

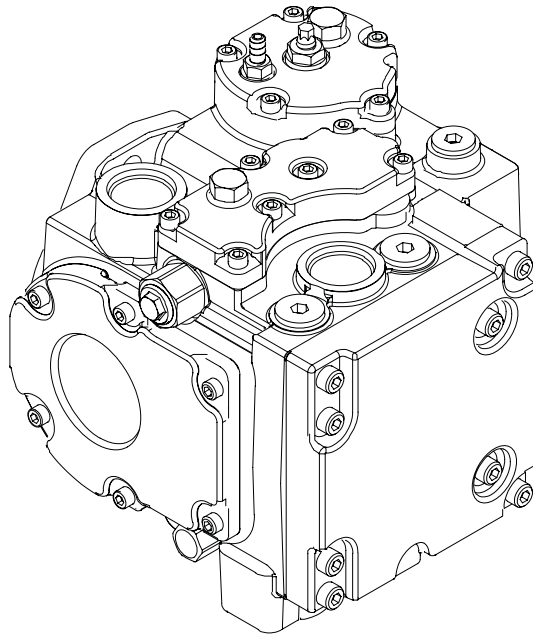
ENGINEERING
TOMORROW



Parts Manual

Series 42 Axial Piston Pumps

Size 41/51cc



Revision history

Table of revisions

Date	Changed	Rev
May 2024	Corrected part numbers	0113
March 2023	Additional part number for 15 tooth coupling on Auxiliary Mounting B-Pad	0112
January 2023	Corrected part number of valve plate on special hardware	0111
September 2022	Corrected changes made from SB-2022-002	0110
June 2022	Corrected order code:C and D common parts on input shaft configuration	0109
	Corrected overhaul seal kit part numbers	xx
December 2021	Added gear rotor cover assembly part number	0108
December 2020	Corrected control summing and feedback link part numbers	0107
August 2020	Updated Part Numer for Retaier-Slipper, and Changed document number from 'AX00000160' to 'AX152886483959'	0106
November 2019	Correted 11 tooth coupling part number	0105
May 2018	Updated part number according to SB-2018-029	0104
August 2017	Updated to Engineering Tomorrow	0103

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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.

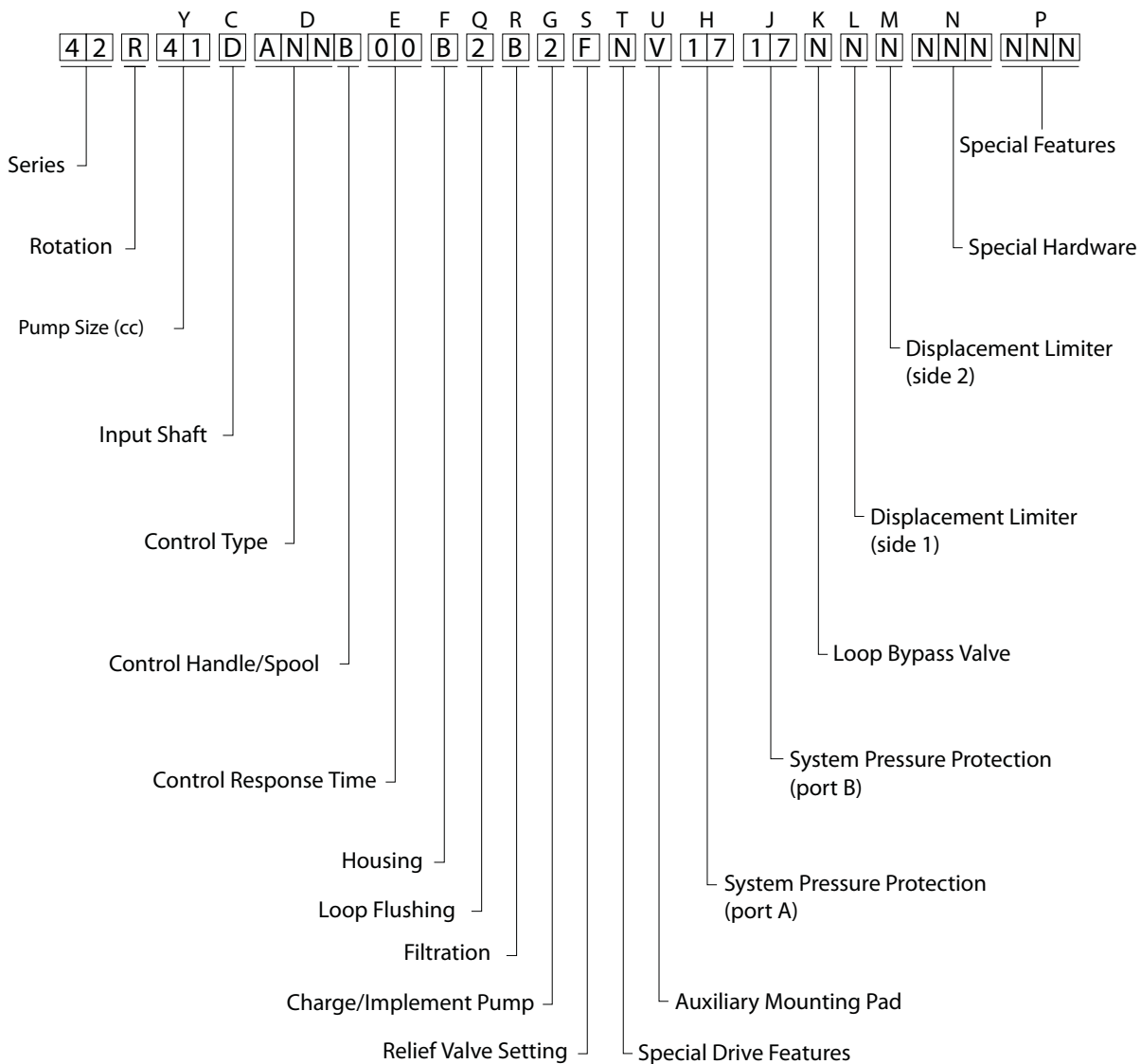
Regional part numbers

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.

General Information

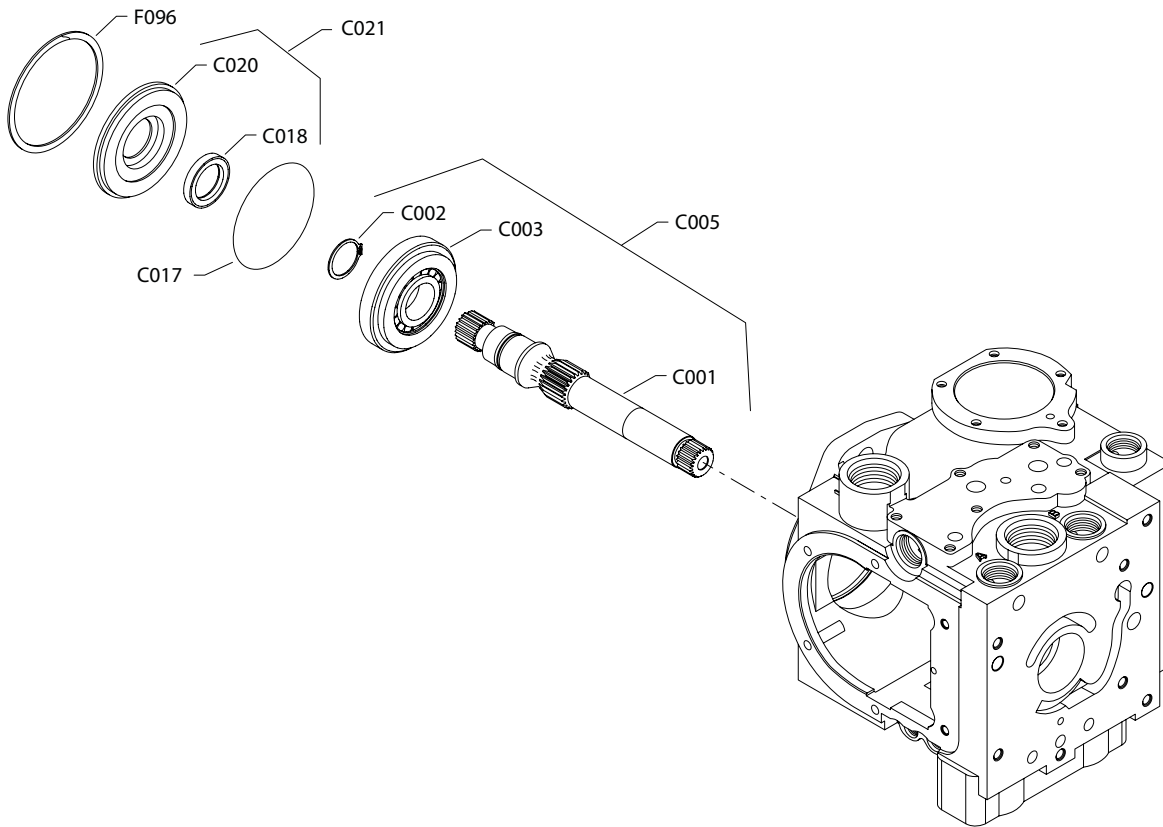
Order code



Input Shaft Configuration

Splined 13, 15, 19 teeth

Parts for 13, 15, and 19 teeth splined shaft options are in the illustration and tables below.



Input Shaft Configuration

Order code: C and D common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C002	95-25		5000098	Retaining ring	1
C002	95-18	95-24	615245(9006300-0137)	Retaining ring	1
C002	94-05	95-17	5000098	Retaining ring	1
C003	07-18		1735399	Roller bearing	1
C003	95-25		4700068	Roller bearing	1
C003	95-18	95-24	373282(9001315-0011)	Roller bearing	1
C003	94-05	95-17	4700068	Roller bearing	1
C017	94-25		38315	O-ring	1

C (splined, 13 teeth) parts

C001	07-18		1716097	Shaft 13 tooth spline	1
C001	95-25		4410034	Shaft 13 tooth spline	1
C001	95-18	95-24	4410085	Shaft 13 tooth spline	1
C001	94-05	95-17	4410034	Shaft 13 tooth spline	1
C005	95-25		4410042	Shaft assembly, 13 tooth spline	1
C021 ¹	22-05		11268759	Seal, shaft assy kit	1

D (splined, 15 teeth) parts

C001	07-18		1716096	Shaft 15 tooth spline	1
C001	95-25		4410005	Shaft 15 tooth spline	1
C001	95-18	95-24	4410086	Shaft 15 tooth spline	1
C001	94-05	95-17	4410005	Shaft 15 tooth spline	1
C005	95-25		4410027	Shaft assembly, 15 tooth spline	1
C021 ¹	22-05		11268759	Seal, shaft assy kit	1

¹ Shaft lip seal only (without seal carrier) is no longer available

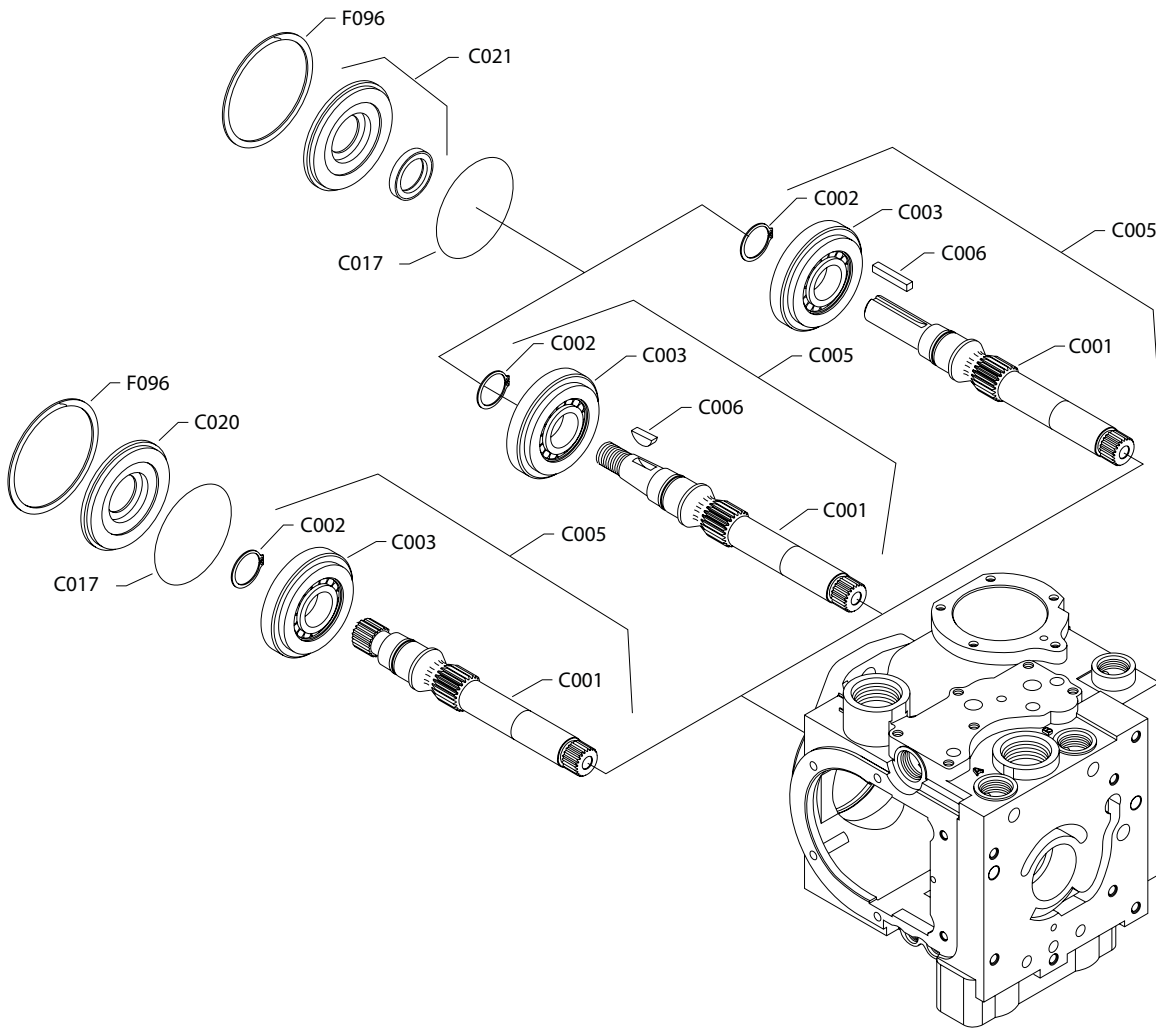
E (splined, 19 teeth) parts

C001	07-18		1716098	Shaft 19 tooth spline	1
C001	94-24		4410037	Shaft 19 tooth spline	1
C002	07-18		9006300-0137	Retaining ring	1
C002	94-24		5000098	Retaining ring	1
C003	07-18		1735400	Roller bearing	1
C003	94-24		4700069	Roller bearing	1
C005	94-24		4410043	Shaft assembly, 19 tooth spline	1
C017	94-25		38315	O-ring	1
C018	10-39		11013519	Lip seal	
C018	07-18	10-39	9008000-0118	Lip seal	1
C018	95-18	95-24	314583 (9008000-0118)	Lip seal	1
C020	10-39		11087319	Seal carrier	
C020	07-18	10-39	1735156	Seal carrier	1
C020	94-24		4800405	Seal carrier	1

Input Shaft Configuration

Keyed and Tapered Shaft

Part numbers for the straight keyed, tapered, and splined, 15 tooth (unsealed) shaft options are found below.



Input Shaft Configuration

Shaft common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
C002	94-25		5000098	Retaining ring	1
C003	07-18		1735399	Roller bearing	1
C003	94-25	06-01	4700068	Roller bearing	1
C017	94-25		38315	O-ring	1

Order code: G parts

C001	07-18		1716099	Shaft, straight keyed	1
C001	94-25		4410038	Shaft, straight keyed	1
C005	94-25		4410044	Shaft assembly, straight keyed	1
C006	07-18		9003261-2524	Key	1
C006	94-25		5000158(9003261-2524)	Key	1
C021 ¹	22-05		11268759	Seal, shaft assy kit	1

K parts

C001	94-25		4410039	Shaft, tapered	1
C005	94-25		4410045	Shaft assembly, tapered	1
C006	07-18		9003310-2514	Key	1
C006	94-25		532432(9003310-2514)	Key	1
C021 ¹	22-05		11268759	Seal, shaft assy kit	1

¹ Shaft lip seal only (without seal carrier) is no longer available.

R parts

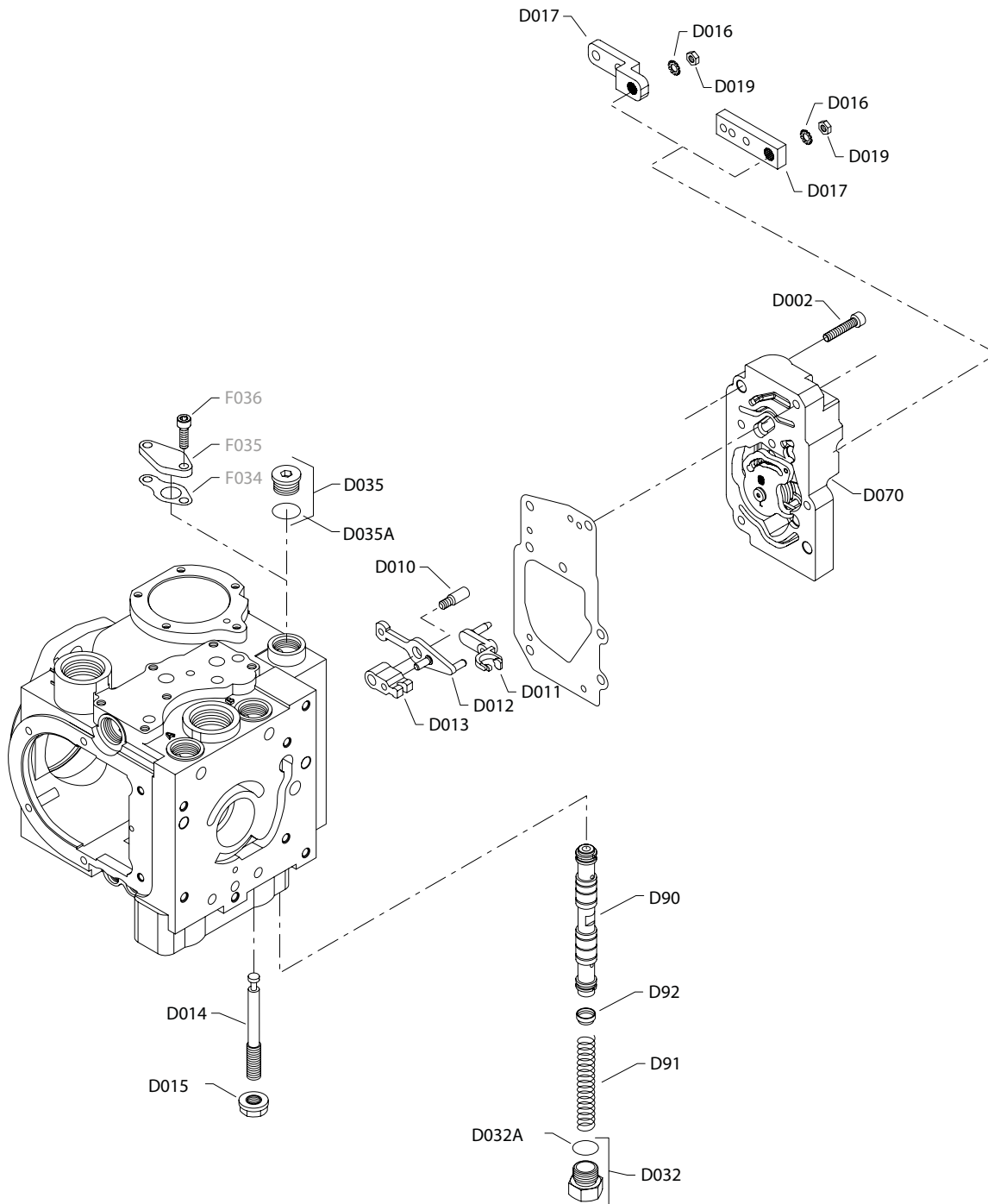
C001	07-18		1716096	Shaft 15 tooth spline	1
C001	99-47		4410005	Shaft 15 tooth spline	1
C005	99-47		4410027	Shaft assembly, 15 tooth spline	1
C020	07-18		1735155	Seal carrier	1
C020	94-25	06-01	4800264	Seal carrier	1

Controls

MDC Controls

MDC AAN3-ANNA

Part numbers for MDC controls can be found below.



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANA3 parts

D017	93-45		9800916	Control handle	1
D070	93-45		4800529	Control assembly	1
D90	19-29		11082757	Control spool assembly	1
D90	93-45	19-29	4800464	Control spool assembly	1

ANNS parts

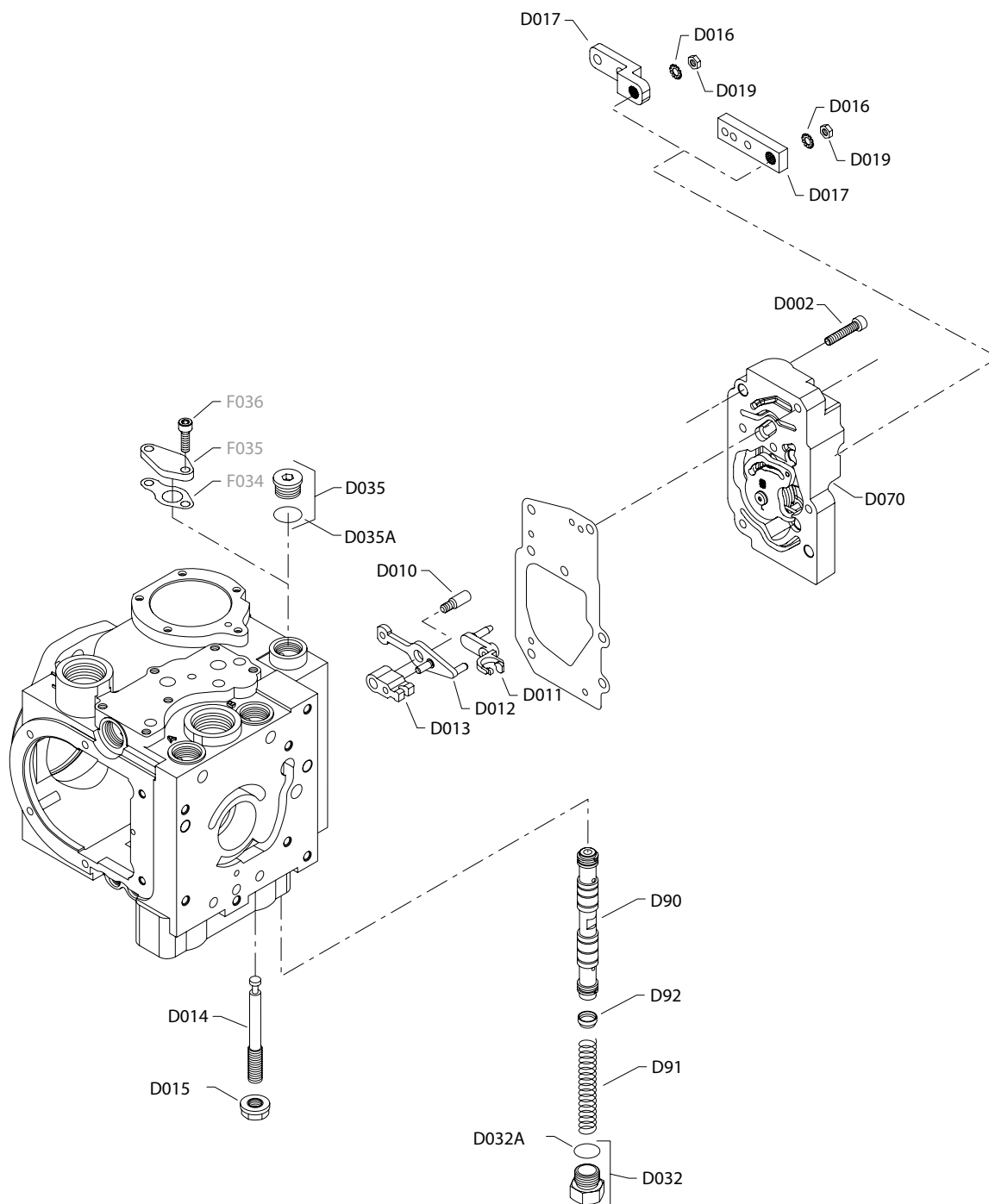
D017	15-25		769075	Control handle, off-set	1
D017	97-10	15-25	4800689	Control handle, off-set (SB-1997-046)	1
D070	97-10		4800529	Control assembly	1
D90	10-25		11082756	Control spool assembly	1
D90	10-05	10-25	1715686	Control spool assembly	1
D90	97-10	10-05	4800410	Control spool assembly	1

Controls*ANNA parts*

D017	15-23		769075	Control handle, off-set	1
D017	94-14	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D070	94-14		4800529	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	94-14	19-30	4800464	Control spool assembly	1

Controls

MDC ANNB-LNN8



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANNB parts

D017	06-01		9800916	Control handle	1
D070	06-01		4800529	Control assembly	1
D90	10-25		11082756	Control spool assembly	1
D90	10-05	10-25	1715686	Control spool assembly	1
D90	06-01	10-05	4800410	Control spool assembly	1

LNN3 parts

D017	94-02		9800916	Control handle	1
D070	94-02		4800522	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	94-02	19-30	4800464	Control spool assembly	1

Controls

LNN8 parts

D017	15-23		769075	Control handle, off-set	1
D017	96-09		4800689	Control handle, off-set (SB-1997-046)	1
D070	96-09		4800522	Control assembly	1
D90	96-09		4800488	Control spool assembly	1

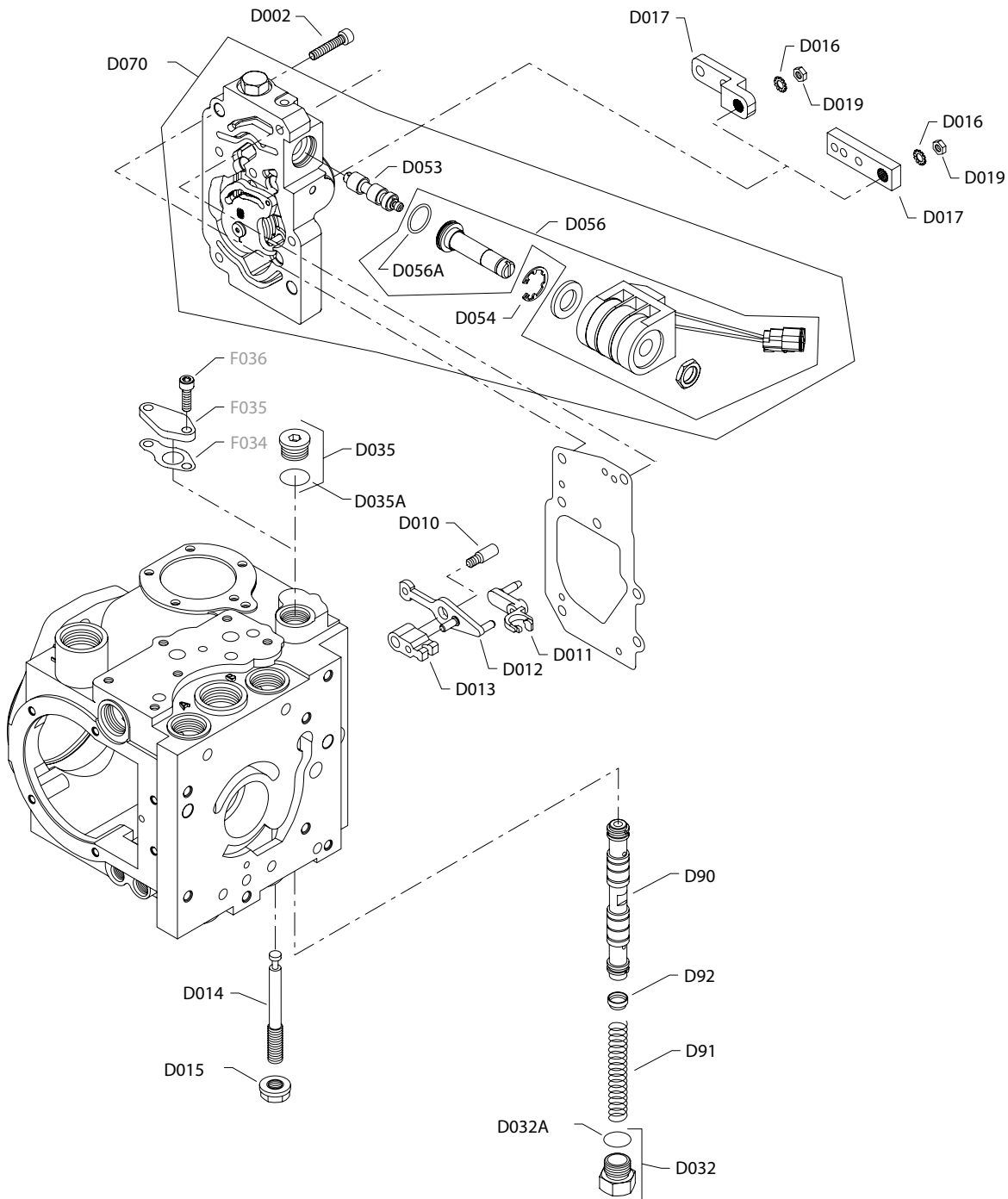
LNNA parts

D017	15-23		769075	Control handle, off-set	1
D017	96-09		4800689	Control handle, off-set (SB-1997-046)	1
D070	96-09		4800522	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	96-09	19-30	4800464	Control spool assembly	1

Controls

MDC ANA3-ANAB

Part numbers for MDC controls (with solenoid) can be found below.



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANA3 parts

D017	97-36		9800916	Control handle	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196	Retaining ring	1
D056	97-36		4700043	Solenoid, 12v, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800518	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	97-36	19-30	4800464	Control spool assembly	1

Controls

ANAS parts

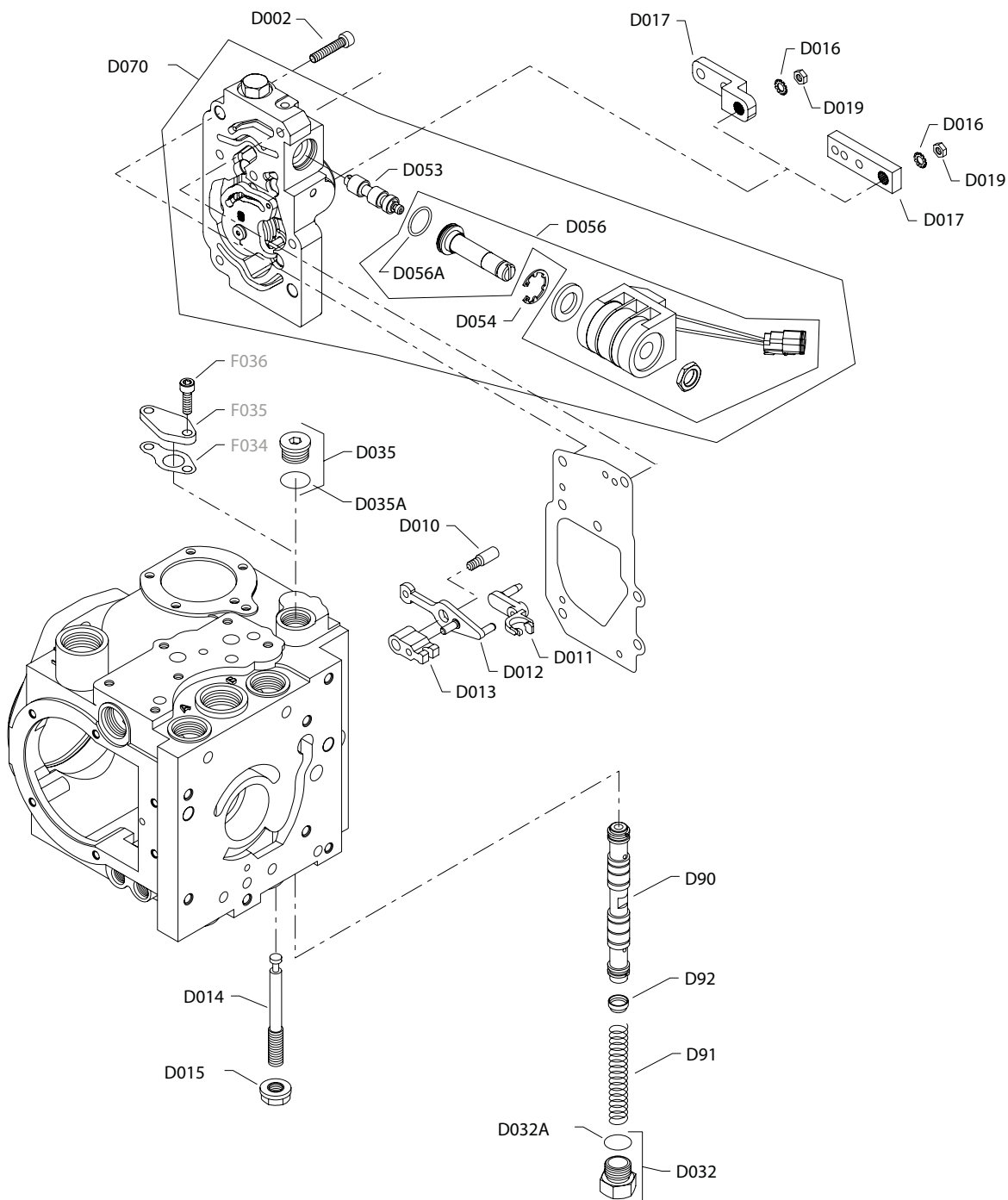
D017	15-23		769075	Control handle, off-set	1
D017	97-33	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D053	97-33		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-33	01-30	5000196	Retaining ring (SB-2001-008)	1
D056	97-33		4700043	Solenoid, 12v, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-33		633354(9004104-0180)	O-ring	1
D070	97-33		4800518	Control assembly	1
D90	97-33		4800410	Control spool assembly	1

ANAB parts

D017	97-36		9800916	Control handle	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		
D056	97-36		4700043	Solenoid, 12V, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800518	Control Assembly	1
D90	10-25		11082756	Control Spool Assembly	1
D90	97-36	10-25	4800410	Control Spool Assembly	1

Controls

MDC ANB5-ANBB



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANB5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196	Retaining ring (SB-2001-008)	1
D056	97-36		4700045	Solenoid, 12V, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800537	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

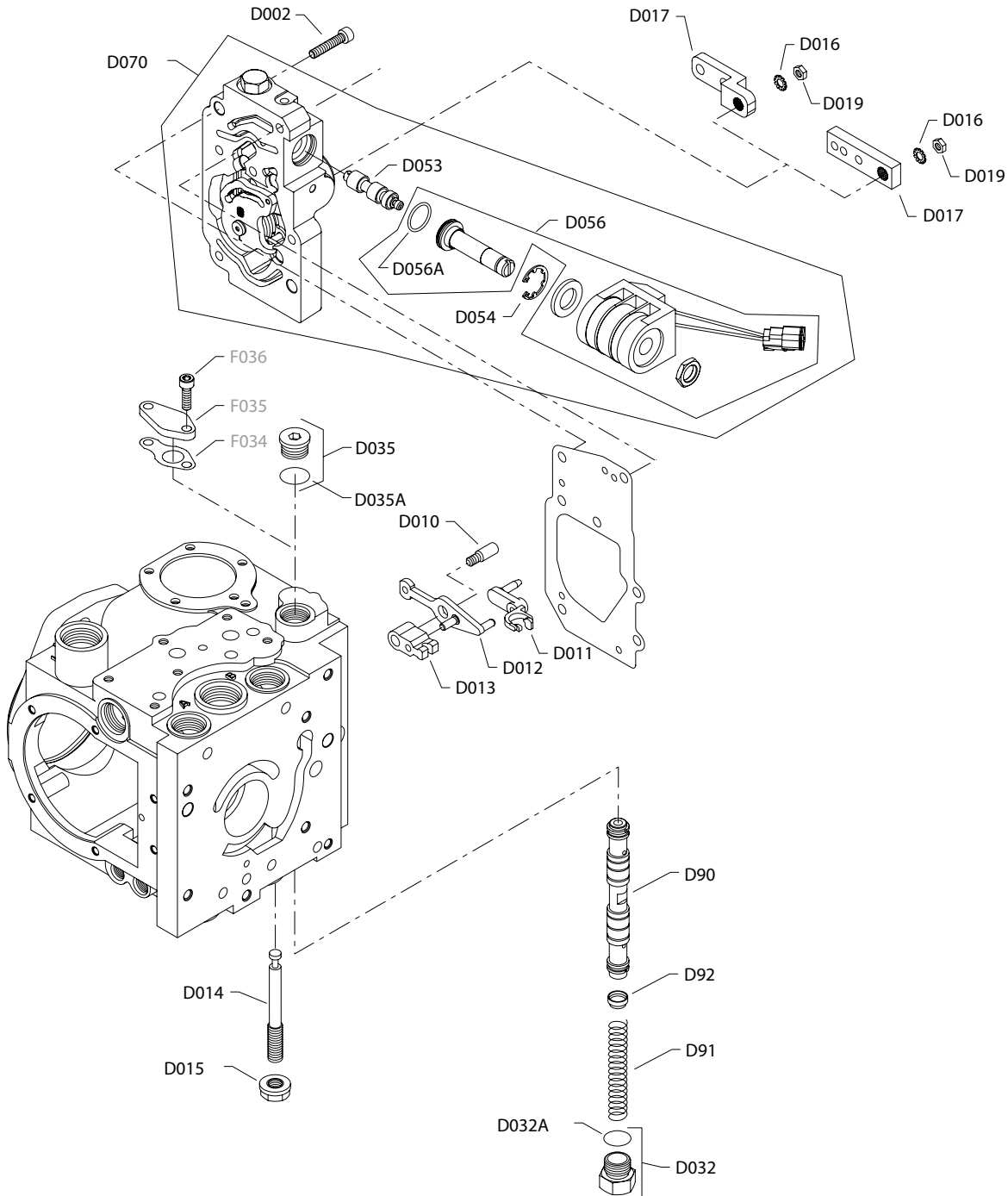
Controls

ANBB parts

D017	97-36		9800916	Control handle	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196	Retaining ring (SB-2001-008)	1
D056	97-36		4700045	Solenoid, 12V, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800537	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

Controls

MDC ANJ5-ANK5



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANJ5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700145	Solenoid, 12V, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		1746723	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

