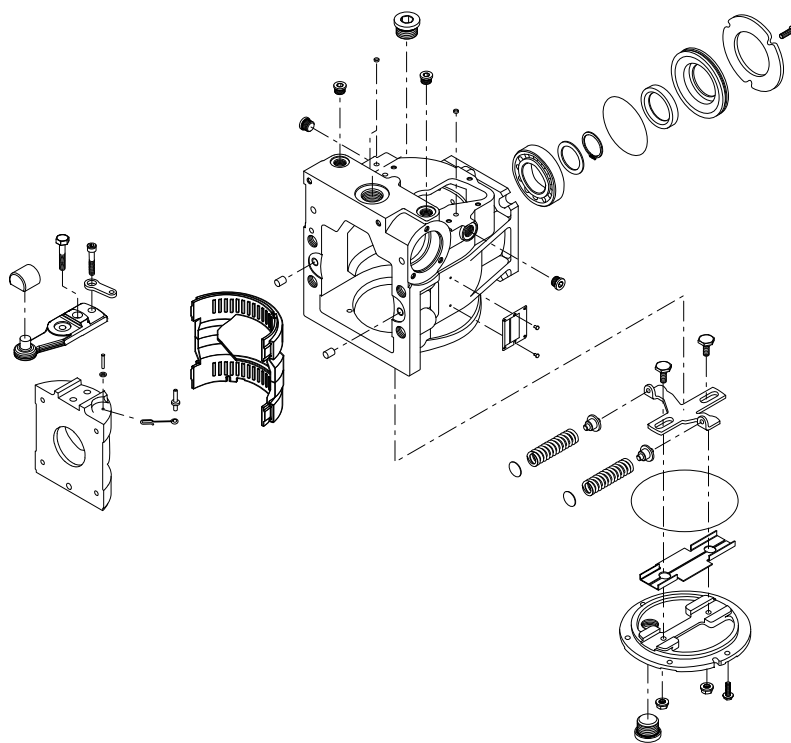


Parts Manual

Series 90 Axial Piston Pumps

Size 75cc



Revision history*Table of revisions*

Date	Changed	Rev
September 2025	Corrected part quantity	0707
August 2025	Removed obsolete part number, MY control option, and option G filtration	0706
March 2025	Updated Aux mounting J60 part number	0705
July 2024	Change QM10 part number on HF-HS control	0704
June 2024	Removed reference to 6W, 8V, 67 endcap options, image formatting changes	0703
April 2024	Removed reference to 046151 plug	0702
October 2023	Updated QD50 part number	0701
February 2022	Updated various part numbers, added missing part numbers from seal kit	0601
July 2020	Changed document number from 'AX00000091' to 'AX152886482206' and updated part numbers	0501

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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 .

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

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.

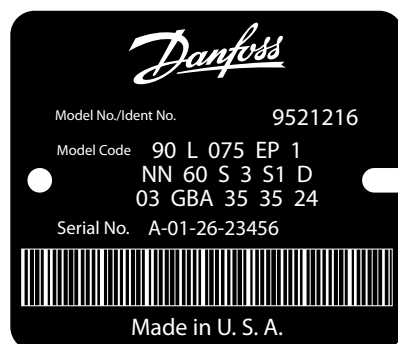
Serial number

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.



General information

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	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
80	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 Germany. 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 (S90 75cc)

The nameplate on a Series 90 pump has an Order Code of 90L075 EP 1 NN 60 S 3 S1 D 03 GBA 35 35 24. Use the following procedures to determine the part number of the drive shaft used on this pump.

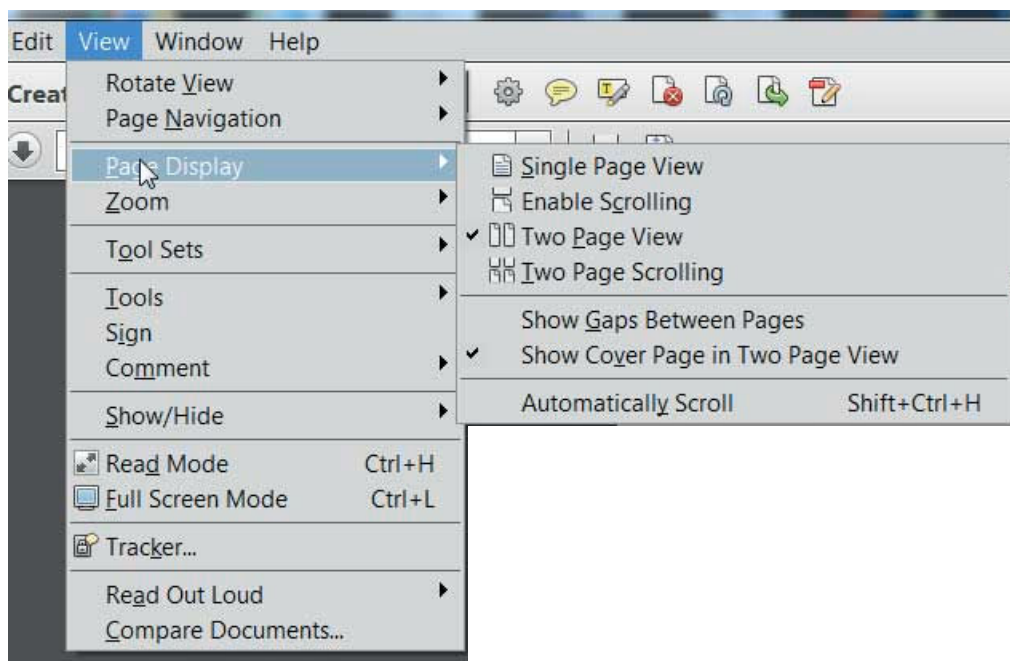
1. Referring to the input shaft module in the [Order Code](#), the input shaft option for this pump is identified by the code "S1". (90L075 EP 1 NN 60 S 3 **S1** D 03 GBA 35 35 24).
2. Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is "S1". The shaft is found to be item L100 and part number 8100264.

General information

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"



General information

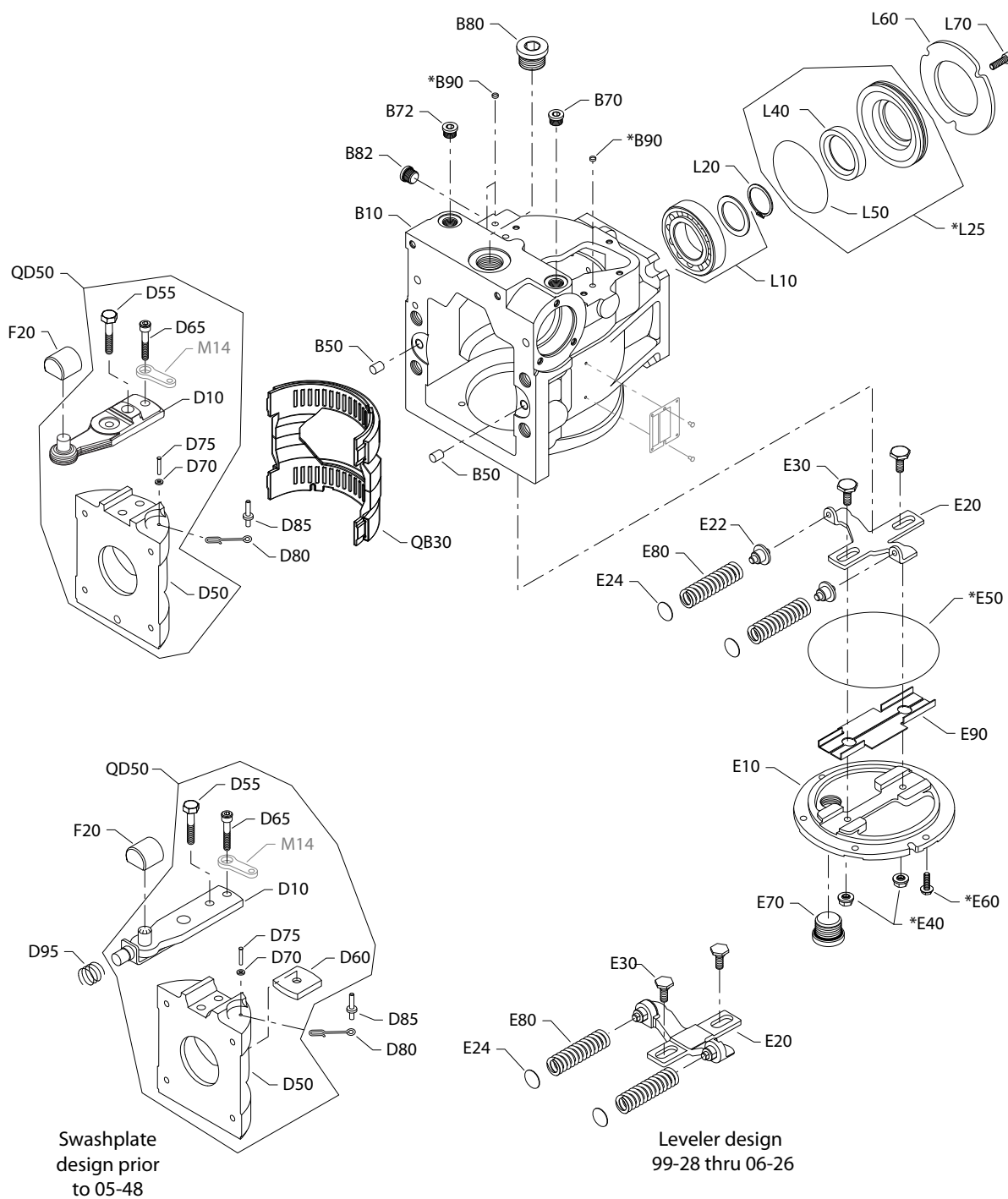
Order code

Series	Displacement	M	P	J	G	N	F	L	H	T	W	Y	Z	K
90	L 075	E	P	1	C	D	6	0	S	3	S	1	D	0
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

S90P 75cc common parts

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

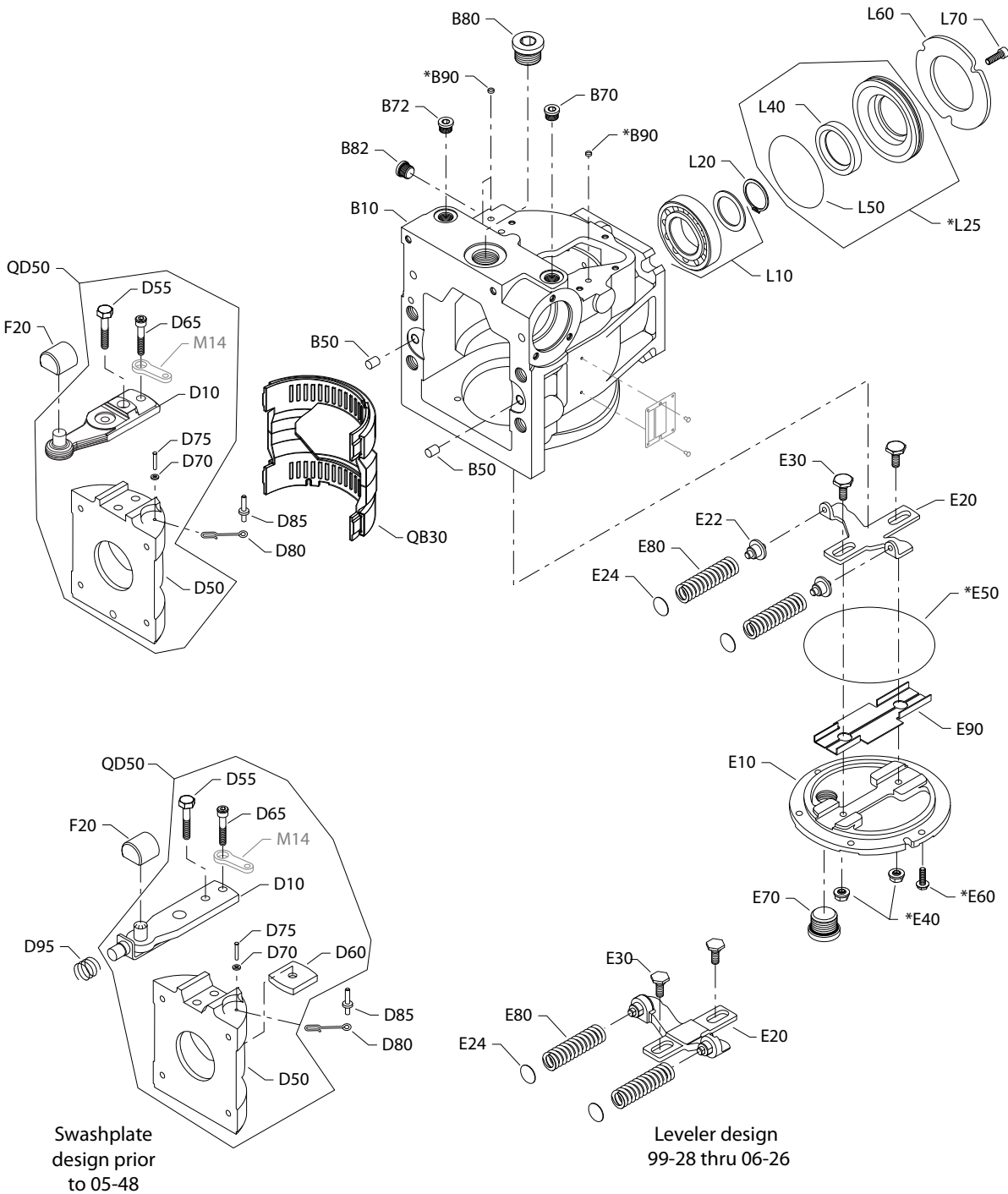
Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B10	05-49		11001300	Housing (SB-2005-007 on page 348)	1
B50	87-02		9004800-3708	Pin	2
B70	87-02		140644 (9005110-5600)	Plug assembly	1
B72	87-02		140644 (9005110-5600)	Plug assembly	1
B80	87-02		664524 (9005110-9000)	Plug assembly	1
B82	92-19		140644 (9005110-5600)	Plug assembly (SB-1992-003 on page 312)	1
B90	87-02		9803390	Control filter screen	3
D10	05-49		519046	Servo arm (SB-2005-007 on page 348)	1
D10	88-16	05-48	8100499	Servo arm assembly (SB-1993-015 on page 318)	1
D50	05-49		11000688	Swashplate (SB-2005-007 on page 348)	1
D50	88-16	05-48	8100367	Swashplate	1
D55	05-49		519150	Screw (SB-2005-007 on page 348)	1
D55	87-02	05-48	666032 (9007276-0107)	Screw	1
D60	87-02	05-48	8800669	Swashplate guide	1
D65	87-02		9007375-0044	Screw (SB-1992-011 on page 314)	1
D70	87-02		9009625-0146	Washer	1
D75	87-02		9004875-0098	Spiral head pin	1
D80	87-02		693929 (8100506)	Cage locator link (SB-1994-017 on page 320)	1
D85	01-26		8801235	Pin (SB-2004-012 on page 347)	1
D85	87-02	01-25	8801135	Pin (SB-1998-018)	1
D95	87-02	05-48	8100035	Spring (SB-2005-007 on page 348)	1
E10	05-49		11001286	Side cover (SB-2005-007 on page 348)	1
E10	95-50	05-48	501572	Side cover (SB-1995-025 on page 327)	1
E20	98-14		11042018	Leveler (SB-1999-009 on page 336)	1
E22	06-27		517935	Spring seat	2
E22	99-28	06-26	none		
E22	98-14	99-27	517935	Spring seat (SB-1999-009 on page 336)	2
E24	92-06		8801225	Shim (SB-2000-041 on page 345)	2
E30	99-28		11056531	Guide post (SB-2009-073 on page 357)	2
E30	95-50	99-27	8000510	Guide post (SB-1999-009 on page 336)	2
E30	87-02	95-49	8510098	Side cover kit (SB-1995-025 on page 327)	1
E40	87-02		505412 (9003509-0008)	Seal nut	2
E50	87-02		517377	O-ring	1
E60	87-02		517228 (5000206)	Screw (SB-1994-018 on page 321)	6
E70	87-02		664524 (9005110-9000)	Plug assembly	1
E80	87-02		334987 (11062691)	Spring	2
E90	95-50		513888	Insert assembly (SB-1995-025 on page 327 & SB-1999-041 on page 339)	1
F20	88-16		11116313	Slider block (SB-1988-009 on page 300 & SB-2015-005 on page 360)	1

Part numbers continue to the next 2 pages.

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

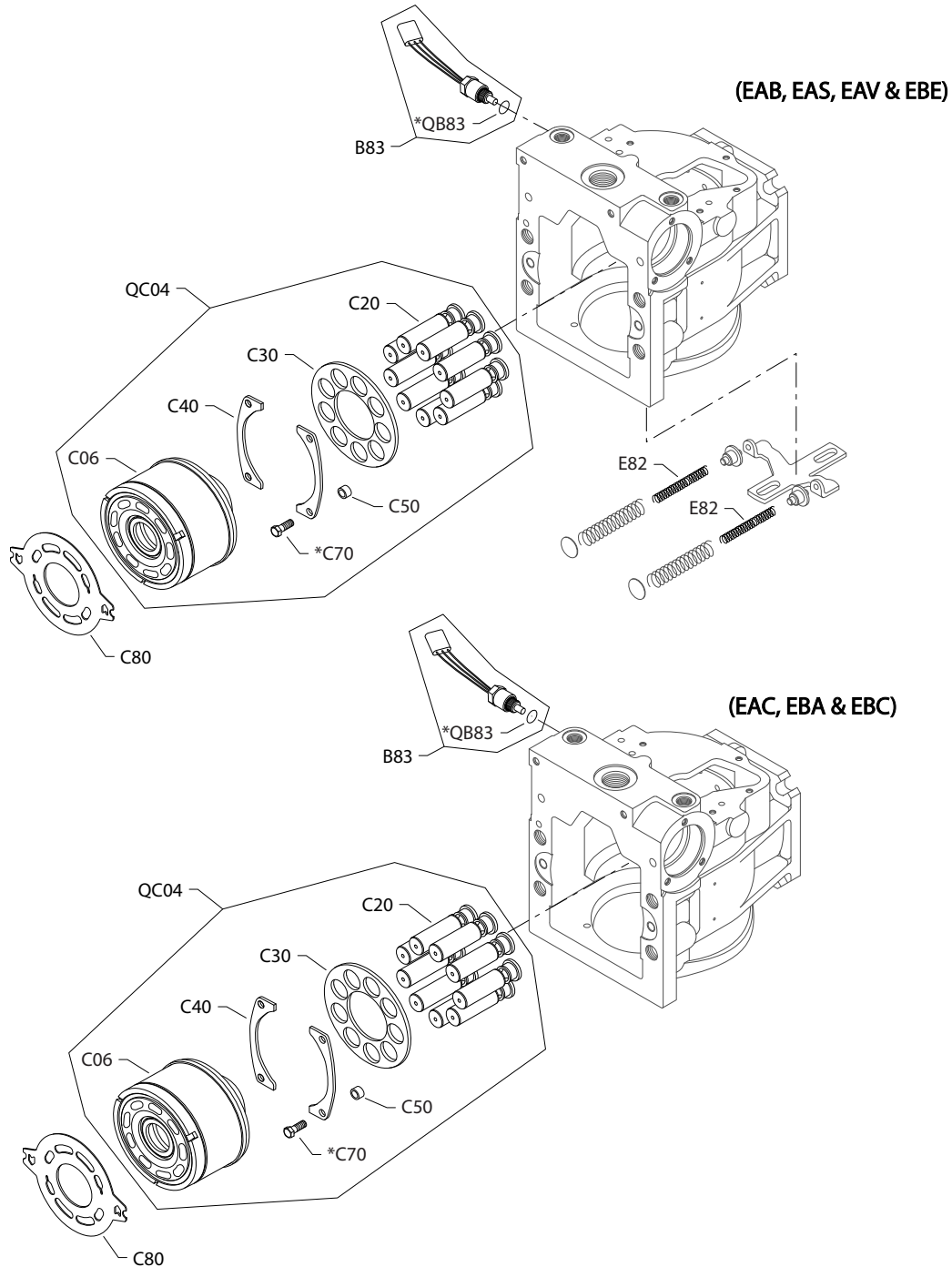
Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	87-02		5000505	Roller bearing	1
L20	87-02		9006300-0156	Retaining ring	1
L25	87-02		519671	Seal carrier assembly (SB-2005-007 on page 348)	1
L40	87-02		519666	Lip seal (SB-2005-007 on page 348)	1
L50	87-02		684621 (9004104-1530)	O-ring	1
L60	87-02		516767	Retainer plate	1
L70	87-02		041160 (9007314-0605)	Screw	3
QB30	87-02	05-48	676841 (8700048)	Cradle bearing assembly (SB-2005-007 on page 348)	1
QB30	05-49		11131108	Cradle bearing assembly (SB-2005-007 on page 348)	1
QD50	05-49		11192313	Swashplate assembly (SB-2005-007 on page 348)	1
QD50	88-16	05-48	8100376	Swashplate assembly (SB-1988-009 on page 300)	1

Common parts and special hardware

S90P 75cc special hardware EAB-EBA

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly (SB-1988-023 on page 304)	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing (SB-1988-016 on page 302)	2
C50	88-22		11065865	Spacer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C65	88-22	98-47	Obsolete	Washer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EAB

B83	98-14		KPPG12508	Speed sensor	1
C06	98-14		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	98-14		518008	Valve plate	1
E82	98-14		11062703	Spring	2
QC04	98-14		8510366	Cylinder block kit, with speed ring	1

Order code: EAC

B83	98-14		KPPG12508	Speed sensor	1
C06	98-14		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	98-14		518805	Valve plate	1
QC04	98-14		8510366	Cylinder block kit, with speed ring	1

Order code: EAS

B83	98-14		KPPG12508	Speed sensor	1
C06	98-14		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	98-14		518008	Valve plate	1
E82	98-14		360842	Spring	2
QC04	98-14		8510366	Cylinder block kit, with speed ring	1

Order code: EAV

B83	06-12	12-35	11046858	Speed sensor	1
C06	06-12	12-35	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	06-12	12-35	518008	Valve plate	1
E82	06-12	12-35	11062703	Spring	2
QC04	06-12	12-35	8510366	Cylinder block kit, with speed ring	1

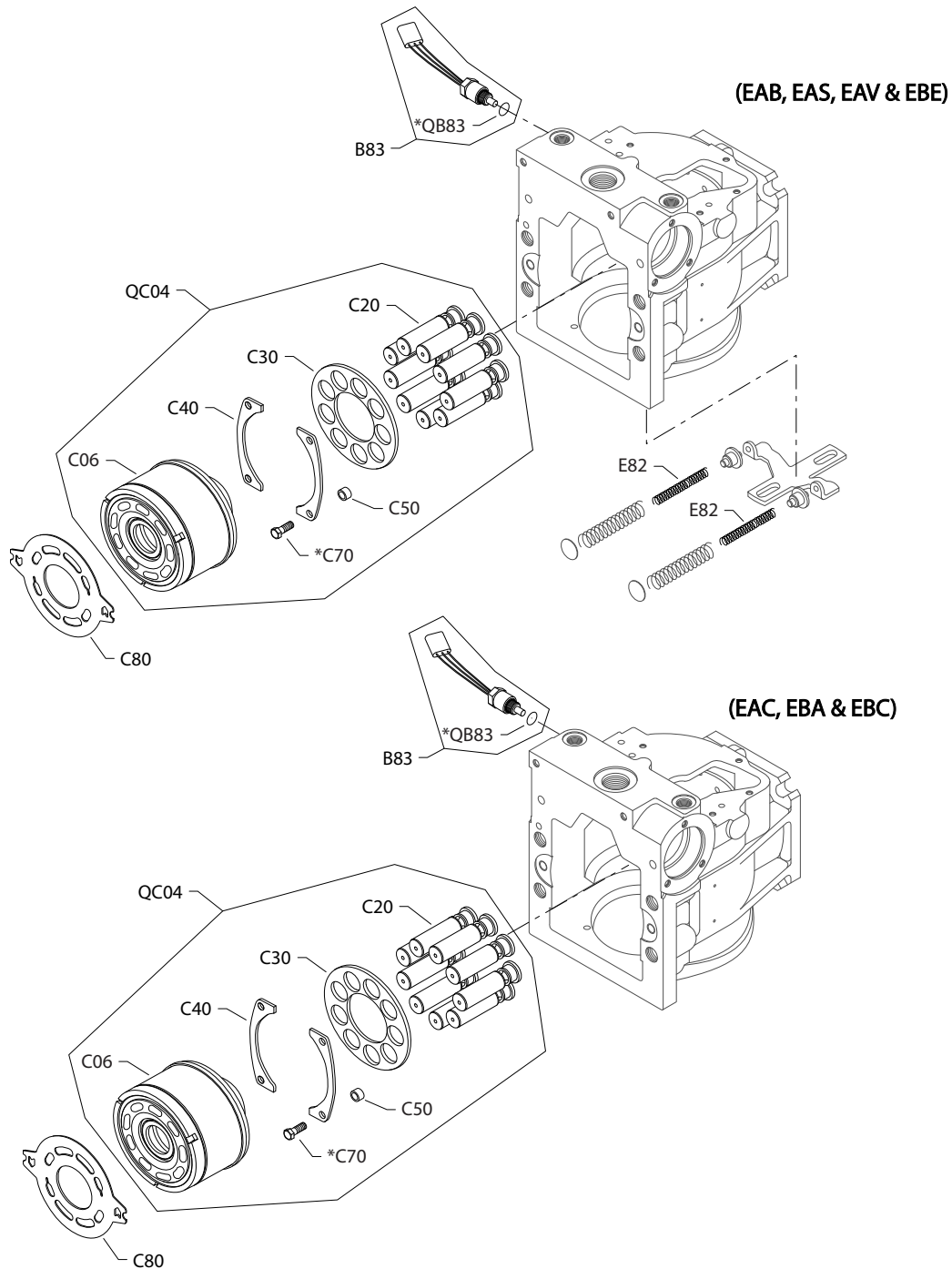
Order code: EBA

B83	04-26		KPPG13408	Speed sensor	1
C06	04-26		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-26		518924	Valve plate	1
QC04	04-26		8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware EBC, EBE

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly (SB-1988-023 on page 304)	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing (SB-1988-016 on page 302)	2
C50	88-22		11065865	Spacer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C65	88-22	98-47	Obsolete	Washer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EBC

B83	04-26		KPPG13408	Speed sensor	1
C06	04-26		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-26		518805	Valve plate	1
QC04	04-26		8510366	Cylinder block kit, with speed ring	1

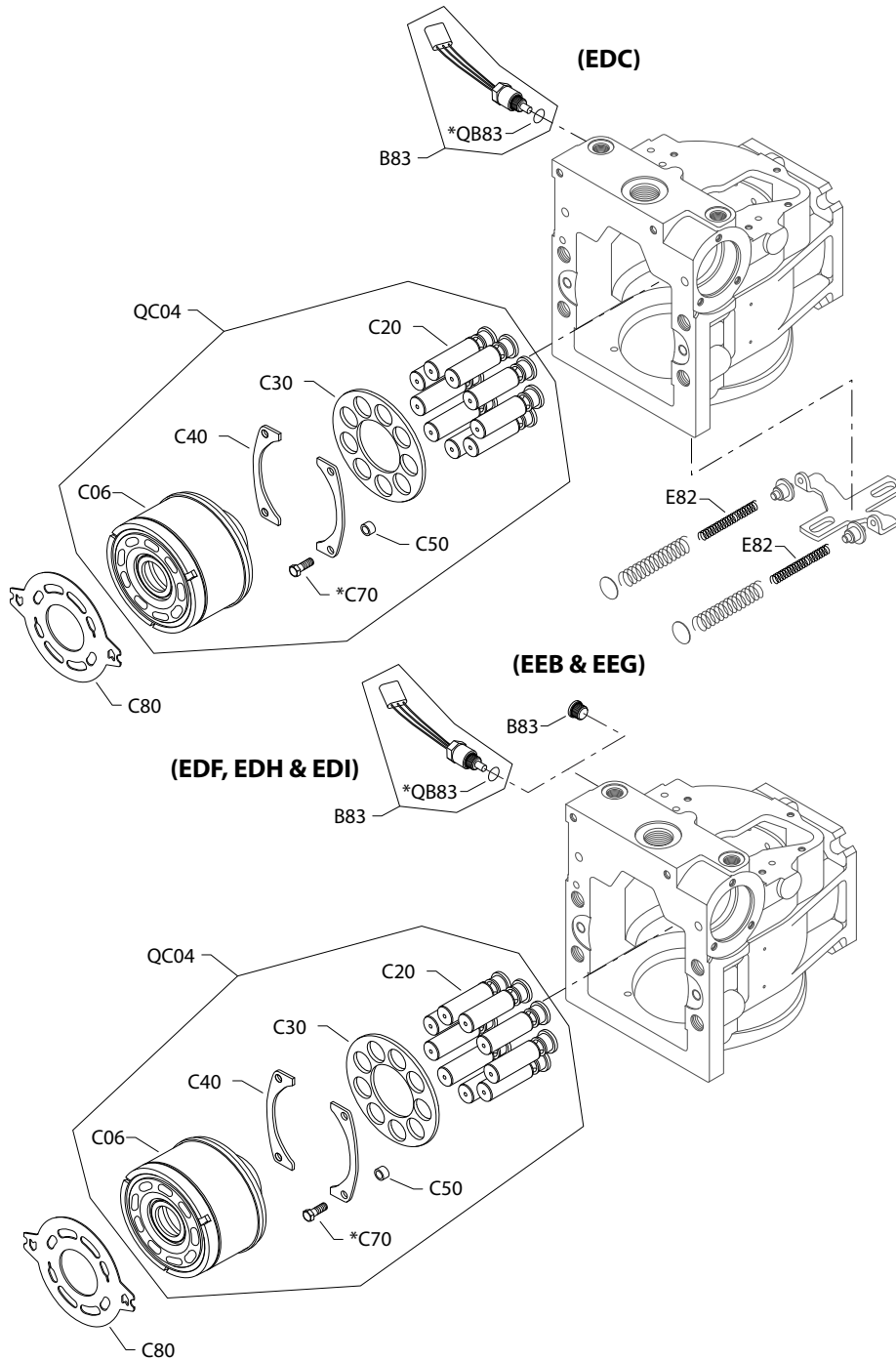
Order code: EBE

B83	94-30		KPPG15408	Speed sensor	1
C06	04-26		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	94-30		518805	Valve plate	1
E82	98-14		11062703	Spring	2
QC04	04-26		8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware EDC-EDI

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly (SB-1988-023 on page 304)	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing (SB-1988-016 on page 302)	2
C50	88-22		11065865	Spacer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C65	88-22	98-47	Obsolete	Washer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EDC

B83	94-34		KPPG13408	Speed sensor	1
C06	94-34		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	94-34		518925	Valve plate, CW	1
C80	94-34		518926	Valve plate, CCW	1
E82	94-34		11062703	Spring	2
QC04	94-34		8510366	Cylinder block kit, with speed ring	1

Order code: EDF

B83	94-34	12-35	11046858	Speed sensor	1
C06	94-34	12-35	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	97-14	12-35	518008	Valve plate	1
QC04	94-34	12-35	8510366	Cylinder block kit, with speed ring	1

Order code: EDH

B83	99-17	12-36	KPPG15408	Speed sensor	1
C06	99-17	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	99-17	12-36	518007	Valve plate	1
QC04	99-17	12-36	8510366	Cylinder block kit, with speed ring	1

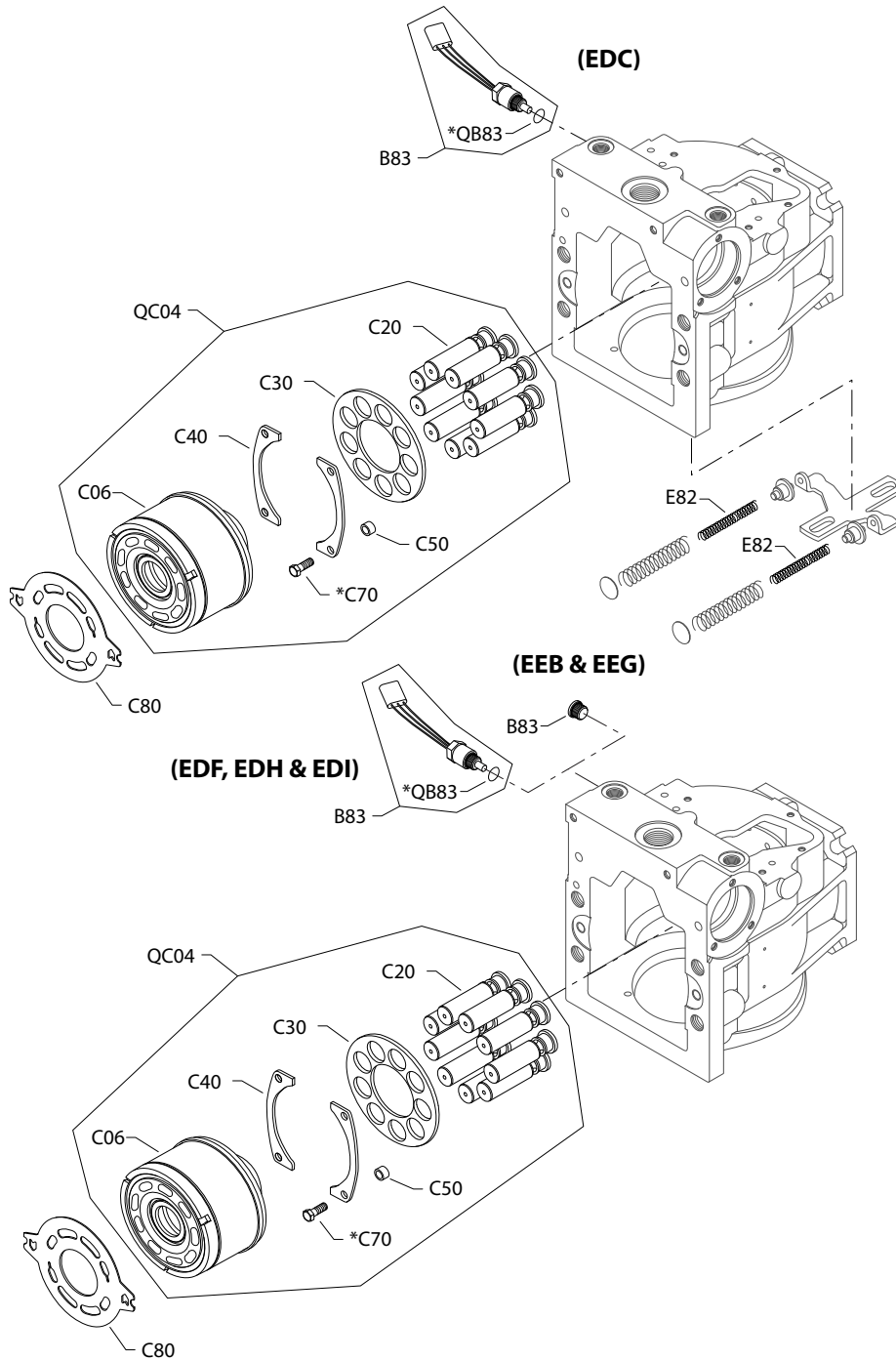
Order code: EDI

B83	00-17	12-36	KPPG15408	Speed sensor	1
C06	00-17	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	00-17	12-36	518925	Valve plate, CW	1
C80	00-17	12-36	518926	Valve plate, CCW	1
QC04	00-17	12-36	8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware EEB, EEG

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly (SB-1988-023 on page 304)	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing (SB-1988-016 on page 302)	2
C50	88-22		11065865	Spacer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C65	88-22	98-47	Obsolete	Washer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EEB

B83	99-17		140644 (9005110-5600)	Plug assembly	1
C06	99-17		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	99-17		518008	Valve plate	1
QC04	99-17		8510366	Cylinder block kit, with speed ring	1

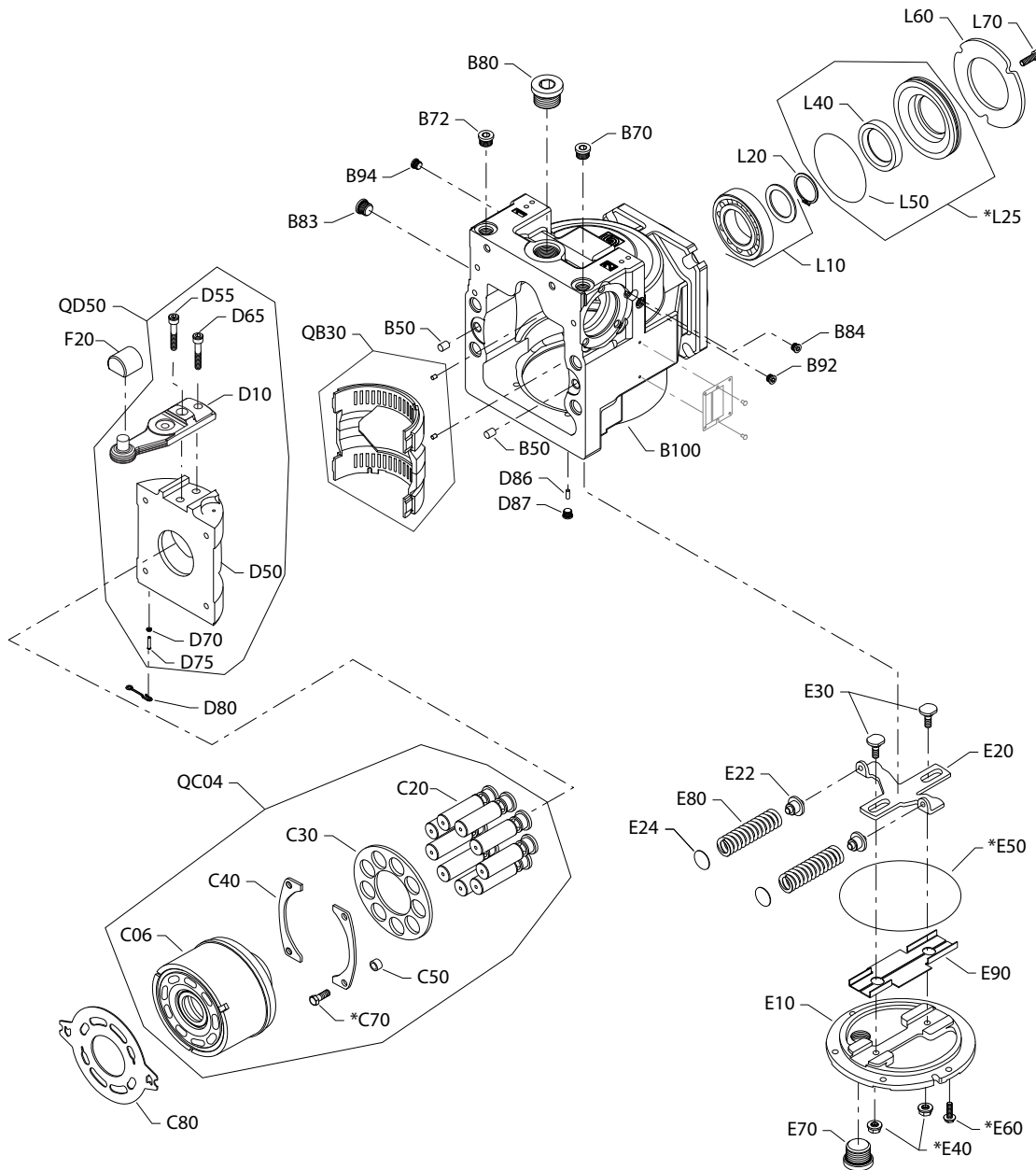
Order code: EEG

B83	00-17		140644 (9005110-5600)	Plug assembly	1
C06	00-17		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	00-17		518925	Valve plate, CW	1
C80	00-17		518926	Valve plate, CCW	1
QC04	00-17		8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware EEH

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

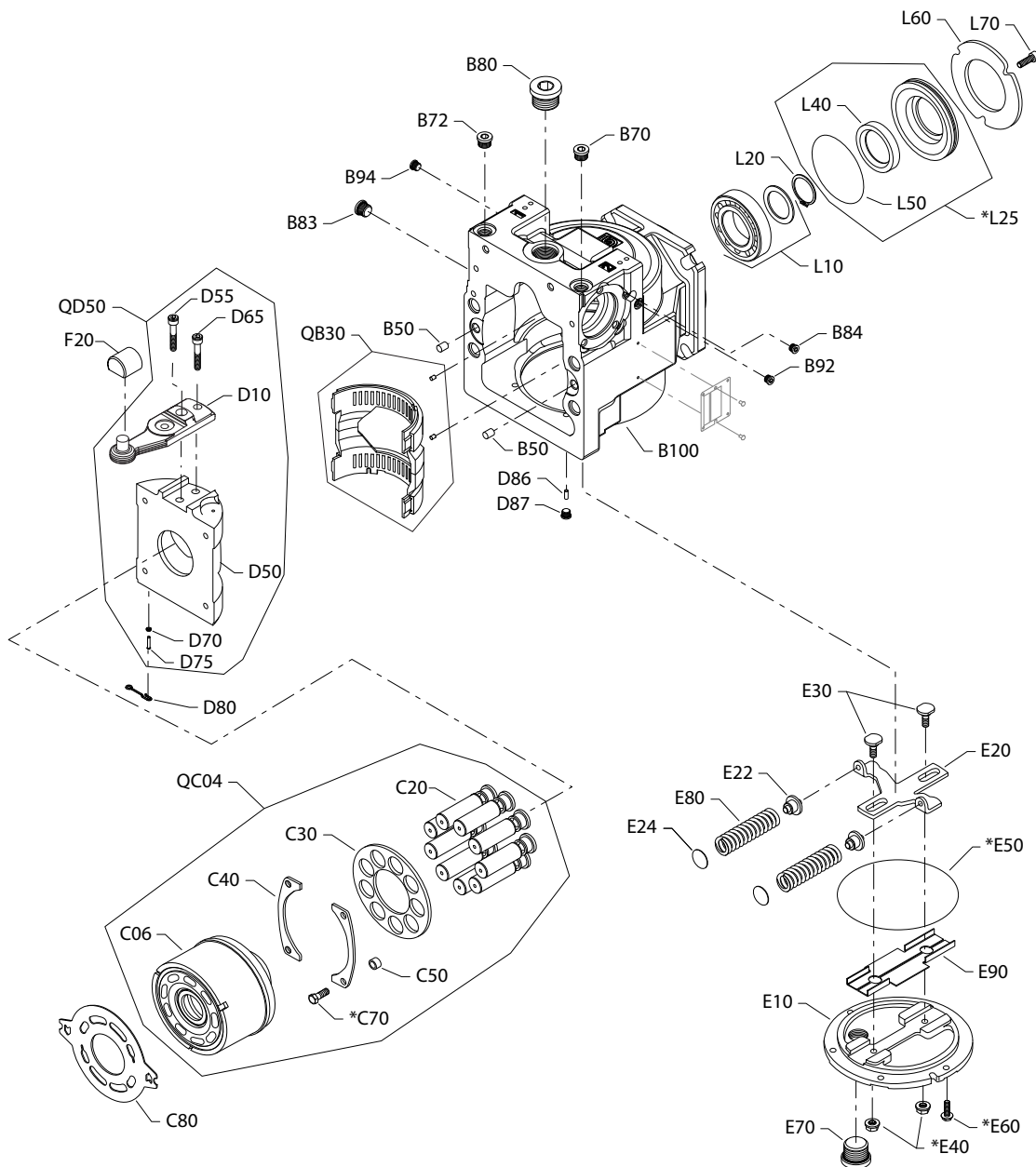
Order code: EEH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	05-20	12-36	9004800-3708	Pin	2
B70	05-20	12-36	140644	Plug assembly	1
B72	05-20	12-36	140644	Plug assembly	1
B80	05-20	12-36	664524 (9005110-9000)	Plug assembly	1
B83	05-20	12-36	140644	Plug assembly	1
B84	05-20	12-36	11040532	Plug assembly	1
B92	05-20	12-36	11040532	Plug assembly	1
B94	05-20	12-36	11040532	Plug assembly	1
B100	05-20	12-36	11117294	Housing assembly	1
C06	05-20	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	05-20	12-36	708230	Piston assembly	9
C30	05-20	12-36	11067350	Slipper guide	1
C40	05-20	12-36	334391 (8100294)	Slipper guide bearing	2
C50	05-20	12-36	11065865	Spacer	4
C70	05-20	12-36	314419 (9007276-0114)	Screw	4
C80	05-20	12-36	518008	Valve plate	1
D10	05-20	12-36	519046	Servo arm	1
D50	05-20	12-36	11104315	Swashplate	1
D55	05-20	12-36	519150	Screw	1
D70	05-20	12-36	9009625-0146	Washer	1
D75	05-20	12-36	9004875-0098	Spiral head pin	1
D80	05-20	12-36	693929 (8100506)	Cage locator link	1
D86	05-20	12-36	9004800-1908	Pin	1
D87	05-20	12-36	11040532	Plug assembly	1
E10	05-20	12-36	11001286	Side cover	1
E20	05-20	12-36	11042018	Leveler	1
E22	05-20	12-36	517935	Spring seat	2
E24	05-20	12-36	8801225	Shim	2
E30	05-20	12-36	11056531	Guide post	2
E40	05-20	12-36	505412 (9003509-0008)	Seal nut	2
E50	05-20	12-36	517377	O-ring	1
E60	05-20	12-36	517228 (5000206)	Screw	6
E70	05-20	12-36	664524 (9005110-9000)	Plug assembly	1
E80	05-20	12-36	334987	Spring	2
E90	05-20	12-36	513888	Insert assembly	1
F20	05-20	12-36	11116313	Slider block (SB-1988-009 on page 300 & SB-2015-005 on page 360)	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

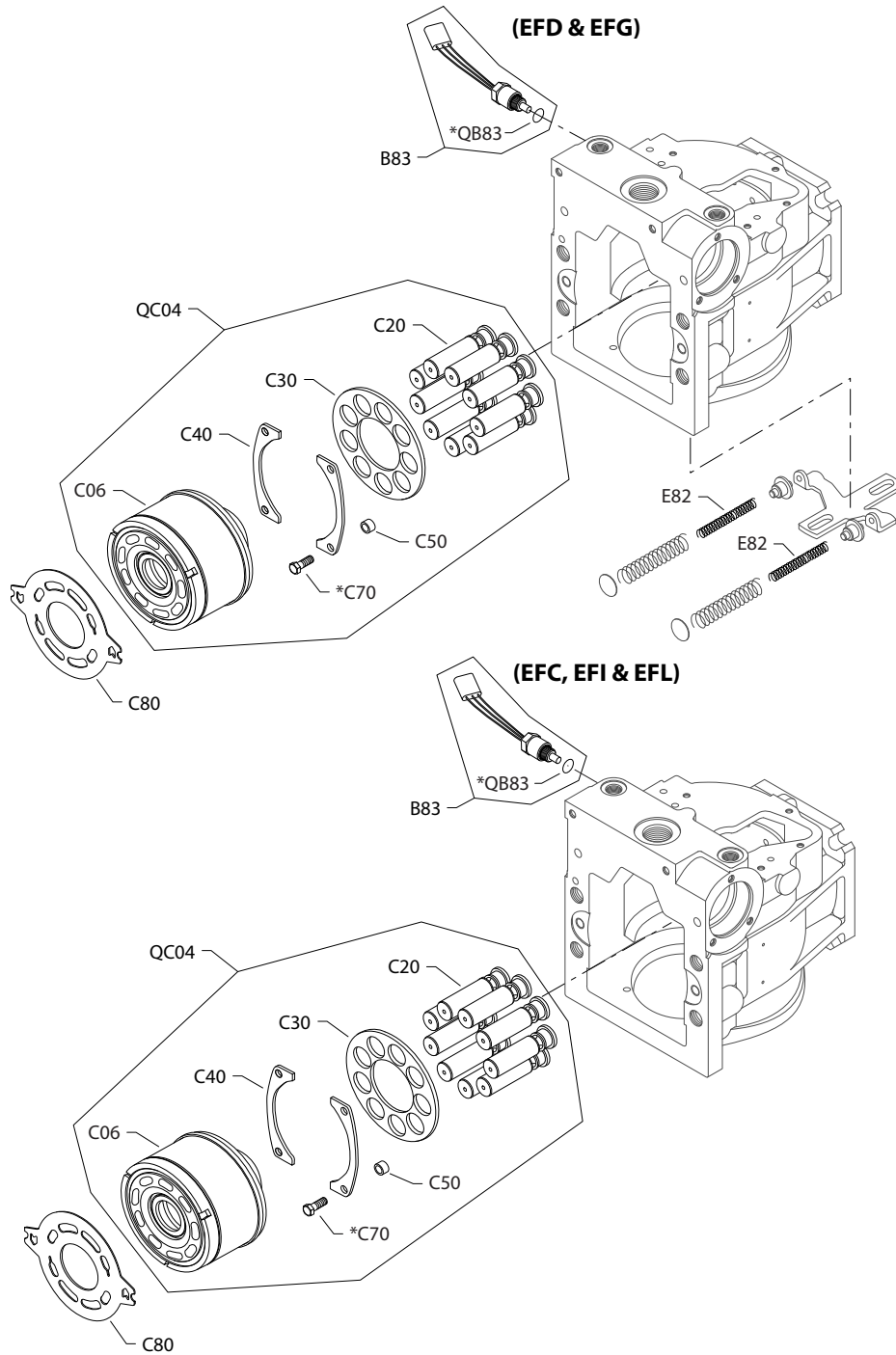
Common parts and special hardware
Order code: EEH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	05-20	12-36	5000505	Roller bearing	1
L20	05-20	12-36	9006300-0156	Retaining ring	1
L25	05-20	12-36	519671	Seal carrier assembly	1
L40	05-20	12-36	519666	Lip seal (SB-2005-007 on page 348)	1
L50	05-20	12-36	684621 (9004104-1530)	O-ring	1
L60	05-20	12-36	516767	Retainer plate	1
L70	05-20	12-36	041160 (9007314-0605)	Screw	3
QB30	05-20	12-36	11131108	Cradle bearing assembly	1
QC04	05-20	12-36	8510366	Cylinder block kit, with speed ring	1
QD50	05-20	12-36	11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware EFC-EFL

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly (SB-1988-023 on page 304)	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing (SB-1988-016 on page 302)	2
C50	88-22		11065865	Spacer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C65	88-22	98-47	Obsolete	Washer (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 on page 302 & SB-1998-041 on page 332)	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EFC

B83	94-34		KPPG156	Speed sensor	1
C06	94-34		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	94-34		518805	Valve plate	1
QC04	94-34		8510366	Cylinder block kit, with speed ring	

Order code: EFD

B83	04-49	12-36	KPPG156	Speed sensor	1
C06	94-34	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-49	12-36	518008	Valve plate	1
E82	04-49	12-36	360842	Spring	2
QC04	94-34	12-36	8510366	Cylinder block kit, with speed ring	

Order code: EFG

B83	04-49	12-36	KPPG156	Speed sensor	1
C06	94-34	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-49	12-36	518925	Valve plate, CW	1
E82	04-49	12-36	360842	Spring	2
QC04	94-34	12-36	8510366	Cylinder block kit, with speed ring	1

Order code: EFI

B83	04-49		KPPG156	Speed sensor	1
C06	94-34		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-49		518925	Valve plate, CW	1
C80	04-49		518926	Valve plate, CCW	1
QC04	94-34		8510366	Cylinder block kit, with speed ring	

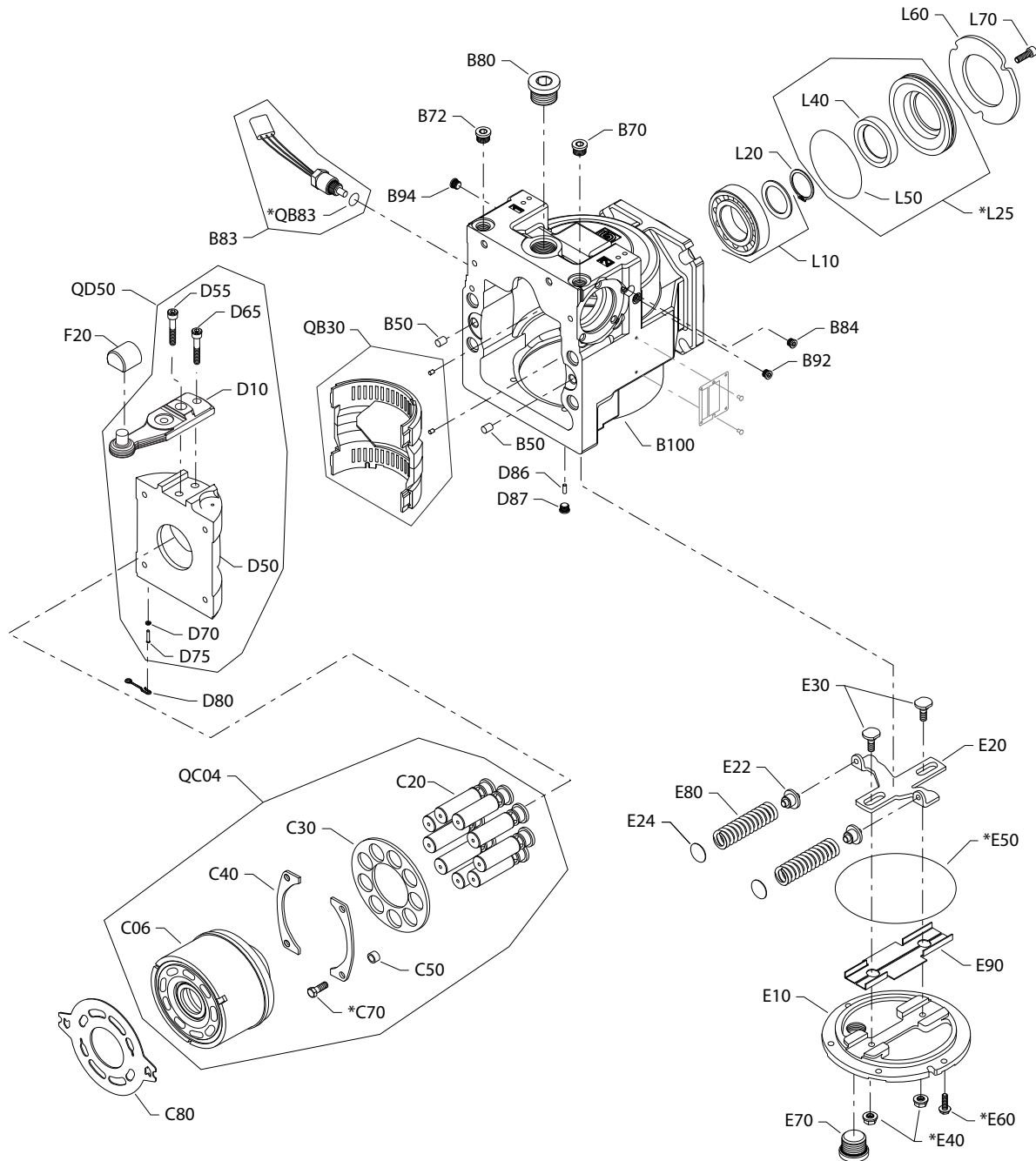
Order code: EFL

B83	04-49	12-36	KPPG156	Speed sensor	1
C06	94-34	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	04-49	12-36	518007	Valve plate	1
QC04	94-34	12-36	8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware EFP

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

Common parts and special hardware

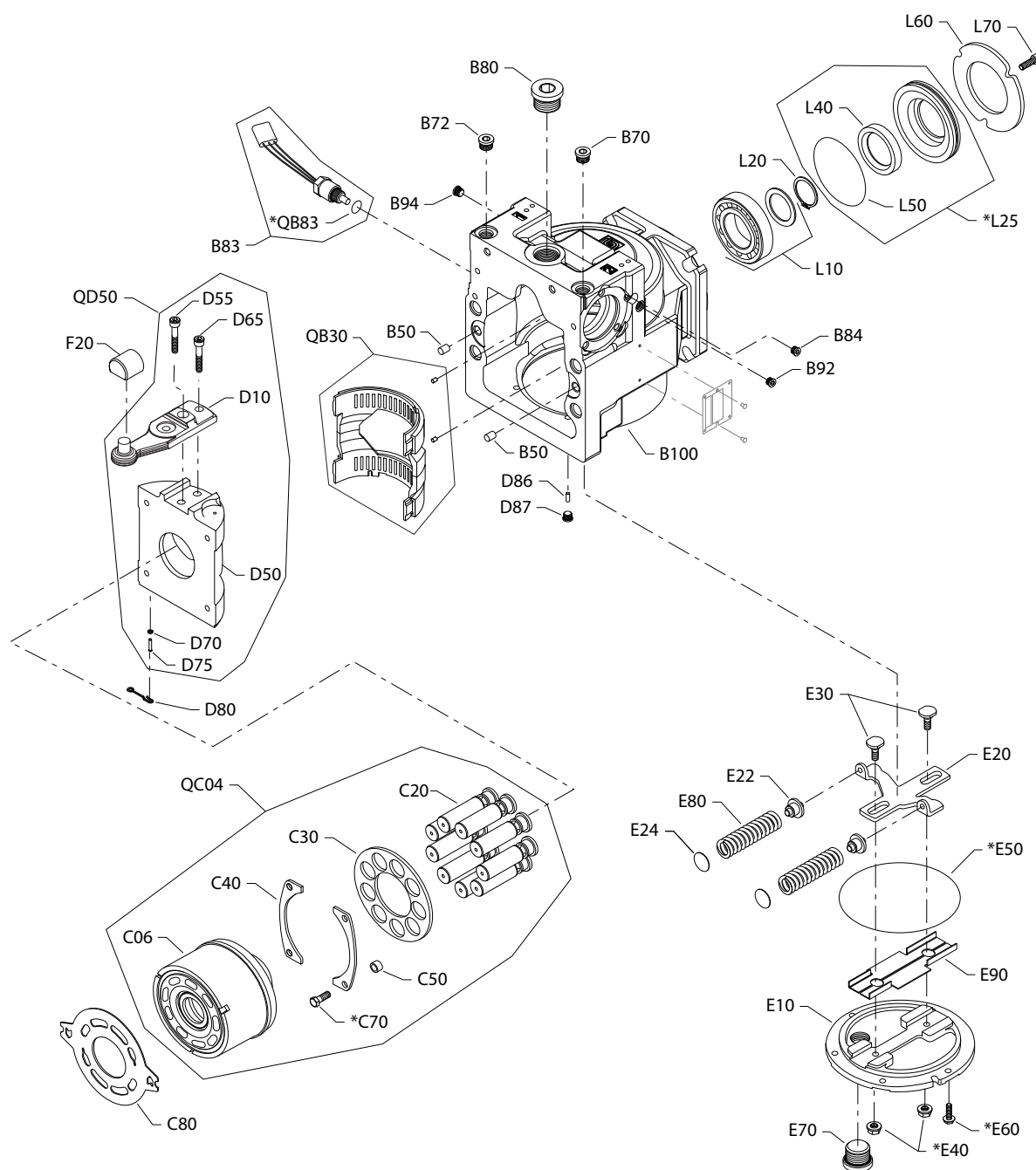
Order code: EFP

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	05-34		9004800-3708	Pin	2
B70	05-34		140644	Plug assembly	1
B72	05-34		140644	Plug assembly	1
B80	05-34		664524 (9005110-9000)	Plug assembly	1
B83	05-34		KPPG156	Speed sensor assembly	1
B84	05-34		11040532	Plug assembly	1
B92	05-34		11040532	Plug assembly	1
B94	05-34		11040532	Plug assembly	1
B100	05-34		11117294	Housing assembly	1
C06	05-34		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	05-34		708230	Piston assembly	9
C30	05-34		11067350	Slipper guide	1
C40	05-34		334391 (8100294)	Slipper guide bearing	2
C50	05-34		11065865	Spacer	4
C70	05-34		314419 (9007276-0114)	Screw	4
C80	05-34		518925	Valve plate, CW	1
C80	05-34		518926	Valve plate, CCW	1
D10	05-34		519046	Servo arm	1
D50	05-34		11104315	Swashplate	1
D55	05-34		519150	Screw	1
D70	05-34		9009625-0146	Washer	1
D75	05-34		9004875-0098	Spiral head pin	1
D80	05-34		693929 (8100506)	Cage locator link	1
D86	05-34		9004800-1908	Pin	1
D87	05-34		11040532	Plug assembly	1
E10	05-34		11001286	Side cover	1
E20	05-34		11042018	Leveler	1
E22	05-34		517935	Spring seat	2
E24	05-34		8801225	Shim	2
E30	05-34		11056531	Guide post	2
E40	05-34		505412 (9003509-0008)	Seal nut	2
E50	05-34		517377	O-ring	1
E60	05-34		517228 (5000206)	Screw	6
E70	05-34		664524 (9005110-9000)	Plug assembly	1
E80	05-34		334987	Spring	2
E90	05-34		513888	Insert assembly	1
F20	05-34		11116313	Slider block (SB-2015-005 on page 360)	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

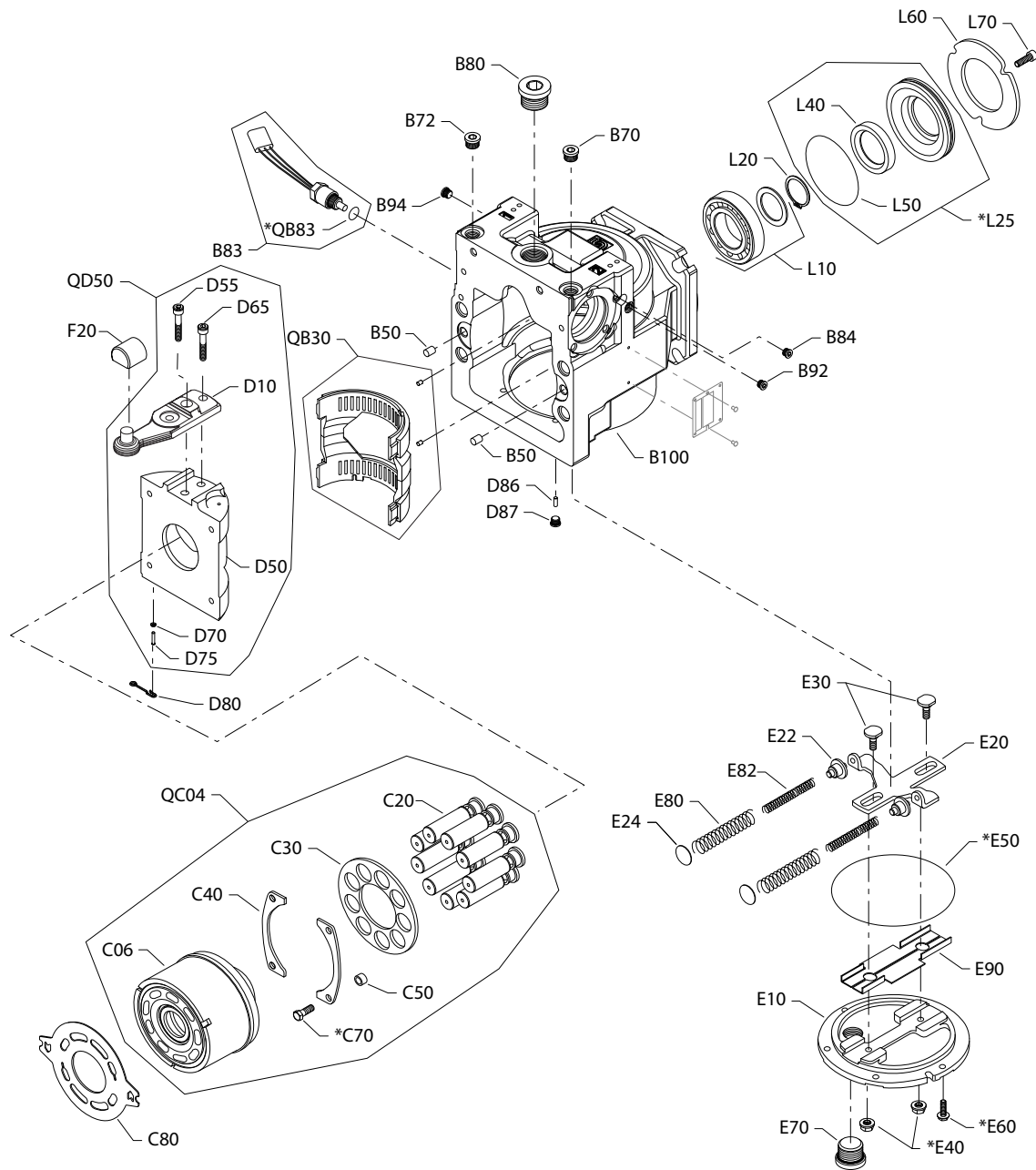
Common parts and special hardware
Order code: EFP

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	05-34		5000505	Roller bearing	1
L20	05-34		9006300-0156	Retaining ring	1
L25	05-34		519671	Seal carrier assembly	1
L40	05-34		519666	Lip seal (SB-2005-007 on page 348)	1
L50	05-34		684621 (9004104-1530)	O-ring	1
L60	05-34		516767	Retainer plate	1
L70	05-34		041160 (9007314-0605)	Screw	3
QB30	05-34		11131108	Cradle bearing assembly	1
QB83	05-34		085043 (9004201-3700)	O-ring	1
QC04	05-34		8510366	Cylinder block kit, with speed ring	1
QD50	05-34		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware EFR

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

Common parts and special hardware

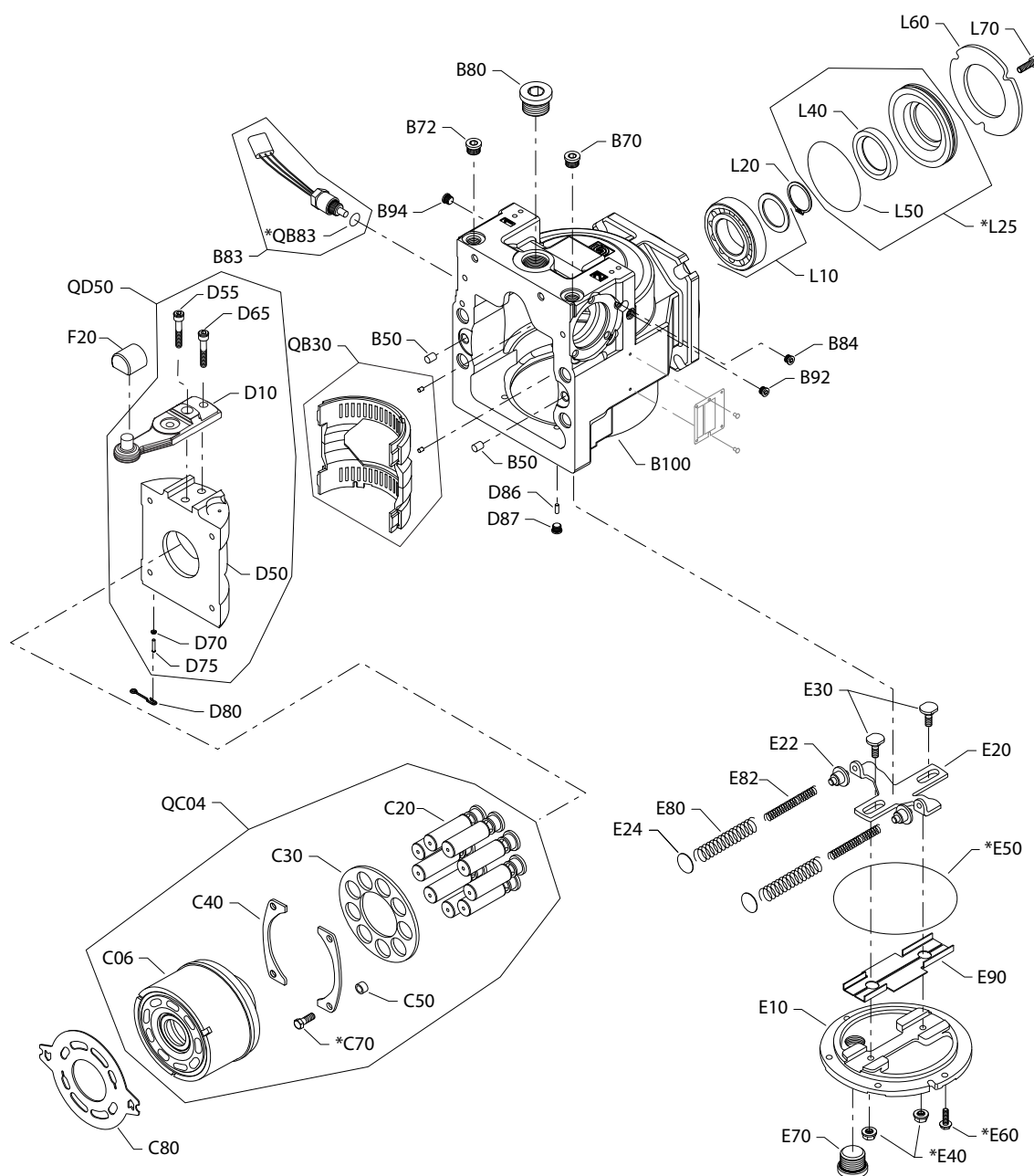
Order code: EFR

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	06-18		9004800-3708	Pin	2
B70	06-18		140644	Plug assembly	1
B72	06-18		140644	Plug assembly	1
B80	06-18		664524 (9005110-9000)	Plug assembly	1
B83	06-18		KPPG156	Speed sensor assembly	1
B84	06-18		11040532	Plug assembly	1
B92	06-18		11040532	Plug assembly	1
B94	06-18		11040532	Plug assembly	1
B100	06-18		11117294	Housing assembly	1
C06	06-18		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	06-18		708230	Piston assembly	9
C30	06-18		11067350	Slipper guide	1
C40	06-18		334391 (8100294)	Slipper guide bearing	2
C50	06-18		11065865	Spacer	4
C70	06-18		314419 (9007276-0114)	Screw	4
C80	06-18		518008	Valve plate	1
D10	06-18		519046	Servo arm	1
D50	06-18		11104315	Swashplate	1
D55	06-18		519150	Screw	1
D70	06-18		9009625-0146	Washer	1
D75	06-18		9004875-0098	Spiral head pin	1
D80	06-18		693929 (8100506)	Cage locator link	1
D86	06-18		9004800-1908	Pin	1
D87	06-18		11040532	Plug assembly	1
E10	06-18		11001286	Side cover	1
E20	06-18		11042018	Leveler	1
E22	06-18		517935	Spring seat	2
E24	06-18		8801225	Shim	2
E30	06-18		11056531	Guide post	2
E40	06-18		505412 (9003509-0008)	Seal nut	2
E50	06-18		517377	O-ring	1
E60	06-18		517228 (5000206)	Screw	6
E70	06-18		664524 (9005110-9000)	Plug assembly	1
E80	06-18		334987	Spring	2
E82	06-18		360842	Spring	2
E90	06-18		513888	Insert assembly	1
F20	06-18		11116313	Slider block (<i>SB-2015-005</i> on page 360)	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

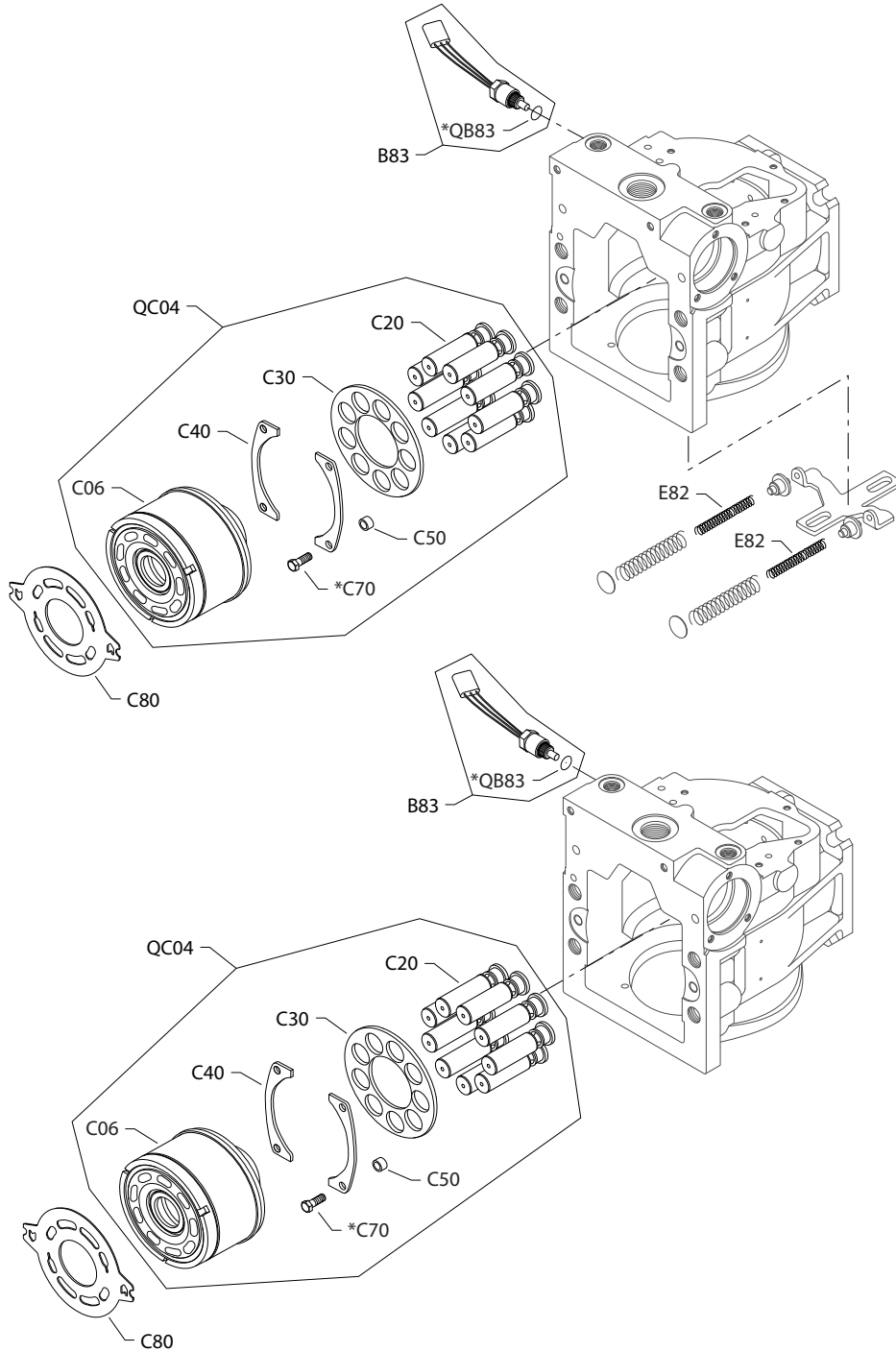
Common parts and special hardware
Order code: EFR

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	06-18		5000505	Roller bearing	1
L20	06-18		9006300-0156	Retaining ring	1
L25	06-18		519671	Seal carrier assembly	1
L40	06-18		519666	Lip seal (SB-2005-007 on page 348)	1
L50	06-18		684621 (9004104-1530)	O-ring	1
L60	06-18		516767	Retainer plate	1
L70	06-18		041160 (9007314-0605)	Screw	3
QB30	06-18		11131108	Cradle bearing assembly	1
QB83	06-18		085043 (9004201-3700)	O-ring	1
QC04	06-18		8510366	Cylinder block kit, with speed ring	1
QD50	06-18		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware EAA-EKB

Parts configuration



Generic speed sensors shown.

* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4
QB83	98-14		085043 (9004201-3700)	O-ring	1

Order code: EHA

B83	00-42		KPPG16408	Speed sensor	1
C06	00-42		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	00-42		518805	Valve plate	1
QC04	00-42		8510366	Cylinder block kit, with speed ring	1

Order code: EKA

B83	99-31		KPPG16719	Speed sensor	1
C06	99-31		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	99-31		518805	Valve plate	1
QC04	99-31		8510366	Cylinder block kit, with speed ring	1

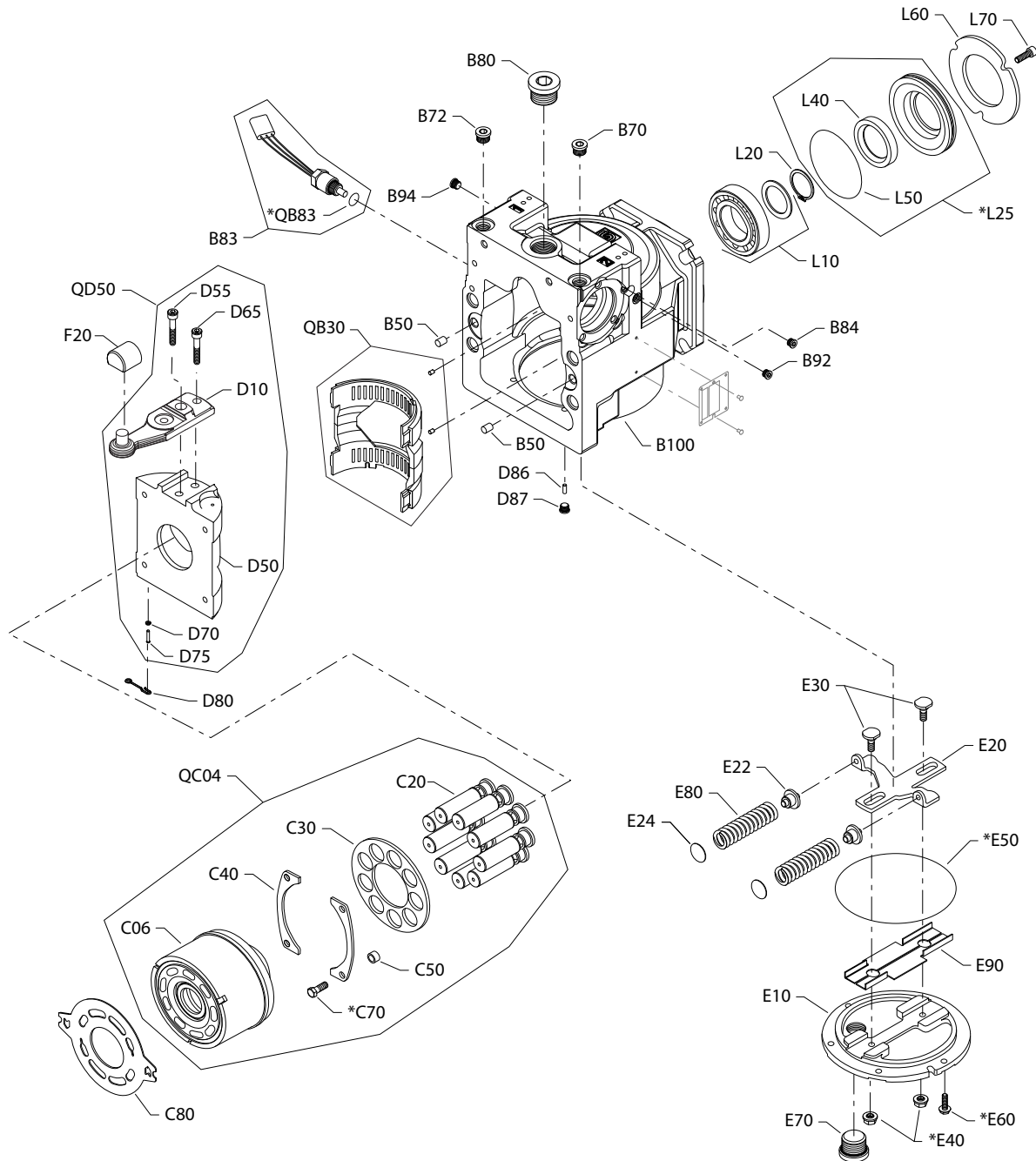
Order code: EKB

B83	01-13	12-36	KPPG156	Speed sensor	1
C06	01-13	12-36	11094260 (11011714)	Cylinder block assembly, with speed ring	1
C80	01-13	12-36	518925	Valve plate, CW	1
E82	01-13	12-36	360842	Spring	2
QC04	01-13	12-36	8510366	Cylinder block kit, with speed ring	1

Common parts and special hardware

S90P 75cc special hardware ELA

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

Common parts and special hardware

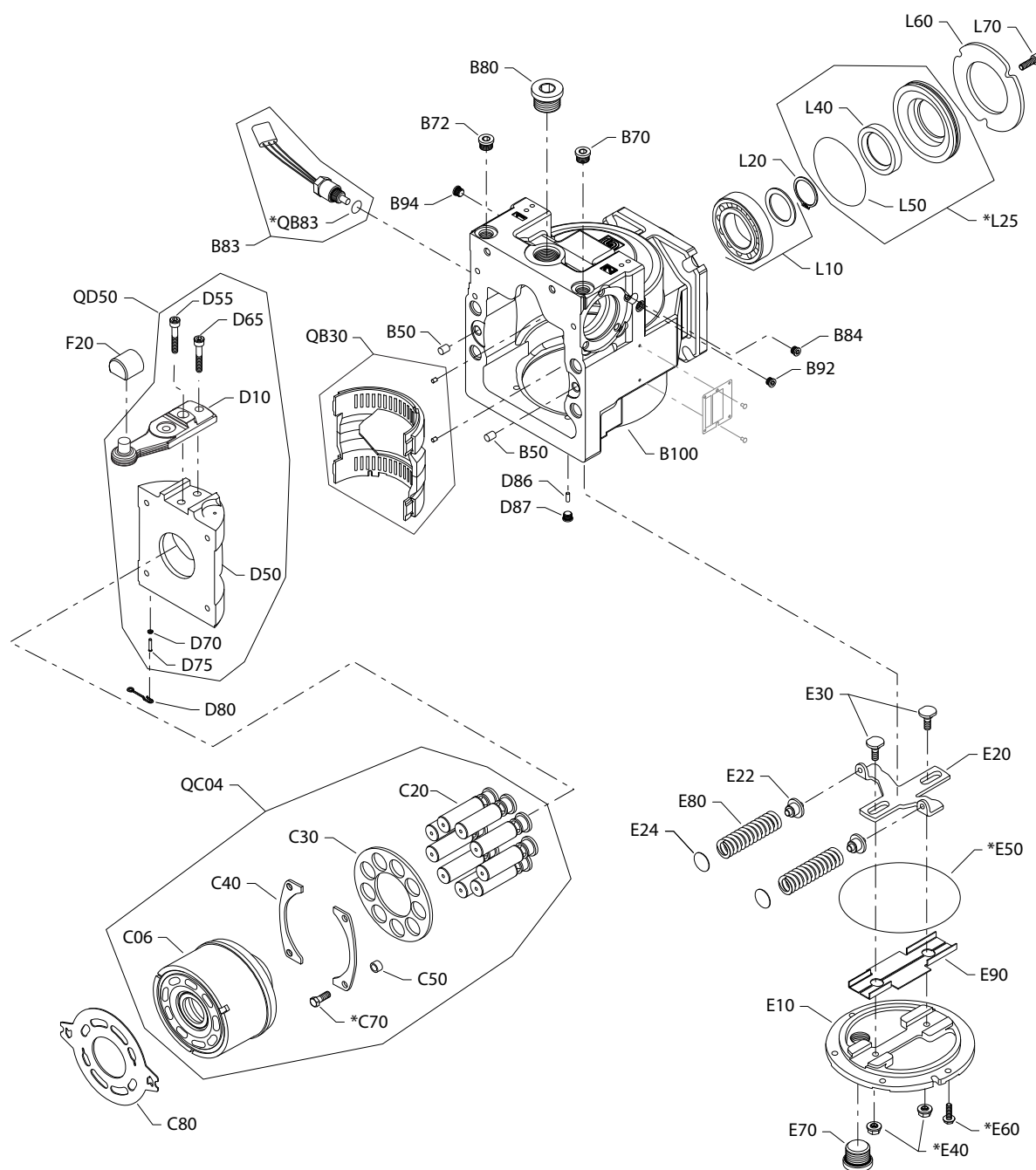
Order code: ELA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	01-03		9004800-3708	Pin	2
B70	01-03		140644	Plug assembly	1
B72	01-03		140644	Plug assembly	1
B80	01-03		664524 (9005110-9000)	Plug assembly	1
B83	01-03		KPPG13403	Speed sensor assembly	1
B84	01-03		11040532	Plug assembly	1
B92	01-03		11040532	Plug assembly	1
B94	01-03		11040532	Plug assembly	1
B100	01-03		11117294	Housing assembly	1
C06	01-03		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	01-03		708230	Piston assembly	9
C30	01-03		11067350	Slipper guide	1
C40	01-03		334391 (8100294)	Slipper guide bearing	2
C50	01-03		11065865	Spacer	4
C70	01-03		314419 (9007276-0114)	Screw	4
C80	01-03		518008	Valve plate	1
D10	01-03		519046	Servo arm	1
D50	01-03		11104315	Swashplate	1
D55	01-03		519150	Screw	1
D70	01-03		9009625-0146	Washer	1
D75	01-03		9004875-0098	Spiral head pin	1
D80	01-03		693929 (8100506)	Cage locator link	1
D86	01-03		9004800-1908	Pin	1
D87	01-03		11040532	Plug assembly	1
E10	01-03		11001286	Side cover	1
E20	01-03		11042018	Leveler	1
E22	01-03		517935	Spring seat	2
E24	01-03		8801225	Shim	2
E30	01-03		11056531	Guide post	2
E40	01-03		505412 (9003509-0008)	Seal nut	2
E50	01-03		517377	O-ring	1
E60	01-03		517228 (5000206)	Screw	6
E70	01-03		664524 (9005110-9000)	Plug assembly	1
E80	01-03		334987	Spring	2
E90	01-03		513888	Insert assembly	1
F20	01-03		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

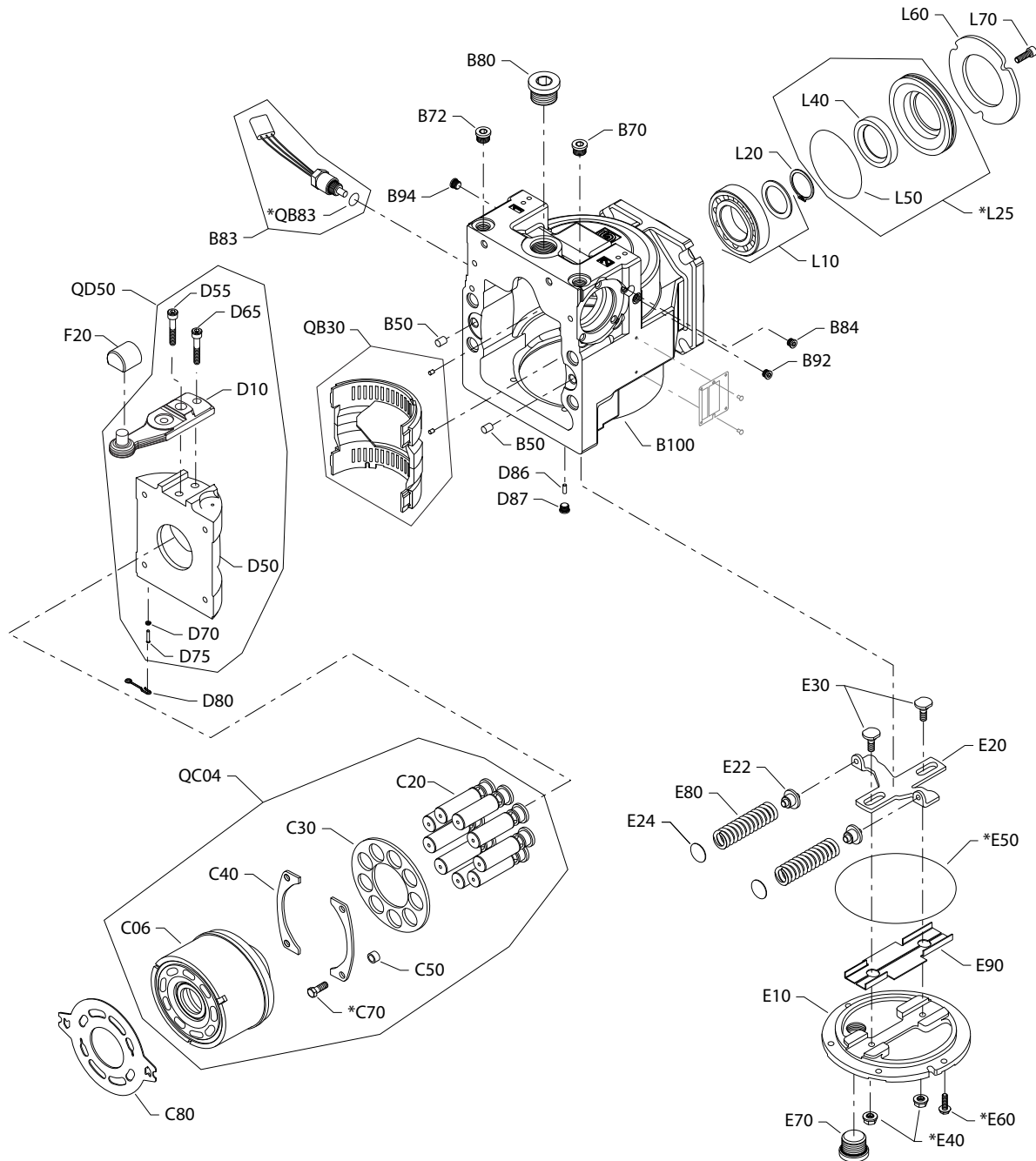
Common parts and special hardware
Order code: ELA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	01-03		5000505	Roller bearing	1
L20	01-03		9006300-0156	Retaining ring	1
L25	01-03		519671	Seal carrier assembly	1
L40	01-03		519666	Lip seal (SB-2005-007 on page 348)	1
L50	01-03		684621 (9004104-1530)	O-ring	1
L60	01-03		516767	Retainer plate	1
L70	01-03		041160 (9007314-0605)	Screw	3
QB30	01-03		11131108	Cradle bearing assembly	1
QB83	01-03		085043 (9004201-3700)	O-ring	1
QC04	01-03		8510366	Cylinder block kit, with speed ring	1
QD50	01-03		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware ELB

