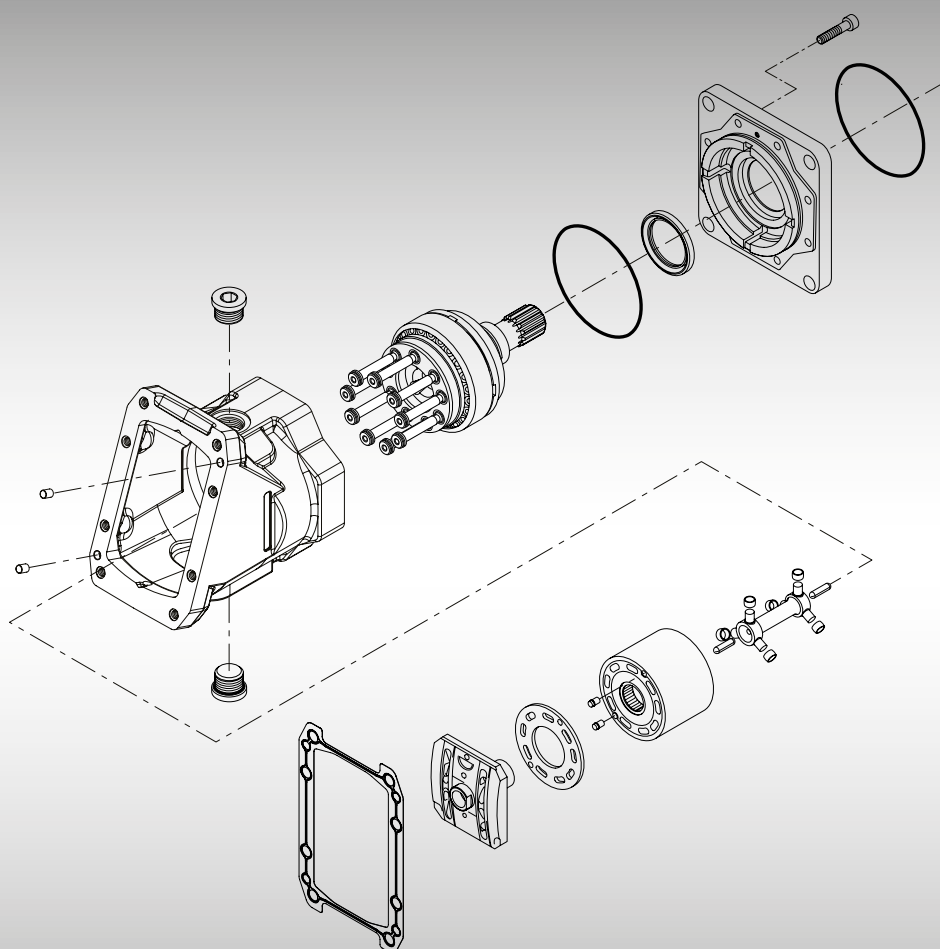




Parts Manual

Variable Displacement Motors Series 51, 160cc





Contents

General Information	Service parts identification	5
	Nameplate	5
	Date code	6
	Service bulletins.....	6
	Procedure to identify a part.....	6
Order code	Order code	7
Cartridge flange	Common parts	8-9
	Special hardware	8-11
DIN flange	Common parts	12-13
	Special hardware	12-15
SAE flange	Common parts	16-17
	Special hardware	16-29
Maximum displacement	Maximum displacement common parts	30-31
	Maximum displacement.....	30-31
End cap	End cap.....	32-41
Threshold/range	Threshold/range.....	42-43
Charge relief	Charge relief	44-47
Output shaft	Shaft	46-47
Control	Electric proportional (A7, D7 and D8)	48-51
	Electric proportional (DA and DC).....	52-53
	Electric 2-position (E1, E2 and E8)	54-55
	Electric proportional (ED and EE)	56-57
	Electric proportional with protective cover (EF)	58-59
	Electric proportional (EP, EQ, ER, and ES)	60-61
	Electric 2-position (F1 and F2)	62-63
	Hydraulic porportional with electric override (H1 and H2)	64-65
	Electric proportional w/pressure reducing (H3 and H4)	66-67
	Hydraulic proportional (HA, HB, HE, HP, HS and HZ)	68-71
	Hydraulic porportional with electric override (J3 and J4)	72-73
	Hydraulic proportional (JA and JS)	74-77
	Hydraulic porportional with electric override (K1 and K2)	78-79
	Electric proportional (L1, L2, L3, L4, L7 and L8)	80-81
	Hydraulic 2-position (N2).....	82-83
	Pressure compensator (PC and PD)	84-87
	Electric 2-position (T1, T2, T3 and T4).....	88-91
	Pressure compensator (TA)	92-93
	Hydraulic 2-position (TH)	92-93
	Electric 2-position (TM, TN, TP, TW, U3, U4, Y3, Y8, YA and YB).....	92-97

Contents

Servo supply	Servo pressure supply	98-109
Loop flushing system	Loop flushing	110-111
Control ramp	Control ramp	112-113
Orifice	Orifice	114-135
Minimum displacement	Minimum displacement	136-137
Pcor adjuster	PCOR adjuster	136-137
Overhaul seal kit	Overhaul seal kit	138-139
Service bulletins	SB-1993-006 (end cap gasket)	140
	SB-1995-013 (threshold adjustment screw)	141
	SB-1996-005 (end cap and valve segment)	142-143
	SB-1997-009 (servo piston seal ring)	144
	SB-1997-030 (valve segment)	145
	SB-1999-059 (thread change on DIN shaft assemblies)	146
	SB-2000-044 (loop flushing spring and spring seat change)	147
	SB-2000-049 (incorporate speed sensor in cartridge motors)	148
	SB-2001-015 (synch shaft kit)	149
	SB-2002-001 (end cap/control interface seal)	150-151
	SB-2004-004 (end cap gasket)	152
	SB-2004-013 (shaft seal)	153
	SB-2012-010 (bearing housing redesign)	154



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 Series 51 160cc variable displacement motors.

The parts listed include all parts which may be used when performing either "Minor Repairs", "Major Repairs" or "Conversions" on the Series 51 160cc motors.

Nameplate

Each unit will have a nameplate affixed to the housing. The nameplate 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 Number

The Danfoss model number is used by the factory in manufacturing. On repeat orders, a complete unit can be ordered by the model number.

Serial Number

The Danfoss serial number is used to identify the manufacture date and the unit sequence in the build. The serial number is also used to identify the units warranty time period.

The letter code indicates the location of original manufacture (assembly). "N" indicates the unit was originally assembled in Neumuenster, Germany.

The first number (2 digits) indicates the year of manufacture. ("01" would indicate the unit was manufactured in 2001)

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

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



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 L035.

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Usage
C	L035	00-25		515752	Bearing housing (SB-2000-049)	1
	L035	92-33	00-24	743831	Bearing housing	1

All units using this order code with a date code of 92-33 and up to and including 00-24, must use part number "743831". All units with a date code of 00-25 and newer must use part number "515752".

Service bulletins

A Service Bulletin Number (SB-____-____) may follow the "Part Name" of the part you desire. You must read that Service Bulletin prior to ordering that part. The information contained in these Service Bulletins, as of the print date of this bulletin, are included at the end of this manual. Service Bulletins contain more detailed information such as interchangeability, what additional parts are involved, etc. It is suggested that you add additional Service Bulletins to this manual as you receive them.

Procedure to identify a part

General

The modular design of Series 51 motors result in a simplified service parts list and part number identification procedure.

The same item numbers are used for same part names on all units within a product type. (Example: The lip seal - Item L40, has the same item number on all motors.)

A part number that has another number following it in parentheses is done to make this a world wide manual. The first number is sold in Germany. The number in parentheses is sold in the United States. (Example: 664524 (9005110-9000), customers would order 9005110-9000 if ordering the part in the United States.)

Example of a part identification

The nameplate on a Series 51 motor has an Order Code of 51V160 R C8 N D8 M1 R J M4 ADA 060 AA G3 C2 30. Use the following procedures to determine the part number of the drive shaft used on this motor.

1) Referring to the shaft module in the Order Code (see page 7), the shaft option for this motor is identified by the code "C8". (51V160 R **C8** N D8 M1 R J M4 ADA 060 AA G3 C2 30)

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 QL10 and part number 11100431 if a speed ring is not required. The shaft is found to be item QL11 and part number 11100432 if a speed ring is required.

**Notes**

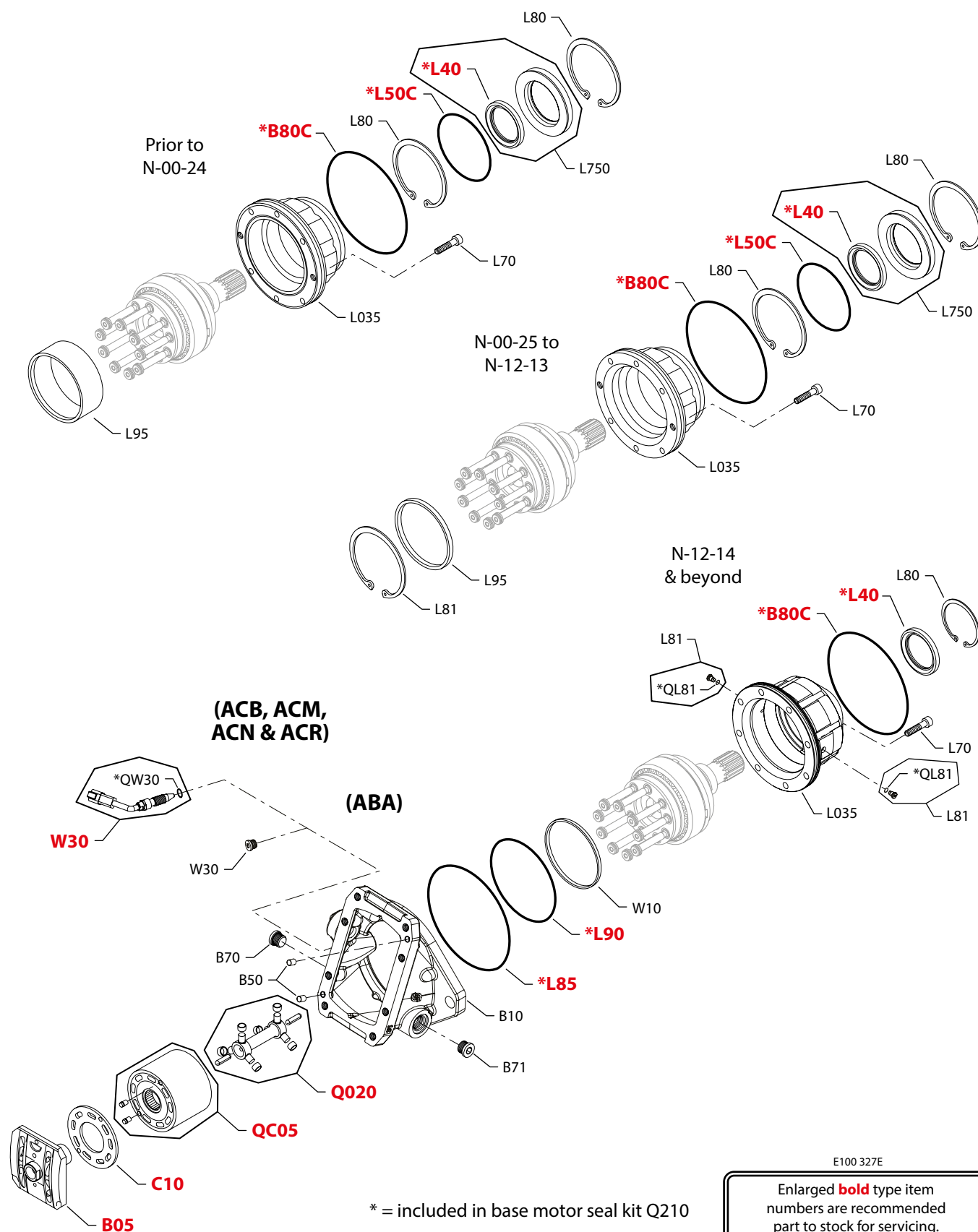
Order code

	5	1	V	1	6	0	G	L	F	M	N	J	S	T	W	Y	P	K	V	Z												
	5	1	V	1	6	0	R	C	8	N	D	8	M	1	R	J	M	4	A	D	A	0	6	4	A	A	G	3	C	2	3	0
Product	└──┘																															
Flange	└──┘																															
Frame size	└──┘																															
End cap	└──┘																															
Shaft	└──┘																															
Maximum displacement	└──┘																															
Control	└──┘																															
Servo pressure supply	└──┘																															
Threshold/range	└──┘																															
Control ramp	└──┘																															
Orifice	└──┘																															
Special hardware	└──┘																															
Minimum displacement	└──┘																															
Loop flushing	└──┘																															
Charge relief	└──┘																															
Threshold setting	└──┘																															
PCOR setting	└──┘																															

P100 543E



Variable Displacement Motor



Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Cartridge flange common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C	B05	92-33		11070148	Valve segment (SB-1996-005 & SB-1997-030)	1
	B50	92-33		9004800-3708	Pin	2
	B70	92-33		320002 (9005110-9200)	Plug assembly	1
	B71	92-33		320002 (9005110-9200)	Plug assembly	1
	B80C	92-33		083659	O-ring	1
	C10	92-33		515369	Bearing plate	1
	L035	12-14		11038815	Bearing housing (SB-2012-010)	1
	L035	00-25	12-13	11009384	Bearing housing (SB-2000-049)	1
	L40	05-41		519022	Lip seal (SB-2000-049)	1
	L40	92-33	05-40	341735	Lip seal	1
	L50C	92-33		056739 (9004104-1580)	O-ring	1
	L70	92-33		290502	Screw	8
	L80	12-14		392423	Retaining ring (SB-2012-010)	1
	L80	92-33	12-13	392498	Retaining ring	2
	L81	12-14		11056747	Bearing log (SB-2012-010)	2
	L81	00-25	12-13	297655	Retaining ring (SB-2000-049)	1
	L85	92-33		083659	O-ring	1
	L90	00-25		515751	O-ring	1
	L90	92-33	00-24	502208	O-ring (SB-2000-049)	1
	L95	00-25	12-13	515753	Distance ring	1
	L95	92-33	00-24	743898	Distance ring (SB-2000-049)	1
	L750	92-33	12-13	510485	Seal carrier assembly (SB-2012-010)	1
	Q020	92-33		517310	Synch shaft kit (SB-2001-015)	1
	QC05	92-33		356113	Cylinder block assembly	1
	QL81	12-14		039297 (9004201-1200)	O-ring (SB-2012-010)	2

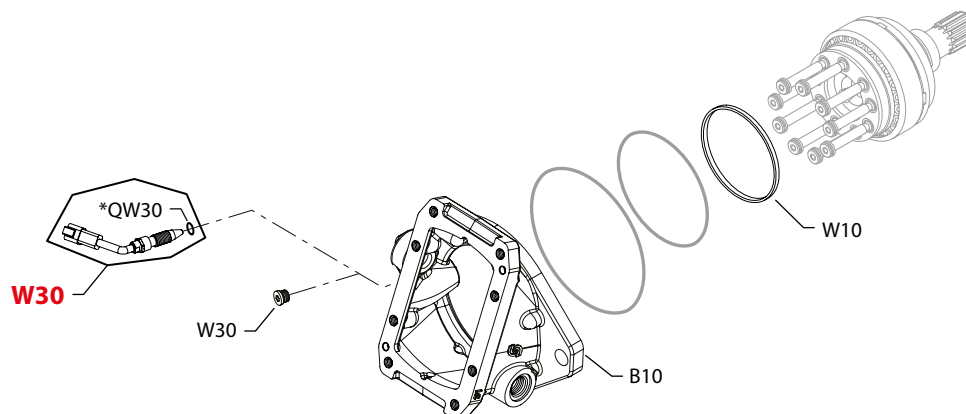
Special hardware, cartridge flange

ABA	B10	99-42		515749	Housing with speed sensor port	1
	W10	99-42		11132982	Speed ring	1
	W30	99-42		140644	Plug assembly	1
ACB	B10	07-23		515749	Housing with speed sensor port	1
	QW30	07-23		085043 (9004201-3700)	O-ring	1
	W10	07-23		11132982	Speed ring	1
	W30	07-23		KPPG26408	Speed sensor assembly	1
ACM	B10	06-26		515749	Housing with speed sensor port	1
	QW30	06-26		085043 (9004201-3700)	O-ring	1
	W10	06-26		11132982	Speed ring	1
	W30	06-26		KPPG29408	Speed sensor assembly	1
ACN	B10	06-34		515749	Housing with speed sensor port	1
	QW30	06-34		085043 (9004201-3700)	O-ring	1
	W10	06-34		11132982	Speed ring	1
	W30	06-34		KPPG29408	Speed sensor assembly	1
ACR	B10	10-46		515749	Housing with speed sensor port	1
	QW30	10-46		085043 (9004201-3700)	O-ring	1
	W10	10-46		11132982	Speed ring	1
	W30	10-46		KPPG26408	Speed sensor assembly	1

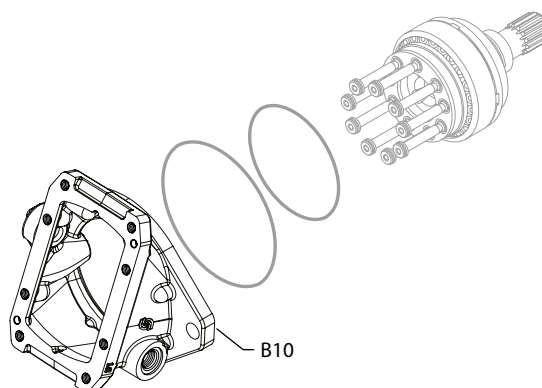


Variable Displacement Motor

(AKB & ANF)



(DDA, DDH & NNN)



E103 151E

* = included in base motor seal kit Q210

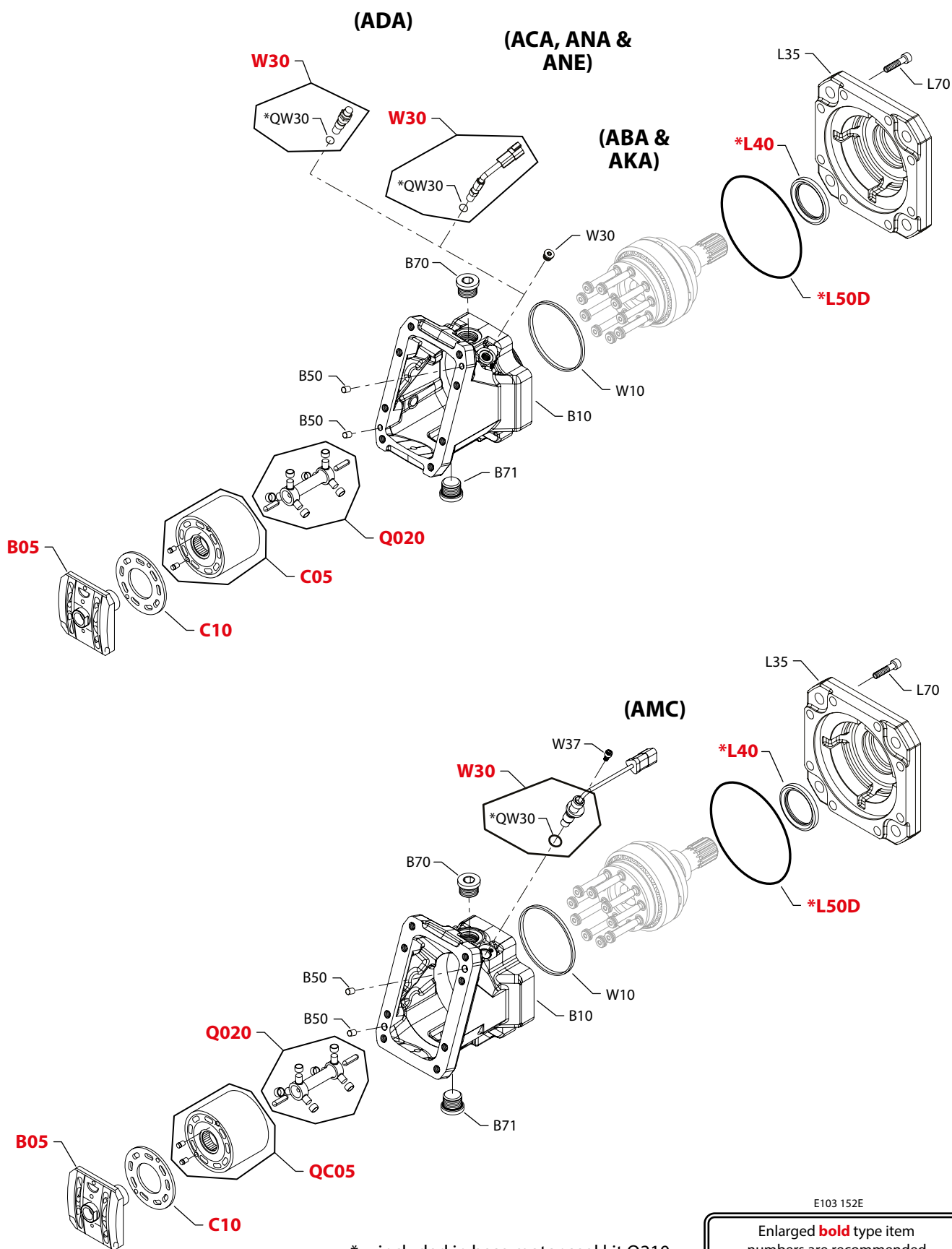
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
Special hardware, cartridge flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AKB	B10	02-38		515749	Housing with speed sensor port	1
	W10	02-38		11132982	Speed ring	1
	W30	02-38		140644	Plug assembly	1
ANF	B10	08-35		515749	Housing with speed sensor port	1
	QW30	08-35		085043 (9004201-3700)	O-ring	1
	W10	08-35		11132982	Speed ring	1
	W30	08-35		KPPG26708	Speed sensor assembly	1
DDA	B10	08-35		516256	Housing without speed sensor port	1
DDH	B10	08-35		516256	Housing without speed sensor port	1
NNN	B10	92-33		516256	Housing without speed sensor port	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E103 152E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

DIN flange common parts

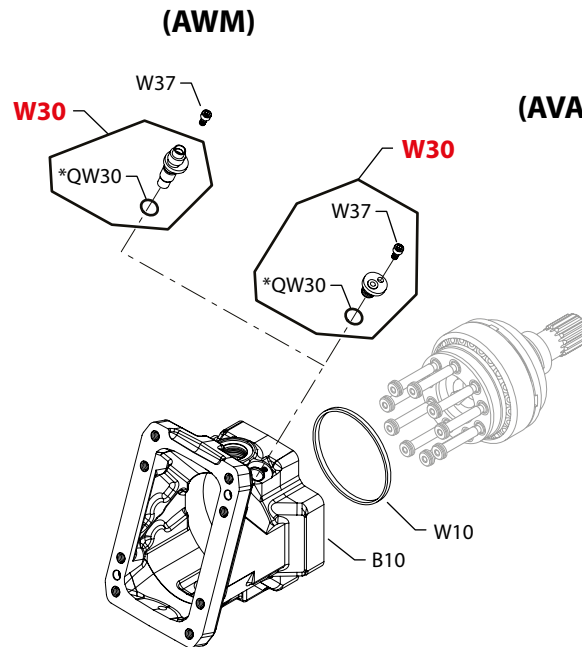
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
D	B05	92-01		11070148	Valve segment (SB-1996-005 & SB-1997-030)	1
	B50	92-01		9004800-3708	Pin	2
	B70	92-01		320002 (9005110-9200)	Plug assembly	1
	B71	92-01		320002 (9005110-9200)	Plug assembly	1
	C10	92-01		515369	Bearing plate	1
	L35	05-45		520317	Flange, DIN (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	92-01	05-44	341735	Lip seal	1
	L50D	92-01		729319	O-ring	1
	L70	92-01		290502	Screw	8
	Q020	92-01		517310	Synch shaft kit (SB-2001-015)	1
	QC05	92-01		356113	Cylinder block assembly	1

Special hardware

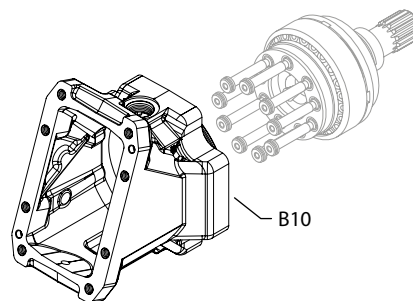
ABA	B10	92-01		505089	Housing with speed sensor port	1
	QW30	92-01		085043 (9004201-3700)	O-ring	1
	W10	92-01		11132982	Speed ring	1
	W30	92-01		140644	Plug assembly	1
ACA	B10	07-19		505089	Housing with speed sensor port	1
	QW30	07-19		085043 (9004201-3700)	O-ring	1
	W10	07-19		11132982	Speed ring	1
	W30	07-19		KPPG13408	Speed sensor assembly	1
ADA	B10	92-01		505089	Housing with speed sensor port	1
	QW30	92-01		085043 (9004201-3700)	O-ring	1
	W10	92-01		11132982	Speed ring	1
	W30	92-01		KPPG156	Speed sensor assembly	1
AKA	B10	96-38		505089	Housing with speed sensor port	1
	QW30	96-38		085043 (9004201-3700)	O-ring	1
	W10	96-38		11132982	Speed ring	1
	W30	96-38		140644	Plug assembly	1
AMC	B10	09-49		11004764	Housing with speed sensor port	1
	QW30	09-49		085043 (9004201-3700)	O-ring	1
	W10	09-49		11132982	Speed ring	1
	W30	09-49		11051045	Speed sensor assembly	1
	W37	09-49		395822 (9007315-0603)	Screw	1
ANA	B10	09-39		505089	Housing with speed sensor port	1
	QW30	09-39		085043 (9004201-3700)	O-ring	1
	W10	09-39		11132982	Speed ring	1
	W30	09-39		KPPG13703	Speed sensor assembly	1
ANE	B10	07-22		505089	Housing with speed sensor port	1
	QW30	07-22		085043 (9004201-3700)	O-ring	1
	W10	07-22		11132982	Speed ring	1
	W30	07-22		KPPG12704A	Speed sensor assembly	1



Variable Displacement Motor



(CCA & NNN)



E103 153E

* = included in base motor seal kit Q210

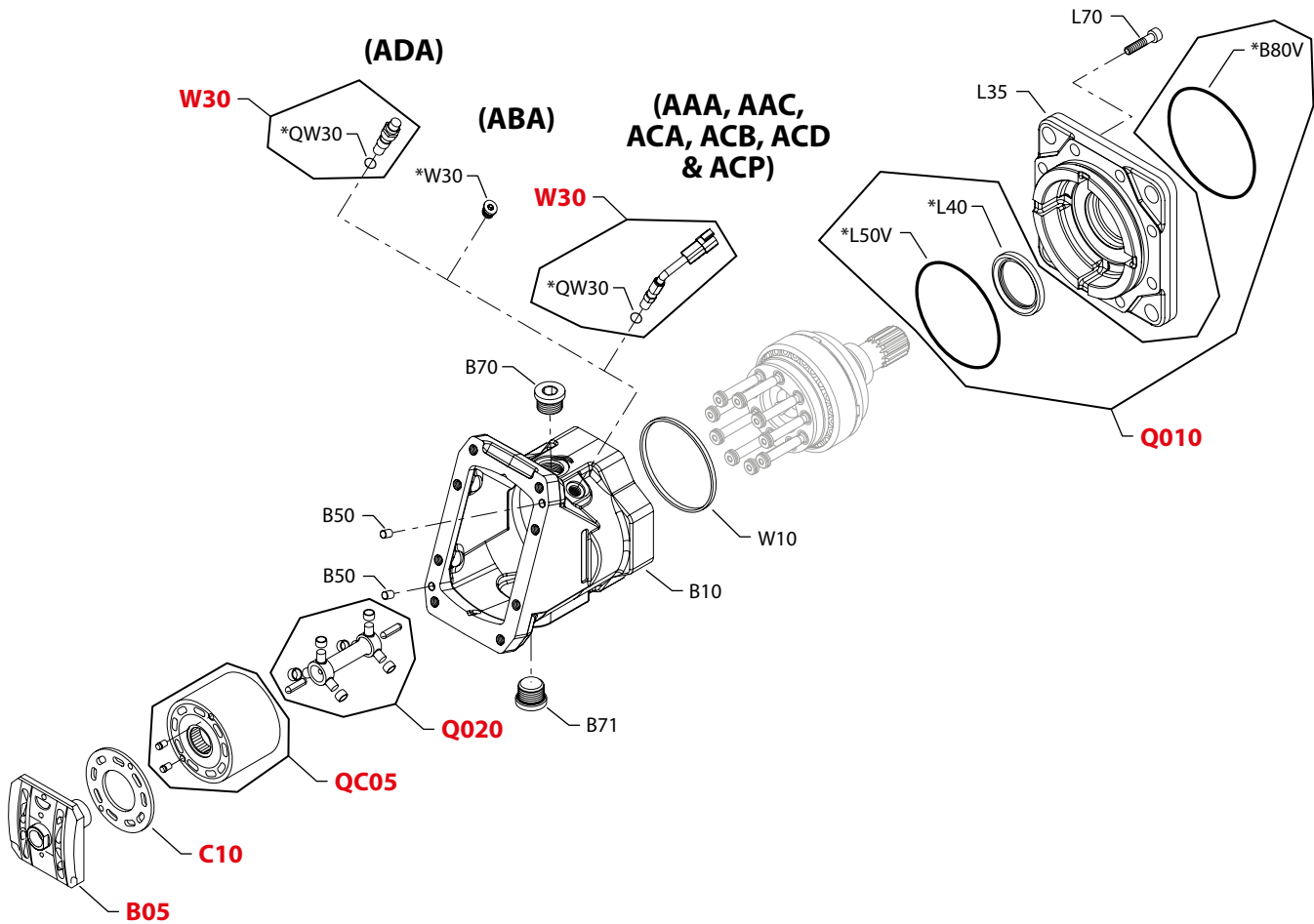
Enlarged **bold** type item numbers are recommended part to stock for servicing.


