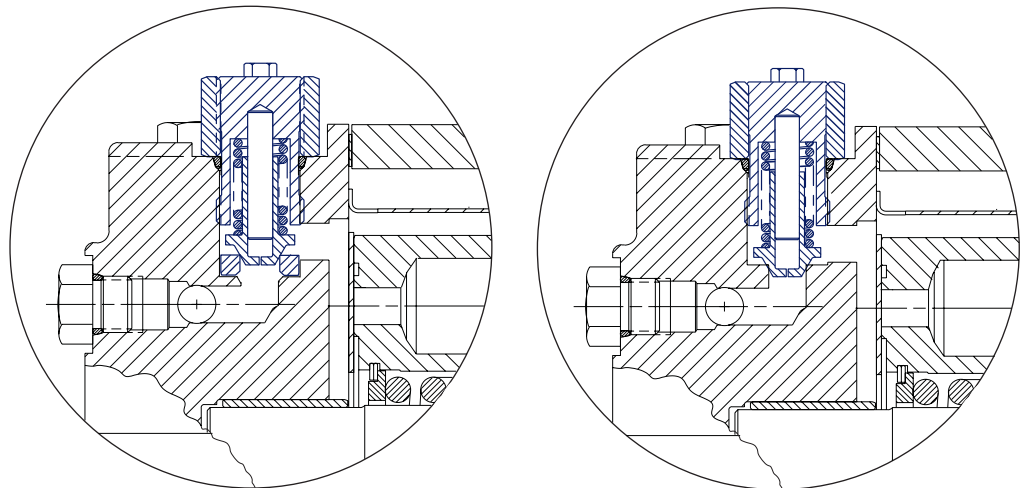
Sauer-Danfoss has initiated a change to the end caps used on series 90 55cc, 75cc, and 100cc fixed displacement motors, and the series 90 55cc and 75cc variable displacement motors.

Currently, the end caps used on these motors contain a pressed in insert, which serves as a seat for the charge pressure relief valve assembly. The insert was originally introduced to provide a suitable wear surface for the charge pressure relief valve poppet.

Since the original design, a number of changes to the charge pressure relief valve design have reduced the severity of the wear characteristics between the poppet and relief seat. These changes have now made it possible to remove the insert from the end cap assembly. The design of the motor end cap has been modified in a manner that allows the charge relief poppet to seat directly against the casting machined surface.

The removal of the insert was initially introduced with the series 90 130cc motors in 1995, and with this change a more uniform product family is achieved.

To aid in identifying and tracking this change, Sauer-Danfoss has released new end cap part numbers. The new end cap is directly interchangeable with the previous end cap and with adjustable charge pressure relief valve components. The previous end cap part numbers will no longer be available as service parts. Page 2 of this bulletin provides part number cross-reference information.



MODELS AFFECTED

All 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors
 All 94-4xxx, 944xxxx, 95-4xxx, 954xxxx variable displacement motors

SERIAL NUMBERS AFFECTED

Change became effective with s/n A-98-34-xxxxx and beyond

PART NUMBERS AFFECTED

Motor type	Displacement	Order code	Porting	Split flange thread	Prior to 98-34	Current
Fixed	55 cc	D	Twin	Metric	8000417	8000593
Fixed	55 cc	1 & 8	Twin	English	8000196	8000594
Fixed	55 cc	3 & 7	Axial	English	8000197	8000596
Variable	55 cc	R	Twin	Metric	8000356	8000598
Variable	55 cc	1 & 8	Twin	English	8000335	8000599
Fixed	75 cc	D	Twin	Metric	8100576	8100731
Fixed	75 cc	1 & 8	Twin	English	8100373	8100733
Fixed	75 cc	3 & 7	Axial	English	8100374	8100734
Variable	75 cc	1 & 8	Twin	English	8100442	8100737
Fixed	100 cc	E	Twin	English	8200319	8200407
Fixed	100 cc	1 & 8	Twin	English	8200188	8200408
Fixed	100 cc	3 & 7	Axial	English	8200189	8200409

PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED

Series 90 55, 75, and 100 cc variable pumps
Series 90 55 and 75 cc variable motors

