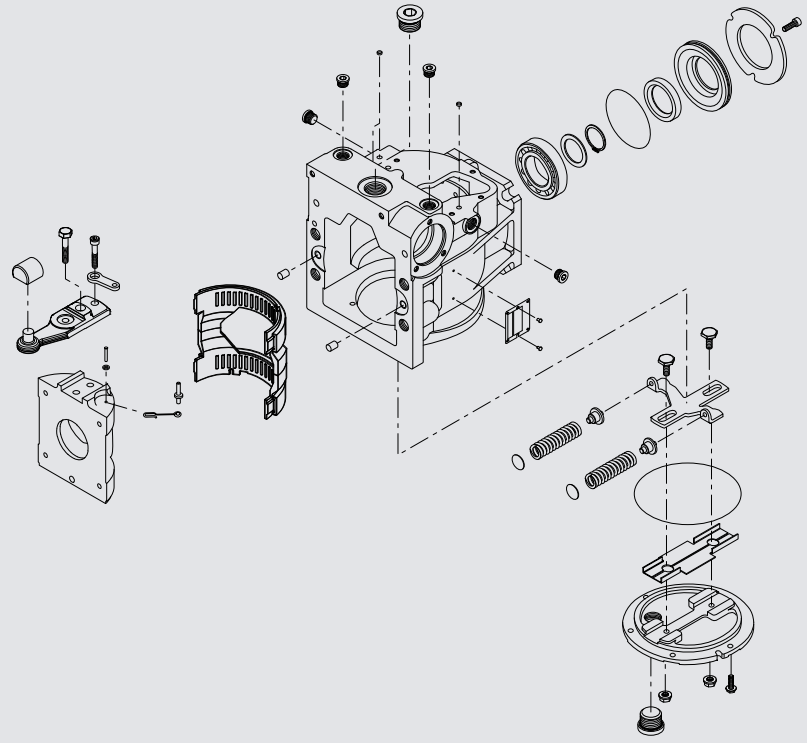
Parts Manual
danfoss.com

Series 90 55cc
Variable Displacement Pump



Revision history

Table of revisions

Date	Changed	Rev
November 2026	Removed obsolete B2CN screw	0704
July 2026	Removed restricted options	0703
May 2026	Title correction and item number update	0702
January 2026	Updated to modern format	0701
	Changed document number from AX00000089 to AX152886482020	XX
January 2020	Corrected filter description for filtration option 9	0209
July 2019	Corrected control part numbers	0208
November 2018	Obsoleted screw part numbers in charging system	0207
September 2018	Removed old part number from common parts section	0206
February 2018	Removed part number from seal kit	0205
January 2018	Fixed typo	0204
December 2017	Updated to Engineering Tomorrow	0203

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General Information

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 product.

The parts listed include all parts which may be used when performing either “Minor Repairs”, “Major Repairs” or “Conversions” on the product.

Nameplate

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

Model code

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

Model/material number

The Danfoss model number (also known as material number) is used by the factory in manufacturing. On repeat orders, a complete unit can be ordered by the model number.

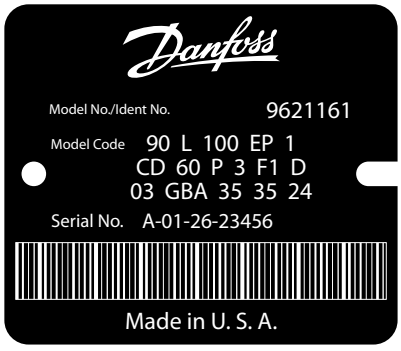
Serial number

The 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).

The first number (2 digits) indicates the year of manufacture. 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.



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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 G30

Order code: 80

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G30	89-17		8000243	End cap gasket	1
G30		89-16	8000151	End cap gasket (SB-1995-006)	1

All units using this order code with a date code prior to 89-17 must use part number “8000151.” All units with a date code of 89-17 and newer must use part number “8000243.”

About 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

The modular design of this product 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. A part number that has another number following it in parentheses is done to make this a world wide manual. Referring to the Port Configuration in the Order Code on page 8, valid variables are "A" (Inch) and "M" (metric).

Regional part numbers

Some part numbers are region specific and should be ordered accordingly.

As an example, the part number (example: 314583 (9008000-0118) will be used. The first number is sold in Europe. The number in parentheses is sold in the United States. Customers would order 9008000-0118 if ordering the part in the United States.

Example of a part identification

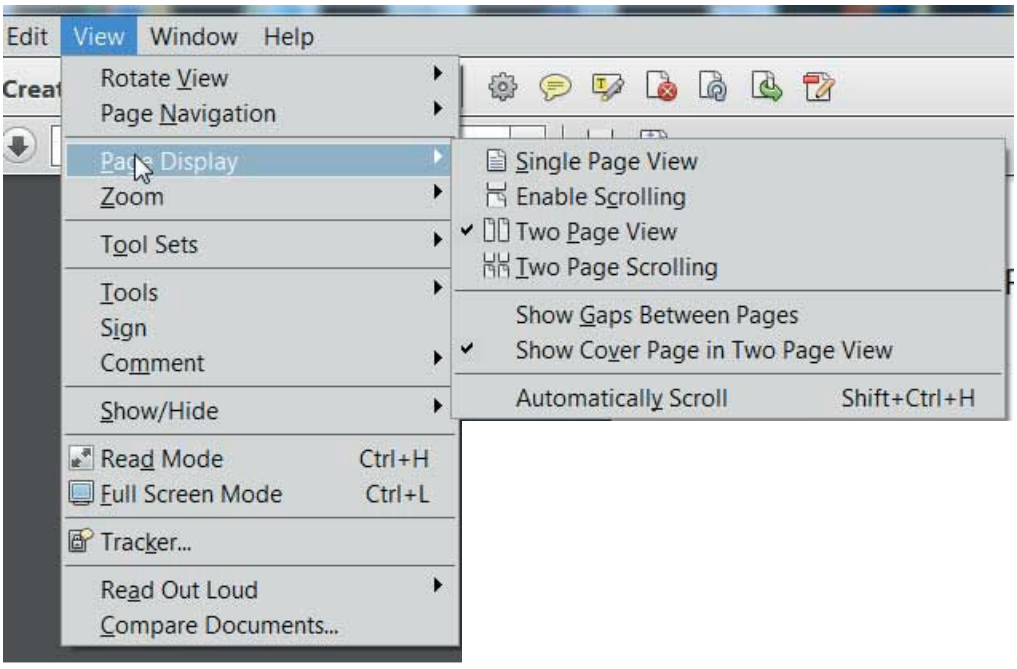
The nameplate on a Series 90 pump has an Order Code of 90R055 MA 1 NN 80 L 3 C6 D 03 GCA 42 42 24. Use the following procedures to determine the part number of the drive shaft used on this pump.

1. Referring to the input shaft module in the Order Code (see page 7), the input shaft option for this pump is identified by the code “C6”. (90R055 MA 1 NN 80 L 3 **C6** D 03 GCA 42 42 24)
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 8000079.

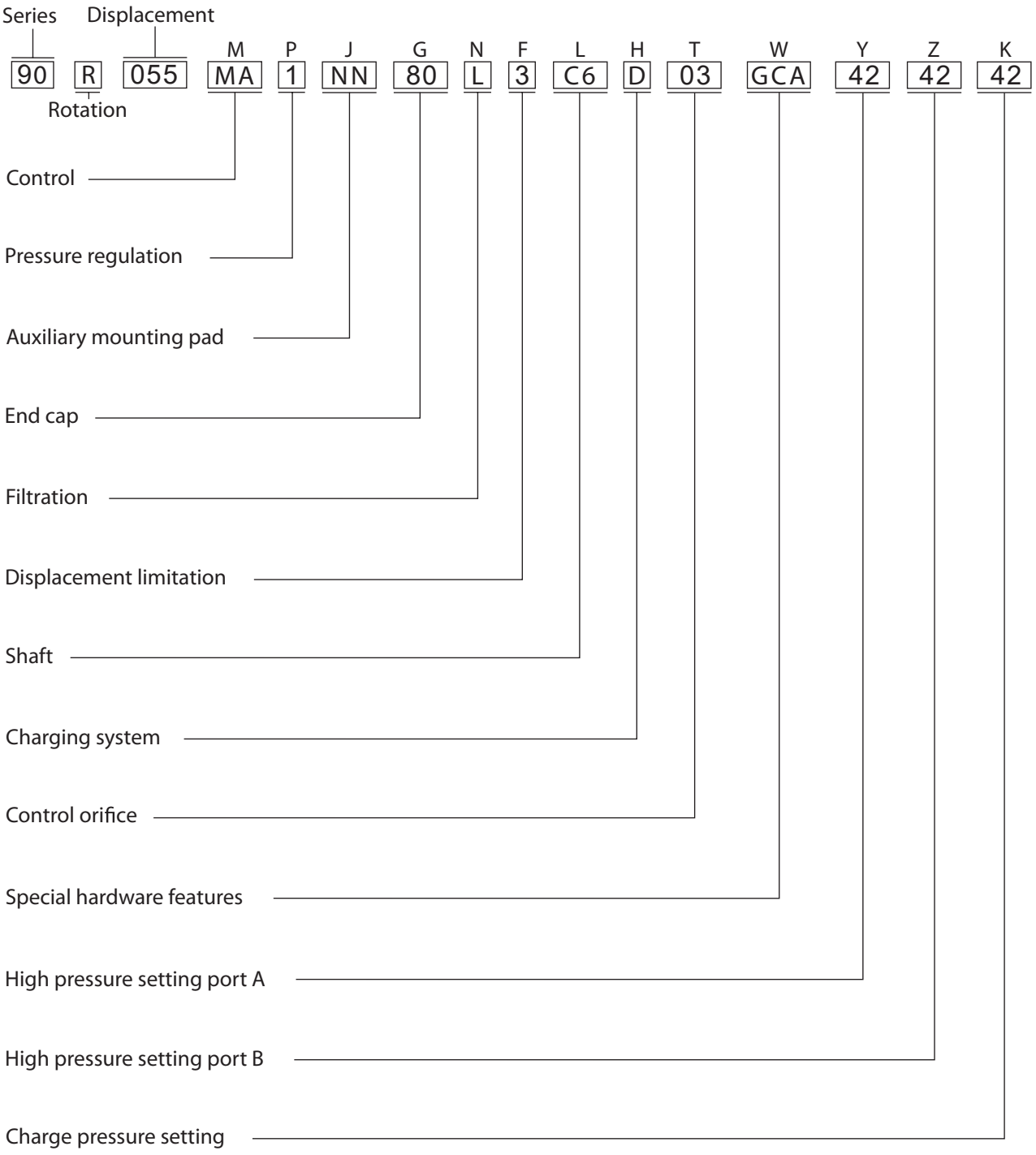
Adobe Acrobat 2-page viewing

While viewing manual in Adobe Acrobat, the following settings need to be applied to ensure proper page display.

1. Select “View” → “Page Display” → “Two Page View”
2. Select “View” → “Page Display” → “Show Cover Page in Two Page View”



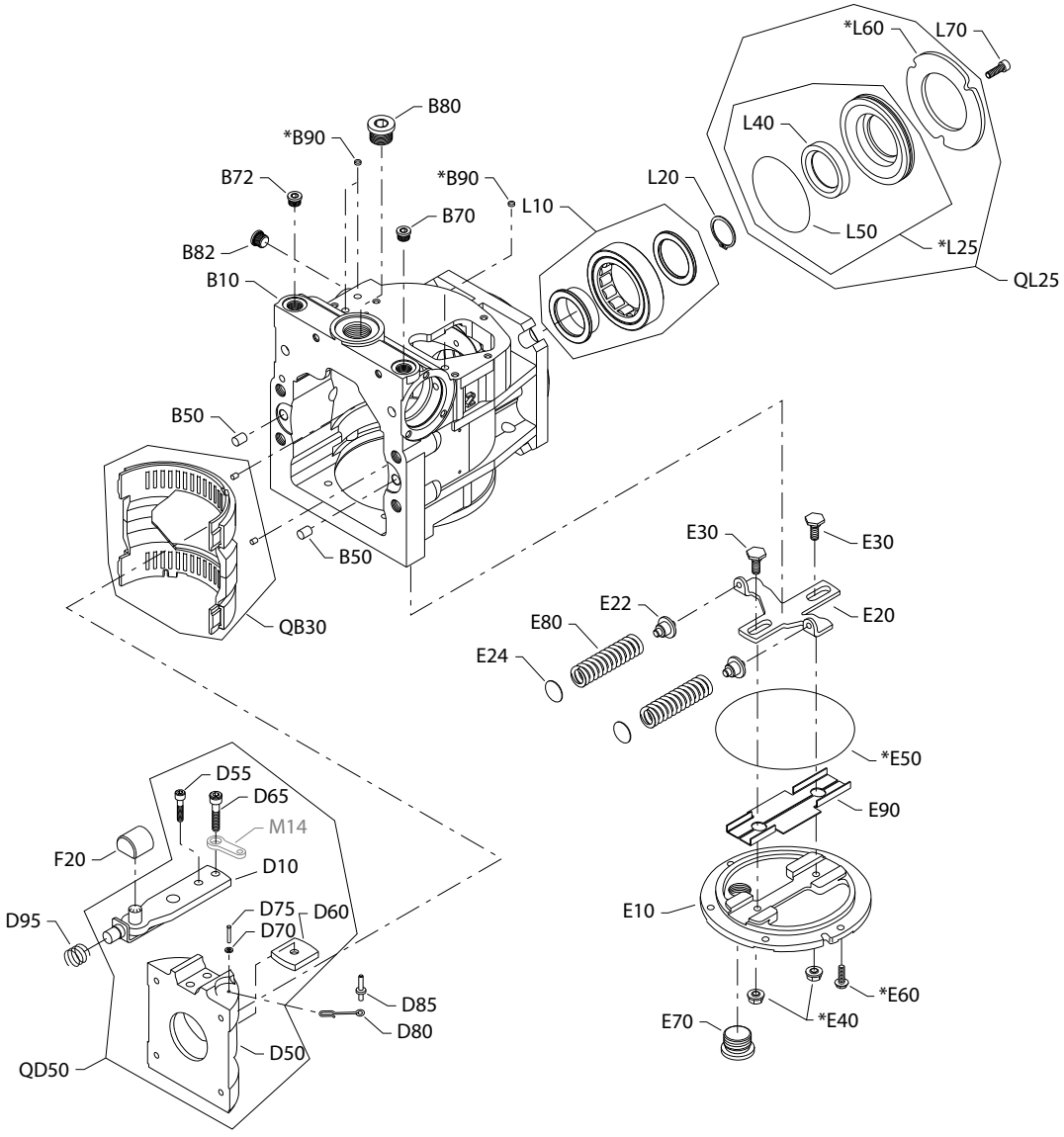
Order Code


Series
Displacement
90
R
055
M
MA
P
1
J
NN
G
80
N
L
F
3
L
C6
H
D
T
03
W
GCA
Y
42
Z
42
K
42
Rotation
Control
Pressure regulation
Auxiliary mounting pad
End cap
Filtration
Displacement limitation
Shaft
Charging system
Control orifice
Special hardware features
High pressure setting port A
High pressure setting port B
Charge pressure setting

Common parts and special hardware

S90 55cc pump common parts

Parts configuration

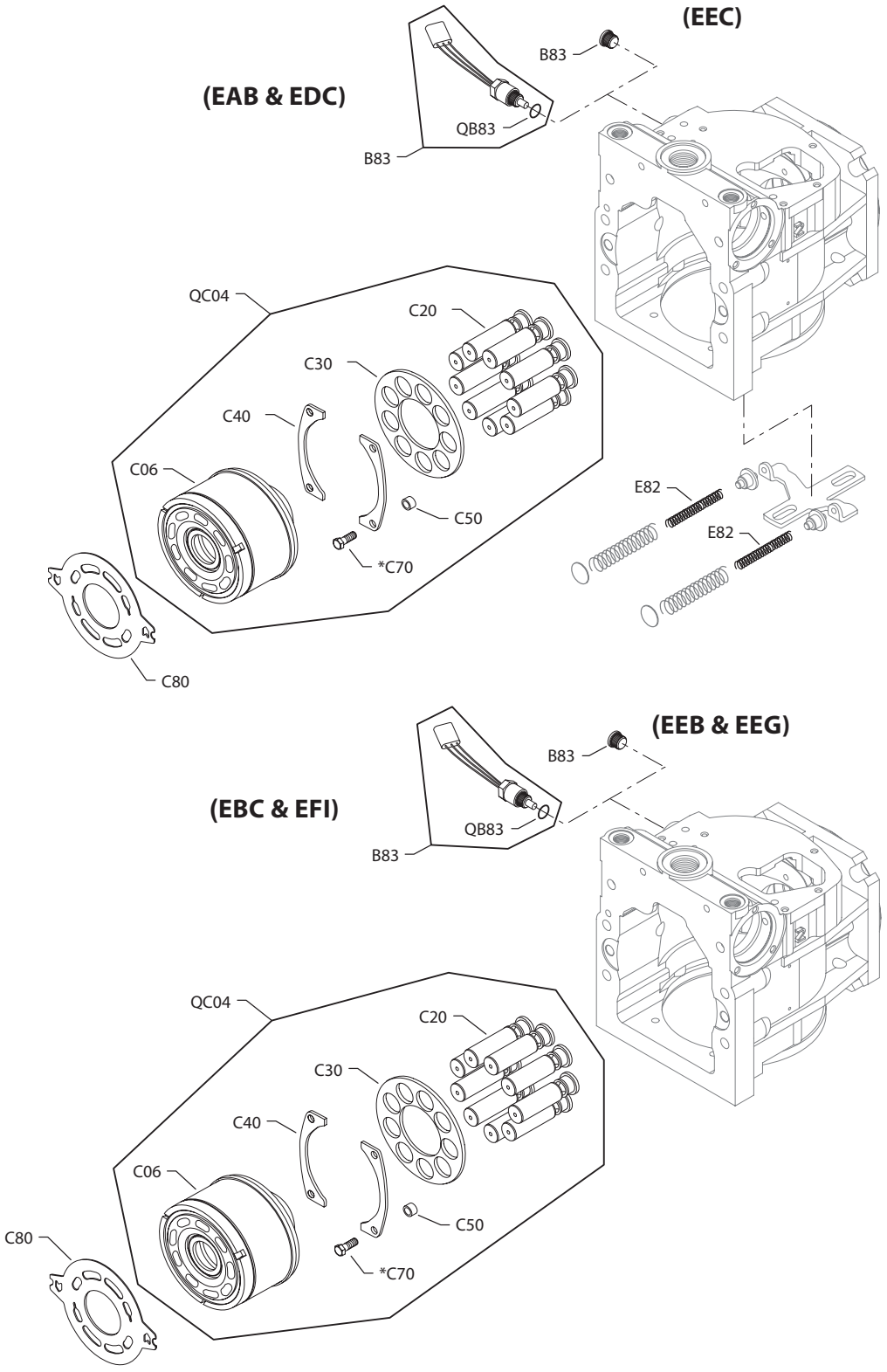


* included in overhaul seal kit Q210

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B10	95-06		8000387	Housing (*SB-1992-003* on page 145)	1
B50	87-02		9004800-3708	Pin	2
B70	87-02		327007 (9005110-4400)	Plug assembly	1
B72	87-02		327007 (9005110-4400)	Plug assembly	1
B80	87-02		664524 (9005110-9000)	Plug assembly	1
B82	87-02		9005110-5600	Plug assembly (*SB-1992-003* on page 145)	1
B90	87-02		9803390	Control filter screen	3
D10	88-14		8000318	Servo arm assembly (*SB-1993-015A* on page 150)	1
D50	88-14		8000188	Swashplate (*SB-1988-009* on page 130)	1
D55	87-02		666032 (9007276-0107)	Screw	1
D60	87-02		8800669	Swashplate guide	1
D65	87-02		9007375-0044	Screw (*SB-1992-011* on page 146)	1
D70	87-02		9009625-0146	Washer	1
D75	87-02		9004875-0098	Spiral head pin	1
D80	87-02		8100506	Cage locator link (*SB-1994-017* on page 152)	1
D85	04-43		8801235	Pin (*SB-2004-012* on page 169)	1
D85	87-02	04-42	8801135	Pin (*SB-1998-018* on page 159)	1
D95	87-02		8100035	Spring	1
E10	95-50		8000400	Side cover (*SB-1995-025* on page 156)	1
E20	87-02		8000094	Leveler (*SB-1989-003* on page 138)	1
E22	87-02		358838	Spring seat (*SB-1989-003* on page 138)	2
E24	92-06		8801225	Shim (*SB-1989-003* on page 138 & *SB-2000-041A* on page 167)	2
E30	95-50		11056530	Guide post	2
E30	87-02	95-49	8100353	Guide post (*SB-1995-025* on page 156)	2
E40	87-02		505412 (9003509-0008)	Seal nut	2
E50	87-02		056739 (9004104-1580)	O-ring	1
E60	87-02		5000206	Screw (*SB-1994-018* on page 153)	6
E70	87-02		664524 (9005110-900)	Plug assembly	1
E80	87-02		8000186	Spring	2
E90	95-50		513886-S	Insert assembly (*SB-1995-025* on page 156 & *SB-1999-041A* on page 165)	1
F20	88-14		11116313	Slider block (*SB-1988-009* on page 130 & *SB-2015-005* on page 183)	1
L10	87-02		5000504	Roller bearing	1
L20	87-02		9006300-0137	Retaining ring	1
L40	10-40		11013519	Lip seal (*SB-2010-025* on page 180)	1
L50	87-02		071845 (9004104-1510)	O-ring	1
L60	87-02		11083638	Retainer plate (*SB-2010-025* on page 180)	1
L70	87-02		041160 (9007314-0605)	Screw	3
QB30	87-02		8000131	Bearing/pin assembly	1
QD50	88-14		8000200	Swashplate kit (*SB-1988-009* on page 130)	1
QD50	87-02	88-14	8000201	Swashplate kit	1
QL25	87-02	10-39	11084372	Seal carrier replacement kit (*SB-2010-025* on page 180)	1

Special hardware EAB-NWN

Parts configuration



* included in overhaul seal kit Q210

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: EAB, NMS, & NWN

B83	92-06		KPPG12508	Speed sensor	1
C06	92-06		8000336	Cylinder block assembly, with speed ring	1
C80	92-06		11015185	Valve plate	1
E82	92-06		8000203	Spring	2
QB83	92-06		085043 (9004201-3700)	O-ring	1
QC04	92-06		8510362	Cylinder block kit, with speed ring	1

Order code: EBC

B83	96-06		KPPG13408	Speed sensor	1
C06	96-06		8000336	Cylinder block assembly, with speed ring	1
C80	96-06		11015186	Valve plate	1
QB83	96-06		085043 (9004201-3700)	O-ring	1
QC04	96-06		8510362	Cylinder block kit, with speed ring	1

Order code: EDC

B83	96-39	12-35	KPPG13403	Speed sensor	1
C06	96-39	12-35	8000336	Cylinder block assembly, with speed ring	1
C80	96-39	12-35	11018343	Valve plate, CW	1
E82	96-39	12-35	8000203	Spring	2
QB83	96-39	12-35	085043 (9004201-3700)	O-ring	1
QC04	96-39	12-35	8510362	Cylinder block kit, with speed ring	1

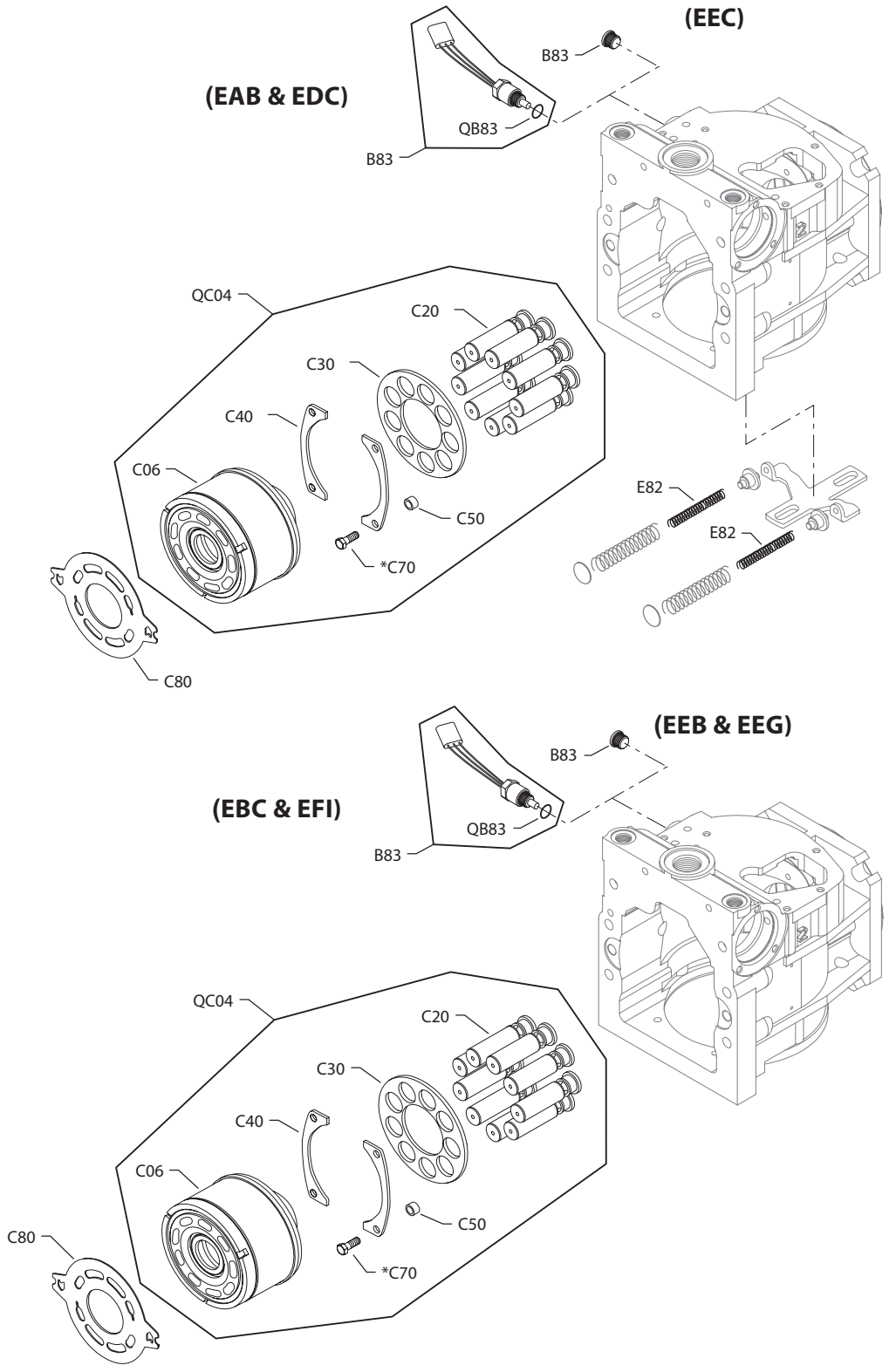
Order code: EEB

B83	96-06		9005110-5600	Plug assembly	1
C06	96-06		8000336	Cylinder block assembly, with speed ring	1
C80	96-06		11015186	Valve plate	1
QC04	96-06		8510362	Cylinder block kit, with speed ring	1

Order code: EEC

B83	94-51		9005110-5600	Plug assembly	1
C06	94-51		8000336	Cylinder block assembly, with speed ring	1
C80	94-51		11018330	Valve plate, CCW	1
C80	94-51		11018343	Valve plate, CW	1
E82	94-51		8000203	Spring	2
QC04	94-51		8510362	Cylinder block kit, with speed ring	1

Parts configuration



* included in overhaul seal kit Q210

Order code: EEG

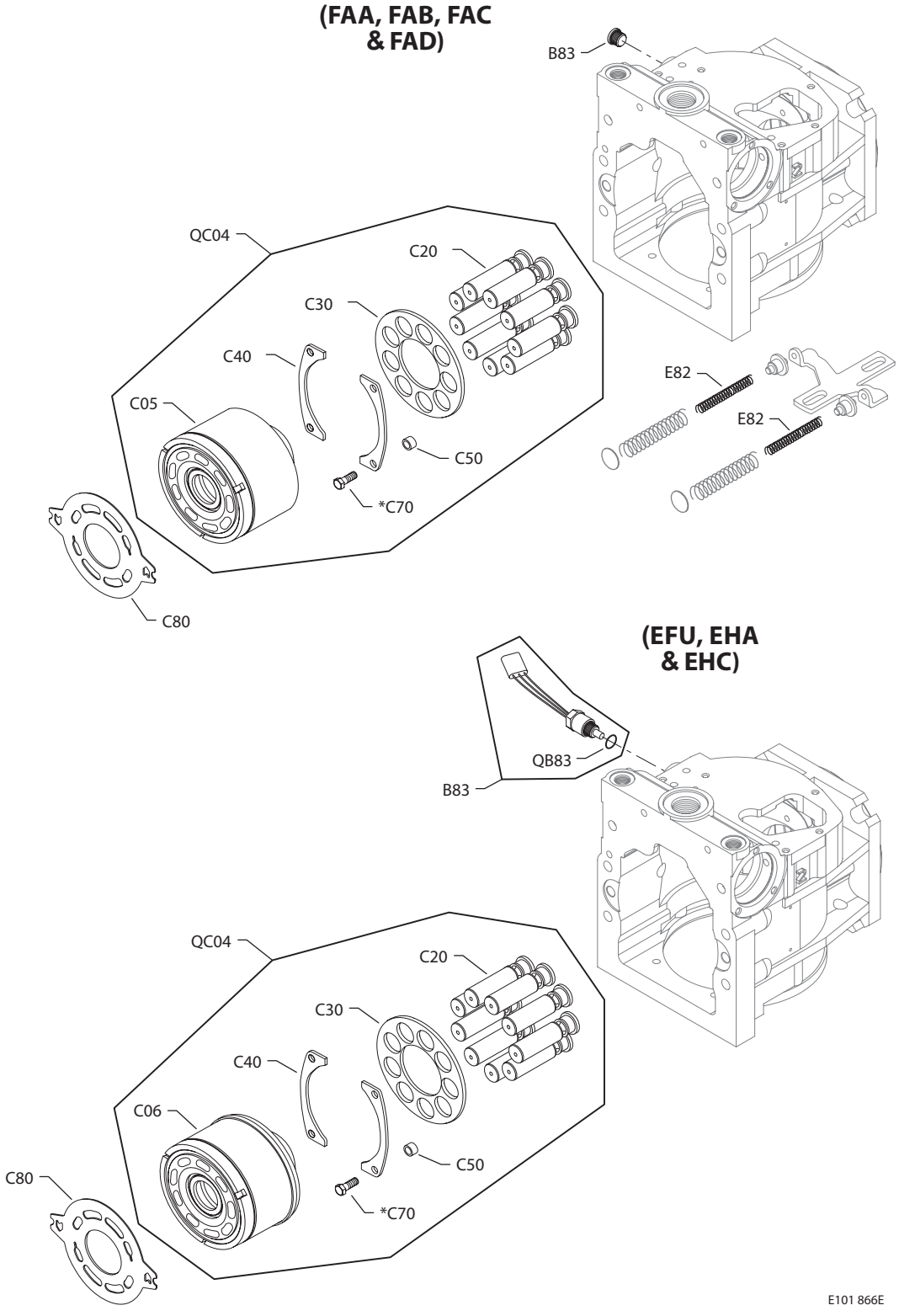
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B83	00-06		9005110-5600	Plug assembly	1
C06	00-06		8000336	Cylinder block assembly, with speed ring	1
C80	00-06		11018330	Valve plate, CCW	1
C80	00-06		11018343	Valve plate, CW	1
QC04	00-06		8510362	Cylinder block kit, with speed ring	1

Order code: EFI

B83	07-38		KPPG156	Speed sensor	1
C06	07-38		8000336	Cylinder block assembly, with speed ring	1
C80	07-38		11018343	Valve plate, CW	1
QB83	07-38		085043 (9004201-3700)	O-ring	1
QC04	07-38		8510362	Cylinder block kit, with speed ring	1

Special hardware EFU-NSN

Parts configuration



* included in overhaul seal kit Q210

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: EFU

B83	14-04		KPPG156	Speed sensor	1
C06	14-04		8000336	Cylinder block assembly, with speed ring	1
C80	14-04		11018343	Valve plate, CW	1
QB83	14-04		085043 (9004201-3700)	O-ring	1
QC04	14-04		8510362	Cylinder block kit, with speed ring	1

Order code: EHA

B83	99-14		KPPG16408	Speed sensor	1
C06	99-14		8000336	Cylinder block assembly, with speed ring	1
C80	99-14		11015186	Valve plate	1
QB83	99-14		085043 (9004201-3700)	O-ring	1
QC04	99-14		8510362	Cylinder block kit, with speed ring	1

Order code: EHC

B83	99-14		KPPG12408	Speed sensor	1
C06	99-14		8000336	Cylinder block assembly, with speed ring	1
C80	99-14		11015186	Valve plate	1
QB83	99-14		085043 (9004201-3700)	O-ring	1
QC04	99-14		8510362	Cylinder block kit, with speed ring	1

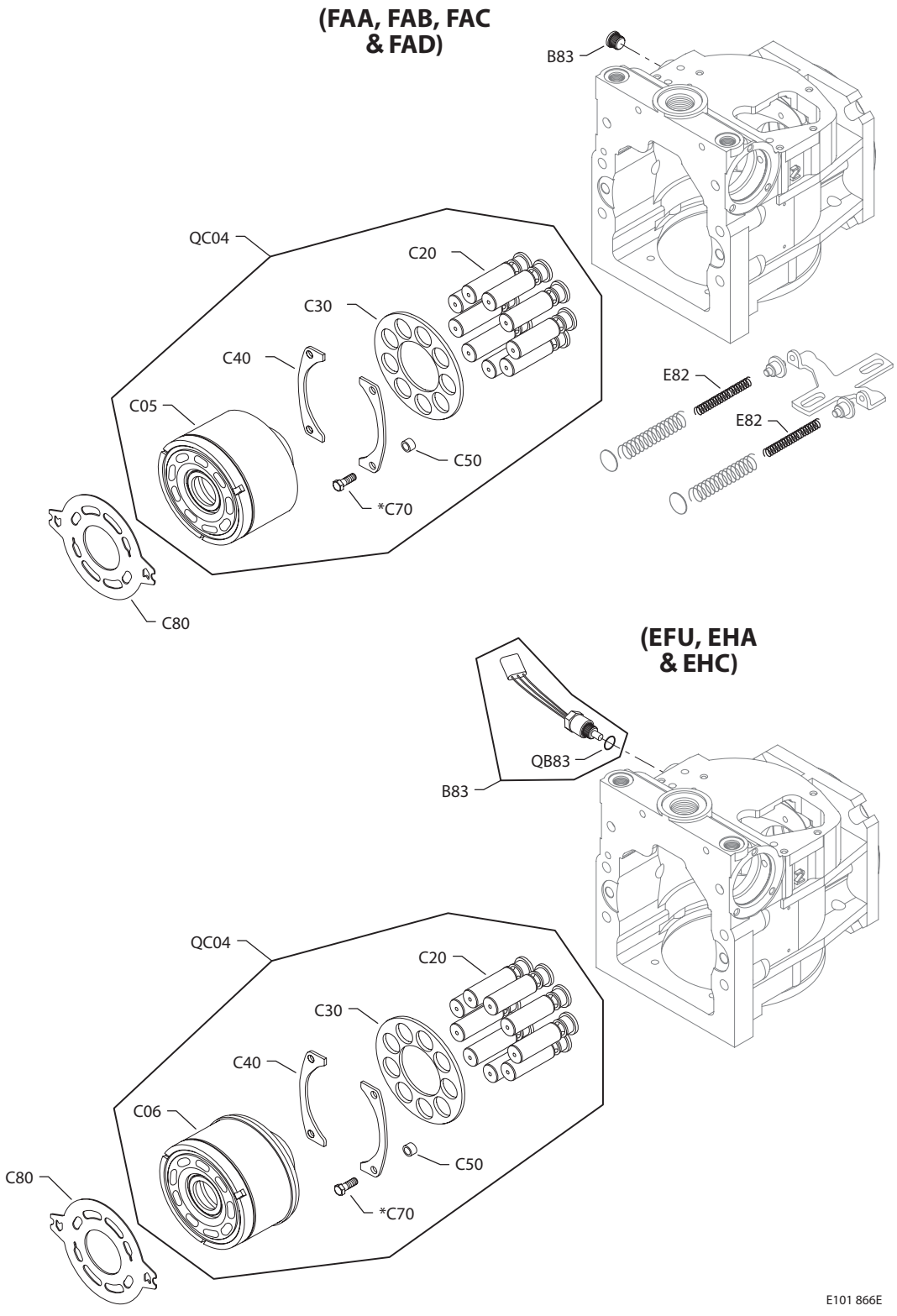
Order code: FAA & NDN

B83	91-04		9005110-5600	Plug assembly	1
C05	91-04		8000128	Cylinder block assembly, without speed ring	1
C80	91-04		11017478	Valve plate	1
E82	91-04		8000203	Spring	2
QC04	91-04		8510363	Cylinder block kit, without speed ring	1

Order code: FAB & NBN

B83	91-46		9005110-5600	Plug assembly	1
C05	91-46		8000128	Cylinder block assembly, without speed ring	1
C80	91-46		363713	Valve plate	1
E82	91-46		8000203	Spring	2
QC04	91-46		8510363	Cylinder block kit, without speed ring	1

Parts configuration



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Order code: FAC

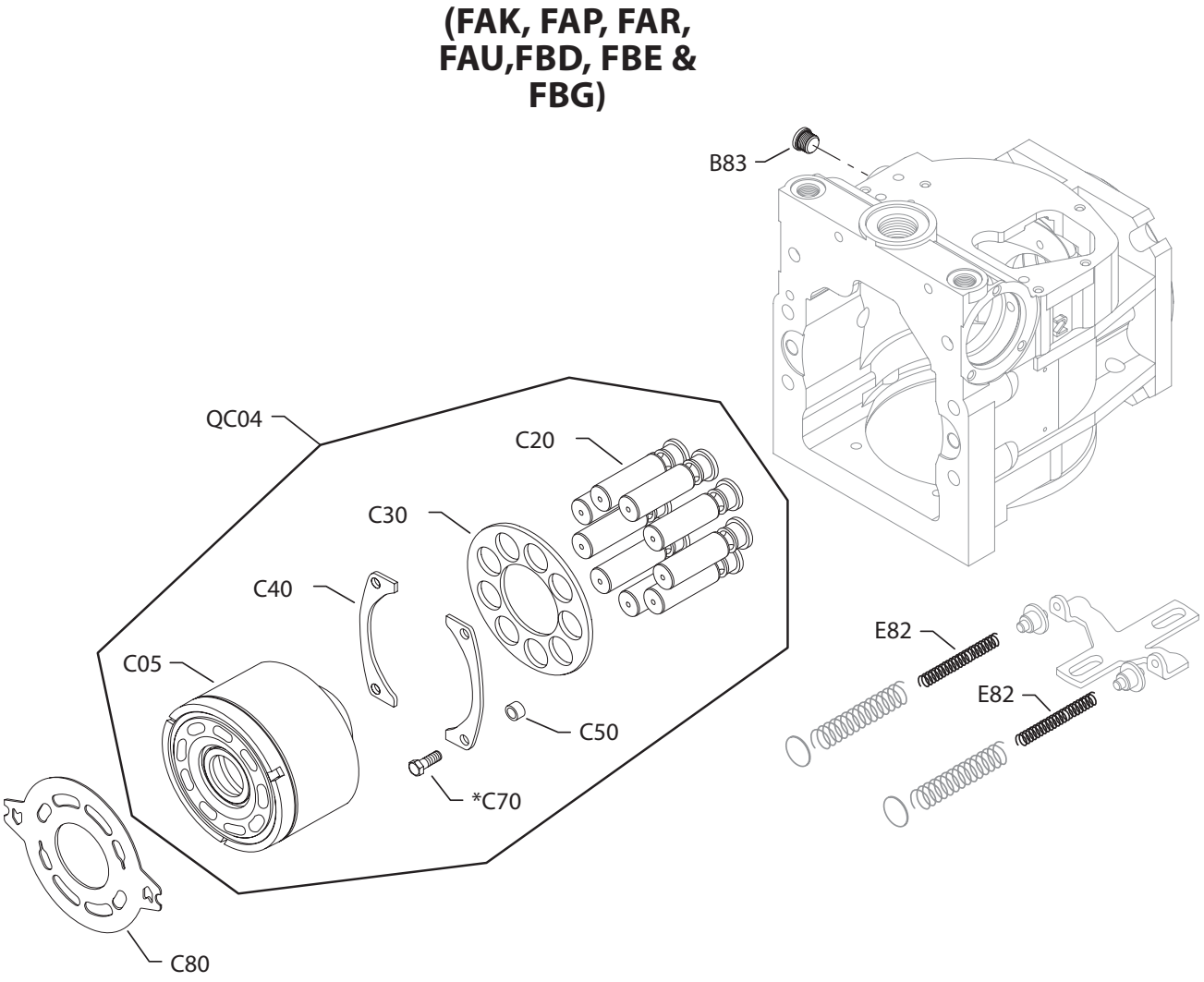
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B83	94-23		9005110-5600	Plug assembly	1
C05	94-23		8000128	Cylinder block assembly, without speed ring	1
C80	94-23		11015185	Valve plate	1
E82	94-23		8000203	Spring	2
QC04	94-23		8510363	Cylinder block kit, without speed ring	1

Order code: FAD & NSN

B83	94-23		9005110-5600	Plug assembly	1
C05	94-23		8000128	Cylinder block assembly, without speed ring	1
C80	94-23		11015186	Valve plate	1
E82	94-23		8000203	Spring	2
QC04	94-23		8510363	Cylinder block kit, without speed ring	1

Special Hardware FAK-FBG

Parts configuration



* included in overhaul seal kit Q210

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: FAK

B83	99-45	13-15	9005110-5600	Plug assembly	1
C05	99-45	13-15	8000128	Cylinder block assembly, without speed ring	1
C80	99-45	13-15	11015186	Valve plate	1
E82	99-45	13-15	8000203	Spring	2
QC04	99-45	13-15	8510363	Cylinder block kit, without speed ring	1

Order code: FAP

B83	96-08		9005110-5600	Plug assembly	1
C05	96-08		8000128	Cylinder block assembly, without speed ring	1
C80	96-08		11018330	Valve plate, CCW	1
C80	96-08		11018343	Valve plate, CW	1
E82	96-08		8000203	Spring	2
QC04	96-08		8510363	Cylinder block kit, without speed ring	1

Order code: FAR

B83	99-11	06-34	9005110-5600	Plug assembly	1
C05	99-11	06-34	8000128	Cylinder block assembly, without speed ring	1
C80	99-11	06-34	5170714-S	Valve plate	1
E82	99-11	06-34	8000203	Spring	2
QC04	99-11	06-34	8510363	Cylinder block kit, without speed ring	1

Order code: FAU

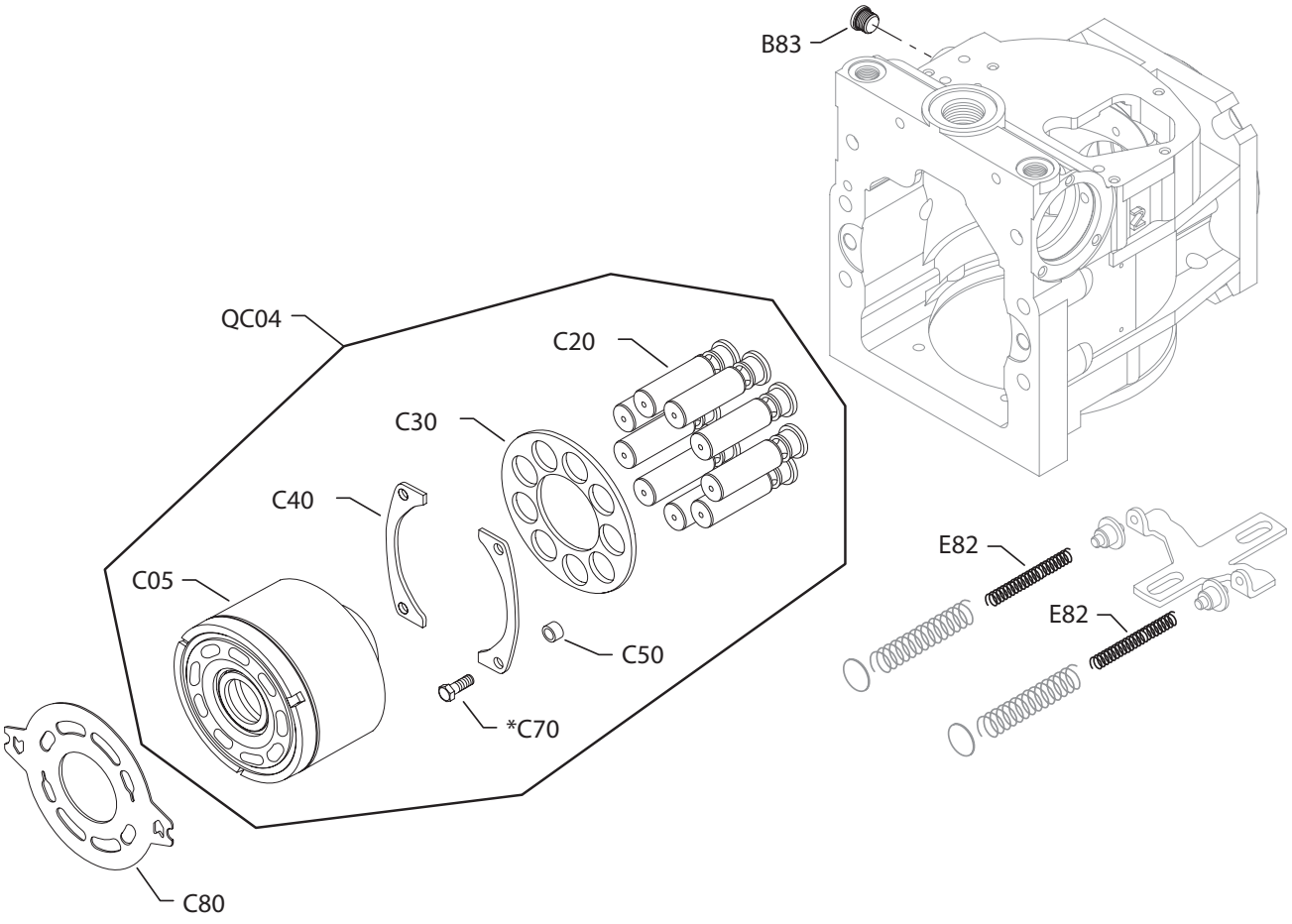
B83	99-11	06-34	9005110-5600	Plug assembly	1
C05	99-11	06-34	8000128	Cylinder block assembly, without speed ring	1
C80	99-11	06-34	11015186	Valve plate	1
E82	99-11	06-34	8000203	Spring	2
QC04	99-11	06-34	8510363	Cylinder block kit, without speed ring	1

Order code: FBD

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		510714-S	Valve plate	1
E82	06-12		8000203	Spring	2
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Parts configuration