Variable Displacement Motor
DIN flange common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AVA	B10	03-07		520355	Housing with speed sensor port	1
	QW30	03-07		085043 (9004201-3700)	O-ring	1
	W10	03-07		11132982	Speed ring	1
	W30	03-07		520997/P	Speed sensor plug assembly	1
	W37	03-07		395822 (9007315-0603)	Screw	1
AWM	B10	05-39		520355	Housing with speed sensor port	1
	QW30	05-39		085043 (9004201-3700)	O-ring	1
	W10	05-39		11132982	Speed ring	1
	W30	05-39		KPPG456	Speed sensor assembly	1
	W37	05-39		395822 (9007315-0603)	Screw	1
CCA	B10	04-50		776138	Housing without speed sensor port	1
NNN	B10	92-01		776138	Housing without speed sensor port	1



Variable Displacement Motor



E103 142E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

SAE flange common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V	B05	92-33		11070148	Valve segment (SB-1996-005 & SB-1997-030)	1
	B50	92-33		9004800-3708	Pin	2
	B70	92-33		320002 (9005110-9200)	Plug assembly	1
	B71	92-33		320002 (9005110-9200)	Plug assembly	1
	B80V	92-33		729285	O-ring	1
	C10	92-33		515369	Bearing plate	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	92-33	05-44	341735	Lip seal	1
	L50V	92-33		726927	O-ring	1
	L70	92-33		085183	Screw	8
	Q010	92-33		776864	Shaft seal kit	1
	Q020	92-33		517310	Synch shaft kit (SB-2001-015)	1
	QC05	92-33		356113	Cylinder block assembly	1

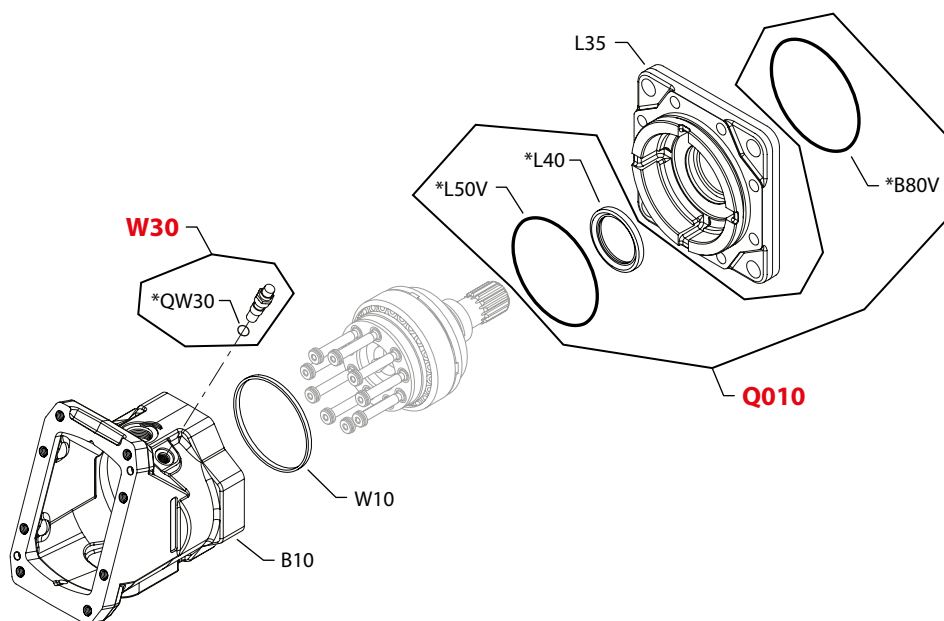
Special hardware, SAE flange

AAA & AAC	B10	95-42		505087	Housing with speed sensor port	1
	QW30	92-33		085043 (9004201-3700)	O-ring	1
	W10	92-33		11132982	Speed ring	1
	W30	92-33		KPPG12508	Speed sensor assembly	1
ABA	B10	95-42		505087	Housing with speed sensor port	1
	W10	93-35		11132982	Speed ring	1
	W30	93-35		140644	Plug assembly	1
ACA	B10	95-42		505087	Housing with speed sensor port	1
	QW30	94-04		085043 (9004201-3700)	O-ring	1
	W10	94-04		11132982	Speed ring	1
	W30	94-04		KPPG13408	Speed sensor assembly	1
ACB	B10	03-23		505087	Housing with speed sensor port	1
	QW30	03-23		085043 (9004201-3700)	O-ring	1
	W10	03-23		11132982	Speed ring	1
	W30	03-23		KPPG16408	Speed sensor assembly	1
ACD	B10	00-10		505087	Housing with speed sensor port	1
	QW30	00-10		085043 (9004201-3700)	O-ring	1
	W10	00-10		11132982	Speed ring	1
	W30	00-10		KPPG17408	Speed sensor assembly	1
ACP	B10	06-51		505087	Housing with speed sensor port	1
	QW30	06-51		085043 (9004201-3700)	O-ring	1
	W10	06-51		11132982	Speed ring	1
	W30	06-51		KPPG14408	Speed sensor assembly	1
ADA	B10	95-42		505087	Housing with speed sensor port	1
	QW30	94-12		085043 (9004201-3700)	O-ring	1
	W10	94-12		11132982	Speed ring	1
	W30	94-12		KPPG156	Speed sensor assembly	1



Variable Displacement Motor

(ADD, ADE, ADK & ADL)



E103 157E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

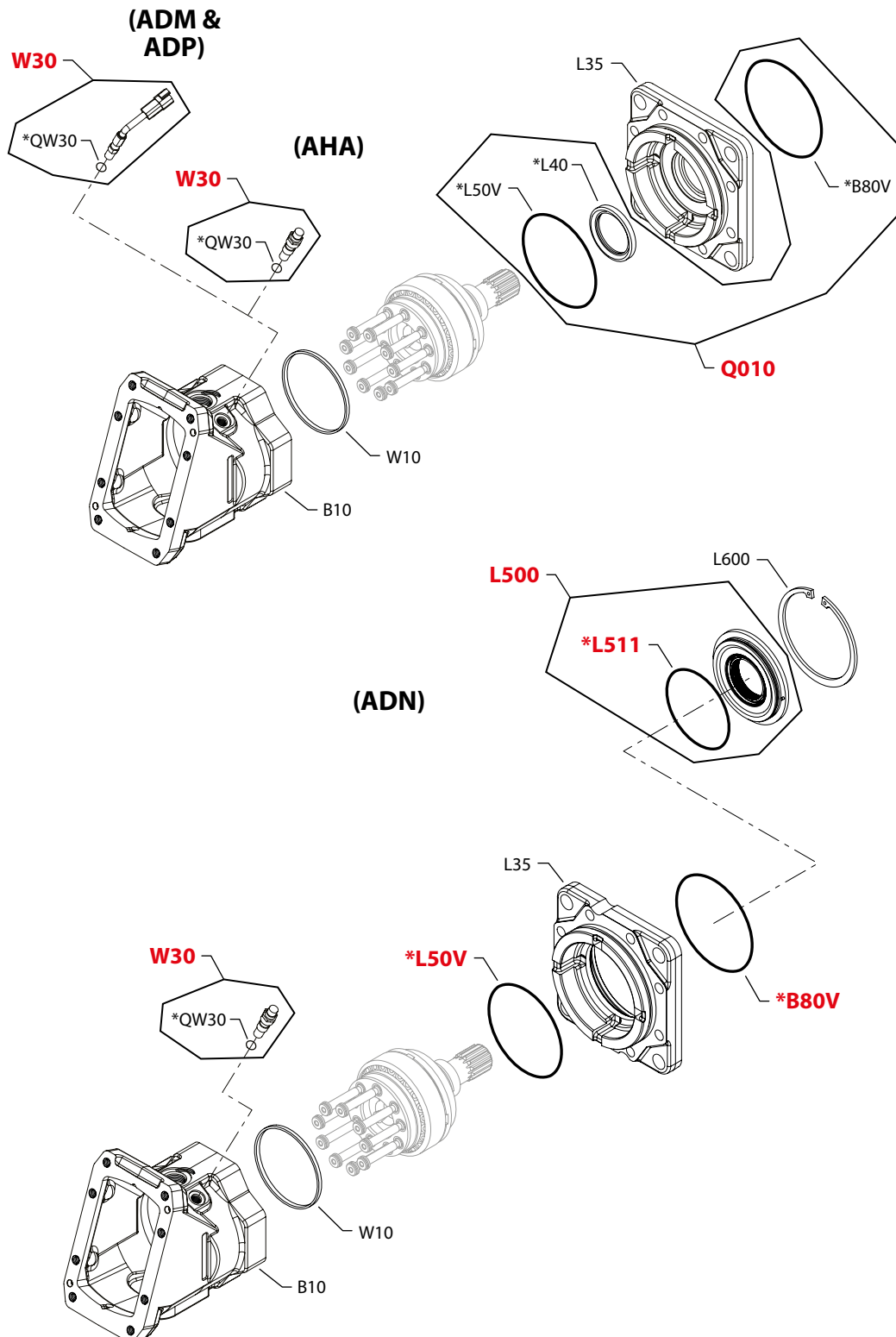
Variable Displacement Motor

Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ADD	B10	99-42		505087	Housing with speed sensor port	1
	B80V	99-42		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	99-42	05-44	341735	Lip seal	1
	L50V	99-42		726927	O-ring	1
	Q010	99-42		776864	Shaft seal kit	1
	QW30	99-42		085043 (9004201-3700)	O-ring	1
	W10	99-42		11132982	Speed ring	1
	W30	99-42		KPPG156	Speed sensor assembly	1
ADE	B10	00-34		505087	Housing with speed sensor port	1
	B80V	00-34		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-34	05-44	341735	Lip seal	1
	L50V	00-34		726927	O-ring	1
	Q010	00-34		776864	Shaft seal kit	1
	QW30	00-34		085043 (9004201-3700)	O-ring	1
	W10	00-34		11132982	Speed ring	1
	W30	00-34		KPPG156	Speed sensor assembly	1
ADK	B10	05-45		505087	Housing with speed sensor port	1
	B80V	05-45		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L50V	05-45		726927	O-ring	1
	Q010	05-45		776864	Shaft seal kit	1
	QW30	05-45		085043 (9004201-3700)	O-ring	1
	W10	05-45		11132982	Speed ring	1
	W30	05-45		KPPG156	Speed sensor assembly	1
ADL	B10	07-39		505087	Housing with speed sensor port	1
	B80V	07-39		729285	O-ring	1
	L35	07-39		519417	Flange, SAE	1
	L40	07-39		519022	Lip seal	1
	L50V	07-39		726927	O-ring	1
	Q010	07-39		776864	Shaft seal kit	1
	QW30	07-39		085043 (9004201-3700)	O-ring	1
	W10	07-39		11132982	Speed ring	1
	W30	07-39		KPPG156	Speed sensor assembly	1



Variable Displacement Motor



E103 154E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

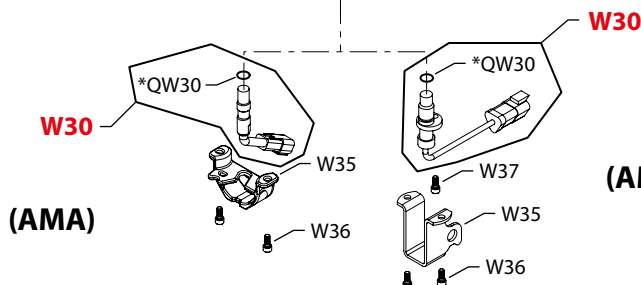
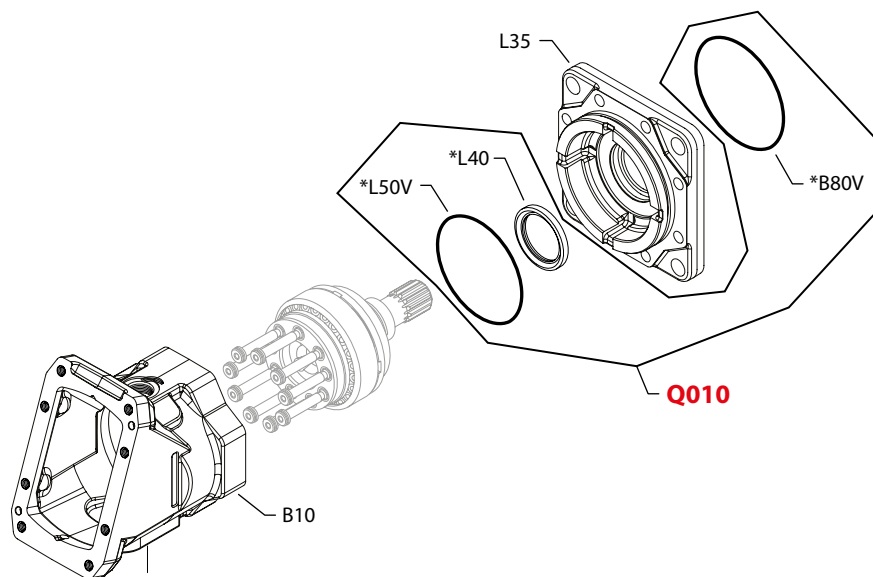
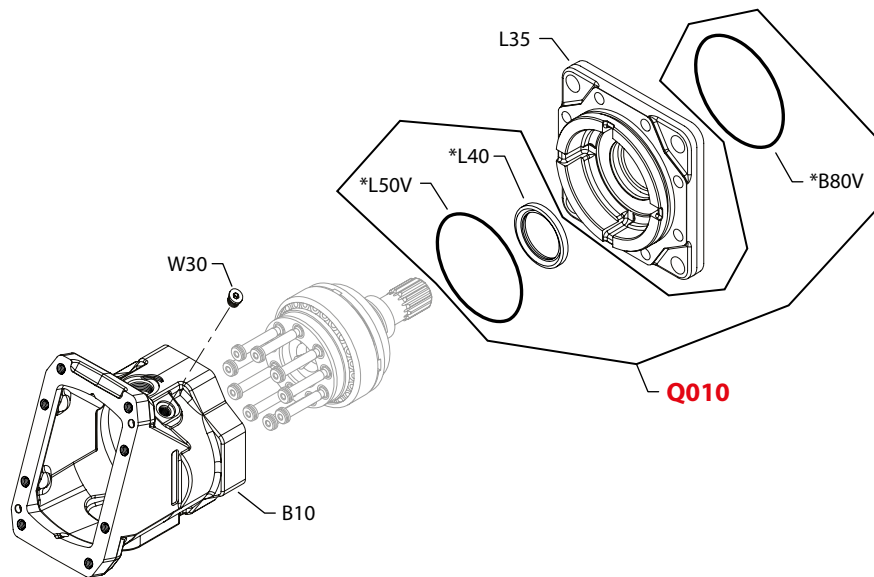
Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ADM	B10	08-45		505087	Housing with speed sensor port	1
	B80V	08-45		729285	O-ring	1
	L35	08-45		519417	Flange, SAE (SB-2004-013)	1
	L40	08-45		519022	Lip seal (SB-2004-013)	1
	L50V	08-45		726927	O-ring	1
	Q010	08-45		776864	Shaft seal kit	1
	QW30	08-45		085043 (9004201-3700)	O-ring	1
	W10	08-45		11132982	Speed ring	1
	W30	08-45		KPPG13703	Speed sensor assembly	1
ADN	B10	07-29		505087	Housing with speed sensor port	1
	B80V	07-29		729285	O-ring	1
	L35	07-29		11070161	Flange, SAE	1
	L50V	07-29		726927	O-ring	1
	L500	07-29		11070155	Seal carrier assembly	1
	L511	07-29		11070158	O-ring	1
	L600	07-29		11070170	Retaining ring	1
	QW30	07-29		085043 (9004201-3700)	O-ring	1
	W10	07-29		11132982	Speed ring	1
	W30	07-29		KPPG156	Speed sensor assembly	1
ADP	B10	09-39		505087	Housing with speed sensor port	1
	B80V	09-39		729285	O-ring	1
	L35	09-39		519417	Flange, SAE	1
	L40	09-39		519022	Lip seal (SB-2004-013)	1
	L50V	09-39		726927	O-ring	1
	Q010	09-39		776864	Shaft seal kit	1
	QW30	09-39		085043 (9004201-3700)	O-ring	1
	W10	09-39		11132982	Speed ring	1
	W30	09-39		KPPG12508	Speed sensor assembly	1
AHA	B10	02-13		505087	Housing with speed sensor port	1
	B80V	02-13		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	02-13	05-44	341735	Lip seal	1
	L50V	02-13		726927	O-ring	1
	Q010	02-13		776864	Shaft seal kit	1
	QW30	02-13		085043 (9004201-3700)	O-ring	1
	W30	02-13		KPPG166	Speed sensor assembly	1



Variable Displacement Motor

(AKB)



* = included in base motor seal kit Q210

E100 651E

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

Parts Manual

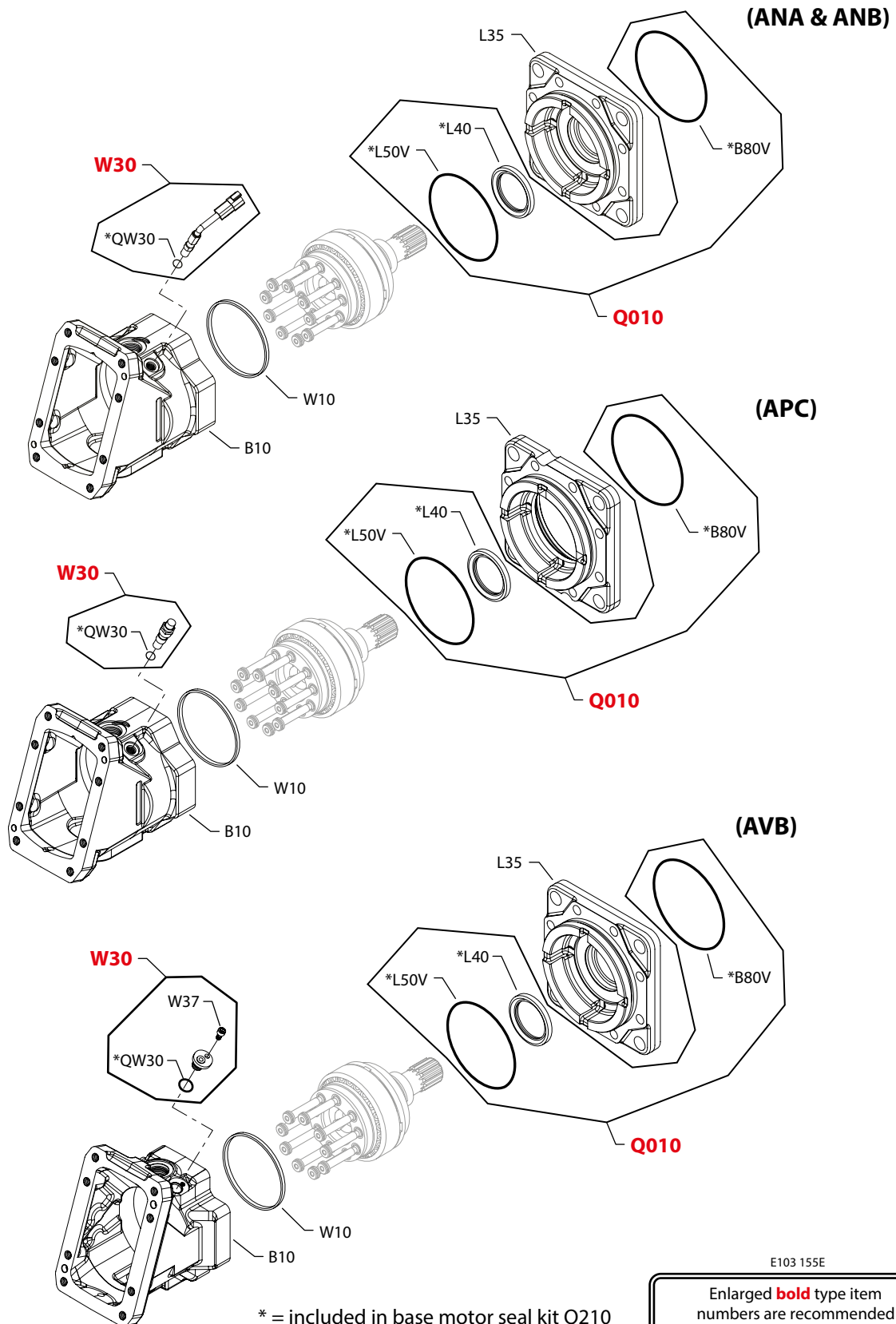
Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AKB	B10	00-04		505087	Housing with speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
	W10	00-04		11132982	Speed ring	1
	W30	00-04		140644	Plug assembly	1
AMA	B10	00-33		515847	Housing	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
	QW30	00-33		085043 (9004201-3700)	O-ring	1
	W10	00-33		11132982	Speed ring	1
	W30	00-33		11046858	Speed sensor assembly	1
	W35	00-33		8801261	Speed sensor cover	1
	W36	00-33		395822 (9007315-0603)	Screw	2
AMB	B10	00-33		519419	Housing	1
	B80V	00-33		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-33		726927	O-ring	1
	Q010	00-33		776864	Shaft seal kit	1
	QW30	00-33		085043 (9004201-3700)	O-ring	1
	W10	00-33		11132982	Speed ring	1
	W30	00-33		11046847	Speed sensor assembly	1
	W35	00-33		520021	Speed sensor cover	1
	W36	00-33		395822 (9007315-0603)	Screw	2
	W37	00-33		395822 (9007315-0603)	Screw	1
AMD	B10	00-33		11098757	Housing	1
	B80V	00-33		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-33		726927	O-ring	1
	Q010	00-33		776864	Shaft seal kit	1
	QW30	00-33		085043 (9004201-3700)	O-ring	1
	W10	00-33		11132982	Speed ring	1
	W30	00-33		11100159	Speed sensor assembly	1
	W35	00-33		520021	Speed sensor cover	1
	W36	00-33		395822 (9007315-0603)	Screw	2
	W37	00-33		395822 (9007315-0603)	Screw	1

Variable Displacement Motor



E103 155E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

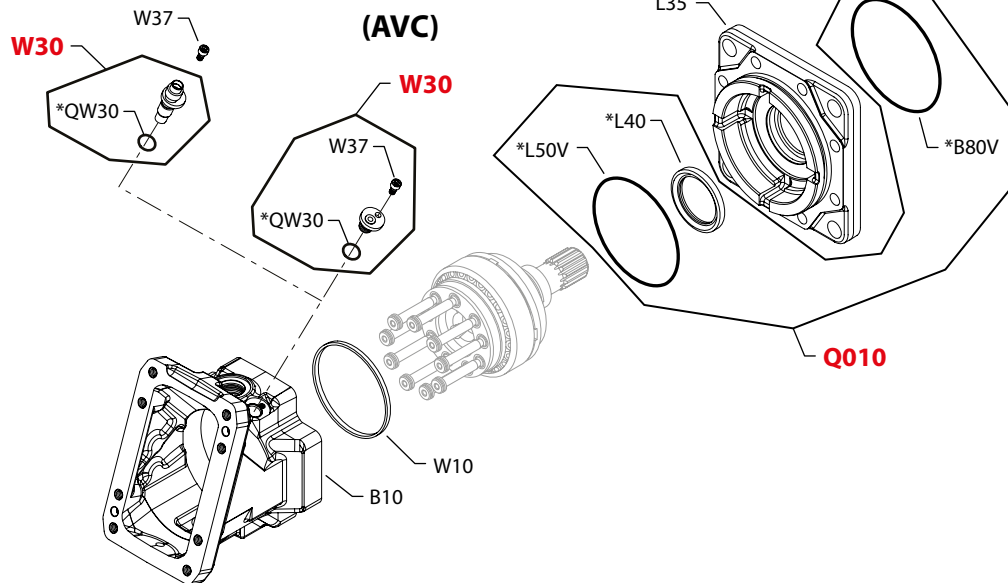
Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
ANA	B10	01-04		505087	Housing with speed sensor port	1
	B80V	01-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	01-04	05-44	341735	Lip seal	1
	L50V	01-04		726927	O-ring	1
	L70	01-04		085183	Screw	8
	Q010	01-04		776864	Shaft seal kit	1
	QW30	01-04		085043 (9004201-3700)	O-ring	1
	W10	01-04		11132982	Speed ring	1
	W30	01-04		KPPG13703	Speed sensor	1
ANB	B10	01-04		505087	Housing with speed sensor port	1
	B80V	01-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	01-04	05-44	341735	Lip seal	1
	L50V	01-04		726927	O-ring	1
	L70	01-04		085183	Screw	8
	Q010	01-04		776864	Shaft seal kit	1
	QW30	01-04		085043 (9004201-3700)	O-ring	1
	W10	01-04		11132982	Speed ring	1
	W30	01-04		KPPG16719	Speed sensor assembly	1
APC	B10	08-39		505087	Housing with speed sensor port	1
	B80V	08-39		729285	O-ring	1
	L35	08-39		11051663	Flange, SAE	1
	L40	08-39		519022	Lip seal (SB-2004-013)	1
	L50V	08-39		726927	O-ring	1
	L70	08-39		085183	Screw	8
	Q010	08-39		776864	Shaft seal kit	1
	QW30	08-39		085043 (9004201-3700)	O-ring	1
	W10	08-39		11132982	Speed ring	1
	W30	08-39		KPPG156	Speed sensor assembly	1
AVB	B10	08-35		520358	Housing with speed sensor port	1
	B80V	08-35		729285	O-ring	1
	L35	08-35		519417	Flange, SAE	1
	L40	08-35		519022	Lip seal	1
	L50V	08-35		726927	O-ring	1
	L70	08-35		085183	Screw	8
	Q010	08-35		776864	Shaft seal kit	1
	QW30	08-35		085043 (9004201-3700)	O-ring	1
	W10	08-35		11132982	Speed ring	1
	W30	08-35		520997/P	Speed sensor plug assembly	1
	W37	08-35		395822 (9007315-0603)	Screw	1