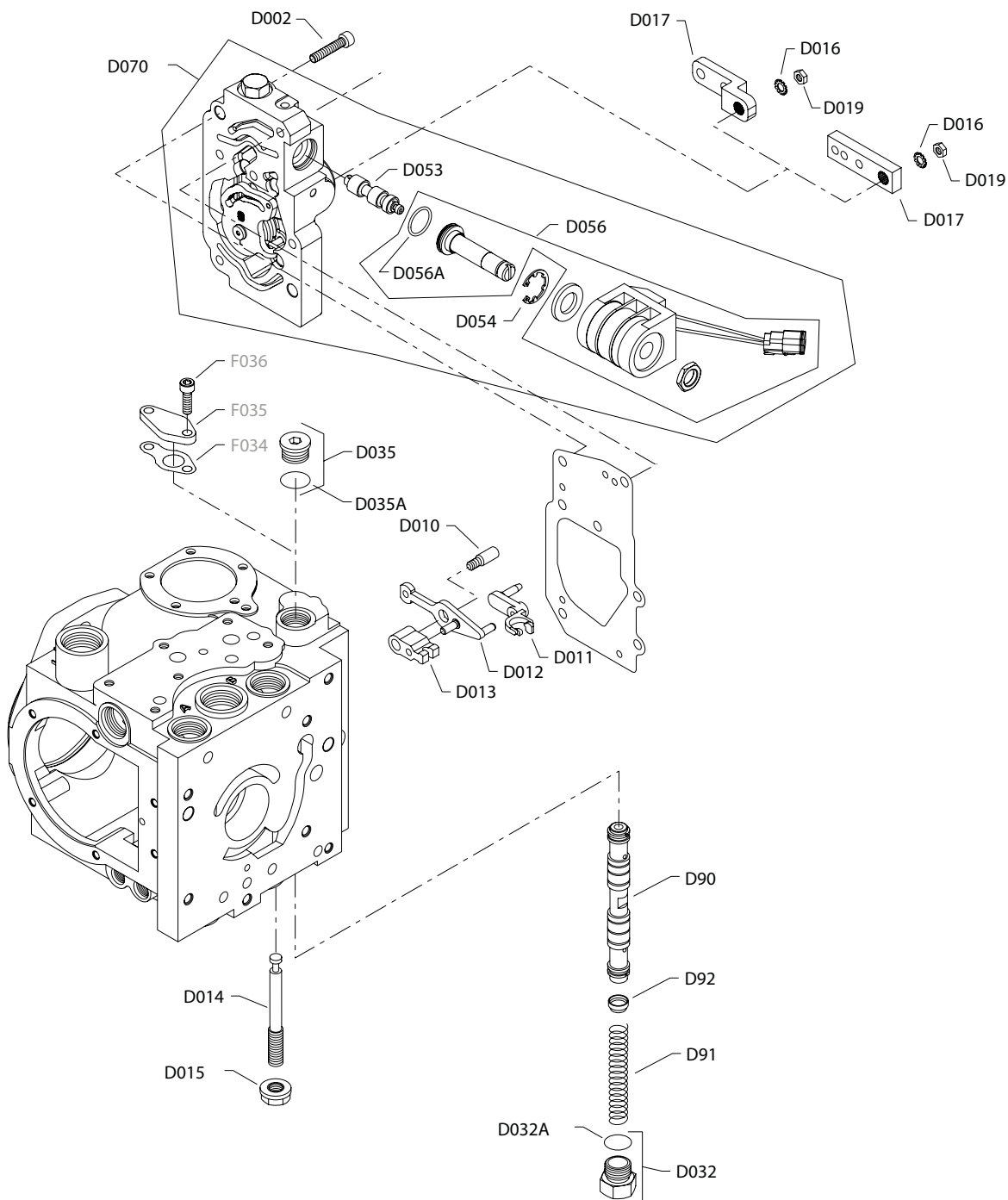
Controls

ANK5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700158	Solenoid, 24V, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4410358	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

Controls

MDC ANKB-LNBA



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANKB parts

D017	97-36		9800916	Control handle	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4410358	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

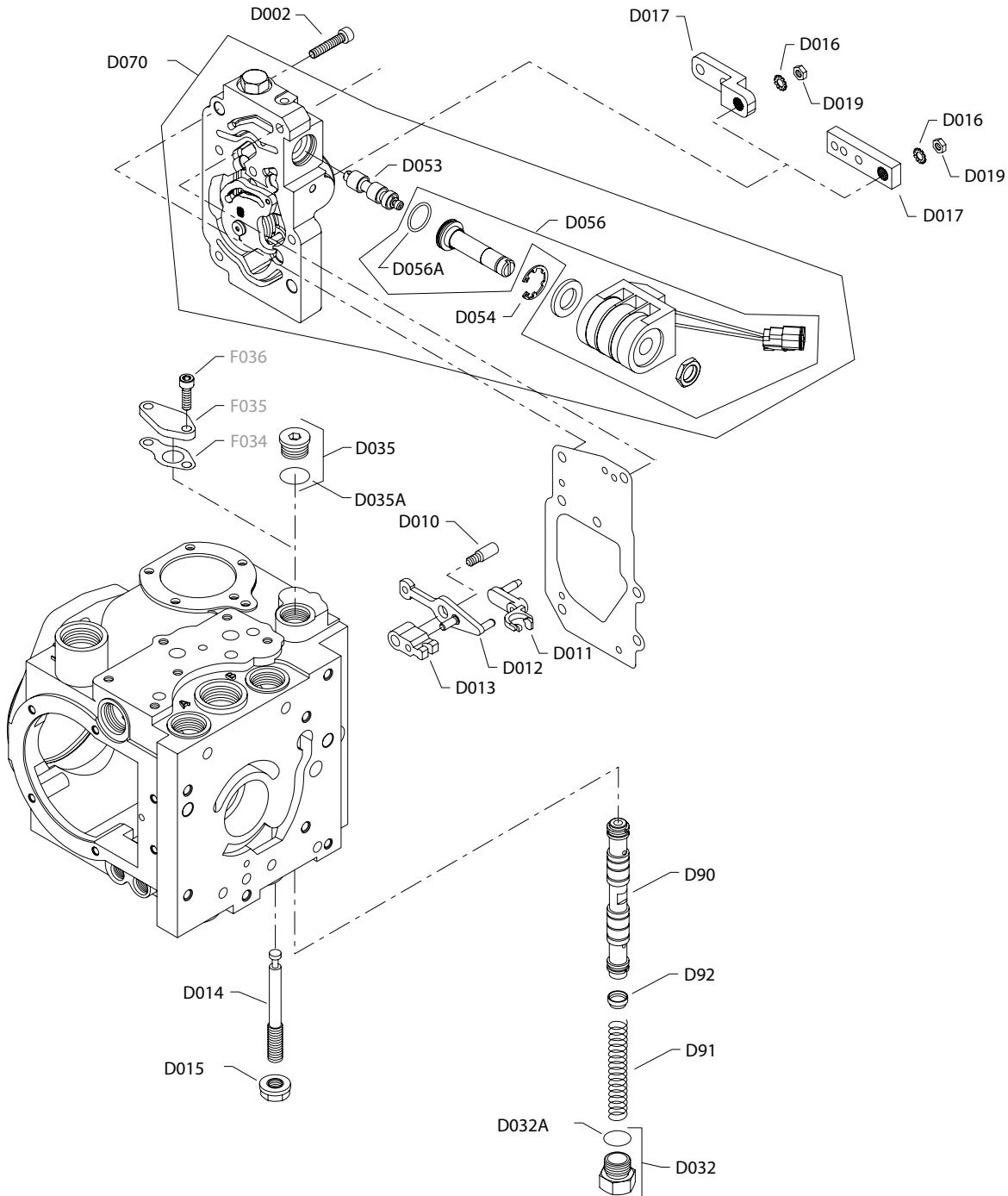
Controls

LNBA parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700045	Solenoid, 12V, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800542	Control Assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	97-36	19-30	4800464	Control Spool Assembly	1

Controls

MDC ANB3, LNB3, ZNA8



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

ANB3 parts

D017	94-14		9800916	Control handle	1
D053	94-14		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	94-14	01-30	5000196	Retaining ring	1
D056	94-14		4700045	Solenoid, 12v, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	94-14		633354(9004104-0180)	O-ring	1
D070	94-14		4800537	Control assembly	1
D90	94-14		4800464	Control spool assembly	1

Controls

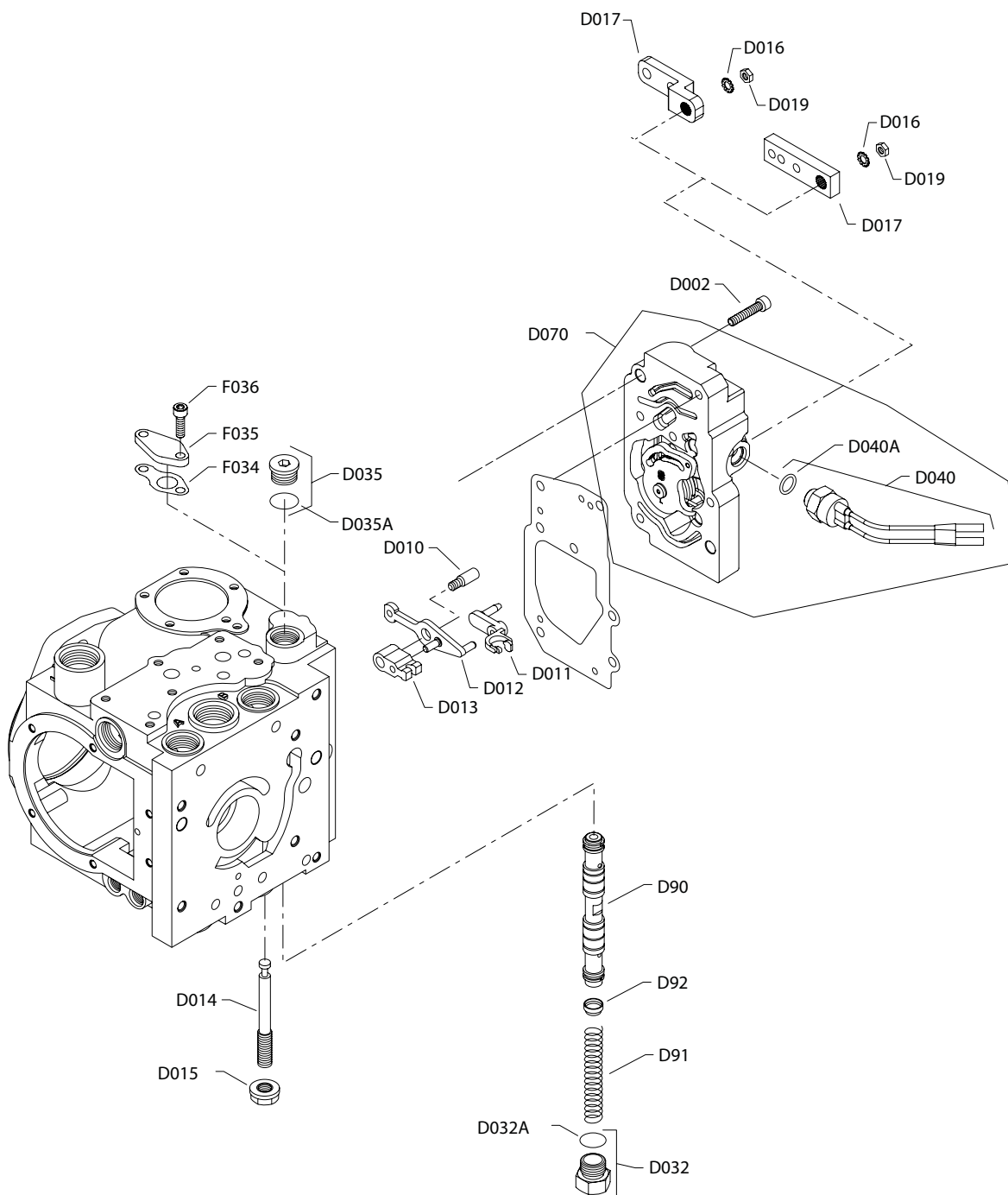
LNB3 parts

D017	94-13		9800916	Control handle	1
D053	94-13		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	94-13	01-30	5000196	Retaining ring	1
D056	94-13		4700045	Solenoid, 12v, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	94-13	-	633354 (9004104-0180)	O-ring	1
D070	94-13		4800542	Control assembly	1
D90	94-13		4800464	Control spool assembly	1

Controls

MDC A1N3-A1NB

Part numbers for MDC (with neutral start switch) controls can be found below.



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

A1N3 parts

D017	97-36		9800916	Control handle	1
D040	97-36		4700033	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D070	97-36		4800532	Control Assembly	1
D90	19-30		11082757	Control Spool Assembly	1
D90	97-36	19-30	4800464	Control Spool Assembly	1

A1N5 parts

D017	15-23		769075	Control handle, off-set	1
D017	02-04	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-06		4700033	Neutral start switch	1

Controls

A1N5 parts (continued)

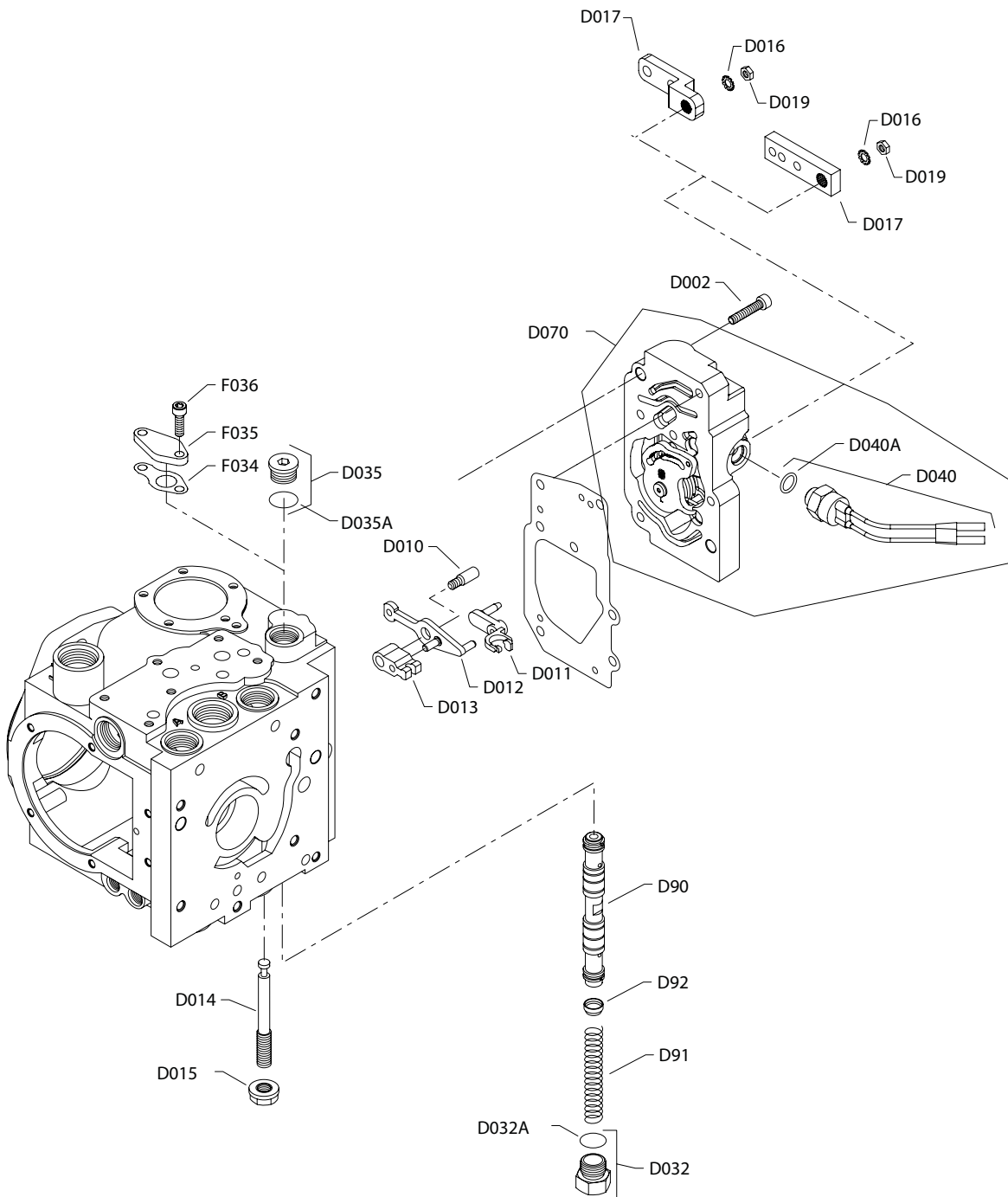
D040A	06-01		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D070	97-06		4800532	Control assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-06	19-30	4800410	Control spool assembly	1

A1NB parts

D017	06-01		9800916	Control handle	1
D040	06-01		4700033	Neutral start switch	1
D040A	06-01		9004201-3700	O-ring	1
D070	06-01		4800532	Control assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	06-01	19-30	4800410	Control spool assembly	1

Controls

MDC A2N5-A7NB



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

A2N5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-36		4700032	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D070	97-36		11070599	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

A3NB parts

D017	97-36		9800916	Control handle	1
D040	97-36		4700025	Neutral start switch and backup alarm	1

Controls

A3NB parts (continued)

D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D070	97-36		4800863	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

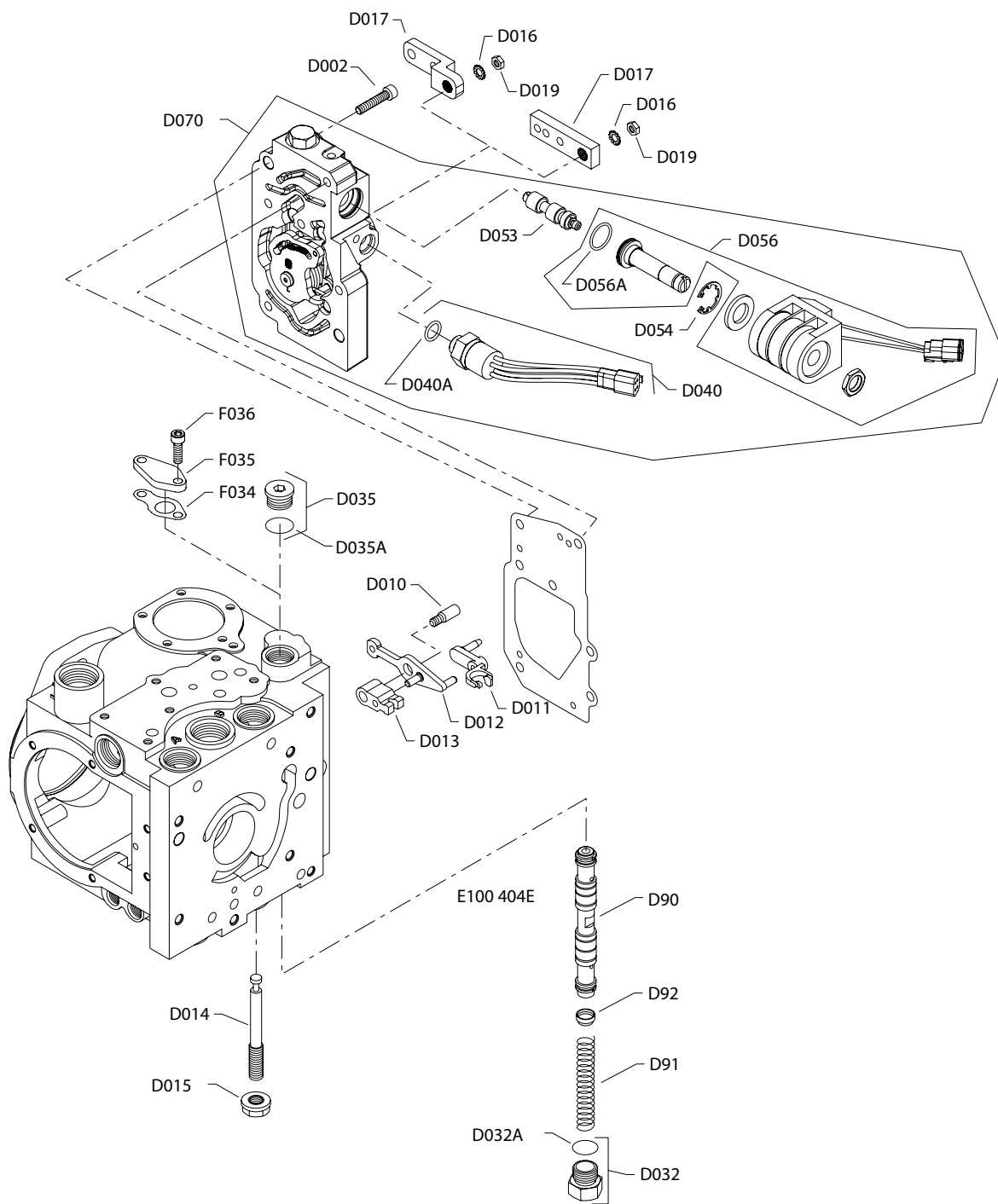
A7NB parts

D017	06-01		9800916	Control handle	1
D040	06-01		4700113	Neutral start switch and backup alarm	1
D040A	06-01		9004201-3700	O-ring	1
D070	06-01		4800656	Control assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	06-01	19-30	4800410	Control spool assembly	1

Controls

MDC A1A5-A2B3

Part numbers for MDC (with both solenoid and neutral start switch) controls can be found below.



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

A1A5 parts

D017	98-19		4800689	Control handle, off-set (SB-1997-046)	1
D040	98-19		4700033	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040A	98-19		085043(9004201-3700)	O-ring	1
D053	98-19		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	98-19	01-30	5000196	Retaining ring	1
D056	98-19		4700043	Solenoid, 12V, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	98-19		633354(9004104-0180)	O-ring	1
D070	98-19		4800521	Control assembly	1
D90	98-19		4800410	Control spool assembly	1

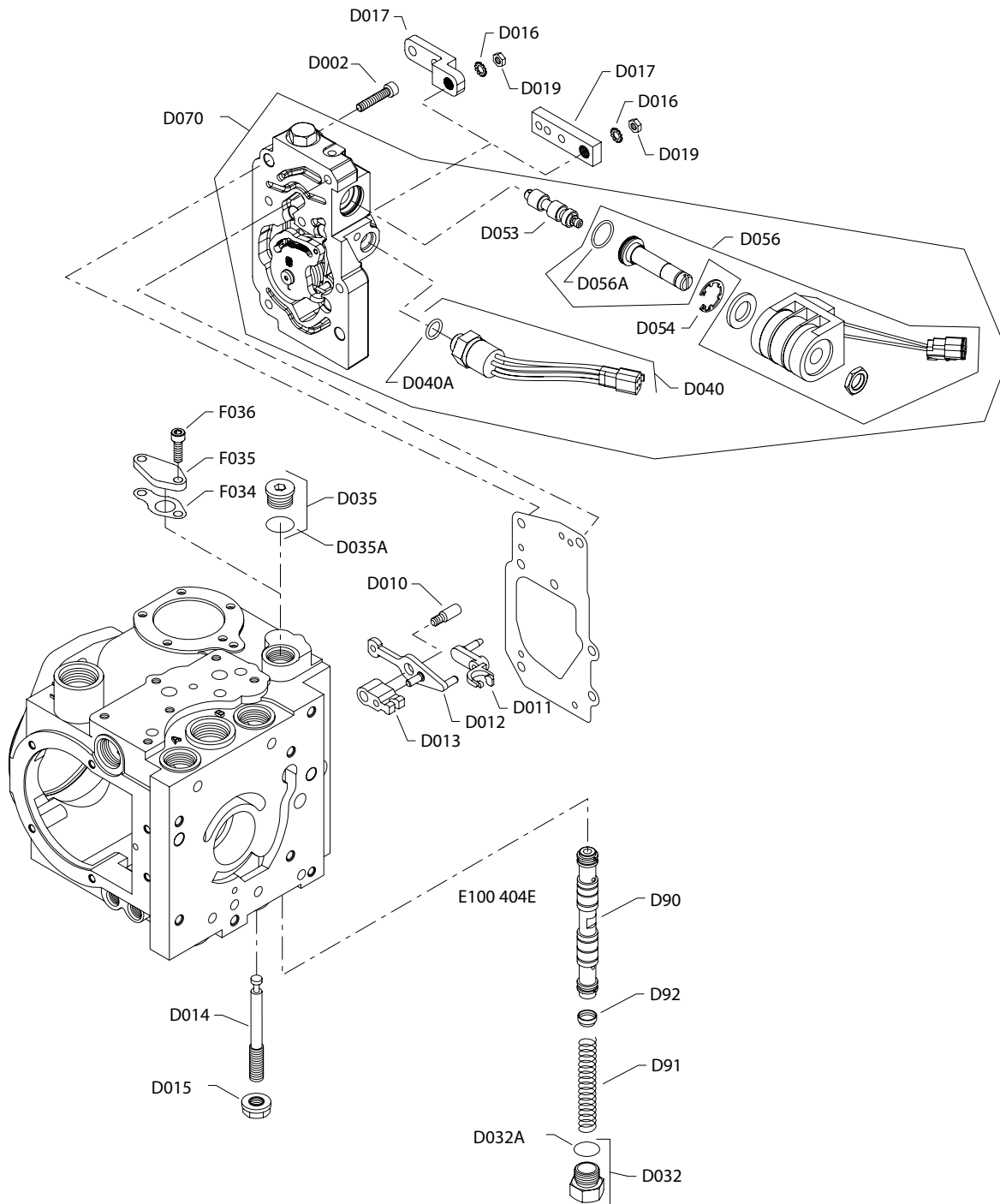
Controls

A2B3 parts

D017	94-14		9800916	Control handle	1
D040	94-14		4700032	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040A	94-14		085043(9004201-3700)	O-ring	1
D053	94-14		4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	94-14	01-30	5000196	Retaining ring	1
D056	94-14		4700045	Solenoid, 12v, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	94-14		633354(9004104-0180)	O-ring	1
D070	94-14		4800538	Control assembly	1
D90	94-14		4800464	Control Spool assembly	1

Controls

MDC A3AB-A7J5



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

A3AB parts

D017	06-01		9800916	Control handle	1
D040	97-15		4700025	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-15	10-47	4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D056	97-15		4700043	Solenoid, 12v, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D070	06-01		4800635	Control assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	06-01	19-30	4800410	Control spool assembly	1

Controls

A5AA parts

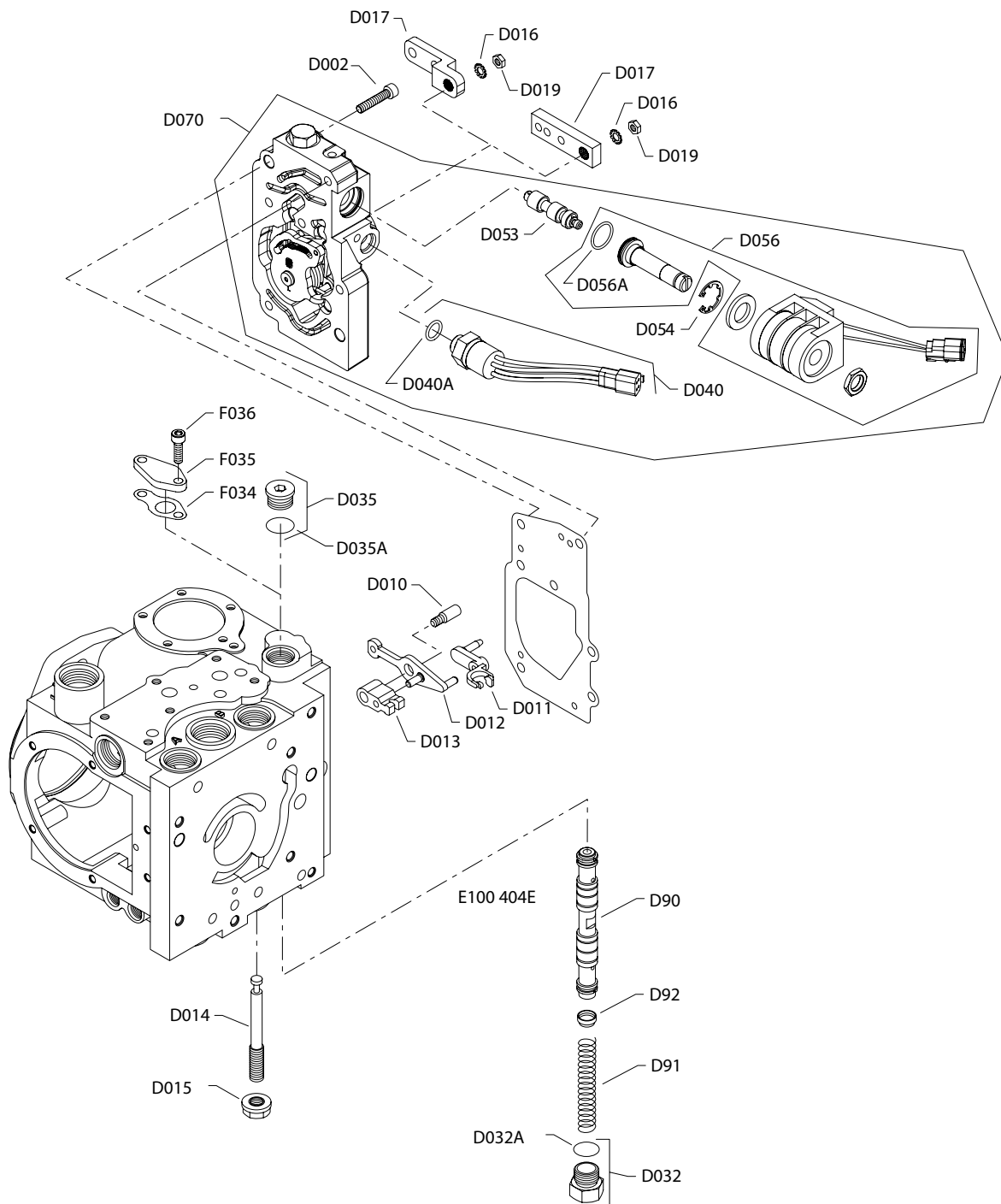
D017	15-23		769075	Control handle, off-set	1
D017	97-15	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-15		4700025	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-15		085043(9004201-3700)	O-ring	1
D053	97-15		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-15	01-30	5000196	Retaining ring	1
D056	97-15		4700043	Solenoid, 12v, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-15		633354(9004104-0180)	O-ring	1
D070	97-15		4800539	Control assembly	1
D90	97-15		4800464	Control spool assembly	1

A7J5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-36		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700145	Solenoid, 12V, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800823	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

Controls

MDC A7JB, L2B3



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

A7JB parts

D017	01-37		9800916	Control handle	1
D040	01-37		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	01-37		085043(9004201-3700)	O-ring	1
D053	01-37		4800411	Brake solenoid spool	1
D054	01-37		4280279	Retaining ring (SB-2001-008)	1
D056	01-37		4700145	Solenoid, 12v, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-15		633354(9004104-0180)	O-ring	1
D070	01-37		4800823	Control assembly	1
D90	01-37		4800410	Control spool assembly	1

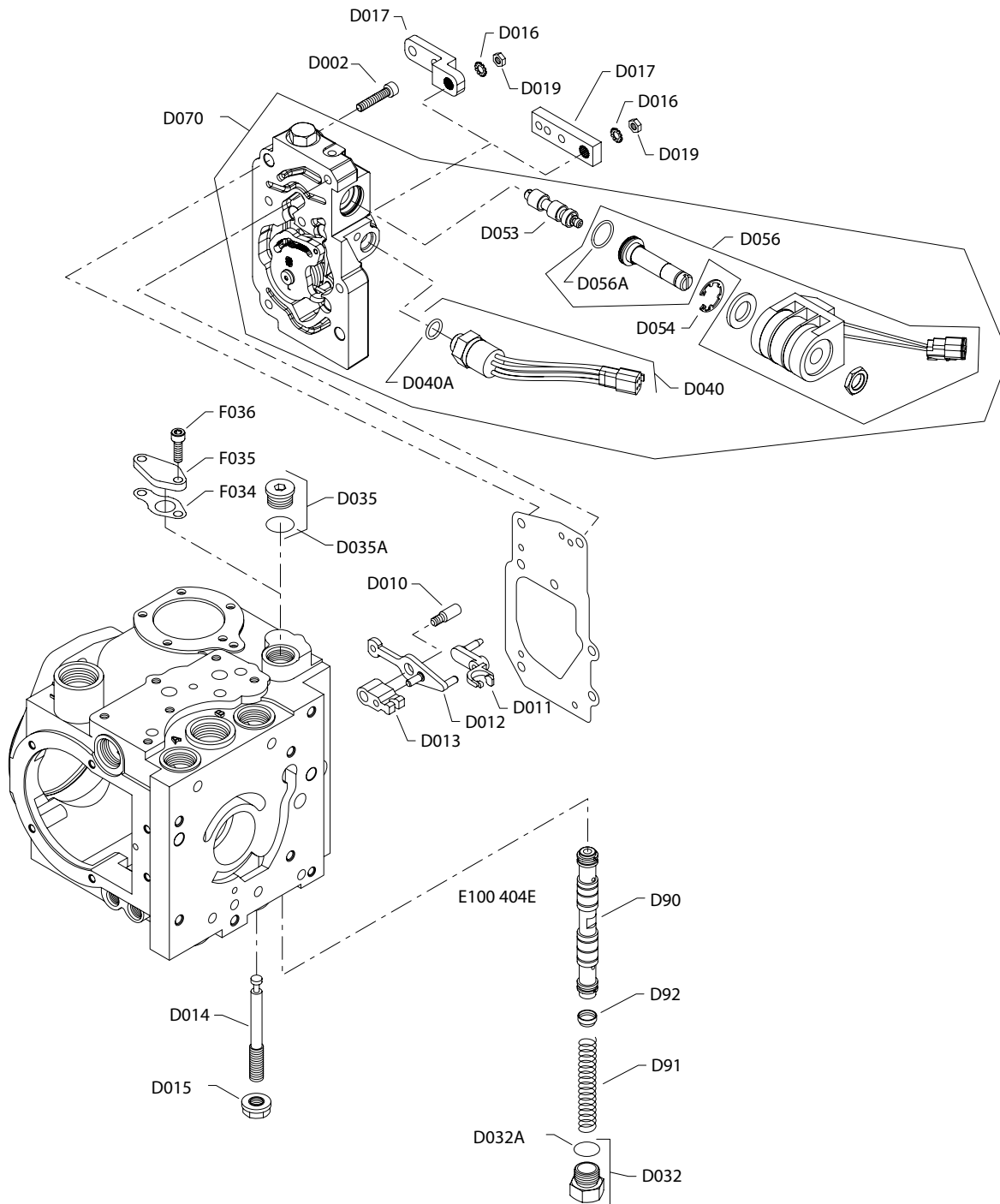
Controls

L2B3 parts

D017	97-36		9800916	Control handle	1
D040	97-36		4700032	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700045	Solenoid, 12V, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800544	Control Assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	97-36	19-30	4800464	Control Spool Assembly	1

Controls

MDC L2B8, L3A3



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

L2B8 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-36		4700032	Neutral start switch	1
D040A	07-18		9004201-3700	O-ring	1
D040	97-06		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700045	Solenoid, 12V, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056	97-36		633354(9004104-0180)	O-ring	1

Controls

L2B8 parts (continued)

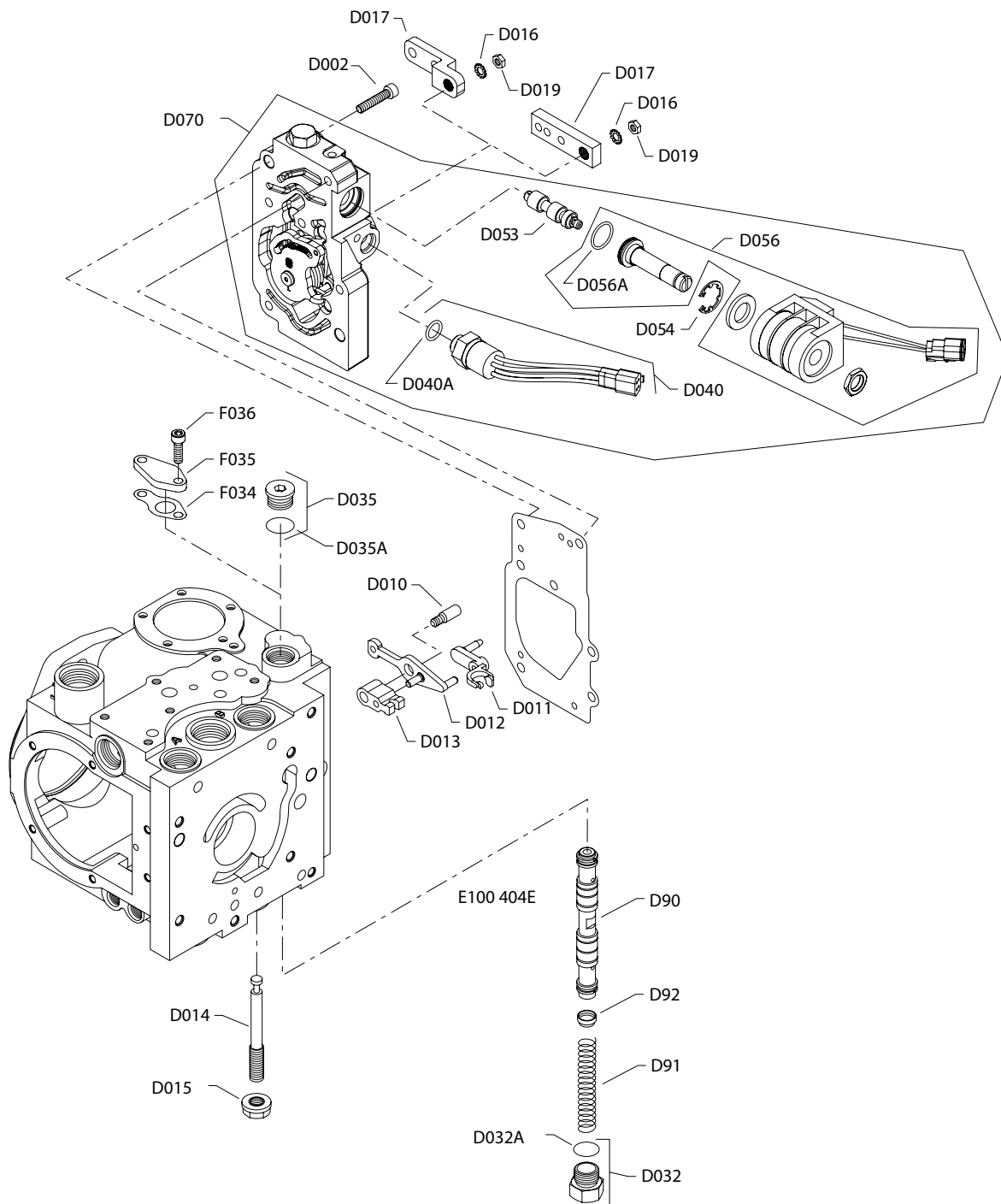
D070	97-36		4800544	Control Assembly	1
D90	97-36		4800488	Control Spool Assembly	1

L3A3 parts

D017	97-15		9800916	Control handle	1
D040	97-15		4700025	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040	97-15		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-15	10-47	4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-15	01-30	5000196	Retaining ring	1
D056	97-15		4700043	Solenoid, 12v, Weatherpack connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-15		633354(9004104-0180)	O-ring	1
D070	97-15		4800637	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	97-15	19-30	4800464	Control spool assembly	1

Controls

MDC L3B3-L4B3



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

L3B3 parts

D017	94-28		9800916	Control handle	1
D040	94-28		4700025	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	94-28		085043(9004201-3700)	O-ring	1
D053	94-28		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	94-28	01-30	5000196	Retaining ring	1
D056	94-28		4700045	Solenoid, 12v, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	94-28		633354(9004104-0180)	O-ring	1
D070	94-28		4800545	Control assembly	1
D90	94-28		4800464	Control spool assembly	1

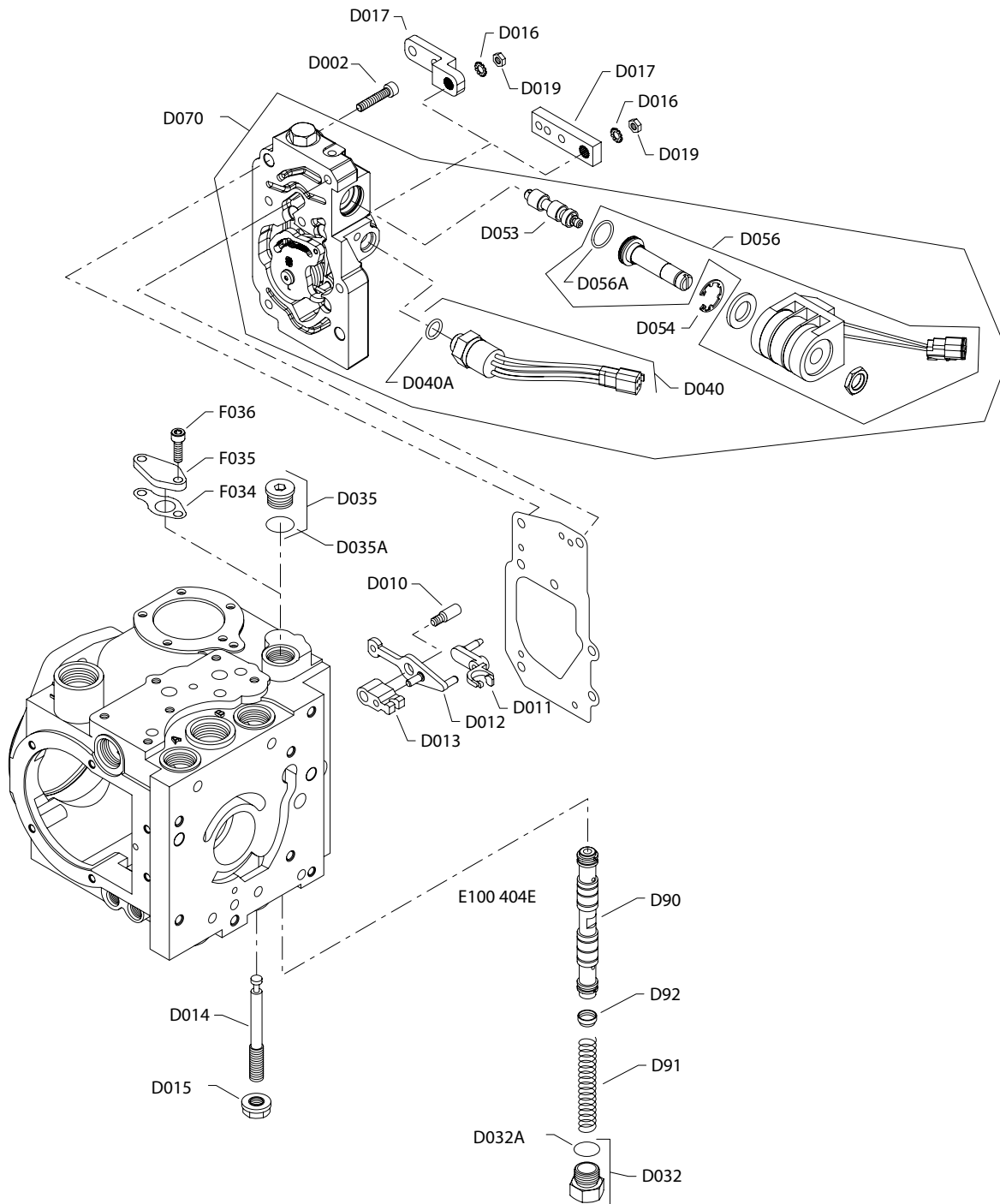
Controls

L4B3 parts

D017	94-28		9800916	Control handle	1
D040	94-28		4700041	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	94-28		085043(9004201-3700)	O-ring	1
D053	94-28		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	94-28	01-30	5000196	Retaining ring	1
D056	94-28		4700045	Solenoid, 12v, DIN connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	94-28		633354(9004104-0180)	O-ring	1
D070	94-28		4800547	Control assembly	1
D90	94-28		4800464	Control spool assembly	1