(FAK, FAP, FAR, FAU,FBD, FBE & FBG)



* included in overhaul seal kit Q210

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Order code: FBE

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015186	Valve plate	1
E82	06-12		8000203	Spring	2
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

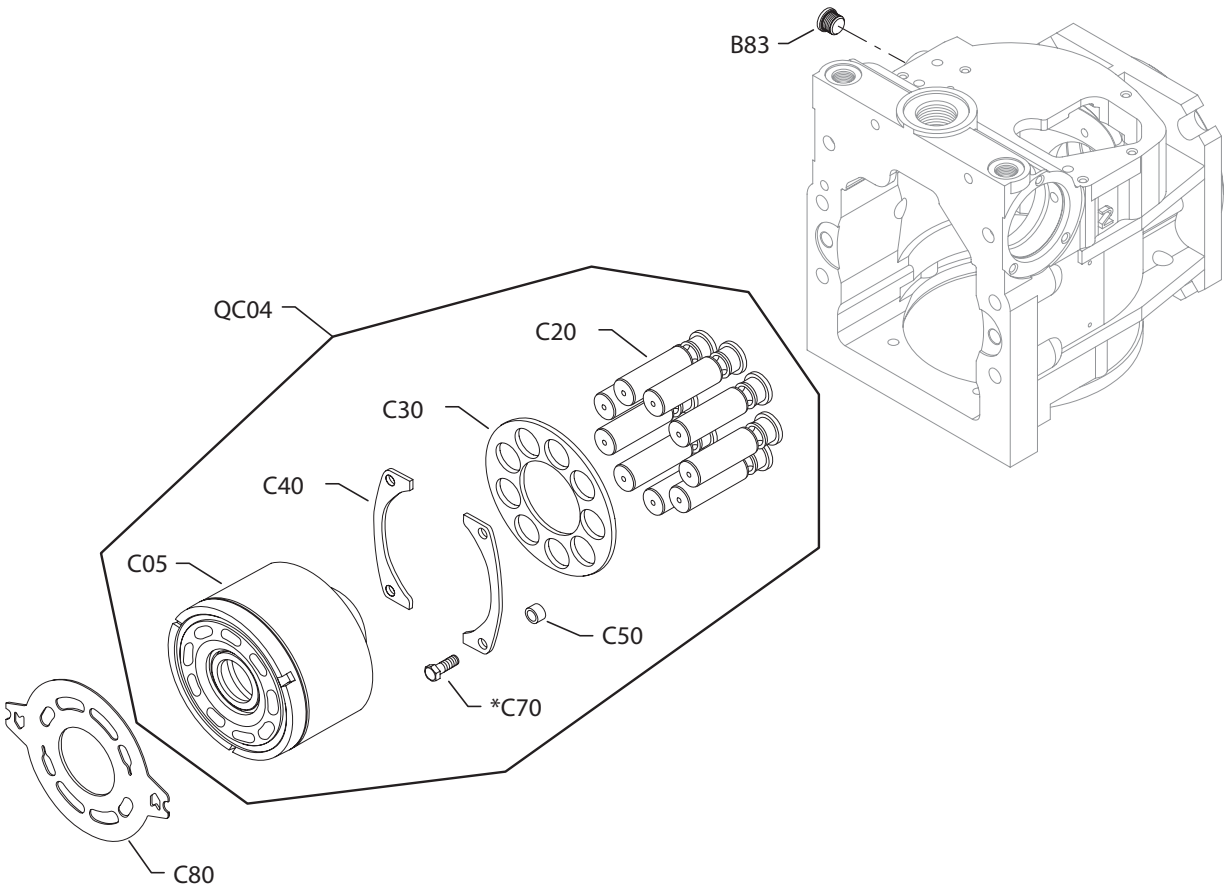
Order code: FBG

B83	06-17		9005110-5600	Plug assembly	1
C05	06-17		8000128	Cylinder block assembly, without speed ring	1
C80	06-17		11015186	Valve plate	1
E82	06-17		8000203	Spring	2
QC04	06-17		8510363	Cylinder block kit, without speed ring	1

Special hardware GAA-GFD

Parts configuration

(GAA, GBA, GBG ,GCA, GCR, GDE, GEA & GFD)



* included in overhaul seal kit Q210

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Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: GAA & NCN

B83	91-07	09-49	9005110-5600	Plug assembly	1
C05	91-07	09-49	8000128	Cylinder block assembly, without speed ring	1
C80	91-07	09-49	11017479	Valve plate	1
QC04	91-07	09-49	8510363	Cylinder block kit, without speed ring	1

Order code: GBA, NNN & NWN

B83	92-06		9005110-5600	Plug assembly	1
C05	87-02		8000128	Cylinder block assembly, without speed ring	1
C80	87-02		11015186	Valve plate (*SB-1995-026* on page 157)	1
QC04	87-02		8510363	Cylinder block kit, without speed ring	1

Order code: GBG

B83	99-45		9005110-5600	Plug assembly	1
C05	99-45		8000128	Cylinder block assembly, without speed ring	1
C80	99-45		11015186	Valve plate	1
QC04	99-45		8510363	Cylinder block kit, without speed ring	1

Order code: GCA

B83	94-27		9005110-5600	Plug assembly	1
C05	94-27		8000128	Cylinder block assembly, without speed ring	1
C80	94-27		11015185	Valve plate	1
QC04	94-27		8510363	Cylinder block kit, without speed ring	1

Order code: GCR

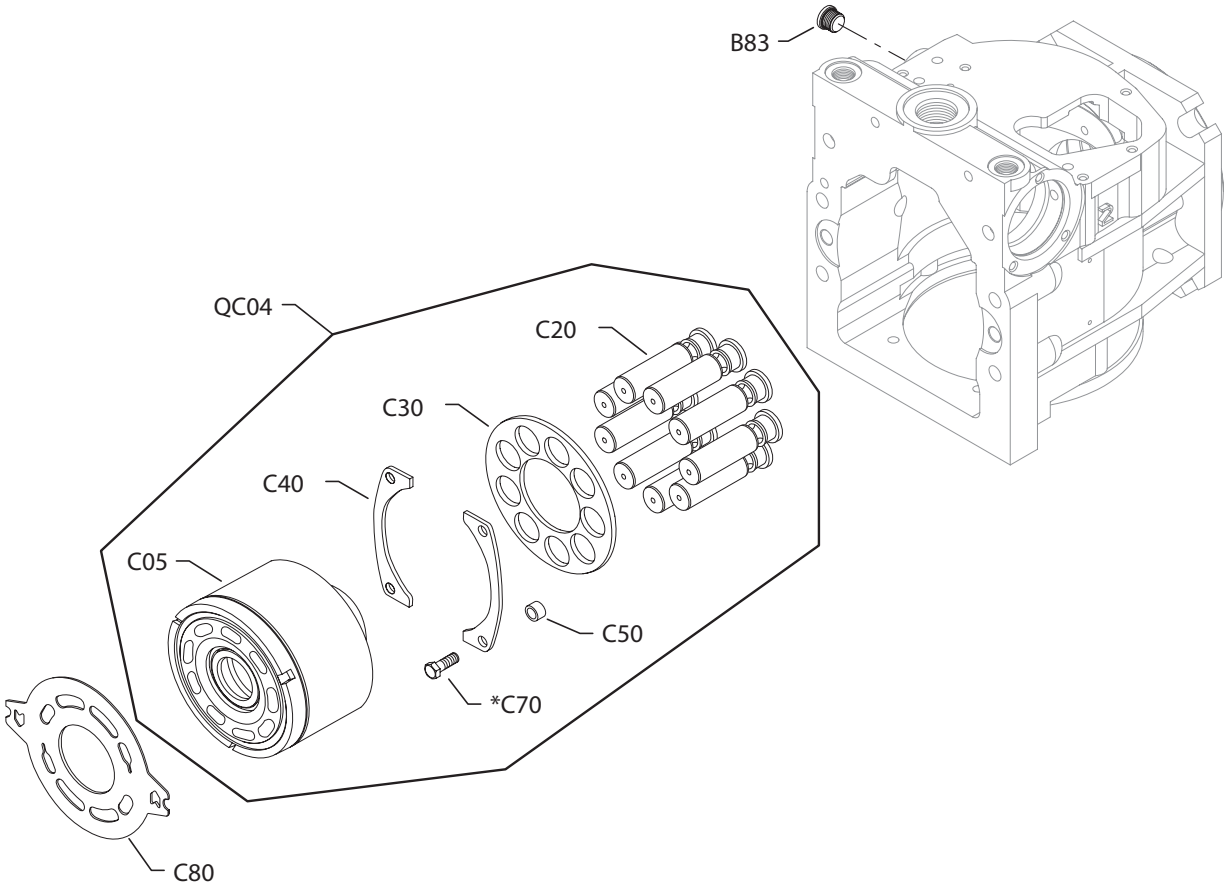
B83	11-23		9005110-5600	Plug assembly	1
C05	11-23		8000128	Cylinder block assembly, without speed ring	1
C80	11-23		11015186	Valve plate	1
QC04	11-23		8510363	Cylinder block kit, without speed ring	1

Order code: GDE

B83	15-20		9005110-5600	Plug assembly	1
C05	15-20		8000128	Cylinder block assembly, without speed ring	1
C80	15-20		11015186	Valve plate	1
QC04	15-20		8510363	Cylinder block kit, without speed ring	1

Parts configuration

(GAA, GBA, GBG ,GCA, GCR, GDE, GEA & GFD)



* included in overhaul seal kit Q210

Order code: GEA & SLN

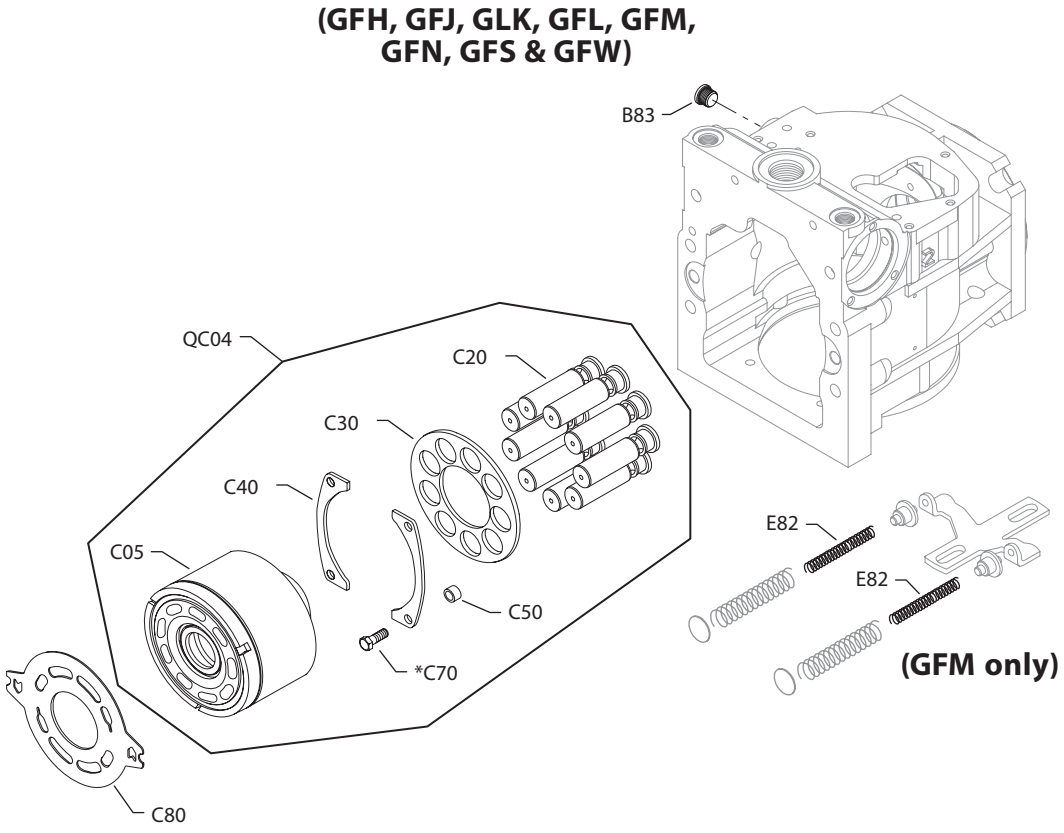
Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B83	92-06		9005110-5600	Plug assembly	1
C05	90-07		8000128	Cylinder block assembly, without speed ring	1
C80	90-07		11087562	Valve plate	1
QC04	90-07		8510363	Cylinder block kit, without speed ring	1

Order code: GFD

B83	98-14		9005110-5600	Plug assembly	1
C05	98-14		8000128	Cylinder block assembly, without speed ring	1
C80	98-14		11015186	Valve plate	1
QC04	98-14		8510363	Cylinder block kit, without speed ring	1

Special hardware GFH-GFW

Parts configuration



* included in overhaul seal kit Q210

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: GFH

B83	98-14		9005110-5600	Plug assembly	1
C05	98-14		8000128	Cylinder block assembly, without speed ring	1
C80	98-14		11015186	Valve plate	1
QC04	98-14		8510363	Cylinder block kit, without speed ring	1

Order code: GFJ

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015186	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Order code: GFK

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015186	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Order code: GFL

B83	13-51		9005110-5600	Plug assembly	1
C05	13-51		8000128	Cylinder block assembly, without speed ring	1
C80	13-51		11015186	Valve plate	1
QC04	13-51		8510363	Cylinder block kit, without speed ring	1

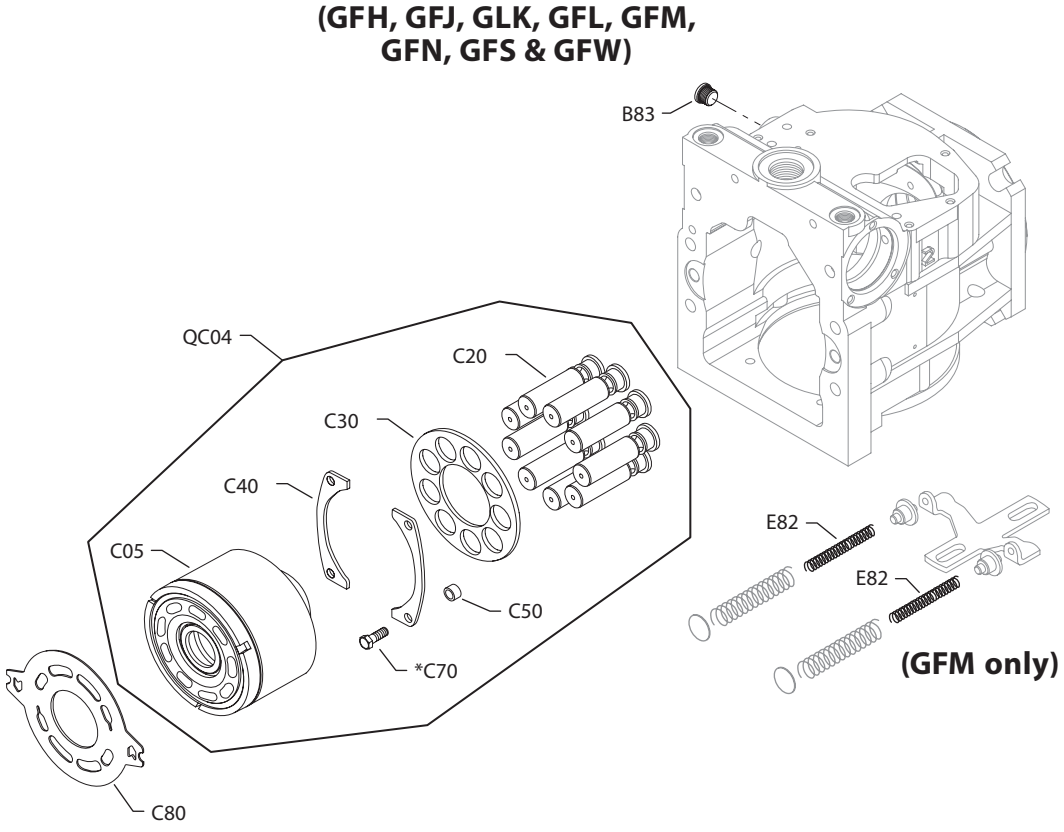
Order code: GFM

B83	13-51		9005110-5600	Plug assembly	1
C05	13-51		8000128	Cylinder block assembly, without speed ring	1
C80	13-51		11015186	Valve plate	1
E82	13-51		8000203	Spring	2
QC04	13-51		8510363	Cylinder block kit, without speed ring	1

Order code: GFN

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015186	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Parts configuration



* included in overhaul seal kit Q210

Order code: GFS

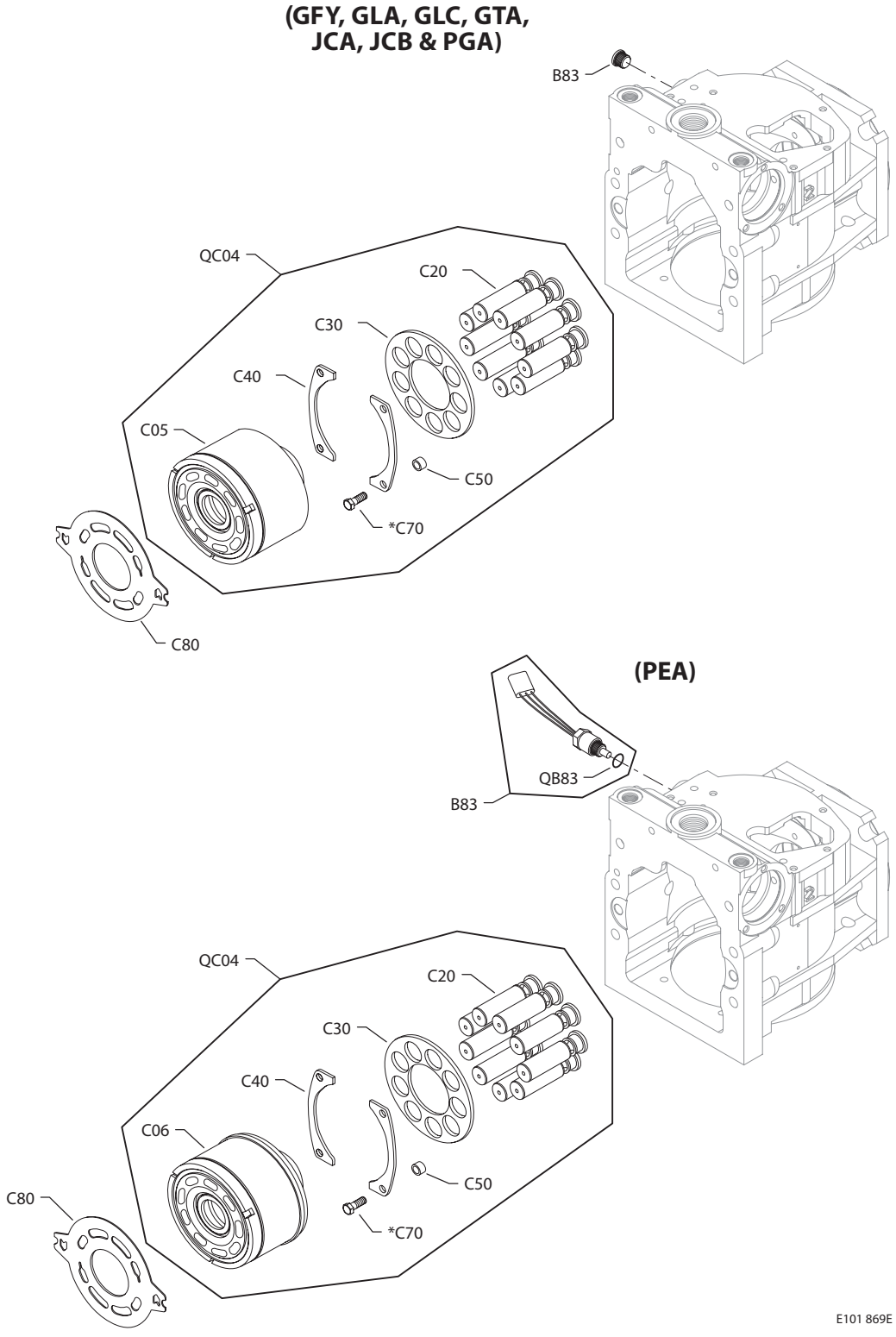
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015186	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Order code: GFW

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11015185	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Special hardware GFY-PEA

Parts configuration



* included in overhaul seal kit Q210

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		367672	Piston assembly (*SB-1988-023* on page 134)	9
C30	87-02		11067348	Slipper guide	1
C40	88-43		8000137	Slipper guide bearing (*SB-1988-016* on page 132)	2
C50	88-43		11065864	Spacer (*SB-1988-016* on page 132, *SB-1998-041* on page 160 & *SB-2009-038* on page 178)	4
C70	88-43		648477	Screw (*SB-1988-016* on page 132 & *SB-1998-041* on page 160)	4

Order code: GFY

B83	06-12		9005110-5600	Plug assembly	1
C05	06-12		8000128	Cylinder block assembly, without speed ring	1
C80	06-12		11087562	Valve plate	1
QC04	06-12		8510363	Cylinder block kit, without speed ring	1

Order code: GLA

B83	98-14		9005110-5600	Plug assembly	1
C05	98-14		8000128	Cylinder block assembly, without speed ring	1
C80	98-14		11018330	Valve plate, CCW	1
C80	98-14		11018343	Valve plate, CW	1
QC04	98-14		8510363	Cylinder block kit, without speed ring	1

Order code: GLC

B83	04-38		9005110-5600	Plug assembly	1
C05	04-38		8000128	Cylinder block assembly, without speed ring	1
C80	04-38		11018343	Valve plate, CW	1
QC04	04-38		8510363	Cylinder block kit, without speed ring	1

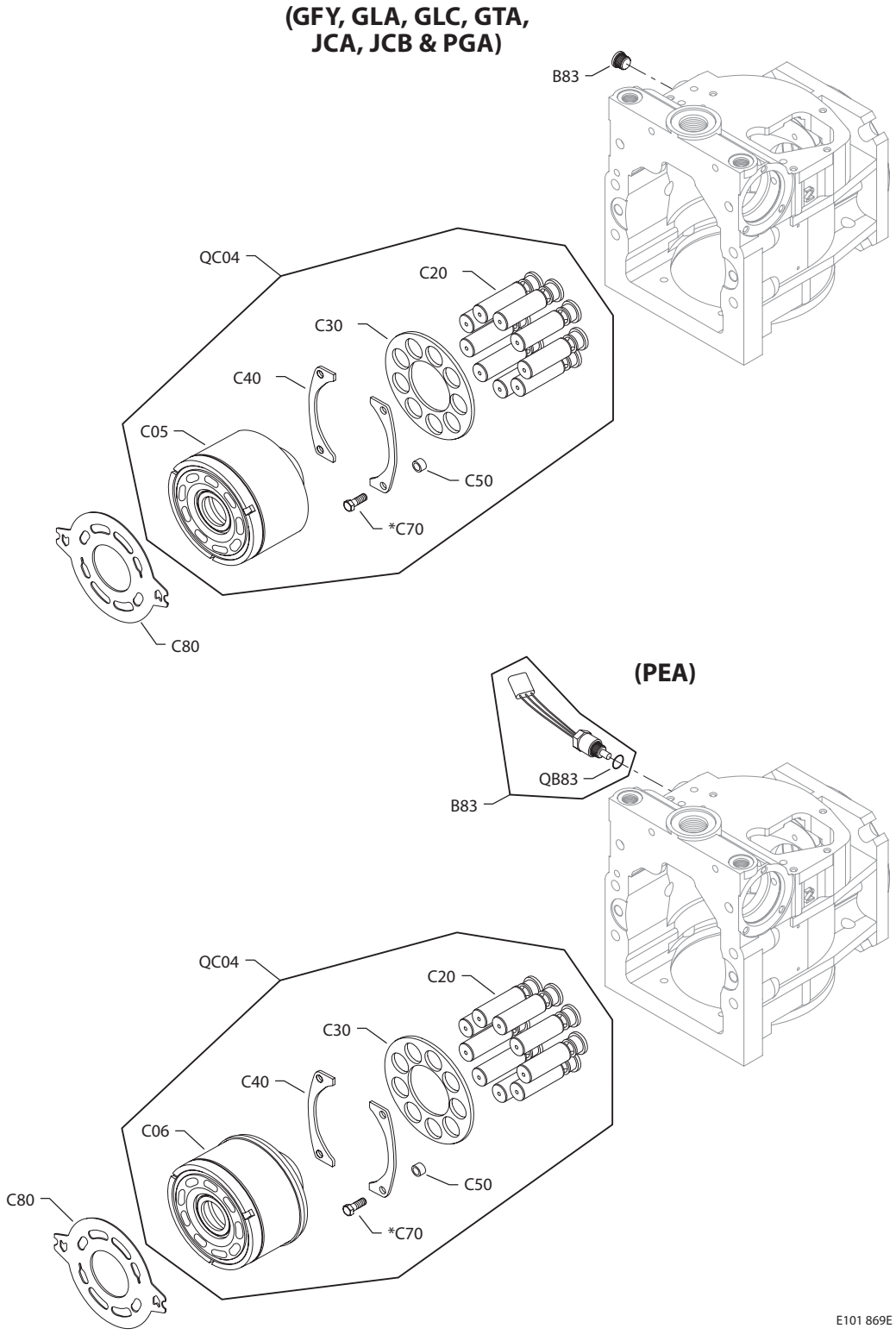
Order code: GTA

B83	14-21		9005110-5600	Plug assembly	1
C05	14-21		8000128	Cylinder block assembly, without speed ring	1
C80	14-21		11015186	Valve plate	1
QC04	14-21		8510363	Cylinder block kit, without speed ring	1

Order code: JCA

B83	10-18		9005110-5600	Plug assembly	1
C05	10-18		8000128	Cylinder block assembly, without speed ring	1
C80	10-18		11015186	Valve plate	1
QC04	10-18		8510363	Cylinder block kit, without speed ring	1

Parts configuration



* included in overhaul seal kit Q210

Order code: JCB

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B83	09-10	12-35	9005110-5600	Plug assembly	1
C05	09-10	12-35	8000128	Cylinder block assembly, without speed ring	1
C80	09-10	12-35	11015186	Valve plate	1
QC04	09-10	12-35	8510363	Cylinder block kit, without speed ring	1

Order code: PEA

B83	07-03		KPPG156	Speed sensor	1
C06	07-03		8000336	Cylinder block assembly, with speed ring	1
C80	07-03		11015186	Valve plate	1
QB83	92-06		085043 (9004201-3700)	O-ring	1
QC04	07-03		8510362	Cylinder block kit, with speed ring	1

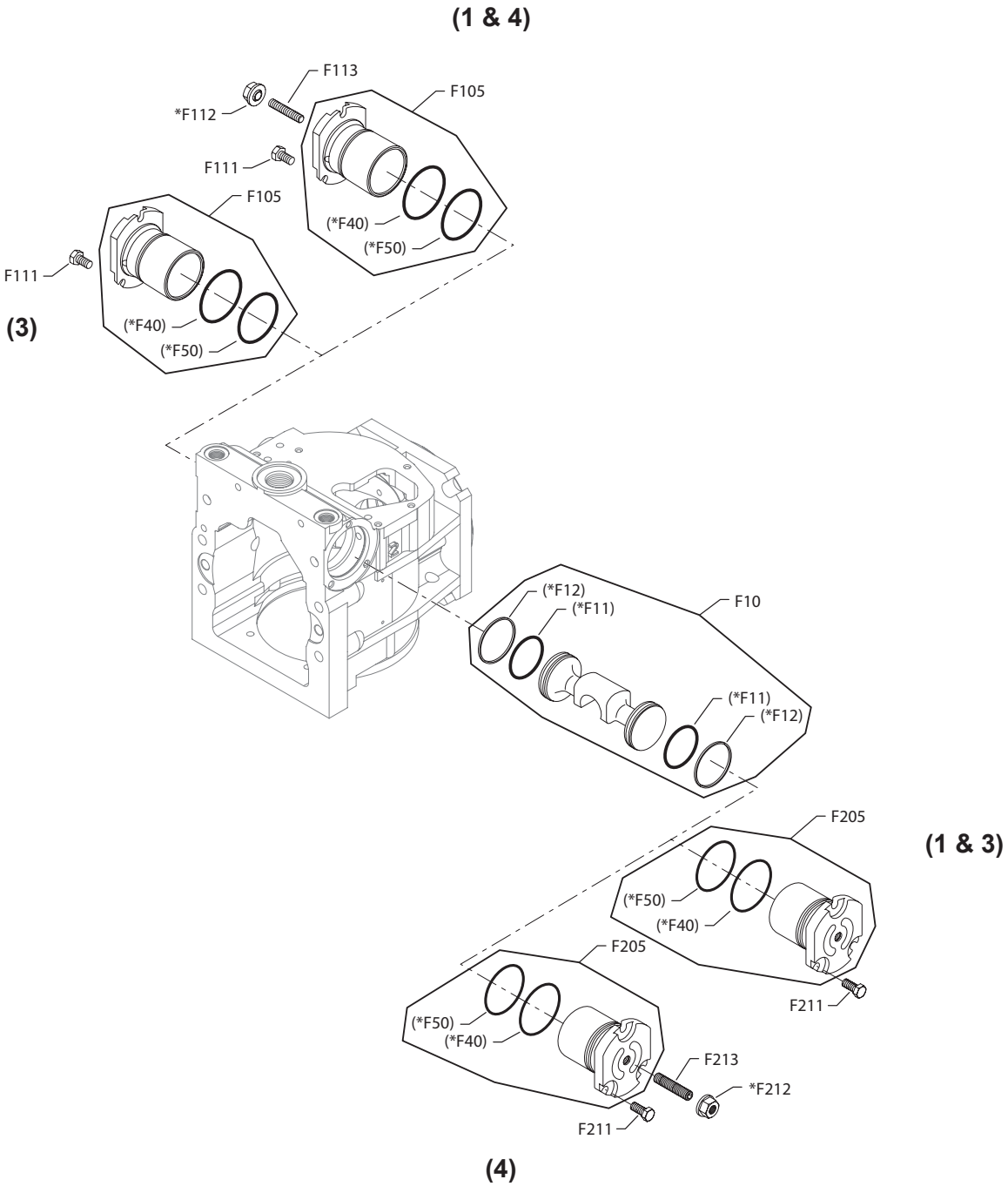
Order code: PGA

B83	08-01		9005110-5600	Plug assembly	1
C05	08-01		8000128	Cylinder block assembly, without speed ring	1
C80	08-01		11015186	Valve plate	1
QC04	08-01		8510363	Cylinder block kit, without speed ring	1

Displacement limitation

Displacement limitation 1-4

Parts configuration



* included in overhaul seal kit Q210

( ) not available individually

Order code: 1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	91-07		11046668	Servo piston assembly	1
F105	91-07		11054834	Servo cylinder assembly	1
F111	91-07		9007210-0604	Screw	3
F112	91-07		505412 (9003509-0008)	Seal nut	1
F113	91-07		5000747	Set screw	1
F205	91-07		11054864	Servo cylinder assembly	1
F211	91-07		9007210-0604	Screw	3

Order code: 3

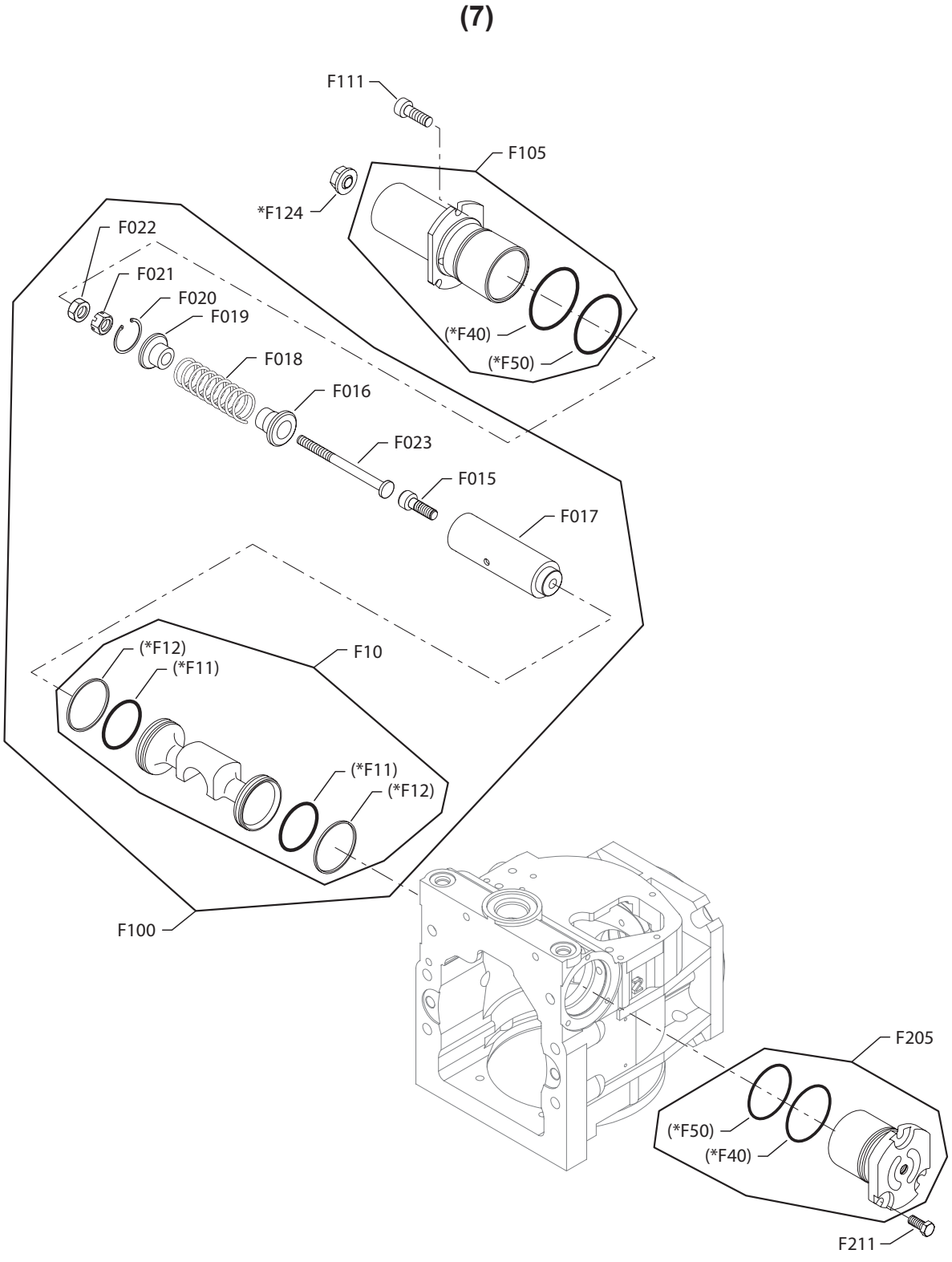
F10	87-02		11046668	Servo piston assembly	1
F105	91-07		11054864	Servo cylinder assembly	1
F111	87-02		9007210-0604	Screw	3
F205	91-07		11054864	Servo cylinder assembly	1
F211	87-02		9007210-0604	Screw	3

Order code: 4

F10	91-07		11046668	Servo piston assembly	1
F105	91-07		11054834	Servo cylinder assembly	1
F111	91-07		9007210-0604	Screw	3
F112	91-07		505412 (9003509-0008)	Seal nut	1
F113	91-07		5000747	Set screw	1
F205	91-07		11054834	Servo cylinder assembly	1
F211	91-07		9007210-0604	Screw	3
F212	91-07		505412 (9003509-0008)	Seal nut	1
F213	91-07		5000747	Set screw	1

Displacement limitation 7

Parts configuration



* included in overhaul seal kit Q210

( ) not available individually

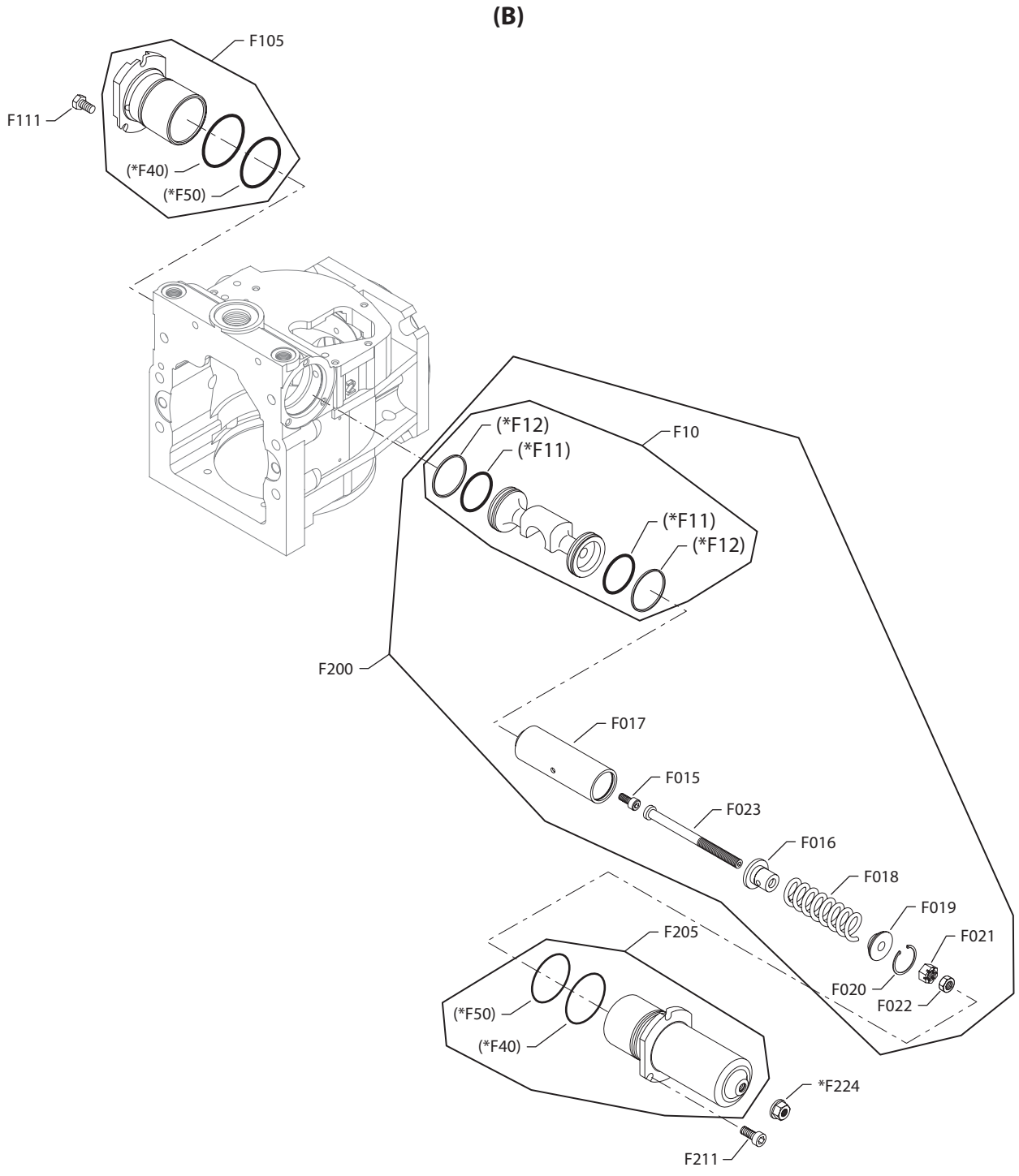
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Order code: 7

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	95-31		11046669	Servo piston assembly	1
F015	95-31		346395	Screw	1
F016	95-31		507092	Spring guide	1
F017	95-31		346320	Servo spring housing	1
F018	95-31		346254	Spring	1
F019	95-31		507093	Spring guide	1
F020	95-31		346379	Retaining ring	1
F021	95-31		787887	Castle nut	1
F022	95-31		336800	Nut	1
F023	95-31		11140220	Adjusting screw	1
F100	95-31		8000760	Servo assembly	1
F105	95-31		11054838	Servo cylinder assembly, automotive control	1
F111	95-31		704395 (9007314-0604)	Screw	3
F124	95-31		336826	Seal nut	1
F205	95-31		11054864	Servo cylinder assembly, non-adjustable	1
F211	95-31		9007210-0604	Screw	3

Displacement limitation B

Parts configuration



* included in overhaul seal kit Q210

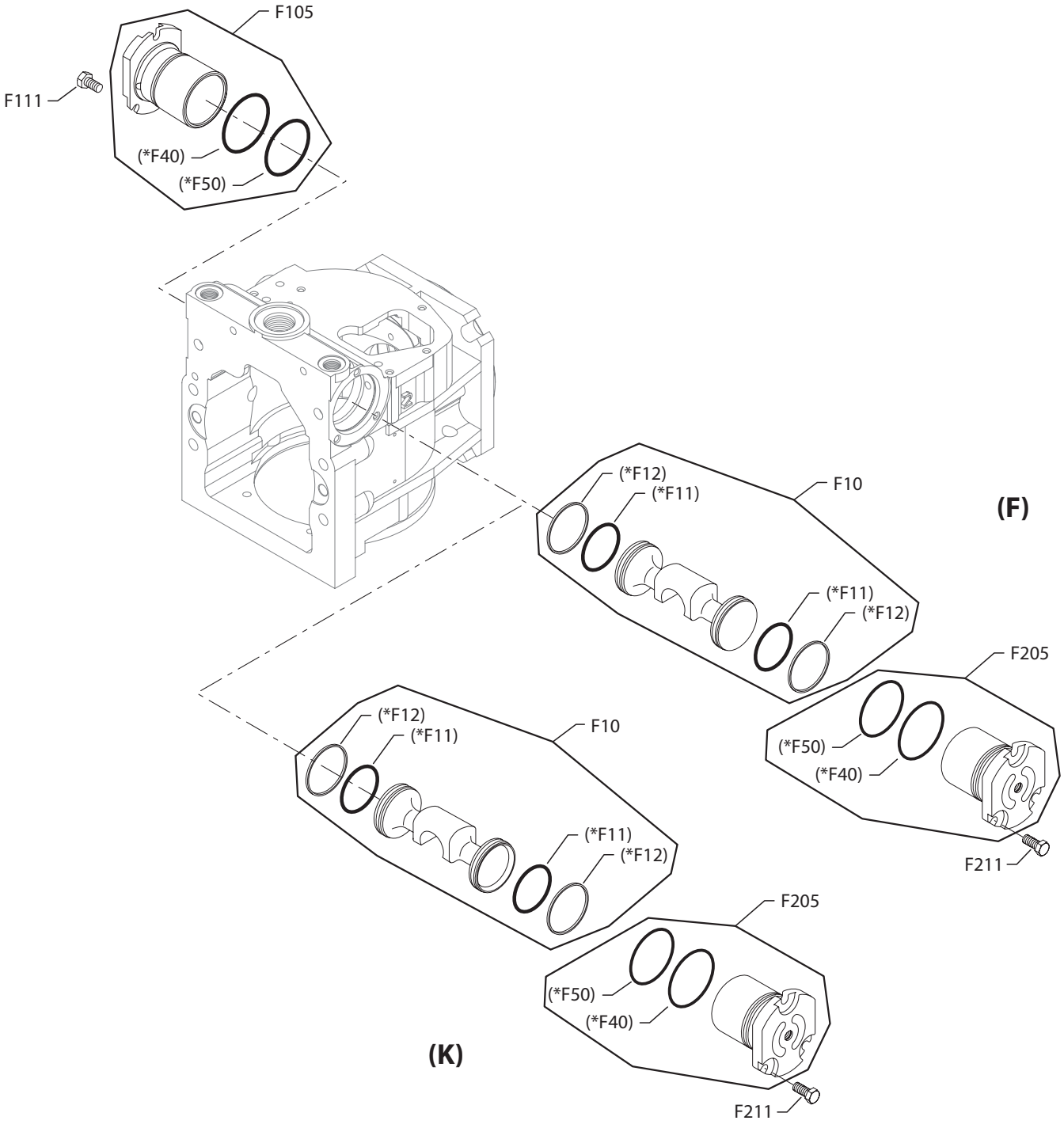
( ) not available individually

Order code: B

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
F10	98-40		11046669	Servo piston assembly	1
F015	98-40		346395	Screw	1
F016	98-40		507092	Spring guide	1
F017	98-40		346320	Servo spring housing	1
F018	98-40		346254	Spring	1
F019	98-40		507093	Spring guide	1
F020	98-40		346379	Retaining ring	1
F021	98-40		787887	Castle nut	1
F022	98-40		336800	Nut	1
F023	98-40		11140220	Adjusting screw	1
F105	98-40		11054864	Servo cylinder assembly	1
F111	98-40		9007210-0604	Screw	3
F200	98-40		8000760	Servo assembly	1
F205	98-40		11054838	Servo cylinder assembly	1
F211	98-40		704395 (9007314-0604)	Screw	3
F224	98-40		336826	Seal nut	1

Displacement limitation F-K

Parts configuration



* included in overhaul seal kit Q210

( ) not available individually

Order code: F

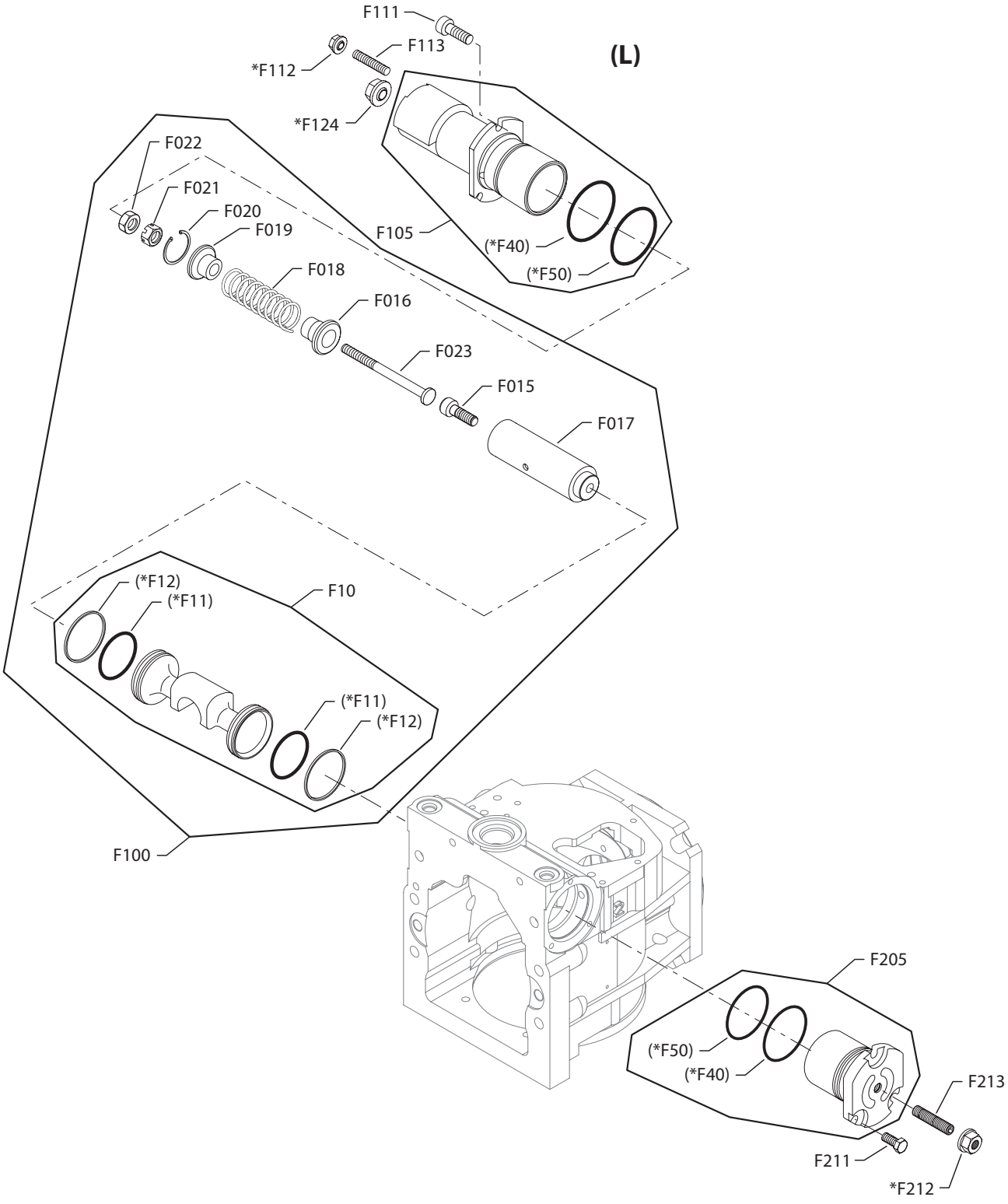
Item	Date begin	Date end	Part number	Part name	Qty. per Model/kit
F10	91-30		11046668	Servo piston assembly	1
F105	91-30		11054836	Servo cylinder assembly	1
F111	91-30		9007210-0604	Screw	3
F205	91-30		11054836	Servo cylinder assembly	1
F211	91-30		9007210-0604	Screw	3

