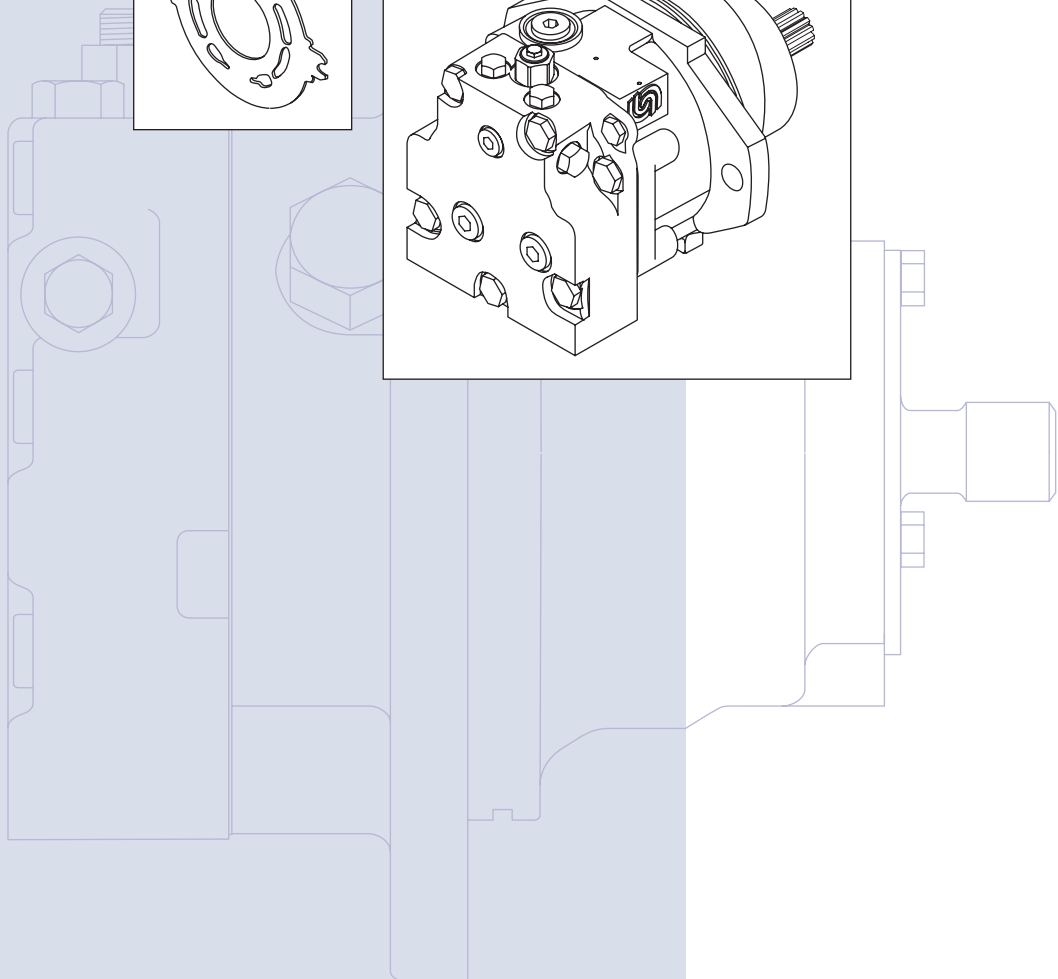
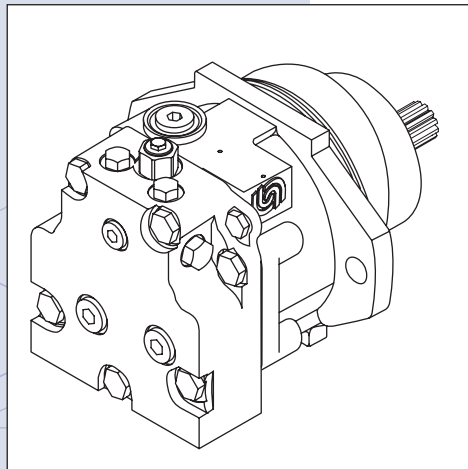
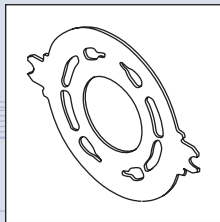
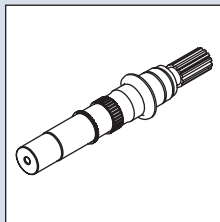
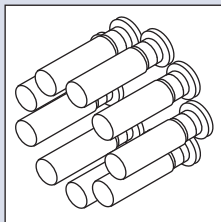


Series 90  
42 cc Axial Piston  
Cartridge Motor

Parts Manual





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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, 42 cc fixed displacement cartridge motor.