Controls

MDC L7J3, L7J5



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

L7J3 parts

D017	01-01		9800916	Control handle	1
D040	01-01		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	01-01		085043(9004201-3700)	O-ring	1
D053	01-01		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	01-01	01-30	5000196	Retaining ring	1
D056	01-01		4700145	Solenoid, 12v, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	01-01		633354(9004104-0180)	O-ring	1
D070	06-01		4800750	Control assembly	1
D90	01-01		4800464	Control spool assembly	1

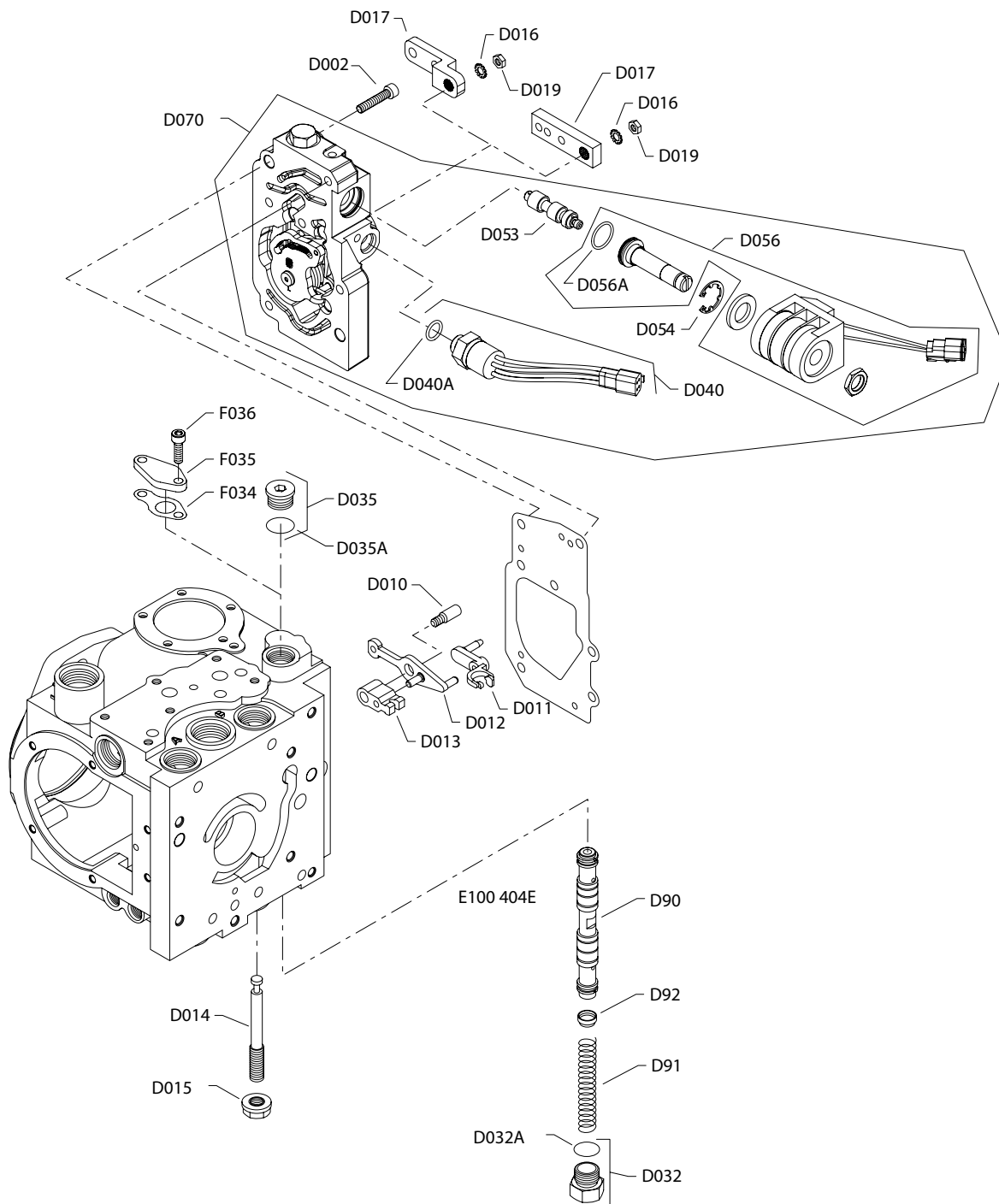
Controls

L7J5 parts

D017	15-23		769075	Control handle, off-set	1
D017	97-36	15-23	4800689	Control handle, off-set (SB-1997-046)	1
D040	97-36		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	97-06		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	97-36	10-47	4800411	Brake Solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	97-36	01-30	5000196		1
D056	97-36		4700145	Solenoid, 12V, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	97-36		633354(9004104-0180)	O-ring	1
D070	97-36		4800750	Control Assembly	1
D90	19-30		11082756	Control spool assembly	1
D90	97-36	19-30	4800410	Control Spool Assembly	1

Controls

MDCL7JA-L7JC



Controls

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D002	07-18		9007314-0607	Screw (AAM0603001)	7
D002	93-20		5000002	Screw	7
D010	07-18		1734449	Screw	1
D010	93-20		4800326	Screw	1
D011	93-20		11192675	Control summing link	1
D012	93-20		11192686	Control feedback link	1
D013	93-20		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	93-20	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	93-20		336826	Seal nut	1
D016	07-18		9009660-3100	Washer	1
D016	93-20		689018(9009660-3100)	Washer	1
D019	07-18		9003513-0800	Nut	1
D019	93-20		040642(9003513-0800)	Nut	1
D032	93-20		4800615	Plug	1
D032A	07-18		9004201-5000	O-ring	1
D032A	-		001131(9004201-5000)	O-ring	1
D035	07-18		9005110-7500	Plug	1
D035	98-02		681296(9005110-7500)	Plug	1
D035A	07-18		9004201-5000	O-ring	1
D035A	98-02		001131(9004201-5000)	O-ring	1
D91	07-18		1746004	Control backlash spring	1
D91	-		4800515	Control backlash spring	1
D91	-	-	4800243	Control backlash spring	1
D92	07-18		1746003	Spring adapter	1
D92	-		4800519	Spring adapter	1
F034	93-20	98-01	4800200	Control spool cover gasket(SB-1997-029)	1
F035	93-20	98-01	4800199	Control spool cover(SB-1997-029)	1
F036	93-20	98-01	5000001	Screw(SB-1997-029)	2

L7JA parts

D017	99-02		4800689	Control handle, off-set (SB-1997-046)	1
D040	99-02		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	99-02		085043(9004201-3700)	O-ring	1
D053	99-02		4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	99-02	01-30	5000196	Retaining ring	1
D056	99-02		4700145	Solenoid, 12v, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	99-02	-	633354(9004104-0180)	O-ring	1
D070	99-02		4800750	Control assembly	1
D90	99-02		4800464	Control spool assembly	1

Controls

L7JC parts

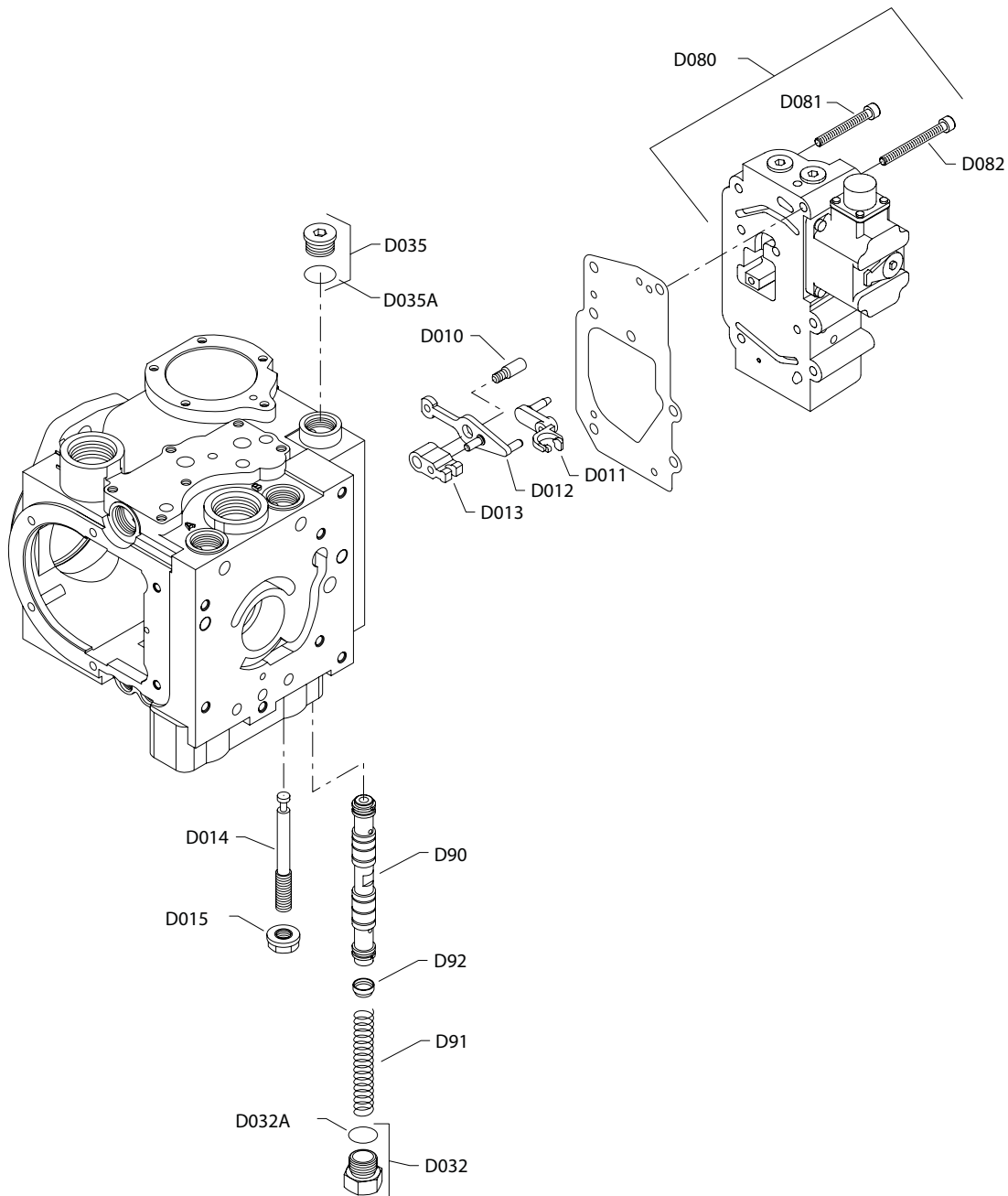
D017	99-28		4800763	Control handle, off-set, special	1
D040	99-28		4700113	Neutral start switch and backup alarm	1
D040A	07-18		9004201-3700	O-ring	1
D040A	99-28		085043(9004201-3700)	O-ring	1
D053	10-47		11089650	Brake solenoid spool	1
D053	99-28	10-47	4800411	Brake solenoid spool	1
D054	01-31		4280279	Retaining ring (SB-2001-008)	1
D054	99-28	01-30	5000196	Retaining ring	1
D056	99-28		4700145	Solenoid, 12v, Deutsch connector	1
D056A	07-18		9004104-0180	O-ring	1
D056A	99-28		633354(9004104-0180)	O-ring	1
D070	99-28		4800750	Control assembly	1
D90	19-30		11082757	Control spool assembly	1
D90	99-28	19-30	4800464	Control spool assembly	1

Controls

EDC Controls

EDC E1A3-E1B6

Part numbers for EDC controls can be found below.



Controls

Order code: common parts

Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
D010	06-01		1734449	Screw	1
D010	94-04	06-01	4800326	Screw	1
D011	94-04		11192675	Control summing link	1
D012	94-04		11192686	Control feedback link	1
D013	94-04		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	94-04	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	94-04		336826	Seal Nut	1
D032	-		4800615	Plug	1
D032	94-04		681296(9005110-7500)	Plug	1
D032A	94-04		9004201-5000	O-ring	1
D032A	94-00		001131 (9004201-5000)	O-ring	1
D035	94-01		9005110-7500	Plug	1
D035	94-02		681296 (9005110-7500)	Plug	1
D035A	94-03		9004201-5000	O-ring	1
D035A	94-04		001131 (9004201-5000)	O-ring	1
D081	07-18		9007314-0611	Screw (AAM0605001)	4
D081	94-04		5000003	Screw	4
D082	07-18		354407	Screw (AAM0606001)	3
D082	94-04	07-18	5000004	Screw	3
D91	06-01		1746004	Control backlash spring	1
D91	-	06-01	4800515	Control backlash spring	1
D091	94-04		4800243	Control backlash spring	1
D92	07-18		1746003	Spring Adapter	1
D92	-	07-18	4800519	Spring Adapter	1

E1A3 parts

D080	94-04		4510048	EDC kit, Weatherpack connector	1
D90	19-30		11082757	Control spool assembly	1
D90	94-04	19-30	4800464	Control spool assembly	1

E1A4 parts

D080	00-06		4510049	EDC kit, MS connector	1
D90	19-30		11082757	Control spool assembly	1
D90	00-06	19-30	4800464	Control spool assembly	1

E1A5 parts

D080	95-19		4510048	EDC kit, Weatherpack connector	1
D90	19-30		11082756	Control spool assembly	1
D90	95-19	19-30	4800410	Control spool assembly	1

Controls

E1A6 parts

D080	95-19		4510049	EDC kit, MS connector	1
D90	19-30		11082756	Control spool assembly	1
D90	95-19	19-30	4800410	Control spool assembly	1

E1A7 parts

D080	99-08		4510393	EDC kit, DEUTSCH connector	1
D90	19-30		11082756	Control spool assembly	1
D90	99-08		4800410	Control spool assembly	1

E1B3 parts

D080	00-06		11018289	EDC kit, Weatherpack connector	1
D90	19-30		11082757	Control spool assembly	1
D90	00-06		4800464	Control spool assembly	1

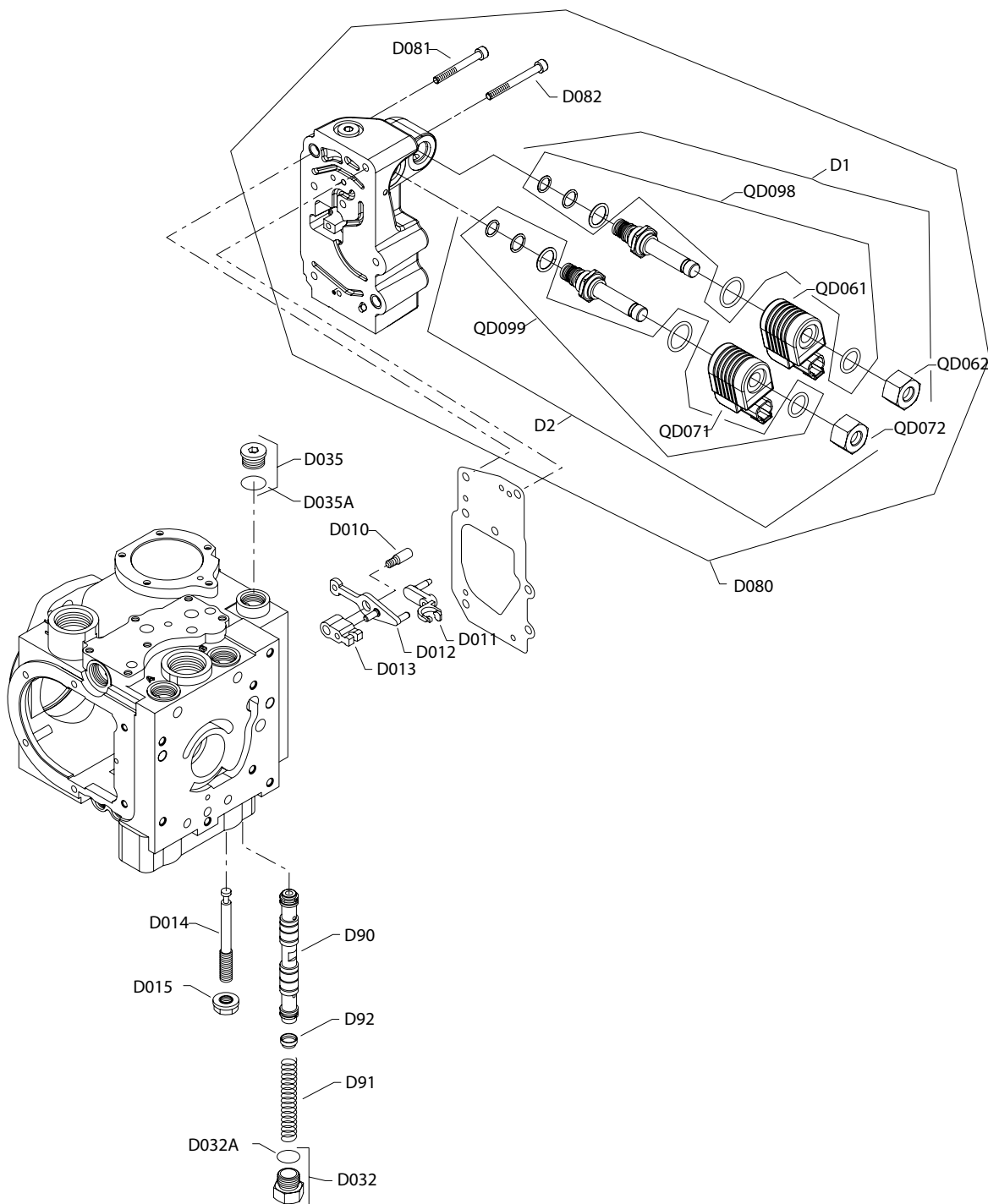
E1B6 parts

D080	01-11		4510395	EDC kit, MS Connector	1
D90	19-30		11082756	Control spool assembly	1
D90	01-11		4800410	Control spool assembly	1

Controls

HC-EDC E2C7-E2D8

Part numbers for HC-EDC controls can be found below.



Controls

Order code: common parts

Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
D010	06-01		1734449	Screw	1
D010	94-04	06-01	4800326	Screw	1
D011	94-04		11192675	Control summing link	1
D012	94-04		11192686	Control feedback link	1
D013	94-04		4800201	Neutral adjust link	1
D014	07-17		1734450	Neutral adjust screw	1
D014	94-04	07-17	4800658	Neutral adjust screw (SB-1997-026)	1
D015	94-04		336826	Seal Nut	1
D032	-		4800615	Plug	1
D032	94-04		681296(9005110-7500)	Plug	1
D032A	94-04		9004201-5000	O-ring	1
D032A	94-00		001131 (9004201-5000)	O-ring	1
D035	94-01		9005110-7500	Plug	1
D035	94-02		681296 (9005110-7500)	Plug	1
D035A	94-03		9004201-5000	O-ring	1
D035A	94-04		001131 (9004201-5000)	O-ring	1
D081	07-18		9007314-0611	Screw (AAM0605001)	4
D081	94-04		5000003	Screw	4
D082	07-18		354407	Screw (AAM0606001)	3
D082	94-04	07-18	5000004	Screw	3
D91	06-01		1746004	Control backlash spring	1
D91	-	06-01	4800515	Control backlash spring	1
D091	94-04		4800243	Control backlash spring	1
D92	07-18		1746003	Spring Adapter	1
D92	-	07-18	4800519	Spring Adapter	1

E2C7 parts

D080	01-10		11076847	HC-EDC kit, 12V DEUTSCH Connectors on wires	1
D90	19-30		11082756	Control spool assembly	1
D90	01-10	19-30	4800410	Control spool assembly	1
D093	01-10	17-13	322466	Coil	2
D1	01-10		138108	Valve Assembly	1
D2	17-13		138108	Valve Assembly	1
QD061	17-13		322466	Coil, 12V	1
QD071	17-13		322466	Coil, 12V	1
QD062	17-13		322399	Nut, Coil	1
QD072	17-13		322399	Nut, Coil	1
QD098	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1
QD099	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1

E2C8 parts

D080	10-09		11076848	HC-EDC kit, 12V Integrated DEUTSCH Connectors	1
D90	19-30		11082756	Control spool assembly	1

Controls

E2C8 parts (continued)

D90	10-09	19-30	4800410	Control spool assembly	1
D093	10-09	17-13	322113	Coil	2
D1	10-09		138516	Valve Assembly	1
D2	17-13		138516	Valve Assembly	1
QD061	17-13		322113	Coil, 12V	1
QD071	17-13		322113	Coil, 12V	1
QD062	17-13		322399	Nut, Coil	1
QD072	17-13		322399	Nut, Coil	1
QD098	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1
QD099	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1

E2D8 parts

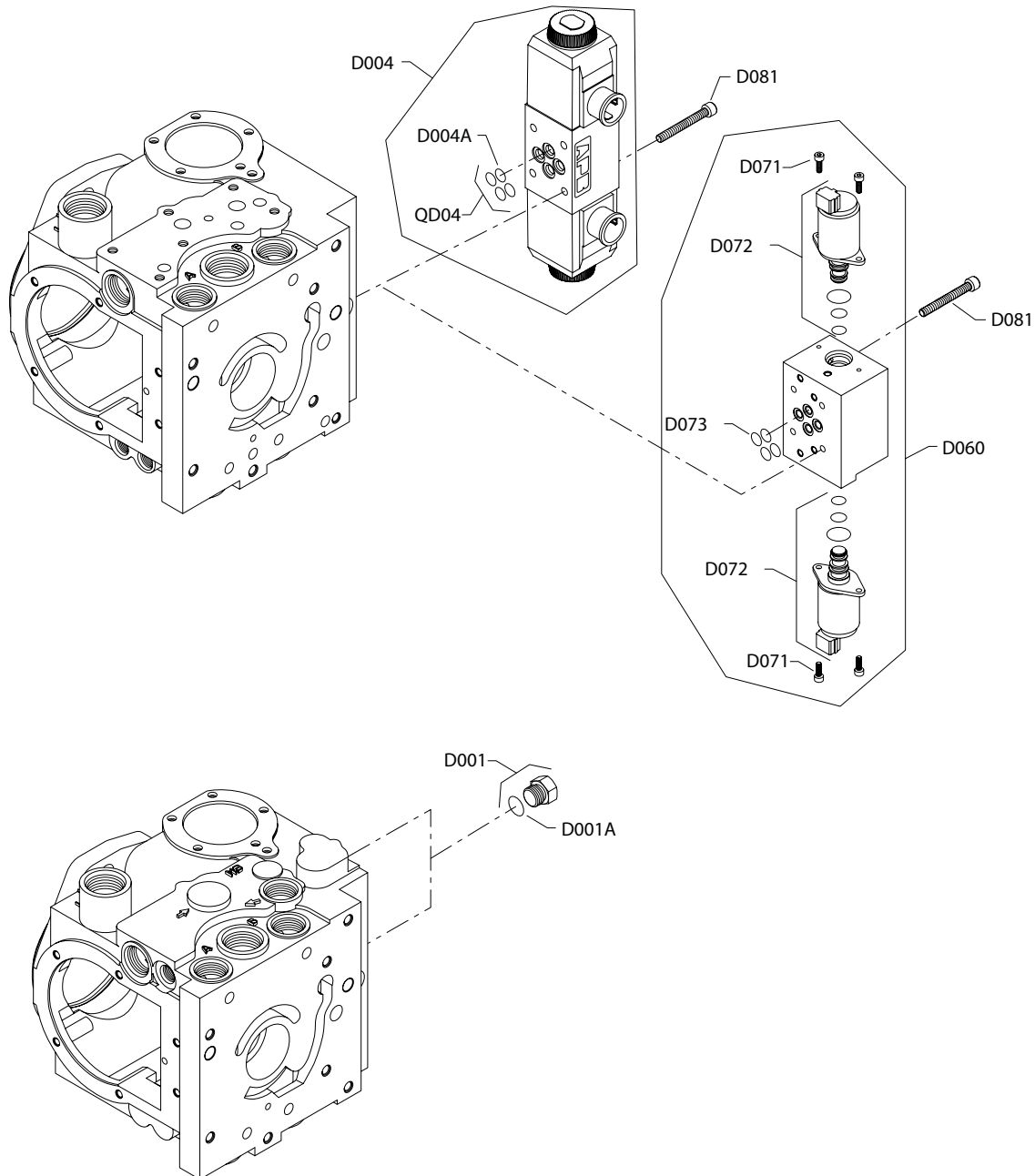
D080	10-09		11076849	HC-EDC kit, 24V Integrated DEUTSCH Connectors	1
D90	19-30		11082756	Control spool assembly	1
D90	10-09	19-30	4800410	Control spool assembly	1
D093	10-09	17-13	322115	Coil	2
D1	10-09		138692	Valve Assembly	2
D2	17-13		138692	Valve Assembly	1
QD061	17-13		322115	Coil, 24V	1
QD071	17-13		322115	Coil, 24V	1
QD062	17-13		322399	Nut, Coil	1
QD072	17-13		322399	Nut, Coil	1
QD098	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1
QD099	17-13		11136912	Kit-Seal-Buna-N, S42_HC-EDC	1

Controls

3 Position Control

3-position F2NN-F5NN

Part numbers for the 3-position control are found below.



Controls

Order code: F2NN parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
D004	18-08		11191476	Solenoid valve, 12 volt, DIN connector	1
D004	94-04	18-08	4700034	Solenoid valve, 12 volt, DIN connector	1
QD04	07-18		11099647	Service kit, seal	1
D004A	07-18		9004105-0120	O-ring	4
D004A	94-04		011296(9004105-0120)	O-ring	4
D081	18-08		AAM0504501	Screw	4
D081	07-18	18-08	9007315-0507	Screw (AAM0503001)	4
D081	94-04		5000164(9007315-0507)	Screw	4

F4NN parts

D004	18-08		519356	Solenoid valve, 24 volt, DIN connector	1
D004	97-03	18-08	9700918	Solenoid valve, 24 volt, DIN connector	1
QD04	07-18		11099647	Service kit, seal	1
D004A	07-18		9004105-0120	O-ring	4
D004A	97-03		011296(9004105-0120)	O-ring	4
D081	18-08		AAM0504501	Screw	4
D081	07-18	18-08	9007315-0507	Screw (AAM0503001)	4
D081	97-03		5000164(9007315-0507)	Screw	4

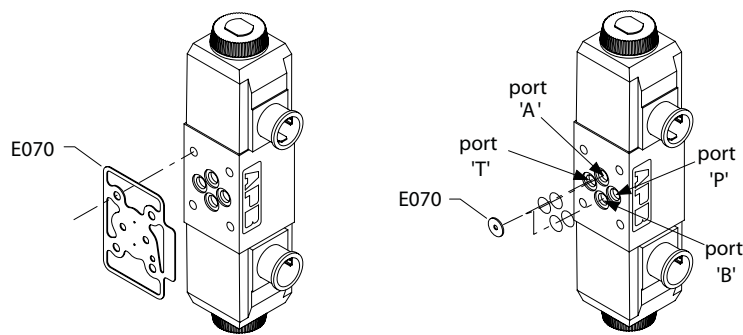
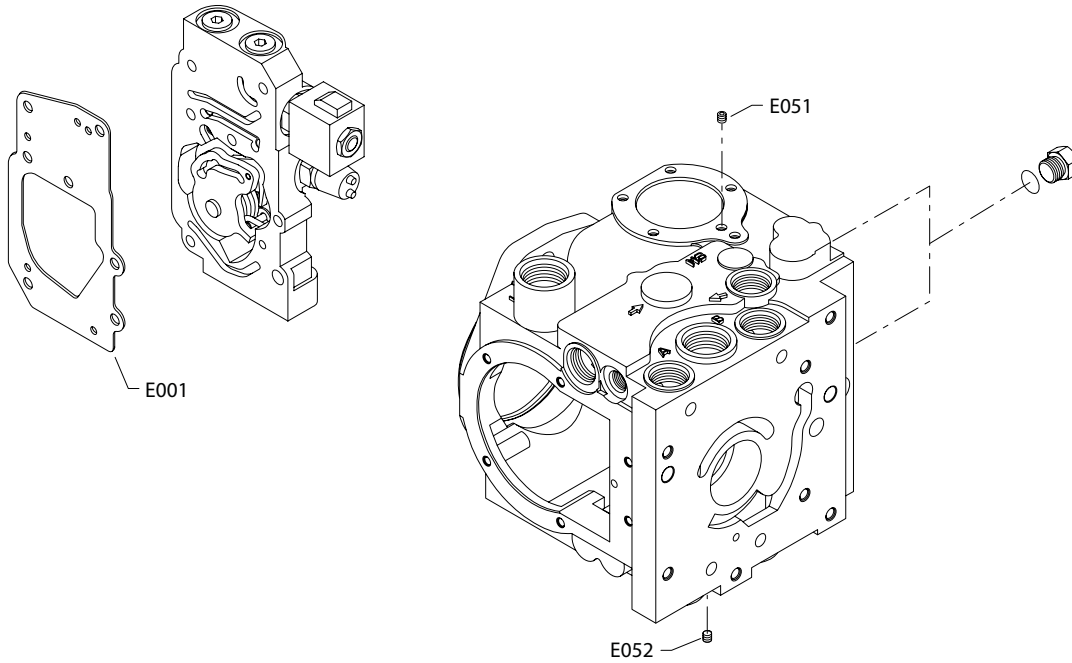
F5NN parts

D004	10-23		11041432	Solenoid valve, 12 volt, APM connector	1
D004	96-35	10-23	519354	Solenoid valve, 12 volt, APM connector	1
QD04	07-18		11099647	Service kit, seal	1
D004A	07-18		9004105-0120	O-ring	4
D004A	96-35		011296(9004105-0120)	O-ring	4
D081	18-08		AAM0504501	Screw	4
D081	07-18	18-08	9007315-0510	Screw (AAM0504501)	4
D081	96-35		5000164(9007315-0507)	Screw	4

Control Response

Gasket/Orifice

Part numbers for the gasket/orifice are found in this chapter.



Control Response

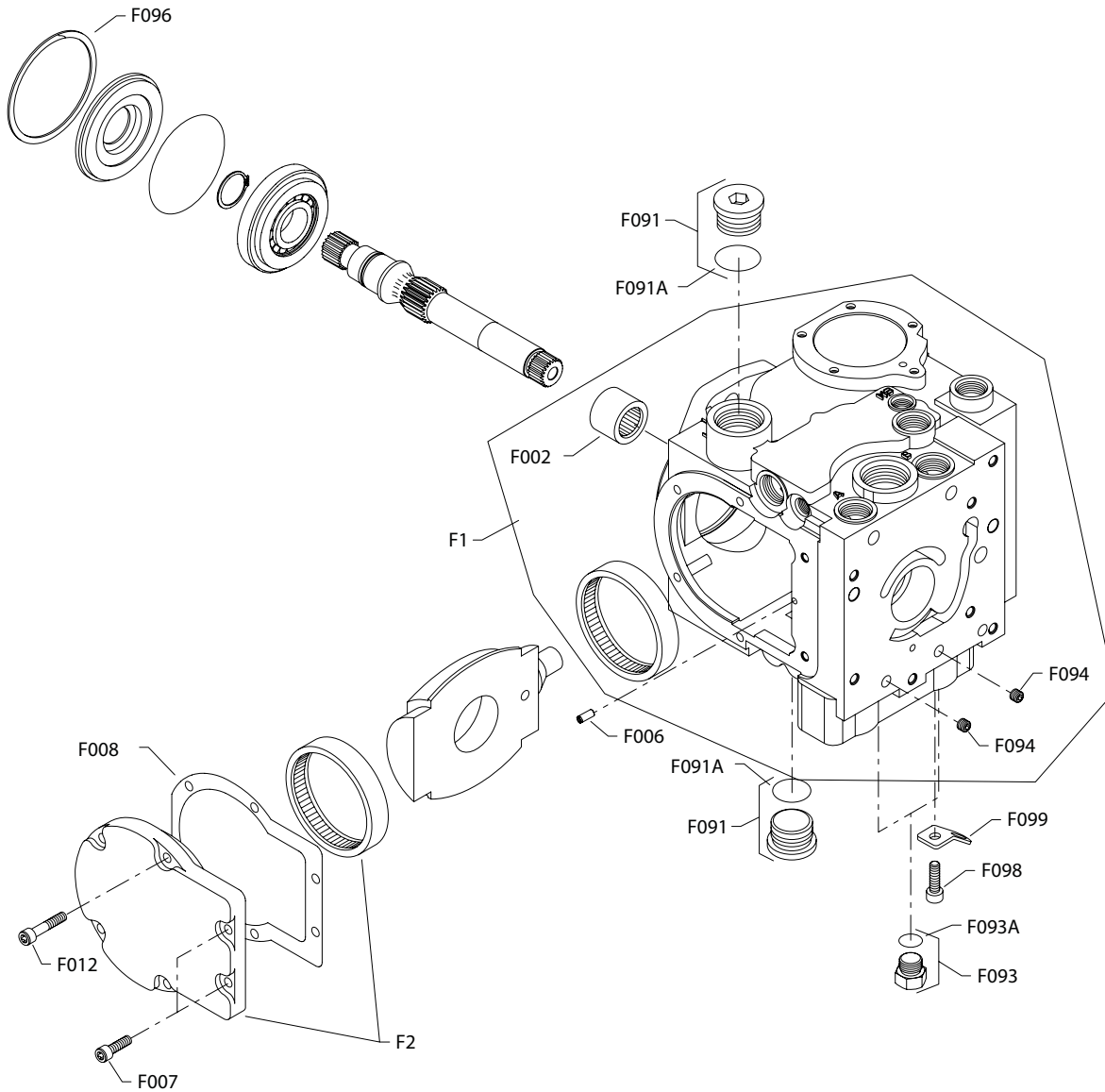
Gasjet/Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
00	E001	93-20		4800301	Control gasket, no orifice	1
01	E001	93-20		4800478	Control gasket, 1.6 mm	1
02	E001	93-20		4800479	Control gasket, 1.0 mm	1
03	E001	93-20		4800480	Control gasket, 0.8&4.0 mm	1
05	E001	95-38		4800524	Control gasket, 0.9&4.0 mm	1
06	E001	95-38		4800572	Control gasket, 0.7 FD/0.9 DR mm	1
09	E001	96-47		4800595	Control gasket, 0.7/1.44 & 4.0 mm	1
10	E001	97-15		4800633	Control gasket, 0.725 & 4.0 mm	1
11	E001	97-40		4800660	Control gasket, 0.8 & 4.0 mm	1
50	E001	93-50		None	None, NFPH control	0
52	E051	06-01		SP2370-0610	Orifice plug, 1.0 mm	1
	E051	97-16		4570063	Orifice plug, 1.0 mm (SB-1997-012)	1
	E051	93-50	97-15	636241(9001418-0003)	Orifice plug, 1.0 mm (SB-1997-012)	1
	E052	06-01		SP2370-0610	Orifice plug, 1.0 mm	1
	E052	97-16		4570063	Orifice plug, 1.0 mm (SB-1997-012)	1
	E052	93-50	97-15	636241(9001418-0003)	Orifice plug, 1.0 mm (SB-1997-012)	1
53	E051	06-01		SP2370-0608	Orifice plug, 0.8 mm	1
	E051	97-16		739144	Orifice plug, 0.8 mm (SB-1997-012)	1
	E051	93-50	97-15	636258(9001418-0004)	Orifice plug, .75 mm (SB-1997-012)	1
	E052	06-01		SP2370-0608	Orifice plug, 0.8 mm	1
	E052	97-16		739144	Orifice plug, 0.8 mm (SB-1997-012)	1
	E052	93-50	97-15	636258(9001418-0004)	Orifice plug, .75 mm (SB-1997-012)	1
55	E051	06-01		SP2370-0613	Orifice plug, 1.3 mm	1
	E051	99-46	01-48	4570064	Orifice plug, 1.3 mm	1
	E052	06-01		SP2370-0613	Orifice plug, 1.3 mm	1
	E052	99-46	01-48	4570064	Orifice plug, 1.3 mm	1
70		96-38		None	None, NFPE	0
72	E070	96-38		4800651	Gasket, 1.0 mm A & B ports (SB-1998-030)	1
73	E070	96-38		4800650	Gasket, 0.8 mm A & B ports (SB-1998-030)	1
74	E070	12-47		11107693	Orificedisc, 0.8 mm A & B ports	3
74	E070	98-32		512837	Orificedisc, 0.8 mm A & B ports (SB-1998-055)	3
75	E070	97-10		4800667	Gasket, 0.8 mm A, B & T ports	1
76	E070	98-09		4800710	Gasket, 1.2 mm A & B ports	1
NN		94-08		None	None	0

Housing

Housing XDC, Base

Part numbers for housing units can be found in this chapter.