Order code: K

F10	95-02		11046669	Servo piston assembly	1
F105	95-02		11054864	Servo cylinder assembly	1
F111	95-02		9007210-0604	Screw	3
F205	95-02		11054864	Servo cylinder assembly	1
F211	95-02		9007210-0604	Screw	3

Displacement limitation L

Parts configuration



* included in overhaul seal kit Q210

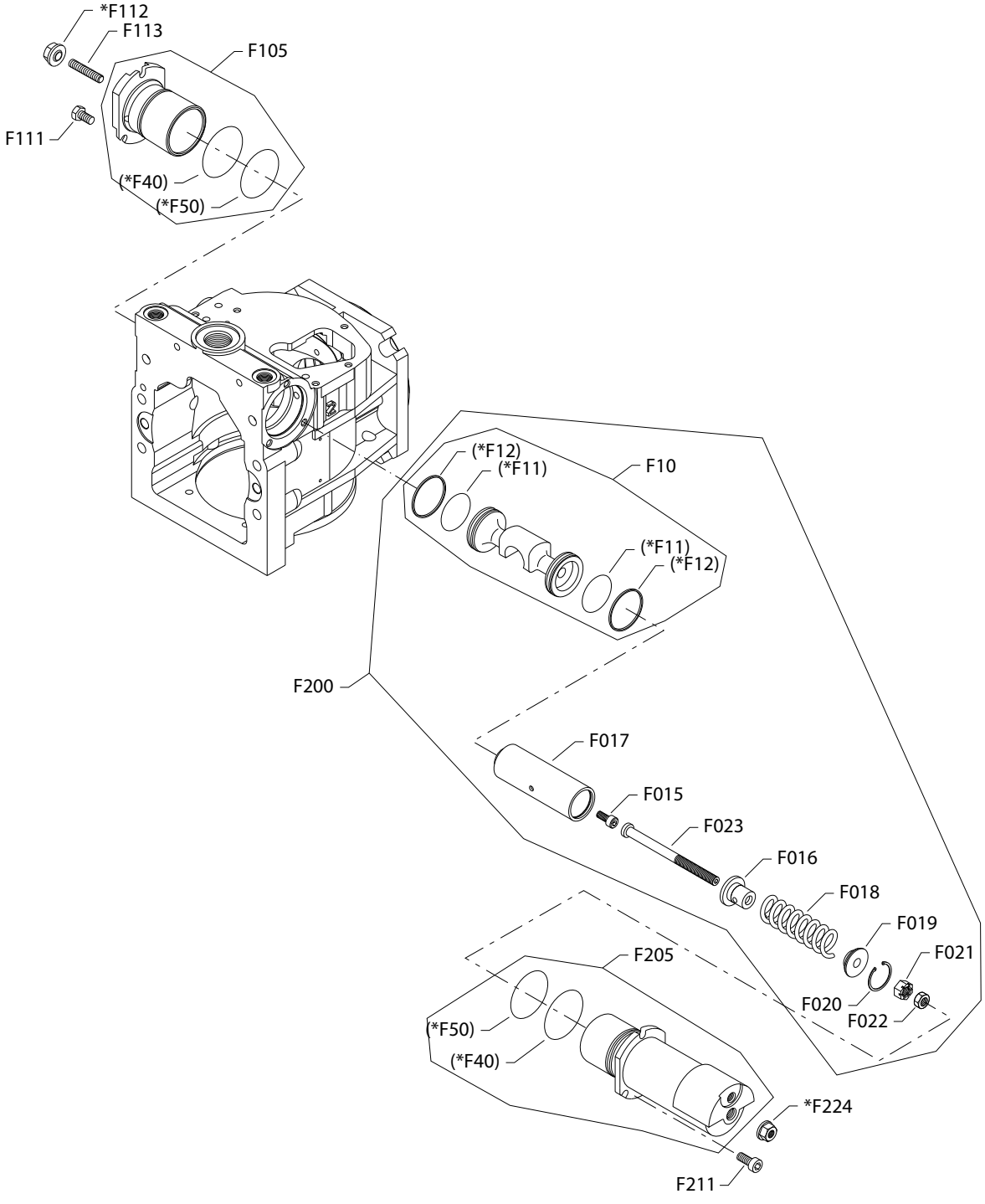
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Order code: L

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
F10	98-14		11046669	Servo piston assembly	1
F015	98-14		346395	Screw	1
F016	98-14		507092	Spring guide	1
F017	98-14		346320	Servo spring housing	1
F018	98-14		346254	Spring	1
F019	98-14		507093	Spring guide	1
F020	98-14		346379	Retaining ring	1
F021	98-14		787887	Castle nut	1
F022	98-14		336800	Nut	1
F023	98-14		11140220	Adjusting screw	1
F100	98-14		8000760	Servo assembly	1
F105	98-14		11054840	Servo cylinder assembly	1
F111	98-14		704395 (9007314-0604)	Screw	3
F112	98-40		505412 (9003509-0008)	Seal nut	1
F113	98-40		5000747	Set screw	1
F124	98-14		336826	Seal nut	1
F205	98-14		11054834	Servo cylinder assembly	1
F211	98-14		9007210-0604	Screw	3
F212	98-14		505412 (9003509-0008)	Seal nut	1
F213	98-14		5000747	Set screw	1

Displacement limitation N

Parts configuration



* included in overhaul seal kit Q210

( ) not available individually

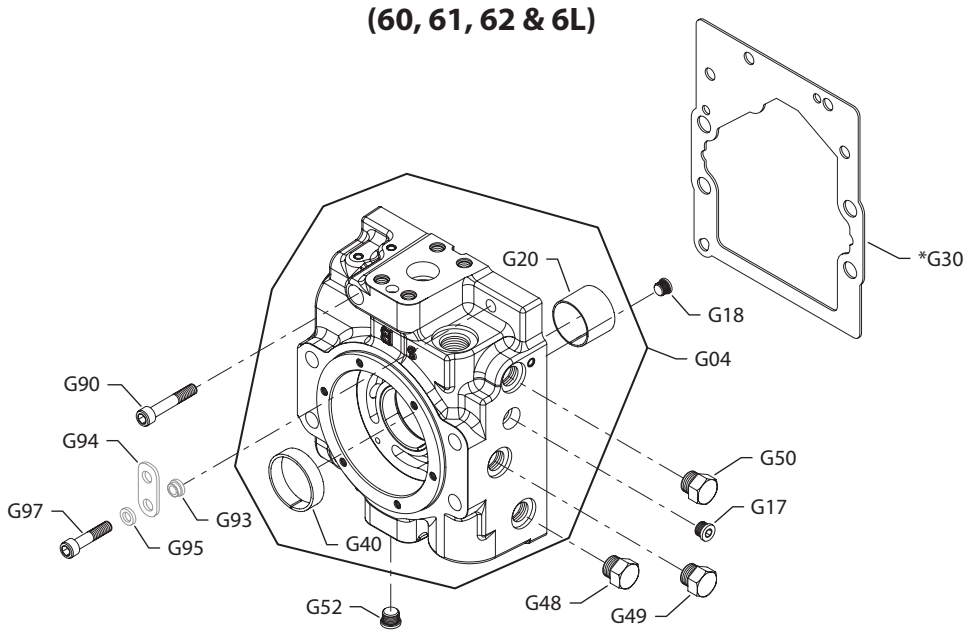
Order code: N

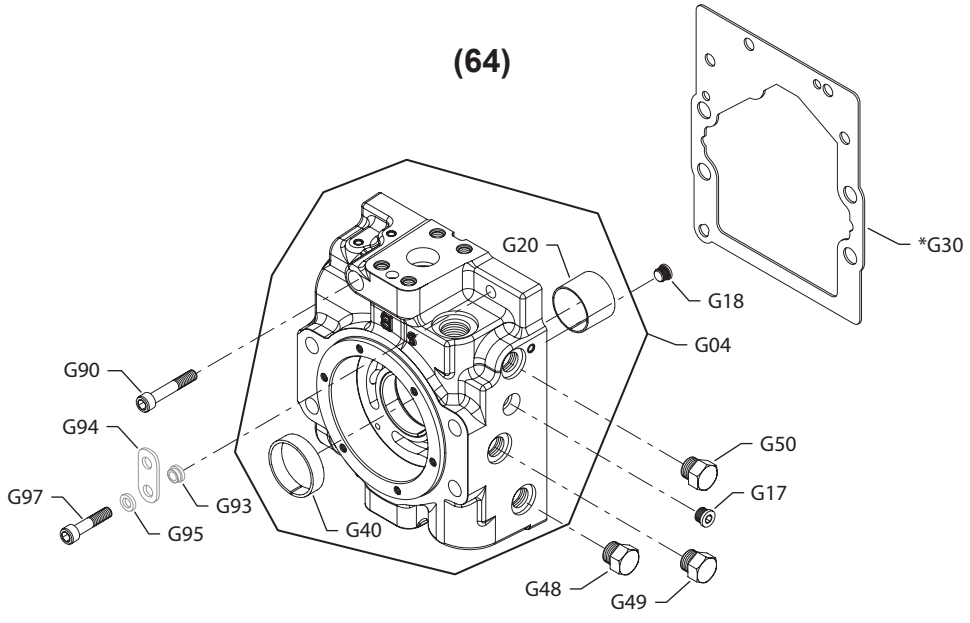
Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-40		11046669	Servo piston assembly	1
F015	98-40		346395	Screw	1
F016	98-40		507092	Spring guide	1
F017	98-40		346320	Servo spring housing	1
F018	98-40		346254	Spring	1
F019	98-40		507093	Spring guide	1
F020	98-40		346379	Retaining ring	1
F021	98-40		787887	Castle nut	1
F022	98-40		336800	Nut	1
F023	98-40		11140220	Adjusting screw	1
F105	98-40		11054834	Servo cylinder assembly	1
F111	98-40		907210-0604	Screw	3
F112	98-40		505412 (9003509-0008)	Seal nut	1
F200	98-40		8000760	Servo assembly	1
F205	98-40		11054840	Servo cylinder assembly	1
F211	98-40		704395 (9007314-0604)	Screw	3
F212	98-40		505412 (9003509-0008)	Seal nut	1
F213	98-40		5000747	Set screw	1
F224	98-40		336826	Seal nut	1

End cap

End cap 60-6L

Parts configuration





* included in overhaul seal kit Q210

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Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G17	92-06		327007 (9005110-4400)	Plug (*SB-1992-003* on page 145)	1
G18	92-06		327007 (9005110-4400)	Plug (*SB-1992-003* on page 145)	1
G20	87-02		8700018	Journal bearing	1
G30	89-17		8000243	End cap gasket (*SB-1989-037* on page 143 & *SB-1992-003* on page 145)	1
G30	89-17	89-16	8000107	End cap gasket (*SB-1989-009* on page 142)	1
G40	87-02		8700008	Bushing	1
G48	87-02		9005100-5600	Plug assembly	1
G49	87-02		9005100-5600	Plug assembly	1
G50	87-02		9005100-5600	Plug assembly	1
G90	89-47		713768 (9007314-0812)	Screw (*SB-1989-037* on page 143)	1
G93	89-47		713800 (8800564)	Spacer	1
G93	87-02	89-46	8800404	Spacer	1
G94	89-47		8800565	Lifting bracket	1
G94	87-02	89-46	8800522	Lifting bracket	1
G95	89-47		002311 (9009610-3459)	Washer	1
G95	87-02	89-46	002311 (9009610-2850)	Washer	1
G97	89-47		746644 (9007314-0810)	Screw (*SB-1989-037* on page 143)	1
G97	87-02	89-46	694356 (9007314-0608)	Screw	1

Order code: 6 & 60

G04	92-06		8000259	End cap assembly, side ports (*SB-1992-003* on page 145)	1
G52	92-06		9005110-5600	Plug assembly	1

Order code: 2 & 61

G04	92-06		8000259	End cap assembly, side ports (*SB-1992-003* on page 145)	1
G52	92-06		9005110-5600	Plug assembly	1

Order code: H & 62

G04	94-33		8000353	End cap assembly, metric side ports	1
G52	94-33		9005110-5600	Plug assembly	1

Order code: 4 & 64

G04	95-03	10-39	771410	End cap assembly, side ports, FBA	1

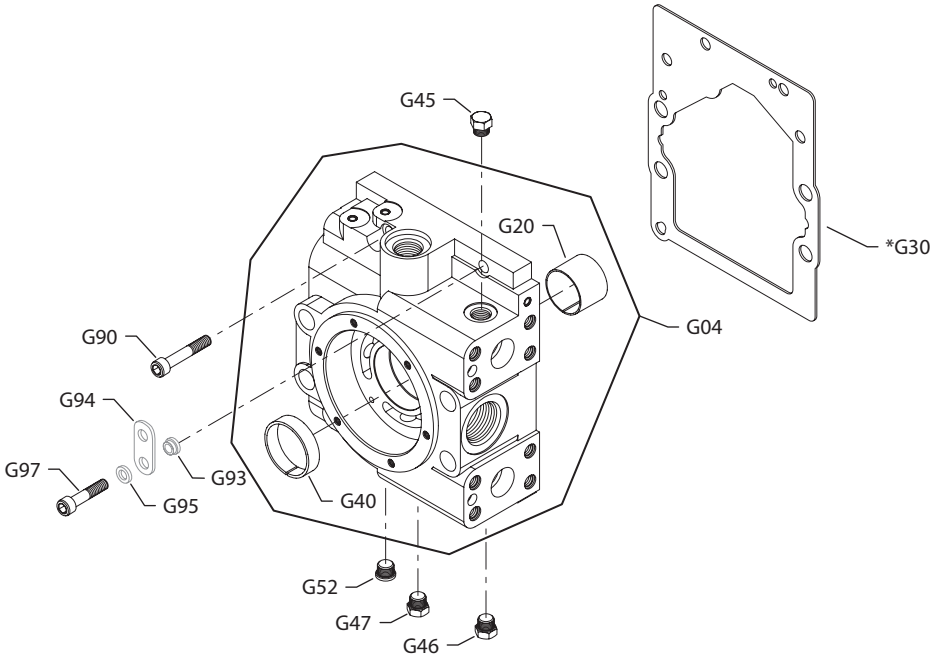
Order code: 6L

G04	97-24		8000543	End cap assembly, metric side ports, lapped	1
G52	97-24		9005110-5600	Plug assembly	1

End cap 80-8L

Parts configuration

(80, 81, 82 & 8L)



* included in overhaul seal kit Q210

Common parts

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
G20	87-02		8700018	Journal bearing	1
G30	89-17		8000243	End cap gasket (*SB-1989-037* on page 143 & *SB-1992-003* on page 145)	1
G30	87-02	89-16	8000107	End cap gasket (*SB-1989-009* on page 142)	1
G40	87-02		8700008	Bushing	1
G45	87-02		9005100-5600	Plug assembly	1
G46	87-02		9005100-5600	Plug assembly	1
G47	87-02		9005100-5600	Plug assembly	1
G52	87-02		9005110-5600	Plug assembly	1
G90	87-47		713768 (9007314-0812)	Screw (*SB-1989-037* on page 143)	1
G93	89-47		713800 (8800564)	Spacer	1
G93	87-02	89-46	8800404	Spacer	1
G94	89-47		8800565	Lifting bracket	1
G94	87-02	89-46	351643 (8800522)	Lifting bracket	1
G95	89-47		002311 (9009610-3459)	Washer	1
G95	87-02	89-46	002295 (9009610-2850)	Washer	1
G97	89-47		746644 (9007314-0810)	Screw (*SB-1989-037* on page 143)	1
G97	87-02	89-46	694356 (9007314-0608)	Screw	1

Order code: 8 & 80

G04	92-06		8000260	End cap assembly, twin ports (*SB-1992-003* on page 145)	1

Order code: 1 & 81

G04	92-06		8000260	End cap assembly, twin ports (*SB-1992-003* on page 145)	1

Order code: 82

G04	97-01		8000414	End cap assembly, metric twin ports	1

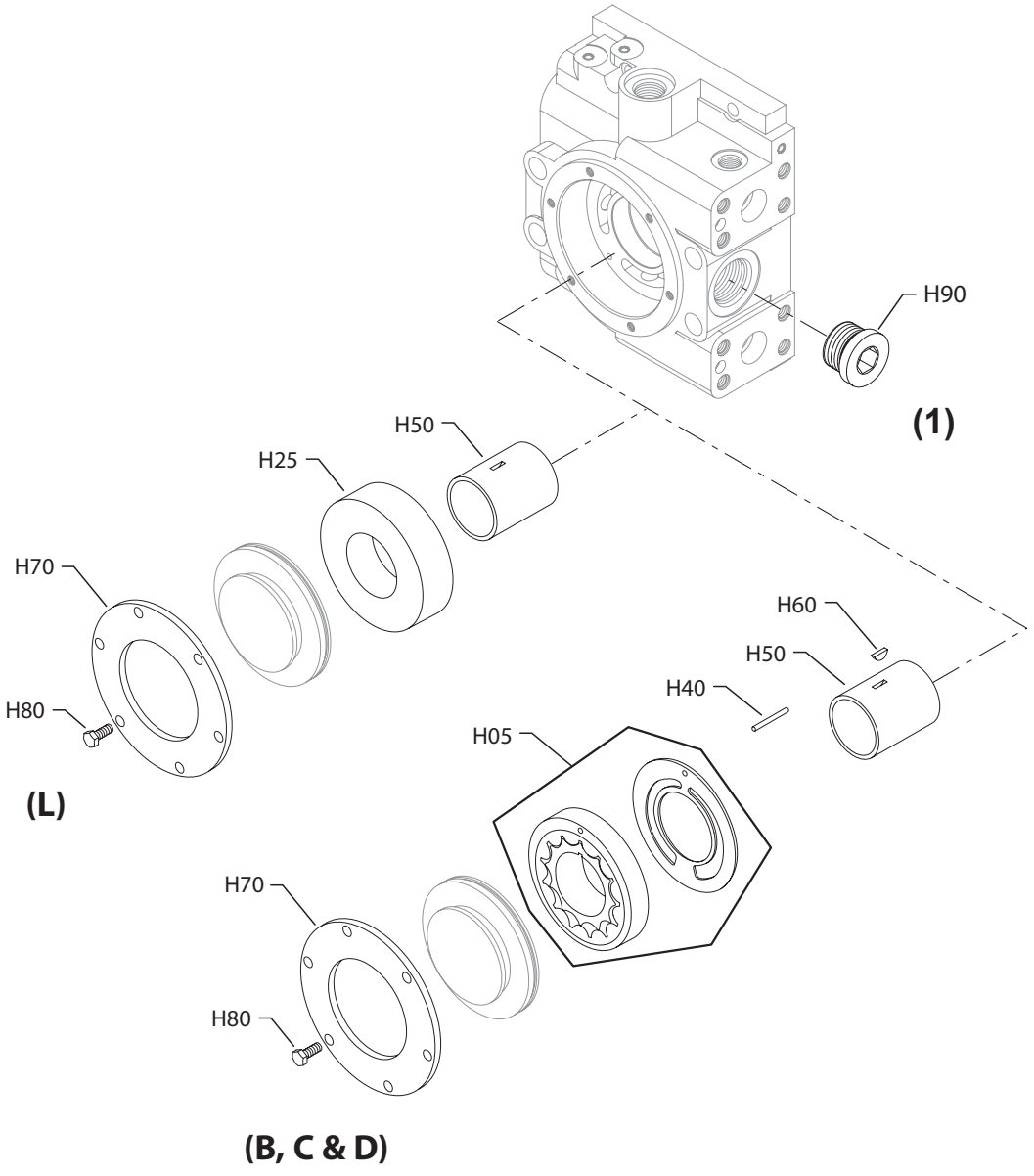
Order code: 8L

G04	97-24		8000540	End cap assembly, metric twin ports, lapped	1

Charging system

Charging system 1-L

Parts configuration



* included in overhaul seal kit Q210

Order code: 1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
H90	92-22		320002 (9005110-9200)	Plug assembly	1

Order code: 2

H90	95-02		None		

Order code: B

H05	93-10		8000268	Charge pump set, 11 cc (*SB-1993-001* on page 147)	1
H40	87-02		9004800-1221	Pin	1
H50	93-10		8801177	Charge pump shaft (*SB-1993-001* on page 147 & *SB-1998-066* on page 162)	1
H50	87-02	89-16	8000078	Charge pump shaft (*SB-1989-006* on page 140)	1
H60	87-02		9003310-1206	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		9007210-0604	Screw	6

Order code: C

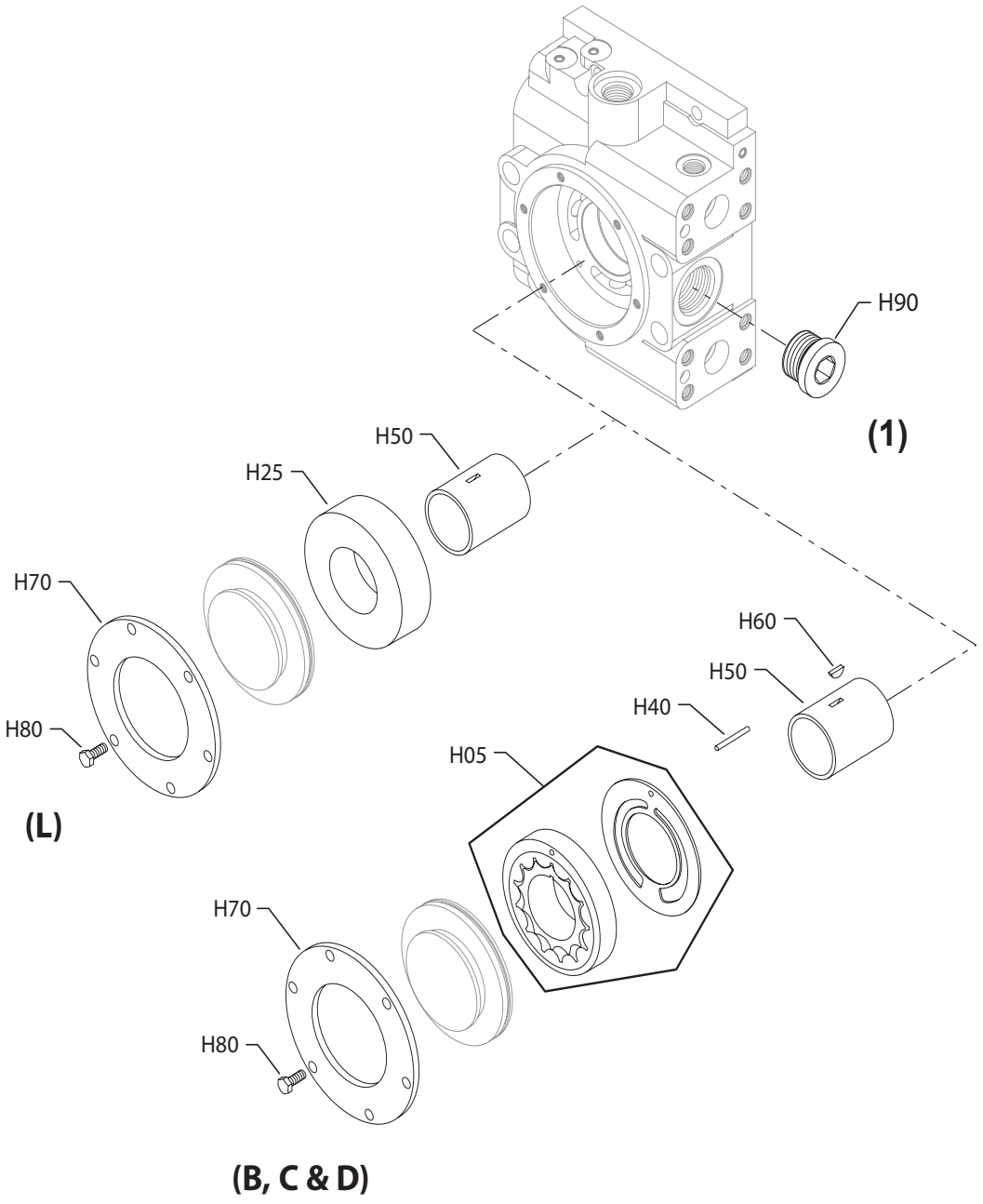
H05	93-10		8000269	Charge pump set, 14 cc (*SB-1993-001* on page 147)	1
H40	87-02		9004800-1221	Pin	1
H50	93-10		8801177	Charge pump shaft (*SB-1993-001* on page 147 & *SB-1998-066* on page 162)	1
H50	87-02	89-16	8000078	Charge pump shaft (*SB-1989-006* on page 140)	1
H60	87-02		9003310-1206	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		9007210-0604	Screw	6

Order code: D

H05	93-10		8000270	Charge pump set, 17 cc (*SB-1993-001* on page 147)	1
H40	87-02		9004800-1221	Pin	1
H50	93-10		8801177	Charge pump shaft (*SB-1993-001* on page 147 & *SB-1998-066* on page 162)	1
H50	87-02	89-16	8000078	Charge pump shaft (*SB-1989-006* on page 140)	1
H60	87-02		9003310-1206	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		9007210-0604	Screw	6

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Parts configuration



* included in overhaul seal kit Q210

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Order code: L

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
H25	87-02		342543 (8800466-0055)	Charge pump spacer	1
H50	93-10		8801177	Charge pump shaft (*SB-1993-001* on page 147 & *SB-1998-066* on page 162)	1
H50	87-02	89-16	8000078	Charge pump shaft (*SB-1989-006* on page 140)	1
H70	87-02		516761	Retaining plate	1
H80	87-02		9007210-0604	Screw	6
H90	87-02		320002 (9005110-9200)	Plug assembly	1

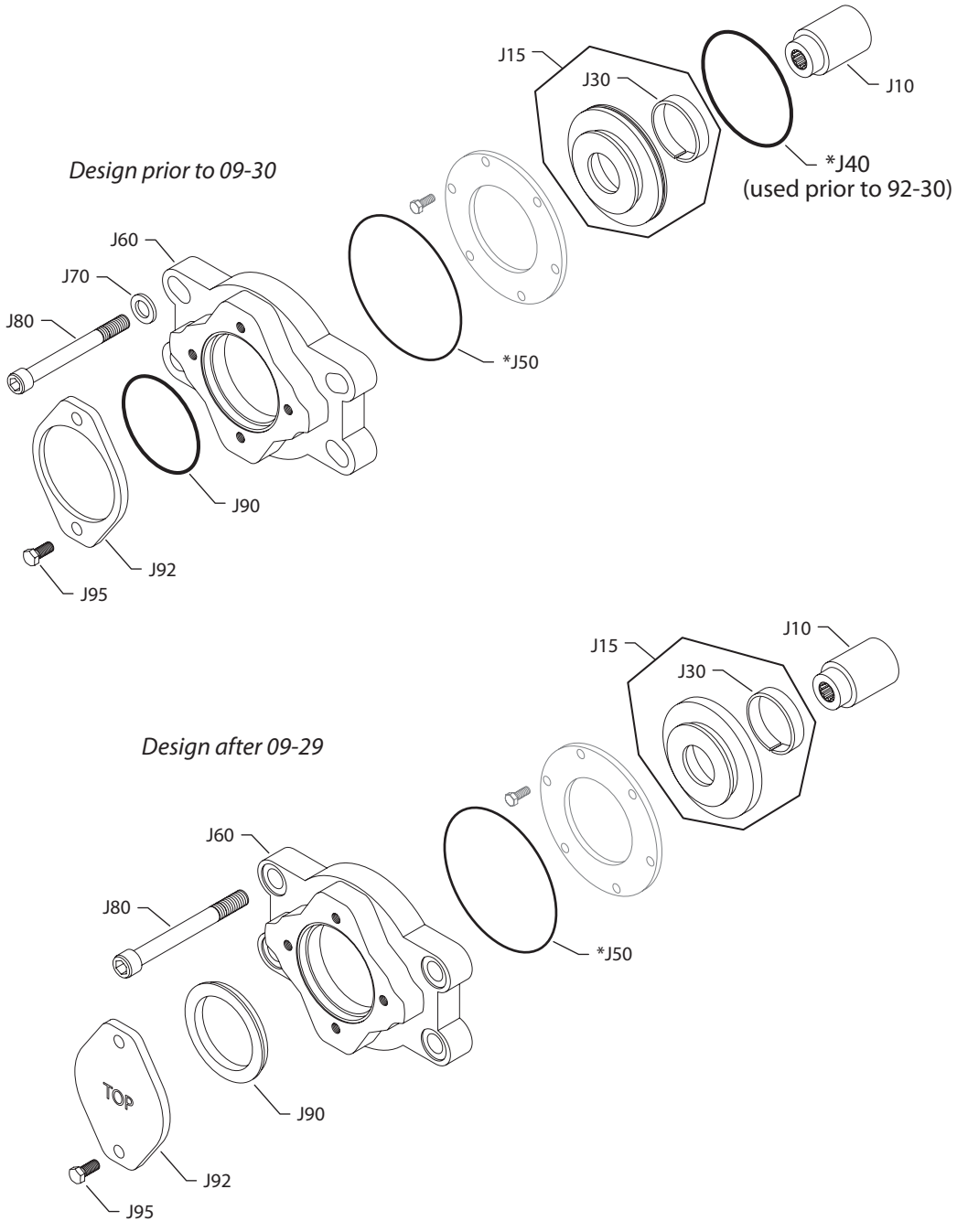
* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Auxiliary mounting

Auxiliary mounting AB-AF

Parts configuration

(AB, AC, AD & AF)



* included in overhaul seal kit Q210

Order code: AB & AD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	87-02		8000075	Coupling, 9 tooth	1
J15	87-02		8800832	Cover assembly, CW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J15	87-02		8800833	Cover assembly, CCW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J30	87-02		8700008	Bushing	1
J40	87-02	92-29	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8000641	Flange adapter (*SB-2007-027* on page 172)	1
J70	87-02	07-43	5000601	Washer (*SB-2007-027* on page 172)	4
J80	87-02		324152 (9007314-1221)	Screw, M12 x 120	4
J90	07-44		4800482	A pad seal	1
J90	87-02	07-43	726950 (9004104-0420)	O-ring (*SB-2007-027* on page 172)	1
J92	07-44		4460586	Cover plate	1
J92	87-02	07-43	9802336	Cover plate (*SB-2007-027* on page 172)	1
J95	87-02		9007200-3714	Screw	2

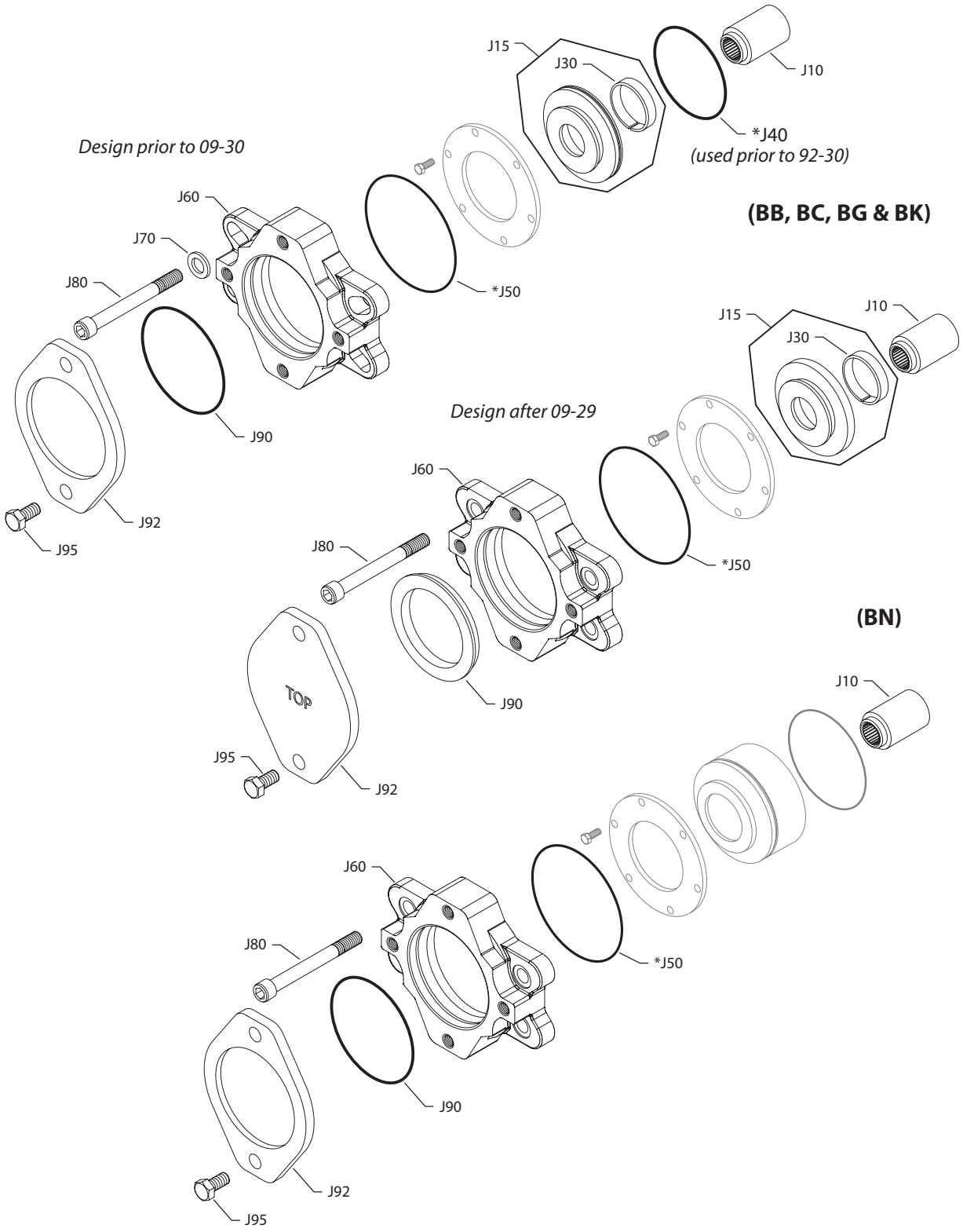
Order code: AC & AF

J10	87-02		11053344	Coupling, 11 tooth	1
J15	87-02		8800832	Cover assembly, CW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J15	87-02		8800833	Cover assembly, CCW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J30	87-02		8700008	Bushing	1
J40	87-02	92-29	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8000641	Flange adapter (*SB-2007-027* on page 172)	1
J70	87-02	07-43	5000601	Washer (*SB-2007-027* on page 172)	4
J80	87-02		324152 (9007314-1221)	Screw, M12 x 120	4
J90	07-44		4800482	A pad seal	1
J90	87-02	07-43	726950 (9004104-0420)	O-ring	1
J2	07-44		4460586	Cover plate	1
J92	87-02	07-43	9802336	Cover plate	1
J95	87-02		9007200-3714	Screw	

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Auxiliary mounting BB-BN

Parts configuration



* included in overhaul seal kit Q210

Order code: BB & BK

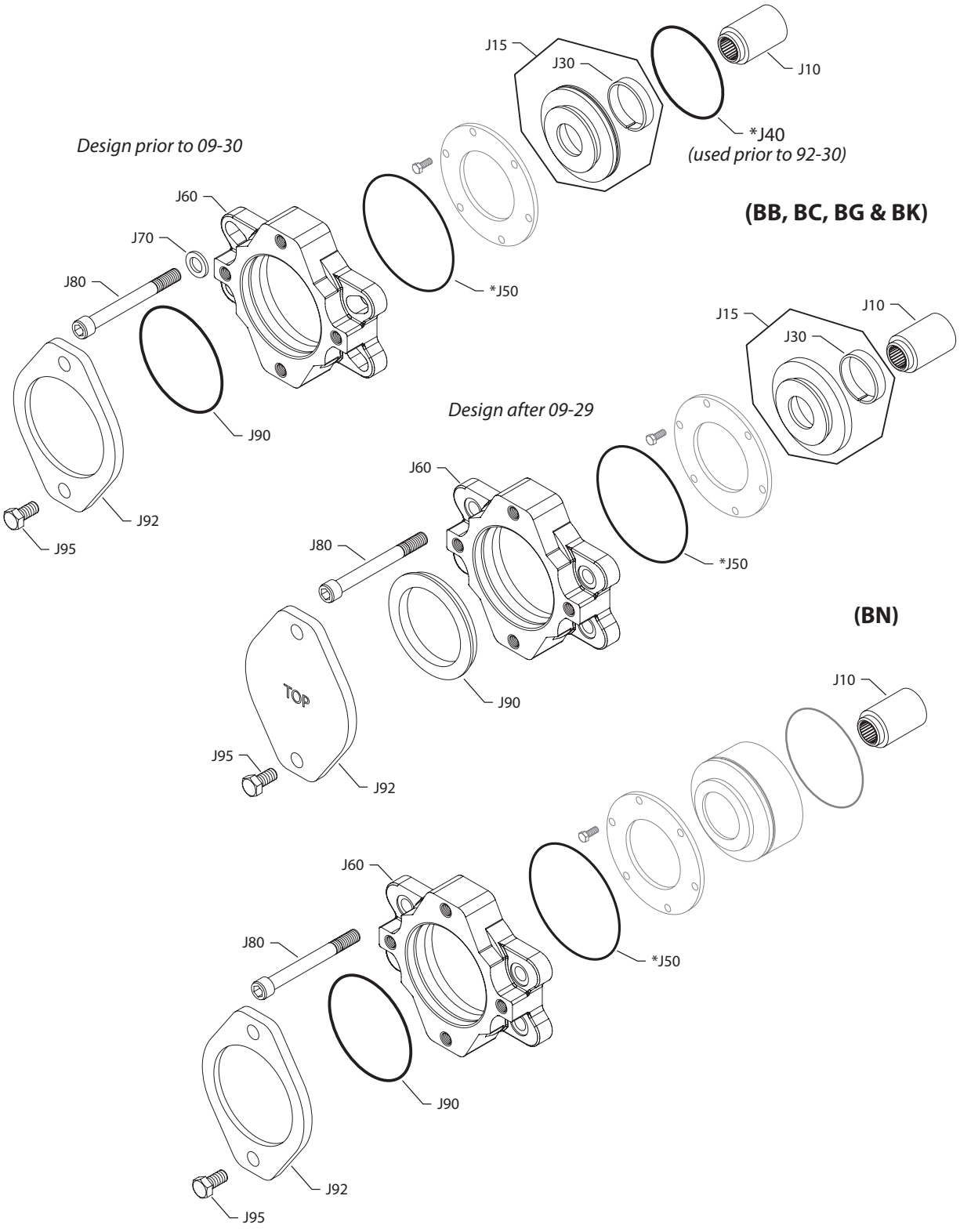
Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	87-02		11053343	Coupling, 15 tooth	1
J15	87-02		8800832	Cover assembly, CW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J15	87-02		8800833	Cover assembly, CCW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J30	87-02		8700008	Bushing	1
J40	87-02	92-15	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8000642	Flange adapter (*SB-2007-055* on page 176)	1
J70	87-02	08-10	5000601	Washer (*SB-2007-027* on page 172)	4
J80	87-02		324152 (9007314-1221)	Screw, M12 x 120	4
J90	08-11		8801061	B pad seal	1
J90	87-02	08-10	726935 (9004104-0450)	O-ring (*SB-2007-055* on page 176)	1
J92	08-11		8801059	Cover plate	1
J92	87-02	08-10	4460370	Cover plate (*SB-2007-055* on page 176)	1
J95	87-02		9007200-5021	Screw	2

Order code: BC & BG

J10	87-02		8000076	Coupling, 13 tooth	1
J15	87-02		8800832	Cover assembly, CW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J15	87-02		8800833	Cover assembly, CCW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J30	87-02		8700008	Bushing	1
J40	87-02	92-15	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8000642	Flange adapter (*SB-2007-055* on page 176)	1
J70	87-02	08-10	5000601	Washer (*SB-2007-055* on page 176)	4
J80	87-02		324152 (9007314-1221)	Screw, M12 x 120	4
J90	07-44		8801061	B pad seal	1
J90	87-02	08-10	726935 (9004104-0450)	O-ring (*SB-2007-055* on page 176)	1
J92	08-11		8801059	Cover plate	1
J92	87-02	08-10	4460370	Cover plate (*SB-2007-055* on page 176)	1
J95	87-02		9007200-5021	Screw	2

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Parts configuration



* included in overhaul seal kit Q210

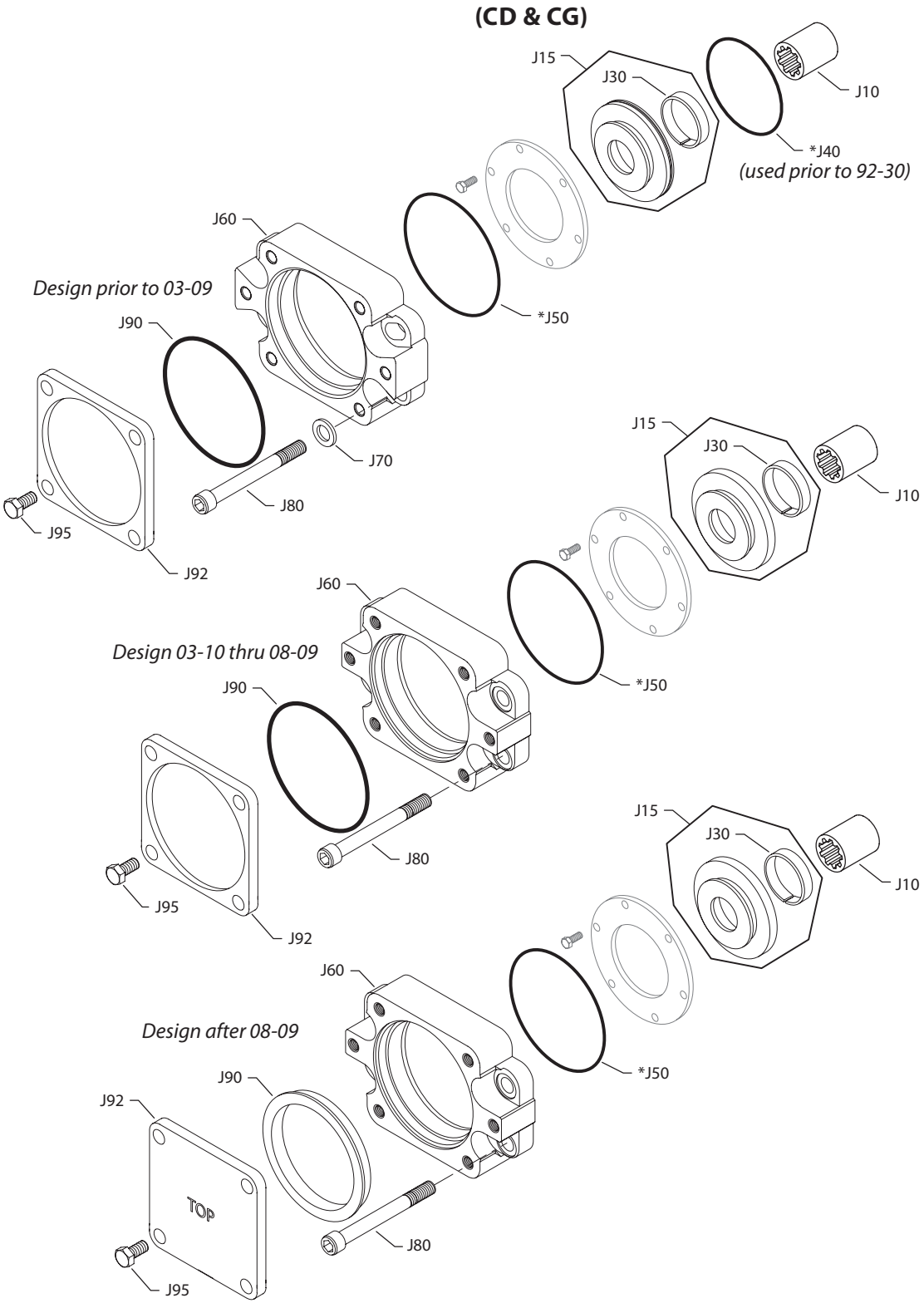
Order code: BN

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
J10	98-24		8000076	Coupling, 13 tooth	1
J50	98-24		056739 (9004104-1580)	O-ring	1
J60	98-24		8000771	Flange adapter, metric (*SB-2010-005* on page 179)	1
J70	98-24	10-49	506753	Washer (*SB-2010-005* on page 179)	4
J80	98-24		507585	Screw, M12 x 110	4
J90	10-50		9004104-1540	O-ring	1
J90	98-24	10-49	726935 (9004104-0450)	O-ring (*SB-2010-005* on page 179)	1
J92	98-24		4460370	Cover plate	1
J95	98-24		370320	Screw	2

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Auxiliary mounting CD-CG

Parts configuration



* included in control seal kit Q210

Order code: CD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	87-02		11053340	Coupling, 14 tooth	1
J15	87-02		8800832	Cover assembly, CW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J15	87-02		8800833	Cover assembly, CCW (*SB-1993-001* on page 147 & *SB-2005-011* on page 171)	1
J30	87-02		8700008	Bushing	1
J40	87-02	92-15	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8000740	Flange adapter (*SB-2002-050* on page 168 & *SB-2007-051* on page 174)	1
J70	87-02	03-12	5000602	Washer (*SB-2002-050* on page 168)	4
J80	87-02		324152 (9007314-1221)	Screw, M12 x 120	4
J90	08-10		11081805	C pad seal	1
J90	87-02	08-09	719179 (9004100-0480)	O-ring (*SB-2007-051* on page 174)	1
J92	08-10		8801060	Cover plate	1
J92	87-02	08-09	8800406	Cover plate (*SB-2007-051* on page 174)	1
J95	87-02		9007200-5021	Screw	4

Order code: CG

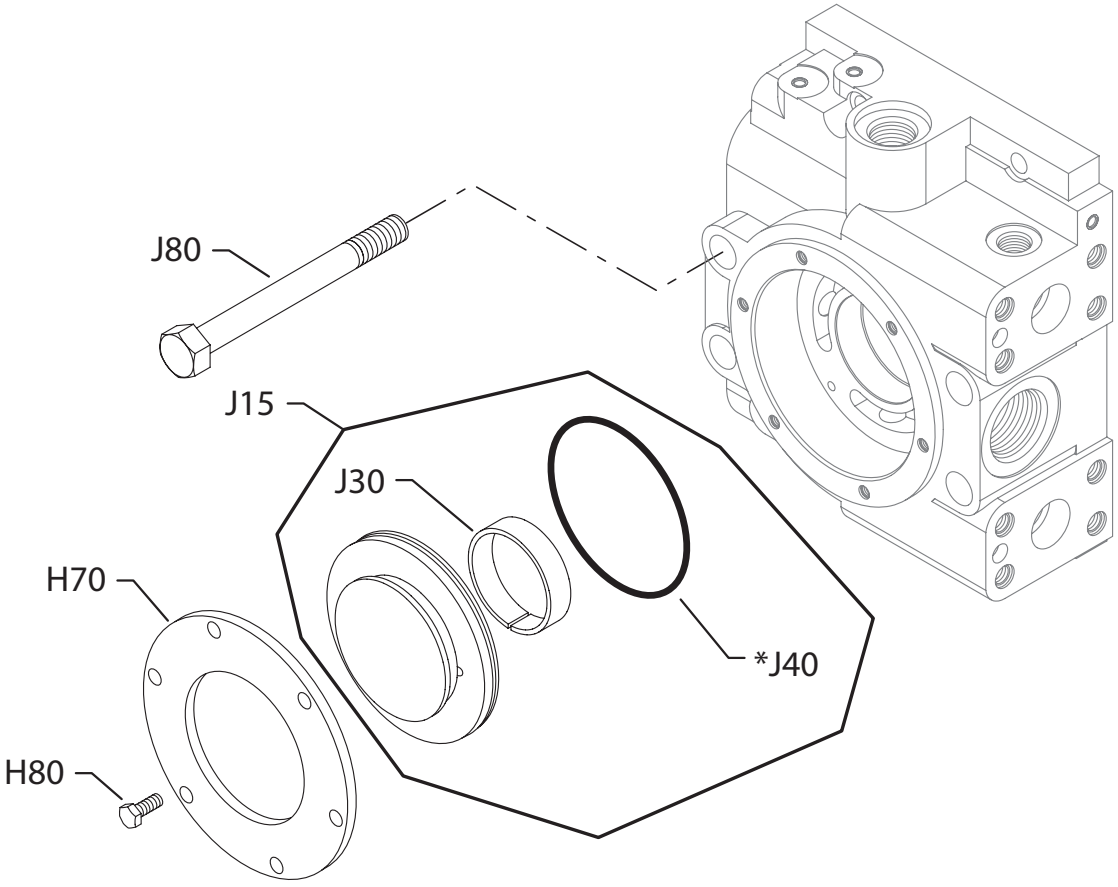
J10	04-44		11053343	Coupling, 15 tooth	1
J15	04-44		8800832	Cover assembly, CW (*SB-2005-011* on page 171)	1
J15	04-44		8800833	Cover assembly, CCW (*SB-2005-011* on page 171)	1
J30	04-44		8700008	Bushing	1
J50	04-44		056739 (9004104-1580)	O-ring	1
J60	04-44		8000740	Flange adapter (*SB-2007-051* on page 174)	1
J80	04-44		324152 (9007314-1221)	Screw, M12 x 120	4
J90	08-10		11081805	C pad seal	1
J90	04-44	08-10	719179 (9004100-0480)	O-ring (*SB-2007-051* on page 174)	1
J92	08-10		8801060	Cover plate	1
J92	04-44	08-09	8800406	Cover plate (*SB-2007-051* on page 174)	1
J95	04-44		9007200-5021	Screw	4

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to BLN-10107 in the appendix.