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

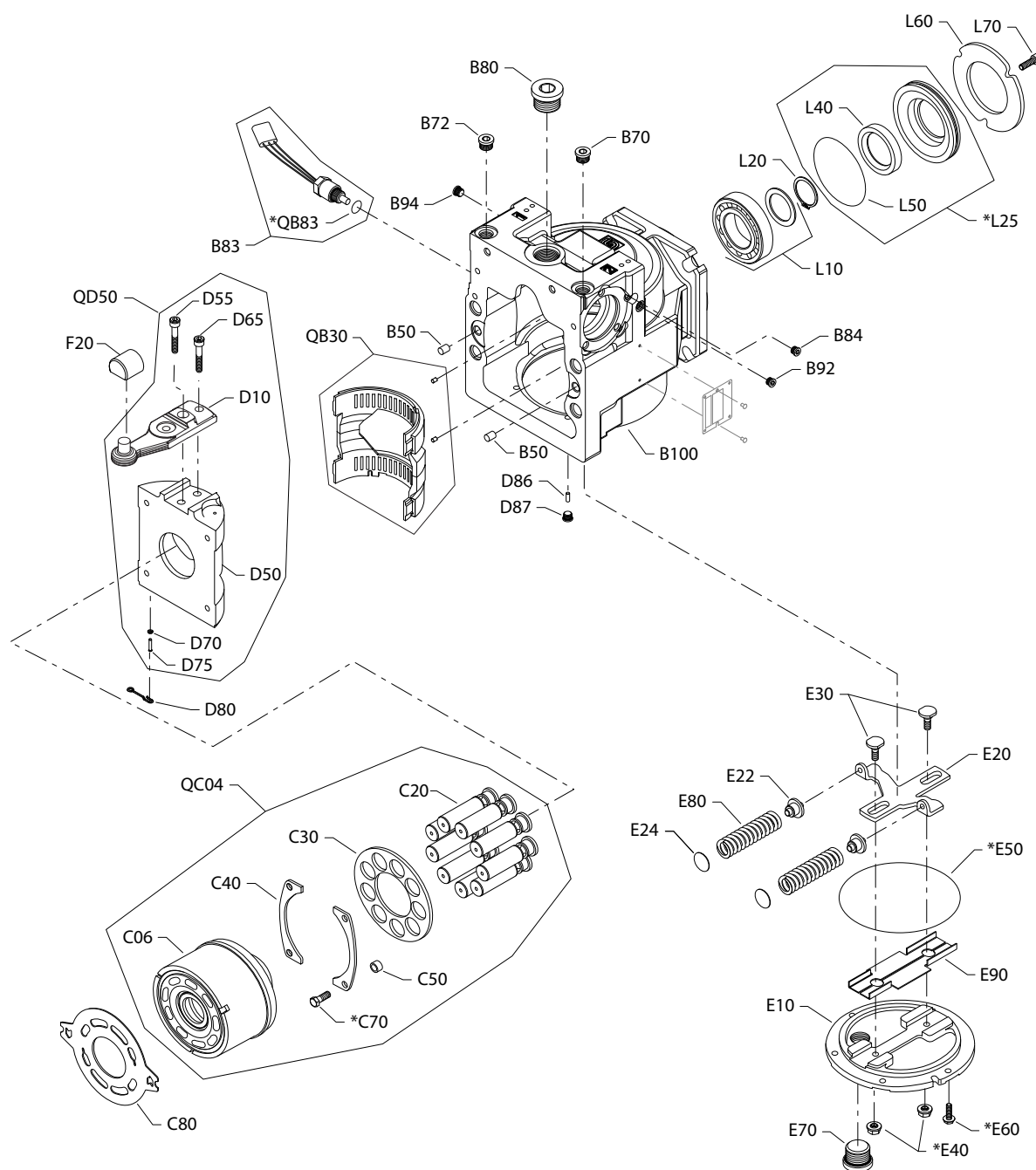
Common parts and special hardware
Order code: ELB

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	04-03		9004800-3708	Pin	2
B70	04-03		140644	Plug assembly	1
B72	04-03		140644	Plug assembly	1
B80	04-03		664524 (9005110-9000)	Plug assembly	1
B83	04-03		KPPG13403	Speed sensor assembly	1
B84	04-03		11040532	Plug assembly	1
B92	04-03		11040532	Plug assembly	1
B94	04-03		11040532	Plug assembly	1
B100	04-03		11117294	Housing assembly	1
C06	04-03		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	04-03		708230	Piston assembly	9
C30	04-03		11067350	Slipper guide	1
C40	04-03		334391 (8100294)	Slipper guide bearing	2
C50	04-03		11065865	Spacer	4
C70	04-03		314419 (9007276-0114)	Screw	4
C80	04-03		518925	Valve plate, CW	1
D10	04-03		519046	Servo arm	1
D50	04-03		11104315	Swashplate	1
D55	04-03		519150	Screw	1
D70	04-03		9009625-0146	Washer	1
D75	04-03		9004875-0098	Spiral head pin	1
D80	04-03		693929 (8100506)	Cage locator link	1
D86	04-03		9004800-1908	Pin	1
D87	04-03		11040532	Plug assembly	1
E10	04-03		11001286	Side cover	1
E20	04-03		11042018	Leveler	1
E22	04-03		517935	Spring seat	2
E24	04-03		8801225	Shim	2
E30	04-03		11056531	Guide post	2
E40	04-03		505412 (9003509-0008)	Seal nut	2
E50	04-03		517377	O-ring	1
E60	04-03		517228 (5000206)	Screw	6
E70	04-03		664524 (9005110-9000)	Plug assembly	1
E80	04-03		334987	Spring	2
E90	04-03		513888	Insert assembly	1
F20	04-03		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

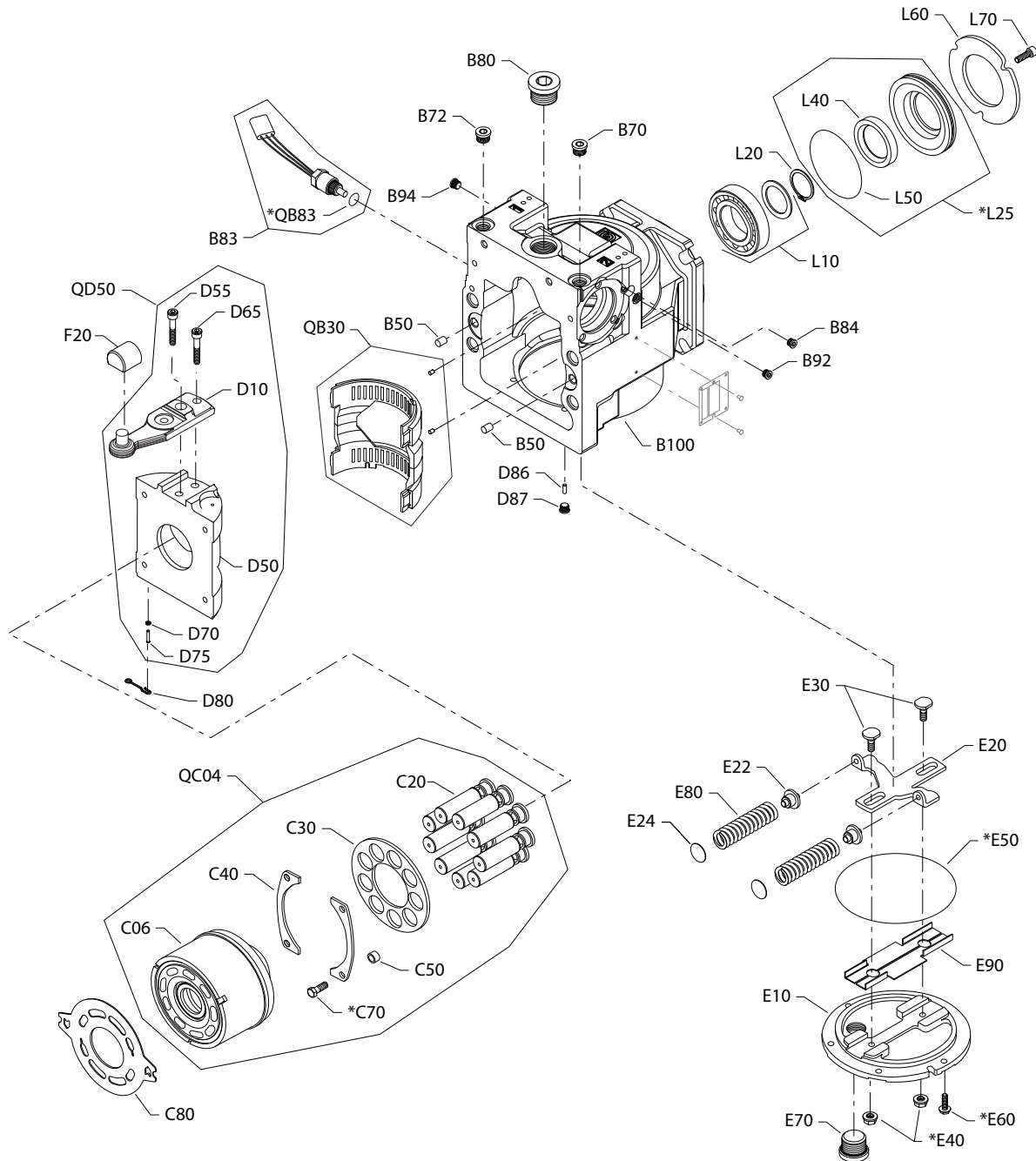
Common parts and special hardware
Order code: ELB

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	04-03		5000505	Roller bearing	1
L20	04-03		9006300-0156	Retaining ring	1
L25	04-03		519671	Seal carrier assembly	1
L40	04-03		519666	Lip seal (SB-2005-007 on page 348)	1
L50	04-03		684621 (9004104-1530)	O-ring	1
L60	04-03		516767	Retainer plate	1
L70	04-03		041160 (9007314-0605)	Screw	3
QB30	04-03		11131108	Cradle bearing assembly	1
QB83	04-03		085043 (9004201-3700)	O-ring	1
QC04	04-03		8510366	Cylinder block kit, with speed ring	1
QD50	04-03		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware ELC

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

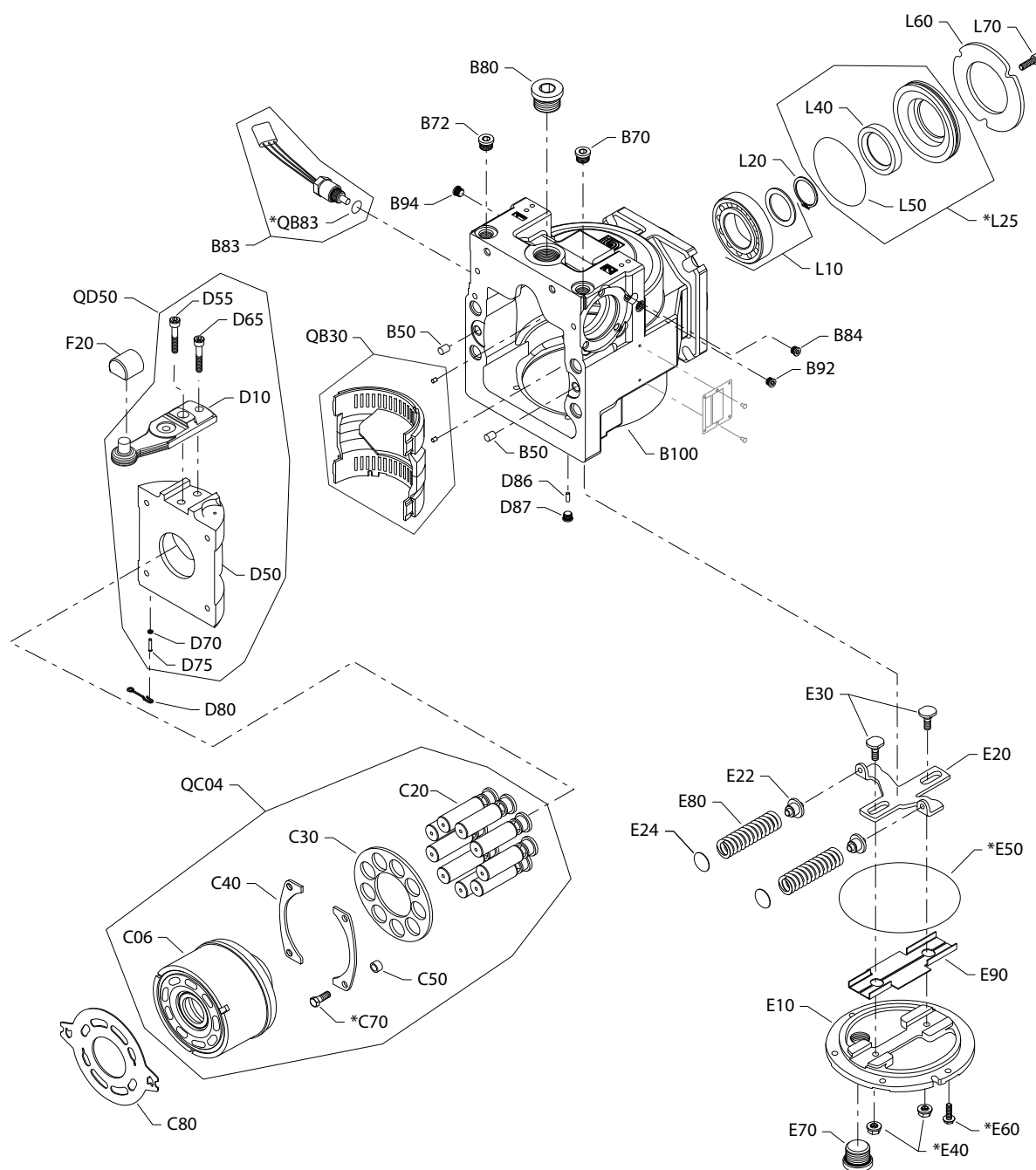
Common parts and special hardware
Order code: ELC

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	04-18		9004800-3708	Pin	2
B70	04-18		140644	Plug assembly	1
B72	04-18		140644	Plug assembly	1
B80	04-18		664524 (9005110-9000)	Plug assembly	1
B83	04-18		KPPG15408	Speed sensor assembly	1
B84	04-18		11040532	Plug assembly	1
B92	04-18		11040532	Plug assembly	1
B94	04-18		11040532	Plug assembly	1
B100	04-18		11117294	Housing assembly	1
C06	04-18		11094260 (11011714)	Cylinder block assembly, with speed ring	1
C20	04-18		708230	Piston assembly	9
C30	04-18		11067350	Slipper guide	1
C40	04-18		334391 (8100294)	Slipper guide bearing	2
C50	04-18		11065865	Spacer	4
C70	04-18		314419 (9007276-0114)	Screw	4
C80	04-18		518925	Valve plate, CW	1
D10	04-18		519046	Servo arm	1
D50	04-18		11104315	Swashplate	1
D55	04-18		519150	Screw	1
D70	04-18		9009625-0146	Washer	1
D75	04-18		9004875-0098	Spiral head pin	1
D80	04-18		693929 (8100506)	Cage locator link	1
D86	04-18		9004800-1908	Pin	1
D87	04-18		11040532	Plug assembly	1
E10	04-18		11001286	Side cover	1
E20	04-18		11042018	Leveler	1
E22	04-18		517935	Spring seat	2
E24	04-18		8801225	Shim	2
E30	04-18		11056531	Guide post	2
E40	04-18		505412 (9003509-0008)	Seal nut	2
E50	04-18		517377	O-ring	1
E60	04-18		517228 (5000206)	Screw	6
E70	04-18		664524 (9005110-9000)	Plug assembly	1
E80	04-18		334987	Spring	2
E90	04-18		513888	Insert assembly	1
F20	04-18		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



Generic speed sensor shown.

* Included in base pump seal kit Q210

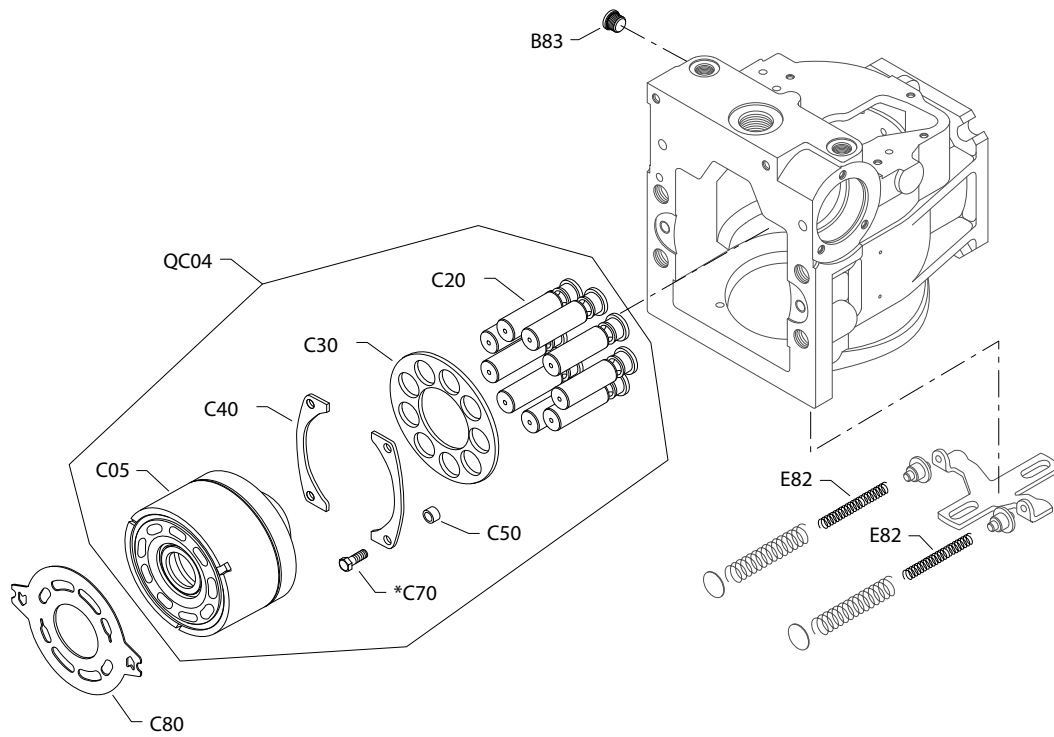
Common parts and special hardware
Order code: ELC

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	04-18		5000505	Roller bearing	1
L20	04-18		9006300-0156	Retaining ring	1
L25	04-18		519671	Seal carrier assembly	1
L40	04-18		519666	Lip seal (SB-2005-007 on page 348)	1
L50	04-18		684621 (9004104-1530)	O-ring	1
L60	04-18		516767	Retainer plate	1
L70	04-18		041160 (9007314-0605)	Screw	3
QB30	04-18		11131108	Cradle bearing assembly	1
QB83	04-18		085043 (9004201-3700)	O-ring	1
QC04	04-18		8510366	Cylinder block kit, with speed ring	1
QD50	04-18		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware FAA-FAK

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FAA

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518924	Valve plate	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAB

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518923	Valve plate	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAC

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518008	Valve plate	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAD

B83	96-05		140644	Plug assembly	1
C05	96-05		11025822	Cylinder block assembly	1
C80	96-05		518805	Valve plate	1
E82	96-05		360842 (11062703)	Spring	2
QC04	96-05		8510365	Cylinder block kit	1

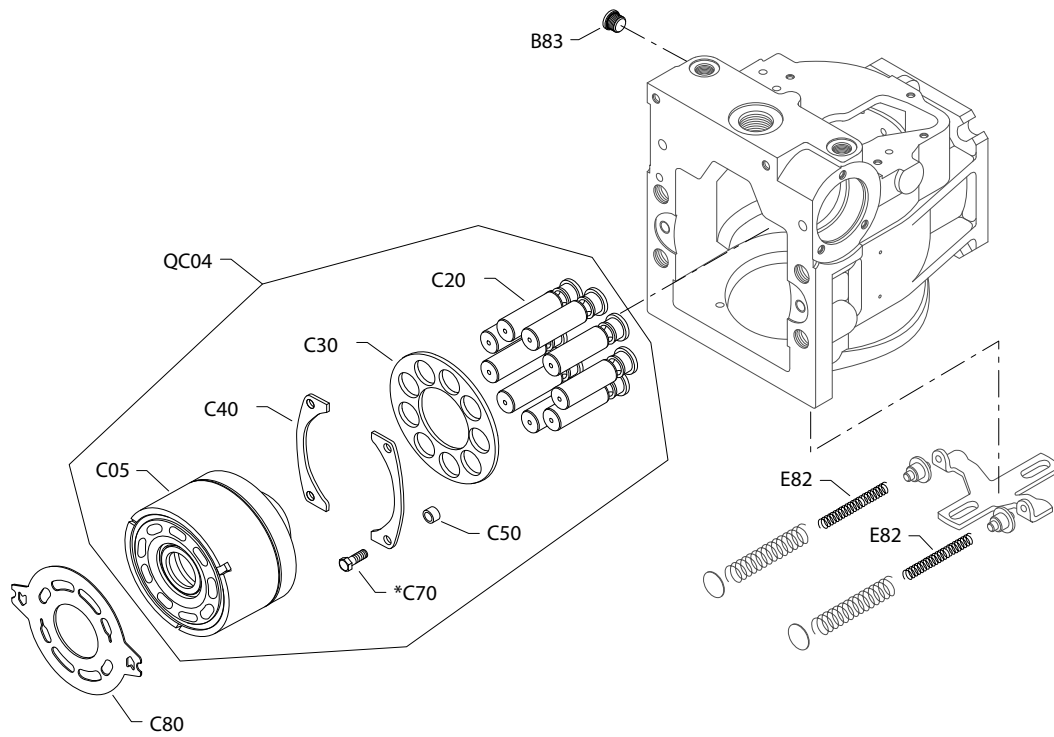
Order code: FAK

B83	98-51		140644	Plug assembly	1
C05	98-51		11025822	Cylinder block assembly	1
C80	98-51		518805	Valve plate	1
E82	98-51		360842 (11062703)	Spring	2
QC04	98-51		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware FAL, FAN

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FAL

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518923	Valve plate	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

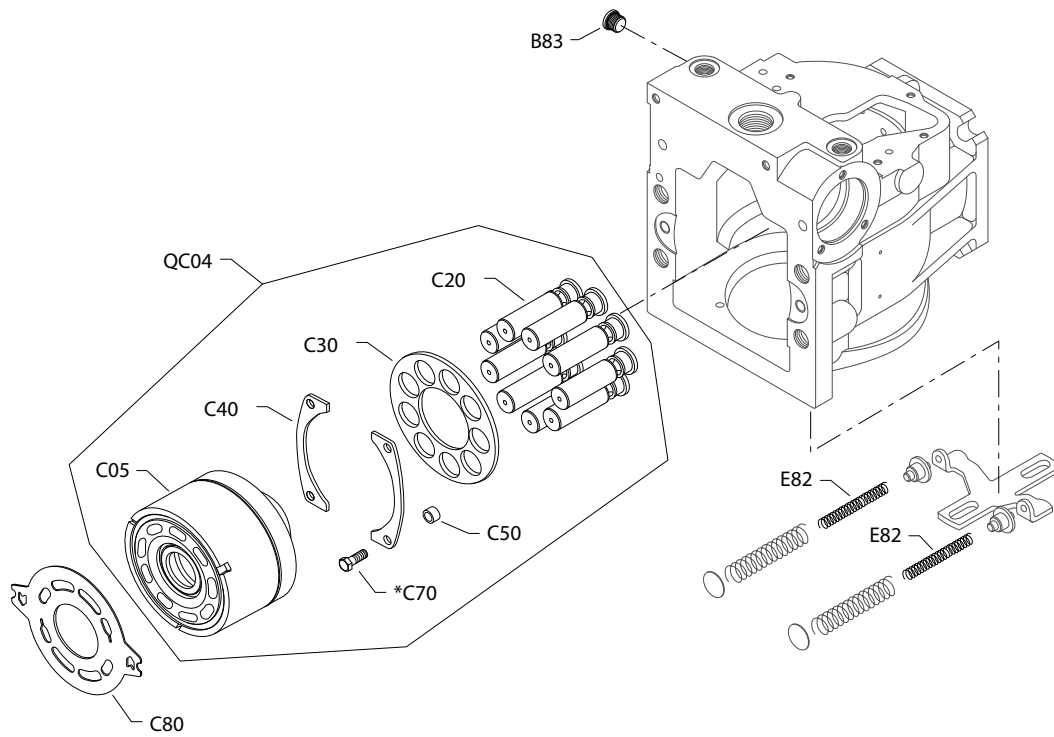
Order code: FAN

B83	13-41		140644	Plug assembly	1
C05	13-41		11025822	Cylinder block assembly	1
C80	13-41		518924	Valve plate	1
E82	13-41		360842 (11062703)	Spring	2
QC04	13-41		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware FAP-FAU

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FAP

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518925	Valve plate, CW	1
C80	94-14		518926	Valve plate, CCW	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAQ

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		518925	Valve plate, CW	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAR

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		510723	Valve plate	1
E82	94-14		360842 (11062703)	Spring	2
QC04	94-14		8510365	Cylinder block kit	1

Order code: FAS

B83	97-03		140644	Plug assembly	1
C05	97-03		11025822	Cylinder block assembly	1
C80	97-03		518008	Valve plate	1
E82	97-03		360842 (11062703)	Spring	2
QC04	97-03		8510365	Cylinder block kit	1

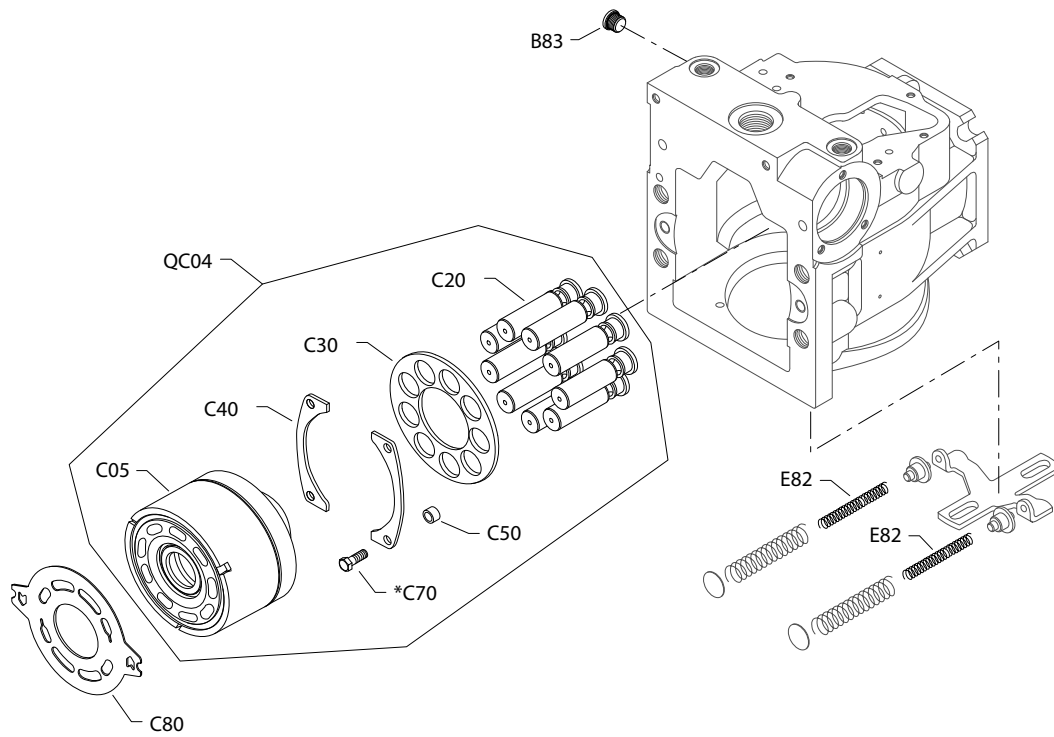
Order code: FAU

B83	98-37		140644	Plug assembly	1
C05	98-37		11025822	Cylinder block assembly	1
C80	98-37		518805	Valve plate	1
E82	98-37		360842 (11062703)	Spring	2
QC04	98-37		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware FAX, FAY

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FAX

B83	01-07		140644	Plug assembly	1
C05	01-07		11025822	Cylinder block assembly	1
C80	01-07		510723	Valve plate	1
E82	01-07		360842 (11062703)	Spring	2
QC04	01-07		8510365	Cylinder block kit	1

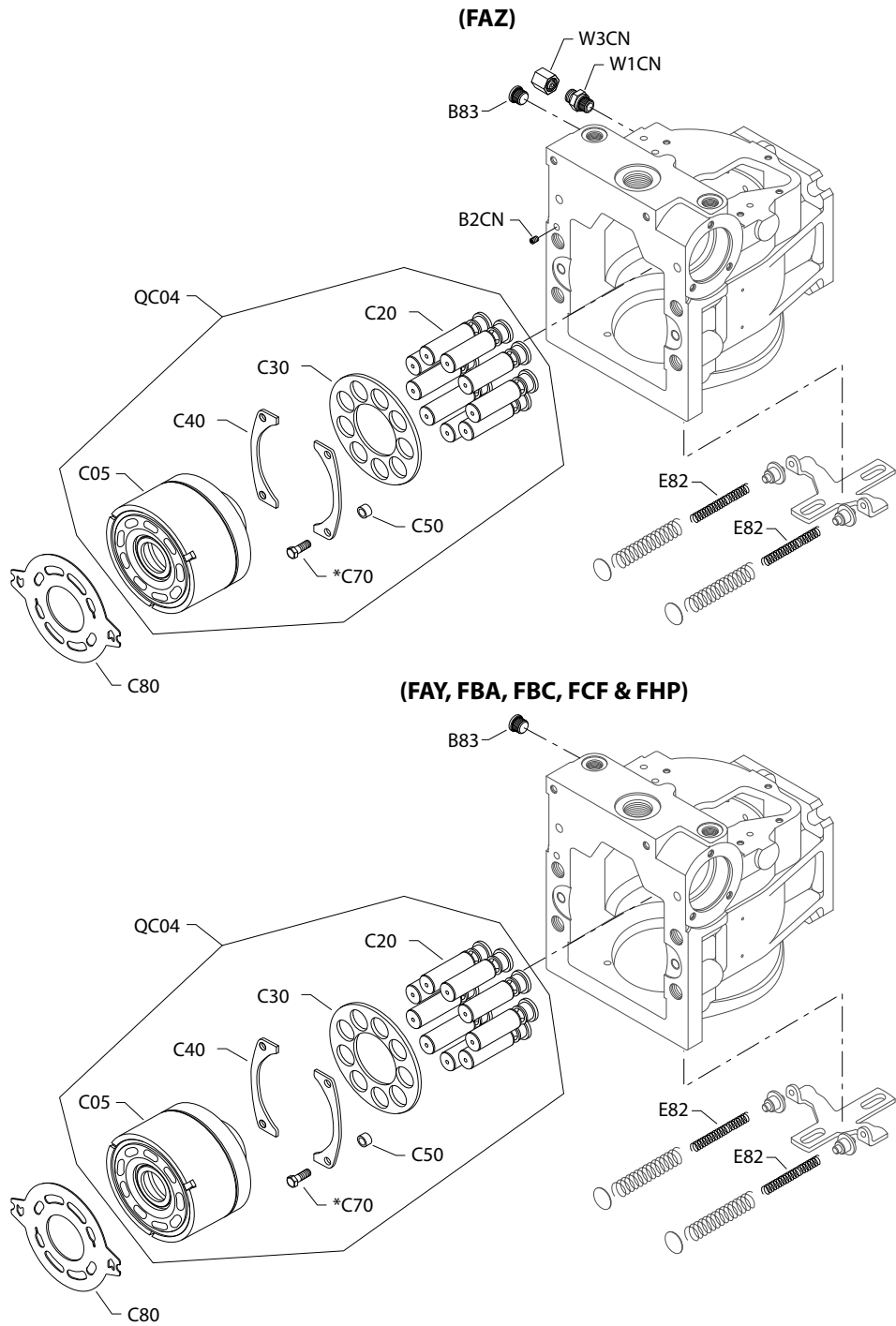
Order code: FAY

B83	06-03		140644	Plug assembly	1
C05	06-03		11025822	Cylinder block assembly	1
C80	06-03		518805	Valve plate	1
E82	06-03		360842 (11062703)	Spring	2
QC04	06-03		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware FAZ-FBG

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FAZ

B2CN	05-06		775312	Set screw	1
B83	05-06		140644	Plug assembly	1
C05	05-06		11025822	Cylinder block assembly	1
C80	05-06		518008	Valve plate	1
E82	05-06		360842 (11062703)	Spring	2
QC04	05-06		8510365	Cylinder block kit	1
W1CN	05-06		723726	Connector	1
W3CN	05-06		574095	Cap	1

Order code: FBA

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518008	Valve plate	1
E82	06-12		360842 (11062703)	Spring	2
QC04	06-12		8510365	Cylinder block kit	1

Order code: FBC

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
E82	06-12		360842 (11062703)	Spring	2
QC04	06-12		8510365	Cylinder block kit	1

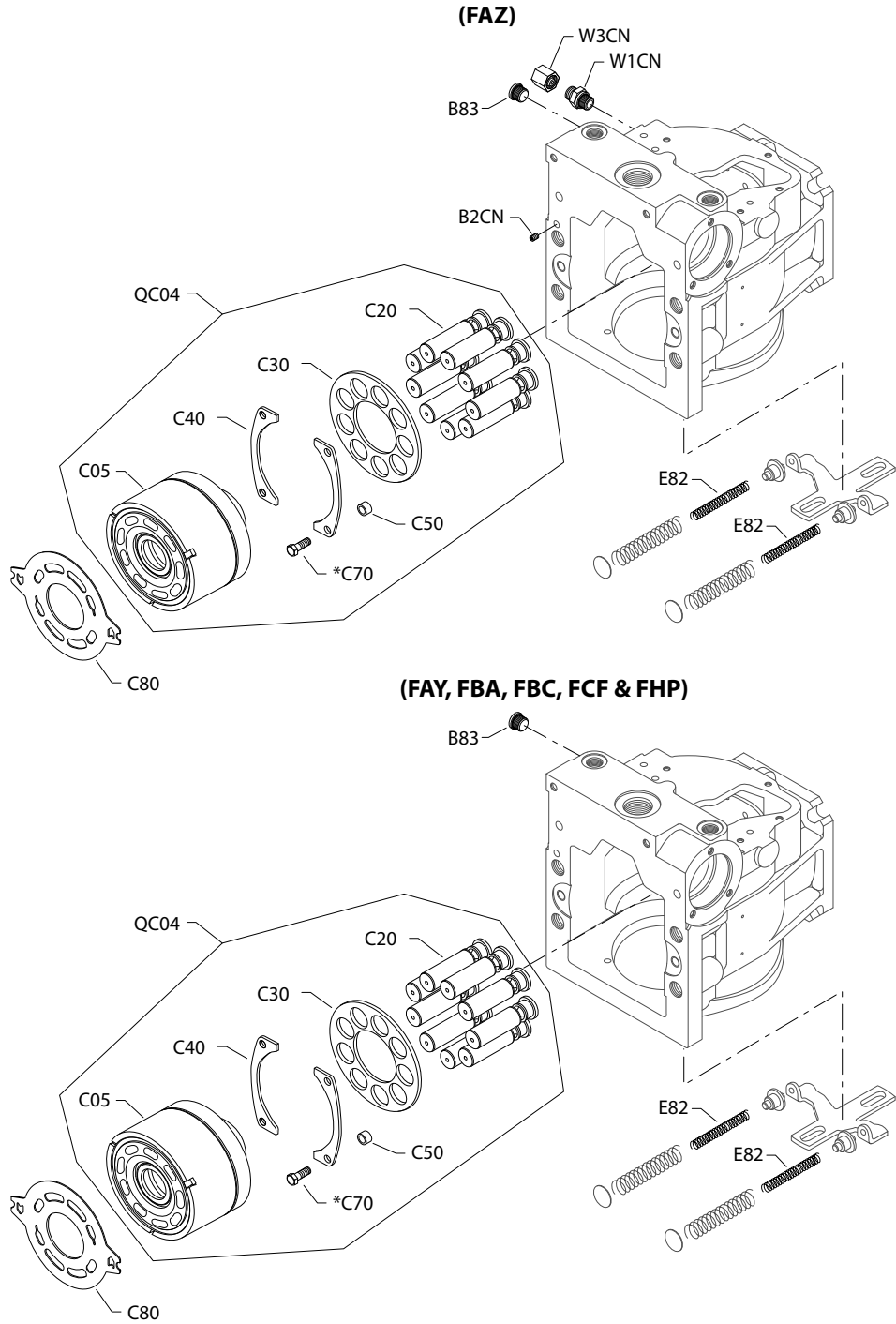
Order code: FBG

B83	06-16		140644	Plug assembly	1
C05	06-16		11025822	Cylinder block assembly	1
C80	06-16		518805	Valve plate	1
E82	06-16		360842 (11062703)	Spring	2
QC04	06-16		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware FCF, FHP

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: FCF

B83	11-19		140644	Plug assembly	1
C05	11-19		11025822	Cylinder block assembly	1
C80	11-19		518805	Valve plate	1
E82	11-19		360842 (11062703)	Spring	2
QC04	11-19		8510365	Cylinder block kit	1

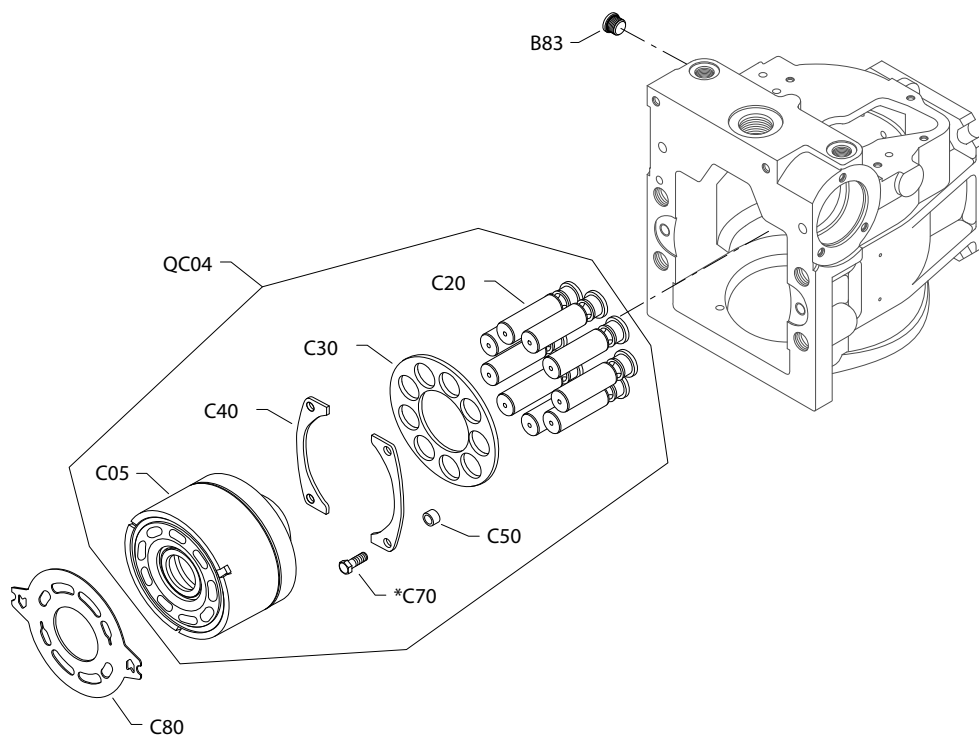
Order code: FHP

B83	12-40		140644	Plug assembly	1
C05	12-40		11025822	Cylinder block assembly	1
C80	12-40		518805	Valve plate	1
E82	12-40		360842 (11062703)	Spring	2
QC04	12-40		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GAA-GBT

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GAA

B83	94-14		140644	Plug assembly	1
C05	94-14		11025822	Cylinder block assembly	1
C80	94-14		344911	Valve plate	1
QC04	94-14		8510365	Cylinder block kit	1

Order code: GBA

B83	87-02		140644	Plug assembly	1
C05	87-02		11025822	Cylinder block assembly	1
C80	87-02		518805	Valve plate	1
QC04	87-02		8510365	Cylinder block kit	1

Order code: GBE

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518805	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Order code: GBJ

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518805	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Order code: GBS

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518805	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

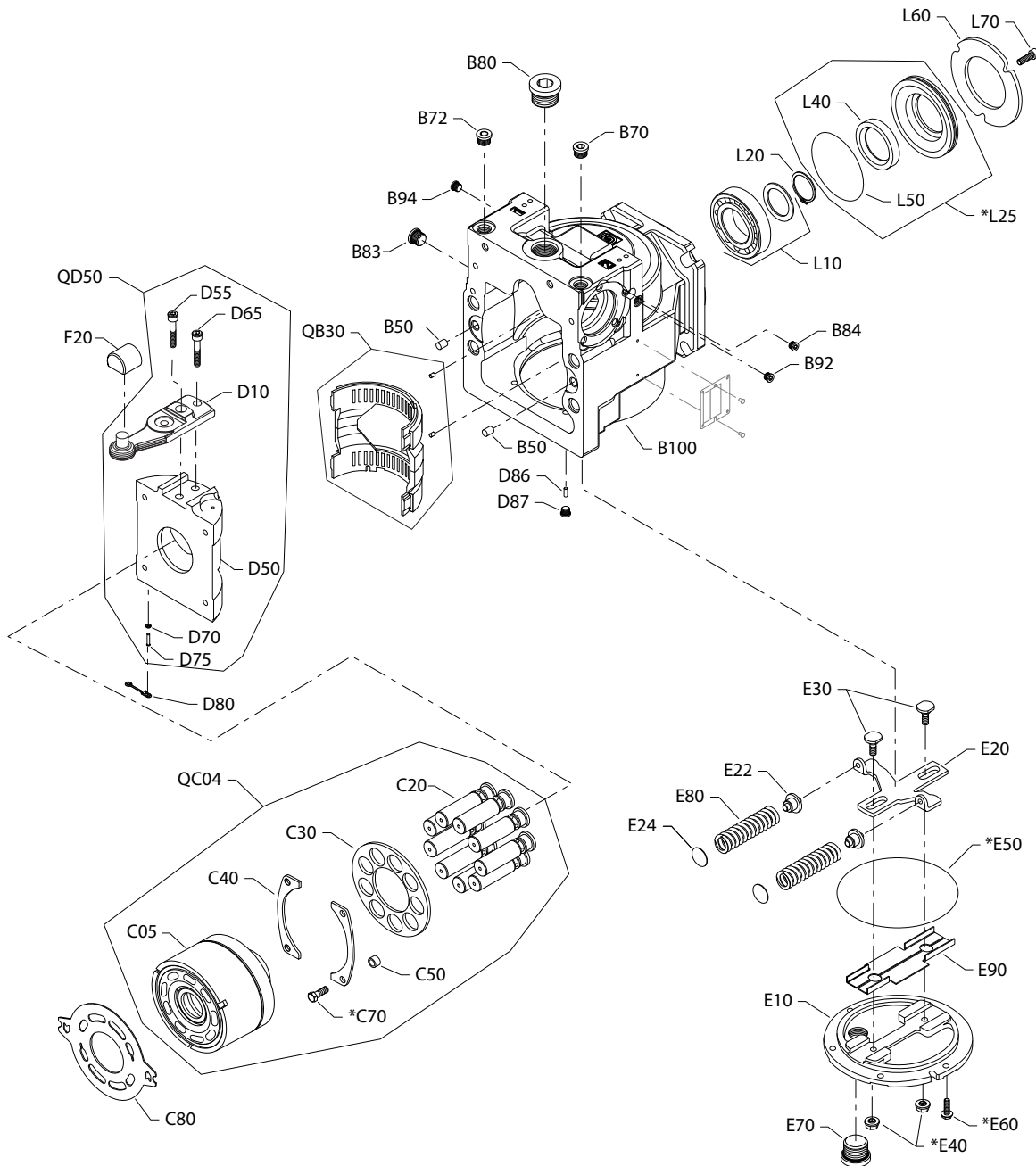
Order code: GBT

B83	98-02		140644	Plug assembly	1
C05	98-02		11025822	Cylinder block assembly	1
C80	98-02		518805	Valve plate	1
QC04	98-02		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GBU

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

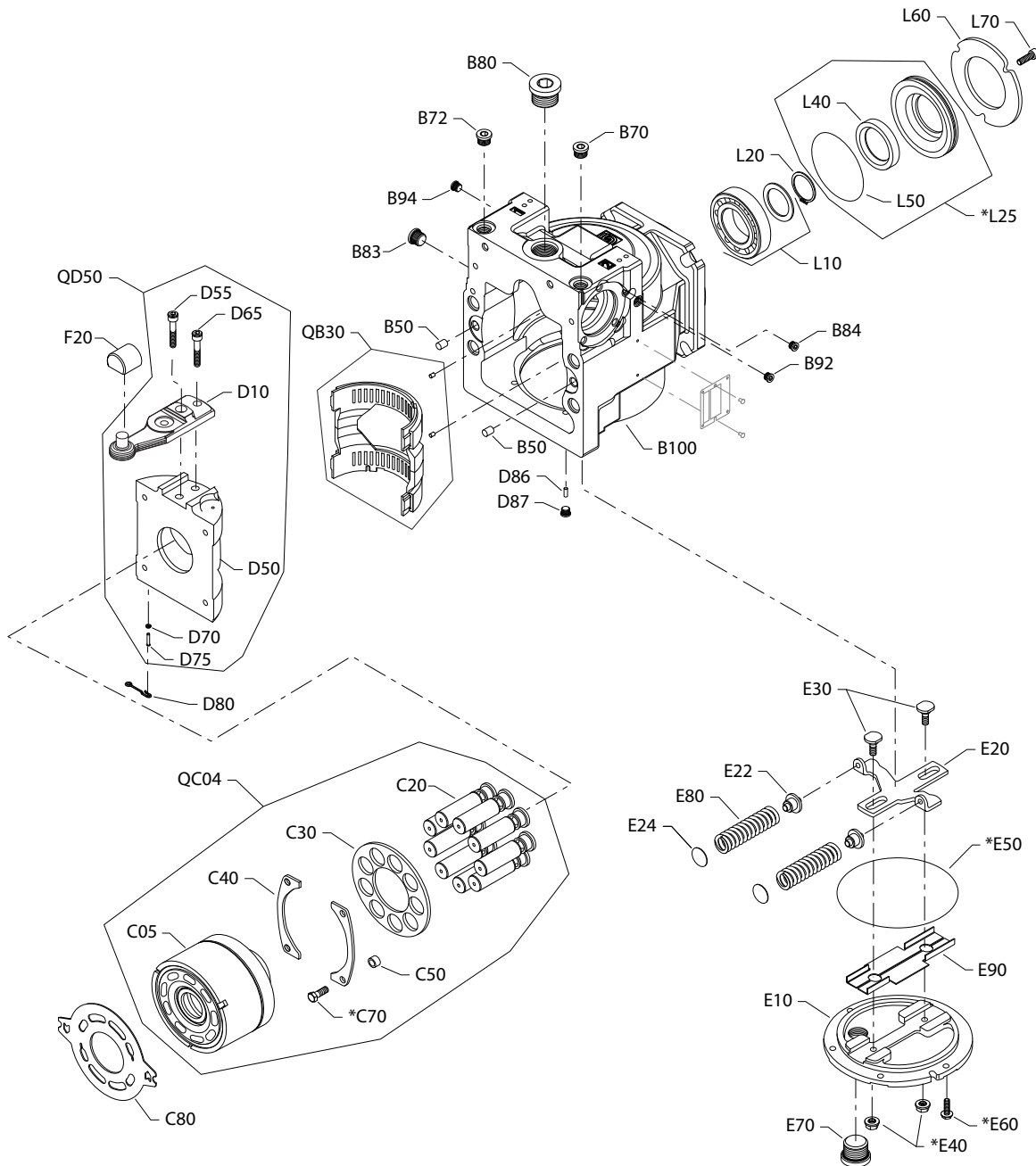
Order code: GBU

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	06-18		9004800-3708	Pin	2
B70	06-18		140644	Plug assembly	1
B72	06-18		140644	Plug assembly	1
B80	06-18		664524 (9005110-9000)	Plug assembly	1
B83	06-18		140644	Plug assembly	1
B84	06-18		11040532	Plug assembly	1
B92	06-18		11040532	Plug assembly	1
B94	06-18		11040532	Plug assembly	1
B100	06-18		11117294	Housing assembly	1
C05	06-18		11025822	Cylinder block assembly	1
C20	06-18		708230	Piston assembly	9
C30	06-18		11067350	Slipper guide	1
C40	06-18		334391 (8100294)	Slipper guide bearing	2
C50	06-18		11065865	Spacer	4
C70	06-18		314419 (9007276-0114)	Screw	4
C80	06-18		518805	Valve plate	1
D10	06-18		519046	Servo arm	1
D50	06-18		11104315	Swashplate	1
D55	06-18		519150	Screw	1
D70	06-18		9009625-0146	Washer	1
D75	06-18		9004875-0098	Spiral head pin	1
D80	06-18		693929 (8100506)	Cage locator link	1
D86	06-18		9004800-1908	Pin	1
D87	06-18		11040532	Plug assembly	1
E10	06-18		11001286	Side cover	1
E20	06-18		11042018	Leveler	1
E22	06-18		517935	Spring seat	2
E24	06-18		8801225	Shim	2
E30	06-18		11056531	Guide post	2
E40	06-18		505412 (9003509-0008)	Seal nut	2
E50	06-18		517377	O-ring	1
E60	06-18		517228 (5000206)	Screw	6
E70	06-18		664524 (9005110-9000)	Plug assembly	1
E80	06-18		334987	Spring	2
E90	06-18		513888	Insert assembly	1
F20	06-18		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

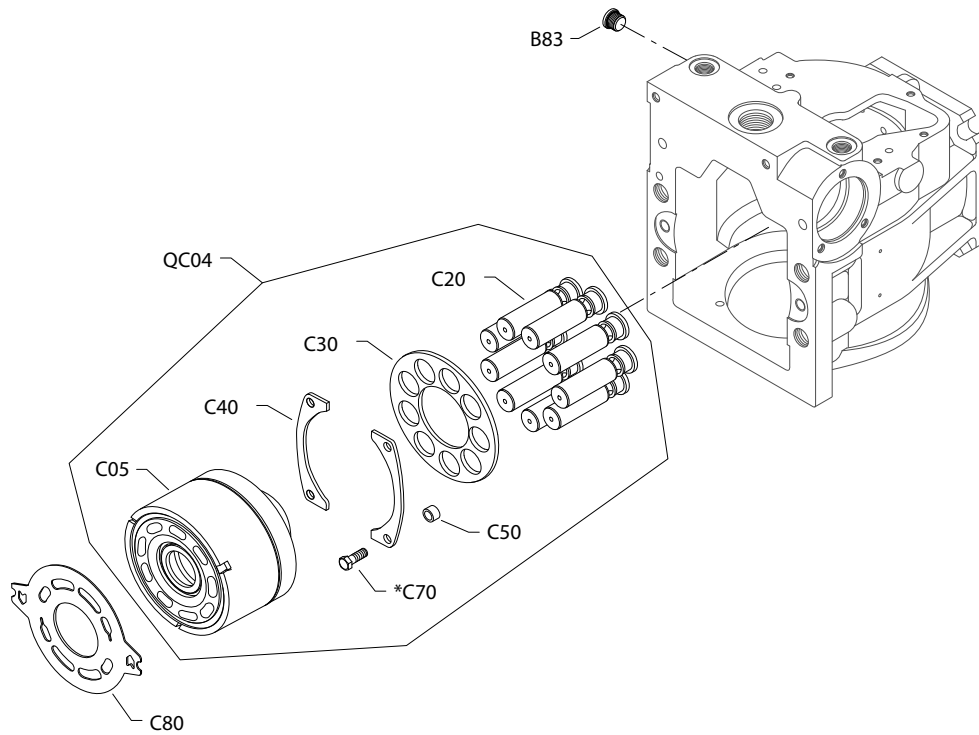
Common parts and special hardware
Order code: GBU

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	06-18		5000505	Roller bearing	1
L20	06-18		9006300-0156	Retaining ring	1
L25	06-18		519671	Seal carrier assembly	1
L40	06-18		519666	Lip seal (SB-2005-007 on page 348)	1
L50	06-18		684621 (9004104-1530)	O-ring	1
L60	06-18		516767	Retainer plate	1
L70	06-18		041160 (9007314-0605)	Screw	3
QB30	06-18		11131108	Cradle bearing assembly	1
QC04	06-18		8510365	Cylinder block kit	1
QD50	06-18		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware GBX-GCP

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GBX

B83	08-42		140644	Plug assembly	1
C05	08-42		11025822	Cylinder block assembly	1
C80	08-42		518805	Valve plate	1
QC04	08-42		8510365	Cylinder block kit	1

Order code: GCA

B83	98-14		140644	Plug assembly	1
C05	98-14		11025822	Cylinder block assembly	1
C80	98-14		518008	Valve plate	1
QC04	98-14		8510365	Cylinder block kit	1

Order code: GCB

B83	98-14		140644	Plug assembly	1
C05	98-14		11025822	Cylinder block assembly	1
C80	98-14		518008	Valve plate	1
QC04	98-14		8510365	Cylinder block kit	1

Order code: GCC

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518008	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Order code: GCJ

B83	14-20		140644	Plug assembly	1
C05	14-20		11025822	Cylinder block assembly	1
C80	14-20		518805	Valve plate	1
QC04	14-20		8510365	Cylinder block kit	1

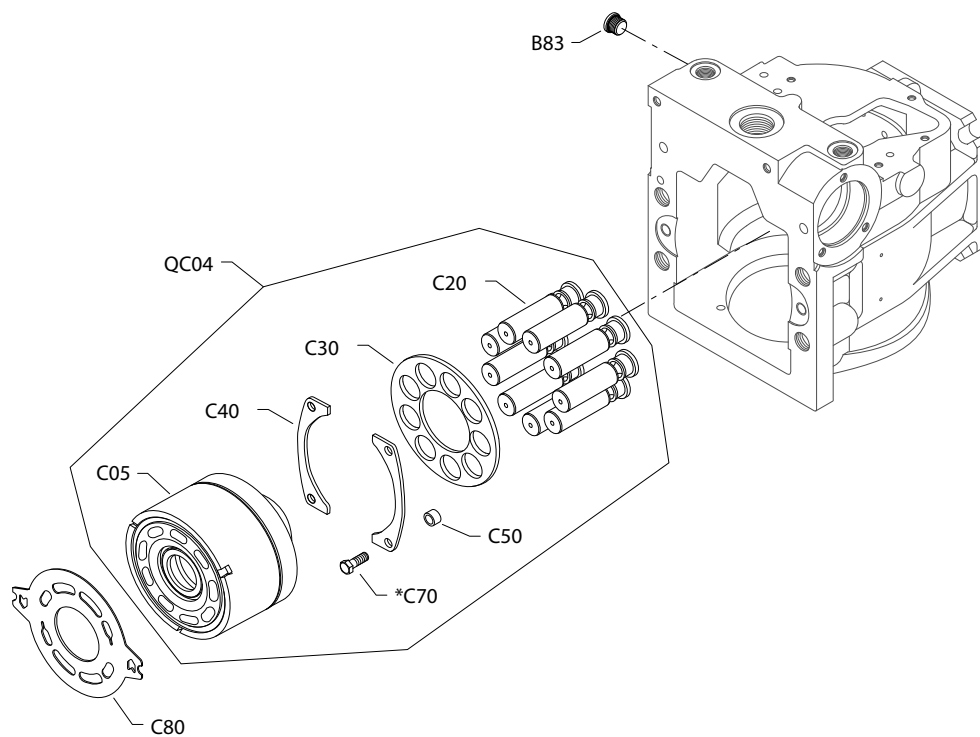
Order code: GCP

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518008	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GCR-GCU

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GCR

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518805	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Order code: GCS

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518008	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

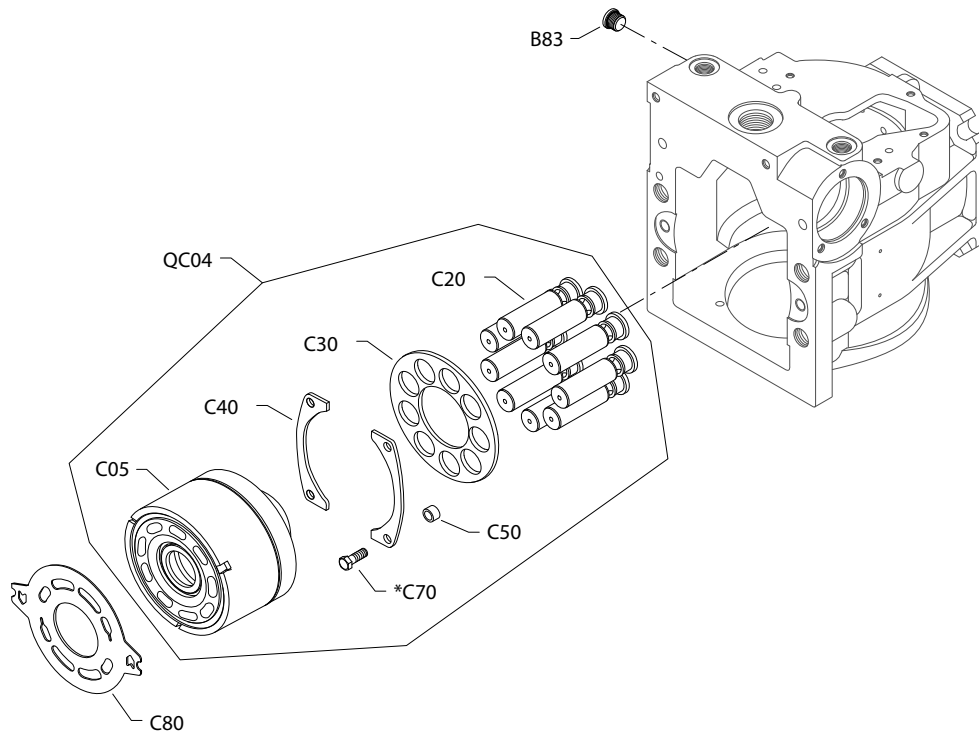
Order code: GCU

B83	98-06		140644	Plug assembly	1
C05	98-06		11025822	Cylinder block assembly	1
C80	98-06		518008	Valve plate	1
QC04	98-06		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GDE-GFP

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GDE

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GFD

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GFH

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GFJ

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GFK

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

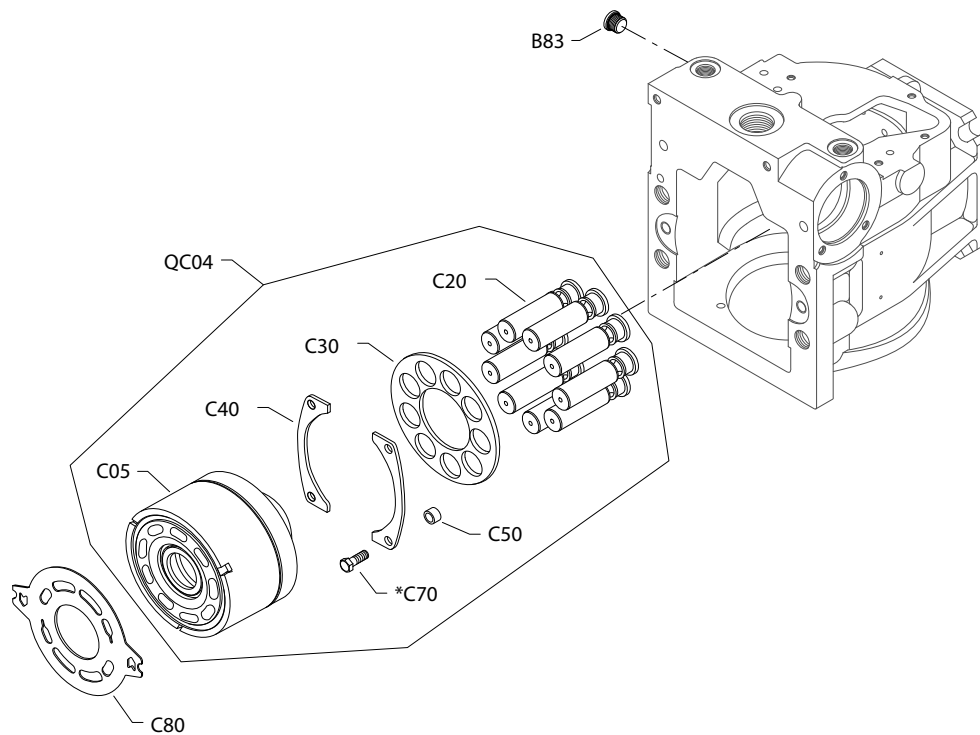
Order code: GFP

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518925	Valve plate, CW	1
QC04	06-12		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GFS-GFZ

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GFS

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GFW

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518008	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

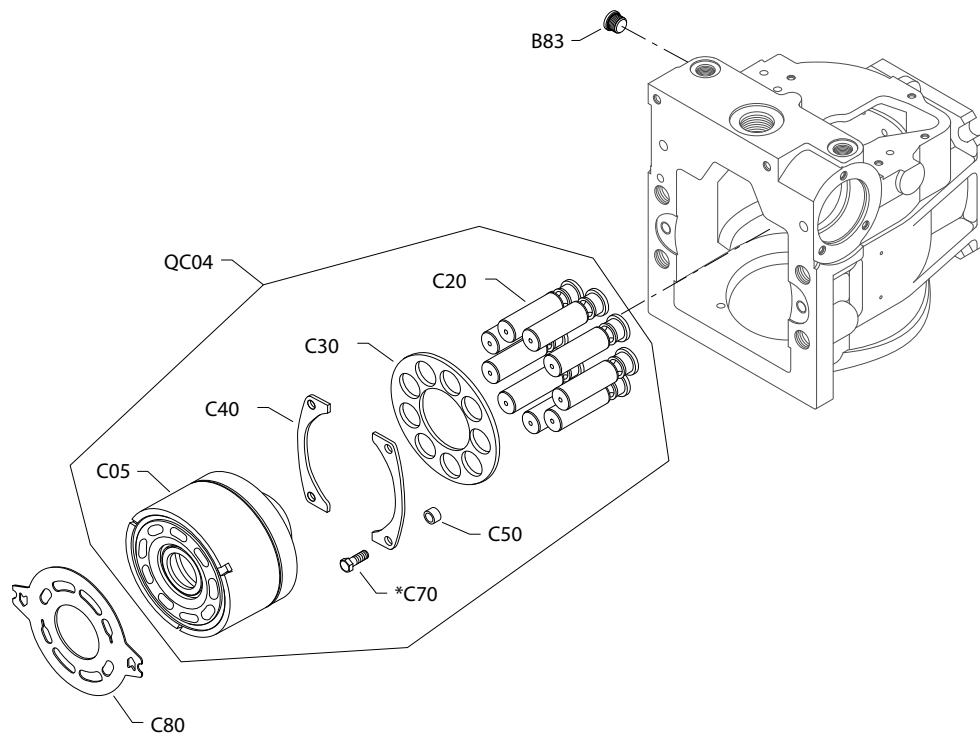
Order code: GFZ

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518805	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GHT-GMA

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GHT

B83	06-12		140644	Plug assembly	1
C05	06-12		11025822	Cylinder block assembly	1
C80	06-12		518008	Valve plate	1
QC04	06-12		8510365	Cylinder block kit	1

Order code: GLA

B83	98-18		140644	Plug assembly	1
C05	98-18		11025822	Cylinder block assembly	1
C80	98-18		518925	Valve plate, CW	1
C80	98-18		518926	Valve plate, CCW	1
QC04	98-18		8510365	Cylinder block kit	1

Order code: GLS

B83	98-18		140644	Plug assembly	1
C05	98-18		11025822	Cylinder block assembly	1
C80	98-18		518925	Valve plate, CW	1
C80	98-18		518926	Valve plate, CCW	1
QC04	98-18		8510365	Cylinder block kit	1

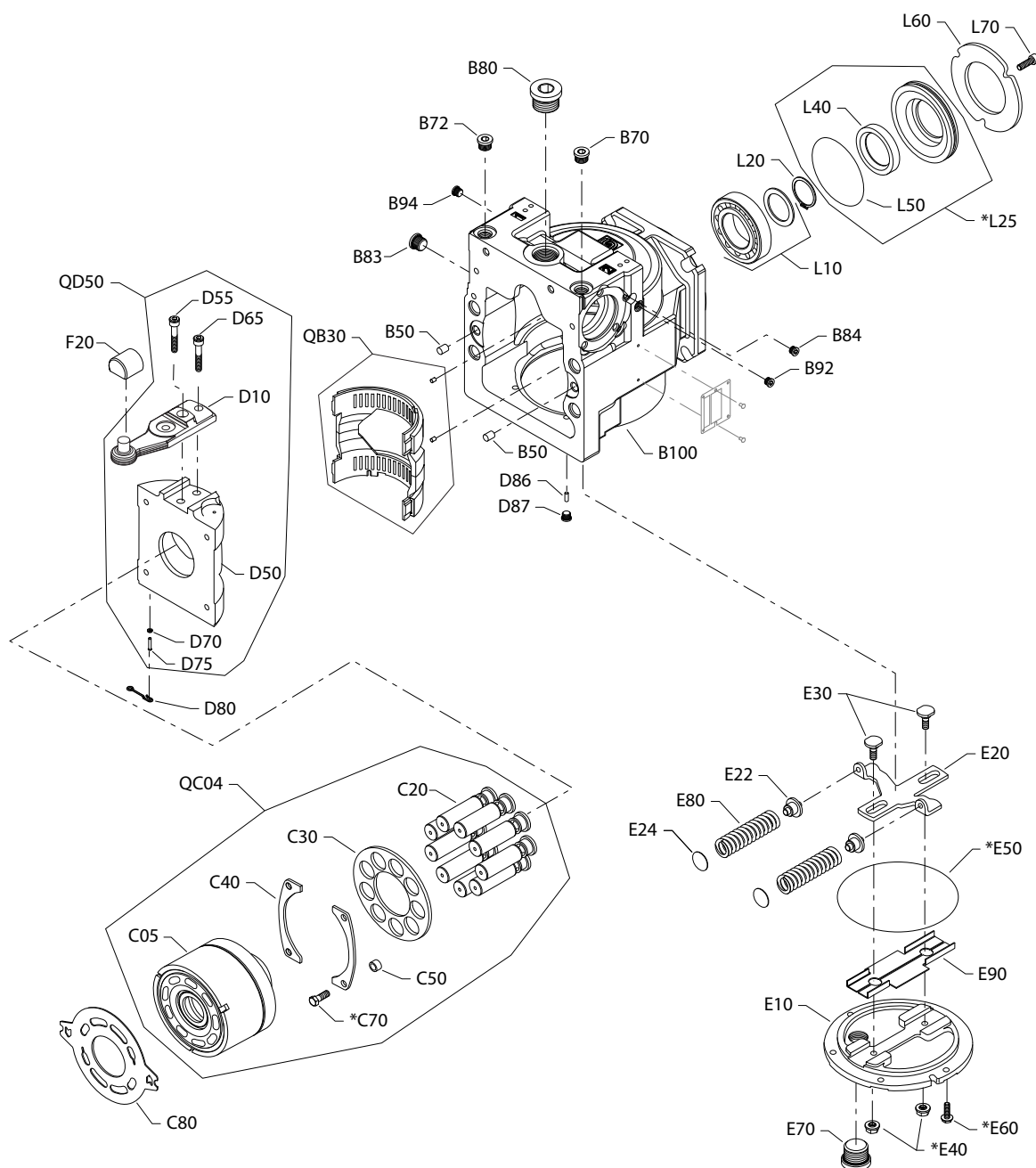
Order code: GMA

B83	97-41		140644	Plug assembly	1
C05	97-41		11025822	Cylinder block assembly	1
C80	97-41		518007	Valve plate	1
QC04	97-41		8510365	Cylinder block kit	1

Common parts and special hardware

S90P 75cc special hardware GMC

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

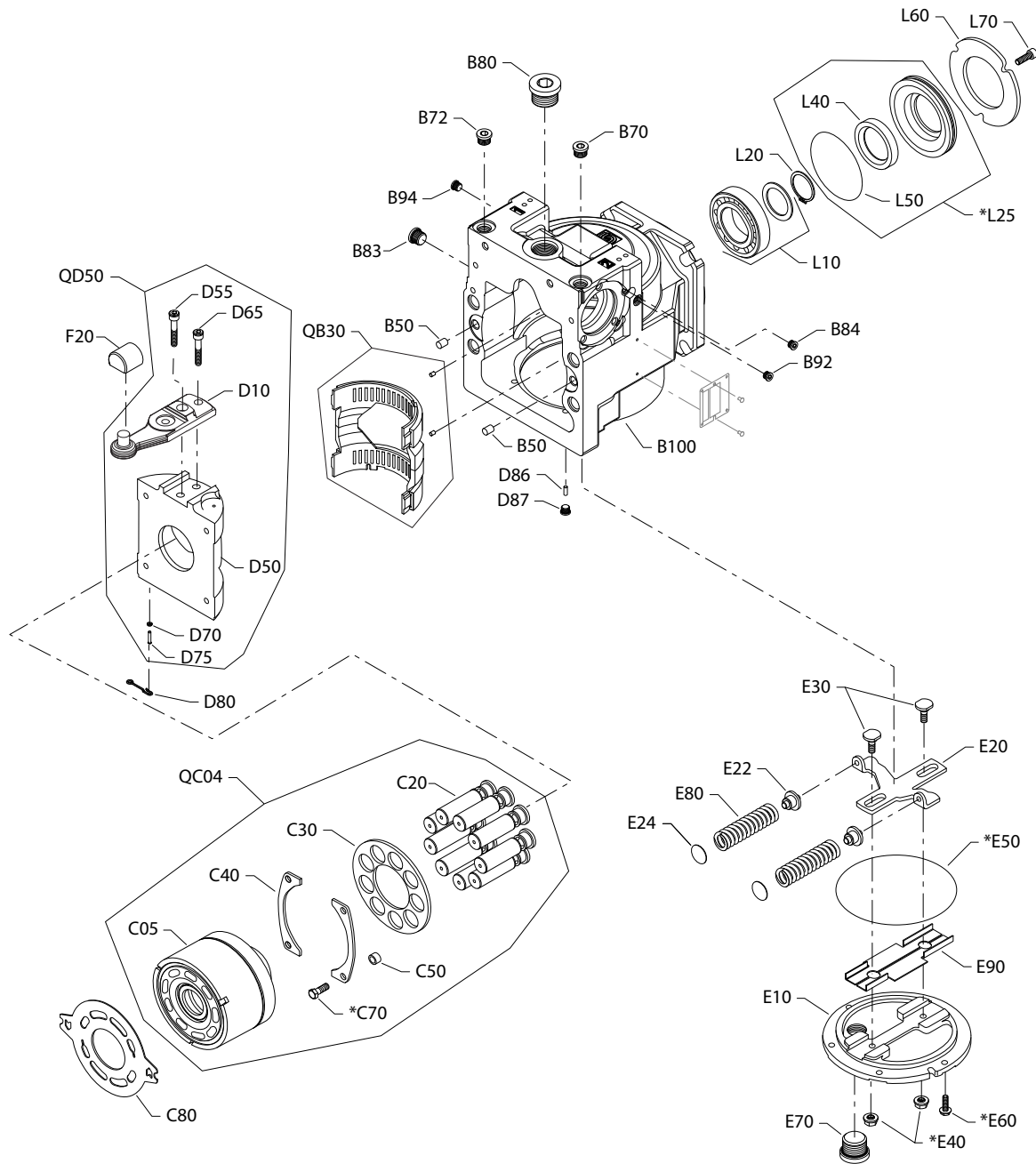
Order code: GMC

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	03-48		9004800-3708	Pin	2
B70	03-48		140644	Plug assembly	1
B72	03-48		140644	Plug assembly	1
B80	03-48		664524 (9005110-9000)	Plug assembly	1
B83	03-48		140644	Plug assembly	1
B84	03-48		11040532	Plug assembly	1
B92	03-48		11040532	Plug assembly	1
B94	03-48		11040532	Plug assembly	1
B100	03-48		11117294	Housing assembly	1
C05	03-48		11025822	Cylinder block assembly	1
C20	03-48		708230	Piston assembly	9
C30	03-48		11067350	Slipper guide	1
C40	03-48		334391 (8100294)	Slipper guide bearing	2
C50	03-48		11065865	Spacer	4
C70	03-48		314419 (9007276-0114)	Screw	4
C80	03-48		518007	Valve plate	1
D10	03-48		519046	Servo arm	1
D50	03-48		11104315	Swashplate	1
D55	03-48		519150	Screw	1
D70	03-48		9009625-0146	Washer	1
D75	03-48		9004875-0098	Spiral head pin	1
D80	03-48		693929 (8100506)	Cage locator link	1
D86	03-48		9004800-1908	Pin	1
D87	03-48		11040532	Plug assembly	1
E10	03-48		11001286	Side cover	1
E20	03-48		11042018	Leveler	1
E22	03-48		517935	Spring seat	2
E24	03-48		8801225	Shim	2
E30	03-48		11056531	Guide post	2
E40	03-48		505412 (9003509-0008)	Seal nut	2
E50	03-48		517377	O-ring	1
E60	03-48		517228 (5000206)	Screw	6
E70	03-48		664524 (9005110-9000)	Plug assembly	1
E80	03-48		334987	Spring	2
E90	03-48		513888	Insert assembly	1
F20	03-48		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	03-48		5000505	Roller bearing	1
L20	03-48		9006300-0156	Retaining ring	1

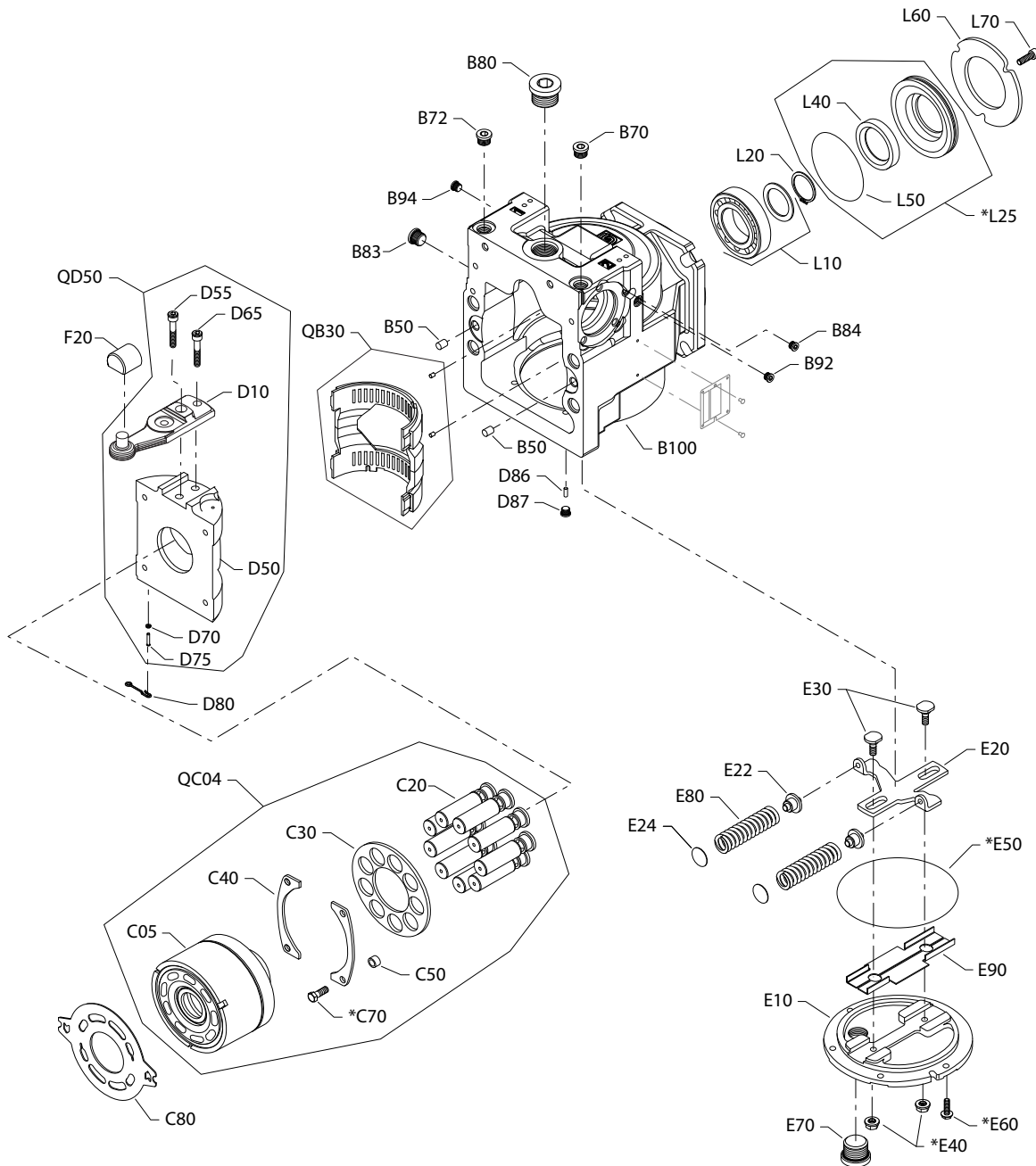
Common parts and special hardware
(continued)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L25	03-48		519671	Seal carrier assembly	1
L40	03-48		519666	Lip seal (SB-2005-007 on page 348)	1
L50	03-48		684621 (9004104-1530)	O-ring	1
L60	03-48		516767	Retainer plate	1
L70	03-48		041160 (9007314-0605)	Screw	3
QB30	03-48		11131108	Cradle bearing assembly	1
QC04	03-48		8510365	Cylinder block kit	1
QD50	03-48		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware GMD

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

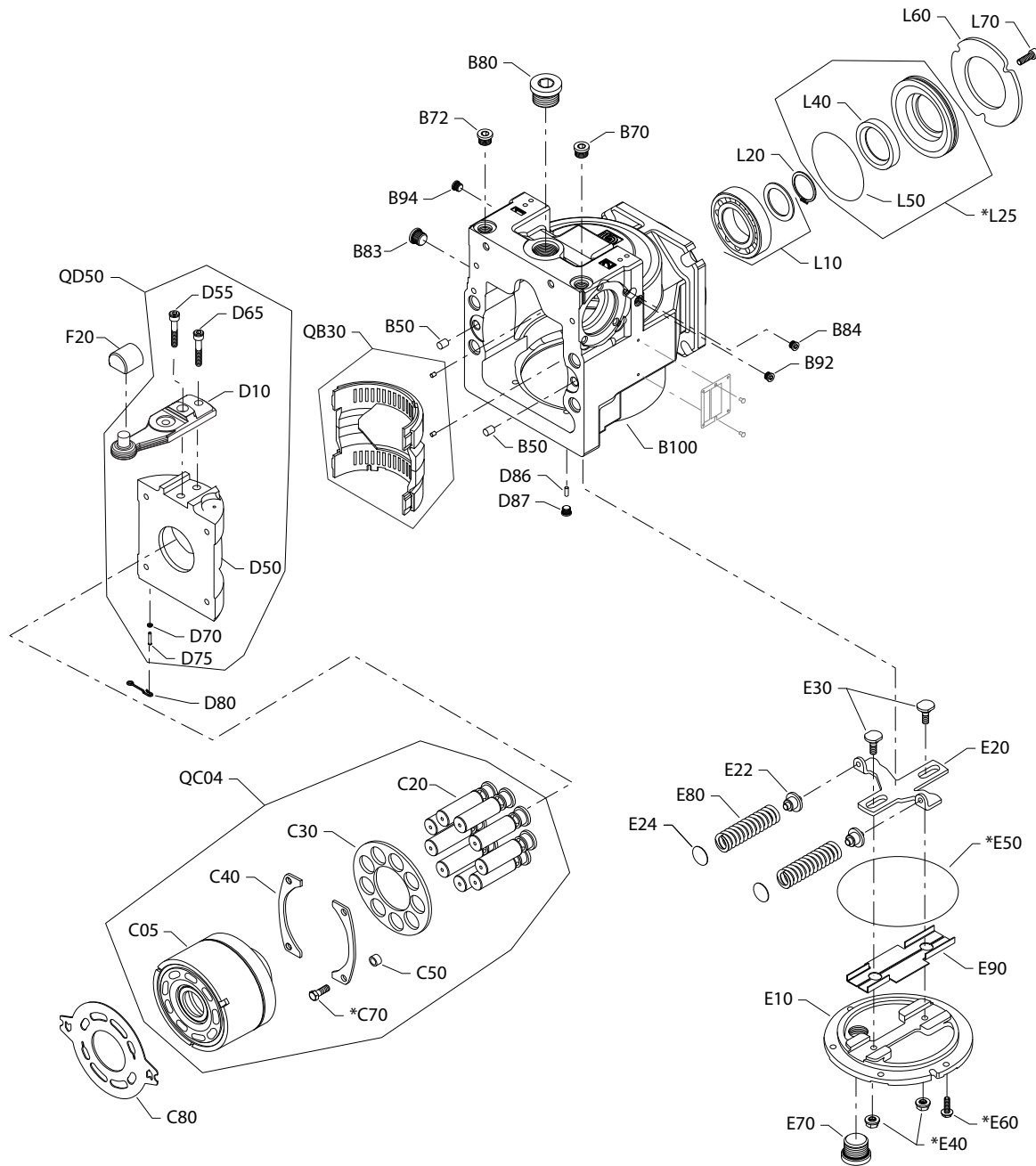
Order code: GMD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	03-48		9004800-3708	Pin	2
B70	03-48		140644	Plug assembly	1
B72	03-48		140644	Plug assembly	1
B80	03-48		664524 (9005110-9000)	Plug assembly	1
B83	03-48		140644	Plug assembly	1
B84	03-48		11040532	Plug assembly	1
B92	03-48		11040532	Plug assembly	1
B94	03-48		11040532	Plug assembly	1
B100	03-48		11117294	Housing assembly	1
C05	03-48		11025822	Cylinder block assembly	1
C20	03-48		708230	Piston assembly	9
C30	03-48		11067350	Slipper guide	1
C40	03-48		334391 (8100294)	Slipper guide bearing	2
C50	03-48		11065865	Spacer	4
C70	03-48		314419 (9007276-0114)	Screw	4
C80	03-48		518925	Valve plate, CW	1
D10	03-48		519046	Servo arm	1
D50	03-48		11104315	Swashplate	1
D55	03-48		519150	Screw	1
D70	03-48		9009625-0146	Washer	1
D75	03-48		9004875-0098	Spiral head pin	1
D80	03-48		693929 (8100506)	Cage locator link	1
D86	03-48		9004800-1908	Pin	1
D87	03-48		11040532	Plug assembly	1
E10	03-48		11001286	Side cover	1
E20	03-48		11042018	Leveler	1
E22	03-48		517935	Spring seat	2
E24	03-48		8801225	Shim	2
E30	03-48		11056531	Guide post	2
E40	03-48		505412 (9003509-0008)	Seal nut	2
E50	03-48		517377	O-ring	1
E60	03-48		517228 (5000206)	Screw	6
E70	03-48		664524 (9005110-9000)	Plug assembly	1
E80	03-48		334987	Spring	2
E90	03-48		513888	Insert assembly	1
F20	03-48		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

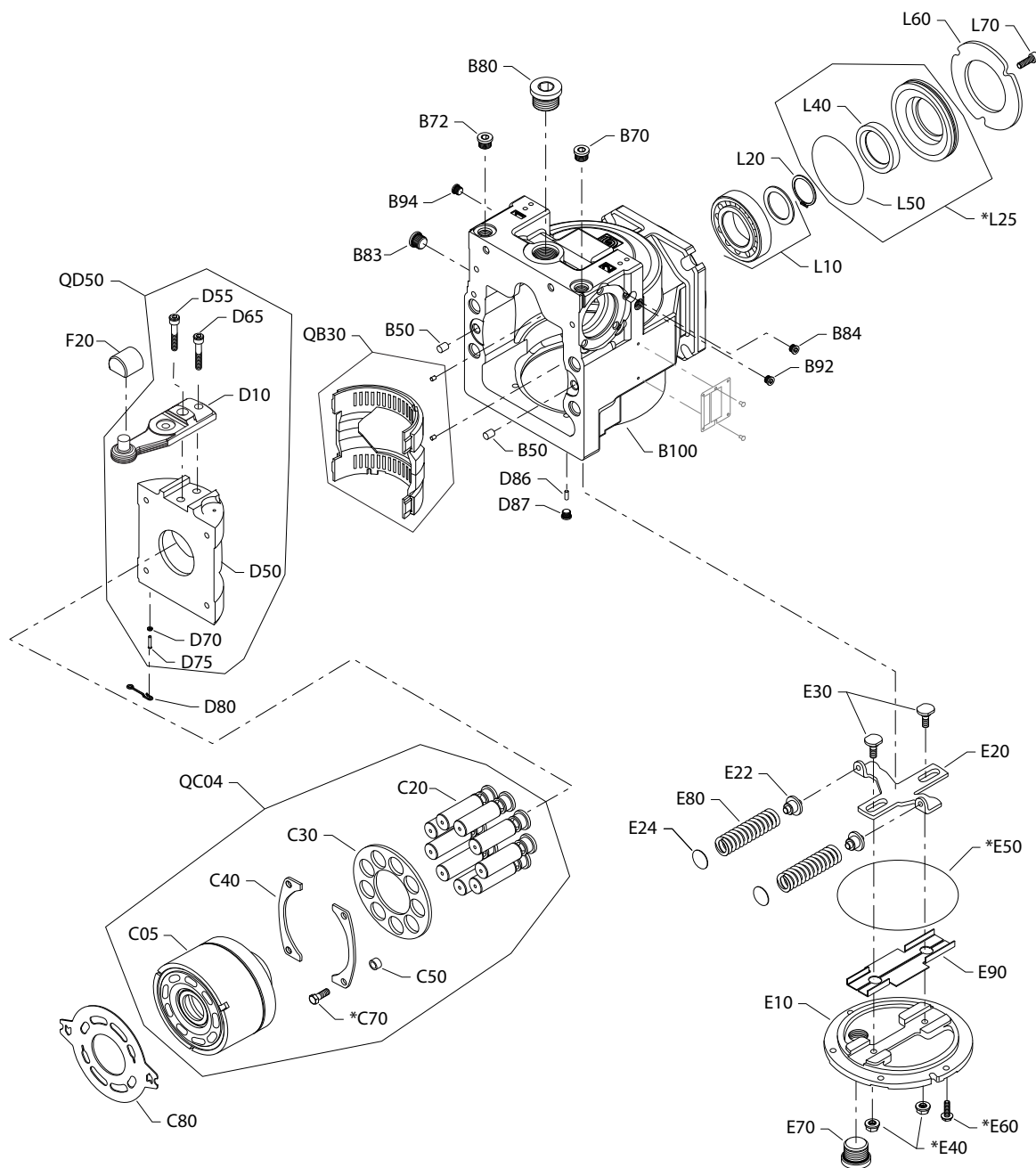
Common parts and special hardware
Order code: GMD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	03-48		5000505	Roller bearing	1
L20	03-48		9006300-0156	Retaining ring	1
L25	03-48		519671	Seal carrier assembly	1
L40	03-48		519666	Lip seal (SB-2005-007 on page 348)	1
L50	03-48		684621 (9004104-1530)	O-ring	1
L60	03-48		516767	Retainer plate	1
L70	03-48		041160 (9007314-0605)	Screw	3
QB30	03-48		11131108	Cradle bearing assembly	1
QC04	03-48		8510365	Cylinder block kit	1
QD50	03-48		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware GME

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

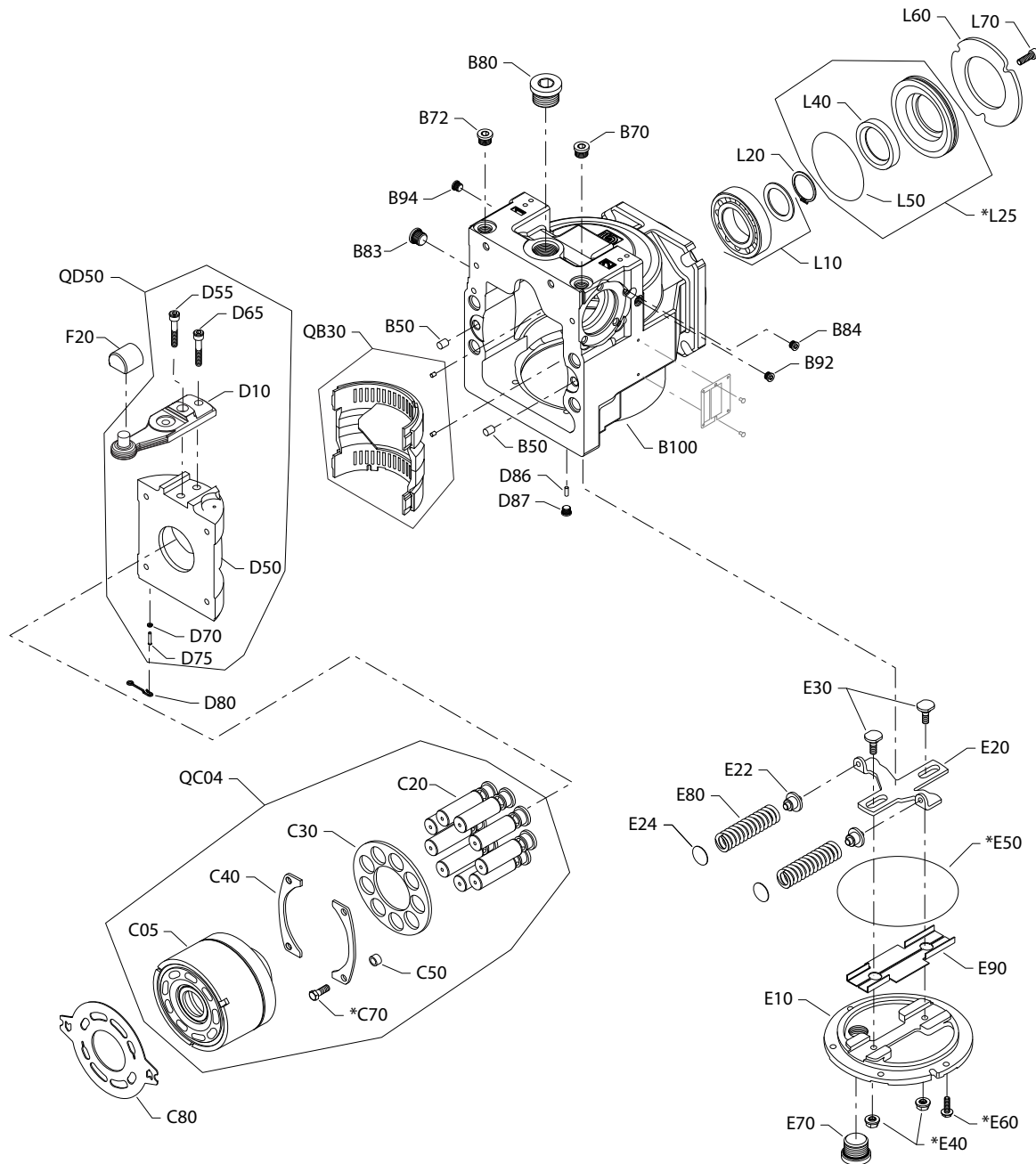
Order code: GME

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
B50	03-48		9004800-3708	Pin	2
B70	03-48		140644	Plug assembly	1
B72	03-48		140644	Plug assembly	1
B80	03-48		664524 (9005110-9000)	Plug assembly	1
B83	03-48		140644	Plug assembly	1
B84	03-48		11040532	Plug assembly	1
B92	03-48		11040532	Plug assembly	1
B94	03-48		11040532	Plug assembly	1
B100	03-48		11117294	Housing assembly	1
C05	03-48		11025822	Cylinder block assembly	1
C20	03-48		708230	Piston assembly	9
C30	03-48		11067350	Slipper guide	1
C40	03-48		334391 (8100294)	Slipper guide bearing	2
C50	03-48		11065865	Spacer	4
C70	03-48		314419 (9007276-0114)	Screw	4
C80	03-48		518008	Valve plate	1
D10	03-48		519046	Servo arm	1
D50	03-48		11104315	Swashplate	1
D55	03-48		519150	Screw	1
D70	03-48		9009625-0146	Washer	1
D75	03-48		9004875-0098	Spiral head pin	1
D80	03-48		693929 (8100506)	Cage locator link	1
D86	03-48		9004800-1908	Pin	1
D87	03-48		11040532	Plug assembly	1
E10	03-48		11001286	Side cover	1
E20	03-48		11042018	Leveler	1
E22	03-48		517935	Spring seat	2
E24	03-48		8801225	Shim	2
E30	03-48		11056531	Guide post	2
E40	03-48		505412 (9003509-0008)	Seal nut	2
E50	03-48		517377	O-ring	1
E60	03-48		517228 (5000206)	Screw	6
E70	03-48		664524 (9005110-9000)	Plug assembly	1
E80	03-48		334987	Spring	2
E90	03-48		513888	Insert assembly	1
F20	03-48		11116313	Slider block	1