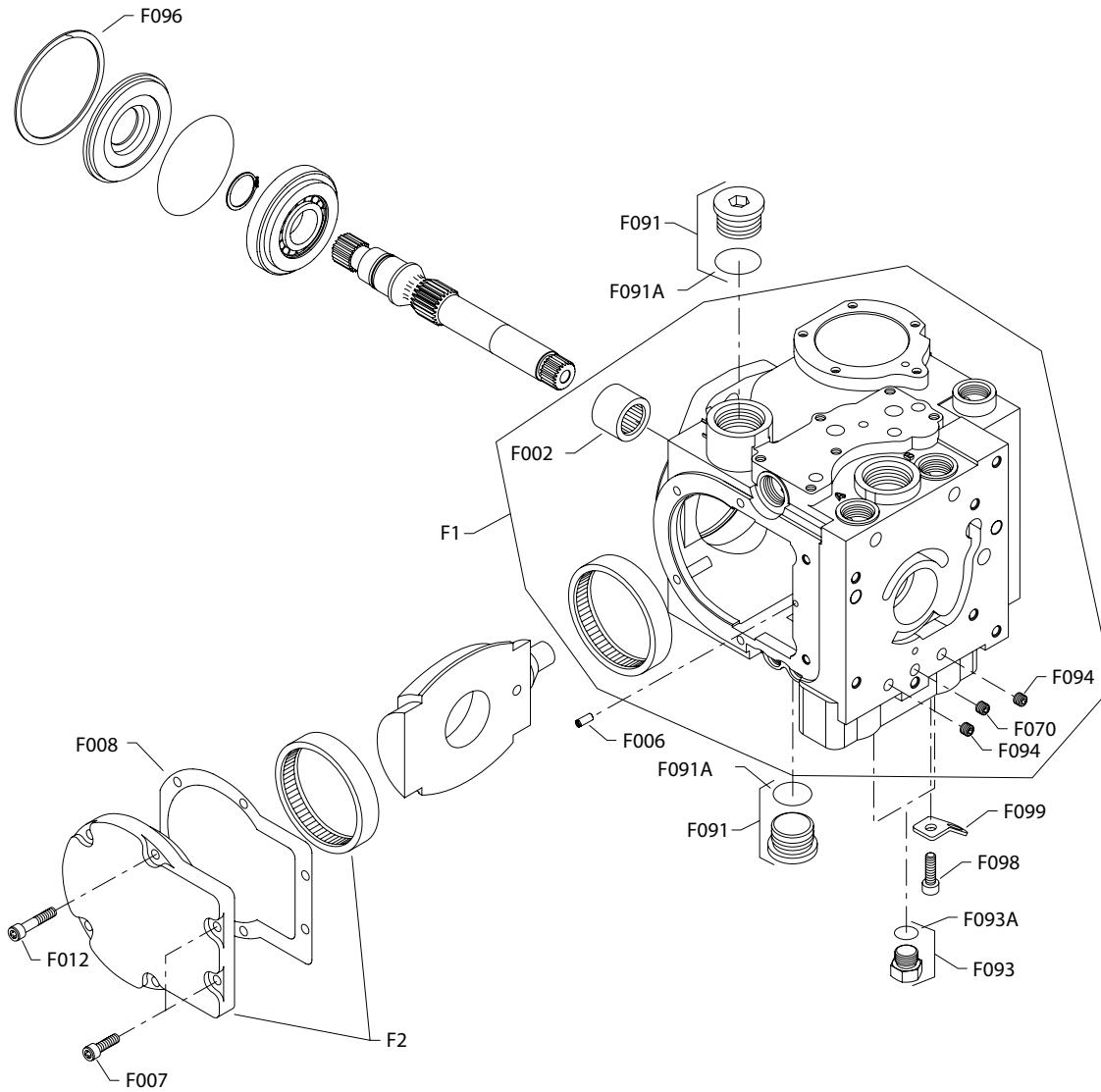
Housing

Order code: A parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	98-01		4410287	Housing assembly(SB-1997-029 & 1999-048)	1
F2	93-48	-	4280143	Side cover assembly	1
F002	10-14		11060625	Needle bearing	1
F002	09-06	10-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	06-01		9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F091	07-14		9005110-9200	Plug	2
F091A	07-14		9004201-9000	O-ring	2
F093	07-14		9005100-5600	Plug	2
F093A	07-14		9004201-3700	O-ring	2
F094	07-14		SP2914-SL-02	Pipe plug	2
F096	07-14		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F099	07-14		4800754	Lifting bracket (SB-1999-048)	1

Housing

Housing XDC, Full Featured



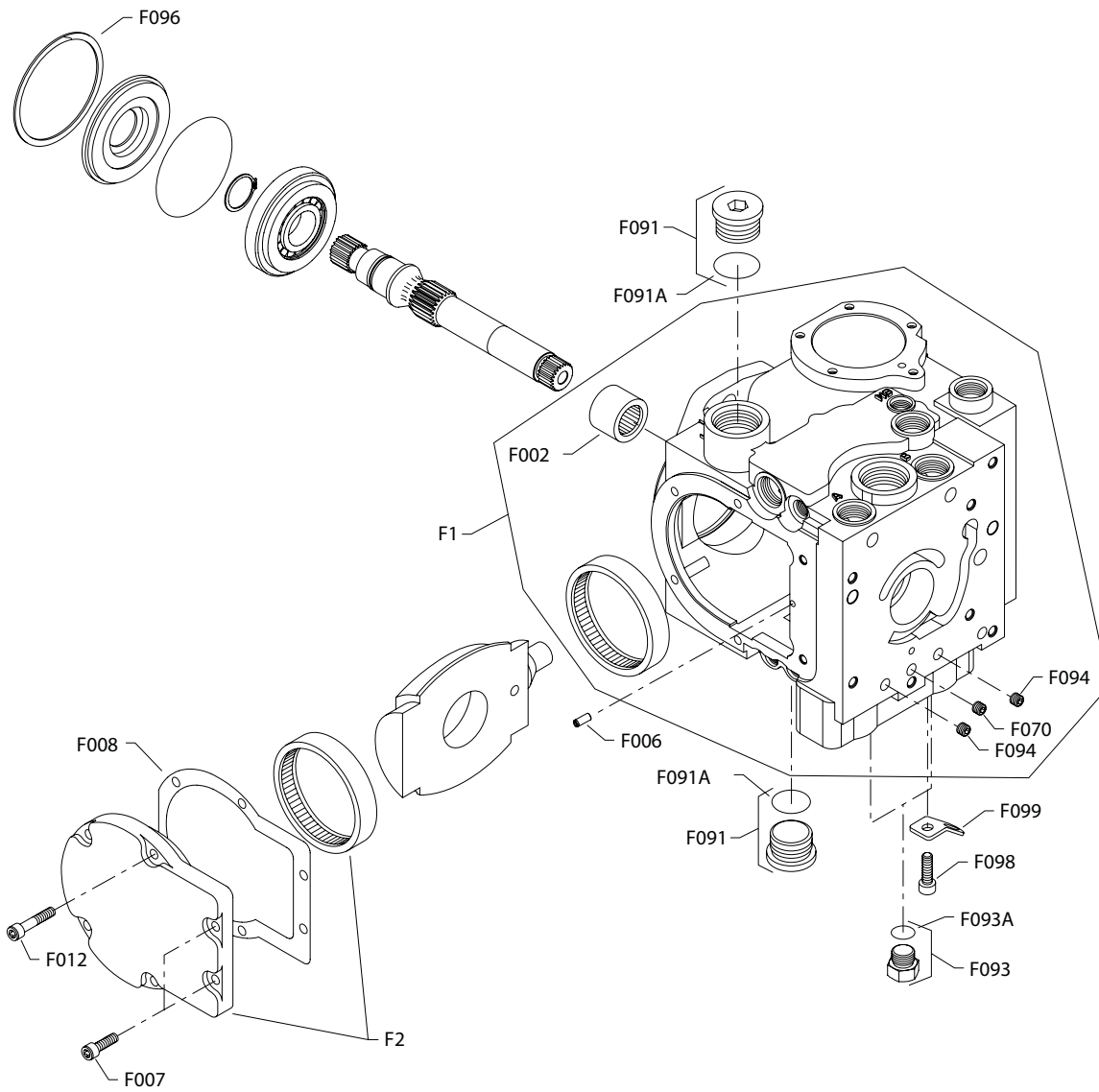
Housing

Order code: B parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	98-01		4410288	Housing assembly (SB-1997-029 & 1999-048)	1
F2	93-48		4280143	Side cover assembly	1
F002	07-14		11060625	Needle bearing	1
F002	09-06	07-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F070	06-01		SP2914-SL-02	Pipe plug	1
F070	-		9005003-1200	Pipe plug	1
F070	98-02		001479(9005001-1200)	Pipe plug	1
F091	07-18		9005110-9200	Plug	2
F091	94-04		320002(9005110-9200)	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F091A	94-04		001172(9004201-9000)	O-ring	2
F093	06-01		9005100-5600	Plug	2
F093	93-20		46151(9005100-5600)	Plug	2
F093A	06-01		9004201-3700	O-ring	2
F093A	93-20		085043(9004201-3700)	O-ring	2
F094	06-01		SP2914-SL-02	Pipe plug	2
F094	-		9005003-1200	Pipe plug	2
F094	93-20		001479(9005001-1200)	Pipe plug	2
F096	98-02		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F098	06-01	07-14	9007314-0605	Screw (AAM0602001)	1
F098	98-31		5000001	Screw (SB-1999-048)	1
F099	98-31		4800754	Lifting bracket (SB-1999-048)	1

Housing

Housing XDC, with Loop Flushing



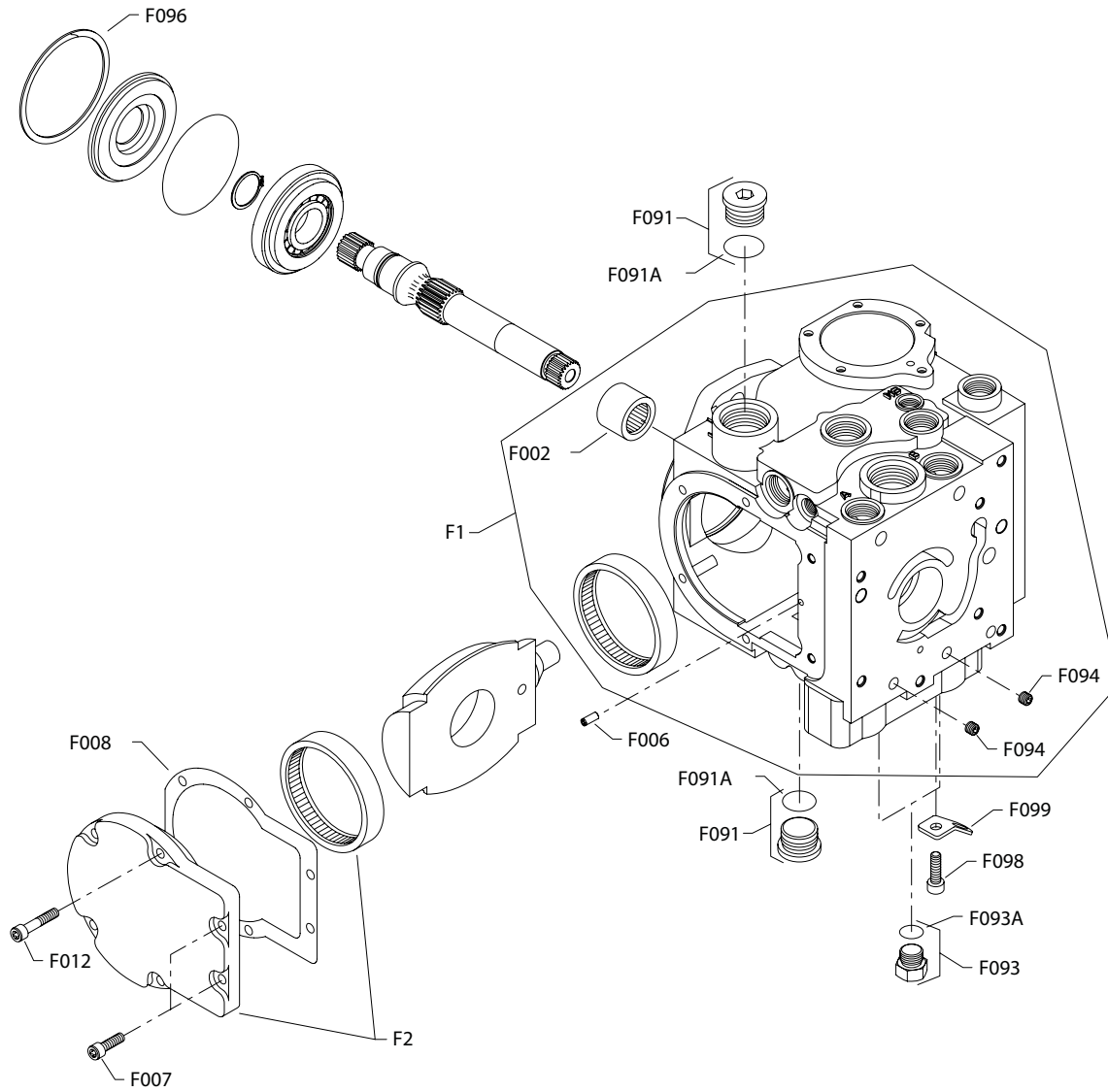
Housing

Order code: C parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	98-01		4410330	Housing assembly(SB-1997-029 & 1999-048)	1
F1	93-48	-	4280143	Side cover assembly	1
F002	07-14		11060625	Needle bearing	1
F002	09-06		9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F070	06-01		SP2914-SL-02	Pipe plug	1
F070	-		9005003-1200	Pipe plug	1
F070	98-02		001479(9005001-1200)	Pipe plug	1
F091	07-18		9005110-9200	Plug	2
F091	94-04		320002(9005110-9200)	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F091A	94-04		001172(9004201-9000)	O-ring	2
F093	06-01		9005100-5600	Plug	2
F093	93-20		46151(9005100-5600)	Plug	2
F093A	06-01		9004201-3700	O-ring	2
F093A	93-20		085043(9004201-3700)	O-ring	2
F094	06-01		SP2914-SL-02	Pipe plug	2
F094	-		9005003-1200	Pipe plug	2
F094	93-20		001479(9005001-1200)	Pipe plug	2
F096	98-02		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F098	06-01	07-14	9007314-0605	Screw (AAM0602001)	1
F098	98-31		5000001	Screw (SB-1999-048)	1
F099	98-31		4800754	Lifting bracket (SB-1999-048)	1

Housing

Housing XDC, No Loop Flushing, Full Flow Filtration



Housing

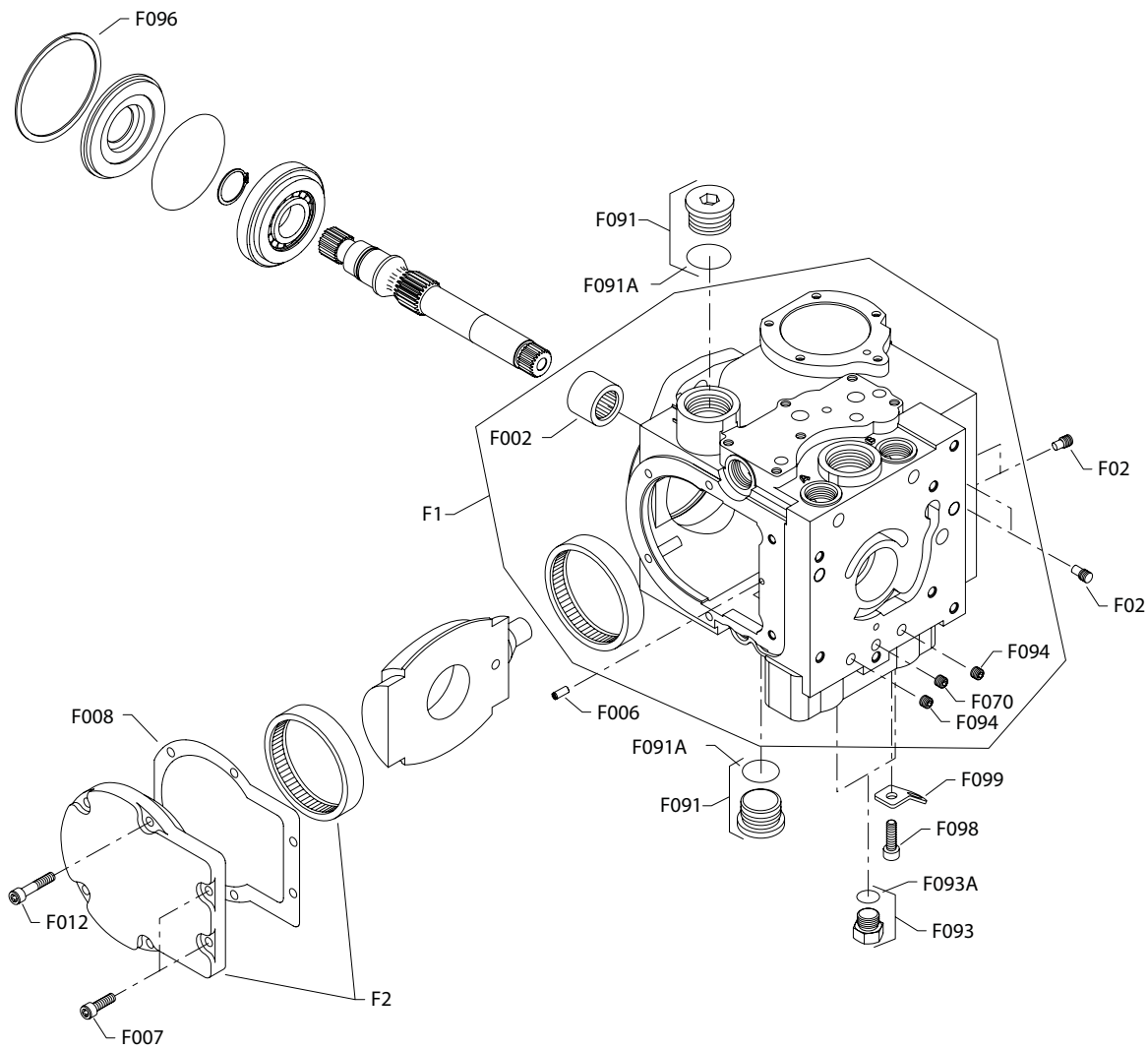
Order code: D parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	02-30		4410334	Housing assembly	1
F2	93-48	-	4280143	Side cover assembly	1
F002	10-14		11060625	Needle bearing	1
F002	09-06	10-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F091	07-18		9005110-9200	Plug	2
F091	94-04		320002(9005110-9200)	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F091A	94-04		001172(9004201-9000)	O-ring	2
F093	06-01		9005100-5600	Plug	2
F093	93-20		46151(9005100-5600)	Plug	2
F093A	06-01		9004201-3700	O-ring	2
F093A	93-20		085043(9004201-3700)	O-ring	2
F094	06-01		SP2914-SL-02	Pipe plug	2
F094	-		9005003-1200	Pipe plug	2
F094	93-20		001479(9005001-1200)	Pipe plug	2
F096	98-02		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F098	06-01	07-14	9007314-0605	Screw (AAM0602001)	1
F098	98-31		5000001	Screw (SB-1999-048)	1
F099	98-31		4800754	Lifting bracket (SB-1999-048)	1

Housing

Housing with Plug Expansion

Part numbers for housing with plug expansion are found below.



Housing

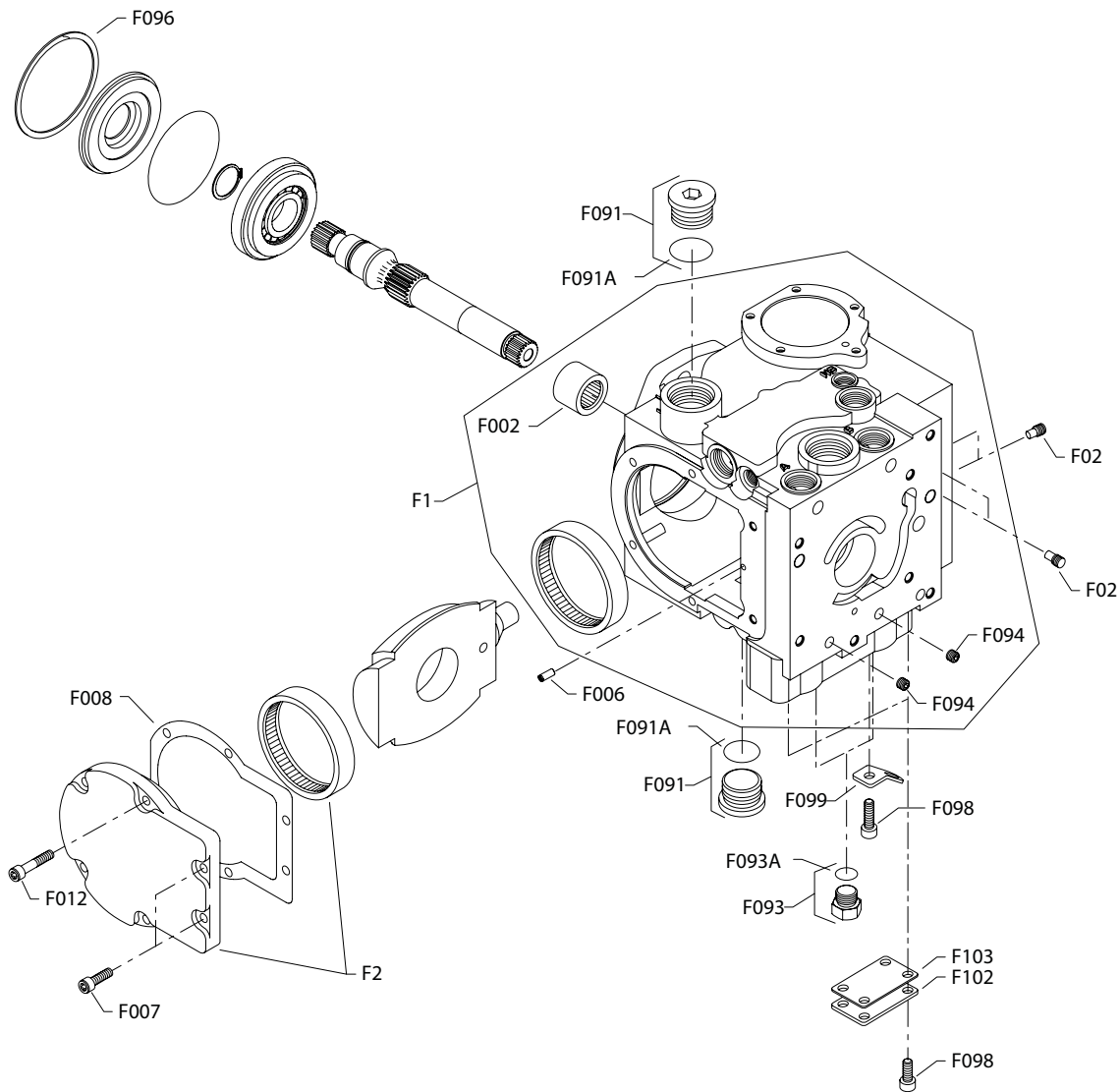
Order code: J parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	99-52		4410289	Housing assembly(SB-1997-029 & 1999-048)	1
F2	93-48	-	4280143	Side cover assembly	1
F002	07-14		11060625	Needle bearing	1
F002	09-06	07-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F070	06-01		SP2914-SL-02	Pipe plug	1
F070	-		9005003-1200	Pipe plug	1
F070	98-02		001479(9005001-1200)	Pipe plug	1
F091	07-18		9005110-9200	Plug	2
F091	94-04		320002(9005110-9200)	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F091A	94-04		001172(9004201-9000)	O-ring	2
F093	06-01		9005100-5600	Plug	2
F093	93-20		46151(9005100-5600)	Plug	2
F093A	06-01		9004201-3700	O-ring	2
F093A	93-20		085043(9004201-3700)	O-ring	2
F094	06-01		SP2914-SL-02	Pipe plug	2
F094	-		9005003-1200	Pipe plug	2
F094	93-20		001479(9005001-1200)	Pipe plug	2
F096	98-02		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F098	06-01	07-14	9007314-0605	Screw (AAM0602001)	1
F098	98-31		5000001	Screw (SB-1999-048)	1
F099	98-31		4800754	Lifting bracket (SB-1999-048)	1

Housing

Housing NFPE/FNR, Full Featured (Code 61 Ports)

Part numbers for NFPE/FNR full featured housing option are found below.



Housing

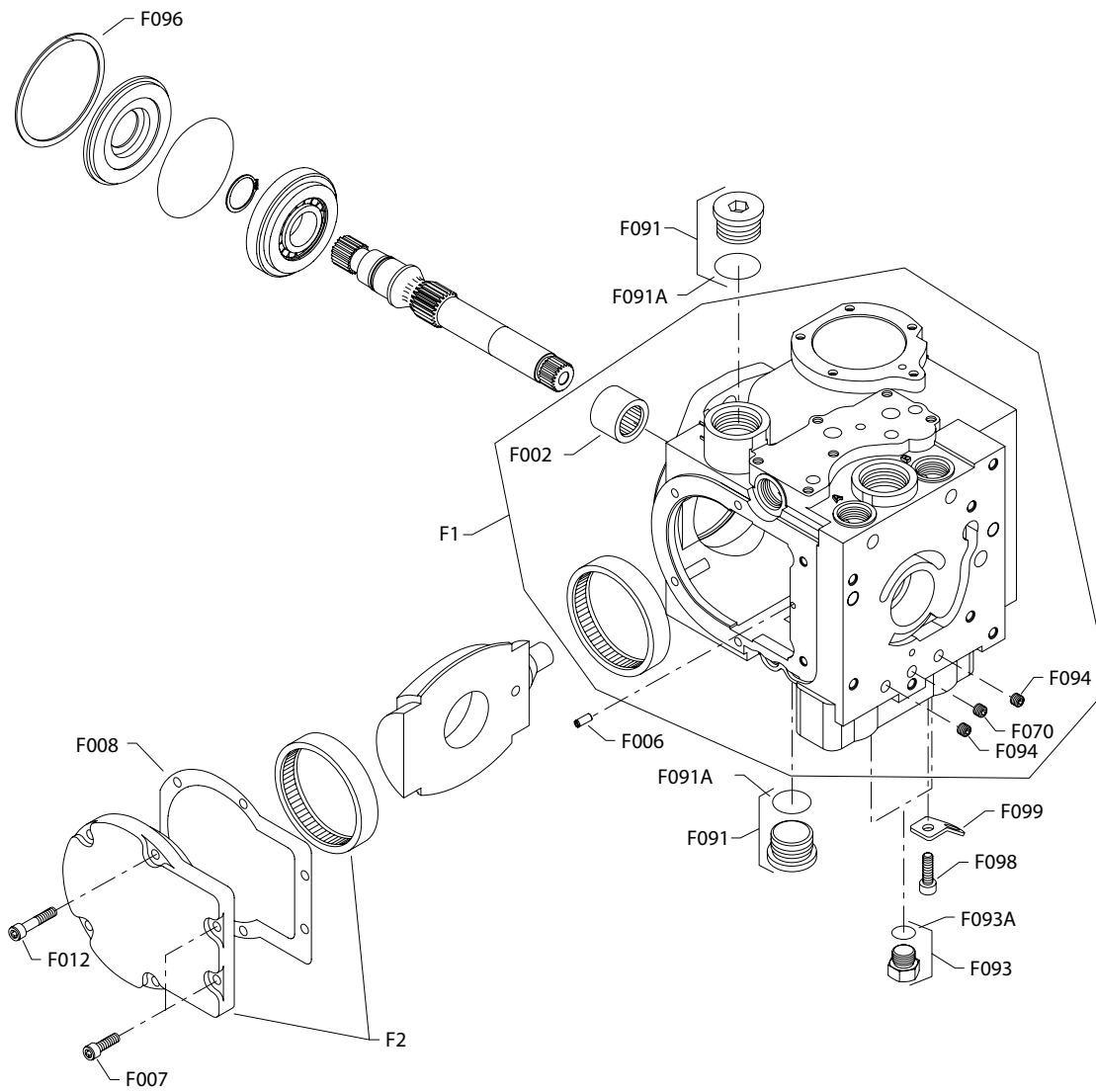
Order code: M parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	99-52		4410290	Housing assembly(SB-1997-029 & 1999-048)	1
F2	93-48	-	4280143	Side cover assembly	1
F002	10-14		11060625	Needle bearing	1
F002	09-06	10-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F015	07-18		AAM1002001	Screw	8
F015	07-18	07-18	5000622	Screw (AAM1002001)	8
F102	07-18		4410306	Port cover	2
F103	07-18		4410307	Gasket	2
F091	07-18		9005110-9200	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F093	07-18		9005100-5600	Plug	2
F093A	07-18		9004201-3700	O-ring	2
F094	07-18		SP2914-SL-02	Pipe plug	2
F096	07-18		5000114	Retaining ring	1
F098	07-18		AAM0602001	Screw	1
F099	07-18		4800754	Lifting bracket	1

Housing

Housing NFPH, full featured

Part numbers for the NFPH, full featured housing option are found below.



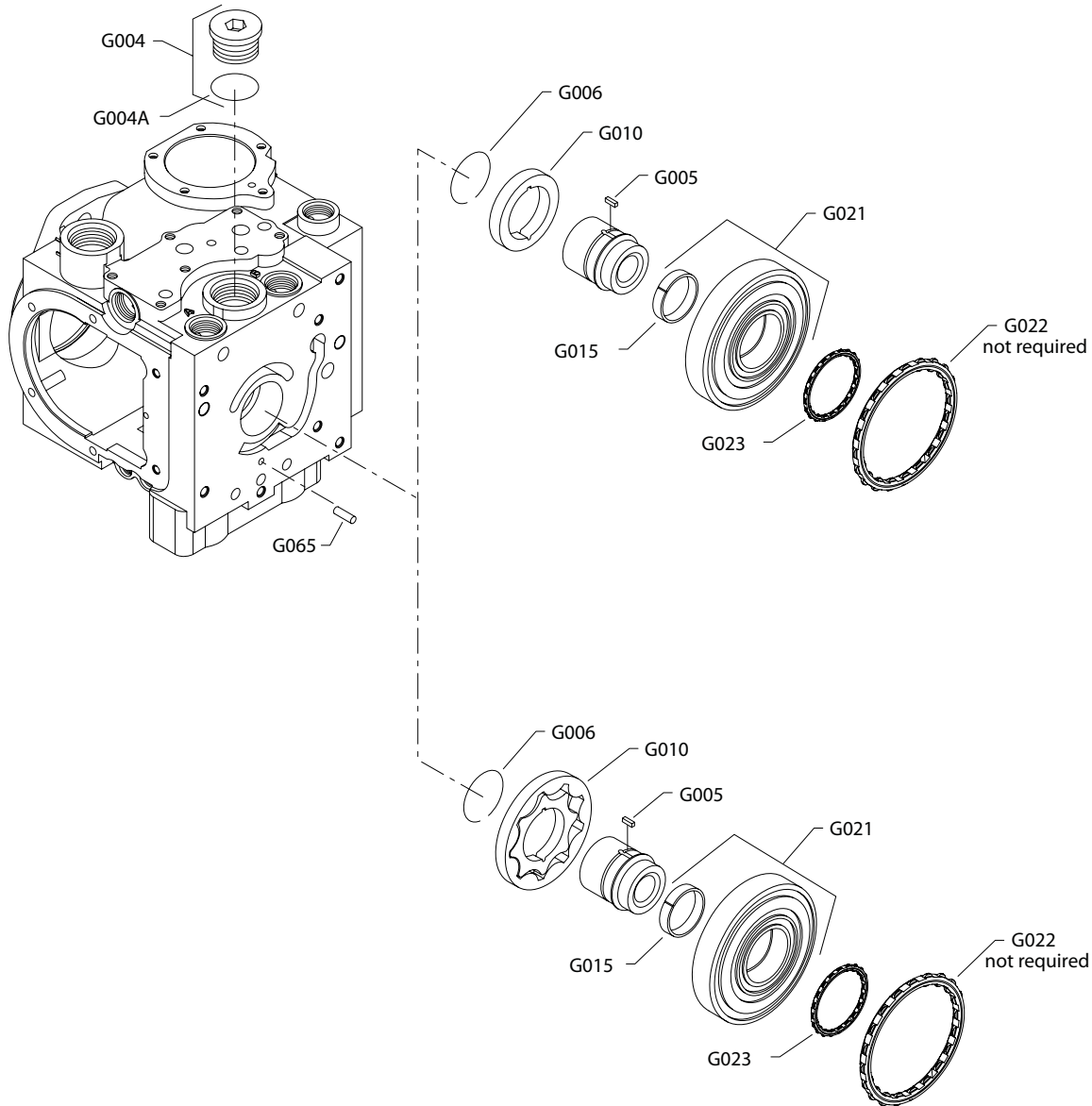
Housing

Order code: P parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F1	99-52		4410291	Housing assembly(SB-1997-029 & 1999-048)	1
F2	93-48	-	4280143	Side cover assembly	1
F002	07-14		11060625	Needle bearing	1
F002	09-06	07-14	9001465-0015	Needle bearing	1
F002	09-04		5000140 (9001465-0015)	Needle bearing	1
F006	07-18		1745710	Pin	1
F006	09-44		5000179	Pin	1
F007	07-14		AAM0602001	Screw	2
F007	06-01	07-14	9007314-0605	Screw (AAM0602001)	2
F007	98-02		5000001	Screw (SB-1999-029)	2
F007	93-20	98-01	5000001	Screw	6
F008	09-94		4410272	Side cover gasket (SB-1999-044)	1
F012	07-14		AAM0603001	Screw	4
F012	06-01	07-14	9007314-0607	Screw (AAM0603001)	4
F012	93-20		5000002	Screw (SB-1997-029)	4
F070	06-01		SP2914-SL-02	Pipe plug	1
F070	-		9005003-1200	Pipe plug	1
F070	98-02		001479(9005001-1200)	Pipe plug	1
F091	07-18		9005110-9200	Plug	2
F091	94-04		320002(9005110-9200)	Plug	2
F091A	07-18		9004201-9000	O-ring	2
F091A	94-04		001172(9004201-9000)	O-ring	2
F093	06-01		9005100-5600	Plug	2
F093	93-20		46151(9005100-5600)	Plug	2
F093A	06-01		9004201-3700	O-ring	2
F093A	93-20		085043(9004201-3700)	O-ring	2
F094	06-01		SP2914-SL-02	Pipe plug	2
F094	-		9005003-1200	Pipe plug	2
F094	93-20		001479(9005001-1200)	Pipe plug	2
F096	98-02		5000114	Retaining ring	1
F098	07-14		AAM0602001	Screw	1
F098	06-01	07-14	9007314-0605	Screw (AAM0602001)	1
F098	98-31		5000001	Screw (SB-1999-048)	1
F099	98-31		4800754	Lifting bracket (SB-1999-048)	1

Charge Pump

Charge Pump 11cc and 15.6cc



Charge Pump

11cc (order code: 2) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G005	14-23		11137569	Key	1
G005	98-01	14-23	4700103	Key	1
G005	94-04	99-52	015643(9004800-2506)	Pin (SB-1997-029C)	1
G006	98-01		5000469	Retaining ring	1
G010	98-01		4800636	Gear rotor assembly, 11cc (SB-1997-029C)	1
G010	94-04	99-52	Refer to SB-1997-029C	Gear rotor assembly replacement kit	
G015	18-09		11175274	Journal bearing	1
G015	94-04	18-09	4700027	Journal bearing	1
G021	98-02		4800640	Gear rotor cover assembly, 11cc CW (SB-1997-029C)	1
G021	94-04	99-52	Refer to SB-1997-029C	Gear rotor assembly replacement kit	
G021	98-02		4800641	Gear rotor cover assembly, 11cc CCW	1
G023	94-04		5000531	O-ring (SB-1998-079)	1
G065	06-01		1745710	Pin, .1878 x .625	1

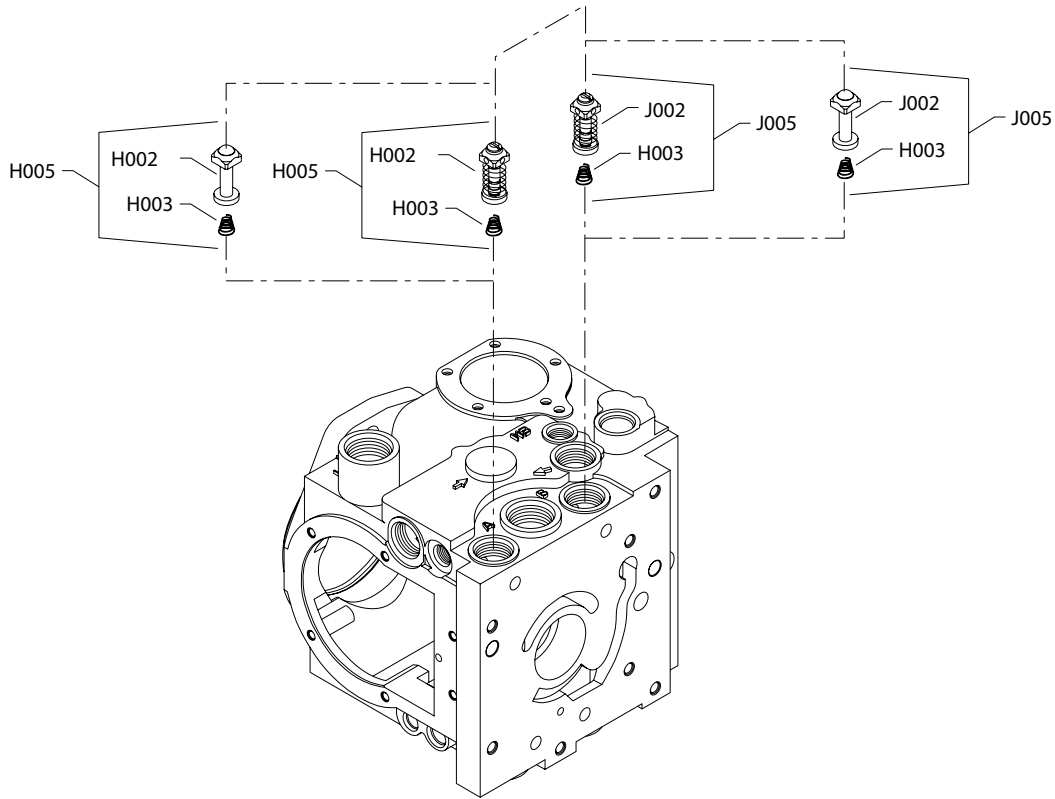
15.6cc (order code: 3) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
G005	14-23		11137569	Key	1
G005	98-01	14-23	4700103	Key	1
G005	94-04	99-52	015643(9004800-2506)	Pin (SB-1997-029C)	1
G006	98-01		5000469	Retaining ring	1
G010	98-02		4800624	Gear rotor assembly, 15.6cc (SB-1997-029C)	1
G010	93-23	98-01	Refer to SB-1997-029C	Gear rotor assembly replacement kit	
G015	18-09		11175274	Journal bearing	1
G015	94-04	18-09	4700027	Journal bearing	1
G021	98-02		4800642	Gear rotor cover assembly, 15.6cc CW (SB-1997-029C)	1
G021	98-02		4800643	Gear rotor cover assy, 15.6cc CCW(SB-1997-029C)	1
G021	98-01	98-01	Refer to SB-1997-029C	Gear rotor assembly replacement kit	
G023	94-04		5000531	O-ring (SB-1998-079)	1
G065	06-01		1745710	Pin, .1878 x .625	1

System Pressure Protection

System Check Relief 00-28

Part numbers for system check relief valve can be found below.



