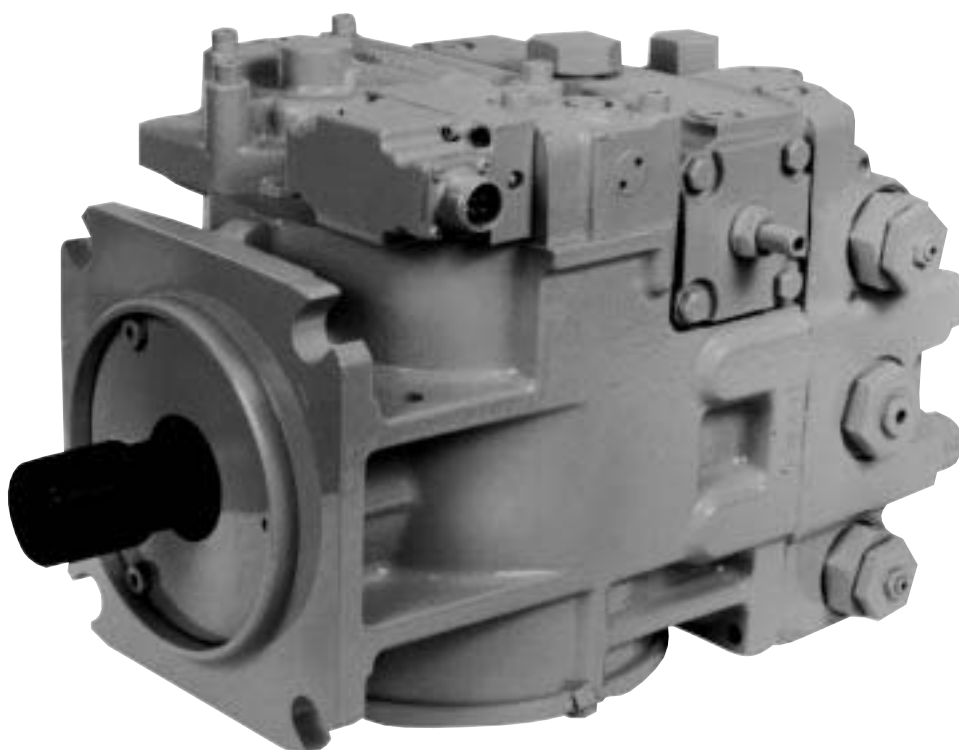

Series 90



250 cc - Axial Piston

Pump

Service Parts Manual

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Service Parts Identification

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

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

- Nameplate -

Each pump will have a nameplate affixed to the housing. The name plate will include the following information.

Model Code _____
The Sauer-Danfoss model code completely defines the specific unit and must be used when ordering the complete unit for the first time or for ordering parts to service the product.

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

Serial Number _____
The Sauer-Danfoss serial number is used to identify the manufacturing location, manufacturing date and the unit sequence in the build. The serial number is also used to identify the unit's warranty time period.

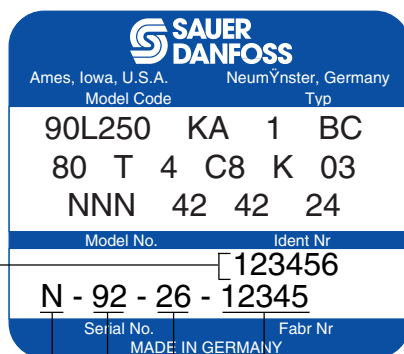
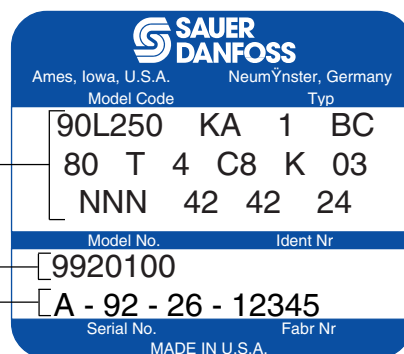
Identification Number
Pumps manufactured in Germany will have an identification number instead of a model number.

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

The first number (2 digits) indicates the year of manufacture. ("92" would indicate the unit was manufactured in 1992)

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

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



Date Code

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

EXAMPLE: The service part desired is Item E10.

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin → End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model</u>
	E10	92-19 →	746107	Side cover (SB-9203)	1
	"	95-28 → 92-18	340133	Side cover	1

All units using this module group with a date code of 95-28 and up to and including 92-18 must use part number 340133. All units with a date code of 92-19 and up must use part number 746107.

Service Bulletins

A Service Bulletin Number (**SB- _ _ _**) may follow the Description of the part you desire. You must read that Service Bulletin prior to ordering that part. A copy of each of 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 Given Part/Part Number

General

The modular design of Series 90 units results in a simplified Service Parts List and Part Identification Procedure.

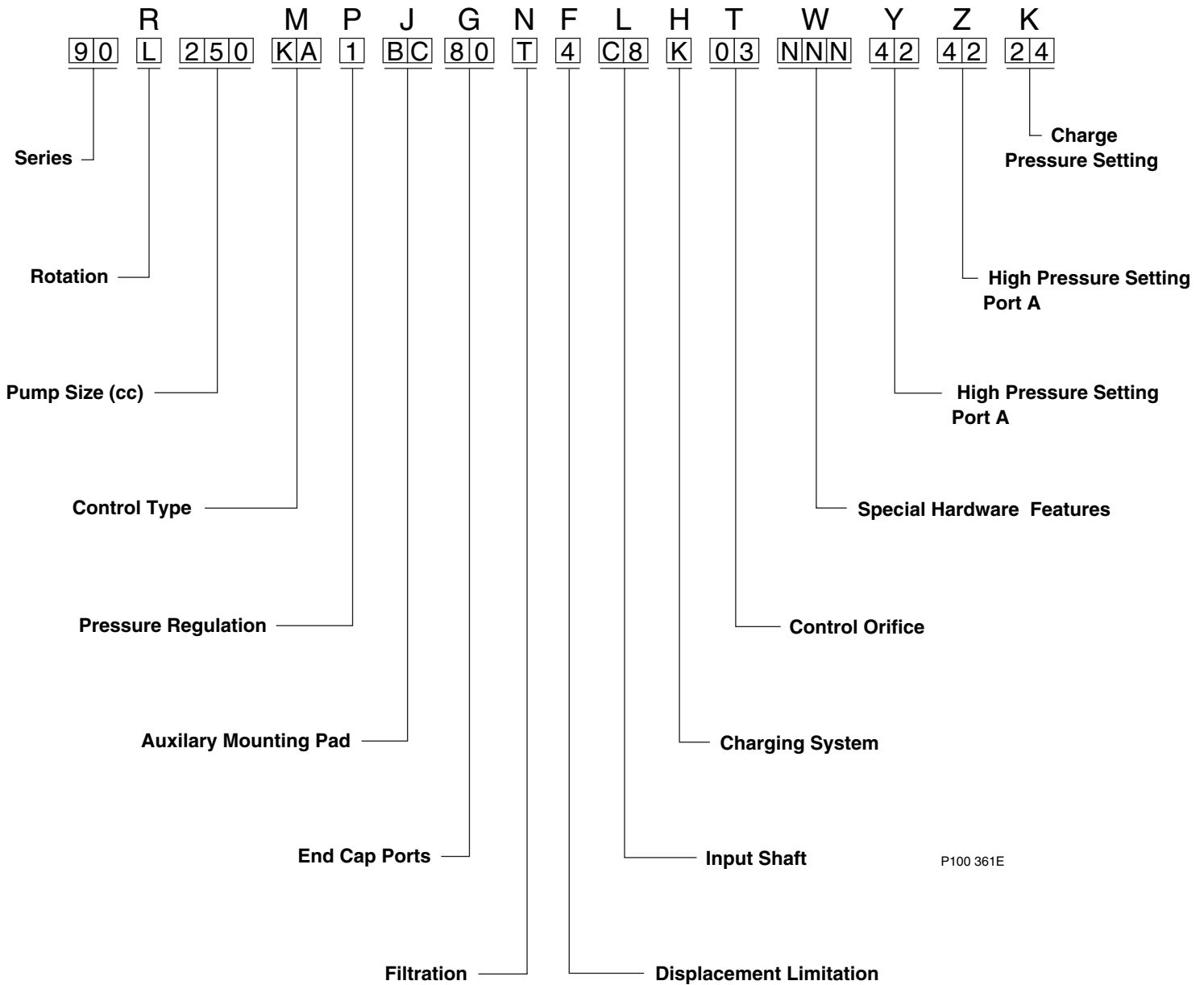
The same item numbers are used for same part description on all units within a product type. (Example: The shaft seal - Item Number L40 has the same item number on all variable displacement pumps.)

All Item Numbers begin with a letter. The letter identifies a particular module. (Example: any items beginning with K relate to the charge relief valve; items beginning with L relate to the input shaft components, etc.)

Example of a Part Identification

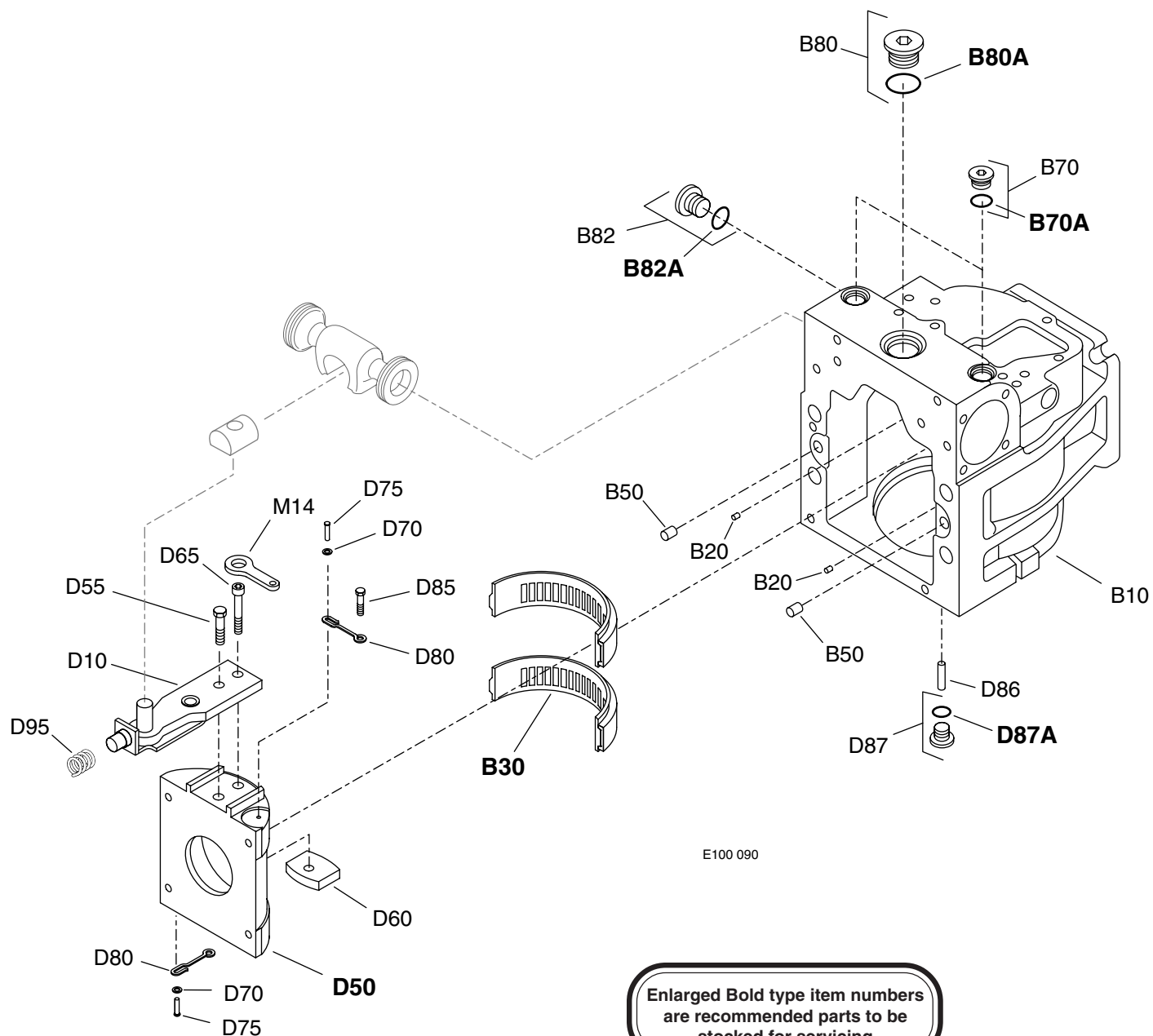
The nameplate on a Series 90 pump has an Order Code of 90L250 KA 1 BC 80 T 4 C8 K 03 NNN 42 42 24. Use the following procedures to determine the part number of the filtration kit used on this pump.