Auxiliary mounting NN

Parts configuration

(NN)



Generic end cap used to show part location only.

* included in control seal kit Q210

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Order code: NN

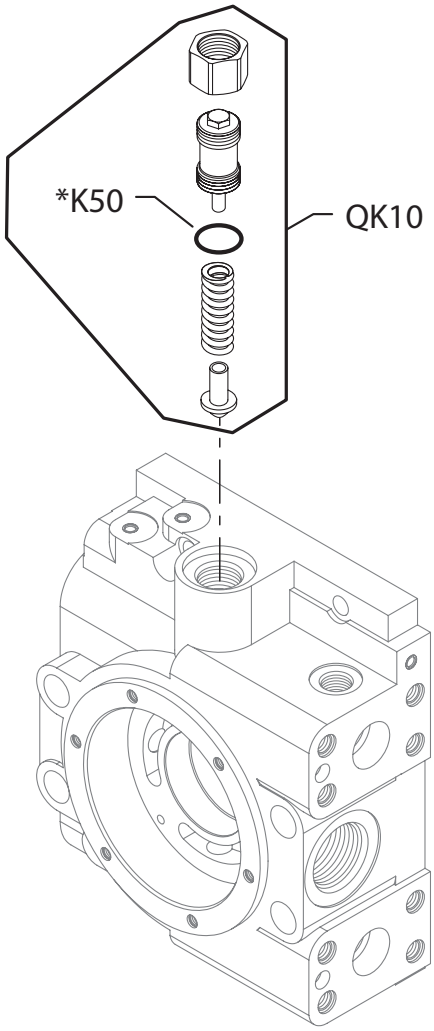
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
J15	87-02		8800834	Cover assembly, (*SB-1993-001* on page 147)	1
J30	87-02		8700008	Bushing	1
J40	87-02		680892 (9004104-0440)	O-ring	1
J80	87-02		324202 (9007210-1219)	Screw, M12 x 10	4

Charge pressure setting

Charge pressure setting 00-XX

Parts configuration

(00-42 & XX)



Generic end cap used to show part location only.

* included in control seal kit Q210

Order code: 00-30

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
QK10	87-42		8002K000-A	Charge relief valve kit, 10-30 bar (*SB-1989-002* on page 137)	1
K50	87-42		001149 (9004201-6200)	O-ring (*SB-1989-002* on page 137)	1

Order code: 32-42

QK10	94-13		8510269	Charge relief valve kit, 30-42 bar	1
K50	94-13		001149 (9004201-6200)	O-ring	1

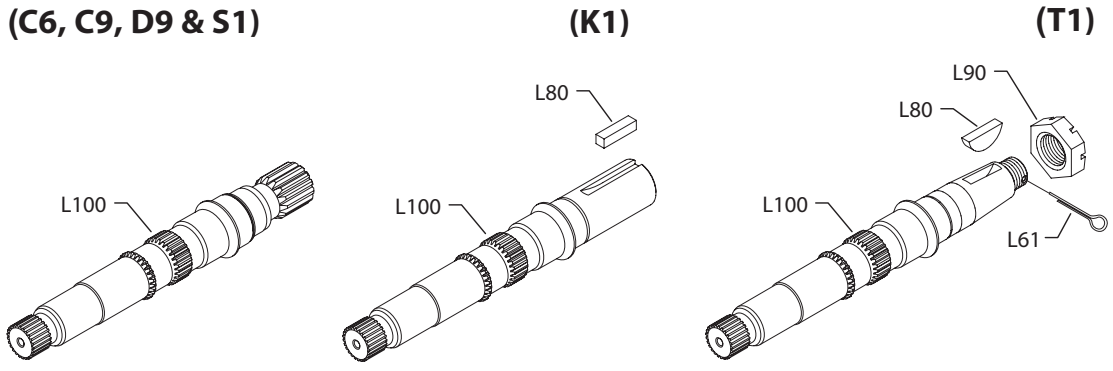
Order code: XX

QK10	96-23		11086335	Charge relief valve kit, viton	1
K50	96-23		012559 (9004202-6200)	O-ring, viton	1

Shaft

Shaft C6-T1

Parts configuration



Order code: C6

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
L100	87-02		8000079	Shaft, 21 tooth spline	1

Order code: C9

L100	96-10		503396	Shaft, 21 tooth spline	1

Order code: D9

L100	96-40		500069-S	Shaft, 21 tooth spline, M10 threaded tapped hole	1

Order code: K1

L80	87-36		9003261-3124	Key	1
L100	87-36		8000175	Shaft, straight key, 1.375" diameter	1

Order code: S1

L100	87-02		8000112	Shaft, 14 tooth spline	1

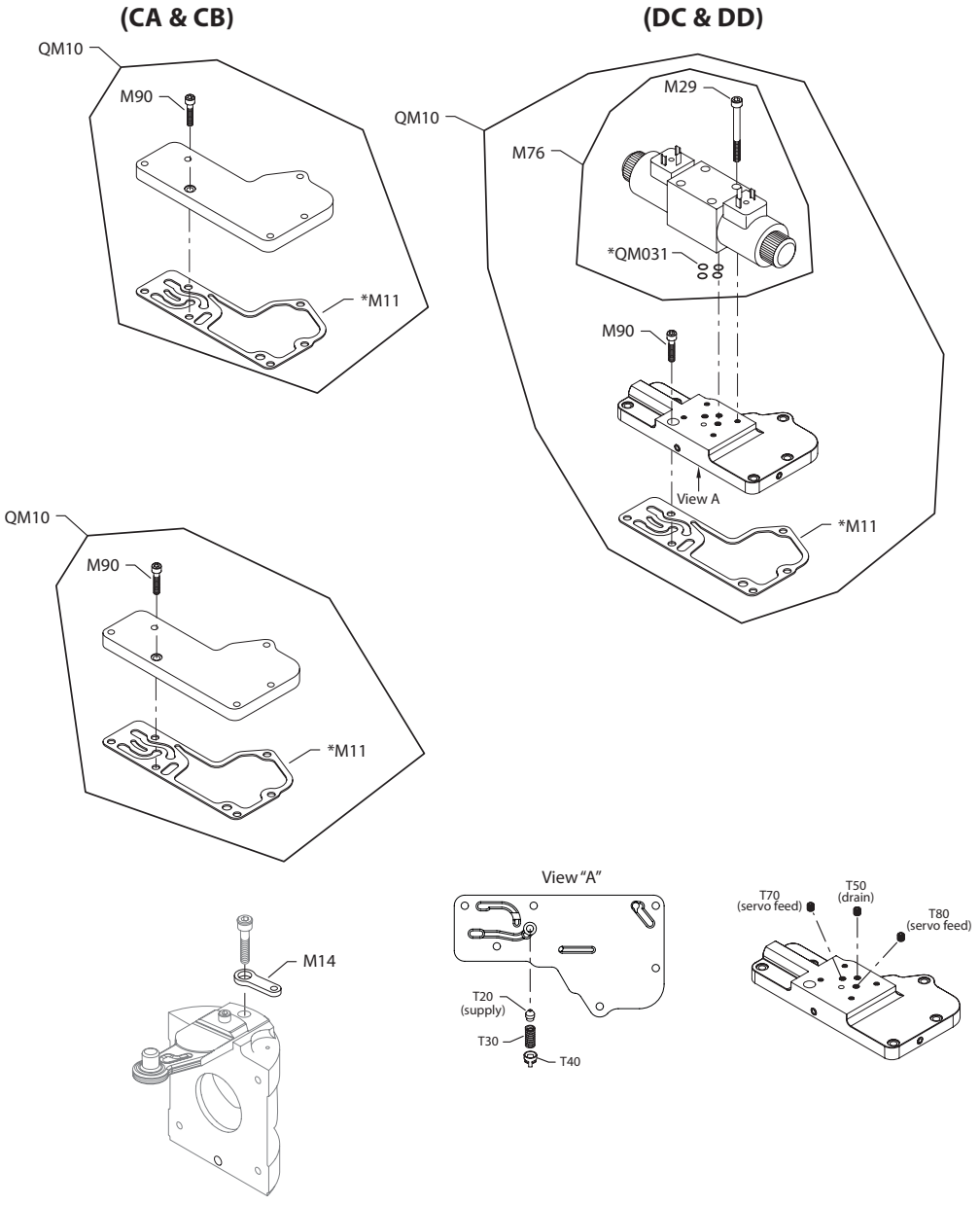
Order code: T1

L61	87-34		716779 (9004600-1230)	Cotter pin	1
L80	87-34		9003310-3724	Key	1
L90	87-34		5000606	Slotted nut	1
L100	87-34		8000166	Shaft, tapered	1

Controls

Control CA-DD

Parts configuration



Generic swashplate used to show link location only. Possible orifice locations shown.

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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Order code: CA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800520	Control gasket	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8002M0CA-A	Control cover plate kit	1

Order code: CB

M11	87-02		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	87-02	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8002M0CA-A	Control cover plate kit	1

Order code: DC

M11	87-02		8800520	Control gasket	1
M29	87-02		035592	Screw	4
M76	87-02		687103	Solenoid valve, 12 volt	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8002M0DC-A	3-position control kit, 12 volt	1
QM031	87-02		11099647	Valve seal kit	1
QM210	87-02		11096161	Control seal kit	1

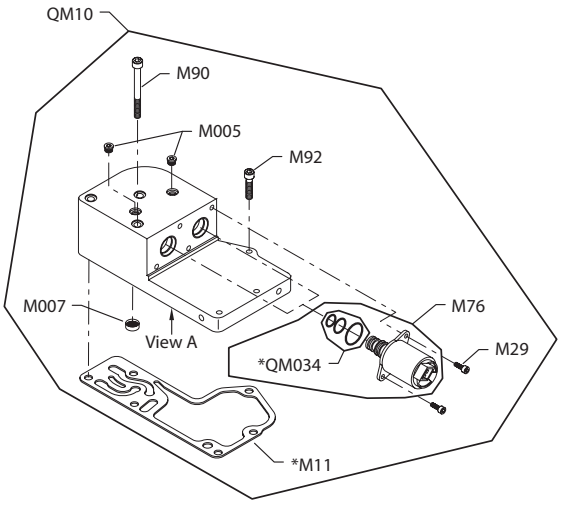
Order code: DD

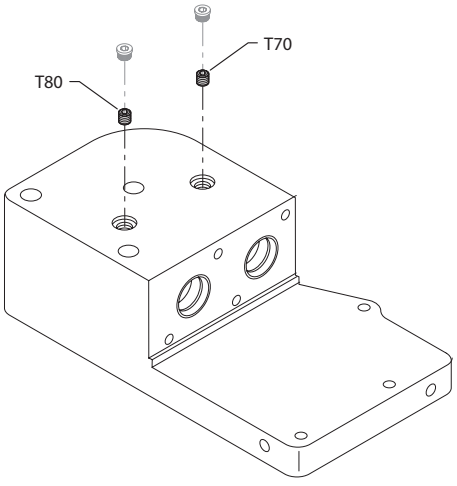
M11	87-02		8800520	Control gasket	1
M29	87-02		035592	Screw	4
M76	87-02		549907/P	Solenoid valve, 24 volt	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8510314	3-position control kit, 24 volt	1
QM031	87-02		11099647	Valve seal kit	1
QM210	87-02		11096161	Control seal kit	1

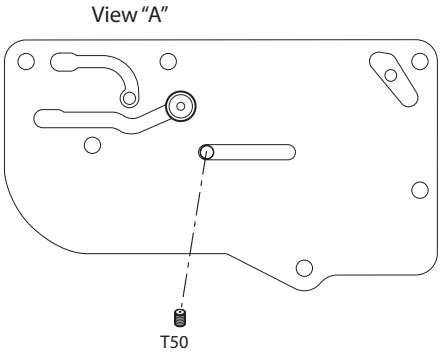
Control FA-FD

Parts configuration

(FA, FB, FC & FD)







Possible orifice locations

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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Order code: FA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	98-14		8800520	Control gasket	1
M29	98-14		067694	Screw	4
M76	98-14		518080	Solenoid valve, 12 volt, 25 bar	2
M90	98-14		9007314-0614	Screw	3
M92	98-14		041160 (9007314-0605)	Screw	3
M005	98-14		11040532	Plug assembly	2
M007	98-14		K00775	Filter screen	1
QM10	98-14		11067537	NFPE control, 12 volt, 25 bar	1
QM034	98-14		11099849	Valve seal kit	2
QM210	98-14		11100027	Control seal kit	1

Order code: FB

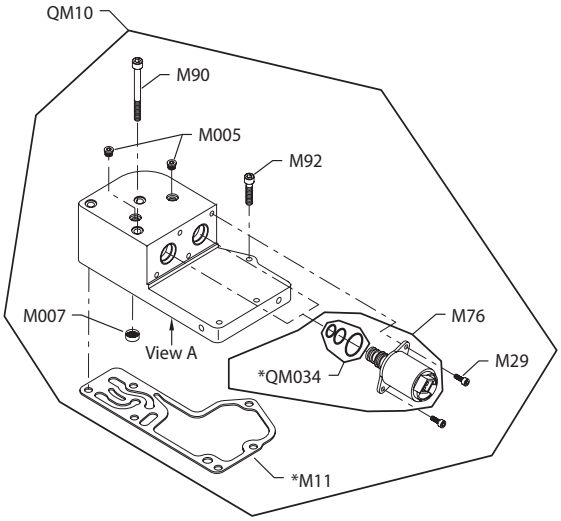
M11	98-14		8800520	Control gasket	1
M29	98-14		067694	Screw	4
M76	98-14		518081	Solenoid valve, 24 volt, 25 bar	2
M90	98-14		9007314-0614	Screw	3
M92	98-14		041160 (9007314-0605)	Screw	3
M005	98-14		11040532	Plug assembly	2
M007	98-14		K00775	Filter screen	1
QM10	98-14		11067538	NFPE control, 24 volt, 25 bar	1
QM034	98-14		11099849	Valve seal kit	2
QM210	98-14		11100027	Control seal kit	1

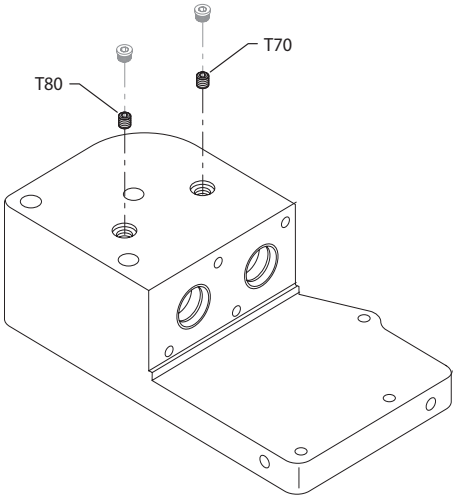
Order code: FC

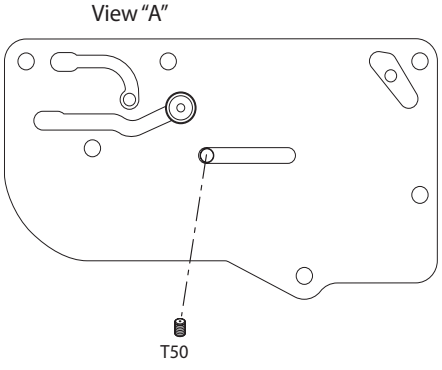
M11	98-14		8800520	Control gasket	1
M29	98-14		067694	Screw	4
M76	98-14		521709	Solenoid valve, 12 volt, 32 bar	2
M90	98-14		9007314-0614	Screw	3
M92	98-14		041160 (9007314-0605)	Screw	3
M005	98-14		11040532	Plug assembly	2
M007	98-14		K00775	Filter screen	1
QM10	98-14		8510220	NFPE control, 12 volt, 32 bar	1
QM034	98-14		11099849	Valve seal kit	2
QM210	98-14		11100027	Control seal kit	1

Parts configuration

(FA, FB, FC & FD)







Possible orifice locations

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

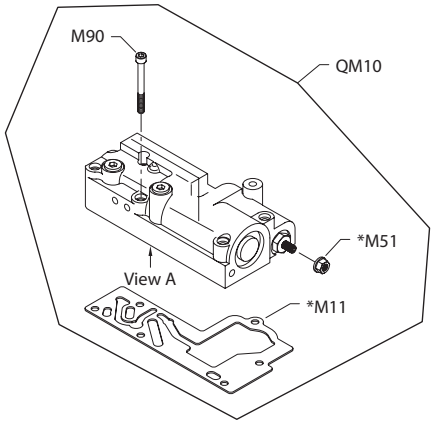
Order code: FD

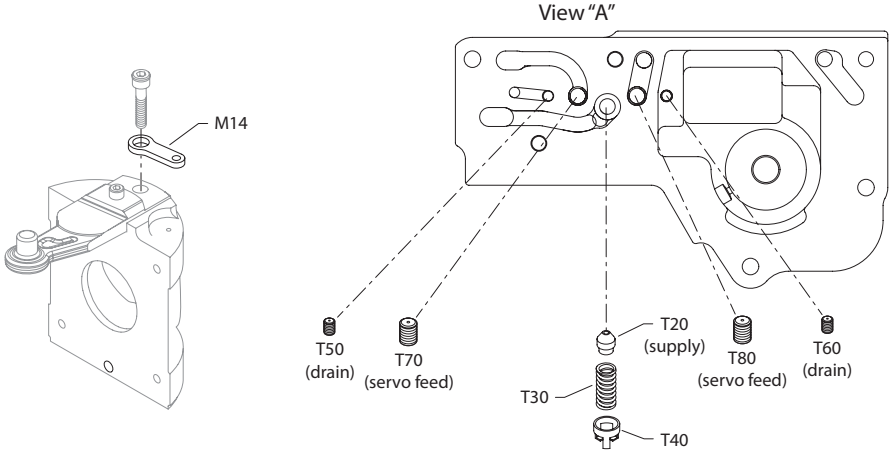
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	98-14		8800520	Control gasket	1
M29	98-14		067694	Screw	4
M76	98-14		517214	Solenoid valve, 24 volt, 32 bar	2
M90	98-14		9007314-0614	Screw	3
M92	98-14		041160 (9007314-0605)	Screw	3
M005	98-14		11040532	Plug assembly	2
M007	98-14		K00775	Filter screen	1
QM10	98-14		8510380	NFPE control, 24 volt, 32 bar	1
QM034	98-14		11099849	Valve seal kit	2
QM210	98-14		11100027	Control seal kit	1

Control HF-HK

Parts configuration

(HF, HK)





Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control.

* included in control seal kit QM210

Order code: HF

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	92-15		K11419	Control gasket (*SB-1993-002* on page 149)	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	92-15	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M51	92-15		505412 (9003509-0008)	Seal nut	1
M90	92-15		692889 (9007314-0611)	Screw	6
QM10	92-15		8002M0HF-A	HDC kit, 3-11 bar	1
QM210	92-15		11096267	Control seal kit	1

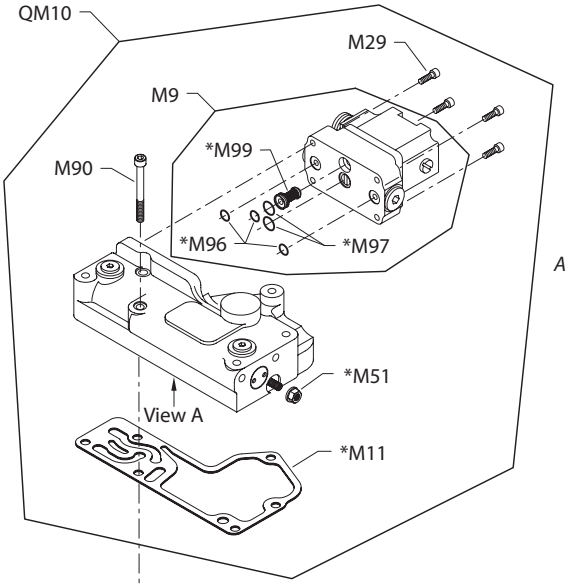
Order code: HK

M11	92-15		K11419	Control gasket (*SB-1993-002* on page 149)	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	92-15	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M51	92-15		505412 (9003509-0008)	Seal nut	1
M90	92-15		692889 (9007314-0611)	Screw	6
QM10	92-15		8002M0HK-A	HDC kit, 1-11 bar	1
QM210	92-15		11096267	Control seal kit	1

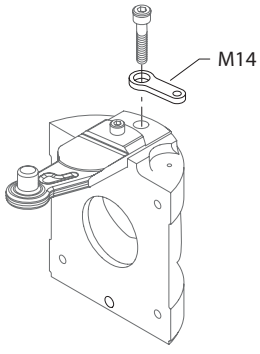
Control KA

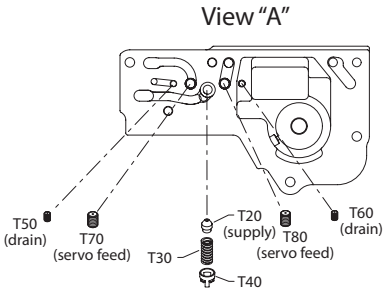
Parts configuration

(KA)



A generic PCP is shown.





Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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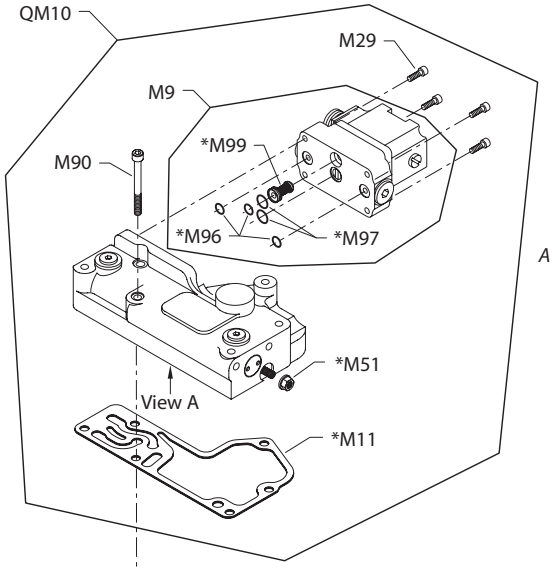
Order code: KA

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M9	95-26		MCV116G4201	PCP, MS connector	1
M11	95-26		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	95-26	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M29	95-26		K07067	Screw	4
M51	95-26		505412 (9003509-0008)	Seal nut	1
M90	95-26		692889 (9007314-0611)	Screw	6
M96	95-26		011296 (9004105-0120)	O-ring	3
M97	95-26		9004105-0130	O-ring	1
M99	95-26		K08572	Filter assembly	1
QM10	95-26		8510113	EDC3 kit, MS connector, dual coil	1
QM210	95-26		11096131	Control seal kit	1

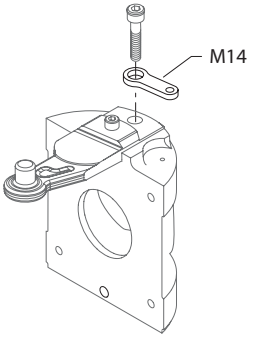
Control KN-KT

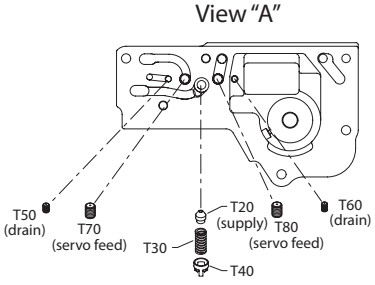
Parts configuration

(KN, KP, KT)



A generic PCP is shown.





Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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Order code: KN

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	95-51		MCV116A3501	PCP, MS connector	1
M11	95-51		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	95-51	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M29	95-51		K07067	Screw	4
M51	95-51		505412 (9003509-0008)	Seal nut	1
M90	95-51		692889 (9007314-0611)	Screw	6
M96	95-51		011296 (9004105-0120)	O-ring	3
M97	95-51		9004105-0130	O-ring	1
M99	95-51		K08572	Filter assembly	1
QM10	95-51		8510381	EDC3 kit, MS connector	1
QM210	95-51		11096131	Control seal kit	1

Order code: KP

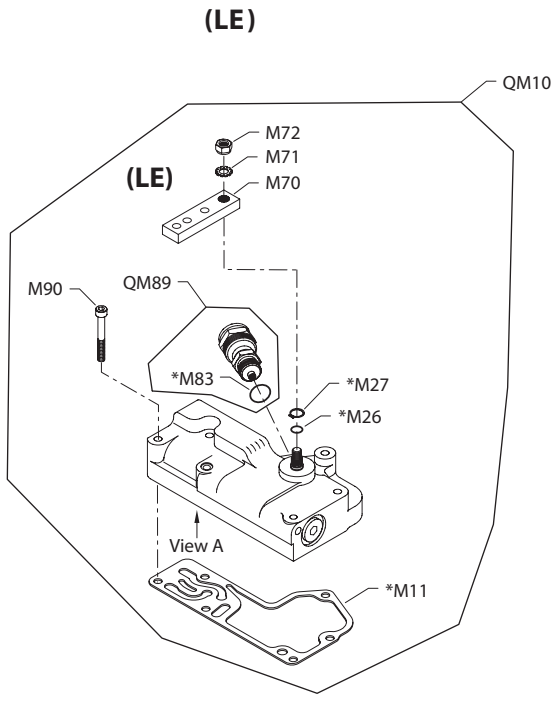
M9	95-26		MCV116G4204	PCP, Weather-pack connector	1
M11	95-26		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	95-26	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M29	95-26		K07067	Screw	4
M51	95-26		505412 (9003509-0008)	Seal nut	1
M90	95-26		692889 (9007314-0611)	Screw	6
M96	95-26		011296 (9004105-0120)	O-ring	3
M97	95-26		9004105-0130	O-ring	1
M99	95-26		K08572	Filter assembly	1
QM10	95-26		8510114	EDC3 kit, Weather-pack connector, dual coil	1
QM210	95-26		11096131	Control seal kit	1

Order code: KT

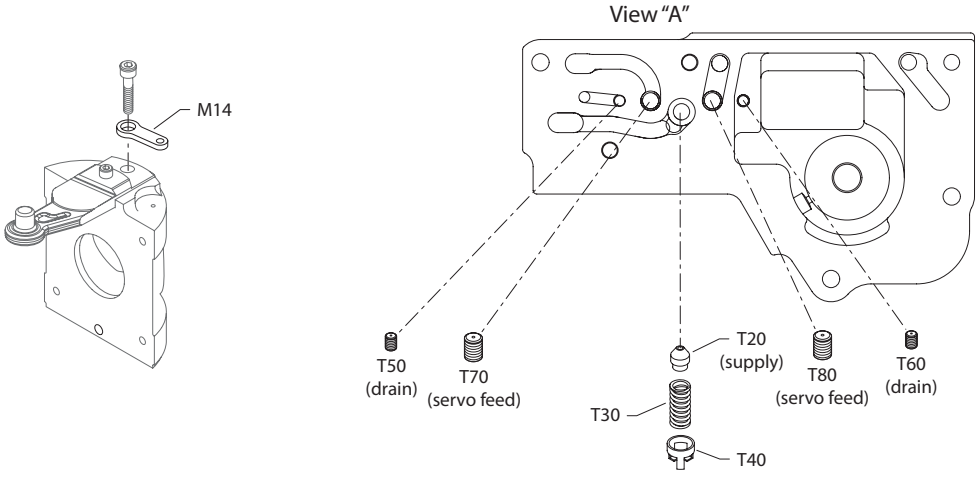
M9	03-10		MCV116G4214	PCP, Deutsch connector, dual coil	1
M11	03-10		8800520	Control gasket	1
M14	03-10		11070305	Feedback link	1
M29	03-10		K07067	Screw	4
M51	03-10		505412 (9003509-0008)	Seal nut	1
M90	03-10		692889 (9007314-0611)	Screw	6
M96	03-10		011296 (9004105-0120)	O-ring	3
M97	03-10		9004105-0130	O-ring	1
M99	03-10		K08572	Filter assembly	1
QM10	03-10		8510317	EDC3 kit, Deutsch connector, dual coil	1
QM210	03-10		11096131	Control seal kit	1

Control LE

Parts configuration



A generic neutral startswi tch is shown.



Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

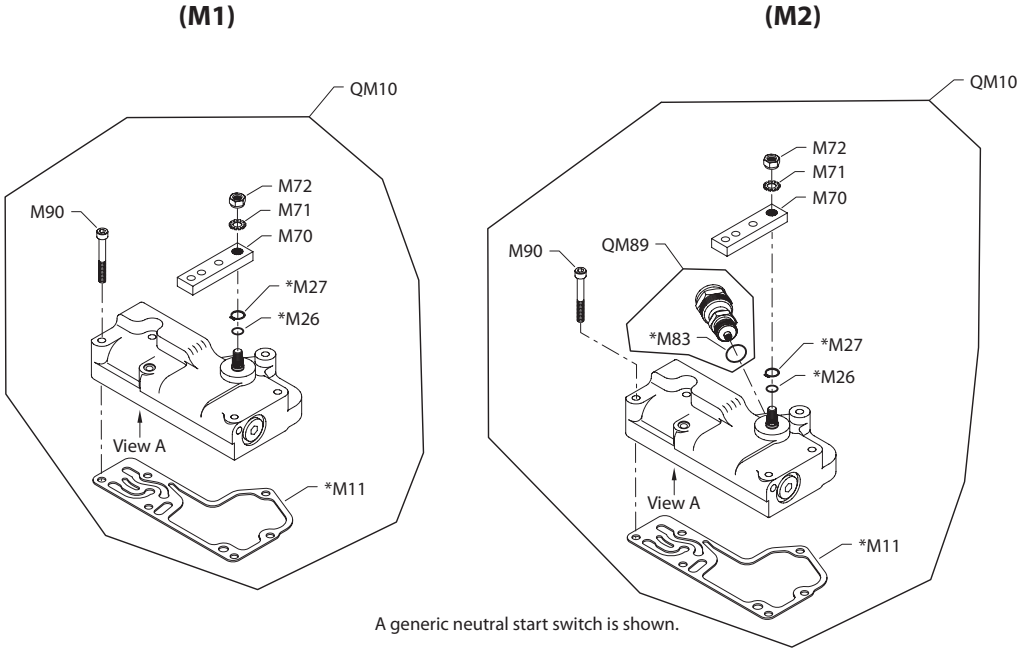
* included in control seal kit QM210

Order code: LE

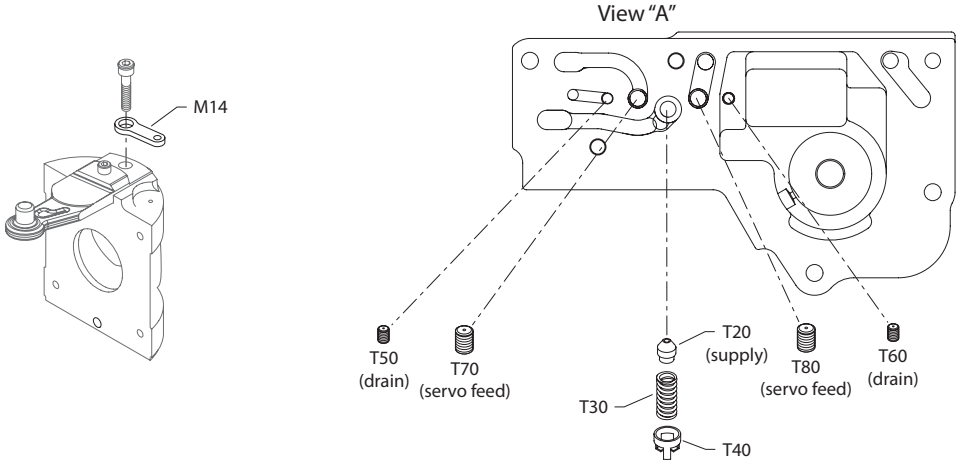
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	01-27		8800520	Control gasket	1
M14	01-27		1107035	Feedback link	1
M26	01-27		144725 (9004105-0110)	O-ring	1
M27	01-27		9006300-0044	Retaining ring	1
M70	01-27		9800916	Control handle	1
M71	01-27		9009660-3100	Toothlock washer	1
M72	01-27		040642 (9003513-0800)	Nut	1
M83	01-27		001123 (9004201-5000)	O-ring	1
M90	01-27		692889 (9007314-0611)	Screw	6
QM10	01-27		8510301	MDC kit, high force neutral start switch	1
QM89	01-27		8510316	Neutral start switch kit, high force, Weather-pack	1
QM210	01-27		11096275	Control seal kit	1

Control M1-M2

Parts configuration



A generic neutral start switch is shown.



Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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Order code: M1

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	95-37		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	95-37	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M26	95-37		144725 (9004105-0110)	O-ring	1
M27	95-37		9006300-0044	Retaining ring	1
M70	95-37		9800916	Control handle	1
M71	95-37		9009660-3100	Toothlock washer	1
M72	95-37		040642 (9003513-0800)	Nut	1
M90	95-37		692889 (9007314-0611)	Screw	6
QM10	95-37		8510109	MDC kit, brass sleeve	1
QM210	95-37		11096275	Control seal kit	1

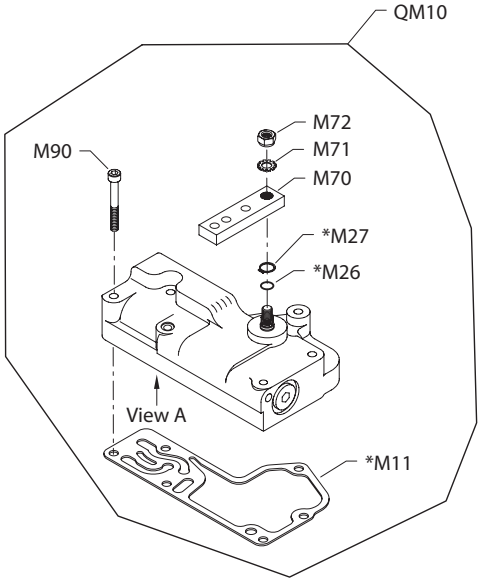
Order code: M2

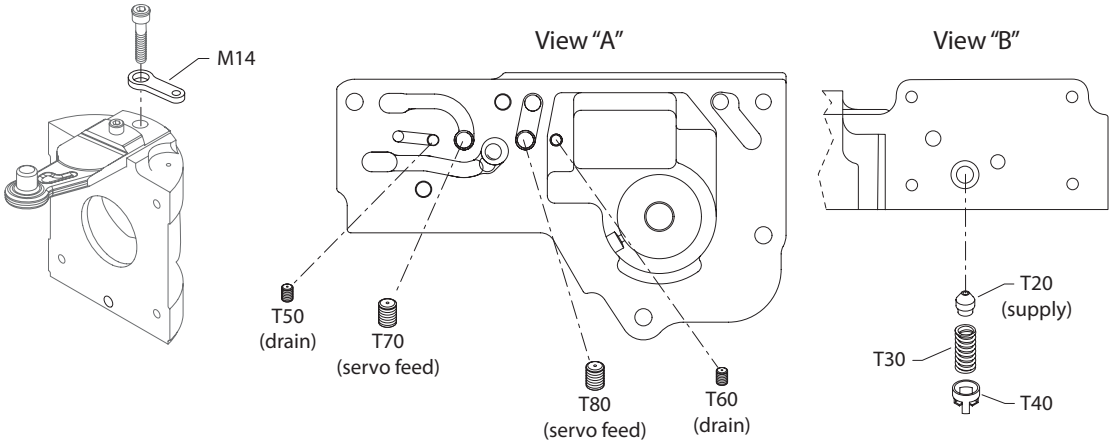
M11	95-37		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	95-37	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M26	95-37		144725 (9004105-0110)	O-ring	1
M27	95-37		9006300-0044	Retaining ring	1
M70	95-37		9800916	Control handle	1
M71	95-37		9009660-3100	Toothlock washer	1
M72	95-37		040642 (9003513-0800)	Nut	1
M83	95-37		001123 (9004201-5000)	O-ring	1
M90	95-37		692889 (9007314-0611)	Screw	6
QM10	95-37		8510110	MDC kit, with neutral start switch, brass sleeve	1
QM89	95-37		80020S40	Neutral start switch kit	1
QM210	95-37		11096275	Control seal kit	1

Control MA

Parts configuration

(MA)





Possible orifice locations

Generic swashplate used to show link location only.

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

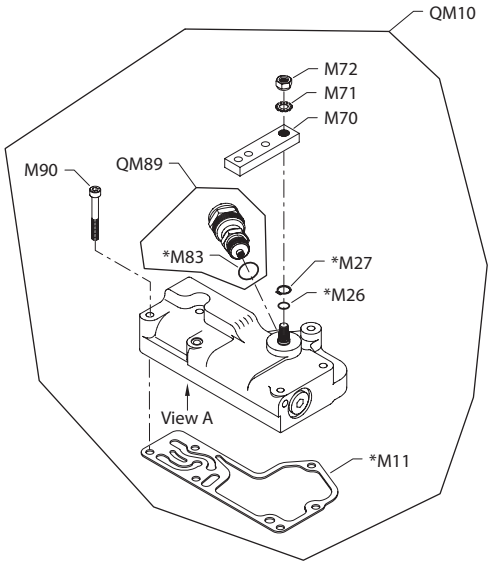
Order code: MA

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	87-02		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	87-02	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		9006300-0044	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		040642 (9003513-0800)	Nut	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8002M0MA-A	MDC kit	1
QM210	87-02		11096275	Control seal kit	1

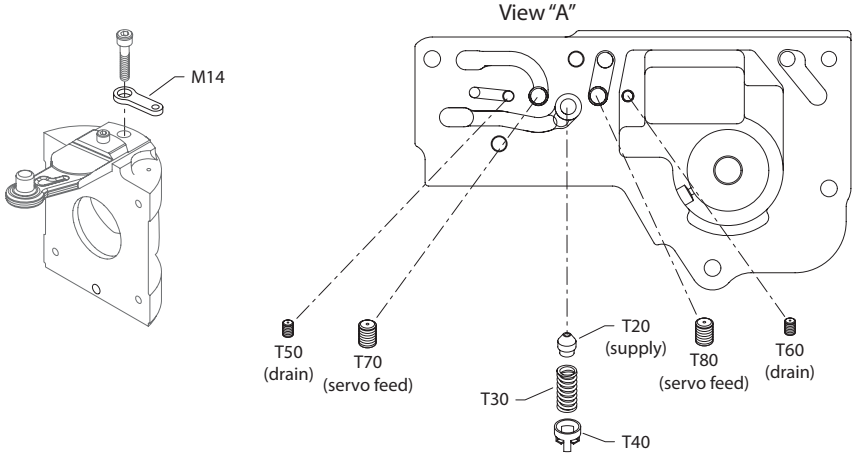
Control MS

Parts configuration

(MS)



A generic neutral start switch is shown.



Possible orifice locations

Generic swashplate used to show link location only

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

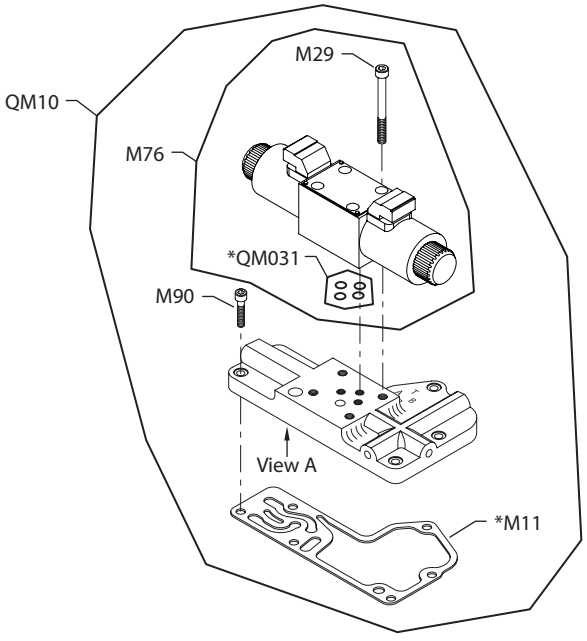
Order code: MS

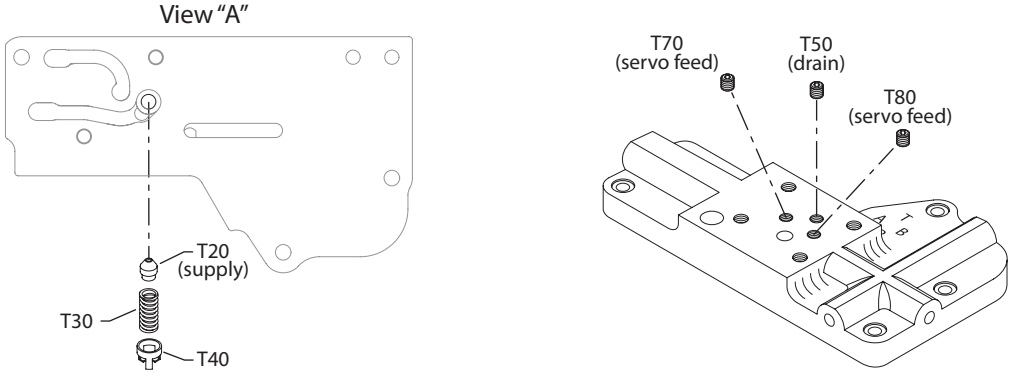
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	94-41		8800520	Control gasket	1
M14	96-40		11070305	Feedback link (*SB-1999-019* on page 164, *SB-2013-011* on page 181)	1
M14	94-41	96-39	8000481	Feedback link (*SB-1996-009* on page 158)	1
M26	94-41		144725 (9004105-0110)	O-ring	1
M27	94-41		9006300-0044	Retaining ring	1
M70	94-41		9800916	Control handle	1
M71	94-41		9009660-3100	Toothlock washer	1
M72	94-41		040642 (9003513-0800)	Nut	1
M83	94-41		001123 (9004201-5000)	O-ring	1
M90	94-41		692889 (9007314-0611)	Screw	6
QM10	94-41		8510127	MDC kit, high force nss	1
QM89	94-41		8510027	Neutral start switch kit, high force	1
QM210	94-41		11096275	Control seal kit	1

Control SC

Parts configuration

(SC)





Possible orifice locations

All orifices present in the original control must be transferred to the replacement control. If replacement control contains pre-installed orifices, remove and discard them before transferring existing orifices to new control.