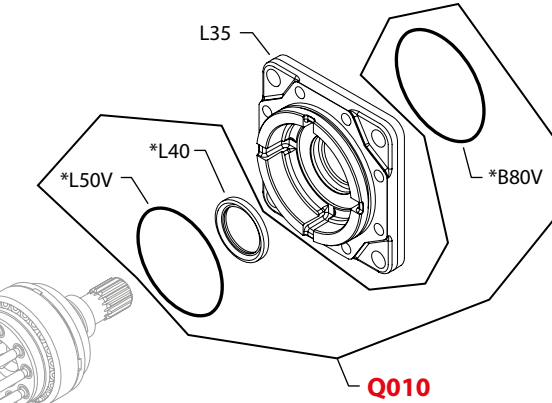


Variable Displacement Motor

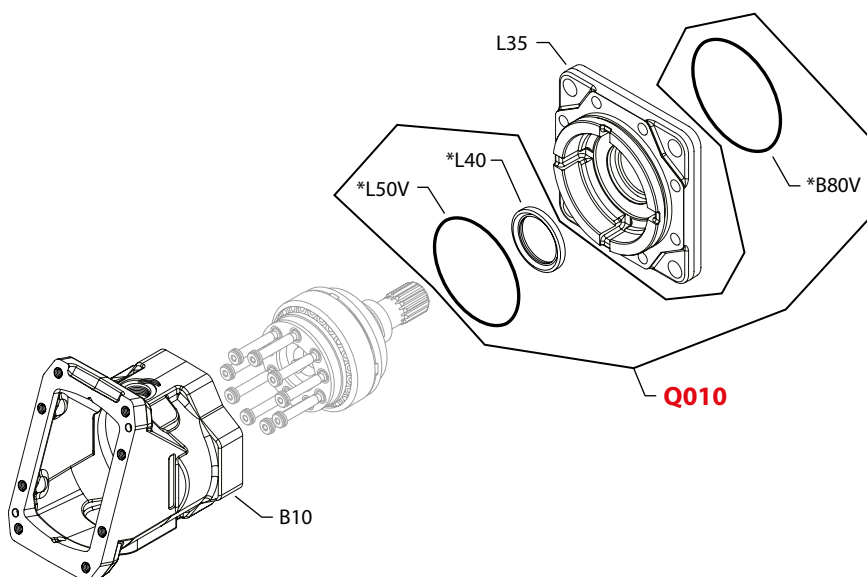
(AWU)



(AVC)



(CCA, DAA & DDA)



E103 158E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

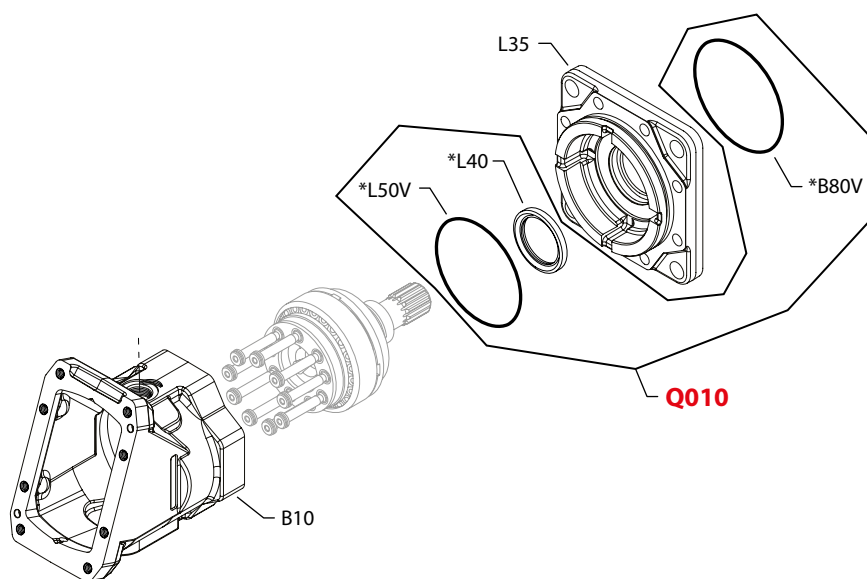
Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AVC	B10	10-07		520358	Housing with speed sensor port	1
	B80V	10-07		729285	O-ring	1
	L35	10-07		519417	Flange, SAE	1
	L40	10-07		519022	Lip seal	1
	L50V	10-07		726927	O-ring	1
	L70	10-07		085183	Screw	8
	Q010	10-07		776864	Shaft seal kit	1
	QW30	10-07		085043 (9004201-3700)	O-ring	1
	W10	10-07		11132982	Speed ring	1
	W30	10-07		520997/P	Speed sensor plug assembly	1
	W37	10-07		395822 (9007315-0603)	Screw	1
AWU	B10	07-34		520358	Housing with speed sensor port	1
	B80V	07-34		729285	O-ring	1
	L35	07-34		519417	Flange, SAE	1
	L40	07-34		519022	Lip seal	1
	L50V	07-34		726927	O-ring	1
	Q010	07-34		776864	Shaft seal kit	1
	QW30	07-34		085043 (9004201-3700)	O-ring	1
	W10	07-34		11132982	Speed ring	1
	W30	07-34		11034658	Speed sensor assembly	1
	W37	07-34		395822 (9007315-0603)	Screw	1
CCA	B10	95-42		356071	Housing without speed sensor port	1
	B80V	95-42		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	95-42	05-44	341735	Lip seal	1
	L50V	95-42		726927	O-ring	1
	Q010	95-42		776864	Shaft seal kit	1
DAA	B10	93-02		356071	Housing without speed sensor port	1
	B80V	93-02		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	93-02	05-44	341735	Lip seal	1
	L50V	93-02		726927	O-ring	1
	Q010	93-02		776864	Shaft seal kit	1
DDA	B10	00-04		356071	Housing without speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1



Variable Displacement Motor

(CCA, DAA, DDC,
DDE, DDH, DDK,
KAA & NNN)



E103 156E

* = included in base motor seal kit Q210

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

Parts Manual

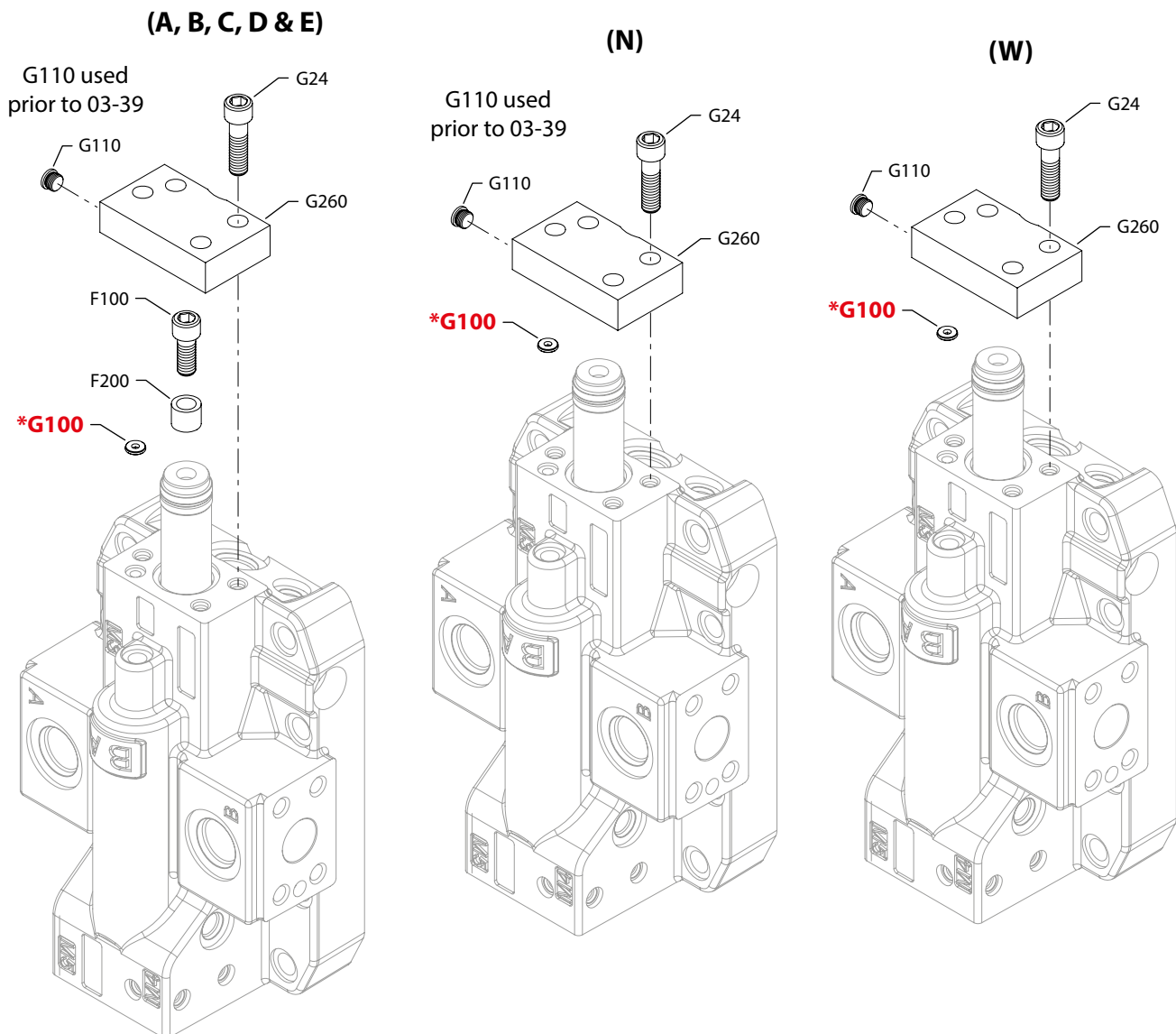
Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Special hardware, SAE flange

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DDC	B10	00-04		356071	Housing without speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
DDE	B10	00-04		356071	Housing without speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
DDH	B10	00-04		356071	Housing without speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
DDK	B10	00-04		356071	Housing without speed sensor port	1
	B80V	00-04		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	00-04	05-44	341735	Lip seal	1
	L50V	00-04		726927	O-ring	1
	Q010	00-04		776864	Shaft seal kit	1
KAA	B10	98-03		511387	Housing without speed sensor port	1
	B80V	98-03		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	98-03	05-44	341735	Lip seal	1
	L50V	98-03		726927	O-ring	1
	Q010	98-03		776864	Shaft seal kit	1
NNN	B10	92-33		356071	Housing without speed sensor port	1
	B80V	92-33		729285	O-ring	1
	L35	05-45		519417	Flange, SAE (SB-2004-013)	1
	L40	05-45		519022	Lip seal (SB-2004-013)	1
	L40	98-03	05-44	341735	Lip seal	1
	L50V	92-33		726927	O-ring	1
	Q010	92-33		776864	Shaft seal kit	1

Variable Displacement Motor



E100 652E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Maximum displacement

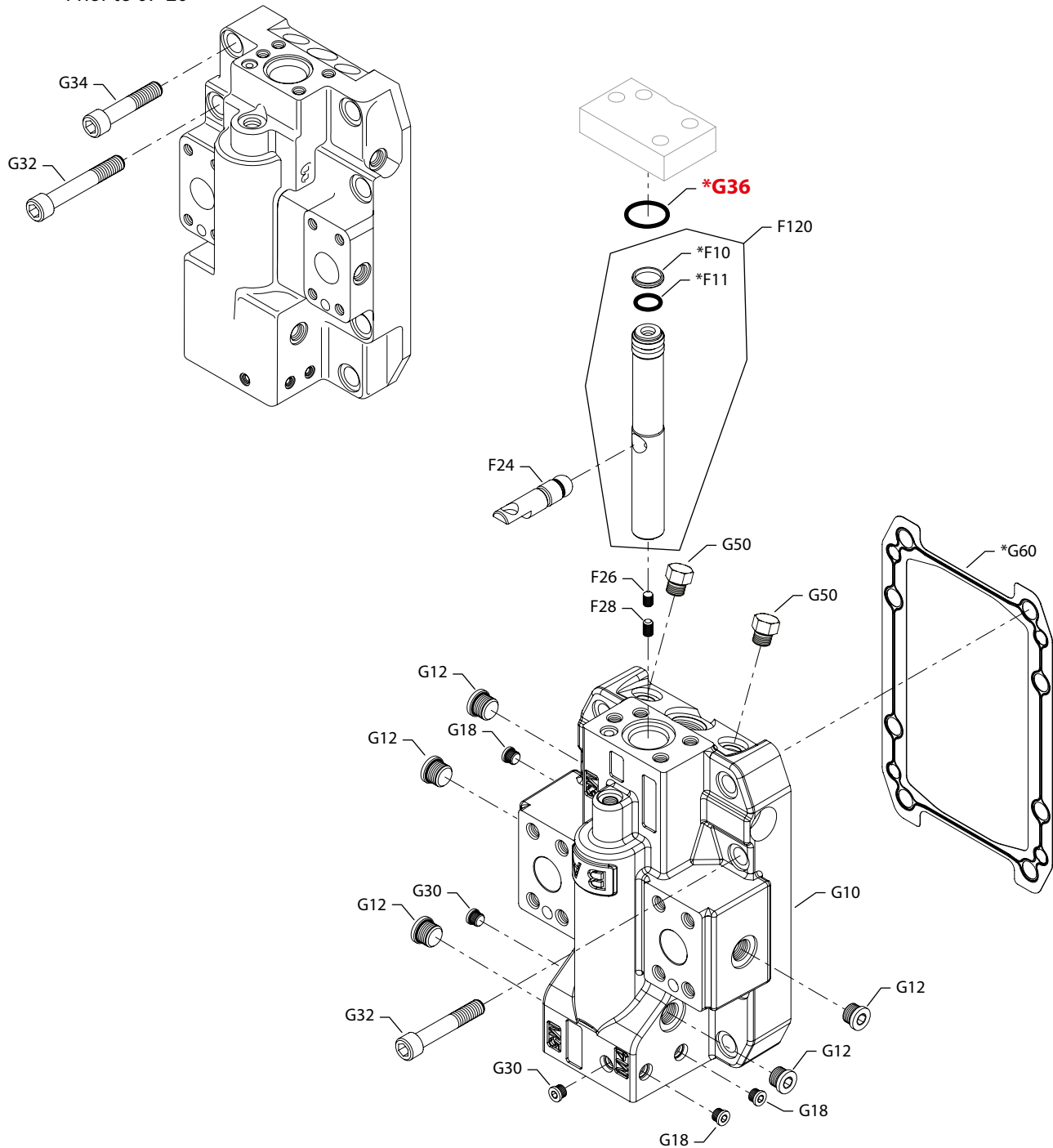
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F100	95-35		393694	Screw, M10 x 25 mm	1
	F200	95-35		672071	Spacer, 4.5 mm	1
	G24	95-35		727586 (9007314-1008)	Screw	4
	G100	95-35		792739	O-ring, rectangular	1
	G110	95-35	03-38	11040532	Plug assembly	1
	G260	95-35		11000595	Cover	1
B	F100	92-33		393702	Screw, M10 x 30 mm	1
	F200	92-33		318683	Spacer, 9.0 mm	1
	G24	92-33		727586 (9007314-1008)	Screw	4
	G100	92-33		792739	O-ring, rectangular	1
	G110	92-33	03-38	11040532	Plug assembly	1
	G260	92-33		11000595	Cover	1
C	F100	92-33		727586	Screw, M10 x 35 mm	1
	F200	92-33		347088	Spacer, 13.0 mm	1
	G24	92-33		727586 (9007314-1008)	Screw	4
	G100	92-33		792739	O-ring, rectangular	1
	G110	92-33	03-38	11040532	Plug assembly	1
	G260	92-33		11000595	Cover	1
D	F100	98-03		732982	Screw, M10 x 40 mm	1
	F200	98-03		306993	Spacer, 17.0 mm	1
	G24	98-03		727586 (9007314-1008)	Screw	4
	G100	98-03		792739	O-ring, rectangular	1
	G110	98-03	03-38	11040532	Plug assembly	1
	G260	98-03		11000595	Cover	1
E	F100	92-33		732982	Screw, M10 x 40 mm	1
	F200	92-33		682084	Spacer, 21.0 mm	1
	G24	92-33		727586 (9007314-1008)	Screw	4
	G100	92-33		792739	O-ring, rectangular	1
	G110	92-33	03-38	11040532	Plug assembly	1
	G260	92-33		11000595	Cover	1
N	G24	92-33		727586 (9007314-1008)	Screw	4
	G100	92-33		792739	O-ring, rectangular	1
	G110	92-33	03-38	11040532	Plug assembly	1
	G260	92-33		11000595	Cover	1
W	G24	03-40		727586 (9007314-1008)	Screw	4
	G100	03-40		792739	O-ring, rectangular	1
	G110	03-40		11040532	Plug assembly	1
	G260	03-40		520017	Cover	1



Variable Displacement Motor

(A)

Prior to 07-20



E103 159E

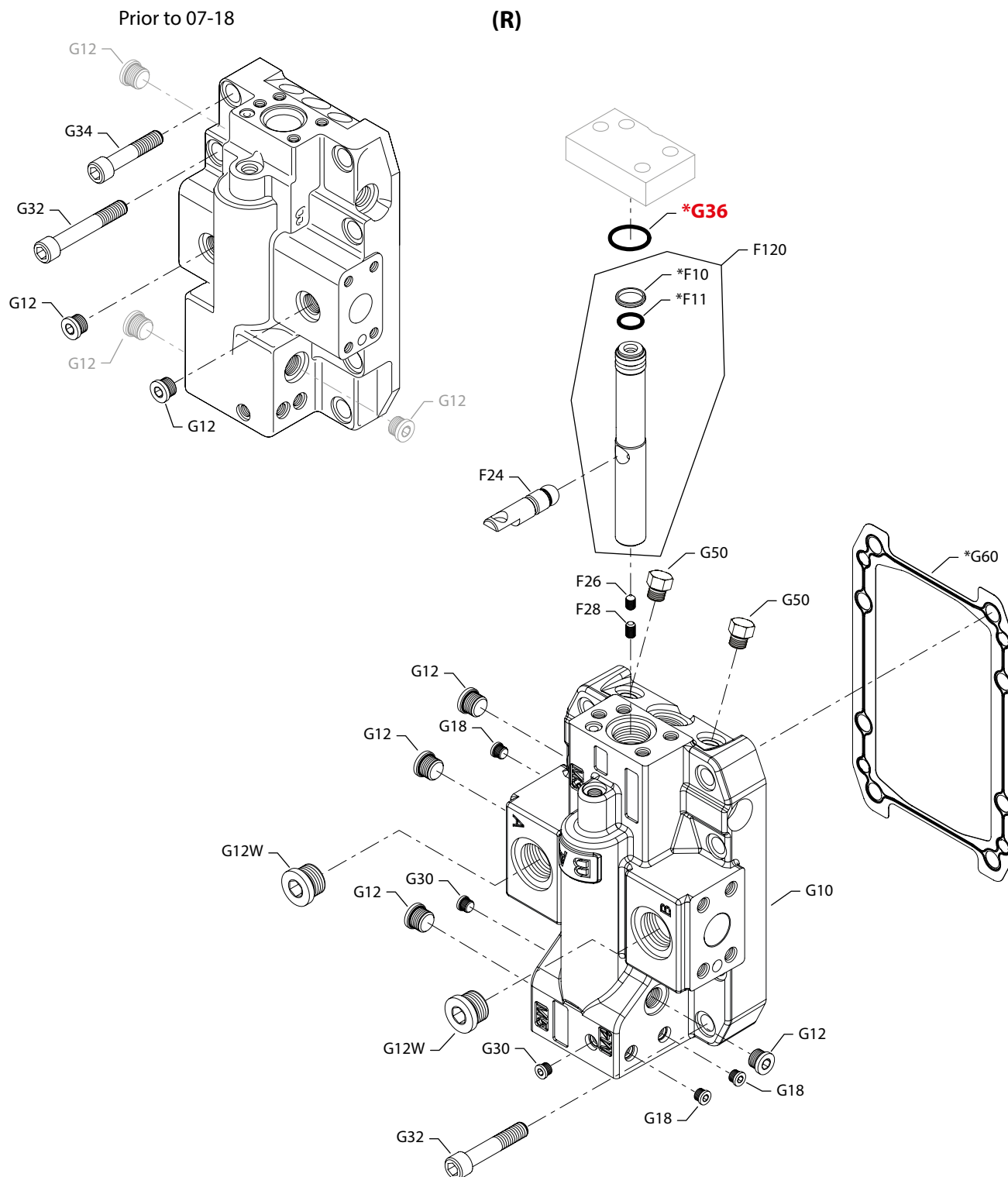
* = included in base motor seal kit Q210

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


Variable Displacement Motor
End cap, axial ports

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A	F10	92-01		508134	Servo piston seal ring (SB-1997-009)	1
	F11	92-01		504207	O-ring	1
	F24	92-01		500999	Feedback lever	1
	F26	92-01		396879	Set screw	1
	F28	92-01		042465	Set screw	1
	F120	92-01		510077	Servo piston assembly	1
	G10	07-20		521046	End cap, axial ports (SB-1996-005, SB-2002-001)	1
	G12	95-07		140644	Plug assembly	5
	G12	92-01	95-06	140644	Plug assembly	7
	G18	10-31		11040532	Plug assembly	3
	G18	95-07	10-30	11040532	Plug assembly	2
	G18	92-01	95-06	092114 (9007712-0604)	Set screw	2
	G30	92-01		11040532	Plug assembly	2
	G32	07-20		914127 (9007314-1213)	Screw, M12 x 60	8
	G32	92-01	07-19	914143 (9007314-1214)	Screw, M12 x 65	4
	G34	92-01	07-19	283325 (9007314-1211)	Screw, M12 x 50	4
	G36	92-01		364976	O-ring	1
	G50	92-01		001511 (9005100-4400)	Plug assembly	2
	G60	92-01		519806	End cap gasket (SB-1993-006, SB-2004-004)	1

Variable Displacement Motor



E103 160E

* = included in base motor seal kit Q210

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

Variable Displacement Motor
End cap, side ports

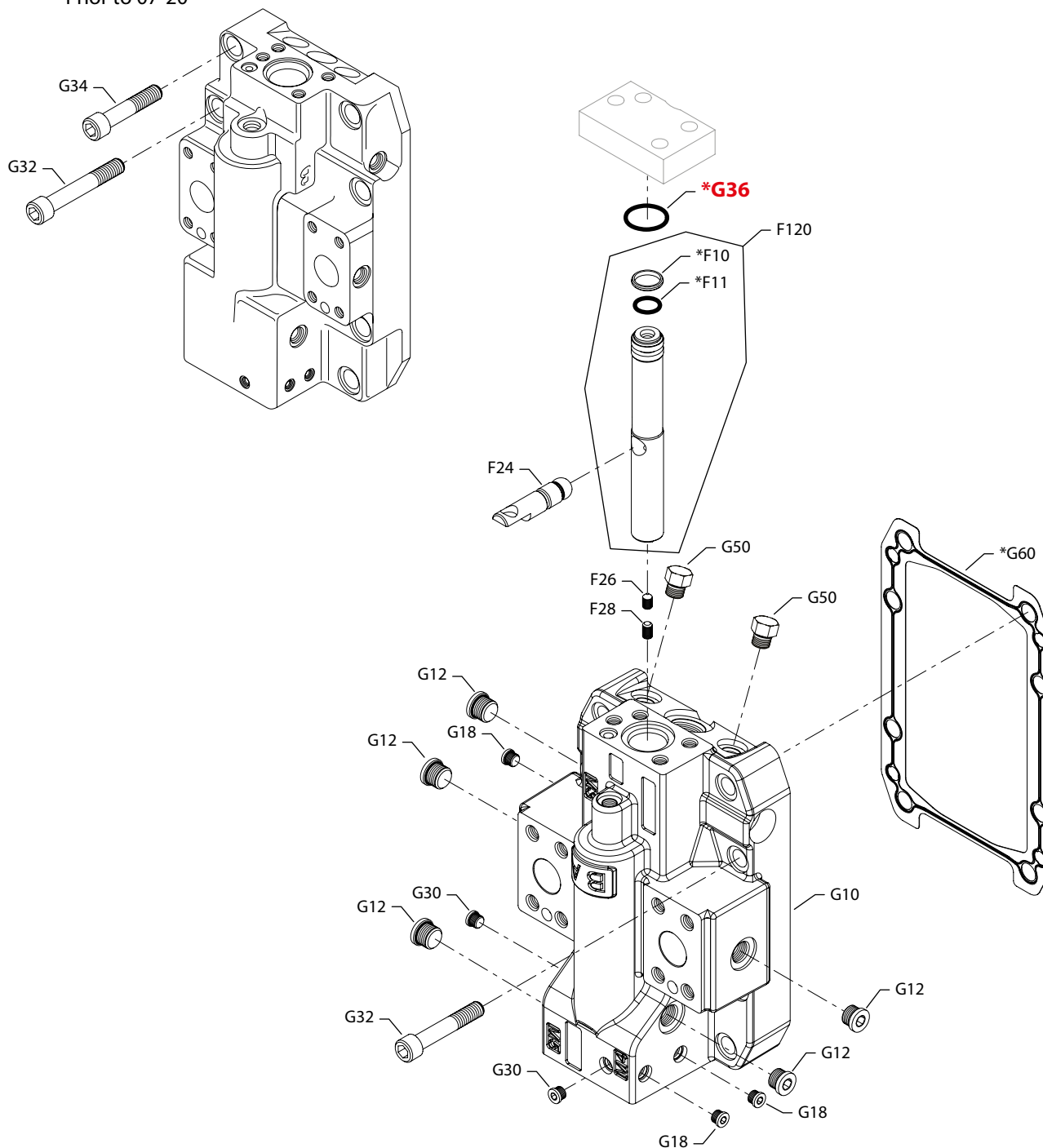
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
R	F10	92-01		508134	Servo piston seal ring (SB-1997-009)	1
	F11	92-01		504207	O-ring	1
	F24	92-01		500999	Feedback lever	1
	F26	92-01		396879	Set screw	1
	F28	92-01		042465	Set screw	1
	F120	92-01		510077	Servo piston assembly	1
	G10	07-18		521048	End cap, side ports (SB-1996-005, SB-2002-001)	1
	G12	07-18		140644	Plug assembly	3
	G12	95-07	07-17	140644	Plug assembly	5
	G12	92-01	95-06	140644	Plug assembly	7
	G12W	07-18		664524 (9005110-9000)	Plug assembly	2
	G18	10-31		11040532	Plug assembly	3
	G18	95-07	10-30	11040532	Plug assembly	2
	G18	92-01	95-06	092114 (9007712-0604)	Set screw	2
	G30	92-01		11040532	Plug assembly	2
	G32	07-18		914127 (9007314-1213)	Screw, M12 x 60	8
	G32	92-01	07-17	914143 (9007314-1214)	Screw, M12 x 65	4
	G34	92-01	07-17	283325 (9007314-1211)	Screw, M12 x 50	4
	G36	92-01		364976	O-ring	1
	G50	92-01		001511 (9005100-4400)	Plug assembly	2
	G60	92-01		519806	End cap gasket (SB-1993-006, SB-2004-004)	1