- 1) Referring to the input shaft module in the Model Code (see page 5), the shaft option for this unit is identified by the code C8 (90L250 KA 1 BC 80 T 4 **C8** K 03 NNN 42 42 24)
- 2) Referring to the Service Parts List, find the shaft group. Next find the order code that relates to this unit, which is C8. The shaft is found to be item L1 and part number 504338.



P100 361E

Common Parts



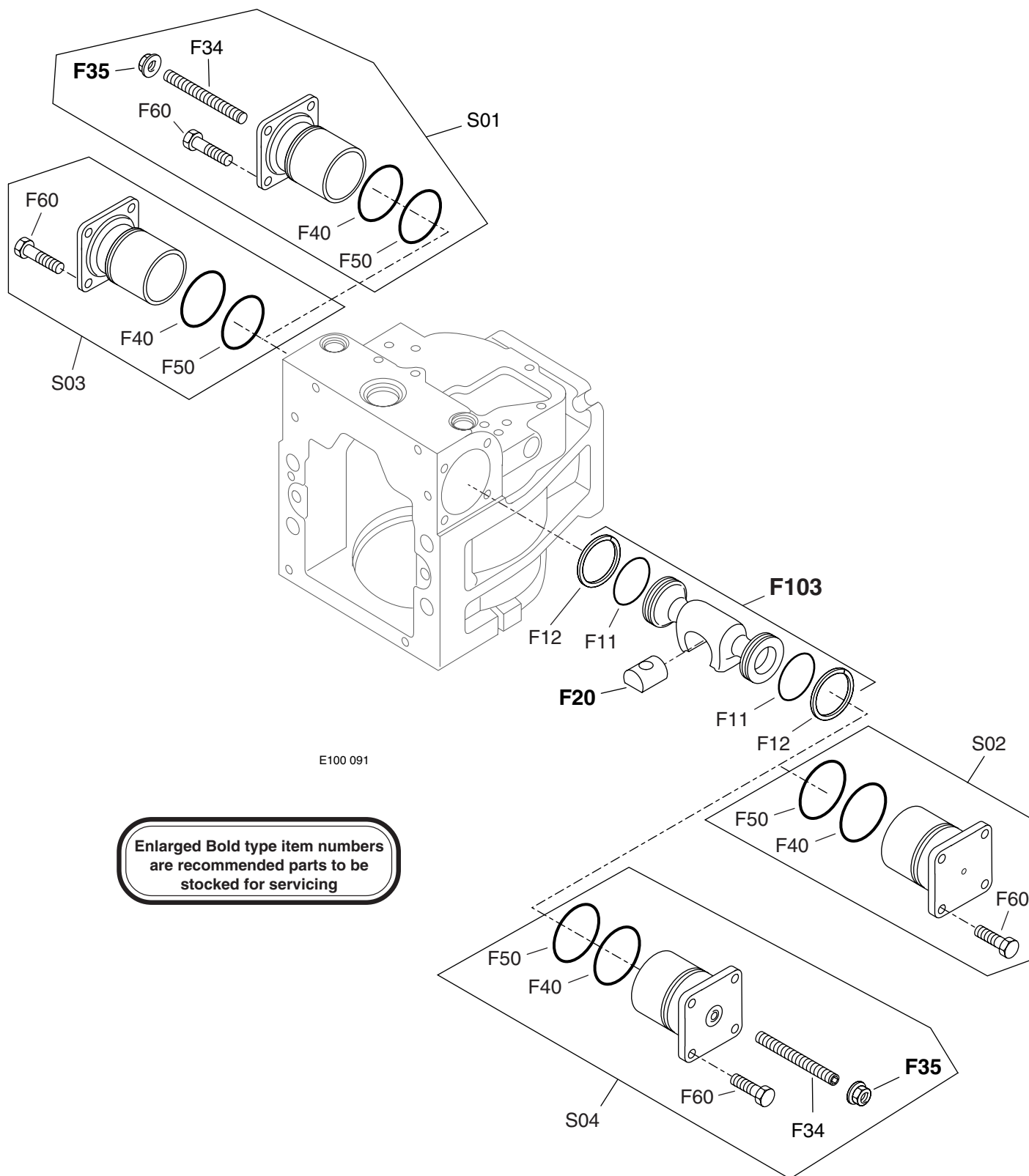
250 cc Variable Displacement Pump

Common Parts

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin</u> → <u>End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model/Kit</u>
	B10	95-28 →	506697	Housing assembly	1
	B20	95-28 →	648550 (9004800-1904)	Pin	2
	B30	95-28 →	746313	Cradle bearing assembly	1
	B50	95-28 →	001289 (9004800-3708)	Pin	2
	B70	95-28 →	515965 (9005110-5600)	Plug	2
	B70A	95-28 →	085043 (9004201-3700)	O-ring	2
	B80	95-28 →	676734 (9005110-9500)	Plug	1
	B80A	95-28 →	093823 (9004201-9200)	O-ring	1
	B82	95-28 →	515965 (9005110-5600)	Plug	2
	B82A	95-28 →	085043 (9004201-3700)	O-ring	2
	D10	95-28 →	746339	Servo arm assembly	1
	D50	95-28 →	504347	Swashplate	1
	D55	95-28 →	746362	Screw	1
	D65	95-28 →	504494	Screw	1
	D70	95-28 →	127464	Washer	2
	D75	95-28 →	333369	Spiral head pin	2
	D80	95-28 →	700948	Cage locator link	2
	D85	95-28 →	500449	Screw	1
	D86	95-28 →	770594	Pin	1
	D87	95-28 →	504519	Plug	1
	D87A	95-28 →	039297 (9004201-1200)	O-ring	1
	D95	95-28 →	746396	Spring	1
	M14	95-28 →	747451	Feedback link (SB-9625)	1

Bold Items indicate recommended parts to be stocked for servicing

Displacement Limitation



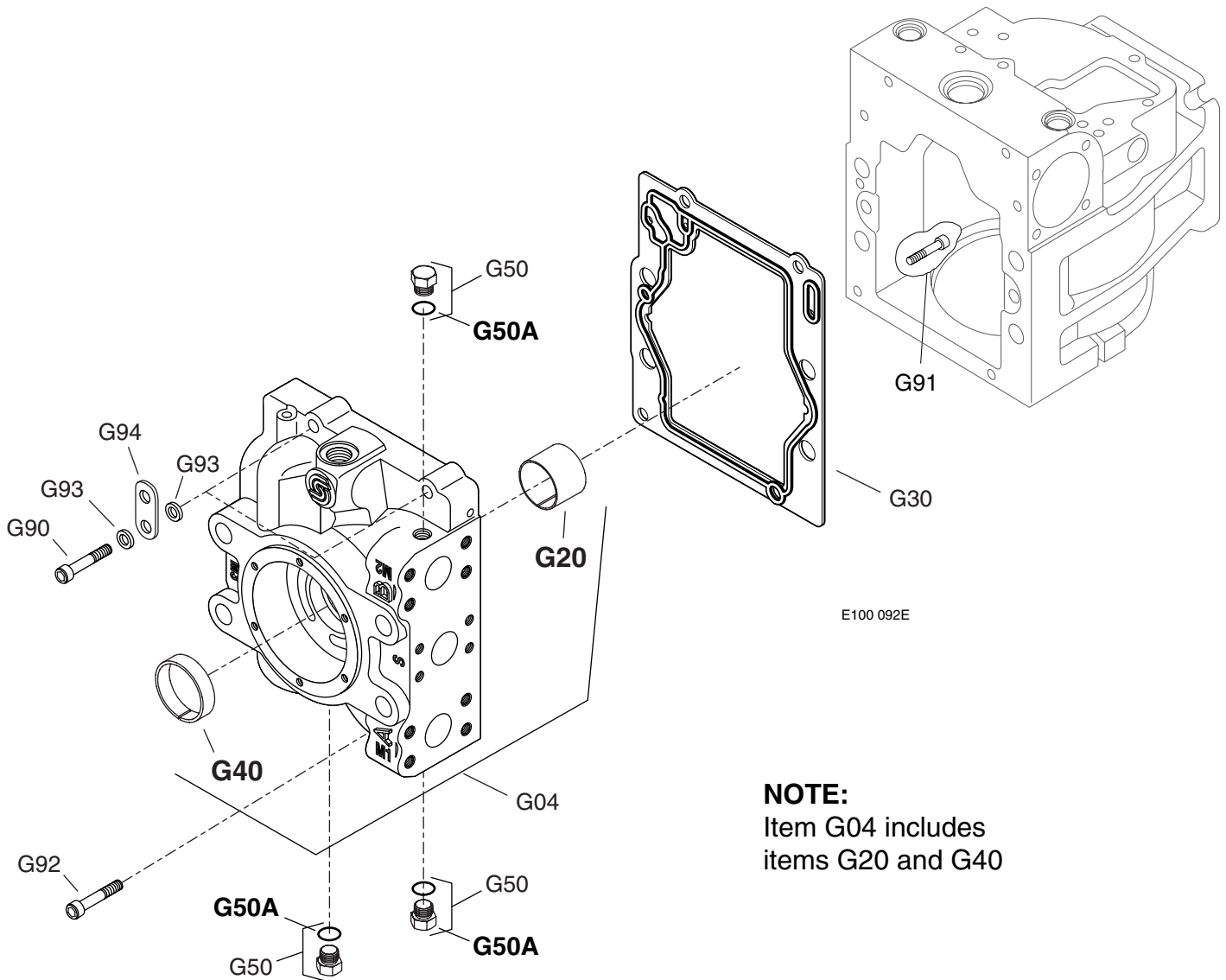
250 cc Variable Displacement Pump

F: Displacement Limitation Group

Order Code	Item	Date Code <u>Begin</u> → <u>End</u>	Part Number	Description	Qty. per Model/Kit
	F103	95-28 →	509290	Servo piston assembly	1
	F11	95-28 →	504627	O-ring	2
	F12	95-28 →	507802	Piston ring	2
	F20	95-28 →	746479	Slider block	1
3	S02	95-28 →	8510133	Servo piston kit - no limitation	1
	F40	95-28 →	092742 (9004104-1520)	O-ring	1
	F50	95-28 →	755272	O-ring	1
	F60	95-28 →	308643	Screw	4
	S03	95-28 →	8510133	Servo piston kit - no limitation	1
	F40	95-28 →	092742 (9004104-1520)	O-ring	1
	F50	95-28 →	755272	O-ring	1
	F60	95-28 →	308643	Screw	4
4	S01	95-28 →	8510134	Servo piston kit - adjustable	1
	F34	95-28 →	755033	Set screw	1
	F35	95-28 →	649822	Seal nut	1
	F40	95-28 →	092742 (9004104-1520)	O-ring	1
	F50	95-28 →	755272	O-ring	1
	F60	95-28 →	308643	Screw	4
	S04	95-28 →	8510134	Servo piston kit - adjustable	1
	F34	95-28 →	755033	Set screw	1
	F35	95-28 →	649822	Seal nut	1
	F40	95-28 →	092742 (9004104-1520)	O-ring	1
	F50	95-28 →	755272	O-ring	1
	F60	95-28 →	308643	Screw	4