[Part numbers continue to the next 2 pages.](#)

Common parts and special hardware

Parts configuration



* Included in base pump seal kit Q210

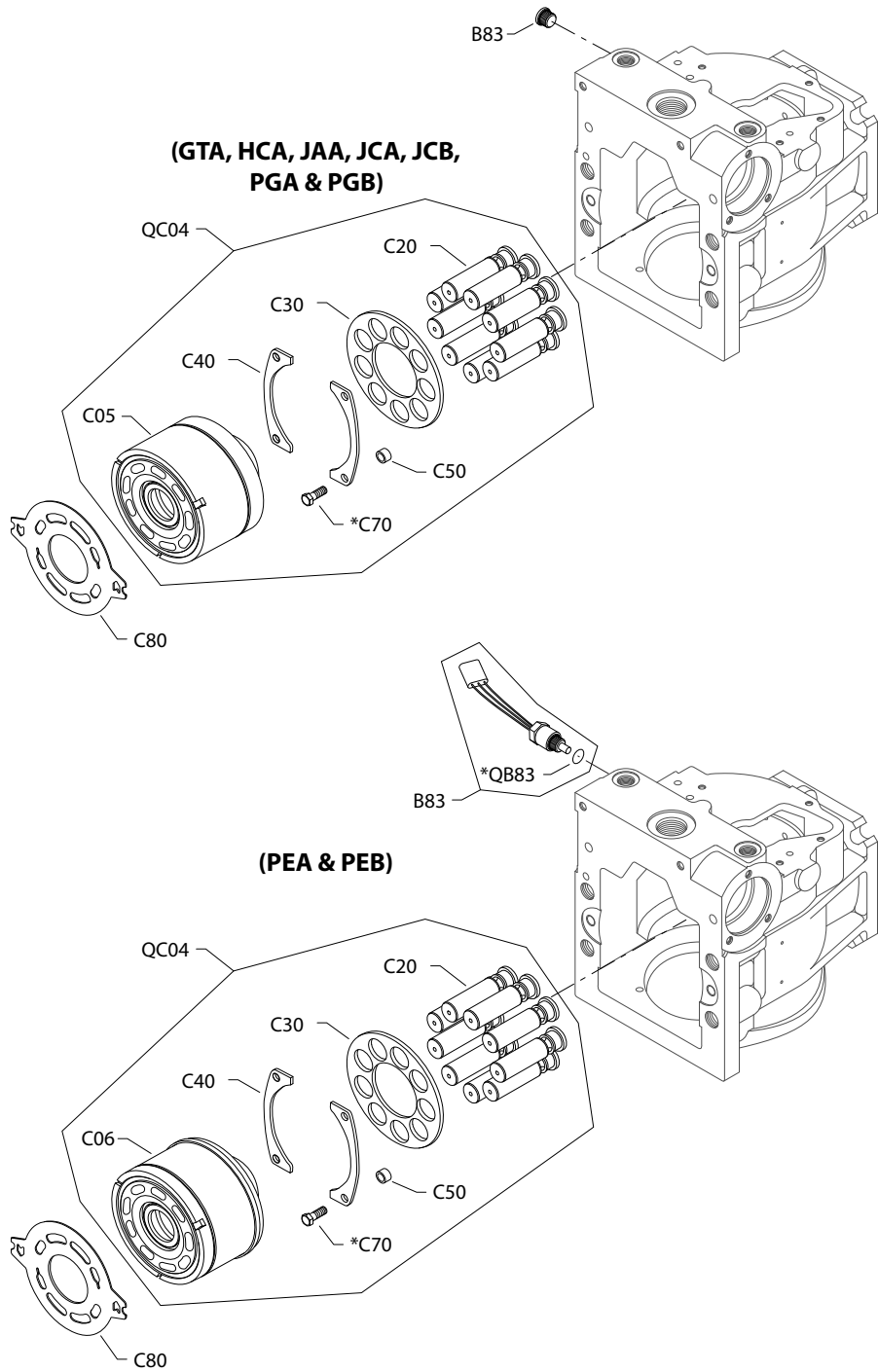
Common parts and special hardware
Order code: GME

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L10	03-48		5000505	Roller bearing	1
L20	03-48		9006300-0156	Retaining ring	1
L25	03-48		519671	Seal carrier assembly	1
L40	03-48		519666	Lip seal (SB-2005-007 on page 348)	1
L50	03-48		684621 (9004104-1530)	O-ring	1
L60	03-48		516767	Retainer plate	1
L70	03-48		041160 (9007314-0605)	Screw	3
QB30	03-48		11131108	Cradle bearing assembly	1
QC04	03-48		8510365	Cylinder block kit	1
QD50	03-48		11192313	Swashplate assembly (SB-2017-033 on page 361)	1

Common parts and special hardware

S90P 75cc special hardware GTA-PEA

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: GTA

B83	98-18		140644	Plug assembly	1
C05	98-18		11025822	Cylinder block assembly	1
C80	98-18		518805	Valve plate	1
QC04	98-18		8510365	Cylinder block kit	1

Order code: HCA

B83	98-18		140644	Plug assembly	1
C05	98-18		11025822	Cylinder block assembly	1
C80	98-18		518924	Valve plate	1
QC04	98-18		8510365	Cylinder block kit	1

Order code: JAA

B83	97-41		140644	Plug assembly	1
C05	97-41		11025822	Cylinder block assembly	1
C80	97-41		518924	Valve plate	1
QC04	97-41		8510365	Cylinder block kit	1

Order code: JCA

B83	08-12		140644	Plug assembly	1
C05	08-12		11025822	Cylinder block assembly	1
C80	08-12		518805	Valve plate	1
QC04	08-12		8510365	Cylinder block kit	1

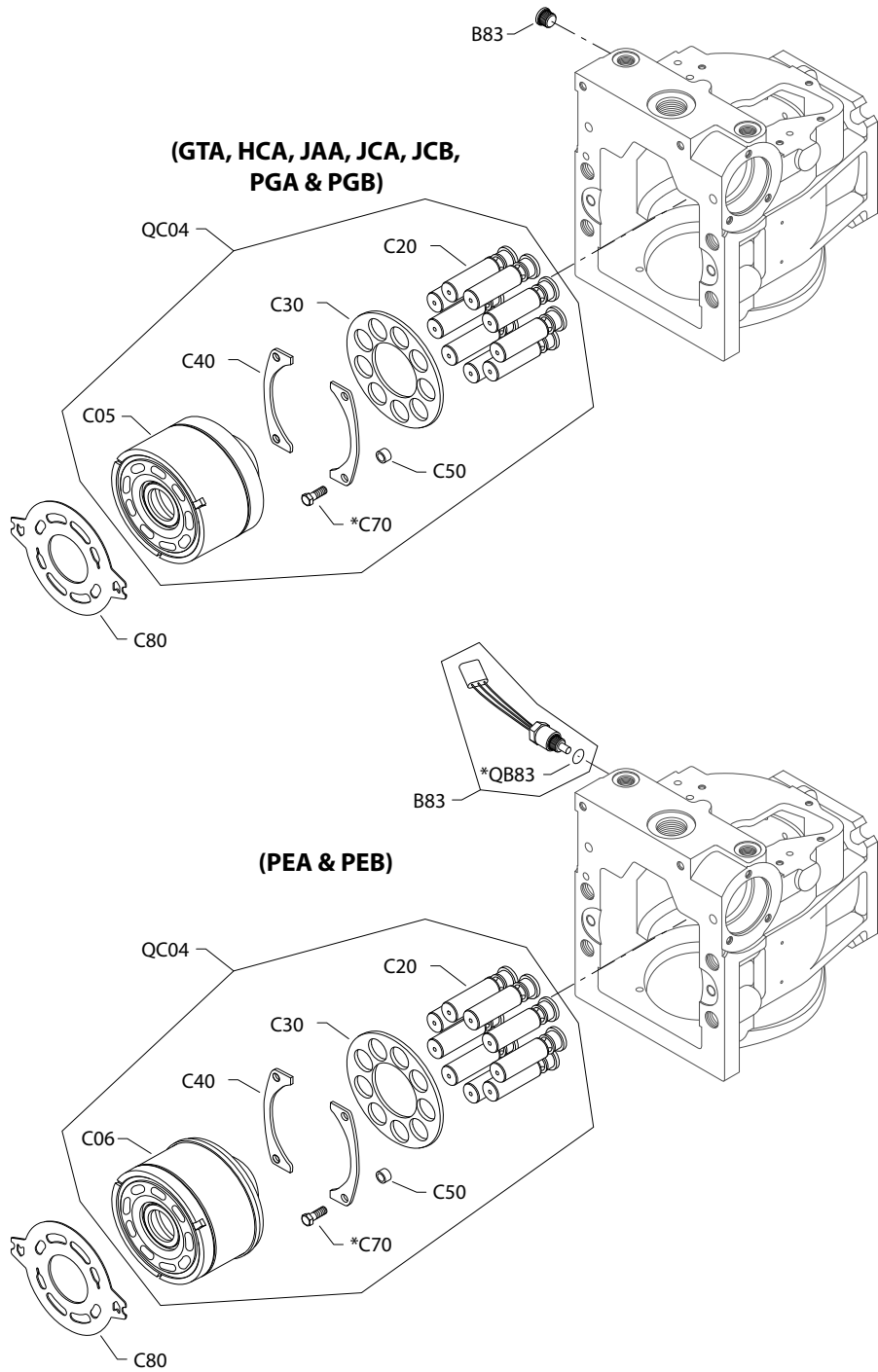
Order code: PEA

B83	07-04		KPPG156	Speed sensor assembly	1
C06	07-04		11094260 (11011714)	Cylinder block assembly with speed ring	1
C80	07-04		518805	Valve plate	1
QB83	07-04		085043 (9004201-3700)	O-ring	1
QC04	07-04		8510366	Cylinder block kit with speed ring	1

Common parts and special hardware

S90P 75cc special hardware PEB-PGB

Parts configuration



* Included in base pump seal kit Q210

Common parts and special hardware

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C20	87-02		708230	Piston assembly	9
C30	87-02		11067350	Slipper guide	1
C40	88-22		334391 (8100294)	Slipper guide bearing	2
C50	88-22		11065865	Spacer	4
C70	88-22		314419 (9007276-0114)	Screw	4

Order code: PEB

B83	07-07		KPPG156	Speed sensor assembly	1
C06	07-07		11094260 (11011714)	Cylinder block assembly with speed ring	1
C80	07-07		518925	Valve plate, CW	1
C80	07-07		518926	Valve plate, CCW	1
QB83	07-07		085043 (9004201-3700)	O-ring	1
QC04	07-07		8510366	Cylinder block kit with speed ring	1

Order code: PGA

B83	07-04		140644	Plug assembly	1
C05	07-04		11025822	Cylinder block assembly	1
C80	07-04		518805	Valve plate	1
QC04	07-04		8510365	Cylinder block kit	1

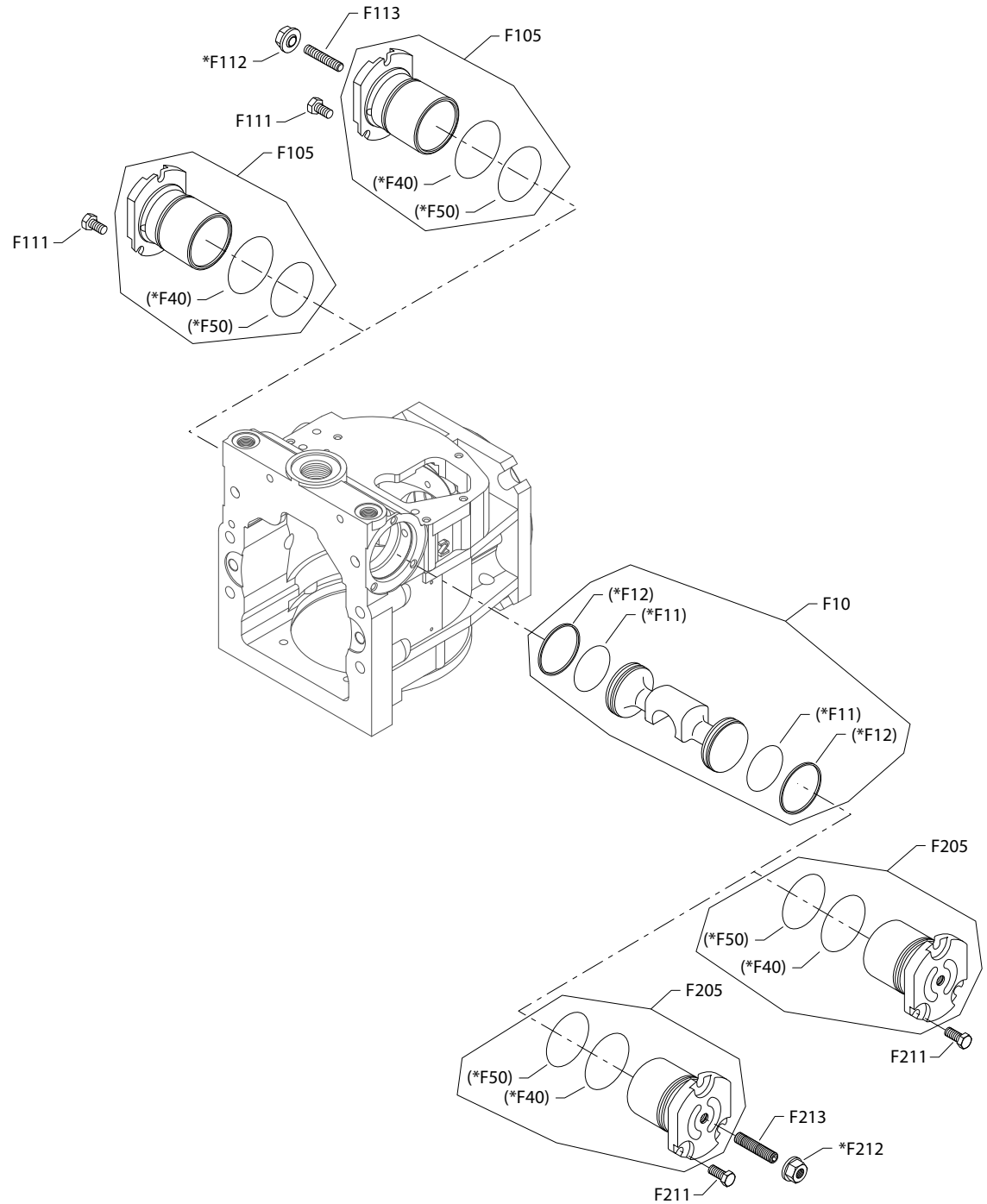
Order code: PGB

B83	07-07		140644	Plug assembly	1
C05	07-07		11025822	Cylinder block assembly	1
C80	07-07		518925	Valve plate, CW	1
C80	07-07		518926	Valve plate, CCW	1
QC04	07-07		8510365	Cylinder block kit	1

Displacement

S90P 75cc displacement limitation 1-4

Parts configuration



* Included in overhaul seal kit Q210

() Not available individually

Displacement

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	88-16		11041752	Servo piston assembly (SB-1988-009 on page 300 & SB-2000-022 on page 343)	1
F111	87-02		378083 (9007210-0804)	Screw	3
F211	87-02		378083 (9007210-0804)	Screw	3

Order code: 1

F105	87-02		11059759 (11055763)	Servo cylinder assembly	1
F112	87-02		505412 (9003509-0008)	Seal nut	1
F113	87-02		5000747	Set screw, M8 x45mm (SB-2000-022 on page 343)	1
F205	87-02		11059760 (11055761)	Servo cylinder assembly	1

Order code: 2

F105	87-02		11059760 (11055761)	Servo cylinder assembly	1
F205	87-02		11059759 (11055763)	Servo cylinder assembly	1
F212	87-02		505412 (9003509-0008)	Seal nut	1
F213	87-02		5000747	Set screw, M8 x45mm (SB-2000-022 on page 343)	1

Order code: 3

F105	87-02		11059760 (11055761)	Servo cylinder assembly	1
F205	87-02		11059760 (11055761)	Servo cylinder assembly	1

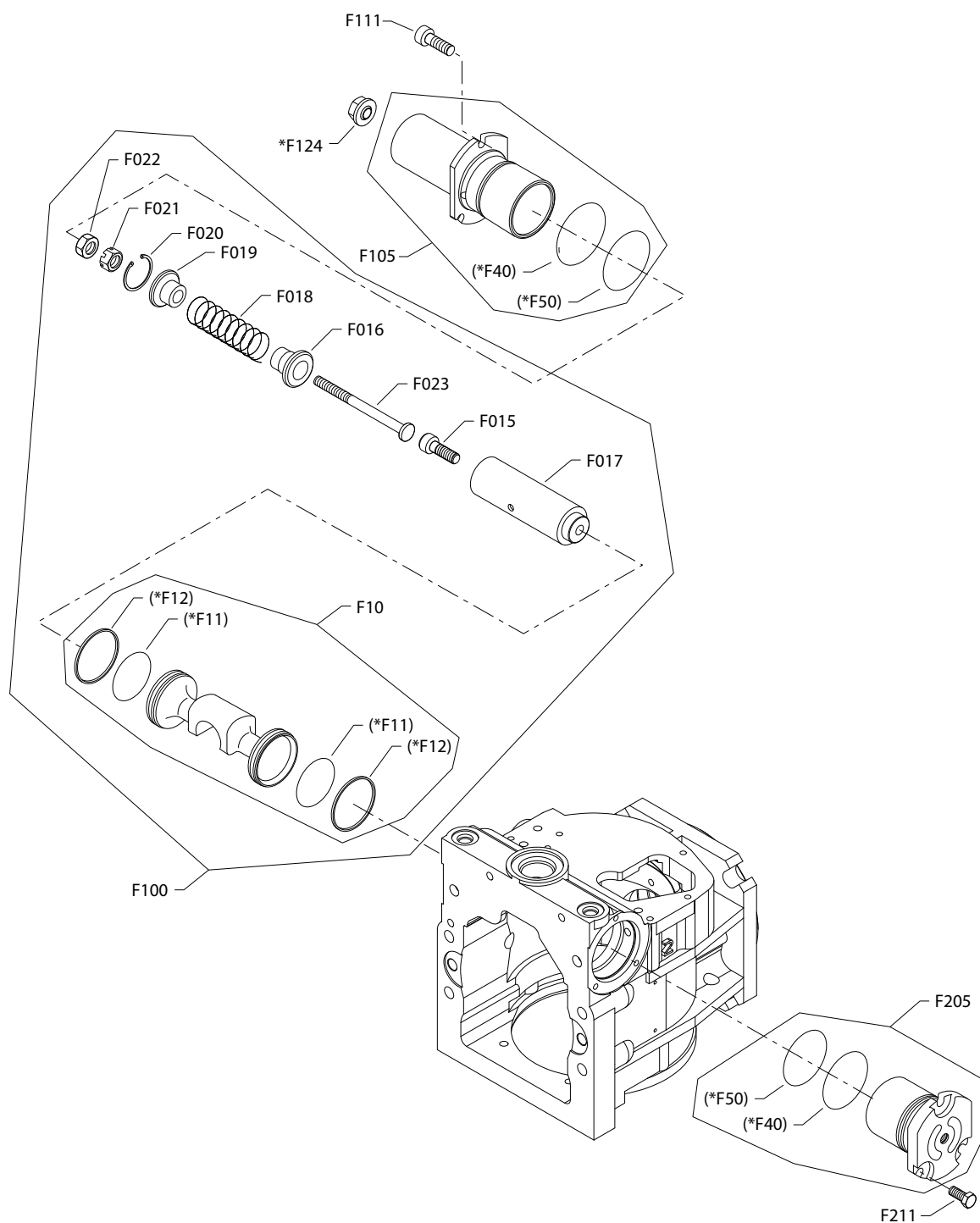
Order code: 4

F105	87-02		11059759 (11055763)	Servo cylinder assembly	1
F112	87-02		505412 (9003509-0008)	Seal nut	1
F113	87-02		5000747	Set screw, M8 x45mm (SB-2000-022 on page 343)	1
F205	87-02		11059759 (11055763)	Servo cylinder assembly	1
F212	87-02		505412 (9003509-0008)	Seal nut	1
F213	87-02		5000747	Set screw, M8 x45mm (SB-2000-022 on page 343)	1

Displacement

S90P 75cc displacement limitation 7

Parts configuration



* Included in base pump seal kit Q210

() Not available individually

Displacement

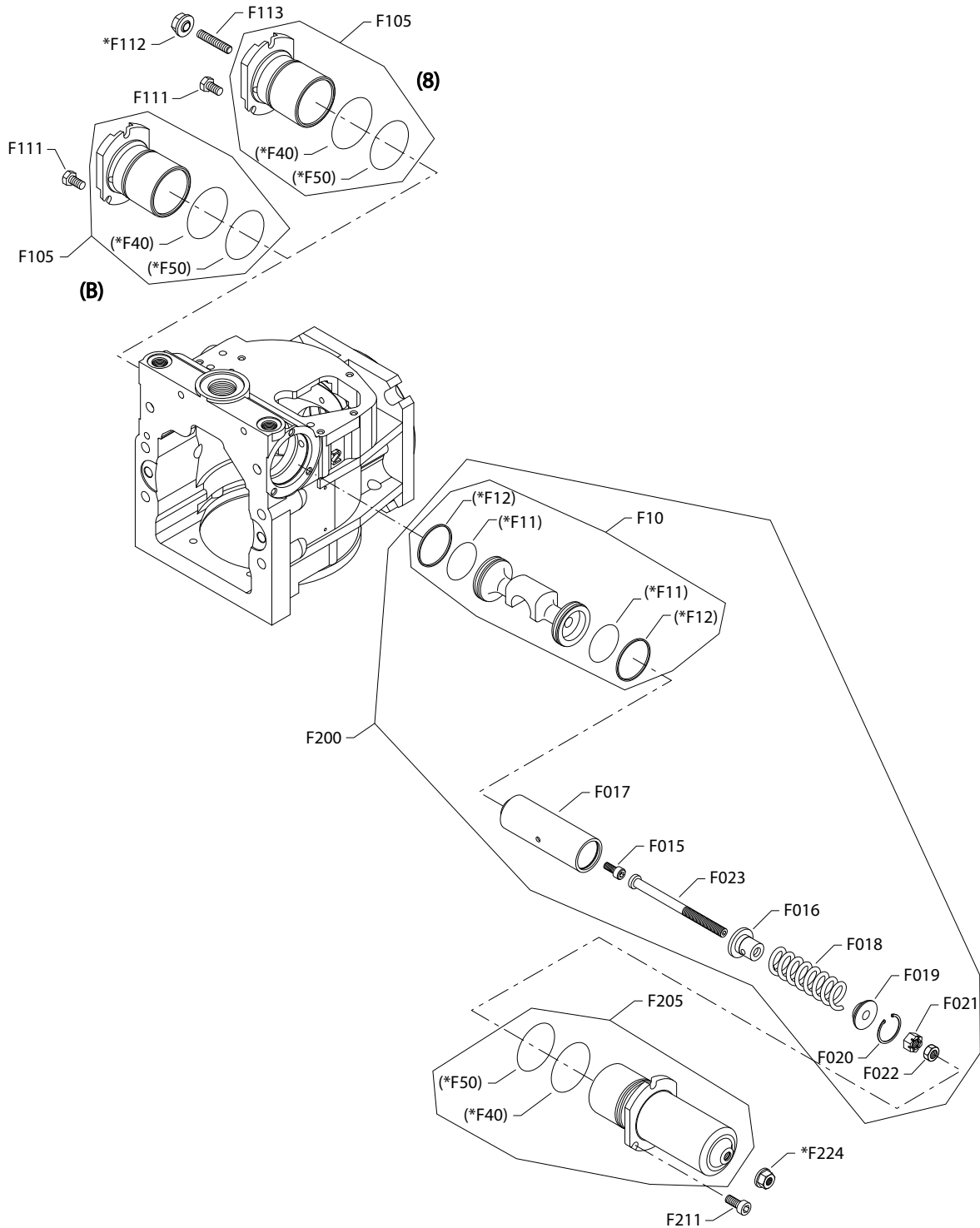
Order code: 7

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-14		11041755	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		515310 (8100932)	Servo assembly	1
F105	98-14		11060187 (11055767)	Servo cylinder assembly, automotive control	1
F111	98-14		746651 (393595)	Screw	3
F124	98-14		336826	Seal nut	1
F205	98-14		11059760 (11055761)	Servo cylinder assembly, non-adjustable	1
F211	98-14		378083 (9007210-0804)	Screw	3

Displacement

S90P 75cc displacement limitation 8, B

Parts configuration



* Included in overhaul seal kit Q210

() No available individually

Displacement

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-14		11041755	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
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
F111	98-14		378083 (9007210-0804)	Screw	3
F205	98-14		11060187 (11055767)	Servo cylinder assembly	1
F211	98-14		746651 (393595)	Screw	3
F224	98-14		336826	Seal nut	1

Order code: 8

F018	98-14		346262	Spring	1
F105	98-14		11059759 (11055763)	Servo cylinder assembly	1
F112	98-14		505412 (9003509-0008)	Seal nut	1
F113	98-14		5000747	Set screw, M8 x 45mm (SB-2000-022 on page 343)	1
F200	98-14		515324 (8100932)	Servo assembly	1

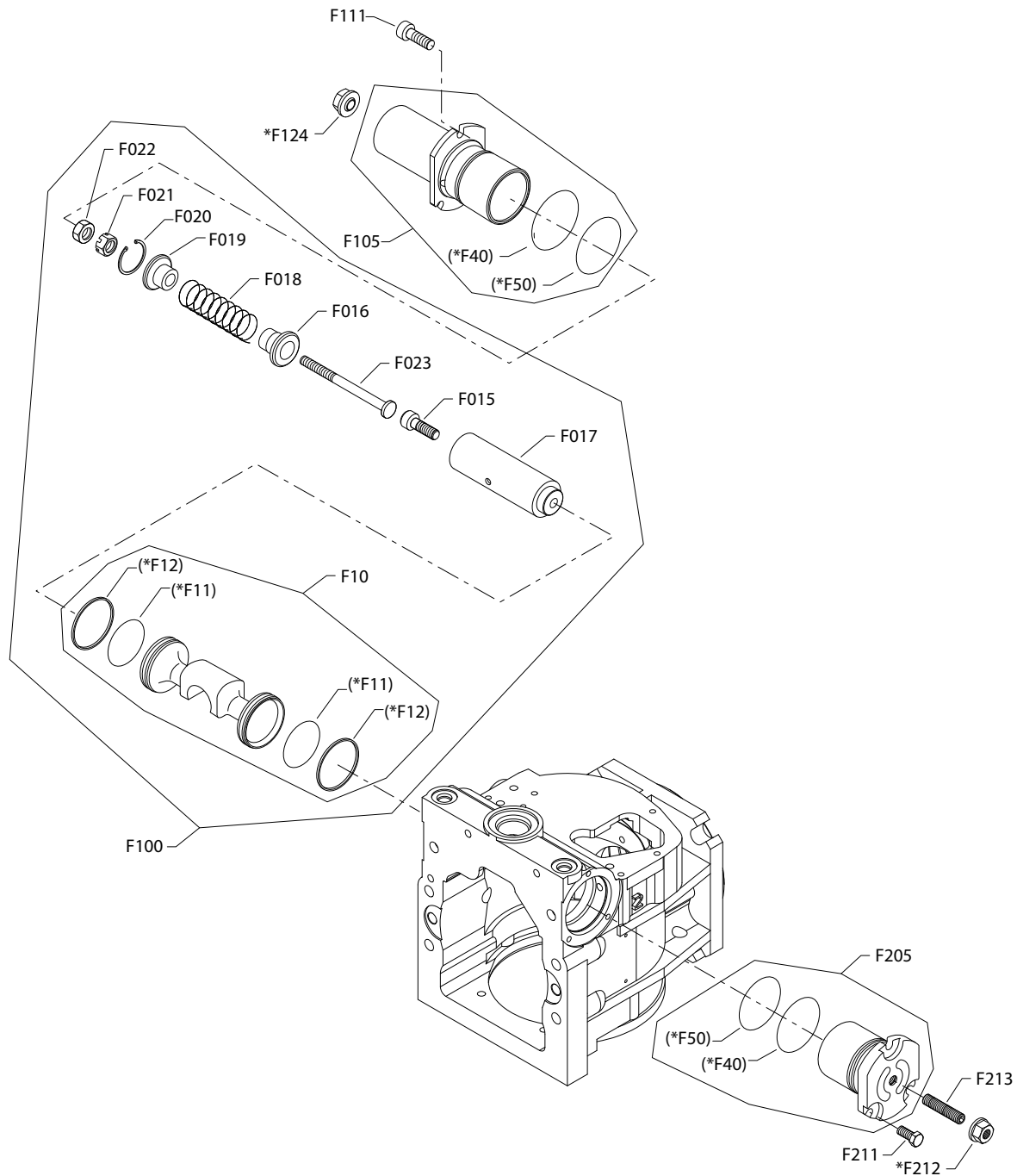
Order code: B

F018	98-14		346254	Spring	1
F105	98-14		11059760 (11055761)	Servo cylinder assembly	1
F200	98-14		515310 (8100932)	Servo assembly	1

Displacement

S90P 75cc displacement limitation D

Parts configuration



* Included in base pump seal kit Q210

() Not available individually

Displacement

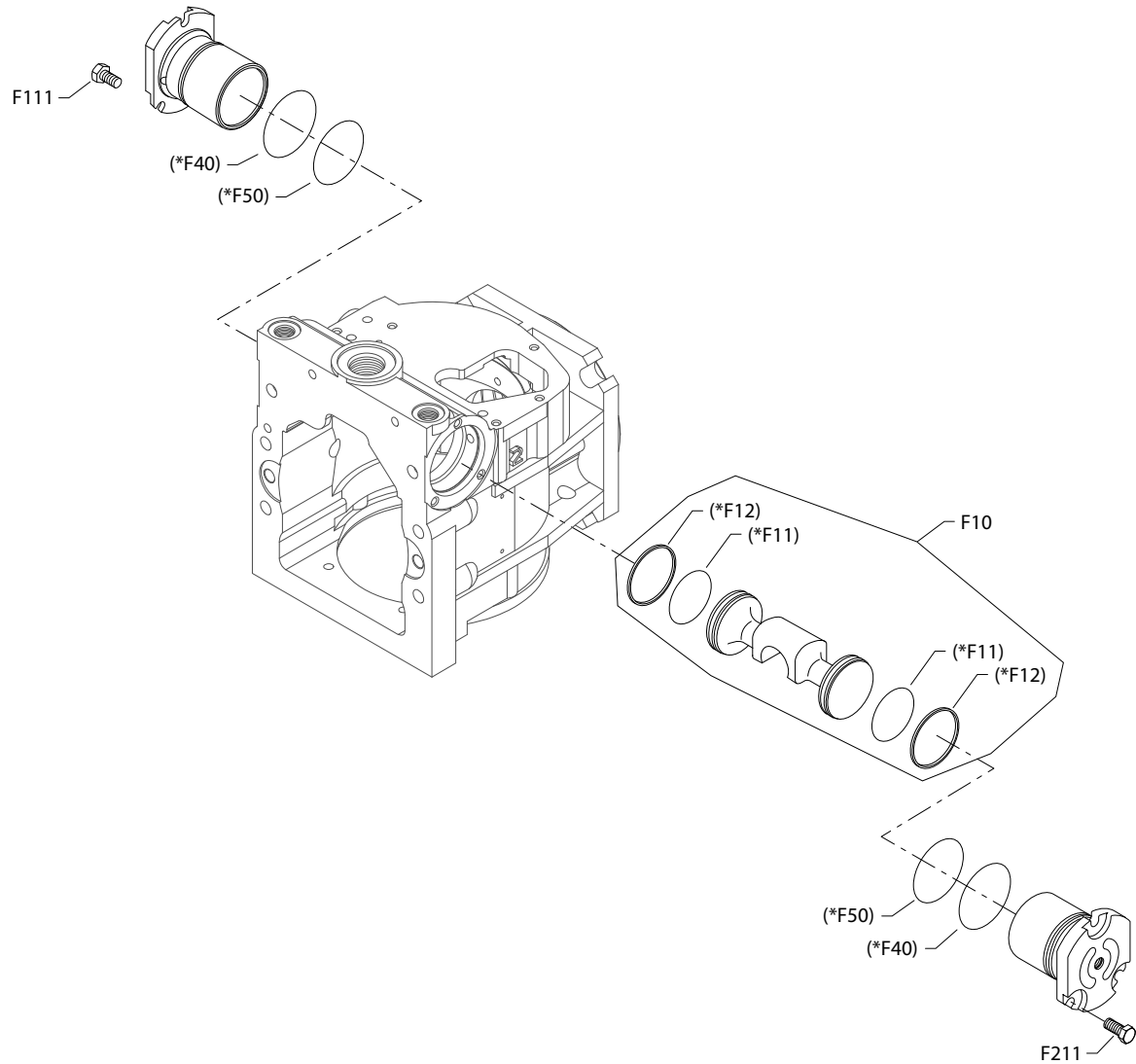
Order code: D

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-14		11041755	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		515310 (8100932)	Servo assembly	1
F105	98-14		11060187 (11055767)	Servo cylinder assembly, automotive control	1
F111	98-14		746651 (393595)	Screw	3
F124	98-14		336826	Seal nut	1
F205	98-14		11059759 (11055763)	Servo cylinder assembly	1
F211	98-14		378083 (9007210-0804)	Screw	3
F212	98-14		505412 (9003508-0008)	Seal nut	1
F213	98-14		5000747	Set screw (SB-2000-022 on page 343)	1

Displacement

S90P 75cc displacement limitation F

Parts configuration



- * Included in overhaul seal kit Q210
- () Not available individually

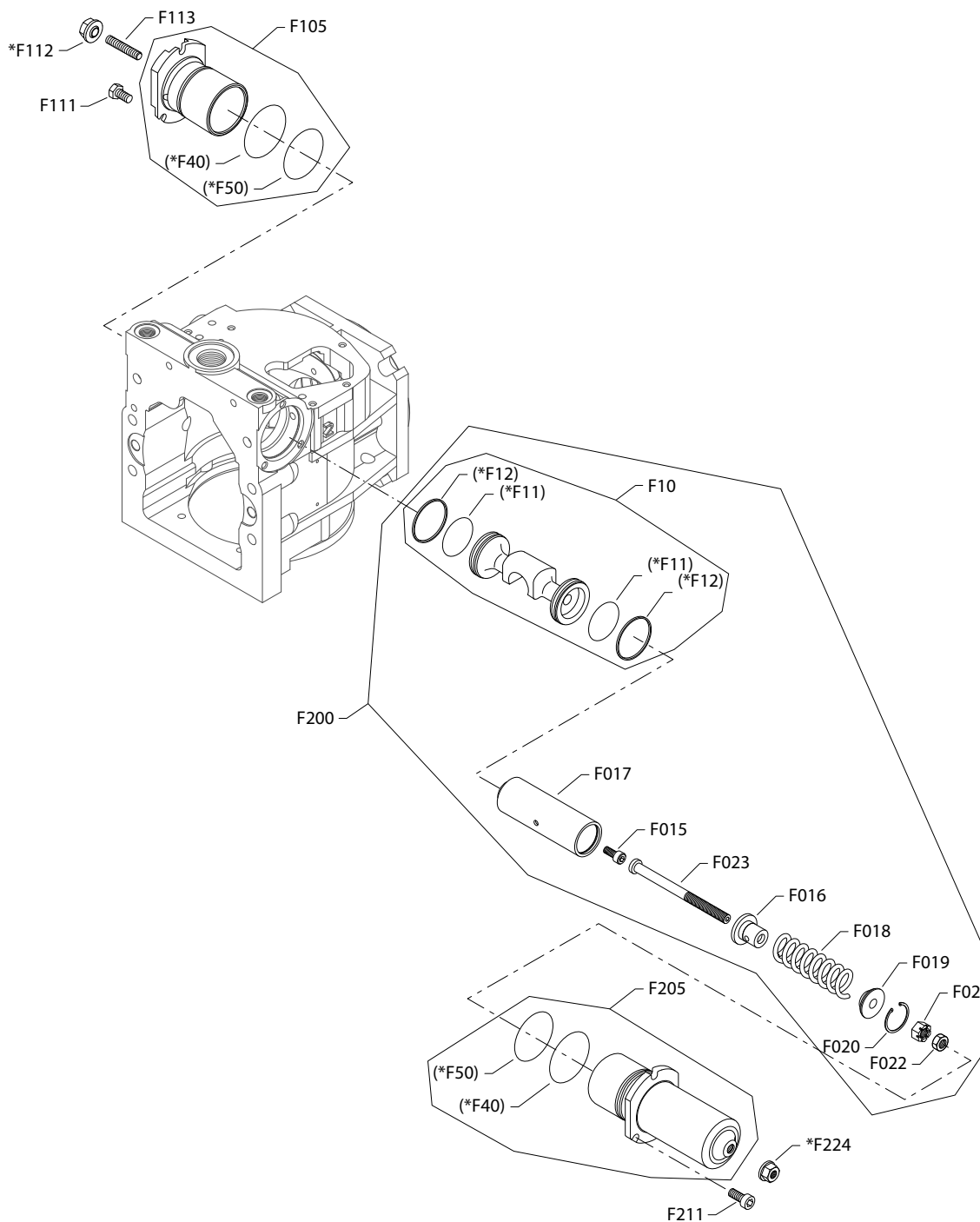
Displacement*Order code: F*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	91-30		11041752	Servo piston assembly (SB-2000-022 on page 343)	1
F111	91-30		378083 (9007210-0804)	Screw	3
F211	91-30		378083 (9007210-0804)	Screw	3

Displacement

S90P 75cc displacement limitation H

Parts configuration



* Included in overhaul seal kit Q210

() Not available individually

Displacement

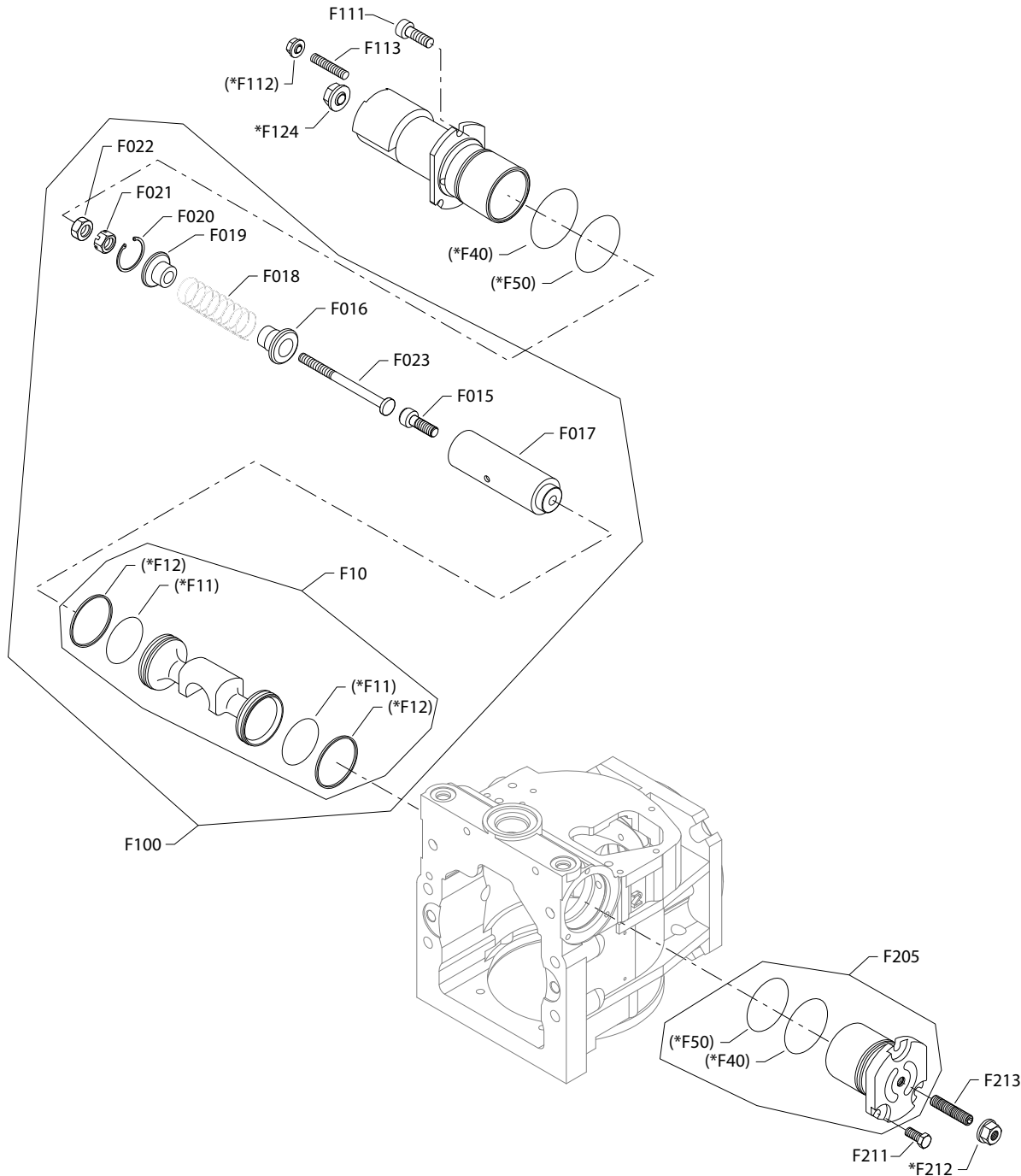
Order code: H

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-14		11041755	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
F105	98-14		11059759 (11055763)	Servo cylinder assembly	1
F111	98-14		378083 (9007210-0804)	Screw	3
F112	98-14		505412 (9003509-0008)	Seal nut	1
F113	98-14		5000747	Set screw, M8 x 45mm (SB-2000-022 on page 343)	1
F200	98-14		515310 (8100932)	Servo assembly	1
F205	98-14		11060187 (11055767)	Servo cylinder assembly	1
F211	98-14		746651 (393595)	Screw	3
F224	98-14		336826	Seal nut	1

Displacement

S90P 75cc displacement limitation L

Parts configuration



* Included in overhaul seal kit Q210

() Not available individually

Displacement

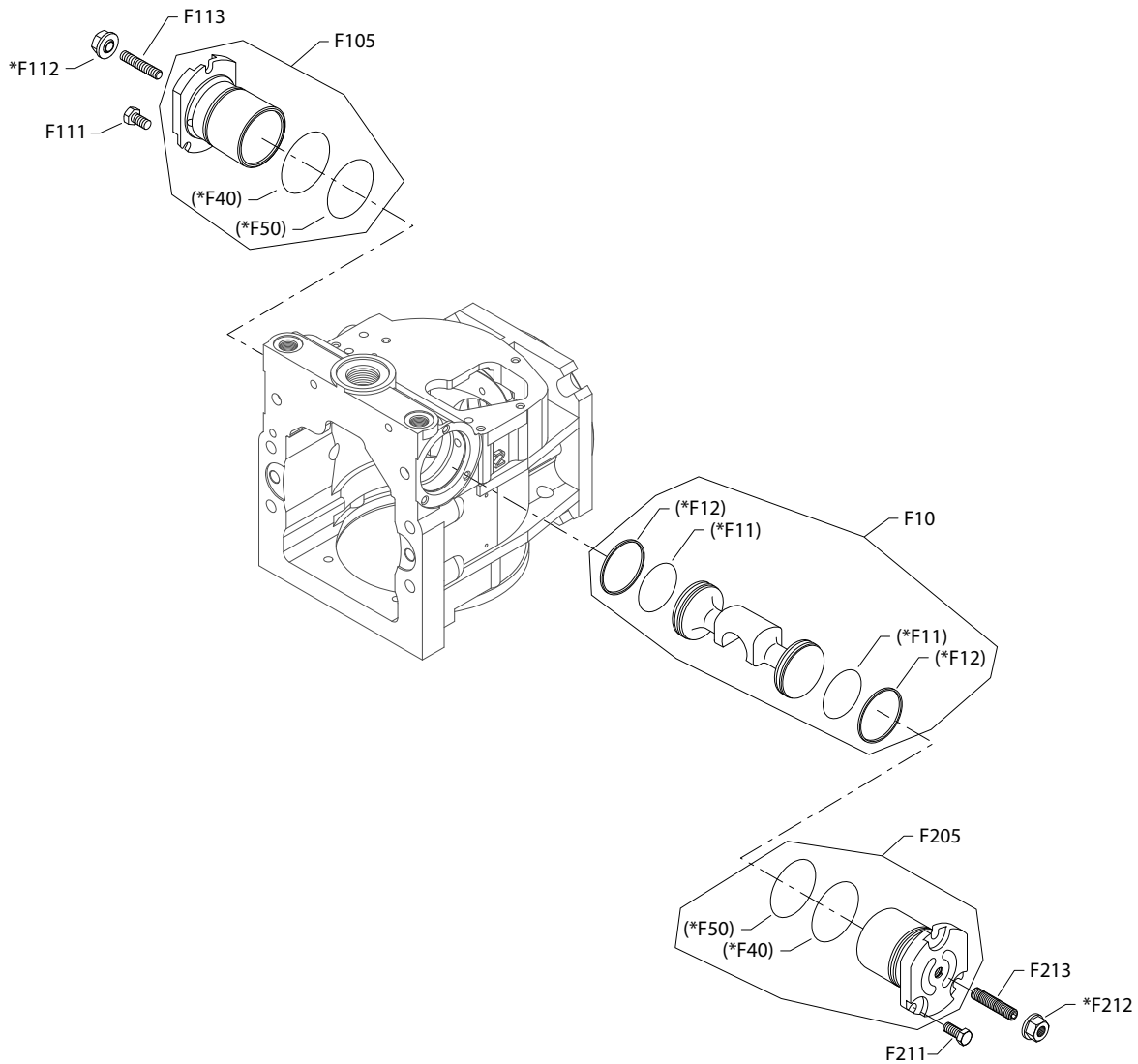
Order code: L

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-21		11041755	Servo piston assembly	1
F015	98-21		346395	Screw	1
F016	98-21		507092	Spring guide	1
F017	98-21		346320	Servo spring housing	1
F018	98-21		346254	Spring	1
F019	98-21		507093	Spring guide	1
F020	98-21		346379	Retaining ring	1
F021	98-21		787887	Castle nut	1
F022	98-21		336800	Nut	1
F023	98-21		11140220	Adjusting screw	1
F100	98-21		515310 (8100932)	Servo assembly	1
F111	98-21		746651 (393595)	Screw	3
F112	98-21		505412 (9003509-0008)	Seal nut	1
F113	98-21		5000747	Set screw, M8 x 45mm (SB-2000-022 on page 343)	1
F124	98-21		336826	Seal nut	1
F205	98-21		11059759 (11055763)	Servo cylinder assembly	1
F211	98-21		378083 (9007210-0804)	Screw	3
F212	98-21		505412 (9003509-0008)	Seal nut	1
F213	98-21		5000747	Set screw, M8 x 45mm (SB-2000-022 on page 343)	1

Displacement

S90P 75cc displacement limitation P

Parts configuration



* Included in overhaul seal kit Q210

() Not available individually

Displacement

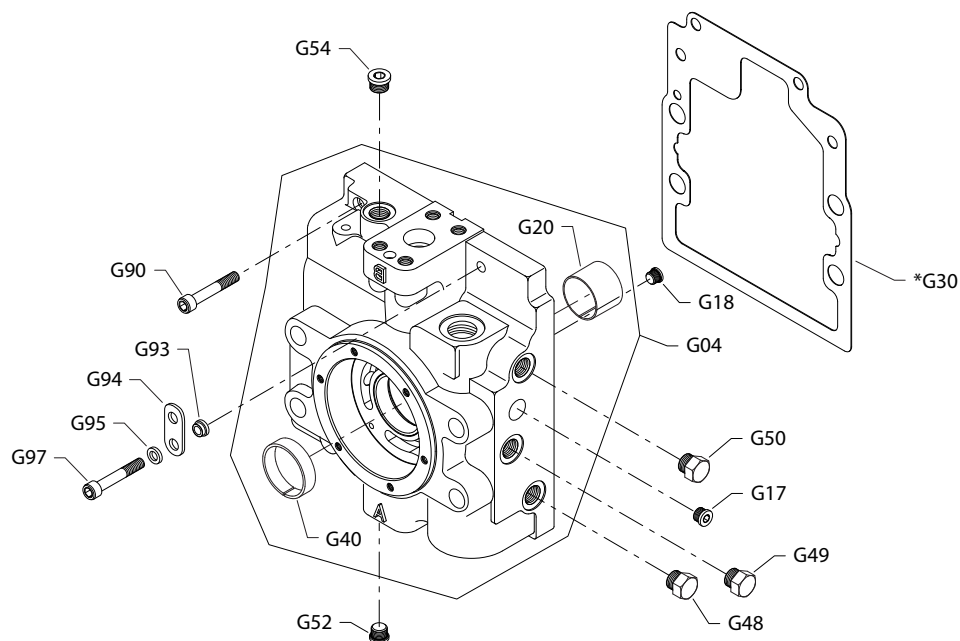
Order code: P

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F10	98-41		11041752	Servo piston assembly (SB-2000-022 on page 343)	1
F105	98-41		11059759 (11055763)	Servo cylinder assembly	1
F111	98-41		378083 (9007210-0804)	Screw	3
F112	98-41		505412 (9003509-0008)	Seal nut	1
F113	98-41		719401	Set screw, M8 x 50mm	1
F205	98-41		11059759 (11055763)	Servo cylinder assembly	1
F211	98-41		378083 (9007210-0804)	Screw	3
F212	98-41		505412 (9003509-0008)	Seal nut	1
F213	98-41		719401	Set screw, M8 x 50mm	1

End cap

S90P 75cc end cap H-6R

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G17	92-19		9005110-4400	Plug (SB-1992-003 on page 312)	1
G18	92-19		9005110-4400	Plug (SB-1992-003 on page 312)	1
G20	87-02		664763 (8700013)	Journal bearing	1
G30	92-19		8100565	End cap gasket	1
G40	87-02		664771 (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
G52	87-02		140644 (9005110-5600)	Plug assembly	1
G54	87-02		140644 (9005110-5600)	Plug assembly	1
G90	92-19		746644 (9007314-0810)	Screw	1
G90	87-02	92-18	9007210-0611	Screw (SB-1992-003 on page 312)	1
G93	92-19		713800 (8800564)	Spacer	1
G93	87-02	92-18	8800404	Spacer	1
G94	92-19		8800565	Lifting bracket	1
G94	87-02	92-18	8800522	Lifting bracket	1
G95	92-19		502195	Washer	1
G95	87-02	92-18	9009610-2850	Washer	1
G97	96-05		746644 (9007314-0810)	Screw	1
G97	92-19	96-04	5000060	Screw	1
G97	87-02	92-18	9007314-0604	Screw (SB-1992-003 on page 312)	1

Order code: 2, 6, 60, 61

G04	92-19		8100686	End cap assembly, side ports (SB-1992-003 on page 312)	1
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Order code: H, 62

G04	94-07		8100687	End cap assembly, metric side ports	1
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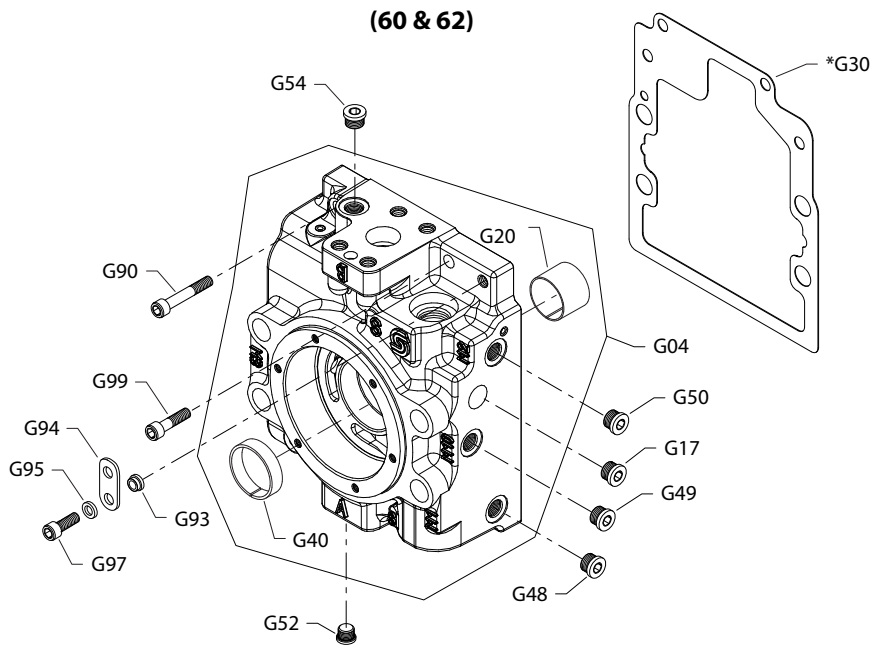
Order code: 6R

G04	98-11		8100845	End cap assembly, metric side ports, CCW	1
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End cap

S90P 75cc end cap 60-62 (side ports built in Germany)

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G17	96-18		140644	Plug assembly	1
G20	96-18		664763 (8700013)	Journal bearing	1
G30	96-18		8100565	End cap gasket	1
G40	96-18		664771 (8700008)	Bushing	1
G49	96-18		140644	Plug assembly	1
G50	96-18		140644	Plug assembly	1
G52	96-18		140644	Plug assembly	1
G54	96-18		140644	Plug assembly	1
G90	96-18		746644 (9007314-0810)	Screw	1
G93	96-18		713800 (8800564)	Spacer	1
G94	96-18		8800565	Lifting bracket	1
G95	96-18		502195	Washer	1
G97	96-18		395723 (9007315-0805)	Screw	1
G99	96-18		746594 (9007314-0807)	Screw	1

Order code: 60

G04	96-18		502277	End cap assembly, side ports	1
G48	96-18		140644	Plug assembly	1

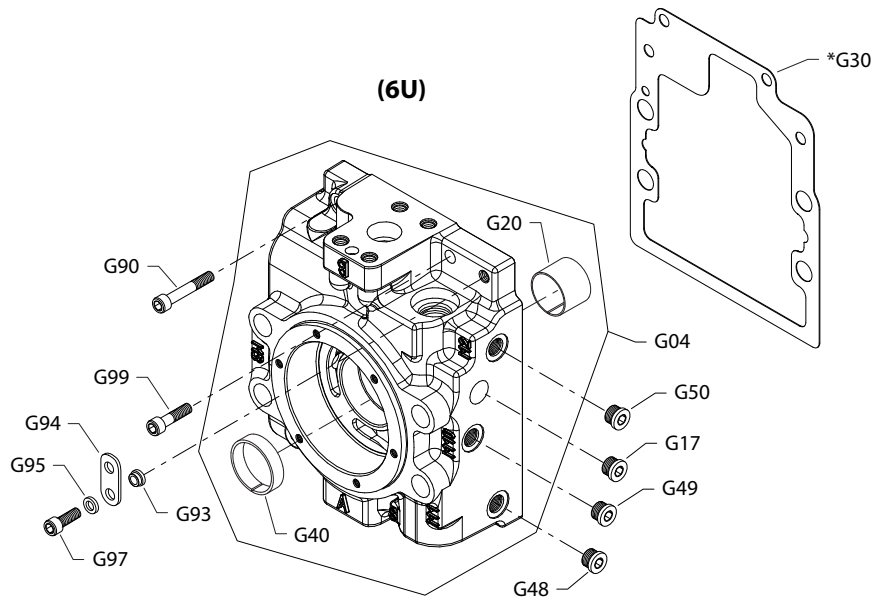
Order code: 62

G04	96-18		507891/P	End cap assembly, metric side ports	1
G48	96-18		140644	Plug assembly	1

End cap

S90P 75cc end cap 6U

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G17	96-18		140644	Plug assembly	1
G20	96-18		664763 (8700013)	Journal bearing	1
G30	96-18		8100565	End cap gasket	1
G40	96-18		664771 (8700008)	Bushing	1
G48	96-18		140644	Plug assembly	1
G49	96-18		140644	Plug assembly	1
G50	96-18		140644	Plug assembly	1
G90	96-18		746644 (9007314-0810)	Screw	1
G93	96-18		713800 (8800564)	Spacer	1
G94	96-18		8800565	Lifting bracket	1
G95	96-18		502195	Washer	1
G99	96-18		746594 (9007314-0807)	Screw	1

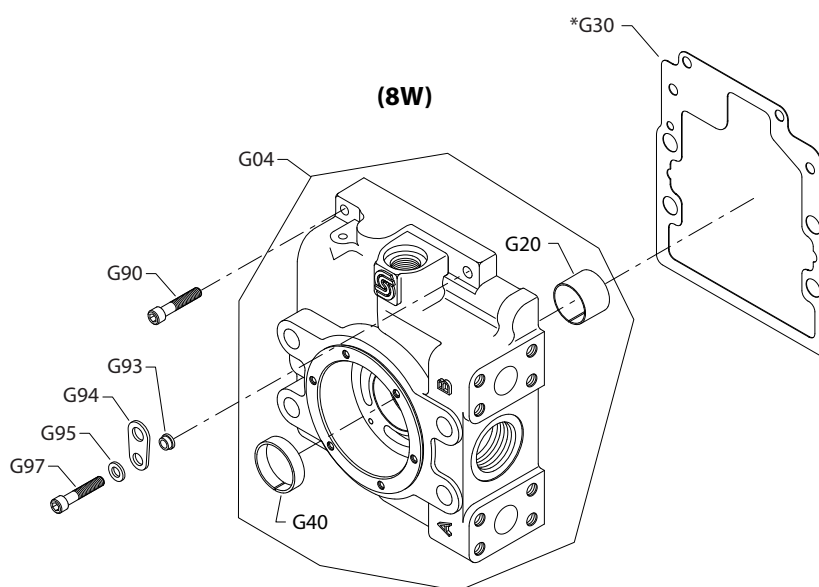
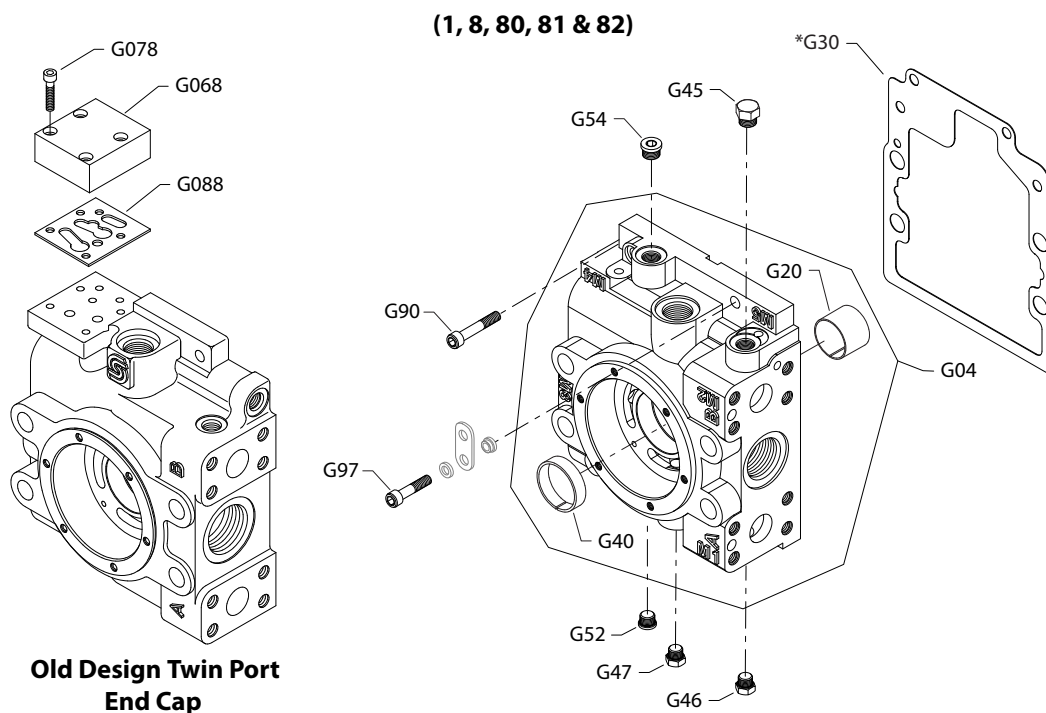
Order code: 6U

G04	96-18		518105	End cap assembly, side ports	1
G97	96-18		395723 (9007315-0805)	Screw	1

End cap

S90P 75cc end cap 1-81 (twin ports built in U.S.A)

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G20	87-02		664763 (8700013)	Journal bearing	1
G30	96-05		8100565	End cap gasket (SB-1995-012 on page 325)	1
G30	87-02	96-04	8100466	End cap gasket (SB-1992-003 on page 312)	1
G40	87-02		664771 (8700008)	Bushing	1
G90	96-05		746644 (9007314-0810)	Screw	1
G93	92-19		713800 (8800564)	Spacer	1
G93	87-02	92-18	307678 (8800404)	Spacer	1
G94	92-19		8800565	Lifting bracket	1
G94	87-02	92-18	8800522	Lifting bracket	1
G95	92-19		502195	Washer	1
G95	87-02	92-18	002295 (9009610-2850)	Washer	1
G97	92-19		746644 (9007314-0810)	Screw	1
G97	87-02	92-18	694356 (9007314-0608)	Screw (SB-1992-003 on page 312)	1
G068	87-02	96-04	364281	Valve housing assembly (SB-1995-012)	1
G078	87-02	96-04	694356 (9007314-0608)	Screw (SB-1995-012 on page 325)	4
G088	87-02	96-04	689117	Gasket (SB-1995-012 on page 325)	1

Order code: 8 & 80

G04	96-05		8100688	End cap assembly, twin ports (SB-1995-012 on page 325)	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		140644 (9005110-5600)	Plug assembly	1
G54	87-02		140644 (9005110-5600)	Plug assembly	1

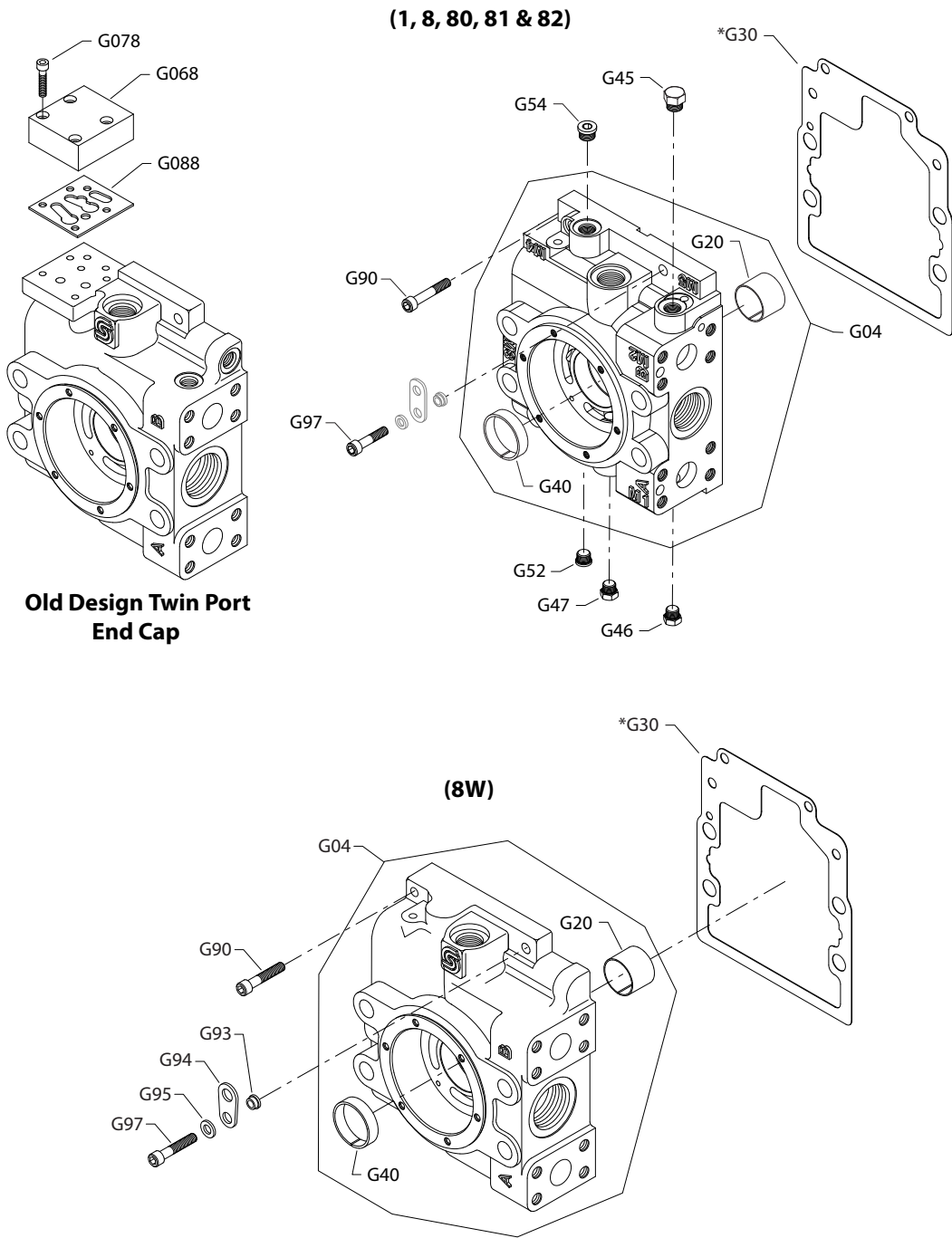
Order code: 1 & 81

G04	96-05		8100688	End cap assembly, twin ports (SB-1995-012 on page 325)	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		515965 (9005110-5600)	Plug assembly	1
G54	87-02		515965 (9005110-5600)	Plug assembly	1

End cap

S90P 75cc end cap 82, 8W (twin ports built in U.S.A)

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G20	87-02		664763 (8700013)	Journal bearing	1
G30	96-05		8100565	End cap gasket (SB-1995-012 on page 325)	1
G30	87-02	96-04	8100466	End cap gasket (SB-1992-003 on page 312)	1
G40	87-02		664771 (8700008)	Bushing	1
G90	96-05		746644 (9007314-0810)	Screw	1
G93	92-19		713800 (8800564)	Spacer	1
G93	87-02	92-18	307678 (8800404)	Spacer	1
G94	92-19		8800565	Lifting bracket	1
G94	87-02	92-18	8800522	Lifting bracket	1
G95	92-19		502195	Washer	1
G95	87-02	92-18	002295 (9009610-2850)	Washer	1
G97	92-19		746644 (9007314-0810)	Screw	1
G97	87-02	92-18	694356 (9007314-0608)	Screw (SB-1992-003 on page 312)	1
G068	87-02	96-04	364281	Valve housing assembly (SB-1995-012)	1
G078	87-02	96-04	694356 (9007314-0608)	Screw (SB-1995-012 on page 325)	4
G088	87-02	96-04	689117	Gasket (SB-1995-012 on page 325)	1

Order code: 82

G04	97-01		8100689	End cap assembly, metric twin ports	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		515965 (9005110-5600)	Plug assembly	1
G54	87-02		515965 (9005110-5600)	Plug assembly	1

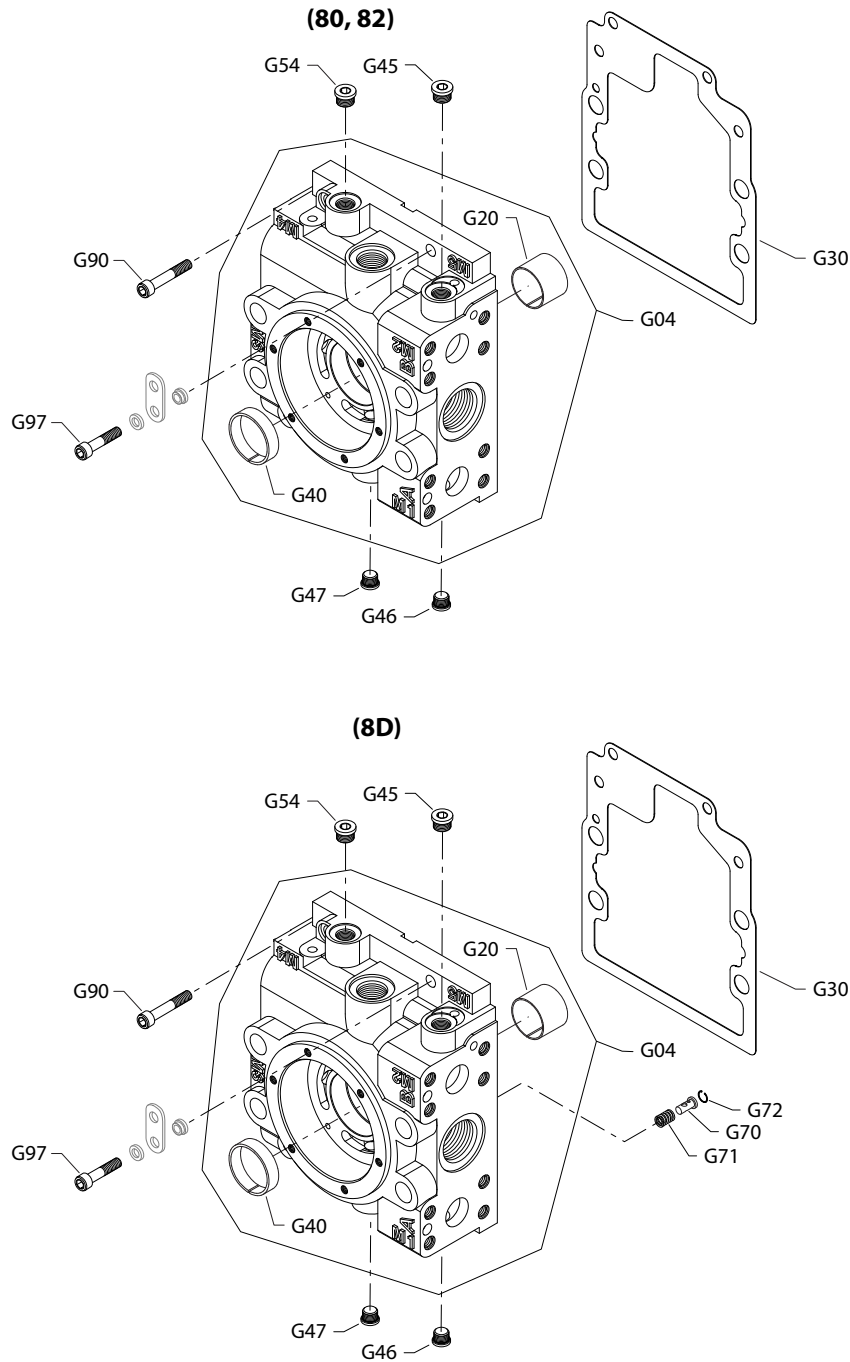
Order code: 8W

G04	97-24		8100916	End cap assembly, twin ports, CW	1
G04	97-24		8100929	End cap assembly, twin ports, CCW	1

End cap

S90P 75cc end cap 80-8D (twin ports build in Germany)

Parts configuration



* Included in base pump seal kit Q210

End cap

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G20	96-18		664763 (8700013)	Journal bearing	1
G30	96-18		8100565	End cap gasket	1
G40	96-18		664771 (8700008)	Bushing	1
G90	96-18		746644 (9007314-0810)	Screw	1
G93	96-18		713800 (8800564)	Spacer	1
G94	96-18		8800565	Lifting bracket	1
G95	96-18		502195	Washer	1
G97	96-18		746644 (9007314-0810)	Screw	1

Order code: 80

G04	96-18		8100566	End cap assembly, twin ports	1
G45	96-18		140644	Plug assembly	1
G46	96-18		140644	Plug assembly	1
G47	96-18		140644	Plug assembly	1
G54	96-18		140644	Plug assembly	1

Order code: 82

G04	96-18		8100573/P	End cap assembly, metric twin ports	1
G45	96-18		140644	Plug assembly	1
G46	96-18		140644	Plug assembly	1
G47	96-18		140644	Plug assembly	1
G54	96-18		140644	Plug assembly	1

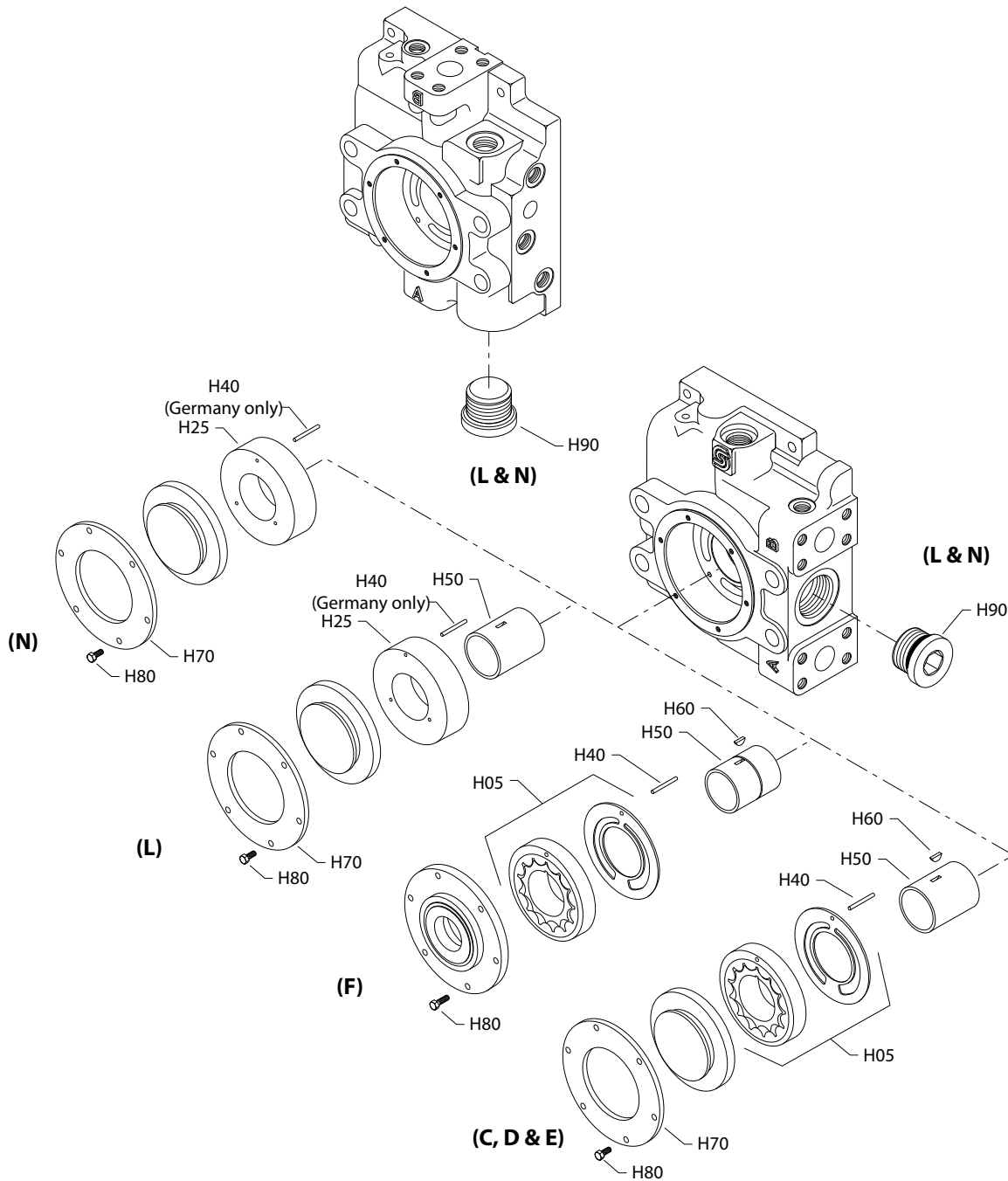
Order code: 8D

G04	96-18		508576	End cap assembly, twin ports	1
G45	96-18		140644	Plug assembly	1
G46	96-18		140644	Plug assembly	1
G47	96-18		140644	Plug assembly	1
G54	96-18		140644	Plug assembly	1
G70	96-18		508211	Valve body	1
G71	96-18		508209	Spring	1
G72	96-18		521472	Retaining ring	1

Charging system

S90P 75cc charging system C-F

Parts configuration



Charging system

Order code: C

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
H05	93-10		8100479	Charge pump set, 14 cc (SB-1993-001 on page 315*)	1
H40	87-02		9004800-1222	Pin	1
H50	93-10		8801178	Charge pump shaft (SB-1993-001 on page 315 & SB-1998-066 on page 330)	1
H60	87-02		9003310-1208	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		648451 (9007210-0604)	Screw	6

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to AN152886483362 in the appendix.

Order code: D

H05	93-10		8100480	Charge pump set, 17 cc (SB-1993-001 on page 315*)	1
H40	87-02		9004800-1222	Pin	1
H50	93-10		8801178	Charge pump shaft (SB-1993-001 on page 315 & SB-1998-066 on page 330)	1
H60	87-02		9003310-1208	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		648451 (9007210-0604)	Screw	6

Order code: E

H05	93-10		8100481	Charge pump set, 20 cc (SB-1993-001 on page 315*)	1
H40	87-02		9004800-1222	Pin	1
H50	93-10		8801178	Charge pump shaft (SB-1993-001 on page 315 & SB-1998-066 on page 330)	1
H60	87-02		9003310-1208	Key	1
H70	87-02		516761	Retaining plate	1
H80	87-02		648451 (9007210-0604)	Screw	6

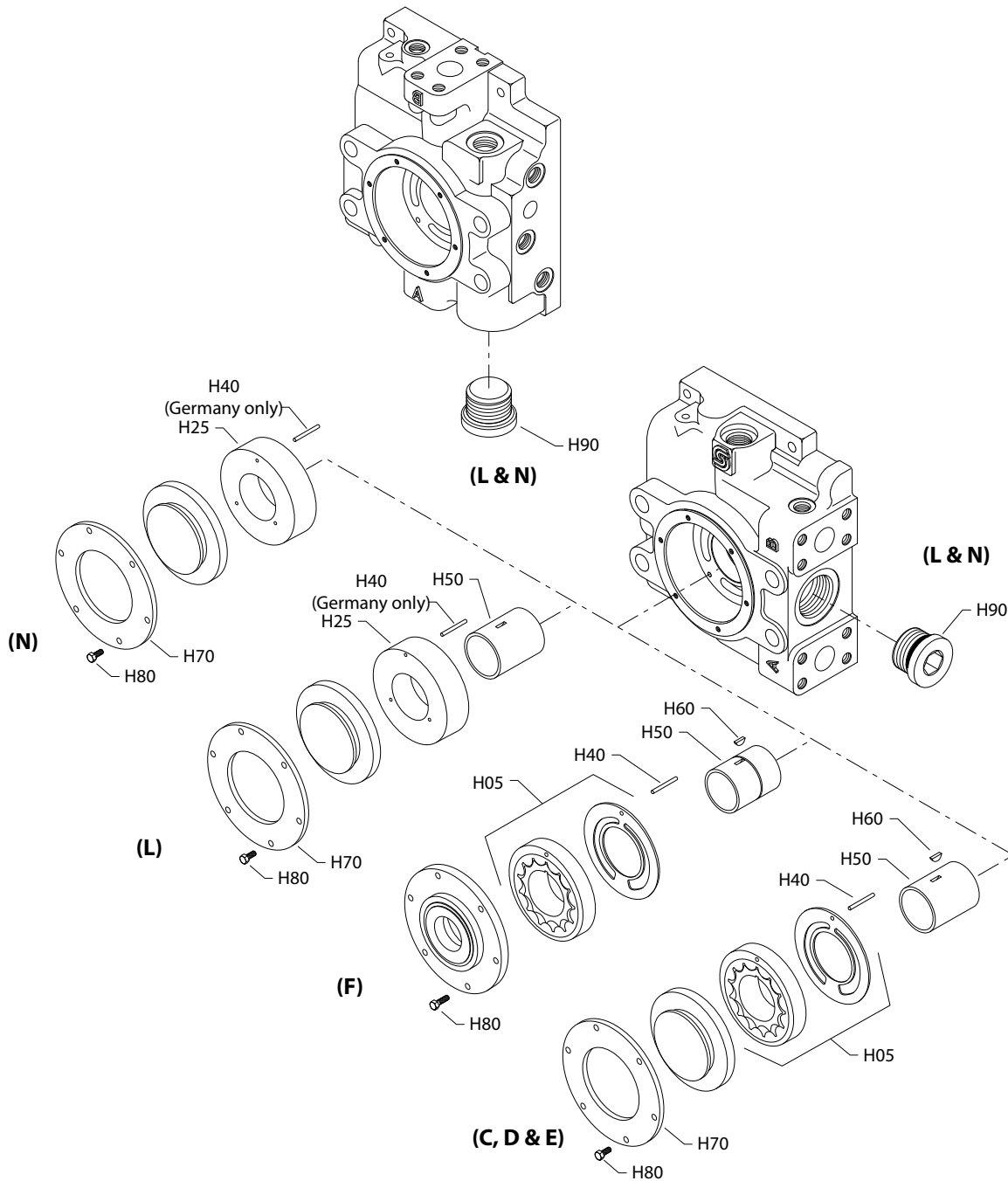
Order code: F

H05	97-01		8200240	Charge pump set, 26 cc	1
H40	97-01		9004800-1224	Pin	1
H50	97-01		8801179	Charge pump shaft	1
H60	97-01		9003310-1208	Key	1
H80	97-01		672493 (9007210-0604)	Screw	6

Charging system

S90P 75cc charging system L, N

Parts configuration



Charging system

Order code: L

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
H25	87-02		11077717 (8800466-0075)	Charge pump spacer	1
H40	87-02		9004800-1222	Pin	1
H50	93-10		8801178	Charge pump shaft (SB-1993-001 on page 315 & SB-1998-066 on page 330)	1
H50	87-02	89-16	8000078	Charge pump shaft (SB-1989-006 on page 308)	1
H70	87-02		516761	Retaining plate	1
H80	87-02		648451 (9007210-0604)	Screw	6
H90	87-02		320002 (9005110-9200)	Plug assembly	1

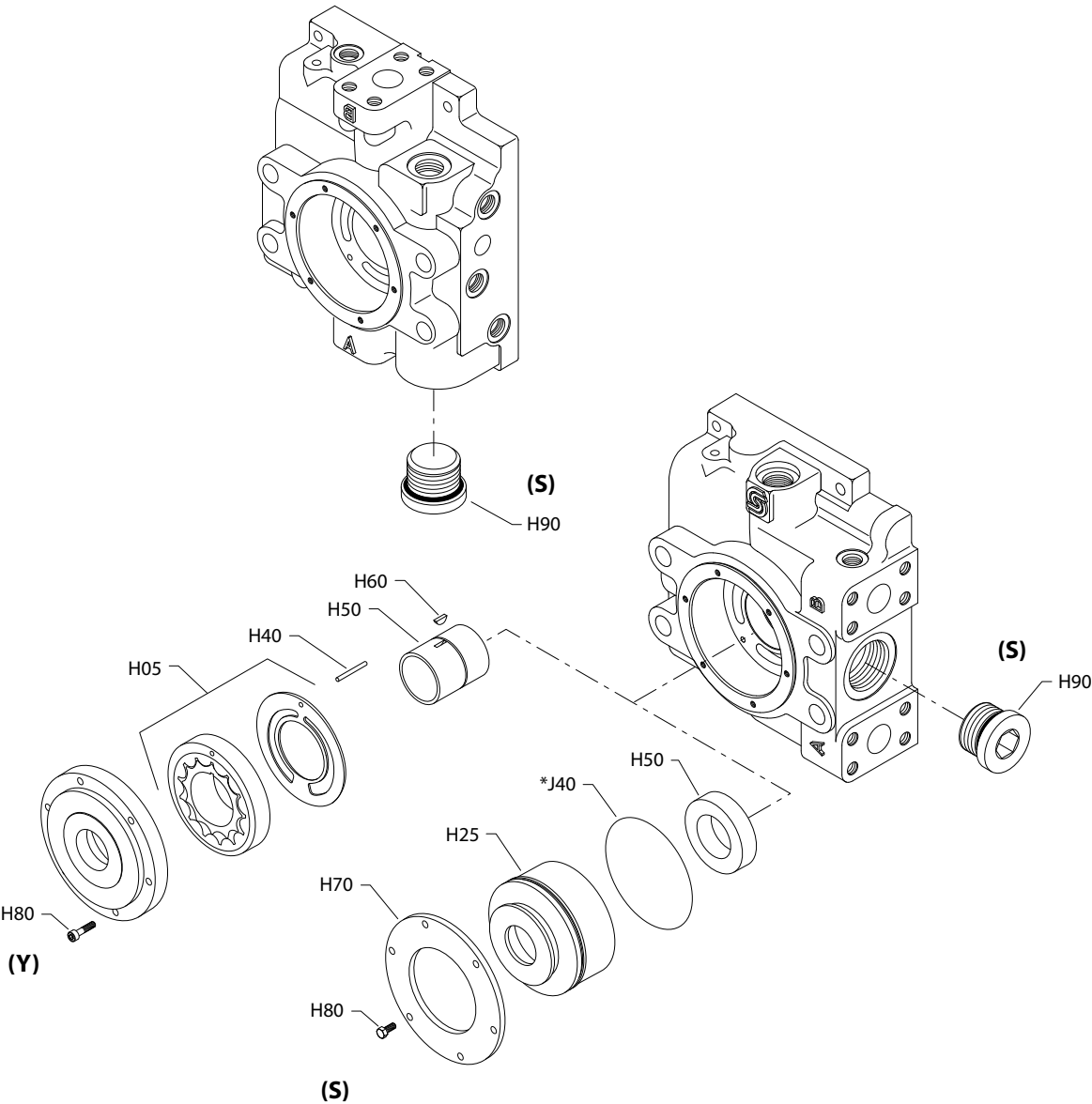
Order code: N

H25	98-51		11077717 (8800466-0075)	Charge pump spacer	1
H40	98-51		9004800-1222	Pin	1
H70	98-51		516761	Retaining plate	1
H80	98-51		648451	Screw	6
H90	98-51		320002 (9005110-9200)	Plug assembly	1

Charging system

S90P 75cc charging system S, Y

Parts configuration



* Included in base pump seal kit Q210

Charging system

Order code: S

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
H25	96-24		509220	Charge pump spacer	1
H50	96-24		509221	Spacer	1
H70	96-24		516761	Retaining plate	1
H80	96-24		648451	Screw	6
H90	96-24		320002 (9005110-9200)	Plug assembly	1
J40	96-24		680892 (9004104-0440)	O-ring	1

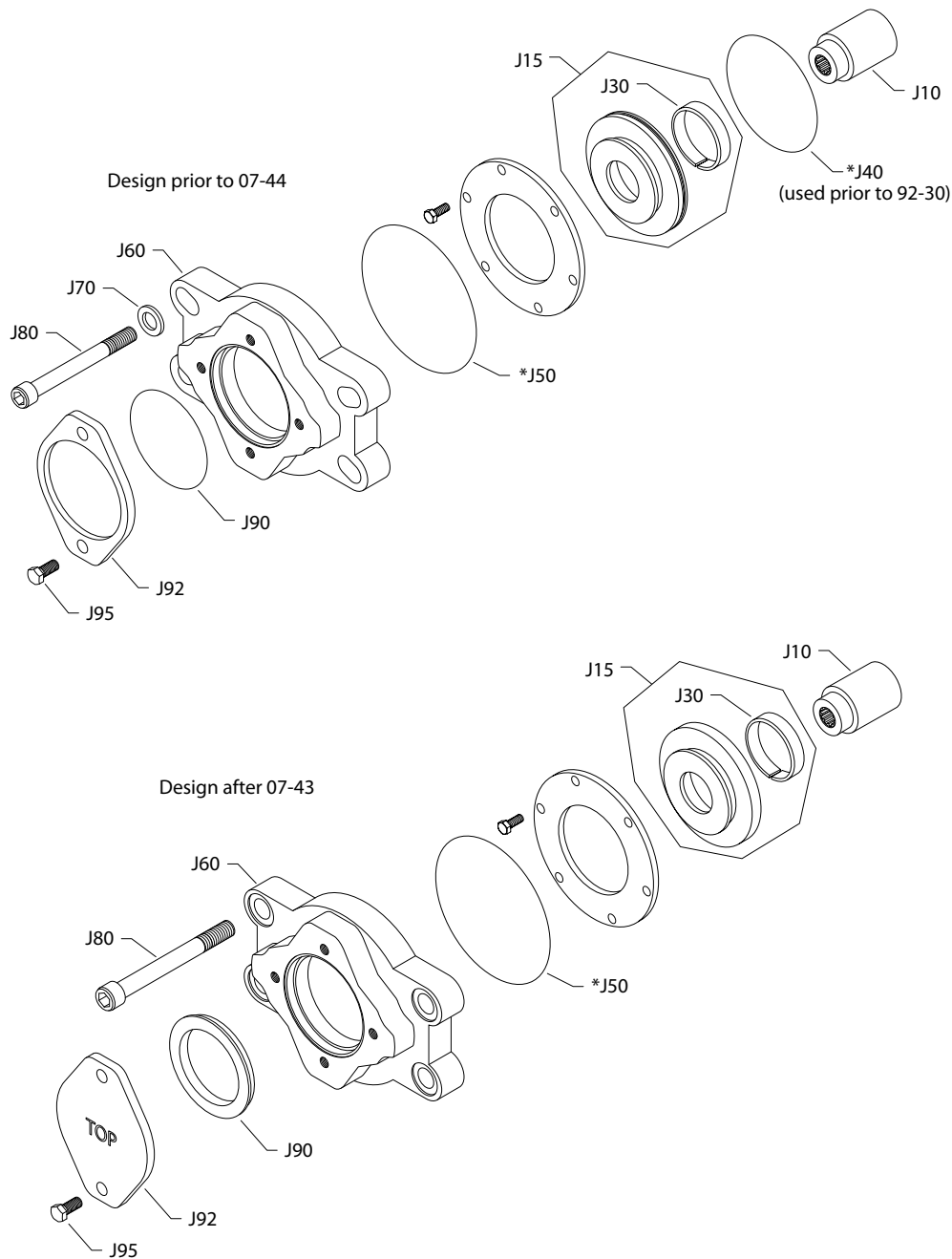
Order code: Y

H05	99-18		8200240	Charge pump set, 26 cc	1
H40	99-18		5000358	Pin	1
H50	99-18		8801210	Charge pump shaft	1
H60	99-18		9003310-1208	Key	1
H80	99-18		041160 (9007314-0605)	Screw	6

Auxiliary mounting

S90 pump aux mounting AB and AC

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: AB & A

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	87-02		8100147	Coupling, 9 tooth	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (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		8100846	Flange adapter, SAE A (SB-2007-027 on page 351)	1
J70	87-02	07-43	664920 (9009625-0132)	Washer (SB-2007-027 on page 351)	4
J80	98-44		518721	Screw, M16 x 140	4
J80	87-02	98-43	9007314-1622	Screw, M16 x130 (SB-1989-023 on page 310)	4
J90	07-44		4800482	A pad seal (SB-2007-027 on page 351)	1
J90	87-02	07-43	545434 (9004100-0420)	O-ring	1
J92	07-44		4460586	Cover plate (SB-2007-027 on page 351)	1
J92	87-02	07-43	9802336	Cover plate	1
J95	87-02		9007200-3714	Screw	3

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to AN152886483362 in the appendix. New style covers may be used with either charge pump design.