* included in control seal kit QM210

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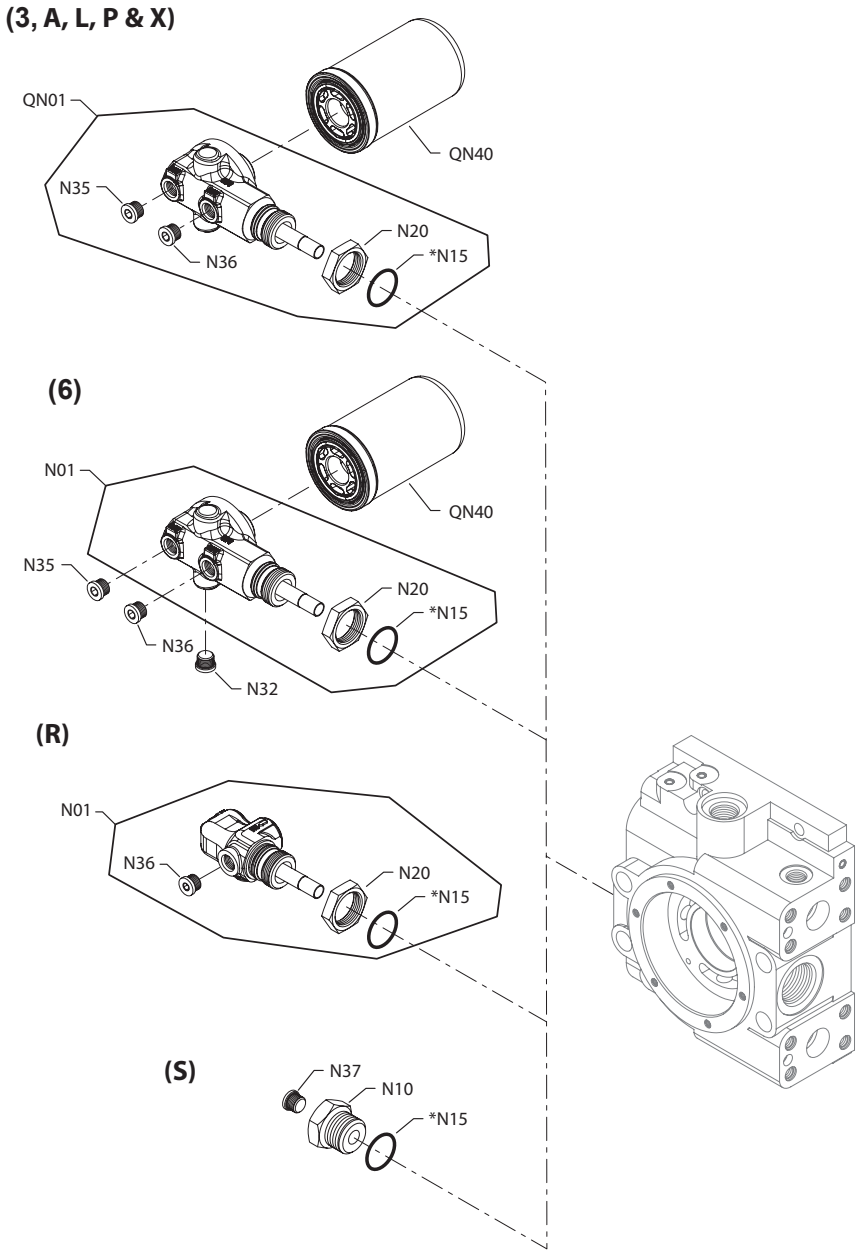
Order code: SC

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M11	99-11		8800520	Gasket	1
M29	99-11		035592	Screw	4
M76	99-11		509848/P	Solenoid valve	1
M90	99-11		693341 (9007314-0606)	Screw	6
QM10	99-11		8510385	Control kit, 3-position, 12 volt	1
QM031	99-11		11099647	Valve seal kit	1
QM210	99-11		11096161	Control seal kit	1

Filtration

Filtration 3-X

Parts configuration



Generic end cap used to part location only.

* included in overhaul seal kit Q210

Order code: 3 & X

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N15	98-14		001172 (9004201-9000)	O-ring	1
N20	98-14		11049997	Nut	1
N35	98-14		140644	Plug assembly	1
N36	98-14		140644	Plug assembly	1
QN01	98-14		11145249	Filter manifold kit	1
QN40	98-14		11004919	Filter, long	1

Order code: 6

N01	00-01		11060345	Filter manifold assembly	1
N15	00-01		001172 (9004201-9000)	O-ring	1
N20	00-01		11049997	Nut	1
N32	00-01		140644	Plug assembly	1
N35	00-01		140644	Plug assembly	1
N36	00-01		140644	Plug assembly	1
QN40	00-01		11004917	Filter, short	1

Order code: A

N15	98-14		001172 (9004201-9000)	O-ring	1
N20	98-14		11049997	Nut	1
N35	98-14		140644	Plug assembly	1
N36	98-14		140644	Plug assembly	1
QN01	98-14		11145249	Filter manifold kit	1
QN40	98-14		11004917	Filter, short	1

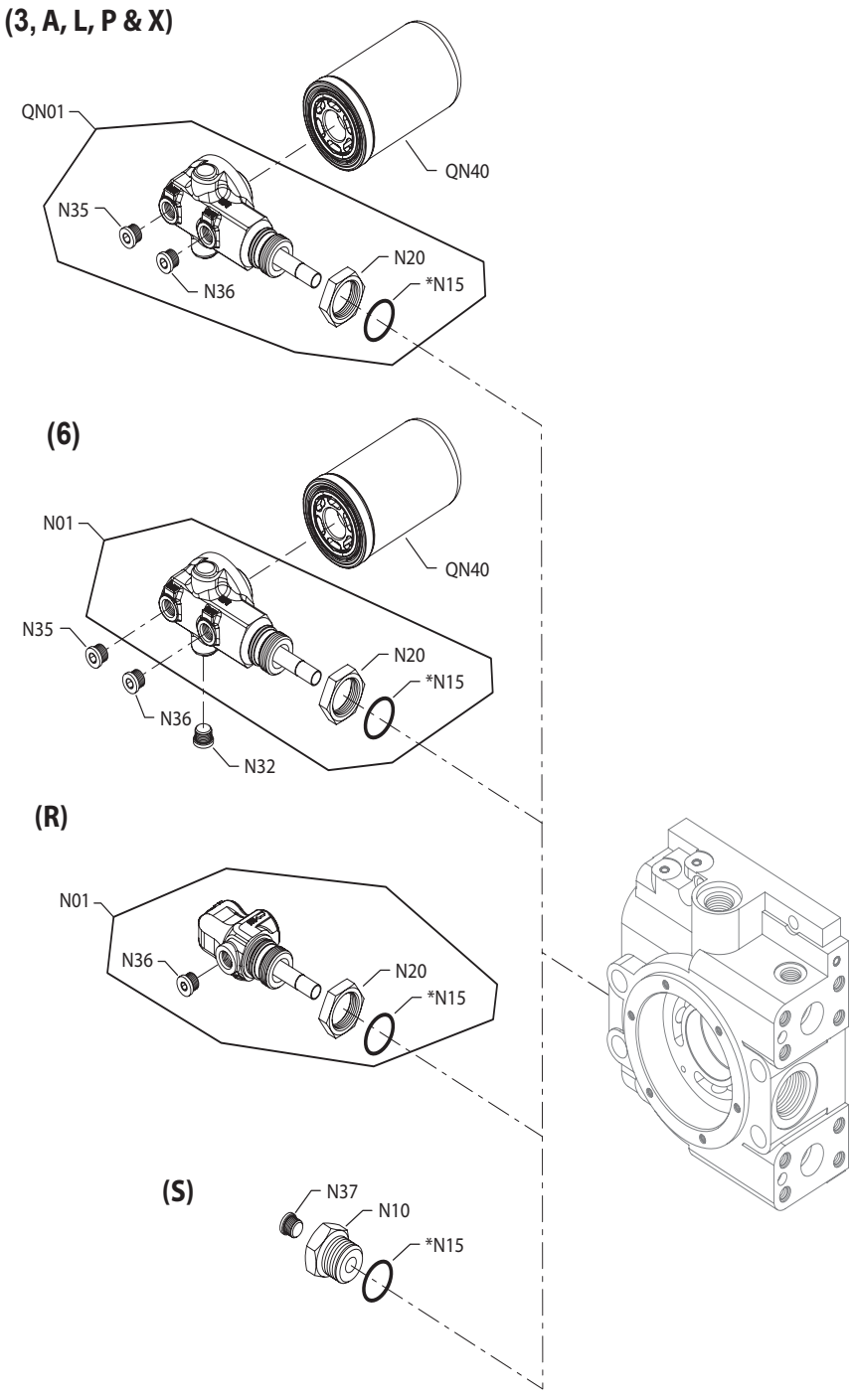
Order code: D

			None		

Order code: L

N15	87-02		001172 (9004201-9000)	O-ring	1
N20	95-18		11049997	Nut	1
N20	87-02	95-17	700492 (9002863-1600)	Nut (*SB-1994-036* on page 154)	1
N35	87-02		140644	Plug assembly	1
N36	87-02		140644	Plug assembly	1
QN01	98-14		11145249	Filter manifold kit	1
QN40	87-02		11004919	Filter, long	1

Parts configuration



Generic end cap used to part location only.

* included in overhaul seal kit Q210

Order code: P

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
N15	87-02		001172 (9004201-9000)	O-ring	1
N20	95-18		11049997	Nut	1
N20	87-02	95-17	700492 (9002863-1600)	Nut (*SB-1994-036* on page 154)	1
N35	87-02		140644	Plug assembly	1
N36	87-02		140644	Plug assembly	1
QN01	98-14		11145249	Filter manifold kit	1
QN40	87-02		11004917	Filter, short	1

Order code: R

N01	87-42		11060427	Filter manifold assembly	1
N15	87-42		001172 (9004201-9000)	O-ring	1
N20	87-42		11049997	Nut	1
N36	87-42		140644	Plug assembly	1

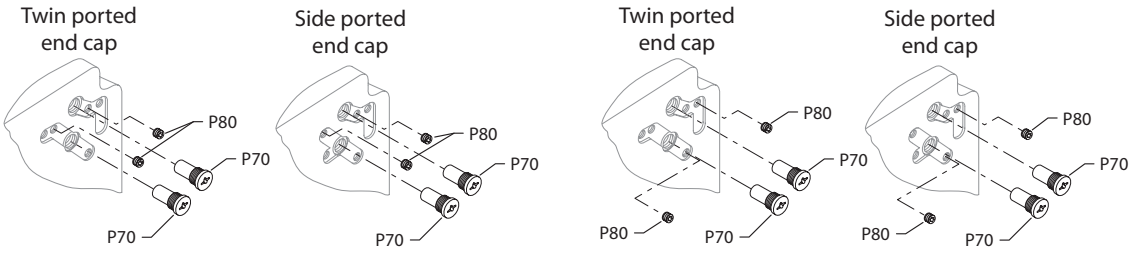
Order code: S

N10	87-42		5000230	Reducer assembly	1
N15	87-42		001172 (9004201-9000)	O-ring	1
N37	87-42		140644	Plug assembly	1

High pressure protection

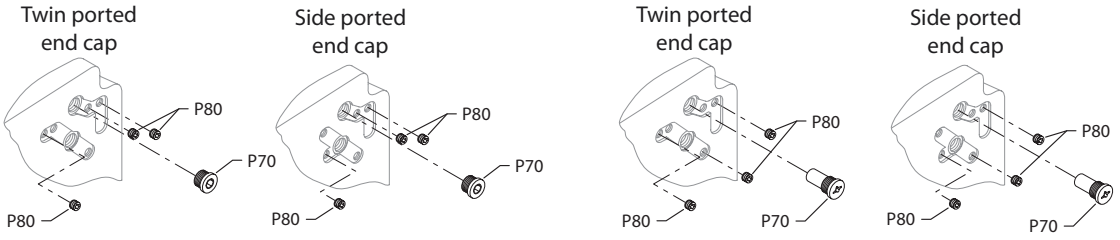
High pressure regulation 1-B

Parts configuration



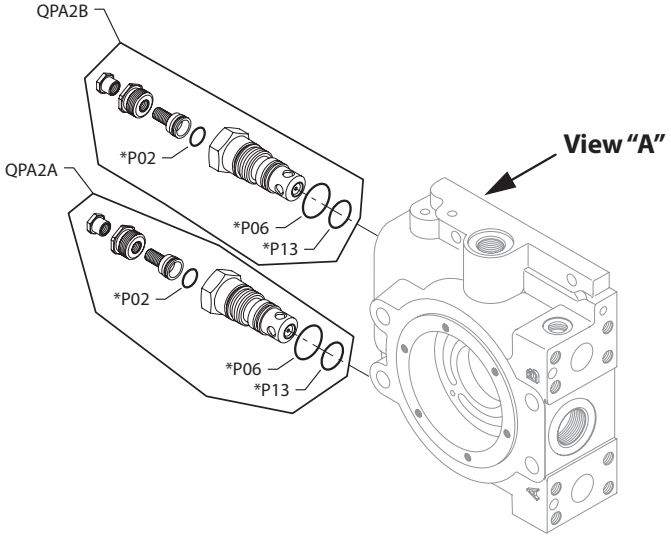
View "A" with pressure limiters, left hand rotation,
(1, 5 & 6)

View "A" with pressure limiters, right hand rotation,
(1, 5 & 6)



View "A" without pressure limiters, left/ right hand rotation
(2 & 7)

View "A" with pressure limiter port A, HPRV port B, right hand rotation
(B)



Generic end caps used to show valve location only.

* included in overhaul seal kit Q210

Order code: 1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		8800188	Check valve assembly	2
P80	87-02		9005475-0004	Special pipe plug	2
QPA2A	87-02		8510022-1	Multi-function valve kit	1
QPA2B	87-02		8510022-1	Multi-function valve kit	1

Order code: 2

P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		327007 (9005110-4400)	Plug assembly	1
P80	87-02		9005475-0004	Special pipe plug	3
QPA2A	87-02		8510022-2	Multi-function valve kit	1
QPA2B	87-02		8510022-2	Multi-function valve kit	1

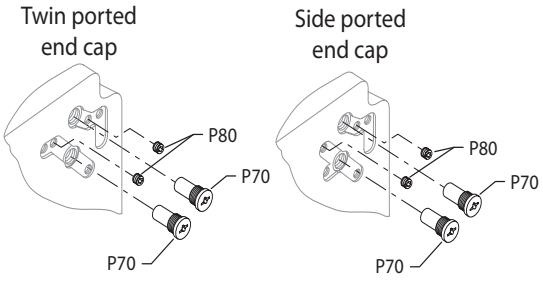
Order code: 5

P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		8800188	Check valve assembly	2
P80	87-02		9005475-0004	Special pipe plug	2
QPA2A	87-02		8510240	Multi-function valve kit	1
QPA2B	87-02		8510240	Multi-function valve kit	1

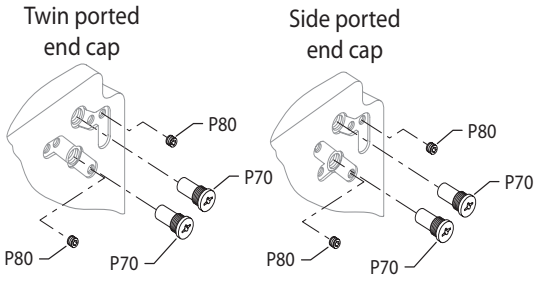
Order code: 6

P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		8800188	Check valve assembly	2
P80	87-02		9005475-0004	Special pipe plug	2
QPA2A	87-02		8510022-6	Multi-function valve kit	1
QPA2B	87-02		8510022-6	Multi-function valve kit	1

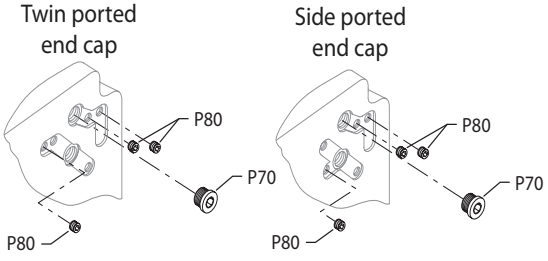
Parts configuration



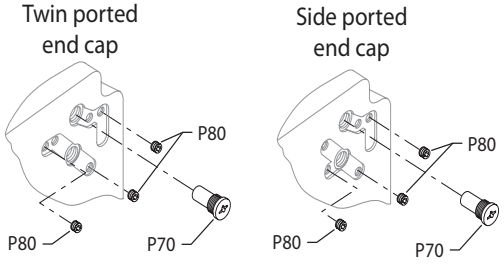
View "A" with pressure limiters, left hand rotation,
(1, 5 & 6)



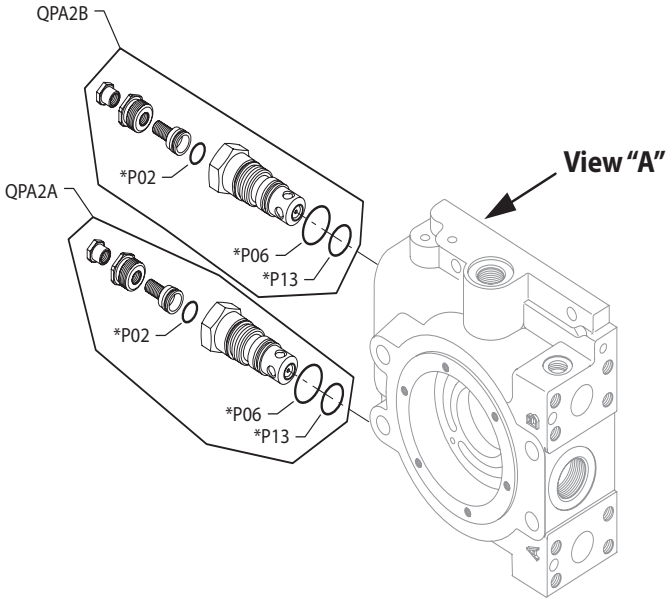
View "A" with pressure limiters, right hand rotation,
(1, 5 & 6)



View "A" without pressure limiters, left/ right hand rotation
(2 & 7)



View "A" with pressure limiter port A, HPRV port B, right hand rotation
(B)



Generic end caps used to show valve location only.

* included in overhaul seal kit Q210

Order code: 7

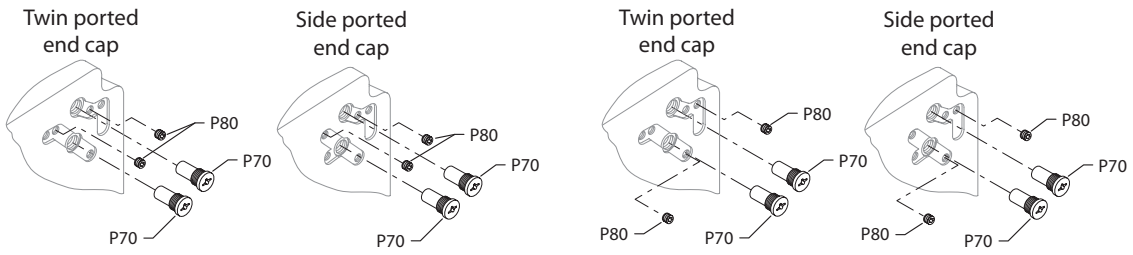
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		327007 (9005110-4400)	Plug assembly	1
P80	87-02		9005475-0004	Special pipe plug	3
QPA2A	87-02		8510022-7	Multi-function valve kit	1
QPA2B	87-02		8510022-7	Multi-function valve kit	1

Order code: B

P02	87-02		688721-S	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P70	87-02		8800188	Check valve assembly	1
P80	87-02		9005475-0004	Special pipe plug	3
QPA2A	87-02		8510022-1	Multi-function valve kit	1
QPA2B	87-02		8510022-7	Multi-function valve kit	1

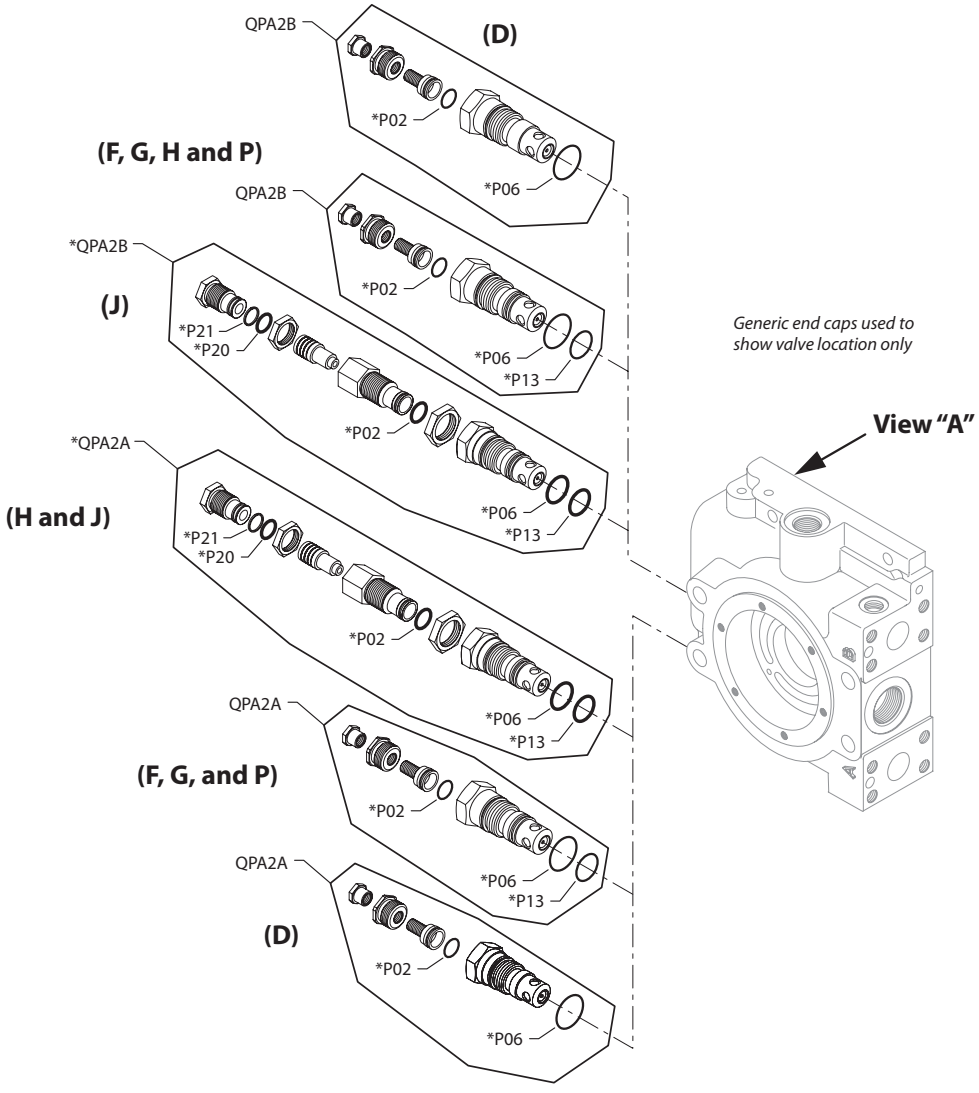
High pressure regulation D-P

Parts configuration



View "A" with pressure limiters, left hand rotation, **(F, G, H and P)**

View "A" with pressure limiters, right hand rotation, **(F, G, H and P)**



* included in overhaul seal kit Q210

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Order code: D

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	92-22		688721-S	O-ring	2
P06	92-22		071811	O-ring	2
QPA2A	92-22		8510388	Multi-function valve kit	1
QPA2B	92-22		8510388	Multi-function valve kit	1

Order code: F

P02	98-29		688721-S	O-ring	2
P06	98-29		071811	O-ring	2
P13	98-29		544742 (9004105-0190)	O-ring	2
P70	98-29		8800188	Check valve	2
P80	98-29		9005475-0004	Special plug	2
QPA2A	98-29		8510022-2	Multi-function valve kit	1
QPA2B	98-29		8510022-2	Multi-function valve kit	1

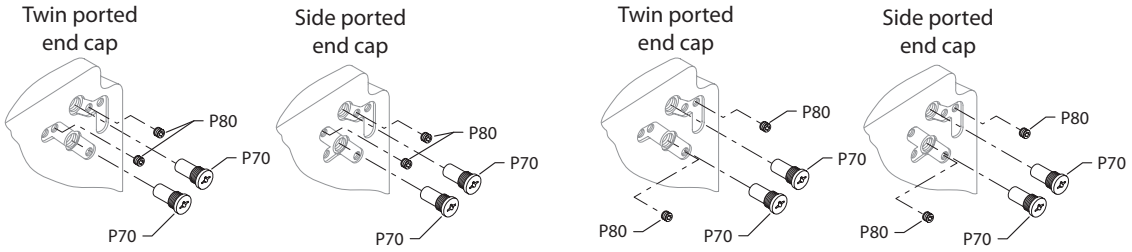
Order code: G

P02	97-06		688721-S	O-ring	2
P06	97-06		071811	O-ring	2
P13	97-06		544742 (9004105-0190)	O-ring	2
P70	97-06		8800188	Check valve	2
P80	97-06		9005475-0004	Special plug	2
QPA2A	97-06		8510196	Multi-function valve kit	1
QPA2B	97-06		8510196	Multi-function valve kit	1

Order code: H

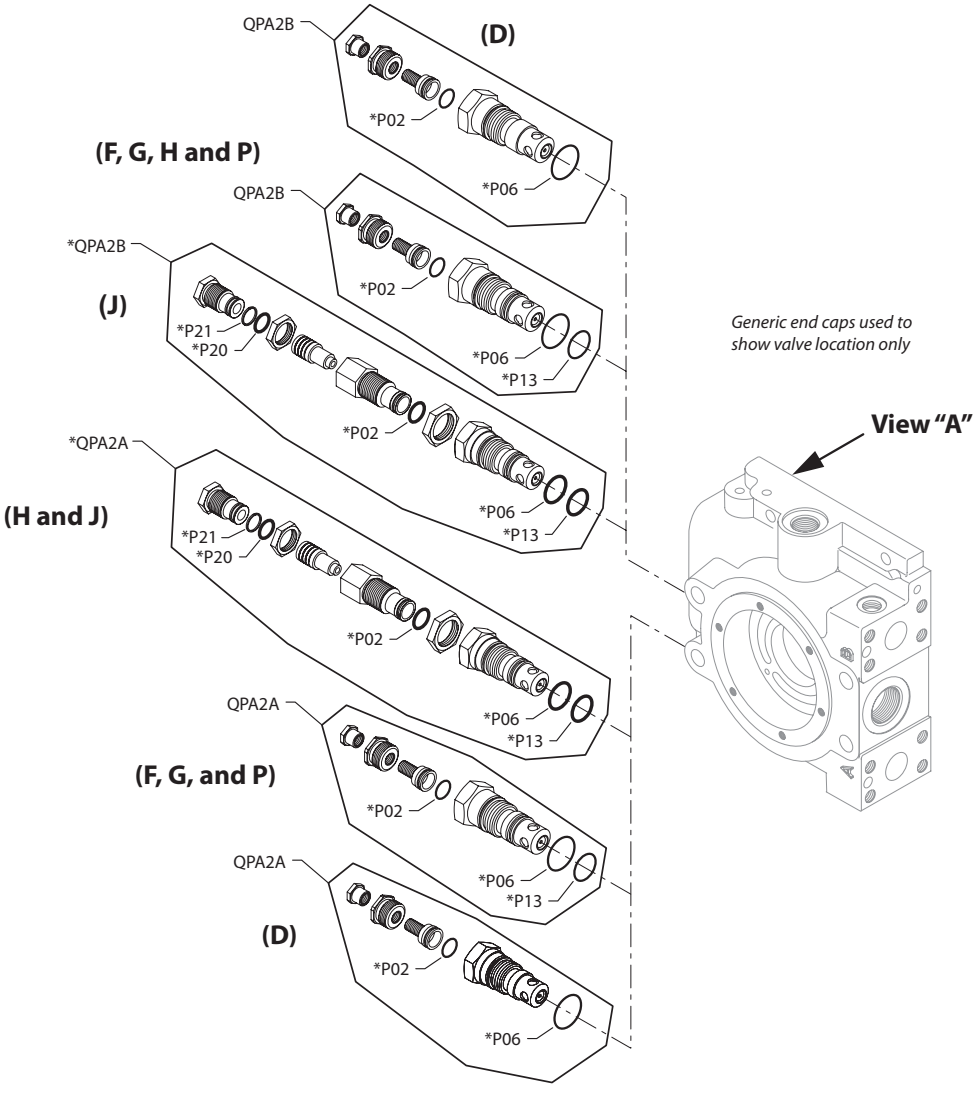
P02	97-40		688721-S	O-ring	2
P06	97-40		071811	O-ring	2
P13	97-40		544742 (9004105-0190)	O-ring	2
P20	97-40		9004105-0160	O-ring	1
P21	97-40		9006110-0160	Back up ring	1
P70	97-40		8800188	Check valve	2
P80	97-40		9005475-0004	Special plug	2
QPA2A	97-40		8510275	Multi-function valve kit, dual setting	1
QPA2B	97-40		8510022-1	Multi-function valve kit	1

Parts configuration



View "A" with pressure limiters, left hand rotation, **(F, G, H and P)**

View "A" with pressure limiters, right hand rotation, **(F, G, H and P)**



* included in overhaul seal kit Q210

Order code: J

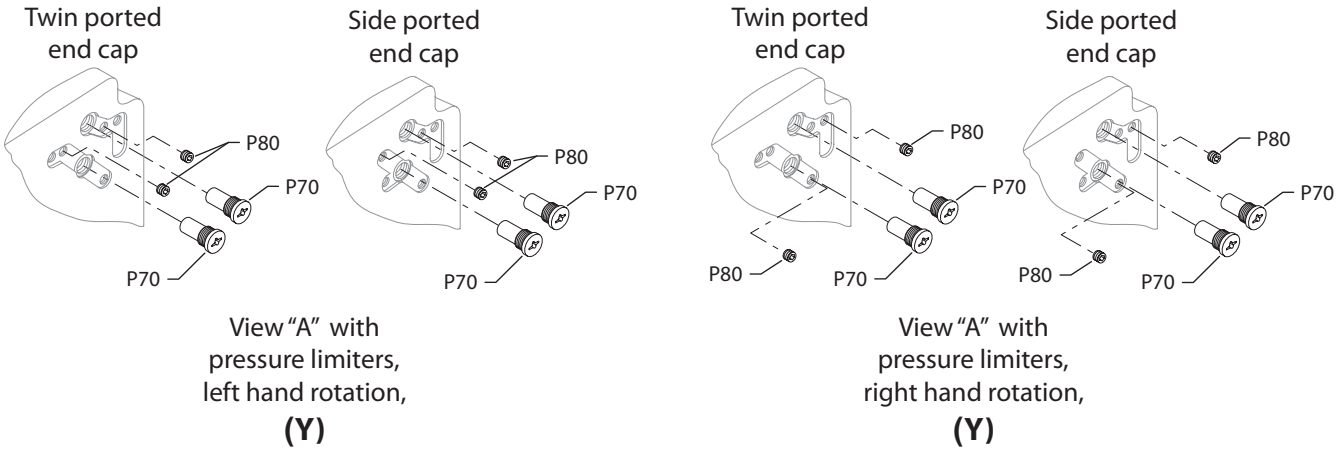
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
P02	97-40		688721-S	O-ring	2
P06	97-40		071811	O-ring	2
P13	97-40		544742 (9004105-0190)	O-ring	2
P20	97-40		9004105-0160	O-ring	2
P21	97-40		9006110-0160	Back up ring	2
QPA2A	97-40		8510275	Multi-function valve kit, dual setting	1
QPA2B	97-40		8510275	Multi-function valve kit, dual setting	1

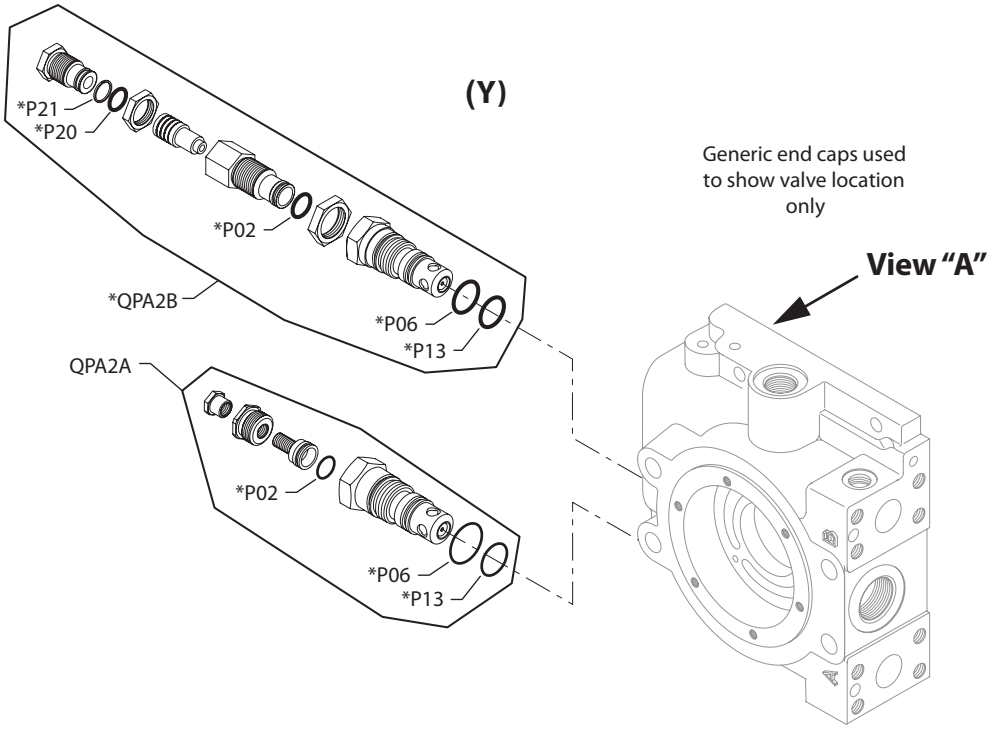
Order code: P

P02	99-26		688721-S	O-ring	2
P06	99-26		071811	O-ring	2
P13	99-26		544742 (9004105-0190)	O-ring	2
P70	99-26		8800188	Check valve assembly	2
P80	99-26		9005475-0004	Special pipe plug	2
QPA2A	99-26		8510275	Multi-function valve kit	1
QPA2B	99-26		8510275	Multi-function valve kit	1

High pressure regulation Y

Parts configuration





Generic end caps used to show valve location only

* included in overhaul seal kit Q210

Order code: Y

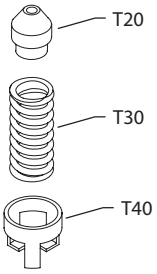
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
P02	12-01		688721-S	O-ring	2
P06	12-01		071811	O-ring	2
P13	12-01		544742 (9004105-0190)	O-ring	2
P20	12-01		9004105-0160	O-ring	1
P21	12-01		9006110-0160	Back up ring	1
P70	12-01		8800188	Check valve	2
P80	12-01		9005475-0004	Special plug	2
QPA2A	12-01		8510022-1	Multi-function valve kit	1
QPA2B	12-01		8510275	Multi-function valve kit, dual setting	1

Orifice

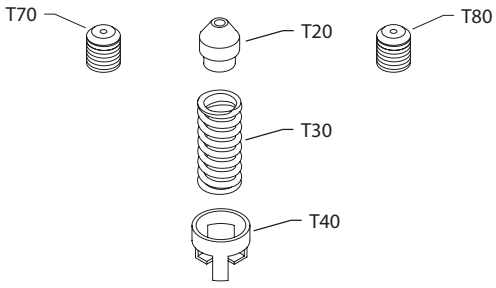
Orifice 00-21

Parts configuration

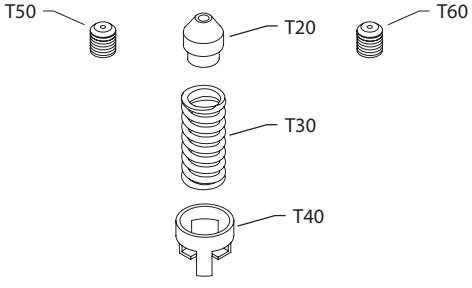
(01, 02, 03, 04, 05, 06 & 09)



(07 & 21)



(20)



See control drawing for orifice location

Order code: 00

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
00			None		

Order code: 01

T20	87-42		8801136	Orificed check valve, .018"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 02

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 03

T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 04

T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 05

T20	87-42		11061981	Orificed check valve, 1.37mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 06

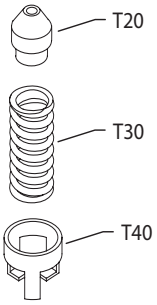
T20	87-42		11061981	Orificed check valve, 1.57mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 07

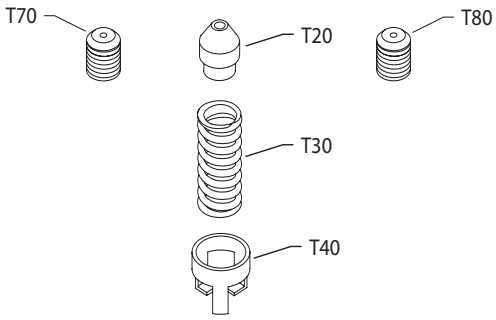
T20	87-42		8801139	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1
T80	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1

Parts configuration

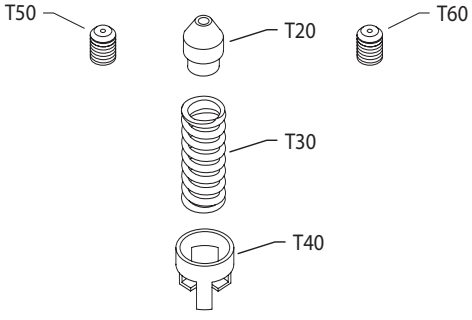
(01, 02, 03, 04, 05, 06 & 09)



(07 & 21)



(20)



See control drawing for orifice location

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Order code: 09

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11062006	Orificed check valve, 2.34mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 20

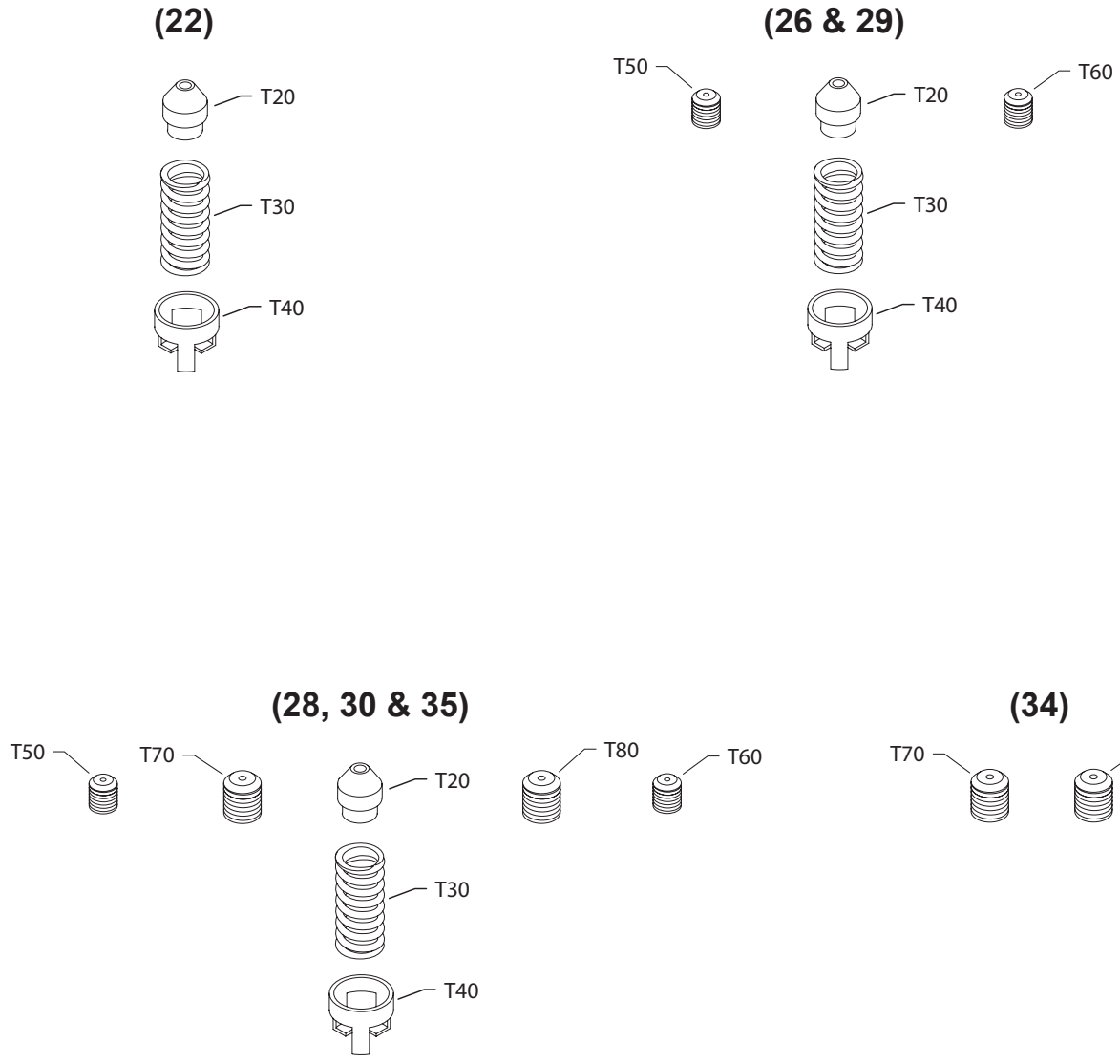
T20	87-42		8801136	Orificed check valve, .18mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1

Order code: 21

T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

Orifice 22-35

Parts configuration



See control drawing for orifice location

Order code: 22

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		8801137	Orificed check valve, 0.22"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 26

T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1

Order code: 28

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11062012	Orifice plug, 0.7mm, M5 x 6	1
T60	87-42		11062012	Orifice plug, 0.7mm, M5 x 6	1
T70	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1

Order code: 29

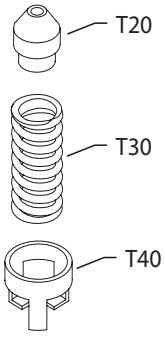
T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11062012	Orifice plug, 0.7mm, M5 x 6	1
T60	87-42		11062012	Orifice plug, 0.7mm, M5 x 6	1

Order code: 30

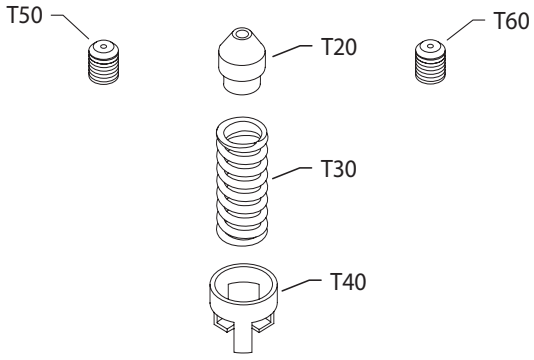
T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		639153	Orifice plug, 1.3mm, M5 x 6	1
T60	87-42		639153	Orifice plug, 1.3mm, M5 x 6	1
T70	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1

Parts configuration

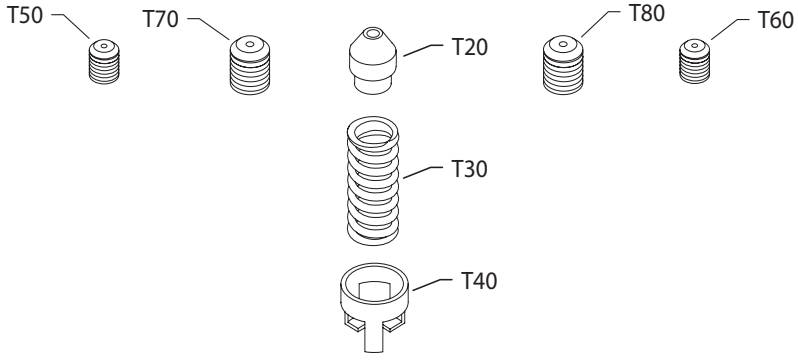
(22)



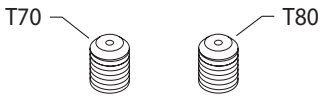
(26 & 29)



(28, 30 & 35)



(34)



See control drawing for orifice location

Order code: 33

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
			None		

Order code: 34

T70	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1
T80	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1

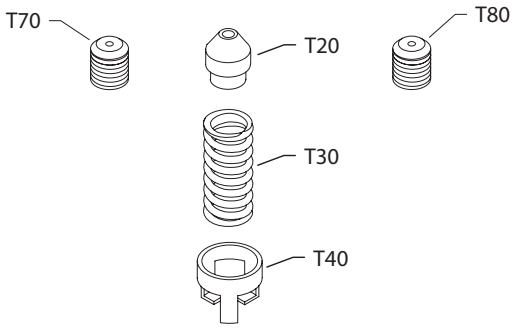
Order code: 35

T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1
T70	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

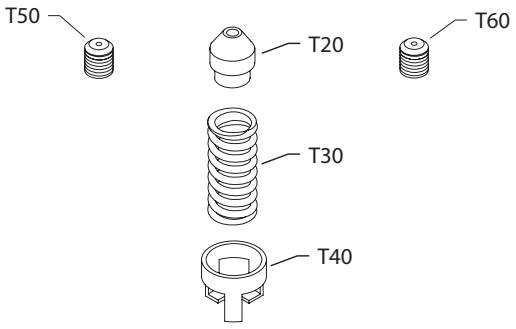
Orifice 36-50

Parts configuration

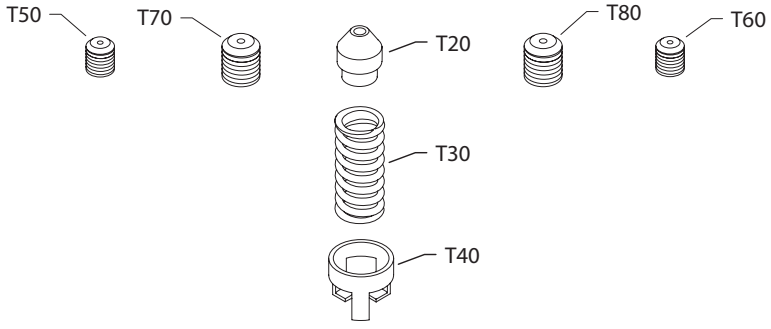
(36 & 42)



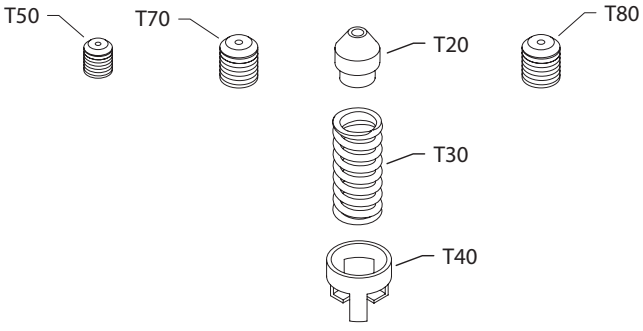
(39, 40 & 47)



(48)



(50)



See control drawing for orifice location

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Order code: 36

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1

Order code: 39

T20	87-42		8801139	Orificed check valve, 1.37mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11066593	Orifice plug, 1.0mm, M5 x 6	1
T60	87-42		11066593	Orifice plug, 1.0mm, M5 x 6	1

Order code: 40

T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1
T60	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1

Order code: 42

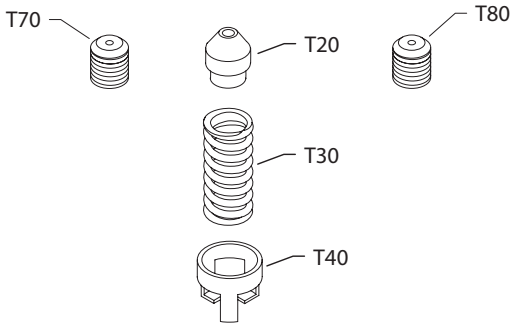
T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