Bold Items indicate recommended parts to be stocked for servicing

End cap



NOTE:
Item G04 includes
items G20 and G40

Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

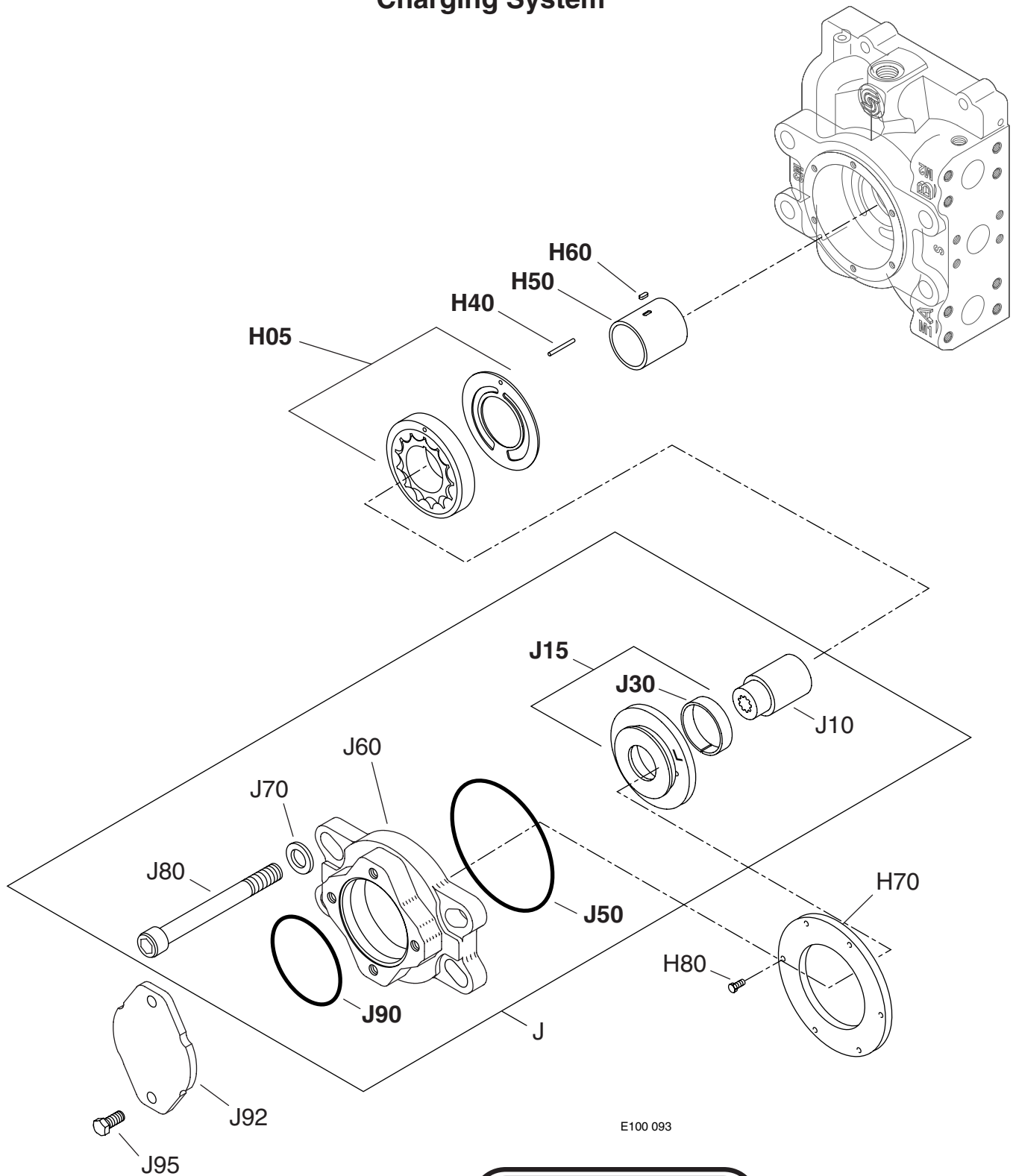
250 cc Variable Displacement Pump

G: End Cap Group

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin</u> → <u>End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model/Kit</u>
8 & 80	G04	95-28 →	504504	End cap, twin ports	1
	G20	95-28 →	504503	Journal bearing	1
	G40	95-28 →	303651	Bushing	1
	G30	95-28 →	504417	End cap gasket	1
	G50	95-28 →	046151 (9005100-5600)	Plug	3
	G50A	95-28 →	085043 (9004201-3700)	O-ring	3
	G90	95-28 →	356220	Screw	2
	G91	95-28 →	290502	Screw	1
	G92	95-28 →	505261	Screw	1
	G93	95-28 →	505479	Washer	4
	G94	95-28 →	713818 (8800565)	Lifting bracket	2

Bold Items indicate recommended parts to be stocked for servicing

Charging System



E100 093

**Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing**

250 cc Variable Displacement Pump

H: Charging System Group

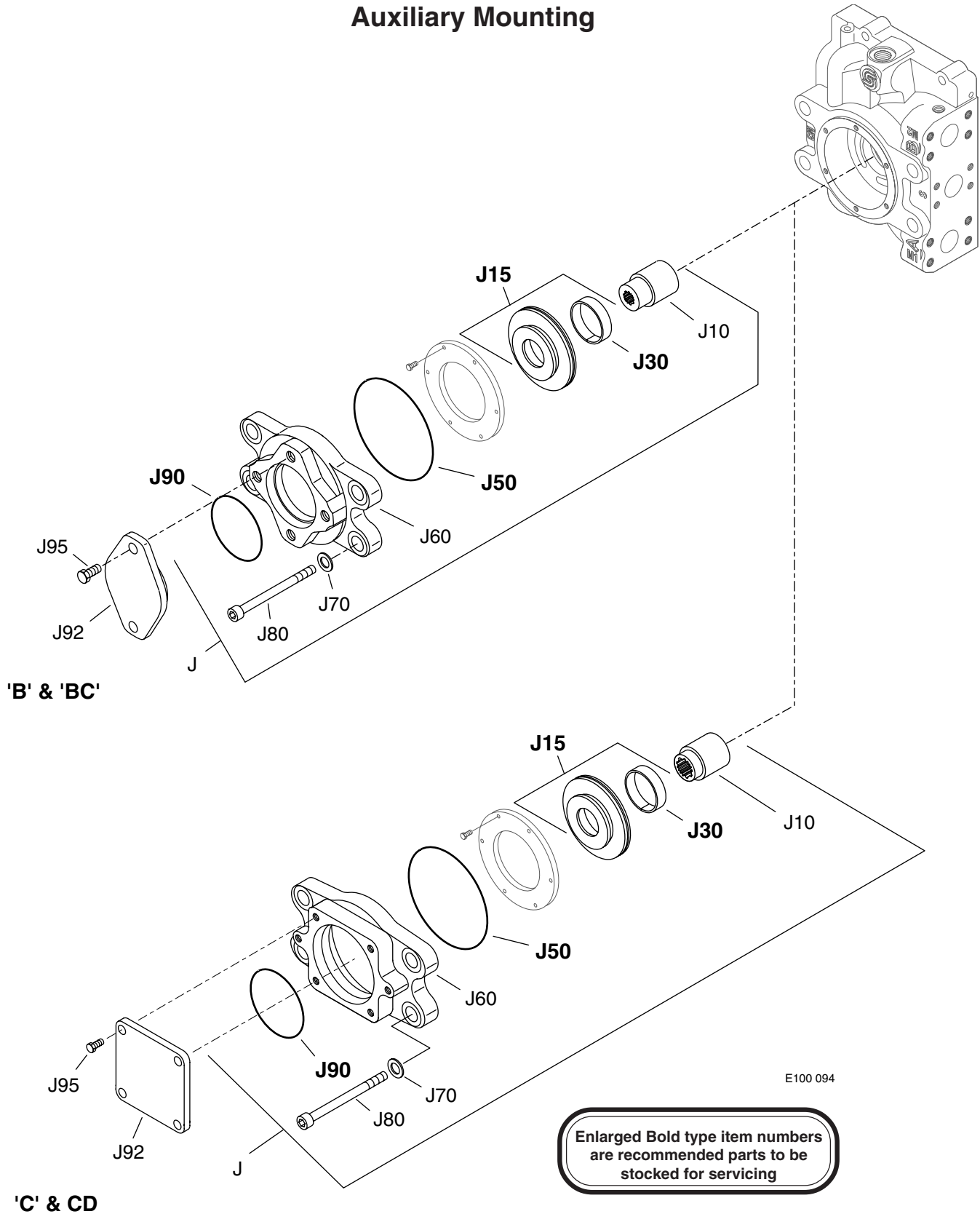
Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
J	H05	95-28 →	504557	Charge pump, 47 cc	1
	H40	95-28 →	504507	Pin	1
	H50	95-28 →	509482	Charge pump shaft (SB-9714)	1
	H60	95-28 →	734608	Key	1
	H70	95-28 →	303644	Retaining plate	1
	H80	95-28 →	378083	Screw	6
K	H05	95-28 →	505410	Charge pump, 65 cc	1
	H40	95-28 →	504507	Pin	1
	H50	95-28 →	509482	Charge pump shaft (SB-9714)	1
	H60	95-28 →	734608	Key	1
	H70	95-28 →	303644	Retaining plate	1
	H80	95-28 →	378083	Screw	6

J: Auxiliary Mounting Pad Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
A & AB (‘L’ rotation)	J	95-28 →	8510138	Aux. mtg. A flange kit, 9 t., LH	1
	J10	95-28 →	766964	Coupling	1
	J15	95-28 →	501401	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505136	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726950 (9004104-0420)	O-ring	1
	J92	95-28 →	545475 (9802336)	Cover plate	1
	J95	95-28 →	012203 (9007200-3714)	Screw	2
A & AB (‘R’ rotation)	J	95-28 →	8510139	Aux. mtg. A flange kit, 9 t., RH	1
	J10	95-28 →	766964	Coupling	1
	J15	95-28 →	501402	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505136	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726950 (9004104-0420)	O-ring	1
	J92	95-28 →	545475 (9802336)	Cover plate	1
	J95	95-28 →	012203 (9007200-3714)	Screw	2

Bold Items indicate recommended parts to be stocked for servicing

Auxiliary Mounting



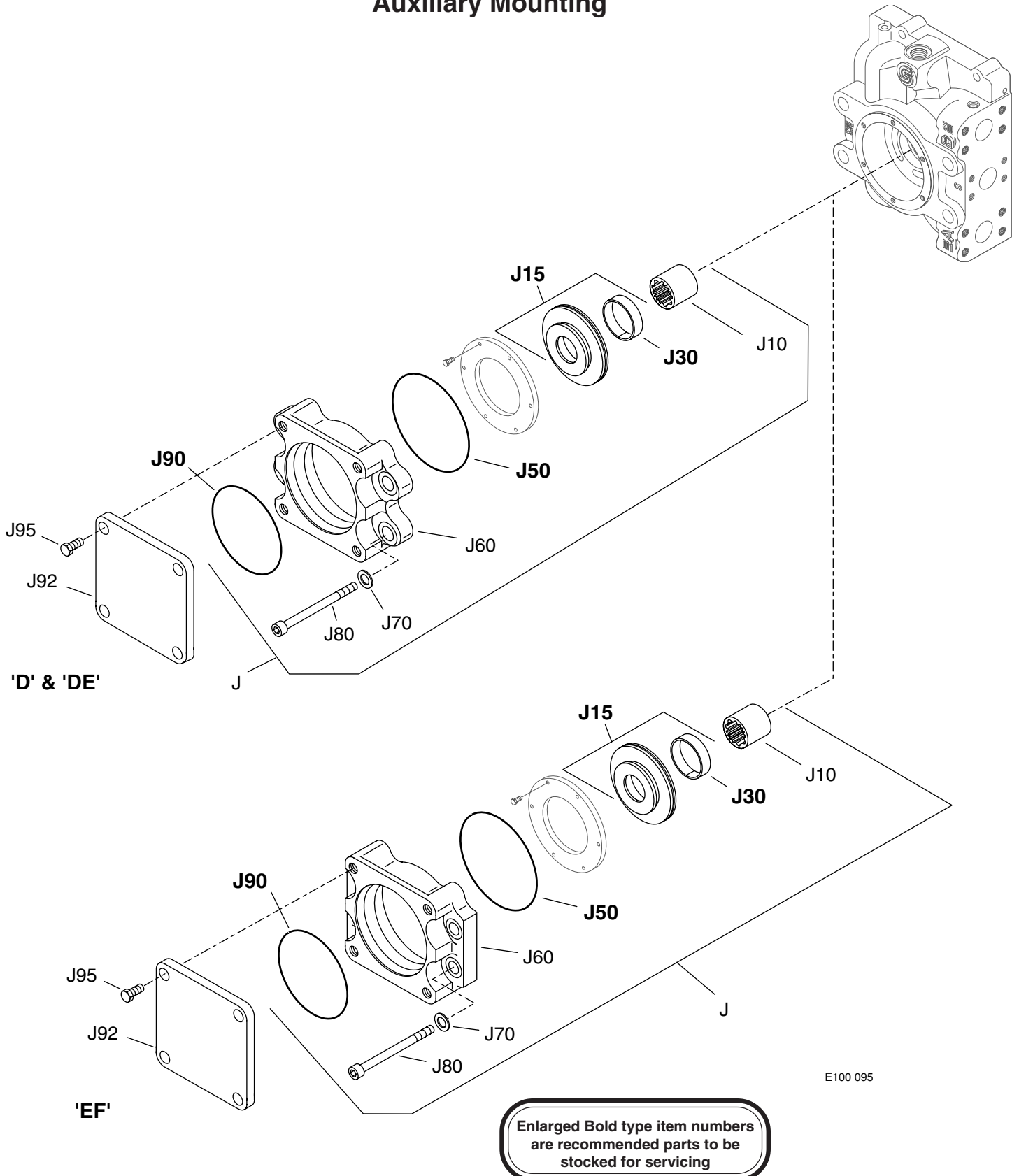
250 cc Variable Displacement Pump

J: Auxiliary Mounting Pad Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
B & BC (‘L’ rotation)	J	95-28 →	8510140	Aux. mtg. B flange kit, 13 t., LH	1
	J10	95-28 →	767566	Coupling	1
	J15	95-28 →	501401	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505132	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726935 (9004104-0450)	O-ring	1
	J92	95-28 →	689091 (4460370)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	2
B & BC (‘R’ rotation)	J	95-28 →	8510141	Aux. mtg. B flange kit, 13 t., RH	1
	J10	95-28 →	767566	Coupling	1
	J15	95-28 →	501402	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505132	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726935 (9004104-0450)	O-ring	1
	J92	95-28 →	689091 (4460370)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	2
C & CD (‘L’ rotation)	J	95-28 →	8510142	Aux. mtg. C flange kit, 14 t., LH	1
	J10	95-28 →	768523	Coupling	1
	J15	95-28 →	501401	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505139	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726943 (9004104-0490)	O-ring	1
	J92	95-28 →	307363 (8800406)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	4
C & CD (‘R’ rotation)	J	95-28 →	8510143	Aux. mtg. C flange kit, 14 t., RH	1
	J10	95-28 →	768523	Coupling	1
	J15	95-28 →	501402	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505139	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726943 (9004104-0490)	O-ring	1
	J92	95-28 →	307363 (8800406)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	4