Variable Displacement Motor

(U)

Prior to 07-20



E103 159E

* = included in base motor seal kit Q210

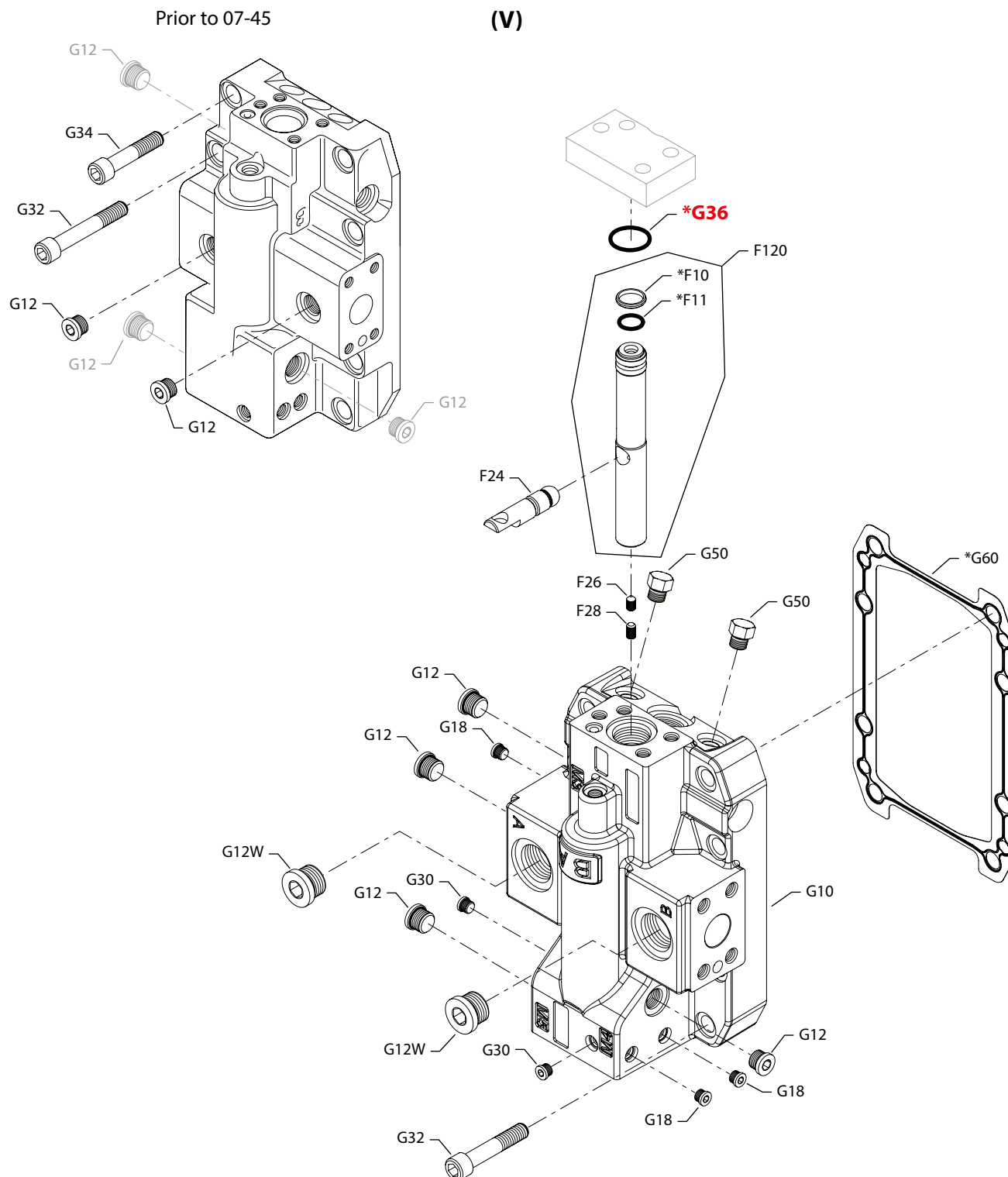
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Variable Displacement Motor
End cap, axial ports

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
U	F10	05-18		508134	Servo piston seal ring	1
	F11	05-18		504207	O-ring	1
	F24	05-18		500999	Feedback lever	1
	F26	05-18		396879	Set screw	1
	F28	05-18		042465	Set screw	1
	F120	05-18		510077	Servo piston assembly	1
	G10	07-20		11001131	End cap, axial ports	1
	G12	05-18		140644	Plug assembly	5
	G18	10-31		11040532	Plug assembly	3
	G18	05-18	10-30	11040532	Plug assembly	2
	G30	05-18		11040532	Plug assembly	2
	G32	07-20		914127 (9007314-1213)	Screw, M12 x 60	8
	G32	05-18	07-19	914143 (9007314-1214)	Screw, M12 x 65	4
	G34	05-18	07-19	283325 (9007314-1211)	Screw, M12 x 50	4
	G36	05-18		364976	O-ring	1
	G50	05-18		001511 (9005100-4400)	Plug assembly	2
	G60	05-18		519806	End cap gasket	1



Variable Displacement Motor



E103 160E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
End cap, side ports

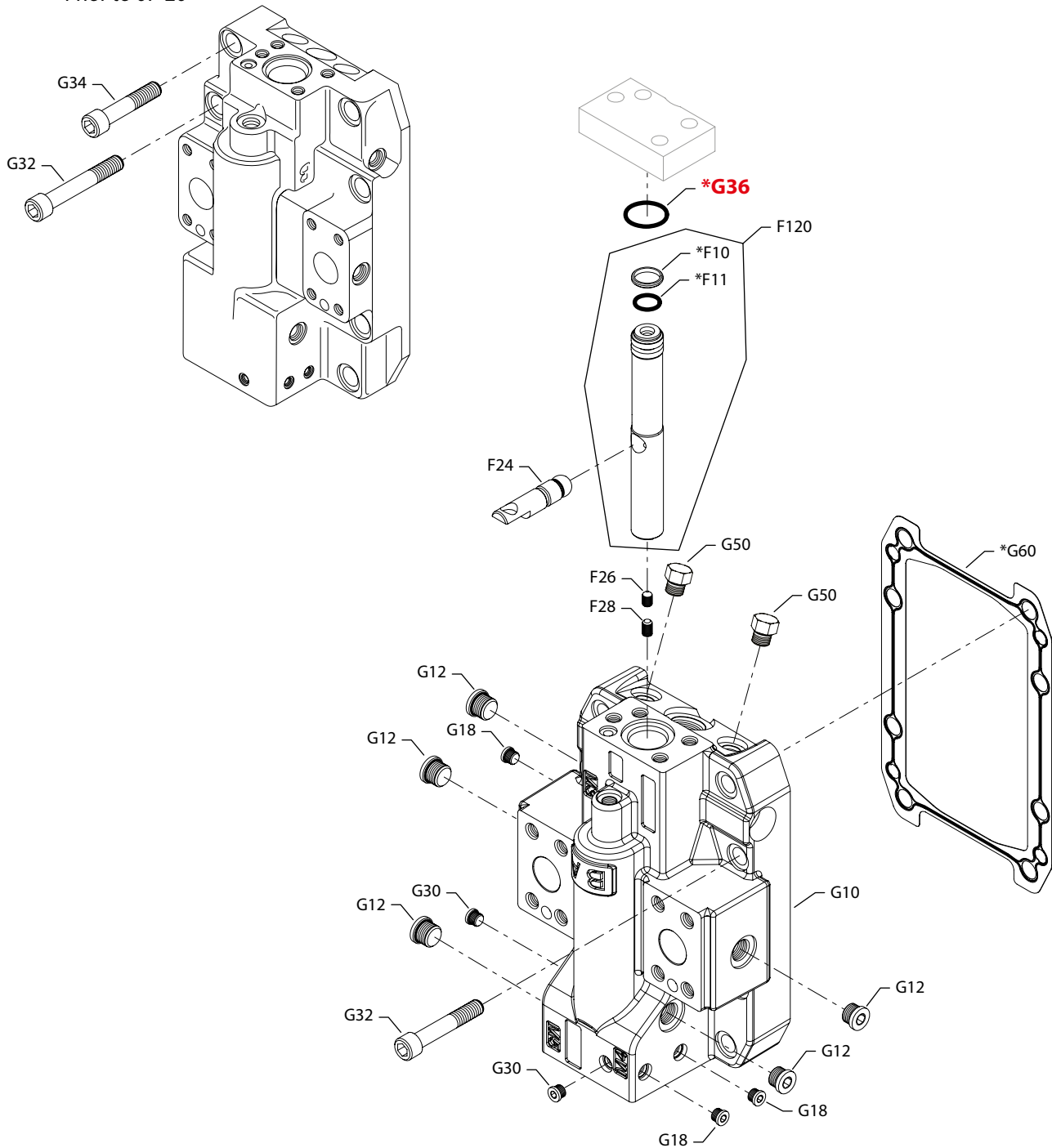
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
V	F10	07-27		508134	Servo piston seal ring	1
	F11	07-27		504207	O-ring	1
	F24	07-27		500999	Feedback lever	1
	F26	07-27		396879	Set screw	1
	F28	07-27		042465	Set screw	1
	F120	07-27		510077	Servo piston assembly	1
	G10	07-45		11029620	End cap, side ports	1
	G12	07-45		140644	Plug assembly	3
	G12	07-27	07-44	140644	Plug assembly	5
	G12W	07-45		664524	Plug assembly	2
	G18	10-31		11040532	Plug assembly	3
	G18	07-27	10-30	11040532	Plug assembly	2
	G30	07-27		11040532	Plug assembly	2
	G32	07-45		914127 (9007314-1213)	Screw, M12 x 60	8
	G32	07-27	07-44	914143 (9007314-1214)	Screw, M12 x 65	4
	G34	07-27	07-44	283325 (9007314-1211)	Screw, M12 x 50	4
	G36	07-27		364976	O-ring	1
	G50	07-27		001511 (9005100-4400)	Plug assembly	2
	G60	07-27		519806	End cap gasket	1



Variable Displacement Motor

(Z)

Prior to 07-20



E103 159E

* = included in base motor seal kit Q210

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

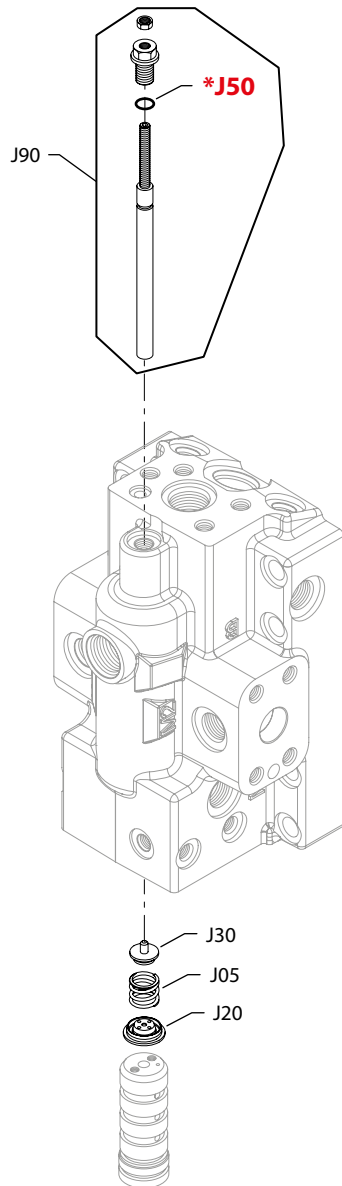

Variable Displacement Motor
End cap, axial ports

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
Z	F10	04-07		508134	Servo piston seal ring	1
	F11	04-07		504207	O-ring	1
	F24	04-07		500999	Feedback lever	1
	F26	04-07		396879	Set screw	1
	F28	04-07		042465	Set screw	1
	F120	04-07		510077	Servo piston assembly	1
	G10	07-20		521046	End cap, axial ports (SB-1996-005, SB-2002-001)	1
	G12	04-07		140644	Plug assembly	5
	G18	10-31		11040532	Plug assembly	3
	G18	04-07	10-30	11040532	Plug assembly	2
	G30	04-07		11040532	Plug assembly	2
	G32	07-20		914127 (9007314-1213)	Screw, M12 x 60	8
	G32	04-07	07-19	914143 (9007314-1214)	Screw, M12 x 65	4
	G34	04-07	07-19	283325 (9007314-1211)	Screw, M12 x 50	4
	G36	04-07		364976	O-ring	1
	G50	04-07		001511 (9005100-4400)	Plug assembly	2
	G60	04-07		519806	End cap gasket (SB-1993-006, SB-2004-004)	1

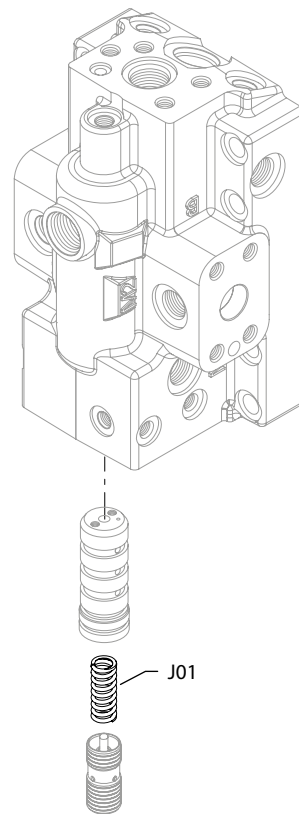


Variable Displacement Motor

(A, B, C, D, G, H, J, K, L,
P, R, S, T, V & W)



(E & M)



E103 136E

* = included in base motor seal kit Q210

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

Variable Displacement Motor
Threshold/range common parts

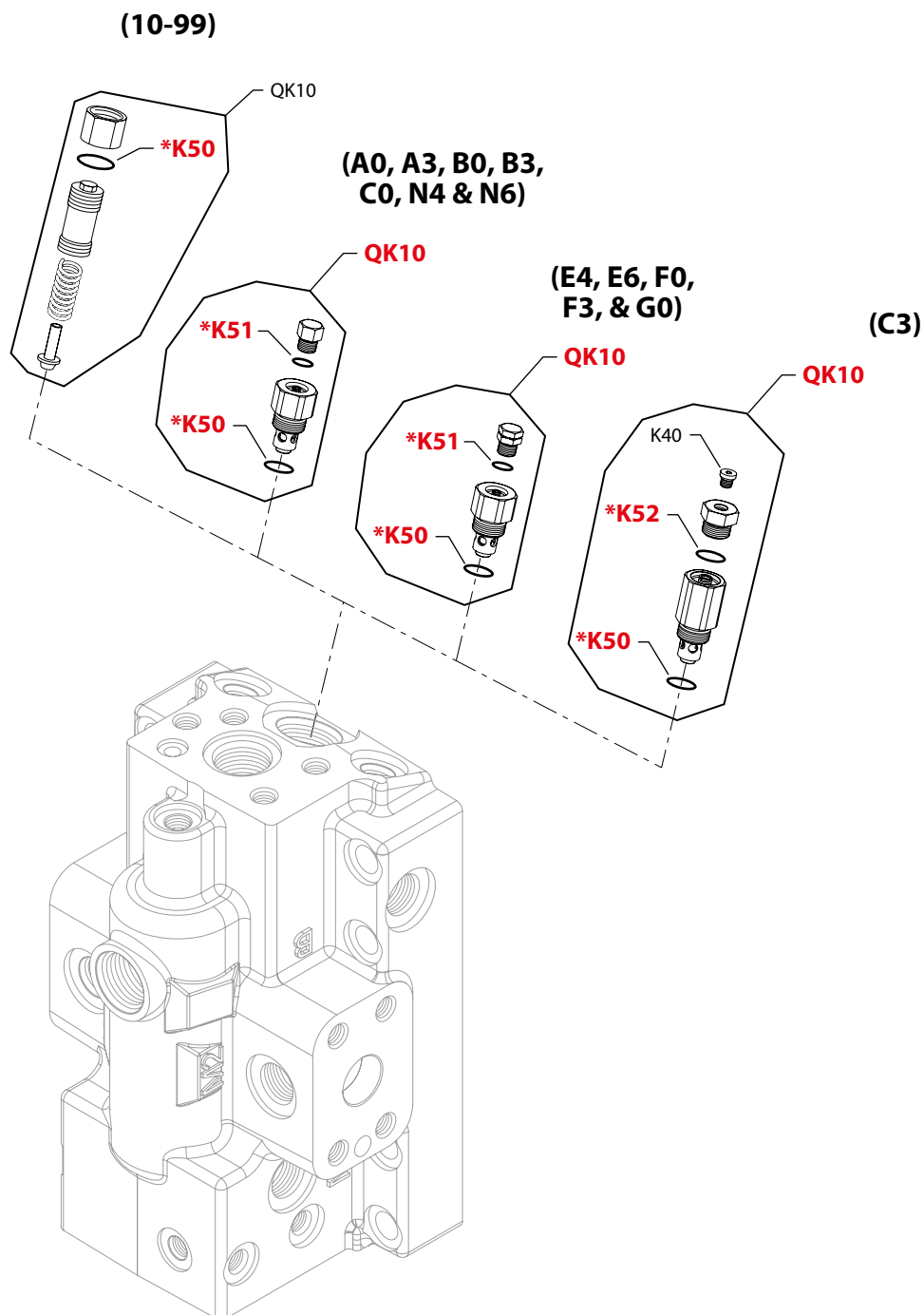
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	J20	93-34		11036824	Spring seat	1
	J30	96-07		507670	Spring seat (SB-1995-013)	1
	J50	92-33		732479 (9004105-0100)	O-ring	1
	J90	96-07		507683	Threshold adjustment screw assembly (SB-1995-013)	1

Threshold/range

A	J05	92-33		507638	Spring	1
(2-5 bar)						
B	J05	92-33		722215	Spring	1
(6-12 bar)						
C	J05	92-33		722207	Spring	1
(13-30 bar)						
D	J05	92-33		722207	Spring	1
(20-30 bar)						
E	J01	92-07		729442	Spring	1
G	J05	92-33		722207	Spring	1
(3-5 bar)						
H	J05	92-33		722207	Spring	1
(6-8 bar)						
J	J05	92-33		722215	Spring	1
(15-50 mA)						
K	J05	92-33		722207	Spring	1
(51-85 mA)						
L	J05	92-33		722215	Spring	1
(110-370 mA)						
M	J01	92-07		729442	Spring	1
(45-70 mA)						
N				No parts		
(no adjustment)						
P	J05	11-08		722215	Spring	1
(no adjustment)						
R	J05	99-35		507638	Spring	1
(320 mA)						
S	J05	99-35		507638	Spring	1
(640 mA)						
T	J05	99-35		507638	Spring	1
(220 mA)						
V	J05	95-35		507638	Spring	1
(220 mA)						
W	J05	97-41		507638	Spring	1
(440 mA)						



Variable Displacement Motor



E103 161E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

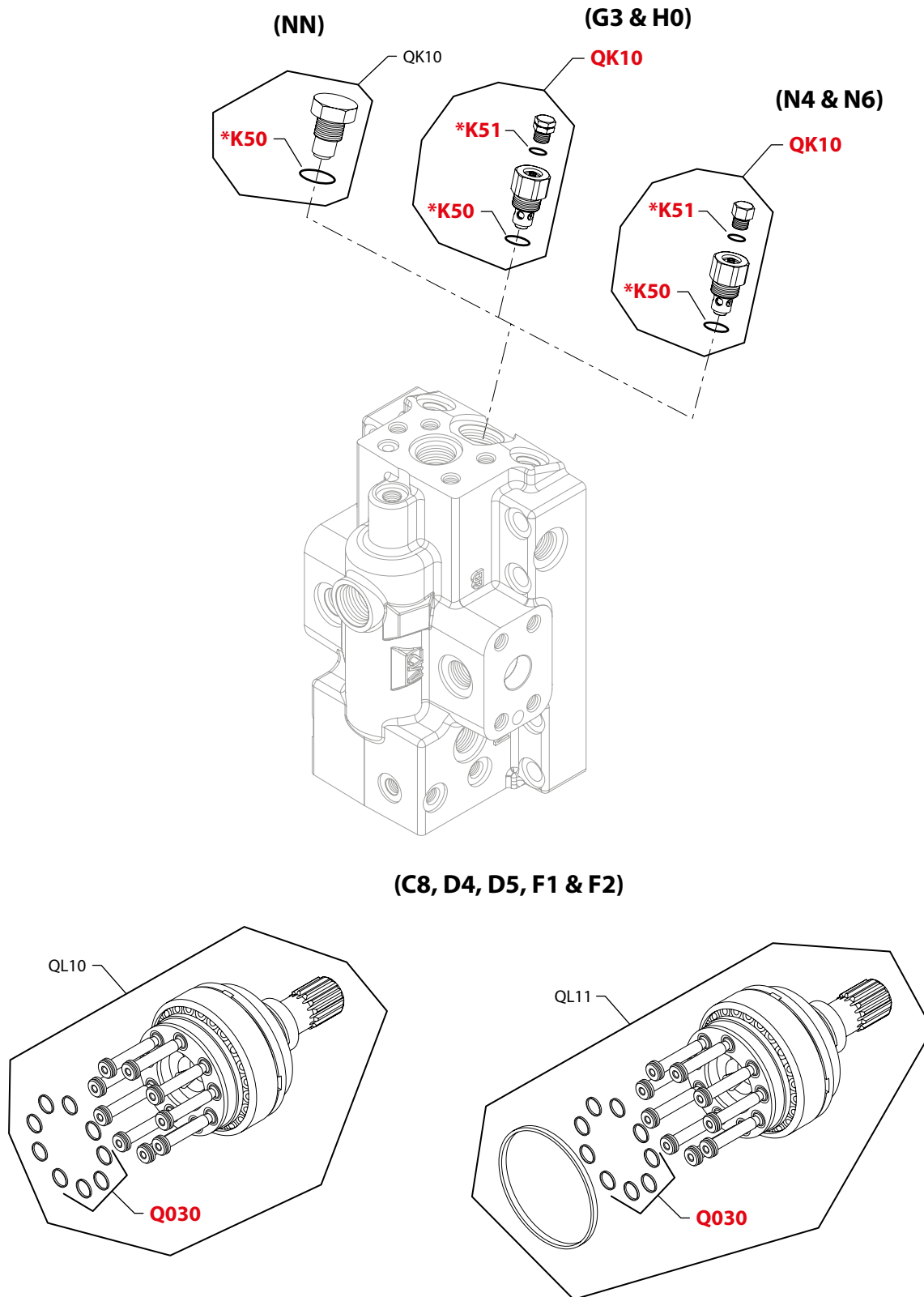
Variable Displacement Motor

Charge pressure relief

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
00		92-01	01-18	None		
10-99	K50	92-01	01-17	001149 (9004201-6200)	O-ring	1
	QK10	92-01	01-17	8510012	Charge relief valve kit	1
A0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510253	Cartridge kit, 13 bar, 11 l/min	1
A3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510256	Cartridge kit, 13 bar, 16 l/min	1
B0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		11020552	Cartridge kit, 13 bar, 22 l/min	1
B3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510243	Cartridge kit, 13 bar, 27 l/min	1
C0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		11097062	Cartridge kit, 13 bar, 35 l/min	1
C3	K40	97-25		11040532	Plug assembly	1
	K50	97-25		001149 (9004201-6200)	O-ring	1
	K52	97-25		001131 (9004201-5000)	O-ring	1
	QK10	97-25		11097063	Cartridge kit, 13 bar, 45 l/min	1
E4	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510261	Cartridge kit, 16 bar, 4 l/min	1
E6	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510252	Cartridge kit, 16 bar, 7 l/min	1
F0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510259	Cartridge kit, 16 bar, 11 l/min	1
F3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510262	Cartridge kit, 16 bar, 16 l/min	1
G0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510260	Cartridge kit, 16 bar, 22 l/min	1



Variable Displacement Motor



E103 162E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Charge pressure relief

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
G3	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510263	Cartridge kit, 16 bar, 2 l/min	1
H0	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510258	Cartridge kit, 16 bar, 35 l/min	1
N4	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		8510255	Cartridge kit, 13 bar, 4 l/min	1
N6	K50	97-25		001149 (9004201-6200)	O-ring	1
	K51	97-25		085043 (9004201-3700)	O-ring	1
	QK10	97-25		11097072	Cartridge kit, 13 bar, 7 l/min	1
NN	K50	97-25		001149 (9004201-6200)	O-ring	1
	QK10	97-25		11097045	Loop flushing defeated kit	1

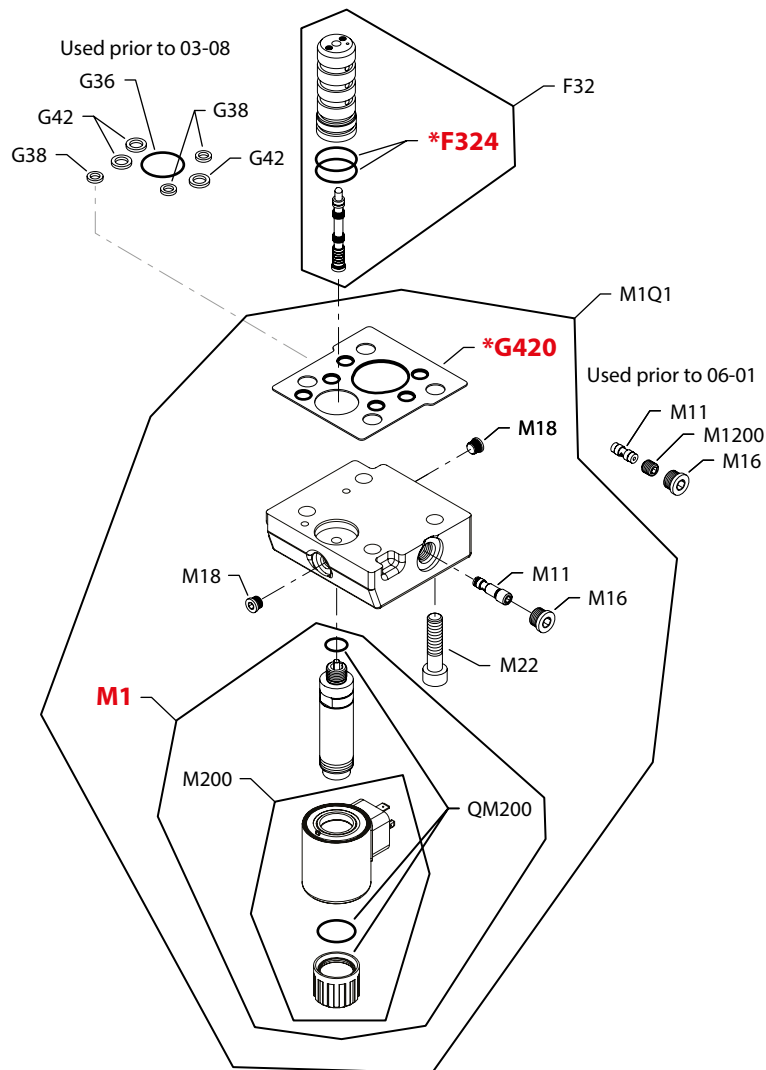
Shaft

C8	QL10	92-33		11100431	Shaft, 27 tooth spline without speed ring	1
	QL11	92-33		11100432	Shaft, 27 tooth spline with speed ring	1
	Q030	92-33		11100638	Piston ring kit	1
D4	QL10	92-33		11100457	Shaft, 21 t. spline without speed ring (SB-1999-059)	1
	QL11	92-33		11100458	Shaft, 21 tooth spline with speed ring (SB-1999-059)	1
	Q030	92-33		11100638	Piston ring kit	1
D5	QL10	92-33		11100459	Shaft, 24 t. spline without speed ring (SB-1999-059)	1
	QL11	92-33		11100460	Shaft, 24 tooth spline with speed ring (SB-1999-059)	1
	Q030	92-33		11100638	Piston ring kit	1
F1	QL10	92-33		11100437	Shaft, 13 tooth spline without speed ring	1
	QL11	92-33		11100438	Shaft, 13 tooth spline with speed ring	1
	Q030	92-33		11100638	Piston ring kit	1
F2	QL10	92-33		11100439	Shaft, 15 tooth spline without speed ring	1
	QL11	92-33		11100440	Shaft, 15 tooth spline with speed ring	1
	Q030	92-33		11100638	Piston ring kit	1