The parts listed include all parts which may be used when performing either "Minor Repairs," "Major Repairs" or "Conversions" on the Series 90, 42 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). "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 H10N

Order Code	Item	Date Begin	Date End	Part Number	Part name	Qty. per Model/Kit
N	N10N	89-38		8800668	Loop flush defeat spool	1
	"	87-02	89-37	8800021	Loop flush defeat spool (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: 515965 (9005110-5600), customers would order 9005110-5600 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 90K042 NC 0 N 8 N 0 C4 N 00 NNN 00 00 00. Use the following procedures to determine the part number of the drive shaft used on this motor.

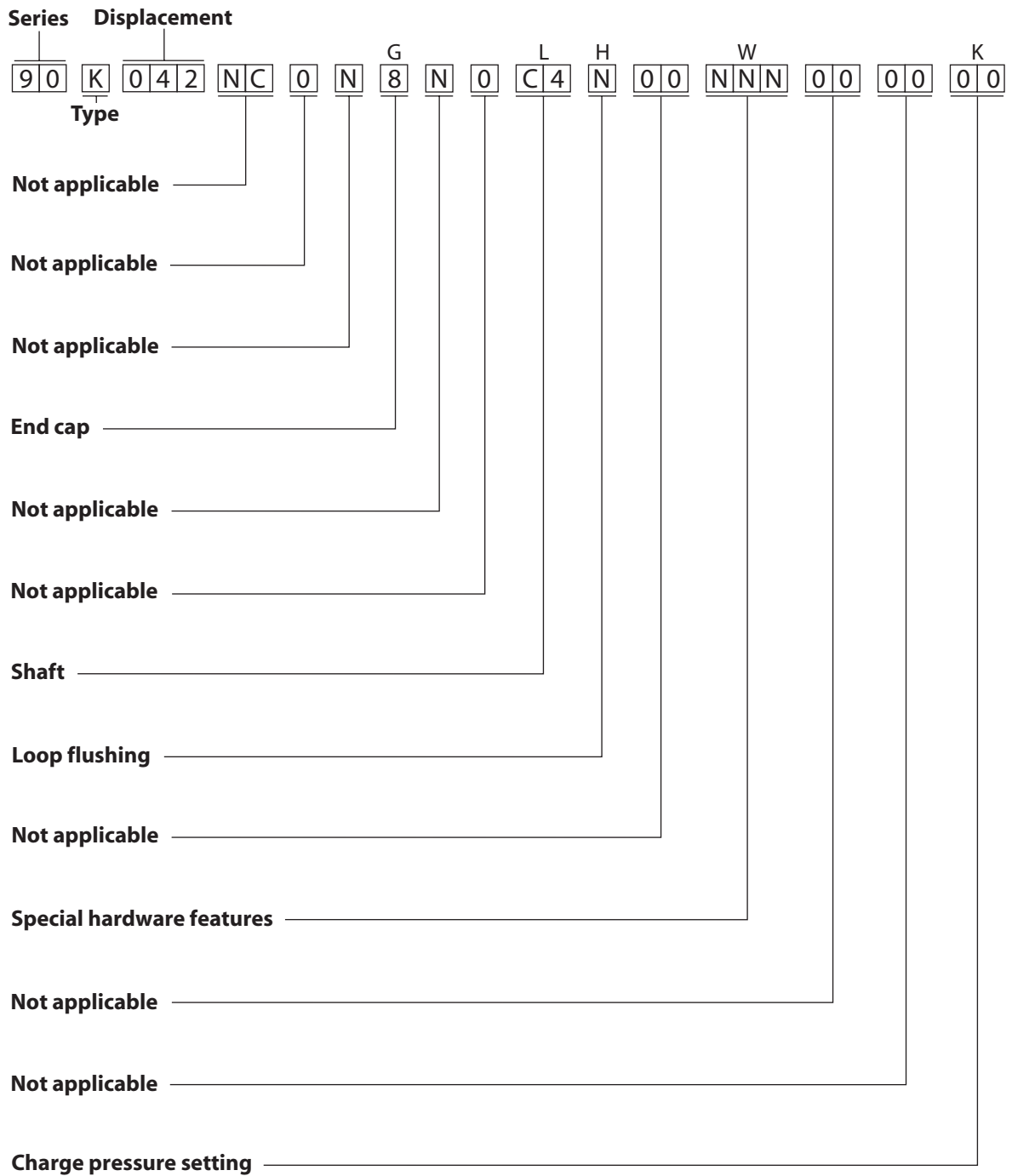
1) Referring to the shaft module in the Order Code (see page 7), the shaft option for this motor is identified by the code "C4". (90K042 NC 0 N 8 N 0 **C4** N 00 NNN 00 00 00)