Bold Items indicate recommended parts to be stocked for servicing

Auxiliary Mounting



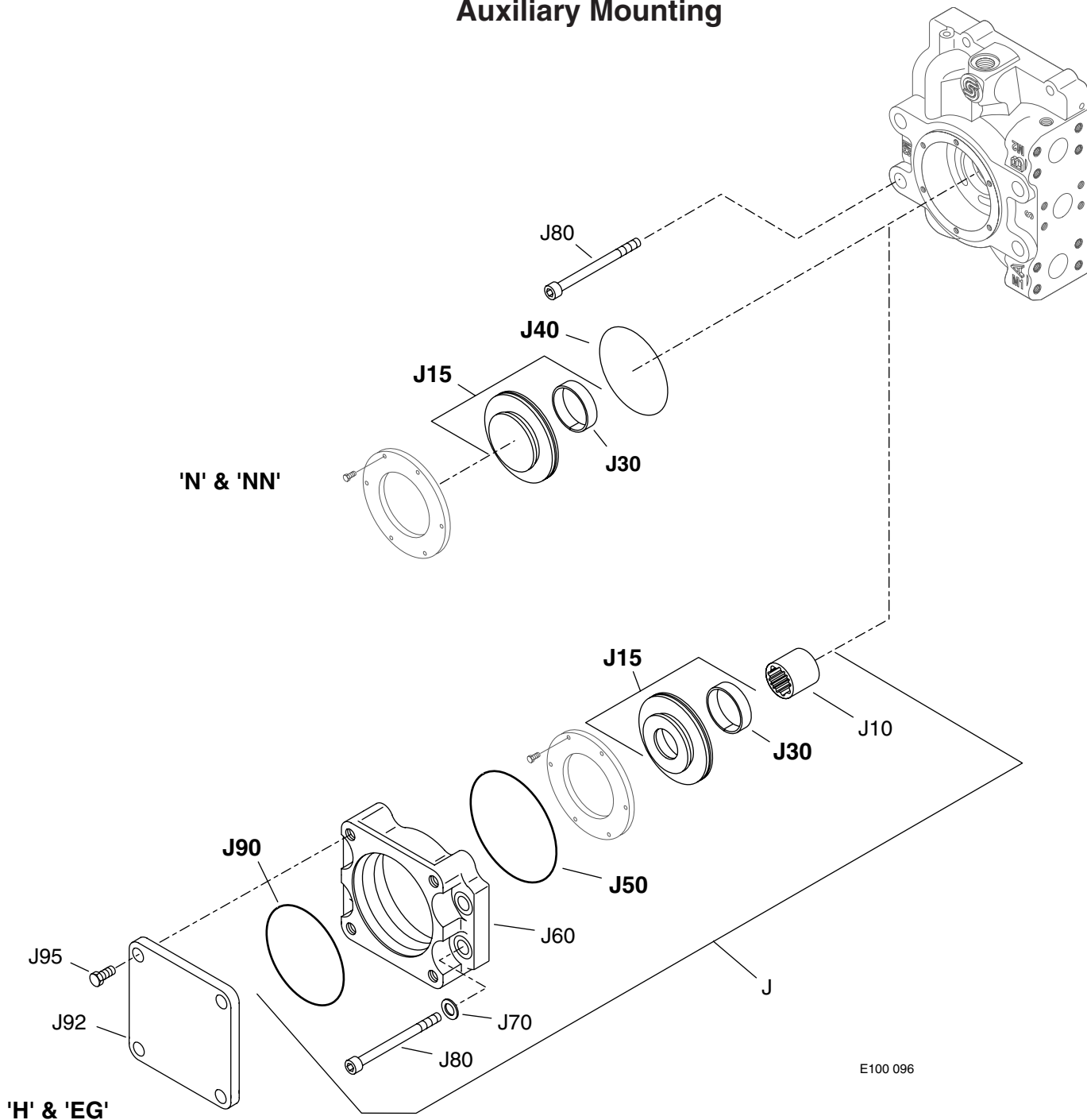
250 cc Variable Displacement Pump

J: Auxiliary Mounting Pad Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
D & DE (‘L’ rotation)	J	95-28 →	8510144	Aux. mtg. D flange kit, 13 t., LH	1
	J10	95-28 →	768564	Coupling	1
	J15	95-28 →	503666	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505140	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726927	O-ring	1
	J92	95-28 →	338400	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4
D & DE (‘R’ rotation)	J	95-28 →	8510145	Aux. mtg. D flange kit, 13 t., RH	1
	J10	95-28 →	768564	Coupling	1
	J15	95-28 →	503663	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505140	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726927	O-ring	1
	J92	95-28 →	338400	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4
EF (‘L’ rotation)	J	95-28 →	8510191	Aux. mtg. E flange kit, 13 t., LH	1
	J10	95-28 →	768564	Coupling	1
	J15	95-28 →	503666	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505141	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	505068	O-ring	1
	J92	95-28 →	750422	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4
EF (‘R’ rotation)	J	95-28 →	8510192	Aux. mtg. E flange kit, 13 t., RH	1
	J10	95-28 →	768564	Coupling	1
	J15	95-28 →	503663	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505141	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	505068	O-ring	1
	J92	95-28 →	750422	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4

Bold Items indicate recommended parts to be stocked for servicing

Auxiliary Mounting



**Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing**

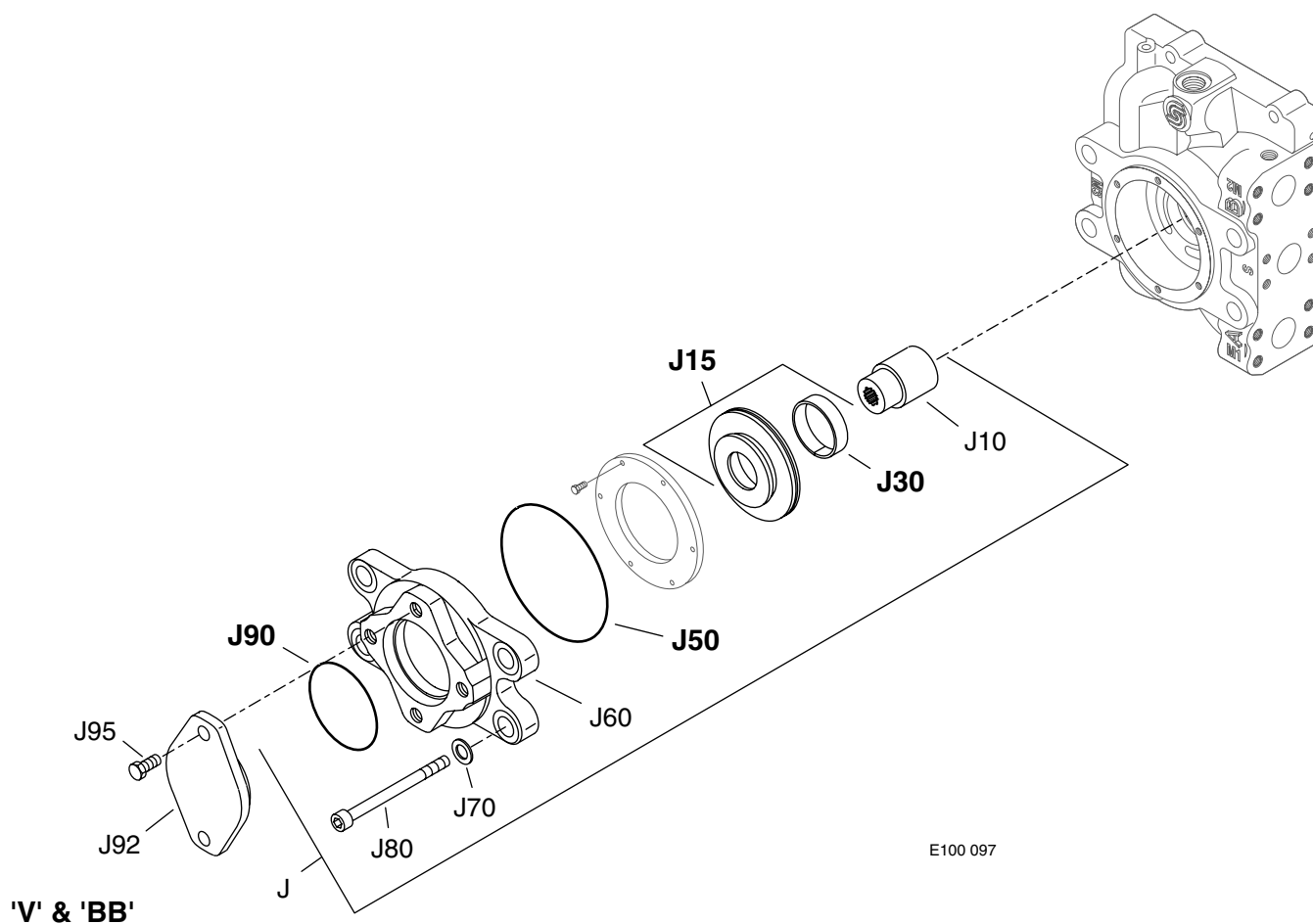
250 cc Variable Displacement Pump

J: Auxiliary Mounting Pad Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
H & EG (‘L’ rotation)	J	95-28 →	8510193	Aux. mtg. E flange kit, 27 t., LH	1
	J10	95-28 →	751701	Coupling	1
	J15	95-28 →	503666	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505141	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	505068	O-ring	1
	J92	95-28 →	750422	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4
H & EG (‘R’ rotation)	J	95-28 →	8510194	Aux. mtg. E flange kit, 27 t., RH	1
	J10	95-28 →	751701	Coupling	1
	J15	95-28 →	503663	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505141	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	505068	O-ring	1
	J92	95-28 →	750422	Cover plate	1
	J95	95-28 →	338426 (9007200-7524)	Screw	4
N & NN	J15	95-28 →	501400	Charge pump cover	1
	J30	95-28 →	303651	Bushing	1
	J40	95-28 →	916940	O-ring	1
	J80	95-28 →	505422	Screw	4