System Pressure Protection

System check relief

Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
00	H000	07-18		none	No valve	1
	J000	07-18		none	No valve	1
14	H002	07-18		3103375-0140	SCR valve, 140 bar/2030 psi	1
	H002	93-44		353854(3103375-0140)	SCR valve, 140 bar/2030 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800290	SCR valve assembly, port A, 140 bar/2030 psi	1
	J002	07-18		3103375-0140	SCR valve, 140 bar/2030 psi	1
	J002	93-44		353854(3103375-0140)	SCR valve, 140 bar/2030 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4800290	SCR valve assembly, port B, 140 bar/2030 psi	1
17	H002	07-18		3103375-0175	SCR valve, 175 bar/2540 psi	1
	H002	93-44		318491(3103375-0175)	SCR valve, 175 bar/2540 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800291	SCR valve assembly, port A, 175 bar/2540 psi	1
	J002	07-18		3103375-0175	SCR valve, 175 bar/2540 psi	1
	J002	93-44		318691(3103375-0175)	SCR valve, 175 bar/2540 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4800291	SCR valve assembly, port B, 175 bar/2540 psi	1
19	H002	07-18		3103375-0190	SCR valve, 190 bar/2755 psi	1
	H002	93-44		328310(3103375-0190)	SCR valve, 190 bar/2755 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800292	SCR valve assembly, port A, 190 bar/2755 psi	1
	J002	07-18		3103375-0190	SCR valve, 190 bar/2755 psi	1
	J002	93-44		328310(3103375-0190)	SCR valve, 190 bar/2755 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4800292	SCR valve assembly, port B, 190 bar/2755 psi	1

System Pressure Protection

System check relief (continued)

Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
21	H002	07-18		3103375-0210	SCR valve, 210 bar/3045 psi	1
	H002	93-44		328328(3103375-0210)	SCR valve, 210 bar/3045 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800293	SCR valve assembly, port A, 210 bar/3045 psi	1
	J002	07-18		3103375-0210	SCR valve, 210 bar/3045 psi	1
	J002	93-44		328328(3103375-0210)	SCR valve, 210 bar/3045 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4520053	SCR valve assembly, port B, 210 bar/3045 psi	1
J005	93-44		4800293	SCR valve assembly, port B, 210 bar/3045 psi	1	
23	H002	07-18		3103375-0230	SCR valve, 230 bar/3335 psi	1
	H002	93-44		328336(3103375-0230)	SCR valve, 230 bar/3335 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800294	SCR valve assembly, port A, 230 bar/3335 psi	1
	J002	07-18		3103375-0230	SCR valve, 230 bar/3335 psi	1
	J002	93-44		328336(3103375-0230)	SCR valve, 230 bar/3335 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4800294	SCR valve assembly, port B, 230 bar/3335 psi	1
25	H002	07-18		3103375-0250	SCR valve, 250 bar/3625 psi	1
	H002	93-44		318709(3103375-0250)	SCR valve, 250 bar/3625 psi	1
	J003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800295	SCR valve assembly, port A, 250 bar/3625 psi	1
	J002	07-18		31003375-0250	SCR valve, 250 bar/3625 psi	1
	J002	93-44		318709(31003375-0250)	SCR valve, 250 bar/3625 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	06-01		4520054	SCR valve assembly, port B, 250 bar/3625 psi	1
J005	93-44		4800295	SCR valve assembly, port B, 250 bar/3625 psi	1	

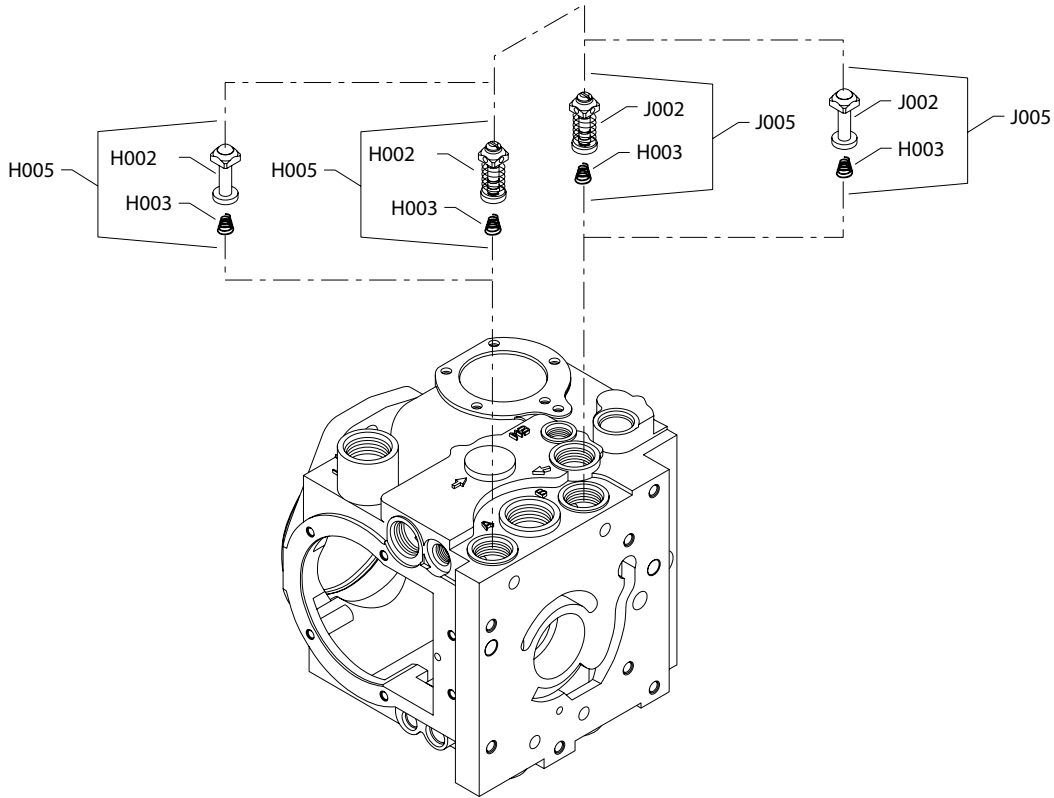
System Pressure Protection

System check relief (continued)

Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
28	H002	07-18		3103375-0280	SCR valve, 280 bar/4060 psi	1
	H002	93-44		328344(3103375-0280)	SCR valve, 280 bar/4060 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800296	SCR valve assembly, port A, 280 bar/4060 psi	1
	J002	07-18		3103375-0280	SCR valve, 280 bar/4060 psi	1
	J002	93-44		328344(3103375-0280)	SCR valve, 280 bar/4060 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	06-01		4520055	SCR valve assembly, port B, 280 bar/4060 psi	1
	J005	93-44		4800296	SCR valve assembly, port B, 280 bar/4060 psi	1

System Pressure Protection

System Check Relief 30-41, NN



System Pressure Protection

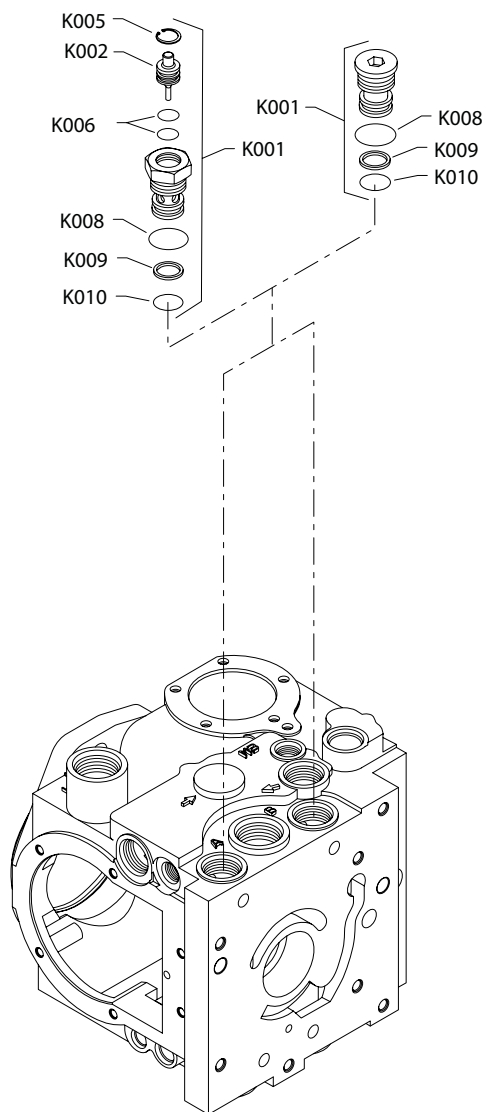
Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
30	H002	07-18		3103375-0300	SCR valve, 300 bar/4350 psi	1
	H002	93-44		318725(3103375-0300)	SCR valve, 300 bar/4350 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800297	SCR valve assembly, port A, 300 bar/4350 psi	1
	J002	07-18		3103375-0300	SCR valve, 300 bar/4350 psi	1
	J002	93-44		318725(3103375-0300)	SCR valve, 300 bar/4350 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520056	SCR valve assembly, port B, 300 bar/4350 psi	1
	J005	93-44		4800297	SCR valve assembly, port B, 300 bar/4350 psi	1
32	H002	07-18		3103375-0325	SCR valve, 325 bar/4712 psi	1
	H002	93-44		4800676(3103375-0325)	SCR valve, 325 bar/4712 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800677	SCR valve assembly, port A, 325 bar/4712 psi	1
	J002	07-18		3103375-0325	SCR valve, 325 bar/4712 psi	1
	J002	93-44		4800676(3103375-0325)	SCR valve, 325 bar/4712 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520057	SCR valve assembly, port B, 325 bar/4712 psi	1
	J005	93-44		4800677	SCR valve assembly, port B, 325 bar/4712 psi	1
34	H002	07-18		3103375-0345	SCR valve, 345 bar/5000 psi	1
	H002	93-44		318717(3103375-0345)	SCR valve, 345 bar/5000 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800298	SCR valve assembly, port A, 345 bar/5000 psi	1
	J002	07-18		3103375-0345	SCR valve, 345 bar/5000 psi	1
	J002	93-44		318717(3103375-0345)	SCR valve, 345 bar/5000 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520058	SCR valve assembly, port B, 345 bar/5000 psi	1
	J005	93-44		4800298	SCR valve assembly, port B, 345 bar/5000 psi	1
36	H002	93-44		3103375-0360	SCR valve, 360 bar/5220 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800849	SCR valve assembly, port A, 360 bar/5220 psi	1
	J002	93-44		3103375-0360	SCR valve, 360 bar/5220 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	93-44		4800849	SCR valve assembly, port B, 360 bar/5220 psi	1

System Pressure Protection

Order code	Item	Date begin	Date end	Part number	Part name	Qty.per Model/Kit
38	H002	07-18		3103375-0385	SCR valve, 385 bar/5580 psi	1
	H002	93-44		4800325(3103375-0385)	SCR valve, 385 bar/5580 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800327	SCR valve assembly, port A, 385 bar/5580 psi	1
	J002	07-18		3103375-0385	SCR valve, 385 bar/5580 psi	1
	J002	93-44		4800325(3103375-0385)	SCR valve, 385 bar/5580 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520060	SCR valve assembly, port B, 385 bar/5580 psi	1
J005	93-44		4800327	SCR valve assembly, port B, 385 bar/5580 psi	1	
41	H002	07-18		3103375-0415	SCR valve, 415 bar/6020 psi	1
	H002	93-44		328351(3103375-0415)	SCR valve, 415 bar/6020 psi	1
	H003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800299	SCR valve assembly, port A, 415 bar/6020 psi	1
	J002	07-18		3103375-0415	SCR valve, 415 bar/6020 psi	1
	J002	93-44		328351(3103375-0415)	SCR valve, 415 bar/6020 psi	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520062	SCR valve assembly, port B, 415 bar/6020 psi	1
J005	93-44		4800299	SCR valve assembly, port B, 415 bar/6020 psi	1	
NN	H002	93-44		3103348	Check valve poppet	1
	J003	15-40		11192689	Spring	1
	H003	93-44	15-40	4800780	Spring	1
	H005	93-44		4800300	Check valve assembly, port A	1
	J002	93-44		3103348	Check valve poppet	1
	J003	15-40		11192689	Spring	1
	J003	93-44	15-40	4800780	Spring	1
	J005	07-18		4520063	Check valve assembly, port B	1
J005	93-44		4800300	Check valve assembly, port B	1	

Loop By-pass

By-pass Valve



Loop By-pass

Order code: B parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
K001	93-44		4800768	By-pass valve assembly (SB-1999-037)	2
K002	07-18		1735282	By-pass shaft	2
K002	99-32		4800767	By-pass shaft (SB-1999-037)	2
K005	98-30		5000448	Retaining ring (SB-1998-039)	2
K006	98-30		9004105-0130	O-ring (SB-1998-039)	4
K008	07-18		9004201-6200	O-ring	2
K008	93-44		001149(9004201-6200)	O-ring	2
K009	07-18		9006110-0160	Back-up ring	2
K009	93-44		018481(9006110-0160)	Back-up ring	2
K010	07-18		9004105-0160	O-ring	2
K010	93-44		5000090(9004105-0160)	O-ring	2

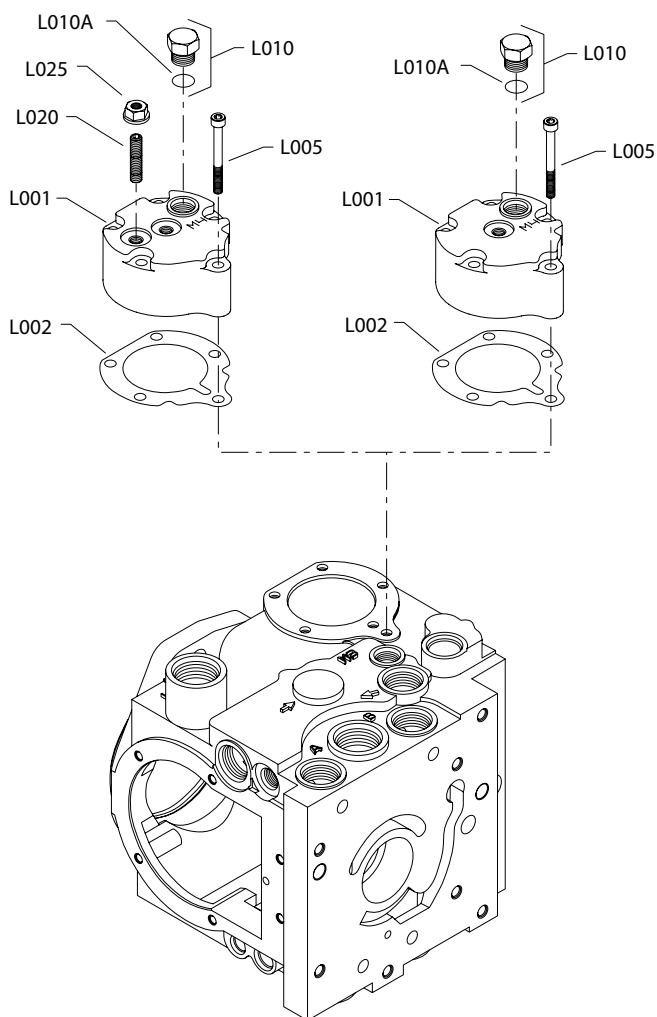
N parts

K001	93-44	-	4800589	SCR valve plug (SB-1998-082)	2
K008	07-18		9004201-6200	O-ring	2
K008	93-44		001149(9004201-6200)	O-ring	2
K009	07-18		9006110-0160	Back-up ring	2
K009	93-44		018481(9006110-0160)	Back-up ring	2
K010	07-18		9004105-0160	O-ring	2
K010	93-44		5000090(9004105-0160)	O-ring	2

Displacement Limiter

Displacement Limiter 0-5 (side 1)

Part numbers for various displacement limiter options can be found below.



Displacement Limiter

Order code: 0-5 common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L005	07-14		AAM0606001	Screw	5
L005	06-01		354407	Screw (AAM0606001)	5
L005	98-02		5000004	Screw (SB-1997-029C)	5
L002	93-44		4410271	Servo cover gasket	1
L010	06-01		9005100-5600	Plug	1
L010A	06-01		9004201-3700	O-ring	1

0 parts (NFP, None)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	20-01		11231478	Servo cover, NFP	1
L001	07-18		1723394-02	Servo cover, NFP	1
L001	95-34		4410108	Servo cover, NFP	1

1 parts (NFP, Full)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L001	95-34		4410207	Servo cover, NFP, with adjustment	1
L001	93-44		4280113	Servo cover, NFP, with adjustment	1
L020	07-18		1745312	Set screw	1
L020	94-04		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	94-04		612291(9003508-0008)	Seal nut	1

2 parts (NFP, 96%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L001	98-17		4410207	Servo cover, NFP, with adjustment	1
L020	07-18		1745312	Set screw	1
L020	98-17		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	95-34		612291(9003508-0008)	Seal nut	1

3 parts (NFP, 92%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L001	98-17		4410207	Servo cover, NFP, with adjustment	1
L020	07-18		1745312	Set screw	1

Displacement Limiter

3 parts (NFP, 92%) (continued)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L020	98-17		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	98-17		612291(9003508-0008)	Seal nut	1

4 parts (NFP, 88%)

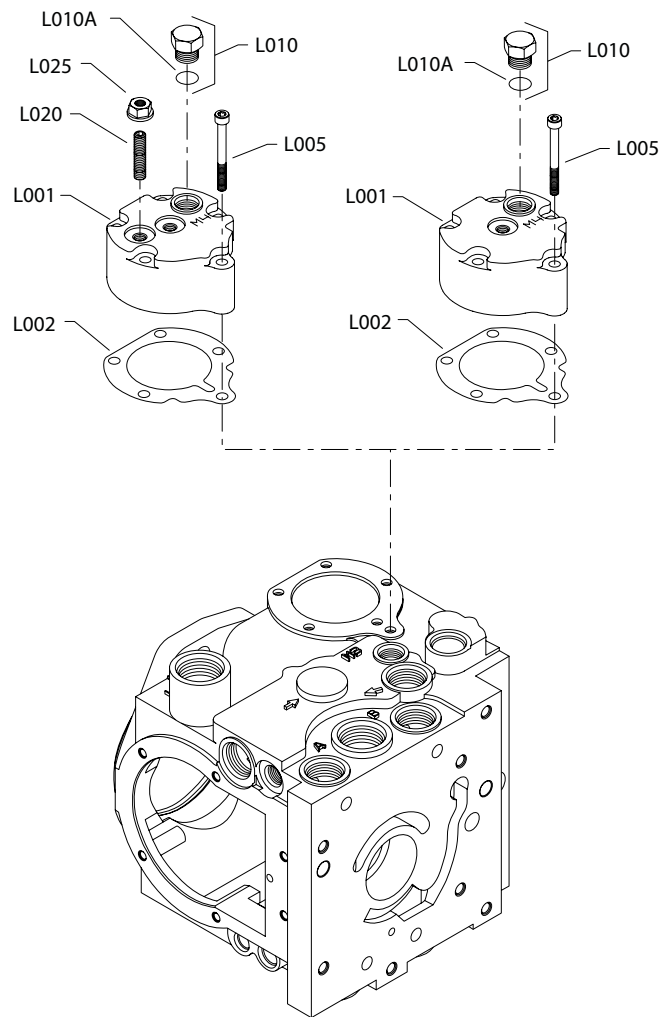
Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L001	98-17		4410207	Servo cover, NFP, with adjustment	1
L020	07-18		1745312	Set screw	1
L020	95-12		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	95-12		612291(9003508-0008)	Seal nut	1

5 parts (NFP, 84%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18		1723394-01	Servo cover, NFP, with adjustment	1
L001	98-17		4410207	Servo cover, NFP, with adjustment	1
L020	07-18		1745312	Set screw	1
L020	95-34		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	95-34		612291(9003508-0008)	Seal nut	1

Displacement Limiter

Displacement Limiter 6 and 8



Displacement Limiter

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L002	93-44		4410271	Servo cover gasket (SB-1999-022)	1
L010	07-18		9005100-5600	Plug	1
L010	93-44		46151(9005100-5600)	Plug	1
L010A	07-18		9004201-3700	O-ring	1
L010A	93-44		085043(9004201-3700)	O-ring	1

Order code: 6 (NFP, 80%)

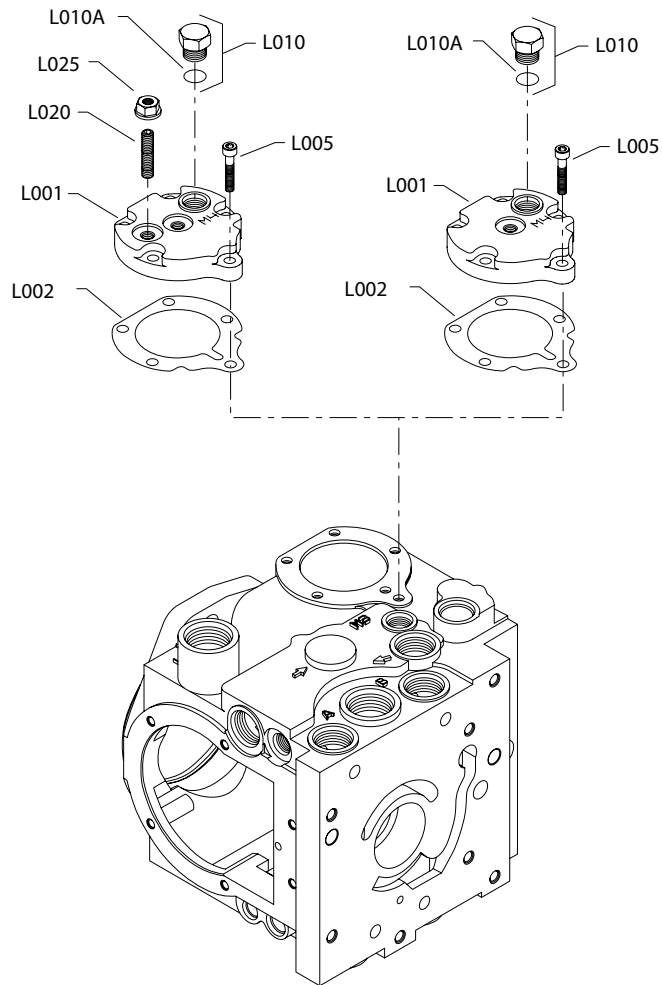
L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L001	98-17		4410207	Servo cover, NFP, with adjustment	1
L005	07-14		AAM0606001	Screw	5
L005	07-18	07-14	354407	Screw (AAM0606001)	5
L005	98-01		5000004	Screw (SB-1997-029C)	5
L020	07-18		1745312	Set screw	1
L020	95-34		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	95-34		612291(9003508-0008)	Seal nut	1

8 (NFP, 72%)

L001	19-45		11229821	Servo cover, NFP, with adjustment	1
L001	07-18	19-45	1723394-01	Servo cover, NFP, with adjustment	1
L005	07-14		AAM0606001	Screw	5
L005	07-18	07-14	354407	Screw (AAM0606001)	5
L020	07-18		1745312	Set screw	1
L025	07-18		612291	Seal nut	1

Displacement Limiter

Displacement Limiter A-F



Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L005	07-18		AAM0606001	Screw	5
L005	07-18	07-18	9007314-0607	Screw (AAM0603001)	5
L005	98-02		5000002	Screw (SB-1997-029C)	5
L020	07-18		1745312	Set screw	1
L020	94-10		5000487	Set screw (SB-1997-034)	1
L025	07-18		612291	Seal nut	1
L025	93-20		612291(9003508-0008)	Seal nut	1

Displacement Limiter

A parts (full)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	Servo cover, with adjustment	1

B parts (96%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	Servo cover, with adjustment	1

C parts (92%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	Servo cover, with adjustment	1

D parts (88%)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	Servo cover, with adjustment	1

E parts (84%)

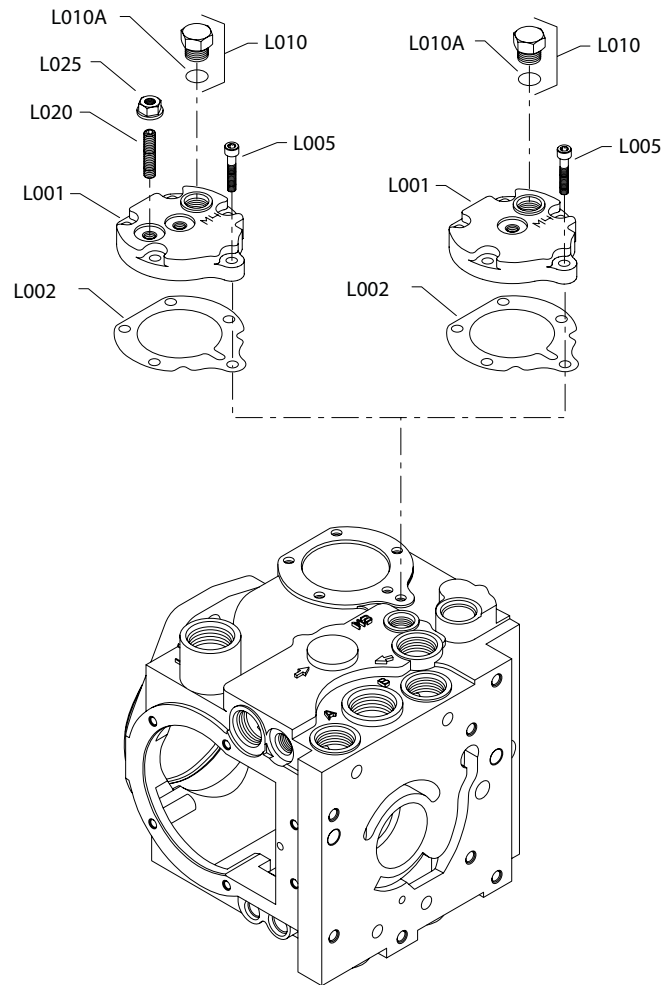
L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	Servo cover, with adjustment	1

F parts (80%)

L001	07-16		1723900-01	Servo cover, with adjustment	1
L001	94-10		4410106	SServo cover, with adjustment	1

Displacement Limiter

Displacement Limiter N

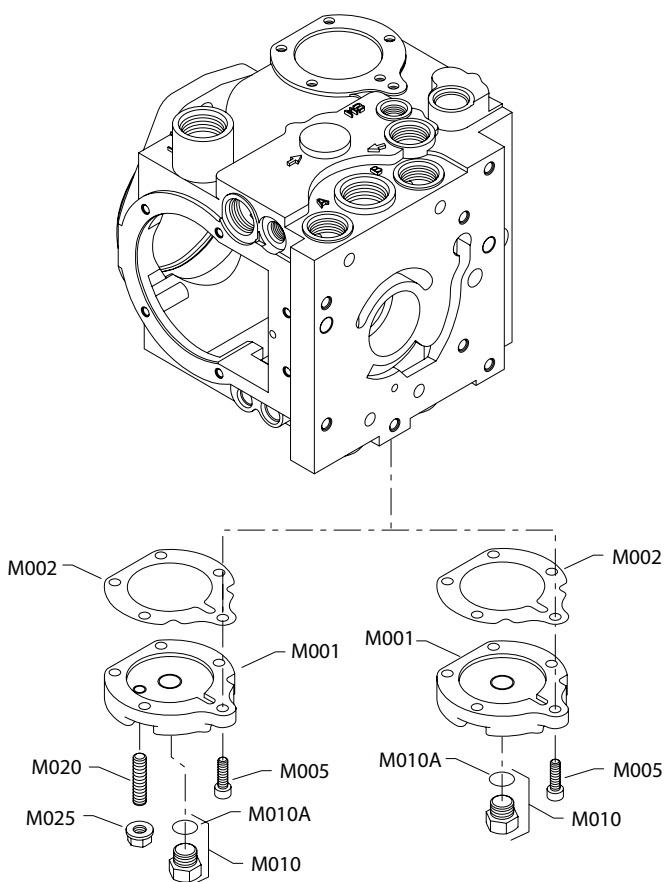


N parts (None)

L001	06-01		1734219-02	Servo cover	1
L001	98-17		4280027	Servo cover	1
L005	07-18		AAM0606001	Screw	5
L005	94-49	98-01	5000001	Screw	5

Displacement Limiter

Displacement Limiter 0-5 (side 2)



Displacement Limiter

Order code: common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M002	93-44		4410271	Servo cover gasket (SB-1999-022)	1
M005	07-18		AAM0603001	Screw	5
M005	07-18	07-18	9007314-0607	Screw (AAM0603001)	5
M005	98-01		5000002	Screw (SB-1997-029C)	5
M005	95-34	99-52	5000001	Screw	5
M010	07-18		9005100-5600	Plug	1
M010	93-44		46151(9005100-5600)	Plug	1
M010A	07-18		9004201-3700	O-ring	1
M010A	93-44		085043(9004201-3700)	O-ring	1

0 parts (NFP, None)

M001	07-10		1723392-02	Servo cover, NFP, with adjustment	1
M001	95-34		4410014	Servo cover, NFP, with adjustment	1

1 parts (NFP, Full)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	95-34		4280041	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	93-54		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	93-54		612291(9003508-0008)	Seal nut	1

2 parts (NFP, 96%)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	98-17		4410035	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

3 parts (NFP, 92%)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	98-17		4410035	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

4 parts (NFP, 88%)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	97-03		4410035	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1

Displacement Limiter

4 parts (NFP, 88%) (continued)

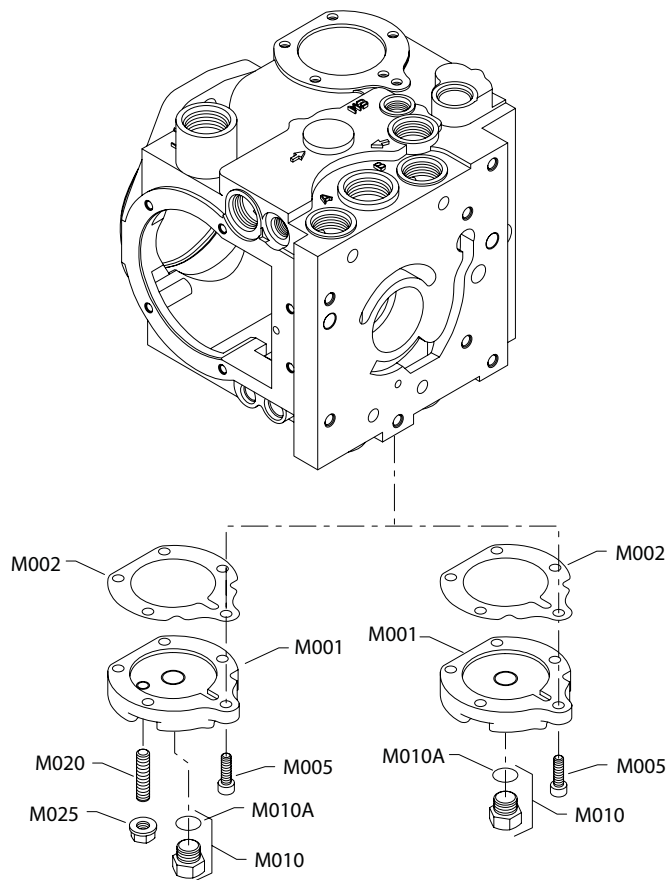
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

5 parts (NFP, 84%)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	98-17		4410035	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

Displacement Limiter

Displacement Limiter 6, 8, A, C-E



Displacement Limiter

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M002	93-44		4410271	Servo cover gasket (SB-1999-022)	1
M005	07-18		AAM0603001	Screw	5
M005	07-18	07-18	9007314-0607	Screw (AAM0603001)	5
M005	98-01		5000002	Screw (SB-1997-029C)	5
M005	98-17	99-52	5000001	Screw	5
M010	07-18		9005100-5600	Plug	1
M010	93-44		46151(9005100-5600)	Plug	1
M010A	07-18		9004201-3700	O-ring	1
M010A	93-44		085043(9004201-3700)	O-ring	1

6 parts (NFP, 80%)

M001	07-10		1723392-01	Servo cover, NFP, with adjustment	1
M001	98-17		4410035	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

8 parts (NFP, 72%)

M001	07-18		1723392-01	Servo cover, NFP, with adjustment	1
M020	07-18		1745312	Set screw	1
M025	07-18		612291	Seal nut	1

A parts (full)

M001	07-18		1723392-01	Servo cover with adjustment	1
M001	94-08		4410035	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

B parts (96%)

M001	07-18		1723392-01	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M025	07-18		612291	Seal nut	1

C parts (92%)

M001	07-18		1723392-01	Servo cover with adjustment	1
M001	98-17		4410035	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

Displacement Limiter

D parts (88%)

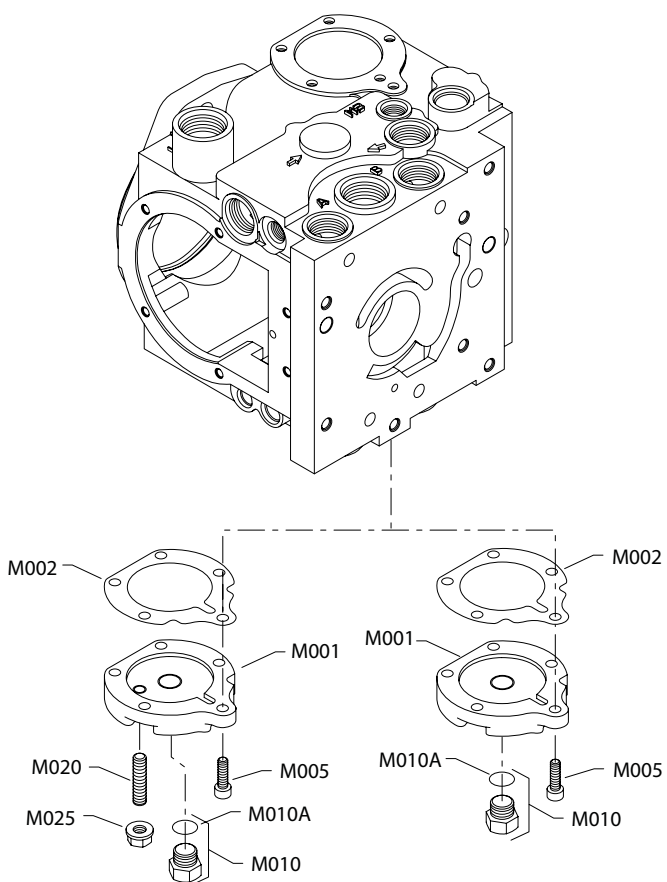
M001	07-18		1723392-01	Servo cover with adjustment	1
M001	98-17		4410035	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

E parts (84%)

M001	07-18		1723392-01	Servo cover with adjustment	1
M001	98-17		4410035	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

Displacement Limiter

Displacement Limiter F, N



Displacement Limiter

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
M002	93-44		4410271	Servo cover gasket (SB-1999-022)	1
M005	07-18		AAM0603001	Screw	5
M005	07-18	07-18	9007314-0607	Screw (AAM0603001)	5
M005	98-01		5000002	Screw (SB-1997-029C)	5
M005	98-17	99-52	5000001	Screw	5
M010	07-18		9005100-5600	Plug	1
M010	93-44		46151(9005100-5600)	Plug	1
M010A	07-18		9004201-3700	O-ring	1
M010A	93-44		085043(9004201-3700)	O-ring	1

F parts (80%)

M001	07-18		1723392-01	Servo cover with adjustment	1
M001	98-17		4410035	Servo cover with adjustment	1
M020	07-18		1745312	Set screw	1
M020	98-17		5000487	Set screw (SB-1997-034)	1
M025	07-18		612291	Seal nut	1
M025	98-17		612291(9003508-0008)	Seal nut	1

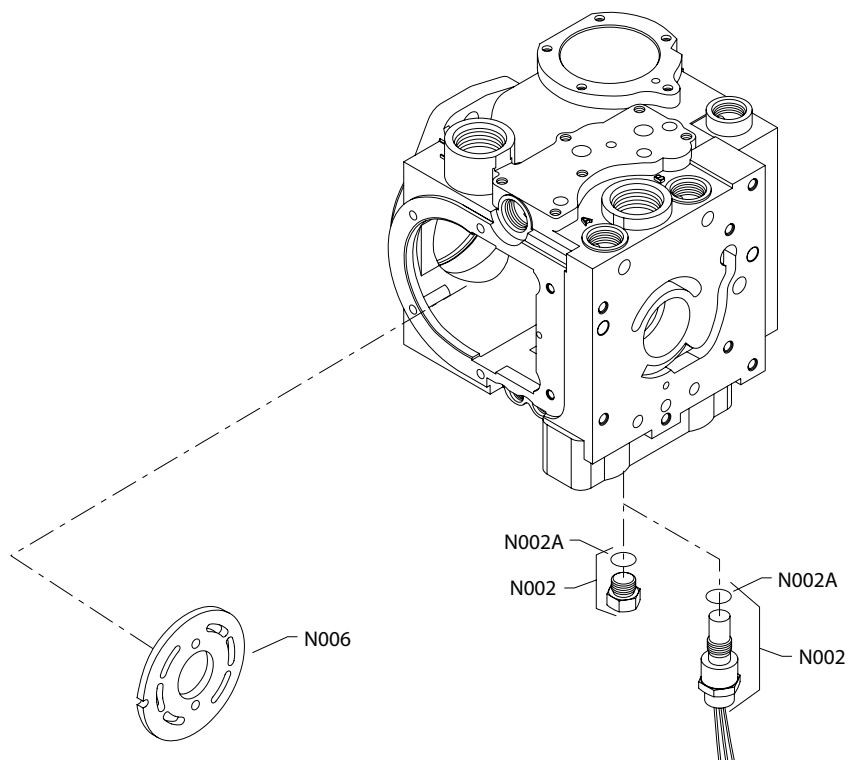
N parts (None)

M001	07-18		1723392-02	Servo cover	1
M001	93-20		4410014	Servo cover	1

Special Hardware

Speed Sensor and Valve Plate

Part numbers for the speed sensor and valve plate options are found below.



Special Hardware

Order code: AAA parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
N002	97-16		KPPG13408	Speed sensor, weatherpack connector	1
N002A	07-18		9004201-3700	O-ring	1
N002A	97-16		085043(9004201-3700)	O-ring	1
N006	22-44		1723373-07	Valve plate, CCW	1
N006	97-16	22-44	4410081	Valve plate, CCW	1
N006	22-44		1723373-01	Valve plate, CW	1
N006	97-16	22-44	4410075	Valve plate, CW	1

ABA parts

N002	97-16		KPPG156	Speed sensor, Turck connector	1
N002A	07-18		9004201-3700	O-ring	1
N002A	97-16		085043(9004201-3700)	O-ring	1
N006	22-44		1723373-01	Valve plate, CW	1
N006	97-16	22-44	4410075	Valve plate, CW	1

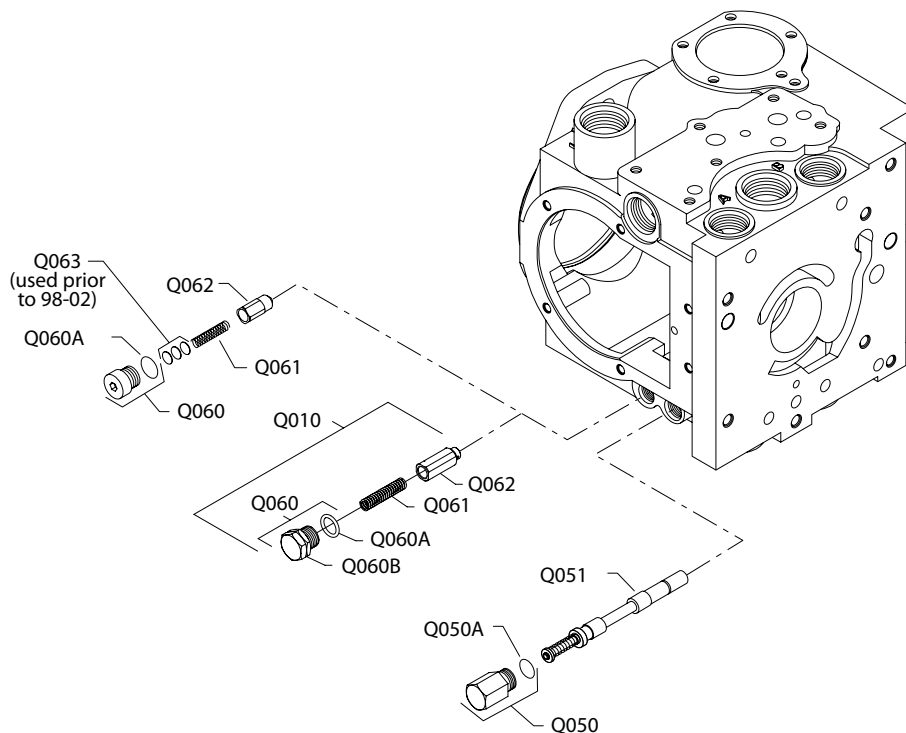
NNN parts

N002	07-18		46151	Plug	1
N002	94-04		046151(9005100-5600)	Plug	1
N002A	07-18		9004201-3700	O-ring	1
N002A	94-04		085043(9004201-3700)	O-ring	1
N006	22-44		1723373-07	Valve plate, CCW	1
N006	94-04	22-44	4410081	Valve plate, CCW	1
N006	22-44		1723373-01	Valve plate, CW	1
N006	94-04	22-44	4410075	Valve plate, CW	1

Loop Flushing

Loop Flushing, Spool and Relief Valve 2-5

Part numbers for loop flushing spool and relief valve can be found below.