2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "C4". The shaft is found to be item L100 and part number 755801.

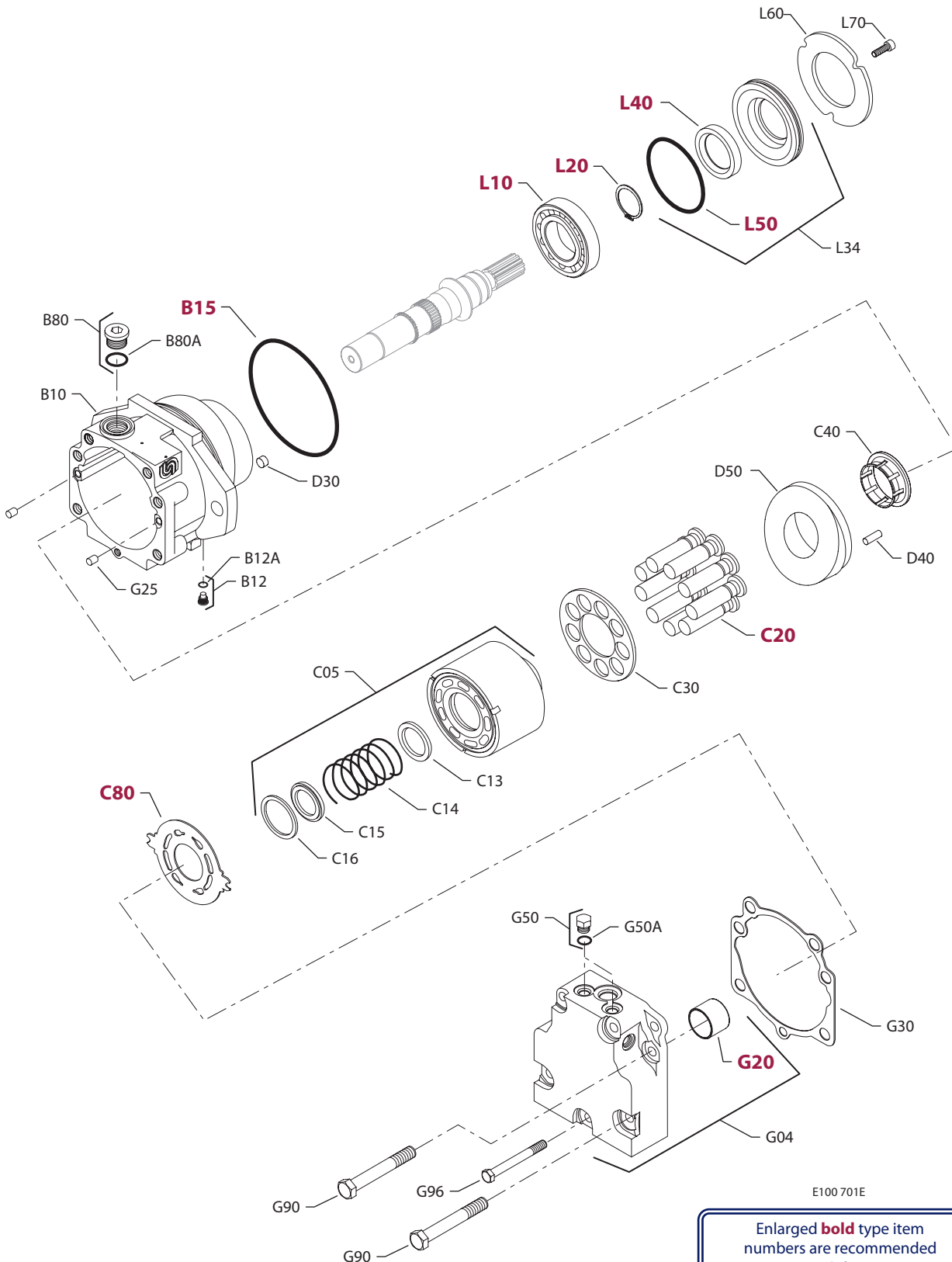


Series 90 42 cc Axial Piston Cartridge Motor  
Service Parts Manual  
Notes





P100 685E



E100 701E

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



### COMMON PARTS

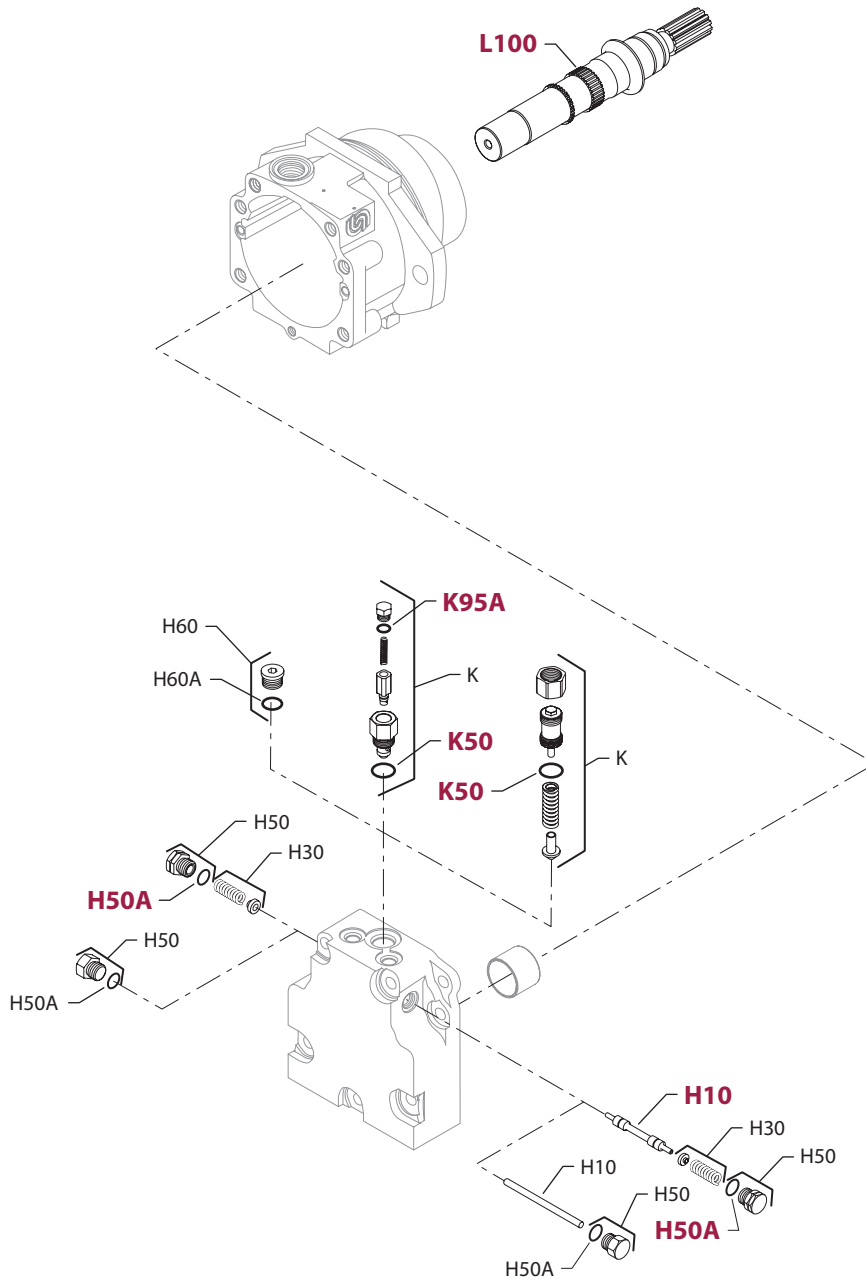
Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	B10	92-40		515995	Housing (SB-2000-038)	1
	B12	00-20		515997	Screw assembly (SB-2000-038)	1
	B12A	00-20		039297 (9004201-1200)	O-ring	1
	B15	92-40		729319	O-ring	1
	B80	92-40		001537 (9005100-8700)	Plug assembly	1
	B80A	92-40		001149 (9004201-6200)	O-ring	1
	C05	92-40		763920	Cylinder block assembly	1
	C13	92-40		647909	Spring seat	1
	C14	92-40		762369	Cylinder block spring	1
	C15	92-40		647925	Spring retainer	1
	C16	92-40		9006250-0169	Retaining ring	1
	C20	92-40		706101	Piston assembly	9
	C30	92-40		763805	Slipper guide	1
	C40	94-44		504758	Slipper guide retainer (SB-1996-003)	1
	C80	92-40		502186	Valve plate	1
	D30	00-32		516389	Expansion plug	1
	D40	92-40		707877	Pin	1
	D50	92-40		515996	Swashplate (SB-2000-038)	1
	G25	92-40		9004800-3708	Pin	2
	G30	92-40		723569	End cap gasket	1
	G50	92-40		140644	Plug	2
	G50A	92-40		085043 (9004201-3700)	O-ring	2
	G90	92-40		348052	Screw	6
	G96	92-40		914044	Screw	1
	L10	92-40		11018483	Roller bearing	1
	L20	92-40		392134	Retaining ring	1
	L60	94-37		503267	Retainer plate (SB-1996-011)	1
	L70	92-40		672493 (9007210-0604)	Screw	3