Bold Items indicate recommended parts to be stocked for servicing

Auxiliary Mounting



Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

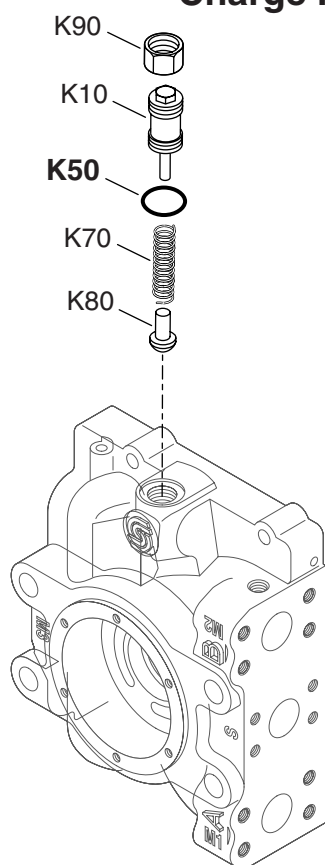
250 cc Variable Displacement Pump

J: Auxiliary Mounting Pad Group

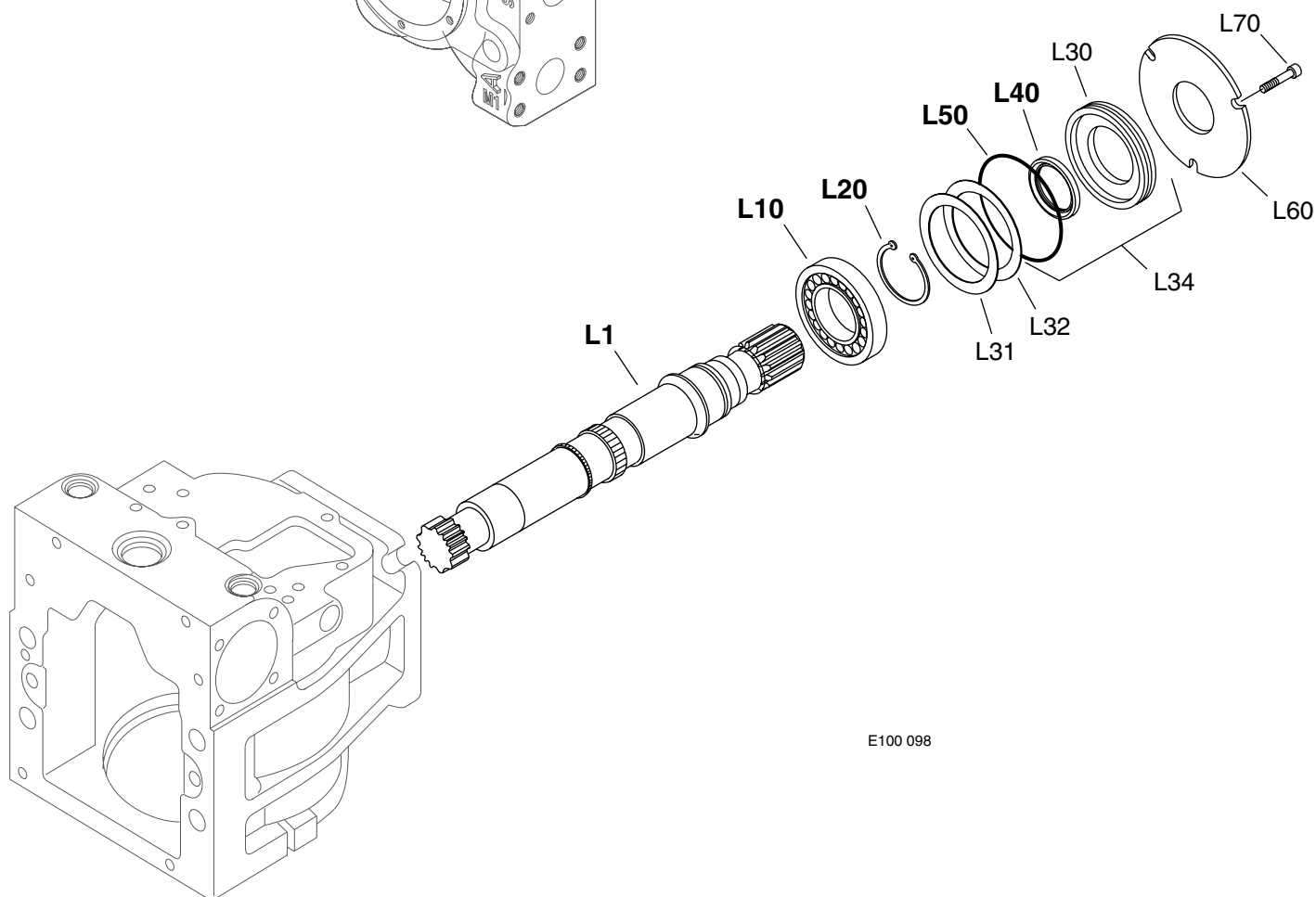
Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
V & BB	J	95-28 →	8510136	Aux. mtg. B-B flange kit, 15 t., LH	1
('L' rotation)	J10	95-28 →	773739	Coupling	1
	J15	95-28 →	501401	Cover assy., CCW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505132	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726935 (9004104-0450)	O-ring	1
	J92	95-28 →	689091 (4460370)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	2
V & BB	J	95-28 →	8510137	Aux. mtg. B-B flange kit, 15 t., RH	1
('R' rotation)	J10	95-28 →	773739	Coupling	1
	J15	95-28 →	501402	Cover assy., CW	1
	J30	95-28 →	303651	Bushing	1
	J50	95-28 →	505068	O-ring	1
	J60	95-28 →	505132	Flange adaptor	1
	J70	95-28 →	279729	Washer	4
	J80	95-28 →	505260	Screw	4
	J90	95-28 →	726935 (9004104-0450)	O-ring	1
	J92	95-28 →	689091 (4460370)	Cover plate	1
	J95	95-28 →	647248 (9007200-5021)	Screw	2

Bold Items indicate recommended parts to be stocked for servicing

Charge Relief/Shaft



Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing



E100 098

250 cc Variable Displacement Pump

K: Charge Pressure Setting

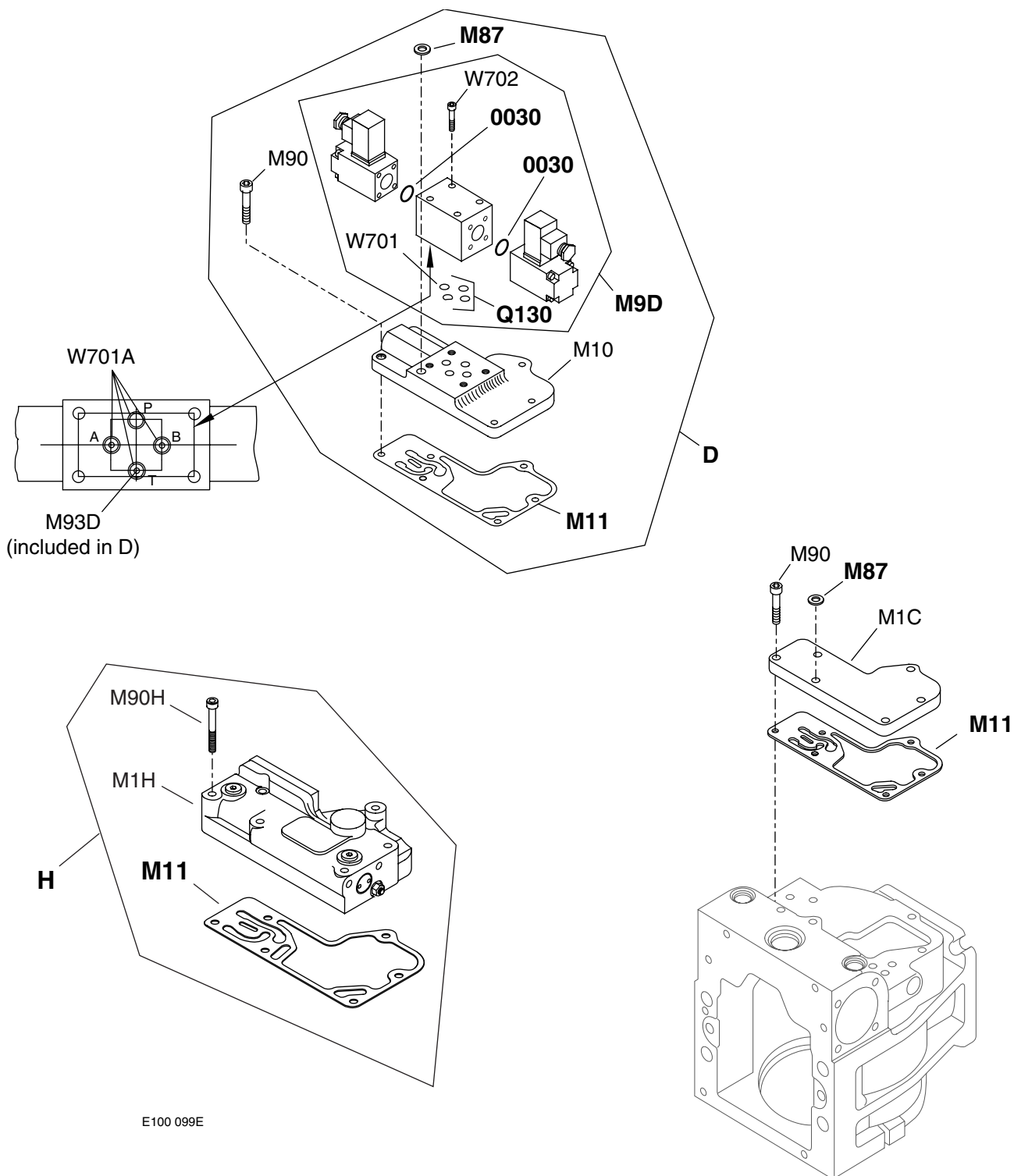
Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
00-30	K10	95-28 →	343095	Plug assembly	1
	K50	95-28 →	001156 (9004201-7500)	O-ring	1
	K70	95-28 →	709469	Spring	1
	K80	95-28 →	343087	Poppet	1
	K90	95-28 →	343848	Nut	1
	L10	95-28 →	746487	Roller bearing	1
	L20	95-28 →	392233	Retaining ring	1
	L30	95-28 →	303503	Seal carrier	1
	L31	95-28 →	392712	Support shim	1
	L32	95-28 →	373563	Shim	1
	L34	95-28 →	510018	Seal assembly	1
	L40	95-28 →	673525 (9008000-0114)	Lip seal	1
	L50	95-28 →	509353	O-ring	1
	L60	95-28 →	303529	Retainer plate	1
	L70	95-28 →	393603 (9007315-0806)	Screw	3

L: Shaft Group

C8	L1	95-28 →	504338	Shaft, 27 tooth spline	1
F1	L1	95-28 →	504411	Shaft, 13 tooth spline	1