Order code: 47

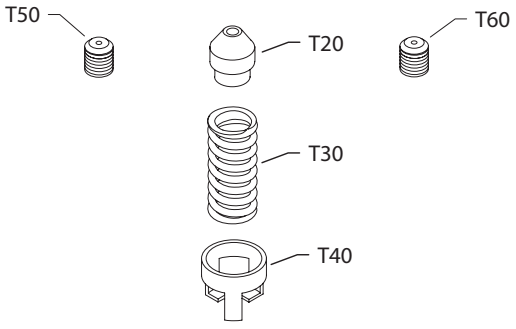
T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		617159	Orifice plug, 1.8mm, M5 x 6	1
T60	87-42		617159	Orifice plug, 1.8mm, M5 x 6	1

Parts configuration

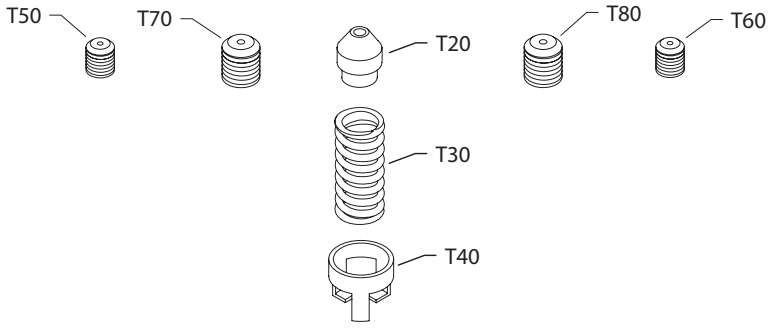
(36 & 42)



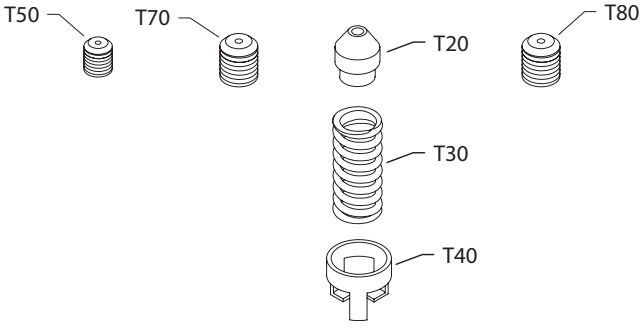
(39, 40 & 47)



(48)



(50)



See control drawing for orifice location

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Order code: 48

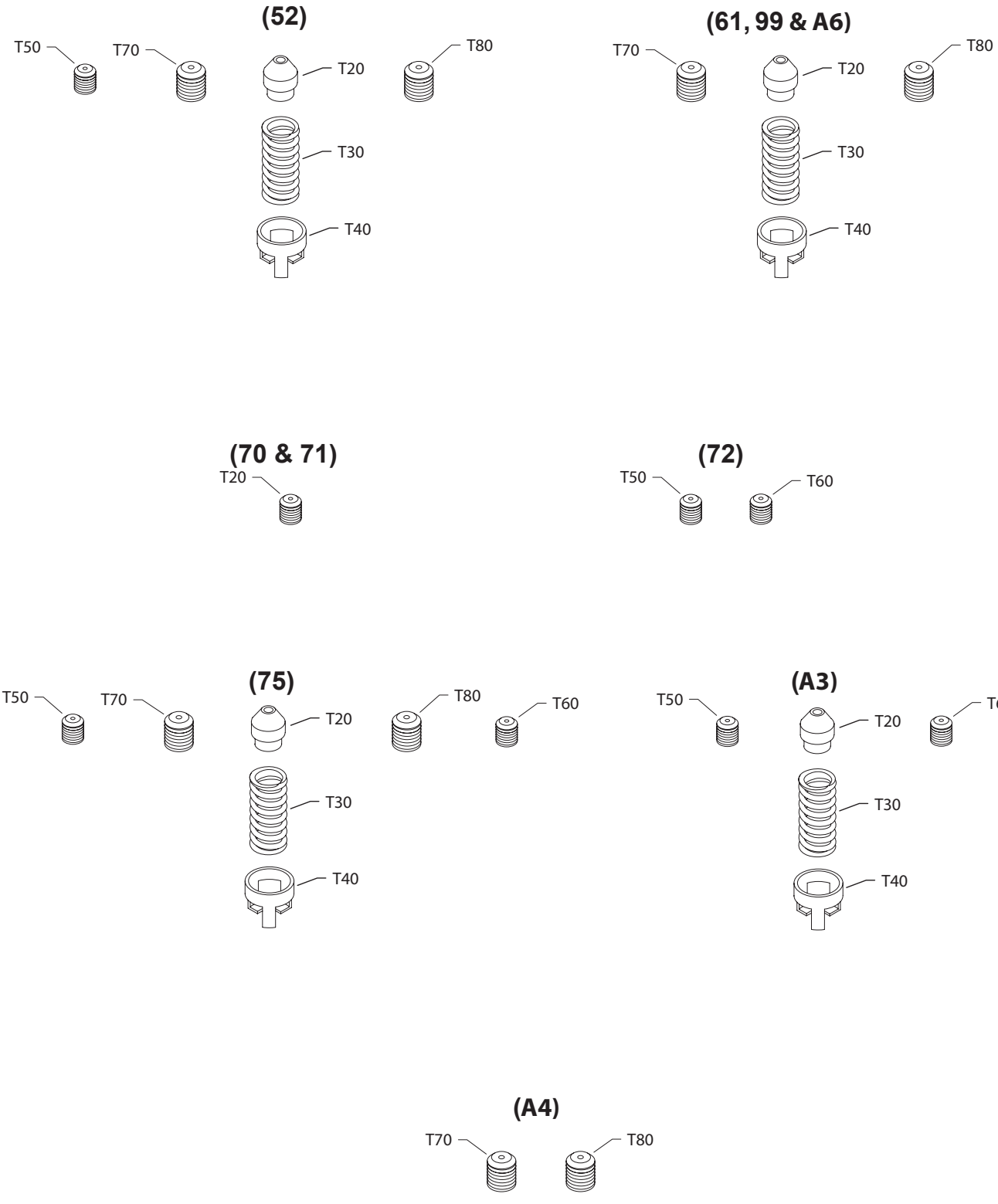
Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		11062004	Orifice plug, 0.8mm, M5 x 6	1
T70	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

Order code: 50

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1
T70	87-42		517571	Orifice plug, 0.9mm, M6 x 6	1
T80	87-42		517571	Orifice plug, 0.9mm, M6 x 6	1

Orifice 52-A6

Parts configuration



See control drawing for orifice location

Order code: 52

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1
T70	87-42		739144	Orifice plug, 0.8mm, M6 x 6	1
T80	87-42		739144	Orifice plug, 0.8mm, M6 x 6	1

Order code: 61

T20	87-42		8801136	Orificed check valve, .018"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1
T80	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1

Order code: 70

T20	87-42		11062005	Orificed check valve, 0.635mm	1

Order code: 71

T20	87-42		11061957	Orificed check valve, 0.79mm	1

Order code: 72

T50	87-42		617159	Orifice plug, 1.8mm, M5 x 6	1
T60	87-42		617159	Orifice plug, 1.8mm, M5 x 6	1

Order code: 75

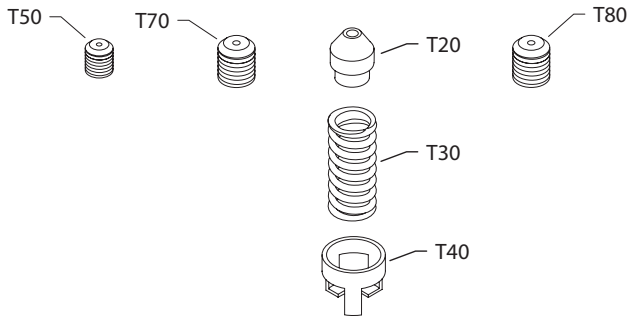
T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11066593	Orifice plug, 1.0mm, M5 x 6	1
T60	87-42		11066593	Orifice plug, 1.0mm, M5 x 6	1
T70	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

Order code: 99

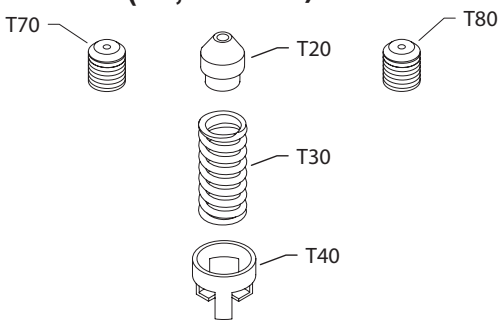
T20	87-42		8801301	Orificed check valve, .047"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		517572	Orifice plug, 1.5mm, M6 x 6	1
T80	87-42		517572	Orifice plug, 1.5mm, M6 x 6	1

Parts configuration

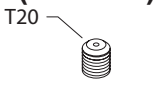
(52)



(61, 99 & A6)



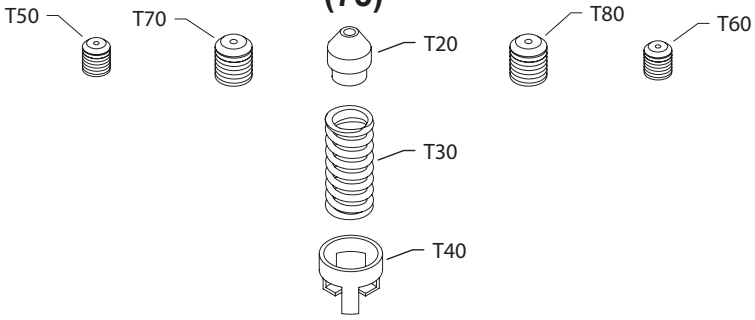
(70 & 71)



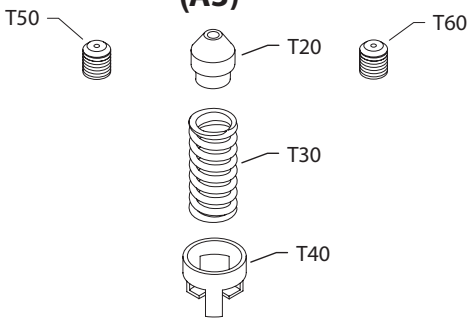
(72)



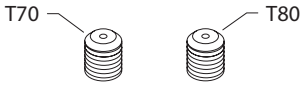
(75)



(A3)



(A4)



See control drawing for orifice location

Order code: A3

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679596 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		739136	Orifice plug, 0.7mm, M6 x 6	1
T60	87-42		739136	Orifice plug, 0.7mm, M6 x 6	1

Order code: A4

T70	87-42		11061979	Orifice plug, 0.8mm, M6 x 8	1
T80	87-42		11061979	Orifice plug, 0.8mm, M6 x 8	1

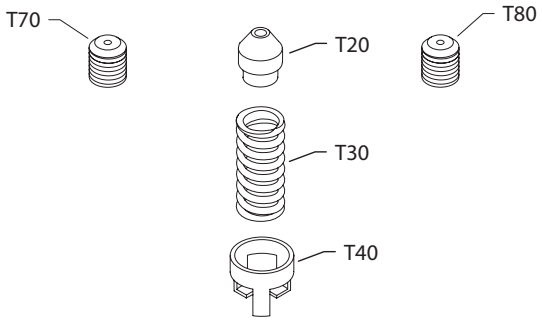
Order code: A6

T20	87-42		8801139	Orificed check valve, .0.26"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		763680	Orifice plug, 0.6mm, M6 x 6	1
T80	87-42		763680	Orifice plug, 0.6mm, M6 x 6	1

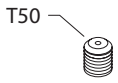
Orifice A7-G8

Parts configuration

(A7 & D3)



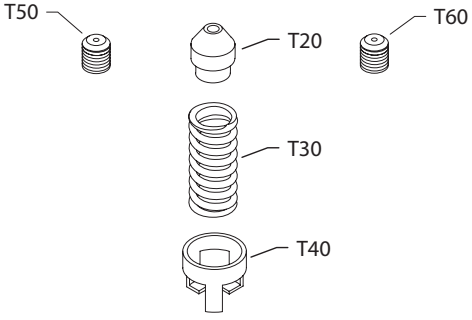
(B1 & G1)



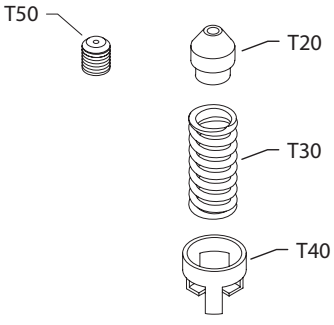
(B2)



(C3, C5 & C6)



(G4 & G8)



See control drawing for orifice location

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Order code: A7

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061958	Orificed check valve, 0.81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11061979	Orifice plug, 0.8mm, M6 x 8	1
T60	87-42		11061979	Orifice plug, 0.8mm, M6 x 8	1

Order code: B1

T50	87-42		507042	Orificed check valve, 1.5mm, M6 x 8	1

Order code: B2

T70	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1
T80	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1

Order code: C3

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		11061989	Orifice plug, 1.3mm, M5 x 6	1
T60	87-42		11061989	Orifice plug, 1.3mm, M5 x 6	1

Order code: C5

T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1

Order code: C6

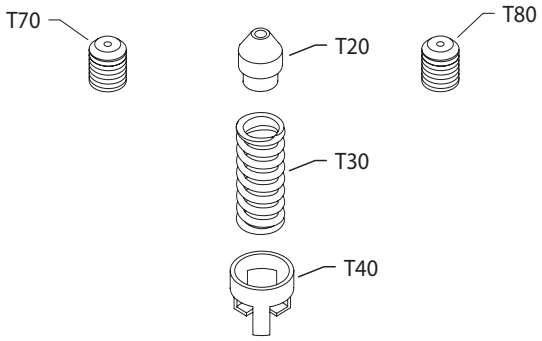
T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1

Order code: D3

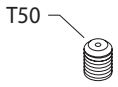
T20	87-42		11061981	Orificed check valve, 1.37mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		11062018	Orifice plug, 0.7mm, M8 x 8	1

Parts configuration

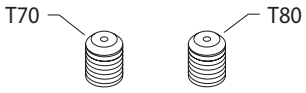
(A7 & D3)



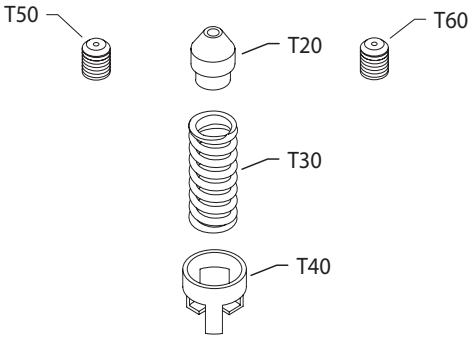
(B1 & G1)



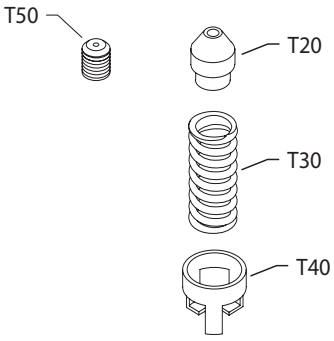
(B2)



(C3, C5 & C6)



(G4 & G8)



See control drawing for orifice location

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Order code: G1

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T50	87-42		310771	Orificed check valve, 1.2mm, M6 x 6	1

Order code: G4

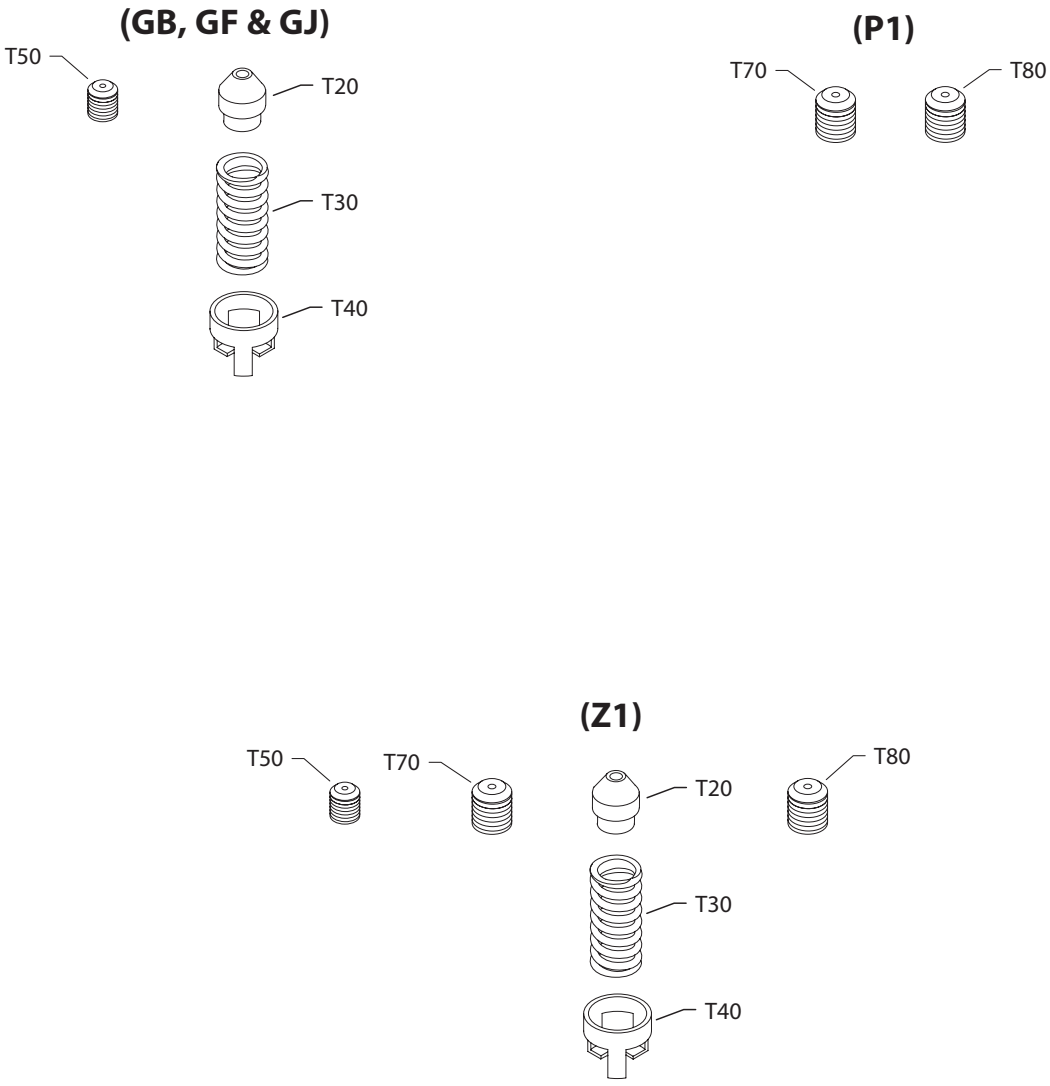
T20	87-42		8801136	Orificed check valve, .018"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orificed check valve, 1.2mm, M6 x 6	1

Order code: G8

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orificed check valve, 1.2mm, M6 x 6	1

Orifice GB-Z1

Parts configuration



See control drawing for orifice location

Order code: GB

Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T20	87-42		11061958	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1

Order code: GF

T20	87-42		11061970	Orificed check valve, 1.02mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1

Order code: GJ

T20	87-42		11061981	Orificed check valve, 1.37mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1

Order code: P1

T70	87-42		508014	Orifice plug, 1.0mm, M6 x 8	1
T80	87-42		508014	Orifice plug, 1.0mm, M6 x 8	1

Order code: Z1

T20	87-42		11061958	Orificed check valve, .81mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		519659	Orifice plug, 1.0mm, M6 x 6	1
T70	87-42		519659	Orifice plug, 1.0mm, M6 x 6	1
T80	87-42		519659	Orifice plug, 1.0mm, M6 x 6	1

Overhaul seal kit

S90 55cc pump overhaul seal kit

Overhaul seal kit

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
Q210	87-42		11095647	Overhaul seal kit	1
B90	87-42		9803390	Filter screen	3
C70	87-42		648477	Screw	4
E40	87-42		505412 (9003509-0008)	Seal nut	2
E50	87-42		056739 (9004104-1580)	O-ring	1
E60	87-02		5000206	Screw (*SB-1994-018* on page 153)	6
F11	87-02		314500 (9004100-1250)	O-ring	1
F12	87-02		8700065	Piston ring	1
F40	88-43		353953 (9004104-1330)	O-ring	1
F50	87-02		314534 (9004104-0310)	O-ring	1
F112	87-02		505412 (9003509-0008)	Seal nut, M8	1
F124	87-02		336826	Seal nut, M10	1
F212	87-02		505412 (9003509-0008)	Seal nut, M8	1
F224	87-02		336826	Seal nut, M10	1
G30	89-17		8000243	End cap gasket (*SB-1989-037* on page 143 & *SB-1992-003* on page 145)	1
J40	87-02		680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
K50	87-02		001149 (9004201-6200)	O-ring	1
L25	87-02		11083637	Lip seal (*SB-2010-025* on page 180)	1
L60	87-02		11083638	Retainer plate (*SB-2010-025* on page 180)	1
N15	87-42		001172 (9004201-9000)	O-ring	1
P02	87-02		688721-S	O-ring	1
P06	87-42		071811	O-ring	1
P13	87-42		544742 (9004105-0190)	O-ring	1
P20	87-42		9004105-0160	O-ring	1
P21	87-42		9006110-0160	Back up ring	1

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Service bulletin

BLN-10107

To improve efficiency and reliability, the number of parts in series 90 pumps is being reduced. The charge pump design on 55 cc - 130 cc frame sizes is being changed so that the outer port plate is an integral part of the charge pump cover and distance plates are eliminated. The change is taking effect at the following manufacturing dates:

55 cc: 93-10

75 cc: 93-10

100 cc: 93-15

130 cc: 93-34

For auxiliary pad options, the new charge pump cover is rotation dependent. The cover will be marked as either left hand (L) or right hand (R). The non-auxiliary pad cover is not rotation dependent.

The charge pump shaft also changes and must be replaced when using the new style hardware. The complete charge pump assembly can be interchanged with corresponding hardware from 89-17 and beyond. However, piece parts are not interchangeable. For units prior to 89-17, consult Sauer-Danfoss.

The old design charge pump hardware is obsolete and is no longer available. Refer to the chart on the next page to determine the replacement kit.

The following information must be known to determine the correct charge pump replacement kit:

1. Unit size (055, 075, 100, or 130 cc)
2. Charge pump displacement (11, 14, 17, 20, 26, or 34 cc)
3. Auxiliary pad (Yes or No)
4. Rotation (LH or RH)

Obsoleted Charge Pump Parts

Gear set	Shaft	Cover	Unit Size	Chg. pump displacement	Auxiliary pad	Rotation	Replacement Kit
8000169	8000174	8800513	055	11 cc	No	LH or RH	8510028
		8800514			Yes	LH	8510029
		8800514			Yes	RH	8510030
8000170	8000174	8800513	055	14 cc	No	LH or RH	8510031
		8800514			Yes	LH	8510032
		8800514			Yes	RH	8510033
8000171	8000174	8800513	055	17 cc	No	LH or RH	8510034
		8800514			Yes	LH	8510035
		8800514			Yes	RH	8510036
81000313	337956	8800513	075	14 cc	No	LH or RH	8510037
		8800514			Yes	LH	8510038
		8800514			Yes	RH	8510039
81000314	337956	8800513	075	17 cc	No	LH or RH	8510040
		8800514			Yes	LH	8510041
		8800514			Yes	RH	8510042
81000315	337956	8800513	075	20 cc	No	LH or RH	8510043
		8800514			Yes	LH	8510044
		8800514			Yes	RH	8510045
8200158	337956	8800513	100	17 cc	No	LH or RH	8510046
		8800514			Yes	LH	8510047
		8800514			Yes	RH	8510048

8200159	337956	8800513	100	20 cc	No	LH or RH	8510049
		8800514			Yes	LH	8510050
		8800514			Yes	RH	8510051
8200160	337956	8800513	100	26 cc	No	LH or RH	8510052
		8800514			Yes	LH	8510053
		8800514			Yes	RH	8510054

714444	303636	347518	130	20 cc	No	LH or RH	8510064
		347526			Yes	LH	8510065
		347526			Yes	RH	8510066
714451	303636	347518	130	26 cc	No	LH or RH	8510067
		347526			Yes	LH	8510068
		347526			Yes	RH	8510069
714469	303636	347518	130	34 cc	No	LH or RH	8510070
		347526			Yes	LH	8510071
		347526			Yes	RH	8510072

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SB-1988-009

Products affected

Series 90 pumps

Subject

Servo arm change

Description

As a product improvement, Sauer-Danfoss has changed the series 90 pump servo arm and swashplate (item D10 and D50). The old style servo arm and swashplate will become obsolete. Because this change creates non-interchangeability between new and old swashplates, servo arms, and possibly servo piston (item S10) and slider block (item F20), separate servo arms and swashplates will no longer be sold as service parts.

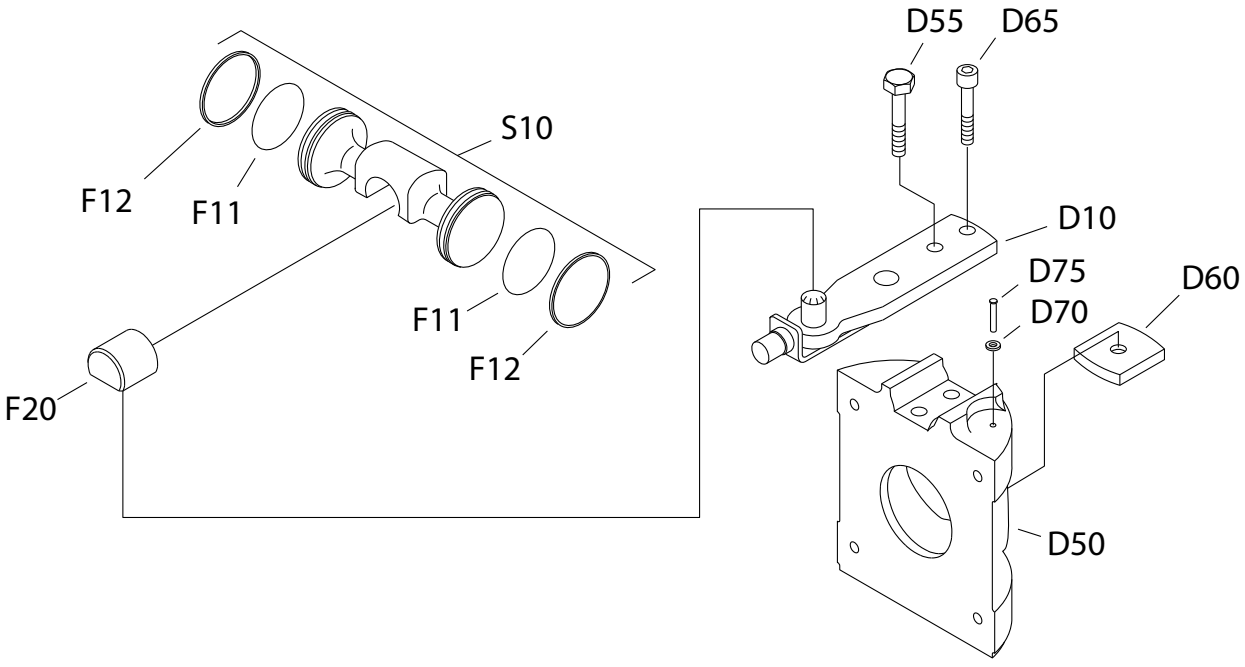
Also, the new servo arm is actually a press fit into a groove in the new swashplate. This situation requires special tooling for assembly, therefore, pre-assembled kits will be created for 55, 75, and 100 cc pumps. The kits will work in any vintage pump.

The kit for 55 cc pumps will include all the items in the figure, except item S10 The kit for 75 cc pumps will include all item in the figure.

The kit for 100 cc pumps will include all items in the figure, except items S10 and F20.

Note: The slider block (item F20) in 55 cc pumps and the slider block and the servo piston (item S10) in 75 cc pumps had to be changed slightly to allow clearance for the new servo arm. The new servo piston and slider block will work in any vintage pump.

SB-1988-009



Models affected

All 94-2xxx (55 cc), 95-2xxx (75 cc), and 96-2xxx (100 cc) pumps

Serial numbers

Change goes into effect with s/n 88-14-xxxxx on 55 cc pumps and with s/n 88-16-xxxxx for 75 cc and 100 cc pumps.

Part numbers affected

New 55 cc slider block is p/n 8000189

New 75 cc slider block is p/n 8100368

New 100 cc slider block is p/n 8100369

New 55 cc servo arm/swashplate kit is p/n 8000201

New 75 cc servo arm/swashplate kit is p/n 8100377

New 100 cc servo arm/swashplate kit is p/n 8200192

Parts disposition

Non-interchangeable

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SB-1988-016

Products affected

Series 90 pumps

Subject

Change to fixed clearance slipper hold down

Description

As a product improvement, Sauer-Danfoss has simplified the design of the series 90 pump slipper hold down mechanism. The hold down changes from spring loaded with a fixed maximum clearance design.

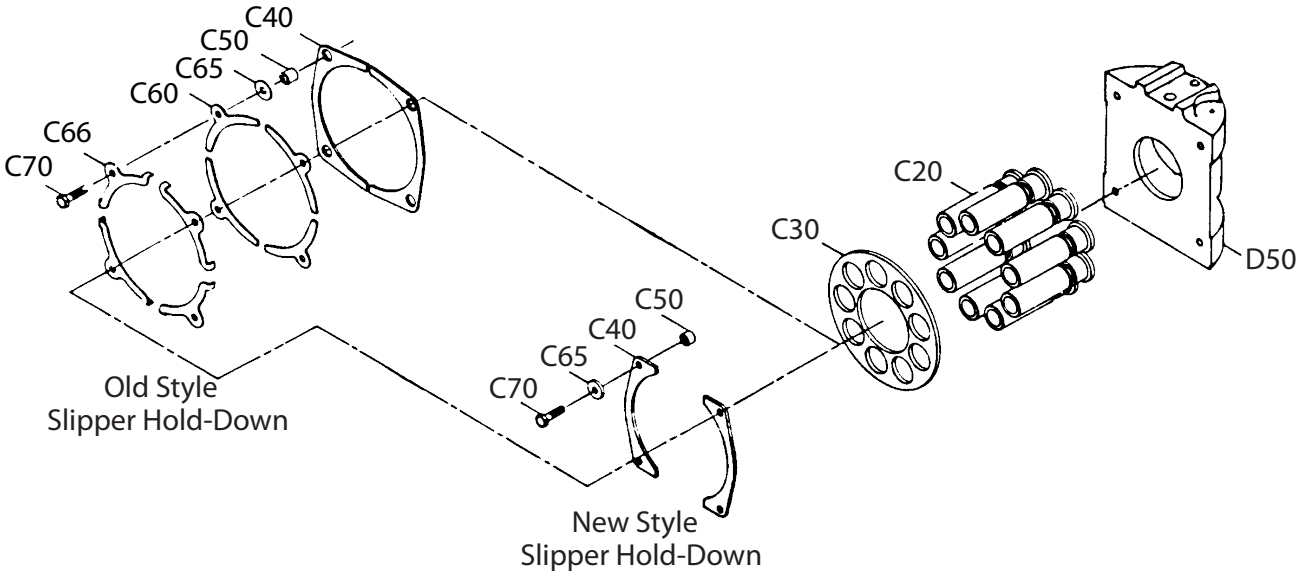
The leaf spring (item C60) and spring aligner (item C66) will be eliminated and will not be available as service parts.

The spacer (item C50), bearing (item C40), and washer (item C65) will change and the old part numbers will not be available as service parts.

The swashplate (item D50), pistons (item C20), slipper retainer (item C30), and screws (item C70) will remain the same.

If any of the affected parts (item C66, C60, C65, C50, or C40) require replacement during repair of older style pumps, discard these parts and rebuild using new style parts (items C40, C50, and C65). As before, the screws (item C70) which are coated with locking compound MUST always be replaced after removal.

SB-1988-016



Models affected

All 94-2xxx (55 cc), 95-2xxx (75 cc), and 96-2xxx (100 cc) pumps

Serial numbers

55 cc pumps, 94-2xxx, changed at s/n 88-43-xxxxx 75 cc pumps, 95-2xxx, changed at s/n 88-22-xxxxx 100 cc pumps, 96-2xxx, changed at s/n 88-20-xxxxx

Part numbers affected

Item	Qty/pump	55 cc	75 cc	100 cc
C40	2	8000137	8100294	8200144
C50	4	8000138	8100295	8200145
C65	4	9009625-0159	9009625-0159	9009625-0159
C70	4	9007276-0114	9007276-0099	9007276-0099

Parts disposition

Non-interchangeable as individual parts, but new style C40, C50, and C65 can be used in any vintage pump, if all three are changed.

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SB-1988-023

Products affected

Series 90 pumps and motors

Subject

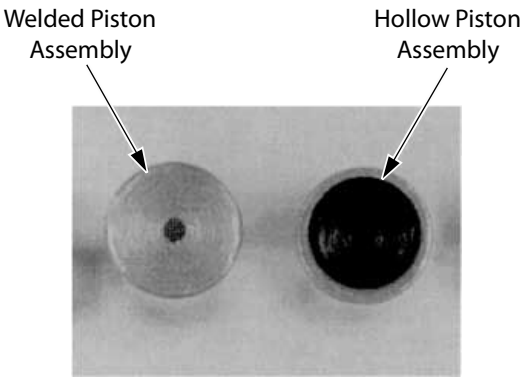
Piston improvement

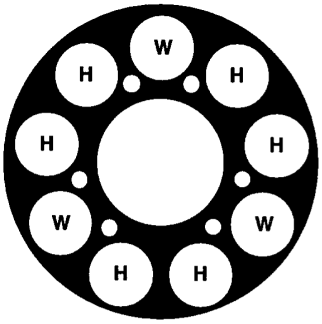
Description

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 obsoleted. 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

SB-1988-024

Products affected

Series 90 pumps

Subject

Remote pressure filtration adapter change

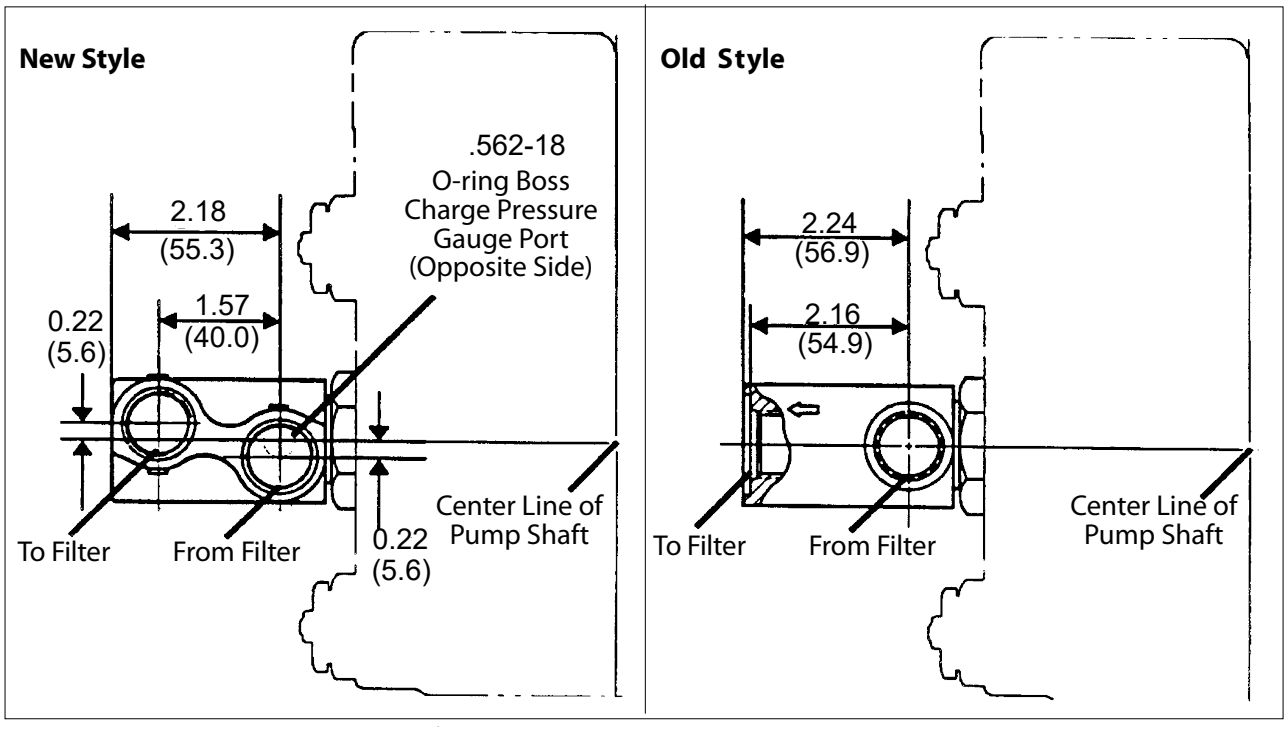
Description

The configuration of the remote pressure filtration adapter, available as an option on Sauer- Danfoss series 90 variable pumps (55, 75, and 100 cc) is changing. This improved design adapter incorporates a charge pressure test port. In addition, the remote filter connections have been relocated to improve the customer interface and the routing for filter plumbing on most applications. Port sizes did not change. (A version of the improved design adapter is already being used on Series 90 42 cc variable pumps.)

This change does not affect the pump end cap, and either design filtration adapter can be used on any vintage pump. Only the new style adapter will be available as service parts or on new production pumps.

The outline dimensional differences between the new and old adapters are shown below.

SB-1988-024



Models affected

All series 90 pumps (93-2xxx, 94-2xxx, 95-2xxx, and 96-2xxx) with remote pressure filtration. (option R)

Serial numbers

Remote pressure filtration equipped pumps shipped after April 24, 1989, or with serial number x-89-17-xxxxx and up will include the new adapter.

Part numbers affected

Part number	Description
8002N00R-A	Remote filtration kit (new style)

Parts disposition

Interchangeable

SB-1989-002

Products affected

Series 90 pumps

Subject

Incorporation of adjustable charge relief valve

Description

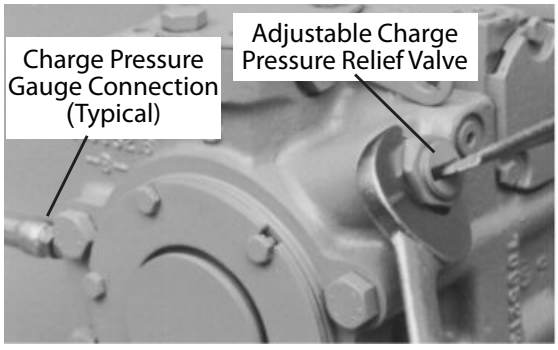
As a product improvement Sauer-Danfoss is incorporating an adjustable charge relief valve on all series 90 variable displacement pumps. This design replaces the previous shim adjustable charge relief valve. The new design valve provides a range of pressure adjustment which covers the available charge pressure options of 290, 348, and 406 psi [20, 24, and 28 bar].

Note: This improvement changes the design of the charge relief valve poppet and plug. The new style charge relief may protrude from the pump end cap approximately 0.27 in [6.9 mm] farther than the shim adjustable r.

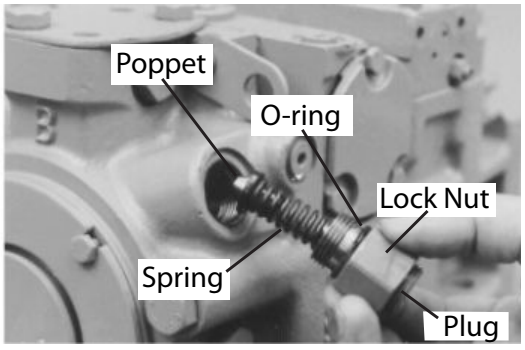
To adjust the new design valve, first install a gauge to measure charge pressure as described in the series 90 service manual. Loosen the adjustment lock nut with a 1-1/16 in hex wrench. Operate the pump at an input speed of 1700 to 2000 rpm and turn the adjustment plug with a large screwdriver while observing the charge pressure. Clockwise rotation of the plug increases the setting, while counterclockwise rotation decreases the setting at a rate of approximately 50 psi [3.4 bar] per turn. Once the desired setting is achieved, torque the lock nut to 34-41 lbf·ft [46-55 Nm], and remove the charge pressure gauge.

Sauer-Danfoss will offer an adjustable charge relief valve kit for sale as a service part. This kit can be used to service any vintage series 90 variable pump. Since the new and old style charge relief valves are interchangeable as an assembly, the old style parts will no longer be available as service parts.

SB-1989-002



Adjusting Charge Relief Valve



Charge Relief Valve Assembly

Models affected

All 93-2xxx, 94-2xxx, 95-2xxx, and 96-2xxx pumps

Serial numbers

Due to the interchangeability of the charge relief valve assemblies, this is a running change. It will be incorporated into all series 90 variable pumps by March of 1989.

Part numbers affected

Part number	Description
8002K000-A	Adjustable charge relief valve kit - new style (includes poppet, spring, plug, O-ring, and nut)

Parts disposition

Interchangeable (as an assembly)

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SB-1989-003

Products affected

Series 90 pumps

Subject

Swashplate leveler spring seat change and servo pressure relief valve deletion

Description

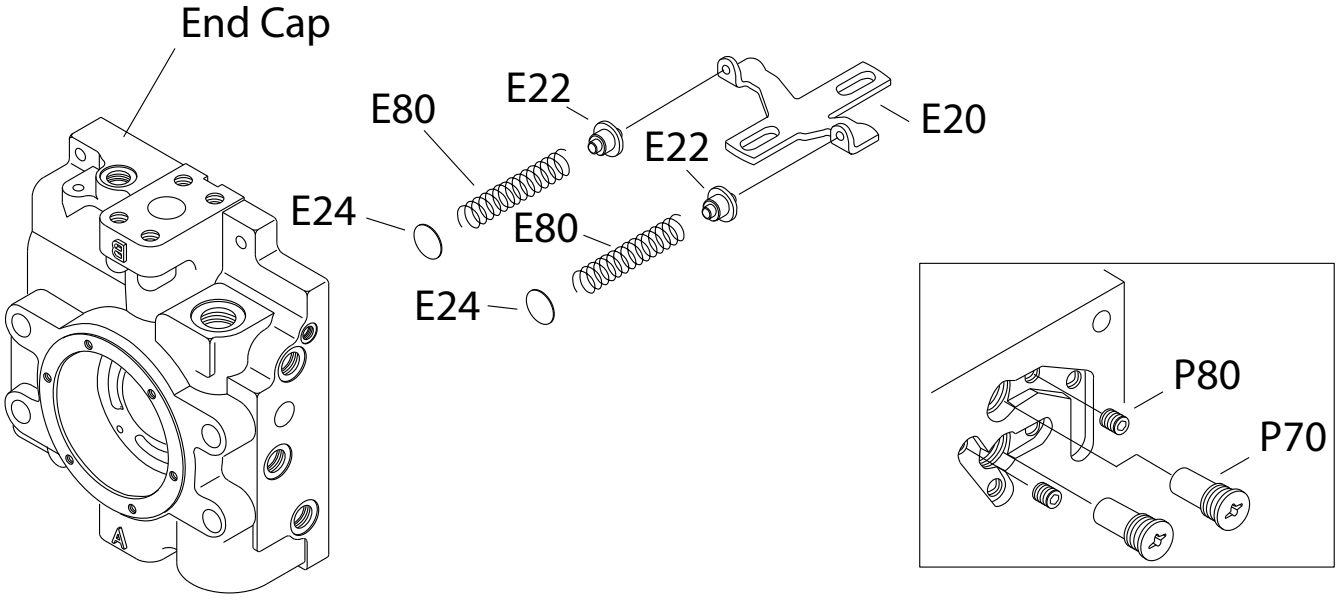
As a product improvement, Sauer-Danfoss is adding hardened shims between the swashplate leveler springs and the end cap in series 90 variable pumps. In addition, the leveler spring seats have been hardened, and are now separate pieces from the leveler. Previously, the seats were peened to the leveler.

These improvements require some minor changes in the repair procedures for the series 90 pumps. When installing the lever springs (E80), take care that the spring seats (E22) are in position on the swashplate leveler (E20). Before installing the end cap, assemble the hardened shims (E24) into their pockets in the end cap and retain with petroleum jelly.

In an unrelated change, the servo pressure check relief valves installed in the pump end cap (or rotation valve housing) are no longer required. These valves (P70) will be replaced by standard socket head, straight thread O-ring plugs.

The swashplate leveler, plus the separate spring seats, are directly interchangeable with the old design part. When performing major repairs on any series 90 pump, the hardened shims should be installed between the leveler springs and the end cap. The plugs are also interchangeable with the servo pressure check relief valves.

SB-1989-003



Models affected

All 93-2xxx (42 cc), 94-2xxx (55 cc), 95-2xxx (75 cc), and 96-2xxx (100 cc) pumps

Serial numbers

The hardened swashplate leveler spring seats and hardened shims incorporated at serial number 89-09-xxxxx. Due to the interchangeability of the straight thread plugs with the servo pressure check relief valves, this change will be incorporated during the 1st quarter of 1989.

Part numbers affected

Item	Description	Qty	42 cc	55 cc	75 cc	100 cc
E20	Leveler	1	673897	8000094	8100130	8200007
E22	Spring seat	2	2358820	358838	358523	358846
E24	Shim	2	359034	359042	359042	359059
P70	Plug	2	9005110-4400	9005110-4400	9005110-4400	9005110-4400

Parts disposition

Non-interchangeable

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SB-1989-006

Products affected

Series 90 pumps

Subject

Charge pump design change

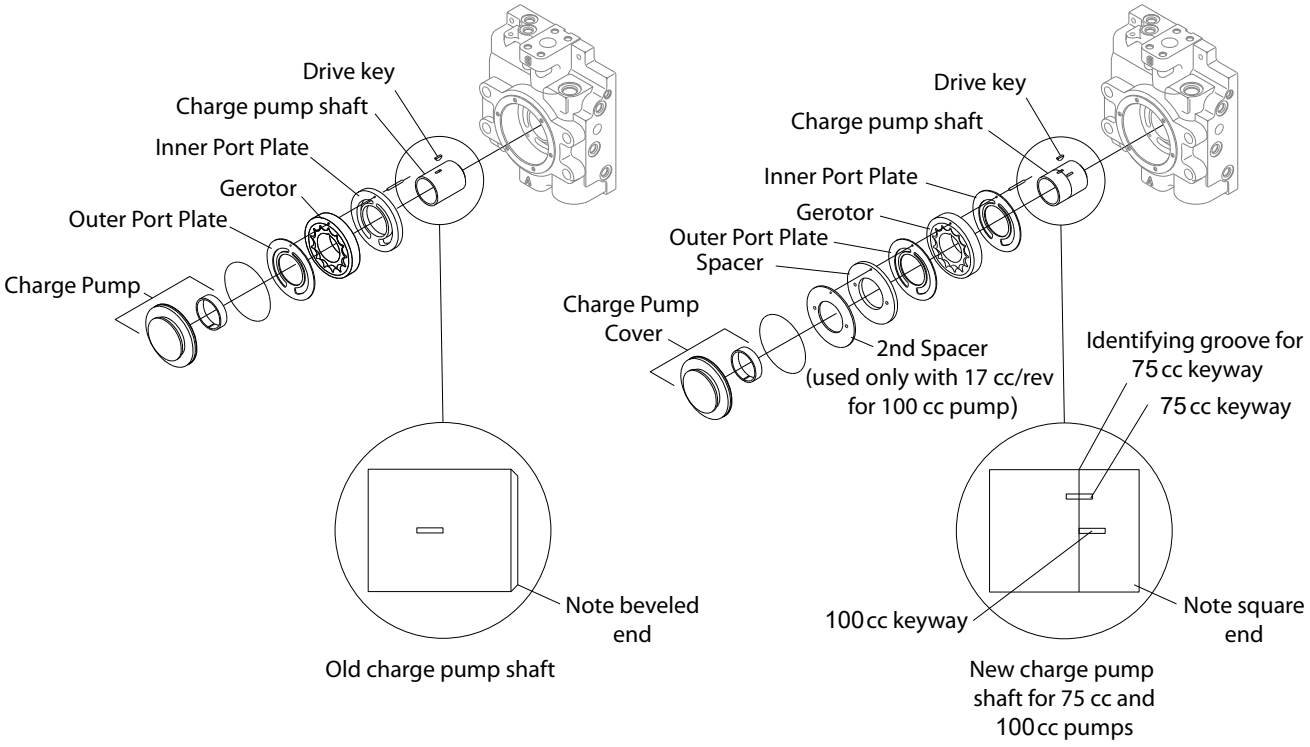
Description

The original series 90 charge pump design included two (2) port plates, one (1) on each side of the gerotor. If the charge pump displacement was less than the maximum available for the pump's frame size, the inside port plate was thicker than the 0.050 in. (1.27 mm) outside port plate.