### SPECIAL HARDWARE

GBH	L34	96-45		510541	Seal carrier assembly	1
	L40	96-45		510390	Lip seal	1
	L50	96-45		735084	O-ring	1
MAC	L34	00-12		516340	Seal carrier assembly	1
	L40	00-12		516339	Lip seal	1
	L50	00-12		735084	O-ring	1
NNN	L34	94-37		510541	Seal carrier assembly (SB-1996-011)	1
	L40	94-37		510390	Lip seal	1
	L50	94-37		735084	O-ring	1

### END CAP

8	G04	92-40		724138	End cap assembly, twin ports	1
	G20	92-40		343830	DU bushing	1
K	G04	92-40		505163	End cap assembly, twin ports, metric	1
	G20	92-40		343830	DU bushing	1



E100 702E

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

### LOOP FLUSHING

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N	H10	92-40		8800668	Loop flush spool, defeated	1
	H50	92-40		140644	Plug assembly	2
	H50A	92-40		085043 (9004201-3700)	O-ring	2
	H60	92-40		001537 (9005100-8700)	Plug assembly	1
	H60A	92-40		001149 (9004201-6200)	O-ring	1
W	H10	92-40		365544 (8800550)	Loop flush spool	1
	H30	92-40		513596	Spring guide assembly	2
	H50	92-40		518016	Plug assembly	2
	H50A	92-40		085043 (9004201-3700)	O-ring	2

### CHARGE PRESSURE SETTING

10-28	K	92-40	98-11	8510012	Charge pressure relief valve kit	1
	K50	92-40	98-11	001149 (9004201-6200)	O-ring	1
E4	K	99-24		512498 (8510261)	Cartridge kit, 16 bar, 4 l/min	1
	K50	99-24		001149 (9004201-6200)	O-ring	1
	K95A	99-24		085043 (9004201-3700)	O-ring	1
E6	K	99-24		512385 (8510252)	Cartridge kit, 16 bar, 7 l/min	1
	K50	99-24		001149 (9004201-6200)	O-ring	1
	K95A	99-24		085043 (9004201-3700)	O-ring	1
F0	K	00-18		512385 (8510259)	Cartridge kit, 16 bar, 11 l/min	1
	K50	00-18		001149 (9004201-6200)	O-ring	1
	K95A	00-18		085043 (9004201-3700)	O-ring	1
F3	K	00-18		512387 (8510262)	Cartridge kit, 16 bar, 16 l/min	1
	K50	00-18		001149 (9004201-6200)	O-ring	1
	K95A	00-18		085043 (9004201-3700)	O-ring	1
N4	K	98-12		510029 (8510255)	Cartridge kit, 13 bar, 4 l/min	1
	K50	98-12		001149 (9004201-6200)	O-ring	1
	K95A	98-12		085043 (9004201-3700)	O-ring	1
N6	K	98-12		509518 (8510251)	Cartridge kit, 13 bar, 7 l/min	1
	K50	98-12		001149 (9004201-6200)	O-ring	1
	K95A	98-12		085043 (9004201-3700)	O-ring	1