Bold Items indicate recommended parts to be stocked for servicing

Control



Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

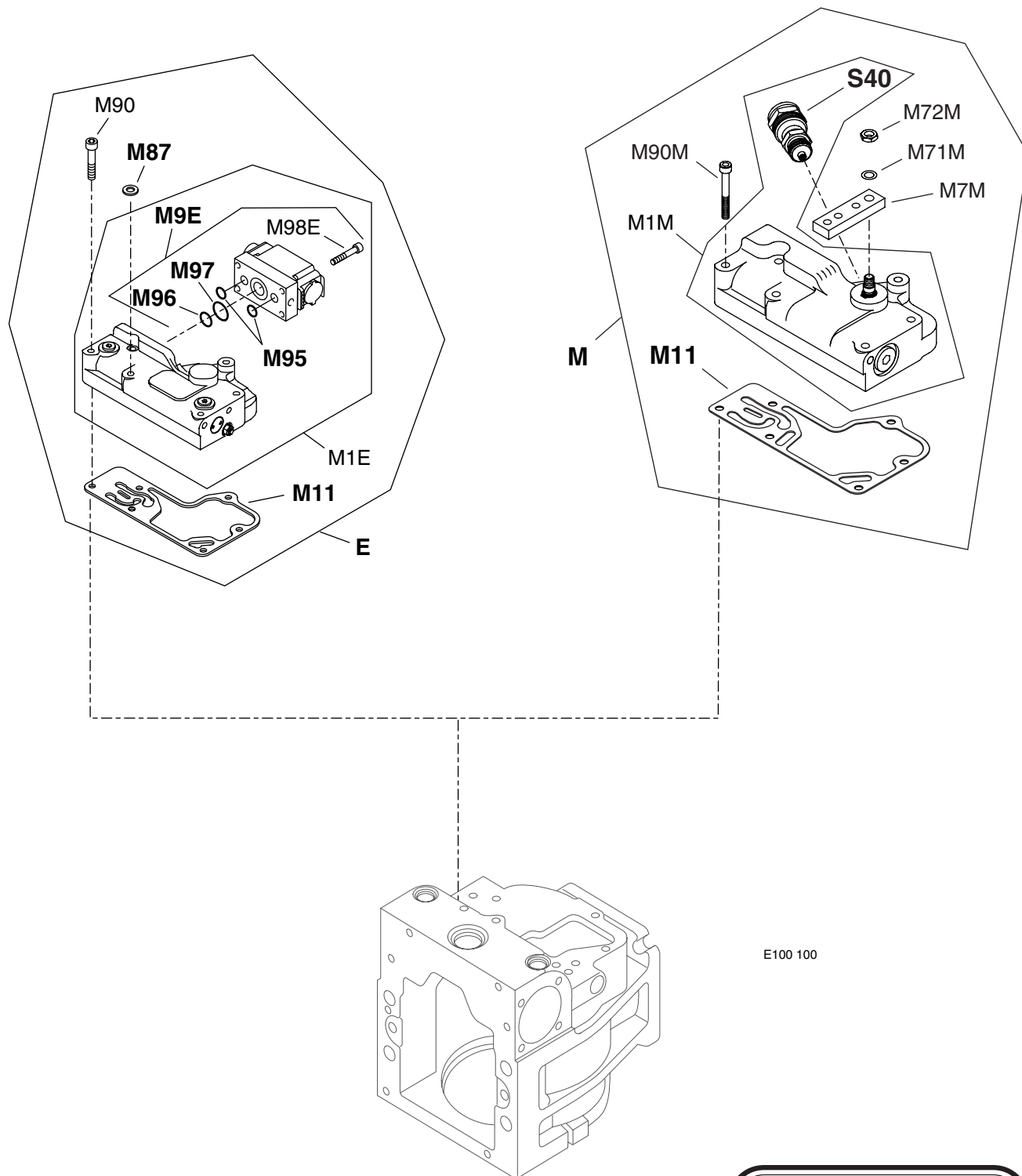
250 cc Variable Displacement Pump

M: Control Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
CB	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1C	95-28 →	501097	Cover plate	1
	M87C	95-28 →	592386	Seal Washer	1
	M90C	95-28 →	693341 (9007314-0606)	Screw	6
(Feedback link on Swashplate)					
DD	D	95-28 →	8510146	Control kit, 3 position sol. ,24v	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M87	95-28 →	592386	Seal Washer	1
	M90	95-28 →	693341 (9007314-0606)	Screw	6
	M93	95-28 →	509167	Orifice	1
	M9D	95-28 →	549907	Control,3 position sol.,24v	6
	Q130	95-28 →	504093	O-ring kit	1
	W701	95-28 →	048413	O-ring	4
	W702	95-28 →	141135	Screw	4
HF	0030	95-28 →	711242	O-ring	2
	H	95-28 →	8510157	HDC kit	1
	M11	95-28 →	753806 (K11420)	Control gasket	1
	M1H	95-28 →	MCV115A1803	HDC	1
	M87H	95-28 →	592386	Seal Washer	1
	M90H	95-28 →	692889 (9007314-0611)	Screw	6

Bold Items indicate recommended parts to be stocked for servicing

Control



E100 100

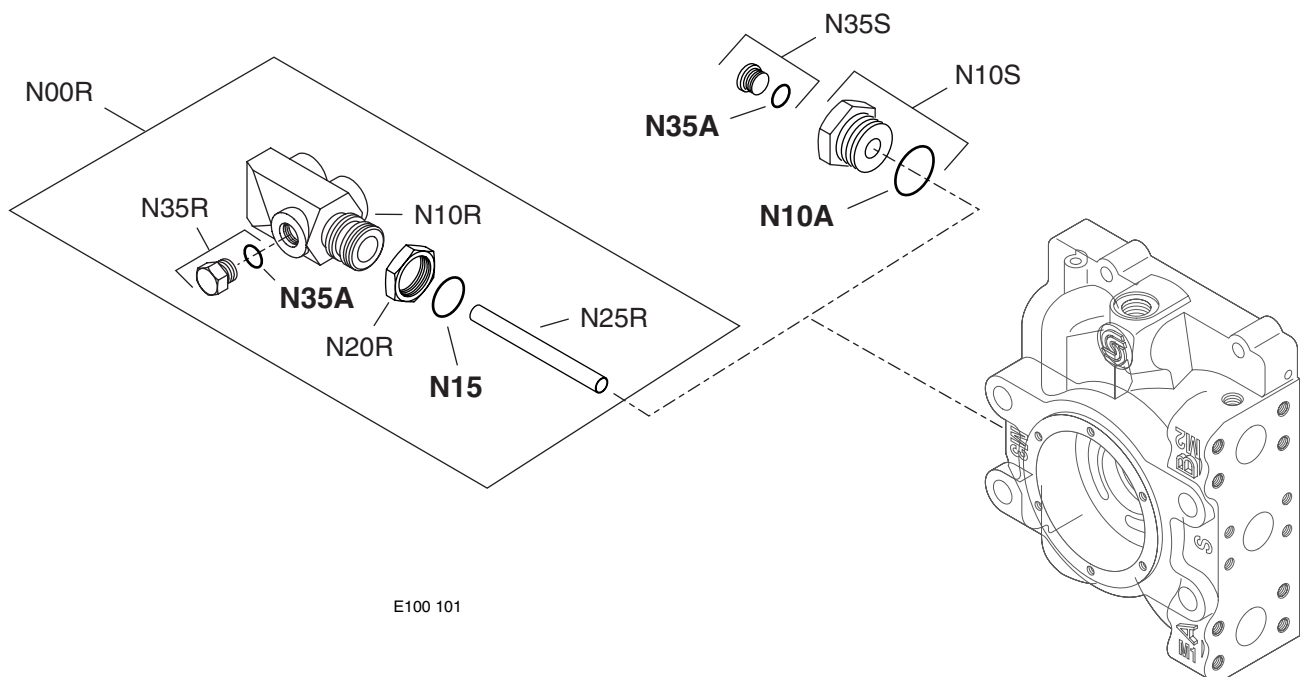
Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

M: Control Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
KA	E	95-28 →	8510155	EDC3 kit	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1E	95-28 →	506936 (KVEAB1802)	EDC	1
	M9E	95-28 →	MCV116F4201	PCP, type 4, MS conn.	1
	M87E	95-28 →	592386	Seal Washer	1
	M90E	95-28 →	692889 (9007314-0611)	Screw	6
	M95E	95-28 →	318337 (9004104-0120)	O-ring	2
	M96E	95-28 →	011296 (9004105-0120)	O-ring	1
	M97E	95-28 →	784686 (9004104-0130)	O-ring	1
	M98E	95-28 →	067678 (9007315-0504)	Screw	4
KN	E	95-28 →	8510185	EDC3 kit	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1E	95-28 →	508289 (KVEAA1807)	EDC	1
	M9E	95-28 →	MCV116A3501	PCP, type 3, MS conn.	1
	M87E	95-28 →	592386	Seal Washer	1
	M90E	95-28 →	692889 (9007314-0611)	Screw	6
	M95E	95-28 →	318337 (9004104-0120)	O-ring	2
	M96E	95-28 →	011296 (9004105-0120)	O-ring	1
	M97E	95-28 →	784686 (9004104-0130)	O-ring	1
	M98E	95-28 →	067678 (9007315-0504)	Screw	4
KP	E	95-28 →	8510156	EDC3 kit	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1E	95-28 →	506937 (KVEAB1804)	EDC	1
	M9E	95-28 →	MCV116F4204	PCP, type 4, Weather pack conn.	1
	M87E	95-28 →	592386	Seal Washer	1
	M90E	95-28 →	692889 (9007314-0611)	Screw	6
	M95E	95-28 →	318337 (9004104-0120)	O-ring	2
	M96E	95-28 →	011296 (9004105-0120)	O-ring	1
	M97E	95-28 →	784686 (9004104-0130)	O-ring	1
	M98E	95-28 →	067678 (9007315-0504)	Screw	4
MA	M	95-28 →	8510158	MDC kit w/o neutral start	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1M	95-28 →	787242	MDC w/o neutral start switch	1
	M7M	95-28 →	006874 (9800916)	Control handle	1
	M71M	95-28 →	689018 (9009660-3100)	Washer	1
	M72M	95-28 →	040642 (9003513-0800)	Nut	1
	M87M	95-28 →	592386	Seal Washer	1
	M90M	95-28 →	692889 (9007314-0611)	Screw	6
MB	M	95-28 →	8510186	MDC kit w/neutral start	1
	M11	95-28 →	790345 (8800923)	Control gasket	1
	M1M	95-28 →	787267	MDC w/neutral start switch	1
	M7M	95-28 →	006874 (9800916)	Control handle	1
	M71M	95-28 →	689018 (9009660-3100)	Washer	1
	M72M	95-28 →	040642 (9003513-0800)	Nut	1
	M87M	95-28 →	592386	Seal Washer	1
	M90M	95-28 →	692889 (9007314-0611)	Screw	6
	S40	95-28 →	8510027	Neutral start switch kit	1

Bold Items indicate recommended parts to be stocked for servicing

Filtration



Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

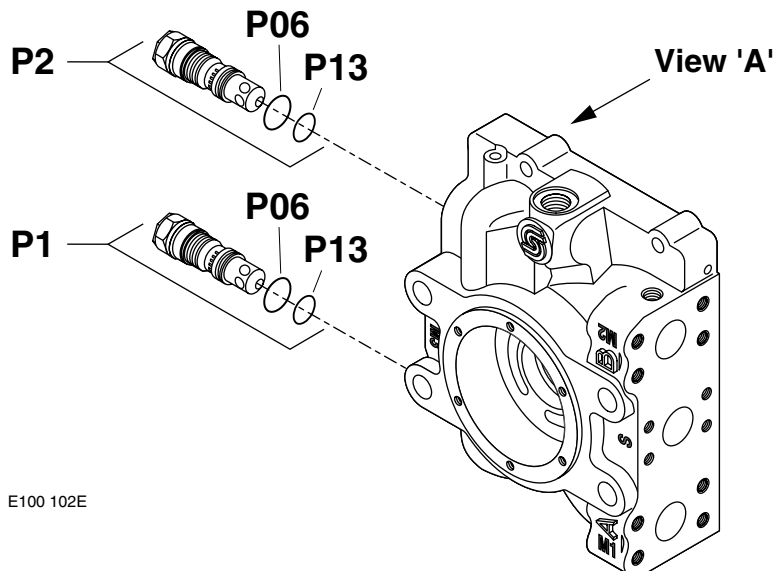
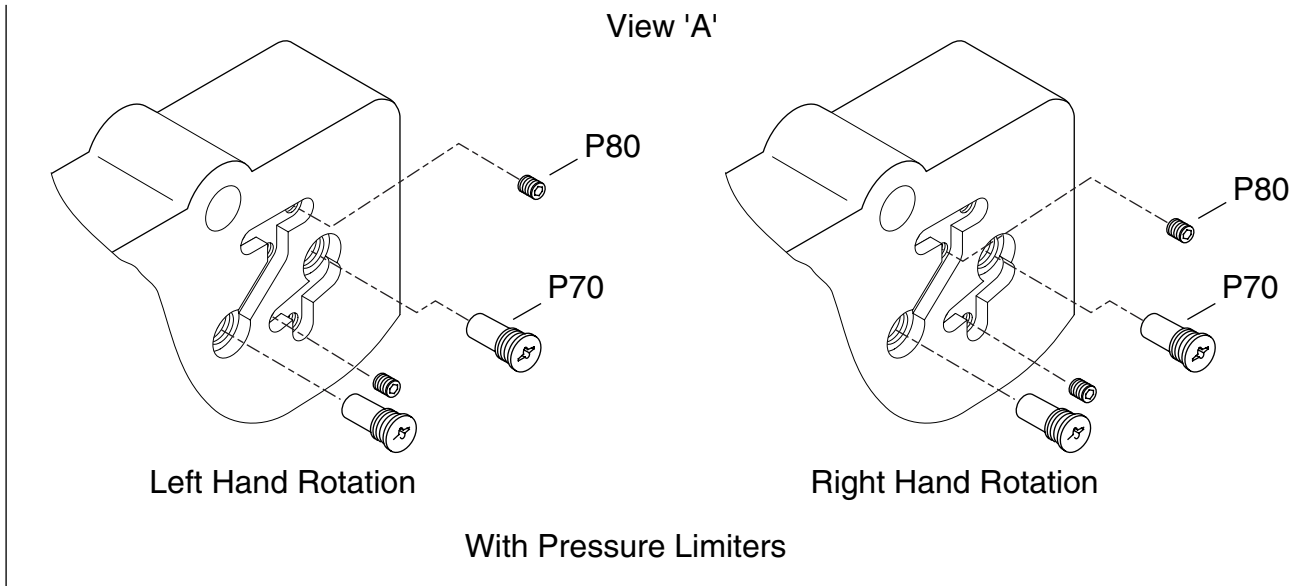
250 cc Variable Displacement Pump