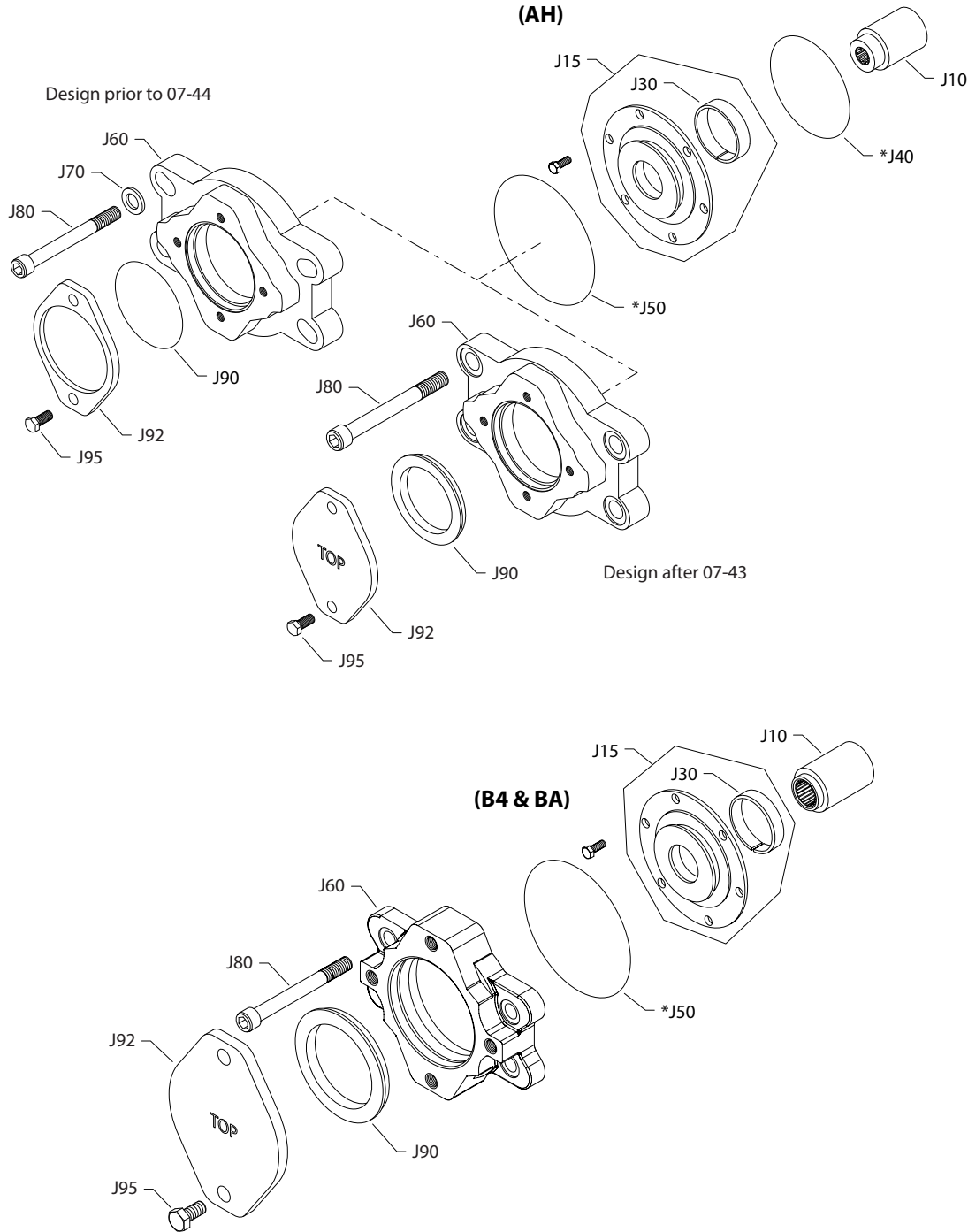
Order code: AC & T

J10	87-02		8100297	Coupling, 11 tooth	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (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		8100846	Flange adapter, SAE A (SB-2007-027 on page 351)	1
J70	87-02	07-43	664920 (9009625-0132)	Washer (SB-2007-027 on page 351)	4
J80	98-44		518721	Screw, M16 x 140	4
J80	87-02	98-43	9007314-1622	Screw M16 x 130	4
J90	07-44		4800482	A pad seal (SB-2007-027 on page 351)	1
J90	87-02	07-43	545434 (9004100-0420)	O-ring	1
J92	07-44		4460586	Cover plate (SB-2007-027 on page 351)	1
J92	87-02	07-43	9802336	Cover plate	1
J95	87-02		9007200-3714	Screw	2

Auxiliary mounting

S90P 75cc aux mounting AH-BA

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: AH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	02-08		8100147	Coupling, 9 tooth	1
J15	02-08		8100649	Cover assembly, CW	1
J15	02-08		8100647	Cover assembly, CCW	1
J30	02-08		664771 (8700008)	Bushing	1
J40	02-08		680892 (9004104-0440)	O-ring	1
J50	02-08		056739 (9004104-1580)	O-ring	1
J60	02-08		8100846	Flange adapter, SAE A (SB-2007-027 on page 351)	1
J70	02-08	07-43	664920 (9009625-0132)	Washer (SB-2007-027 on page 351)	4
J80	02-08		518721	Screw, M16 x 140	4
J90	07-44		4800482	A pad seal (SB-2007-027 on page 351)	1
J90	02-08	07-43	545434 (9004100-0420)	O-ring	1
J92	07-44		4460586	Cover plate (SB-2007-027 on page 351)	1
J92	02-08	07-43	9802336	Cover plate	1
J95	02-08		9007200-3714	Screw	2

Order code: B4

J10	15-44		8100148	Coupling, 13 tooth	1
J15	15-44		8801248	Cover assembly, CW	1
J30	15-44		664771 (8700008)	Bushing	1
J50	15-44		056739 (9004104-1580)	O-ring	1
J60	15-44		8100847	Flange adapter, SAE B	1
J80	15-44		518721	Screw, M16 x 140	4
J90	15-44		8801061	B pad seal	1
J92	15-44		8801059	Cover plate	1
J95	15-44		9007200-5021	Screw	2

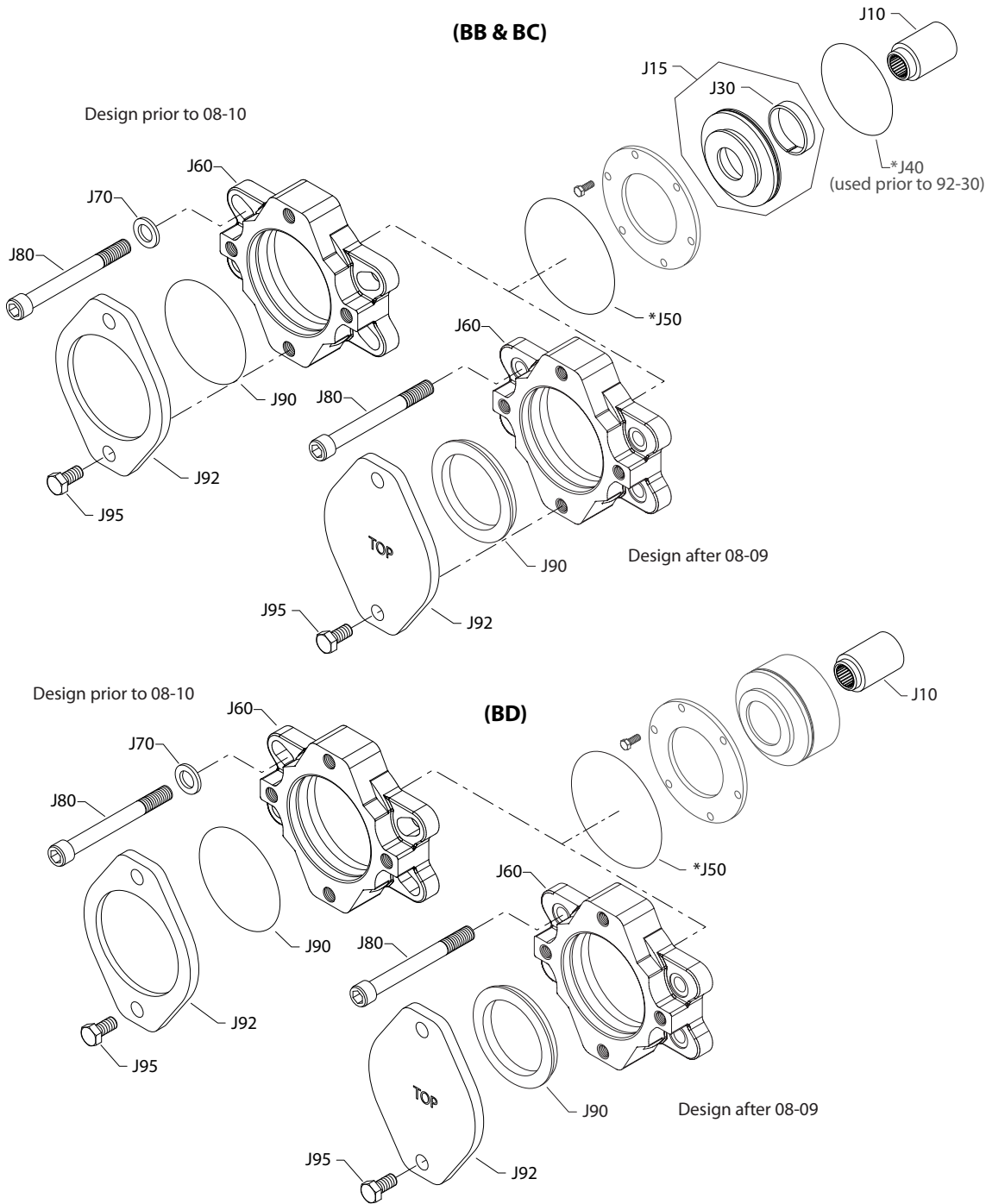
Order code: BA

J10	06-15		8100273	Coupling, 15 tooth	1
J15	06-15		8801248	Cover assembly, CW	1
J15	06-15		8801352	Cover assembly, CCW	1
J30	06-15		664771 (8700008)	Bushing	1
J50	06-15		056739 (9004104-1580)	O-ring	1
J60	06-15		8100847	Flange adapter, SAE B	1
J80	06-15		518721	Screw, M16 x 140	4
J90	06-15		8801061	B pad seal	1
J92	06-15		8801059	Cover plate	1
J95	06-15		9007200-5021	Screw	2

Auxiliary mounting

S90P 75cc aux mounting BB-V

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: BB & V

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	87-02		8100273	Coupling, 15 tooth	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (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		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	87-02	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw, M16x 140	4
J80	87-02	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	87-02	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	87-02	08-09	4460370	Coverplate	1
J95	87-02		9007200-5021	Screw	2

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to AN152886483362 in the appendix. New style covers may be used with either charge pump design.

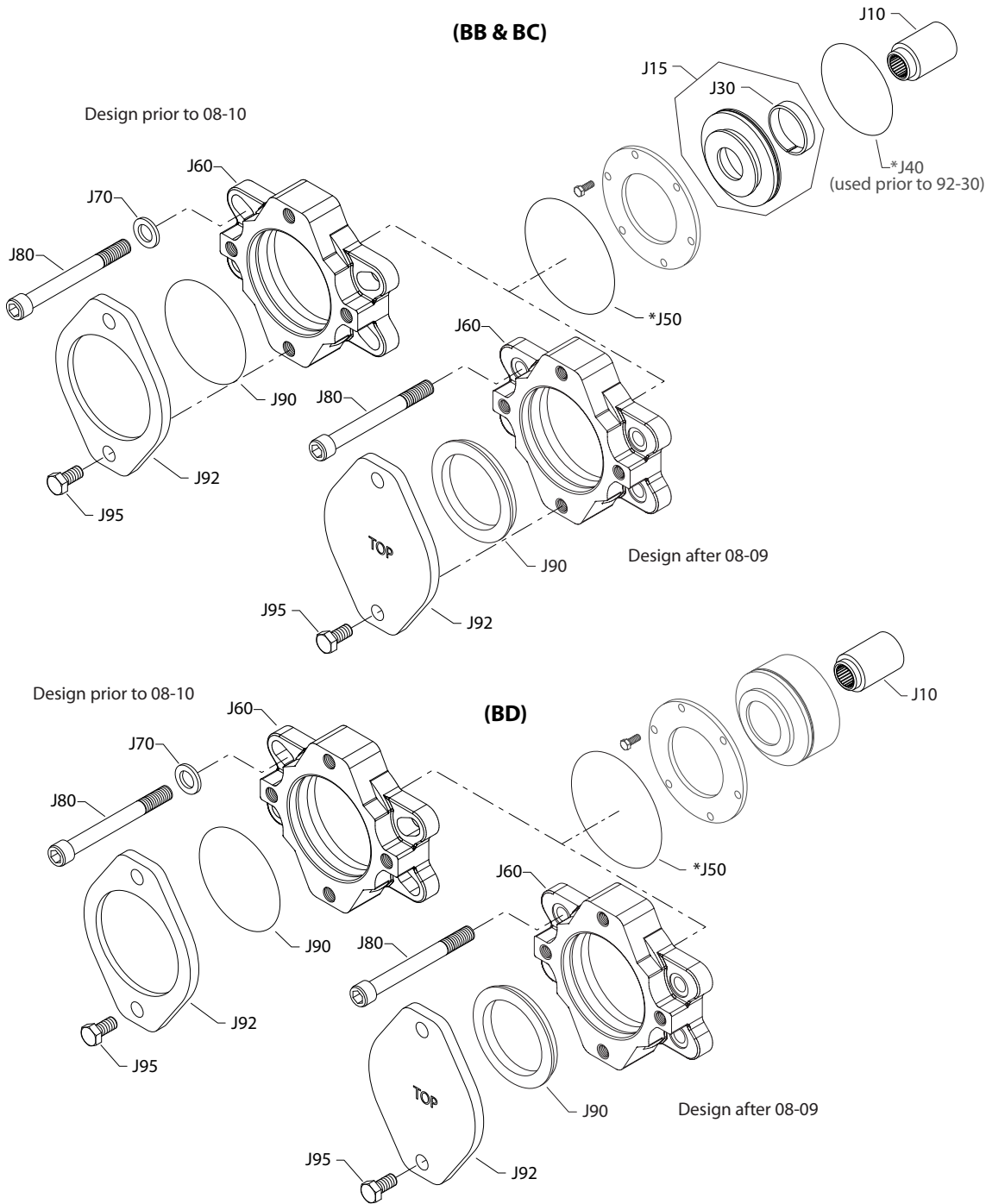
Order code: BC & B

J10	87-02		8100148	Coupling, 13 tooth	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (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		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	87-02	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw, M16 x 140	4
J80	87-02	98-43	9007314-1622	Screw M16 x 130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	87-02	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Cover plate (SB-2007-055 on page 355)	1
J92	87-02	08-09	4460370	Cover plate	1
J95	87-02		9007200-5021	Screw	2

Auxiliary mounting

S90P 75cc aux mounting BD

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

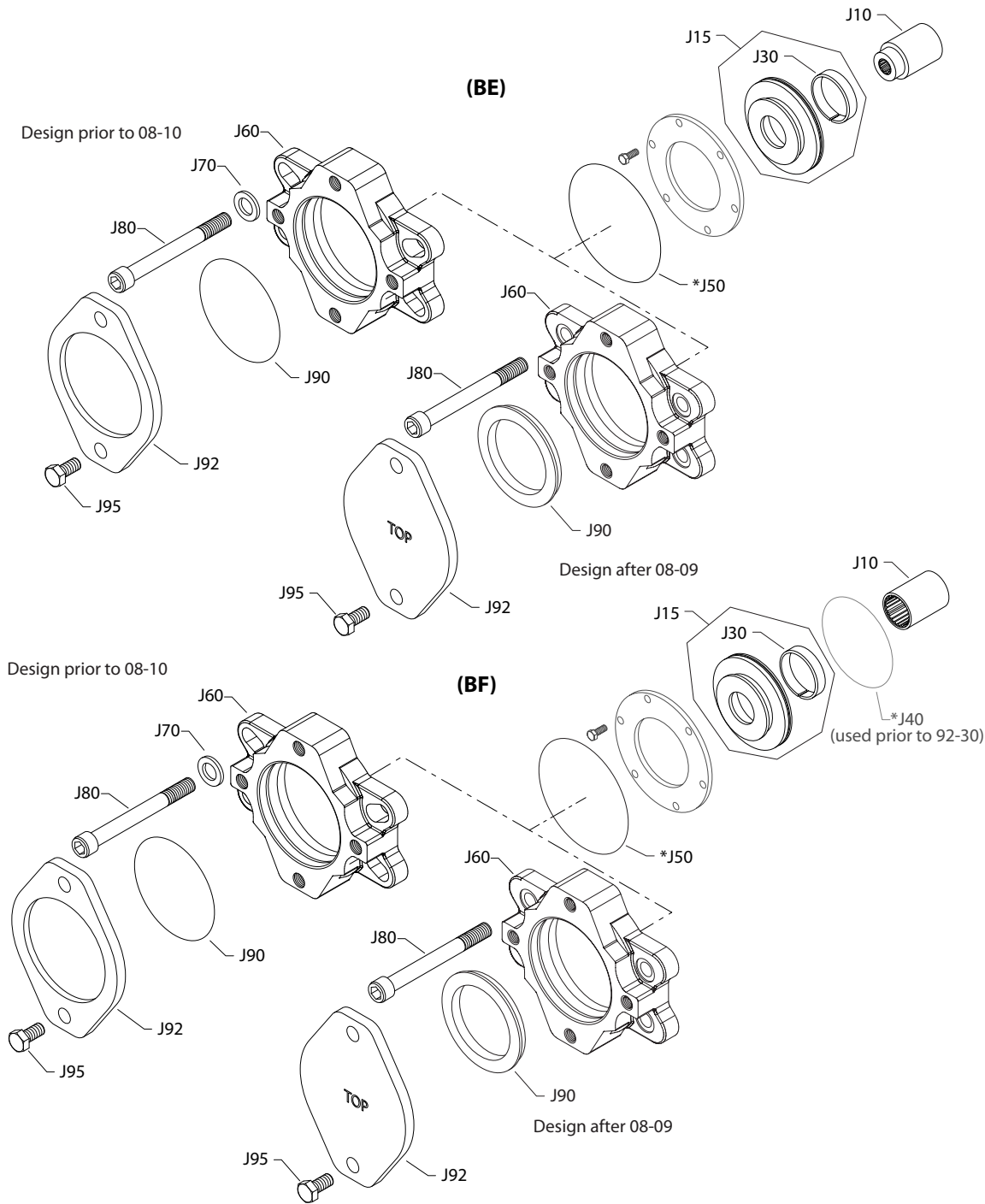
Order code: BD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	06-10		8100148	Coupling, 13 tooth	1
J50	06-10		056739 (9004104-1580)	O-ring	1
J60	06-10		8100938	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	06-10	08-09	664920 (9009625-0132)	Washer (SB-2007-055 on page 355)	4
J80	06-10		518721	Screw, M16 x 140	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	06-10	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Cover plate (SB-2007-055 on page 355)	1
J92	06-10	08-09	4460370	Cover plate	1
J95	06-10		370320	Screw	2

Auxiliary mounting

S90P 75cc aux mounting BE, BF

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: BE & P

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	95-21		8100148	Coupling, 13 tooth	1
J15	95-21		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J15	95-21		8800833	Cover assembly, CCW (SB-2005-011 on page 350)	1
J30	95-21		664771 (8700008)	Bushing	1
J50	95-21		056739 (9004104-1580)	O-ring	1
J60	95-21		8100938	Flange adapter, SAE B, metric threads (SB-2007-055 on page 355)	1
J70	95-21	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw, M16x 140	4
J80	95-21	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	95-21	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	95-21	08-09	4460370	Coverplate	1
J95	95-21		370320 (9007314-1207)	Screw	2

Order code: BF & U

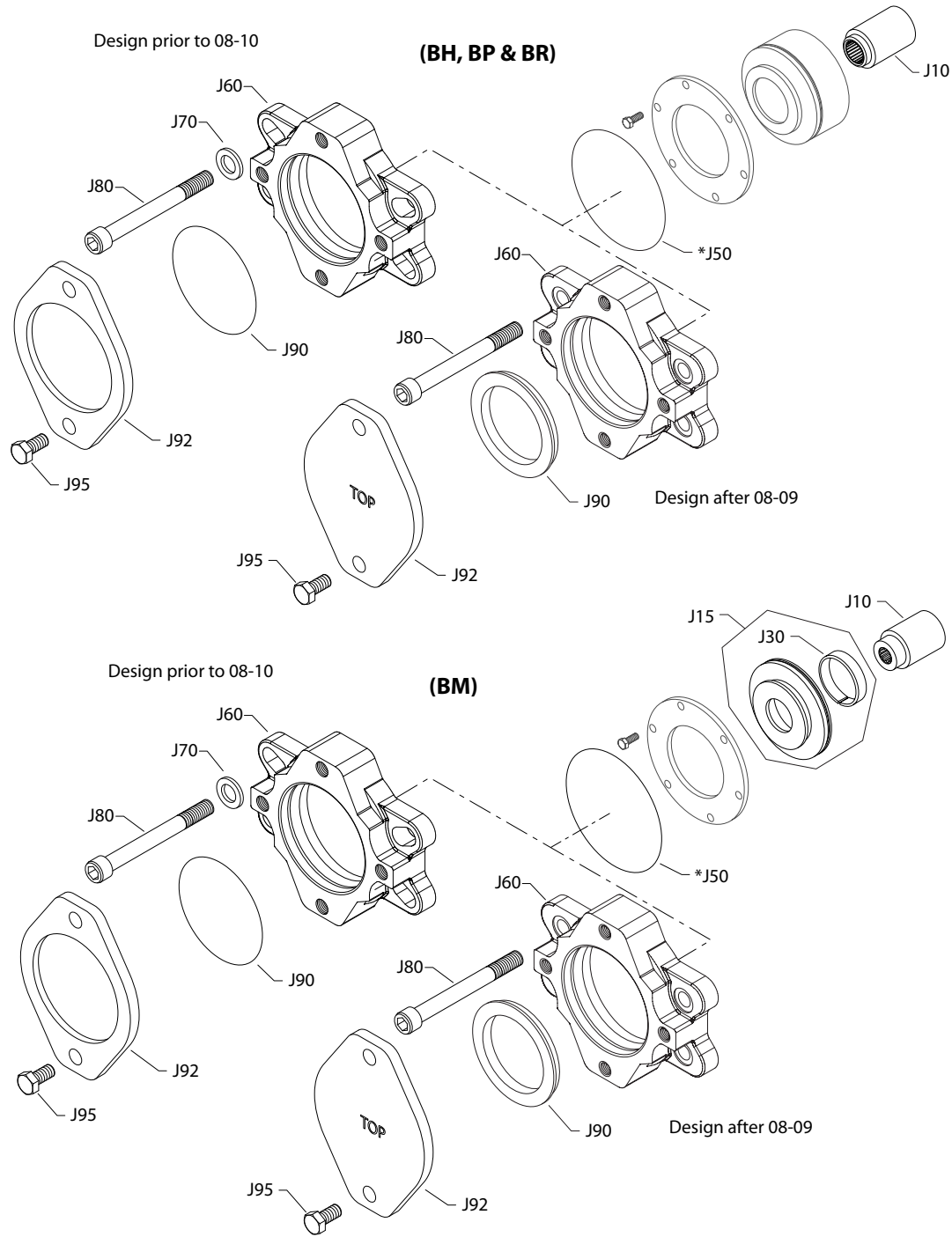
J10	87-02		11053342	Coupling, 19 tooth	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (8700008)	Bushing	1
J40	87-02	92-15	680892 (9004104-0440)	O-ring	1
J50	87-02		056739 (9004104-1580)	O-ring	1
J60	87-02		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	87-02	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw, M16x 140	4
J80	87-02	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	87-02	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	87-02	08-09	4460370	Coverplate	1
J95	87-02		9007200-5021	Screw	2

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to AN152886483362 in the appendix. New style covers may be used with either charge pump design.

Auxiliary mounting

S90P 75cc aux mounting BH-BP

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: BH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	06-13		8100148	Coupling, 13 tooth	1
J50	06-13		056739 (9004104-1580)	O-ring	1
J60	06-13		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	06-13	09-30	664920 (9009625-0132)	Washer (SB-2007-055 on page 355)	4
J80	06-13		518721	Screw, M16x 140	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	06-13	09-30	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	06-13	08-09	4460370	Coverplate	1
J95	06-13		9007200-5021	Screw	2

Order code: BM & 7

J10	94-07		8100273	Coupling, 15 tooth	1
J15	94-07		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J15	94-07		8800833	Cover assembly, CCW (SB-2005-011 on page 350)	1
J30	94-07		664771 (8700008)	Bushing	1
J50	94-07		056739 (9004104-1580)	O-ring	1
J60	94-07		8100938	Flange adapter, SAE B, metric threads (SB-2007-055 on page 355)	1
J70	94-07	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw M16x 140	4
J80	94-07	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	06-13	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	94-07	08-09	4460370	Coverplate	1
J95	94-07		737866 (9007314-1207)	Screw	2

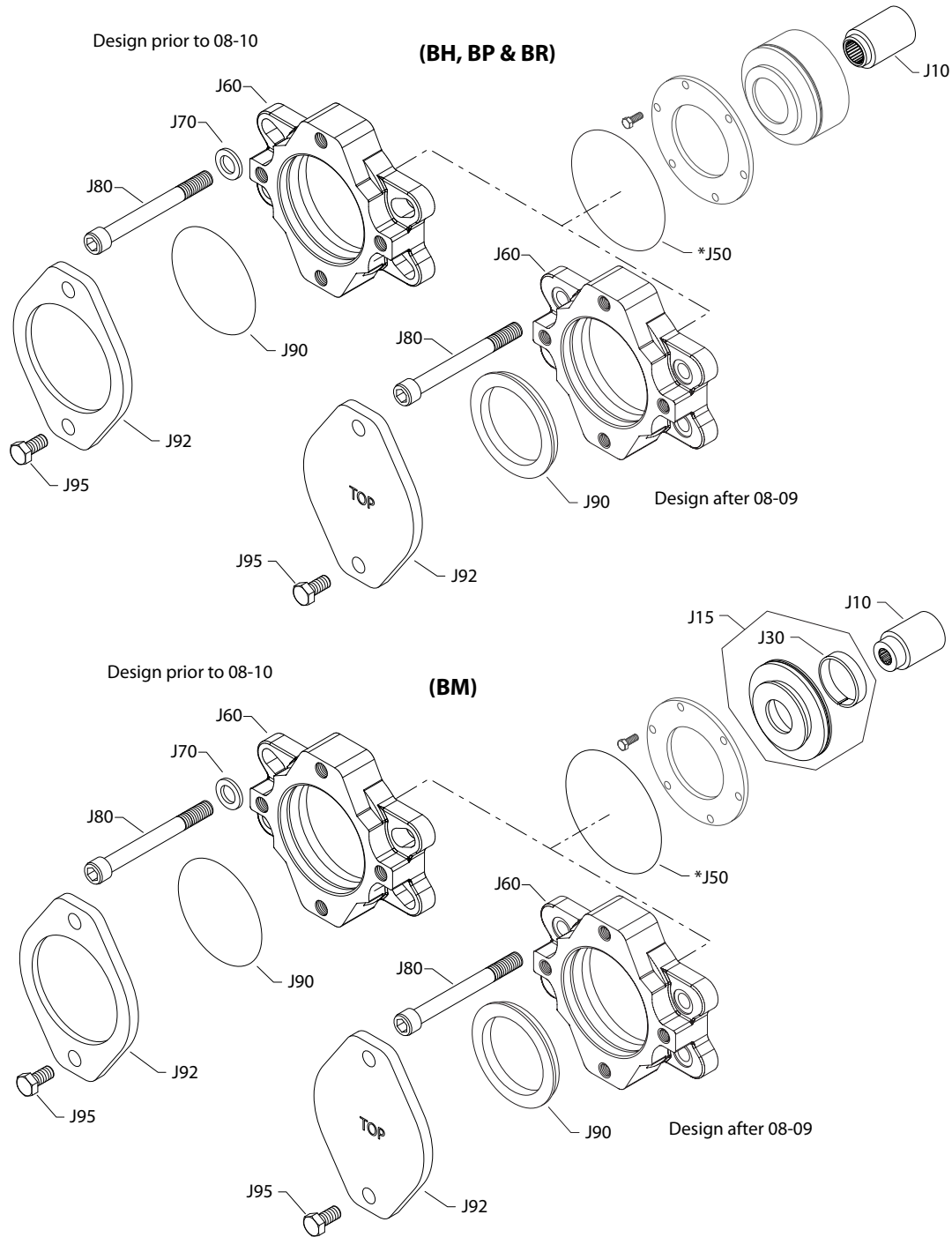
Order code: BP

J10	04-50		8100273	Coupling, 15 tooth	1
J50	04-50		056739 (9004104-1580)	O-ring	1
J60	04-50		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	04-50	09-30	664920 (9009625-0132)	Washer (SB-2007-055 on page 355)	4
J80	04-50		518721	Screw M16x 140	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	04-50	09-30	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	04-50	08-09	4460370	Coverplate	1
J95	04-50		9007200-5021	Screw	2

Auxiliary mounting

S90P 75cc aux mounting BR

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

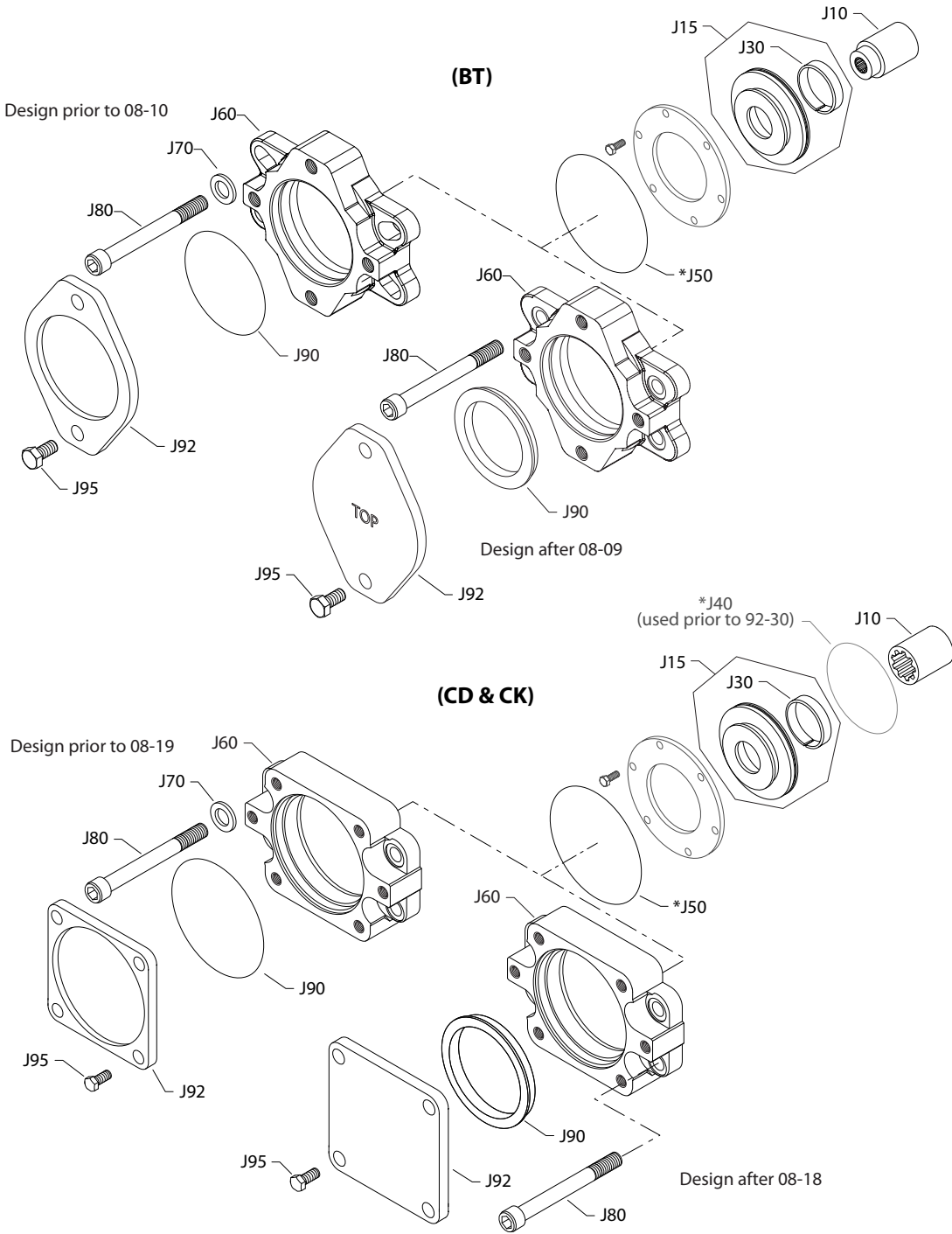
Order code: BR

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	04-50		8100273	Coupling, 15 tooth	1
J50	04-50		056739 (9004104-1580)	O-ring	1
J60	04-50		8100938	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	04-50	09-30	664920 (9009625-0132)	Washer (SB-2007-055 on page 355)	4
J80	04-50		518721	Screw M16x 140	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	04-50	09-30	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	87-02	08-09	4460370	Coverplate	1
J95	04-50		370320 (9007314-1207)	Screw	2

Auxiliary mounting

S90P 75cc aux mounting BT-CD

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: BT

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	05-12		11053346	Coupling, 14 tooth, high strength	1
J15	05-12		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	05-12		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	05-12		664771 (8700008)	Bushing	1
J50	05-12		056739 (9004104-1580)	O-ring	1
J60	05-12		8100847	Flange adapter, SAE B (SB-2007-055 on page 355)	1
J70	05-12	08-09	9009625-0132	Washer (SB-2007-055 on page 355)	4
J80	98-44		518721	Screw, M16x 140	4
J80	05-12	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		8801061	B pad seal (SB-2007-055 on page 355)	1
J90	05-12	08-09	726935 (9004104-0450)	O-ring	1
J92	08-10		8801059	Coverplate (SB-2007-055 on page 355)	1
J92	05-12	08-09	4460370	Coverplate	1
J95	05-12		9007200-5021	Screw	2

* For information regarding replacement parts for units built from 89-17 to 93-09, refer to AN152886483362 in the appendix. New style covers may be used with either charge pump design.

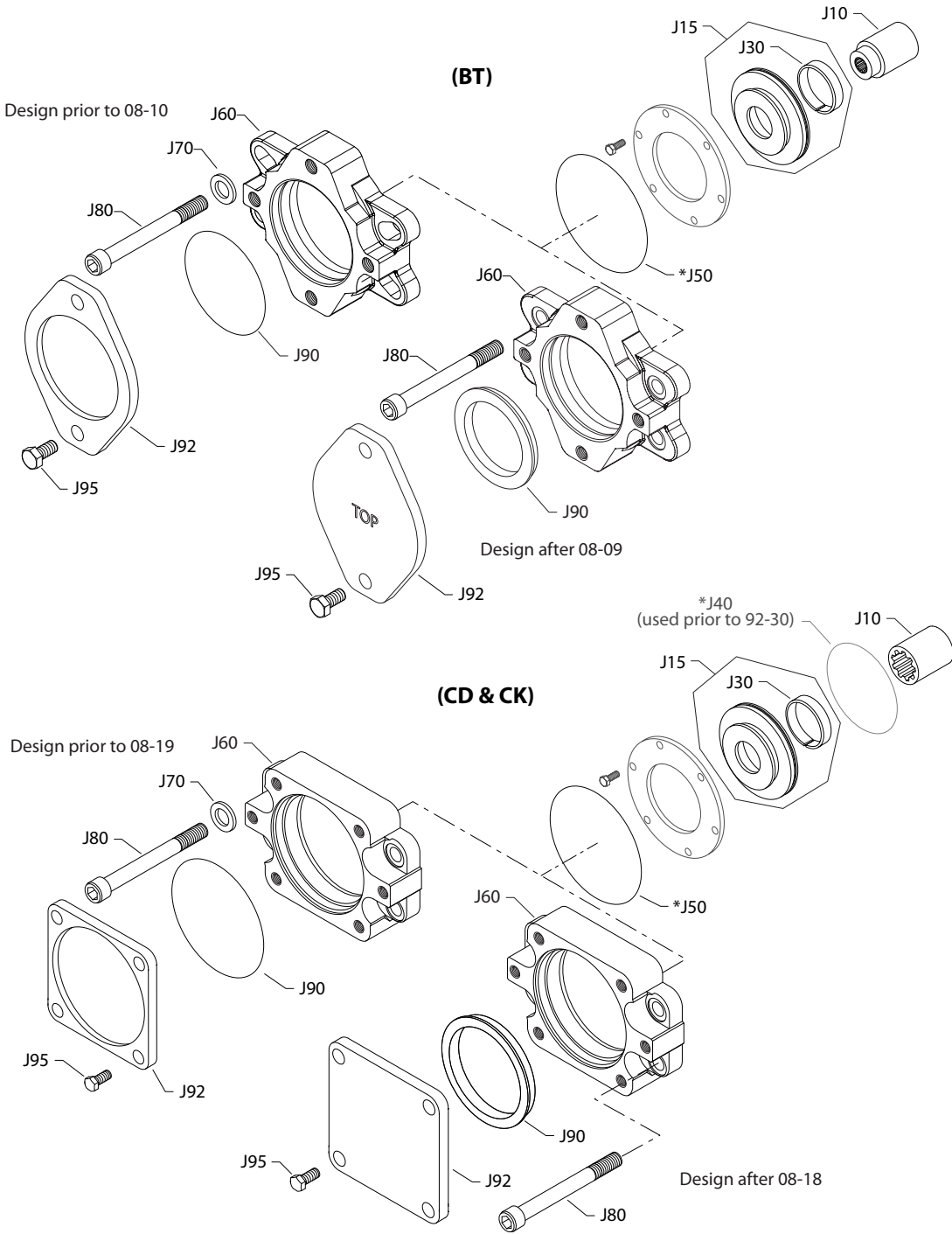
Order code: CD & C

J10	87-02		11053346	Coupling, 14 tooth, high strength	1
J15	87-02		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	87-02		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	87-02		664771 (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		8100897	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J70	87-02	03-10	5000602	Washer (SB-2002-050 on page 346)	4
J80	98-44		518721	Screw, M16x 140	4
J80	87-02	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-19		11081805	C pad seal (SB-2007-051 on page 353)	1
J90	87-02	08-18	726943 (9004104-0490)	O-ring	1
J92	08-19		8801060	Coverplate (SB-2007-051 on page 353)	1
J92	87-02	08-18	8800406	Coverplate	1
J95	87-02		9007200-5021	Screw	4

Auxiliary mounting

S90P 75cc aux mounting CK

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

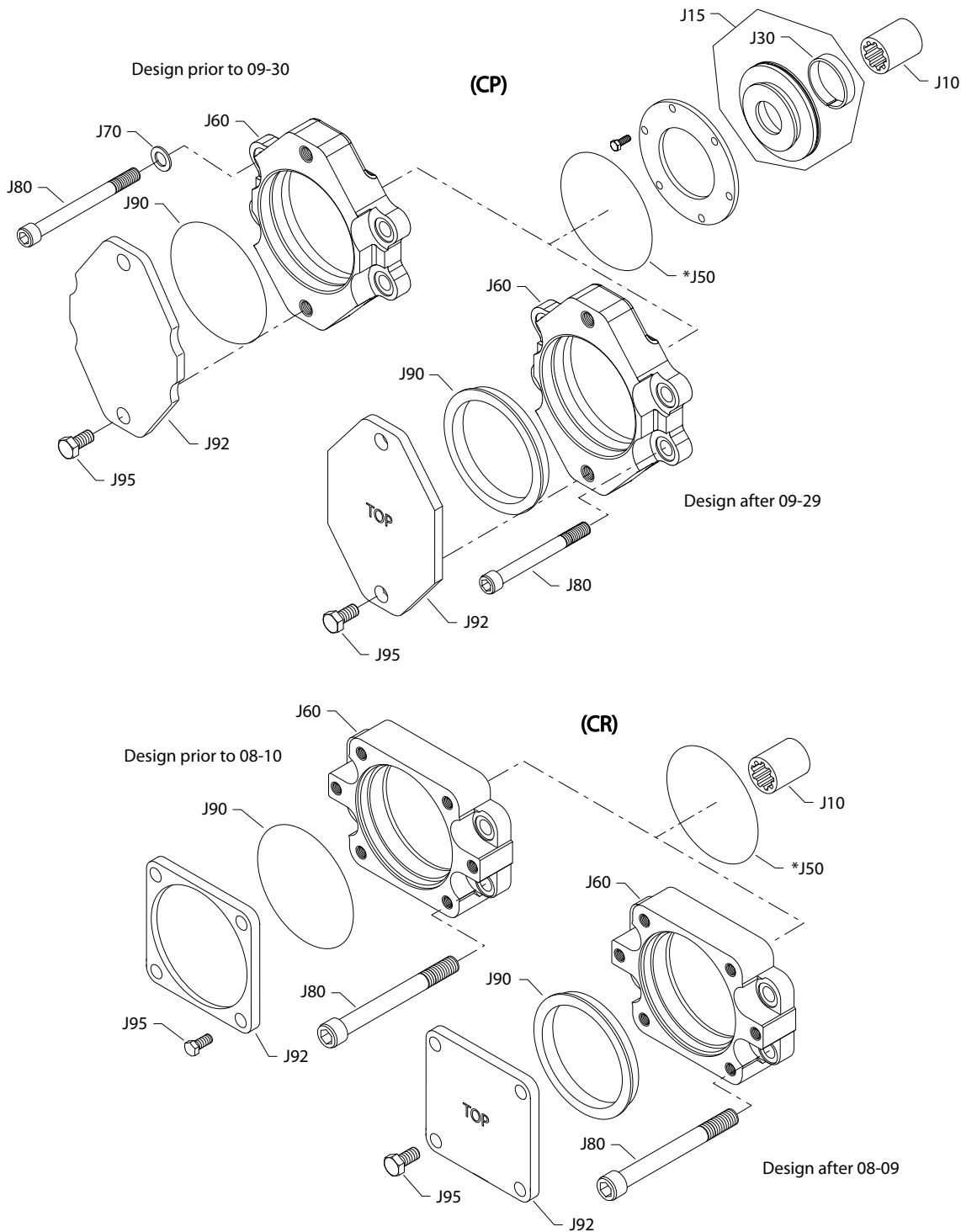
Order code: CK

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	96-04		11053278	Coupling, 25 tooth, high strength	1
J15	96-04		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J15	96-04		8800833	Cover assembly, CCW (SB-2005-011 on page 350)	1
J30	96-04		664771 (8700008)	Bushing	1
J50	96-04		056739 (9004104-1580)	O-ring	1
J60	96-04		8100897	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J70	96-04	03-10	5000602	Washer (SB-2002-050 on page 346)	4
J80	98-44		518721	Screw M16x 140	4
J80	96-04	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-19		11081805	C pad seal (SB-2007-051 on page 353)	1
J90	96-04	08-18	726943 (9004104-0490)	O-ring	1
J92	08-19		8801060	Coverplate (SB-2007-055 on page 355)	1
J92	96-04	08-18	4460370	Coverplate	1
J95	96-04		9007200-5021	Screw	4

Auxiliary mounting

S90P aux mounting CP, CR

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: CP

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	93-14		11053346	Coupling, 14 tooth, high strength	1
J15	93-14		8800832	Cover assembly, CW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J15	93-14		8800833	Cover assembly, CCW (SB-1993-001 on page 315* & SB-2005-011 on page 350)	1
J30	93-14		664771 (8700008)	Bushing	1
J50	93-14		056739 (9004104-1580)	O-ring	1
J60	93-14		8200551	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J70	93-14	03-10	664920	Washer	4
J80	98-44		518721	Screw, M16x 140	4
J80	93-14	98-43	9007314-1622	Screw M16 x130 (SB-1989-023 on page 310)	4
J90	09-30		11081805	C-pad seal (SB-2007-051 on page 353)	1
J90	93-14	09-29	726943 (9004104-0490)	O-ring	1
J92	09-30		11048554	Cover plate (SB-2007-051 on page 353)	1
J92	93-14	09-29	8800406	Cover plate	1
J95	93-14		9007200-6222	Screw	2

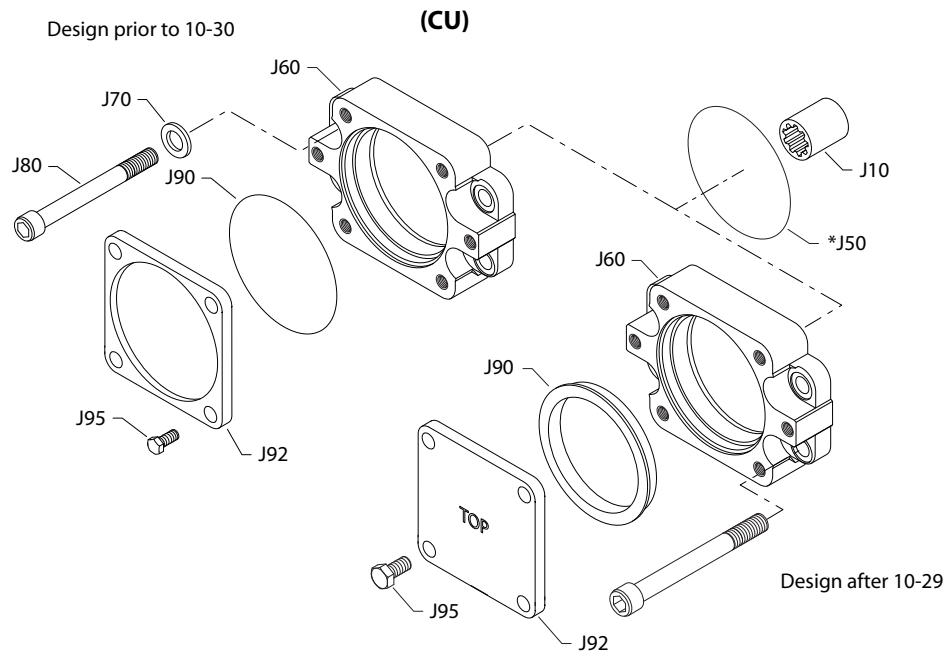
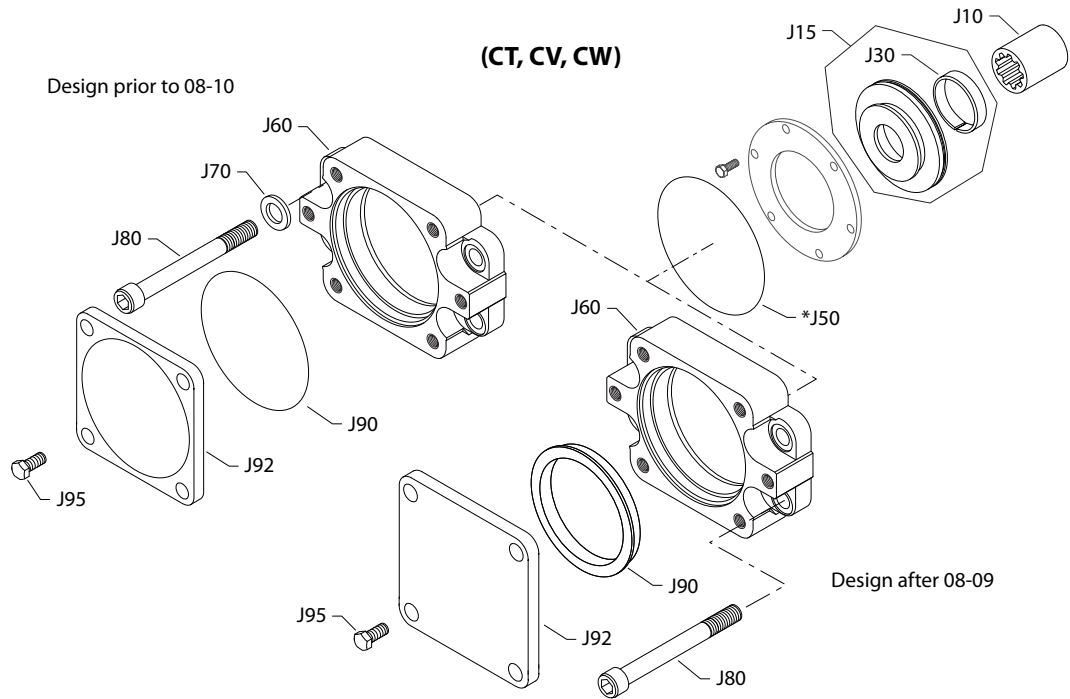
Order code: CR

J10	03-14		11053346	Coupling, 14 tooth, high strength	1
J50	03-14		056739 (9004104-1580)	O-ring	1
J60	03-14		8200538	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J80	03-14		518721	Screw, M16x 140	4
J90	08-10		11081805	C-pad seal (SB-2007-051 on page 353)	1
J90	03-14	09-29	726943 (9004104-0490)	O-ring	1
J92	08-10		8801060	Cover plate (SB-2007-051 on page 353)	1
J92	03-14	09-29	8800406	Cover plate	1
J95	03-14		370320	Screw	4

Auxiliary mounting

S90P 75cc aux mounting CT-CV

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: CT

Item	Date Begin	Date End	Part Number	Part Number	Qty. per Model/Kit
J10	98-42		11053342	Coupling, 19 tooth	1
J15	98-42		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J15	98-42		8800833	Cover assembly, CCW (SB-2005-011 on page 350)	1
J30	98-42		664771 (8700008)	Bushing	1
J50	98-42		056739 (9004104-1580)	O-ring	1
J60	98-42		8100897	Flange adapter, SAE C (SB-2002-050 on page 346 & SB-2007-051 on page 353)	1
J70	98-42	03-10	5000602	Washer (SB-2002-050 on page 346)	4
J80	98-44		518721	Screw, M16x 140	4
J80	98-42	98-43	9007314-1622	Screw M16 x130 (SB-1998-073 on page 334)	4
J90	08-10		11081805	C pad seal	1
J90	98-42	08-09	719179 (9004100-0480)	O-ring	1
J92	08-10		8801060	Coverplate	1
J92	98-42	08-09	8800406	Coverplate	1
J95	98-42		9007200-5021	Screw	4

Order code: CU

J10	99-04		11053346	Coupling, 14 tooth,high strength	1
J50	99-04		056739 (9004104-1580)	O-ring	1
J60	99-04		8100897	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J70	99-04	04-02	5000602	Washer (SB-2002-050 on page 346)	4
J80	99-04		518721	Screw, M16x 140	4
J90	10-30		11081805	C pad seal (SB-2007-051 on page 353)	1
J90	99-04	10-29	726943 (9004104-0490)	O-ring	1
J92	10-30		8801060	Coverplate (SB-2007-051 on page 353)	1
J92	99-04	10-29	8800406	Coverplate	1
J95	99-04		9007200-5021	Screw	4

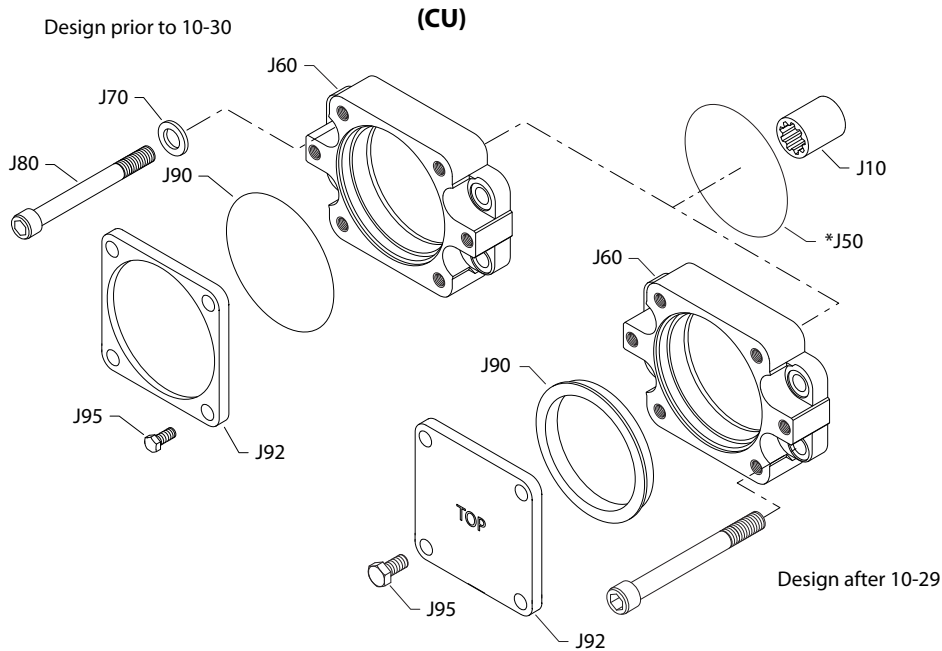
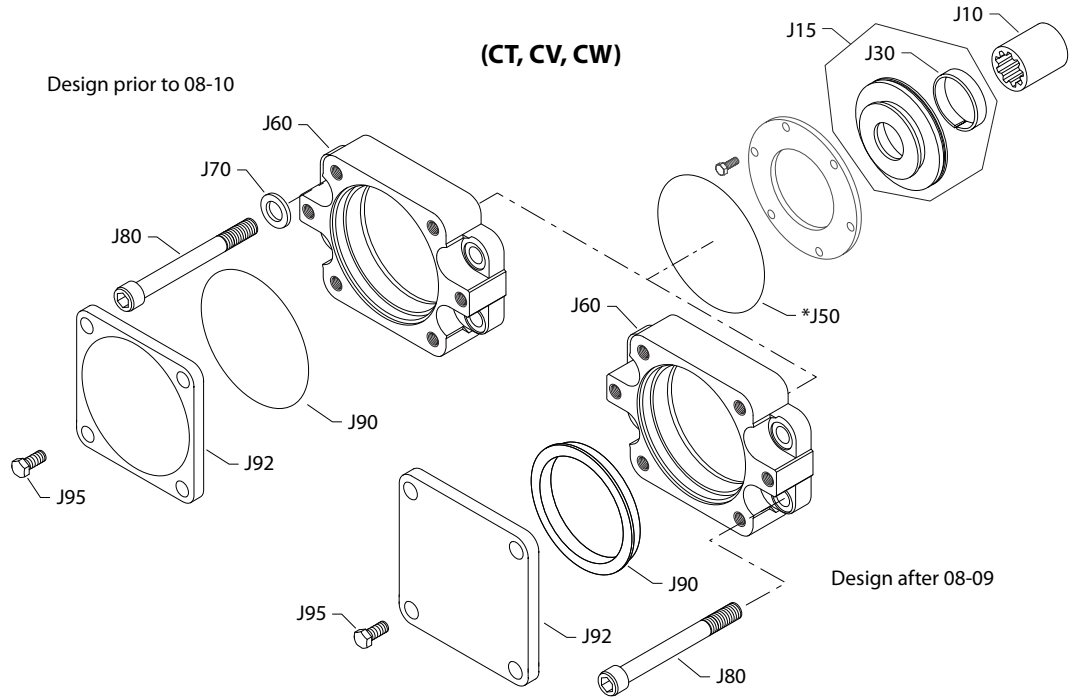
Order code: CV

J10	00-16		11053278	Coupling, 25 tooth, high strength	1
J15	00-16		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J30	00-16		664771 (8700008)	Bushing	1
J50	00-16		056739 (9004104-1580)	O-ring	1
J60	00-16		8100897	Flange adapter, SAE C (SB-2007-051 on page 353)	1
J80	00-16		518721	Screw, M16x 140	4
J90	00-16		11081805	C pad seal	1
J92	00-16		8801060	Coverplate	1
J95	00-16		9007200-5021	Screw	4

Auxiliary mounting

S90P 75cc aux mounting CW

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

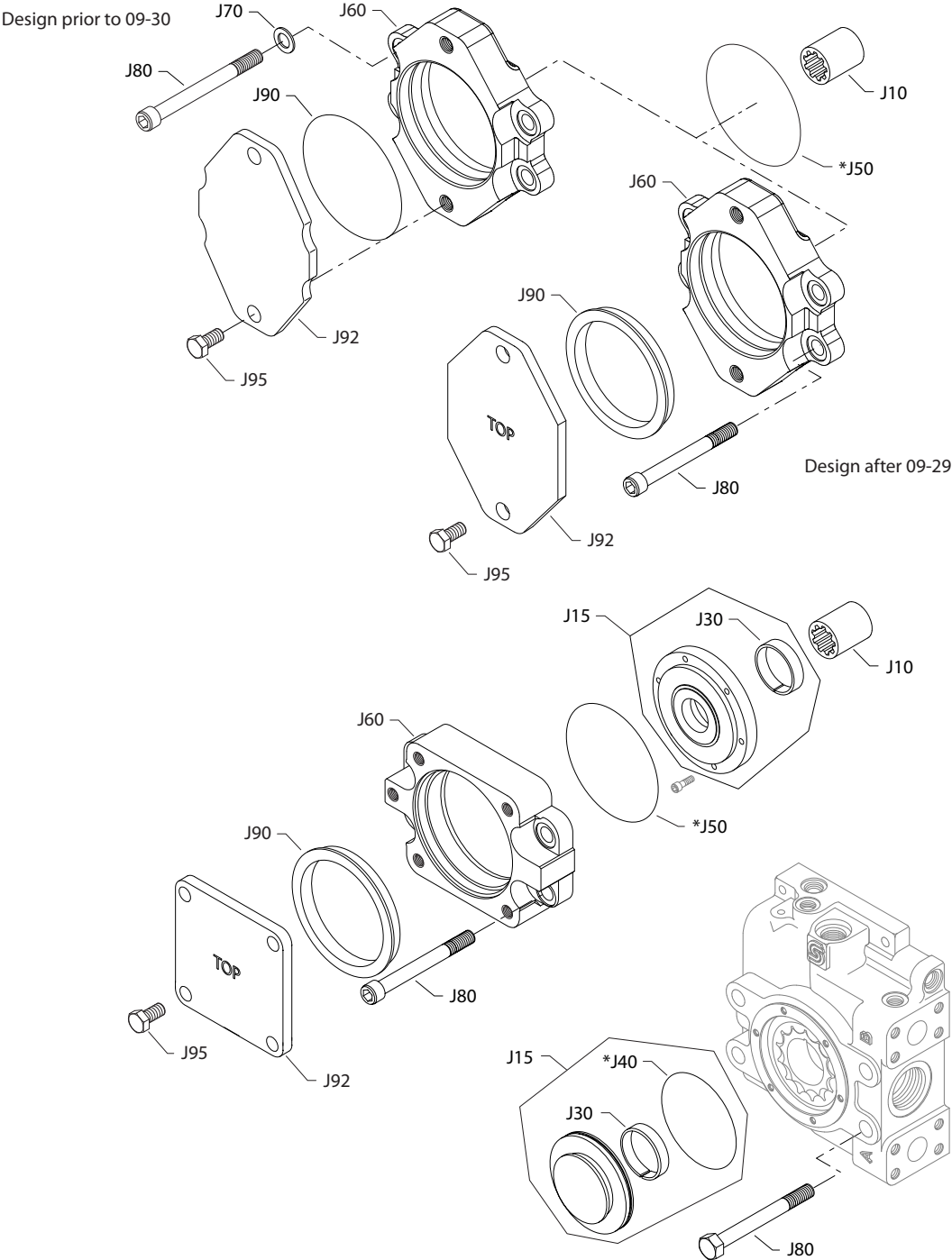
Order code: CW

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	98-46		11053346	Coupling, 14 tooth,high strength	1
J15	98-46		8800832	Cover assembly, CW (SB-2005-011 on page 350)	1
J30	98-46		664771 (8700008)	Bushing	1
J50	98-46		056739 (9004104-1580)	O-ring	1
J60	98-46		8100897	Flange adapter, SAE C	1
J70	98-46	00-10	5000602	Washer (SB-2002-050 on page 346)	4
J80	98-44		518721	Screw, M16x 140	4
J90	98-46		11081805	C pad seal	1
J92	98-46		8801060	Coverplate	1
J95	98-46		9007200-5021	Screw	2

Auxiliary mounting

S90P 75cc aux mounting CX-NN

Parts configuration



* Included in base pump seal kit Q210

Auxiliary mounting

Order code: CX

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
J10	01-35		11053346	Coupling, 14 tooth, high strength	1
J50	01-35		056739 (9004104-1580)	O-ring	1
J60	01-35		8100949	Flange adapter, SAE C	1
J70	01-35	09-29	5000602	Washer (SB-2002-050 on page 346)	4
J80	01-35		518721	Screw, M16 x 140	4
J90	09-30		11081805	C pad seal	1
J90	01-35	09-29	726943	O-ring	1
J92	09-30		11048554	Cover plate	1
J92	01-35	09-29	350678	Cover plate	1
J95	01-35		9007200-6222	Screw	2

Order code: CZ

J10	02-08		11053346	Coupling, 14 tooth, high strength	1
J15	02-08		8801248	Cover assembly, CW (SB-2005-011 on page 350)	1
J30	02-08		664771 (8700008)	Bushing	1
J50	02-08		056739 (9004104-1580)	O-ring	1
J60	02-08		8100897	Flange adapter, SAE C	1
J80	02-08		518721	Screw, M16 x 140	4
J90	02-08		11081805	C pad seal	1
J92	02-08		8801060	Cover plate	1
J95	02-08		9007200-5021	Screw	2

Order code: NN & N

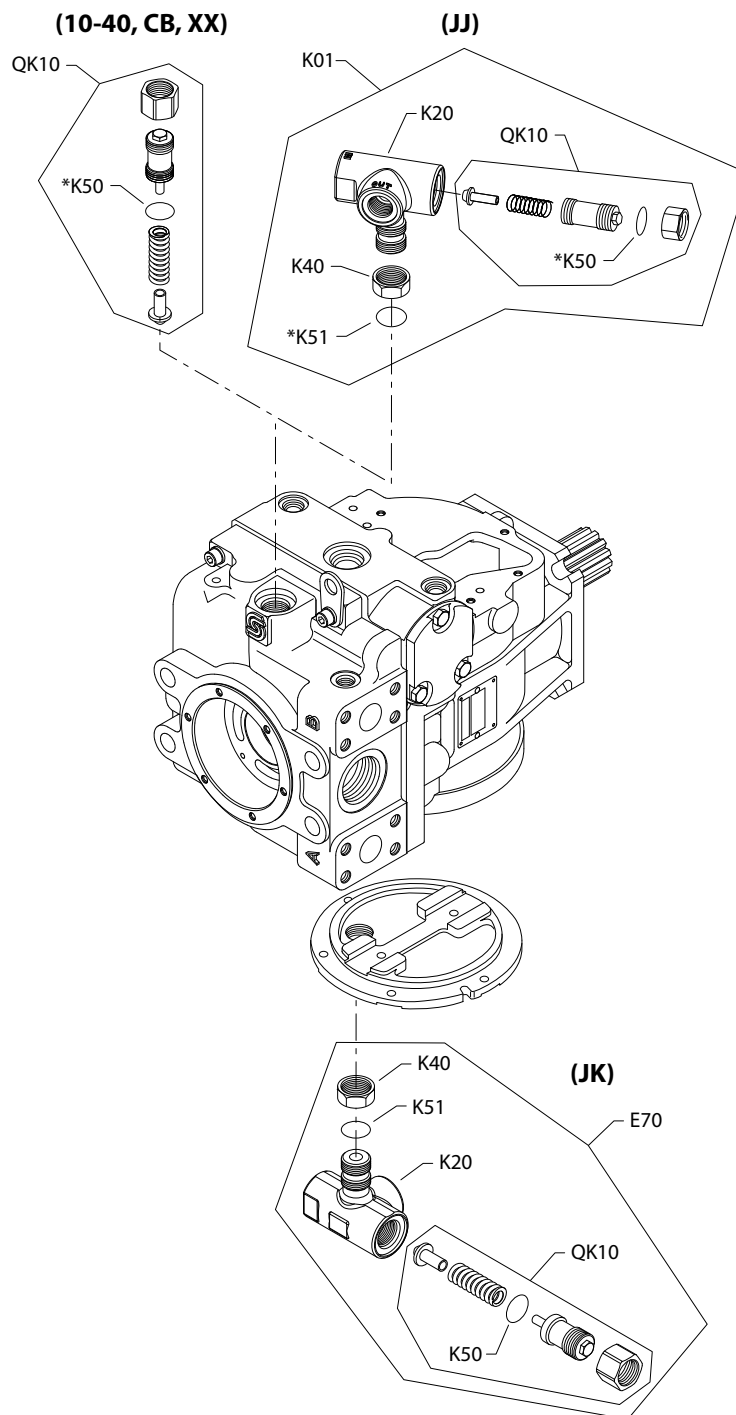
J15	87-02		8800834	Cover assembly (SB-1993-001 on page 315*)	1
J30	87-02		664771 (8700008)	Bushing	1
J40	87-02		680892 (9004104-0440)	O-ring	1
J80	98-44		9007210-1621	Screw, M16 x 120	4
J80	87-02	98-43	9007210-1620	Screw, M16 x 100 (SB-1998-073 on page 334)	4

* For additional information regarding replacement parts for units built prior to 93-10, refer to AN152886483362 in the appendix

Charge pressure setting

S90P 75cc charge pressure setting

Parts configuration



* Included in base pump seal kit Q210

Charge pressure setting

Order code: 10-30

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
K50	87-42		001149 (9004201-6200)	O-ring (SB-1989-002 on page 306)	1
QK10	87-42		8002K000-A	Charge relief valve kit, 10-30 bar (SB-1989-002 on page 306)	1

Order code: 32-42

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

Order code: CB

K50	14-37		001149 (9004201-6200)	O-ring	1
QK10	14-37		11156917	Charge relief valve kit, 30-42 bar	1

Order code: JD

none					
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Order code: JJ

K01	99-11		8100832	Externally mounted charge pressure relief valve	1
QK10	99-11		8510272	Charge relief valve kit, 10-30 bar	1
K20	99-11		8100816	Charge relief housing	1
K40	99-11		8000658	Nut	1
K50	99-11		001149 (9004201-6200)	O-ring	1
K51	99-11		001156 (9004201-7500)	O-ring	1

Order code: JK

E70	99-11		8100832	Externally mounted charge pressure relief valve	1
QK10	99-11		8510272	Charge relief valve kit, 10-30 bar	1
K20	99-11		8100816	Charge relief housing	1
K40	99-11		8000658	Nut	1
K50	99-11		001149 (9004201-6200)	O-ring	1
K51	99-11		001156 (9004201-7500)	O-ring	1

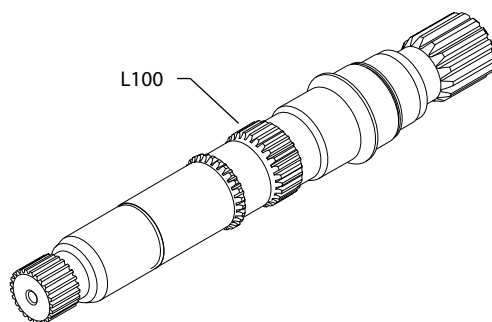
Order code: XX

K50	94-13		012559 (9004202-6200)	O-ring, viton	1
QK10	94-13		11086335	Charge relief valve kit, viton	1

Shaft

S90P 75cc shaft C6-SA

Parts configuration



Shaft

Order code: C6

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L100	87-02		318998 (8100299)	Shaft, 21 tooth spline	1

Order code: C7

L100	87-02		693838 (8100266)	Shaft, 23 tooth spline	1
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Order code: D7

L100	95-08		506860	Shaft, 23 tooth spline, M10 threaded tapped hole	1
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Order code: D9

L100	95-08		11094648 (500054)	Shaft, 21 tooth spline, M10 threaded tapped hole	1
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Order code: G1

L100	97-15		504004	Shaft, 25 tooth spline	1
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Order code: G6

L100	97-15		8100652	Shaft, 25 tooth spline, special	1
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Order code: J1

L100	92-16		8100469	Shaft, 23 tooth spline, special length	1
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Order code: S1

L100	87-02		701441 (8100264)	Shaft, 14 tooth spline	1
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Order code: S3

L100	87-02		8100238	Shaft, 16 tooth spline	1
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Order code: S4

L100	87-02		8100440	Shaft, 17 tooth spline	1
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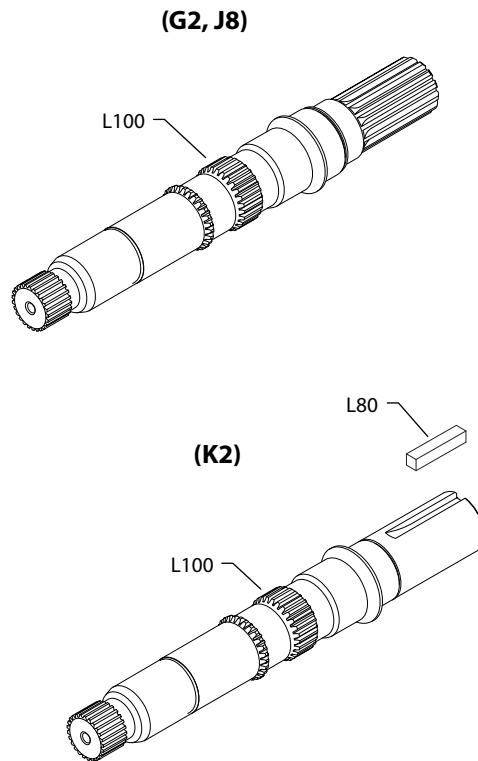
Order code: SA

L100	87-02		1713914	Shaft, 14 tooth spline long	1
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Shaft

S90P 75cc shaft G2, J8, K2

Parts configuration



Shaft*Order code: G2*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L100	97-15		8100701	Shaft, 21 tooth spline, special length	1

Order code: J8

L100	99-11		8100830	Shaft, 23 tooth spline, special length	1
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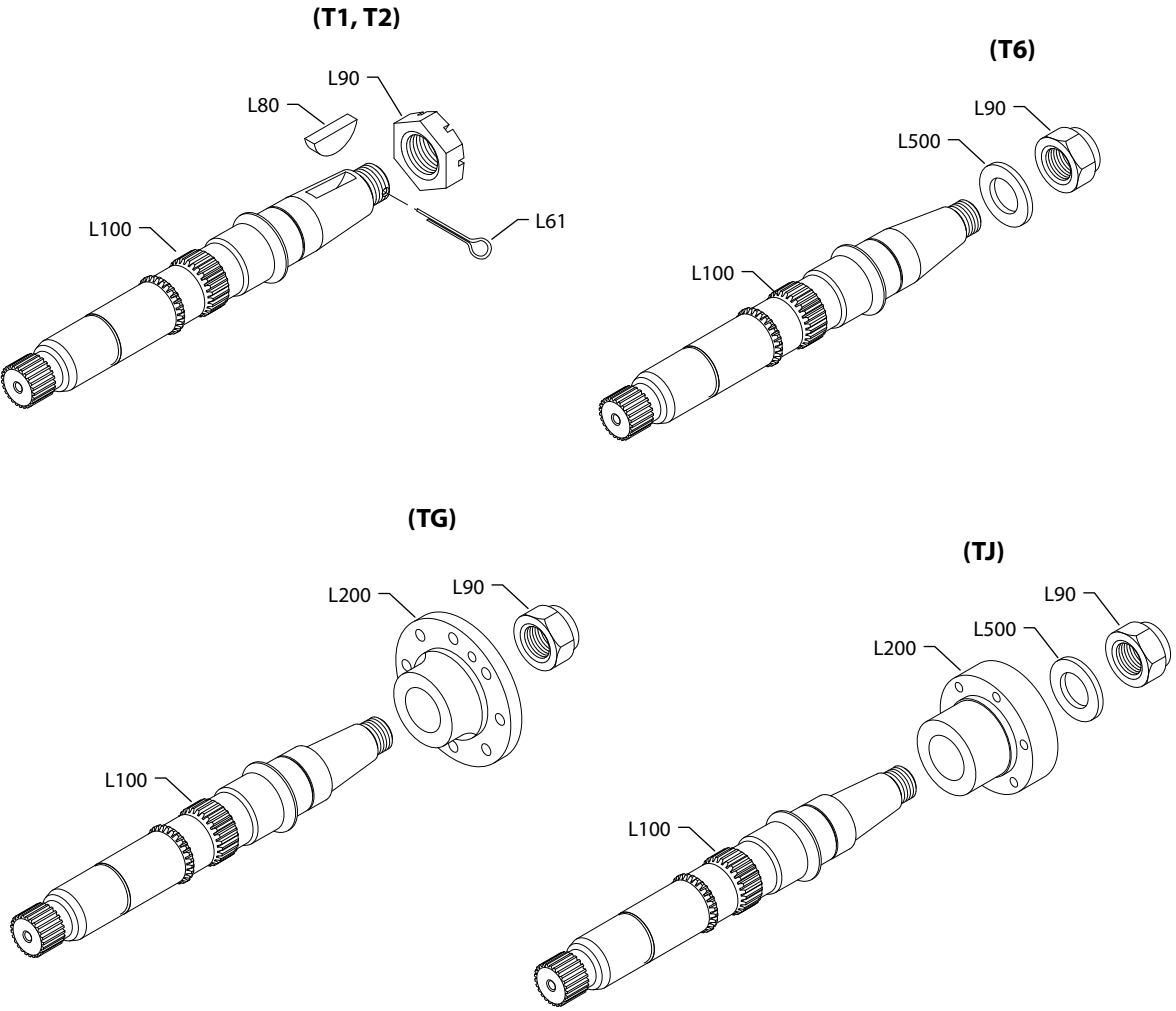
Order code: K2

L80	87-02		9003261-3724	Key	1
L100	87-02		8100354	Shaft, straight key, 1.5" diameter	1

Shaft

S90P 75cc shaft T1-TJ

Parts configuration



Shaft

Order code: T1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L61	87-02		716779 (9004600-1230)	Cotter pin	1
L80	87-02		9003310-3724	Key	1
L90	87-02		5000606	Slotted nut	1
L100	87-02		8100310	Shaft, 1.375" tapered	1

Order code: T2

L61	87-02		716779 (9004600-1230)	Cotter pin	1
L80	87-02		9003310-3724	Key	1
L90	87-02		5000606	Slotted nut	1
L100	87-02		312009 (11114770)	Shaft, 1.5" tapered	1

Order code: T6

L90	87-02		504060	Slotted nut	1
L100	87-02		511616	Shaft, 1.5" tapered	1
L500	87-02		511627	Washer	1

Order code: TG

L90	87-02		504060	Slotted nut	1
L100	87-02		504059	Shaft, 1.5" tapered	1
L200	87-02		504061	Flange adapter	1

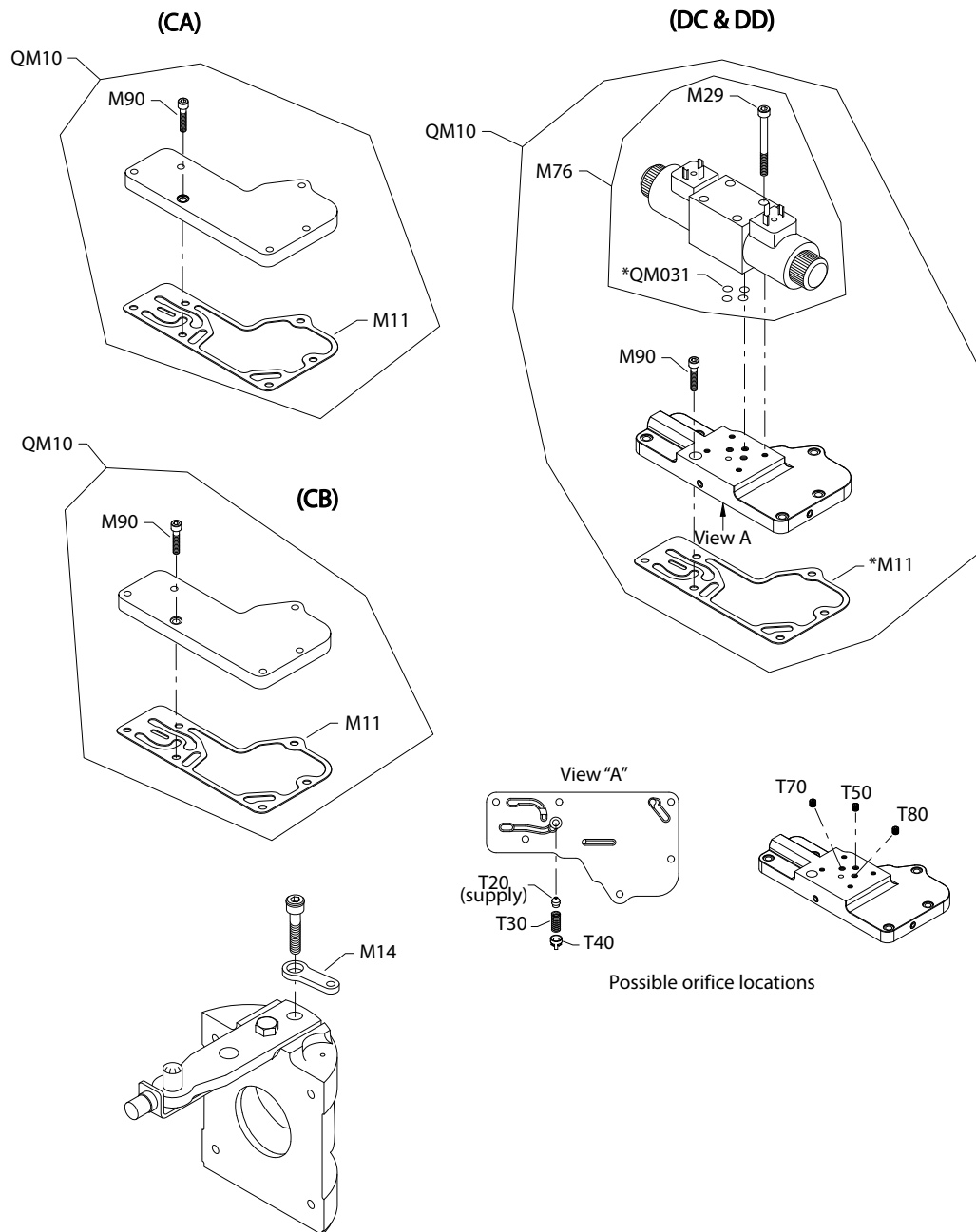
Order code: TJ

L90	87-02		504060	Slotted nut	1
L100	87-02		511616	Shaft, 1.5" tapered	1
L200	87-02		511462	Coupling	1
L500	87-02		511627	Washer	1

Control

S90P control CA-DD

Parts configuration



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.

Control

Order code: CA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8102M0CA-A	Control cover plate kit	1

Order code: CB

M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8102M0CA-A	Control cover plate kit	1

Order code: DC

M11	87-02		8800923	Control gasket	1
M29	87-02		035592	Screw	4
M76	87-02		687103	Solenoid valve, 12v	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8102M0DC-A	Control kit, 12v	1
QM031	87-02		11099647	O-ring kit	1
QM210	87-02		11096172	Control seal kit	1

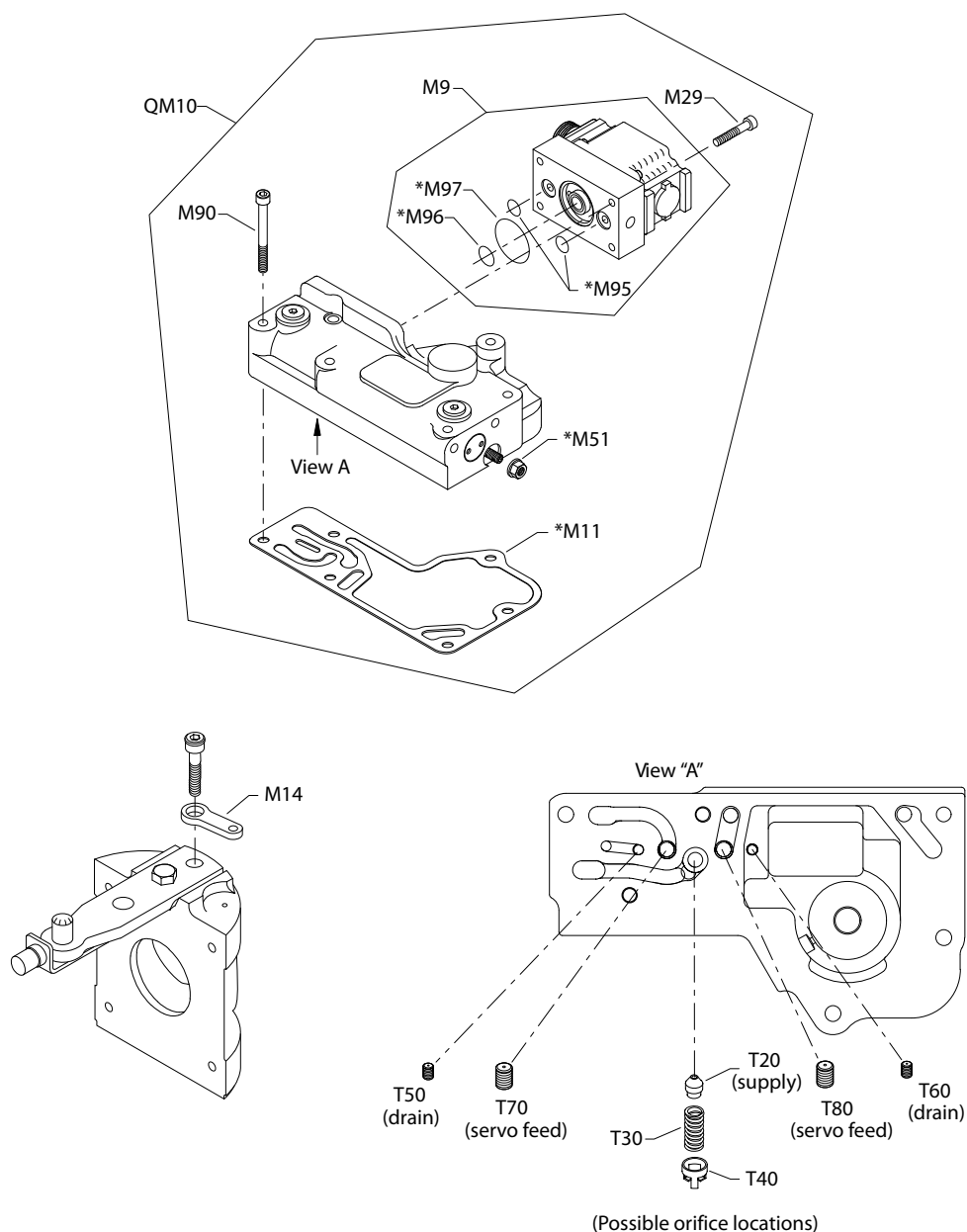
Order code: DD

M11	87-02		8800923	Control gasket	1
M29	87-02		035592	Screw	4
M76	87-02		549907	Solenoid valve, 24v	1
M90	87-02		693341 (9007314-0606)	Screw	6
QM10	87-02		8102M0DD-A	Control kit, 24v	1
QM031	87-02		11099647	O-ring kit	1
QM210	87-02		11096172	Control seal kit	1

Control

S90P control EA, EG

Parts configuration



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.

Generic PCP and swashplate used to show part location only.

* Included in control seal kit QM210

Control

Order code: EA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	91-16		MCV110A1017	PCP, MS connector	1
M11	91-16		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	91-16	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M29	91-16		K07067	Screw	4
M51	91-16		9003509-0008	Seal nut	1
M90	91-16		692889 (9007314-0611)	Screw	6
M95	91-16		318337 (9004104-0120)	O-ring	2
M96	91-16		011304 (9004104-0140)	O-ring	1
M97	91-16		318345 (9004104-0240)	O-ring	1
QM10	91-16		8102M0EA-B	EDC kit, MS connector	1
QM210	91-16		11096174	Control seal kit	1

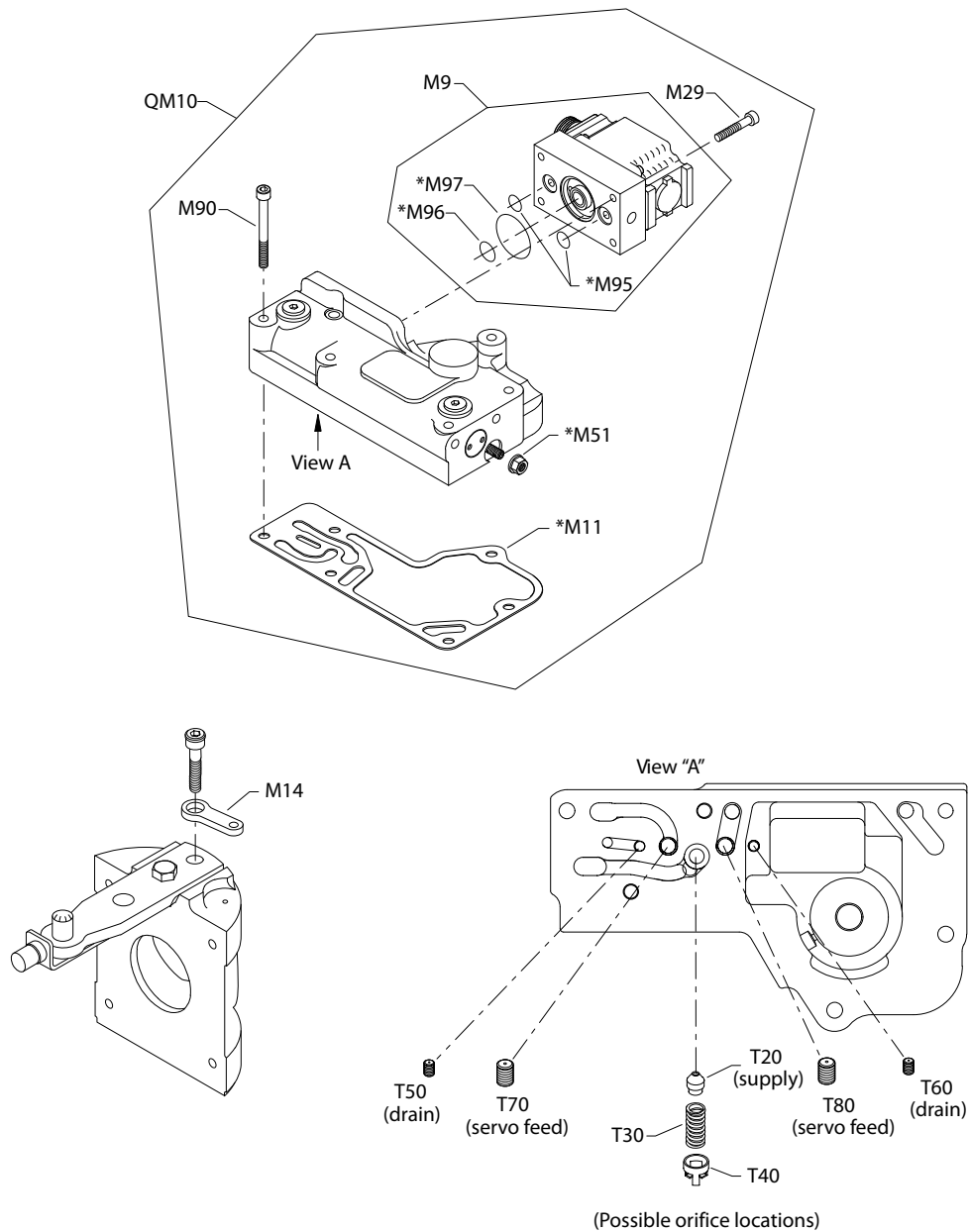
Order code: EG

M9	91-16	12-35	MCV110A1018	PCP, MS connector	1
M11	91-16	12-35	8800923	Control gasket	1
M14	96-40	12-35	11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	91-16	96-39	8000481	Feedback link (SB-1996-009)	1
M29	91-16	12-35	K07067	Screw	4
M51	91-16	12-35	9003509-0008	Seal nut	1
M90	91-16	12-35	692889 (9007314-0611)	Screw	6
M95	91-16	12-35	318337 (9004104-0120)	O-ring	2
M96	91-16	12-35	011304 (9004104-0140)	O-ring	1
M97	91-16	12-35	318345 (9004104-0240)	O-ring	1
QM10	91-16	12-35	11097110	EDC kit, MS connector	1
QM210	91-16	12-35	11096174	Control seal kit	1

Control

S90P control EP, EX

Parts configuration



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.

Generic PCP and swashplate used to show part location only.