Variable Displacement Motor

(A7)



* = included in base motor seal kit Q210

E100 330E

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

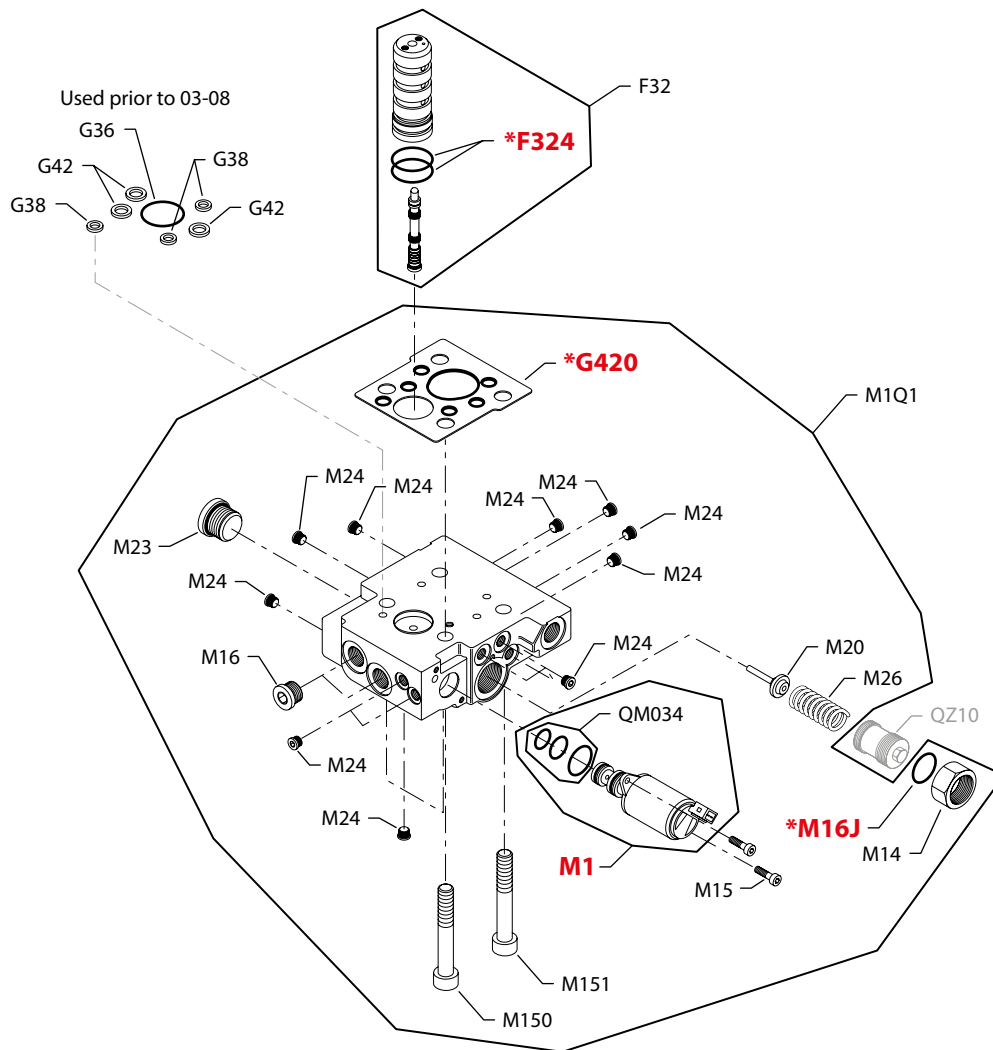

Variable Displacement Motor
Electric proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A7	F32	98-03		509845	4-way valve assembly	1
	F324	98-03		730036	O-ring	2
	G36	98-03	03-07	364976	O-ring (SB-2002-001)	1
	G38	98-03	03-07	792739	O-ring (SB-2002-001)	3
	G42	98-03	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	98-03		11026438	Solenoid valve, 12 volt, JET connector	1
	M1Q1	98-03		518244	Control kit, 12 volt, JET connector	1
	M11	06-02		11000893	Shuttle valve	1
	M11	98-03	06-01	759415	Shuttle valve	1
	M16	98-03		140644	Plug assembly	1
	M18	98-03		11040532	Plug assembly	2
	M22	98-03		085183	Screw	4
	M200	98-03		11026450	Coil kit, 12 volt, JET connector	1
	M1200	98-03	06-01	759423	Orifice plug	1
	QM200	98-03		11121251	Coil nut kit	1



Variable Displacement Motor

(D7 & D8)



E100 655E

* = included in base motor seal kit QZ10

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

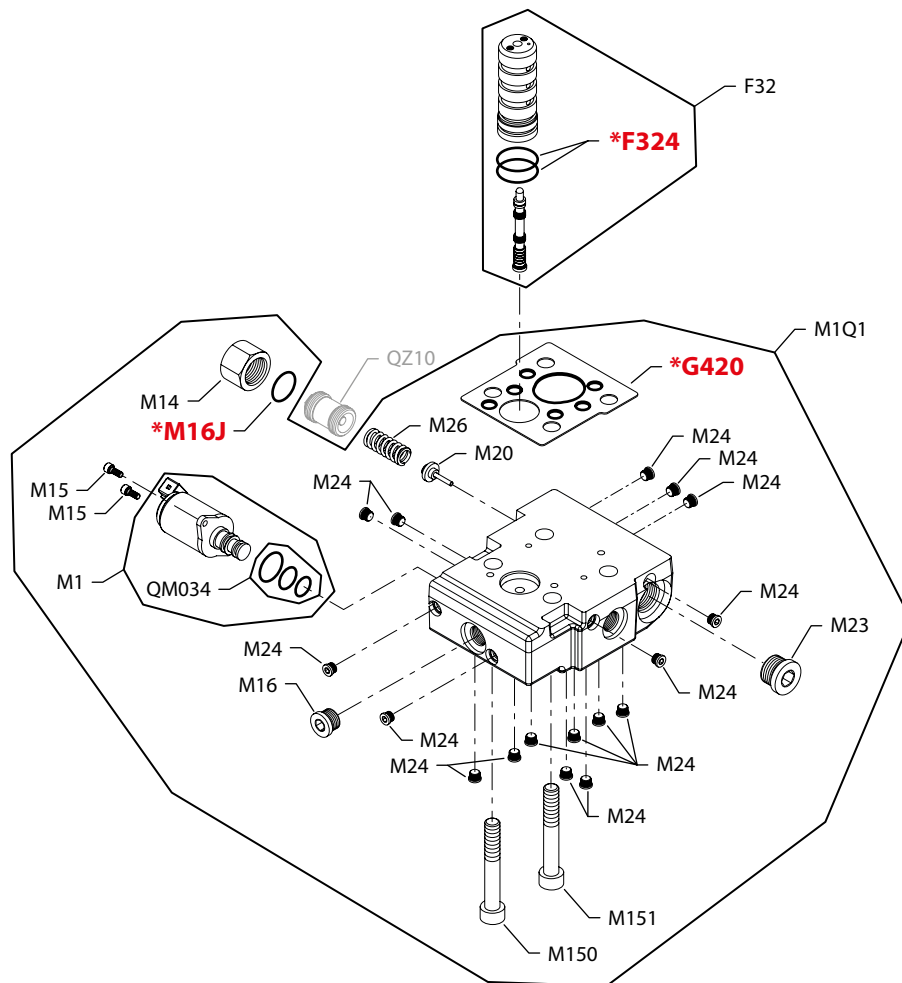
Electric proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
D7	F32	99-35		727115	4-way valve assembly	1
	F324	99-35		730036	O-ring	2
	G36	99-35	03-07	364976	O-ring (SB-2002-001)	1
	G38	99-35	03-07	792739	O-ring (SB-2002-001)	3
	G42	99-35	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	99-35		518080	Solenoid valve, 12 volt	1
	M1Q1	99-35		518254	Control kit, 12 volt	1
	M14	99-35		342709	Nut	1
	M15	99-35		067694	Screw	2
	M16	99-35		140644	Plug assembly	2
	M16J	99-35		001149 (9004201-6200)	O-ring	1
	M20	99-35		501876	PCOR spool	1
	M23	99-35		315325	Plug assembly	1
	M24	99-35		11040532	Plug assembly	15
	M26	99-35		509152	Spring	1
	M150	99-35		914143	Screw	2
	M151	99-35		914143	Screw	2
	QM034	99-35		11099849	Solenoid valve seal kit	1
D8	F32	99-35		727115	4-way valve assembly	1
	F324	99-35		730036	O-ring	2
	G36	99-35	03-07	364976	O-ring (SB-2002-001)	1
	G38	99-35	03-07	792739	O-ring (SB-2002-001)	3
	G42	99-35	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	99-35		518081	Solenoid valve, 24 volt	1
	M1Q1	99-35		518255	Control kit, 24 volt	1
	M14	99-35		342709	Nut	1
	M15	99-35		067694	Screw	2
	M16	99-35		140644	Plug assembly	2
	M16J	99-35		001149 (9004201-6200)	O-ring	1
	M20	99-35		501876	PCOR spool	1
	M23	99-35		315325	Plug assembly	1
	M24	99-35		11040532	Plug	15
	M26	99-35		509152	Spring	1
	M150	99-35		914143	Screw	2
	M151	99-35		914143	Screw	2
	QM034	99-35		11099849	Solenoid valve seal kit	1



Variable Displacement Motor

(DA & DC)



E103 163E

* = included in base motor seal kit Q210

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

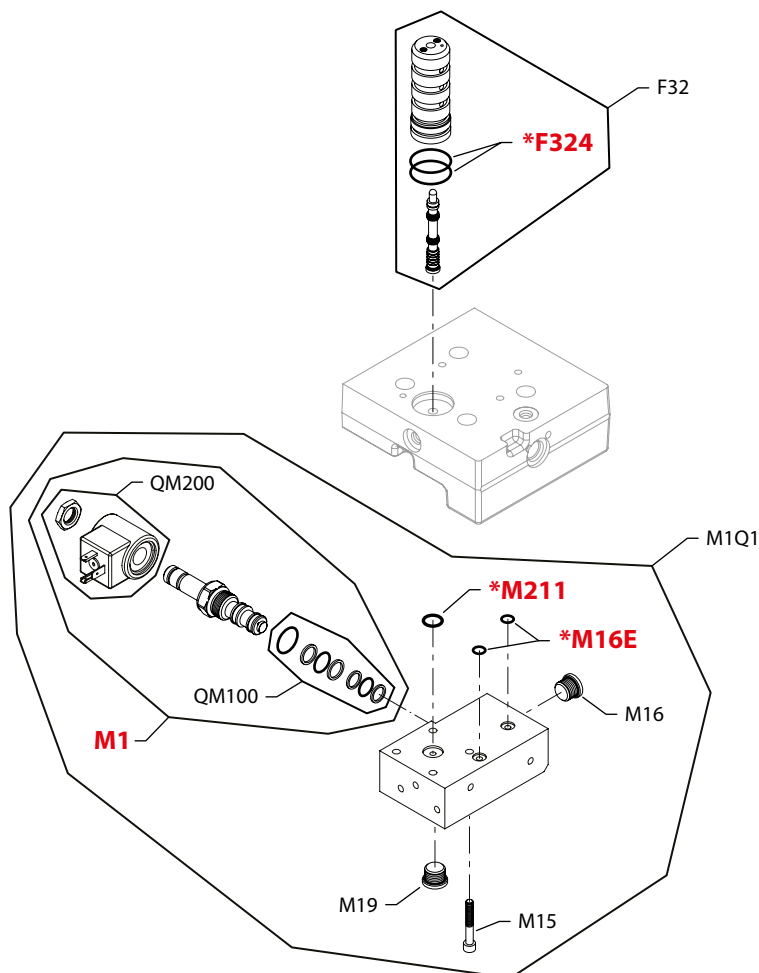
Variable Displacement Motor
Electric proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
DA	F32	06-25		727115	4-way valve assembly	1
	F324	06-25		730036	O-ring	2
	G420	06-25		511851	Gasket/O-ring seal	1
	M1	06-25		518081	Solenoid valve, 24 volt	1
	M1Q1	06-25		11004050	Control kit, 24 volt	1
	M14	06-25		342709	Nut	1
	M15	06-25		067694	Screw	2
	M16	06-25		140644	Plug assembly	1
	M16J	06-25		001149 (9004201-6200)	O-ring	1
	M20	06-25		501876	PCOR spool	1
	M23	06-25		315325	Plug assembly	1
	M24	06-25		11040532	Plug assembly	17
	M26	06-25		509152	Spring	1
	M150	06-25		914143	Screw	2
	M151	06-25		914143	Screw	2
	QM034	06-25		11099849	Solenoid valve seal kit	1
DC	F32	06-25		727115	4-way valve assembly	1
	F324	06-25		730036	O-ring	2
	G420	06-25		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	06-25		518080	Solenoid valve, 12 volt	1
	M1Q1	06-25		11012181	Control kit, 12 volt	1
	M14	06-25		342709	Nut	1
	M15	06-25		067694	Screw	2
	M16	06-25		140644	Plug assembly	1
	M16J	06-25		001149 (9004201-6200)	O-ring	1
	M20	06-25		501876	PCOR spool	1
	M23	06-25		315325	Plug assembly	1
	M24	06-25		11040532	Plug	17
	M26	06-25		509152	Spring	1
	M150	06-25		914143	Screw	2
	M151	06-25		914143	Screw	2
	QM034	06-25		11099849	Solenoid valve seal kit	1

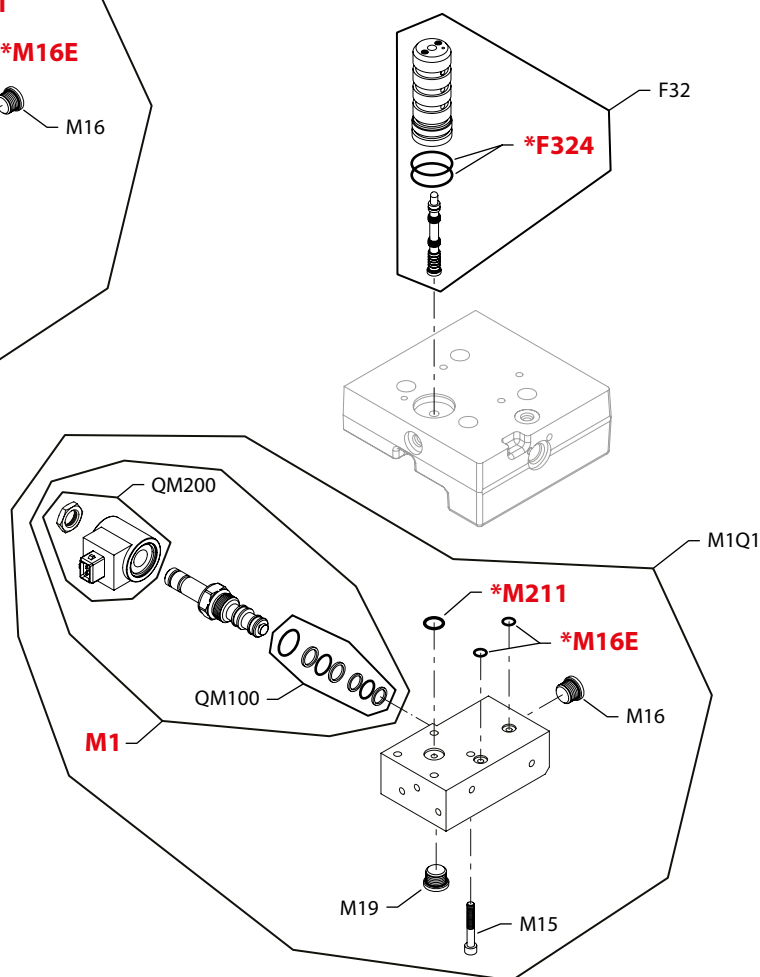


Variable Displacement Motor

(E1 & E2)



(E8)



E103 164E

* = included in base motor seal kit Q210

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

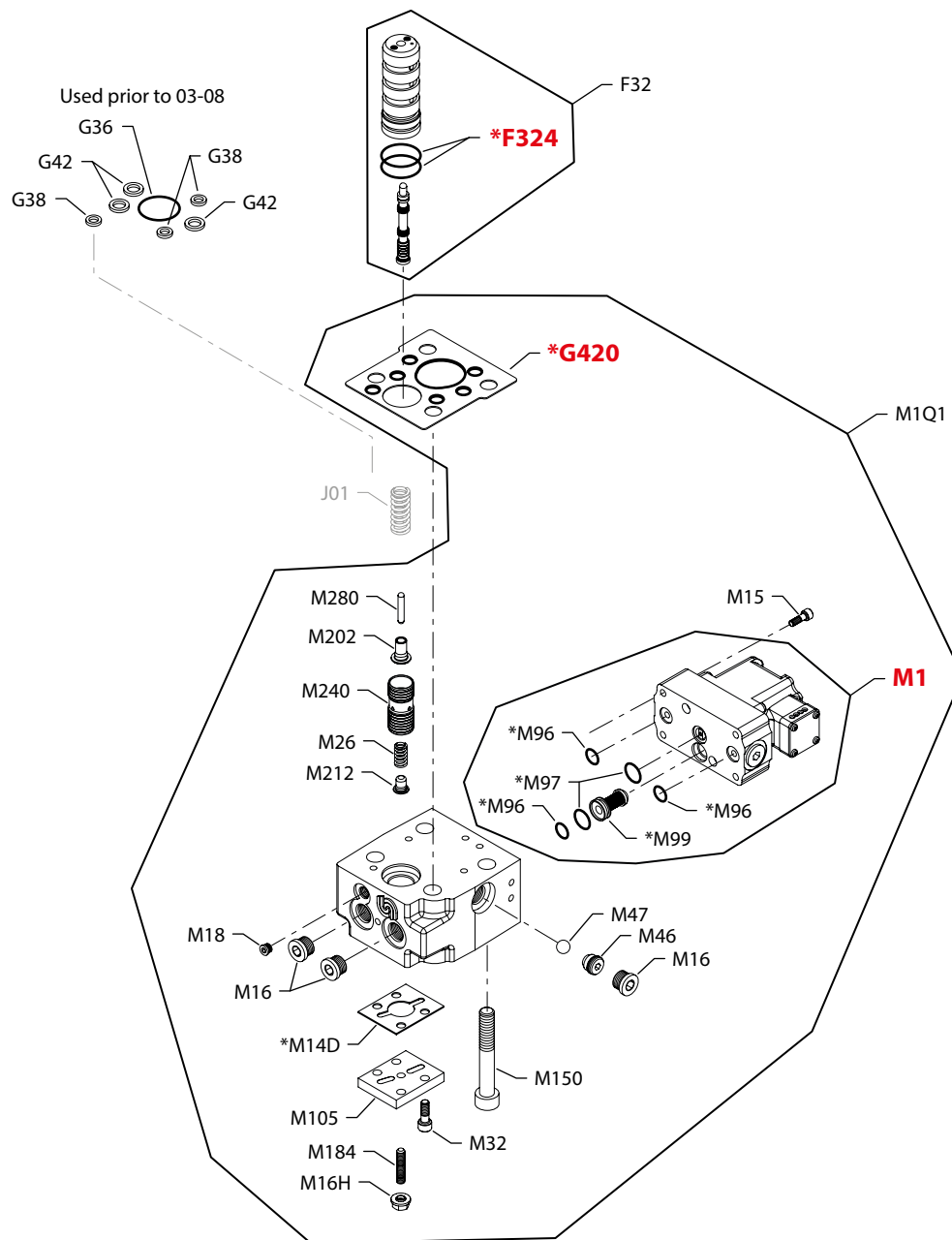
Variable Displacement Motor
Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
E1	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784942	Solenoid valve, 12 volt, DIN connector	1
	M1Q1	92-33		503618	Control kit, 12 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16	92-33		140644	Plug assembly	1
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146863	Coil kit, 12 volt, DIN connector	1
E2	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784934	Solenoid valve, 24, volt, DIN connector	1
	M1Q1	92-33		503617	Control kit, 24 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16	92-33		140644	Plug assembly	1
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146864	Coil kit, 24 volt, DIN connector	1
E8	F32	03-03		727115	4-way valve assembly	1
	F324	03-03		730036	O-ring	2
	M1	03-03		519956	Solenoid valve, 24, volt	1
	M1Q1	03-03		520459	Control kit, 24 volt	1
	M15	03-03		329599	Screw	4
	M16	03-03		140644	Plug assembly	1
	M16E	03-03		732479 (9004105-0100)	O-ring	2
	M19	03-03		140644	Plug assembly	1
	M211	03-03		365015	O-ring	1
	QM100	03-03		11146862	Solenoid valve seal kit	1
	QM200	03-03		11146865	Coil kit, 24 volt	1



Variable Displacement Motor

(ED & EE)



E100 335E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Electric proportional common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	F32	95-10		501055	4-way valve assembly	1
	F324	95-10		730036	O-ring	2
	G36	95-10	03-07	364976	O-ring (SB-2002-001)	1
	G38	95-10	03-07	792739	O-ring (SB-2002-001)	3
	G42	95-10	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal	1
	M14D	95-10		509940	Gasket	1
	M15	95-10		716860	Screw	4
	M16	95-10		140644	Plug assembly	3
	M16H	95-10		517862	Seal nut	1
	M18	95-10		11040532	Plug assembly	1
	M26	95-10		729434	Spring	1
	M32	95-10		704395	Screw	4
	M46	95-10		625210	Check ball seat	1
	M47	95-10		916007	Ball	1
	M96	95-10		9004105-0120	O-ring	3
	M97	95-10		9004105-0130	O-ring	2
	M99	95-10		K08572	Filter assembly	1
	M105	95-10		717199	Cover	1
	M150	95-10		914143	Screw	4
	M184	95-10		043240	Set screw	1
	M202	95-10		728980	Spring seat	1
	M212	95-10		719377	Spring guide	1
	M240	95-10		728998	Piston	1
	M280	95-10		736983	Pin	1

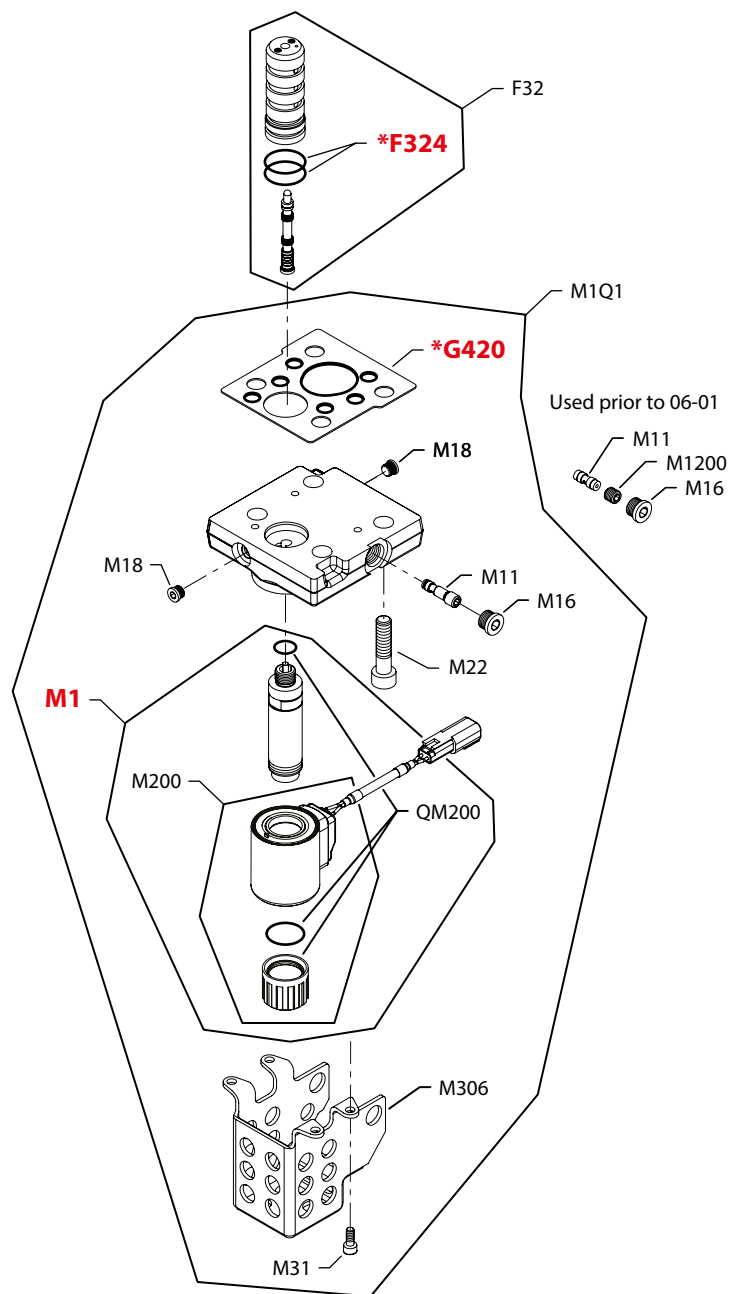
Electric proportional

ED	M1	95-10	MCV116A4204	PCP, weather-pack connector	1
	M1Q1	95-10	518229	Control kit, weather-pack connector	1
EE	M1	95-10	MCV116G4213	PCP, Packard connector	1
	M1Q1	95-10	518253	Control kit, Packard connector	1



Variable Displacement Motor

(EF)