N: Filtration Group

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
S	N10S	95-28 →	757831	Reducer fitting	1
	N10A	95-28 →	093823 (9004201-9000)	O-ring	1
	N35S	95-28 →	515965 (9005110-5600)	Plug	1
	N35A	95-28 →	085043 (9004201-3700)	O-ring	1
T	N00R	95-28 →	8510147	Filtration manifold kit	1
	N10R	95-28 →	507014	Manifold	1
	N15	95-28 →	093823 (9004201-9000)	O-ring	1
	N20R	95-28 →	367102	Nut	1
	N25R	95-28 →	507016	Tube	1
	N35R	95-28 →	046151 (9005100-5600)	Plug	2
	N35A	95-28 →	085043 (9004201-3700)	O-ring	2

Bold Items indicate recommended parts to be stocked for servicing

High Pressure Regulation



E100 102E

Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

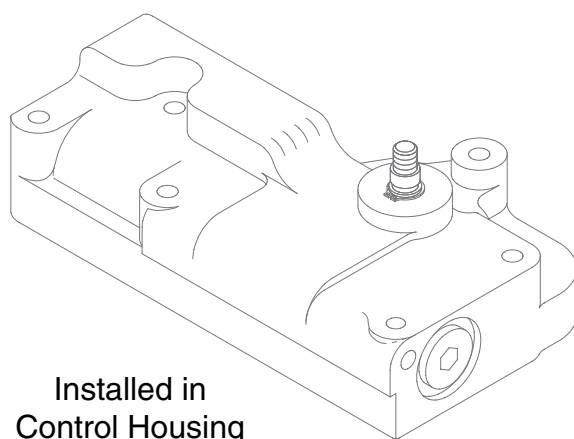
250 cc Variable Displacement Pump

P: High Pressure Regulation Group

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin</u> → <u>End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model/Kit</u>
1 (0-450 bar)	P1	95-28 →	8510023-1	Multi-function valve, w/PL	1
	P2	95-28 →	8510023-1	Multi-function valve, w/PL	1
	P6	95-28 →	360784 (9004105-0290)	O-ring	2
	P13	95-28 →	775155 (9004105-0250)	O-ring	2
	P70	95-28 →	681817 (8800188)	Check valve	2
	P80	95-28 →	508655 (9005475-0004)	Special plug	2
2 (0-450 bar)	P2A1	95-28 →	8510023-2	Multi-function valve, w/o PL	1
	P2B1	95-28 →	8510023-2	Multi-function valve, w/o PL	1
	P6	95-28 →	360784 (9004105-0290)	O-ring	2
	P13	95-28 →	775155 (9004105-0250)	O-ring	2
	P702	95-28 →	327007 (9005110-4400)	Plug	1
	P802	95-28 →	508655 (9005475-0004)	Special plug	3
6 (450-520 bar)	P1	95-28 →	8510023-6	Multi-function valve, w/PL	1
	P2	95-28 →	8510023-6	Multi-function valve, w/PL	1
	P6	95-28 →	360784 (9004105-0290)	O-ring	2
	P13	95-28 →	775155 (9004105-0250)	O-ring	2
	P70	95-28 →	681817 (8800188)	Check valve	2
	P80	95-28 →	508655 (9005475-0004)	Special plug	2

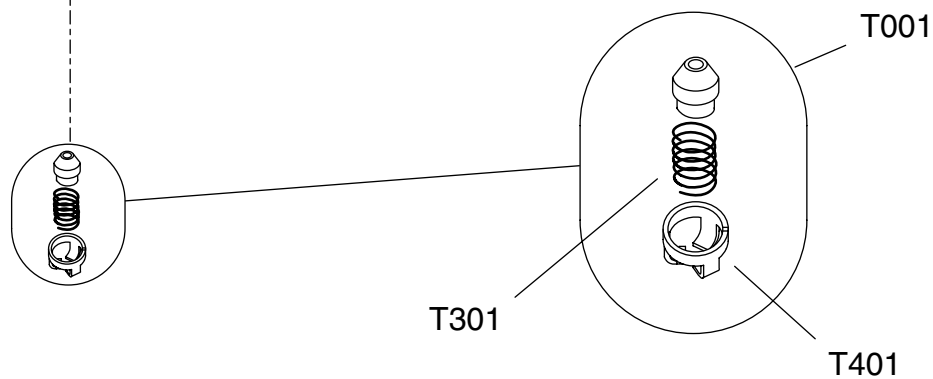
Bold Items indicate recommended parts to be stocked for servicing

Orifice



Installed in
Control Housing

E100 103E



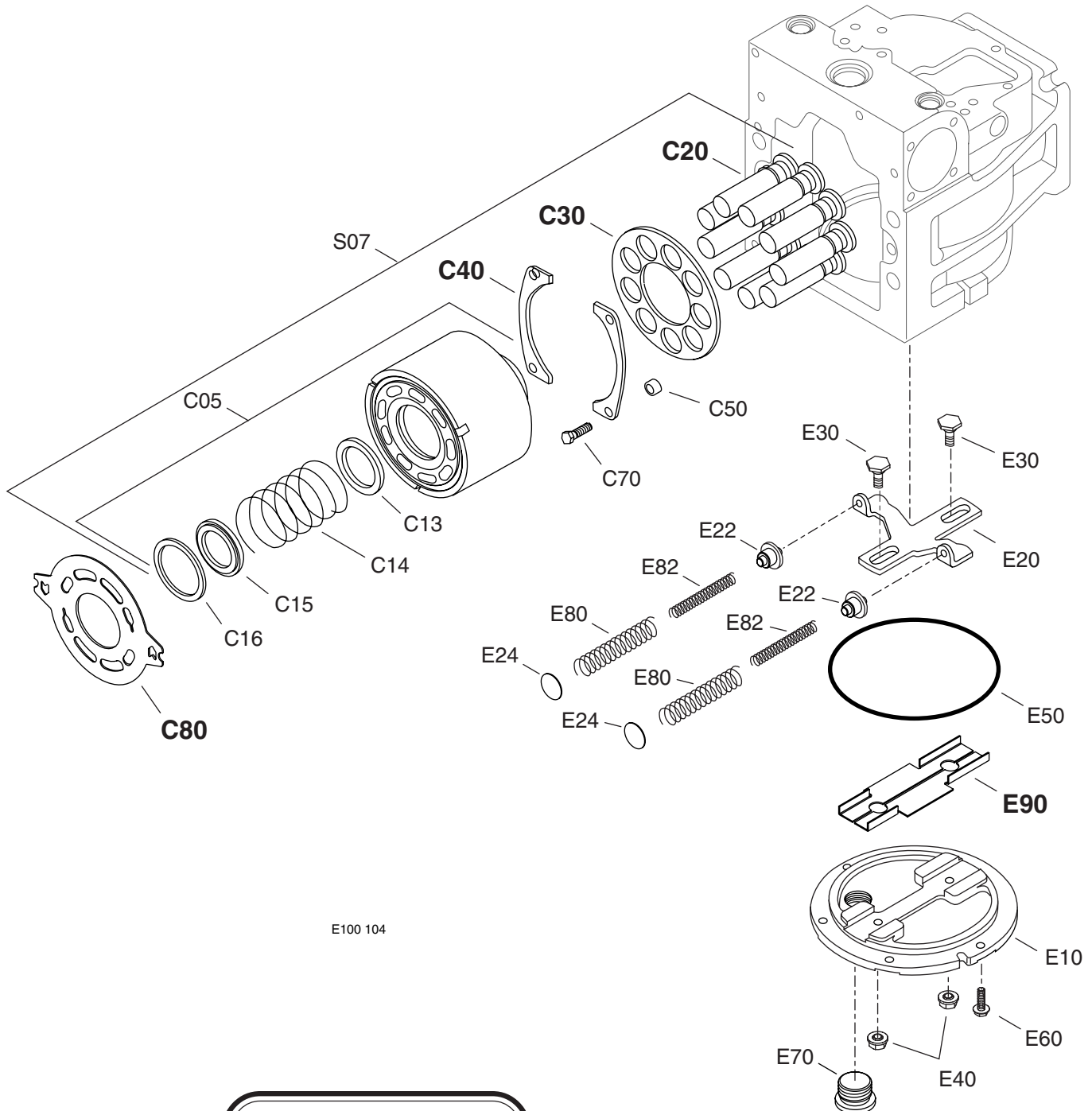
Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

250 cc Variable Displacement Pump

T: Orifice Group

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin → End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model/Kit</u>
01	T001	95-28 →	8002T001-A	Control orifice kit - .018	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
02	T001	95-28 →	8002T002-A	Control orifice kit - .026	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
03	T001	95-28 →	8002T003-A	Control orifice kit - .032	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
04	T001	95-28 →	8002T004-A	Control orifice kit - .040	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
05	T001	95-28 →	8002T005-A	Control orifice kit - .054	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
06	T001	95-28 →	8002T006-A	Control orifice kit - .062	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1
09	T001	95-28 →	8002T009-A	Control orifice kit - .092	1
	T301	95-28 →	8700007	Spring	1
	T401	95-28 →	8800340	Spring retainer	1

Special Hardware



E100 104

Enlarged Bold type item numbers
are recommended parts to be
stocked for servicing

250 cc Variable Displacement Pump

Order Code	Item	Date Code Begin → End	Part Number	Description	Qty. per Model/Kit
	S07	95-28 →	8510148	Cyl. block kit	1
	C05	95-28 →	504497	Cylinder block assembly	1
	C13	95-28 →	504469	Spring seat	1
	C14	95-28 →	508488	Cylinder block spring	1
	C15	95-28 →	504468	Spring retainer	1
	C16	95-28 →	504500	Retaining ring	1
	C20	95-28 →	504501	Welded piston	9
	C30	95-28 →	504386	Slipper guide	1
	C40	95-28 →	504377	Slipper guide bearing	2
	C50	95-28 →	504378	Spacer	4
	C70	95-28 →	308643	Screw	4
	E10	95-28 →	501579	Side cover	1
	E20	95-28 →	746420	Leveler	1
	E22	95-28 →	746438	Spring Seat	2
	E24	95-28 →	359067	Shim	2
	E30	97-08 →	8300012	Guide post (SB-9711)	2
	E40	95-28 →	042432	Nut	2
	E50	95-28 →	746446	O-ring	1
	E60	95-28 →	508441	Screw	6
	E70	95-28 →	676734 (9005110-9500)	Plug	1
	E80	95-28 →	746453	Spring	2
	E90	96-08 →	506914	Insert assembly (SB-9604)	1

W: Special Hardware Group

NNN	C80	95-28 →	507346	Pump valve plate, +1.5 degree	1
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Bold Items indicate recommended parts to be stocked for servicing

250 cc Variable Displacement Pump

Overhaul Seal Kit

<u>Order Code</u>	<u>Item</u>	<u>Date Code</u> <u>Begin → End</u>	<u>Part Number</u>	<u>Description</u>	<u>Qty. per Model/Kit</u>
S30		95-28 →	8510149	Overhaul seal kit	1
C70		95-28 →	308643	Screw	4
E40		95-28 →	042432	Nut	2
E50		95-28 →	746446	O-ring	1
E60		95-28 →	508441	Screw	6
F11		95-28 →	504627	O-ring	2
F12		95-28 →	507802	Piston ring	2
F40		95-28 →	092742 (9004104-1520)	O-ring	1
F50		95-28 →	755272	O-ring	2
G30		95-28 →	504417	End cap gasket	1
J40		95-28 →	916940	O-ring	1
J50		95-28 →	505068	O-ring	1
J90		95-28 →	505068	O-ring	1
J90		95-28 →	726950 (9004104-0420)	O-ring	1
J90		95-28 →	726935 (9004104-0450)	O-ring	1
J90		95-28 →	726943 (9004104-0490)	O-ring	1
J90		95-28 →	726927	O-ring	1
K50		95-28 →	001156 (9004201-7500)	O-ring	1
L40		95-28 →	673525 (9008000-0114)	Lip seal	1
L50		95-28 →	509353	O-ring	1
M11		95-28 →	790345 (8800923)	Control gasket	1
M11		95-28 →	753806 (K11420)	Control gasket	1
M87		95-28 →	592386	Seal washer	1
N15		95-28 →	093823 (9004201-9200)	O-ring	1
P6		95-28 →	360784 (9004105-0290)	O-ring	2
P13		95-28 →	775155 (9004105-0250)	O-ring	2