### SHAFT

C2	L100	92-40		723098	Shaft, 13 tooth spline	1
C4	L100	92-40		755801	Shaft, 15 tooth spline	1
D1	L100	00-11		501383	Shaft, 14 tooth spline, DIN	1



**OVERHAUL SEAL KIT**

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
		92-40		8510073	Overhaul seal kit, 90K042	1
	B12A	00-20		039297 (9004201-1200)	O-ring	1
	B15	92-40		729319	O-ring	1
	B80A	92-40		001149 (9004201-6200)	O-ring	1
	G30	92-40		723569	End cap gasket	1
	G50A	92-40		085043 (9004201-3700)	O-ring	2
	H50A	92-40		085043 (9004201-3700)	O-ring	2
	K50	99-24		001149 (9004201-6200)	O-ring	1
	K95A	99-24		085043 (9004201-3700)	O-ring	1
	L40	96-45		510390	Lip seal	1
	L50	96-45		735084	O-ring	1

**PRODUCTS AFFECTED**

Series 90 42 cc fixed cartridge motor

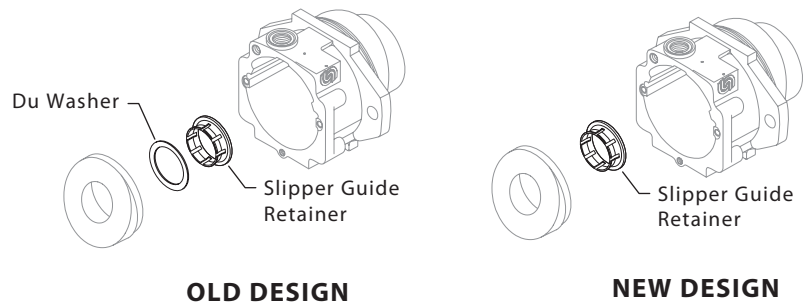
**SUBJECT**

Slipper guide retainer change

**DESCRIPTION**

Sauer-Danfoss has changed the design of the slipper guide retainer from a two piece retainer to a one piece retainer. The old design consisted of a DU washer and the slipper guide retainer. The new design eliminates the DU washer.

The old style retainer guide and DU washer will be obsoleted and will not be available as a service part. If either of the old style parts need to be replaced during repair, a new style slipper guide retainer must be used.



**MODELS AFFECTED**

All series 90 42 cc fixed displacement cartridge motors (90K042).

**SERIAL NUMBERS**

This change became effective at serial number N-94-44-xxxxx.

**PART NUMBERS AFFECTED**

Description	Old p/n	New p/n
DU washer	685008	N/A
Retainer	684993	504758

**PARTS DISPOSITION**

- Interchangeable - only if a new style one piece retainer is used

**PRODUCTS AFFECTED**

Series 90 42 cc fixed cartridge motor

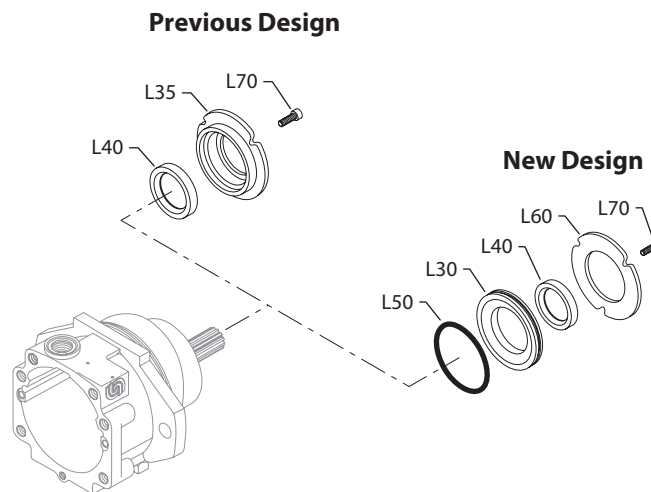
**SUBJECT**

Shaft seal retainer design

**DESCRIPTION**

As a product improvement, Sauer-Danfoss has changed the one piece shaft retainer to a two piece design. This change will provide a common configuration for the seal retainer among all series 90 units.