The new design charge pump will always have two (2) 0.050 in (1.27 mm) thickness port plates, one (1) on each side of the gerotor. Additionally, if the charge pump displacement is less than the maximum available for the pump's frame size, one (1) or two (2) spacers were install between the outside port plate and the charge pump cover.

In addition, the location of the keyway in the change pump shaft has been changed to ensure full engagement of the drive key in the gerotor. The new charge pump shaft used in 75 and 100 cc pumps has two (2) keyways. The rear keyway (farthest from the end cap and splined end of the shaft) is used for 75 cc pumps, while the front keyway is used for 100 cc pumps. The new style charge pump shafts for 55, 75, and 100 cc pumps also changed from having a beveled end to a square end on the end closest to the pump end cap.

SB-1989-006



Models affected

All 94-2xxx (55 cc), 95-2xxx (75 cc), and 96-2xxx (100 cc) pumps

Serial numbers

A-89-17-xxxxx for all pumps manufactured in Ames, Iowa.

Part numbers affected

N-89-07-xxxxx for al 95-2xxx (75 cc) pumps manufacture in Neumunster, West Germany. N-88-48-xxxxx for all 96-2xxx (100 cc) pumps manufacture in Neumunster, West Germany.

Proper part number versus pump serial number information can be found in the series 90 Parts Manuals.

The thicker inside port plates (thicker than 0.050 in (1.27 mm) will be obsoleted and no longer available as service parts. If these parts require replacement, use the 0.050 in. 1.27 mm) port plate and appropriate spacer(s) as service parts. On 100 cc pumps only, the new charge pump shaft must be used if the new style spacer is used,

On 55 and 75 cc pumps, the change pump shaft clearance pocket in the end cap changed from a beveled to a straight corner to correspond with the change in the charge pump shaft. Old style charge pump shafts will remain available as service parts and must be used in the 55 and 75 cc beveled pocket end caps.

Old style (beveled pocket) end caps will be obsoleted and no longer available as service parts. If an old style end cap needs replacement, new style end caps can be used with any vintage charge pump hardware and charge pump shaft.

Parts disposition

Non-interchangeable - must use correct charge pump shaft per serial number of pump

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SB-1989-009

Products affected

Series 90 55 cc pumps

Subject

End cap gasket consolidation

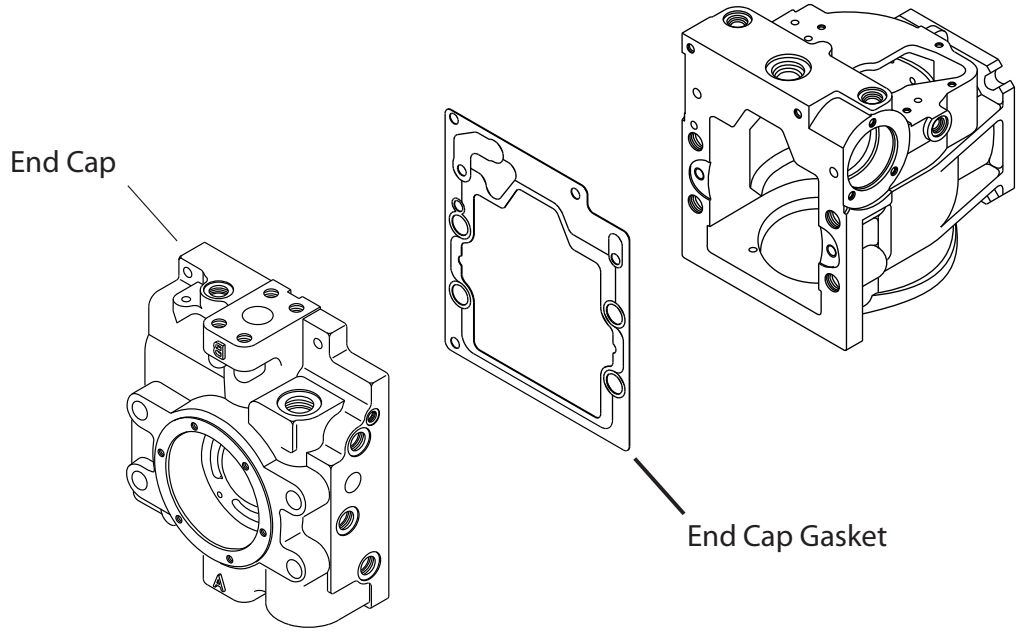
Description

Sauer-Danfoss is changing the design of 55 cc pump end caps to allow a single part number gasket to be used for both the twin port and axial port end cap options.

Both old style end caps will be obsoleted and will not be available as service parts. The new end caps can be used on any vintage pump. The new end cap gasket MUST be used with new end caps.

The old style end cap gaskets will be available as service parts to repair earlier vintage pumps.

SB-1989-009



Models affected

All 94-2xxx (55 cc) pumps

Serial numbers

Change takes place at serial number A-89-17-xxxxx.

Part numbers affected

End cap type	Gasket p/n prior to 89-17	Gasket p/n 98-17 and beyond	End cap p/n prior to 89-17	End cap p/n 98-17 and beyond
Axial port	8000107	8000180	8000117*	8000183
Twin port	8000151	8000180	8000149*	8000184

Parts disposition

Non-interchangeable

SB-1989-037

Products affected

Series 90 55 cc pumps

Subject

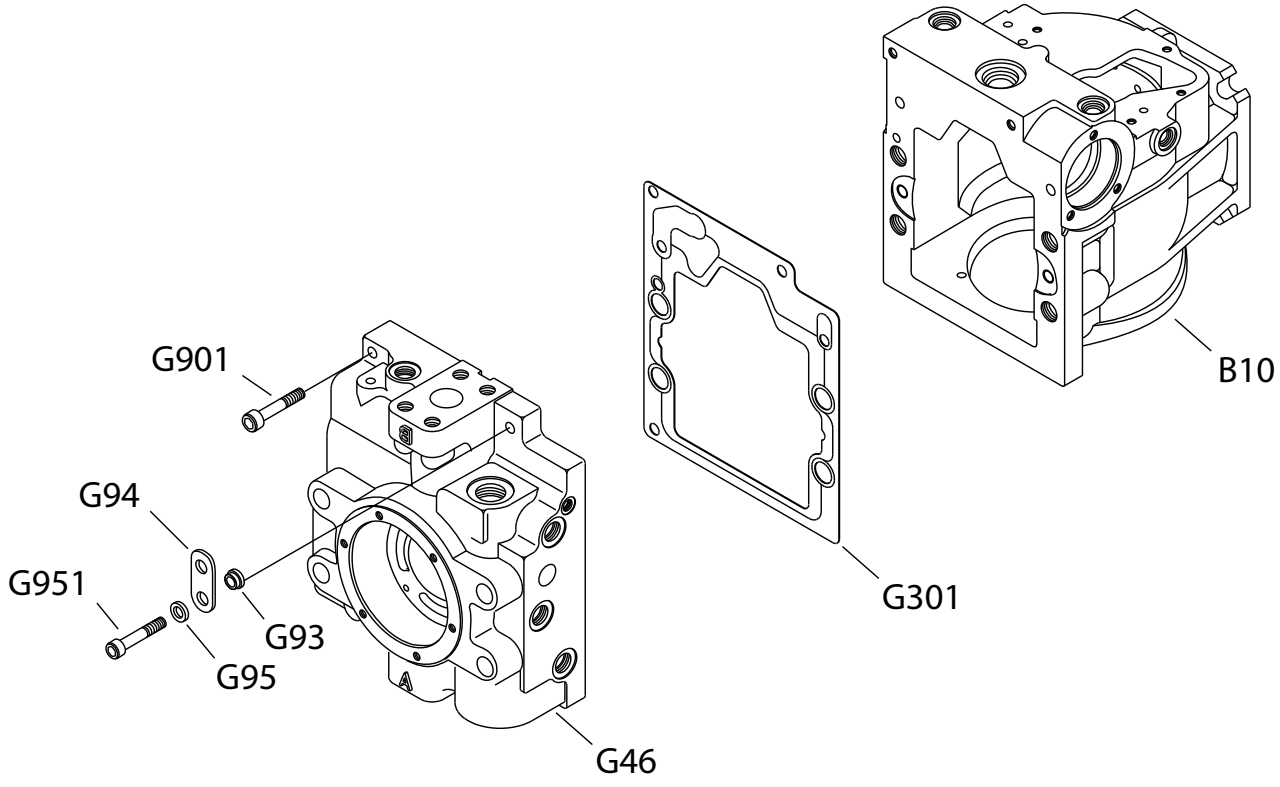
End cap and housing change

Description

A product improvement has taken place on series 90 55 cc pumps, adding one end cap screw and increasing the size of another. Part number of the housing, end caps, screws, bracket, washer, and gasket changed, as indicated on the following page.

The new end cap gasket is interchangeable with the previous design used since A-89-17- xxxxx (see SB-1989-009). The new and previous design housings and end caps are not interchangeable, however, both of these parts are rarely sold as service parts.

SB-1989-037



Models affected

All 94-2xxx (55 cc) pumps

Serial numbers

Change takes place at serial number A-89-47-xxxxx.

Part numbers affected

Item	Description	Part number for old design	Part number for new design
B10	Housing	8000105	8000217
G93	Spacer	8800404	8800564

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Item	Description	Part number for old design	Part number for new design
G94	Lifting bracket	8800522	8800565
G95	Washer	9009610-2850	9009610-3459
G46	Twin port end cap	8000184	8000220
G46	Axial port end cap	8000183	8000219
G951	Screw	9007314-0608	9007314-0810
G901	Screw	N/A	9007314-0812
G301	Gasket - twin & axial port	8000214	8000218

Parts disposition

Interchangeable - gasket

Non-interchangeable - housing and end cap

SB-1992-003

Products affected

Series 90: 55, 75, 100, 130 cc pumps

Subject

Block point change: components redesign

Description

As part of our overall series 90 product improvement program, numerous components are being redesigned. This redesign is referred to as a "block point" change. The objective of the block point change is to minimize the number of times we change the units while we convert to high volume tooling at various plant sites. These design improvements will provide increased reliability and more application flexibility. The nature of these changes makes customer requalification unnecessary. Old style (pre-block point) variable housings and end caps will no longer be available as spare parts.

Frame size 55 cc

Item	Description	Pre-block point part number	New part number 92-06 & later

Common parts group, 55 cc

B10	Variable housing	8000217 (O)	729848
B82	Plug	n/a	9005110-5600
B83	Plug	n/a	9005110-5600

End cap, 55 cc

G048	End cap - twin ports	8000220 (O)	8000260
G308	End cap gasket	8000218 (I) (O)	8000243 (I)
G968	Screw	9007314-0606	n/a
G046	End cap - side ports	8000219 (O)	8000259
G306	End cap gasket	8000218 (I) (O)	8000243 (I)
G968	Screw	9007314-0606	n/a
G172	Plug	n/a	9005110-4400
G182	Plug	n/a	9005110-4400

Models affected

All series 90 94-2xxx variable pumps

Serial numbers

Changes will take place at the serial number 92-06-xxxxx

Part numbers affected

Refer to text of this bulletin for specific part numbers

Housing:	Thickness adjacent to the side cover has been increased
End cap:	Match housing change; small end cap screws will be larger, orientation of charge relief valve on side port end caps has benn changed from oblique to vertical.

Note: Reference PIB-9102 for design changes and outline dimensions.

Parts disposition

Non-interchangeable

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SB-1992-011

Products affected

Series 90 - 055, 075, and 100 frame size pumps

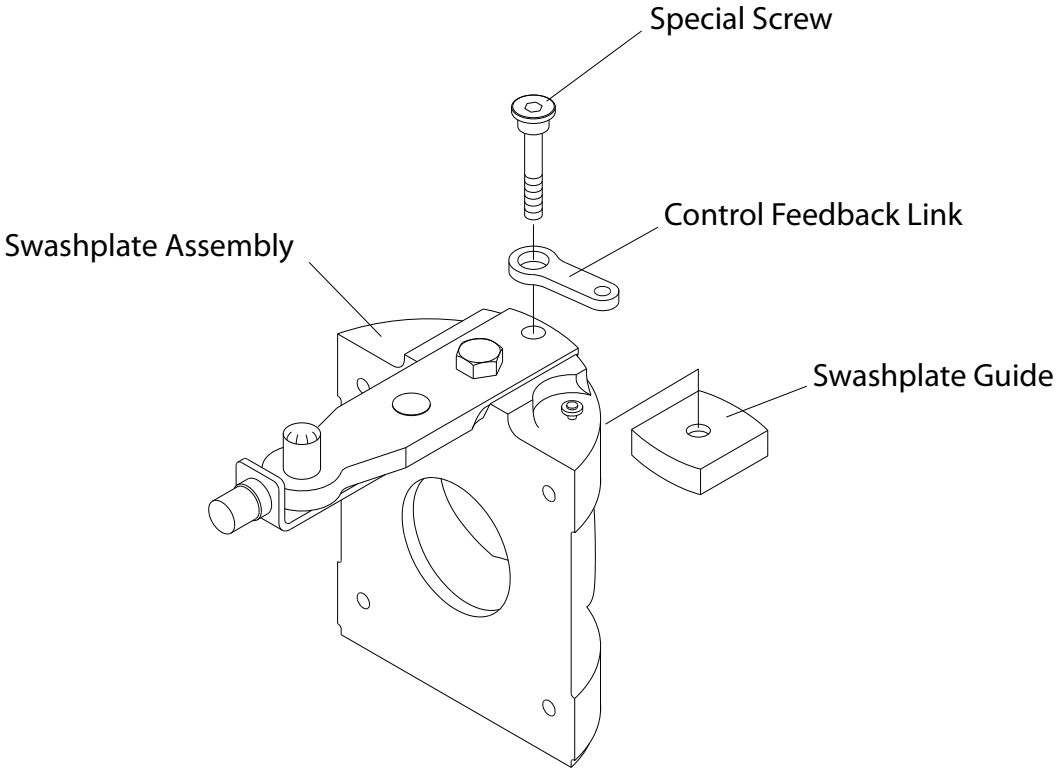
Subject

Feedback link retention

Description

Effective in September of 1992, the feedback link in series 90 pumps will be mechanically retained to the swashplate. In the past, the link slipped over a specially ground socket head screw and could fall off the screw during assembly. The screw has changed to include a head to retain the link. The feedback link does not change.

SB-1992-011



Models affected

All 94-2xxx (55 cc), 95-2xxx (75 cc), and 96-2xxx (100 cc) pumps

Serial numbers

Pumps with serial number A-92-38-xxxx and beyond include the new feature.

Part numbers affected

Frame size	Old screw	New "headed screw"
55 & 75 cc	9007276-0109	9007375-0044
100 cc	9007375-0030	9007375-0032

Parts disposition

Interchangeable

SB-1993-001

Products affected

Series 90 - 55, 75, and 100 cc pumps

Subject

Charge pump design change

Description

The serial numbers mentioned apply only to Ames production units. Neumunster will incorporate the change in July or August of this year.

To improve efficiency and reliability, the number of parts in series 90 charge pumps is being reduced. The charge pump design on 55 cc through 100 cc frame sizes is being changed such that the outer port plate (H30) is an integral part of the charge pump cover (J15) and distance plates are eliminated.

For auxiliary pad options, the new charge pump cover is rotation dependent. The cover will be marked either left hand (L) or right hand (R). The non-auxiliary pad cover is not rotation dependent.

The charge pump shaft also changes and must be replaced when using the new style hardware. The complete charge pump assembly can be interchanged with corresponding hardware from 89-17 and beyond. However, piece parts are not interchangeable. For units prior to 89-17, consult Danfoss.

Models affected Serial numbers

All 94-2xxx, 95-2xxx, and 96-2xxx pumps

Serial numbers

- 55 cc: A-93-10 & beyond
- 75 cc: A-93-10 & beyond
- 100 cc: A93-15 & beyond

Part numbers affected

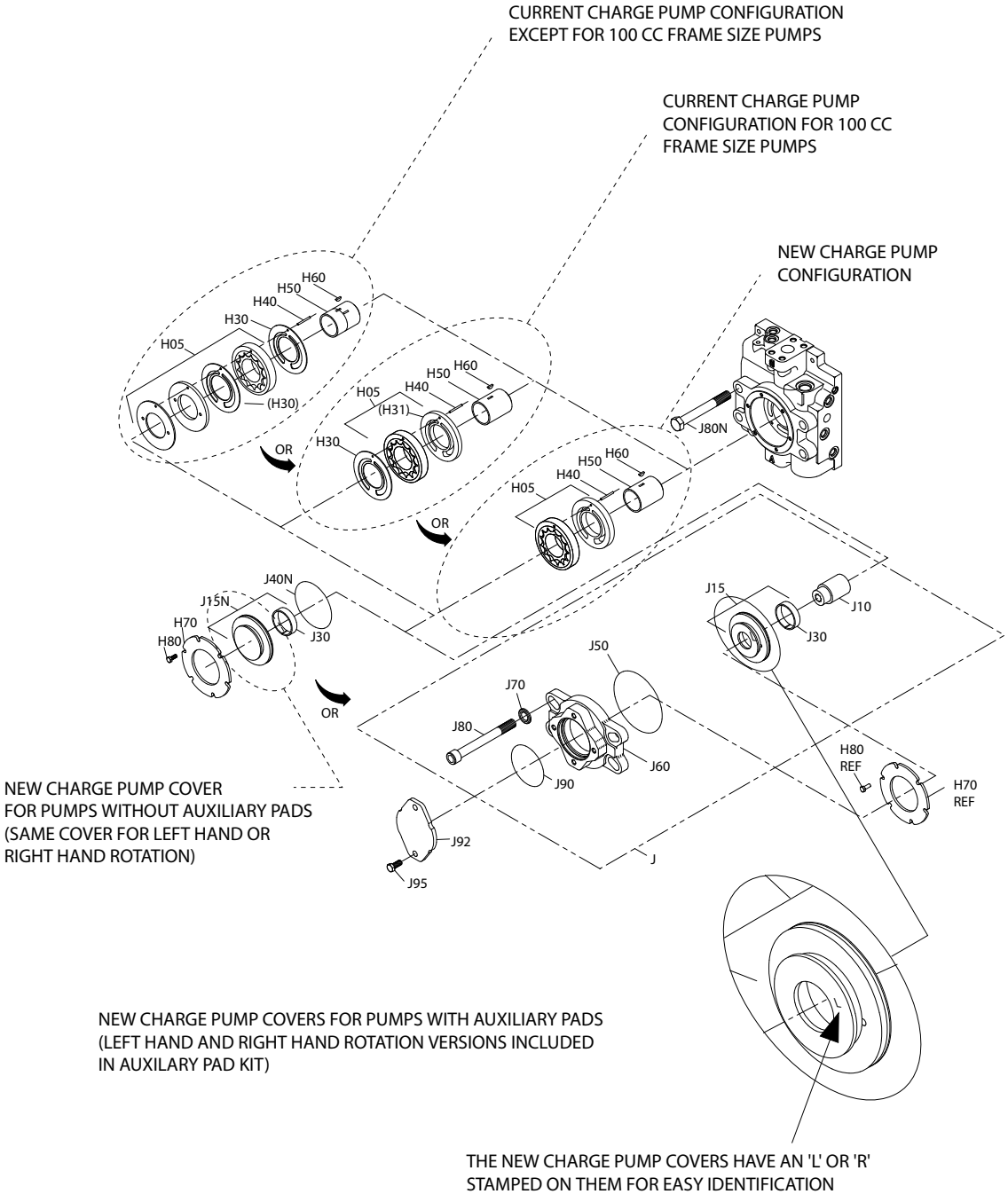
55 cc		75 cc		100 cc		Item number	Description
Before 93-10	After 93-10	Before 93-10	After 93-10	Before 93-15	After 93-15		
8000169	8000268	N/A	N/A	N/A	N/A	H05	11 cc charge pump set
8000170	8000269	8100313	8100479	N/A	N/A	H05	14 cc charge pump set
8000171	8000270	8100314	8100480	8200158	8200238	H05	17 cc charge pump set
N/A	N/A	8100315	8100481	8200159	8200239	H05	20 cc charge pump set
N/A	N/A	N/A	N/A	8200160	8200240	H05	26 cc charge pump set
8800314	N/A	8800314	N/A	8800314	N/A	H30	Port plate
N/A	Incl. in H05	N/A	Incl. in H05	8800315	Incl. in H05	H31	Port plate
8000174	8000267	337956	8100476	337956	8100476	H50	Charge pump shaft
8800513	8800834	8800513	8800834	8800513	8800834	J15N	Charge pump cover assy.
8800514	See J15L/R	8800514	See J15L/R	8800514	See J15L/R	J15	Aux. charge pump cover
N/A	8800833	N/A	8800833	N/A	8800833	J15L	Aux. L.H. cover assy.
N/A	8800832	N/A	8800832	N/A	8800832	J15R	Aux. R.H. cover assy.

Piece parts are not interchangeable

Parts disposition

Interchangeable for s/n 89-17-xxxxx and beyond. Piece parts are not interchangeable.

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CURRENT CHARGE PUMP CONFIGURATION
EXCEPT FOR 100 CC FRAME SIZE PUMPS
CURRENT CHARGE PUMP
CONFIGURATION FOR 100 CC
FRAME SIZE PUMPS
NEW CHARGE PUMP
CONFIGURATION
H60
H50
H40
H30
H05
(H30)
OR
H05
(H31)
H40
H50
H60
H30
OR
H05
H40
H50
H60
J80N
J40N
J15N
H70
H80
J30
OR
J15
J10
J30
J50
J70
J80
J60
J90
H80
REF
H70
REF
J92
J95
J
NEW CHARGE PUMP COVER
FOR PUMPS WITHOUT AUXILIARY PADS
(SAME COVER FOR LEFT HAND OR
RIGHT HAND ROTATION)
NEW CHARGE PUMP COVERS FOR PUMPS WITH AUXILIARY PADS
(LEFT HAND AND RIGHT HAND ROTATION VERSIONS INCLUDED
IN AUXILARY PAD KIT)
THE NEW CHARGE PUMP COVERS HAVE AN 'L' OR 'R'
STAMPED ON THEM FOR EASY IDENTIFICATION

SB-1993-002

Products affected

Series 90 pump: All frame sizes

Subject

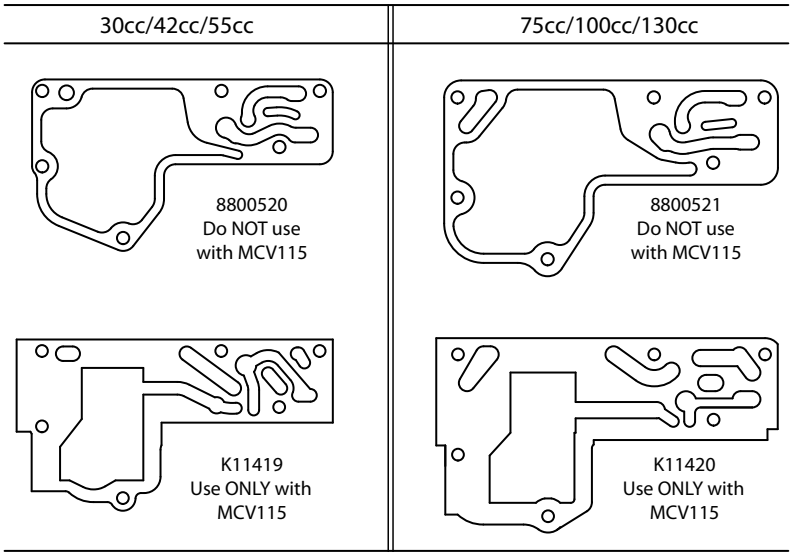
Control gasket changes for MCV115 hydraulic displacement control

Description

In October of 1992, Danfoss began offering a new style hydraulic displacement control (MCV115) that is a direct replacement for the MCV112.

The control gasket also changed, and the new style gasket must be used with the MCV115 control. The old style gasket is to be used with the MCV112 control, all manual displacement controls, and MCV111 electric displacement controls.

WARNING
Failure to use the appropriate gasket may result in uncontrolled pump displacement



Models affected

All 93-2xxx, 94-2xxx, 95-2xxx, 96-2xxx, and 97-2xxx pumps

Serial numbers

October 1992 and beyond

Part numbers affected

Frame size	Control gasket for EDC	Control gasket for HDC		Control gasket for MDC
	(MCV111)	(MCV112)	(MCV115)	(8x02M0Mx)
30/42/55 cc	8800520	8800520	K11419	8800520
75/100/130 cc	8800521	8800521	K11420	8800521

Parts disposition

Non-interchangeable

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SB-1993-015A

Products affected

Series 90 pump: All frame sizes

Subject

Servo arm interference with speed sensor ring

Description

Note: This service bulletin revision adds the 42 cc frame size and the incorporation date of 55 thru 100 cc.

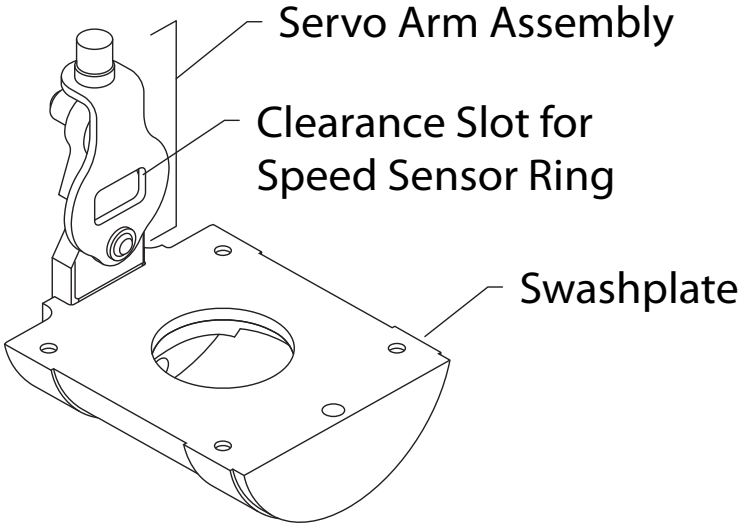
A potential interference problem has been identified in series 90 42, 55, 75, and 100 cc frame size pumps built since early 1992. Interference may occur between the swashplate hold down bracket on the servo arm and the speed sensor ring, which may be installed on the cylinder block as an option.

A new hold down bracket has been designed to provide clearance for the speed sensor ring.

If a cylinder block with speed ring must be installed in one of the subject pumps, a servo arm assembly with the new hold down will also be required.

Sometime during the first quarter of 1994, all 55, 75, and 100 cc pumps will be equipped with the new design hold down bracket. The 42 cc pumps will implement the new design hold down bracket in the second quarter of 1994.

SB-1993-015A



Models affected

All 93-2xxx, 94-2xxx, 95-2xxx, and 96-2xxx variable pumps

Serial numbers

42 cc at serial number 92-16-xxxxx

55 cc at serial number 92-06-xxxxx

75 cc at serial number 92-17-xxxxx

1000 cc at serial number 92-12-xxxxx

Part numbers affected

All 55, 75 and 100 cc pumps built in Ames beginning with s/n A-94-11-xxxxx will have the new servo arm assembly installed. 100 cc pumps built in Neumunster will also incorporate on this date. The75 cc pumps built in Neummunster will incorporate on N-94-14-xxxxx 42 cc pumps will incorporate on N-94-36-xxxxx.

Frame size	Old servo arm (no slot in bracket)	New servo arm (with slot in bracket)
42 cc	354282	502976
55 cc	8000191	8000318
75 cc	8100366	8100499
100 cc	8200182	8200268

Parts disposition

Non-interchangeable - Pumps with speed sensor ring must use the new servo arm.

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SB-1994-017

Products affected

Series 90 55-100 cc variable pumps

Subject

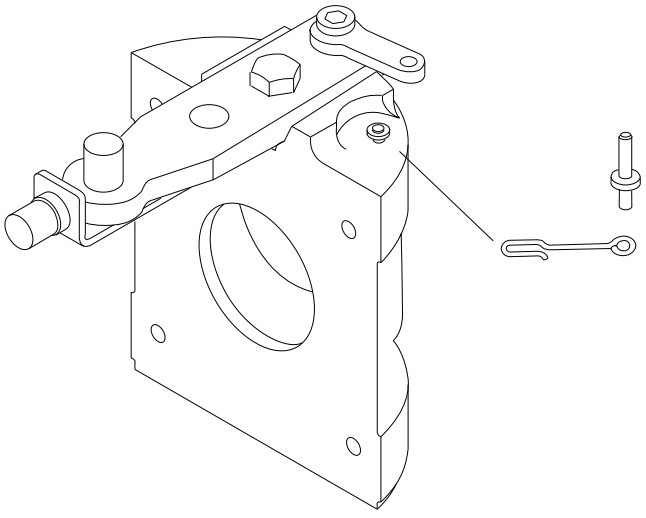
Swashplate cage locator

Description

As a product improvement, Sauer-Danfoss has made a design change to the cage locator link used on the 55 thru 100 cc variable pumps.

The new link is made from square wire. In the past, the link was made from round wire, This is an interchangeable change.

SB-1994-017



Cage Locator Link

Models affected

All, 94-2xxx + 942xxx, 95-2xxx, + 952xxx and 96-2xxx + 962xxx variable pumps

Serial numbers

55 and 75 cc pumps serial number 94-18-xxxxx 100 cc pumps will begin 4th quarter 1994

Part numbers affected

	Old link	New link
55 cc	8100241	8100506
75 cc	8100241	8100506
100 cc	8200108	8200273

Parts disposition

Interchangeable

SB-1994-018

Products affected

Series 90 variable pumps

Subject

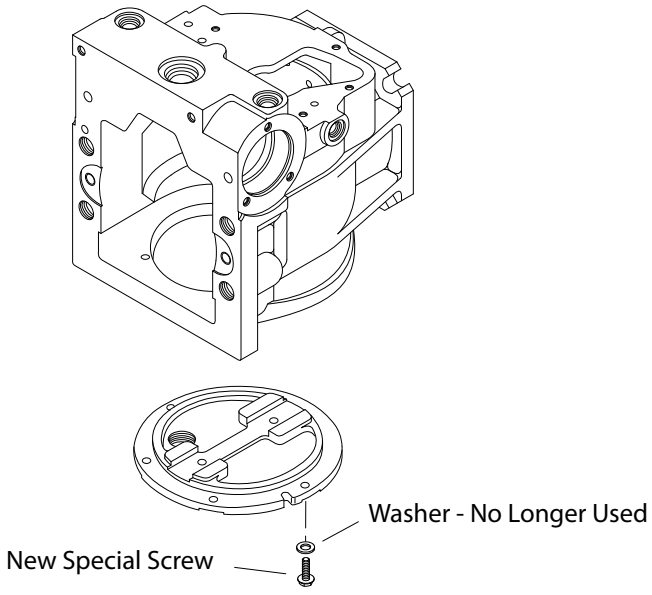
Side cover washer elimination

Description

The washers located under the side cover screws have been removed on all series 90 42 through 130 cc variable pumps.

As before, the side cover screws must be replaced if they are removed for any reason. The special coating, which seals and retains the screws, wears off when the screws are removed.

The screw length changed on 55 through 100 cc pumps, so it is important that the washers are discarded during repair. The proper screw is included in the overhaul seal kits.



Models affected

All 93-2xxx, 94-2xxx, 95-2xxx, 96-2xxx, and 97-2xxx variable pumps

Serial numbers

Change took place during the quarter 2 and 3 of 1994

Part numbers affected

Pump size	Old screw	New screw
42 cc	648477	Same part number
55-100 cc	9007276-0115	517228 (5000206)
130 cc	308700	Same part number

Parts disposition

Interchangeable

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SB-1994-036

Products affected

Series 90 55 thru 130 cc variable pumps

Subject

Integral filtration manifold

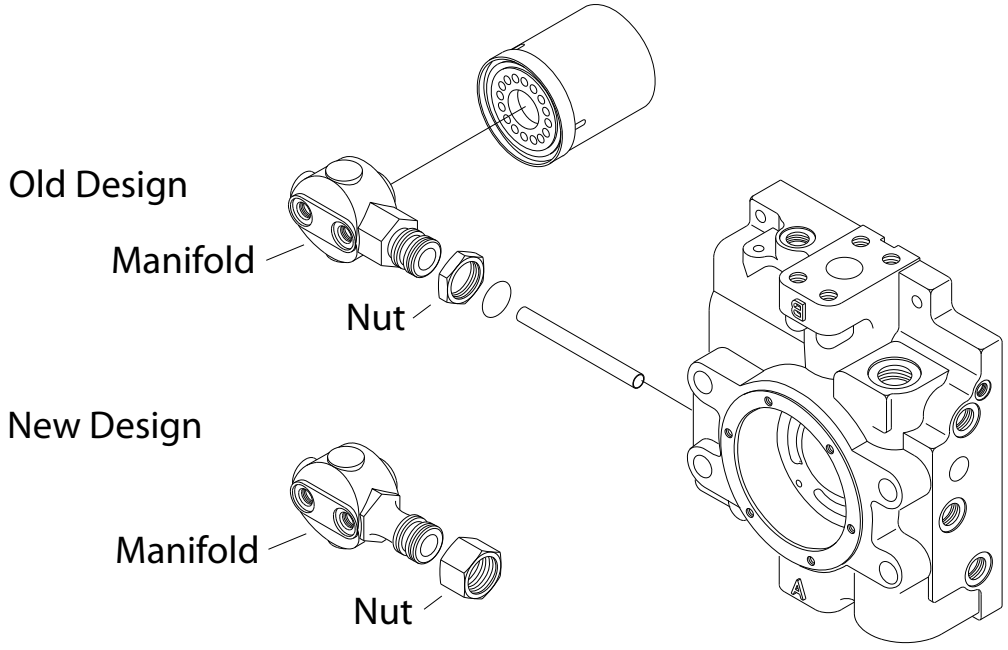
Description

As a product improvement, Sauer-Danfoss is changing the integral filter manifold and bulkhead nut to make it more easily indexed.

The old bulkhead nut may be used with either the old or new filter manifold. The new bulkhead nut can only be used with the new filter manifold.

The old bulkhead nut will remain available as a service part. The old filter manifold will be obsoleted and no longer available as a service part.

SB-1994-036



Models affected

All series 90 55 thru 130 cc variable pumps with "L", "M", or "P" filtration option code

Serial numbers

Change occurred at serial number 95-18-xxxxx

Part numbers affected

Description	Part number (prior to 95-18)	Part number (95-18 & beyond)
Filter manifold	8800200	8800896
Bulkhead nut	9002863-1600	5000222

Parts disposition

Interchangeable - new bulkhead nut can only be used with new filter manifold

SB-1995-003

Products affected

Series 90 variable pumps - all frame sizes

Subject

Manual displacement control (MDC) with DC electric solenoid override

Description

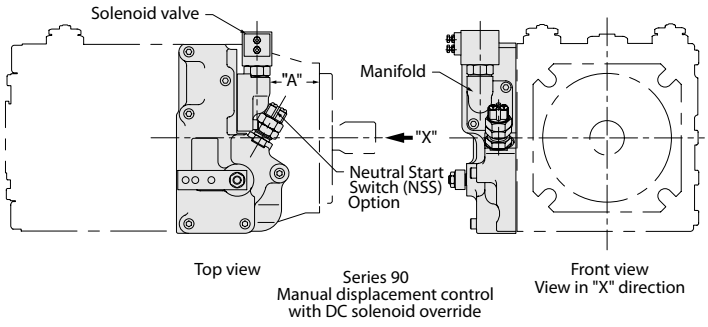
In order to accommodate our European customers, the manifold which attaches to the front of the manual displacement control (MDC) housing is being changed.

The European solenoid valve requires a thicker manifold to provide clearance between the solenoid and the front of the MDC housing. The revised manifold will protrude closer to the mounting flange of the pump, reducing dimension "A" shown in the accompanying drawing by approximately 5 mm [0.2 in]. Please see chart below for specific clearances.

The thicker manifold requires longer screws and may be used with either the U.S. or European sourced solenoid.

This change will become effective during March of 1995. The old manifold will be obsoleted and no longer available as a service part.

SB-1995-003



Series 90
Manual displacement control
with DC solenoid override

Frame size		42	55	75	100	130
Dimension "A" mm [in]	Current	39.9 [1.57]	55.9 [2.20]	54.1 [2.13]	60.2 [2.37]	74.4 [2.93]
	Future	34.9 [1.37]	50.9 [2.0]	49.1 [1.93]	55.2 [2.17]	69.4 [2.73]

Models affected

All series 90 variable pumps using MDC with DC electric solenoid override.

Serial numbers

Change will take place in March 1995.

Part numbers affected

Description	Current part number	New part number	Quantity
Manifold	8800365	505022	1
Screw	9007314-0605	9007314-0606	2

Parts disposition

Interchangeable (new manifold requires longer screws)

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SB-1995-025

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

Side cover design change

Description

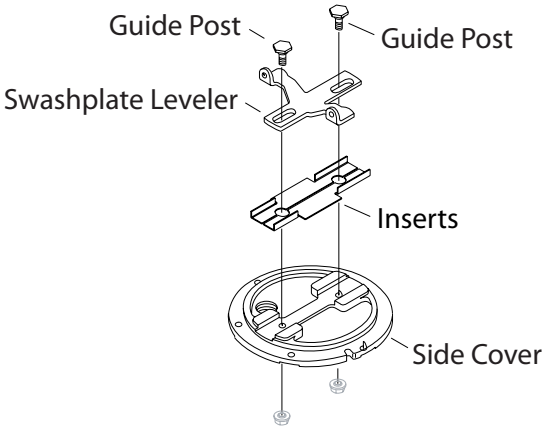
As a product improvement, Sauer-Danfoss is changing the side cover and swashplate leveler ("T-bar") guide post design.

The new design side cover will have two hardened inserts in the machined slot, which serves as a guide for the swashplate leveler, and modified guide posts. The swashplate leveler does not change.

Old guide posts will remain available for service requirements of pumps with the old design side cover.

The old style side cover will be obsoleted and no longer available as a service part. A service kit has been created for replacing the old design side cover. The kit includes the new side cover, guide posts, and inserts. Piece parts are not interchangeable.

SB-1995-025



Models affected

All 55,75, & 100 cc variable pumps

Serial numbers

This change became effective at serial number A-95-50-xxxxx.

Part numbers affected

Description	Old part numbers		New part numbers		
	Guide post	Side cover	Insert assy.	Guide post	Side cover kit
55 cc	8100353	8000157	8000406	8000379	8510097
75 cc	8100353	8100226	8100562	8000379	8510098
100 cc	8100353	746560	8200321	8000379	8510099*

Parts disposition

Interchangeable as a kit. Piece parts are not interchangeable.

SB-1995-026

Products affected

Series 90 42 cc - 130 cc variable pumps

Subject

Standard valve plate part number change

Description

As a product improvement, Sauer-Danfoss is changing the standard valve plate used in series 90 42 thru 130 cc variable pumps. (refer to PIB-9507)

The purpose of this bulletin is notification of part number changes for the order codes affected. During unit repair, do not replace the new style valve plate with an old style valve plate. However, the old style may be replace with a new style valve plate.

The old style valve plates will be obsoleted and no longer available as a service part.

Models affected

All 932xxx, 942xxx, 952xxx, 962xxx, and 972xxx variable pumps

Serial numbers

This change became effective at serial number N-95-48-xxxxx

Part numbers affected

Unit	Old order code	Old valve plate part number	New order code	New valve plate part number
42 cc	NNN	500337	GBA	758383
55 cc	NNN	8000071	GBA	8000431
75 cc	NNN	8100145	GBA	501332
100 cc	NNN	8200041	GBA	501327
130 cc	NNN	700203	GBA	758425

Parts disposition

Interchangeable - do NOT substitute the old valve plate for the new valve plate

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SB-1996-009

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

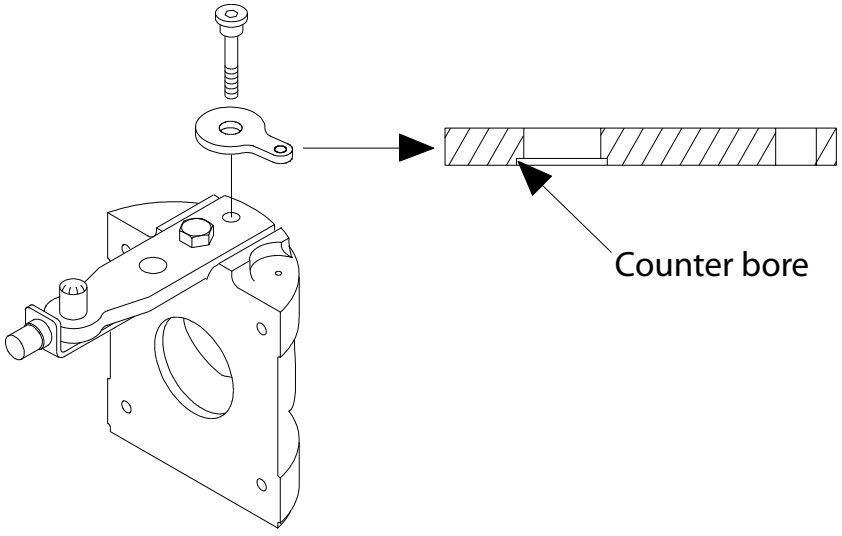
Change swashplate feedback link

Description

As a product improvement, Sauer-Danfoss is changing the design of the swashplate feedback link used on the 55, 75, and 100 cc variable pumps.

The new swashplate link has a counter bore that allows for clearance between the feedback link and the servo arm screw. The counter bore side of the link must be installed such that the counter bore is facing the surface of the servo arm.

SB-1996-009



Models affected

All 942xxx, 952xxxx, and 962xxx variable pumps

Serial numbers

For 55 and 75 cc pumps, the change became effective at serial number A-96-22-xxxxx. For 100 cc pumps, the change became effective at serial number A-96-12-xxxxx

Part numbers affected

Frame size	Old part number	New part number
55 cc	8000096	8000481
75 cc	8000096	8000481
100 cc	8200106	8200344

Parts disposition

Interchangeable

SB-1998-018

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

Swashplate bearing cage locator pin

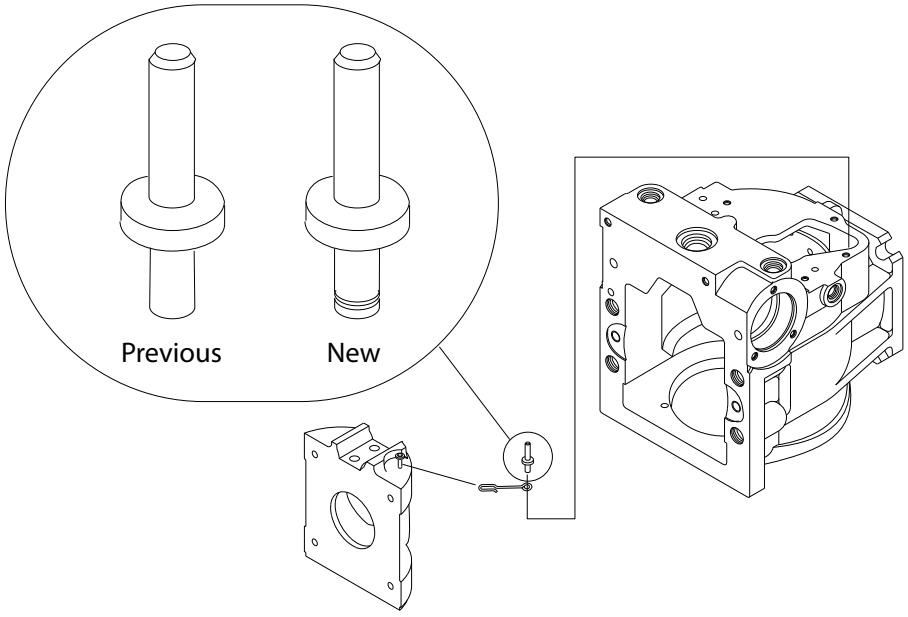
Description

Sauer-Danfoss has modified the design of the swashplate bearing cage locator pin used in the series 90 55, 75, and 100 cc variable displacement pumps.

The improved design includes a rubber gripping element on the portion of the pin that is in the main pump housing. The rubber element aids in retaining the pin in the housing during normal pump assembly and servicing procedures, by increasing the interference fit between the pin and the pilot hole in the pump housing.

To aid in identifying this change, Sauer-Danfoss has released a new part number for the updated pin design. The new pin is completely interchangeable with the previous pin part number. The previous pin has been obsoleted.

SB-1998-018



Models affected

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

Serial numbers

This change became effective at serial number 98-24-xxxxx

Part numbers affected

	Prior to 98-24	98-24 and beyond
Pin part number	8100235	8801135

Parts disposition

Interchangeable

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SB-1998-041

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.