SUBJECT

Piston hold down mechanism design change

DESCRIPTION

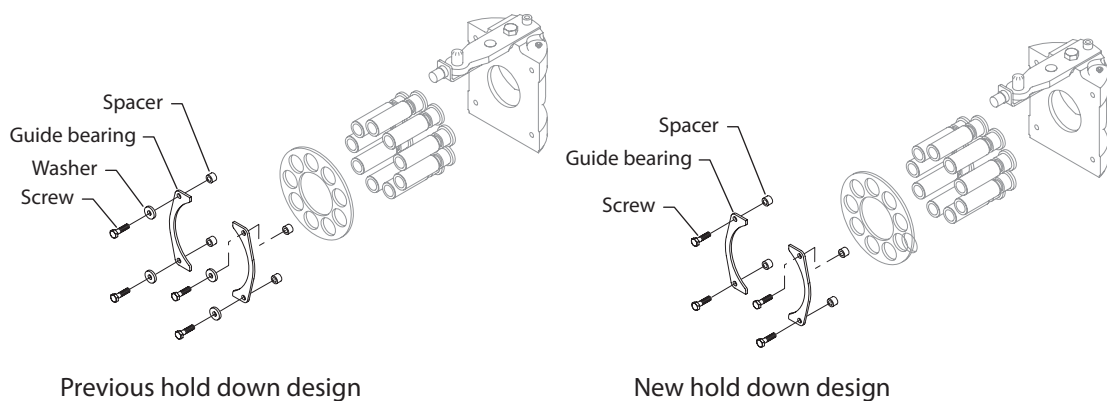
Sauer-Danfoss has initiated a change to the piston hold down mechanism used on series 90 55, 75, and 100 cc variable displacement pump and the series 90 55 and 75 cc variable displacement motors.

Previously, the hold down assembly consisted of a spacer, slipper guide bearing, washer, and screw. The spacer provides a fixed amount of operational clearance for the slipper and slipper retainer. The guide bearing provides a wear surface for the slipper retainer, while the hold down screws and washers retain the assembly.

The change involved with the current design update is the removal of the washer from the assembly. This design was initially introduced on the series 90 42 and 130 cc pumps in 1994, and with this change a uniform product family is achieved.

With the removal of the washer, the required length of the assembly screw is reduced. The change in the assembly screw also affects the dimensions of the spacer. Therefore, with this change, the part numbers associated with the assembly screw and spacer have been changed. Some of the assembly screws are parts already maintained in the parts system.

Although the new spacer and assembly screw are directly interchangeable with the previous swashplate assembly components, we recommend that the components be serviced in combination. Since the new spacer may be serviced as a stand alone item, the previous spacer has been obsoleted and will no longer be available as a service part.



MODELS AFFECTED

94-2xxx, 942xxxx, 95-2xxx, 952xxxx, 96-2xxx, and 962xxxx variable pumps
 94-2xxx, 942xxxx, 95-2xxx, and 952xxxx variable motors

SERIAL NUMBERS

Sauer-Danfoss Ames production - effective at serial number A-98-48-xxxxx

PART NUMBERS AFFECTED

Component	Displacement	Prior to 98-48	Current
Hold down screw	55 cc	9007276-0114	648477
Spacer	55 cc	8000266	8000619
Washer - pumps	55 cc	9009625-0159	N/A
Washer - motors	55 cc	9009625-0129	N/A
Hold down screw	75 cc	9007276-0099	9007276-0114
Spacer	75 cc	8100450	8100777
Washer - pumps	75 cc	9009625-0159	N/A
Washer - motors	75 cc	9009625-0129	N/A
Hold down screw	100 cc	9007276-0099	9007276-0114
Spacer	100 cc	8200216	8200422
Washer - pumps	100 cc	9009625-0159	N/A

PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED

Series 90 55 and 75 cc variable motors

SUBJECT

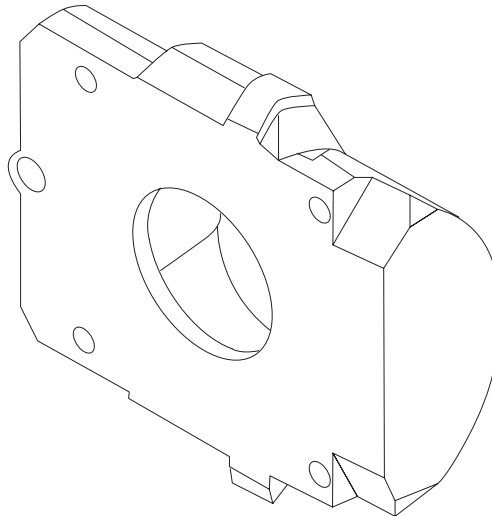
Motor swashplate change

DESCRIPTION

Sauer-Danfoss has initiated a changing to the swashplate used on series 90 55 and 75 cc variable motors.