* Included in control seal kit QM210

Control

Order code: EP

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	91-07		MCV110A1058	PCP, Packard connector	1
M11	91-07		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 & SB-2013-011)	1
M14	91-07	96-39	8000481	Feedback link (SB-1996-009)	1
M29	91-07		K07067	Screw	4
M51	91-07		9003509-0008	Seal nut	1
M90	91-07		692889 (9007314-0611)	Screw	6
M95	91-07		318337 (9004104-0120)	O-ring	2
M96	91-07		011304 (9004104-0140)	O-ring	1
M97	91-07		318345 (9004104-0240)	O-ring	1
QM10	91-07		8102M0EP-B	EDC kit, Packard connector	1
QM210	91-07		11096174	Control seal kit	1

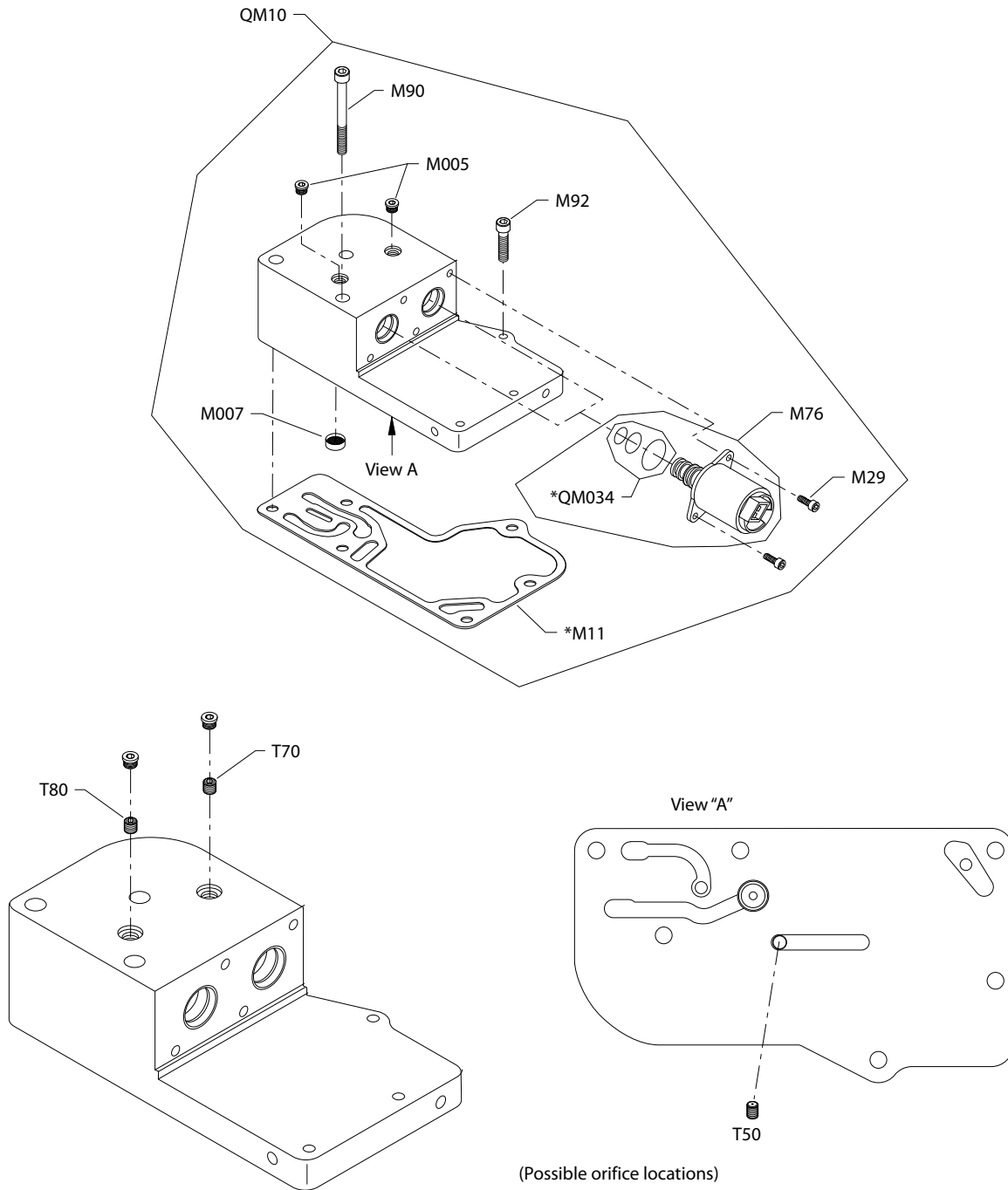
Order code: EX

M9	93-16		MCV110A1090	PCP, Metri-pack connector	1
M11	93-16		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	93-16	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M29	93-16		K07067	Screw	4
M51	93-16		9003509-0008	Seal nut	1
M90	93-16		692889 (9007314-0611)	Screw	6
M95	93-16		318337 (9004104-0120)	O-ring	2
M96	93-16		011304 (9004104-0140)	O-ring	1
M97	93-16		318345 (9004104-0240)	O-ring	1
QM10	93-16		8102M0EX-B	EDC kit, Packard connector	1
QM210	93-16		11096174	Control seal kit	1

Control

S90P control FA-FD

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: FA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	98-14		8800923	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		693341 (9007314-0606)	Screw	3
M007	98-14		K00775	Filter screen	1
QM10	98-14		11015079	NFPE control kit, 12 volt, 25 bar	1
QM034	98-14		11099849	Solenoid valve seal kit	2
QM210	98-14		11100028	Control seal kit	1

Order code: FB

M11	98-14		8800923	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		693341 (9007314-0606)	Screw	3
M007	98-14		K00775	Filter screen	1
QM10	98-14		11015080	NFPE control kit, 24 volt, 25 bar	1
QM034	98-14		11099849	Solenoid valve seal kit	2
QM210	98-14		11100028	Control seal kit	1

Order code: FC

M11	98-14		8800923	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		693341 (9007314-0606)	Screw	3
M007	98-14		K00775	Filter screen	1
QM10	98-14		8510230	NFPE control kit, 12 volt, 32 bar	1
QM034	98-14		11099849	Solenoid valve seal kit	2
QM210	98-14		11100028	Control seal kit	1

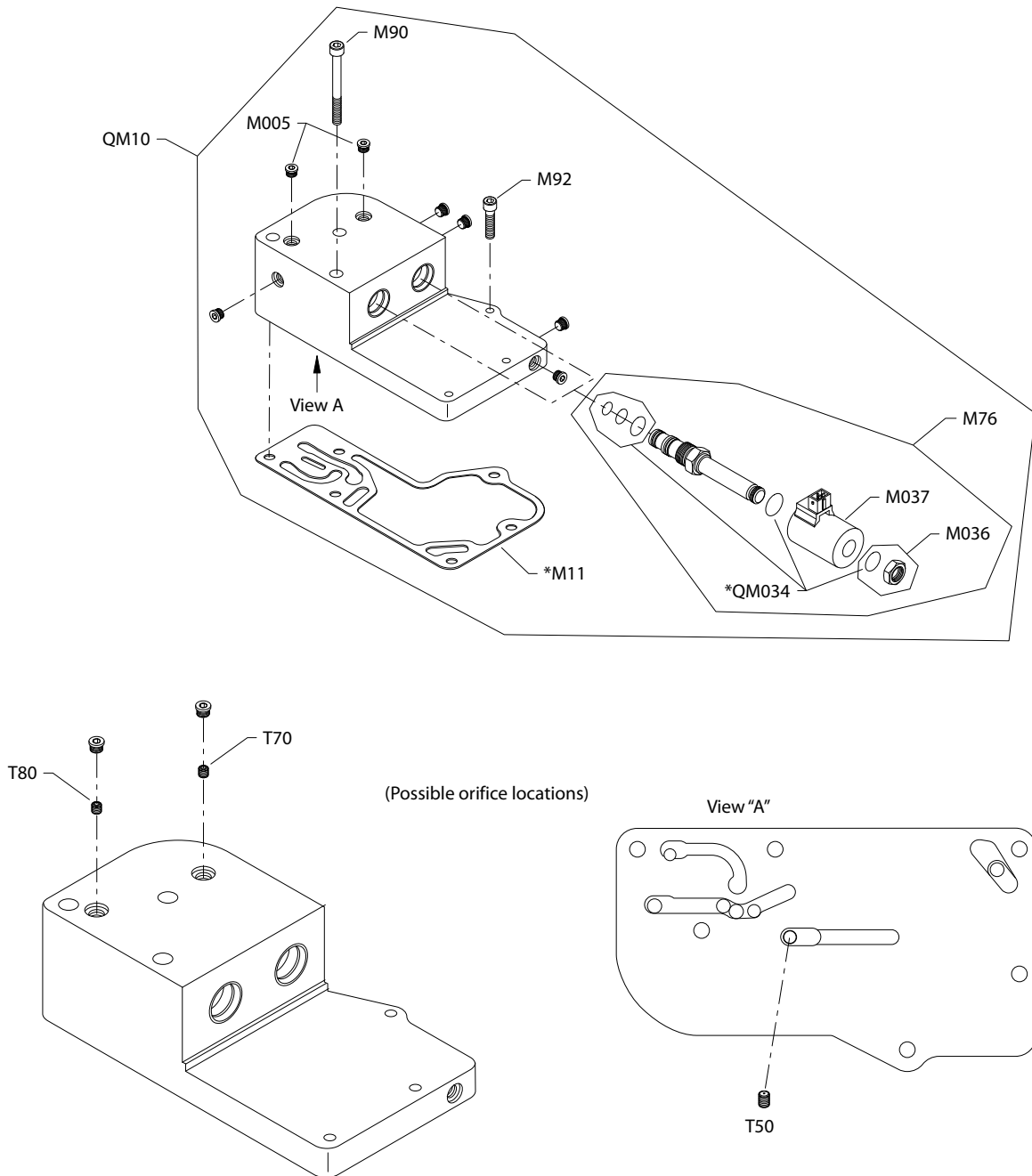
Order code: FD

M11	98-14		8800923	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		693341 (9007314-0606)	Screw	3
M007	98-14		K00775	Filter screen	1
QM10	98-14		11015081	NFPE control kit, 24 volt, 32 bar	1
QM034	98-14		11099849	Solenoid valve seal kit	2
QM210	98-14		11100028	Control seal kit	1

Control

S90P control FG, FH

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: FG

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	00-30		8800923	Control gasket	1
M76	00-30		516006	Solenoid valve, 12 volt, 32 bar	2
M90	00-30		9007314-0614	Screw	3
M92	00-30		693341 (9007314-0606)	Screw	3
M005	00-30		11040532	Plug assembly	2
QM10	00-30		11026563	NFPE control kit, 12 volt, 32 bar	1
QM034	00-30		11100185	Solenoid valve seal kit	2
QM036	00-30		518088	Coil nut kit	2
QM037	00-30		516003	Coil, 12v Jet connector	2
QM210	00-30		11100001	Control seal kit	1

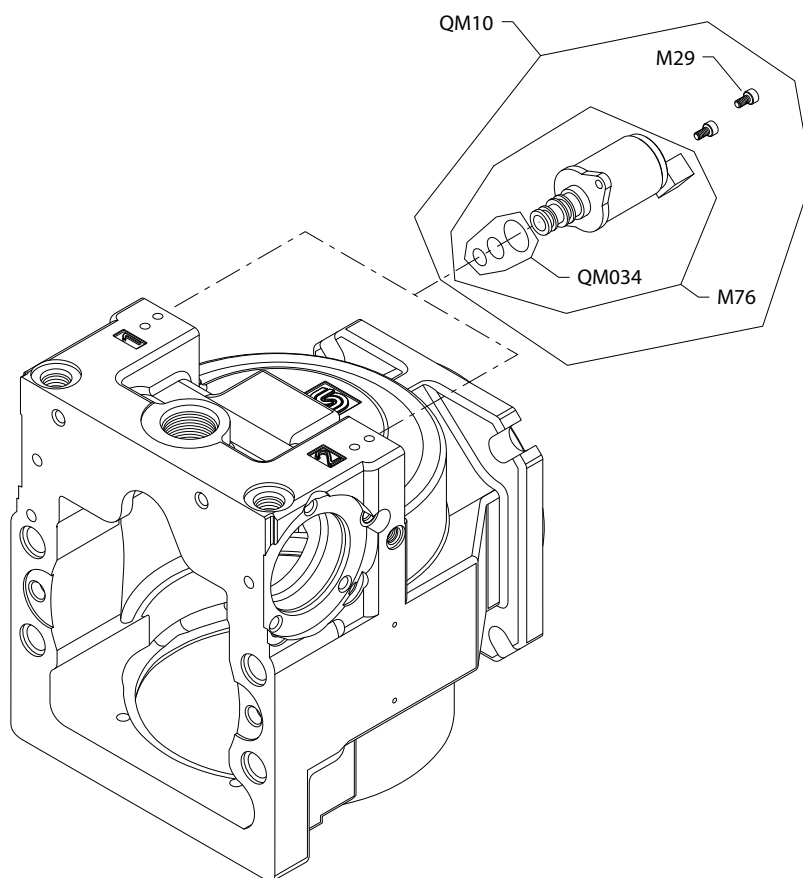
Order code: FH

M11	00-30		8800923	Control gasket	1
M76	00-30		515617	Solenoid valve, 24 volt, 32 bar	2
M90	00-30		9007314-0614	Screw	3
M92	00-30		693341 (9007314-0606)	Screw	3
M005	00-30		11040532	Plug assembly	2
QM10	00-30		11026569	NFPE control kit, 24 volt, 32 bar	1
QM034	00-30		11100185	Solenoid valve seal kit	2
QM036	00-30		518088	Coil nut kit	2
QM037	00-30		516004	Coil, 24v Jet connector	2
QM210	00-30		11100001	Control seal kit	1

Control

S90P control FK-FN

Parts configuration



Control

Order code: FK

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M29	02-27		346957	Screw	4
M76	02-27		521711	Solenoid valve, 12 volt, 25 bar	2
QM10	02-27		11098764	NFPE control kit, 12 volt, 25 bar	2
QM034	02-27		11099849	Solenoid valve seal kit	2

Order code: FL

M29	03-52		346957	Screw	4
M76	02-27		521710	Solenoid valve, 24 volt, 25 bar	2
QM10	03-52		11098765	NFPE control kit, 24 volt, 25 bar	2
QM034	03-52		11099849	Solenoid valve seal kit	2

Order code: FM

M29	04-06		346957	Screw	4
M76	04-06		521709	Solenoid valve, 12 volt, 32 bar	2
QM10	04-06		11098766	NFPE control kit, 12 volt, 32 bar	2
QM034	04-06		11099849	Solenoid valve seal kit	2

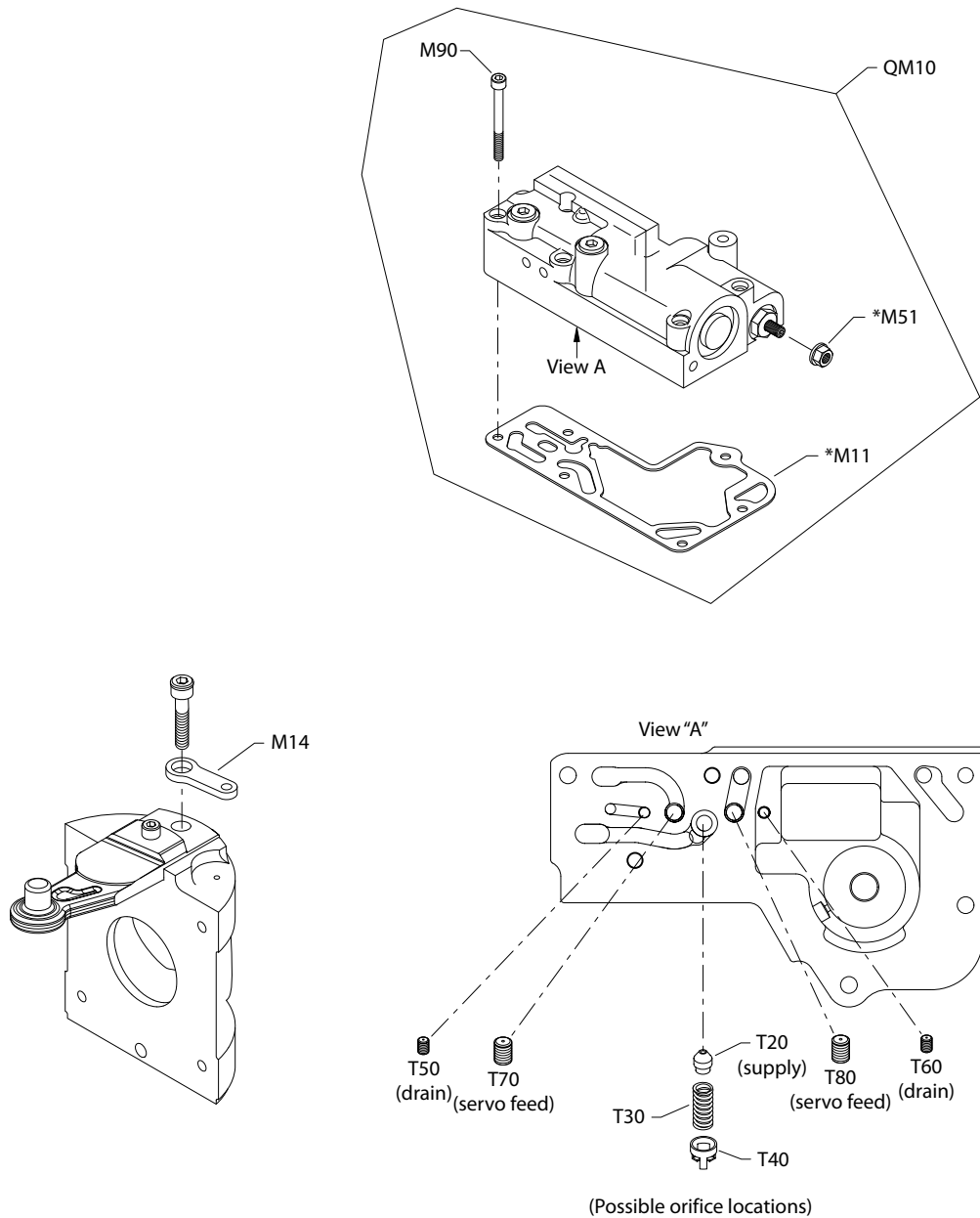
Order code: FN

M29	04-06		346957	Screw	4
M76	04-06		521707	Solenoid valve, 24 volt, 32 bar	2
QM10	04-06		11098767	NFPE control kit, 24 volt, 32 bar	2
QM034	04-06		11099849	Solenoid valve seal kit	2

Control

S90P control HF-HS 75cc

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: HF

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	92-15		8801241	Control gasket (SB-1999-065 on page 341)	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	92-15	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M51	92-15		505412 (9003509-0008)	Seal nut	1
M90	92-15		692889 (9007314-0611)	Screw	6
QM10	92-15		8102M0HF-A	HDC kit, 3-11 bar	1
QM210	92-15		11096266	Control seal kit	1

Order code: HK

M11	92-15		8801241	Control gasket (SB-1999-065 on page 341)	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	92-15	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M51	92-15		505412 (9003509-0008)	Seal nut	1
M90	92-15		692889 (9007314-0611)	Screw	6
QM10	92-15		8102M0HK-A	HDC kit, 1-11 bar	1
QM210	92-15		11096266	Control seal kit	1

Order code: HM

M11	92-15		8801241	Control gasket (SB-1999-065)	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	92-15	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M51	92-15		505412 (9003509-0008)	Seal nut	1
M90	92-15		692889 (9007314-0611)	Screw	6
QM10	92-15		8102M0HM-A	HDC kit, 1.1 -6.7 bar	1
QM210	92-15		11096266	Control seal kit	1

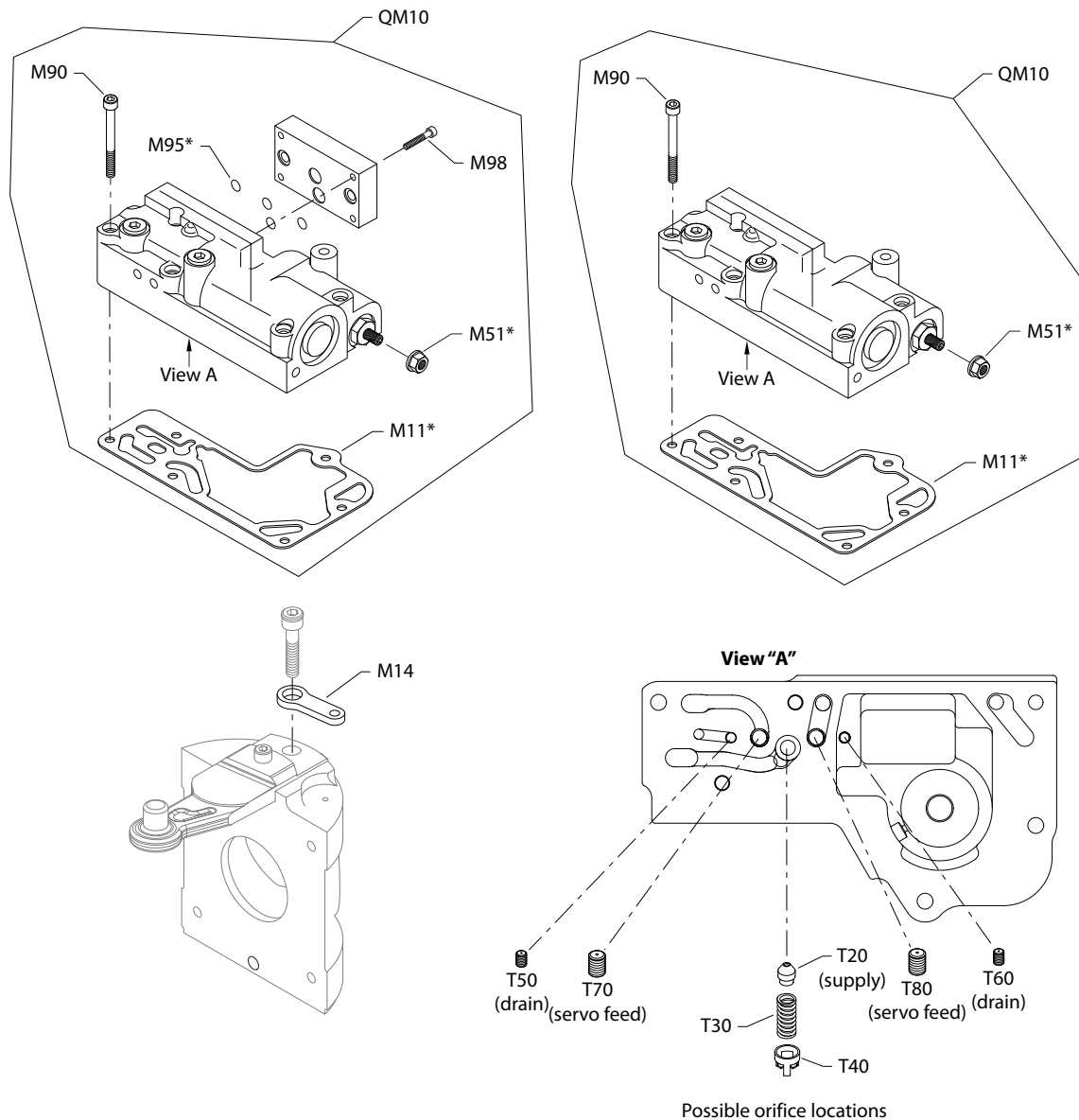
Order code: HS

M11	94-19		8801241	Control gasket (SB-1999-065 on page 341)	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-19	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M51	94-19		505412 (9003509-0008)	Seal nut	1
M90	94-19		692889 (9007314-0611)	Screw	6
QM10	94-19		8102M0HS-A	HDC kit, 6-18 bar	1
QM210	94-19		11096266	Control seal kit	1

Control

S90P control HU-JC

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: HU

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	96-06	14-17	8801241	Control gasket (SB-1999-065 on page 341)	1
M14	96-40	14-17	11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	96-06	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M51	96-06	14-17	505412 (9003509-0008)	Seal nut	1
M90	96-06	14-17	692889 (9007314-0611)	Screw	6
M95	96-06	14-17	611517 (9004100-0120)	O-ring	4
M98	96-06	14-17	K14798	Screw	4
QM10	96-06	14-17	8510276	HDC kit, 3-11 bar	1
QM210	96-06	14-17	11096276	Control seal kit	1

Order code: HX

M11	00-19		8801241	Control gasket	1
M14	00-19		11070305	Feedback link (SB-2013-011 on page 359)	1
M51	00-19		505412 (9003509-0008)	Seal nut	1
M90	00-19		692889 (9007314-0611)	Screw	6
QM10	00-19		11015102	HDC kit, 3-11 bar	1
QM210	00-19		11096266	Control seal kit	1

Order code: HY

M11	98-11		8801241	Control gasket (SB-1999-065 on page 341)	1
M14	98-11		11070305	Feedback link	1
M51	98-11		505412 (9003509-0008)	Seal nut	1
M90	98-11		692889 (9007314-0611)	Screw	6
QM10	98-11		8510280	HDC kit, 4-14 bar	1
QM210	98-11		11096266	Control seal kit	1

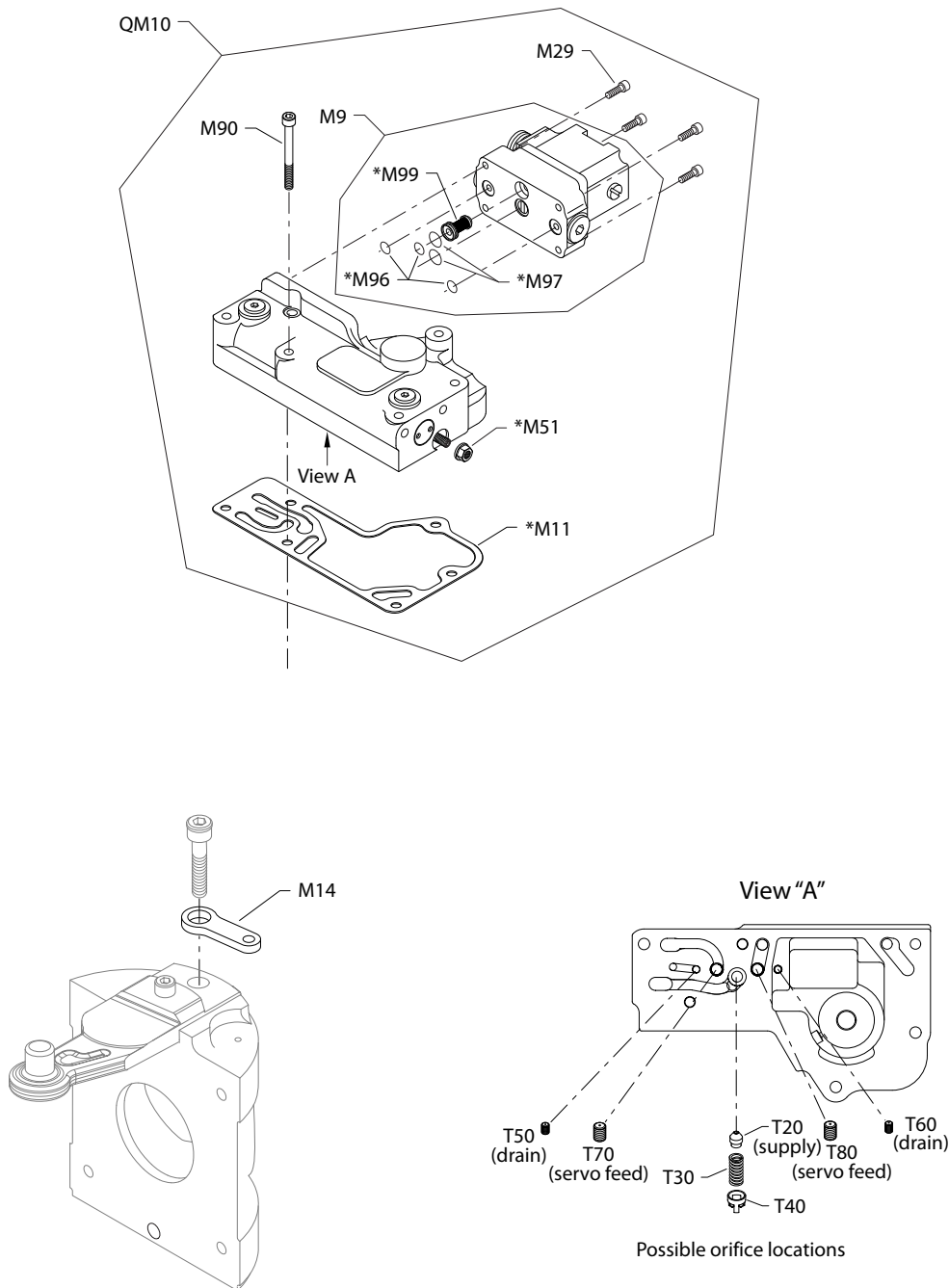
Order code: JC

M11	03-06		8801241	Control gasket	1
M14	03-06		11070305	Feedback link	1
M51	03-06		505412 (9003509-0008)	Seal nut	1
M90	03-06		692889 (9007314-0611)	Screw	6
QM10	03-06		8510312	HDC kit, 6-18 bar, steel barrel	1
QM210	03-06		11096266	Control seal kit	1

Control

S90P control K0-K7

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: K0

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	02-49		MCV116G4217	PCP, Packard connector, dual coil	1
M11	02-49		8800923	Control gasket	1
M14	02-49		11070305	Feedback link	1
M29	02-49		K07067	Screw	4
M51	02-49		505412 (9003509-0008)	Seal nut	1
M90	02-49		692889 (9007314-0611)	Screw	6
M96	02-49		011296 (9004105-0120)	O-ring	3
M97	02-49		9004105-0130	O-ring	2
M99	02-49		K08572	Filter assembly	1
QM10	02-49		11015103	EDC3 kit, Packard connector, dual coil	1
QM210	02-49		11095724	Control seal kit	1

Order code: K2

M9	09-22		MCV116G4214	PCP, DEUTSCH connector, dual coil	1
M11	09-22		8800923	Control gasket	1
M14	09-22		11070305	Feedback link (SB-2013-011 on page 359)	1
M29	09-22		K07067	Screw	4
M51	09-22		505412 (9003509-0008)	Seal nut	1
M90	09-22		692889 (9007314-0611)	Screw	6
M96	09-22		011296 (9004105-0120)	O-ring	3
M97	09-22		9004105-0130	O-ring	2
M99	09-22		K08572	Filter assembly	1
QM10	09-22		11066897	EDC3 kit, DEUTSCH connector, dual coil	1
QM210	09-22		11095724	Control seal kit	1

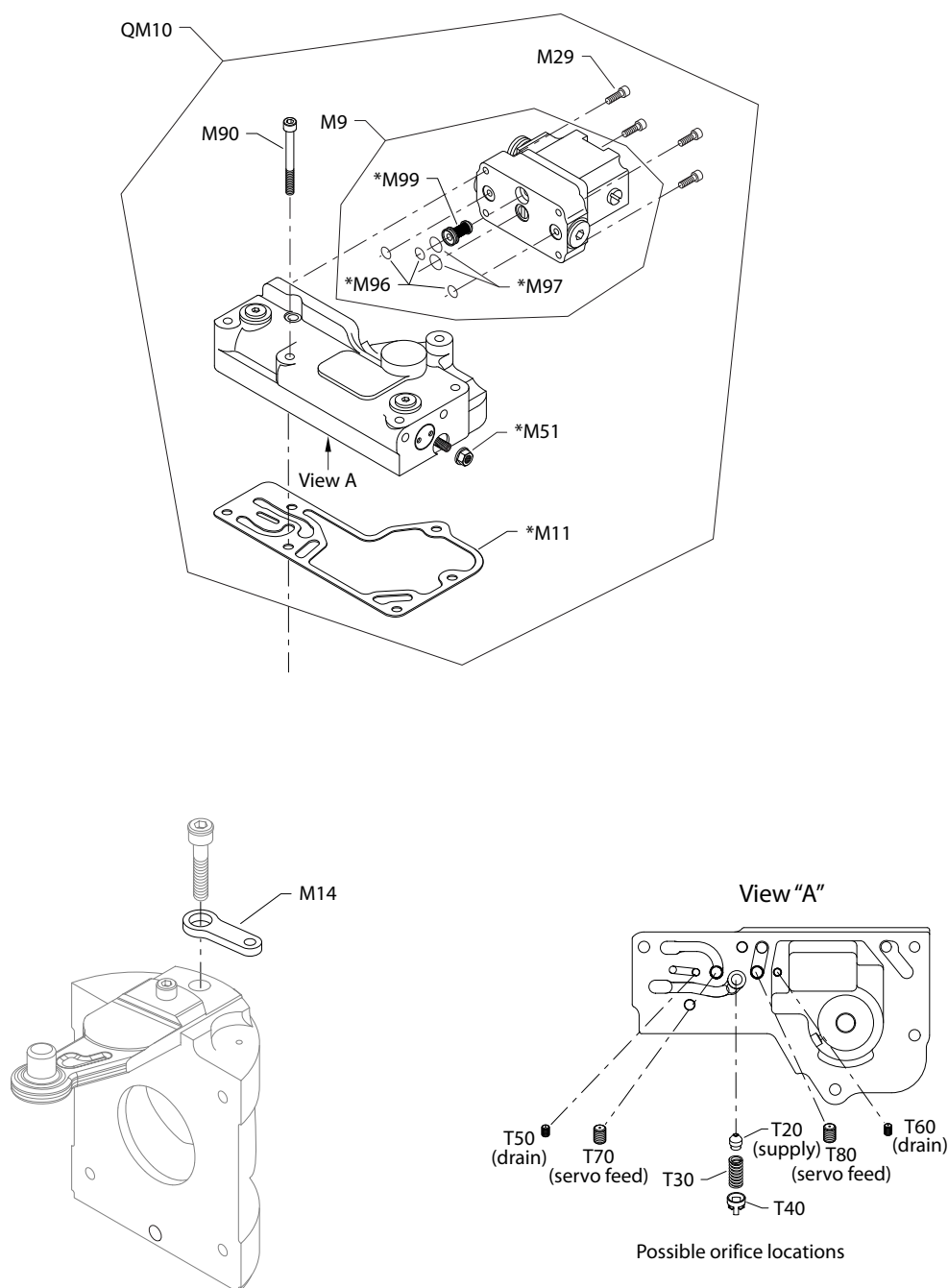
Order code: K7

M9	14-12		11101116	PCP, MS connector	1
M11	14-12		8800923	Control gasket	1
M14	14-12		11070305	Feedback link	1
M29	14-12		K07067	Screw	4
M51	14-12		505412 (9003509-0008)	Seal nut	1
M90	14-12		692889 (9007314-0611)	Screw	6
M96	14-12		011296 (9004105-0120)	O-ring	3
M97	14-12		9004105-0130	O-ring	2
M99	14-12		K08572	Filter assembly	1
QM10	14-12		11139993	EDC3 kit, MS connector	1
QM210	14-12		11095724	Control seal kit	1

Control

S90P control KA-KC

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: KA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	95-26		MCV116G4201	PCP, MS connector, dual coil	1
M11	95-26		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	95-26	96-39	8000481	Feedback link (SB-1996-009 on page 329)	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	2
M99	95-26		K08572	Filter assembly	1
QM10	95-26		8510115	EDC3 kit, MS connector, dual coil	1
QM210	95-26		11095724	Control seal kit	1

Order code: KB

M9	15-25		11164284	PCP, cold oil special	1
M11	15-25		8800923	Control gasket	1
M14	15-25		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M29	15-25		K07067	Screw	4
M51	15-25		505412 (9003509-0008)	Seal nut	1
M90	15-25		692889 (9007314-0611)	Screw	6
M96	15-25		011296 (9004105-0120)	O-ring	3
M97	15-25		9004105-0130	O-ring	1
M99	15-25		K08572	Filter assembly	1
QM10	15-25		11166988	EDC3 kit, cold oil special	1
QM210	15-25		11095724	Control seal kit	1

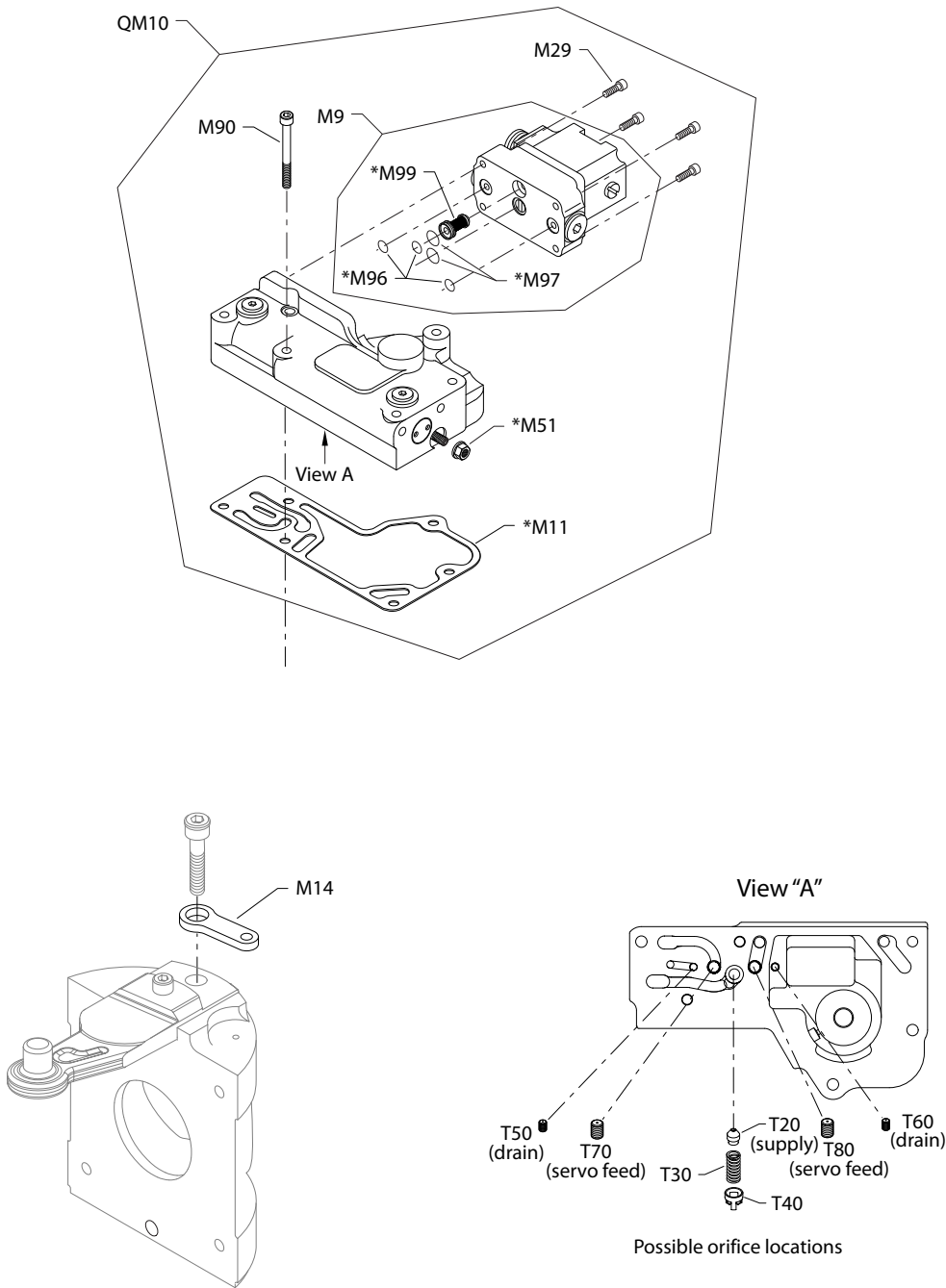
Order code: KC

M9	02-22	14-39	MCV116C1401	PCP, MS connector	1
M11	02-22	14-39	8800923	Control gasket	1
M14	02-22	14-39	11070305	Feedback link (SB-2013-011 on page 359)	1
M29	02-22	14-39	K07067	Screw	4
M51	02-22	14-39	505412 (9003509-0008)	Seal nut	1
M90	02-22	14-39	692889 (9007314-0611)	Screw	6
M96	02-22	14-39	011296 (9004105-0120)	O-ring	3
M97	02-22	14-39	9004105-0130	O-ring	2
M99	02-22	14-39	K08572	Filter assembly	1
QM10	02-22	14-39	11013634	EDC kit, MS connector, dual coil	1
QM210	02-22	14-39	11095724	Control seal kit	1

Control

S90P control KD-KH

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: KD

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	97-49		MCV116F3113	PCP, Metripack	1
M11	97-49		8800923	Control gasket	1
M14	97-49		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M29	97-49		K07067	Screw	4
M51	97-49		505412 (9003509-0008)	Seal nut	1
M90	97-49		692889 (9007314-0611)	Screw	6
M96	97-49		011296 (9004105-0120)	O-ring	3
M97	97-49		9004105-0130	O-ring	1
M99	02-22		K08572	Filter assembly	1
QM10	97-49		8510246	EDC3 kit, Metripack	1
QM210	97-49		11095724	Control seal kit	1

Order code: KE

M9	97-49		MCV116F3118	PCP, DEUTSCH connector	1
M11	97-49		8800923	Control gasket	1
M14	97-49		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M29	97-49		K07067	Screw	4
M51	97-49		505412 (9003509-0008)	Seal nut	1
M90	97-49		692889 (9007314-0611)	Screw	6
M96	97-49		011296 (9004105-0120)	O-ring	3
M97	97-49		9004105-0130	O-ring	1
M99	02-22		K08572	Filter assembly	1
QM10	97-49		8510322	EDC3 kit, DEUTSCH connector	1
QM210	97-49		11095724	Control seal kit	1

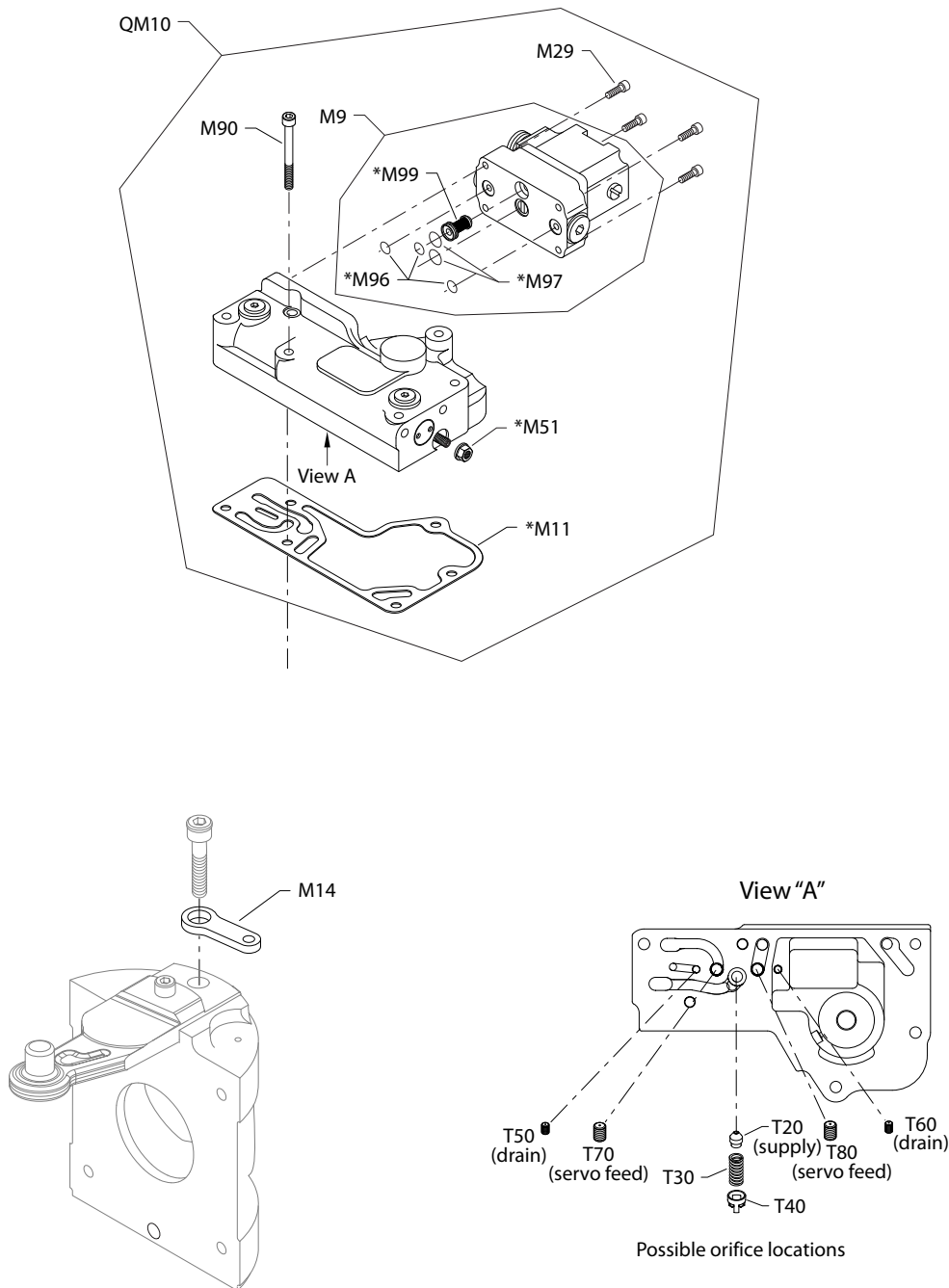
Order code: KH

M9	00-06		MCV116G4211	PCP, cold oil special	1
M11	00-06		8800923	Control gasket	1
M14	00-06		11070305	Feedback link	1
M29	00-06		K07067	Screw	4
M51	00-06		505412 (9003509-0008)	Seal nut	1
M90	00-06		692889 (9007314-0611)	Screw	6
M96	00-06		011296 (9004105-0120)	O-ring	3
M97	00-06		9004105-0130	O-ring	1
M99	00-06		K08572	Filter assembly	1
QM10	00-06		11015105	EDC3 kit, cold oil special	1
QM210	00-06		11095724	Control seal kit	1

Control

S90P control KK-KP

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: KK

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	00-06		MCV116G4211	PCP, cold oil special	1
M11	00-06		8800923	Control gasket	1
M14	00-06		11070305	Feedback link (SB-2013-011 on page 359)	1
M29	00-06		K07067	Screw	4
M51	00-06		505412 (9003509-0008)	Seal nut	1
M90	00-06		692889 (9007314-0611)	Screw	6
M96	00-06		011296 (9004105-0120)	O-ring	3
M97	00-06		9004105-0130	O-ring	2
M99	00-06		K08572	Filter assembly	1
QM10	00-06		11013632	EDC3 kit, cold oil special	1
QM210	00-06		11095724	Control seal kit	1

Order code: KN

M9	95-51		MCV116A3501	PCP, MS connector, single coil	1
M11	95-51		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	95-51	96-39	8000481	Feedback link (SB-1996-009 on page 329)	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	2
M99	95-51		K08572	Filter assembly	1
QM10	95-51		11013622	EDC3 kit, MS connector, single coil	1
QM210	95-51		11095724	Control seal kit	1

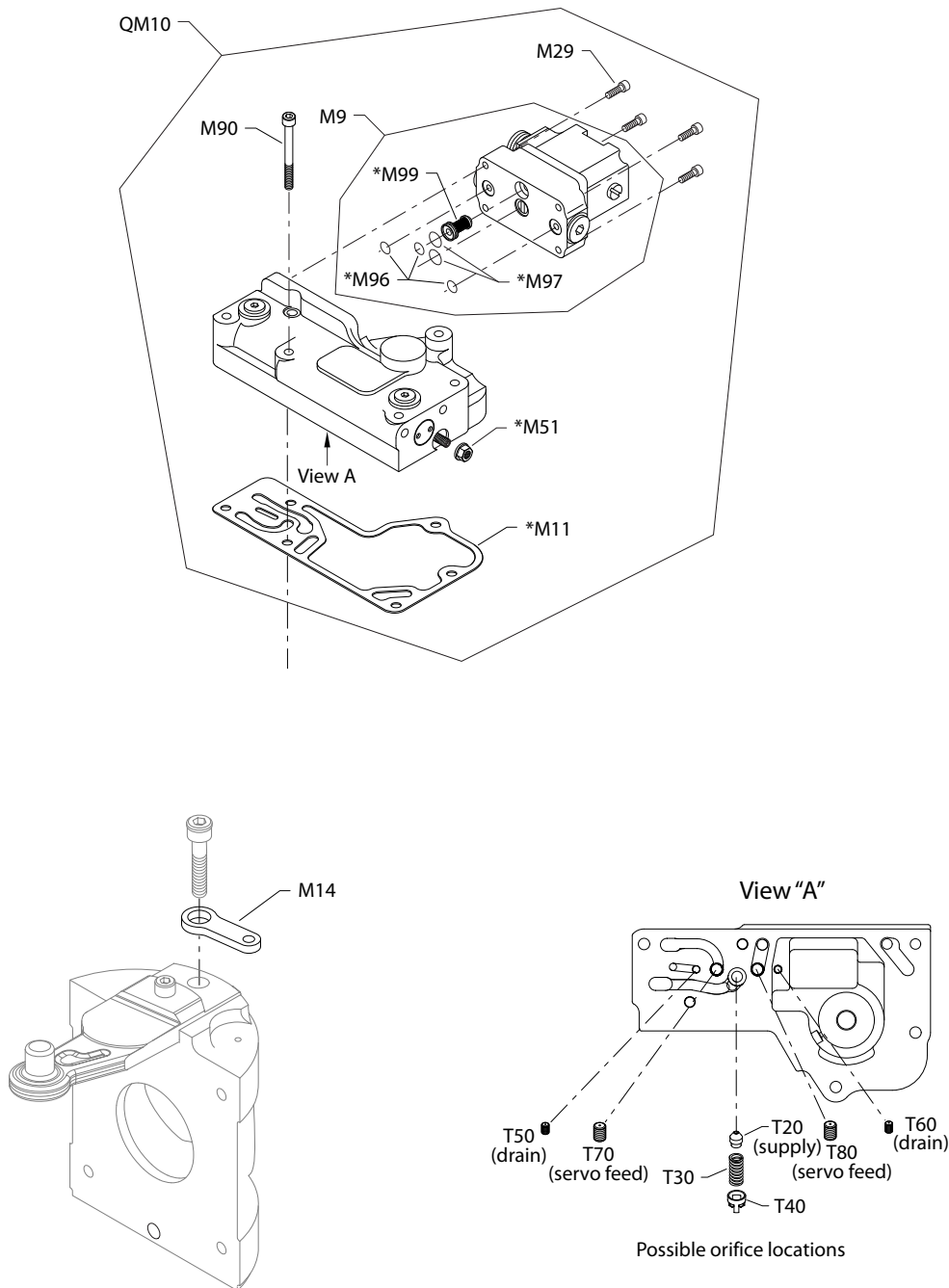
Order code: KP

M9	95-26		MCV116G4204	PCP, Weather-pack connector, dual coil	1
M11	95-26		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	95-26	96-39	8000481	Feedback link (SB-1996-009 on page 329)	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	2
M99	95-26		K08572	Filter assembly	1
QM10	95-26		8510116	EDC3 kit, Weather-pack connector, dual coil	1
QM210	95-26		11095724	Control seal kit	1

Control

S90P control KT

Parts configuration



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

* Included in control seal kit QM210

Control

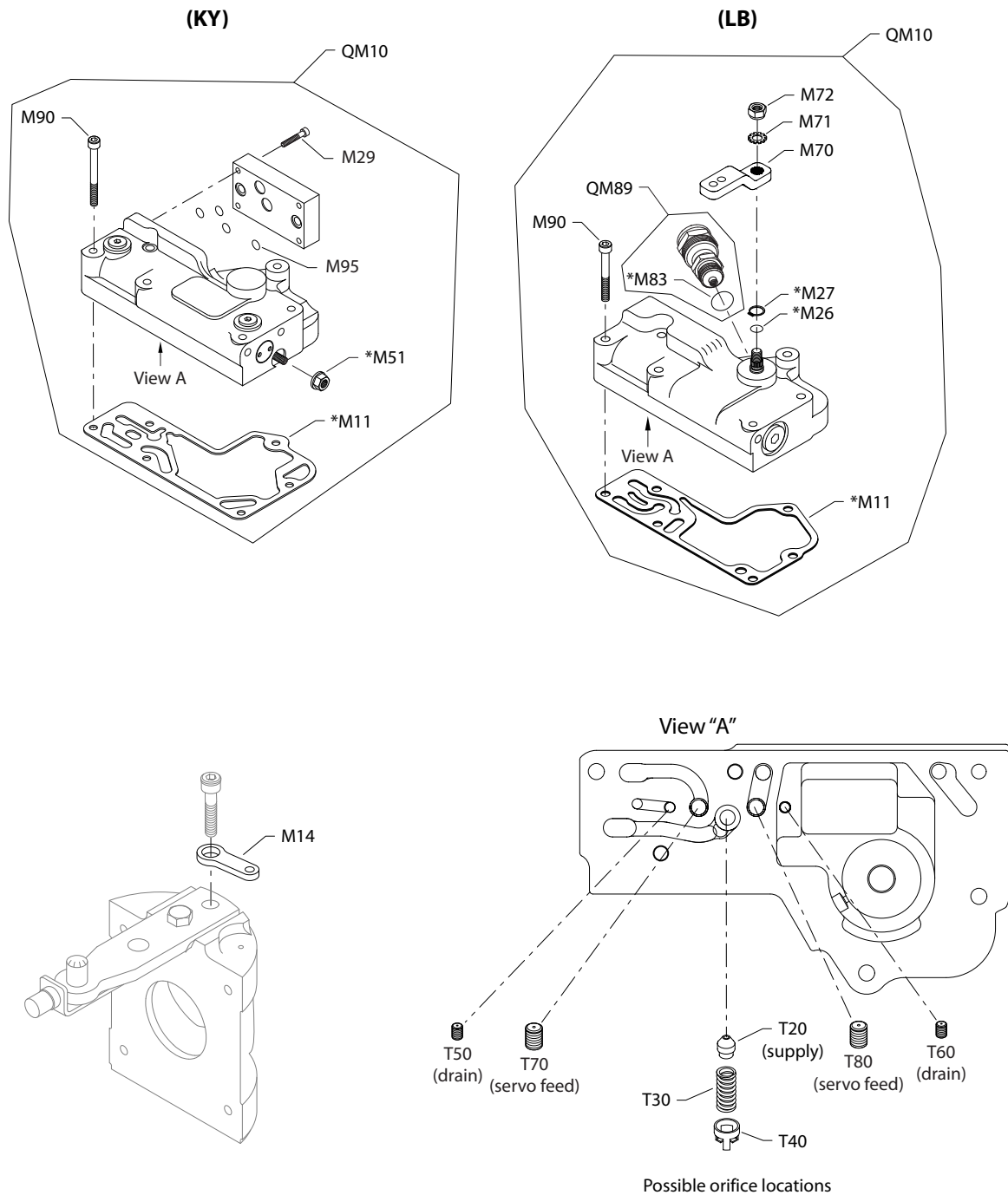
Order code: KT

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	99-49		MCV116G4214	PCP, DEUTSCH connector	1
M11	99-49		8800923	Control gasket	1
M14	99-49		11070305	Feedback link	1
M29	99-49		K07067	Screw	4
M51	99-49		505412 (9003509-0008)	Seal nut	1
M90	99-49		692889 (9007314-0611)	Screw	6
M96	99-49		011296 (9004105-0120)	O-ring	3
M97	99-49		9004105-0130	O-ring	2
M99	99-49		K08572	Filter assembly	1
QM10	99-49		8510298	EDC3 kit, DEUTSCH connector	1
QM210	99-49		11095724	Control seal kit	1

Control

S90P control KY, LB

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: KY

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	02-22		8800923	Control gasket	1
M14	02-22		11070305	Feedback link	1
M29	02-22		K07067	Screw	4
M51	02-22		505412 (9003509-0008)	Seal nut	1
M90	02-22		692889 (9007314-0611)	Screw	6
M95	02-22		611517 (9004100-0120)	O-ring	4
QM10	02-22		11015106	EDC3 w/HDC plate kit	1
QM210	02-22		11096195	Control seal kit	1

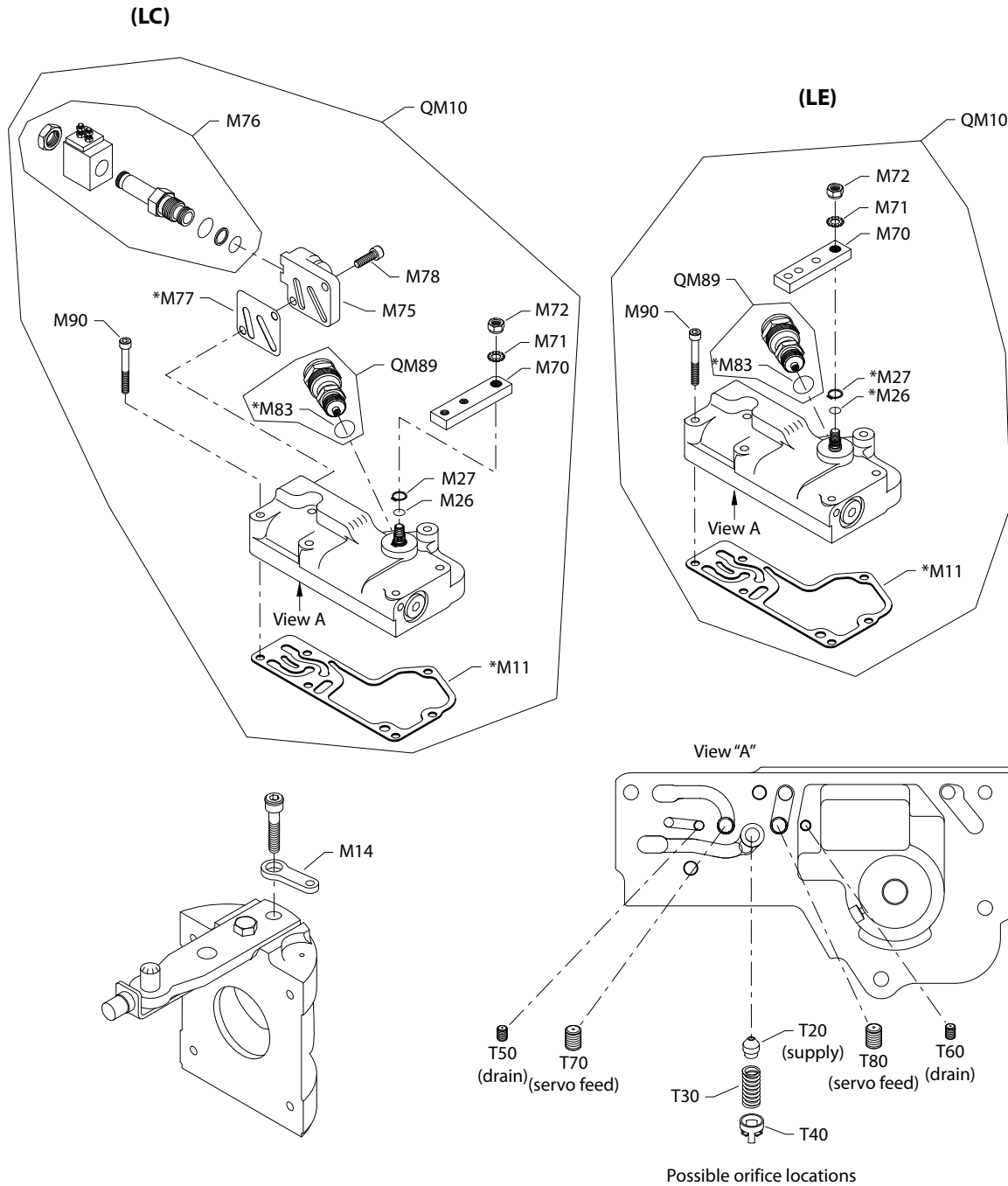
Order code: LB

M11	96-40		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1996-009 on page 329 & SB-1999-019 on page 338)	1
M26	96-40		144725 (9004105-0110)	O-ring	1
M27	96-40		042557 (9006300-0044)	Retaining ring	1
M70	96-40		8801007	Control handle	1
M71	96-40		689018 (9009660-3100)	Toothlock washer	1
M72	96-40		040642 (9003513-0800)	Nut	1
M83	96-40		001131 (9004201-5000)	O-ring	1
M90	96-40		692889 (9007314-0611)	Screw	6
QM10	96-40		8510173	MDC kit, w/4 lbs neutral start switch	1
QM89	96-40		8510174	Neutral start switch kit, 4 lbs, Weather-pack	1
QM210	96-40		11096274	Control seal kit	1

Control

S90P control LC, LE

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: LC

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	97-06		8800923	Control gasket	1
M14	97-06		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M26	97-06		144725 (9004105-0110)	O-ring	1
M27	97-06		042557 (9006300-0044)	Retaining ring	1
M70	97-06		9802360	Control handle	1
M71	97-06		689018 (9009660-3100)	Toothlock washer	1
M72	97-06		040642 (9003513-0800)	Nut	1
M75	97-06		505022	Control manifold	1
M76	97-06		11127986	Solenoid valve, 12 volt, 2-pole	1
M77	97-06		8800882	Manifold gasket	1
M78	97-06		693341 (9007314-0606)	Screw	2
M83	97-06		001131 (9004201-5000)	O-ring	1
M90	97-06		692889 (9007314-0611)	Screw	6
QM10	97-06		11015107	MDC kit, w/neutral start switch, 2 pole 12vsolenoid	1
QM89	97-06		8510027	Neutral start switch kit	1
QM210	97-06		11100031	Control seal kit	1

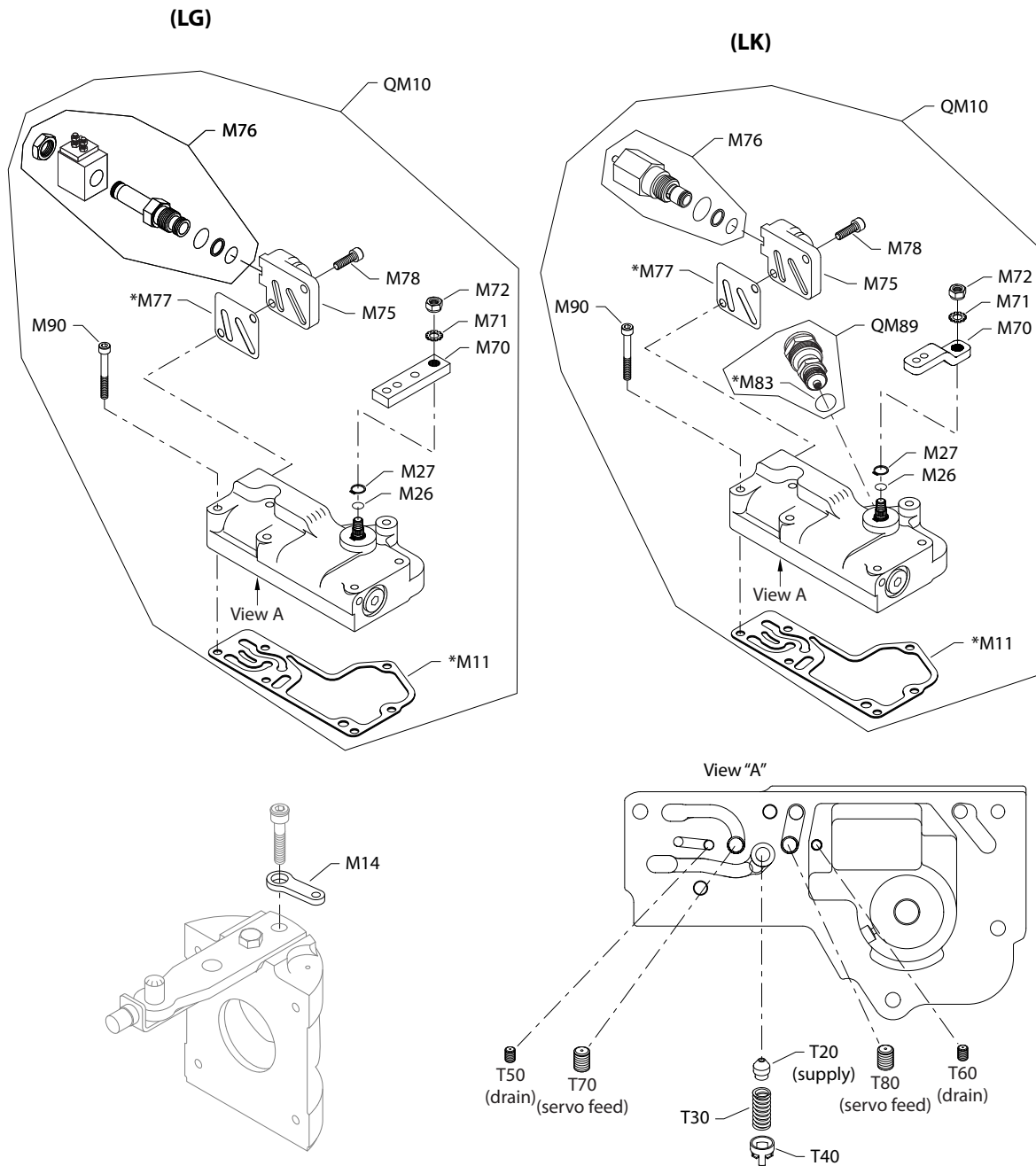
Order code: LE

M11	01-07		8800923	Control gasket	1
M14	01-07		11070305	Feedback link	1
M26	01-07		144725 (9004105-0110)	O-ring	1
M27	01-07		042557 (9006300-0044)	Retaining ring	1
M70	01-07		9800916	Control handle	1
M71	01-07		689018 (9009660-3100)	Toothlock washer	1
M72	01-07		040642 (9003513-0800)	Nut	1
M83	01-07		001131 (9004201-5000)	O-ring	1
M90	01-07		692889 (9007314-0611)	Screw	6
QM10	01-07		8510291	MDC kit, high force neutral start switch	1
QM89	01-07		8510316	Neutral start switch kit, high force	1
QM210	01-07		11096274	Control seal kit	1

Control

S90P control LG, LK

Parts configuration



Possible orifice locations

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

* Included in control seal kit QM210

Control

Order code: LG

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	01-01		8800923	Control gasket	1
M14	01-01		11070305	Feedback link	1
M26	01-01		144725 (9004105-0110)	O-ring	1
M27	01-01		042557 (9006300-0044)	Retaining ring	1
M70	01-01		9800916	Control handle	1
M71	01-01		689018 (9009660-3100)	Toothlock washer	1
M72	01-01		040642 (9003513-0800)	Nut	1
M75	01-01		505022	Control manifold	1
M76	01-01		11127986	Solenoid valve, 12 volt, 2-pole	1
M77	01-01		8800882	Manifold gasket	1
M78	01-01		693341 (9007314-0606)	Screw	2
M90	01-01		692889 (9007314-0611)	Screw	6
QM10	01-01		11015108	MDC kit, w/2-pole 12v solenoid	1
QM210	01-01		11100031	Control seal kit	1

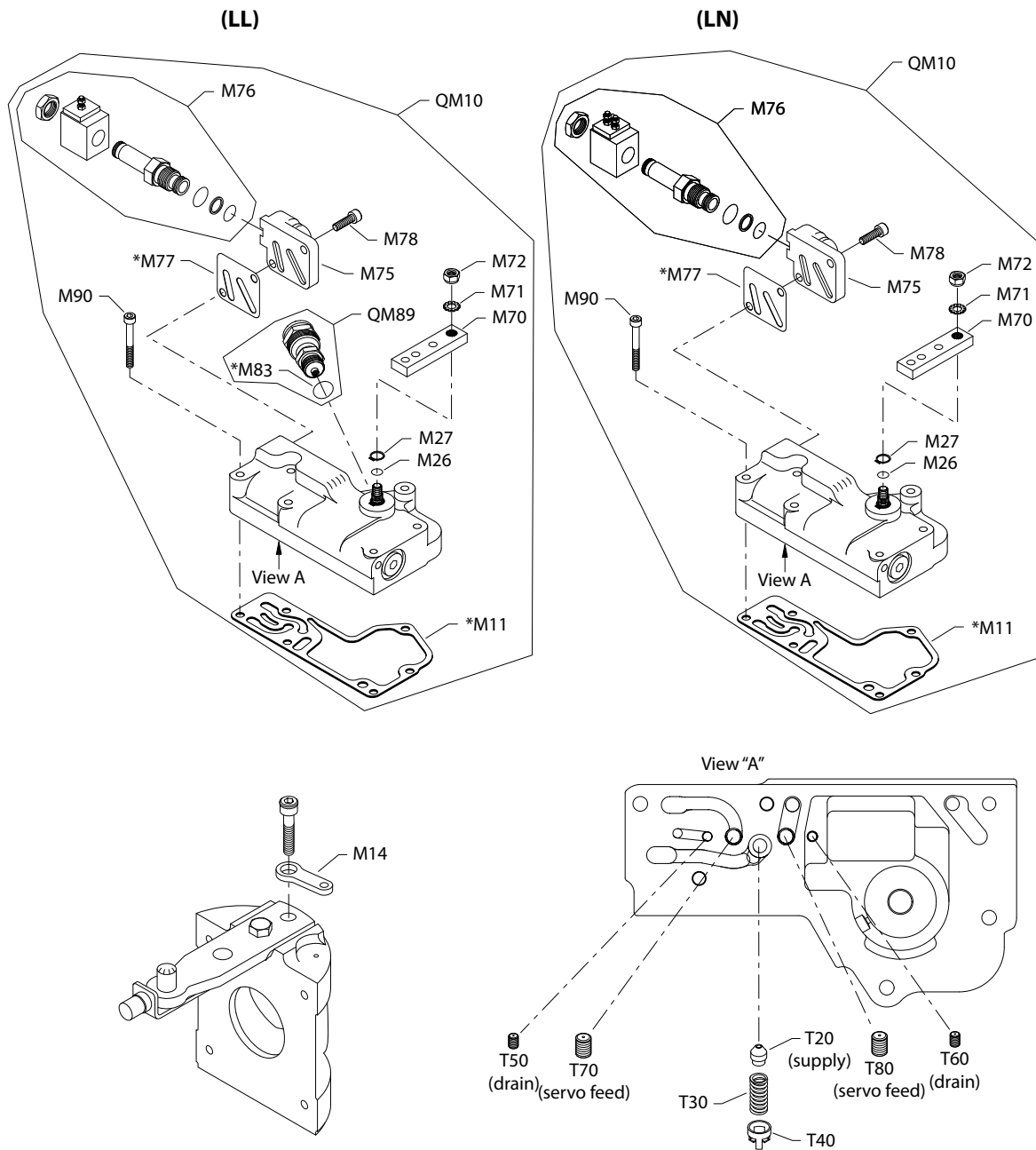
Order code: LK

M11	99-49	14-16	8800923	Control gasket	1
M14	99-49	14-16	11070305	Feedback link	1
M26	99-49	14-16	144725 (9004105-0110)	O-ring	1
M27	99-49	14-16	042557 (9006300-0044)	Retaining ring	1
M70	99-49	14-16	8801007	Control handle	1
M71	99-49	14-16	689018 (9009660-3100)	Toothlock washer	1
M72	99-49	14-16	040642 (9003513-0800)	Nut	1
M75	99-49	14-16	8800920	Control manifold	1
M76	99-49	14-16	8800921	Mechanical shunt valve	1
M77	99-49	14-16	8800882	Manifold gasket	1
M78	99-49	14-16	693341 (9007314-0606)	Screw	2
M83	99-49	14-16	001131 (9004201-5000)	O-ring	1
M90	99-49	14-16	692889 (9007314-0611)	Screw	6
QM10	99-49	14-16	11015109	MDC kit, neutral start switch, shunt valve	1
QM89	99-49	14-16	8510174	Neutral start switch kit, high force, Weather-pack	1
QM210	99-49	14-16	11100031	Control seal kit	1

Control

S90P control LL, LN

Parts configuration



Possible orifice locations

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

* Included in control seal kit QM210

Control

Order code: LL

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	02-16		8800923	Control gasket	1
M14	02-16		11070305	Feedback link	1
M26	02-16		144725 (9004105-0110)	O-ring	1
M27	02-16		042557 (9006300-0044)	Retaining ring	1
M70	02-16		9800916	Control handle	1
M71	02-16		689018 (9009660-3100)	Toothlock washer	1
M72	02-16		040642 (9003513-0800)	Nut	1
M75	02-16		505022	Control manifold	1
M76	02-16		11127988	Solenoid valve, 12v, single pole	1
M77	02-16		8800882	Manifold gasket	1
M78	02-16		693341 (9007314-0606)	Screw	2
M83	02-16		001131 (9004201-5000)	O-ring	1
M90	02-16		692889 (9007314-0611)	Screw	6
QM10	02-16		8510393	MDC kit, w/single pole 12v solenoid	1
QM89	02-16		8510316	Neutral start switch kit, high force, Weather-pack	1
QM210	02-16		11100031	Control seal kit	1

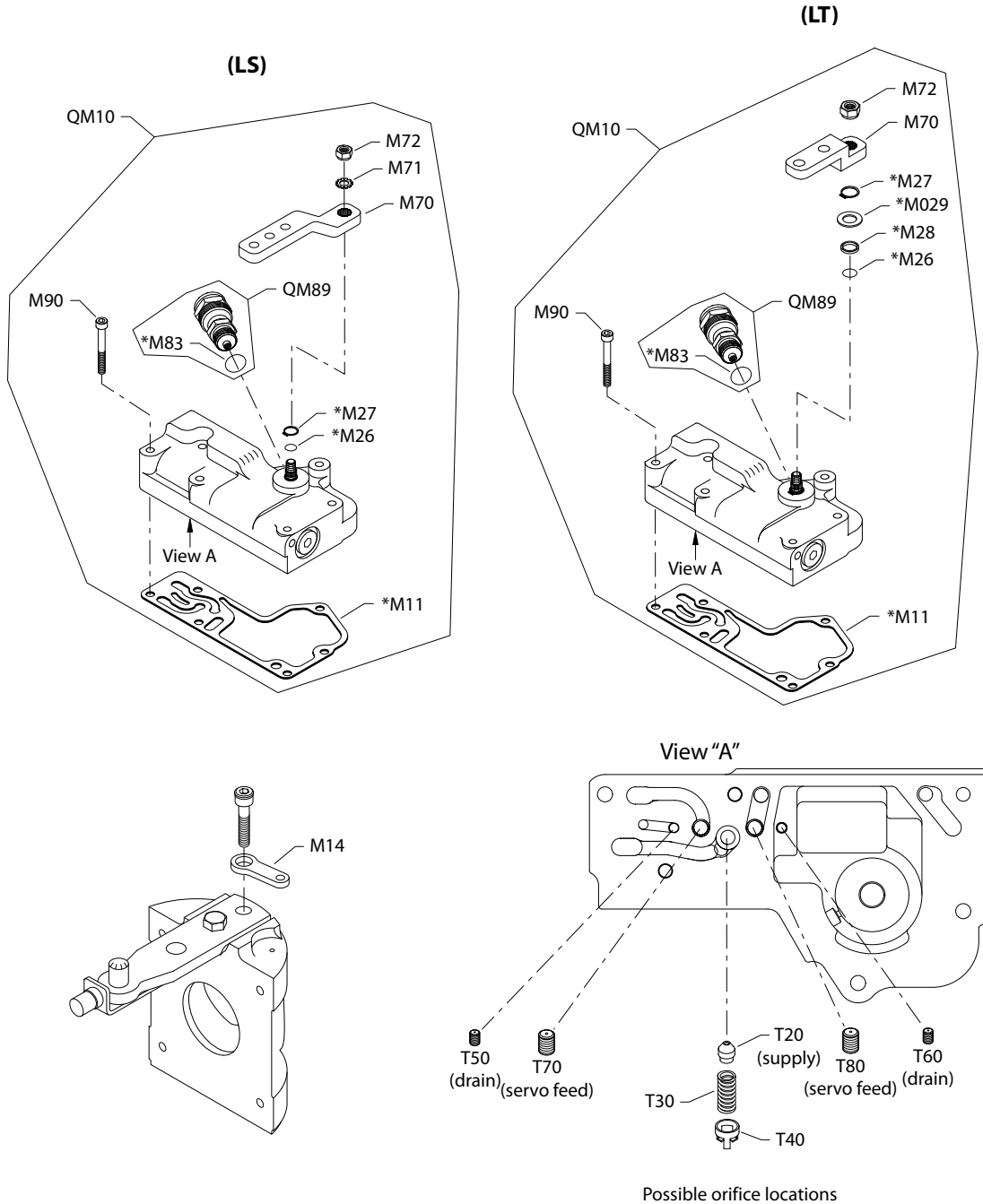
Order code: LN

M11	04-33		8800923	Control gasket	1
M14	04-33		11070305	Feedback link	1
M26	04-33		144725 (9004105-0110)	O-ring	1
M27	04-33		042557 (9006300-0044)	Retaining ring	1
M70	04-33		9800916	Control handle	1
M71	04-33		689018 (9009660-3100)	Toothlock washer	1
M72	04-33		040642 (9003513-0800)	Nut	1
M75	04-33		505022	Control manifold	1
M76	04-33		11127986	Solenoid valve, 12 volt, 2-pole	1
M77	04-33		8800882	Manifold gasket	1
M78	04-33		693341 (9007314-0606)	Screw	2
M90	04-33		692889 (9007314-0611)	Screw	6
QM10	04-33		8100961	MDC kit, w/special orifice	1
QM210	04-33		11100031	Control seal kit	1

Control

S90P control LS, LT

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: *LS*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	13-45		8800923	Control gasket	1
M14	13-45		11070305	Feedback link	1
M26	13-45		144725 (9004105-0110)	O-ring	1
M27	13-45		042557 (9006300-0044)	Retaining ring	1
M70	13-45		8801339	Control handle, offset	1
M72	13-45		040642 (9003513-0800)	Nut	1
M83	13-45		001131 (9004201-5000)	O-ring	1
M90	13-45		692889 (9007314-0611)	Screw	6
QM10	13-45		8510360	MDC kit, with high force neutral start switch	1
QM89	13-45		8510316	Neutral start switch kit, high force, Weather-pack	1
QM210	13-45		11096274	Control seal kit	1

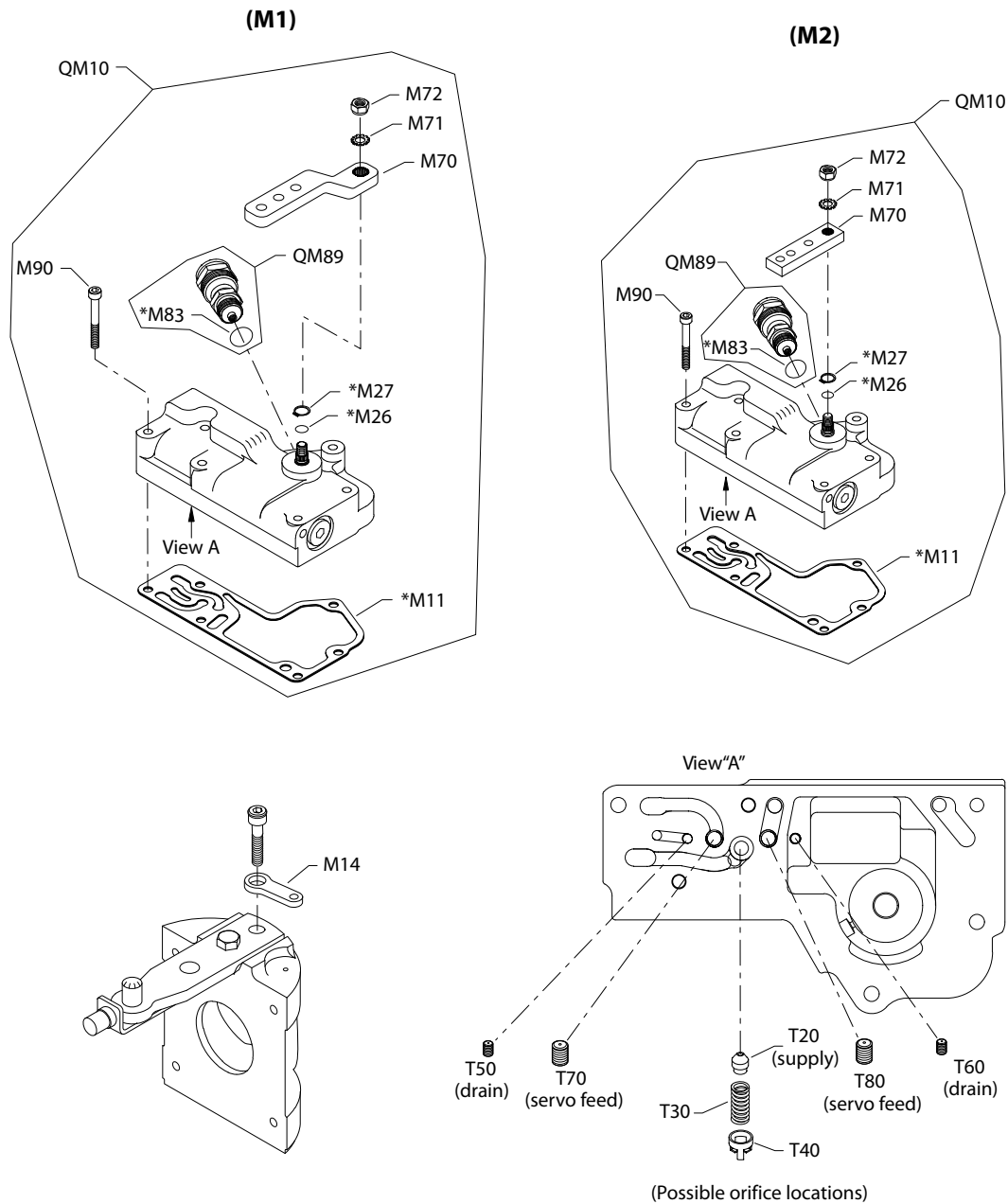
Order code: *LT*

M11	06-13		8800923	Control gasket	1
M14	06-13		11070305	Feedback link	1
M26	06-13		144725 (9004105-0110)	O-ring	1
M27	06-13		042507	Retaining ring	1
M28	06-13		510690	Lip seal	1
M70	06-13		769075	Control handle, offset	1
M72	06-13		040642 (9003513-0800)	Nut	1
M83	06-13		001131 (9004201-5000)	O-ring	1
M90	06-13		692889 (9007314-0611)	Screw	6
M029	06-13		512047	Washer	1
QM10	06-13		11098763	MDC kit, with high force neutral start switch	1
QM89	06-13		8510027	Neutral start switch kit, high force, Weather-pack	1
QM210	06-13		11109083	Control seal kit, with lip seal	1

Control

S90P control M1, M2

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: M1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	95-37		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	95-37	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	95-37		144725 (9004105-0110)	O-ring	1
M27	95-37		042507 (9006300-0044)	Retaining ring	1
M70	95-37		9800916	Control handle	1
M71	95-37		689018 (9009660-3100)	Toothlock washer	1
M72	95-37		040642 (9003513-0800)	Nut	1
M90	95-37		692889 (9007314-0611)	Screw	6
QM10	95-37		11014378	MDC kit, brass sleeve	1
QM210	95-37		11096274	Control seal kit	1

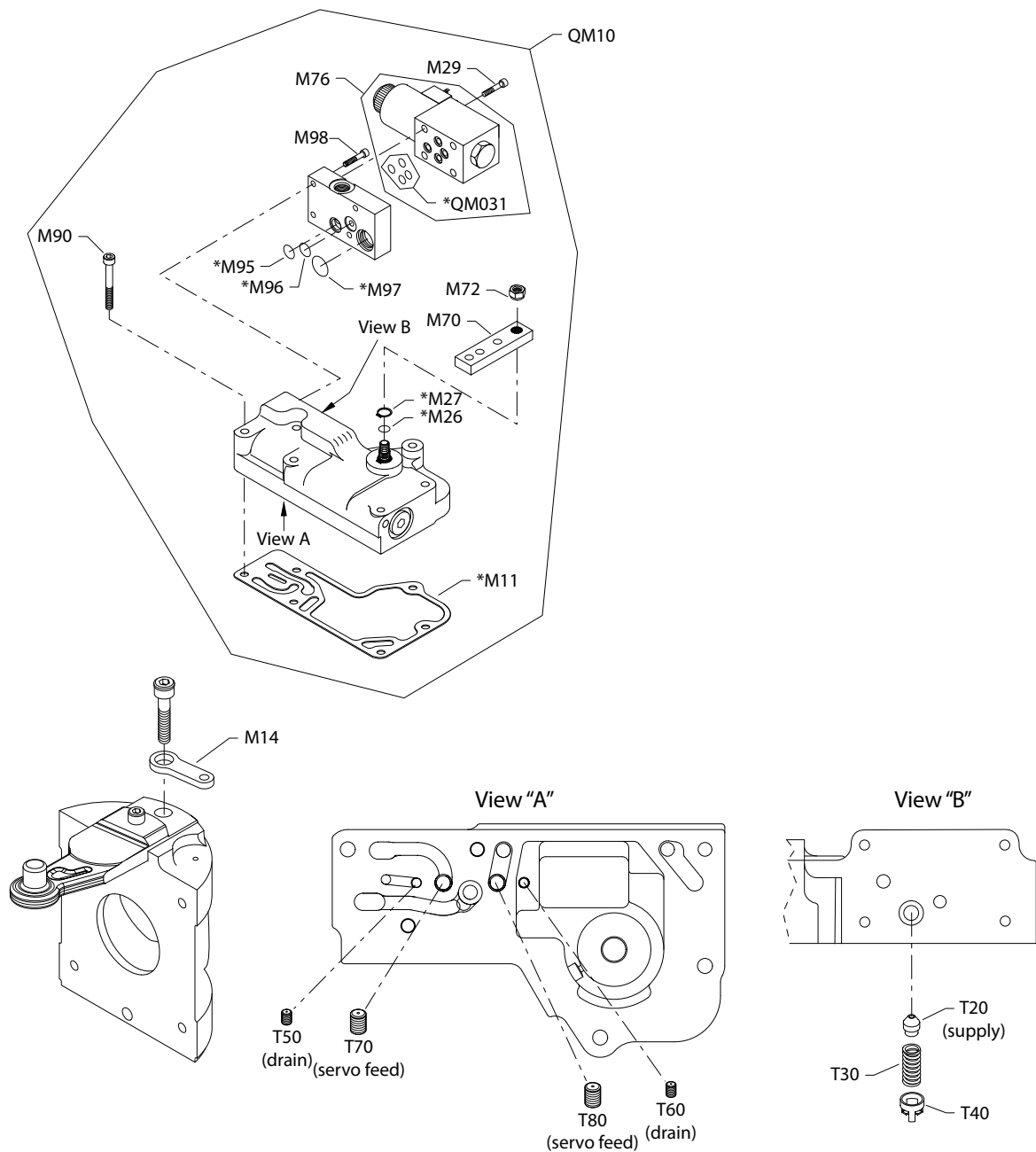
Order code: M2

M11	95-37		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	95-37	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	95-37		144725 (9004105-0110)	O-ring	1
M27	95-37		042507 (9006300-0044)	Retaining ring	1
M70	95-37		9800916	Control handle	1
M71	95-37		689018 (9009660-3100)	Toothlock washer	1
M72	95-37		040642 (9003513-0800)	Nut	1
M83	95-37		001131 (9004201-5000)	O-ring	1
M90	95-37		692889 (9007314-0611)	Screw	6
QM10	95-37		8510112	MDC kit, with neutral start switch, brass sleeve	1
QM89	95-37		80020540	Neutral start switch kit	1
QM210	95-37		11096274	Control seal kit	1

Control

S90P control M3

Parts configuration



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

* Included in control seal kit QM210

Control

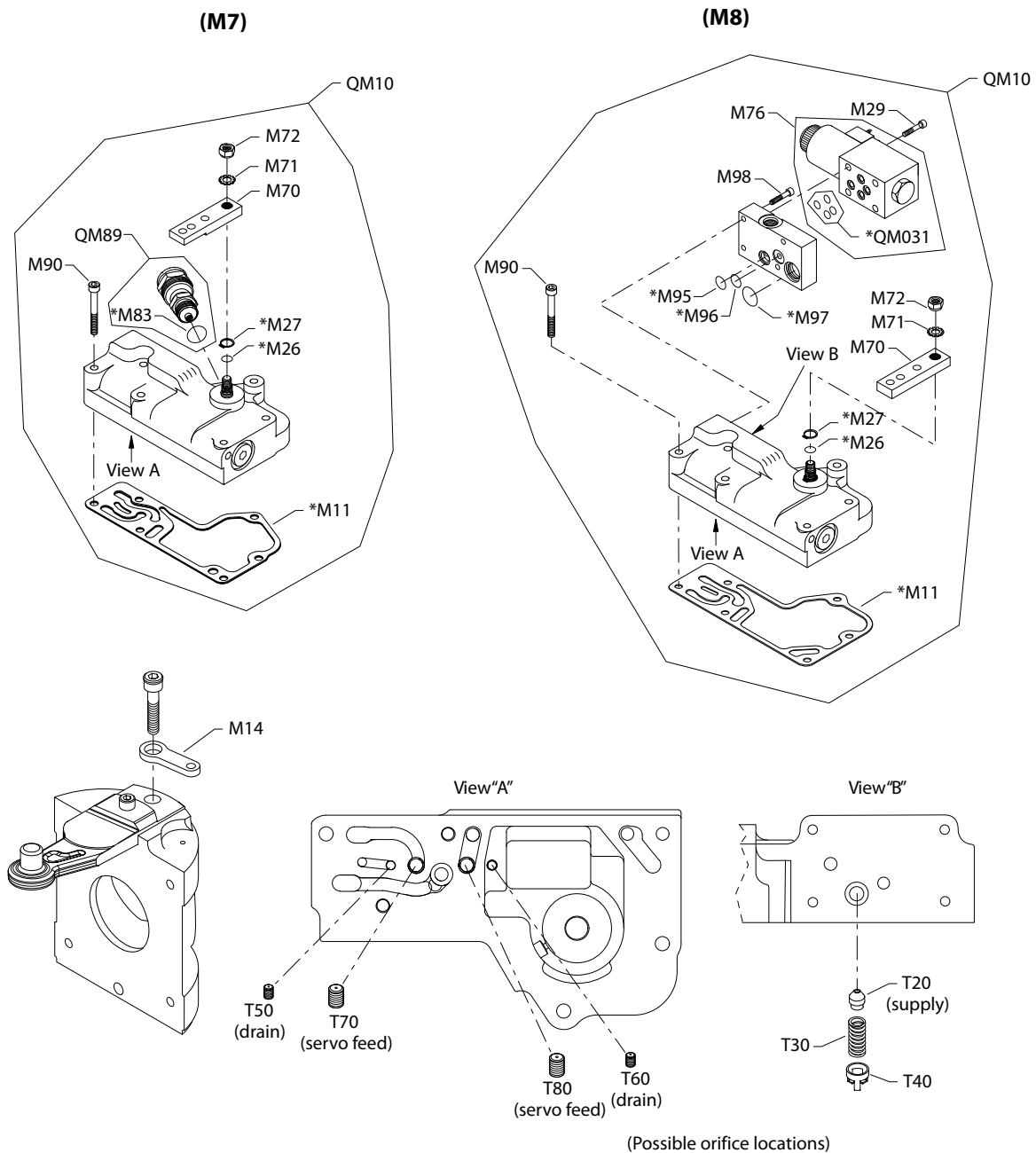
Order code: M3

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	14-18		8800923	Control gasket	1
M14	14-18		11070305	Feedback link	1
M26	14-18		144725 (9004105-0110)	O-ring	1
M27	14-18		042557 (9006300-0044)	Retaining ring	1
M29	14-18		035592	Screw, M5 x 45	4
M70	14-18		9800916	Control handle	1
M72	14-18		040642 (9003513-0800)	Nut	1
M76	14-18		11146844	Solenoid valve, DEUTSCH connector	1
M90	14-18		692889 (9007314-0611)	Screw	6
M95	14-18		056713	O-ring	1
M96	14-18		056713	O-ring	1
M97	14-18		544742	O-ring	1
M98	14-18		067686	Screw, M5 x 20	4
QM10	14-18		11148988	MDC kit w/2-position solenoid, DEUTSCH connector	1
QM031	14-18		11099647	Solenoid valve seal kit	1
QM210	14-18		11099978	Control seal kit	1

Control

S90P control M7, M8

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: M7

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	11-04		8800923	Control gasket	1
M14	11-04		11070306	Feedback link (SB-2013-011 on page 359)	1
M26	11-04		144725 (9004105-0110)	O-ring	1
M27	11-04		042507 (9006300-0044)	Retaining ring	1
M70	11-04		8801260	Control handle	1
M71	11-04		689018 (9009660-3100)	Toothlock washer	1
M72	11-04		040642 (9003513-0800)	Nut	1
M83	11-04		001131 (9004201-5000)	O-ring	1
M90	11-04		692889 (9007314-0611)	Screw	6
QM10	11-04		11099070	MDC kit, with neutral start switch	1
QM89	11-04		709014 (8510170)	Neutral start switch kit	1
QM210	11-04		11096274	Control seal kit	1