Loop Flushing

Order code: 2-5 common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
Q050	94-04		4800279	Plug assembly	1
Q050A	07-18		9004201-3700	O-ring	1
Q050A	94-04		085043(9004201-3700)	O-ring	1
Q051	10-47		11060694	Spool assembly	1
Q051	07-18	10-47	1735296	Spool assembly	1
Q051	98-02		4800708	Spool assembly (SB-1997-029C)	1
Q061	07-18		1745318	Spring	1
Q061	97-37		4800654	Spring (SB-1997-027)	1

2 parts

Q060	94-04		4800747	Plug assembly (SB-1998-085)	1
Q062	07-18		1733723	Poppet	1
Q062	94-04		4800389	Poppet	1
Q063	94-04	98-01	9510447	Shim kit (SB-1997-027)	1

3 parts

Q060	94-04		4800747	Plug assembly (SB-1998-085)	1
Q062	07-18		1735195	Poppet	1
Q062	94-04		4800396	Poppet	1
Q063	94-04	98-01	9510447	Shim kit (SB-1997-027)	1

4 parts

Q060	98-48		4800280	Plug assembly	1
Q062	07-18		1733723	Poppet	1
Q062	98-48		4800389	Poppet	1

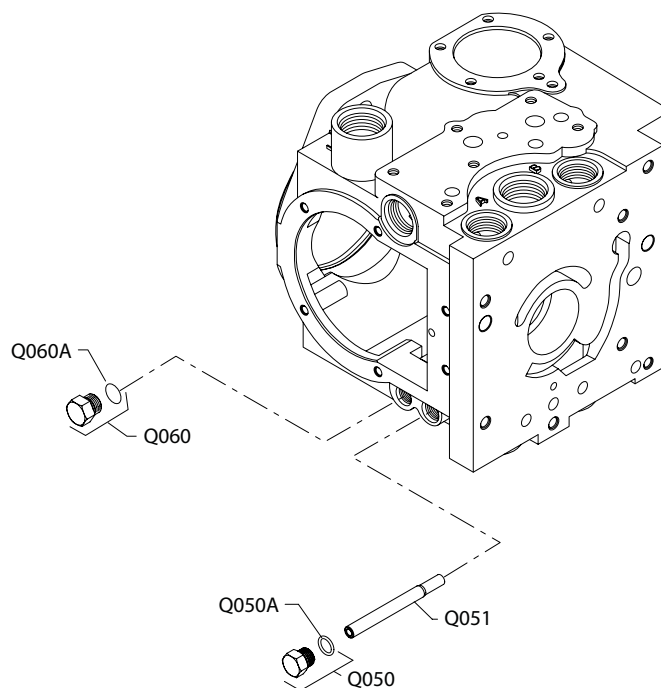
5 parts

Q060	98-48		4800280	Plug assembly	1
Q062	07-18		1735195	Poppet	1
Q062	98-48		4800396	Poppet	1

Loop Flushing

Loop Flushing, Spool and Relief Valve D

Part numbers for loop flushing defeated can be found below.



Loop Flushing

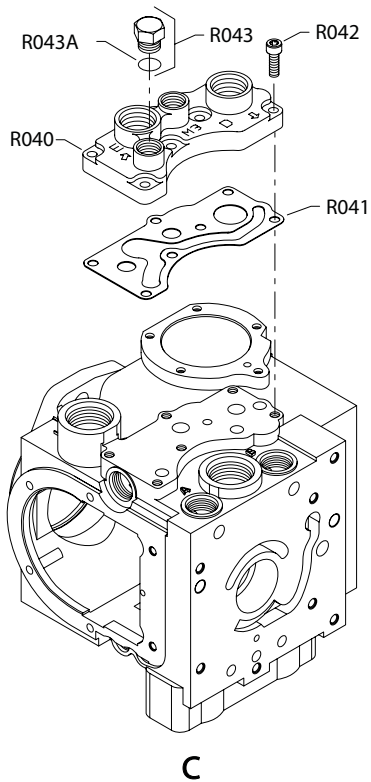
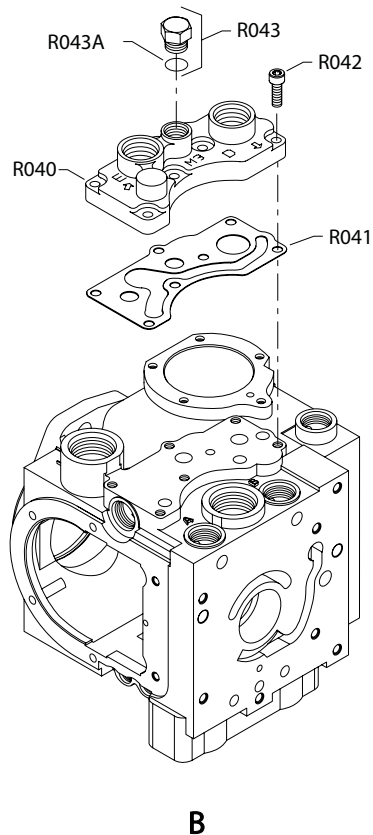
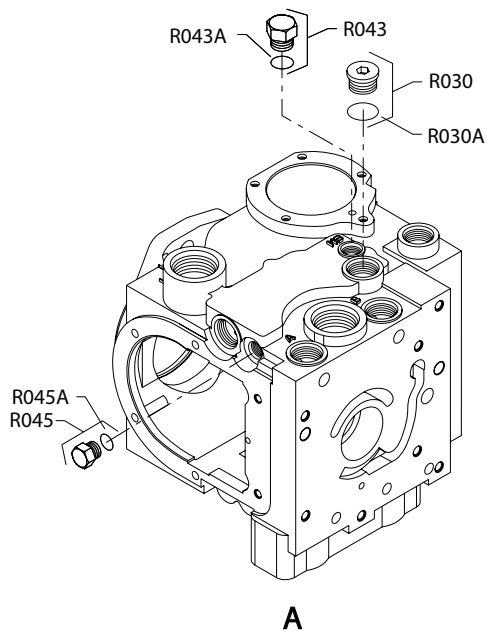
Order code: D parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
Q050	07-18		9005100-5600	Plug assembly	1
Q050	07-26		4800279	Plug assembly	1
Q050	07-18		9005100-5600	Plug assembly	1
Q050	94-08		046151(9005100-5600)	Plug assembly	1
Q050A	07-18		9004201-3700	O-ring	1
Q050A	94-08		085043(9004201-3700)	O-ring	1
Q051	07-18		1735242	Spool, defeated	1
Q051	07-26		11022477	Spool, defeated	1
Q051	07-18		1735242	Spool, defeated	1
Q051	94-08		4800626	Spool, defeated	1
Q060	94-08		4800323	Plug assembly	1
Q060A	07-18		9004201-3100	O-ring	1
Q060A	94-08		015818(9004201-3100)	O-ring	1

Filtration

Filtration

Part numbers for various filtration options can be found below.



Filtration

A (suction, no adapter) parts

R030	07-18		9005110-7500	Plug assembly	1
R030	98-02		671296(9005110-7500)	Plug assembly	1
R030	94-04	99-52	001479(9005001-1200)	Pipe plug	1
R030A	07-18		9004201-5000	O-ring	1
R030A	98-02		001131(9004201-5000)	O-ring	1
R043	07-14		J9005100-5600	Plug	1
R043	94-04	99-52	681296(9005110-7500)	Plug	1
R043A	07-14		9004201-3700	O-ring	1
R043A	94-04	99-52	001131(9004201-5000)	O-ring	1
R045	07-14		J9005100-5000	Plug assembly	1
R045	94-04		4800323	Plug assembly	1
R045A	07-18		9004201-3100	O-ring	1
R045A	94-04		015818(9004201-3100)	O-ring	1

B (remote, full flow, with adapter) parts

R040	06-49		1714963-02	Remote filter adapter	1
R040	94-04		4800218	Remote filter adapter	1
R041	93-20		4800213	Filter adapter gasket	1
R042	07-14		AAM0603001	Screw	7
R042	07-18	07-14	9007314-0607	Screw (AAM0603001)	7
R042	93-20		5000002	Screw	7
R043	07-14		J9005100-5600	Plug	1
R043A	07-14		9004201-3700	O-ring	1

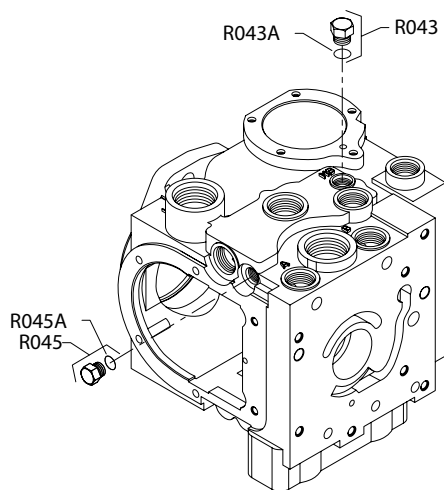
C (remote, partial flow, with adapter) parts

R040	06-49		1714963-03	Remote filter adapter	1
R040	94-04		4800219	Remote filter adapter	1
R041	94-04		4800213	Filter adapter gasket	1
R042	07-14		AAM0603001	Screw	7
R042	07-18	07-14	9007314-0607	Screw (AAM0603001)	7
R042	98-02		5000002	Screw (SB-1997-029C)	7
R042	94-04	99-52	5000001	Screw	7
R043	07-14		J9005100-5600	Plug	1
R043A	07-14		9004201-3700	O-ring	1

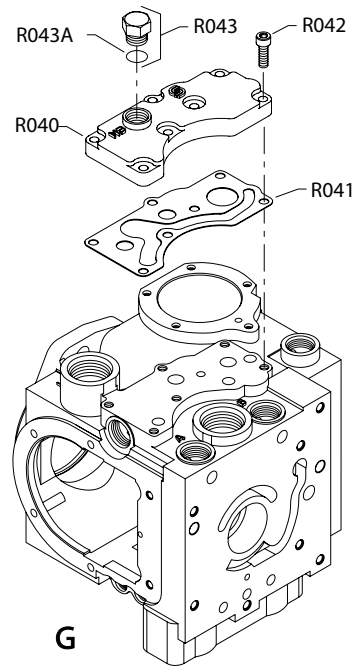
Filtration

Filtration F, G, N, X

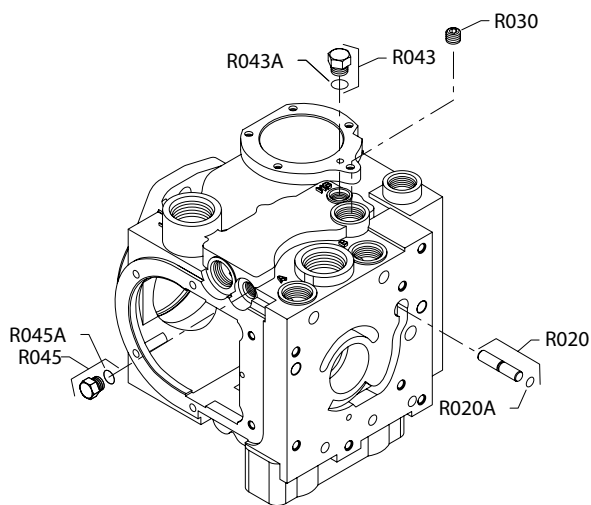
Part numbers for remote and suction filtration options are found below.



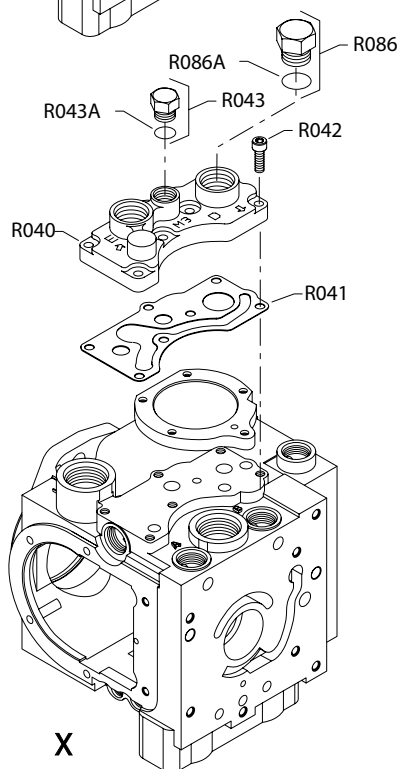
F



G



N



X

Filtration

Order code: F (remote, full flow, no adapter) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
R043	07-14		J9005100-5600	Plug	1
R043A	07-14		9004201-3700	O-ring	1
R045	02-35		4800323	Plug assembly	1
R045A	07-18		9004201-3100	O-ring	1
R045A	02-35		015818(9004201-3100)	O-ring	1

G (suction, with adapter) parts

R040	06-49		1715889-01	Suction filter adapter	1
R040	94-13		4800204	Suction filter adapter	1
R041	94-13		4800213	Filter adapter gasket	1
R042	07-14		AAM0603001	Screw	7
R042	07-18	07-14	9007314-0607	Screw (AAM0603001)	7
R042	98-02		5000002	Screw (SB-1997-029C)	7
R042	93-20	98-01	5000001	Screw	7
R043	07-14		J9005100-5600	Plug	1
R043A	07-14		9004201-3700	O-ring	1

N (external charge supply, no adapter) parts

R020	94-13		4800332	Plug assembly	1
R020A	07-14		9004105-0110	O-ring	1
R020A	07-18	07-14	144725	O-ring	1
R020A	94-13		144725(9004105-0110)	O-ring	1
R043	07-14		J9005100-5600	Plug	1
R043	94-13	98-01	681296(9005110-7500)	Plug	1
R043A	07-14		9004201-3700	O-ring	1
R043A	94-13	98-01	001131(9004201-5000)	O-ring	1
R045	07-14		J9005100-5000	Plug assembly	1
R045	94-13		4800323	Plug assembly	1
R045A	07-18		9004201-3100	O-ring	1
R045A	94-13		015818(9004201-3100)	O-ring	1

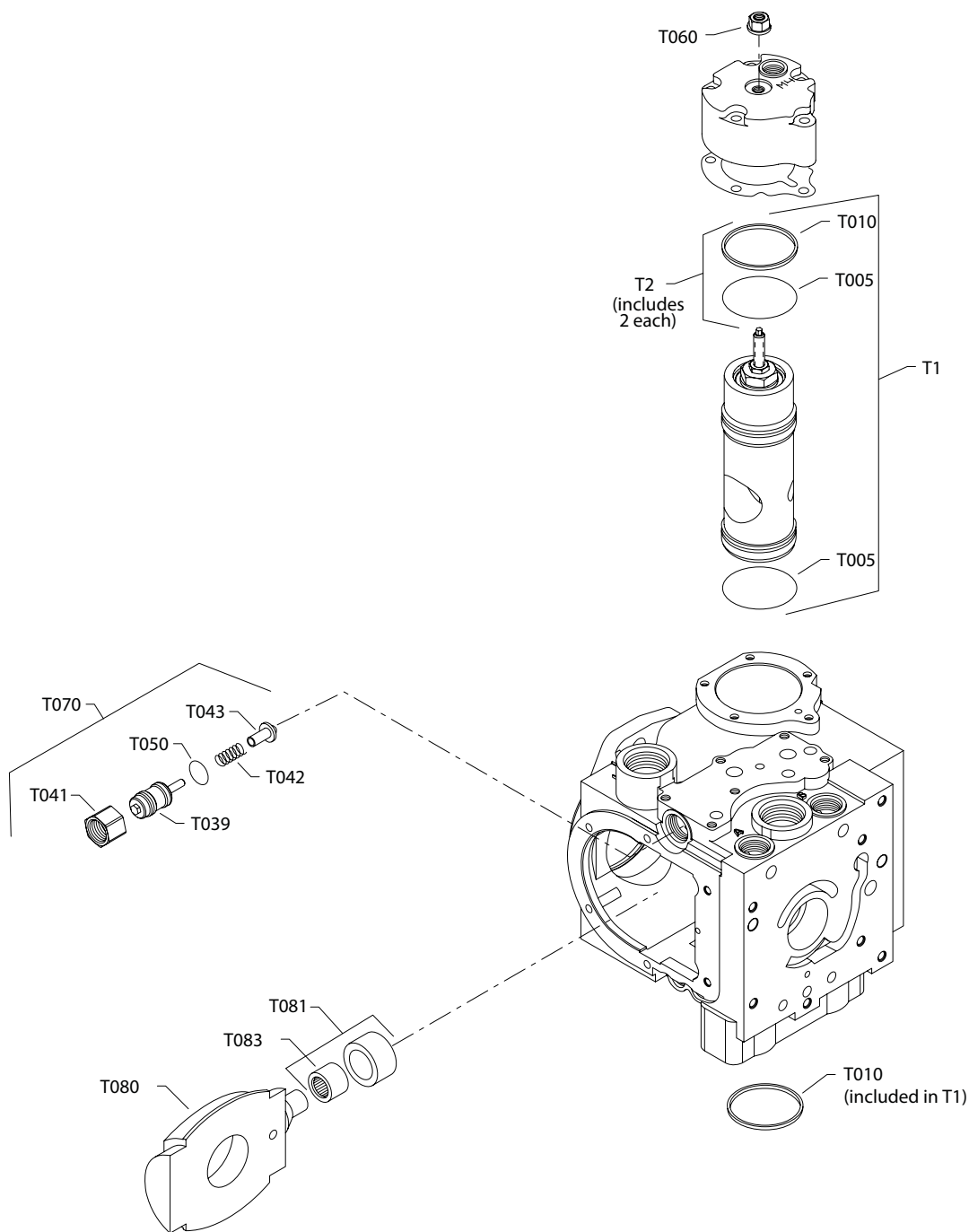
X (external charge supply, with adapter) parts

R040	06-49		1714963-02	Remote filter adapter	1
R040	96-38		4800218	Remote filter adapter	1
R041	96-38		4800213	Filter adapter gasket	1
R042	07-14		AAM0603001	Screw	7
R042	07-18		9007314-0607	Screw (AAM0603001)	7
R042	98-02		5000002	Screw (SB-1997-029C)	7
R042	96-38	98-01	5000001	Screw	7
R086	07-18		9005100-8700	Plug	1
R086	96-38		9005100-8700	Plug	1
R086A	07-18		9004201-6200	O-ring	1
R086A	96-38		001149(9004201-6200)	O-ring	1

Special Drive Features

NFP

Part numbers for NFP with anti-stall and NFP with standard CPRV are found below.



Special Drive Features

Order code: 1 (NFP with anti-stall) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T1	10-20		11230574	Servo piston kit	1
T1	06-01	10-20	4410125	Servo piston kit	1
T1	95-34		4510295	Servo piston kit	1
T2	06-01		4410219	Servo piston ring kit	1
T2	95-34		4510120	Servo piston ring kit	1
T005	07-18		9004100-1390	O-ring	2
T005	95-34		000869(9004100-1390)	O-ring	2
T010	95-34		4700035	Piston ring	2
T070	07-27		4800683	Charge relief kit	1
T039	07-27		1733728	Adjuster	1
T041	07-18		9003575-0101	Nut	1
T041	95-34		342709(9003575-0101)	Nut	1
T042	18-39		11192687	Spring	1
T042	95-34	18-39	8800496	Spring	1
T043	07-18		1733732	Poppet	1
T043	95-34		4350299	Poppet	1
T050	07-27		9004201-6200	O-ring	1
T080	07-18		1715229-02	Swashplate	1
T080	99-36		4410270	Swashplate (SB-1999-048)	1
T080	95-34	99-35	4410228	Swashplate (SB-1998-006)	1
T081	95-34		4410148	Cam follower bearing assembly	1
T083	10-17		11060626	Needle bearing	1
T083	95-34	10-17	5000154	Needle bearing	1

5 (NFP with standard CPRV) parts

T1	10-20		11230574	Servo piston kit	1
T1	06-01		4410125	Servo piston kit	1
T1	96-38		4510295	Servo piston kit	1
T2	06-01		4410219	Servo piston ring kit	1
T2	96-38		4510120	Servo piston ring kit	1
T005	07-18		9004100-1390	O-ring	2
T005	96-38		000869(9004100-1390)	O-ring	2
T010	96-38		4700035	Piston ring	2
T070	07-27		4800573	Charge relief kit	1
T039	07-10		11174968	Adjuster	1
T041	07-18	07-10	9003575-0101	Nut	1
T041	96-38		342709(9003575-0101)	Nut	1
T041	96-38	99-52	4510027	Shim kit	1
T042	07-18		1041419	Spring	1
T042	98-01		8800476	Spring	1
T042	96-38	99-52	8800496	Spring	1
T043	07-18		1030940	Poppet	1
T043	98-01		342428(8800449)	Poppet	1
T043	96-38	99-52	4800134	Poppet	1

Special Drive Features

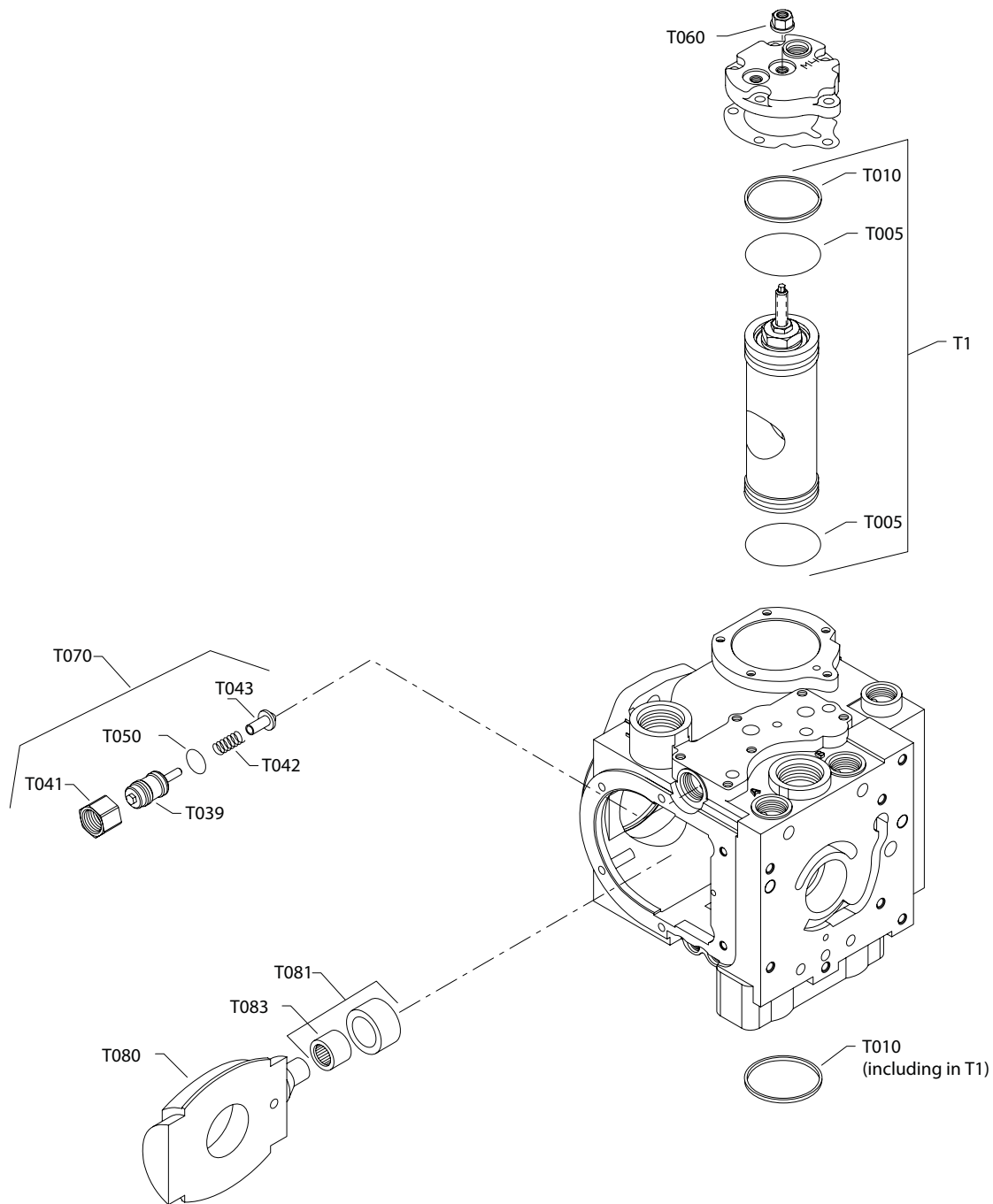
5 (NFP with standard CPRV) parts (continued)

T050	07-18		9004201-6200	O-ring	1
T050	96-38		012559(9004202-6200)	O-ring	1
T080	07-18		1715229-02	Swashplate	1
T080	99-36		4410270	Swashplate (SB-1999-048)	1
T080	95-73	99-35	4410228	Swashplate	1
T081	96-38		4410148	Cam follower bearing assembly	1
T083	10-17		11060626	Needle bearing	1
T083	96-38	10-17	5000154	Needle bearing	1

Special Drive Features

Standard

Part numbers for the standard special drive feature are found below.



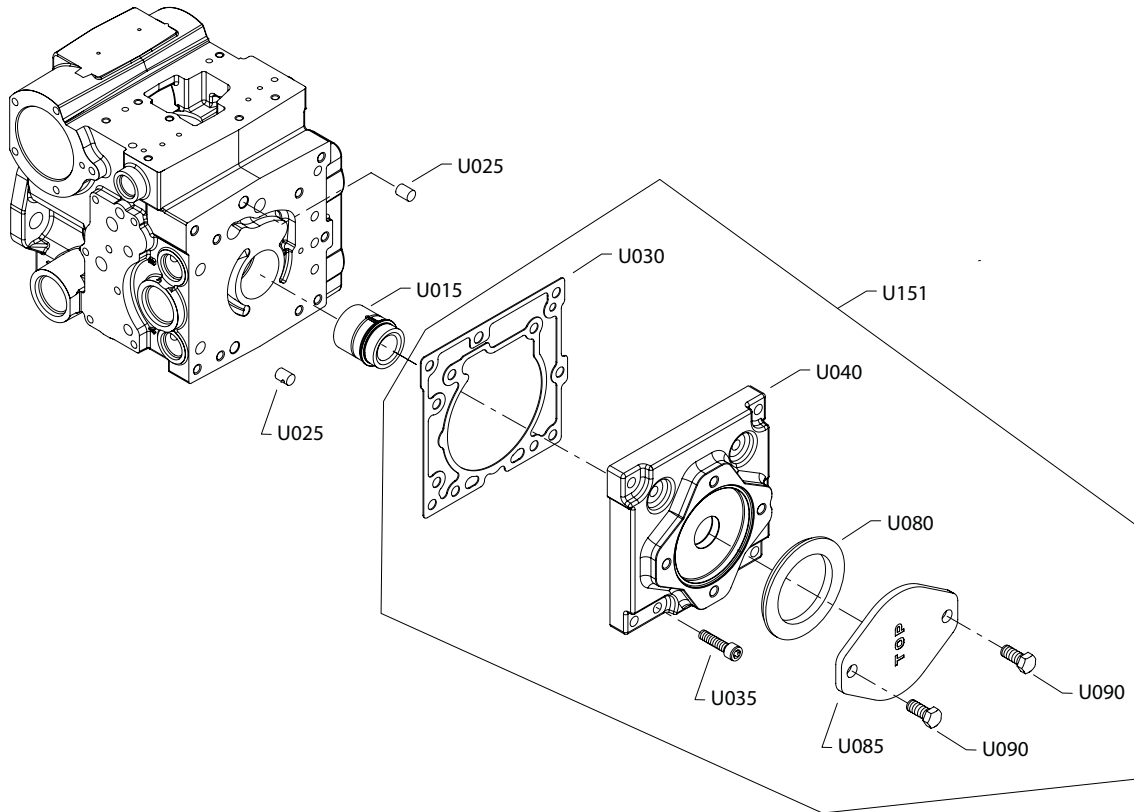
Special Drive Features

Order code: N (standard) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
T1	06-01		4410119	Servo piston kit	1
T1	93-20		4510131	Servo piston kit	1
T005	07-18		9004100-1390	O-ring	2
T005	93-20		673236(9004100-1390)	O-ring	2
T010	93-20		4700035	Piston ring	2
T070	07-27		4800573	Charge relief kit	1
T039	16-29		11174968	Adjuster	1
T041	07-18		9003575-0101	Nut	1
T041	98-02		342709(9003575-0101)	Nut	1
T041	93-20	98-01	4510027	Shim kit	1
T042	07-18		1041419	Spring	1
T042	98-02		8800476	Spring	1
T042	93-20	98-01	8800496	Spring	1
T043	07-18		1030940	Poppet	1
T043	98-02		342428(8800449)	Poppet	1
T043	93-20	98-01	4800134	Poppet	1
T050	07-18		9004201-6200	O-ring	1
T050	93-20		012559(9004202-6200)	O-ring	1
T060	07-18		336826	Seal nut, M10	1
T080	07-18		1715229-02	Swashplate	1
T080	99-36		4410270	Swashplate (SB-1999-048)	1
T080	95-73	99-35	4410228	Swashplate	1
T081	93-20		4410148	Cam follower bearing assembly	1
T083	10-17		11060626	Needle bearing	1
T083	93-20	10-17	5000154	Needle bearing	1

Auxiliary Mounting

Auxiliary Mounting A-Pad



Auxiliary Mounting

Order code: A and R common parts (SAE-A)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
U025	07-10		9004800-3708	Pin	2
U025	94-10		001289(9004800-3708)	Pin	2
U151	09-52		11076613	Service Kit, A-Pad	1
U000	09-52		11077166	Service Instructions	1
U030	08-13		1716227	Charge pump cover gasket (SB-2009-070)	1
U030	94-10		4800855	Charge pump cover gasket (SB-2002-012)	1
U035	07-14		AAM0803001	Screw	8
U035	08-13		746594	Screw (AAM0803001)	8
U035	07-18		746594	Screw (AAM0803001)	7
U035	94-10		5000080	Screw	7
U040	08-13		11076948	Charge pump cover, A-pad, (SB-2009-070)	1
U040	06-49	08-13	1714957-02	Charge pump cover, A-pad	1
U040	94-10		4800699	Charge pump cover, A-pad	1
U080	09-16		1735473	A pad seal	1
U080	09-17	09-16	4800482 (1735473)	A pad seal (SB-1997-029C)	1
U080	99-52		4800482	A pad seal (SB-1997-029C)	1
U080	94-10		726950(9004104-0420)	O-ring	1
U085	99-52		4460586	Cover plate (SB-1997-029C)	1
U085	94-10		9802336	Cover plate	1
U090	07-18		9007200-3712	Screw	2
U090	94-10		0019125(9007200-3712)	Screw	2

Order code: A (SAE-A, 9 tooth coupling) parts

U015	07-24		1724087	Coupling, 9 tooth (SB-2018-029A)	1
U015	93-20		Refer to SP-1997-029C	Service replacement kit	1

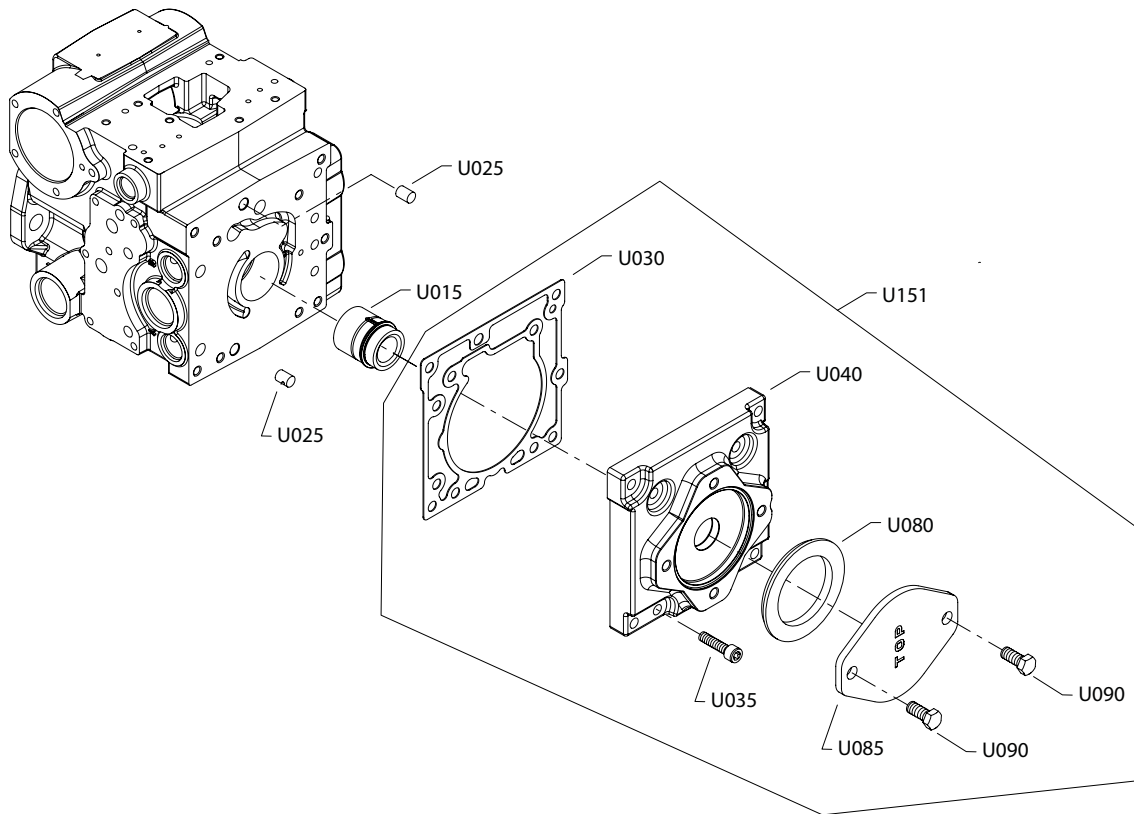
R (SAE-A, 13 tooth coupling) parts

U015	07-10		1724088	Coupling, 13 tooth	1
U015	99-52		4410163	Coupling, 13 tooth	1
U015	94-10		Refer to SP-1997-029C	Service replacement kit	1

Auxiliary Mounting

Auxiliary Mounting, special A-pad

Part numbers for the A-pad, special 11 tooth coupling are found below.



Auxiliary Mounting

Common parts

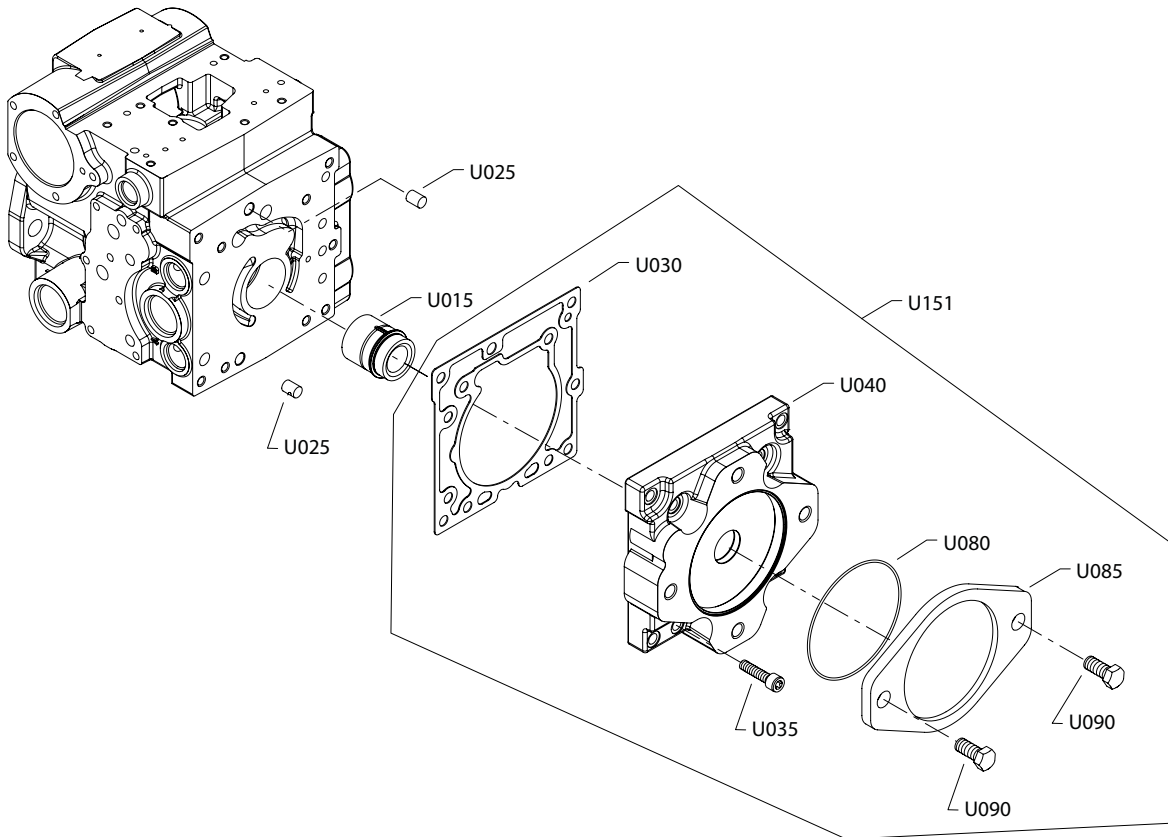
Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
U025	07-10		9004800-3708	Pin	2
U025	94-10		001289(9004800-3708)	Pin	2
U151	09-52		11076613	Service Kit, A-Pad	1
U000	09-52		11077166	Service Instructions	1
U030	08-13		1716227	Charge pump cover gasket (SB-2009-070)	1
U030	94-10		4800855	Charge pump cover gasket (SB-2002-012)	1
U035	07-14		AAM0803001	Screw	8
U035	08-13	07-14	746594	Screw (AAM0803001)	8
U035	07-18		746594	Screw (AAM0803001)	7
U035	94-10		5000080	Screw	7
U040	08-13		11076948	Charge pump cover, A-pad, (SB-2009-070)	1
U040	06-49	08-13	1714957-02	Charge pump cover, A-pad	1
U040	94-10		4800699	Charge pump cover, A-pad	1
U080	09-16		1735473	A pad seal	1
U080	09-17	09-16	4800482 (1735473)	A pad seal (SB-1997-029C)	1
U080	99-52		4800482	A pad seal (SB-1997-029C)	1
U080	94-10		726950(9004104-0420)	O-ring	1
U085	99-52		4460586	Cover plate (SB-1997-029C)	1
U085	94-10		9802336	Cover plate	1
U090	07-18		9007200-3712	Screw	2
U090	94-10		0019125(9007200-3712)	Screw	2

Order code: T (SAE-A, 11 tooth coupling) parts

U015	07-10		1724105	Coupling, 11 tooth	1
U015	99-52		4280146	Coupling, 11 tooth	1
U015	94-10		Refer to SP-1997-029C	Service replacement kit	1

Auxiliary Mounting

Auxiliary Mounting B-Pad



Auxiliary Mounting

Order code: B and V common parts (SAE-B)

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
U025	07-10		9004800-3708	Pin	2
U025	94-10		001289(9004800-3708)	Pin	2
U151	09-52		11076614	Service Kit, B-Pad	1
U000	09-52		11077166	Service Instructions	1
U030	08-13		1716227	Charge pump cover gasket (SB-2009-070)	1
U030	94-10		4800855	Charge pump cover gasket (SB-2002-012)	1
U035	07-14		AAM0803001	Screw	8
U035	08-13	07-14	746594	Screw (AAM0803001)	8
U035	07-18		746594	Screw (AAM0803001)	7
U035	94-10		5000080	Screw	7
U040	08-13		1714958-04	Charge pump cover, B pad (SB-2009-070)	1
U040	07-18	08-13	1714958-06	Charge pump cover, B pad	1
U040	94-10		4800306	Charge pump cover, B pad	1
U080	07-18		9004104-0440	O-ring	1
U080	94-10	97-52	680892(9004104-0440)	O-ring	1
U085	94-10		4460370	Cover Plate	1
U090	07-18		9007200-5016	Screw	2
U090	94-10		544478(9007200-5016)	Screw	2

B (SAE-B, 13 tooth coupling) parts

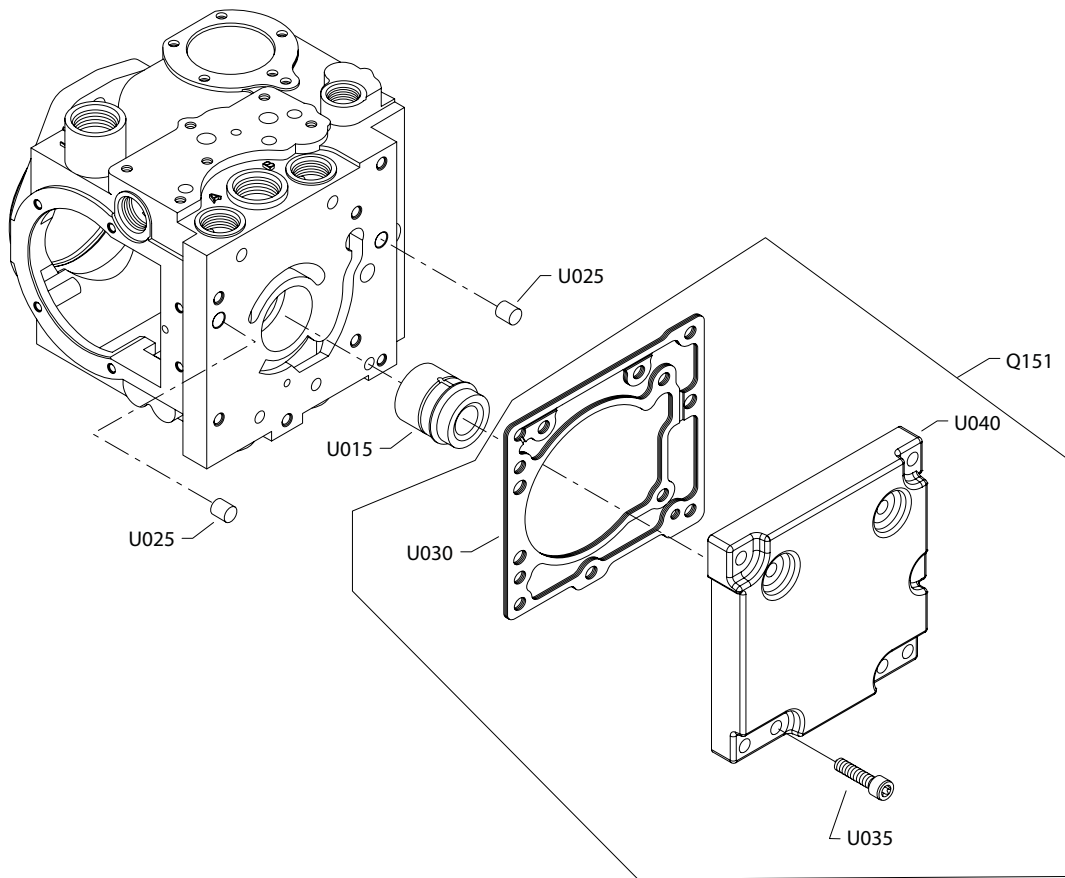
U015	07-18		1724088	Coupling, 13 tooth	1
U015	99-52		4410163	Coupling, 13 tooth	1
U015	93-20	97-52	Refer to SB-1997-029C	Service replacement kit	1

V (SAE-B, 15 tooth coupling) parts

U015	05-30		1724089	Coupling, 15 tooth	1
U015	99-52	05-30	4410178	Coupling, 15 tooth	1

Auxiliary Mounting

No Auxiliary Pad



Auxiliary Mounting

Order code: Z (no auxiliary pad, no coupling) parts and N common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
U025	07-10		9004800-3708	Pin	2
U025	94-10		001289(9004800-3708)	Pin	2
U151	09-52		11076615	Service Kit, No-Aux Pad	1
U000	09-52		11077166	Service Instructions	1
U030	08-13		1716227	Charge pump cover gasket (SB-2009-070)	1
U030	94-10		4800855	Charge pump cover gasket (SB-2002-012)	1
U035	07-14		AAM0803001	Screw	8
U035	08-13	07-14	746593	Screw(AAM0803001)	8
U035	07-18		746594	Screw (AAM0803001)	7
U035	94-10		5000080	Screw	7
U040	09-52		11076951	Charge pump cover, no pad (SB-2009-070)	1
U040	06-49	08-13	1715358-01	Charge pump cover, no pad	1
U040	94-10		4800774	Charge pump cover, no pad (SB-1999-064)	1

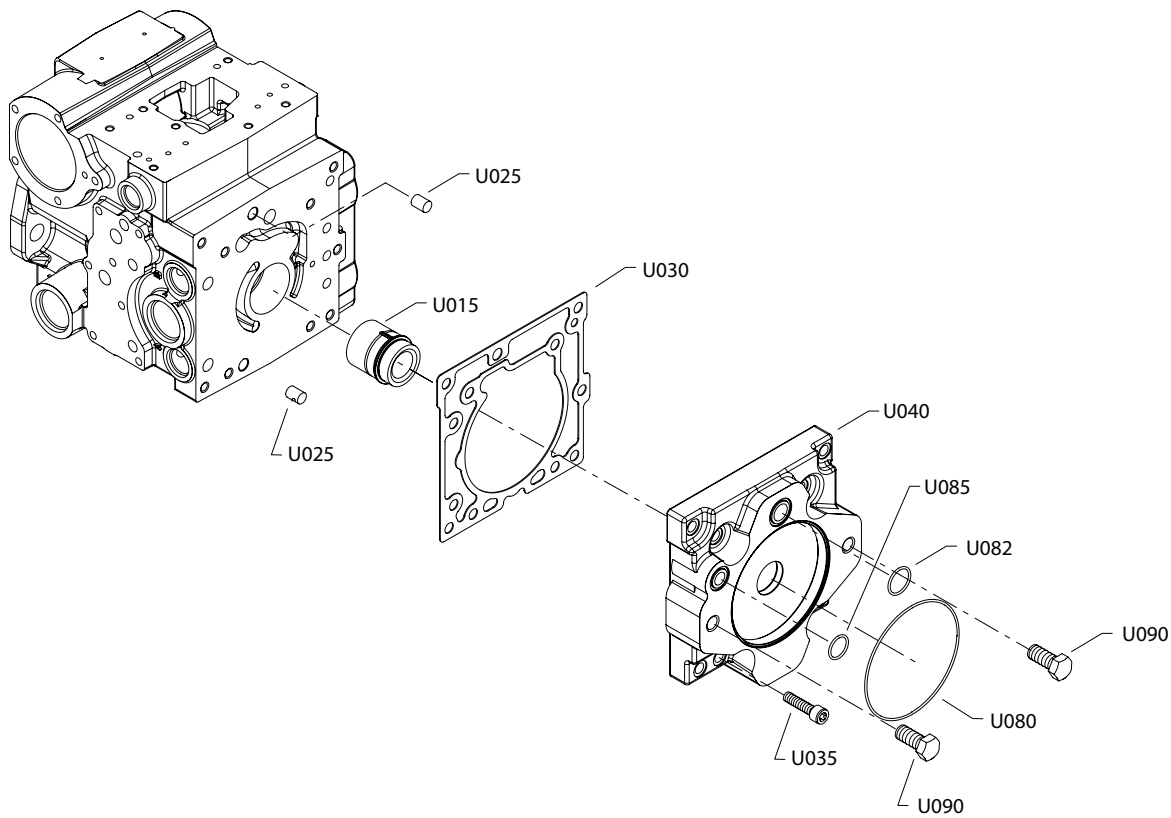
N (no auxiliary pad) parts

U015	07-18		1724104	Coupling, 9 tooth (SB-2017-016)	1
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Auxiliary Mounting

Auxiliary Mounting special B-pad

Part numbers for the B-pad, special 15 tooth coupling are found below.