The process used to develop the required surface hardness of the swashplate has been changed. Due to this change, a slight change in material color may be observed.

In association with this change, Sauer-Danfoss has released new part numbers for the swashplate used in the series 90 55 and 75 cc variable motors. The new swashplate is completely interchangeable with the previous swashplate. The previous swashplate is no longer available as a service part.



MODELS AFFECTED

All 94-4xxxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors

SERIAL NUMBERS

This change became effective at serial number A-98-49-xxxxx.

PART NUMBERS AFFECTED

Motor size	Old swashplate part number	New swashplate part number
55 cc	8000348	8000618
75 cc	8100431	8100773

PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED

Series 90 55 and 75 cc variable motors

SUBJECT

Electronic motor displace control valve change

DESCRIPTION

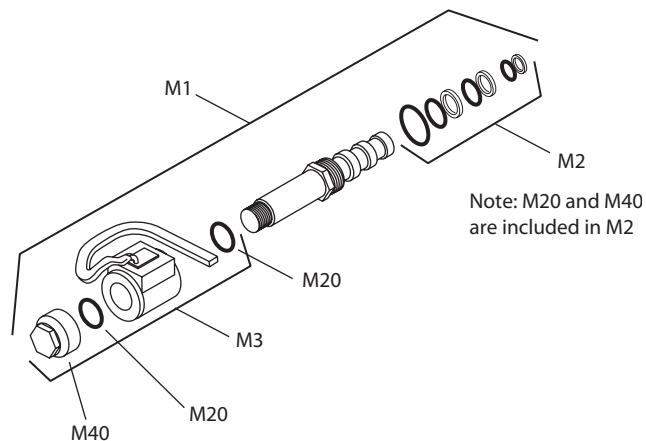
Sauer-Danfoss has introduced several design and serviceability improvements for the electronic motor shift control valve on series 90 55 and 75 cc variable displacement motors. This change affects motors with NA, NB, NC, and ND style controls.

The electronic solenoid coil has been revised to increase the maximum shift force generated by the coil. The cartridge valve assembly has also been revised to improve the resistance to deflections caused by pressure loading.

The cartridge valve may be installed in the motor housing following the procedures outlined in the series 90 pump and motor service manual. The only differences are that a 1-1/8" hex wrench should be used to install the cartridge valve to a torque level of 47 N•m [35 lbf•ft]. An O-ring is placed on the cartridge valve stem, prior to installing the solenoid coil, and then a second O-ring is placed between the coil and new fastening nut. Torque the fastening nut to 9 N•m [7 lbf•ft], using a 3/4" hex wrench.

In conjunction with these design improvements, Sauer-Danfoss will offer three separate service kits. The first is the control assembly kit (M1), which includes the cartridge valve assembly, the solenoid coil, and associated installation hardware. The second is a coil kit (M3), which includes only the solenoid coil and associated installation hardware. The third is an overhaul seal kit (M2) for the cartridge valve assembly. Assembly instructions are also included in all three kits.

The control assembly kit is completely interchangeable with the previous control kit, which has been obsoleted and no longer available as a service part. The new solenoid coil kit is not compatible with controls in motors produced prior to the incorporation date (A-98-46-xxxx) and should only be used in servicing motors after that date.





MODELS AFFECTED

All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors equipped with electrical displacement control valves.

SERIAL NUMBERS AFFECTED

This change became effective at serial number A-98-46-xxxxx.

PART NUMBERS AFFECTED

Cartridge valve overhaul seal kit (M2) is 8510206.

Code	Voltage	Connector	Control assembly kit		Coil kit (M3)
			Previous	Current (M1)	
NA	12V	MS	8700103-0003	8510218	8510214
NB	12V	Packard	8700103-0001	8510516	8510212
NC	24V	MS	8700103-0004	8510219	8510215
ND	24V	Packard	8700103-0002	8510217	8510213