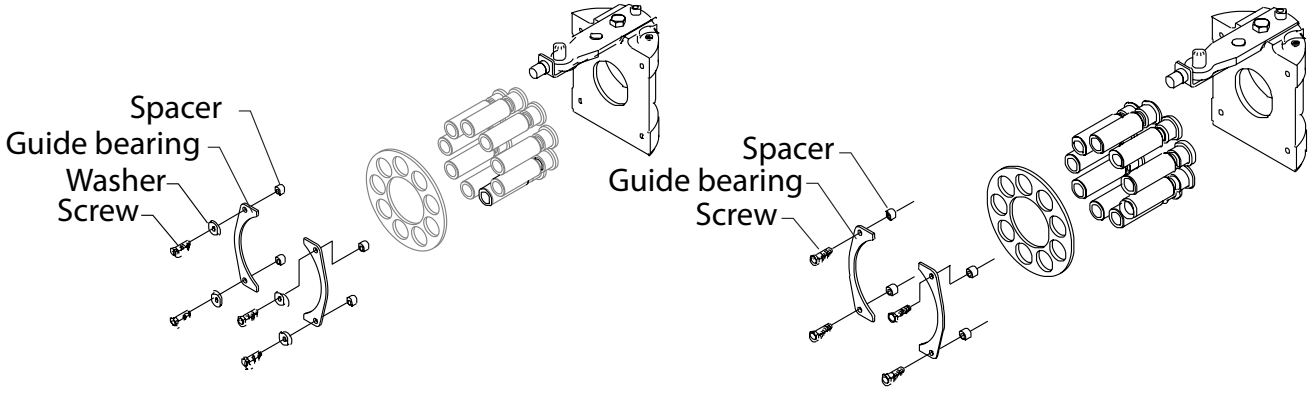
Previously, the hold down assembly consisted of a spacer, slipper guide bearing, washer, and screw. The spacer provides a fixed amount of operational clearance for the slipper and slipper retainer. The guide bearing provides a wear surface for the slipper retainer, while the hold down screws and washers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

SB-1998-041



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

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SB-1998-066

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

Charge pump shaft part number change

Description

As a product improvement, Sauer-Danfoss has modified the design of the charge pump shaft used in series 90 55, 75 and 100 cc pumps. This change affects all charge pump sizes (11, 14, 17, 20, 26, and 31 cc) available in the series 90 displacement range.

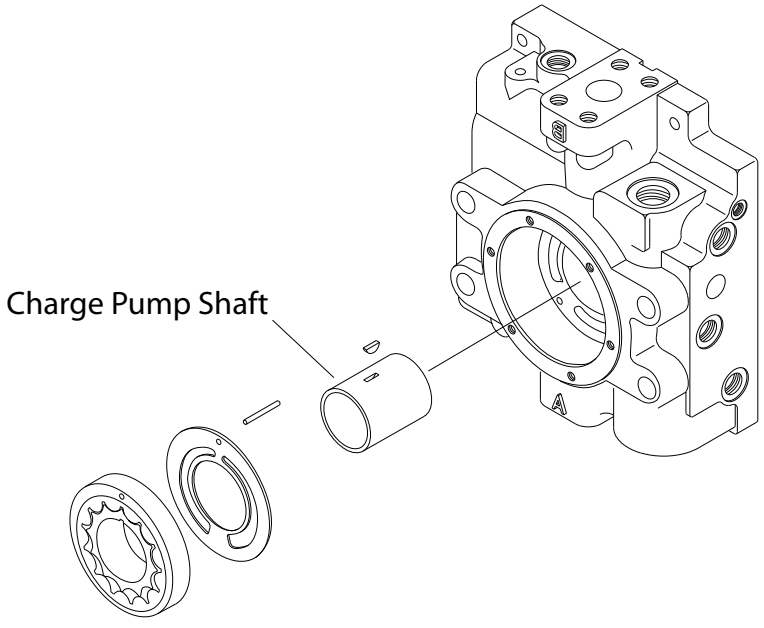
The series 90 55 cc variable displacement pump uses the same charge pump shaft, regardless of charge pump size (11, 14, or 17 cc). The series 90 75 and 100 cc variable displacement pumps, utilize a common charge pump shaft for the standard size charge pumps (75 cc standard equals 14, 17, and 20 cc and 100 cc standard equals 17, 20, and 26 cc).

A unique charge pump shaft is utilized by series 90 75 cc variable displacement pumps equipped with the 26 cc size charge pump., while the same unique shaft is used by series 90 100 cc variable displacement pumps equipped with 31 cc size charge pumps.

The design modification includes a surface finish change to the charge pump shaft which improves the wear characteristics between the charge pump shaft and the journal bearings in the charge pump cover and end cap.

To assist in identifying this change, Sauer-Danfoss has released new charge pump shaft part numbers. The new shafts are completely interchangeable with the previous shafts. The new shaft has replaced the previous shaft in new pump assemblies and charge pump service kits. The previous shafts have been obsoleted and are no longer available as a service part. The chart on the next page will assist you in determining the part number changes.

SB-1998-066



Models affected

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

NOTE: Pump models 9621723 and 9622117 were released with a special charge pump option (code W - 26 cc charge pump with special shaft). With this product modification, the charge pump option code for these two models has been changed from W to the standard option (code F - 266 cc charge pump). The special shaft part number 8801176 has been obsoleted and replaced with shaft part number 8801178.

Serial numbers

Sauer-Danfoss Ames production - effective at serial number A-99-40-xxxxx

Sauer-Danfoss Neumunster production - effective at serial number N-99-39-xxxxx

Part numbers affected

Series 90 Size	Charge pump	Previous shaft	New shaft	Charge kit		
				No aux. pad	LH w/aux.	RH w/aux.
55	11	8000267	8801177	8510028	8510029	8510030
55	14	8000267	8801177	8510031	8510032	8510033
55	17	8000267	8801177	8510034	8510035	8510036
75	14	8100476	8801178	8510037	8510038	8510039
75	17	8100476	8801178	8510040	8510041	8510042
75	20	8100476	8801178	8510043	8510044	8510045
75	26*	8100478	8801179	N/A	N/A	N/A
100	17	8100476	8801178	8510046	8510047	8510048
100	20	8100476	8801178	8510049	8510050	8510051
100	26	8100476	8801178	8510052	8510053	8510054
100	31*	8100478	8801179	N/A	N/A	N/A

* Special charge pump shaft option using unique charge pump shaft

Parts disposition

Interchangeable

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SB-1999-019

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

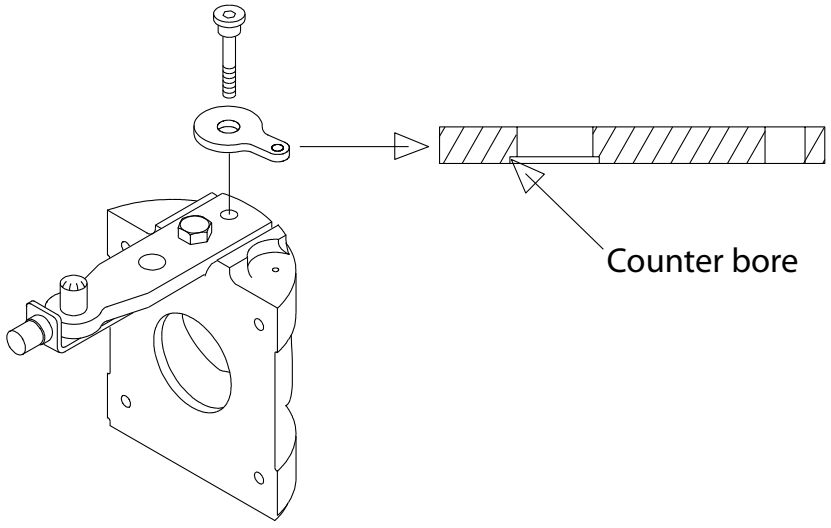
Feedback link change

Description

As a product improvement, Sauer-Danfoss is changing the design of the swashplate feedback link used on the 55, 75, and 100 cc variable pumps.

In 1996, a counter bore was added to the design of our swashplate link to allow for a higher clamping load when assembled to the servo arm. This change was described in SB-1996-009. The counter bore is no longer required on most units due to a design change to the servo arm. Sauer-Danfoss recommends the old feedback link be used when servicing pumps with dates codes prior to 96-40-xxxxx. The old feedback link will remain available as a service part.

SB-1999-019



Models affected

All series 90 55, 75, and 100 cc variable pumps

Serial numbers

This change became effective at serial number A-96-40-xxxxx.

Part numbers affected

	100 cc	55 & 75 cc
Old part number	8200344	8000481
New part number	8200413	8000602

Parts disposition

Non-interchangeable

SB-1999-041A

Products affected

Series 90 variable pumps

Subject

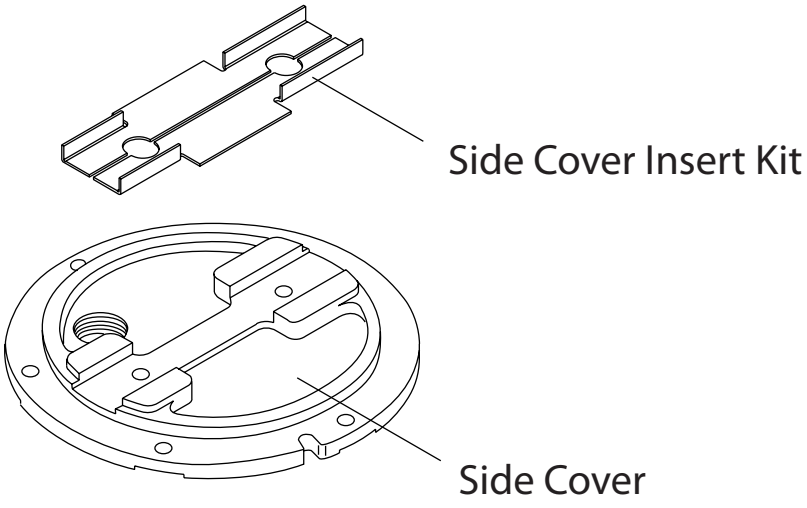
Change to side cover insert material

Description

As a continuous product improvement, Sauer-Danfoss has changed the side cover insert material to improve wear characteristics. The new material is more wear resistant than the previous material.

In order to track this change, new part numbers have been created and the old part numbers will be obsolete.

SB-1999-041A



Models affected

93-2xxx, 94-2xxxx, 95-2xxx, 96-2xxxx, 97-2xxx, 98-2xxx, and 99-2xxx

Serial numbers

Frame size	NMS effective date	Ames effective date
42 cc	N-99-36-xxxxx	N/A
55 cc	N-00-18-xxxxx	A-00-18-xxxxx
75 cc	N-99-26-xxxxx	A-00-38-xxxxx
100 cc	N-99-31-xxxxx	A-00-38-xxxxx
130 cc	N-99-33-xxxxx	N/A
180 cc	N-99-36-xxxxx	N/A
250 cc	N-99-36-xxxxx	N/A

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Part numbers affected

Frame size	Old part number	New part number
42 cc	506916	513885-S
55 cc	8000406	513886-S
75 cc	8000562	513888
100 cc	8200321	513889-S
130 cc	8300004	513890-S
180 cc	506914	513891
250 cc	506914	513891

Parts disposition

Interchangeable

SB-2000-041A

Products affected

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

Subject

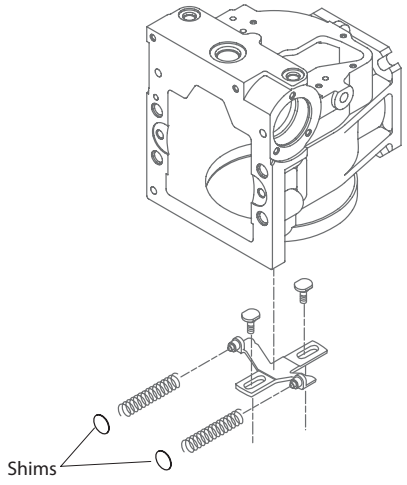
Common leveler spring shim

Description

The date code for the series 90 55cc should have been for a date code of A-92-06-xxxxx not A-02-06-xxxxx.

Danfoss has standardized the leveler spring shim used on all 55, 75, and 100 cc variable displacement pumps. Two different shims were used in the past. One size was for 55 and 75 cc pumps, and the other for the 100 cc pumps. The new shim can be used in all three frame sizes.

Danfoss has issued a new part number for the new shim. The new shim is interchangeable for 55 cc pumps built after A-92-06-xxxxx, 75 cc pumps built after A-96- 19-xxxxx,and 100 cc pumps. For pumps manufactured prior to these dates, you will need to reuse the old shims, as the new shim outer diameter is larger, and this will cause the new shim to not seat correctly in the bottom of the pocket in the end cap. The old shim part numbers are obsolete.



Models affected

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

Serial numbers

Danfoss Ames, Iowa production change was effective at serial number A-00-40-xxxxx

Danfoss Neumunster, Germany production change was effective at serial number N-01-27-xxxxx

Part numbers affected

Frame size	Old part number	New part number
55 cc	359042	8801225*
75 cc	359042	8801225**
100 cc	359059	8801225

* can only be used in pumps manufactured after A-92-06-xxxxx

** can only be used in pumps manufactured after A-96-19-xxxxx

Parts disposition

Interchangeable

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SB-2002-050

Products affected

Series 90 55, 75, and 100 cc pumps

Subject

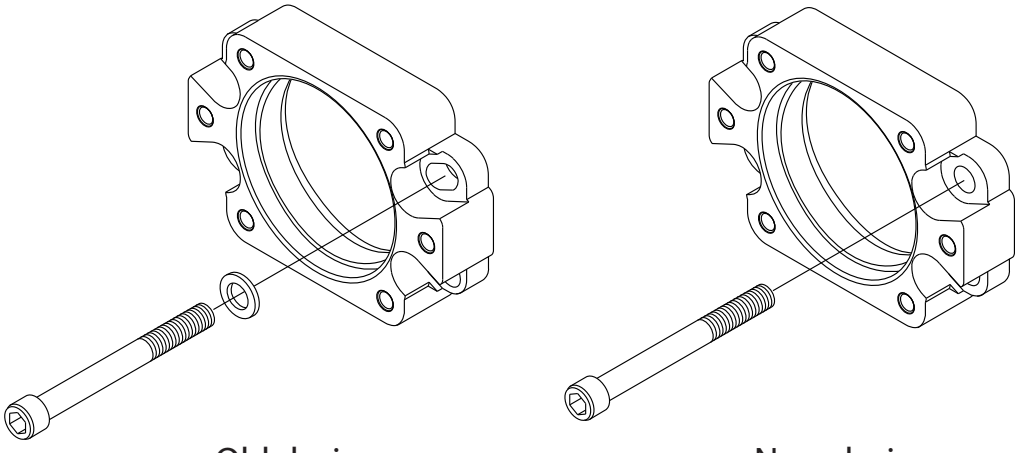
Auxiliary mounting pad

Description

As a product improvement, Sauer-Danfoss has changed the design of the SAE C auxiliary mounting pad to increase strength and reduce corrosion. The old auxiliary mounting pad and new auxiliary mounting pad are interchangeable. The new auxiliary mounting pads are frame size dependent, because they do not have slotted mounting holes. The auxiliary mounting pad screws remain the same, but they do not require washers.

The old auxiliary mounting pad is obsolete and no longer available as a service part. The washers will remain available.

SB-2002-050



Old design

New design

Models affected

Series 90 55, 75, and 100 cc pumps with SAE C auxiliary mounting.

Serial numbers

This change became effective at serial number A-03-10-xxxxx

Part numbers affected

Frame size	Old auxiliary pad part number	New auxiliary pad part number	Old washer part number
55 cc	723205	8000643	5000602
75 cc	723205	8100848	9009625-0132
100 cc	723205	8200469	9009625-0132

The new auxiliary mounting pads are frame size dependent and do not use washers.

Parts disposition

Interchangeable

SB-2004-012

Products affected

Series 90 55 and 75 cc pumps

Subject

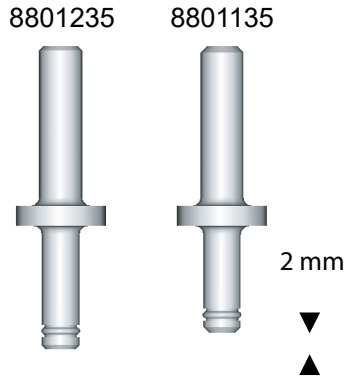
Cage locator pin

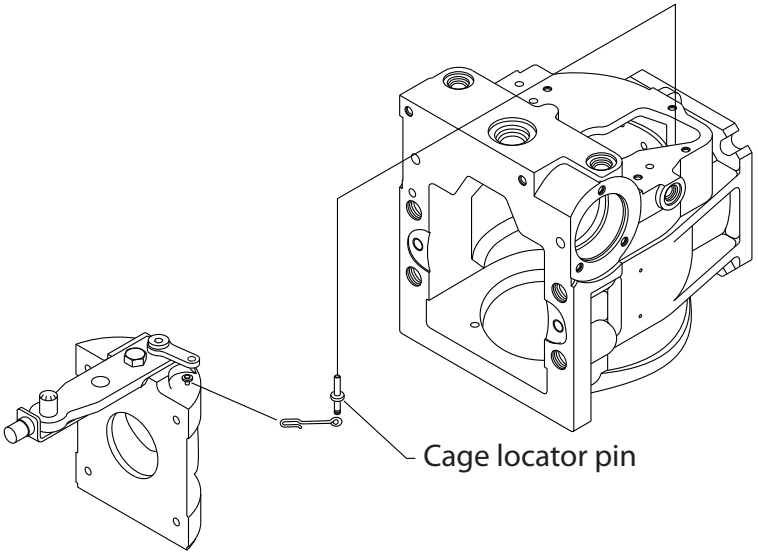
Description

As a product improvement, Sauer-Danfoss is standardizing the cage locator pin for all series 90 55, 75, and 100 cc pumps. All 55 and 75 cc pumps will now use the same locator pin used in 100 cc pumps. The new locator pin extends 2 mm further into the housing than the old pin. The housings have been machined to accept the longer pin.

The old cage locator pin must be used in pumps that have not had the housings modified. The old pin can be used in any vintage pump and will remain available as a service part.

SB-2004-012





Models affected

Series 90 55 and 75 cc pumps.

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Serial numbers and part numbers affected

Frame size	Old pin part number	New pin part number	Housing modification date*
			A-04-43-xxxxx
55 cc	8801135	8801235	N-04-43-xxxxx
			S- not determined
			A-01-26-xxxxx
75 cc	723205	8100848	N-00-01-xxxxx
			S- not determined
100 cc	8801235	8801235	No change

* A = Ames, Iowa N = Neumunster, Germany

S = Shanghai, China (a revision will be made when modification date has been determined.

Parts disposition

Non-interchangeable

SB-2005-011

Products affected

Series 90 42 thru 100 cc pumps

Subject

Auxiliary flange charge pump cover

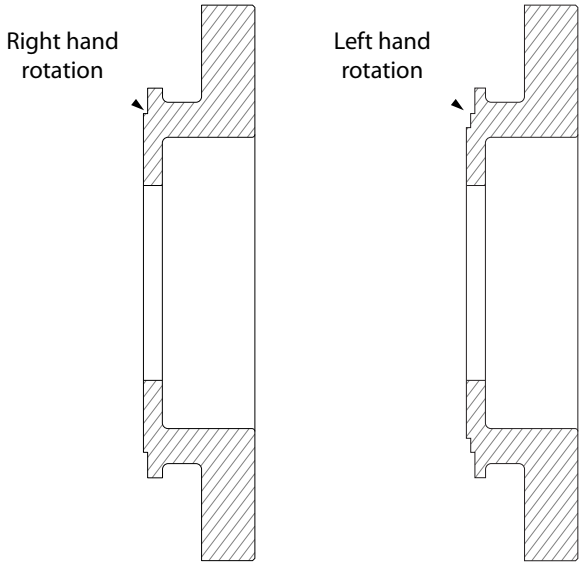
Description

Sauer-Danfoss will no longer mark auxiliary flange charge pump cover with an "R" for right hand rotation or an "L" for left hand rotation.

The pilot surface has changed on the covers. The right hand rotation charge pump cover will have 1 step and the left hand rotation charge pump cover will have 2 steps. Refer to the drawings below for example.

The part numbers of the charge pump covers will not change.

SB-2005-011



Models affected

Series 90 42 thru 100 cc pumps with auxiliary pad options.

Serial numbers

This change became effective at serial number A-05-17-xxxxx

Part numbers affected

None

Parts disposition

Interchangeable

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SB-2007-027

Products affected

Series 90; 55, 75 , and 100 cc pumps

Subject

SAE A auxiliary mounting flange

Description

Danfoss is pleased to announce a design improvement on the SAE A auxiliary mounting flange adapter on all its series 90 pumps. All manufacturing locations producing these pumps will be changed to this configuration.

The improvement comes in the form of a more robust sealing geometry with a larger cross- section O-ring. The O-ring groove in the flange will now be sized to mate with a 2.62mm [0.103] cross section O-ring rather than the old 1.78mm [0.070] cross-section O-ring.

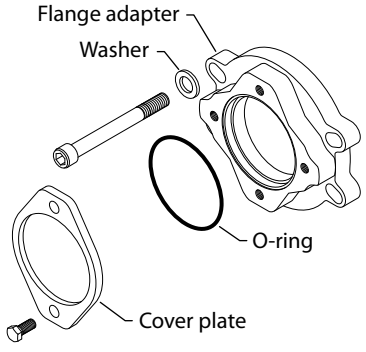
The Danfoss part number for the new O-ring is 9004104-1520 (2.62mm [0.103]. x 82.22mm [3.237]). The larger cross-section sealing geometry allows for the use of a donut style A pad seal and a new flat cover for improved assembly. This new configuration is qualified as a running cover. When installing an auxiliary pump, the donut style A pad seal must be discarded and the part number 9004104-1520 O-ring used.

Also, the flanges will no longer have a slotted interface with a washer for the end cap screws. The flanges will now have round through holes for the end cap screws and will use no washers. The end cap screws do not change. This eliminates the area where water or high pressure wash chemicals can be trapped around the end cap screws. There now are specific part numbers for the flanges used on each of the three displacement size pumps; 55, 75 and 100 cc.

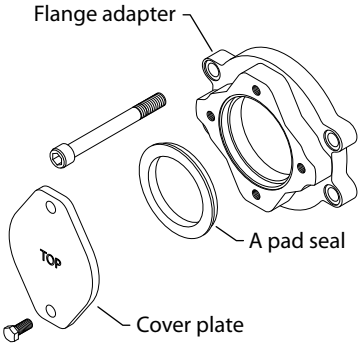
The pumps will now be supplied with the donut style A pad seal and new flat cover, instead of the small O-ring and cover plate (shown in the drawing below).

The overhaul seal kit will include the old O-ring, the new O-ring and the A pad seal.

Old Design



New Design



Models affected

All series 90; 55, 75, and 100 cc pumps with SAE"A" auxiliary mounting flanges.

Serial numbers

This change became effective at serial number A-07-05-xxxxx

Part numbers affected

Description	Old p/n	Used on	New p/n	Used on
Flange adapter	8000262	55 cc	8000641	55 cc
Flange adapter	8800172	55, 75 & 100 cc	8000641	55 cc
Flange adapter	8800172	55, 75 & 100 cc	8100846	75 cc

Description	Old p/n	Used on	New p/n	Used on
Flange adapter	8800172	55, 75 & 100 cc	8200467	100 cc
Washer	9009625-0132	55, 75 & 100 cc	NA	NA
O-ring	9004104-0420	All sizes	9004104-1520	All sizes
A Pad seal	NA	All sizes	4800482	All sizes
Flange cover	9802336	All sizes	4460586	All sizes

If the new auxiliary flange adapter is used, the new o-ring or A-pad seal and cover must also be used.

Parts disposition

- Interchangeable- if new o-ring or A-pad seal and cover are replaced
- Use parts in stock
- Order replacement parts
- Revise existing part orders

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SB-2007-051

Products affected

Series 90; 55, 75 , and 100 cc pumps

Subject

SAE C auxiliary mounting flange

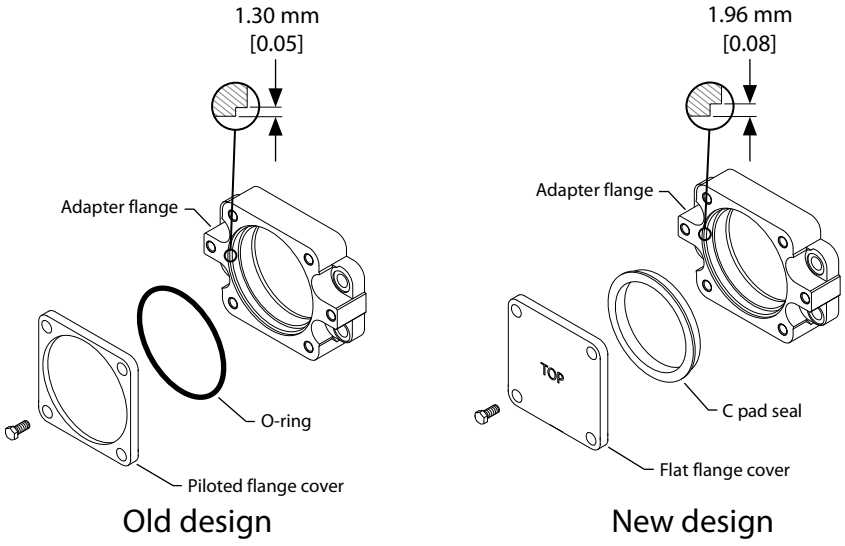
Description

Danfoss is pleased to announce a design improvement on the SAE C auxiliary mounting flange adapter on its series 90 pumps. The frame sizes affected by this change are 55, 75, and 100cc. All manufacturing locations producing these pumps will be changed to this configuration.

The improvement comes in the form of a more robust sealing geometry with a larger cross-section O-ring. The O-ring groove in the flange will now be sized to mate with a 2.62mm [0.103] cross section O-ring rather than the old 1.78mm [0.070] cross-section O-ring. The Danfoss part number for the new O-ring is 9004104-1580 (2.62mm [0.103] x 120.32mm [4.737]). The larger cross-section sealing geometry allows for the use of a donut style C pad seal and a new flat cover for improved assembly. This new configuration is qualified as a running cover. When installing an auxiliary pump, the donut style C pad seal must be discarded and part number 9004104-1580 O-ring used.

The pumps will now be supplied with the donut style seal and new flat cover, instead of the small O-ring and cover plate (shown in the drawing below).

The overhaul seal kit will include the old O-ring, the new O-ring and the new C pad seal.



Old design

New design

Models affected

All series 90; 55, 75, and 100 cc pumps with SAE"C" auxiliary mounting flanges.

Serial numbers

This change became effective at serial number A-08-19-xxxxx and N-09-30-xxxxx

Part numbers affected

Description	Old part number	Used on	New part number
SAE C flange	8200469	100cc	8200515
SAE C flange	8100848	75cc	8100897
SAE C flange	8000643	55cc	8000740
O-ring	9004100-0480	55, 75, 100cc	9004104-1580

Description	Old part number	Used on	New part number
C pad seal	N/A	55, 75, 100cc	8801062
Flange cover	8800406	55, 75, 100cc	8801060

If the auxiliary flange adapter is used, the new o-ring or C pad seal and cover must also be used.

Parts disposition

- Interchangeable- if new o-ring or C pad seal and cover are replaced
- Use parts in stock
- Order replacement parts
- Revise existing part orders

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SB-2007-055

Products affected

Series 90; 55, 75 , and 100 cc pumps

Subject

SAE B auxiliary mounting flange

Description

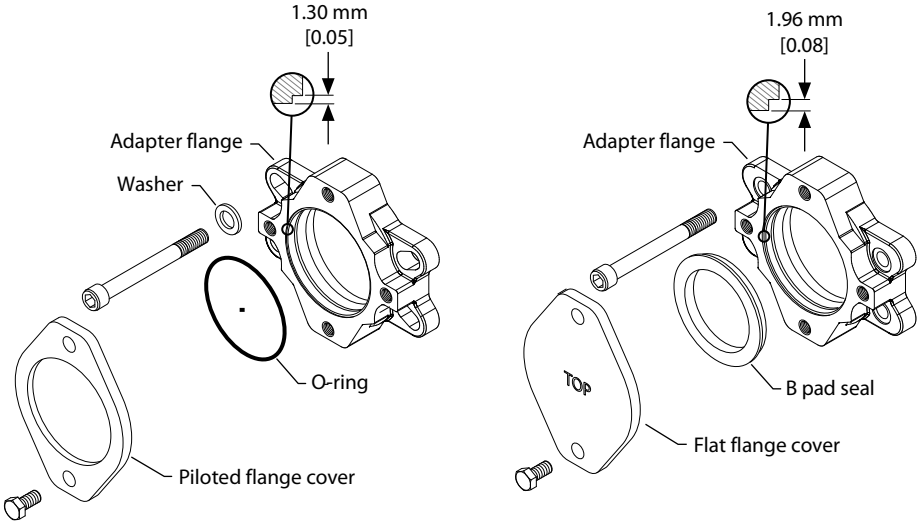
Danfoss is pleased to announce a design improvement on the SAE B auxiliary mounting flange adapter on its series 90 pumps. The frame sizes affected by this change are 55, 75, and 100cc. All manufacturing locations producing these pumps will be changed to this configuration.

The improvement comes in the form of a more robust sealing geometry with a larger cross-section O-ring. The O-ring groove in the flange will now be sized to mate with a 2.62mm [0.103] cross section O-ring rather than the old 1.78mm [0.070] cross-section O-ring. The Danfoss part number for the new O-ring is 9004104-1540 (2.62mm [0.103] x 94.92mm [3.737]). The larger cross-section sealing geometry allows for the use of a donut style B pad seal and a new flat cover for improved assembly. This new configuration is qualified as a running cover. When installing an auxiliary pump, the donut style B pad seal must be discarded and part number 9004104-1540 O-ring used.

Also, the flanges will no longer have a slotted interface with a washer for the end cap screws. The flanges will now have round through holes for the end cap screws and will use no washers. The end cap screws do not change. This eliminates the area where water or high pressure wash chemicals can be trapped around the end cap screws. There now are specific part numbers for the flanges used on each of the three displacement size pumps; 55, 75 and 100 cc.

The pumps will now be supplied with the donut style seal and new flat cover, instead of the small O-ring and cover plate (shown in the drawing below).

The overhaul seal kit will include the old O-ring, the new O-ring and the new B pad seal.



Old design

New design

Models affected

All series 90; 55, 75, and 100 cc pumps with SAE"B" auxiliary mounting flanges.

Serial numbers

This change became effective at serial number A-08-19-xxxxx

Part numbers affected

Description	Old part number	Used on	New part number	Used on
Metric B flange	8800983	55, 75 & 100 cc	8200540	100 cc
SAE B flange	8800173	55, 75 & 100 cc	8200468	100 cc
SAE B flange	8800173	55, 75 & 100 cc	8100847	75 cc
Metric B flange	8800983	55, 75 & 100 cc	8100938	75 cc
SAE B flange	8800173	55, 75 & 100 cc	8000642	55 cc
SAE B flange	8000263	55, 75 & 100 cc	8000642	55 cc
Washer	9009625-0132	55, 75 & 100 cc	N/A	N/A
O-ring	9004104-0450	55, 75 & 100 cc	9004104-1540	55, 75 & 100 cc
B Pad seal	N/A	55, 75 & 100 cc	8801061	55, 75 & 100 cc
Flange cover	4460370	55, 75 & 100 cc	8801059	55, 75 & 100 cc

If the new auxiliary flange adapter is used, the new o-ring or B pad seal and cover must also be used.

Parts disposition

- Interchangeable- if new o-ring or C pad seal and cover are replaced
- Use parts in stock
- Order replacement parts
- Revise existing part orders

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SB-2009-038

Products affected

Series 90 55, 75 and 100 cc pumps

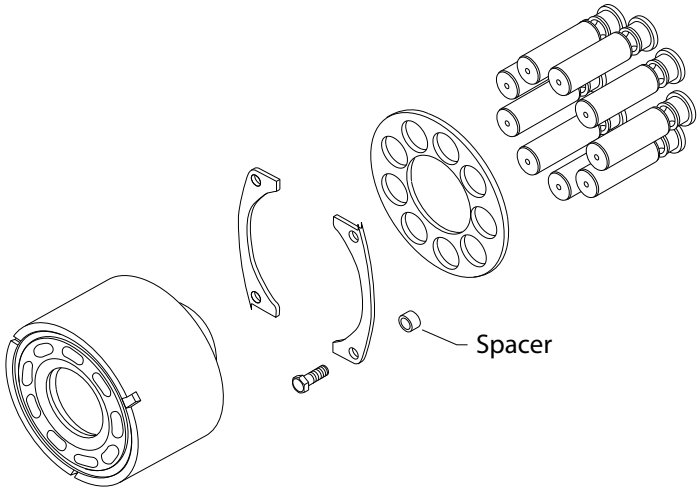
Subject

Slipper hold down spacer

Description

The supplier for the spacers, used for slipper hold down spacing in series 90 pumps, has changed. The new part is physically and functionally interchangeable in all applications. The part numbers have changed to better track this change. The old part numbers will become obsolete and not available for service.

SB-2009-038



Models affected

Series 90 55, 75 and 100 cc pumps.

Serial numbers

This change became effective at serial number:

A09-38-XXXXX for 55cc (14-Sep-2009)

A10-04-XXXXX for 75cc (22-Jan-2010)

A09-38-XXXXX for 100cc (12-Aug-2009)

Part numbers affected

Spacer	Old part number	New part number
55cc	8000619	11065864
75cc	8100777	11065865
100cc	8200422	11065866

Parts disposition

Non-interchangeable

SB-2010-005

Models affected

Series 90 55cc pumps using "BN" order code for SAE B auxiliary mounting flange.

Serial numbers

This change became effective at serial number: A 10-49-XXXXX. (08-Dec-2010)

Part numbers affected

Description	Old part number	New part number
SAE B flange	509258	8000771
Washer	506753	N/A
O-ring	9004104-0450	9004104-1540

Parts disposition

Interchangeable - if new O-ring or C pad seal and cover are replaced

Use parts in stock

Order replacement parts

Revise existing part orders

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SB-2010-025

Products affected

Series 90 55 cc pumps and motors

Subject

Shaft seal change

Description

As a product improvement, Sauer-Danfoss is changing the shaft seal used in the Series 90, 55cc pumps and motors. The new shaft seal carrier assembly is interchangeable, but piece parts are not. The new lip seal has a smaller O.D. and the I.D. of the seal carrier changed accordingly.

Because of the smaller O.D. of the new shaft seal, the old seal retainer plate must not be used with the new shaft seal carrier assembly. The new seal retainer plate can be used with the old shaft seal carrier assembly. The old shaft lip seal will not fit into the new shaft seal carrier and the new shaft lip seal will not fit into the old shaft seal carrier.

The overhaul seal kits will include the new shaft seal carrier assembly and the new retainer plate. Since the outer O-ring is part of the seal carrier assembly the separate O-ring has been removed from the overhaul seal kits.

The old seal carrier assembly and retainer plate are obsolete and no longer available for service.

The old shaft lip seal will be obsolete once the current service parts inventory is depleted.

Models affected

All Series 90 55 cc pumps and motors.

Serial numbers

This change became effective at serial number: A-10-40-XXXXX (01-Oct-2010)

Part numbers affected

Description	Old part number	Old part number
Seal carrier assembly	8000390	11083637
Shaft lip seal	9008000-0118	11013519
O-ring	9004104-1510	9004104-1510
Retainer plate	516766	11083638
Seal carrier replacement kit *	N/A	11084372*

* includes new seal carrier assembly and retainer plate

Parts disposition

Interchangeable - only when using the new seal carrier assembly and new retainer plate, or seal carrier replacement kit

SB-2013-011

Products affected

Series 90 42-250cc pumps

Subject

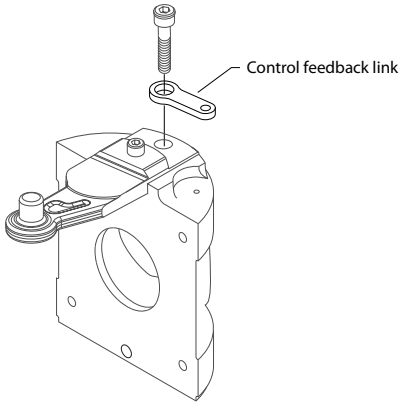
Feedback link - Control

Description

Sauer-Danfoss has changed to a global supplier for the control feedback links used in Series 90 42-250cc pumps.

Old parts and new parts are completely interchangeable. Part numbers will be changing for tracking purposes. Old parts will become obsolete and no longer available as a service part.

SB-2013-011



Models affected

Series 90 42-250cc pumps

Part numbers affected

Control feedback link	Old part number	New part number
42cc pumps	648600	11070304
55 & 75cc pumps	8000602	11070305
100cc pumps	8200413	11070306
130cc pumps	340091	11070307
180 & 250cc pumps	747451	11070308

Parts disposition

Interchangeable

Use parts in stock

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SB-2014-020

Products affected

Series 90 30cc to 100cc pumps

Subject

MDC Neutral Override Solenoid Valves

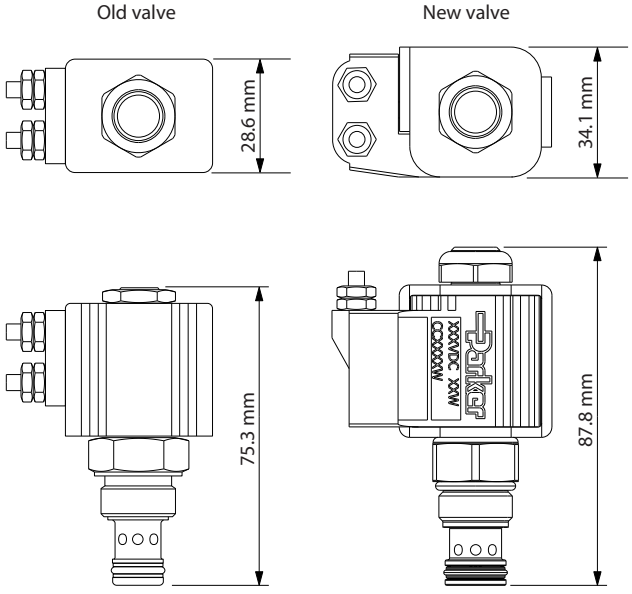
Description

The supplier has discontinued manufacturing the current neutral override solenoid valves used on Series 90 manual displacement controls (MDC). New valves from the supplier will be used as the replacement.

The new valve fits into the same cavity, but the assemblies are slightly larger and the terminals have moved slightly compared to the old valves. Dimensions of the old and new valves are attached below.

New part numbers have been assigned for tracking purposes. The old valves are obsolete and no longer available as a service part.

SB-2014-020



Models affected

Series 90 30cc to 100cc pumps

Part numbers affected

Description	Old Part Number	New Part Number
Valve, Solenoid, N/O, 24V, 2-pole	8700087	11127985
Valve, Solenoid, N/C, 12V, 1-pole	8700119	11127988
Valve, Solenoid, N/O, 12V, 2-pole	9700886	11127986
Valve, Solenoid, N/O, 12V, 1-pole	9700803	11127987

Parts disposition

Non-interchangeable

Use parts in stock

Revise existing part orders

SB-2015-005

Products affected

Series 90 42-250cc pumps

Subject

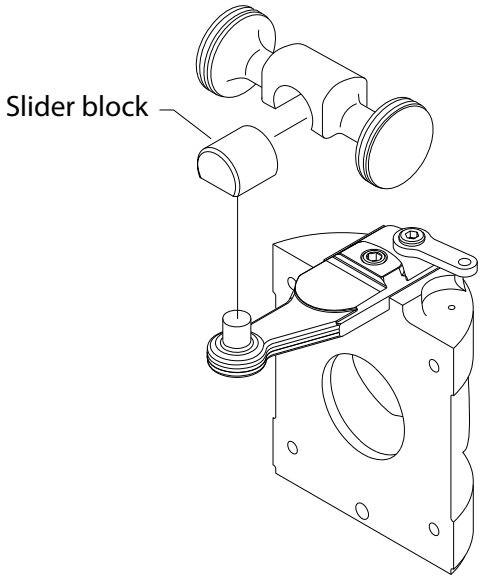
Slider block supplier change

Description

The supplier has changed for Series 90 pump slider blocks. Parts are completely interchangeable.

Part numbers have been changed for tracking purposes. As a result old part numbers will become obsolete and no longer available as service parts.

SB-2015-005



Models affected

Series 90 42-250cc pumps

Part numbers affected

Description	Old Part Number	New Part Number	Effective Date
Slider block 42 NMS	648303	11116314	N/A
Slider block 55-75 NMS	8800750	11116313	6-Aug-2014
Slider block 55-75 AMS	11061964	11116313	6-Sept-2014
Slider block100 AMS	11061908	11116312	10-Mar-2014
Slider block 100 NMS	756197	11116312	20-Feb-2015
Slider block 130 NMS	11000317	11116309	9-Dec-2014
Slider block 180-250 NMS	746479	11116308	24-Oct-2014

Parts disposition

Interchangeable

Use parts in stock

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HY2026-004

Products affected

Series 90 Pumps and EDC Control Kits utilizing ATEX PCP (11101116)

Subject

New PCP material number

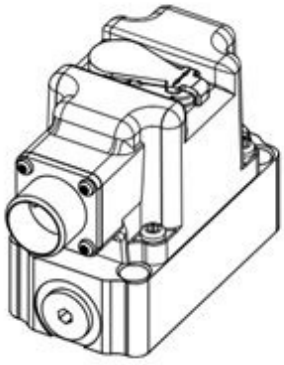
Description

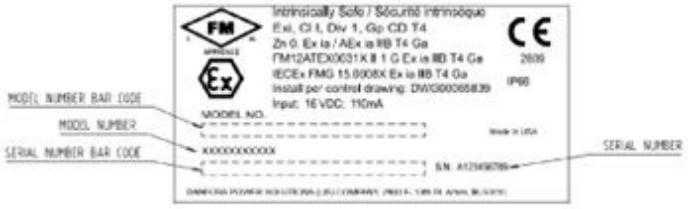
In reference to Product Information Bulletin HY2025-859 (December 2025), Danfoss Power Solutions will no longer be offering Series 90 pumps with the ATEX certification for dust, and elevated temperature. With this change, the PCP material number 11101116 meeting this ATEX certification criteria will be obsolete.

Danfoss Power Solutions will offer a PCP (11375138) which only meets the ATEX certification for gas. Appearance of the label will change to reflect new material number and certification. Current material numbers for Series 90 Pumps and Service Control Kits (listed on the following page) utilizing the obsolete PCP (11101116) will NOT change, but utilize the new PCP (11375138). Also, the nomenclature for Series 90 pumps using the "K7" control will NOT change.

Along with this part change, the "Series 90 Intrinsically Safe Control Installation, Maintenance Instruction Bulletin" (AN152886481060) has also been updated. Please discard any older digital or paper copies.

HY2026-004





Models affected

Material #	Material Description	Material #	Material Description
83029627	PUMP-VAR-DISPL CW 90PV075	83053925	PUMP-VAR-DISPL CW 90PV100
83029756	PUMP-VAR-DISPL CW 90PV075	83058325	PUMP-VAR-DISPL CW 90PV075
83029888	PUMP-VAR-DISPL CW 90PV100	83058327	PUMP-VAR-DISPL CW 90PV100
83029889	PUMP-VAR-DISPL CW 90PV130	83059328	PUMP-VAR-DISPL CCW 90PV250
83033222	PUMP-VAR-DISPL CW 90PV130	83060330	PUMP-VAR-DISPL CW 90PV075
83033223	PUMP-VAR-DISPL CCW 90PV130	83061446	PUMP-VAR-DISPL CW 90PV075
83033303	PUMP-VAR DISPL, CW 90PV075	83061488	PUMP-VAR-DISPL CW 90PV100
83033307	PUMP-VAR DISPL, CW 90PV075	83061586	PUMP-VAR-DISPL CW 90PV075
83033309	PUMP-VAR DISPL, CW 90PV075	83061587	PUMP-VAR-DISPL CW 90PV075
83033313	PUMP-VAR DISPL, CCW 90PV100	83063297	PUMP-VAR-DISPL CW 90PV100
83033315	PUMP-VAR DISPL, CW 90PV100	83066652	PUMP-VAR-DISPL CW 90PV075
83033317	PUMP-VAR DISPL, CW 90PV100	83068557	PUMP-VAR DISPL, CCW 90PV055
83033318	PUMP-VAR DISPL, CW 90PV100	83072592	PUMP-VAR-DISPL CW 90PV075
83033378	PUMP-VAR-DISPL CW 90PV130	83072894	PUMP-VAR-DISPL CW 90PV075

Material #	Material Description	Material #	Material Description
83035448	PUMP-VAR-DISPL CW 90PV250	83076279	PUMP-VAR-DISPL CW 90PV100
83038064	PUMP-VAR-DISPL CW 90PV100	83076983	PUMP-VAR-DISPL CW 90PV250
83038896	PUMP-VAR-DISPL CW 90PV100	83077290	PUMP-VAR-DISPL CW 90PV075
83040069	PUMP-VAR-DISPL CW 90PV100	83078329	PUMP-VAR DISPL, CW 90PV075
83040210	PUMP-VAR-DISPL CW 90PV100	83081034	PUMP-VAR-DISPL CW 90PV100
83040932	PUMP-VAR-DISPL CW 90PV130	83082478	PUMP-VAR DISPL, CCW 90PV055
83041065	PUMP-VAR-DISPL CW 90PV130	83082709	PUMP-VAR-DISPL CW 90PV100
83043143	PUMP-VAR DISPL, CW 90PV055	83083301	PUMP-VAR-DISPL CW 90PV075
83044451	PUMP-VAR-DISPL CW 90PV250	83083353	PUMP-VAR-DISPL CW 90PV130
83044613	PUMP-VAR-DISPL CW 90PV075	83085369	PUMP-VAR DISPL, CW 90PV100
83045053	PUMP-VAR-DISPL CCW 90PV075	83085887	PUMP-VAR-DISPL CW 90PV075
83045066	PUMP-VAR DISPL, CCW 90PV075	83087015	PUMP-VAR-DISPL CW 90PV130
83046130	PUMP-VAR DISPL, CW 90PV055	83091824	PUMP-VAR-DISPL CW 90PV075
83048102	PUMP-VAR-DISPL CW 90PV250	83093542	PUMP-VAR-DISPL CW 90PV075
83048814	PUMP-VAR-DISPL CW 90PV250	83094033	PUMP-VAR DISPL, CW 90PV075
83048815	PUMP-VAR-DISPL CW 90PV130	83102057	PUMP-VAR-DISPL CW 90PV075
83053202	PUMP-VAR-DISPL CW 90PV180		

Serial numbers

Pumps and Service Kits sold after 23 March 2026.

Part numbers affected

Description	Old part number	New part number
PCP, 106 OHM, SF 5.5, MS, IS ATEX	11101116	-
PCP, 106 OHM, SF 5.5, MS, IS ATEX	-	11375138
PCP KIT, ATEX, MS, 106 OHM, SF5.5	11139981	11139981
EDC KIT, 55CC, MS,4-20MA, ATEX, 106 OHM	11139992	11139992
EDC KIT, 75CC, MS, 4-20MA, ATEX, 106 OHM	11139993	11139993
EDC KIT, 100CC, MS, 4-20MA, ATEX, 106 OHM	11139994	11139994
EDC KIT, 130CC, MS, 4-20MA, ATEX, 106 OHM	11139996	11139996
EDC KIT, 180-250CC, MS, 4-20MA, ATEX, 106 OHM	11139997	11139997

Parts disposition

Non-Interchangeable in application environments requiring dust and elevated temperature requirements.

Interchangeable for gas environments.

Revise existing part orders

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Explore our solutions at *danfoss.com*.

Additional product literature is available at *powersource.danfoss.com*.

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