Auxiliary Mounting

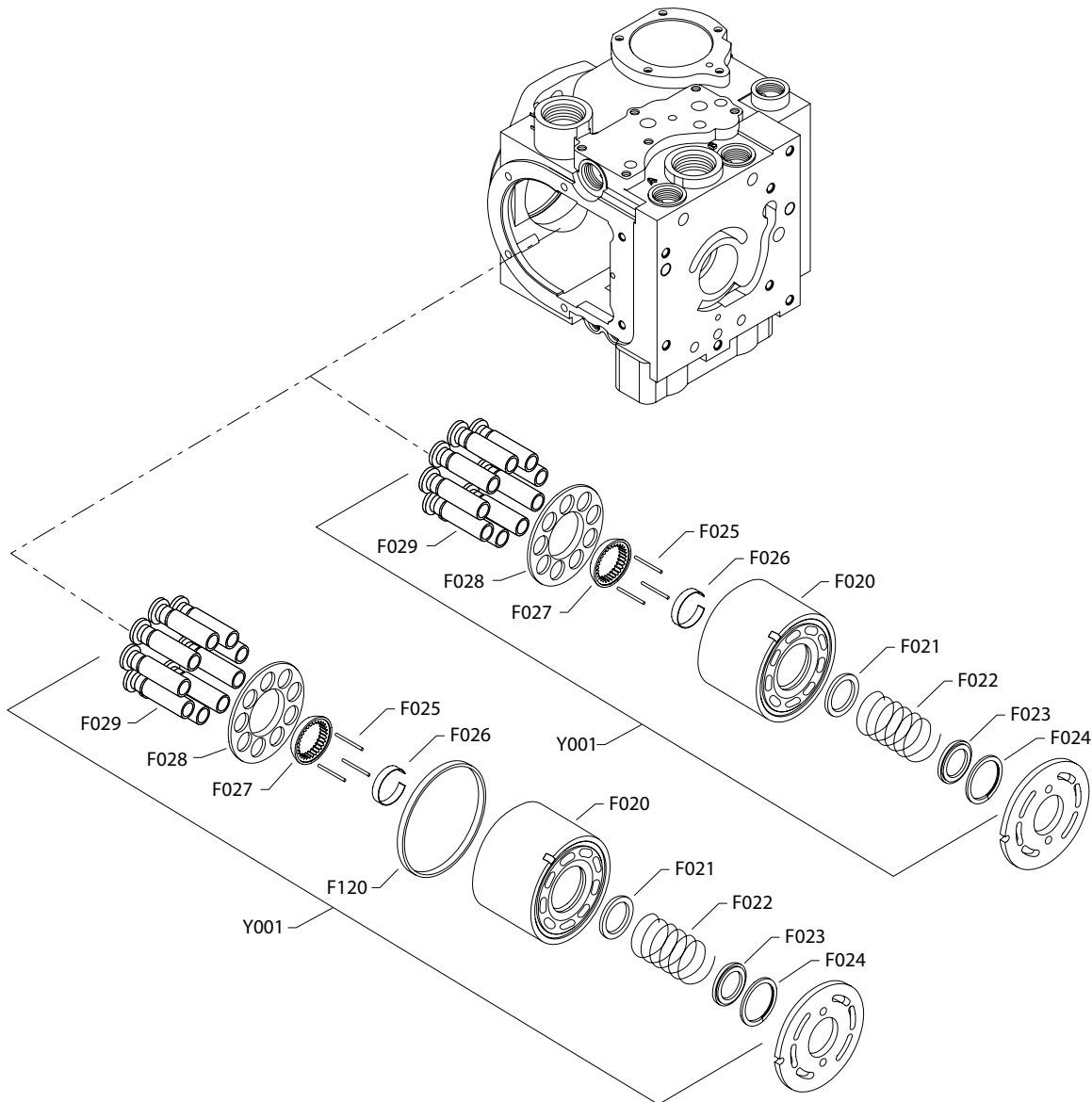
Order code: F (B-pad 15 tooth coupling, special) parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
U015	07-18		1724089	Coupling, 15 tooth	1
U015	99-47		4410178	Coupling 15 tooth	1
U025	07-10		9004800-3708	Pin	2
U025	94-10		001289(9004800-3708)	Pin	2
U035	07-18		SP2562	Screw	8
U035	08-13		746594	Screw (AAM0803001)	8
U035	07-18		746594	Screw (AAM0803001)	7
U035	94-10		5000080	Screw	7
U040	07-14		1716213-01	Adaptor, B pad	
U040	08-13		1714958-02	Charge pump cover, B pad (SB-2009-070)	1
U040	07-18	08-13	1714958-05	Charge pump cover, B pad	1
U040	99-47		4800398	Charge pump cover, B pad	1
U080	07-18		9004104-0440	O-ring	1
U080	99-47		680892(9004104-0440)	O-ring	1
U081	07-18		9004104-0170	O-ring	1
U081	99-47		688721(9004104-0170)	O-ring	1
U082	07-18		9004104-0190	O-ring	1
U082	99-47		011288(9004104-0190)	O-ring	1
U083	12-22		SP2783	O-ring	1
U084	07-14		9004104-0320	O-ring	1

Displacement

Cylinder Block Kit 41cc

Part numbers for the 41cc cylinder block kit are found below.



Displacement

Common parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
F20	14-30		11150736	Cylinder Block (PVM41)	1
F20	10-04	14-29	1715245-03	Cylinder Block (PVM41)	1
F20	94-04	10-03	4410077	Cylinder Block (PVM41)	1
F21	20-29		11248655	Washer-Special	1
F21	94-04	20-29	4350012	Washer-Special	1
F22	10-04		1743311	Spring-Cyl Block	1
F22	94-04	10-03	4350172	Spring-Cyl Block	1
F23	15-09		11149858	Washer-Special	1
F23	94-04	15-08	9009625-0105 (615450)	Washer-Special	1
F24	94-04		9006250-0162 (615443)	Ring-Rtng, Int 1.500 HSG ID X .043	1
F25	14-30		11129964	Pin-Slipper Hold Down	3
F25	10-04	14-29	1745660	Pin-Slipper Hold Down	3
F25	94-04	10-03	4700091	Pin-Slipper Hold Down	3
F26	94-04		4350048	Retainer-Hold Down Pin	1
F27	94-04		4410205	Guide-Slipper Retainer	1
F28	20-35		1723482	Retainer-Slipper	1
F28	94-04	20-35	4410204	Retainer-Slipper	1
F29	10-04		1743310	Piston Assy 41cc	9
F29	94-04	10-03	4410079	Piston Assembly DWG-Hollow	9

Order code: 41 parts

Y001	10-04		1734100-01	Cylinder Block Kit-41cc w/o Spd Ring	1
Y001	94-04	10-03	4410082	Cylinder Block Kit-41cc w/o Spd Ring	1

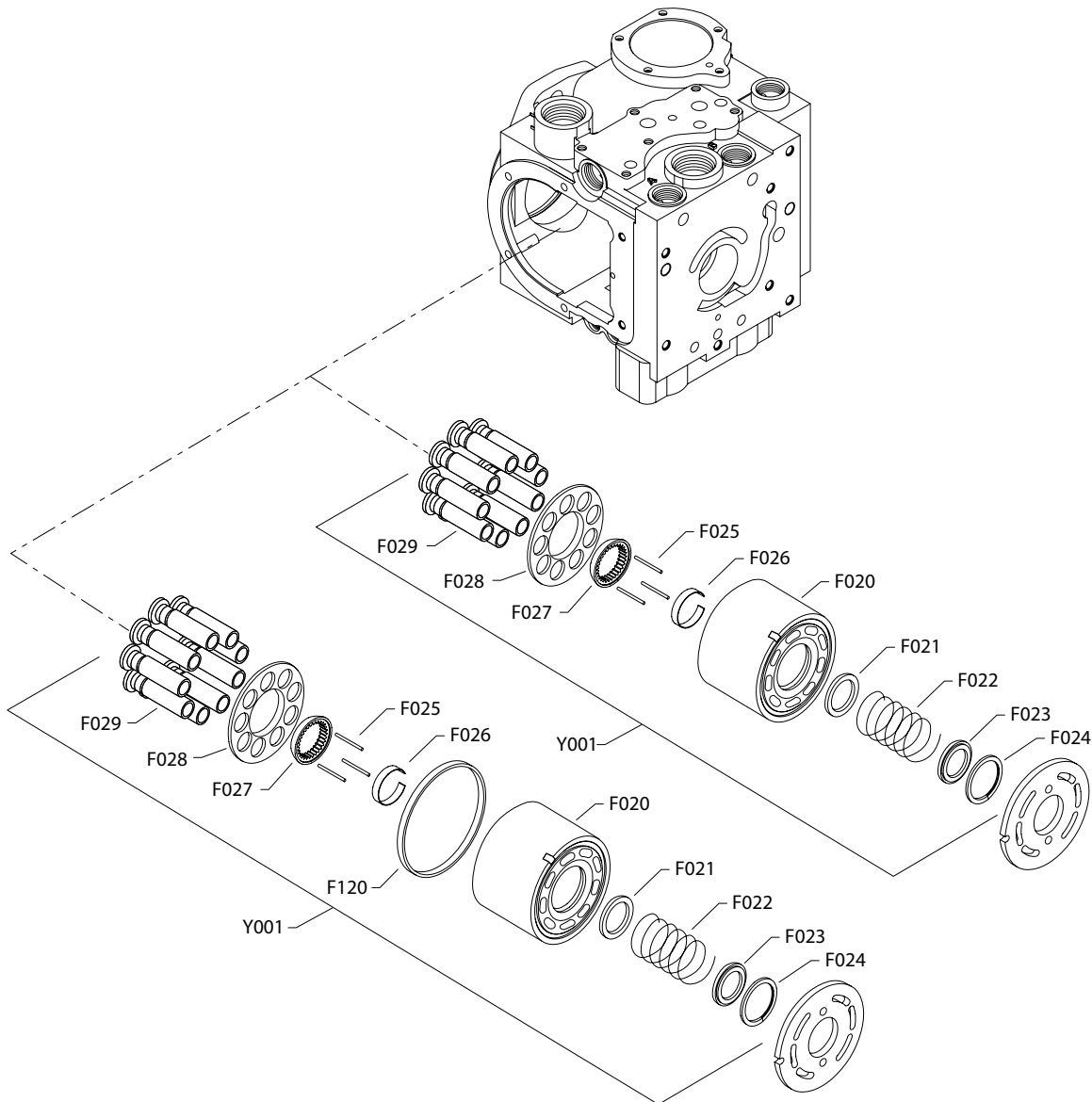
4A parts

Y001	11-35		11076723	Cylinder Block Kit-41cc w/ Spd Ring	1
Y001	99-47	11-34	4410166	Cylinder Block Kit-41cc w/ Spd Ring	1
F120	06-01		KK14722	Magnetic Speed Ring,3.646 ID	1

Displacement

Cylinder Block Kit 51cc

Part numbers for the 51cc cylinder block kit are found below.



Displacement

Order code: 51 parts

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
Y001	99-47		4520004	Cylinder Block Kit-51cc w/o Spd Ring	1
F20	99-47		4520003	Cylinder Block (PVM51)	1
F21	99-47		4350012	Washer-Special	1
F22	99-47		4350172	Spring-Cyl Block	1
F23	99-47		9009625-0105 (615450)	Washer-Special	1
F24	99-47		9006250-0162 (615443)	Ring-Rtng, Int 1.500 HSG ID X .043	1
F25	99-47		4700091	Pin-Slipper Hold Down	3
F26	99-47		4350048	Retainer-Hold Down Pin	1
F27	17-14		11175544	Guide-Slipper Retainer	1
F27	99-47	17-14	4410205	Guide-Slipper Retainer	1
F28	20-35		1723482	Retainer-Slipper	1
F28	99-47	20-35	4410204	Retainer-Slipper	1
F29	99-47		4440003	Piston Assembly DWG-Hollow	9

5A parts

Y001	11-15		11076724	Cylinder Block Kit-51cc w/Spd Ring	1
Y001	06-01	11-14	4410357	Cylinder Block Kit-51cc w/Spd Ring	1
F20	14-30		11150745	Cylinder Block (PVM51)	1
F20	11-15	14-29	1715245-08	Cylinder Block (PVM51)	1
F20	99-47	11-14	4520003	Cylinder Block (PVM51)	1
F21	20-29		11248655	Washer-Special	1
F21	99-47	20-29	4350012	Washer-Special	1
F22	11-15		1743311	Spring-Cyl Block	1
F22	99-47	11-14	4350172	Spring-Cyl Block	1
F23	15-09		11149858	Washer-Special	1
F23	99-47	15-08	9009625-0105 (615450)	Washer-Special	1
F24	99-47		9006250-0162 (615443)	Ring-Rtng, Int 1.500 HSG ID X .043	1
F25	14-30		11129964	Pin-Slipper Hold Down	3
F25	11-15	14-29	1745660	Pin-Slipper Hold Down	3
F25	99-47	11-14	4700091	Pin-Slipper Hold Down	3
F26	99-47		4350048	Retainer-Hold Down Pin	1
F27	99-47		4410205	Guide-Slipper Retainer	1
F28	20-35		1723482	Retainer-Slipper	1
F28	99-47	20-35	4410204	Retainer-Slipper	1
F29	11-15		1745861-01	Piston Assy (51cc)	9
F29	99-47	11-14	4440003	Piston Assembly DWG-Hollow	9
F120	06-01		KK14722	Magnetic Speed Ring,3.646 ID	1

Overhaul Seal Kit

Seal Kit

Part numbers for the overhaul seal kit are found below.

Seal kit

Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
A001	22-10		11083125	Overhaul seal kit	1
C017	22-10		38315	O-ring	1
D015	22-10		336826	Seal nut	1
D032A	22-10		9004201-5000	O-ring	1
D035A	22-10		9004201-5000	O-ring	1
F008	22-10		4410272	Gasket-side cover	1
F091A	22-10		9004201-9000	O-ring	2
F093A	22-10		9004201-3700	O-ring	2
G004A	22-10		9004201-9000	O-ring	1
G023	22-10		5000531	O-ring	1
K008	22-10		9004201-6200	O-ring	2
K009	22-10		9006110-0160	Back-up ring	2
K010	22-10		9004105-0160	O-ring	2
L002	22-10		4410271	Gasket-servo cover	1
L010A	22-10		9004201-3700	O-ring	1
L025	22-10		612291 (9003508-0008)	Seal nut	1
M002	22-10		4410271	Gasket-servo cover	1
M010A	22-10		9004201-3700	O-ring	1
M025	22-10		612291 (9003508-0008)	Seal nut	1
N002A	22-10		9004201-3700	O-ring	1
N004A	22-10		9004201-9000	O-ring	1
N005A	22-10		9004201-3700	O-ring	1
Q050A	22-10		9004201-3700	O-ring	1
Q060A	22-10		9004201-3100	O-ring	1
R020A	22-10		9004105-0110	O-ring	1
R041	22-10		4800213	Gasket-filter adapter	1
R043A	22-10		9004201-3700	O-ring	1
R086A	22-10		9004201-6200	O-ring	1
T005	22-10		9004100-1340	O-ring	2
T010	22-10		4700035	Piston ring	2
T060	22-10		336826	Seal nut, M10	1
U030	22-10		1716227	Gasket-cover charge pump	1
U080	22-10		9004104-0440	O-ring	1
U080	22-10		9004104-0420	O-ring	1
U080	22-10		1735473	Seal ring A pad	1

Service Bulletin

Service Bulletin

SB-1996-021

Products affected

Series42 - 28 cc, 41 cc variable pumps and 51 cc tandem pumps

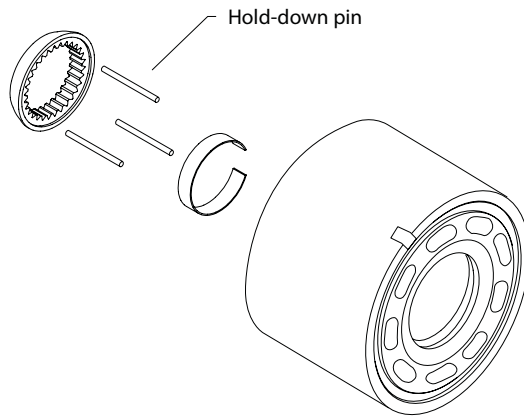
Subject

Ball guide hold-down pins

Description

A defect has been discovered on series 42 ball guide hold-down pins. The ends of the pins are flat instead of being chamfered. This causes wear at the ball guide and hold-down pin interface. To create a more robust design, the hold-down pins will be manufactured with chamfered ends.

Authorized service centers must update units built prior to A-95-45-xxxxx at first repair.



Models affected

Allseries 42 - 28cc and 41cc variable pumps, all 51cc tandem pumps

Serial numbers

All of the above mentioned units built prior to 96-45-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Pin	4700016	700091

Parts disposition

- Interchangeable
- Scrap used parts
- Scrap new parts and apply for credit

Service Bulletin

SB-1996-023

Products affected

Series 42: 41 cc variable pumps

Subject

Change in loop flushing spool

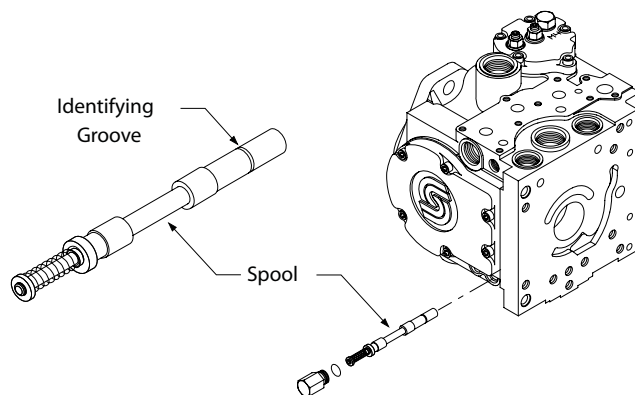
Description

A defect has been discovered with series 42: 41cc pump loop flushing valve option. The nature of the defect leads to an inoperative loop flushing circuit.

Any unit built prior to A-96-43-xxxx must be updated with the new spool.

The 4800349 spool assembly must not be used in a 41cc housing. However, the 4800349 spool assembly will function properly in a 28cc pump housing.

The new 4410154 spool assembly can be identified by a groove opposite the spring end of the valve assembly.



Models affected

All 4412xxx variable pumps

Serial numbers

All of the above mentioned units built prior to 96-43-xxxx

Part numbers affected

Description	Old Part Number	New Part Number
Spool assembly	4800349	4410154

Parts disposition

Interchangeable

Service Bulletin

SB-1997-02

Products affected

Series 42: 41cc variable pumps

Subject

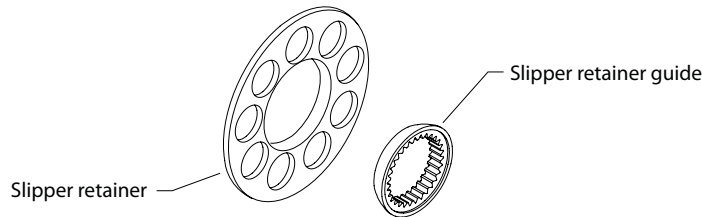
Slipper retainer and retainer guide change

Description

As a product improvement, Danfoss has changed the design of the slipper retainer and the retainer guide on all series 42: 41cc variable pumps.

The old slipper retainer and retainer guide are interchangeable with the new slipper retainer and retainer guide if they are changed together.

The old style slipper retainer and retainer guide are obsolete and no longer available as a service part.



Models affected

All 4412xxx variable pumps

Serial numbers

This change became effective at serial number A-97-52-xxxxx

Part numbers affected

Part Description	Old Part Number	Replacement Part Number
Slipper retainer guide	4410003	4510167
Slipper retainer	4410076	4510167

Parts disposition

Interchangeable if slipper guide and retainer are changed together.

Service Bulletin

SB-1997-026

Products affected

Series 42: 28 & 41cc Variable Pumps

Subject

Neutral adjust screw change

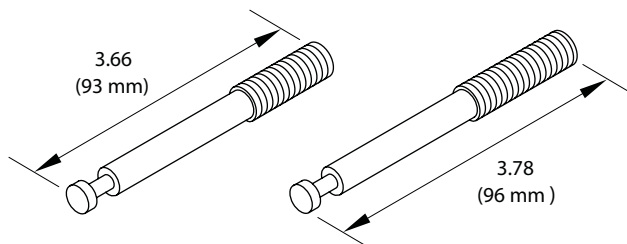
Description

As a product improvement, Danfoss has changed the material of the neutral adjust screw to allow for a higher torque on the neutral adjust seal nut.

The old seal nut/neutral adjust screw has an installation torque of 10 to 18 lbf·ft. The new seal nut/neutral adjust screw has an installation torque of 23 to 37 lbf·ft.

The old style neutral adjust screw has an overall length of 3.66 inches (93 mm). The new style neutral adjust screw has an overall length of 3.78 inches (96 mm). The old style screw should not be substituted for the new style screw.

The old style neutral adjust screw is obsolete and no longer available as a service part.



Models affected

All 4282xxx and 4412xxx Variable Pumps

Serial numbers

This change became effective at serial number A-97-42-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Neutral Adjust Screw	4800198	4800658

Parts disposition

Interchangeable: do not substitute the old screw for the new screw.

Service Bulletin

SB-1997-027

Products affected

Series 42: 28 & 41cc Variable Pumps

Subject

Loop flushing relief valve spring change

Description

As a product improvement, Danfoss has changed the design of the loop flushing relief valve spring used in series 42: 28 and 41cc variable pumps.

The design change eliminates the need to shim the loop flushing relief valve to a specific pressure setting. However, the old spring should not be used in place of the new spring. The new spring is red in color to aid in identification.

The old spring will remain available as a service part.

Models affected

All 4282xxx and 4412xxx variable pumps

Serial numbers

This change became effective at serial number A-97-37-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Spring - loop flushing relief valve	768853	4800654

Parts disposition

Interchangeable: do not replace the old spring for the new spring.

Service Bulletin

SB-1997-029C

Products affected

Series 42: 28 and 41cc Variable Pumps

Subject

1998 model upgrade

Description

As part of our continuous improvement plan for the Series 42 product, a design change has been initiated. This process is referred to as a model year upgrade. The objective of this upgrade is to minimize the number of times we change the product. These improvements will provide increased reliability and additional application flexibility.

Description of change:

Housing	The port cover for the control spool (FOB** option-28cc only) changed from a flat plate with (2) screws to a SAE O-ring plug. The screw holes for the servo covers and 4 of the 6 screw holes for the side cover are deeper to accept a 10mm longer screw. The two holes next to the charge pump cover stayed the same length.
Charge pump	The gerotor drive pin changed to a parallel key. A retaining ring has been added to the charge pump shaft to locate the gerotor. The outer step on the gerotor cover has been eliminated and the locating pin slot depth has increased.
Auxiliary flange	Changed to a flat cover plate with a special seal ring (not to be used to seal an auxiliary pump) under the cover. (A pad only).
Charge relief valve	Changed from a non-adjustable to an adjustable relief valve. This change requires a '98 Upgrade housing.
Spool: loop flushing	Changed to become common between the 28 and 41cc pumps. This change requires a '98 Upgrade housing.

[Revision C of this document has been released to communicate part number corrections and clarification as to which changes are interchangeable and which changes are non-interchangeable.](#)

Models affected

All 4282xxx and 4412xxx variable pumps

Part numbers affected

See tables

Parts disposition

- Interchangeable (see tables)
- Non-interchangeable (see tables)

Service Bulletin

Model upgrade: part number changes

Series 42 model upgrade: part number changes

Item	Item Description	Frame Size	Old Part Number	Quantity	New Part Number	Quantity
F007	Screw - Side Cover	28/41	5000001	6	5000001	2
F011	Screw - Side Cover (FOE** only)	28	704395	2	693341	2
F012	Screw - Side Cover	28/41	N/A	-	5000002	4
F030	Plug Assembly - SAE	28	N/A	-	681296	1
F034	Gasket - Spool Cover	28	4800200	1	N/A	-
F035	Control Spool Cover	28	4800199	1	N/A	-
F036	Screw - Spool Cover	28	5000001	2	N/A	-
F042	Screw - Filtration Adapter	28/41	5000001	6	5000002	6
F051	Spool Assembly Loop Flushing	41	4410154	1	4800708	1
F051	Spool Assembly Loop Flushing	28	4800349	1	4800708	1
F1	Housing (FOB**)	41	4410141	1	4410208	1
F1	Housing (FOA**)	41	4410142	1	4410203	1
F1	Housing (FOJ**)	41	4410144	1	4410211	1
F1	Housing (FOP**)	41	4410147	1	4410212	1
F1	Housing (FOM**)	41	4410174	1	4410213	1
F1	Housing (FOB**)	28	4280140	1	4280184	1
F1	Housing (FOA**)	28	4280141	1	4280185	1
F1	Housing (FOG**)	28	4280135	1	4280190	1
F1	Housing (FOE**)	28	4280138	1	4280191	1
F1	Housing (FOP**)	28	4280134	1	4280189	1
F1	Housing (FOT**)	28	4280137	1	4280187	1
F1	Housing (FOJ**)	28	4280119	1	4280178	1
G040	Plug Assembly - CPRV	28/41	4800308	1	N/A	-
G040	Charge Pressure Relief Valve Assembly	28/41	N/A	-	4800573	1
G041	Shim Kit - CPRV	28/41	4510027	1	N/A	-
G042	Spring - CPRV	28/41	8800496	1	344135	1
G043	Poppet - CPRV	28/41	4800134	1	8800449	1
L005	Screw - Servo Cover	28/41	5000001	5	5000002	5
L005	Screw - Servo Cover (NFP Housing)	28/41	5000003	5	5000004	5
M005	Screw - Servo Cover	28/41	5000001	5	5000002	5

Service Bulletin

S42 charge pump block point change

Required information				Old service parts				Service Replacement Kits	
Pump Frame Size	Pump Rotation	Charge Pump Displacement	Coupling	Coupling Drive Pin	Gerotor Cover	Gerotor	Coupling		
28cc	CW	None	9	15743 (9004800-2506)	4800228	None	4280052	4510206	
			11	15743 (9004800-2506)	4800228	None	4280053	4510212	
			13	15743 (9004800-2506)	4800228	None	4280057	4510218	
			15	N/A	4800228	None	N/A	4510224	
		11cc	9	15743 (9004800-2506)	4800228	4700029	4280052	4510208	
			11	15743 (9004800-2506)	4800228	4700029	4280053	4510214	
			13	15743 (9004800-2506)	4800228	4700029	4280057	4510220	
			15	N/A	4800228	4700029	N/A	4510226	
		15.6cc	9	15743 (9004800-2506)	N/A	N/A	4280052	4510210	
			11	15743 (9004800-2506)	N/A	N/A	4280053	4510216	
			13	15743 (9004800-2506)	N/A	N/A	4280057	4510222	
			15	N/A	N/A	N/A	N/A	4510228	
		CCW	None	9	15743 (9004800-2506)	4800231	None	4280052	4510207
				11	15743 (9004800-2506)	4800231	None	4280053	4510213
				13	15743 (9004800-2506)	4800231	None	4280057	4510219
				15	N/A	4800231	None	N/A	4510225
	11cc		9	15743 (9004800-2506)	4800231	4700029	4280052	4510209	
			11	15743 (9004800-2506)	4800231	4700029	4280053	4510215	
			13	15743 (9004800-2506)	4800231	4700029	4280057	4510221	
			15	N/A	4800231	4700029	N/A	4510227	
	15.6cc		9	15743 (9004800-2506)	N/A	N/A	4280052	4510211	
			11	15743 (9004800-2506)	N/A	N/A	4280053	4510217	
			13	15743 (9004800-2506)	N/A	N/A	4280057	4510223	
			15	N/A	N/A	N/A	N/A	4510229	

Service Bulletin

S42 charge pump block point change

Required information				Old service parts				Service Replacement Kits	
Pump Frame Size	Pump Rotation	Charge Pump Displacement	Coupling	Coupling Drive Pin	Gerotor Cover	Gerotor	Coupling		
41cc	CW	None	9	15743 (9004800-2506)	4800228	None	4410137	4510243	
			11	15743 (9004800-2506)	4800228	None	4410138	4510252	
			13	15743 (9004800-2506)	4800228	None	4410139	4510261	
			15	N/A	4800228	None	N/A	4510270	
		11cc	9	15743 (9004800-2506)	4800228	4700029	4410137	4510246	
			11	15743 (9004800-2506)	4800228	4700029	4410138	4510255	
			13	15743 (9004800-2506)	4800228	4700029	4410139	4510264	
			15	N/A	4800228	4700029	N/A	4510273	
		15.6cc	9	15743 (9004800-2506)	N/A	N/A	4410137	4510249	
			11	15743 (9004800-2506)	N/A	N/A	4410138	4510258	
			13	15743 (9004800-2506)	N/A	N/A	4410139	4510267	
			15	N/A	N/A	N/A	N/A	4510276	
		CCW	None	9	15743 (9004800-2506)	4800231	None	4410137	4510244
				11	15743 (9004800-2506)	4800231	None	4410138	4510253
				13	15743 (9004800-2506)	4800231	None	4410139	4510262
				15	N/A	4800231	None	N/A	4510271
	11cc		9	15743 (9004800-2506)	4800231	4700029	4410137	4510247	
			11	15743 (9004800-2506)	4800231	4700029	4410138	4510256	
			13	15743 (9004800-2506)	4800231	4700029	4410139	4510265	
			15	N/A	4800231	4700029	N/A	4510274	
	15.6cc		9	15743 (9004800-2506)	N/A	N/A	4410137	4510250	
			11	15743 (9004800-2506)	N/A	N/A	4410138	4510259	
			13	15743 (9004800-2506)	N/A	N/A	4410139	4510268	
			15	N/A	N/A	N/A	N/A	4510277	

Item	Old service parts	Service replacement	Notes
Gerotor Cover Locating Pin	16220 (9004800-1908)	5000179	Non-Interchangeable (New Pin is longer hole in cover is deeper)
Charge Pump Cover with A-Pad	4800305	4800699	Interchangeable
A-Pad O-ring - Shipping	726950 (9004104-0420)	4800482*	Non-Interchangeable
A-Pad Shipping Cover	9802336	4460586	Non-Interchangeable

* 4800482 is used as a shipping seal only. Customers currently re-using the pad cover O-ring to seal an auxiliary pump must now supply their own O-ring after this change. The O-ring required is a standard 90 Durometer O-ring with a .103" cross section and 3.237" ID. This O-ring can be ordered from Danfoss under part number 5000373.

Service Bulletin

SB-1997-034

Products affected

Series 42: 28 and 41cc Variable Pumps

Subject

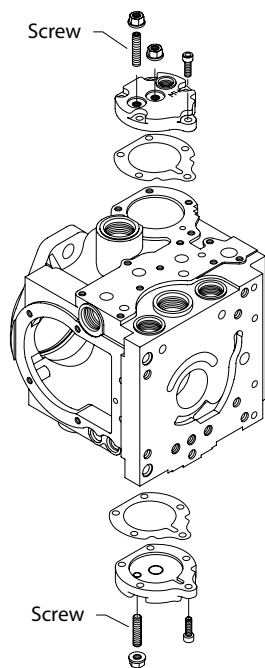
Displacement limiter screw change

Description

As a product improvement, Danfoss has changed the material requirement of the screw used in the displacement limiter option on Series 42: 28 and 41cc variable pumps.

The new screw can be used in place of the old screw.

The old screw has become obsolete and no longer available as a service part.



Models affected

All 4282xxx and 4412xxx variable pumps

Serial numbers

This change became effective at serial number A-97-40-xxxxx and beyond

Part numbers affected

Description	Old Part Number	New Part Number
Screw - displacement limiter	5000082	5000487

Parts disposition

Interchangeable: do not use the old screw in place of the new screw.

Service Bulletin

SB-1997-046

Products affected

Series 42 Variable Displacement Pumps

Subject

Manual displacement control handle change

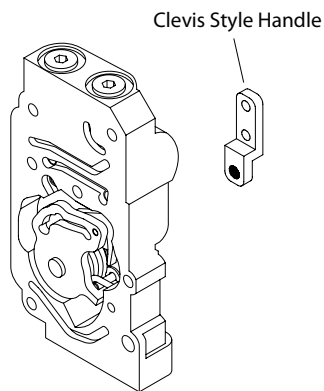
Description

The series 42 variable displacement pump product family offers two styles of manual displacement control handles; straight style or clevis (offset) style handles. The handle style option is designated in the control section of the product nomenclature.

As a product improvement, Danfoss has modified the design of the clevis (offset) style control handle.

The previous handle included an abrupt corner at each end of the offset. The new handle includes a generous radius at each corner, which improves the aesthetic appearance of the handle. The location of the mounting holes for the customer linkage and the overall height of the control handle have not been altered.

A new handle part number has been created to aid in identifying this product improvement. The new handle is completely interchangeable with the previous handle. The previous handle will be obsoleted.



Models affected

All 4282xxx and 4412xxx pumps specified with clevis (offset) style control handles

Serial numbers

This change became effective at serial number A-98-10-xxxxx and beyond

Part numbers affected

Handle	Prior to 98-10	98-10 and beyond
Clevis Style	4800461	4800689

Parts disposition

Interchangeable

Service Bulletin

SB-1998-006

Products affected

Series 42: 41cc Variable Displacement Pumps

Subject

Possible interference problem

Description

There has been an interference problem identified on the series 42: 41cc pump. The interference occurs at the swashplate and servo interface. To correct the possibility, Danfoss has incorporated a new swashplate. The new swashplate is interchangeable with the old swashplate. The old swashplate is obsolete and no longer available as a service part.

Models affected

All 4412xxx and 452xxxx model numbers

Serial numbers

Any product built before A-98-05-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Swashplate	4410102	4410228

Parts disposition

Interchangeable

Service Bulletin

SB-1998-030

Products affected

Series 42: 28 and 41cc Pumps

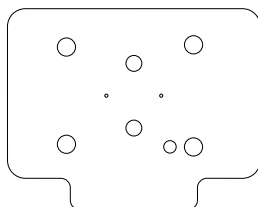
Subject

Control gasket change

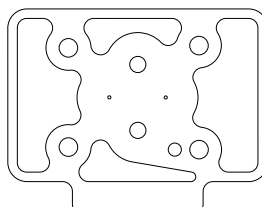
Description

As a product improvement, Danfoss has changed the design of the control gasket for the Series 42, 28 and 41 cc variable pumps. The improvements made to this part consist of changing the material used to manufacture the gaskets as well as the gasket appearance.