PARTS DISPOSITION

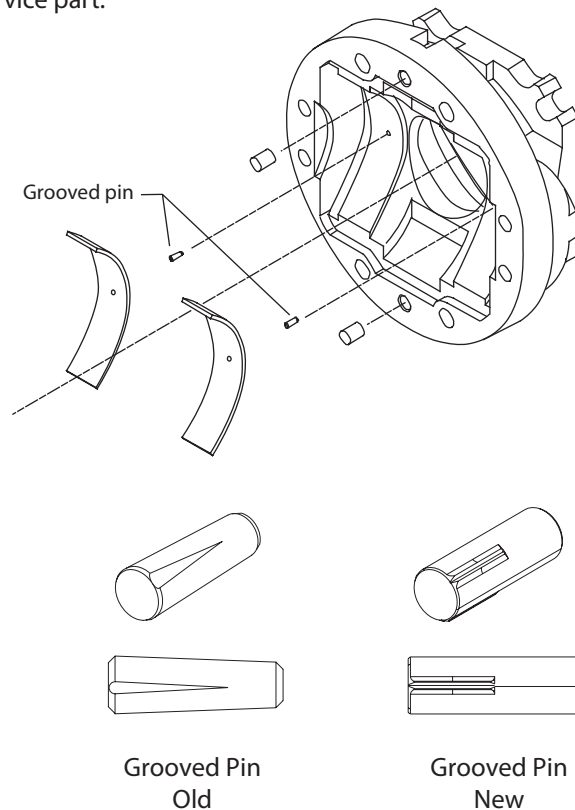
■ Non-interchangeable

PRODUCTS AFFECTED Series 90 55 and 75 cc variable motors

SUBJECT Swashplate bearing pin change

DESCRIPTION As a product improvement, Sauer-Danfoss has changed the design of the swashplate bearing pin for the series 90 55 and 75 cc variable displacement motors. The old pin was tapered, making it difficult to press into the front cover. It required grease before the swashplate bearings were pressed over them. The new pin is stepped, making it easier to install into the front cover. The swashplate bearings are now a slip fit over the pins, which eliminates the need to grease the pins before the bearings are installed.

This is an interchangeable change. In order to track this change, Sauer-Danfoss has issued a new part number for the pin. The old pin part number is obsolete and no longer available as a service part.



MODELS AFFECTED All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors

SERIAL NUMBERS Change effective at serial number A-01-12-xxxxx.

PART NUMBERS AFFECTED

Old pin part number	New pin part number
9004875-0126	5000621

PARTS DISPOSITION ■ Interchangeable

PRODUCTS AFFECTED

Series 90 42cc, 55cc, 75cc, and 100cc fixed displacement motors, and 55cc and 75cc variable displacement motors

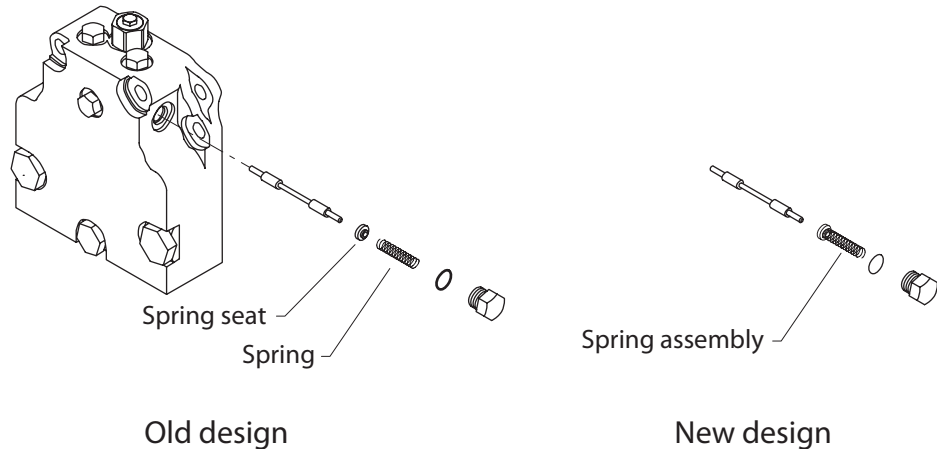
SUBJECT

Loop flushing spring and spring seat change

DESCRIPTION

As a product improvement, Sauer-Danfoss has changed the design of the spring and spring seat for the series 90 42cc, 55cc, 75cc, and 100cc fixed and variable displacement motors. The old design used a separate spring and spring seat. The new design incorporates the two parts into a one piece assembly. This makes the assembly of the spring and spring seat onto the spool much easier than the previous design.

Since the new spring assembly has a high spring rate than the previous spring, this is an interchangeable change only if both springs and spring seats are replaced at the same time. Sauer-Danfoss has issued a new part number for the spring assembly. The previous spring seat and spring remain valid service parts since they are used on other Sauer-Danfoss products.



MODELS AFFECTED

All 93-3xxx, 933xxxx, 94-3xxx, 943xxxx, 95-3xxx, 953xxxx, 96-3xxx, and 963xxxx fixed displacement motors with loop flushing options of A, B, or C.

All 94-4xxx, 944xxxx, 95-4xxx, and 954xxxx variable displacement motors with loop flushing options of A, B, or C.