Bold Items indicate recommended parts to be stocked for servicing

NOTES

Service Bulletin SB-9604

PRODUCTS AFFECTED: Series 90: 42, 130, 180 & 250 cc Variable Pumps

SUBJECT: Side Cover Design Change

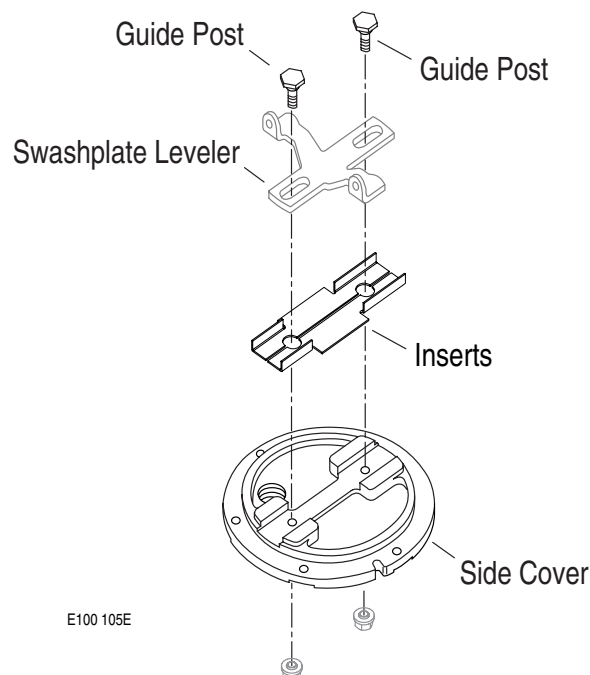
DESCRIPTION:

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

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

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

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



Service Bulletin SB-9604

MODELS AFFECTED:

All 42, 130, 180, & 250 cc variable pumps

SERIAL NUMBERS AFFECTED:

This change became effective at serial number N-96-08-xxxxx

PART NUMBERS AFFECTED:

Description	Old Part Numbers		New Part Numbers		
	Guide Post	Side Cover	Insert assy.	Guide Post	Side Cover Kit
42 cc	344465	751305	506916	506369	506380
130 cc	503205	746107	8300004	506368	506289
180 cc	503205	746404	506914	506368	506290
250 cc	503205	746404	506914	506368	506290

PARTS DISPOSITION:

- ☐ Not Applicable
- ☒ Interchangeable as a Kit
- ☐ Non-Interchangeable
- ☐ Use Parts in Stock
- ☐ Scrap Used Parts
- ☐ Return New Parts for Credit
- ☐ Order Replacement Parts
- ☐ Rework Parts in Stock
- ☐ Revise Existing Part Orders
- ☐ Scrap New Parts and Supply for Credit

Piece parts are not interchangeable

DISTRIBUTION:

- ☒ All Product Related Sauer-Danfoss Distributors
- ☒ All Product Related OEM's
- ☒ All ASCs
- ☒ Non-Restricted Distribution

Service Bulletin SB-9625

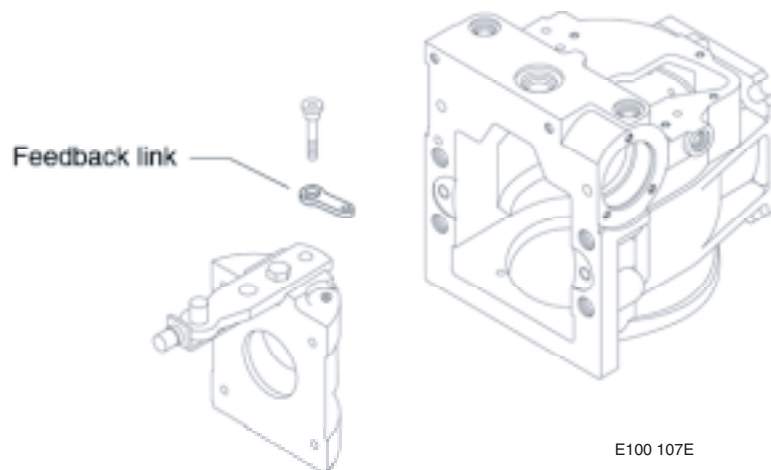
PRODUCTS AFFECTED: Series 90: 42 - 250 cc Variable Pumps

SUBJECT: Swashplate Feedback Link

DESCRIPTION:

Series 90 pumps of frame sizes 42 thru 130 cc may be operated with the swashplate feedback link installed and no control (cover plate only). This is only true for pumps built 89-47-xxxxx and beyond. Pumps built prior to this date must have the feedback link removed if no control is used.

The swashplate feedback link must be removed if no control is used on frame sizes 180 and 250 cc.



Service Bulletin SB-9625

MODELS AFFECTED:

All 932xxxx, 942xxxx, 952xxxx, 962xxxx, 972xxxx, 982xxxx, and 992xxxx variable pumps

SERIAL NUMBERS AFFECTED:

Units built N-89-47-xxxxx and beyond

PART NUMBERS AFFECTED:

N/A

PARTS DISPOSITION:

- ☒ Not Applicable
- ☐ Interchangeable
- ☐ Non-Interchangeable
- ☐ Use Parts in Stock
- ☐ Scrap Used Parts
- ☐ Return New Parts for Credit
- ☐ Order Replacement Parts
- ☐ Rework Parts in Stock
- ☐ Revise Existing Part Orders
- ☐ Scrap New Parts and Supply for Credit

DISTRIBUTION:

- ☒ All Product Related Sauer-Danfoss Distributors
- ☒ All Product Related OEM's
- ☒ All ASCs
- ☒ Non-Restricted Distribution

Service Bulletin SB-9711

PRODUCTS AFFECTED: Series 90: 130 - 250 cc Variable Pumps

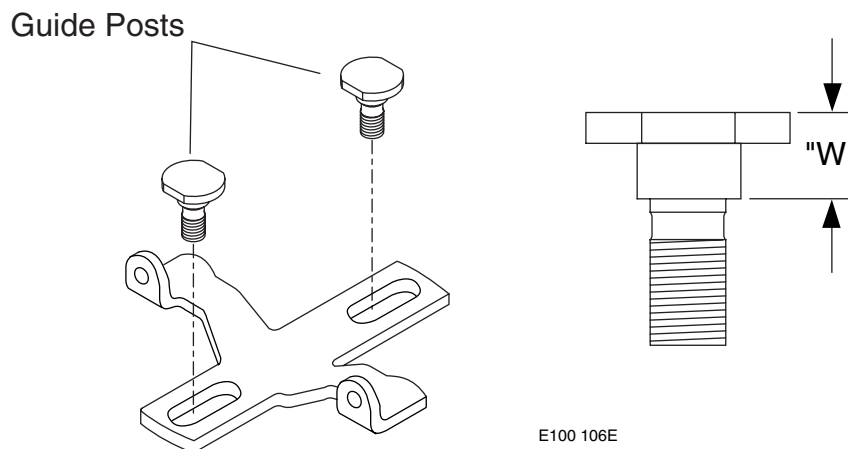
SUBJECT: Guide Post Part Number Change

DESCRIPTION:

As a product improvement, Sauer-Danfoss has changed the design of the guide post that is used on Series 90 130-250 cc pumps.

The old guide post has a "W" dimension of 0.457 inches (11.61 mm) and the new guide post has a "W" dimension of 0.449 inches (11.41 mm).

The old style guide post will become obsolete and no longer available as a service part.



E100 106E

Service Bulletin SB-9711

MODELS AFFECTED:

All 97-2xxxx, 972xxxx, 982xxxx and 992xxxx variable pumps

SERIAL NUMBERS AFFECTED:

This change became effective at serial number N-97-08-xxxxx

PART NUMBERS AFFECTED:

Frame Size	Old Guide Post Part Number	New Guide Post Part Number
130 thru 250 cc	506368	8300012

PARTS DISPOSITION:

- ☐ Not Applicable
- ☒ Interchangeable
- ☐ Non-Interchangeable
- ☐ Use Parts in Stock
- ☐ Scrap Used Parts
- ☐ Return New Parts for Credit
- ☐ Order Replacement Parts
- ☐ Rework Parts in Stock
- ☐ Revise Existing Part Orders
- ☐ Scrap New Parts and Supply for Credit

DISTRIBUTION:

- ☒ All Product Related Sauer-Danfoss Distributors
- ☒ All Product Related OEM's
- ☒ All ASCs
- ☒ Non-Restricted Distribution

Service Bulletin SB-9714

PRODUCTS AFFECTED: Series 90: 42, 130, 180 and 250 cc Variable Pumps

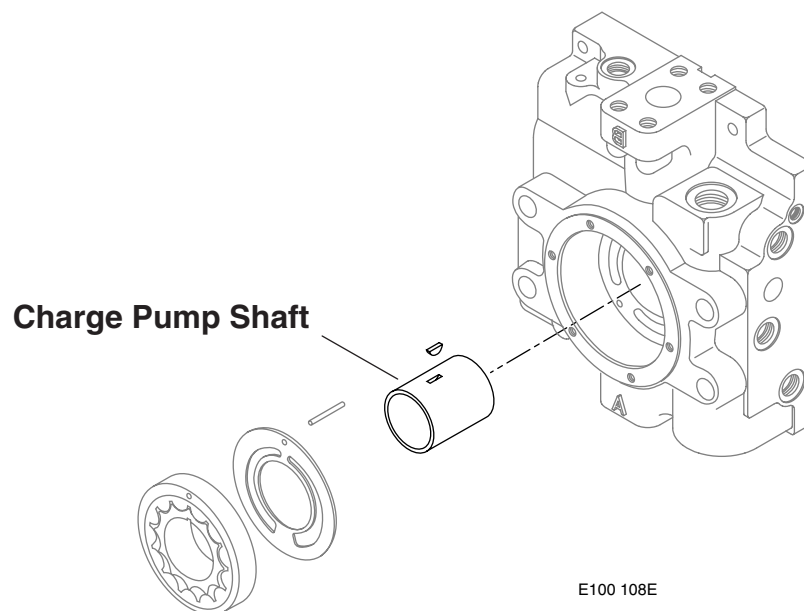
SUBJECT: Charge Pump Shaft Part Number Change

DESCRIPTION:

As a product improvement, Sauer-Danfoss has changed the design of the charge pump shaft used in Series 90 - 42, 130, 180, and 250 cc variable pumps.

The new and old shafts are interchangeable.

The old style charge pump shaft will become obsolete and no longer available as a service part.



Service Bulletin SB-9714

MODELS AFFECTED:

All 932xxxx, 972xxxx, 982xxxx and 992xxxx variable pumps

SERIAL NUMBERS AFFECTED:

See table below

PART NUMBERS AFFECTED:

Frame Size	Old Shaft Part Number	New Shaft Part Number	Effectivity Date
42	505202	509485	97-06
130	501399	509483	97-06
180	503519	509484	97-12
250	504439	509482	97-12

PARTS DISPOSITION:

- ☐ Not Applicable
- ☒ Interchangeable
- ☐ Non-Interchangeable
- ☐ Use Parts in Stock
- ☐ Scrap Used Parts
- ☐ Return New Parts for Credit
- ☐ Order Replacement Parts
- ☐ Rework Parts in Stock
- ☐ Revise Existing Part Orders
- ☐ Scrap New Parts and Supply for Credit

DISTRIBUTION:

- ☒ All Product Related Sauer-Danfoss Distributors
- ☒ All Product Related OEM's
- ☒ All ASCs
- ☒ Non-Restricted Distribution

Notes

Notes

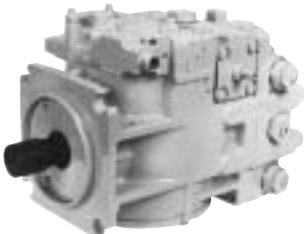
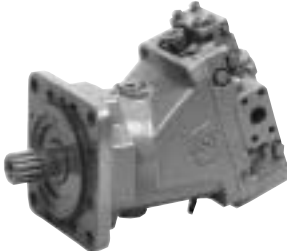
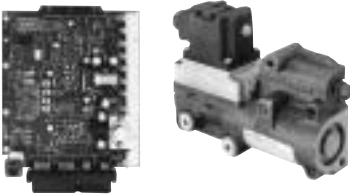
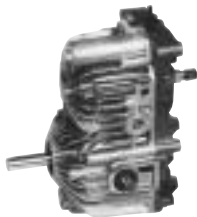
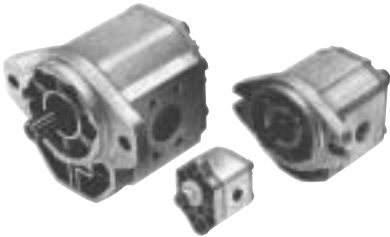
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