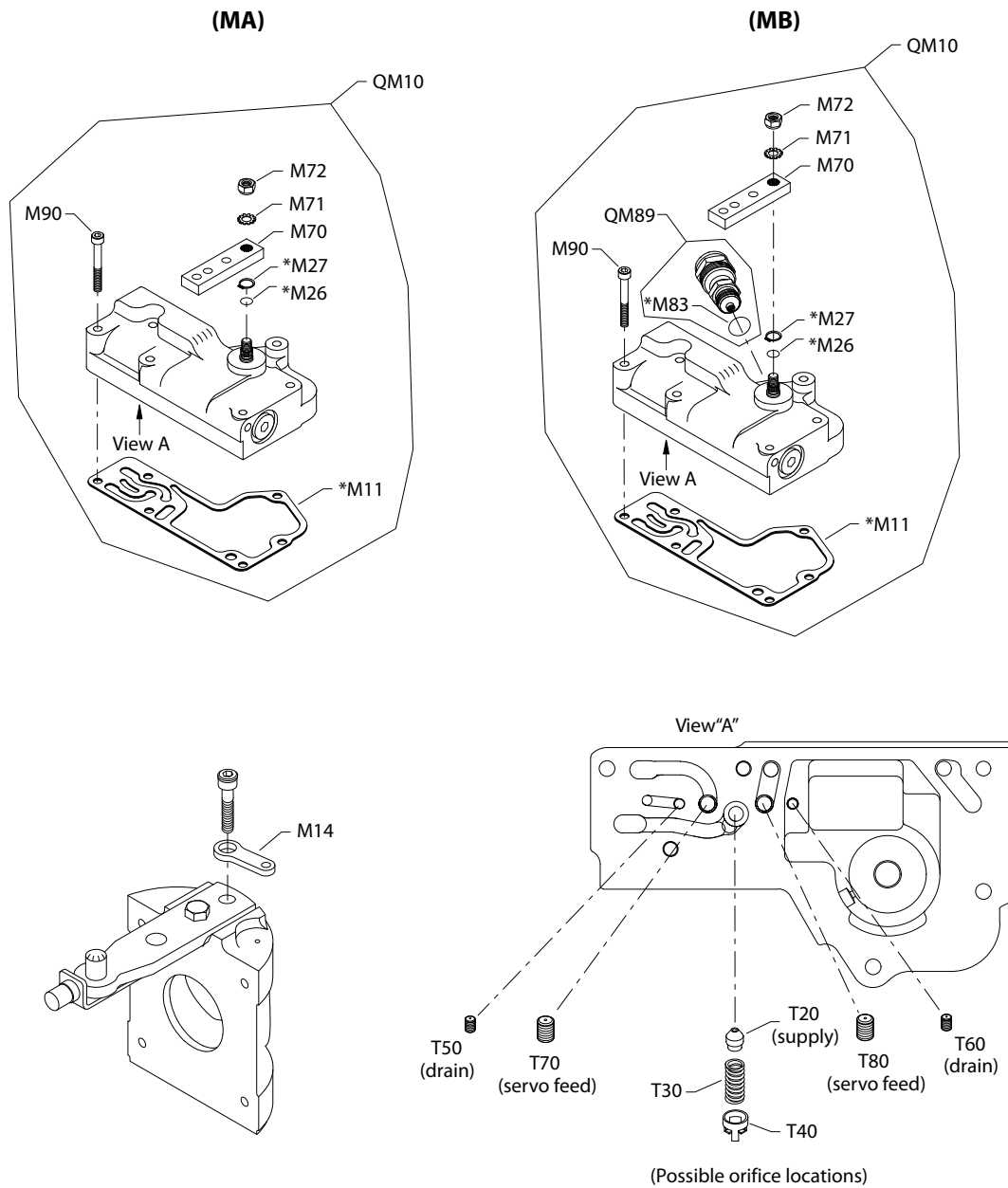
Order code: M8

M11	04-38		8800923	Control gasket	1
M14	04-38		11070306	Feedback link	1
M26	04-38		144725 (9004105-0110)	O-ring	1
M27	04-38		042507 (9006300-0044)	Retaining ring	1
M29	04-38		9007315-0507	Screw	4
M70	04-38		9800916	Control handle	1
M71	04-38		689018 (9009660-3100)	Toothlock washer	1
M72	04-38		040642 (9003513-0800)	Nut	1
M76	04-38		508009	Solenoid valve	1
M90	04-38		692889 (9007314-0611)	Screw	6
M95	04-38		9004105-0140	O-ring	1
M96	04-38		9004105-0140	O-ring	1
M97	04-38		9004105-0190	O-ring	1
M98	04-38		9007315-0505	Screw	4
QM10	04-38		11015110	MDC kit, w/2-position solenoid valve	1
QM031	04-38		11099647	Solenoid seal kit	1
QM210	04-38		11099978	Control seal kit	1

Control

S90P control MA, MB

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: MA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507 (9006300-0044)	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8102M0MA-A	MDC kit	1
QM210	87-02		11096274	Control seal kit	1

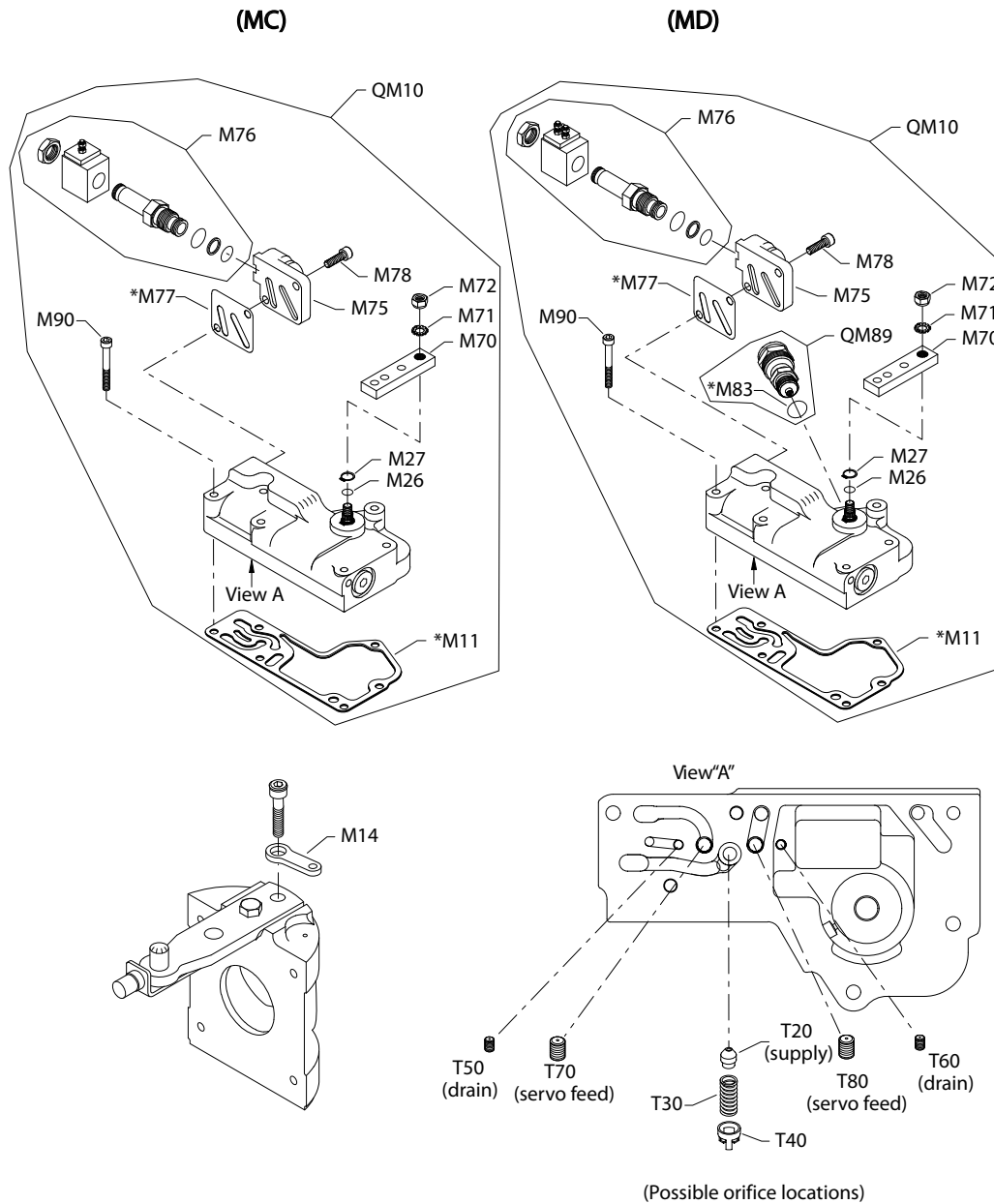
Order code: MB

M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507 (9006300-0044)	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M83	87-02		001131 (9004201-5000)	O-ring	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8102M0MB-A	MDC kit with neutral start switch	1
QM89	87-02		80020540	Neutral start switch kit	1
QM210	87-02		11096274	Control seal kit	1

Control

S90P control MC, MD

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: MC

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507 (9006300-0044)	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M75	87-02		505022	Control manifold (SB-1995-003 on page 324)	1
M76	87-02		11127987	Solenoid valve, 12 volt, single pole	1
M77	87-02		8800882	Manifold gasket	1
M78	95-10		693341 (9007314-0606)	Screw (SB-1995-003 on page 324)	2
M78	87-02	95-09	041160 (9007314-0605)	Screw	2
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8102M0MC-A	MDC kit w/12 volt solenoid, single pole	1
QM210	87-02		11100031	Control seal kit	1

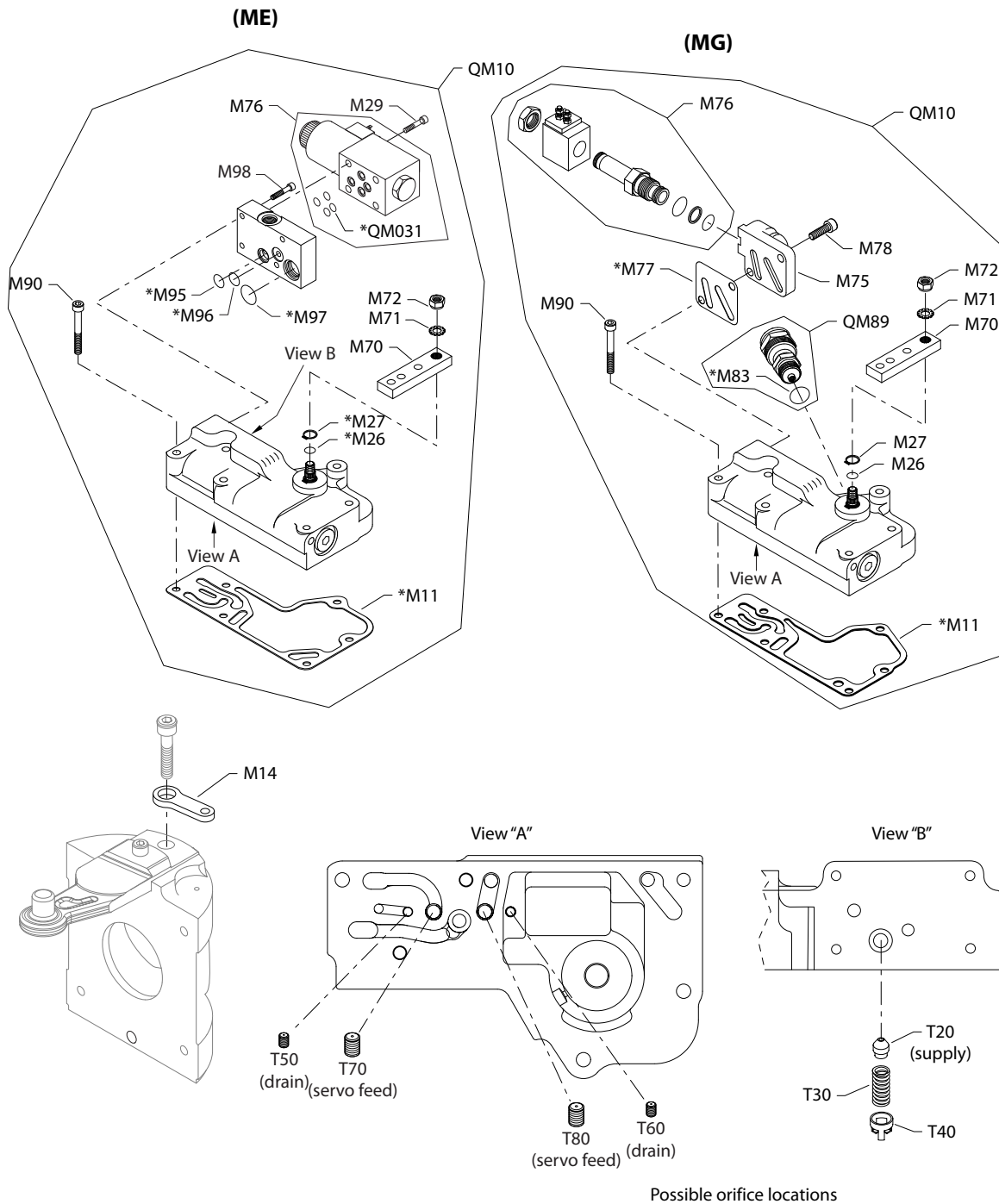
Order code: MD

M11	02-16		8800923	Control gasket	1
M14	02-16		11070306	Feedback link	1
M26	02-16		144725 (9004105-0110)	O-ring	1
M27	02-16		042507 (9006300-0044)	Retaining ring	1
M70	02-16		9800916	Control handle	1
M71	02-16		689018 (9009660-3100)	Toothlock washer	1
M72	02-16		040642 (9003513-0800)	Nut	1
M75	02-16		505022	Control manifold	1
M76	02-16		11127986	Solenoid valve, 12v, double pole	1
M77	02-16		8800882	Manifold gasket	1
M78	02-16		693341 (9007314-0606)	Screw	2
M83	02-16		001131 (9004201-5000)	O-ring	1
M90	02-16		692889 (9007314-0611)	Screw	6
QM10	02-16		8102M0MD-A	MDC kit, w/double pole 12v solenoid	1
QM89	02-16		8510027	Neutral start switch kit, high force, Weather-pack	1
QM210	02-16		11100031	Control seal kit	1

Control

S90P control ME, MG

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: ME

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042557 (9006300-0044)	Retaining ring	1
M29	87-02		9007315-0510	Screw	4
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M76	87-02		519357	Solenoid valve, 12 volt	1
M90	87-02		692889 (9007314-0611)	Screw	6
M95	87-02		056713 (9004105-0140)	O-ring	1
M96	87-02		056713 (9004105-0140)	O-ring	1
M97	87-02		544742 (9004105-0190)	O-ring	1
M98	87-02		9007315-0505	Screw	4
QM10	87-02		8102M0ME-A	MDC kit w/2-position solenoid valve, 12 volt	1
QM031	87-02		11099647	Solenoid seal kit	1
QM210	87-02		11099978	Control seal kit	1

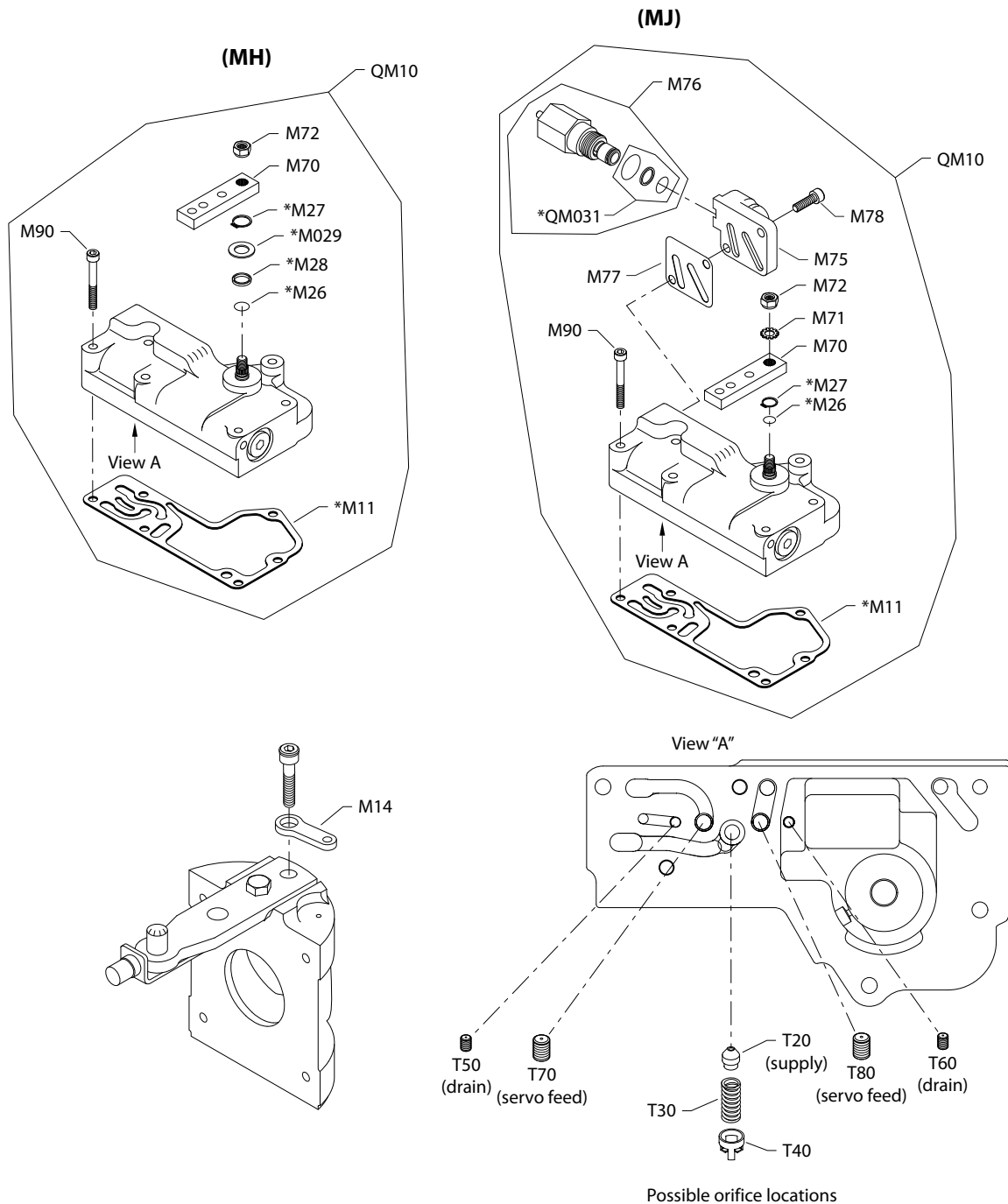
Order code: MG

M11	02-16		8800923	Control gasket	1
M14	02-16		11070305	Feedback link	1
M26	02-16		144725 (9004105-0110)	O-ring	1
M27	02-16		042557 (9006300-0044)	Retaining ring	1
M70	02-16		9800916	Control handle	1
M71	02-16		689018 (9009660-3100)	Toothlock washer	1
M72	02-16		040642 (9003513-0800)	Nut	1
M75	02-16		505022	Control manifold	1
M76	02-16		11127985	Solenoid valve, 24v, double pole	1
M77	02-16		8800882	Manifold gasket	1
M78	02-16		693341 (9007314-0606)	Screw	2
M83	02-16		001131 (9004201-5000)	O-ring	1
M90	02-16		692889 (9007314-0611)	Screw	6
QM10	02-16		8510061	MDC kit, w/double pole 24v solenoid	1
QM89	02-16		80020540	Neutral start switch kit, high force	1
QM210	02-16		11100031	Control seal kit	1

Control

S90P control MH, MJ

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: MH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507	Retaining ring	1
M28	14-44		510690	Lip seal	1
M029	14-44		512047	Washer	1
M70	87-02		9800916	Control handle	1
M72	87-02		040642 (9003513-0800)	Nut	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8510282	MDC kit	1
QM210	87-02		11096274	Control seal kit	1

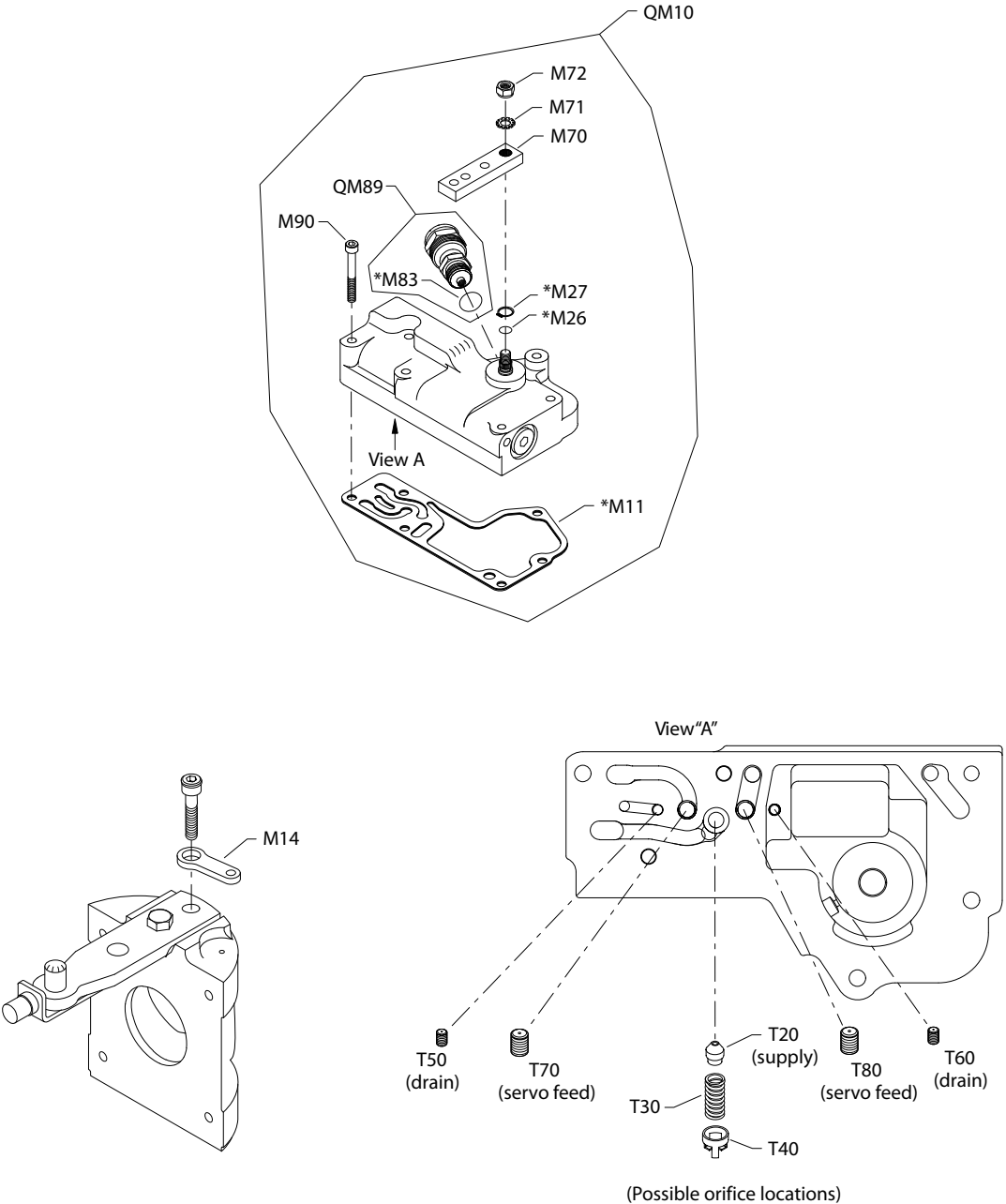
Order code: MJ

M11	96-12	14-12	8800923	Control gasket	1
M14	96-40	14-12	11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	96-12	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	96-12	14-12	144725 (9004105-0110)	O-ring	1
M27	96-12	14-12	042557 (9006300-0044)	Retaining ring	1
M70	96-12	14-12	9800916	Control handle	1
M71	96-12	14-12	689018 (9009660-3100)	Toothlock washer	1
M72	96-12	14-12	040642 (9003513-0800)	Nut	1
M75	96-12	14-12	8800920	Control manifold	1
M76	96-12	14-12	8800921	Mechanical shunt valve	1
M77	96-12	14-12	8800882	Manifold gasket	1
M78	96-12	14-12	693341 (9007314-0606)	Screw	2
M90	96-12	14-12	692889 (9007314-0611)	Screw	6
QM10	96-12	14-12	11015111	MDC kit, shunt valve	1
QM034	96-12	14-12	11099649	Shunt valve seal kit	1
QM210	96-12	14-12	11100031	Control seal kit	1

Control

S90P control MK, ML

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: MK

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507 (9006300-0044)	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M83	87-02		001131 (9004201-5000)	O-ring	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		8102M0MK-A	MDC kit w/wide deadband, nss	1
QM89	87-02		80020S40	Neutral start switch kit	1
QM210	87-02		11096274	Control seal kit	1

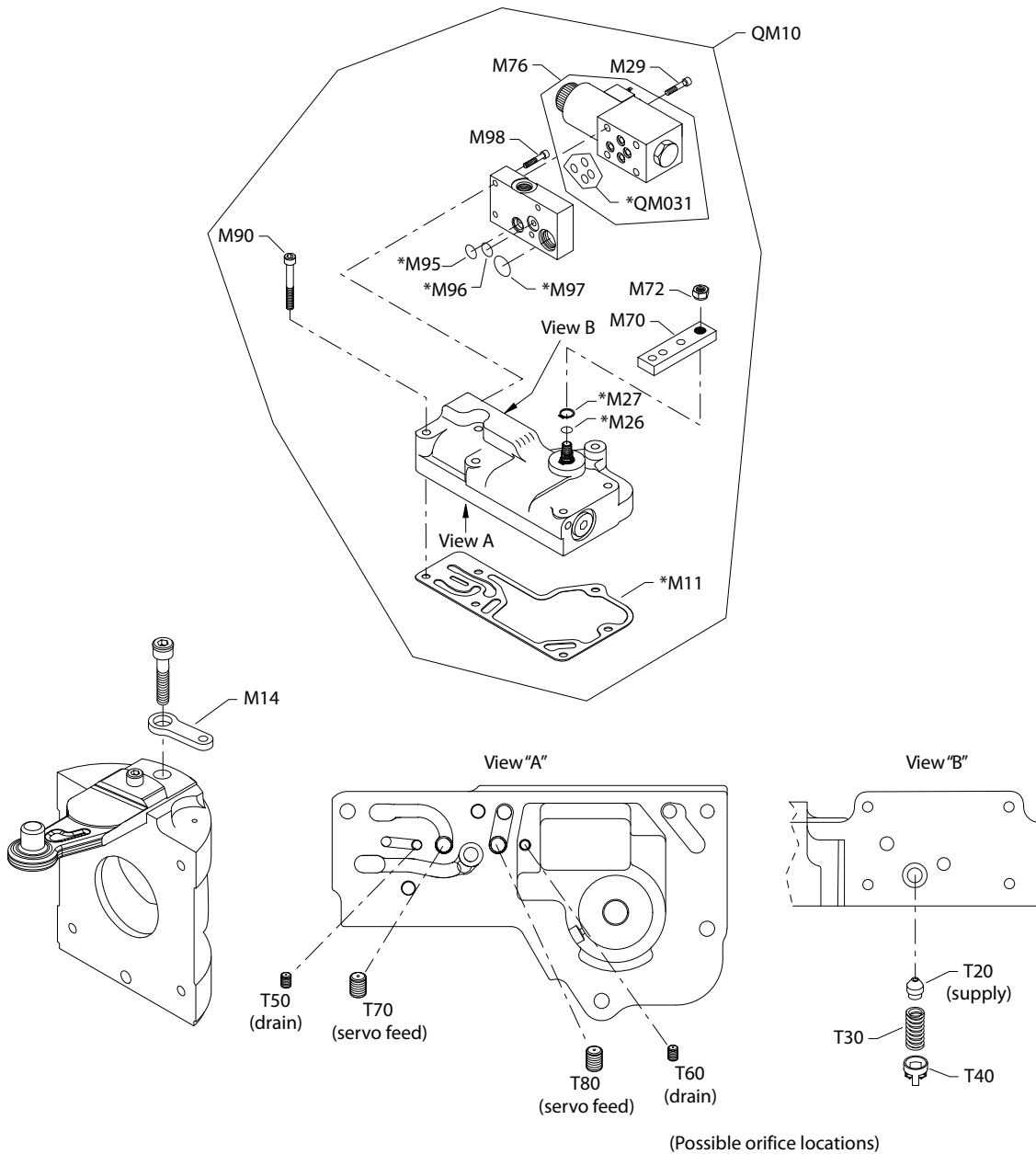
Order code: ML

M11	87-02		8800923	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	87-02	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	87-02		144725 (9004105-0110)	O-ring	1
M27	87-02		042507 (9006300-0044)	Retaining ring	1
M70	87-02		9800916	Control handle	1
M71	87-02		689018 (9009660-3100)	Toothlock washer	1
M72	87-02		040642 (9003513-0800)	Nut	1
M83	87-02		001131 (9004201-5000)	O-ring	1
M90	87-02		692889 (9007314-0611)	Screw	6
QM10	87-02		11015112	MDC kit w/wide deadband, high force nss	1
QM89	87-02		8510027	Neutral start switch kit, high force	1
QM210	87-02		11096274	Control seal kit	1

Control

S90P control MN

Parts configuration



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

* Included in control seal kit QM210

Control

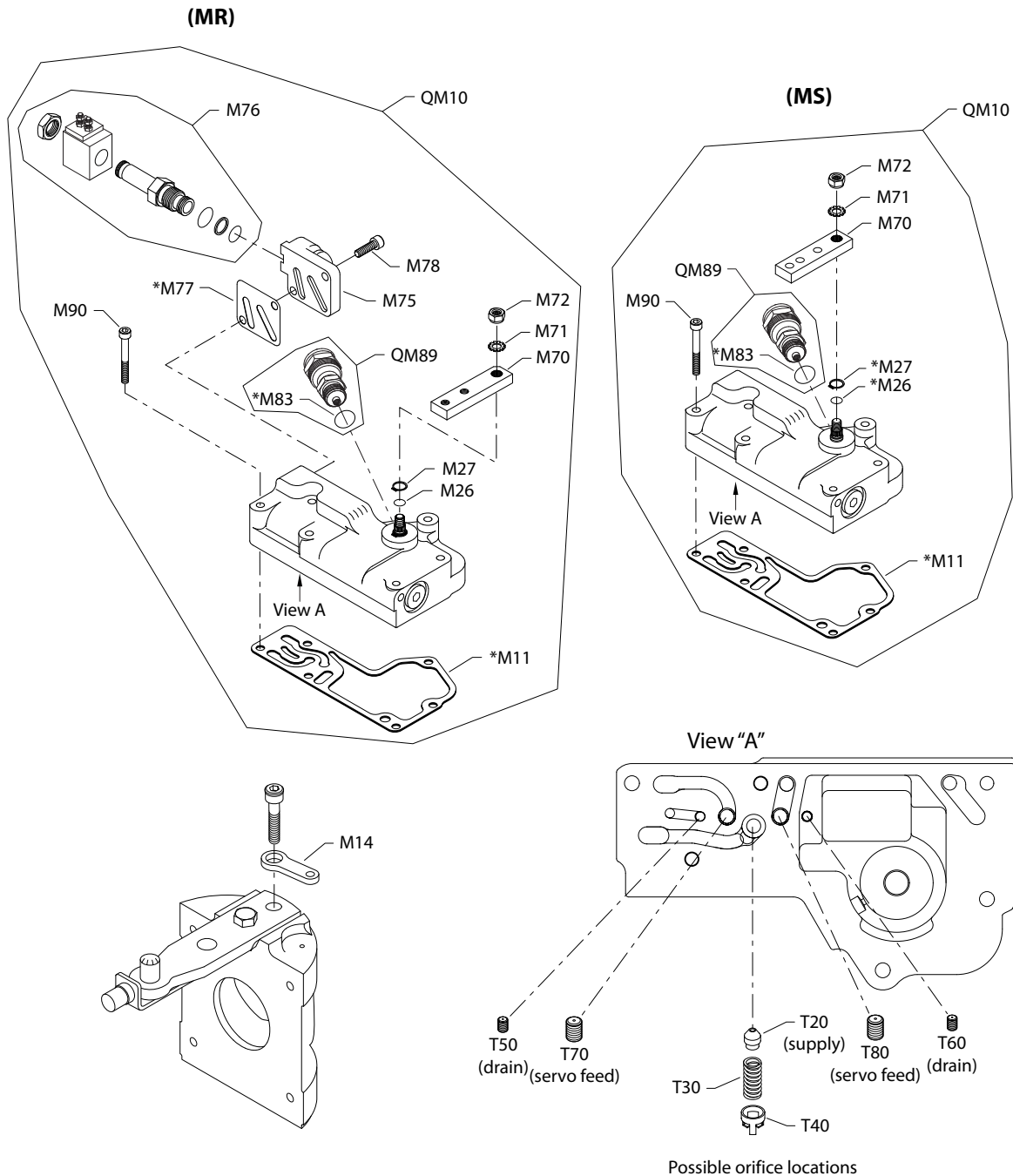
Order code: MN

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	94-02		8800923	Control gasket	1
M14	94-02		11070306	Feedback link	1
M26	94-02		144725 (9004105-0110)	O-ring	1
M27	94-02		042507 (9006300-0044)	Retaining ring	1
M29	94-02		035592	Screw, M5 x 45	4
M70	94-02		9800916	Control handle	1
M72	94-02		040642 (9003513-0800)	Nut	1
M76	94-02		519357	Solenoid valve, 12 volt	1
M90	94-02		692889 (9007314-0611)	Screw	6
M95	94-02		056713	O-ring	1
M96	94-02		056713	O-ring	1
M97	94-02		544742	O-ring	1
M98	94-02		067686	Screw, M5 x 20	4
QM10	94-02		11087557	MDC kit w/2-position solenoid	1
QM031	94-02		11099647	Solenoid valve seal kit	1
QM210	94-02		11099978	Control seal kit	1

Control

S90P control MR, MS

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: MR

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	96-43		8800923	Control gasket	1
M14	96-43		11070305	Feedback link	1
M26	96-43		144725 (9004105-0110)	O-ring	1
M27	96-43		042557 (9006300-0044)	Retaining ring	1
M70	96-43		9800916	Control handle	1
M71	96-43		689018 (9009660-3100)	Toothlock washer	1
M72	96-43		040642 (9003513-0800)	Nut	1
M75	96-43		505022	Control manifold	1
M76	96-43		11127985	Solenoid valve, 24 volt, double pole	1
M77	96-43		8800882	Manifold gasket	1
M78	96-43		693341 (9007314-0606)	Screw	2
M83	96-43		001131 (9004201-5000)	O-ring	1
M90	96-43		692889 (9007314-0611)	Screw	6
QM10	96-43		8510394	MDC kit w/24 v solenoid, 2-pole, high force nss	1
QM89	96-43		709014 (8510027)	Neutral start switch kit, high force	1
QM210	96-43		11100031	Control seal kit	1

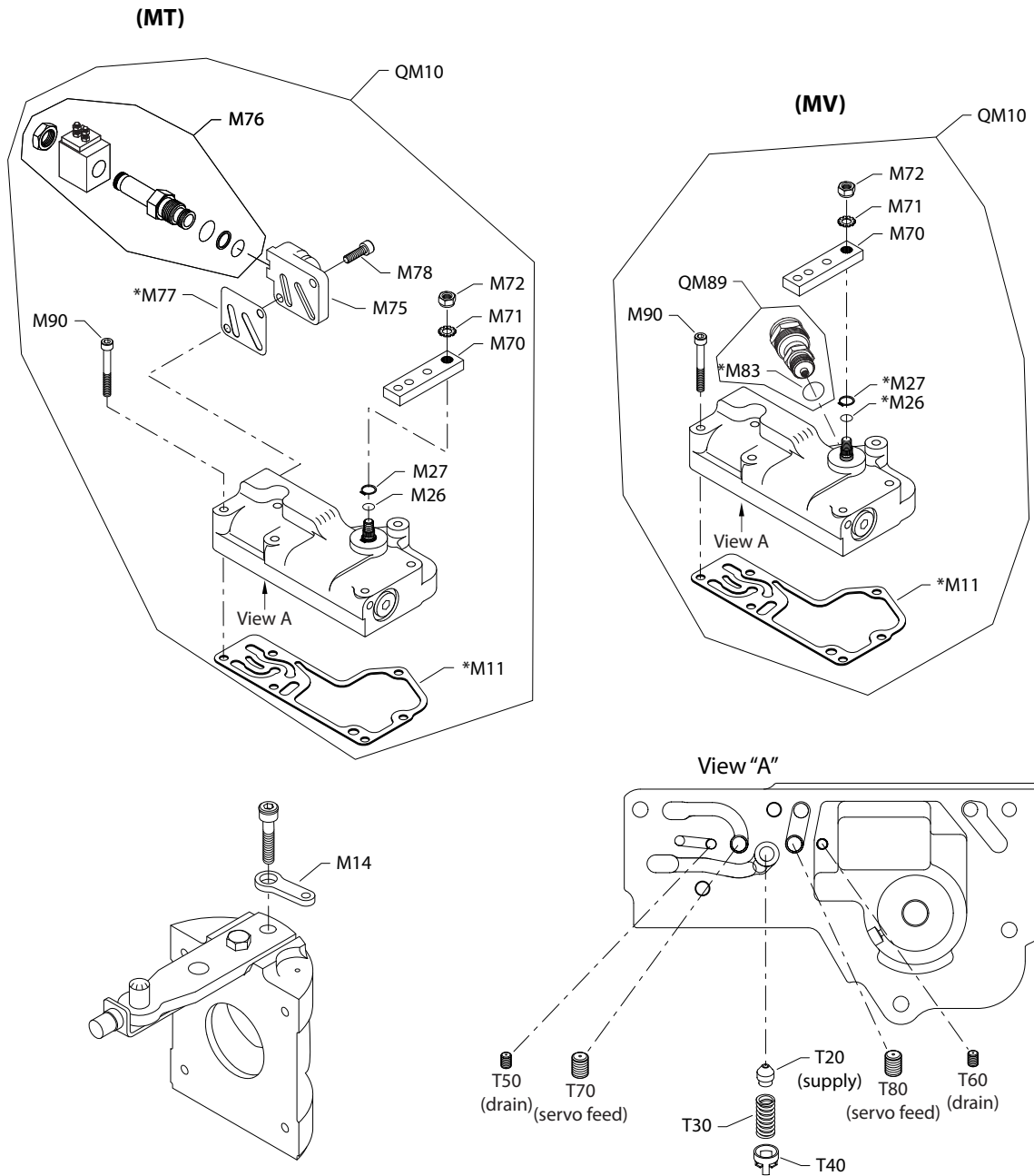
Order code: MS

M11	01-07		8800923	Control gasket	1
M14	01-07		11070305	Feedback link	1
M26	01-07		144725 (9004105-0110)	O-ring	1
M27	01-07		042557 (9006300-0044)	Retaining ring	1
M70	01-07		9800916	Control handle	1
M71	01-07		689018 (9009660-3100)	Toothlock washer	1
M72	01-07		040642 (9003513-0800)	Nut	1
M83	01-07		001131 (9004201-5000)	O-ring	1
M90	01-07		692889 (9007314-0611)	Screw	6
QM10	01-07		8510287	MDC kit, high force neutral start switch	1
QM89	01-07		8510027	Neutral start switch kit, high force	1
QM210	01-07		11096274	Control seal kit	1

Control

S90P control MT, MV

Parts configuration



Possible orifice locations

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

* Included in control seal kit QM210

Control

Order code: MT

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	01-01		8800923	Control gasket	1
M14	01-01		11070305	Feedback link	1
M26	01-01		144725 (9004105-0110)	O-ring	1
M27	01-01		042557 (9006300-0044)	Retaining ring	1
M70	01-01		9800916	Control handle	1
M71	01-01		689018 (9009660-3100)	Toothlock washer	1
M72	01-01		040642 (9003513-0800)	Nut	1
M75	01-01		505022	Control manifold	1
M76	01-01		11127986	Solenoid valve, 12 volt, 2-pole	1
M77	01-01		8800882	Manifold gasket	1
M78	01-01		693341 (9007314-0606)	Screw	2
M90	01-01		692889 (9007314-0611)	Screw	6
QM10	01-01		8510320	MDC kit, w/2-pole 12v solenoid	1
QM210	01-01		11100031	Control seal kit	1

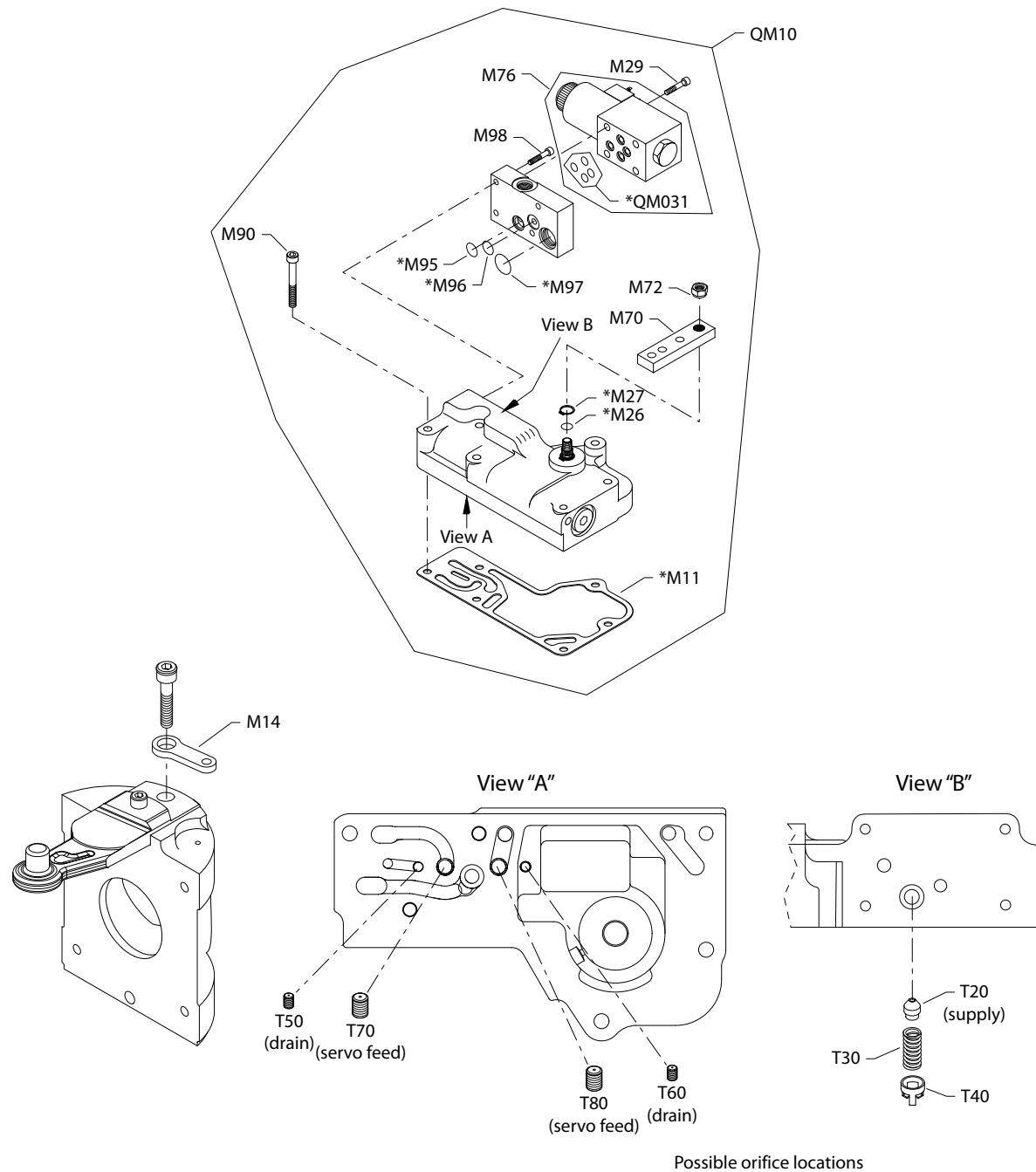
Order code: MV

M11	94-30		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-30	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	94-30		144725 (9004105-0110)	O-ring	1
M27	94-30		042557 (9006300-0044)	Retaining ring	1
M70	94-30		9800916	Control handle	1
M71	94-30		689018 (9009660-3100)	Toothlock washer	1
M72	94-30		040642 (9003513-0800)	Nut	1
M83	94-30		001131 (9004201-5000)	O-ring	1
M90	94-30		692889 (9007314-0611)	Screw	6
QM10	94-30		8510342	MDC kit, nss w/weatherpack connector, 2-way	1
QM89	94-30		8510170	Neutral start switch kit, weather pack connector, 2-way	1
QM210	94-30		11096274	Control seal kit	1

Control

S90P control MW

Parts configuration



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

* Included in control seal kit QM210

Control

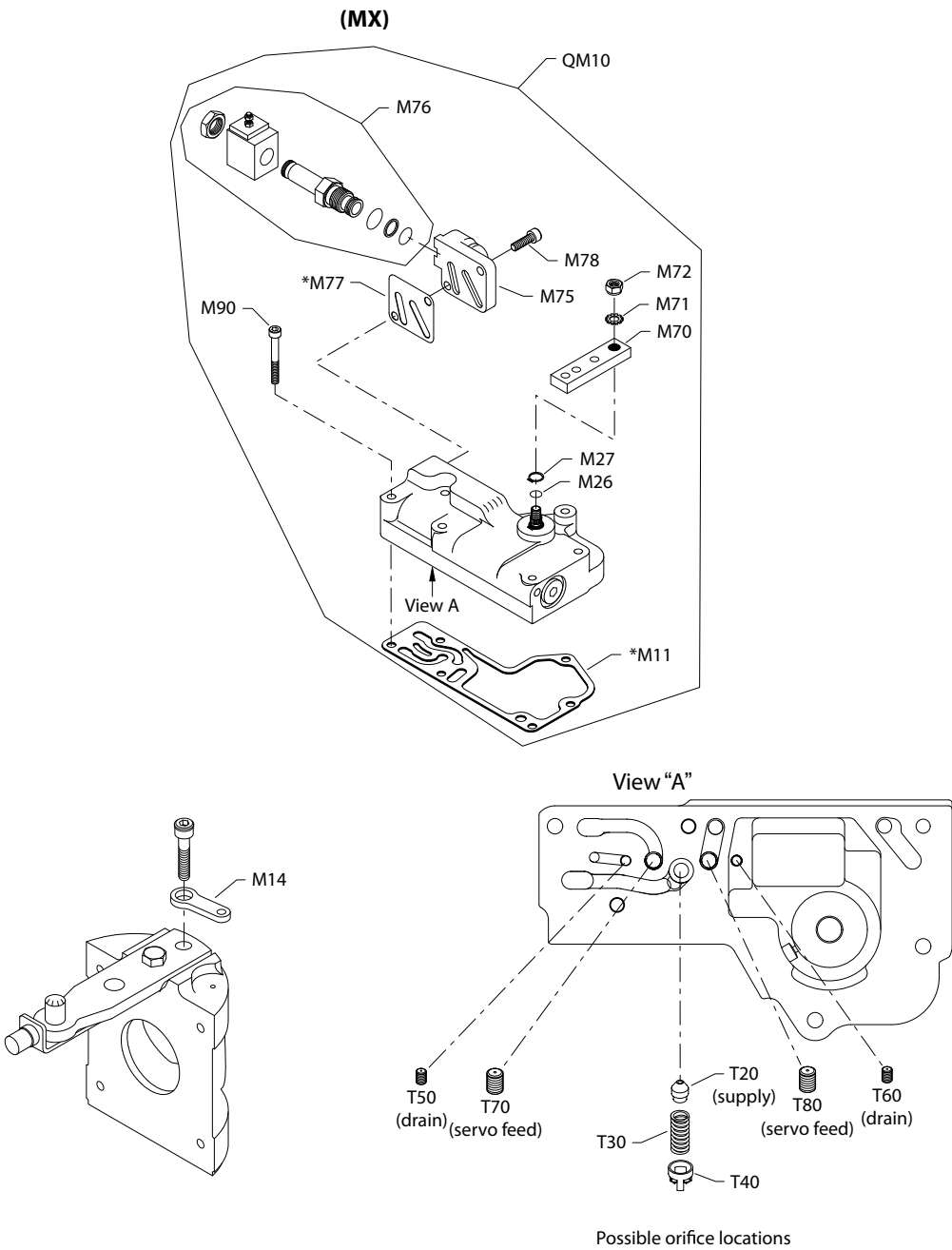
Order code: MW

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	14-18		8800923	Control gasket	1
M14	14-18		11070305	Feedback link	1
M26	14-18		144725 (9004105-0110)	O-ring	1
M27	14-18		042557 (9006300-0044)	Retaining ring	1
M29	14-18		035592	Screw, M5 x 45	4
M70	14-18		9800916	Control handle	1
M72	14-18		040642 (9003513-0800)	Nut	1
M76	14-18		11146844	Solenoid valve, DEUTSCH connector	1
M90	14-18		692889 (9007314-0611)	Screw	6
M95	14-18		056713	O-ring	1
M96	14-18		056713	O-ring	1
M97	14-18		544742	O-ring	1
M98	14-18		067686	Screw, M5 x 20	4
QM10	14-18		11148990	MDC kit w/2-position solenoid, DEUTSCH connector	1
QM031	14-18		11099647	Solenoid valve seal kit	1
QM210	14-18		11099978	Control seal kit	1

Control

S90P control MX

Parts configuration



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

* Included in control seal kit QM210

Control

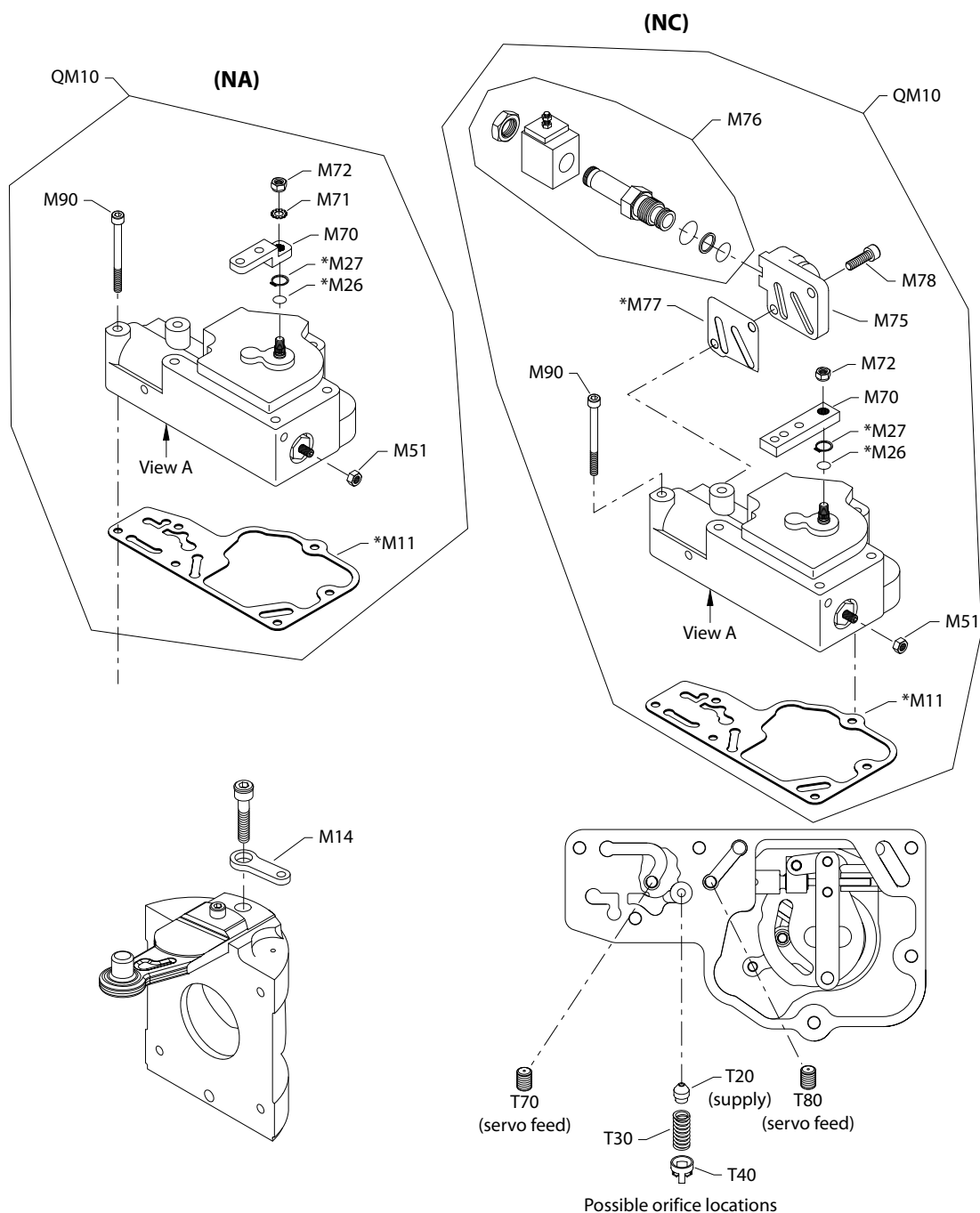
Order code: MX

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	94-30		8800923	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-30	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	94-30		144725 (9004105-0110)	O-ring	1
M27	94-30		042557 (9006300-0044)	Retaining ring	1
M70	94-30		9800916	Control handle	1
M71	94-30		689018 (9009660-3100)	Toothlock washer	1
M72	94-30		040642 (9003513-0800)	Nut	1
M75	94-30		505022	Control manifold (SB-1995-003 on page 324)	1
M76	94-30		11127988	Solenoid valve, 12 volt, single pole	1
M77	94-30		8800882	Manifold gasket	1
M78	95-10		693341 (9007314-0606)	Screw (SB-1995-003 on page 324)	2
M78	94-30	95-09	041160 (9007314-0605)	Screw	2
M90	94-30		692889 (9007314-0611)	Screw	6
QM10	94-30		11015113	MDC kit w/12 volt solenoid, single pole	1
QM210	94-30		11100031	Control seal kit	1

Control

S90P control NA, NC

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: NA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	94-30		504733	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-30	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	94-30		144725 (9004105-0110)	O-ring	1
M27	94-30		042557 (9006300-0044)	Retaining ring	1
M51	94-30		345462	Nut	1
M70	94-30		769075	Control handle, sharp bend	1
M71	94-30		689018 (9009660-3100)	Toothlock washer	1
M72	94-30		040642 (9003513-0800)	Nut	1
M90	94-30		9007314-0614	Screw	6
QM10	94-30		8102M0NA-A	MDC kit, NL	1
QM210	94-30		11096273	Control seal kit	1

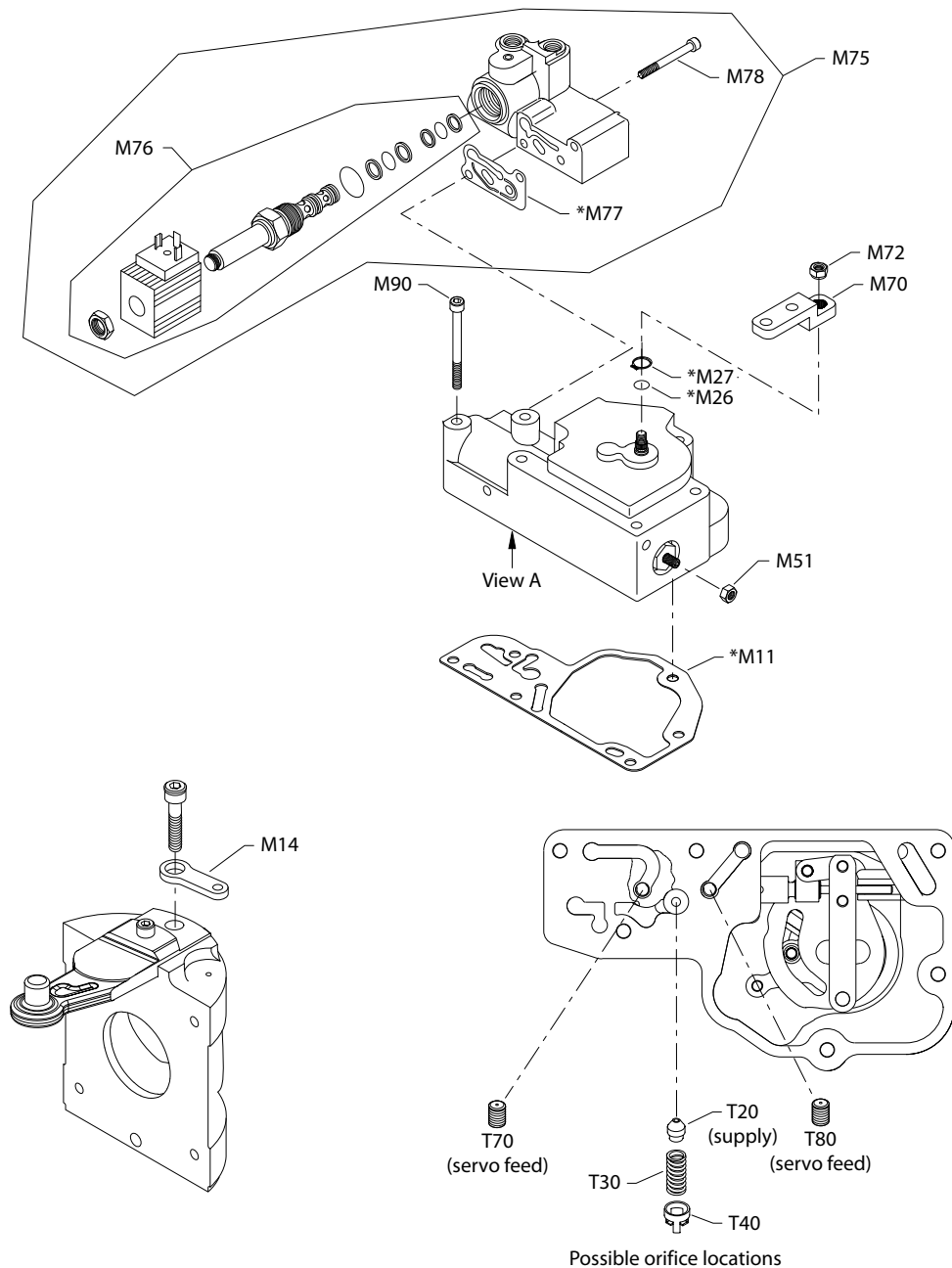
Order code: NC

M11	94-50	14-42	504733	Control gasket	1
M14	96-40	14-42	11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-50	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	94-30	14-42	144725 (9004105-0110)	O-ring	1
M27	94-30	14-42	042557 (9006300-0044)	Retaining ring	1
M51	94-30	14-42	345462	Nut	1
M70	94-50	14-42	9800916	Control handle	1
M72	94-50	14-42	040642 (9003513-0800)	Nut	1
M75	94-50	14-42	502128	Control manifold	1
M76	94-50	14-42	9700803	Solenoid valve	1
M77	94-50	14-42	502129	Manifold gasket	1
M78	94-50	14-42	693341 (9007314-0606)	Screw	2
M90	94-50	14-42	9007314-0614	Screw	6
QM10	94-50	14-42	11098758	MDC kit, NL	1
QM210	94-50	14-42	11099983	Control seal kit	1

Control

S90P control NE

Parts configuration



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

* Included in control seal kit QM210

Control

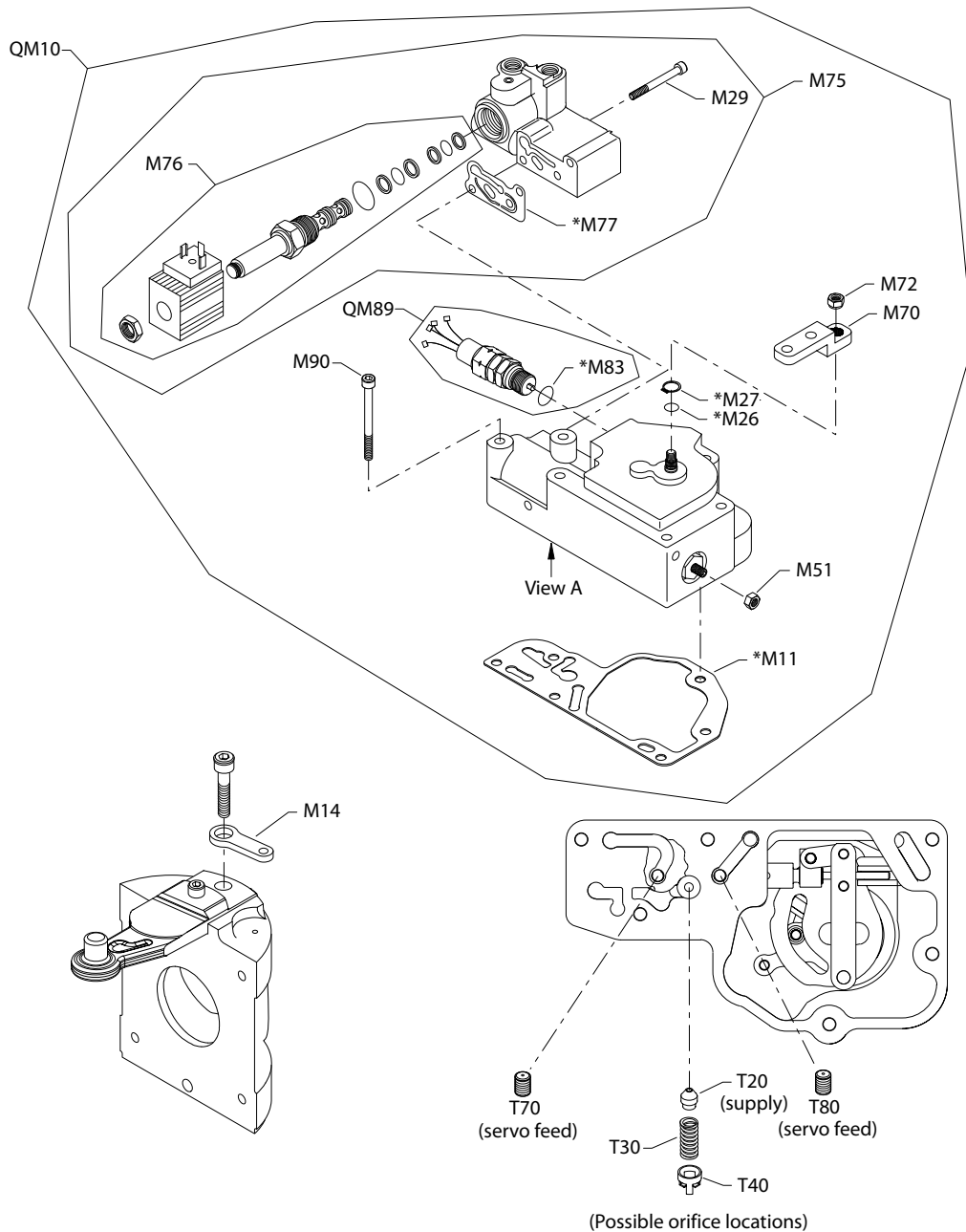
Order code: NE

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	94-05	14-15	504733	Control gasket	1
M14	96-40	14-15	11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-05	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M26	94-05	14-15	144725 (9004105-0110)	O-ring	1
M27	94-05	14-15	042557 (9006300-0044)	Retaining ring	1
M51	94-05	14-15	345462	Nut	1
M70	94-05	14-15	769075	Control handle, sharp bend	1
M72	94-05	14-15	040642 (9003513-0800)	Nut	1
M75	94-05	14-15	500147	Control manifold assembly	1
M76	94-05	14-15	8700100	Solenoid valve	1
M77	94-05	14-15	500260	Manifold gasket	1
M78	94-05	14-15	692889 (9007314-0611)	Screw	2
M90	94-05	14-15	9007314-0614	Screw	6
QM210	94-05	14-15	11100415	Control seal kit	1

Control

S90P control NU

Parts configuration



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

* Included in control seal kit QM210

Control

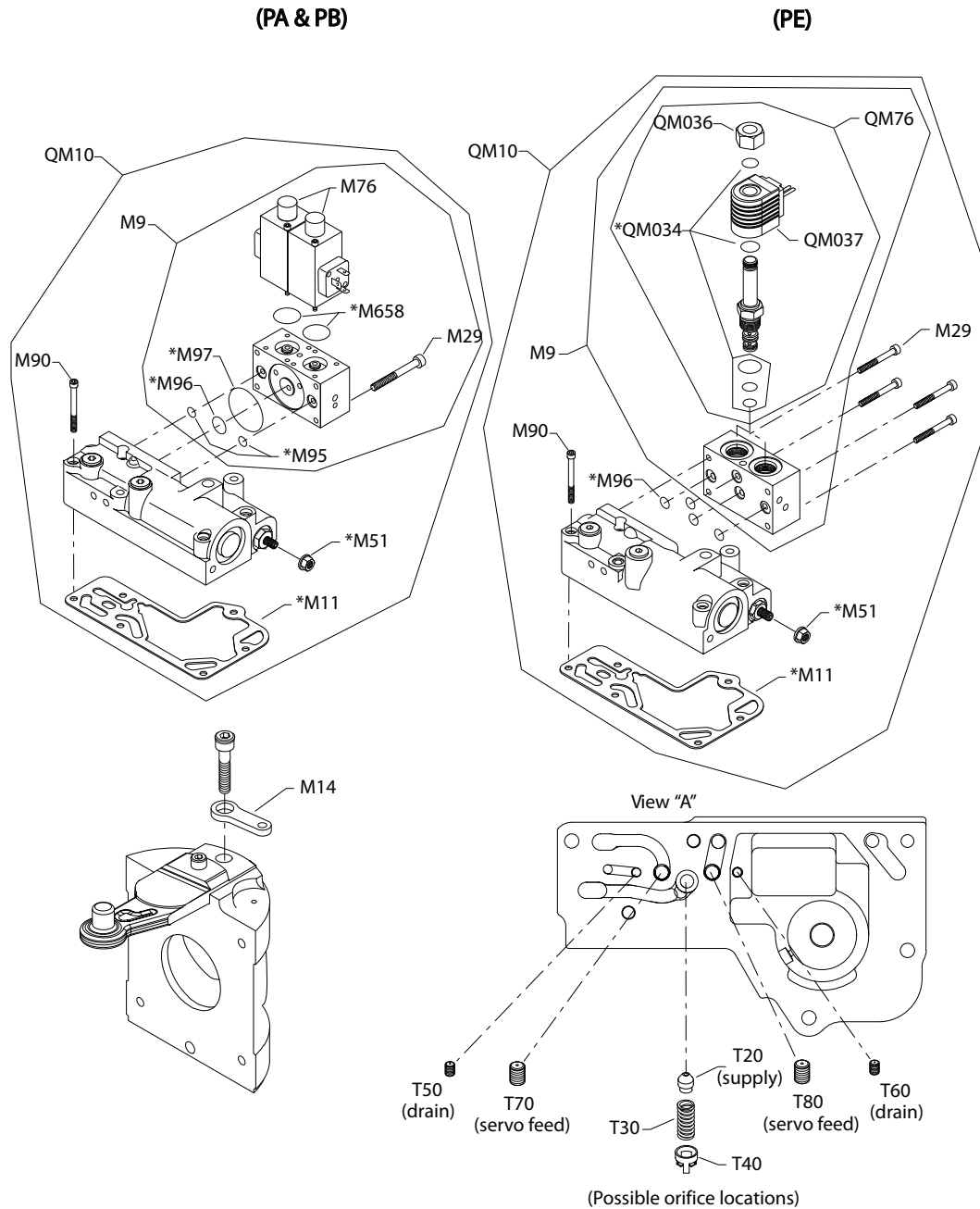
Order code: NU

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	94-05		504733	Control gasket	1
M14	96-40		11070306	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-05	96-39	8200344	Feedback link (SB-1996-009 on page 329)	1
M26	94-05		144725 (9004105-0110)	O-ring	1
M27	94-05		042507 (9006300-0044)	Retaining ring	1
M29	94-05		692889 (9007314-0611)	Screw	2
M51	94-05		345462	Nut	1
M70	94-05		769075	Control handle, sharp bend	1
M72	94-05		040642 (9003513-0800)	Nut	1
M75	94-05		500147	Control manifold assembly	1
M76	94-05		8700100	Solenoid valve	1
M77	94-05		500260	Manifold gasket	1
M83	94-05		784686 (9004104-0130)	O-ring	1
M90	94-05		9007314-0614	Screw	6
QM10	94-05		11015114	MDC kit, NL w/nss	1
QM89	94-05		11087773	Back-up alarm switch kit	1
QM210	94-05		11100415	Control seal kit	1

Control

S90P 75cc control PA, PB

Parts configuration



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

* Included in control seal kit QM210

Control

Control code: PA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	94-07		782037	PDC, 12 volt	1
M11	94-07		8801241	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-07	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M29	94-07		035592	Screw	4
M51	94-07		9003509-0008	Seal nut	1
M76	94-07		11001795	Solenoid, 12 volt, din connector	2
M90	94-07		692889 (9007314-0611)	Screw	6
M95	94-07		011296 (9004105-0120)	O-ring	2
M96	94-07		688721 (9004104-0170)	O-ring	1
M97	94-07		314534 (9004104-0310)	O-ring	1
M658	94-07		635938 (9004100-0210)	O-ring	2
QM10	94-07		8510166	HDC2, w/PDC	1
QM210	94-07		11096251	Control seal kit	1

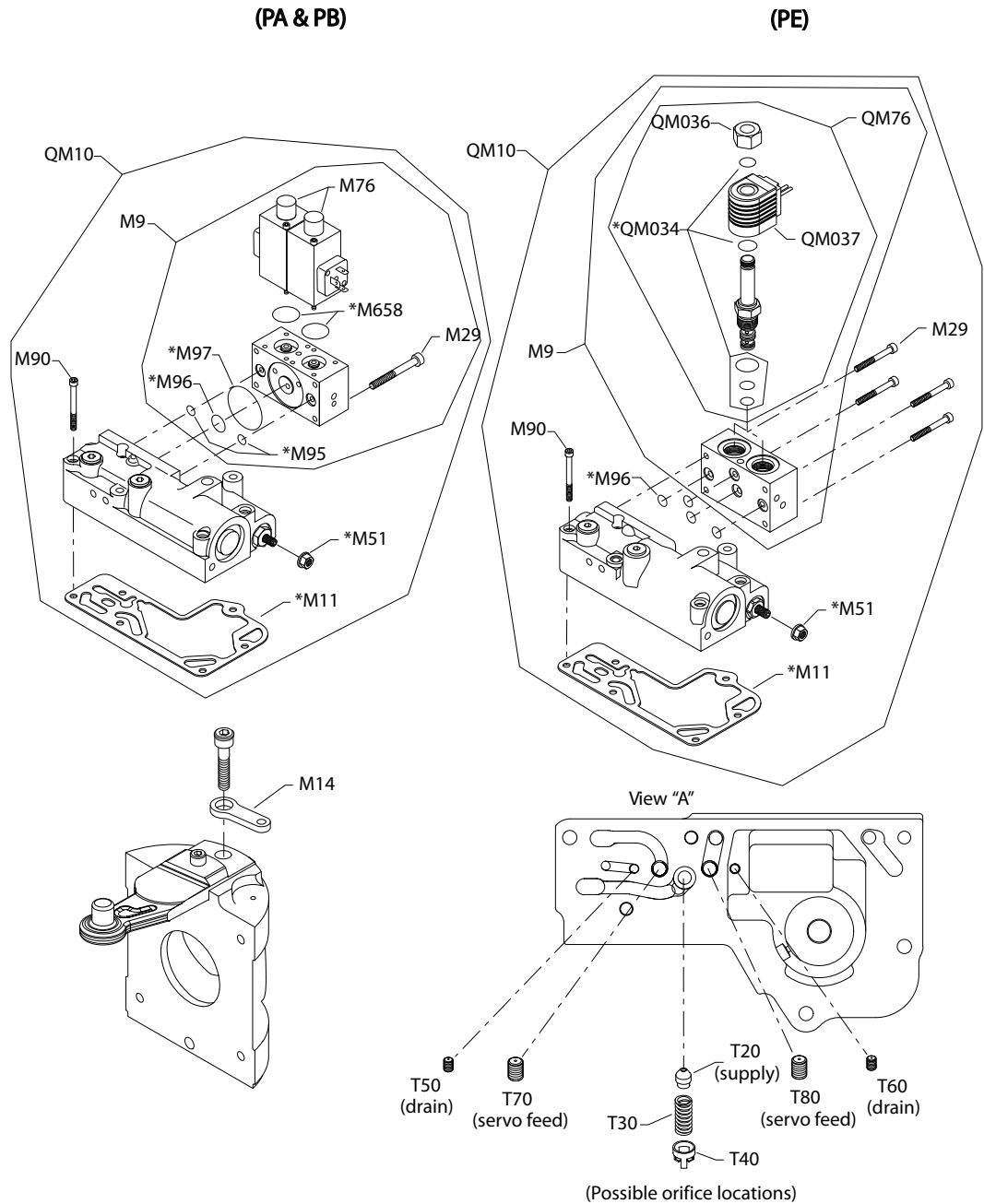
Order code: PB

M9	94-15		782045	PDC, 24 volt	1
M11	94-15		8801241	Control gasket	1
M14	96-40		11070305	Feedback link (SB-1999-019 on page 338 & SB-2013-011 on page 359)	1
M14	94-15	96-39	8000481	Feedback link (SB-1996-009 on page 329)	1
M29	94-15		035592	Screw	4
M51	94-15		9003509-0008	Seal nut	1
M76	94-15		11001794	Solenoid, 24 volt, din connector	2
M90	94-15		692889 (9007314-0611)	Screw	6
M95	94-15		011296 (9004105-0120)	O-ring	2
M96	94-15		688721 (9004104-0170)	O-ring	1
M97	94-15		314534 (9004104-0310)	O-ring	1
M658	94-15		635938 (9004100-0210)	O-ring	2
QM10	94-15		11034092	Electro-hydraulic control kit	1
QM210	94-15		11096251	Control seal kit	1

Control

S90P control PE

Parts configuration



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

* Included in control seal kit QM210

Control

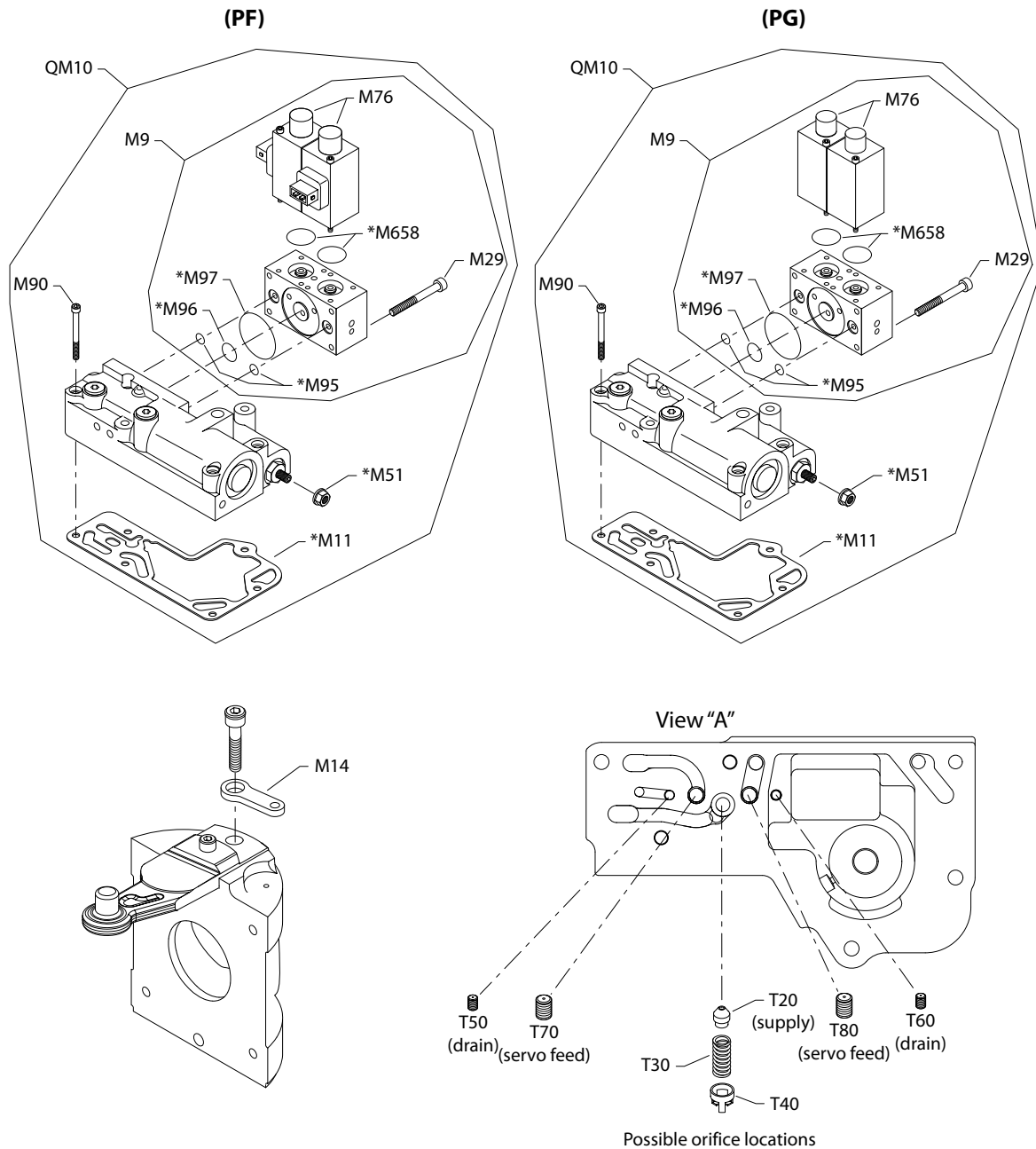
Order code: PE

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	10-30		11175053	HIC, proportional reducing manifold assembly	1
M11	10-30		8801241	Control gasket	1
M14	10-30		11070306	Feedback link	1
M29	10-30		K28807	Screw	4
M51	10-30		9003509-0008	Seal nut	1
M90	10-30		692889 (9007314-0611)	Screw	6
M96	10-30		9004105-0120	O-ring	4
QM10	10-30		8510286	EDC, high current, 3-11 bar, 12 volt	1
QM034	10-30		11100210	Solenoid valve seal kit	2
QM036	10-30		11175054	Coil nut	2
QM037	10-30		322466	Coil, 12 volt	2
QM76	10-30		138108	Solenoid valve, 12 volt	2
QM210	10-30		11100211	Control seal kit	1

Control

S90P control PF, PG

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: PF

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	03-32		519719	PDC, 12 volt	1
M11	03-32		8801241	Control gasket	1
M14	03-32		11070305	Feedback link (SB-2013-011 on page 359)	1
M29	03-32		035592	Screw	4
M51	03-32		9003509-0008	Seal nut	1
M76	03-32		11001793	Solenoid, 12 volt, AMP connector	2
M90	03-32		692889 (9007314-0611)	Screw	6
M95	03-32		011296 (9004105-0120)	O-ring	2
M96	03-32		688721 (9004104-0170)	O-ring	1
M97	03-32		314534 (9004104-0310)	O-ring	1
M658	03-32		635938 (9004100-0210)	O-ring	2
QM10	03-32		11098760	EDC2, 12 volt, AMP connector	1
QM210	03-32		11096251	Control seal kit	1

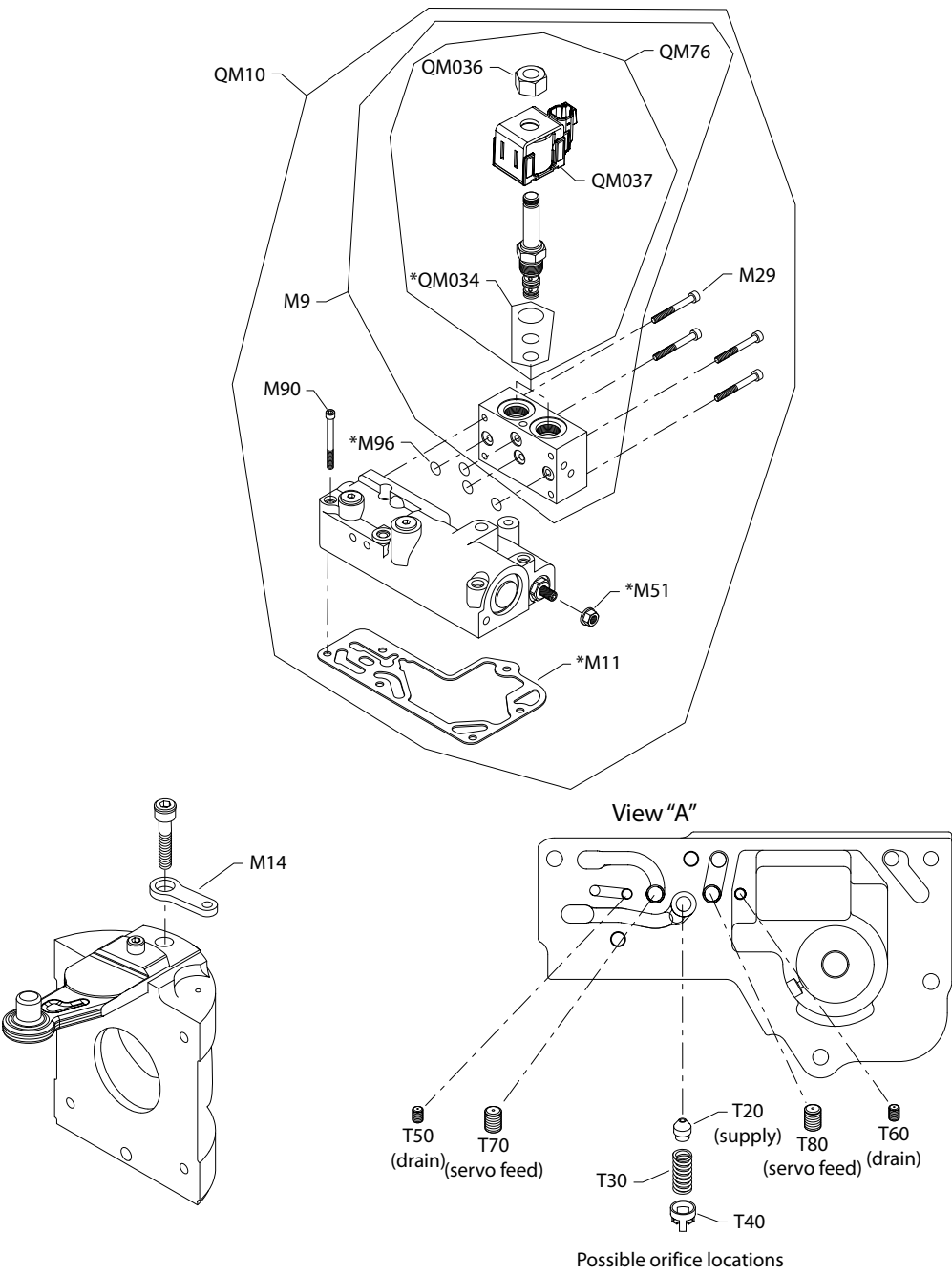
Order code: PG

M9	06-13		11001679	PDC, 12 volt	1
M11	06-13		8801241	Control gasket	1
M14	06-13		11070305	Feedback link (SB-2013-011 on page 359)	1
M29	06-13		035592	Screw	4
M51	06-13		9003509-0008	Seal nut	1
M76	06-13		11001793	Solenoid, 12 volt, AMP connector	2
M90	06-13		692889 (9007314-0611)	Screw	6
M95	06-13		011296 (9004105-0120)	O-ring	2
M96	06-13		688721 (9004104-0170)	O-ring	1
M97	06-13		314534 (9004104-0310)	O-ring	1
M658	06-13		635938 (9004100-0210)	O-ring	2
QM10	06-13		11098761	EDC2, 12 volt, AMP connector	1
QM210	06-13		11096251	Control seal kit	1

Control

S90P control PH, PJ

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: PH

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M9	13-37		11120541	HIC, proportional reducing manifold assembly	1
M11	13-37		8801241	Control gasket	1
M14	13-37		11070305	Feedback link	1
M29	13-37		K28807	Screw	4
M51	13-37		9003509-0008	Seal nut	1
M90	13-37		692889 (9007314-0611)	Screw	6
M96	13-37		9004105-0120	O-ring	4
QM10	13-37		11121735	EDC, high current	1
QM034	13-37		11175057	Solenoid valve seal kit	2
QM036	13-37		11117349	Coil nut	2
QM037	13-37		171180419	Coil, 12 volt	2
QM76	13-37		11120557	Solenoid valve, 12 volt	2
QM210	13-37		11138468	Control seal kit	1

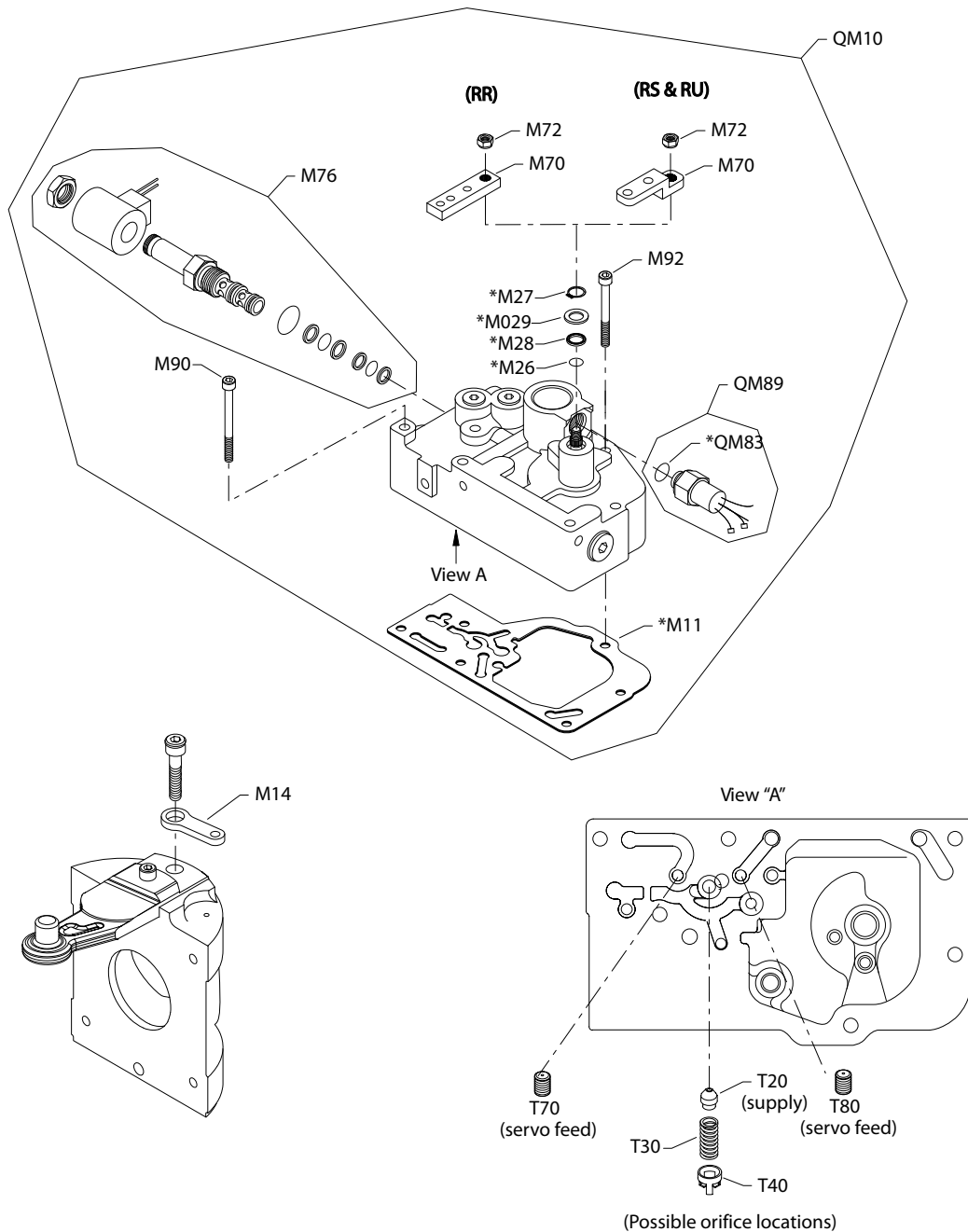
Order code: PJ

M9	14-15		11175061	HIC, proportional reducing manifold assembly	1
M11	14-15		8801241	Control gasket	1
M14	14-15		11070305	Feedback link	1
M29	14-15		K28807	Screw	4
M51	14-15		9003509-0008	Seal nut	1
M90	14-15		692889 (9007314-0611)	Screw	6
M96	14-15		9004105-0120	O-ring	4
QM10	14-15		11141115	EDC, high current	1
QM034	14-15		11175057	Solenoid valve seal kit	2
QM036	14-15		11175058	Coil nut	2
QM037	14-15		11175074	Coil, 24 volt	2
QM76	14-15		11136795	Solenoid valve, 24 volt	2
QM210	14-15		11138468	Control seal kit	1

Control

S90P control RR, RS

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: RR

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	99-06		510378	Control gasket	1
M14	99-06		11070306	Feedback link (SB-2013-011 on page 359)	1
M26	99-06		144725 (9004105-0110)	O-ring	1
M27	99-06		042507 (9006300-0044)	Retaining ring	1
M28	99-06		510690	Lip seal	1
M70	99-06		9800916	Control handle	1
M72	99-06		040642 (9003513-0800)	Nut	1
M76	99-06		513582	Solenoid valve, 12 volt	1
M90	99-06		354407	Screw	5
M92	99-06		510382	Screw	1
QM10	99-06		8510245	MDC kit, roller	1
QM83	99-06		001131 (9004201-5000)	O-ring	1
QM89	99-06		11099847	Neutral start switch, high force	1
QM210	99-06		11100030	Control seal kit	1