SERIAL NUMBERS

Sauer-Danfoss Ames, Ia production - Change effective at s/n A-02-03-xxxxx.

Sauer-Danfoss Neumunster, Germany production - Change effective at s/n N-01-08-xxxxx..

PART NUMBERS AFFECTED

Previous spring seat	Previous spring	New spring assembly
8800551	4350286	513596

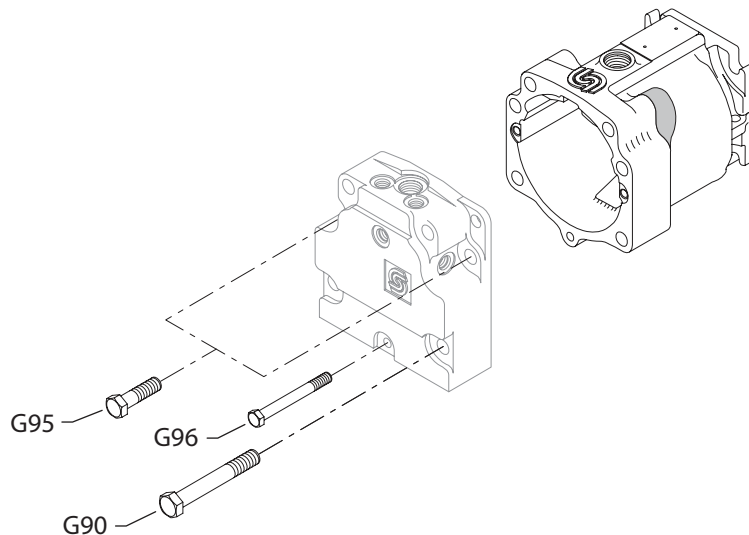
PARTS DISPOSITION

■ Interchangeable

PRODUCTS AFFECTED Series 90 55cc and 75cc fixed displacement motors

SUBJECT Housing change to accept long screws

DESCRIPTION Sauer-Danfoss has changed the housing used in series 90 55cc and 75cc fixed displacement motors. Material was added at the area of the two shorter end cap mounting screws (G95). The hole for these screws is now deeper to accept the longer screw (G90) that is used for the other four large end cap mounting screws. The six larger screws will have the same stretch and therefore the same clamping force for the gasket sealing area. The small end cap mounting screw (G96) remains the same. The old housing will become obsolete and no longer available for service.



MODELS AFFECTED All 94-3xxx, 943xxxx, 95-3xxx, and 953xxxx fixed displacement motors.

SERIAL NUMBERS Sauer-Danfoss Ames, la production - Change effective on 55 cc at s/n A-05-22-xxxxx. and 75 cc at s/n A-04-51-xxxxx

Sauer-Danfoss Neumunster, Germany production - Change effective on 55 cc at s/n N-04-47-xxxx and 75 cc at s/n N-04-43-xxxxx

PART NUMBERS AFFECTED

Description	Old part number	New part number
55 cc housing	8000436	8000782
75 cc housing	8100465	8100965
Screw	9007210-1209	9007210-1216

PARTS DISPOSITION ■ Non-interchangeable



Series 90 55 cc Axial Piston Motors
Parts Manual
Notes





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Parts Manual
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OUR PRODUCTS

- Hydrostatic transmissions
- Hydraulic power steering
- Electric power steering
- Electrohydraulic power steering
- Closed and open circuit axial piston pumps and motors
- Gear pumps and motors
- Bent axis motors
- Orbital motors
- Transit mixer drives
- Planetary compact gears
- Proportional valves
- Directional spool valves
- Cartridge valves
- Hydraulic integrated circuits
- Hydrostatic transaxles
- Integrated systems
- Fan drive systems
- Electrohydraulics
- Microcontrollers and software
- Electric motors and inverters
- Joysticks and control handles
- Displays
- Sensors

Sauer-Danfoss Mobile Power and Control Systems – Market Leaders Worldwide

Sauer-Danfoss is a comprehensive supplier providing complete systems to the global mobile market.

Sauer-Danfoss serves markets such as agriculture, construction, road building, material handling, municipal, forestry, turf care, and many others.

We offer our customers optimum solutions for their needs and develop new products and systems in close cooperation and partnership with them.

Sauer-Danfoss specializes in integrating a full range of system components to provide vehicle designers with the most advanced total system design.

Sauer-Danfoss provides comprehensive worldwide service for its products through an extensive network of Global Service Partners strategically located in all parts of the world.

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