* = included in base motor seal kit Q210

E103 175E

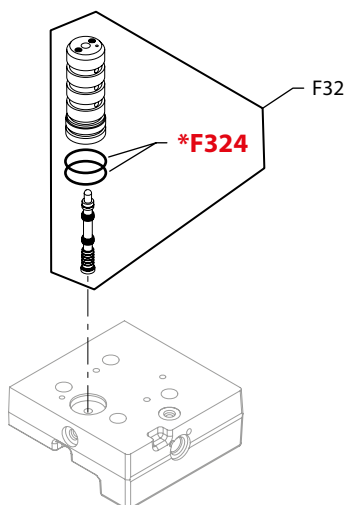
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Variable Displacement Motor
Electric proportional with protective cover

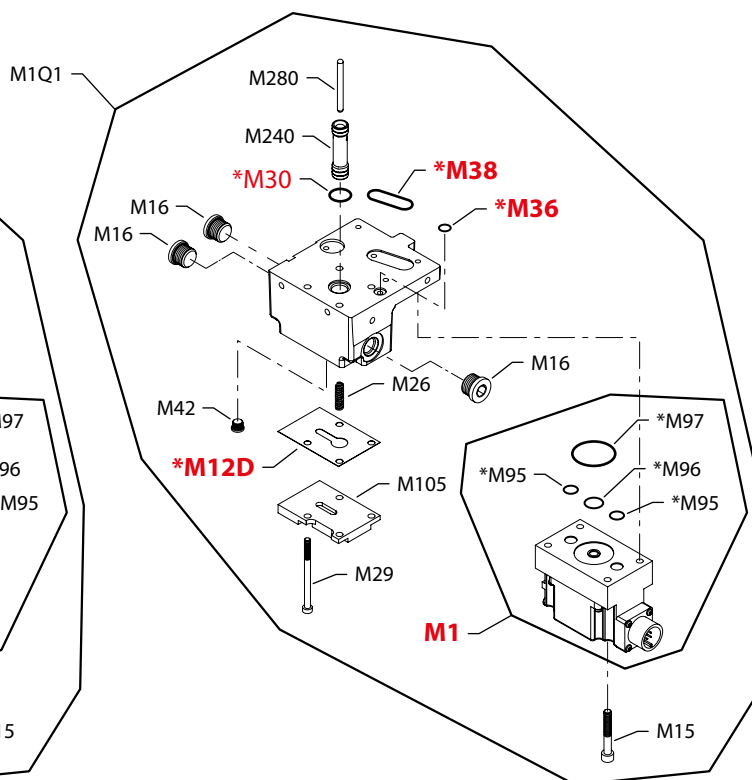
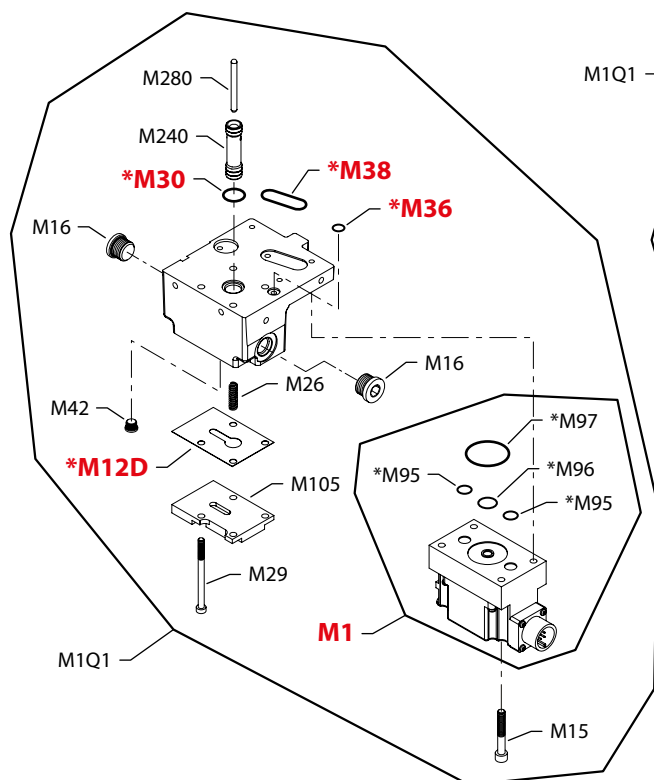
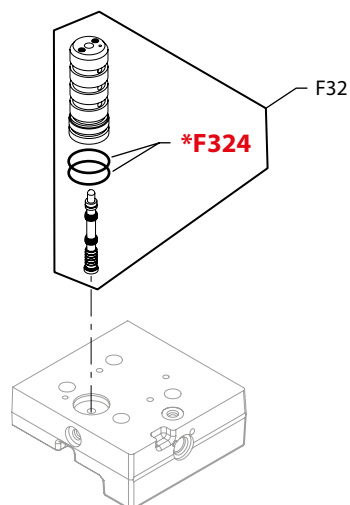
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
EF	F32	03-14		509845	4-way valve assembly	1
	F324	03-14		730036	O-ring	2
	M1Q1	03-14		519434	Control kit, 24 volt, Deutsch connector	1
	M1	03-14		519435	Solenoid valve, 24 volt, Deutsch connector	1
	M11	06-01		11000893	Shuttle valve	1
	M11	03-14	05-52	759415	Shuttle valve	1
	M16	03-14		140644	Plug assembly	1
	M18	03-14		11040532	Plug assembly	2
	M22	03-14		085183	Screw	4
	M31	03-14		395822 (9007315-0603)	Screw	4
	M200	03-14		519436	Coil kit, 24 volt, Deutsch connector	1
	M306	03-14		11000809	Protective cover	1
	M1200	03-14	05-52	759423	Orifice plug	1
	QM200	03-14		11000337	Coil nut kit	1

Variable Displacement Motor

(EP & EQ)



(ER & ES)



E100 258E

* = included in base motor seal kit Q210

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

Variable Displacement Motor
Electric proportional common parts

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	F32	92-33		753186	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M12D	92-33		504358	Gasket	1
	M15	92-33		067678 (9007315-0504)	Screw	4
	M26	92-33		717454	Spring	1
	M29	92-33		771832	Screw	4
	M30	92-33		056770 (9004105-0150)	O-ring	1
	M36	92-33		732479 (9004105-0100)	O-ring	1
	M38	92-33		011395 (9004104-0230)	O-ring	1
	M42	92-33		11040532	Plug assembly	1
	M95	92-33		9004104-0120	O-ring	2
	M96	92-33		9004104-0140	O-ring	1
	M97	92-33		9004104-0240	O-ring	1
	M105	92-33		751883	Cover	1
	M240	92-33		741942	Piston	1
	M280	92-33		742320	Pin	1

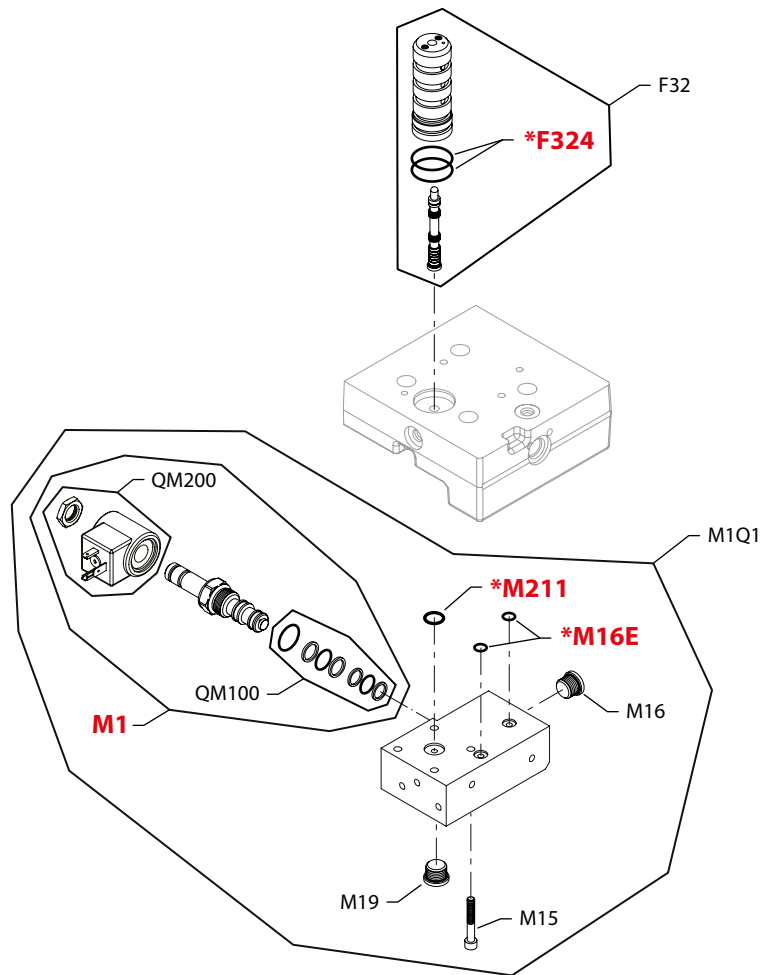
Electric proportional

EP	M1	92-33		MCV110A1058	PCP, Packard connector	1
	M16	92-33		140644	Plug assembly	2
	M1Q1	92-33		503791	Control kit, Packard connector	1
EQ	M1	92-33		MCV110A1017	PCP, MS connector	1
	M16	92-33		140644	Plug assembly	2
	M1Q1	92-33		503790	Control kit, MS connector	1
ER	M1	95-17		MCV110A1058	PCP, Packard connector	1
	M16	95-17		140644	Plug assembly	3
	M1Q1	95-17		507391	Control kit, Packard connector	1
ES	M1	95-17		MCV110A1017	PCP, MS connector	1
	M16	95-17		140644	Plug assembly	3
	M1Q1	95-17		507393	Control kit, MS connector	1



Variable Displacement Motor

(F1 & F2)



E100 257E

* = included in base motor seal kit Q210

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

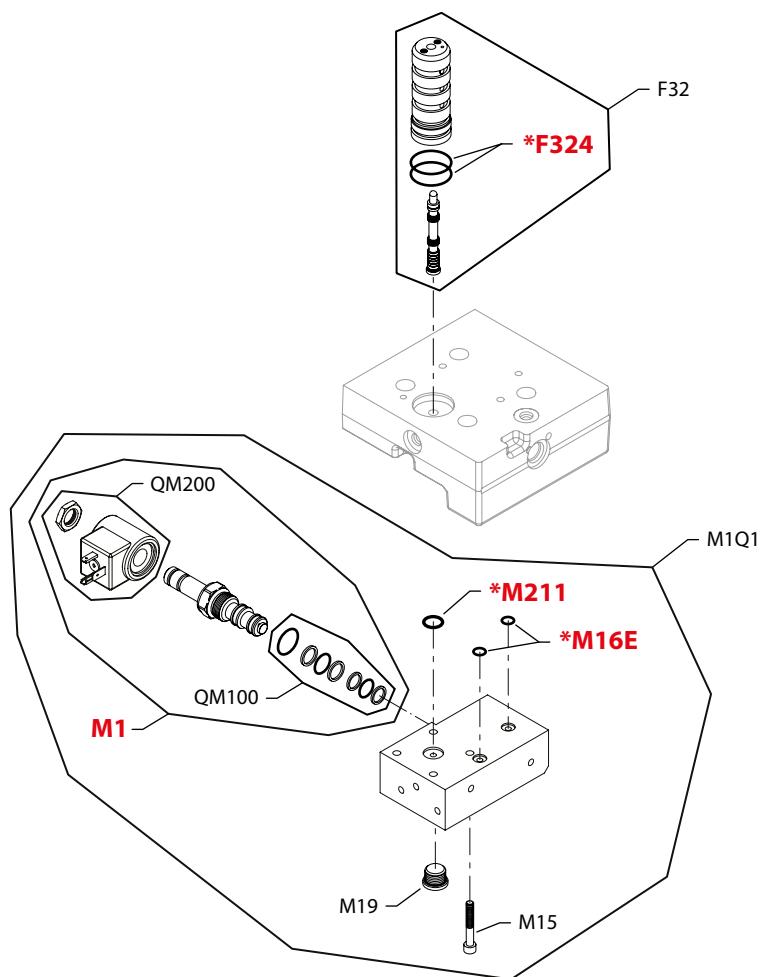
Variable Displacement Motor
Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
F1	F32	92-33		500820	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784942	Solenoid valve, 12 volt, DIN connector	1
	M1Q1	92-33		503618	Control kit, 12 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16	92-33		140644	Plug assembly	1
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146863	Coil kit, 12 volt, DIN connector	1
F2	F32	92-33		500820	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784934	Solenoid valve, 24, volt, DIN connector	1
	M1Q1	92-33		503617	Control kit, 24 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16	92-33		140644	Plug assembly	1
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146864	Coil kit, 24 volt, DIN connector	1



Variable Displacement Motor

(H1 & H2)



E100 260E

* = included in base motor seal kit Q210

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

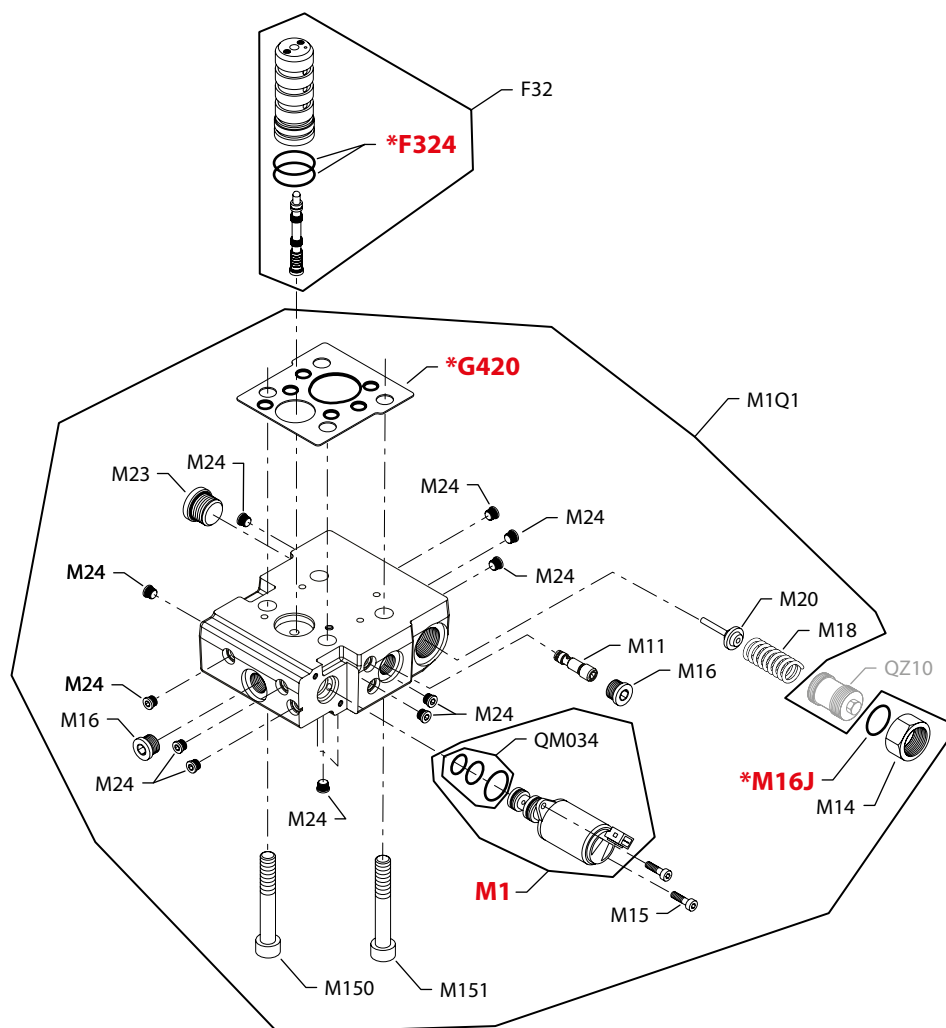

Variable Displacement Motor
Hydraulic proportional w/maximum angle override

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
H1	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784942	Solenoid valve, 12 volt, DIN connector	1
	M1Q1	92-33		503613	Control kit, 12 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146863	Coil kit, 12 volt, DIN connector	1
H2	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1	92-33		784934	Solenoid valve, 24, volt, DIN connector	1
	M1Q1	92-33		503614	Control kit, 24 volt, DIN connector	1
	M15	92-33		329599	Screw	4
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M19	92-33		140644	Plug assembly	1
	M211	92-33		365015	O-ring	1
	QM100	92-33		11146862	Solenoid valve seal kit	1
	QM200	92-33		11146864	Coil kit, 24 volt, DIN connector	1



Variable Displacement Motor

(H3 & H4)



E103 123E

* = included in base motor seal kit QZ10

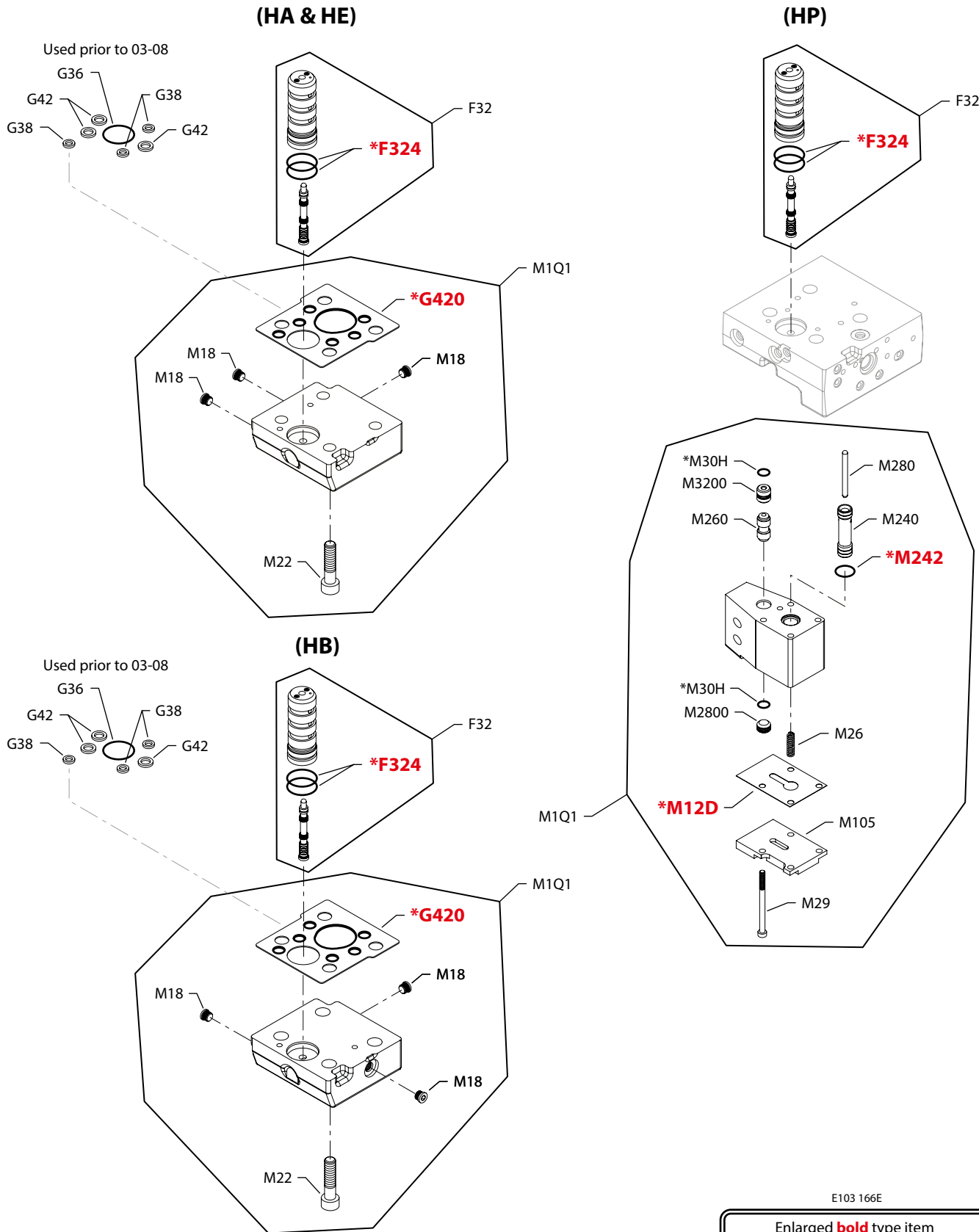
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Variable Displacement Motor
Electric proportional w/pressure reducing

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
H3	F32	07-21		727115	4-way valve assembly	1
	F324	07-21		730036	O-ring	2
	G420	07-21		511851	Gasket/O-ring seal	1
	M1	07-21		518080	Solenoid valve, 12 volt, 25 bar, Jet connector	1
	M1Q1	07-21		11097919	Control kit, 12 volt, 25 bar, Jet connector	1
	M11	07-21		11000893	Shuttle valve	1
	M14	07-21		342709 (9003575-0101)	Nut	1
	M15	07-21		067694	Screw	2
	M16	07-21		140644	Plug assembly	2
	M16J	07-21		001149 (9004201-6200)	O-ring	1
	M20	07-21		501876	PCOR spool	1
	M23	07-21		315325 (9005110-8700)	Plug assembly	1
	M24	07-21		11040532	Plug	15
	M26	07-21		509152	Spring	1
	M150	07-21		914143	Screw	2
	M151	07-21		914143	Screw	2
	QM034	07-21		11099849	Solenoid valve seal kit	1
H4	F32	07-21		727115	4-way valve assembly	1
	F324	07-21		730036	O-ring	2
	G420	07-21		511851	Gasket/O-ring seal	1
	M1	07-21		518081	Solenoid valve, 24 volt, 25 bar, Jet connector	1
	M1Q1	07-21		11013383	Control kit, 24 volt, 25 bar, Jet connector	1
	M11	07-21		11000893	Shuttle valve	1
	M14	07-21		342709 (9003575-0101)	Nut	1
	M15	07-21		067694	Screw	2
	M16	07-21		140644	Plug assembly	2
	M16J	07-21		001149 (9004201-6200)	O-ring	1
	M20	07-21		501876	PCOR spool	1
	M23	07-21		315325 (9005110-8700)	Plug assembly	1
	M24	07-21		11040532	Plug	15
	M26	07-21		509152	Spring	1
	M150	07-21		914143	Screw	2
	M151	07-21		914143	Screw	2
	QM034	07-21		11099849	Solenoid valve seal kit	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E103 166E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

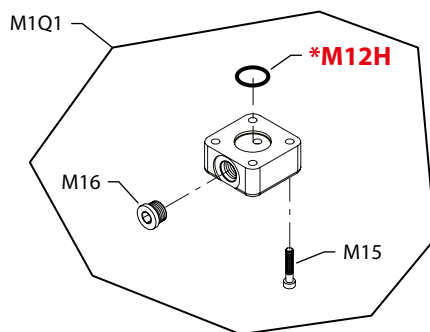
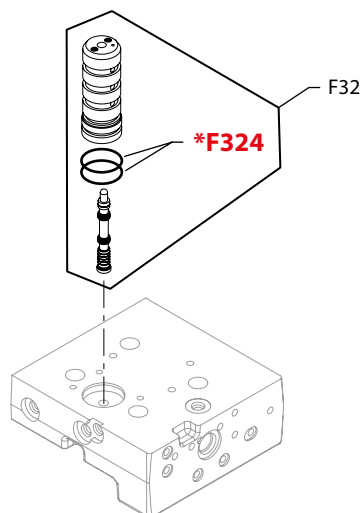
Hydraulic proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
HA	F32	94-12		727115	4-way valve assembly	1
	F324	94-12		730036	O-ring	2
	G36	94-12	03-07	364976	O-ring (SB-2002-001)	1
	G38	94-12	03-07	792739	O-ring (SB-2002-001)	3
	G42	94-12	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	94-12		518236	Control kit	1
	M18	94-12		11040532	Plug assembly	3
	M22	94-12		290502	Screw	4
HB	F32	95-10		727115	4-way valve assembly	1
	F324	95-10		730036	O-ring	2
	G36	95-10	03-07	364976	O-ring (SB-2002-001)	1
	G38	95-10	03-07	792739	O-ring (SB-2002-001)	3
	G42	95-10	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	95-10		518234	Control kit	1
	M18	95-10		11040532	Plug assembly	3
	M22	95-10		290502	Screw	4
HE	F32	94-12		727115	4-way valve assembly	1
	F324	94-12		730036	O-ring	2
	G36	94-12	03-07	364976	O-ring (SB-2002-001)	1
	G38	94-12	03-07	792739	O-ring (SB-2002-001)	3
	G42	94-12	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	94-12		518236	Control kit	1
	M18	94-12		11040532	Plug assembly	3
	M22	94-12		290502	Screw	4
HP	F32	92-33		753186	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1Q1	92-33		796482	Control kit	1
	M12D	92-33		504358	Gasket	1
	M26	92-33		717454	Spring	1
	M29	92-33		771832	Screw	4
	M30H	92-33		011296 (9004105-0120)	O-ring	2
	M105	92-33		751883	Cover	1
	M240	92-33		741942	Shuttle piston	1
	M242	92-33		056770	O-ring	1
	M260	92-33		751644	Shuttle valve	1
	M280	92-33		742320	Pin	1
	M2800	92-33		342246	Sealing plug	1
	M3200	92-33		353615	Sealing plug	1

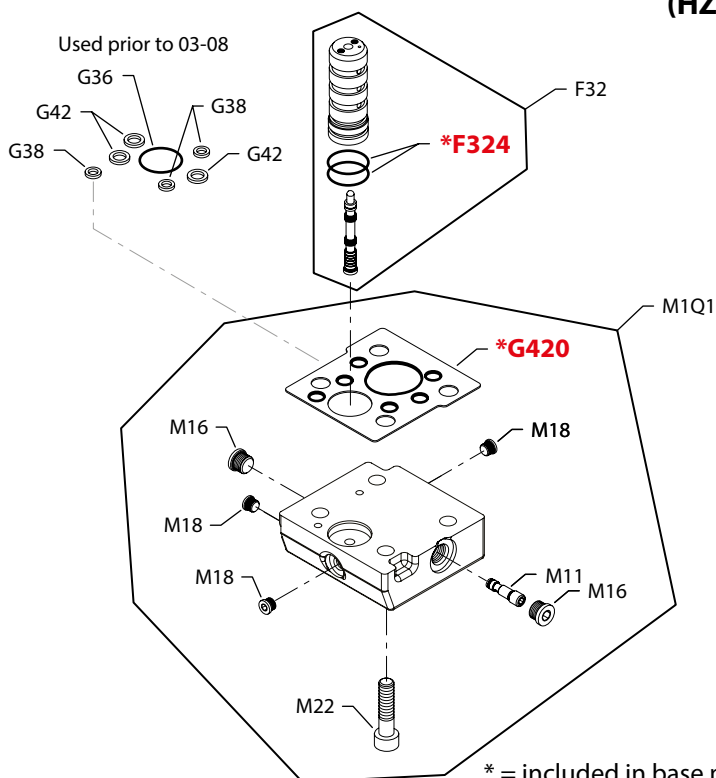


Variable Displacement Motor

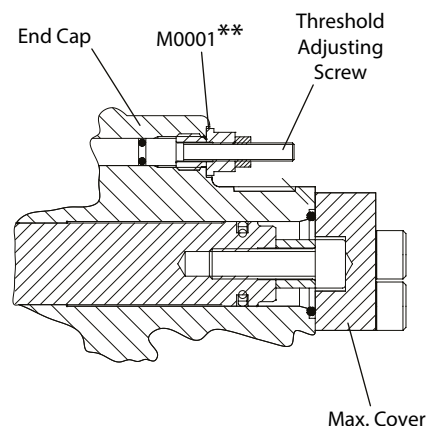
(HS)