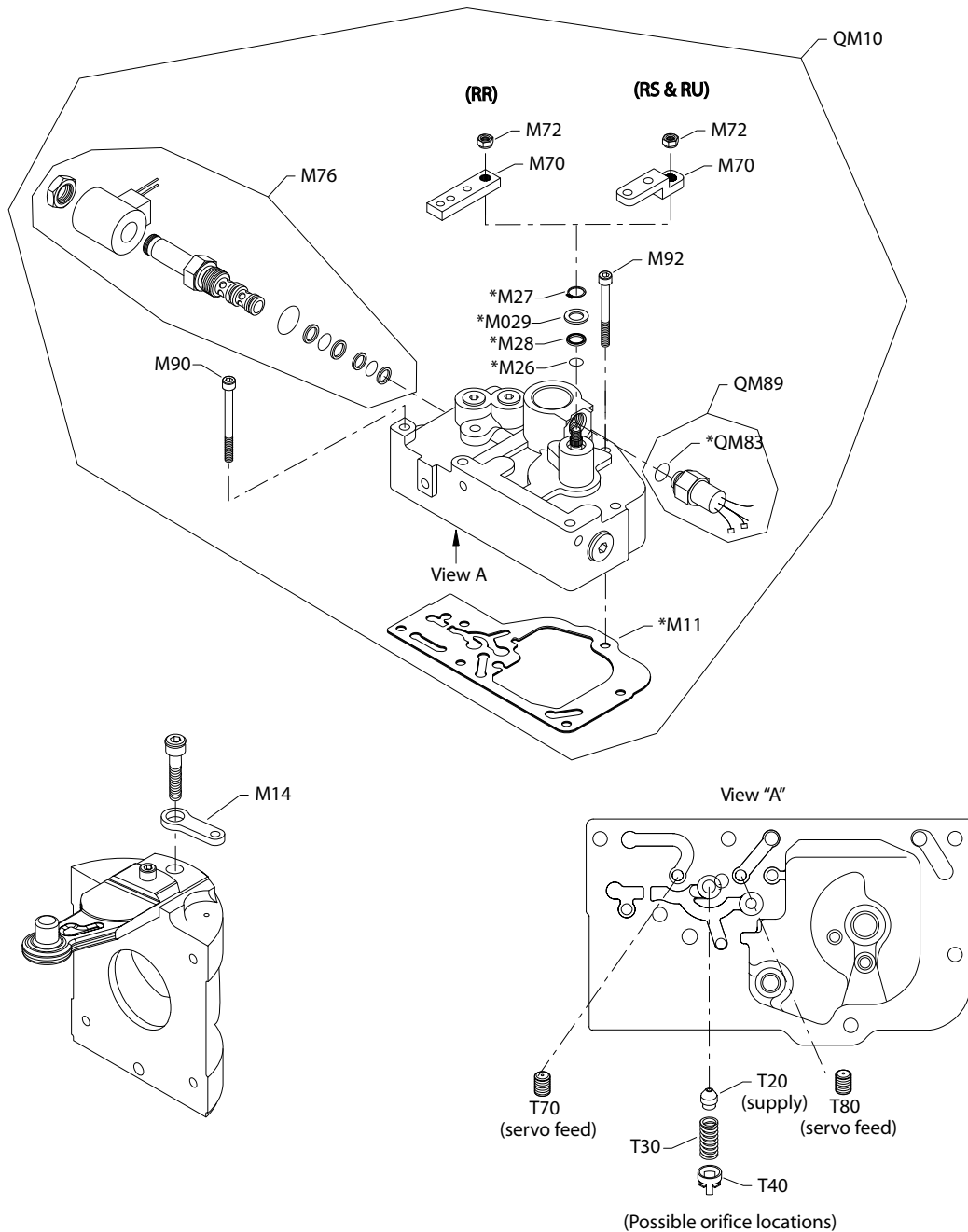
Order code: RS

M11	01-15		510378	Control gasket	1
M14	01-15		11070306	Feedback link (SB-2013-011 on page 359)	1
M26	01-15		144725 (9004105-0110)	O-ring	1
M27	01-15		042507 (9006300-0044)	Retaining ring	1
M28	01-15		510690	Lip seal	1
M70	01-15		769075	Control handle, sharp bend	1
M72	01-15		040642 (9003513-0800)	Nut	1
M76	01-15		513018	Solenoid valve, 24 volt	1
M90	01-15		354407	Screw	5
M92	99-06		510382	Screw	1
QM10	01-15		11087610	MDC kit, roller	1
QM83	01-15		001131 (9004201-5000)	O-ring	1
QM89	01-15		11099847	Neutral start switch, high force	1
QM210	01-15		11100030	Control seal kit	1

Control

S90P control RU

Parts configuration



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

* Included in control seal kit QM210

Control

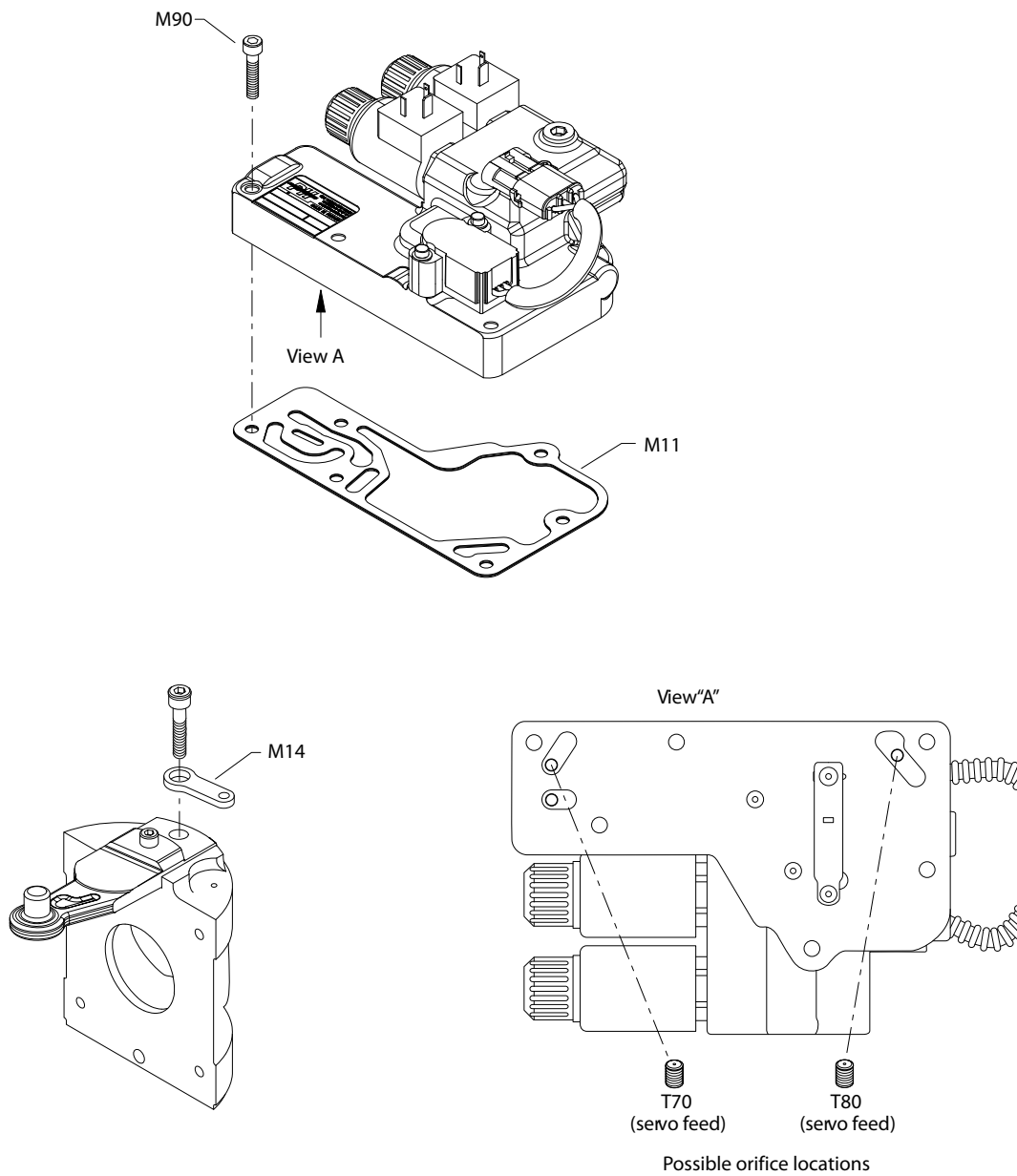
Order code: RU

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	97-30		510378	Control gasket	1
M14	97-30		11070306	Feedback link (SB-2013-011 on page 359)	1
M26	97-30		144725 (9004105-0110)	O-ring	1
M27	97-30		042507 (9006300-0044)	Retaining ring	1
M28	97-30		510690	Lip seal	1
M70	97-30		769075	Control handle, sharp bend	1
M72	97-30		040642 (9003513-0800)	Nut	1
M76	97-30		11197563	Solenoid valve, 12 volt	1
M90	97-30		354407	Screw	5
M92	99-06		510382	Screw	1
QM10	97-30		11087609	MDC kit, roller	1
QM83	97-30		001131 (9004201-5000)	O-ring	1
QM89	97-30		11099847	Neutral start switch, high force	1
QM210	97-30		11100030	Control seal kit	1

Control

S90P control SA-SE

Parts configuration



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

* Included in control seal kit QM210

Control

Order code: SA

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	07-23		8800923	Gasket	1
M14	07-23		11070305	Feedback link	1
M90	07-23		694356 (9007314-0608)	Screw	6

Order code: SB

M11	07-23		8800923	Gasket	1
M14	07-23		11070305	Feedback link	1
M90	07-23		694356 (9007314-0608)	Screw	6

Order code: SD

M11	10-34		8800923	Gasket	1
M14	10-34		11070305	Feedback link	1
M90	10-34		694356 (9007314-0608)	Screw	6

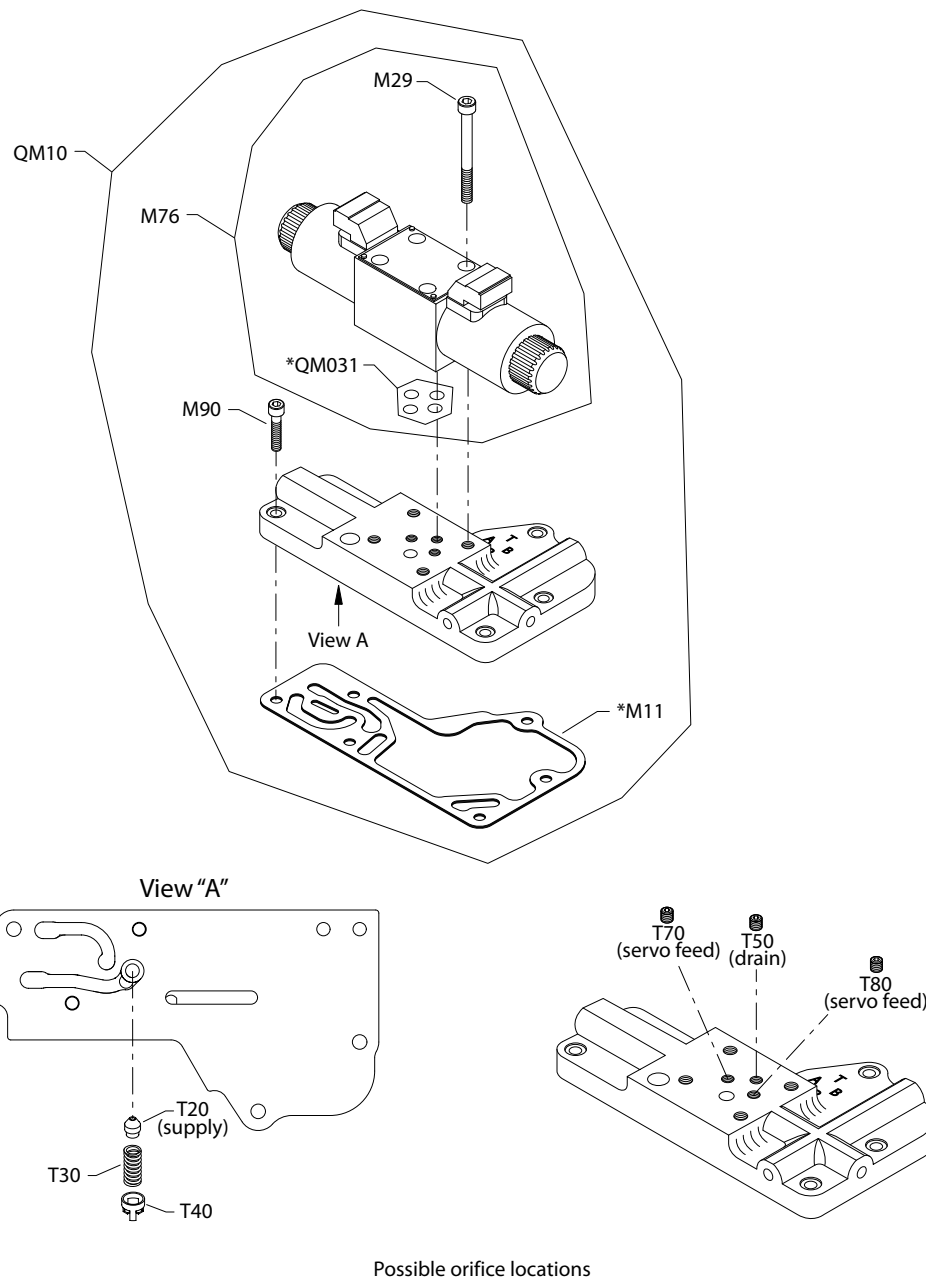
Order code: SE

M11	10-34		8800923	Gasket	1
M14	10-34		11070305	Feedback link	1
M90	10-34		694356 (9007314-0608)	Screw	6

Control

S90P control SC

Parts configuration



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

* Included in control seal kit QM210

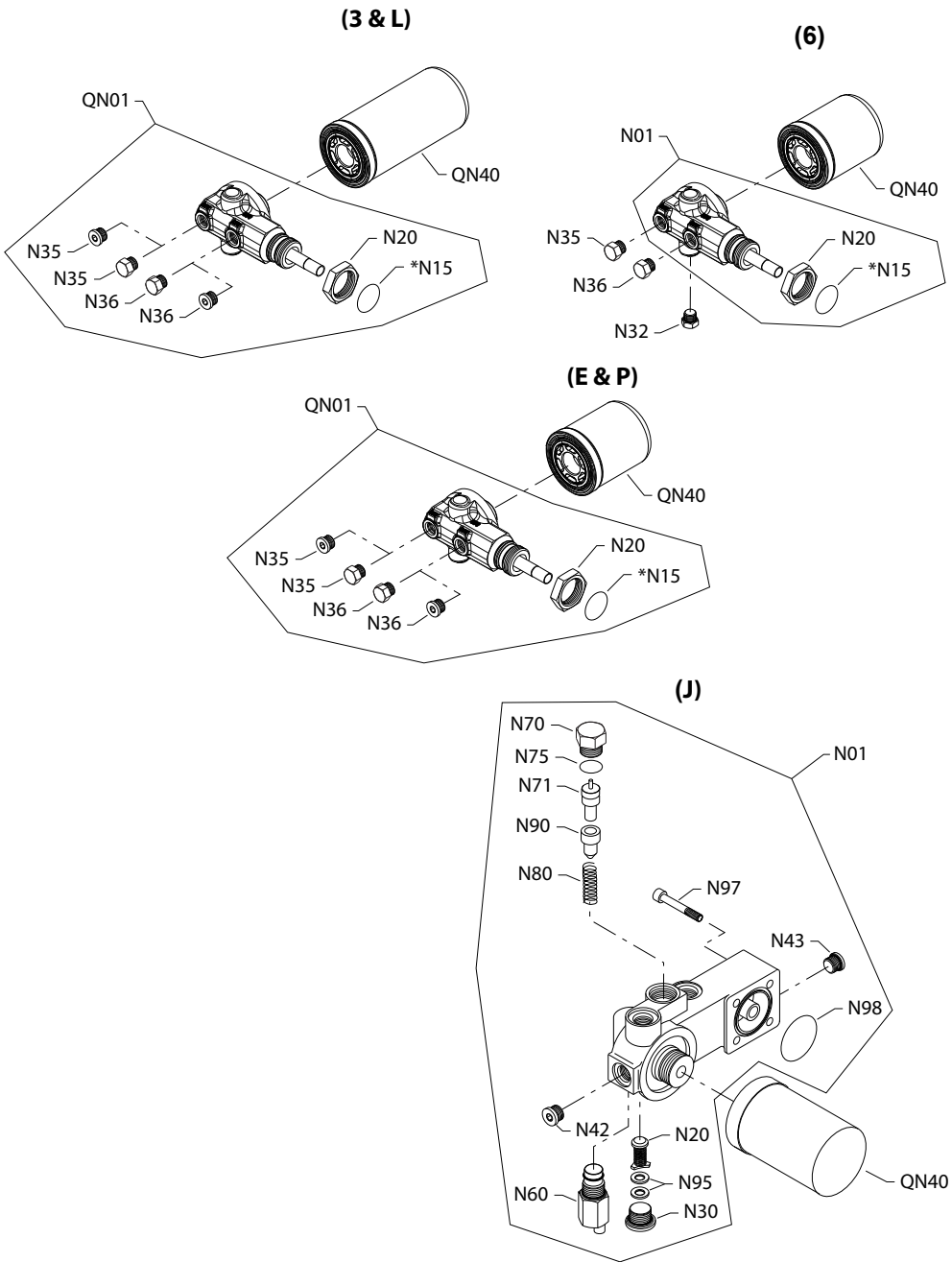
Control*Order code: SC*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M11	98-21		8800923	Gasket	1
M29	98-21		035592	Screw	4
M76	98-21		509848/P	Solenoid valve, 12 volt	1
M90	98-21		693341 (9007314-0606)	Screw	6
QM10	98-21		11098762	Control kit, 3-position, 12 volt	1
QM031	98-21		11099647	Valve seal kit	1
QM210	98-21		11096172	Control seal kit	1

Filtration

S90P 75cc filtration 3-J

Parts configuration



* included in base pump seal kit Q210

Filtration
Order code: 3

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N15	99-18		001172 (9004201-9000)	O-ring	1
N20	99-18		11049997	Nut	1
N35	99-18		140644 (9005100-5600)	Plug assembly	1
N36	99-18		140644 (9005100-5600)	Plug assembly	1
QN01	99-18		11145249	Filter manifold kit	1
QN40	99-18		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 (9005100-5600)	Plug assembly	1
N35	00-01		140644 (9005100-5600)	Plug assembly	1
N36	00-01		140644 (9005100-5600)	Plug assembly	1
QN40	00-01		11004917	Filter, short	1

Order code: E

N15	96-46		001172 (9004201-9000)	O-ring	1
N20	96-46		360768	Check valve	1
N35	96-46		140644 (9005100-5600)	Plug assembly	1
N36	96-49		140644 (9005100-5600)	Plug assembly	1
QN01	96-46		11145249	Filter manifold kit	1
QN40	96-46		11004917	Filter, short	1

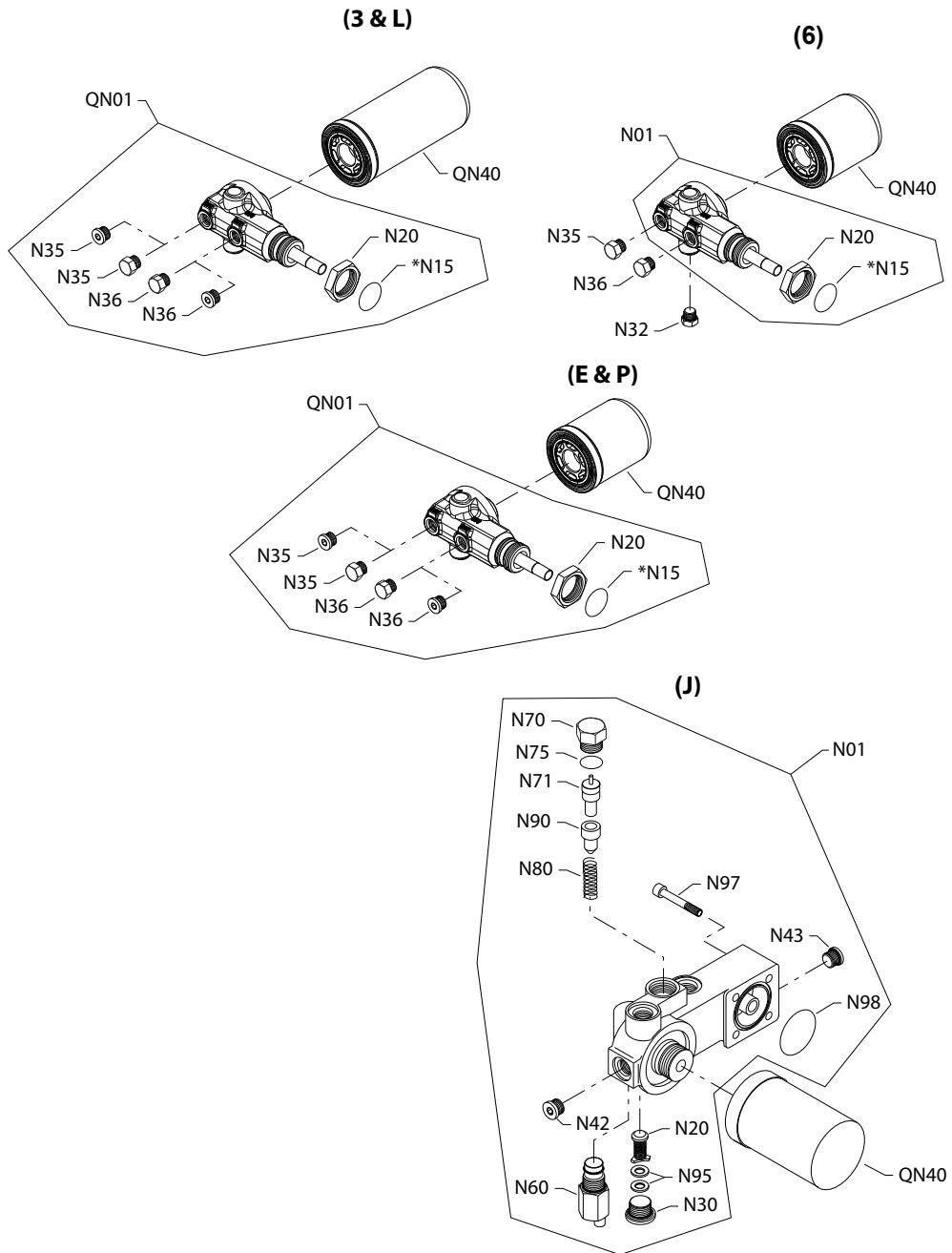
Order code: J

N01	96-46		500120	Filter manifold assembly	1
N20	96-46		360768	Check valve	1
N30	96-46		365965	Plug assembly	1
N42	96-46		140644 (9005100-5600)	Plug assembly	1
N43	96-46		140644 (9005100-5600)	Plug assembly	1
N60	96-46		500114	Indicator	1
N70	96-46		502184	Screw	1
N71	96-46		347419	Wax element	1
N75	96-46		001149	O-ring	1
N80	96-46		502224	Spring	1
N90	96-46		502240	Bushing	1
N95	96-46		500115	Washer	2
N97	96-46		376269	Screw	4
N98	96-46		9004104-0320	O-ring	1
QN40	96-46		11004917	Filter, short	1

Filtration

S90P 75cc filtration L, P

Parts configuration



* included in base pump seal kit Q210

Filtration
Order code: L

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N15	87-02		001172	O-ring	1
N20	95-18		11049997	Nut (SB-1994-36 on page 323)	1
N20	87-02	95-17	700492 (9002863-1600)	Nut	1
N35	87-02		140644 (9005100-5600)	Plug assembly	1
N36	87-02		140644 (9005100-5600)	Plug assembly	1
QN01	87-02		11145249	Filter manifold kit	1
QN40	87-02		11004919	Filter, long	1

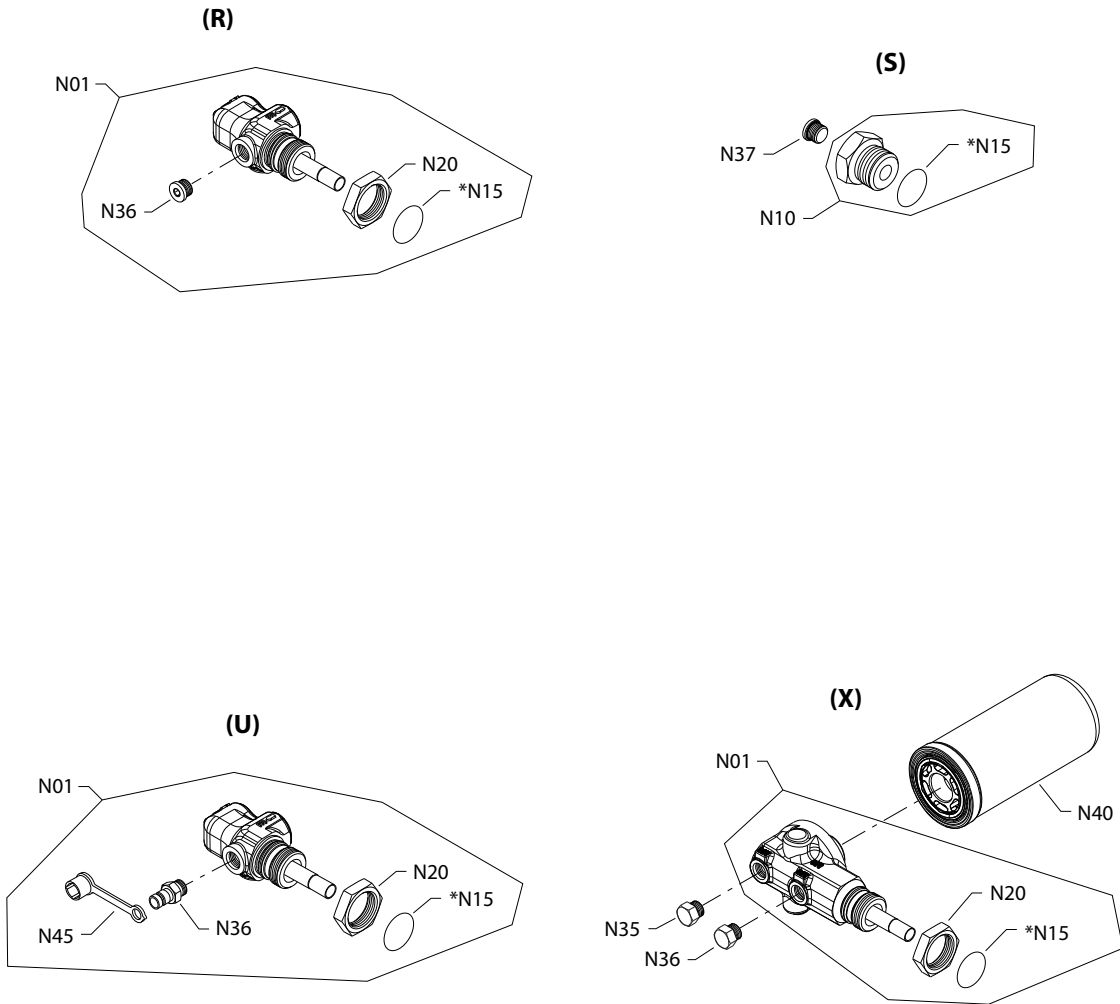
Order code: P

N15	87-02		001172 (9004201-9000)	O-ring	1
N20	95-18		11049997	Nut (SB-1994-36 on page 323)	1
N20	87-02	95-17	700492 (9002863-1600)	Nut	1
N35	87-02		140644 (9005100-5600)	Plug assembly	1
N36	87-02		140644 (9005100-5600)	Plug assembly	1
QN01	87-02		11145249	Filter manifold kit	1
QN40	87-02		11004917	Filter, short	1

Filtration

S90P 75cc filtration R-X

Parts configuration



* included in base pump seal kit Q210

Filtration
Order code: R

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N01	87-02		11060427	Filter manifold assembly	1
N15	87-02		001172 (9004201-9000)	O-ring	1
N20	95-18		11049997	Nut (SB-1994-36 on page 323)	1
N20	87-02	95-17	700492 (9002863-1600)	Nut	1
N36	87-02		140644 (9005100-5600)	Plug assembly	1

Order code: S

N10	87-02		707554 (5000230)	Reducer assembly	1
N15	87-02		001172 (9004201-9000)	O-ring	1
N37	87-02		140644 (9005100-5600)	Plug assembly	1

Order code: U

N01	96-16		11060428	Filter manifold assembly	1
N15	96-16		001172 (9004201-9000)	O-ring	1
N20	96-16		11049997	Nut	1
N36	96-16		140644	Plug assembly	1
N41	96-16		8700127	Diagnostic receptacle	1
N45	96-16		8700128	Dust cover	1

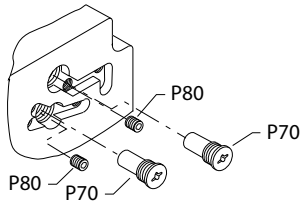
Order code: X

N01	01-01		11060344	Filter manifold assembly	1
N15	01-01		001172 (9004201-9000)	O-ring	1
N20	01-01		11049997	Nut	1
N25	01-01		700302 (8800180)	Tube	1
N35	01-01		9005100-5600	Plug assembly	1
N36	01-01		9005100-5600	Plug assembly	1
QN40	01-01		11004919	Filter, long	1

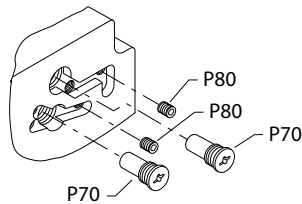
High pressure protection

S90 75cc pump high pressure regulation 1-7

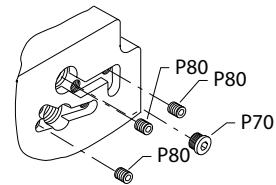
Parts configuration



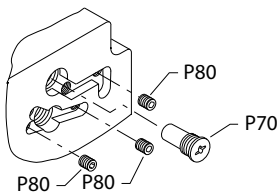
View "A" of end cap
 with pressure limiters,
 CCW pump rotation.
Options 1, 5, 6 and F



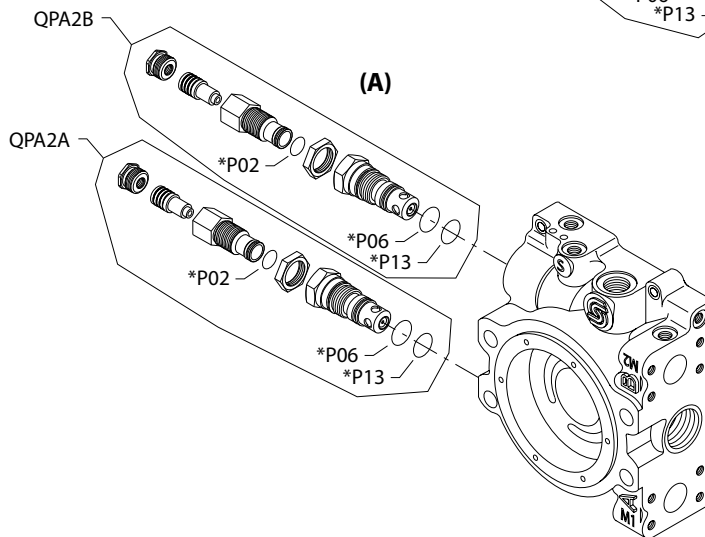
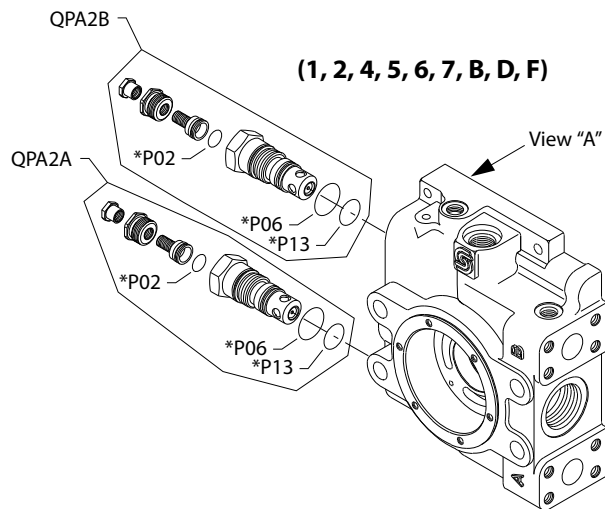
View "A" of end cap
 with pressure limiters,
 CW pump rotation.
Options 1, 5, 6 and F



View "A" of end cap
 without pressure limiters,
 CCW and CW pump rotation.
Options 2 and 7



View "A" of end cap
 with pressure limiter port A,
 CW pump rotation.
Option B



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: 1

P70	87-02		8800188	Check valve	2
P80	87-02		9005475-004	Special plug assembly	2
QPA2A	87-02		8510022-1	Multi-function valve kit	1
QPA2B	87-02		8510022-1	Multi-function valve kit	1

Order code: 2

P70	87-02		9005110-4400	Plug (SB-1989-003 on page 306)	1
P80	87-02		9005475-0004	Special plug assembly	3
QPA2A	87-02		8510022-2	Multi-function valve kit	1
APA2B	87-02		8510022-2	Multi-function valve kit	1

Order code: 4

QPA2A	87-02		8510022-7	Multi-function valve kit	1
QPA2B	87-02		8510022-7	Multi-function valve kit	1

Order code: 5

P70	87-02		8800188	Check valve	2
P80	87-02		9005475-0004	Special plug assembly	2
QPA2A	87-02		8510240	Multi-function valve kit	1
QPA2B	87-02		8510240	Multi-function valve kit	1

Order code: 6

P70	87-02		8800188	Check valve	2
P80	87-02		9005475-0004	Special plug assembly	2
QPA2A	87-02		8510240	Multi-function valve kit	1
QPA2B	87-02		8510240	Multi-function valve kit	1

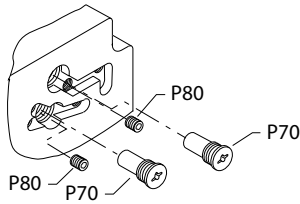
Order code: 7

P70	87-02		9005110-4400	Plug (SB-1989-003 on page 306)	1
P80	87-02		9005475-0004	Special plug assembly	3
QPA2A	87-02		8510022-7	Multi-function valve kit	1
QPA2B	87-02		8510022-7	Multi-function valve kit	1

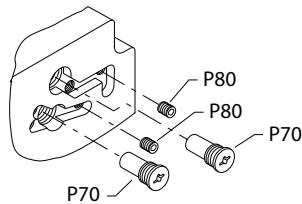
High pressure protection

S90P 75cc high pressure regulation A-F

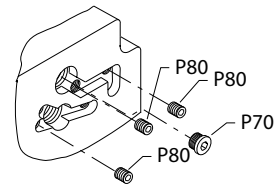
Parts configuration



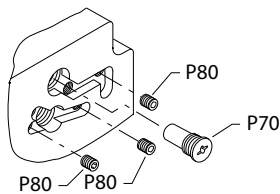
View "A" of end cap
 with pressure limiters,
 CCW pump rotation.
Options 1, 5, 6 and F



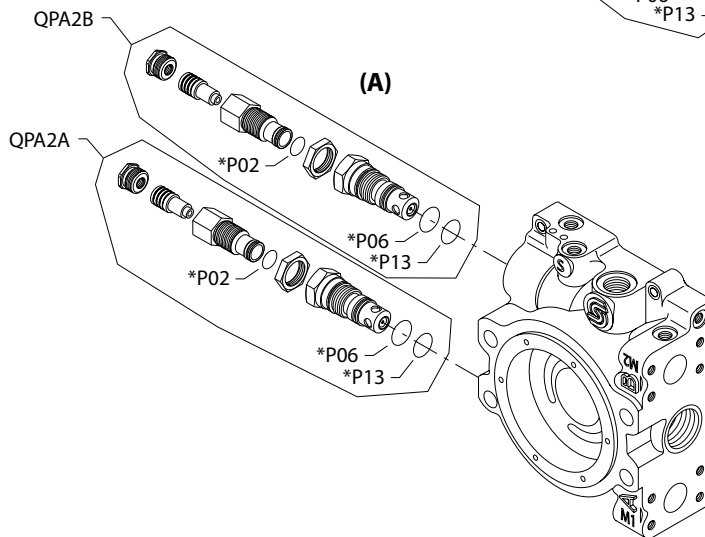
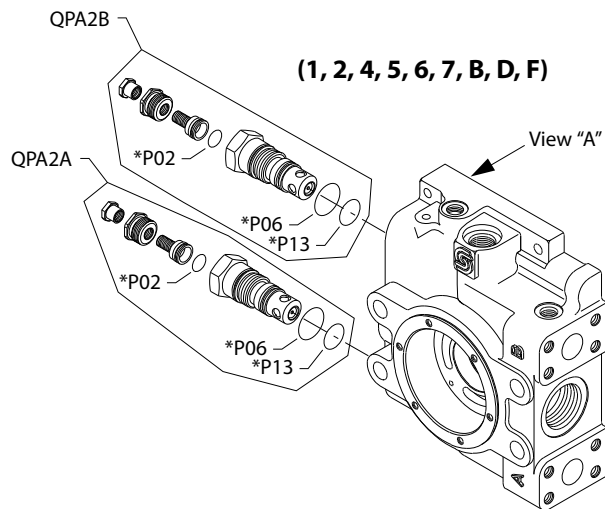
View "A" of end cap
 with pressure limiters,
 CW pump rotation.
Options 1, 5, 6 and F



View "A" of end cap
 without pressure limiters,
 CCW and CW pump rotation.
Options 2 and 7



View "A" of end cap
 with pressure limiter port A,
 CW pump rotation.
Option B



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: A

QPA2A	87-02		8510202	Multi-function valve kit, 420 bar	1
QP2AB	87-02		8510202	Multi-function valve kit, 420 bar	1

Order code: B

P70	95-22		8800188	Check valve	1
P80	95-22		9005475-0004	Special plug assembly	3
QPA2A	95-22		8510022-1	Multi-function valve kit	1
QPA2B	95-22		8510022-7	Multi-function valve kit	1

Order code: D

QPA2A	92-39		8510388	Multi-function valve kit, 420 bar	1
QP2AB	92-39		8510388	Multi-function valve kit, 420 bar	1

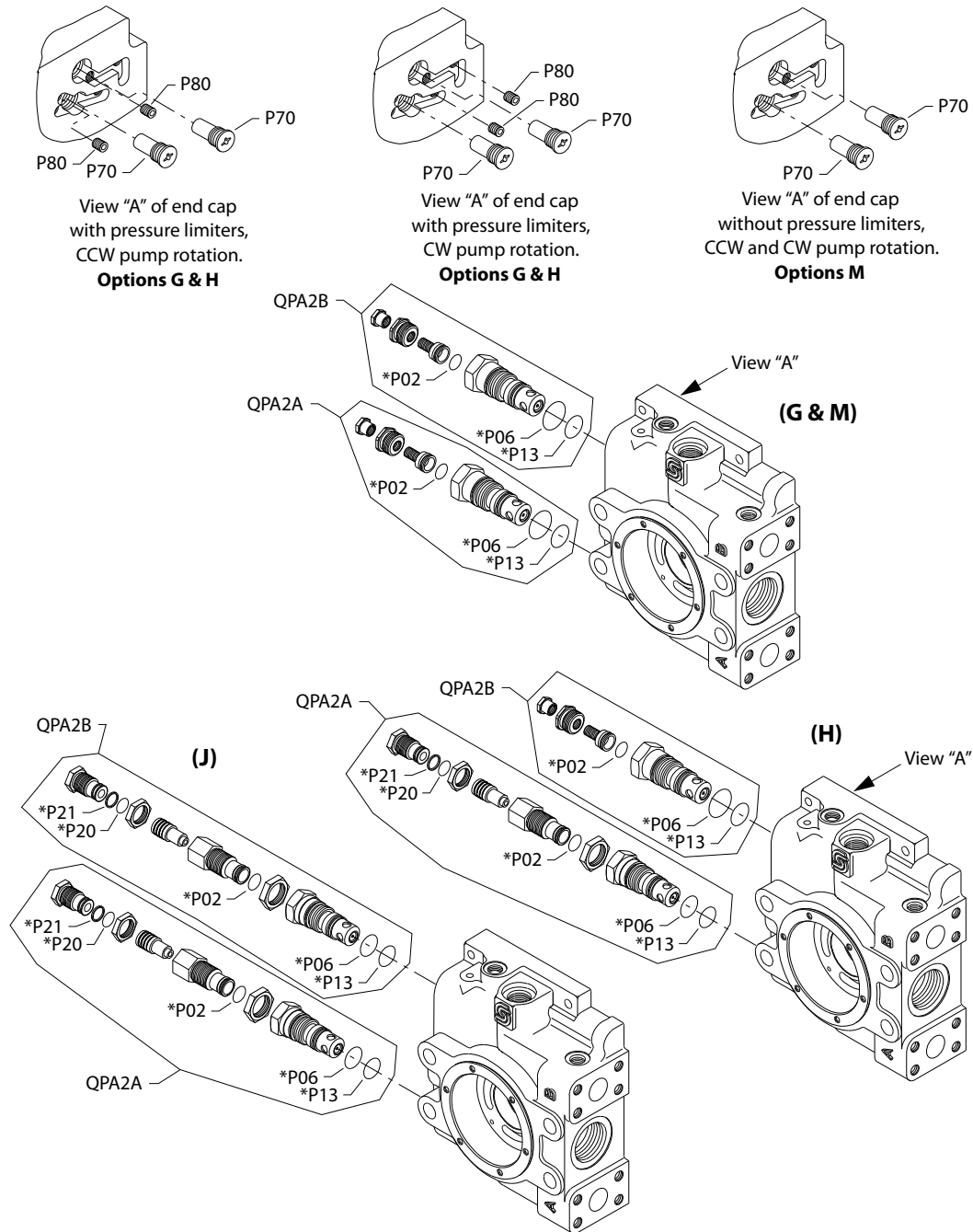
Order code: F

P70	04-36		8800188	Check valve	2
P80	04-36		9005475-0004	Special plug assembly	2
QPA2A	04-36		8510022-2	Multi-function valve kit	1
QPA2B	04-36		8510022-2	Multi-function valve kit	1

High pressure protection

S90P 75cc high pressure regulation G-M

Parts configuration



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: G

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

P20	97-40		9004105-0160	O-ring	1
P21	97-40		9006110-0160	Backup O-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	1
QPA2B	97-40		8510022-1	Multi-function valve kit	1

Order code: J

P20	97-06		9004105-0160	O-ring	2
P21	97-06		9006110-0160	Backup O-ring	2
QPA2A	97-06		8510273	Multi-function valve kit	1
QPA2B	97-06		8510273	Multi-function valve kit	1

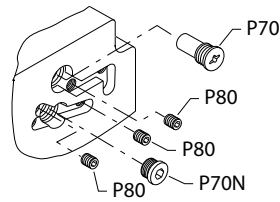
Order code: M

P70	98-11		8800188	Check valve	2
QPA2A	98-11		8510022-1	Multi-function valve kit	1
QPA2B	98-11		8510022-1	Multi-function valve kit	1

High pressure protection

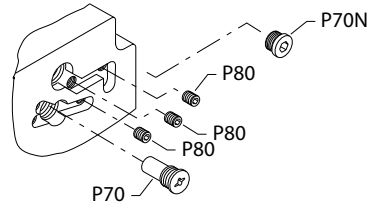
S90P 75cc high pressure regulation N, P

Parts configuration



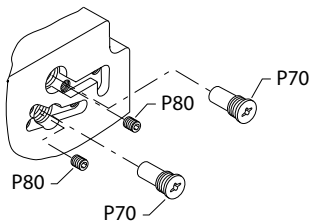
View "A" of end cap
 with pressure limiter port B,
 CCW pump rotation.

Option N



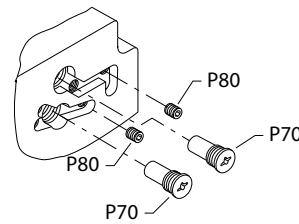
View "A" of end cap
 with pressure limiter port B,
 CW pump rotation.

Option N



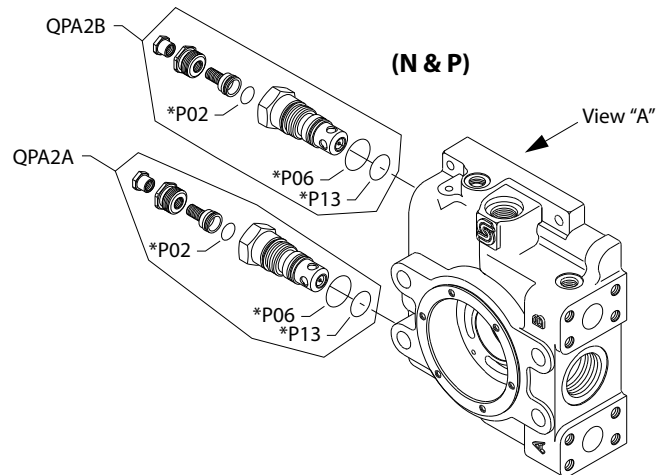
View "A" of end cap
 with pressure limiters,
 CCW pump rotation.

Options P



View "A" of end cap
 with pressure limiters,
 CW pump rotation.

Options P



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: N

P70	98-41		8800188	Check valve	1
P70N	98-41		9005110-4400	Plug assembly	1
P80	98-41		9005475-0004	Special plug	3
PA2A	98-41		781971	Plug assembly	1
QPA2B	98-41		8510022-1	Multi-function valve kit	1

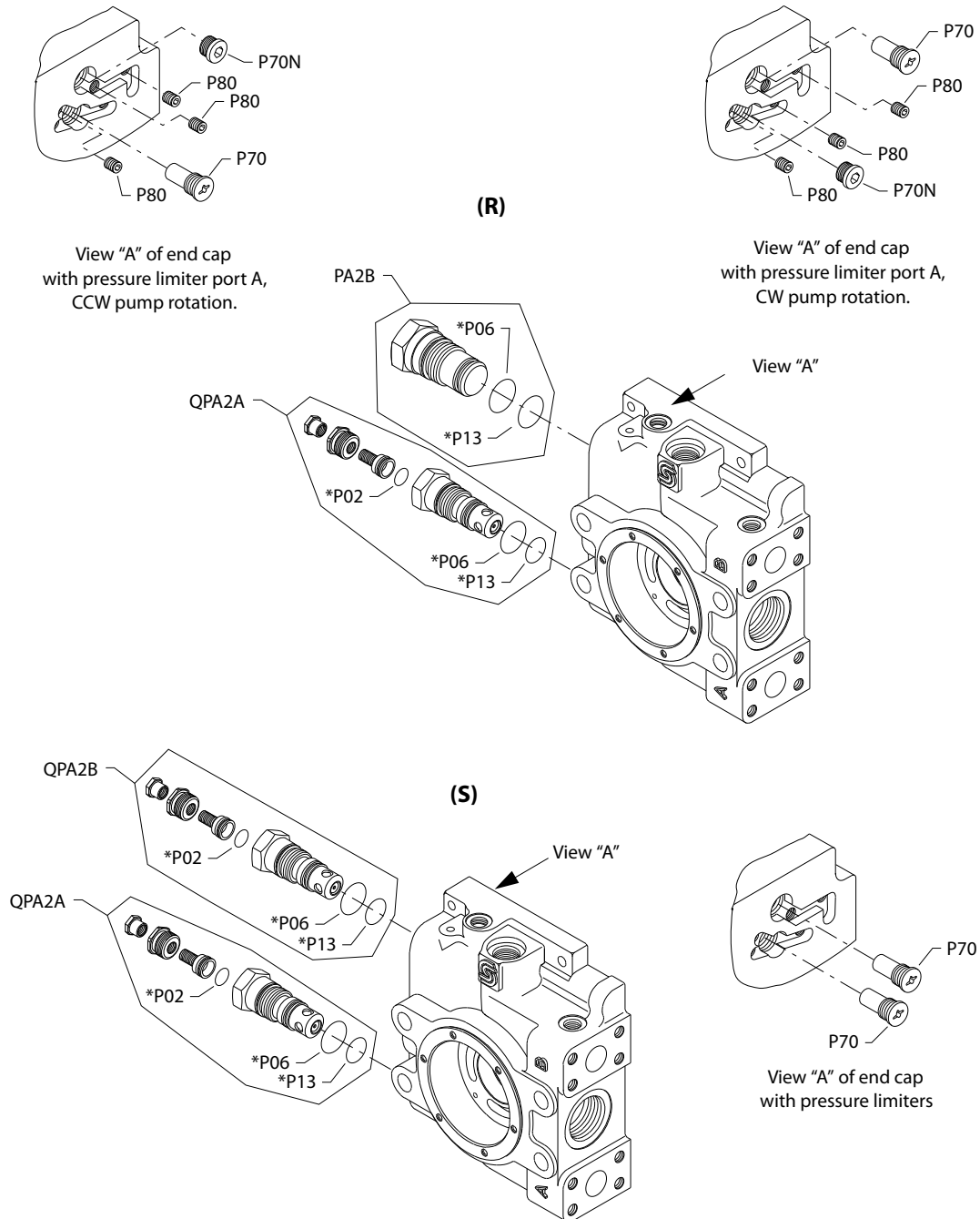
Order code: P

P70	99-26		8800188	Check valve	2
P80	99-26		9005475-0004	Special plug	2
QPA2A	99-26		8510389	Multi-function valve kit	1
QPA2B	99-26		8510389	Multi-function valve kit	1

High pressure protection

S90P 75cc high pressure regulation R, S

Parts configuration



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: R

P70	99-14		8800188	Check valve	1
P70N	99-14		9005110-4400	Plug assembly	1
P80	99-14		9005475-0004	Special plug	3
PA2A	99-14		781971	Plug assembly	1
QPA2A	99-14		8510022-1	Multi-function valve kit	1

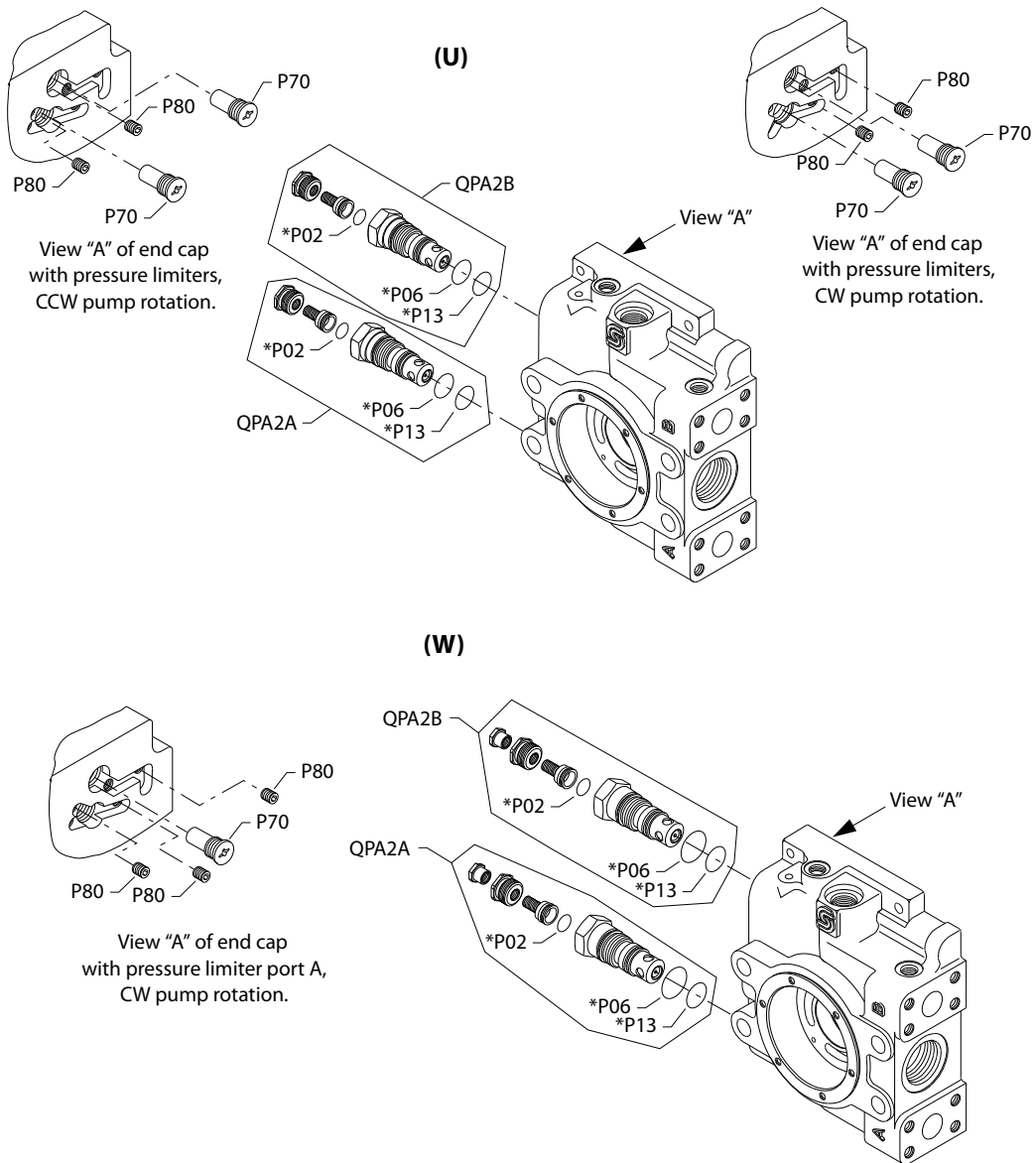
Order code: S

P70	02-23		8800188	Check valve	2
QPA2A	02-23		8510389	Multi-function valve kit	1
QPA2B	02-23		8510389	Multi-function valve kit	1

High pressure protection

S90P 75cc high pressure regulation U, W

Parts configuration



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: U

P70	04-36		8800188	Check valve	2
P80	04-36		9005475-0004	Special plug	2
QPA2A	04-36		8510022-7	Multi-function valve kit	1
QPA2B	04-36		8510022-7	Multi-function valve kit	1

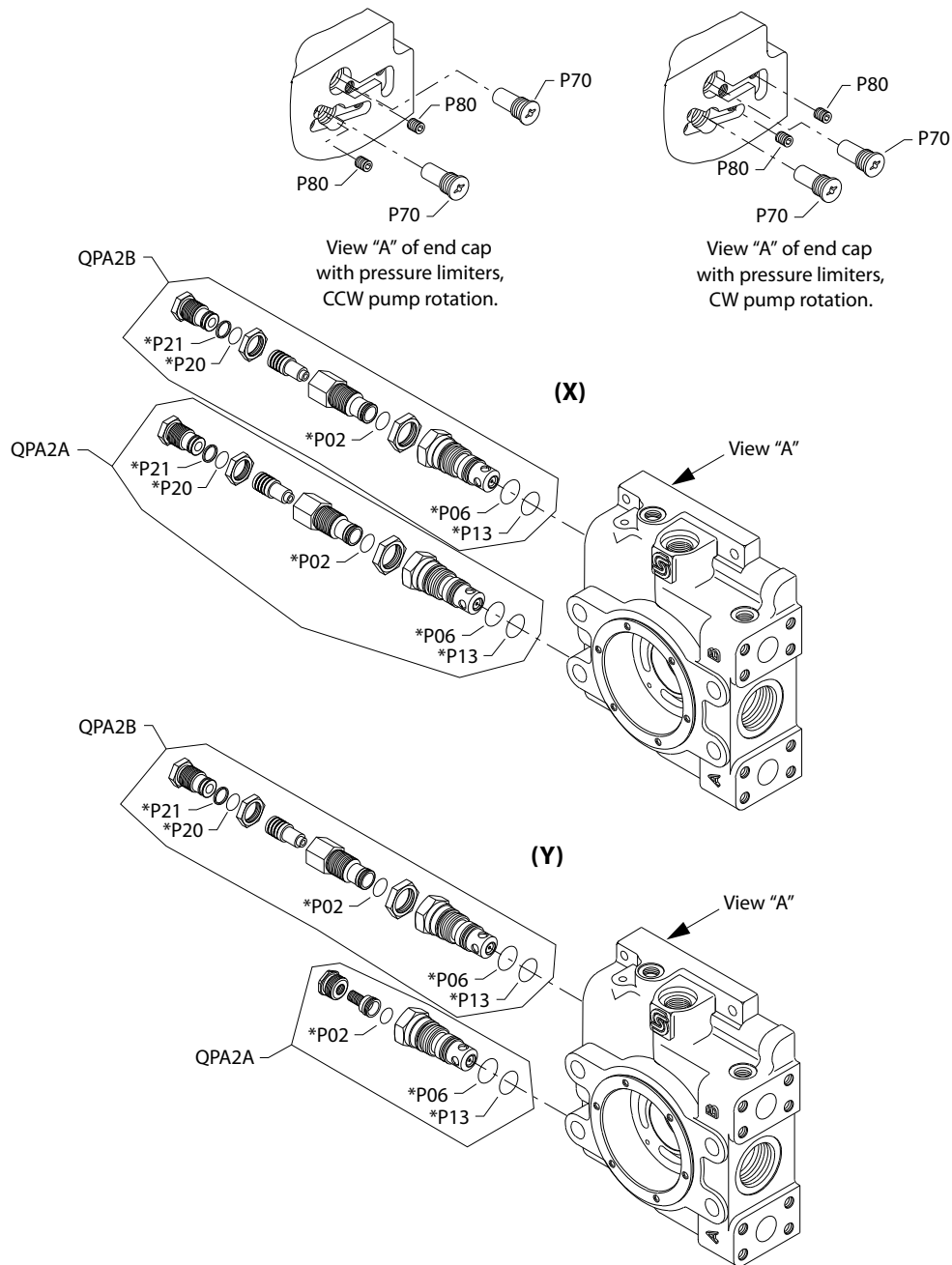
Order code: W

P70	09-50		8800188	Check valve	1
P80	09-50		9005475-0004	Special plug	3
QPA2A	09-50		8510022-1	Multi-function valve kit	1
QPA2B	09-50		8510022-1	Multi-function valve kit	1

High pressure protection

S90P 75cc high pressure regulation X, Y

Parts configuration



Generic end cap used to show valve location only.

* included in base pump seal kit Q210

High pressure protection

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
P02	87-02		688721 (9004104-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2

Order code: X

P20	09-19		9004105-0160	O-ring	2
P21	09-19		9006110-0160	Backup O-ring	2
P70	09-19		8800188	Check valve	2
P80	09-19		9005475-0004	Special plug	2
QPA2A	09-19		11079763	Multi-function valve kit	1
QPA2B	09-19		11079763	Multi-function valve kit	1

Order code: Y

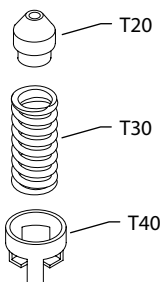
P20	11-02		9004105-0160	O-ring	1
P21	11-02		9006110-0160	Backup O-ring	1
P70	11-02		8800188	Check valve	2
P80	11-02		9005475-0004	Special plug	2
QPA2A	11-02		8510022-1	Multi-function valve kit	1
QPA2B	11-02		8510275	Multi-function valve kit	1

Orifice

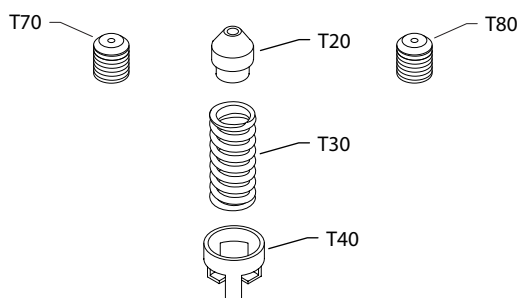
S90P 75cc orifice 01-24

Parts configuration

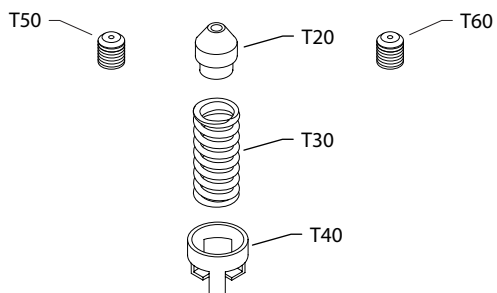
**(01, 02, 03, 04, 05,
06, 09 & 22)**



(21)



(23 & 24)



[See control housing for orifice locations.](#)

Orifice

Common parts (excluding order code 00)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 00

No parts

Order code: 01

T20	87-42		8801136	Orificed check valve, .018"	1
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Order code: 02

T20	87-42		8801139	Orificed check valve, .026"	1
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Order code: 03

T20	87-42		11061958	Orificed check valve, .032"	1
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Order code: 04

T20	87-42		11061970	Orificed check valve, .040"	1
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Order code: 05

T20	87-42		11061981	Orificed check valve, .054"	1
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Order code: 06

T20	87-42		11061993	Orificed check valve, .062"	1
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Order code: 09

T20	87-42		11062006	Orificed check valve, .092"	1
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Order code: 21

T20	87-42		11061970	Orificed check valve, .040"	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: 22

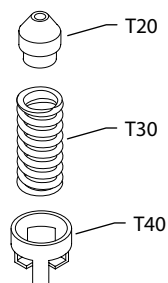
T20	87-42		8801137	Orificed check valve, .022"	1
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[Part numbers continue to the next 2 pages.](#)

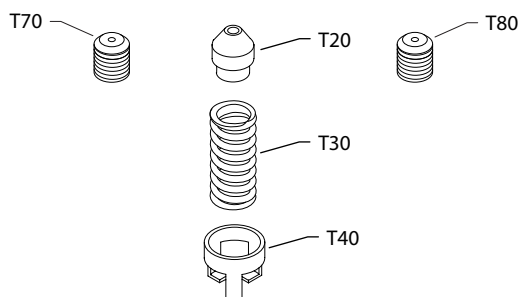
Orifice

Parts configuration

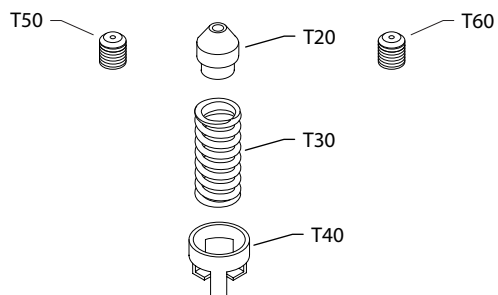
**(01, 02, 03, 04, 05,
06, 09 & 22)**



(21)



(23 & 24)



See control housing for orifice locations.

Orifice*Common parts (excluding order code 00)*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 23

T20	87-42		11061958	Orificed check valve, .032"	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

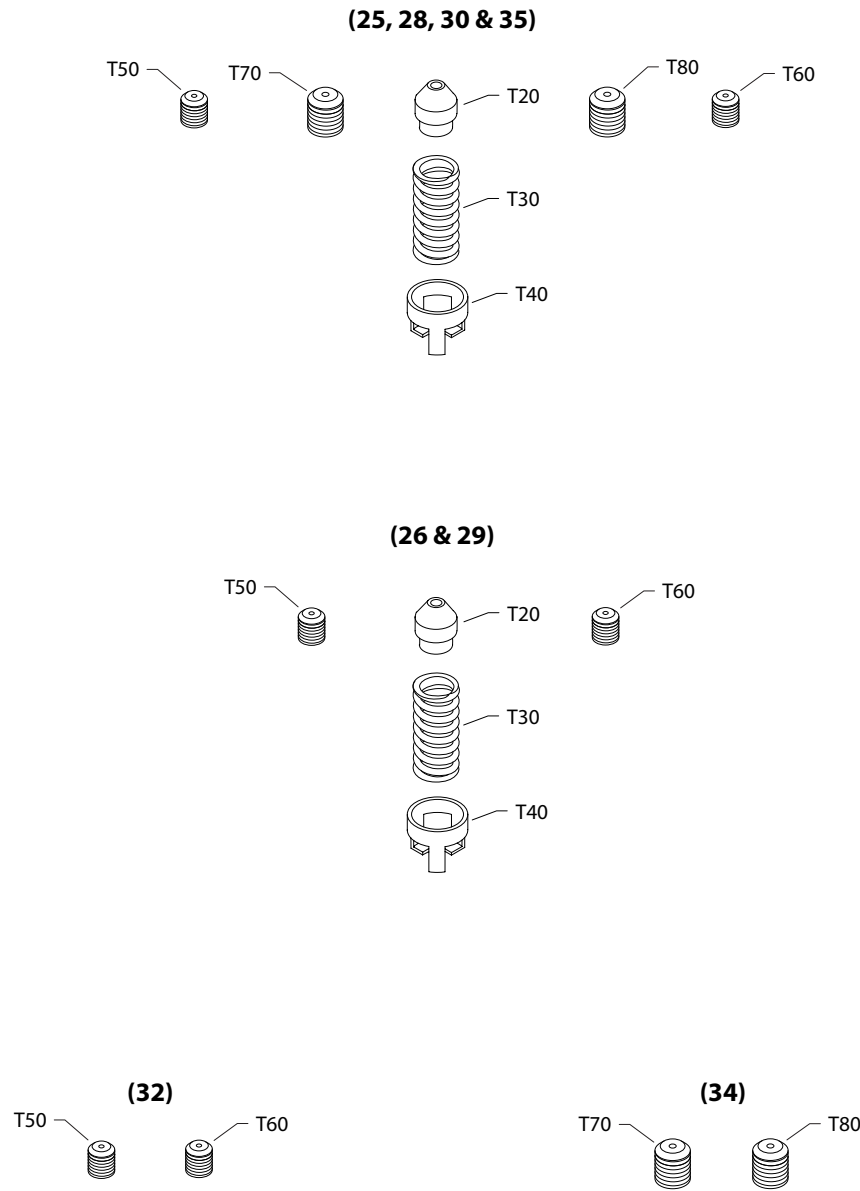
Order code: 24

T20	87-42		8801136	Orificed check valve, .018"	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

Orifice

S90P 75cc orifice 25-34

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excludes order codes 32-34)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 25

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		606657	Orifice plug, 0.5mm, M5 x 6	1
T60	87-42		606657	Orifice plug, 0.5mm, M5 x 6	1
T70	87-42		716837	Orifice plug, 0.6mm, M8 x 8	1
T80	87-42		716837	Orifice plug, 0.6mm, M8 x 8	1

Order code: 26

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1

Order code: 28

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		639104 (11062012)	Orifice plug, 0.7mm, M5 x 6	1
T60	87-42		639104 (11062012)	Orifice plug, 0.7mm, M5 x 6	1
T70	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1

Order code: 29

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639104 (11062012)	Orifice plug, 0.7mm, M5 x 6	1
T60	87-42		639104 (11062012)	Orifice plug, 0.7mm, M5 x 6	1

Order code: 30

T20	87-42		8801139	Orificed check valve, .026"	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		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1

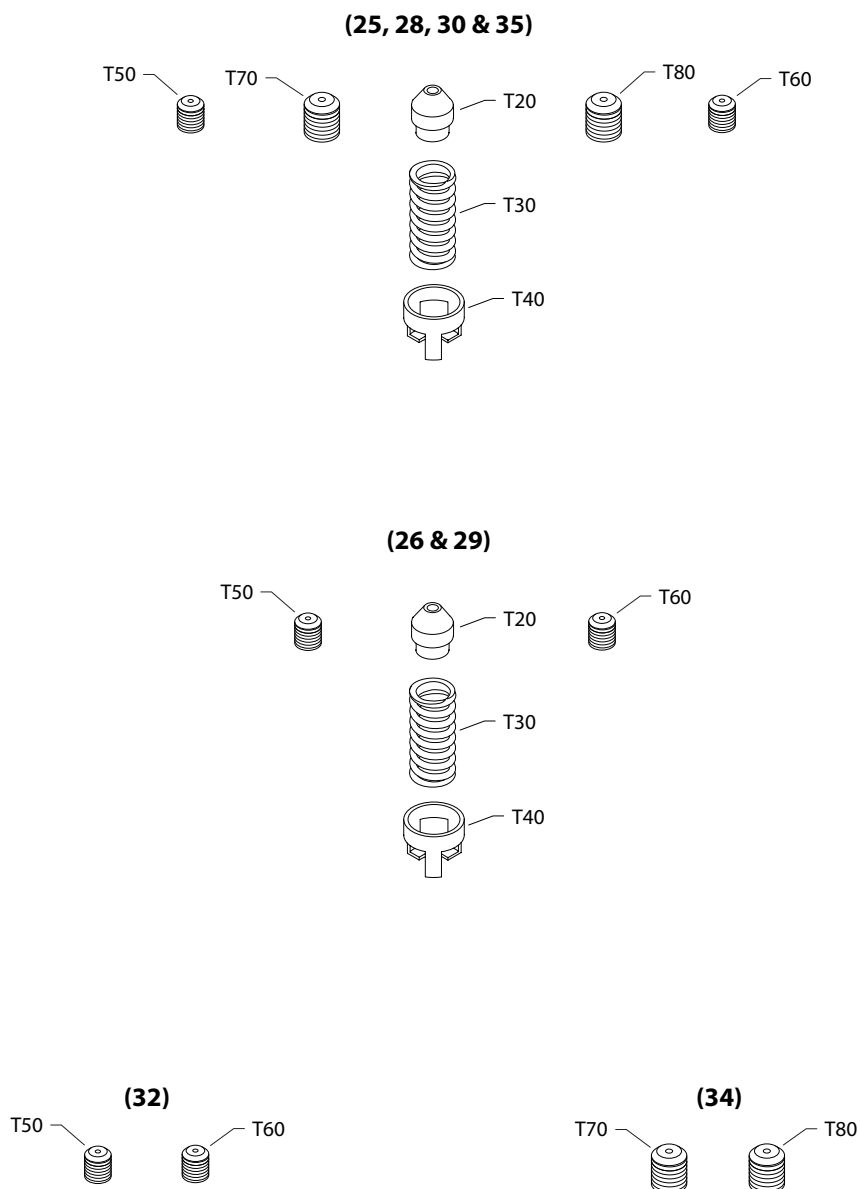
Order code: 32

T50	87-42		639120	Orifice plug, 1.0mm, M5 x 6	1
T60	87-42		639120	Orifice plug, 1.0mm, M5 x 6	1

[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



[See control drawing for orifice location.](#)

Orifice

Common parts (excludes order codes 32-34)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 33

No parts

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

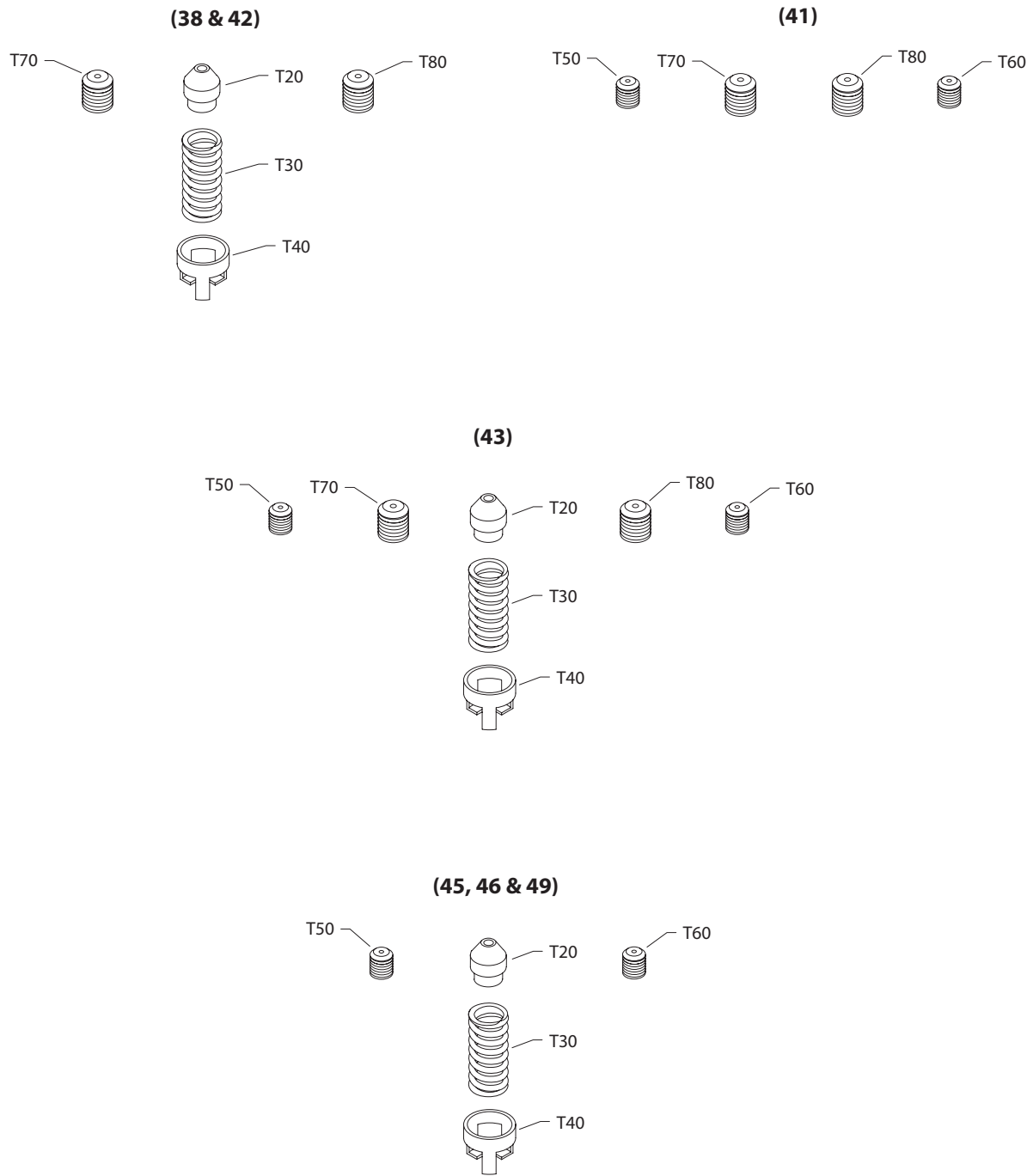
Order code: 35

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639120	Orifice plug, 1.0mm, M5 x 6	1
T60	87-42		639120	Orifice plug, 1.0mm, M5 x 6	

Orifice

S90P 75cc orifice 38-49

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excluding order code 41)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 38

T20	87-42		8801139	Orificed check valve, .026"	1
T70	87-42		716837	Orifice plug, 0.6mm, M8 x 8	1
T80	87-42		716837	Orifice plug, 0.6mm, M8 x 8	1

Order code: 41

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		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1
T80	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1

Order code: 42

T20	87-42		11061958	Orificed check valve, .032"	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: 43

T20	87-42		11061958	Orificed check valve, .032"	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		755793	Orifice plug, 1.0mm, M8 x 8	1
T80	87-42		755793	Orifice plug, 1.0mm, M8 x 8	1

Order code: 45

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639153	Orifice plug, 1.3mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1

Order code: 46

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1

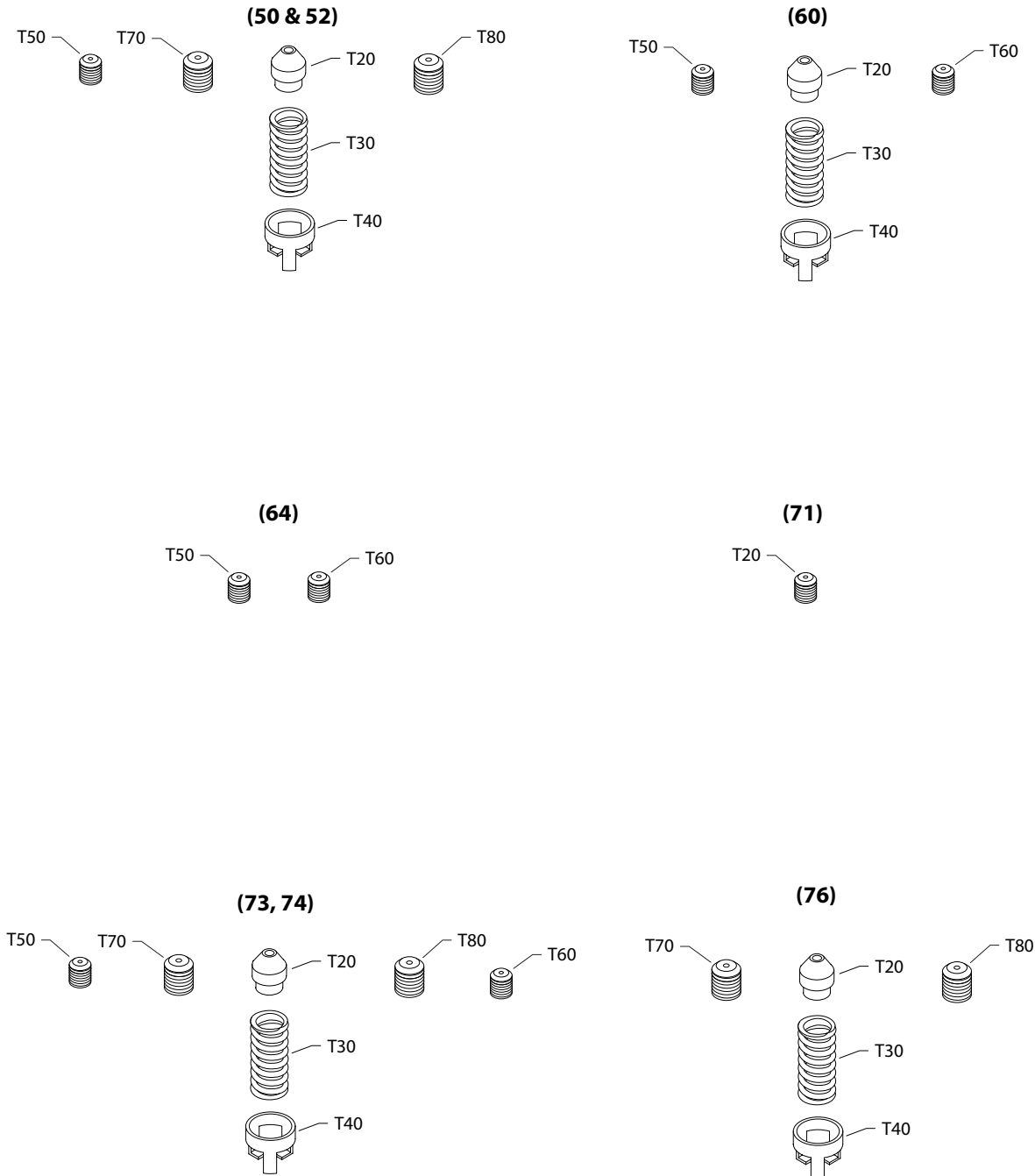
Order code: 49

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1

Orifice

S90P 75cc orifice 50-76

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excluding order codes 64 & 71)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 550

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	1
T70	87-42		517571	Orifice plug, 0.9mm, M8 x 8	1
T80	87-42		517571	Orifice plug, 0.9mm, M8 x 8	1

Order code: 52

T20	87-42		11061970	Orificed check valve, 1.02mm	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: 60

T20	87-42		8801136	Orificed check valve, .018"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1

Order code: 64

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: 71

T20	87-42		11061957	Orificed plug, 0.79mm	1
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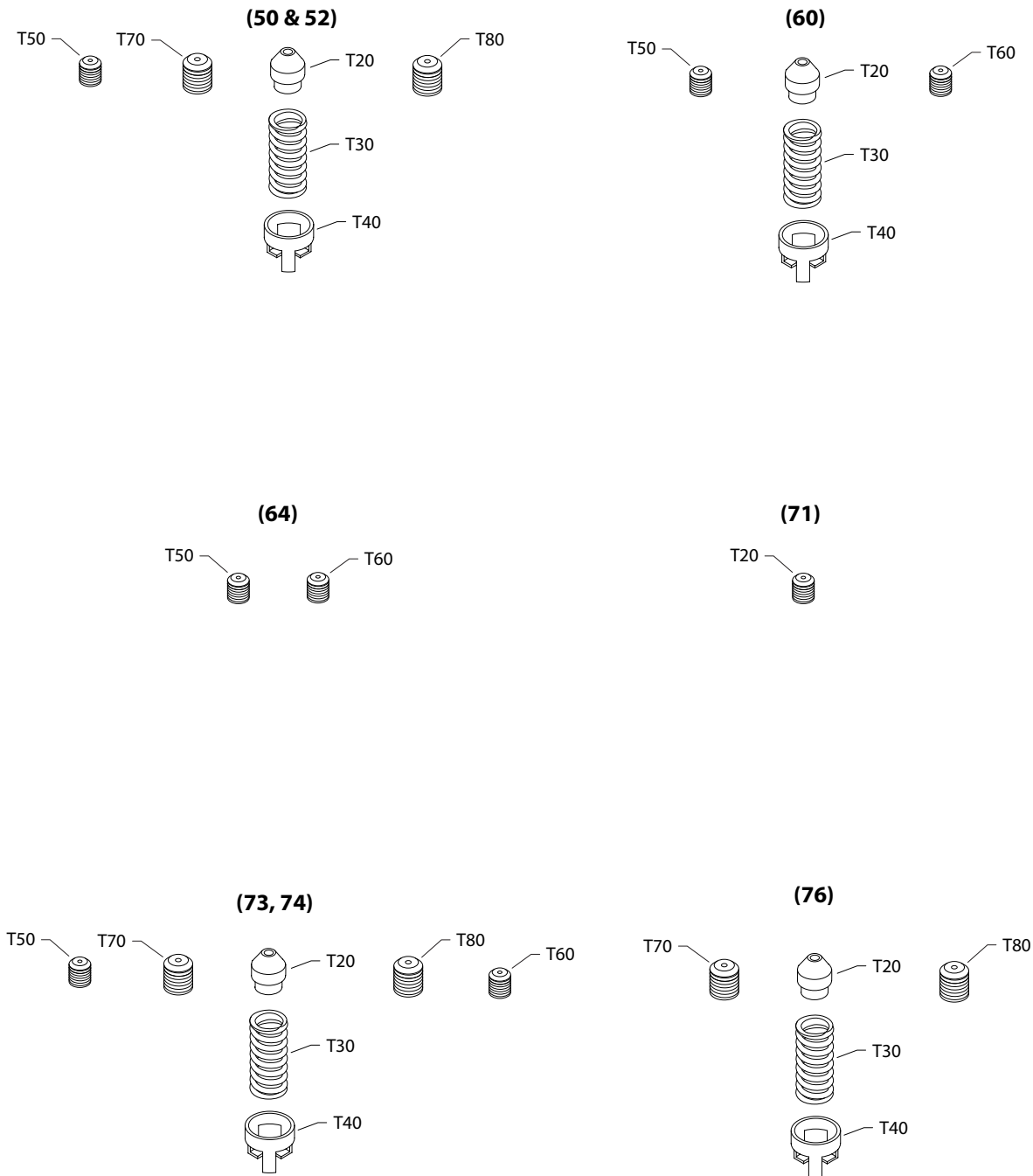
Order code: 73

T20	87-42		8801137	Orificed check valve, .022"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (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

[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



[See control drawing for orifice location.](#)

Orifice

Common parts (excluding order codes 64 & 71)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 74

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	1
T60	87-42		598292 (11062004)	Orifice plug, 0.8mm, M5 x 6	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

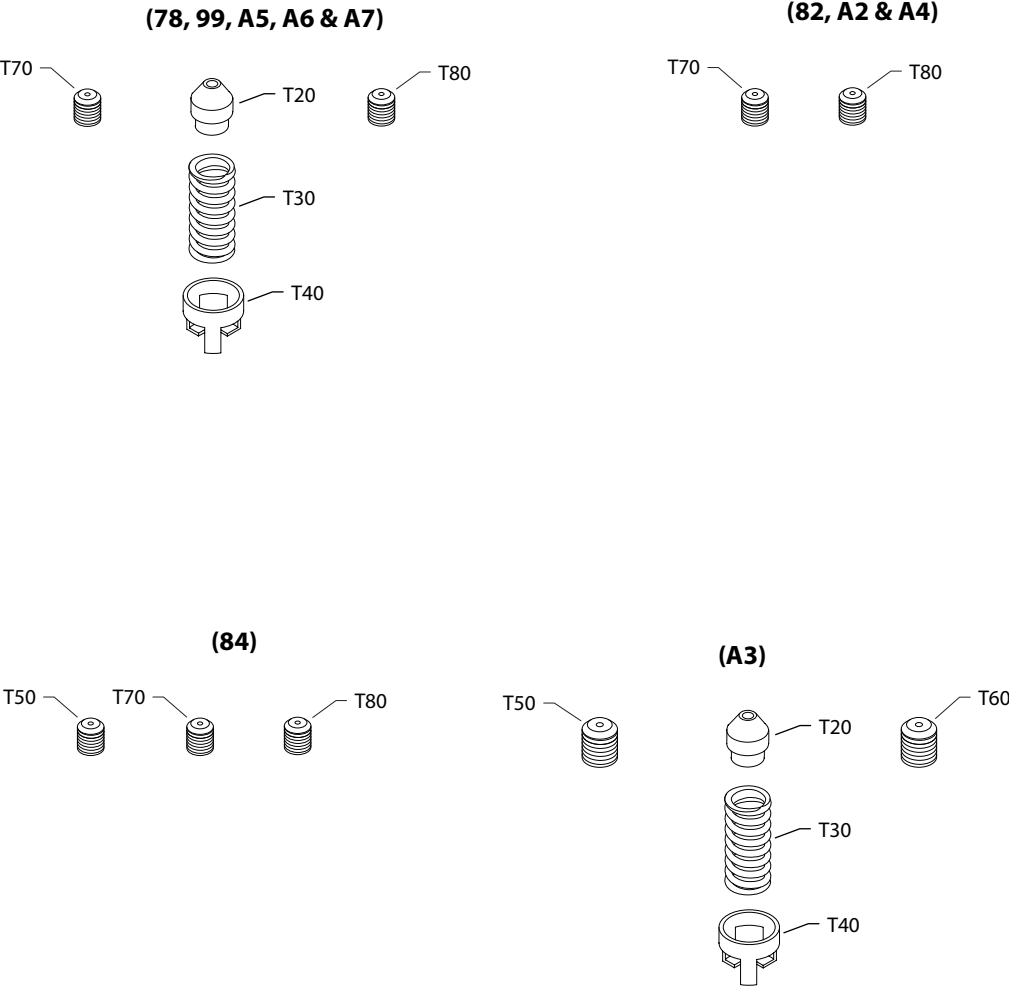
Order code: 76

T20	87-42		8801139	Orificed check valve, .026"	1
T70	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1
T80	87-42		578542	Orifice plug, 0.9mm, M6 x 8	1

Orifice

S90P 75cc orifice 78-A7

Parts configuration



[See control drawing for orifice location.](#)

Orifice

Common parts (excluding 82, 84, A2 & A4)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: 78

T20	87-42		8801139	Orificed check valve, .026"	1
T70	87-42		518215	Orifice plug, 2.2mm, M6 x 6	1
T80	87-42		518215	Orifice plug, 2.2mm, M6 x 6	1

Order code: 82

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: 84

T50	87-42		310771	Orifice plug, 1.2mm, M6 x 6	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

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

Order code: A2

T70	87-42		043364	Orifice plug, 1.02mm, M6 x 6	1
T80	87-42		043364	Orifice plug, 1.02mm, M6 x 6	1

Order code: A3

T20	87-42		11061958	Orificed check valve, .032"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1
T60	87-42		704650 (11062018)	Orifice plug, 0.7mm, M8 x 8	1

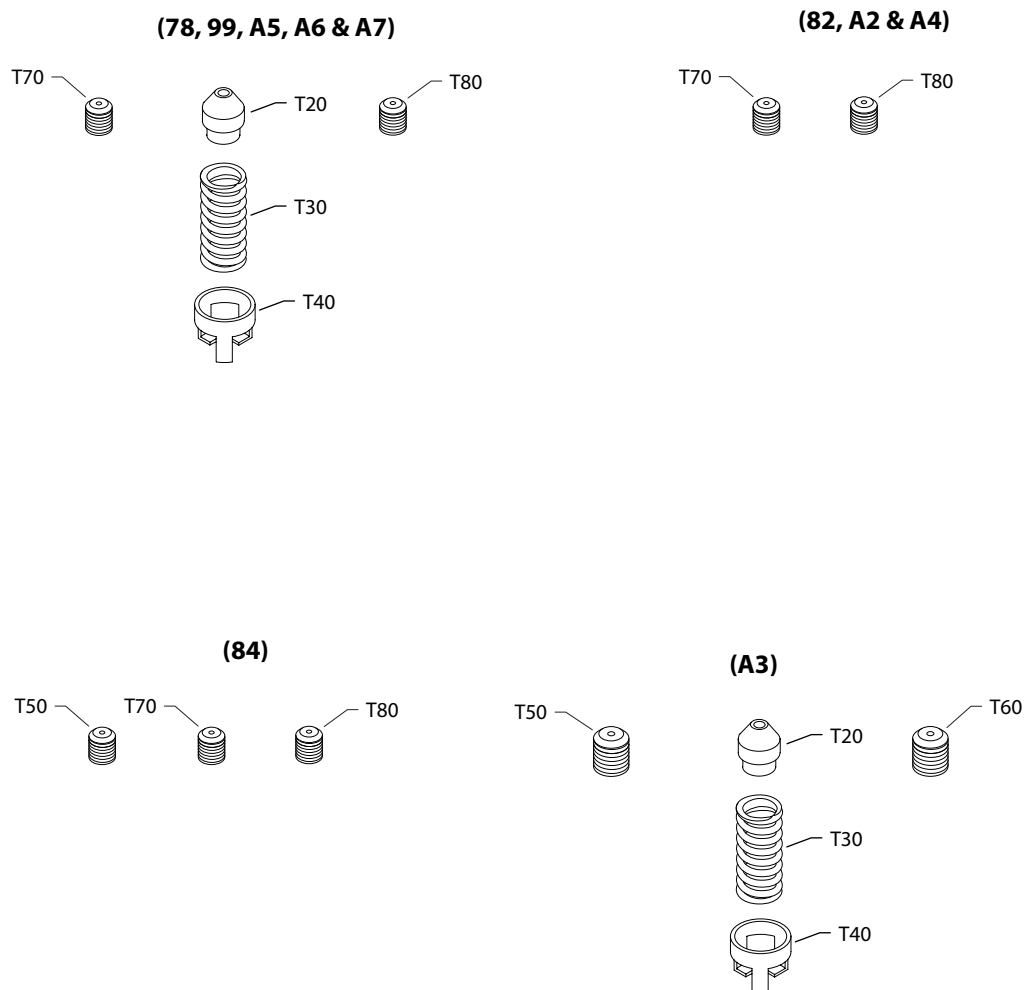
Order code: A4

T70	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1
T80	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1

[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excluding 82, 84, A2 & A4)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: A5

T20	87-42		11061970	Orificed check valve, 0.40"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1
T80	87-42		578542	Orifice plug, 0.9mm, M6 x 8	1

Order code: A6

T20	87-42		8801139	Orificed check valve, .026"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		507333	Orifice plug, 0.6mm, M6 x 4	1
T80	87-42		507333	Orifice plug, 0.6mm, M6 x 4	1

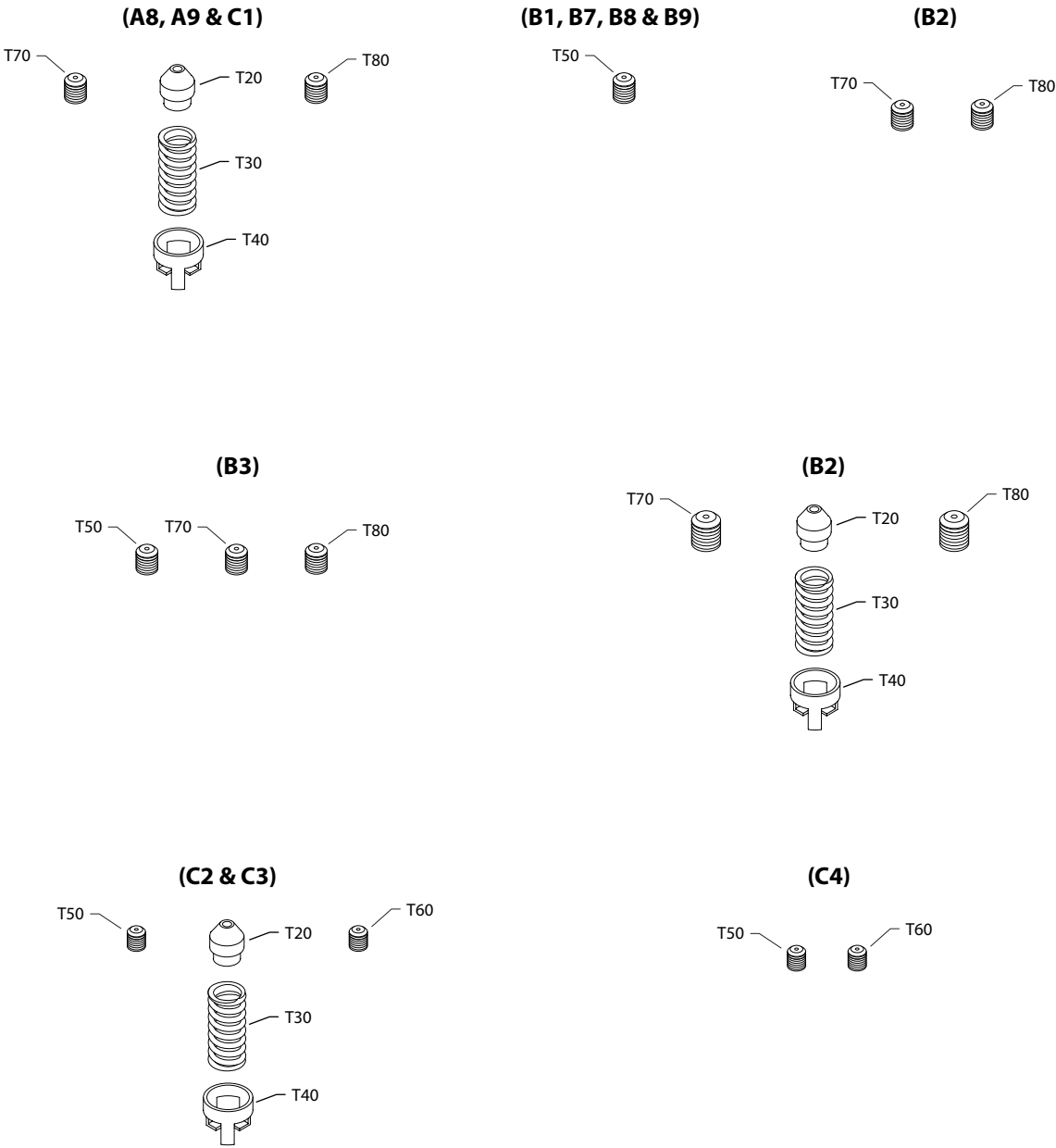
Order code: A7

T20	87-42		11061958	Orificed check valve, .032"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1
T80	87-42		578542	Orifice plug, 0.9mm, M6 x 8	1

Orifice

S90P 75cc orifice A8-C4

Parts configuration



See control drawing for orifice location.