The new control gasket is interchangeable with the old gasket and the old gasket has been made obsolete.



Old Control Gasket



New Control Gasket

Models affected

All 4282xxx and 4412xxx variable pumps

Serial numbers affected

This change became effective at serial number A-98-16-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Control Gasket - (0.8, A-B)	4800604	4800650
Control Gasket - (1.0, A-B)	4800603	4800651
Control Gasket - (1.6, A-B)	4800602	4800652
Control Gasket - (0.8, A-B-T)	4800549	4800667

Parts disposition

Interchangeable

Service Bulletin

SB-1998-039

Products affected

Series 42: 28 and 41cc variable pumps

Subject

Change to by-pass valve design

Description

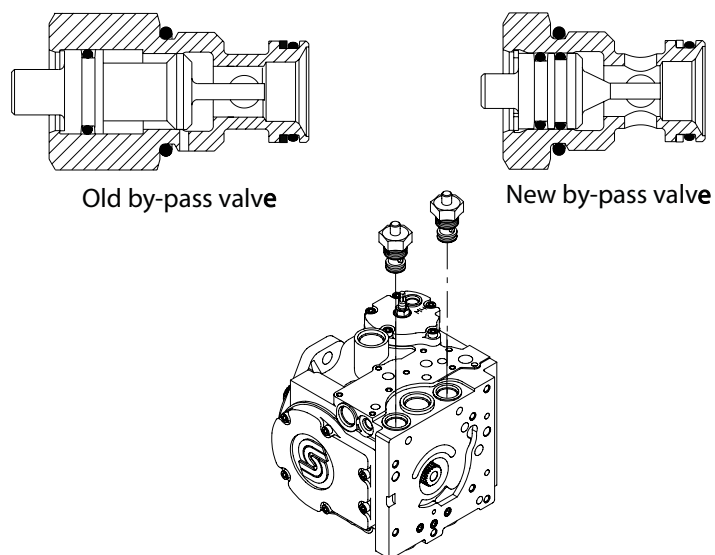
As a product improvement, Danfoss has changed the design of the by-pass valve option for the series 42, 28 and 41cc variable pumps. This change was first announced in Product Information Bulletin PIB-9809.

The new design utilizes a smaller overall package size and reduces the distance that the valve extends from the pump housing. This improvement provides for an easier installation of plumbing to the charge inlet port.

In addition to the more compact design, the reset pressure associated with the valve has been increased. This change reduces the tendency of the valve to reset to the closed, or normal operating condition, position when the by-pass mode is activated.

The new by-pass valve is interchangeable with the old by-pass valve if, and only if, the valves are replaced as a complete assembly. It is the component parts of the two valves that have changed, and these component parts are not interchangeable.

The old valve will become obsolete and will no longer be available as a service part.



Models affected

All 4282xxx and 4412xxx variable pumps with the by-pass valve option

Serial numbers

This change became effective at serial number A-98-30-xxxxx

Service Bulletin

Part numbers affected

Description	Old Part Number	New Part Number
By-pass valve assembly	4800395	4800600

Parts disposition

Interchangeable

Service Bulletin

SB-1998-055

Products affected

Series 20, 42 and 90

Subject

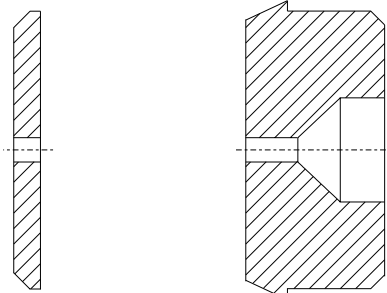
3-Position control orifice change

Description

As a product improvement, Danfoss has changed the design of the servo supply orifice and the control drain orifice from the disk type and O-ring to a design that pilots in the body with an O-ring of the electrical portion of the control assembly.

This change was made because of potential assembly problems causing the O-ring to be damaged and causing a leak.

This change is interchangeable with the old style orifice. The O-ring does not change. The old style orifice will be obsolete and no longer available for service.



Old Style

New Style

Models affected

All Series 20, 42 and 90 that use 3-position controls

Serial numbers

This change became effective at serial number A-98-31-xxxxx

Part numbers affected

Orifice Size	Old Part Number	New Part Number
0.6 mm	511046	512835
0.7 mm	509162	512836
0.8 mm	509163	512837
0.9 mm	509164	512838
1.0 mm	509165	512834
1.1 mm	505850	512841
1.2 mm	509167	512839
1.5 mm	509168	512840

Parts disposition

Interchangeable

Service Bulletin

Service Bulletin

SB-1998-079

Products affected

Series 42: 28 and 41cc variable displacement pumps

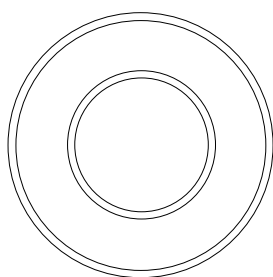
Subject

Charge pump cover O-rings

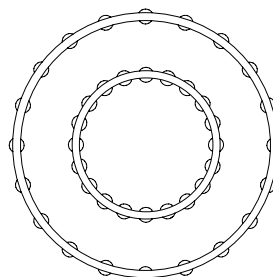
Description

As a product improvement, Danfoss has introduced an H-seal O-ring in the charge pump cover. This new style O-ring will replace both the inner and outer O-rings. The design is improved by preventing the possibility of the O-ring from being extruded from the O-ring groove within the charge pump cover.

This is an interchangeable change and the old O-rings will be obsoleted.



Old O-ring



New H-seal O-ring

Models affected

- All series 42 pumps
- All series 42 auxiliary mounting kits (service)
- All series 42 overhaul seal kits (service)
- All series 42 charge pump kits (service)

Serial numbers

This change became effective at serial number A-99-06-xxxxx

Part numbers affected

Old item description	Old part number	New item description	New part number
O-ring 0.139 x 3.484	5000161	H seal O-ring	5000530
O-ring 0.139 x 1.734	5000160	H seal O-ring	5000531

Parts disposition

Interchangeable

Service Bulletin

SB-1998-082

Products affected

Series 42 pumps

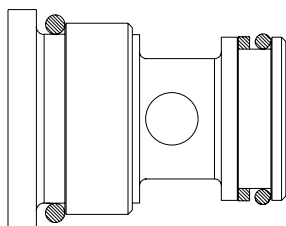
Subject

SCR valve plug standardization

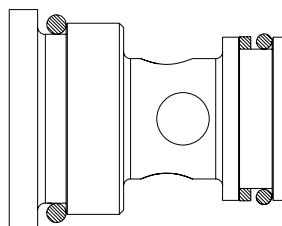
Description

In order to reduce the number of repetitive part numbers and utilize common parts across product lines, Danfoss has standardized the SCR valve plug used on series 42 pumps with the no by-pass option. This change affects all series 42 product, including 26cc pumps, 41cc pumps and all series 42 integrated tandem pumps.

This change is interchangeable and the old SCR valve plugs have been obsoleted.



Old SCR valve plug



New SCR valve plug

Models affected

All series 42 pumps

Serial numbers

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

Part numbers affected

Description	Old Part Number	New Part Number
SCR valve plug	4800278	4800589

Parts disposition

Interchangeable

Service Bulletin

SB-1998-085

Products affected

Series 42 pumps

Subject

Loop flushing relief valve plug

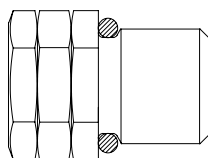
Description

Danfoss has added an additional plug option for the loop flushing relief valve option on the series 42 pump. This addition has been made in response to the fact that in some applications, the valve cracking pressure needs to be higher in order to maintain sufficient charge pressure.

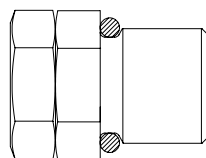
The new plug will be used on all pumps with an 18 bar charge relief setting and up. The old plug will continue to be used on all pumps with a charge pressure relief setting below 18 bar.

The difference between the two plugs will be denoted by identifying grooves on the plugs themselves. The old plug will have one identifying groove as before and the new plug will have two identifying grooves.

All units produced prior to the date of effectivity listed on this service bulletin were built with the single grooved plug. It is recommended that of those units with a charge pressure setting of 18 bar or higher, should be updated to the new dual groove plug at first repair.



New style plug
 (Charge pressure 18 bar and above)



Old style plug
 (Charge pressure below 18 bar)

Models affected

All series 42 pumps

Serial numbers

This change became effective at serial number A-98-50-xxxxx

Part numbers affected

Item description	Charge pressure setting	Part number
Loop flushing relief valve plug	Under 18 bar	4800280
Loop flushing relief valve plug	18 bar and higher	4800747

Parts disposition

Interchangeable

Service Bulletin

SB-1999-022

Products affected

Series 42 pumps: 28cc, 41cc. and integrated tandems

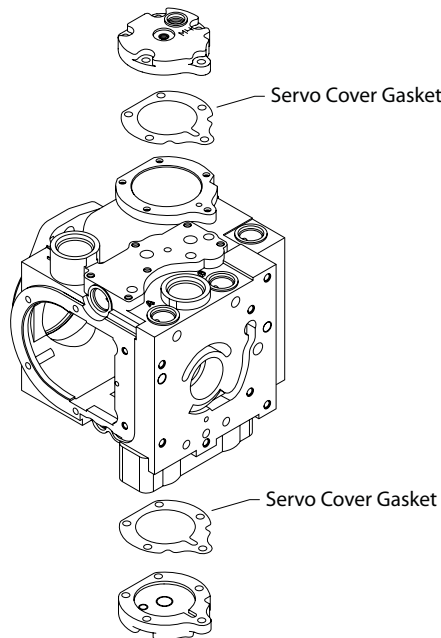
Subject

Servo cover gasket change

Description

As a product improvement, Danfoss has redesigned the servo cover gasket used on all Series 42 pumps (28cc, 41cc and intergated tandems). The new gasket is made from a different material and replaces the old foam-coated gasket. This new material improves the gasket's ability to seal and reduces torque loss cause by gasket relaxation.

The new gasket is interchangeable with the old gasket. The old gasket has become obsolete.



Models affected

All Series 42 pumps: 28cc, 41cc and integrated tandem

Serial numbers

This change became effective at serial number A-99-37-xxxxx for the 41cc and integrated tandem pumps and A-99-49-xxxxx for the 28cc pumps.

Parts disposition

Interchangeable

Service Bulletin

SB-1999-037

Products affected

Series 42 pumps

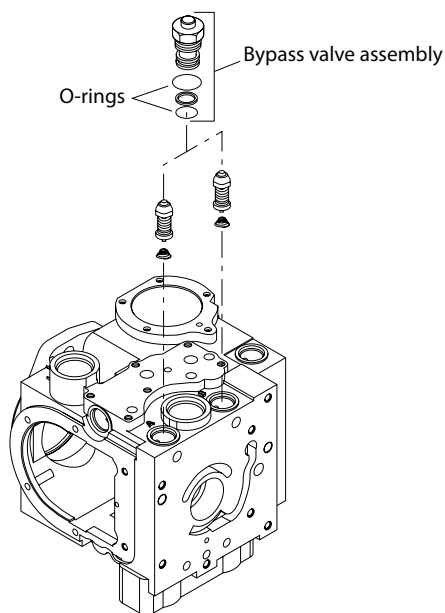
Subject

New by-pass valve

Description

As a product improvement, Danfoss has change the design of the by-pass valve assembly in order to better retain the bypass plunger. The O-ring within the by-pass valve assembly has also been upgraded to a viton O-ring in order to allow the valve to be functional at higher temperatures.

This is an interchangeable change and the old by-pass valve assembly has been obsoleted and is no longer available as a service part.



Models affected

All series 42 pumps: 28cc and 41cc with system by-pass valves

Serial numbers

This change was incorporated at serial number A-99-33-xxxxx

Part numbers affected

Item Description	Old Part Number	New Part Number
By-pass valve assembly	4800600	4800768

Parts disposition

Interchangeable

Service Bulletin

SB-1999-044A

Products affected

Series 42 pumps: 28cc, 41cc and integrated tandems

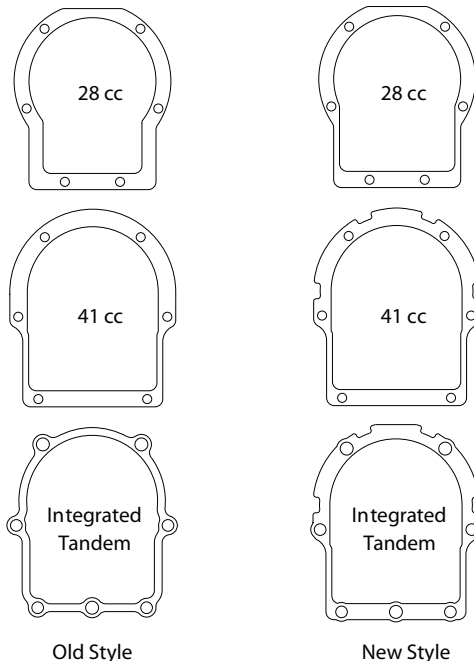
Subject

Slide cover gasket change

Description

As a product improvement, Danfoss has redesigned the side cover gasket used on all Series 42 pumps (all frame sizes and configurations). The new gasket is made from a different material and replaces the old foam coated gasket. This new material improves the gasket's ability to seal and reduces torque loss caused by gasket relaxation.

The new gasket is interchangeable with the old gasket. The old gasket is obsolete.



Models affected

All Series 42 pumps: 28cc, 41cc and integrated tandems

Serial numbers

This change became effective for 28cc pumps at A-99-49-xxxxx

This change became effective for 41cc pumps at A-00-03-xxxxx

This change became effective for integrated tandem pumps at A-99-30-xxxxx

Service Bulletin

Part numbers affected

Item Description	Old Part Number	New Part Number
Side Cover Gasket - 28cc	4280021	4280226
Side Cover Gasket - 41cc	4410012	4410272
Side Cover Gasket - Tandem	4520013	4410262

Parts disposition

Interchangeable

SB-1999-048

Products affected

Series 42 variable pumps

Subject

Housing and swashplate change

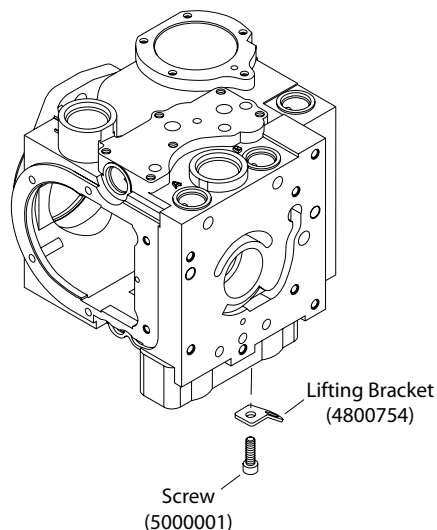
Description

As a product improvement, Danfoss has redesigned the Series 42 pump housing for the 28cc, 41cc and 51cc integrated tandem frame sizes. Several important changes have been implemented within this new design and serve as distinguishing characteristics between this design and the one prior to it.

The most notable physical difference on the 28cc and 41cc frame size pumps, is the omission of the cast-on lifting brackets. These have been replaced by a lifting bracket that is bolted into the side of the housing via a blind hole added to the housing.

Another important difference imitated with this change is that the bearing bore within the housing was modified to alleviate excessive stress to the swashplate needle bearing while maintaining snug retention. In conjunction with this change, the swashplate has also been redesigned so as to be compatible with the change in the bearing surface profile.

The housing change is such that the new housing is interchangeable with the old housing, provided the swashplate is also replaced. All of the old housings have become obsolete, but the old swashplates will be retain for repairs performed on older units.



Service Bulletin

Models affected

All Series 42 pumps: 28cc, 41cc and 51cc integrated tandems

Serial numbers

A-99-36-xxxxx

Part numbers affected

See parts listing below

Parts disposition

Interchangeable: new housing must have new swashplates.

Housing and swashplate changes

28cc housings

Item Description	Old Part Number	New Part Number
XDC Full Featured	4280184	4280240
XDC Base	4280185	4280239
XDC Base w/LF	4280190	4280247
XDC Base w/AF and SS	4280191	4280241
XDC Special w/LF	4280142	4280242
NFPH Full Featured	4280189	4280245
NFPH Base	4280187	4280244
NFPH Tandem Rear Special w/LF	4280205	4280248
NFPH Tandem Rear Special w/o LF	4280201	4280246
NFPE Full Featured	4280178	4280243

41cc housings

Item Description	Old Part Number	New Part Number
XDC Full Featured	4410208	4410288
XDC Base	4410203	4410287
NFPH Full Featured	4410212	4410291
NFPE/FNR Full Featured	4410211	4410289
NFPE/FNR Full Featured (ISO System Ports)	4410213	4410290

51cc integrated housings

Item Description	Old Part Number	New Part Number
XDC Base	4410269	4410286
HFPH Base	4410267	4410285

Swashplates

Item Description	Old Part Number	New Part Number
28cc Swashplate	4280110	4280224
41cc Swashplate	4410228	4410270
51cc Swashplate	4410228	4410270

Service Bulletin

- LF** Housing machined for loop flushing
- AF** Housing machined for adaptable filtration
- SS** Housing machined for speed sensor

Service Bulletin

SB-1999-064

Products affected

Series 42 pumps: 28cc and 41cc

Subject

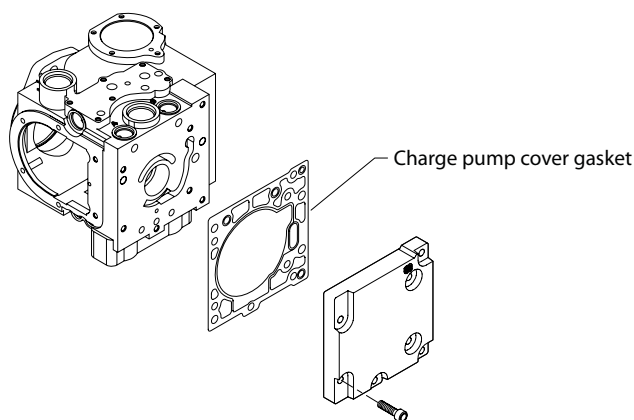
Charge pump cover and gasket change

Description

As a product improvement, Danfoss has redesigned the charge pump cover gasket used on the series 42 pumps, (both 28 cc and 41 cc frame sizes). The new gasket is made from a different material and replaces the old foam-coated gasket. The new gasket material improves the gasket's ability to seal and reduces torque loss caused by gasket relaxation.

To further improve the pump's resistance to leaks, the no auxiliary pad charge pump cover material has been changed to ductile iron. The old charge pump cover has become obsolete and no longer available as a service part.

The new gasket is interchangeable with the old gasket, providing the charge pump cover is made from ductile iron. The old gasket will remain available as a service part for pumps with no auxiliary pad and non-ductile, (gray) iron charge pump covers only.



Models affected

All series 42 pumps: 28cc and 41cc with the no auxiliary pad option

Serial numbers

This change became effective at serial number A-00-10-xxxxx

Part numbers affected

Item Description	Old Part Number	New Part Number
Charge pump cover - no pad	4800304	4800774
Charge pump cover gasket	4800484	4800759
Charge pump cover gasket	4800638	4800759

Parts disposition

Interchangeable: new housing must have new swashplates.

Service Bulletin

SB-1999-066

Products affected

Series 42 pumps

Subject

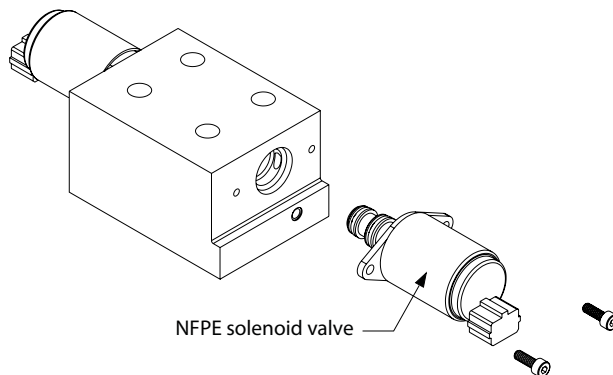
NFPE solenoid valve change

Description

The solenoid valve used on the NFPE controls mounted onto the Danfoss Series 42 pump have been changed to a valve with better repeatability.

In order to track this change, the solenoid valve's part number has been changed. This is an interchangeable change and the old part number has been obsoleted

NFPE control valve assembly



Models affected

All Series 42 pumps with NFPE controls

Serial numbers

This change became effective at serial number A-99-49-xxxxx

Part numbers affected

Item Description	Old Part Number	New Part Number
NFPE Solenoid Valve	4700095	4700150

Parts disposition

Interchangeable

Service Bulletin

SB-2000-035

Products affected

Series 42 pumps

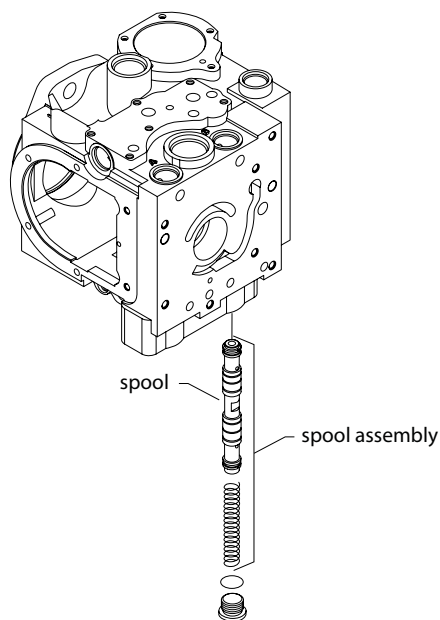
Subject

Control spool change

Description

As a product improvement, Danfoss has discontinued the use of one of the control spool options used on Series 42 pump. Pumps that formerly used the control spool option denoted in the “Models Affected” portion of this service bulletin, now use a control spool designed to have better droop characteristics, especially when operating at higher system pressures.

The old control spool, and its applicable assembly, have been obsoleted and will no longer be available as a service part. Although the new control spool is directly interchangeable with the old control spool, the new control spool may result in a more aggressive control in certain applications, and should be verified to be acceptable on an application, by application, basis.



Models affected

All Series 42 pumps built with the 4800265 control spool or the 4800320 control spool assembly, including pumps with the following order codes for the control module:

A1N1	A5A1	ANA1	BNN2	C1N2	C3N2	CNN1	D1N1	E1A1	E1B1
A1N2	A5N1	ANA2	ANN2			CNN2		E1A2	E1B2

Serial numbers

This change became effective at serial number A-00-29-xxxxx

Service Bulletin

Part numbers affected

Item Description	Old Part Number	New Part Number
Control Spool	4800265	4800464
Control Spool Assembly	4800320	4800575

Parts disposition

Interchangeable

Service Bulletin

SB-2001-008

Products affected

Series 42, single and integrated tandem pumps

Subject

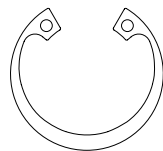
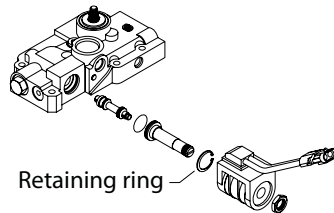
MDC housing with optional NOR

Description

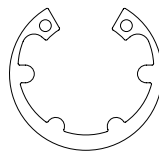
As a product improvement, Danfoss has redesigned the Series 42 manual displacement control (MDC) housing equipped with a solenoid override valve assembly in order to accommodate a more robust retaining ring, thus reducing the potential for premature retaining ring failure.

The control housing part number has been changed, but the control assembly and control kit part numbers will remain the same part number. This change is only interchangeable if the old housing and old retaining ring are replaced with the new housing and new retaining ring, or if the old control assembly is replaced with the new control assembly. The old retaining ring will remain available, but the old control housing has been obsoleted and no longer available as a service part.

Visual identification can confirm the control vintage once the solenoid override assembly is removed. The old retaining ring is thinner and its inner circumference is as smooth as the outer circumference. The new retaining ring is thicker and its inner circumference contains four protrusions.



Old Retaining Ring



New Retaining Ring

Models affected

All Series 42 Pumps that use the following control assemblies:

Single Pumps		Integrated Tandem Pumps	
Control Assembly	Control Kit	Control assembly	Control Kit
4800518	4510133	4520020	Not Applicable
4800521	4510139	4520021	Not Applicable
4800537	Not Applicable	4520023	Not Applicable
4800538	Not Applicable	4520027	Not Applicable
4800539	4510089		
4800541	Not Applicable		
4800542	Not Applicable		
4800544	Not Applicable		
4800545	4510091		

Service Bulletin

Single Pumps		Integrated Tandem Pumps	
Control Assembly	Control Kit	Control assembly	Control Kit
4800546	Not Applicable		
4800547	4510093		
4800548	Not Applicable		
4800635	Not Applicable		
4800806	Not Applicable		

Serial numbers

This change became effective at serial number A-01-31-xxxxx

Part numbers affected

Part Description	Old Part Number	New Part Number
Retaining Ring	5000196	4280279

Parts disposition

Interchangeable

Service Bulletin

SB-2001-022A

Products affected

Series 42 pumps

Subject

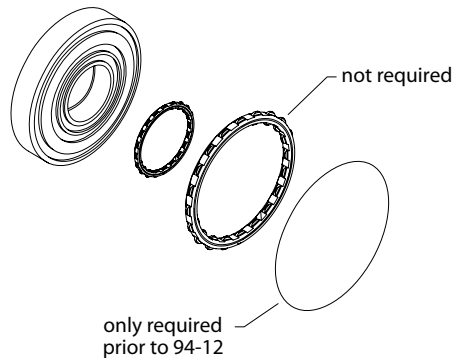
Removal of gerotor cover O-ring

Description

Through engineering calculation and performance testing, it has been determined that the need for the outer O-ring on the gerotor cover of the series 42 charge pump no longer exists. This O-ring is no longer required because historical changes to the series 42 pump charge circuit resulted in the charge pressure being equal on both sides of the o-ring.

The removal, or reinsertion, of this o-ring at the time of repair of a series 42 pump built before the incorporation of this change is at the discretion of the person performing the repair. However, units manufactured before A-94-12-xxxx require the reinsertion of the outermost O-ring, located on the side of the gerotor cover. This O-ring is installed to prevent external leaks through the charge pump cover mounting bolt holes.

Since this is the only product, and location, that utilize this particular "H" seal O-ring, it is obsolete and no longer required or available as a service part.



Models affected

All frame sizes (28, 41 and 51cc) of series 42 pumps

Serial numbers

This O-ring was removed from the build of materials used in production at serial number A-01-40- xxxxx. Units built prior to A-94-12-xxxxx still require O-ring part number 9004100-1550, due to a design change to the charge pump cover.

Part numbers affected

Part Number	Item description
5000530	O-ring (H seal)

Parts disposition

Interchangeable

Service Bulletin

SB-2002-012

Products affected

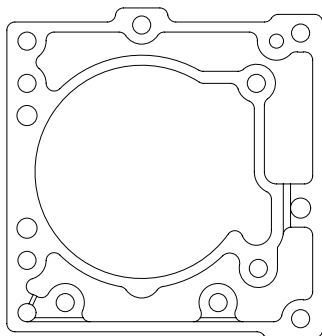
Series 42 pumps

Subject

Charge pump cover gasket change

Description

As a product improvement, Danfoss has changed the design of the Series 42 charge pump cover gasket used on all models for the series 42 pump. the new gasket is still a foam coated, steel-core gasket, but the design is more robust.



Models affected

All series 42 pumps

Serial numbers

This change became effective at serial number A-02-41-xxxxx

Part numbers affected

Item description	Old part number	New part number
Charge pump cover gasket	4800638	4800855
Charge pump cover gasket	4800638	4800855
Charge pump cover gasket	4800456	4800856

Parts disposition

- Interchangeable
- Use parts in stock
- Revise existing parts orders

Service Bulletin

SB-2007-016

Products affected

Series 42 pumps

Subject

9 tooth coupling

Description

Danfoss has changed the manufacture of the nine tooth coupling used on series 42 pumps. Due to this change in manufacture, Danfoss had to change the part number.

The old coupling is obsolete and no longer available as a serviceable part. The new coupling is completely interchangeable with the old coupling.

Models affected

All series 43 pumps

Serial numbers

This change became effective at serial number A-07-24-xxxxx

Part numbers affected

Description	Old part number	New part number
Coupling	4410161	1724104

Parts disposition

Interchangeable

Service Bulletin

SB-2009-070

Products affected

All series 42 pumps

Subject

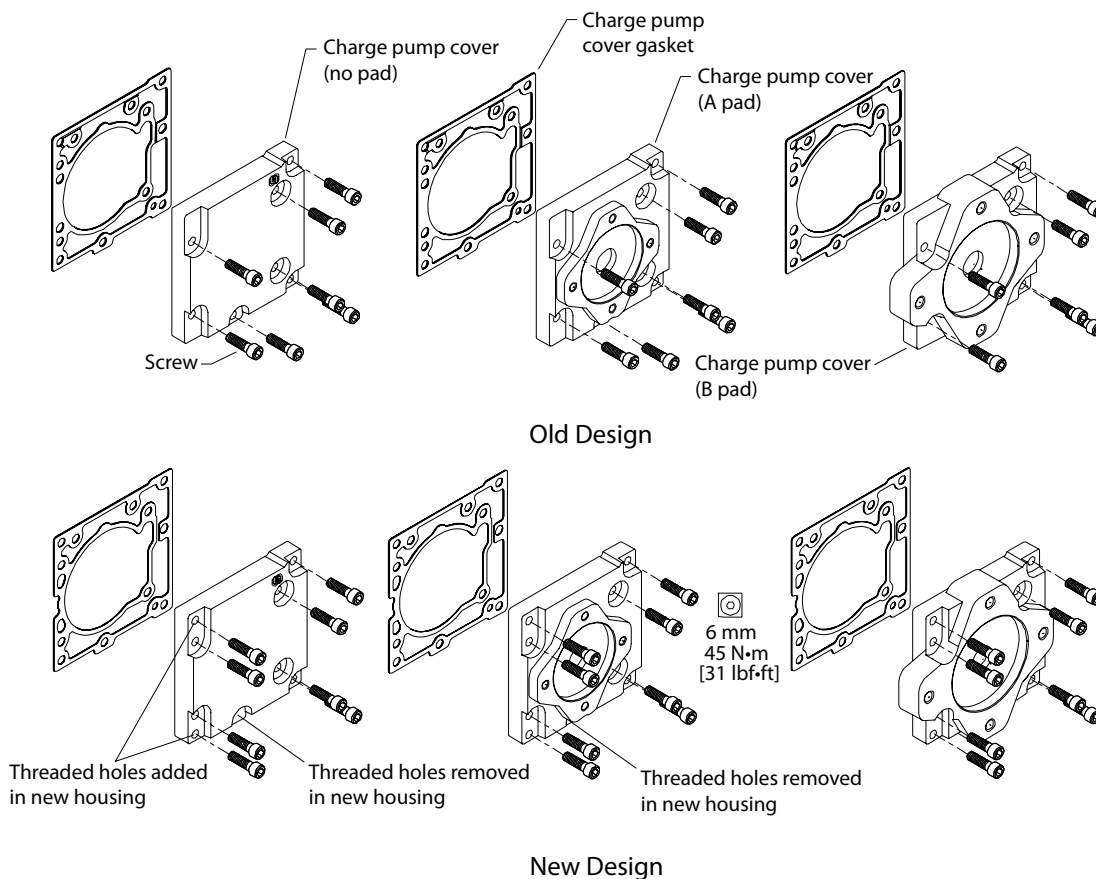
Auxiliary pad adapter and gasket change

Description

A design change has been made to the charge pump cover and cover gasket. The major change to the cover is the number of screws used. The old SAE "A" and non-auxiliary pad covers used seven screws, and the SAE "B" used six screws to attach the cover to the housing. The new covers will each use eight screws. The new eight screw design is interchangeable with the old design. Place screws in the cover where the pump housing has a threaded hole for a screw. Older vintages of pumps used torx head screws (T-45). Newer vintages use internal hex cap head fastener (6 mm).

The new gasket is thinner and is designed to work with new or old charge pump covers.

In order to reduce the number of auxiliary pad adaptor service kits, the couplings that were once supplied in the appropriate kit must now be purchased separately.



Models affected

All series 42 pumps

Service Bulletin

Serial numbers

All pumps produced after March 1, 2008.

Part numbers affected

Obsolete kits

Kit part number	Global new part number
4510071	AUX PAD KIT-SAE A SPEC PAD, 11T (GXXXT)
4510061	AUX. MTG. KIT, NO PAD
4510062	AUX. MTG. KIT, A PAD, 9 TOOTH
4510063	AUX. MTG. KIT. B PAD, 13 TOOTH
4510163	AUX. MTG KIT, A PAD, 9 TOOTH, 41CC
4510312	AUX MTG KIT, B-B PAD, 15T, 28CC
4510313	AUX. MTG KIT, B-B PAD, 15 TOOTH, 41CC
4510315	AUX. MTG. KIT, NO PAD, 41CC
4510164	AUX. MTG KIT, B PAD, 13 TOOTH, 41CC
4510198	AUXILARY KIT, A PAD, S42
4510199	AUXILARY KIT, B PAD, S42
4510204	AUXILARY KIT, NO PAD, S42
11076607	AUX. MTG. KIT, NO PAD, 28CC
11076608	AUX. MTG. KIT, A PAD, 9 TOOTH, 28CC
11076609	AUX. MTG. KIT. B PAD, 13 TOOTH, 28CC
11076611	AUX. MTG KIT, A PAD, 9 TOOTH, 41CC
11076616	AUX. MTG KIT, B PAD, 13 TOOTH, 41CC
11076617	AUX MTG KIT, B-B PAD, 15T, 28CC
11076618	AUX. MTG. KIT, NO PAD, 28CC
11076612	AUX. MTG. KIT, NO PAD, 41CC

New universal kits

Kit part number	Description
11076613	AUXILARY KIT, A PAD, S42 (coupling purchased separately)
11076614	AUXILARY KIT, B PAD, S42 (coupling purchased separately)
11076615	AUXILARY KIT, NO PAD, S42

Gasket change

Old gasket part number	New gasket part number
4800855 (obsolete)	1716227

Parts disposition

- Interchangeable: auxiliary pad adapters
- Non-interchangeable: gaskets
 - Scrap old gaskets and apply for credit
 - Overhaul seal kits purchased before November 16, 2009 will contain the old gasket part number and will need to be updated to the new gasket part number.

Service Bulletin

SB-2018-029

Products affected

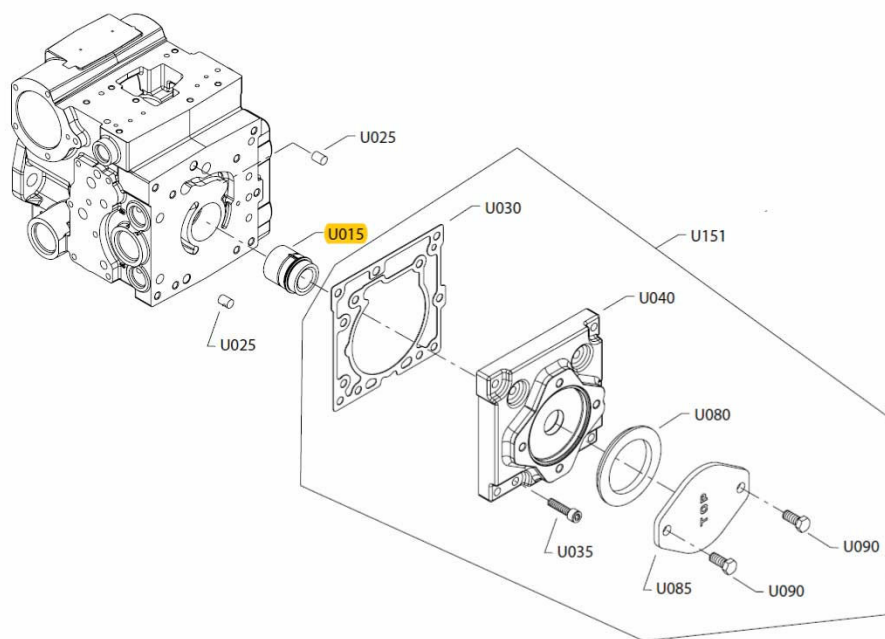
Series 42 pumps

Subject

Parts manual correction

Description

The Series 42 Pumps 41/51cc Parts Manual (AX152886483959en-US) lists the incorrect part number for a 9-tooth auxiliary coupling. On Page 131, item U015 under the 9-tooth coupling is listed as 1724087. This part number fits onto a 20-tooth spline, not the 22-tooth spline used in the 41/51cc pumps. The corrected part number is 1724107.



Models affected

Series 42 41cc and 51cc pumps

Serial numbers

Not applicable

Part numbers affected

Not applicable

Parts disposition

Not applicable

Service Bulletin

SB-2018-029A

Products affected

Series 42 pumps

Subject

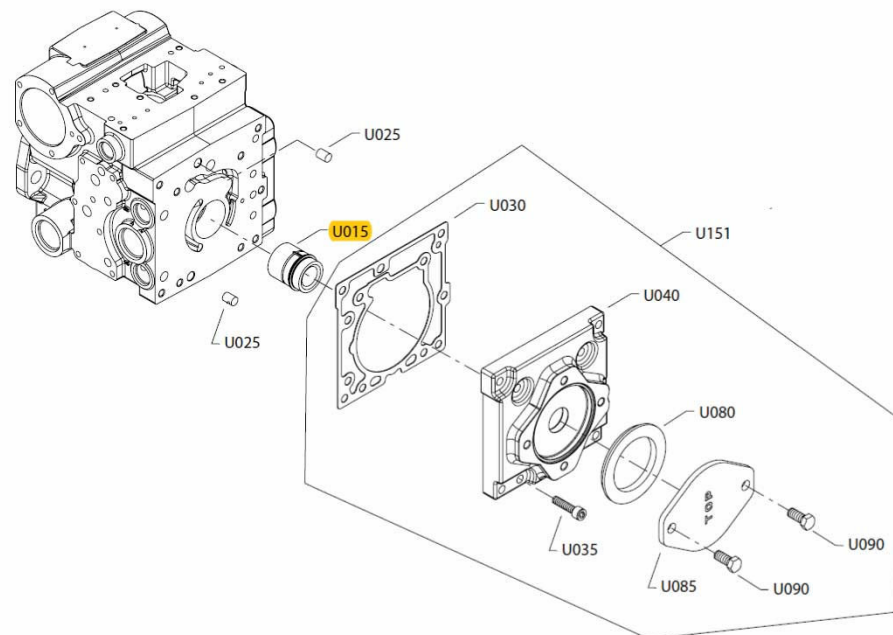
Parts manual correction

Revision

This revision corrects a part number originally listed in SB-2018-029. The corrected number is found below.

Description

The series 42 pumps 41/51cc parts manual lists the incorrect part number for a 9 tooth auxiliary coupling. Item U015 under the 9 tooth coupling was listed as 1724087. This part number fits onto a 20 tooth spline, not the 22 tooth spline used in the 41/51cc pumps. The corrected part number is 1724104.



Models affected

Series 42, 41/51cc pumps

Serial numbers

Not applicable

Part numbers affected

Not applicable

Service Bulletin

Parts disposition

Not applicable

Products we offer:

- Cartridge valves
- DCV directional control valves
- Electric converters
- Electric machines
- Electric motors
- Gear motors
- Gear pumps
- Hydraulic integrated circuits (HICs)
- Hydrostatic motors
- Hydrostatic pumps
- Orbital motors
- PLUS+1® controllers
- PLUS+1® displays
- PLUS+1® joysticks and pedals
- PLUS+1® operator interfaces
- PLUS+1® sensors
- PLUS+1® software
- PLUS+1® software services, support and training
- Position controls and sensors
- PVG proportional valves
- Steering components and systems
- Telematics

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www.daikin-sauer-danfoss.com

**Danfoss
Power Solutions (US) Company**
2800 East 13th Street
Ames, IA 50010, USA
Phone: +1 515 239 6000

**Danfoss
Power Solutions GmbH & Co. OHG**
Krokamp 35
D-24539 Neumünster, Germany
Phone: +49 4321 871 0

**Danfoss
Power Solutions ApS**
Nordborgvej 81
DK-6430 Nordborg, Denmark
Phone: +45 7488 2222

**Danfoss
Power Solutions Trading
(Shanghai) Co., Ltd.**
Building #22, No. 1000 Jin Hai Rd
Jin Qiao, Pudong New District
Shanghai, China 201206
Phone: +86 21 2080 6201

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