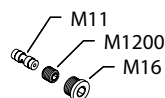
(HZ)



** The seal ring M0001 is required only if there has been a seal ring in the location previously.



Used prior to 06-01



E103 124E

* = included in base motor seal kit Q210

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

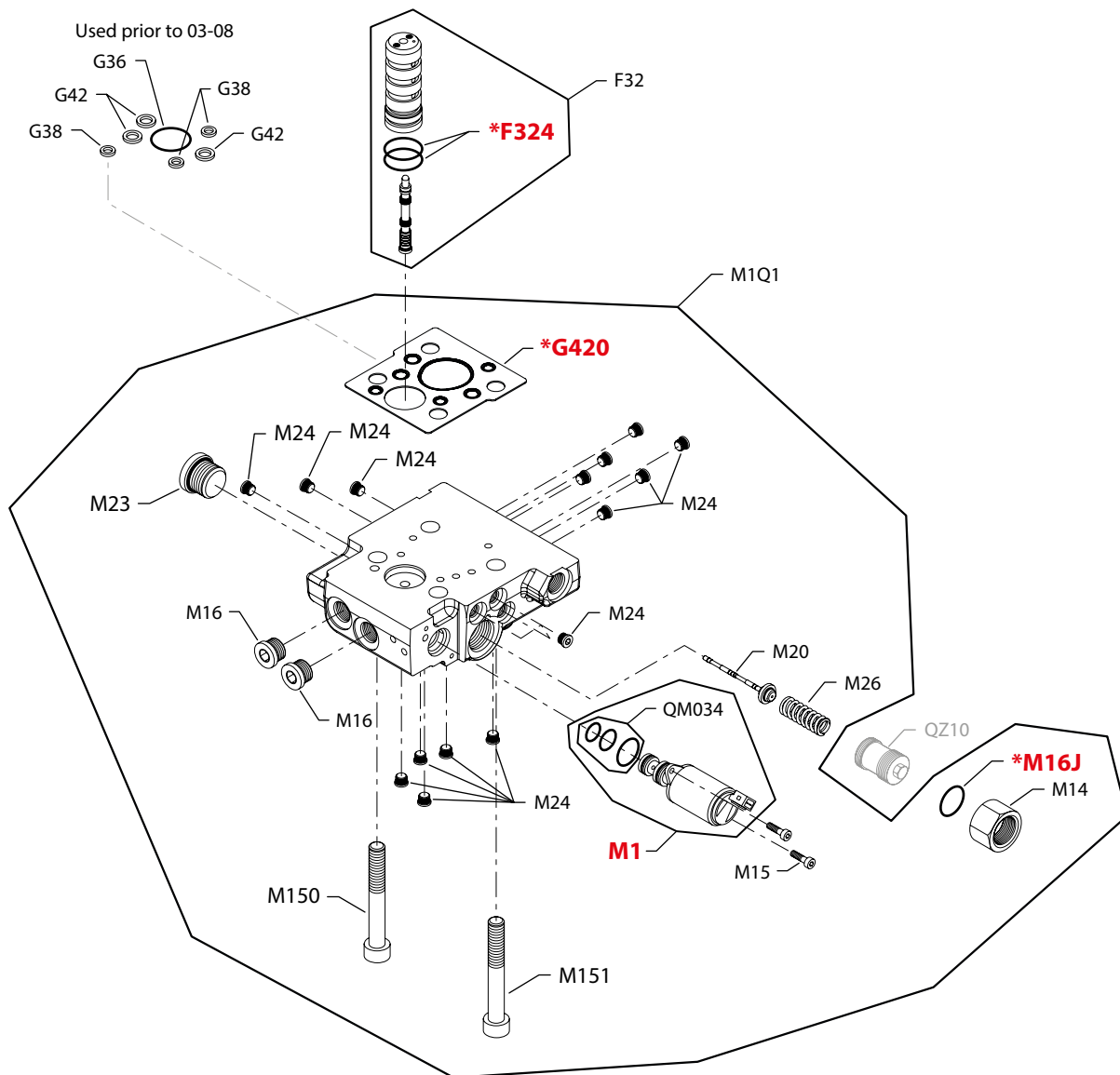
Variable Displacement Motor
Hydraulic proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
HS	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	M1Q1	92-33		503804	Control kit	1
	M12H	92-33		364984	O-ring	1
	M15	92-33		124115	Screw	4
	M16	92-33		140644	Plug assembly	1
HZ	F32	92-33		727115	4-way valve assembly	1
	F324	92-33		730036	O-ring	2
	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	92-33		518222	Control kit (SB-2002-001)	1
	M001	07-16		084673	Seal ring	1
	M11	06-01		11000893	Shuttle valve	1
	M11	92-33	05-52	759415	Shuttle valve	1
	M16	92-33		140644	Plug assembly	2
	M18	92-33		11040532	Plug	3
	M22	92-33		290502	Screw	4
	M1200	92-33	05-52	759423	Orifice plug	1



Variable Displacement Motor

(J3 & J4)



E100 332E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

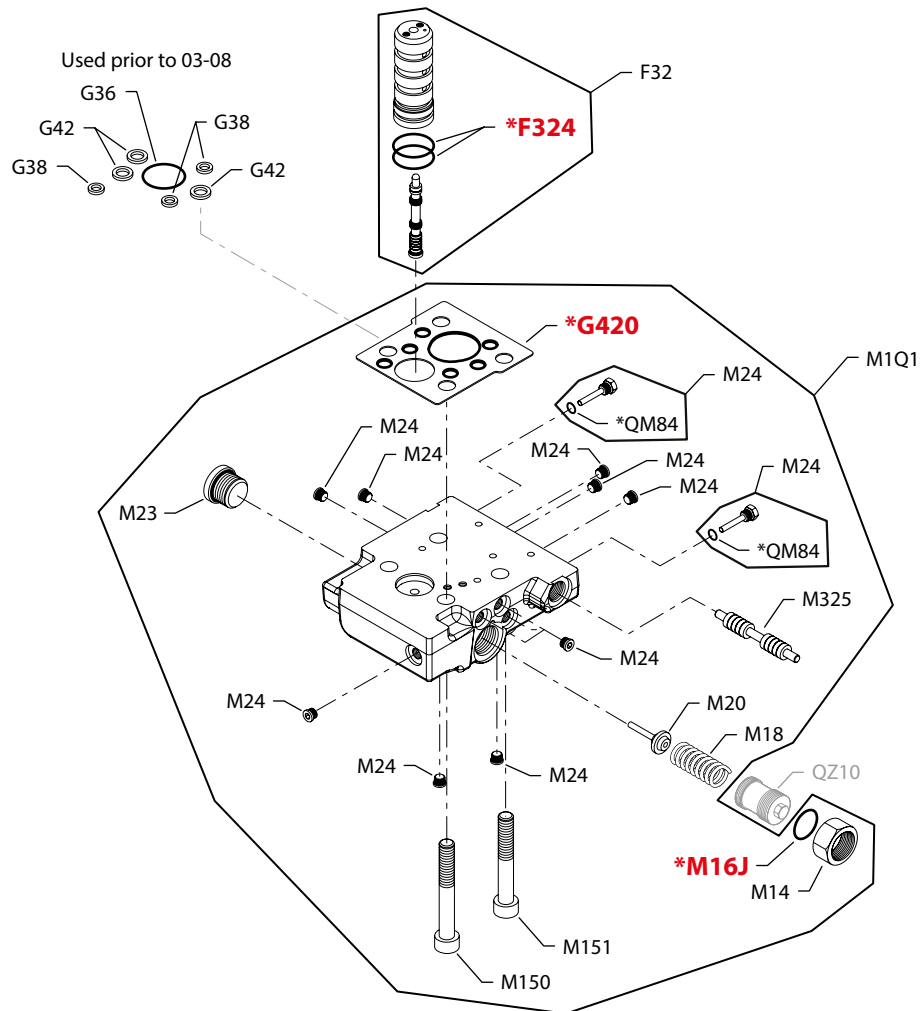
Hydraulic proportional with electric override

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
J3	F32	95-11		727115	4-way valve assembly	1
	F324	95-11		730036	O-ring	2
	G36	95-11	03-07	364976	O-ring (SB-2002-001)	1
	G38	95-11	03-07	792739	O-ring (SB-2002-001)	3
	G42	95-11	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	95-11		518079	Solenoid valve, 12 volt	1
	M1Q1	95-11		518239	Control kit, 12 volt	1
	M14	95-11		342709 (9003575-0101)	Nut	1
	M15	95-11		067694	Screw	2
	M16	95-11		140644	Plug assembly	2
	M16J	95-11		001149 (9004201-6200)	O-ring	1
	M20	95-11		746016	PCOR spool assembly	1
	M23	95-11		315325 (9005110-8700)	Plug assembly	1
	M24	95-11		11040532	Plug assembly	17
	M26	95-11		509152	Spring	1
	M150	95-11		914143	Screw	2
	M151	95-11		914143	Screw	2
	QM034	95-11		11099849	Solenoid seal kit	1
J4	F32	98-46		727115	4-way valve assembly	1
	F324	98-46		730036	O-ring	2
	G36	98-46	03-07	364976	O-ring (SB-2002-001)	1
	G38	98-46	03-07	792739	O-ring (SB-2002-001)	3
	G42	98-46	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	98-46		517214	Solenoid valve, 24 volt	1
	M1Q1	98-46		518251	Control kit, 24 volt	1
	M14	98-46		342709 (9003575-0101)	Nut	1
	M15	98-46		067694	Screw	2
	M16	98-46		140644	Plug assembly	2
	M16J	98-46		001149 (9004201-6200)	O-ring	1
	M20	98-46		746016	PCOR spool assembly	1
	M23	98-46		315325 (9005110-8700)	Plug assembly	1
	M24	98-46		11040532	Plug assembly	17
	M26	98-46		509152	Spring	1
	M150	98-46		914143	Screw	2
	M151	98-46		914143	Screw	2
	QM034	98-46		11099849	Solenoid seal kit	1



Variable Displacement Motor

(JA)



E100 306E

* = included in base motor seal kit Q210

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

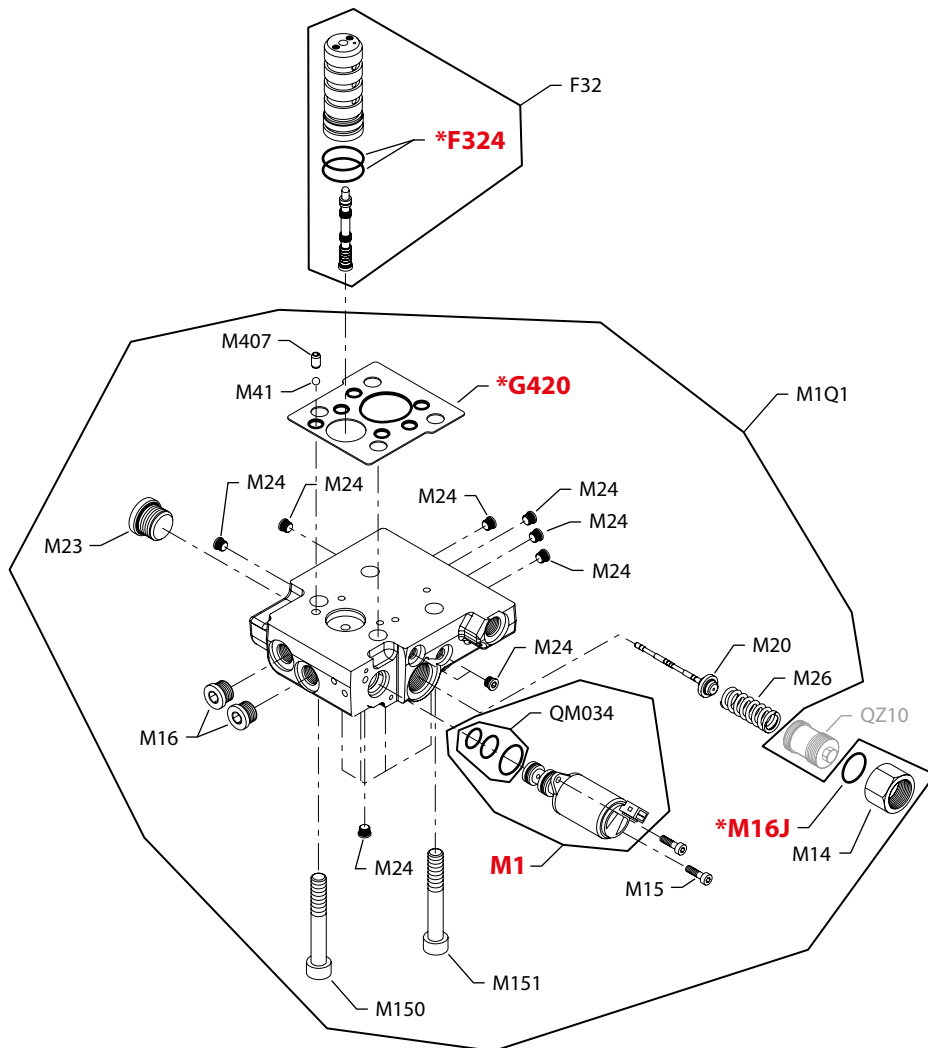
Variable Displacement Motor
Hydraulic proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
JA	F32	96-04		727115	4-way valve assembly	1
	F324	96-04		730036	O-ring	2
	G36	96-04	03-07	364976	O-ring (SB-2002-001)	1
	G38	96-04	03-07	792739	O-ring (SB-2002-001)	3
	G42	96-04	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	96-04		518242	Control kit	1
	M14	96-04		342709 (9003575-0101)	Nut	1
	M16J	96-04		001149 (9004201-6200)	O-ring	1
	M20	96-04		501876	PCOR spool assembly	1
	M23	96-04		315325 (9005110-8700)	Plug assembly	1
	M24	96-04		11040532	Plug assembly	11
	M26	96-04		509152	Spring	1
	M84	96-04		735266	Plug assembly	2
	M150	96-04		914143	Screw	2
	M151	96-04		914143	Screw	2
	M325	96-04		346080	Spool	1
	QM84	96-04		039297 (9004201-1200)	O-ring	1



Variable Displacement Motor

(JS)



E103 174E

* = included in base motor seal kit Q210

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

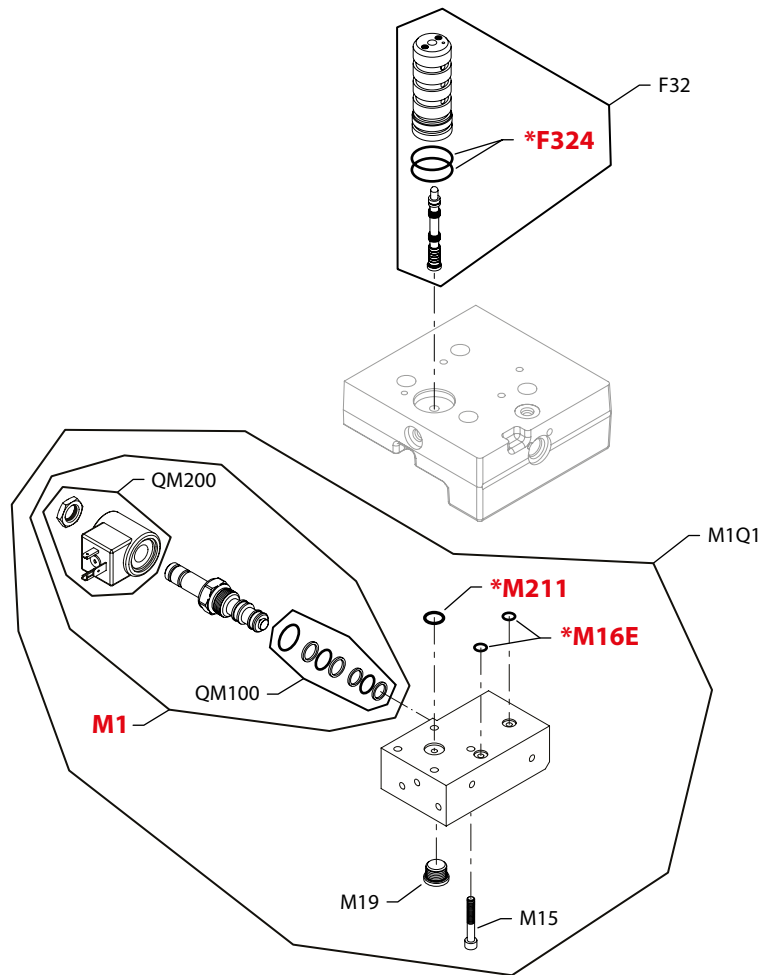

Variable Displacement Motor
Hydraulic proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
JS	F32	04-31		727115	4-way valve assembly	1
	F324	04-31		730036	O-ring	2
	M1	04-31		517214	Solenoid valve, 24 volt	1
	M1Q1	04-31		521459	Control kit	1
	M14	04-31		342709 (9003575-0101)	Nut	1
	M15	04-31		067694	Screw	2
	M16	04-31		140644	Plug assembly	2
	M16J	04-31		001149 (9004201-6200)	O-ring	1
	M20	04-31		746016	Piston	1
	M23	04-31		315325 (9005110-8700)	Plug assembly	1
	M24	04-31		11040532	Plug assembly	13
	M26	04-31		509152	Spring	1
	M41	04-31		915967	Ball	1
	M150	04-31		914143	Screw	2
	M151	04-31		914143	Screw	2
	M407	04-31		505522	Slotted pin	1
	QM034	04-31		11099849	Solenoid valve seal kit	1



Variable Displacement Motor

(K1 & K2)



E103 125E

* = included in base motor seal kit Q210

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

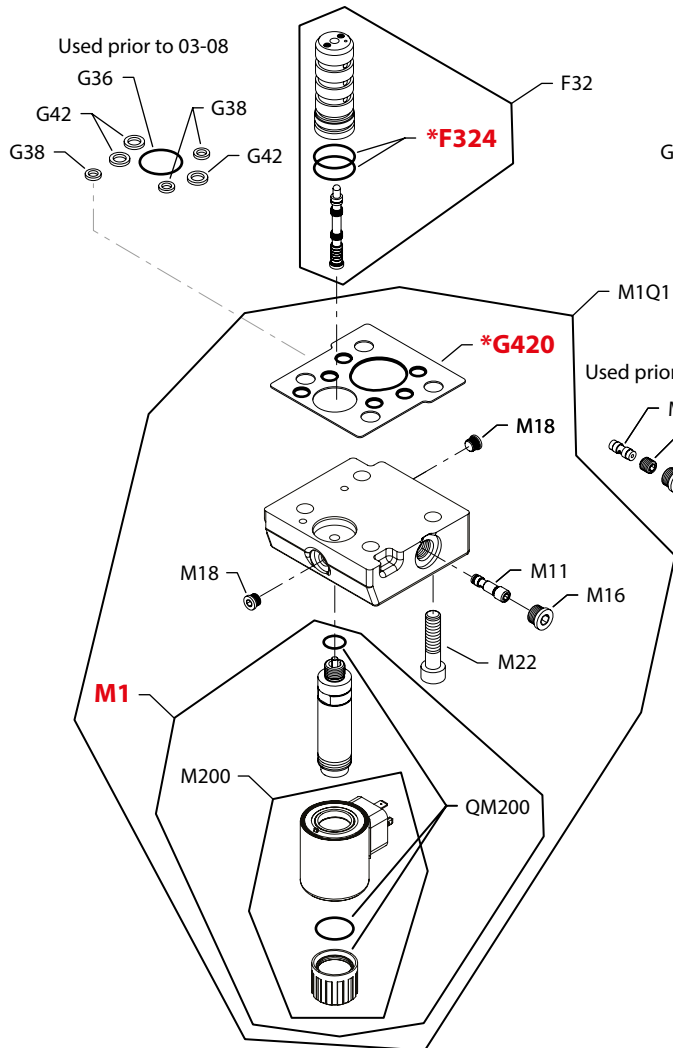

Variable Displacement Motor
Hydraulic proportional with electric override

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
K1	F32	91-35		727115	4-way valve assembly	1
	F324	91-35		730036	O-ring	2
	M1	91-35		784942	Solenoid valve, 12 volt, DIN connector	1
	M1Q1	91-35		503620	Control kit, 12 volt, DIN connector	1
	M15	91-35		329599	Screw	4
	M16E	91-35		732479 (9004105-0100)	O-ring	2
	M19	91-35		140644	Plug assembly	1
	M211	91-35		365015	O-ring	1
K2	F32	91-35		727115	4-way valve assembly	1
	F324	91-35		730036	O-ring	2
	M1	91-35		784934	Solenoid valve, 24 volt, DIN connector	1
	M1Q1	91-35		503806	Control kit, 24 volt, DIN connector	1
	M15	91-35		329599	Screw	4
	M16	91-35		732479 (9004105-0100)	O-ring	2
	M19	91-35		140644	Plug assembly	1
	M211	91-35		365015	O-ring	1

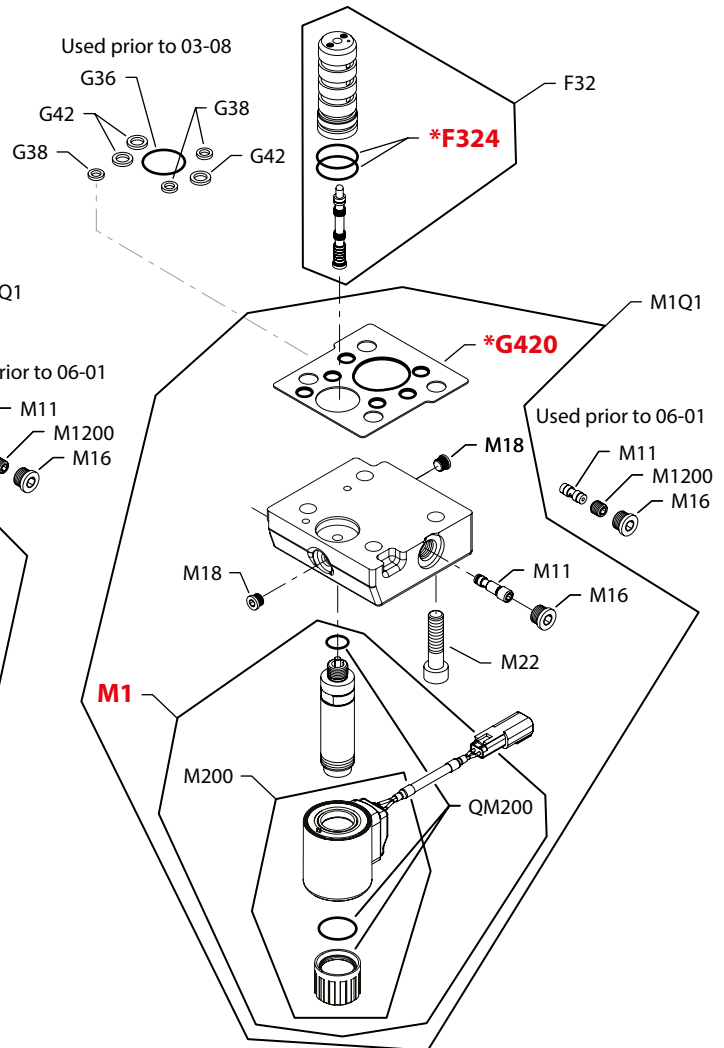


Variable Displacement Motor

(L1, L2, L7 & L8)



(L3 & L4)



* = included in base motor seal kit Q210

E103 167E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Electric proportional common parts

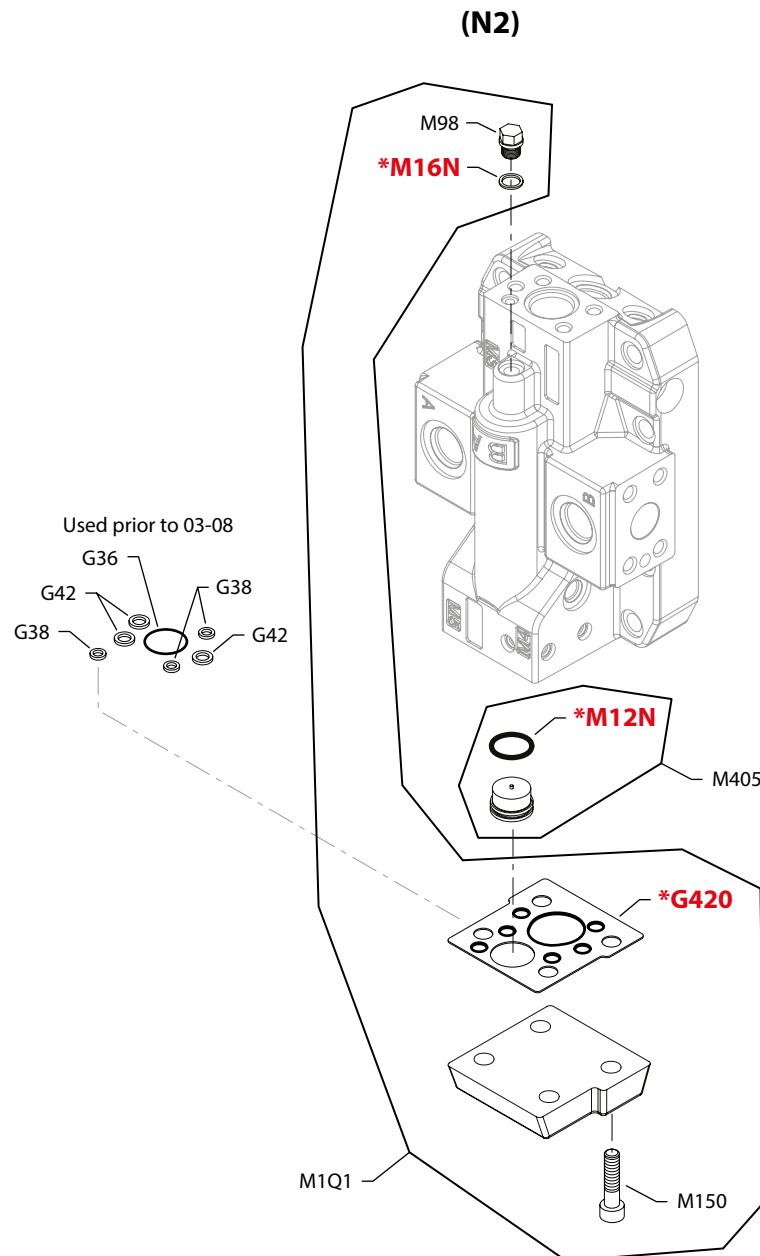
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
	F32	95-35		509845	4-way valve assembly	1
	F324	95-35		730036	O-ring	2
	G36	95-35	03-07	364976	O-ring (SB-2002-001)	1
	G38	95-35	03-07	792739	O-ring (SB-2002-001)	3
	G42	95-35	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M11	06-01		11000893	Shuttle valve	1
	M11	92-33	05-52	759415	Shuttle valve	1
	M16	92-33		140644	Plug assembly	1
	M18	92-33		11040532	Plug assembly	2
	M22	92-33		085183	Screw	4
	M1200	92-33	05-52	759423	Orifice plug	1