The two piece seal retainer is interchangeable only if both the seal carrier (L30) and the retainer plate L60 are installed. The shaft lip seal (L40), O-ring (L50), and screws (L70) do not change. The old seal carrier (L35) will be obsoleted and no longer available as a service part.



**MODELS AFFECTED**

All series 90 42 cc fixed displacement cartridge motors (90K042).

**SERIAL NUMBERS**

This change became effective at serial number N-94-37-xxxxx

**PART NUMBERS AFFECTED**

Item	Description	Old part number (Prior to 94-37)	New part number (94-37 and up)
L35	Seal carrier/retainer	723510	Not used
L30	Seal carrier	Not used	503270
L60	Retainer plate	Not used	503267

**PARTS DISPOSITION**

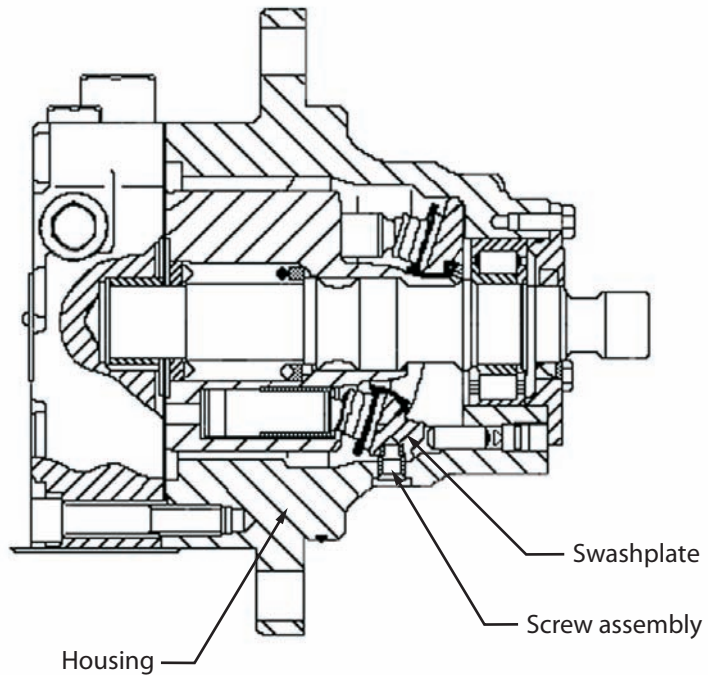
■ Interchangeable (as an assembly)

**PRODUCTS AFFECTED** Series 90 42 cc fixed cartridge motor

**SUBJECT** New housing and swashplate

**DESCRIPTION** As a product improvement, Sauer-Danfoss has changed the design of the series 90 42 cc fixed displacement cartridge motor housing and swashplate. The new design adds a screw through the housing that retains the swashplate axially.

To track this change, Sauer-Danfoss has issued new part numbers for the housing, swashplate, and screw assembly. The swashplate is an interchangeable change; however, if the housing must be replaced, a new swashplate and screw assembly is required. The old part are obsolete and no longer available as service parts.



**MODELS AFFECTED** 93-3xxx and 933xxxx cartridge type motors

**SERIAL NUMBERS** This change became effective at serial number N-00-20-xxxxx

**PART NUMBERS AFFECTED**

Description	Old part number	New part number
Housing	754960	515995
Swashplate	500956	515996
Screw assembly	N/A	515997

**PARTS DISPOSITION** ■ Interchangeable - only the swashplate is interchangeable



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Local address:

Sauer-Danfoss (US) Company  
2800 East 13th Street  
Ames, IA 50010, USA  
Phone: +1 515 239-6000  
Fax: +1 515 239 6618

Sauer-Danfoss GmbH & Co. OHG  
Postfach 2460, D-24531 Neumünster  
Krokamp 35, D-24539 Neumünster, Germany  
Phone: +49 4321 871-0  
Fax: +49 4321 871 122

Sauer-Danfoss ApS  
DK-6430 Nordborg, Denmark  
Phone: +45 7488 4444  
Fax: +45 7488 4400

Sauer-Danfoss-Daikin LTD  
Sannomiya Grand Bldg. 8F  
2-2-21 Isogami-dori, Chuo-ku  
Kobe, Hyogo 651-0086, Japan  
Phone: +81 78 231 5001  
Fax: +81 78 231 5004