Orifice

Order code: A8

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T20	87-42		11061970	Orificed check valve, 0.40"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
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: A9

T20	87-42		11061993	Orificed check valve, 1.57mm	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		507042	Orifice plug, 1.5mm, M6 x 8	1
T80	87-42		507042	Orifice plug, 1.5mm, M6 x 8	1

Order code: B1

T50	87-42		507042	Orifice plug, 1.5 mm, M6 x 8	1
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Order code: B2

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

Order code: B3

T50	87-42		507042	Orifice plug, 1.5mm, M6 x 8	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: B6

No parts					
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Order code: B7

T50	87-42		578542	Orifice plug, 0.8mm, M6 x 8	1
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Order code: B8

T50	87-42		508014	Orifice plug, 1.0mm, M6 x 8	1
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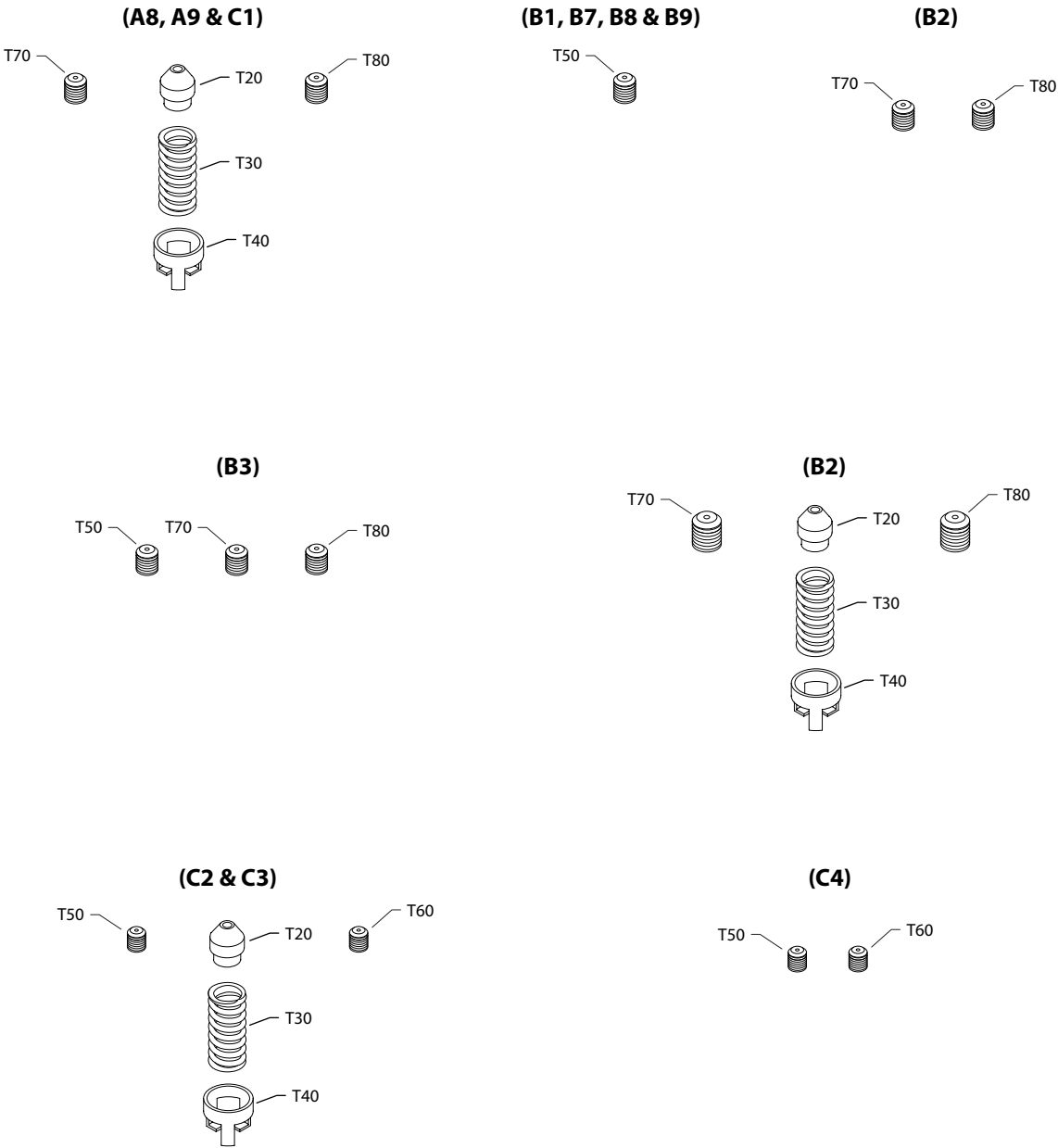
Order code: B9

T50	87-42		516598	Orifice plug, 1.2mm, M6 x 8	1
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[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



[See control drawing for orifice location.](#)

Orifice

Order code: C1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
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		714477	Orifice plug, 0.8mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8mm, M8 x 8	1

Order code: C2

T20	87-42		8801136	Orificed check valve, 0.18"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T50	87-42		639120	Orifice plug, 1.0mm, M5 x 6	1
T60	87-42		639120	Orifice plug, 1.0mm, M5 x 6	1

Order code: C3

T20	87-42		8801139	Orificed check valve, 0.26"	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

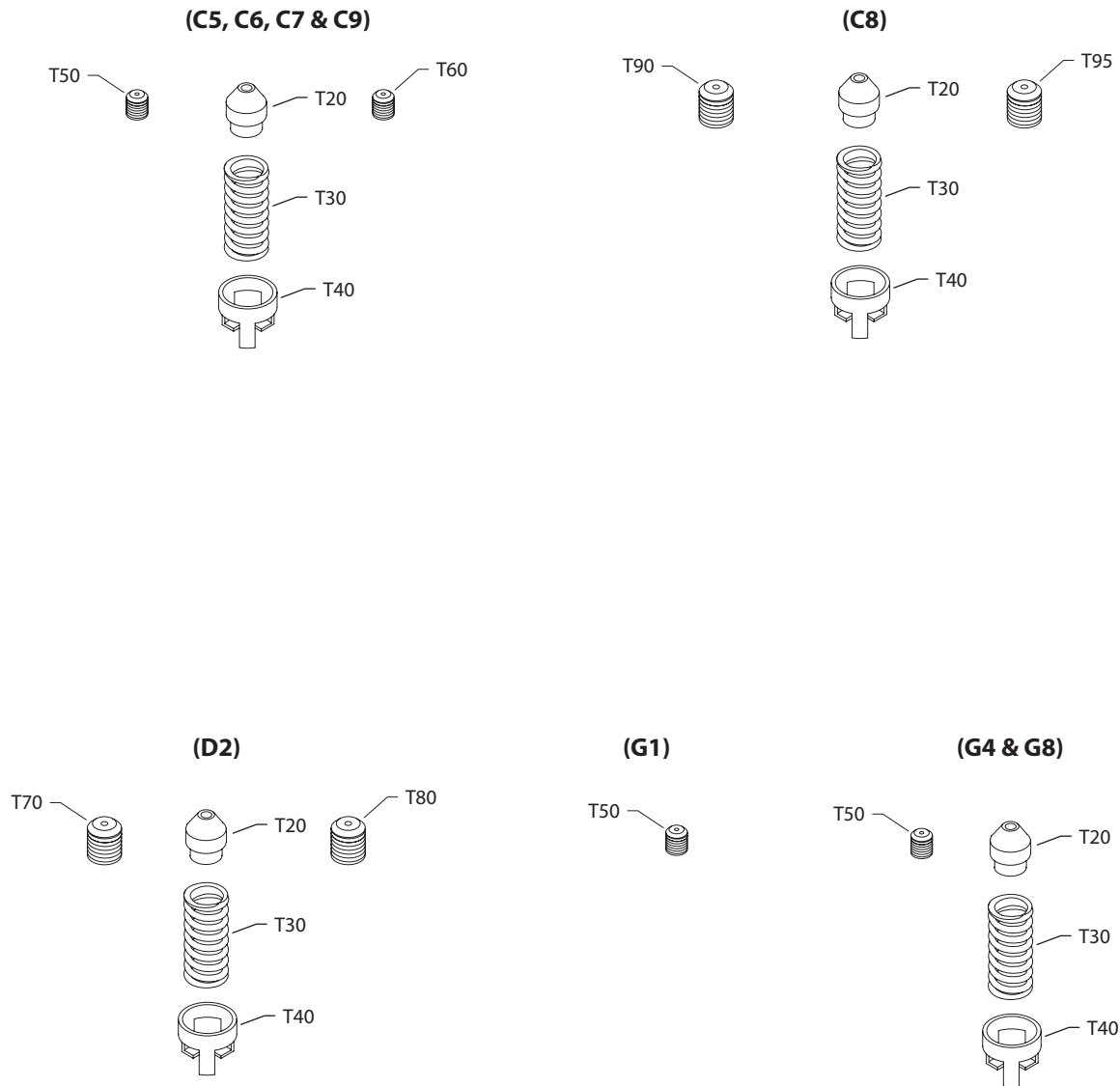
Order code: C4

T50	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4mm, M5 x 6	1

Orifice

S90P 75cc orifice C5-G8

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excluding order code G1)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: C5

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1

Order code: C6

T20	87-42		11061970	Orificed check valve, 0.40"	1
T50	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1

Order code: C7

T20	87-42		11061981	Orificed check valve, 1.37 mm	1
T50	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1
T60	87-42		639161	Orifice plug, 1.4 mm, M5 x 6	1

Order code: C8

T20	87-42		8801139	Orificed check valve, .026"	1
T90	87-42		704650 (1162018)	Orifice plug, 0.7 mm, M8 x 8	1
T95	87-42		704650 (1162018)	Orifice plug, 0.7 mm, M8 x 8	1

Order code: C9

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639146	Orifice plug, 1.2 mm, M5 x 6	1
T60	87-42		639146	Orifice plug, 1.2 mm, M5 x 6	1

Order code: D2

T20	87-42		11061981	Orificed check valve, 1.37 mm	1
T70	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1
T80	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1

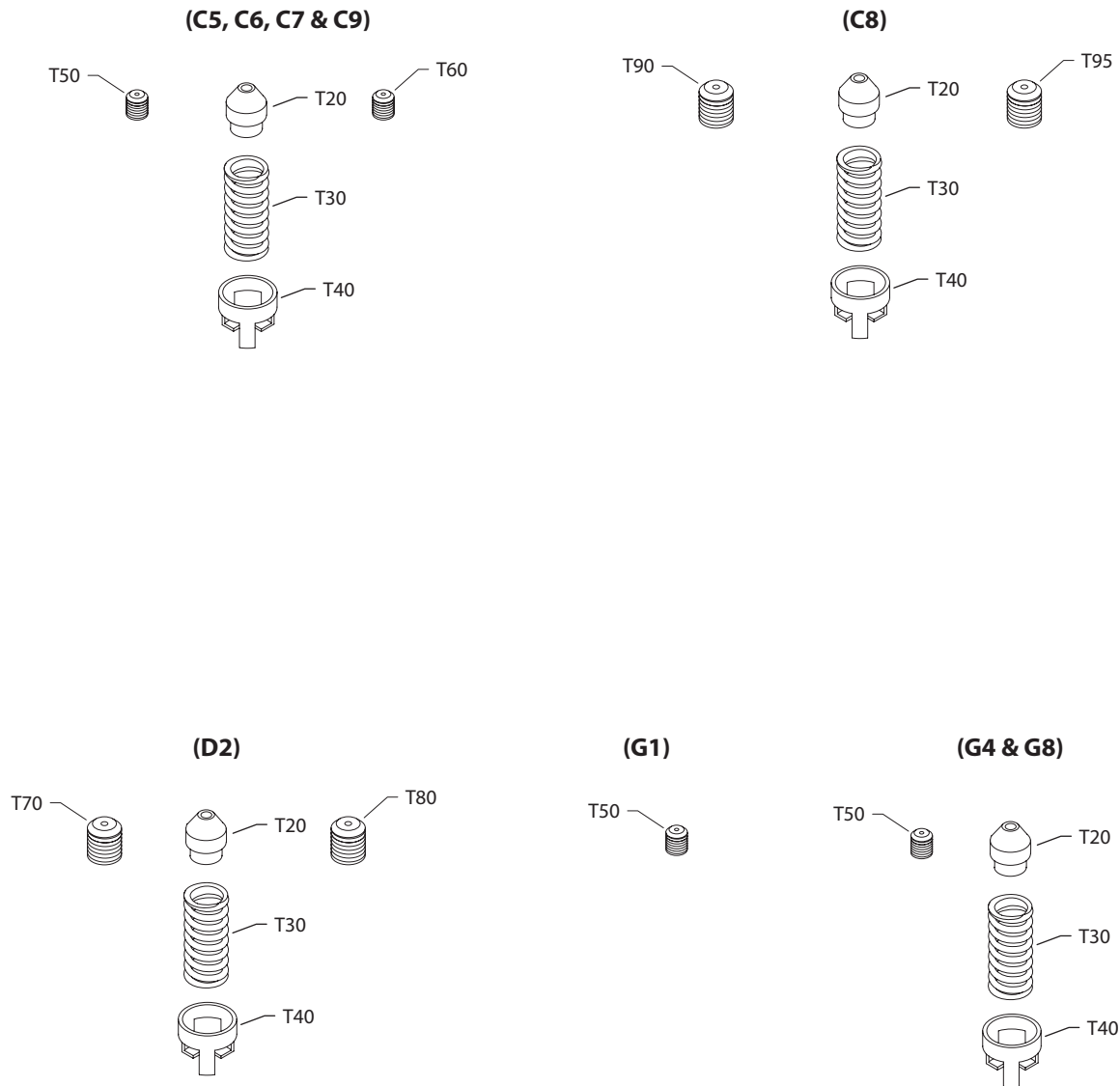
Order code: D4

T20	87-42		8801139	Orificed check valve, .026"	1
T90	87-42		704650 (11062018)	Orifice plug, 0.7 mm, M8 x 8	1
T95	87-42		704650 (11062018)	Orifice plug, 0.7 mm, M8 x 8	1

[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



See control drawing for orifice location.

Orifice

Common parts (excluding order code G1)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: G1

T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1
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Order code: G4

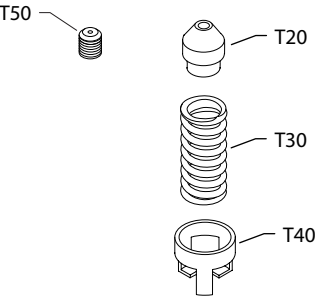
T20	87-42		8801136	Orificed check valve, .018"	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Orifice

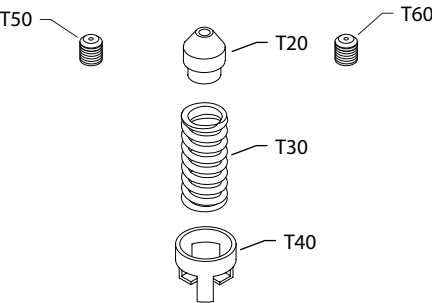
S90P 75cc orifice G8-P1

Parts configuration

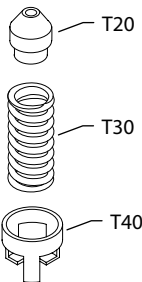
(GB, GD, GF & GJ)



(H1, H9 & K2)



(K1)



(P1)



See control drawing for orifice location.

Orifice

Common parts (excluding order code P1)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: G8

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Order code: GB

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Order code: GD

T20	87-42		11061993	Control orifice kit, 1.57 mm	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Order code: GF

T20	87-42		11061970	Control orifice kit, 0.040"	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Order code: GJ

T20	87-42		11061981	Control orifice kit, 1.37 mm	1
T50	87-42		310771	Orifice plug, 1.2 mm, M6 x 6	1

Order code: H1

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1
T60	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1

Order code: H9

T20	87-42		8801139	Orificed check valve, .026"	1
T50	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1
T60	87-42		714477	Orifice plug, 0.8 mm, M8 x 8	1

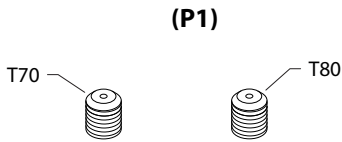
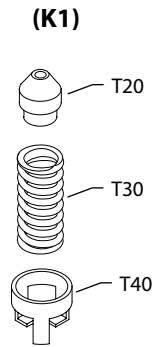
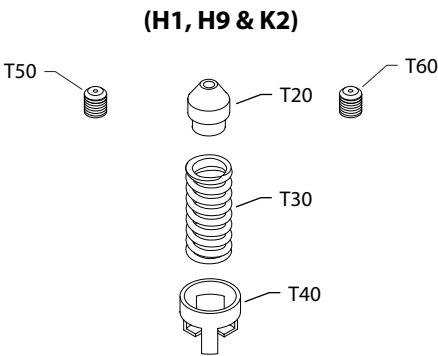
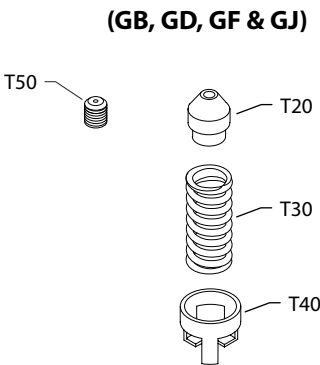
Order code: K1

T20	87-42		11061981	Orificed check valve, 1.37 mm	1
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[Part numbers continue to the next 2 pages.](#)

Orifice

Parts configuration



See control drawing for orifice location.

Orifice*Common parts (excluding order code P1)*

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1

Order code: K2

T20	87-42		11061958	Orificed check valve, .032"	1
T50	87-42		639104	Orifice plug, 0.7mm, M5 x 6	1
T60	87-42		639104	Orifice plug, 0.7mm, M5 x 6	1

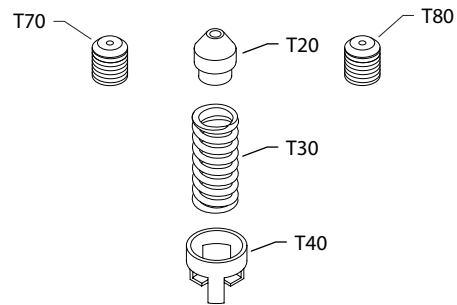
Order code: P1

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

Orifice

S90P 75cc orifice Z1, Z3

Parts configuration



See control drawing for orifice location.

Orifice

Order code: Z1

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T20	87-42		11061958	Orificed check valve, .032"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		519659	Orifice plug, 1.0 mm, M6 x 6	1
T80	87-42		519659	Orifice plug, 1.0 mm, M6 x 6	1

Order code: Z3

T20	87-42		11061970	Orificed check valve, .040"	1
T30	87-42		679506 (8700007)	Spring	1
T40	87-42		8801303	Spring retainer	1
T70	87-42		519659	Orifice plug, 1.0 mm, M6 x 6	1
T80	87-42		519659	Orifice plug, 1.0 mm, M6 x 6	1

overhaul seal kit

S90 75cc pump overhaul seal kit

Overhaul seal kit

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
Q210	87-42		11095648	Overhaul seal kit	1
B90	87-42		9803390	Control screen	3
C70	88-22		314419 (9007276-0114)	Screw (SB-1988-016 & SB-1998-041)	4
E40	87-02		505412 (9003509-0008)	Seal nut	2
E50	87-02		517377	O-ring	1
E60	87-02		517228 (5000206)	Screw (SB-1994-018)	6
F11	87-02		6765569 (9004100-1270)	O-ring	2
F12	87-02		507797 (8700066)	Piston ring	2
F40	87-02		363754 (9004104-1350)	O-ring	2
F50	89-41		9004104-0320	O-ring	2
F112	87-02		505412 (9003509-0008)	Seal nut	1
F124	87-02		336826	Seal nut	1
F212	87-02		505412 (9003509-0008)	Seal nut	1
F224	87-02		336826	Seal nut	1
G30	92-19		8100565	End cap gasket	1
G30	87-02	96-04	8100466	End cap gasket (SB-1992-003)	1
G30	87-02	92-18	8100212	End cap gasket (SB-1992-003)	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
K51	87-02		9004201-7500	O-ring	1
L25	87-02		519671	Lip seal (SB-2005-007)	1
N15	87-42		001172 (9004201-9000)	O-ring	1
N98	87-42		9004104-0320	O-ring	1
P02	87-02		688721 (9004201-0170)	O-ring	2
P06	87-02		071811	O-ring	2
P13	87-02		544742 (9004105-0190)	O-ring	2
P20	87-02		9004105-0190	O-ring	2
P21	87-02		9006110-0160	O-ring	2

Service bulletin
SB-1988-009
Products affected

Series 90 pumps

Subject

Servo arm change

Description

As a product improvement, 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.

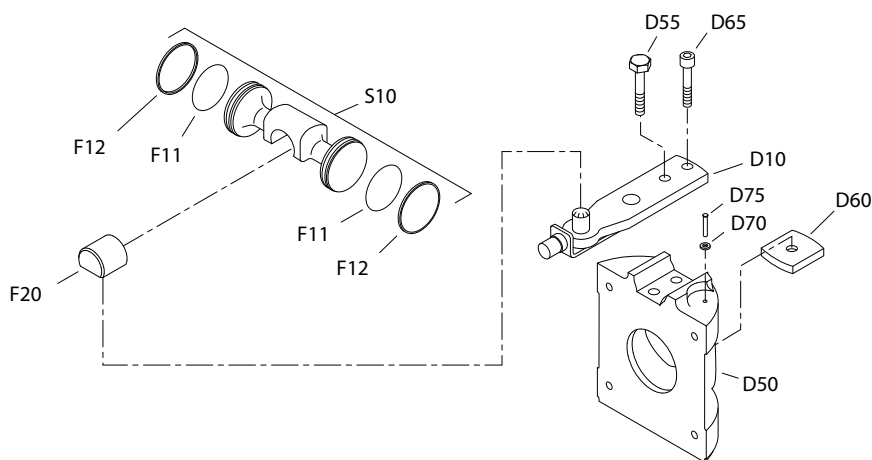
Also, the new servo arm is pressed into a groove in the new swashplate. This situation requires special tooling for assembly, therefore, pre-assembled kits will be created for 55, 75, and 100 cc pumps. The kits will work in any vintage pump.

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 items in the figure.

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

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.


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

Service bulletin**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

Service bulletin

SB-1988-016

Products affected

Series 90 pumps

Subject

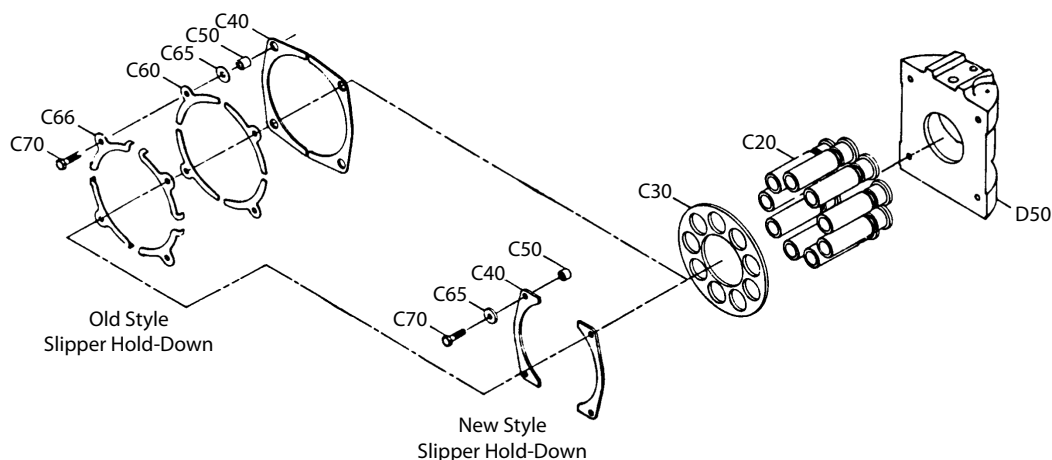
Change to fix clearance slipper hold down.

Description

As a product improvement, 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.



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
- 100cc pumps, 96-2xxx, changed at s/n 88-20-xxxxx

Part numbers affected

Item	Qty/pump	55cc	75cc	100cc
C40	2	8000137	8100294	8200144
C50	4	8000138	8100295	8200145

Service bulletin

Item	Qty/pump	55cc	75cc	100cc
C65	4	9009625-0159	9009625-0159	9009625-0159
C70	4	314419 (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.

Service bulletin

SB-1988-023

Products affected

Series 90 pumps and motors

Subject

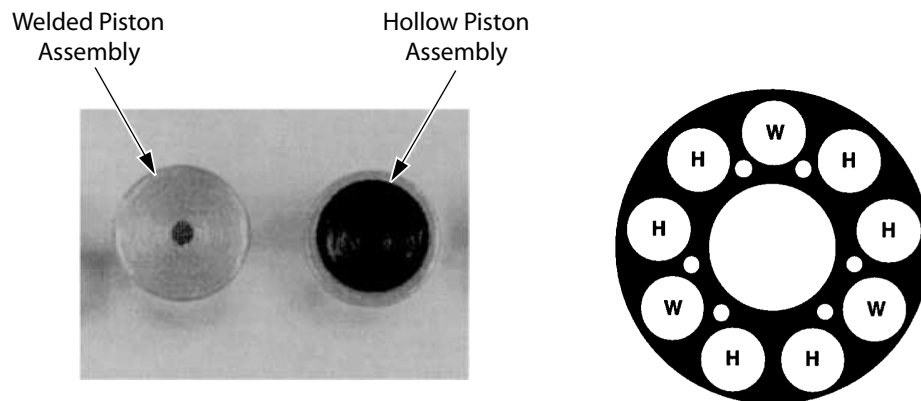
Piston improvement

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

Service bulletin

Parts disposition
Interchangeable

Service bulletin

SB-1989-002

Products affected

Series 90 pumps

Subject

Incorporation of adjustable charge relief valve

Description

As a product improvement 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].

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 adjustable relief valve.

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.

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.

Models affected

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

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)

SB-1989-003

Products affected

Series 90 pumps

Subject

Swashplate leveler spring seat change and servo pressure relief valve deletion

Service bulletin

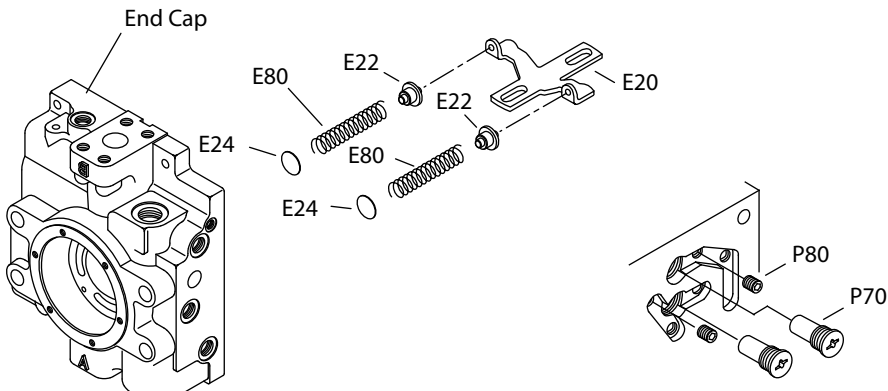
Description

As a product improvement, 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 lever springs and the end cap. The plugs are also interchangeable with the servo pressure check relief valves.



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	42cc	55cc	75cc	100cc
E20	Leveler	1	673897	8000094	8100130	8200007
E22	Spring seat	2	358820	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

Service bulletin

SB-1989-006

Products affected

Series 90 pumps

Subject

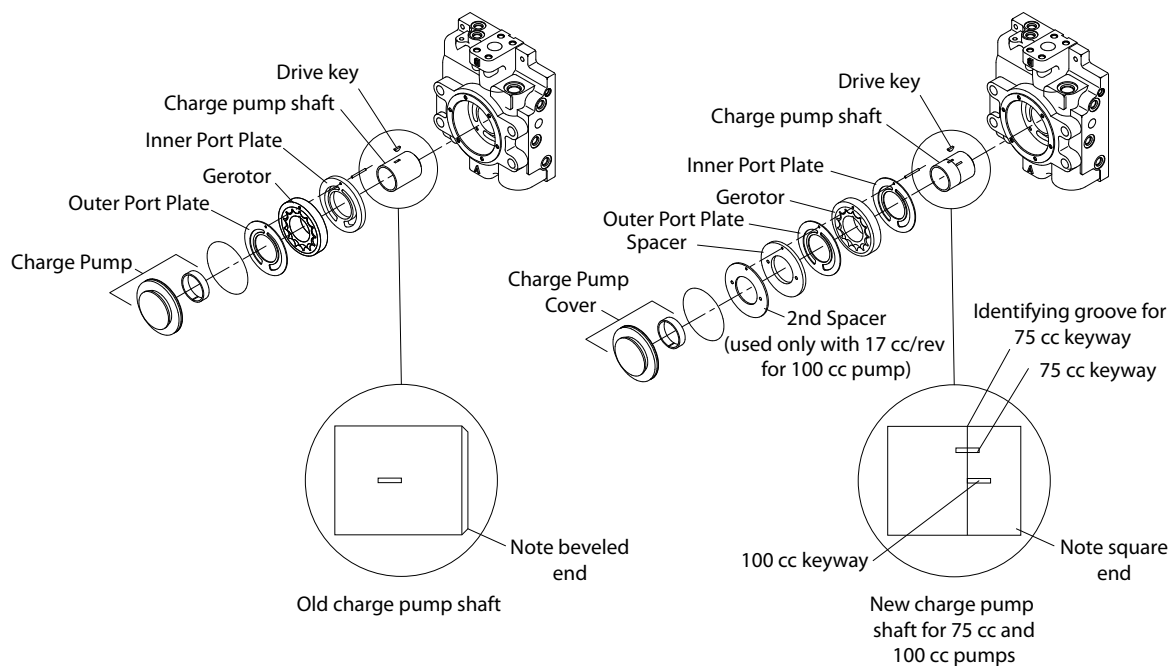
Charge pump design change

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 charge 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.



Models affected

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

Service bulletin**Serial numbers**

- A-89-17-xxxxx for all pumps manufactured in Ames, Iowa.
- N-89-07-xxxxx for all 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.

Part numbers affected

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 charge 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

Service bulletin

SB-1989-023

Products affected

Series 90 100cc variable pumps

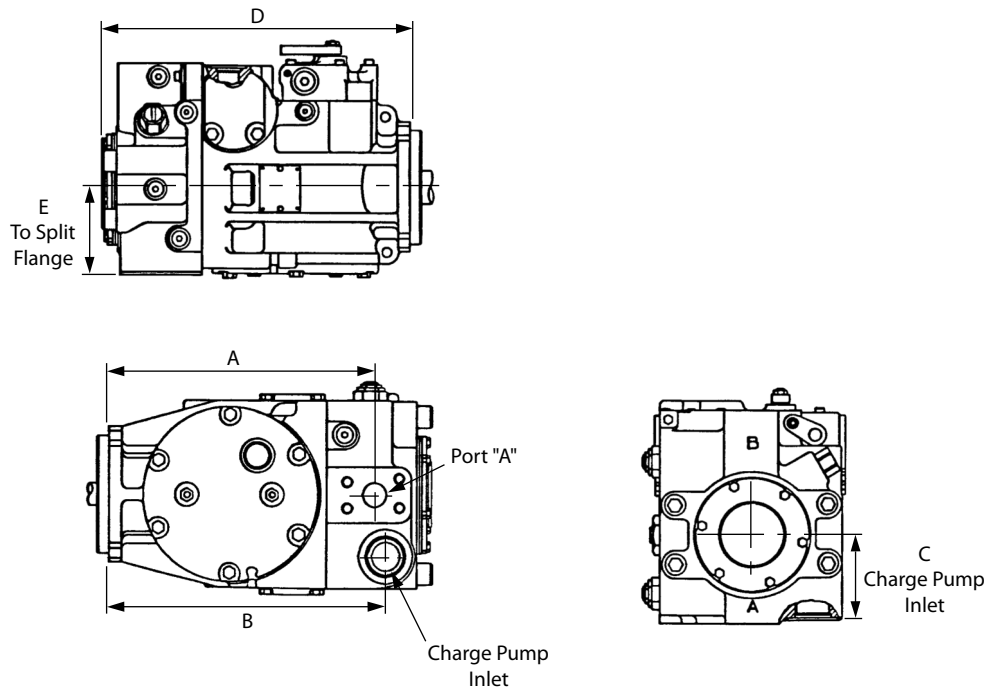
Subject

Reduction in overall length

Description

To improve application flexibility, the overall length of series 90 100 cc pumps will be reduced by .39" [10 mm]. Some port locations will also change.

Shown below are all dimensional differences between the current and new design pumps.



Dim	Old	New
A	11.22" [285 mm]	10.94" [277.9 mm]
B	11.73" [297.9 mm]	11.34" [288 mm]
C	3.64" [92.5 mm]	3.53" [89.7 mm]
D*	13.73" [348.7 mm]	13.34" [338.8 mm]
E	3.87" [98.3 mm]	3.75" [95.3 mm]

* All dimensions from the mounting face to an auxiliary pump will also be reduced by .39" [10 mm].

Models affected

All 96-2xxx variable pumps

Serial numbers

This change will take place at the serial number A-89-46-xxxxx

Service bulletin

Part numbers affected

Non-interchangeability will exist with drive shafts, which become shorter with this change, end caps, end cap gaskets, and the end cap to the variable housing retaining screws. Old style end caps will no longer be available as service parts. In the rare event that a new end cap is required, a new shaft, end cap gasket and screws will also be needed. The new part numbers are as follows:

Item	Part number	Description	Quantity
G04	8200175	End cap, side port	1
G30	8200166	Gasket	1
G90	9007210-0608	Screw	1
G95	9007210-0608	Screw	1
J80	9007314-1623	Screw	4
J80N	9007210-1621	Screw	4
L100	8200169	Shaft, 23 tooth spline	1
L100	8200170	Shaft, 13 tooth spline	1
L100	8200179	Shaft, 14 tooth spline	1
L100	8200173	Shaft, tapered	1
L100	8200176	Shaft, straight key	1

Parts disposition

Non-interchangeable

Service bulletin

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 re-qualification unnecessary. Old style (pre-block point) variable housings and end caps will no longer be available as spare parts.

Models affected

All series 90 94-2xxx, 95-2xxx, 96-2xxx, and 97-2xxx variable pumps

Serial numbers

Changes will take place at the serial number 92-12-xxxxx for 100 cc pumps

Part numbers affected

Housing Thickness adjacent to the side cover has been increased

Side cover Thickness increased

End cap Match housing change; small end cap screws will be larger, orientation of charge relief valve on side port end caps has been changed from oblique to vertical.

Item	Description	Old part number	New part number
B10	Variable housing	8200117 (O)	726554
E10	Side cover	8200011	748560
F20	Slider block	8200016 (I)(O)	8200225 (I)
G93	Spacer	8800404	8800564
G94	Lifting bracket	8800401	8800565
G95	Washer	n/a	9009610-3469
B82	Plug	n/a	9005110-5600
B83	Plug	n/a	9005110-5600
G048	End cap - twin ports	8200157 (O)	8200235
G308	End cap gasket	8200166	8200212
G908	Screw	9007210-0608	9007314-0810
G958	Screw	9007314-0608	9007314-0810
G968	Screw	9007314-0607	9007314-0808
G046	End cap - side ports	8200175 (O)	8200236
G306	End cap gasket	8200166	8200212
G906	Screw	9007314-0608	9007314-0810

Service bulletin

Item	Description	Old part number	New part number
G956	Screw	9007314-0608	9007314-0810
G968	Screw	9007314-0607	9007314-080
G172	Plug	n/a	9005110-4400
G182	Plug	n/a	9005110-4400

Parts disposition

Non-interchangeable

Service bulletin

SB-1992-011

Products affected

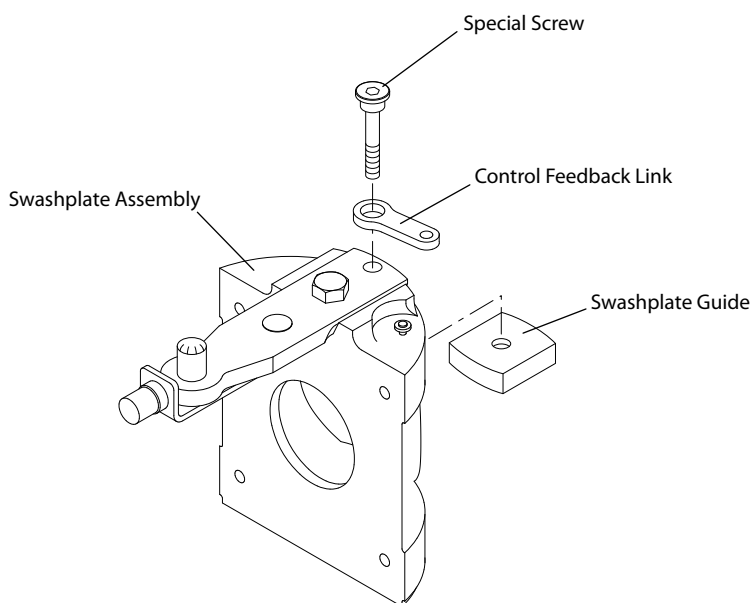
Series 90 - 055, 075, and 100 frame size pumps

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.



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

Service bulletin

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

Service bulletin

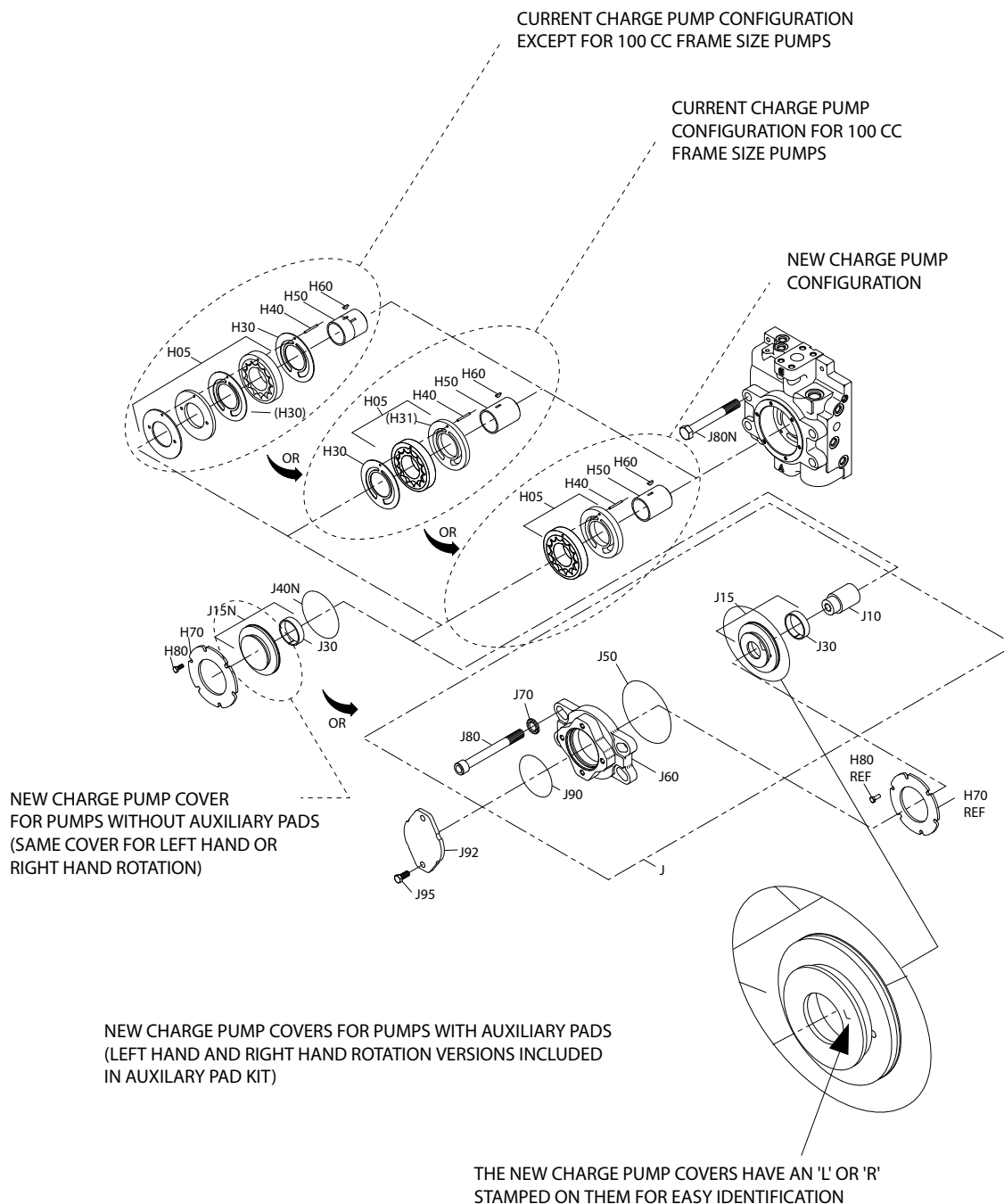
55 cc		75 cc		100 cc		Item number	Description
Before 93-10	After 93-10	Before 93-10	After 93-10	Before 93-15	After 93-15		
N/A	8800833	N/A	8800833	N/A	8800833	J15L	Aux. L.H. cover assy.
N/A	8800832	N/A	8800832	N/A	8800832	J15R	Aux. R.H. cover assy.

Piece parts are not interchangeable

Parts disposition

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

Service bulletin



Service bulletin
SB-1993-015
Products affected

Series 90 pump: all frame sizes

Subject

Servo arm interference with speed sensor ring

Description

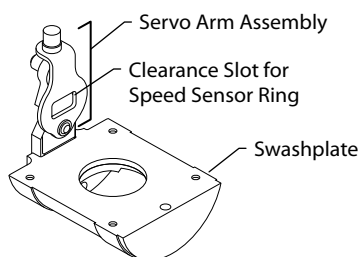
[This service bulletin revision adds the 42 cc frame size and the incorporation date of 55 through 100 cc.](#)

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.


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

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

Service bulletin

Parts disposition

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

Service bulletin

SB-1994-017

Products affected

Series 90 55-100cc variable pumps

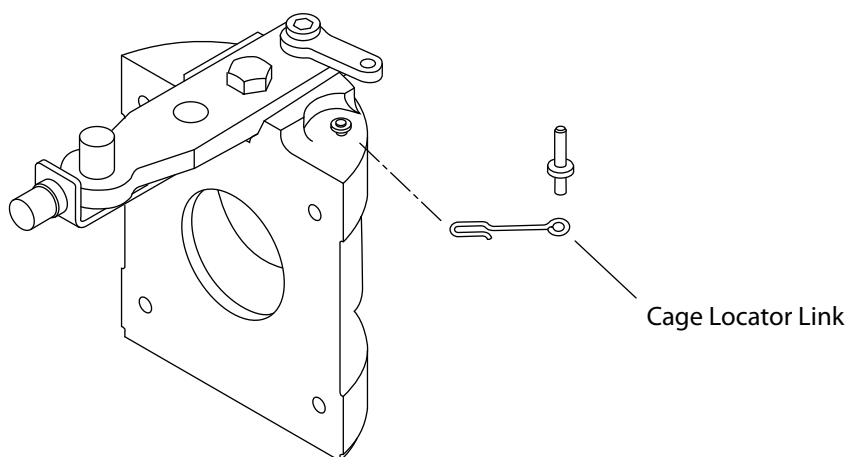
Subject

Swashplate cage locator

Description

As a product improvement, 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.



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

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

Parts disposition

Interchangeable

Service bulletin

SB-1994-018

Products affected

Series 90 variable pumps

Subject

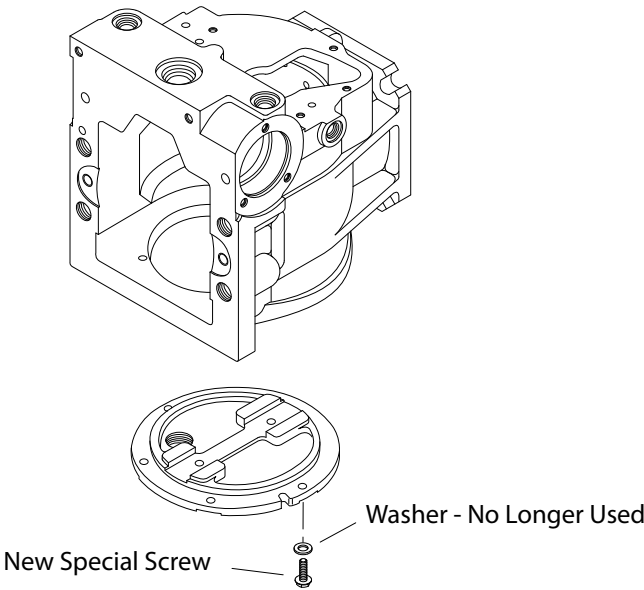
Side cover washer elimination

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

Service bulletin

Parts disposition

Interchangeable

Service bulletin

SB-1994-36

Products affected

Series 90 55 thru 130 cc variable pumps

Subject

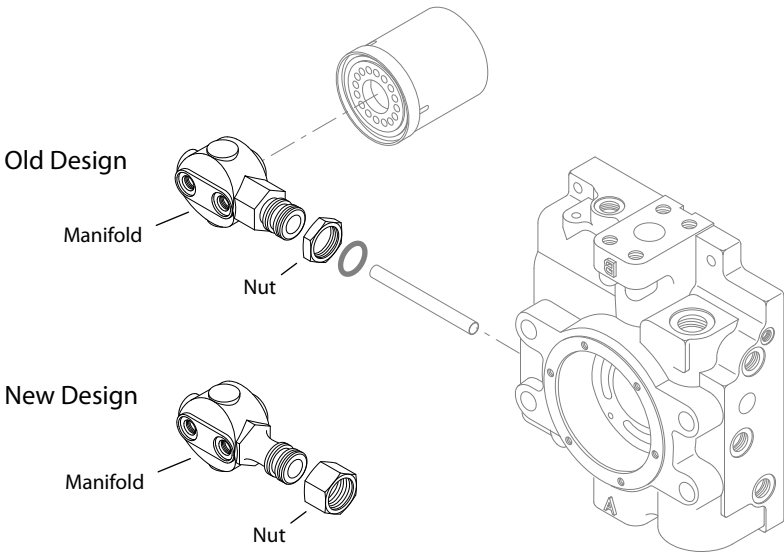
Integral filtration manifold

Description

As a product improvement, 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.



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 (after 95-18)
Filter manifold	8800200	8800896
Bulkhead nut	9002863-1600	5000222

Parts disposition

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

Service bulletin

SB-1995-003

Products affected

Series 90 variable pumps, all frame sizes

Subject

Manual displacement control (MDC) with DC electric solenoid override

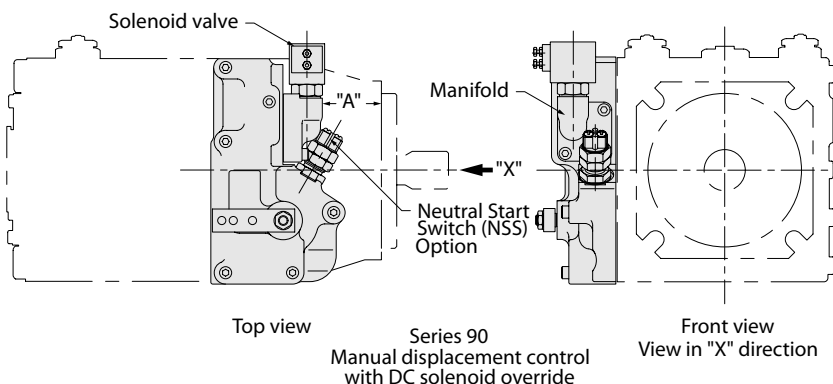
Description

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.



Frame size		42	55	75	100	130
Dimension "A" mm [in]	Old	39.9 [1.57]	55.9 [2.20]	54.1 [2.31]	60.2 [2.37]	74.4 [2.93]
	New	34.9 [1.39]	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.

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)

Service bulletin

SB-1995-012

Products affected

Series 90 75cc variable pumps

Subject

End cap design change

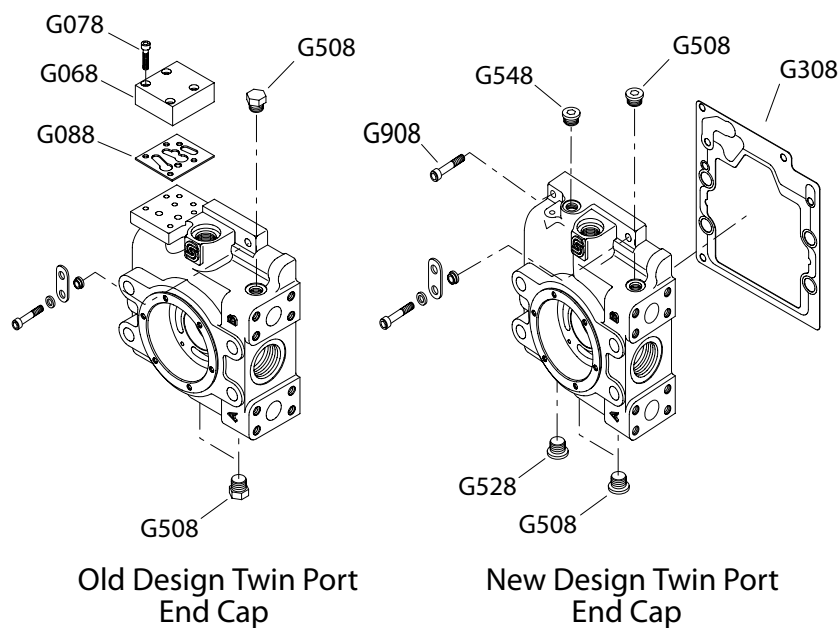
Description

As part of a Series 90 product improvement program, the 75cc twin ported end cap is being redesigned. The redesign will eliminate the logic block and place the pressure limiter logic area in the same location as the side ported end cap, which is on the back side of the end cap. The logic pattern will be the same as the current 75cc side ported end cap. Old style end caps will be obsoleted and no longer available as a service part.

Any unit with a twin ported end cap and built prior to serial number A-96-05-xxxxx, must use the 8100466 gasket. Any unit with a serial number A-96-05-xxxxx and beyond must use the 8100565 gasket. The two gaskets are not interchangeable.

Any unit with a side ported end cap and built prior to A-92-19-xxxxx must use the 8100212 gasket. Any unit with a serial number of A-92-19-xxxxx and beyond must use the 8100565 gasket.

The end cap assembly and its appropriate gasket is interchangeable. However, piece parts are not interchangeable.



Models affected

All 75cc variable pumps

Serial numbers

This change became effective at serial number A-96-05-xxxxx

Service bulletin**Part numbers affected**

Description	Item	92-19 to 96-04	96-05 and beyond
End cap assembly	G048	8100471	8100566
Logic block	G068	364281	-
Logic block gasket	G088	689117	-
Logic block screw	G078	9007314-0608	-
Screw	G908	-	9007314-0810
Screw	G958	9007314-0804	9007314-0810
Plug	G508	9005100-5600	9005110-5600
Plug	G528	-	9005110-5600
Plug	G548	-	9005110-5600

Parts disposition

Non-interchangeable except where noted

Service bulletin

SB-1995-025

Products affected

Series 90 55, 75, and 100 cc variable pumps

Subject

Side cover design change

Description

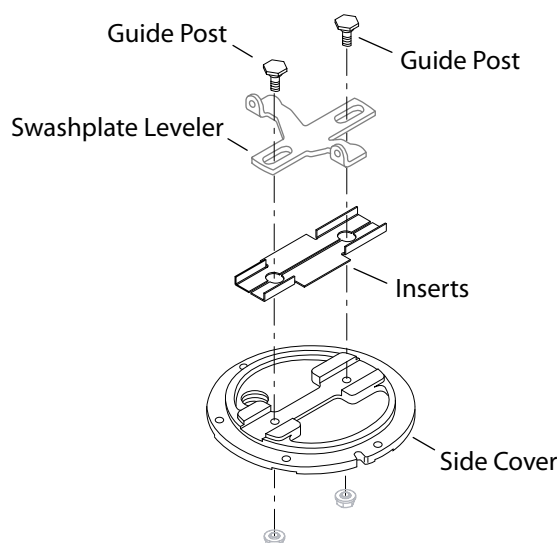
As a product improvement, Danfoss is changing the side cover and swashplate leveler ("T-bar") guide post design.

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.



Models affected

All 55, 75, & 100 cc variable pumps

Serial numbers

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

Service bulletin**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.

Service bulletin

SB-1996-009

Products affected

Series 90 55, 75, and 100 cc variable pumps

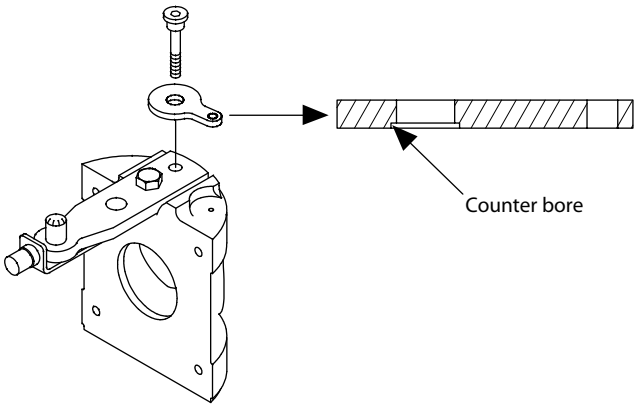
Subject

Change swashplate feedback link

Description

As a product improvement, 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.



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
55cc	8000096	8000481
75cc	8000096	8000481
100cc	8200106	8200344

Parts disposition

Interchangeable

Service bulletin

SB-1998-066

Products affected

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

Subject

Charge pump shaft part number change

Description

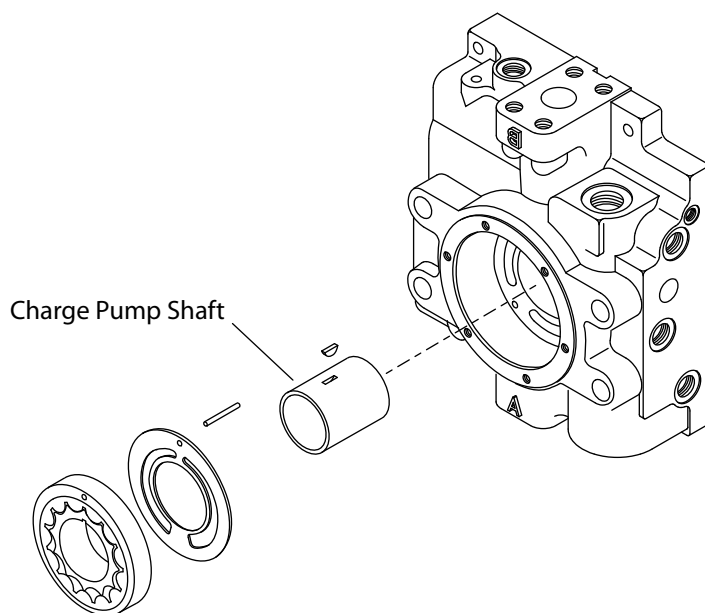
As a product improvement, Danfoss has modified the design of the charge pump shaft used in series 90 55, 75 and 100 cc pumps. This change affects all charge pump sizes (11, 14, 17, 20, 26, and 31 cc) available in the series 90 displacement range.

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, 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.



Models affected

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

Service bulletin

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-26 cc charge pump). The special shaft part number 8801176 has been obsoleted and replaced with shaft part number 8801178.

Serial numbers

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

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

Parts disposition

Interchangeable

Service bulletin

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

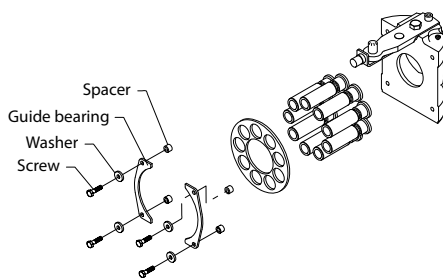
Danfoss has initiated a change to the piston hold down mechanism used on series 90 55, 75, and 100 cc variable displacement pump and the series 90 55 and 75 cc variable displacement motors.

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.

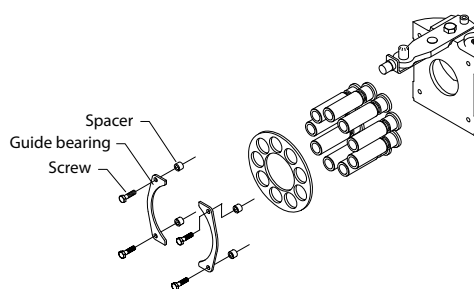
The change involved with the current design update is the removal of the washer from the assembly. This design was initially introduced on the series 90 42 and 130 cc pumps in 1994, and with this change a uniform product family is achieved.

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.



Previous hold down design



New hold down design

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

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

Service bulletin**Part numbers affected**

Component	Displacement	Prior to 98-48	Current
Hold down screw	55 cc	314419 (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

Service bulletin

SB-1998-073

Products affected

Series 90 75cc variable pumps

Subject

Large end cap screw change

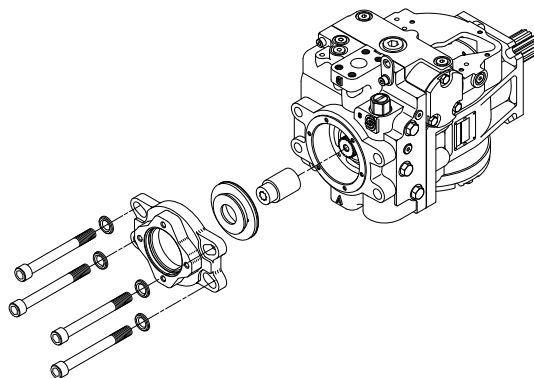
Description

Danfoss has introduced a design modification to the Series 90 75cc Variable Displacement pump assembly. The (4) large cap screws which fasten the end cap to the main pump housing on the Series 90 75cc and 100cc pumps have a common screw thread designation (M16x1.75). Until recently however, the screws had a different overall length, with the screw used in 75cc pumps being 10 mm (0.394 in) shorter than the screw used with the 100cc pumps.

Danfoss has now modified the design of the Series 90 75cc pump housing by increasing the drilled and tapped depth of the end cap mounting screw bore. This change now makes it possible for Series 90 75cc and 100cc pumps to use a common end cap screw. With this change, a common large screw is now used in the assembly of 75cc and 100cc pumps which are not equipped with an auxiliary drive flange, and a second, common large screw, is used for pumps equipped with an auxiliary drive flange. The improvement in hardware commonality also assists in preventing insufficient gasket clamp load due to assembly with the incorrect length screw.

It is important to note that pumps assembled prior to the change incorporation, must continue to be serviced with the original, shorter, assembly screw. Auxiliary drive flange service kits have been updated to include both 146mm (5.74 in.) and 156mm (6.14 in.) length screws, so that you may properly service pumps of either vintage. The shorter screw may be used to service pumps built after the change incorporation, if required.

To assist in identifying this change, Danfoss has released a new pump housing part number. The previous pump housing has been obsoleted and is no longer available as a service part. The end cap screws will continue to remain available as service items.



Models affected

95-2xxx and 962xxxx variable displacement pumps

Serial numbers

Danfoss Ames production: A-98-44-xxxxx

Danfoss Neumunster production: N-00-05-xxxxx

Service bulletin**Part numbers affected**

Component	Prior to 98-44	Current
Pump housing	8100551	8100761
Screw- no auxiliary drive	9007210-1620	9007210-1621
Screw- with auxiliary drive	9007314-1622	9007314-1623

[Auxiliary drive kits include both screws: 8102J00A-A, 8102J00B-A, 8102J00T-A and 8102J00V-A.](#)

Service bulletin

SB-1999-009

Products affected

Series 90 75cc pumps

Subject

Eliminate potential interference between speed ring and spring seats and springs

Description

Danfoss has modified the design of the swashplate leveler and spring seat assembly used on Series 90 75cc pumps. The design and serviceability of the pump has been improved by integrating the spring seats directly into the swashplate leveler.

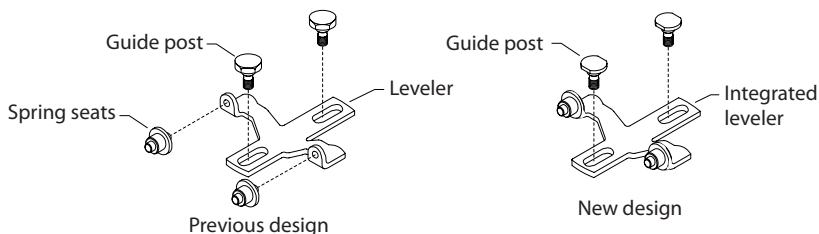
This new design eliminates the potential for the spring seats to separate from the leveler during assembly and servicing.

The old spring seats part number 358523 will be available as a service part and will only be used with the old style leveler part number 8100682.

If the need to replace the leveler part number 8100682 arises it must be replace it with the new leveler with integrated spring seats, part number 8100698. The old swashplate leveler will be obsolete and no longer available as a service part.

At the same time, Danfoss has changed the leveler guide post to help eliminate the possibility of interference between the leveler and the speed ring. The new guide post allows less movement of the leveler. The old and new guide posts are not interchangeable. The old hex head guide post, part number 8000510, must be used with the old leveler, part number 8100682. The new oval guide post, part number 8000575, must be used with the new leveler, part number 8100698.

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



Models affected

All series 90 75cc variable displacement pumps

Serial numbers

This change became effective at serial number A-99-27-xxxxx

Part numbers affected

Description	Prior to 99-27	99-27 or later
Spring seat	358523	N/A
Leveler	8100682	8100698
Guide post	800510	8000575

Parts disposition

Interchangeable only when the new guide posts and leveler are used

Service bulletin

Service bulletin

SB-1999-019

Products affected

Series90 55, 75, and 100 cc variable pumps

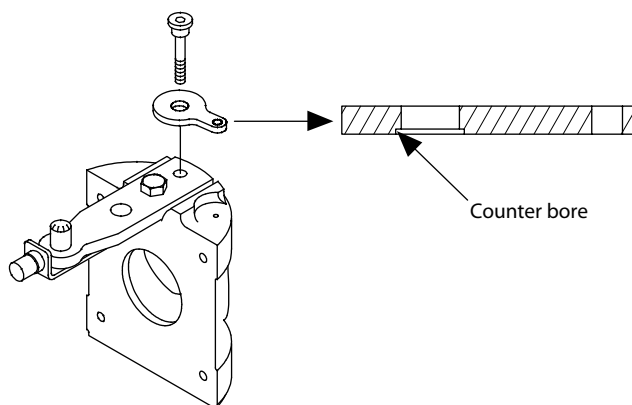
Subject

Feedback link change

Description

As a product improvement, 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. 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.



Models affected

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

Serial numbers

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

Part numbers affected

Size	Old part number	New part number
100 cc	8200344	8200413
55 & 75 cc	8000481	11070305

Parts disposition

Non-interchangeable

Service bulletin

SB-1999-041

Products affected

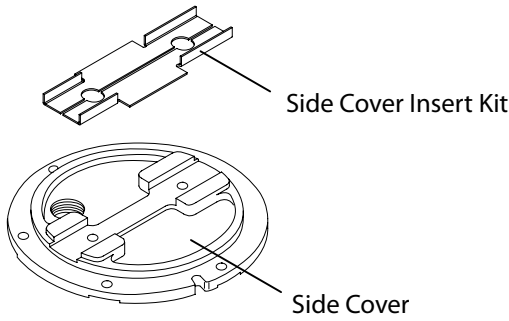
Series 90 variable pumps

Subject

Change to side cover insert material

Description

As a continuous product improvement, 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.



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

Part numbers affected

Frame size	Old part number	New part number
42 cc	506916	513885
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

Service bulletin

Parts disposition

Interchangeable

Service bulletin

SB-1999-065

Products affected

Series 90 75, 100, 130, 180, and 250cc variable displacement pumps

Subject

Hydraulic displacement control gasket and swashplate bearing locator pin retention

Description

The Series 90 75cc, 100cc, 130cc, 180cc, and 250cc variable displacement pumps utilize a common gasket to seal the joint between the displacement control housing and main pump housing.

In November 1998, Danfoss introduced a new gasket design for Hydraulic Displacement Controls (HDC - all options), version 2 Electrical Displacement Controls (EDC2- options EE and EN), and two amp current control (options PA and PB) equipped pumps (see SB-1998-038). The purpose of this gasket is primarily to seal the joint and aid in the retention of the bearing cage locator pin in the main pump housing. Danfoss has identified that the new gasket may not adequately aid in the retention of this pin in 75cc pump sizes due to casting and machining tolerances. Installations which are particularly sensitive to pin retention include those oriented with the control on the side or on the bottom when the pump is installed. In these types of installations, it is possible for the pin to come out of its position in the pump housing. This will result in a loss of alignment between the swashplate and swashplate bearing assembly and the potential for erratic pump control and/or system performance.

To address this situation, Danfoss has introduced a design modification to the control gasket. The modification will insure that the cage locator pin is retained in 75cc pumps in all circumstances, while still maintaining the desired gasket clamp load to avoid leaks.

The new gasket is completely interchangeable with the previous gasket. Danfoss recommends that the previous control gasket be replaced immediately on 75cc pump assemblies, with controls noted above, in which the control is on the side or on the bottom of the pump. The pump serial numbers involved are A-98-41-xxxx through A-99-49-xxxx. It is not required to replace the gasket in pumps with the control in the up position, until the initial servicing of the pump assembly.

The 100cc, 130cc, 180cc, and 250cc pumps are not dependent upon the gasket to maintain retention of the bearing cage locator pin and are not affected by the information above.

The new gasket has replaced the previous gasket in all new pump assemblies with Hydraulic Displacement Control (HDC), version 2 Electrical Displacement Control (EDC2-EE and EN), and two amp current (PA and PB) controls. The new gasket has also been placed in all appropriate control kits and overhaul seal kits. Page 3 of this bulletin will assist you in identifying the new gasket from the previous gasket.

Models affected

95-2xxx, 952xxxx, 96-2xxx, 962xxxx, 97-2xxx, 972xxxx, 98-2xxx, 982xxxx, 99-2xxx, and 992xxxx variable displacement pumps equipped with hydraulic displacement controls and specific option electronic displacement control. (EE, EN, PA, PB)

Serial numbers

Danfoss Ames 75cc pump production: A-99-50-xxxx.

Danfoss Ames 100cc pump production: A-00-25-xxxx.

Danfoss Neumunster production: N-00-01-xxxx.

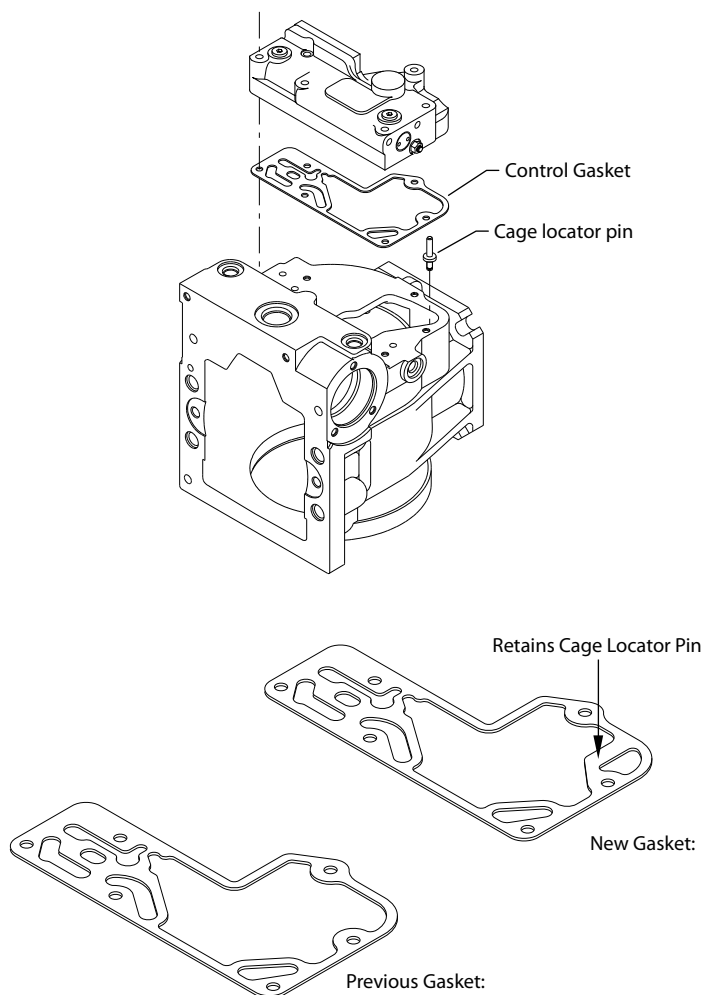
Service bulletin

Part numbers affected

Previous gasket	New gasket
511608	8801241

Parts disposition

Interchangeable



Service bulletin

SB-2000-022

Products affected

Series 90 75, 100, and 130 cc variable displacement pumps

Subject

Displacement limiter screw and servo piston change

Description

Danfoss has identified a product issue affecting a limited number of Series 90 100cc variable displacement pumps built at the Ames, Iowa, USA facility in the time frame of June 2000 through August 2000 (serial date range A-00-23-xxxx up to and including A-00-34-xxxx). This same issue also affects a limited number of Series 90 75cc, 100cc, and 130cc variable displacement pumps built at the Neumunster, Germany facility in the time frame of June 2000 through September 2000 (serial date range N-00-23-xxxx up to and including A-00-39-xxxx).

These pumps, equipped with displacement limiters, may have a servo piston with large center drills. These large center drills may allow the displacement limiter screw to thread into the servo piston while turning the screw in against the servo piston while adjusting the pump's displacement. If this occurs, the pump will be mechanically held in stroke by the displacement limiter screw. This situation can only happen during adjustment; it will not occur during normal operation.

Danfoss has introduced a change to the servo piston and the displacement limiter screw to prevent the recurrence of this issue. We have made a change to the servo piston to limit the size of the center drill. We have also changed the design of the service displacement limiter screw from a "flat" point to a "dog nose" point. When servicing a pump that meets the above criteria, you must verify that the displacement limiter screw of the new "dog nose" version. If it is not, you must replace the displacement limiter screw with the new version. If the pump is not inside the date code ranges and displacements mentioned, you do not need to verify the version of the displacement limiter screws.

To assist in tracking this change, we have issued new part numbers for the servo pistons and displacement limiter screws. Even though this issue did not affect the 42cc or 55cc pumps, the service displacement limiter screw part number will change also to keep one common service part. We do this as the same displacement limiter screw is used on 42cc, 55cc, 75cc, and 100cc pumps.



Old
"flat point"
displacement limiter screw



New
"dog nose"
displacement limiter screw

Models affected

All 95-2xxx, 952xxxx, 96-2xxx, 962xxxx, 97-2xxx, and 972xxxx variable displacement pumps with 1, 2, 4, or P displacement limitation option.

Serial numbers

Danfoss Ames 100cc production with serial number A-00-23-xxxx up to and including A-00-34-xxxx.

Danfoss Neumunster, Germany production with serial number N-00-23-xxxx up to and including A-00-39-xxxx.

Service bulletin**Part numbers affected**

Frame size	Old servo piston	New servo piston	Old screw	New screw
42 & 55cc	N/A	N/A	9007712-0814	516677
75 cc	509282	516683	9007712-0814	516677
100 cc	509284	516684	9007712-0814	516677
130 cc	510496	516685	572180	516678

Parts disposition

Interchangeable

Service bulletin

SB-2000-041

Products affected

Series 90 55, 75, 1nd 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

Service bulletin
SB-2002-050
Products affected

Series 90 55, 75, and 100 cc pumps

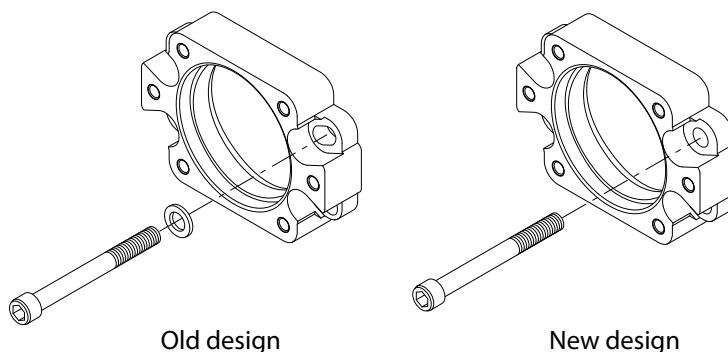
Subject

Auxiliary mounting pad

Description

As a product improvement, 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.


Models affected

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

Part numbers affected

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

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

Parts disposition

Interchangeable

Service bulletin

SB-2004-012

Products affected

Series 90 55cc and 75cc pumps

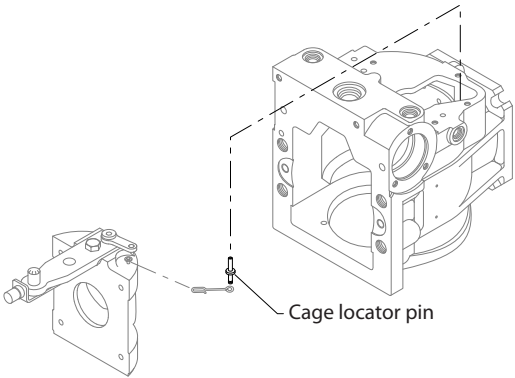
Subject

Cage locator pin

Description

As a product improvement, 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.



Models affected

Series 90 55cc and 75cc pumps

Serial numbers and part numbers affected

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

* A = Ames, Iowa; N = Neumunster, Germany; S = Shanghai, China

Parts disposition

Non-interchangeable

Service bulletin

SB-2005-007

Products affected

Series 90 75cc pumps

Subject

Pump redesign

Description

As a global improvement, the series 90 75cc displacement pump has redesigned components as a product improvement program. The following components are being redesigned: servo arm, swashplate guide, pump housing, shaft seal, and cradle bearing.

All parts are non-interchangeable with the exception of the shaft seal. Model numbers and order codes will not be changed.

Servo arm: A "one piece" servo arm is introduced. The pin that engages the servo piston is now machined as part of the servo arm instead of pressed in. The old servo arm will remain available as a service part for a period of time.

Swashplate Guide: The swashplate position is now guided by the fit between the servo arm and the pump housing. A "shelf" on the servo arm fits under a boss in the housing to provide a fixed clearance swashplate hold-down. The swashplate was previously held down with a spring and bracket, which was riveted to the servo arm. The servo arm to housing clearance now limits lateral movement of the swashplate. The separate swashplate guide that was bolted to the bottom of the swashplate has been removed. The separate swashplate guide will remain available as a service part for a period of time.

Housing: The housing is modified internally to provide the servo arm pivot. Also, the cradle and side cover radii are reduced. The housing casting is common globally. Some customers may notice cosmetic external changes. The old housing will be obsoleted and no longer available as a service part.

Shaft seal: The new shaft seal is interchangeable with the old version. The shaft seal will be sourced from one global supplier. The old shaft seal will be obsoleted and no longer available as a service part.

Cradle bearing: The new design is a single piece cold formed with the positioning pin now integral with the bearing. The old cradle bearing will remain available as a service part for a period of time.

Side cover: The side cover will have a 138.58 mm pilot as the old side cover had a 140.589 mm pilot.

The current version of the housing will not be available globally long term. Current bearings will be available under the 8700048 part number. Swashplate 8100367 will be maintained for service parts. It is interchangeable for the 516201 swashplate in current housings. Fastener 660032 (90007276-0107), swashplate guide 8800669, and spring 8100035 are used in other series 90 frame sizes and will remain active. The side cover will be kept for service parts replacement.

Models affected

All 952xxxx pumps.

Serial numbers affected

This change was effective at serial number: A-05-49-xxxxx, N-05-40-xxxxx and S-05-47-xxxxx.

Part numbers affected

Description	Old part number	New part number
Housing	500170 (N), 724674 (N), 8100761 (A)	11001300
Cradle bearing	676841/P (N), 8700048 (A)	518671
Servo arm	518323 (N), 8100499 (A)	519046

Service bulletin

Description	Old part number	New part number
Swashplate	516201 (N), 8100367 (A)	521366 (N), 11000688 (A)
Screw	666032 (N), 9007276-0107 (A)	519150
Swashplate guide	8800669	No longer used
Spring	664367 (N), 8100035 (A)	No longer used
Side cover	501572	11001286
Shaft seal assembly	510015 (N), 8100553 (A)	519671
Lip seal	664508 (N), 9008000-0115 (A)	519666
Side cover kit	8510098	8510392
Swashplate assembly	8100376	8100984
Servo/swashplate kit	8100377	8510391

Parts disposition

Non-interchangeable; interchangeable.

See Description for details.

Service bulletin

SB-2005-011

Products affected

Series 90 42 through 100 cc pumps

Subject

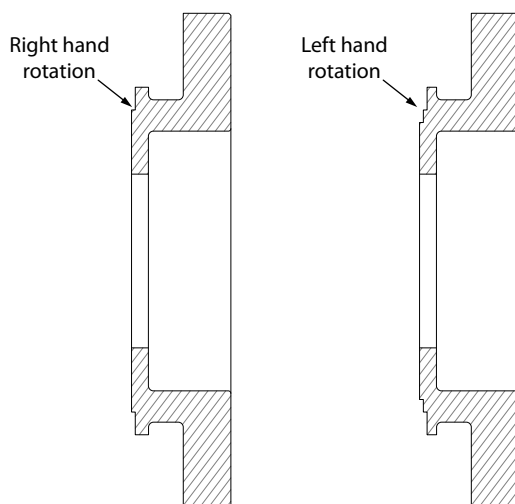
Auxiliary flange charge pump cover

Description

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.



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

Service bulletin

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.

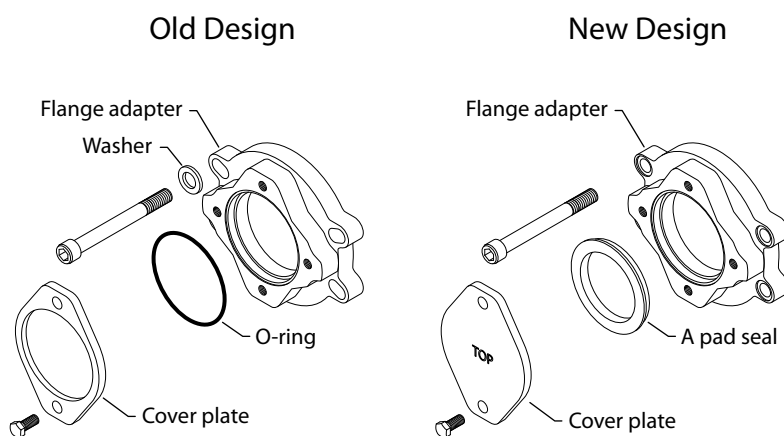
The improvement comes in the form of a more robust sealing geometry with a larger cross- section O-ring. The O-ring groove in the flange will now be sized to mate with a 2.62mm [0.103] cross section O-ring rather than the old 1.78mm [0.070] cross-section O-ring.

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.



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

Service bulletin
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
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

Service bulletin

SB-2007-051

Products affected

Series 90; 55, 75 , and 100 cc pumps

Subject

SAE C auxiliary mounting flange

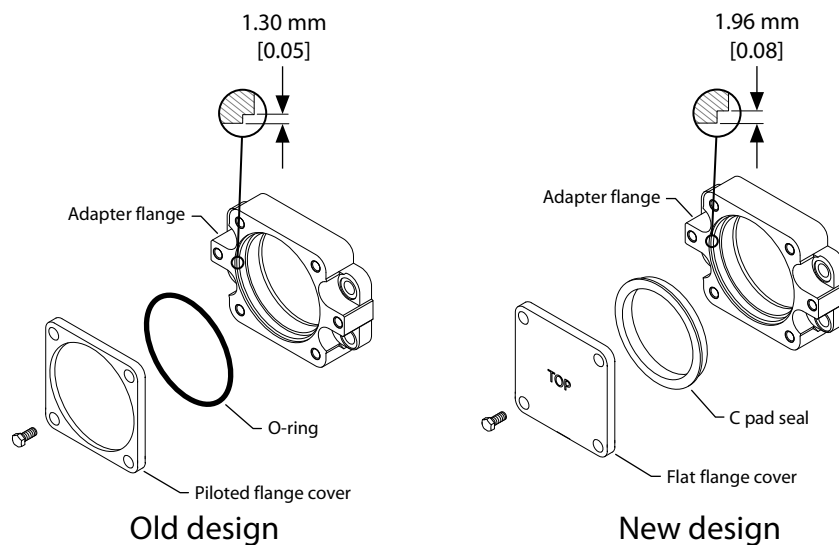
Description

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.



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

Service bulletin**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
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

Service bulletin

SB-2007-055

Products affected

Series 90; 55, 75 , and 100 cc pumps

Subject

SAE B auxiliary mounting flange

Description

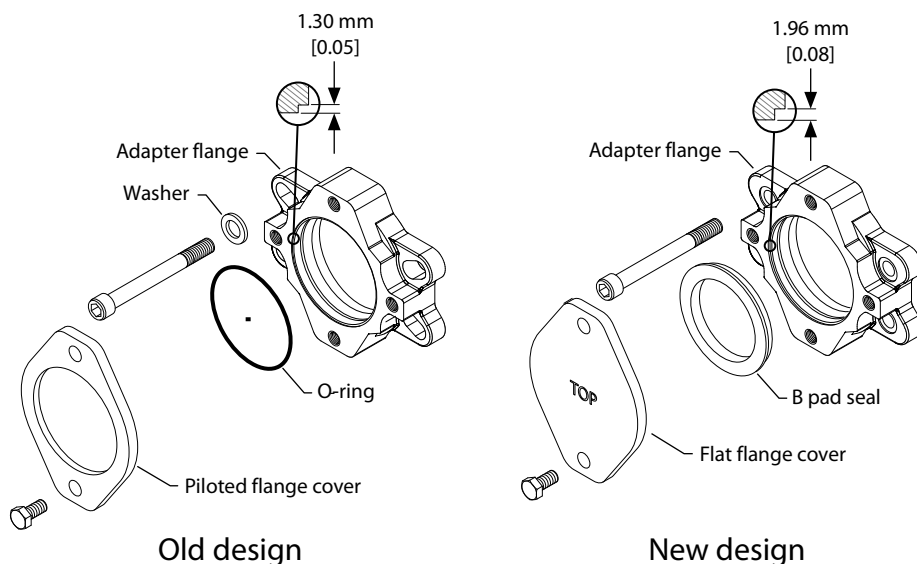
Danfoss is pleased to announce a design improvement on the SAE B auxiliary mounting flange adapter on its series 90 pumps. The frame sizes affected by this change are 55, 75, and 100cc. All manufacturing locations producing these pumps will be changed to this configuration.

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.



Models affected

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

Service bulletin
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

Service bulletin

SB-2009-073

Products affected

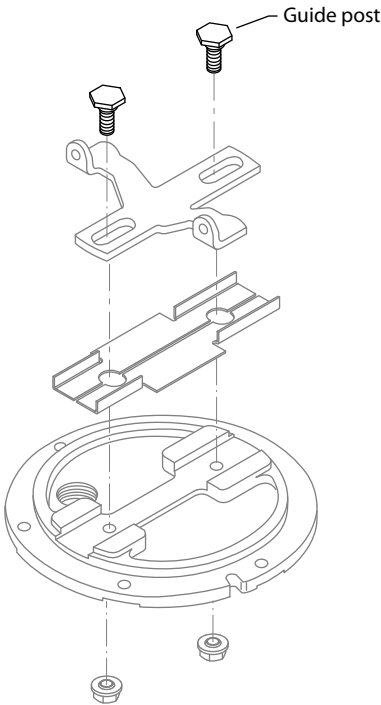
Series 90: 75 and 100 cc pumps

Subject

Supplier change for guide posts

Description

The supplier has changed, for the guide posts used in series 90: 75 and 100 cc pumps. The new guide posts are interchangeable with the old guide posts. A new part number has been assigned to the new guide post to better track this change. The old part number has become obsolete and not available for service.



Models affected

Series 90: 75 and 100cc pumps

Serial numbers

This change became effective at serial number A-09-50-xxxxx (21 December 2009)

Part numbers affected

Description	Old part number	New part number
Guide post	8000575	11056531

Service bulletin

Part numbers affected

Interchangeable

Service bulletin

SB-2013-011

Products affected

Series 90: 42-250cc pumps

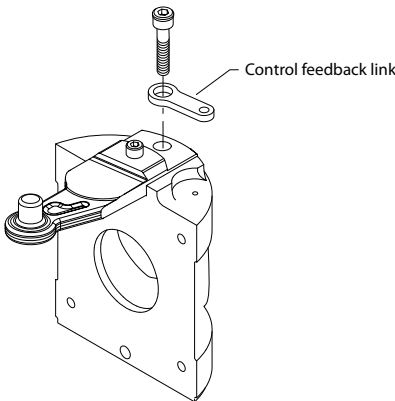
Subject

Feedback link - control

Description

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.



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

Service bulletin

SB-2015-005

Products affected

Series 90: 42-250cc pumps

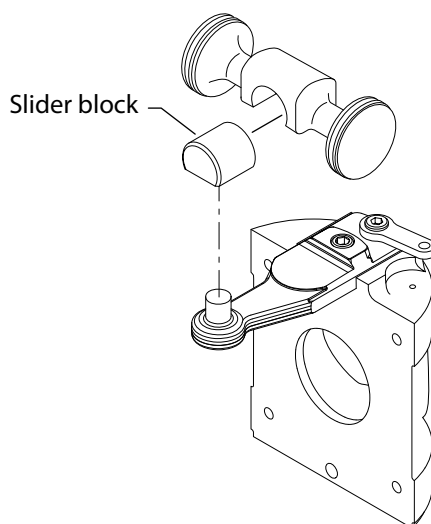
Subject

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.



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 block 100 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

Service bulletin

SB-2017-033

Products affected

Series 90 pumps

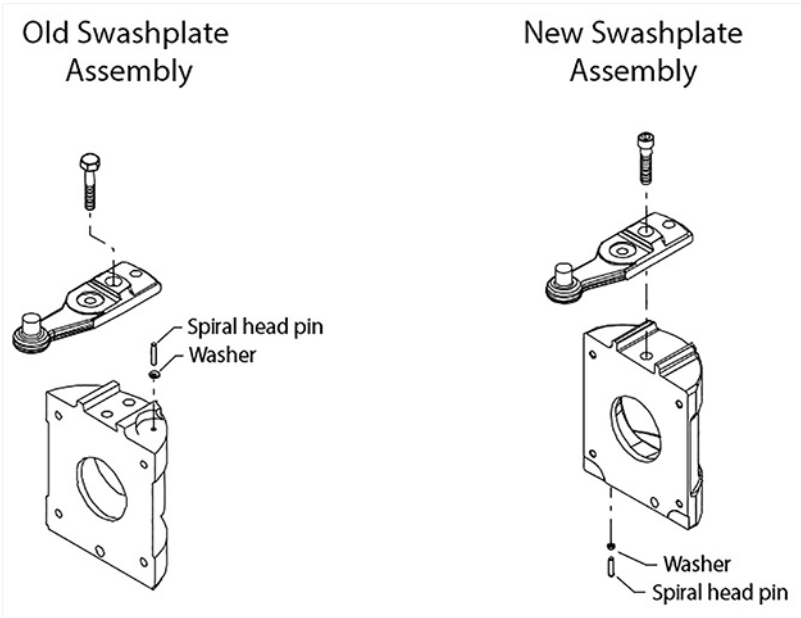
Subject

Swashplate service kit revision

Description

The swashplate service kit for Series 90 75cc NFPE pumps has been revised following a design change to the pump housing on those units. The housing change required a change to the location of the cradle bearing cage locator link on the swashplate. The link is now located under the side cover.

Parts are not interchangeable.



Models affected

Series 90 75cc NFPE pumps

Serial numbers affected

This change became effective at serial number N1732xxxxx (August 11, 2017)

Part numbers affected

Description	Old part number	Description	New part number
Swashplate SVC kit	11103350	Swashplate SVC kit	11192313
90PV075 w/o D65, M14	-	90P075 NFPE assembly	-

Parts disposition

Non-interchangeable; use parts in stock with old style pump housings

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