Electric proportional

L1	M1	95-35		11026442	Solenoid valve, 12 volt, DIN connector	1
	M1Q1	95-35		518248	Control kit, 12 volt, DIN connector	1
	M200	95-35		11026452	Coil kit, 12 volt, DIN connector	1
	QM200	95-35		11121251	Coil nut kit	1
L2	M1	95-35		11026443	Solenoid valve, 24 volt, DIN connector	1
	M1Q1	95-35		518245	Control kit, 24 volt, DIN connector	1
	M200	95-35		11026453	Coil kit, 24 volt, DIN connector	1
	QM200	95-35		11121251	Coil nut kit	1
L3	M1	01-19		11026447	Solenoid, 12 volt, Deutsch connector	1
	M1Q1	01-19		519529/P	Control kit, 12 volt, Deutsch connector	1
	M200	01-19		11026454	Coil kit, 12 volt, Deutsch connector	1
	QM200	01-19		11121272	Coil nut kit	1
L4	M1	96-24		11048359	Solenoid, 24 volt	1
	M1Q1	96-24		11048357	Control kit, 24 volt	1
	M200	96-24		11048358	Coil kit, 24 volt	1
	QM200	96-24		11121272	Coil nut kit	1
L7	M1	96-38		11026438	Solenoid, 12 volt	1
	M1Q1	96-38		518244	Control kit, 12 volt	1
	M200	96-38		11026450	Coil kit, 12 volt	1
	QM200	96-38		11121251	Coil nut kit	1
L8	M1	10-50		11026440	Solenoid, 24 volt	1
	M1Q1	10-50		11092297	Control kit, 24 volt	1
	M200	10-50		11026451	Coil kit, 24 volt	1
	QM200	10-50		11121251	Coil nut kit	1



Variable Displacement Motor



E103 168E

* = included in base motor seal kit Q210

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


Variable Displacement Motor
Hydraulic 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
N2	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	92-33		518227	Control kit	1
	M12N	92-33		730036	O-ring	1
	M16N	92-33		084673	Sealing ring	2
	M98	92-33		745331	Plug assembly	1
	M150	92-33		085183	Screw	4
	M405	92-33		510415	Sleeve assembly	1

Variable Displacement Motor

(PC)



* = included in base motor seal kit Q210

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


Variable Displacement Motor
Pressure compensator

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
PC	F32	92-33	13-24	510416	4-way valve assembly	1
	F324	92-33	13-24	730036	O-ring	2
	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08	13-24	511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	92-33	13-24	518224	Control kit, PC	1
	M14	92-33	13-24	342709 (9003575-0101)	Nut	1
	M16	92-33	13-24	140644	Plug assembly	2
	M16J	92-33	13-24	001149 (9004201-6200)	O-ring	1
	M20	92-33	13-24	746016	Piston valve	1
	M23	92-33	13-24	315325 (9005110-8700)	Plug assembly	1
	M24P	92-33	13-24	732479 (9004105-0100)	O-ring	4
	M26	92-33	13-24	509152	Spring	1
	M27	92-33	13-24	11040532	Plug assembly	16
	M29	92-33	13-24	713719 (9007314-0610)	Screw	4
	M58	92-33	13-24	503499	Screw	4
	M82	92-33	13-24	144725 (9004105-0110)	O-ring	1
	M96	92-33	13-24	084673	Sealing ring	1
	M98	92-33	13-24	745331	Plug	1
	M321	92-33	13-24	519114	Shuttle valve assembly	1
	M360	92-33	13-24	092114 (9007712-0604)	Set screw	4

(PD)



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

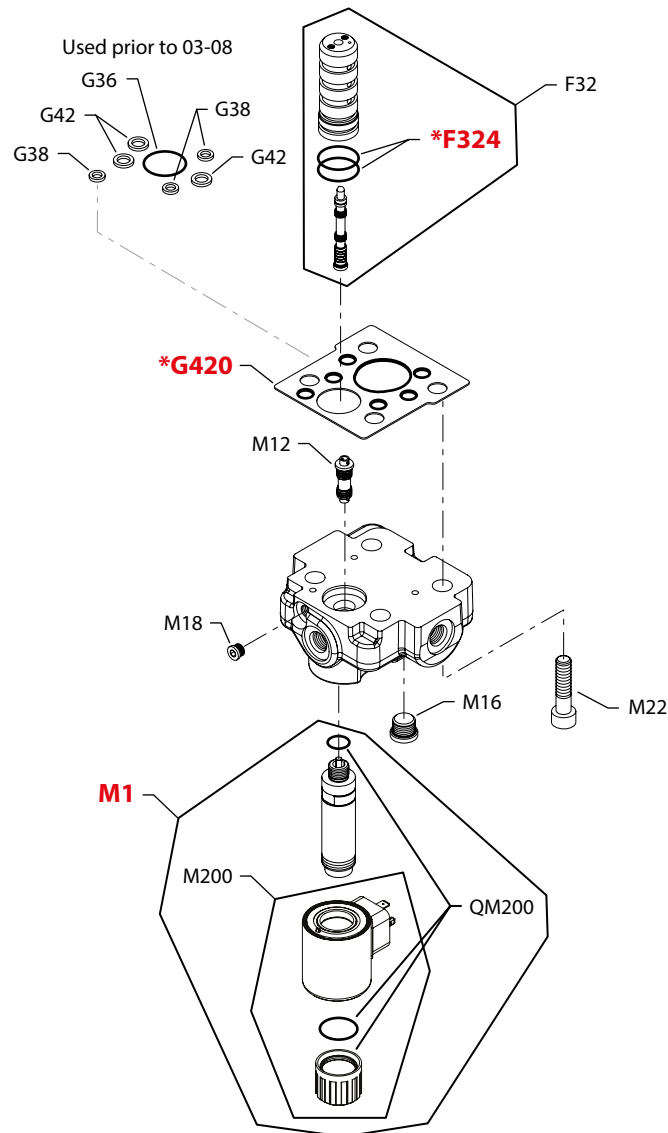
Variable Displacement Motor
Pressure compensator

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
PD	F32	92-40	13-24	500820	4-way valve assembly	1
	F324	92-40	13-24	730036	O-ring	2
	G36	92-40	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-40	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-40	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08	13-24	511851	Gasket/O-ring seal (SB-2002-001)	1
	M1Q1	92-40	13-24	518232	Control kit, PD	1
	M14	92-40	13-24	342709 (9003575-0101)	Nut	1
	M16	92-40	13-24	140644	Plug assembly	2
	M16J	92-40	13-24	001149 (9004201-6200)	O-ring	1
	M20	92-40	13-24	501876	Spool assembly	1
	M23	92-40	13-24	315325 (9005110-8700)	Plug assembly	1
	M24P	92-40	13-24	732479 (9004105-0100)	O-ring	4
	M26	92-40	13-24	509152	Spring	1
	M27	92-40	13-24	11040532	Plug assembly	13
	M29	92-40	13-24	713719 (9007314-0610)	Screw	4
	M58	92-40	13-24	714436	Screw	4
	M82	92-40	13-24	144725 (9004105-0110)	O-ring	1
	M321	92-40	13-24	519114	Shuttle valve assembly	1
	M360	92-40	13-24	092114 (9007712-0604)	Set screw	4



Variable Displacement Motor

(T1 & T2)



* = included in base motor seal kit Q210

E100 333E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

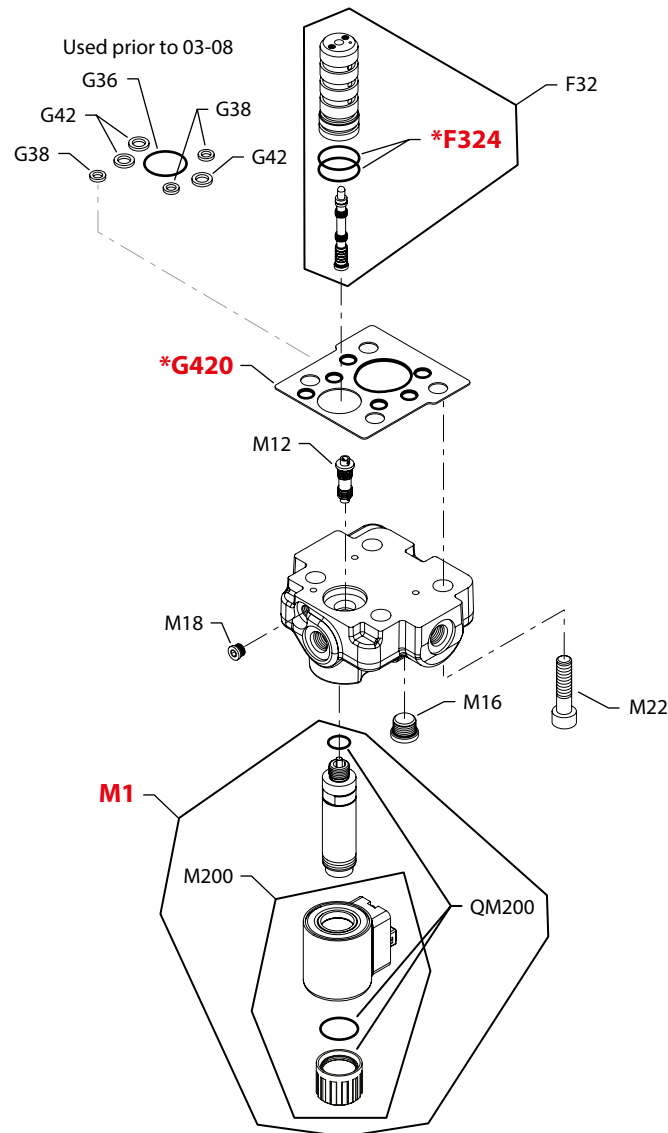
Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T1	F32	96-31		503380	4-way valve assembly	1
	F324	96-31		730036	O-ring	2
	G36	96-31	03-07	364976	O-ring (SB-2002-001)	1
	G38	96-31	03-07	792739	O-ring (SB-2002-001)	3
	G42	96-31	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	96-31		11026435	Solenoid valve, 12 volt, DIN connector	1
	M12	96-31		11082448	Sensing piston	1
	M16	96-31		140644	Plug assembly	1
	M18	96-31		11040532	Plug assembly	1
	M22	96-31		503499	Screw	4
	M200	96-31		11026448	Coil kit, 12 volt, Din connector	1
	QM200	96-31		11121273	Coil nut kit	1
T2	F32	96-31		503380	4-way valve assembly	1
	F324	96-31		730036	O-ring	2
	G36	96-31	03-07	364976	O-ring (SB-2002-001)	1
	G38	96-31	03-07	792739	O-ring (SB-2002-001)	3
	G42	96-31	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	96-31		11026436	Solenoid valve, 24 volt, DIN connector	1
	M12	96-31		11082448	Sensing piston	1
	M16	96-31		140644	Plug assembly	1
	M18	96-31		11040532	Plug assembly	1
	M22	96-31		503499	Screw	4
	M200	96-31		11026449	Coil kit, 24 volt, Din connector	1
	QM200	96-31		11121273	Coil nut kit	1



Variable Displacement Motor

(T3 & T4)



* = included in base motor seal kit Q210

E103 170E

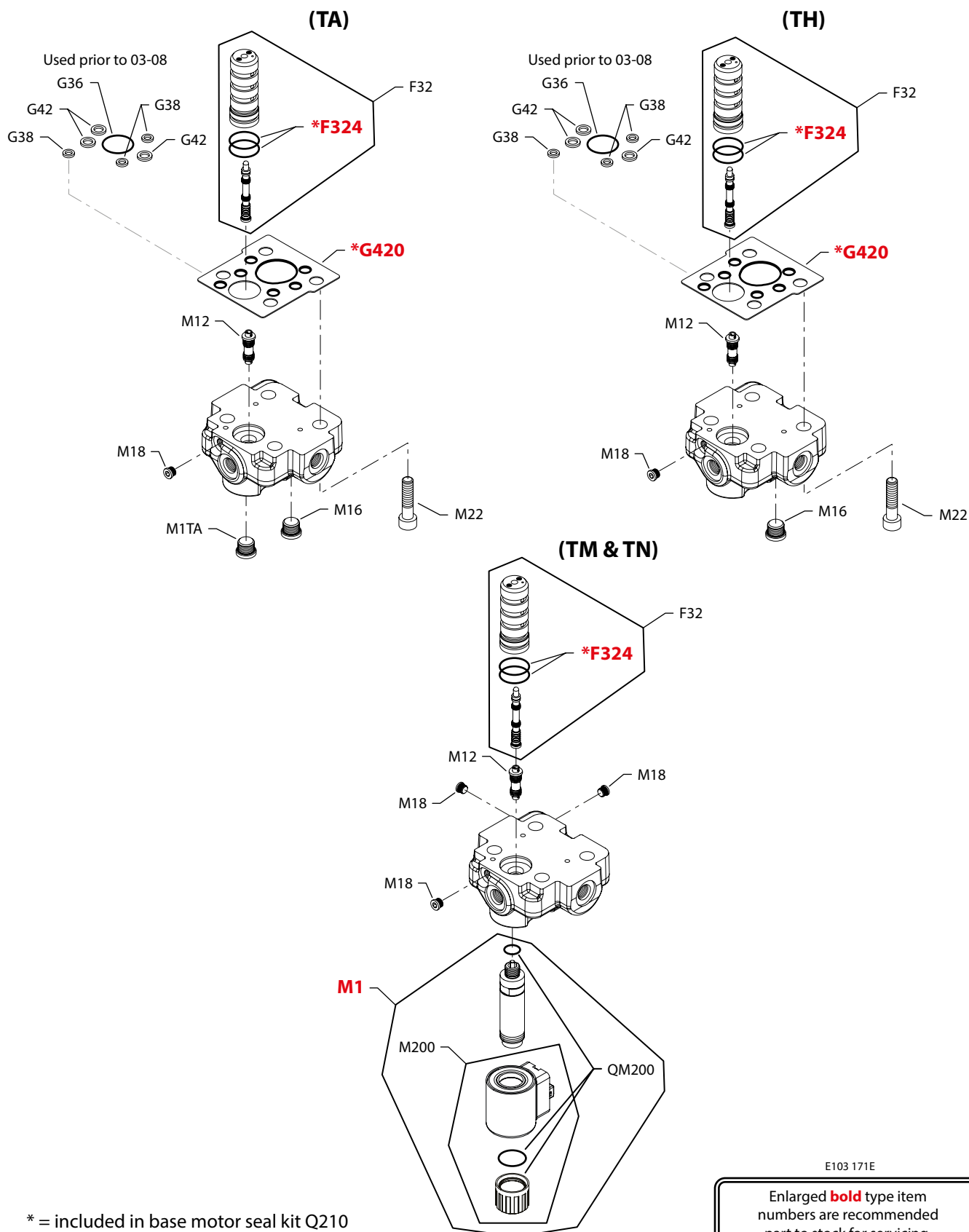
Enlarged **bold** type item numbers are recommended part to stock for servicing.

Variable Displacement Motor
Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
T3	F32	96-31		503380	4-way valve assembly	1
	F324	96-31		730036	O-ring	2
	G36	96-31	03-07	364976	O-ring (SB-2002-001)	1
	G38	96-31	03-07	792739	O-ring (SB-2002-001)	3
	G42	96-31	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	96-31		519468	Solenoid valve, 12 volt	1
	M12	96-31		11082448	Piston	1
	M16	96-31		140644	Plug assembly	1
	M18	96-31		11040532	Plug assembly	1
	M22	96-31		503499	Screw	4
	M200	96-31		519467	Coil kit, 12 volt	1
	QM200	96-31		11121272	Coil nut kit	1
T4	F32	00-39		503380	4-way valve assembly	1
	F324	00-39		730036	O-ring	2
	G36	00-39	03-07	364976	O-ring (SB-2002-001)	1
	G38	00-39	03-07	792739	O-ring (SB-2002-001)	3
	G42	00-39	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1	00-39		11003624	Solenoid valve, 24 volt	1
	M12	00-39		11082448	Piston	1
	M16	00-39		140644	Plug assembly	1
	M18	00-39		11040532	Plug assembly	1
	M22	00-39		503499	Screw	4
	M200	00-39		11003626	Coil kit, 24 volt	1
	QM200	00-39		11121272	Coil nut kit	1



Variable Displacement Motor



E103 171E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Pressure compensator

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
TA	F32	97-02		503380	4-way valve assembly	1
	F324	97-02		730036	O-ring	2
	G36	97-02	03-07	364976	O-ring (SB-2002-001)	1
	G38	97-02	03-07	792739	O-ring (SB-2002-001)	3
	G42	97-02	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M1TA	97-02		140644	Plug assembly	1
	M12	97-02		11082448	Sensing piston	1
	M16	97-02		140644	Plug assembly	1
	M18	97-02		11040532	Plug assembly	1
	M22	97-02		503499	Screw	4

Hydraulic 2-position

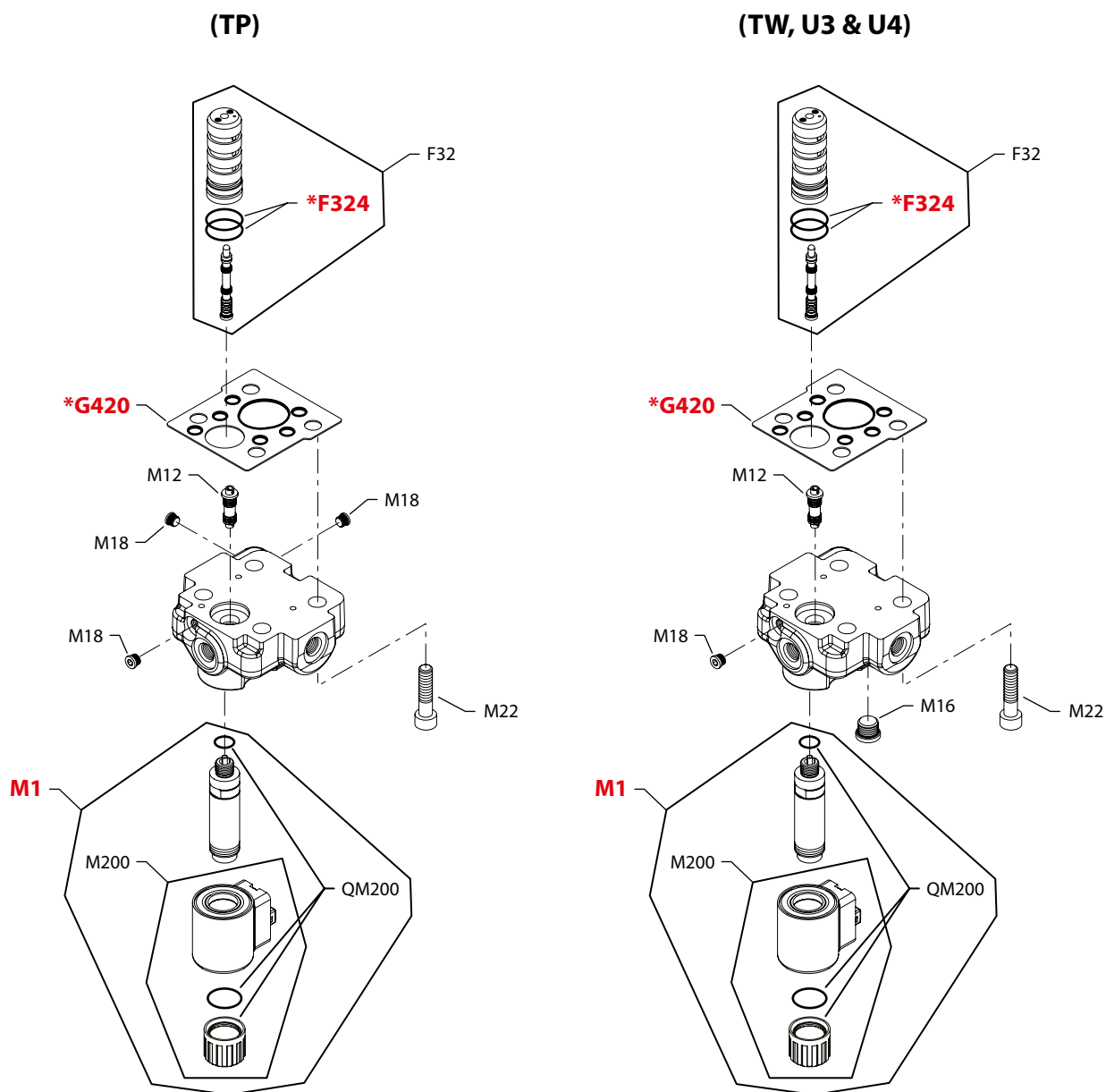
TH	F32	97-02		503380	4-way valve assembly	1
	F324	97-02		730036	O-ring	2
	G36	97-02	03-07	364976	O-ring (SB-2002-001)	1
	G38	97-02	03-07	792739	O-ring (SB-2002-001)	3
	G42	97-02	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	M12	97-02		11083129	Sensing piston	1
	M16	97-02		140644	Plug assembly	1
	M18	97-02		11040532	Plug assembly	1
	M22	97-02		503499	Screw	4

Electric 2-position

TM	F32	99-30		11001792	4-way valve assembly	1
	F324	99-30		730036	O-ring	2
	M1	99-30		11026438	Solenoid valve, 12 volt, Jet connector	1
	M12	99-30		11082448	Piston	1
	M18	99-30		11040532	Plug assembly	3
	M200	99-30		11026450	Coil kit, 12 volt, Jet connector	1
	QM200	99-30		11121251	Coil nut kit	1
TN	F32	99-30		11001792	4-way valve assembly	1
	F324	99-30		730036	O-ring	2
	M1	99-30		11026440	Solenoid valve, 24 volt, Jet connector	1
	M12	99-30		11082448	Piston	1
	M18	99-30		11040532	Plug assembly	3
	M200	99-30		11026451	Coil kit, 24 volt, Jet connector	1
	QM200	99-30		11121251	Coil nut kit	1



Variable Displacement Motor



* = included in base motor seal kit Q210

E103 172E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

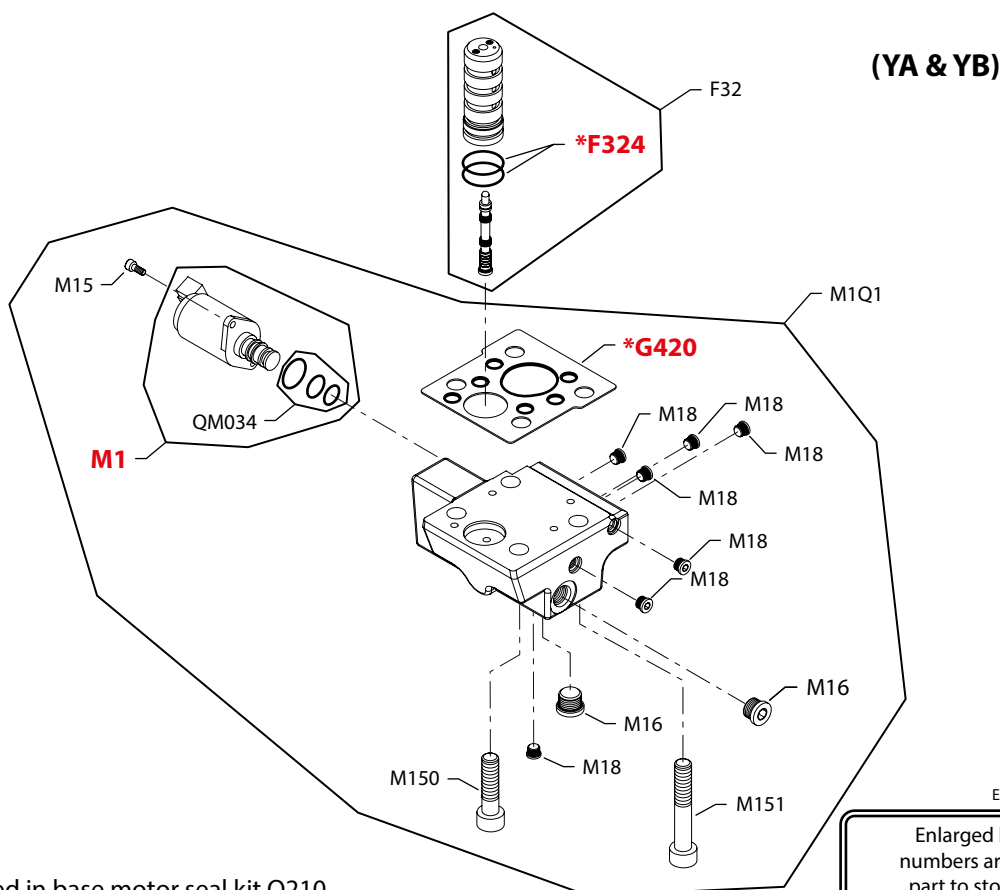
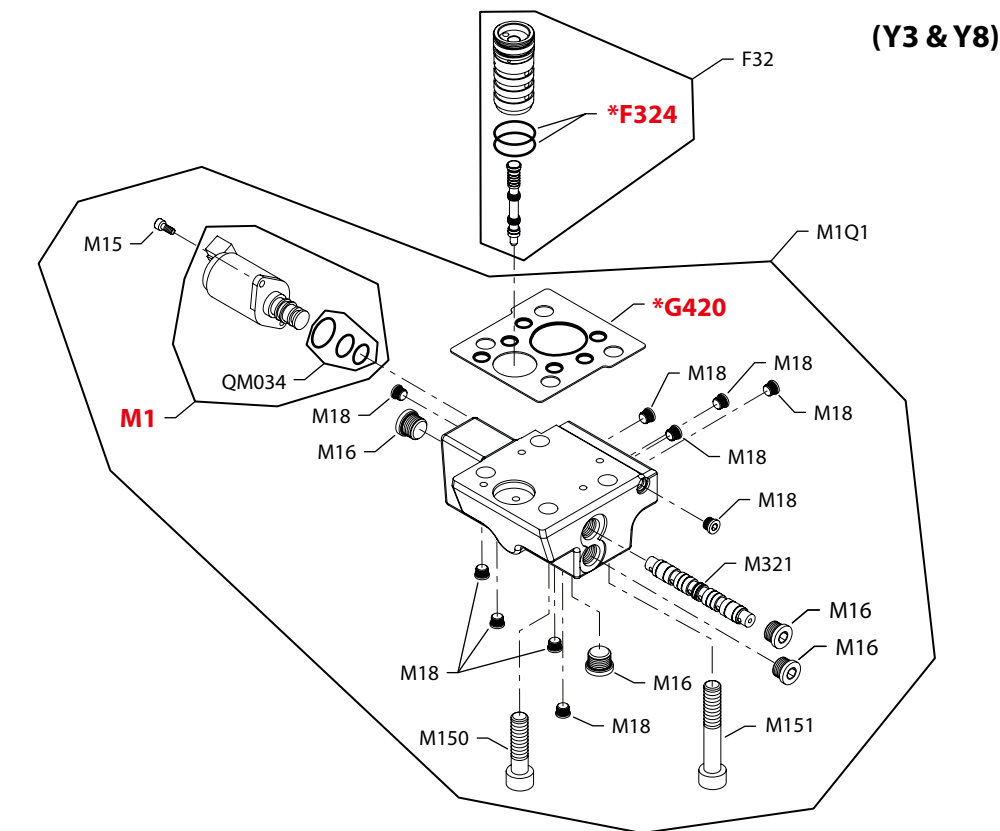
Variable Displacement Motor

Electric 2-position

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
TP	F32	04-07		503925	4-way valve assembly	1
	F324	04-07		730036	O-ring	2
	G420	04-07		511851	Gasket/O-ring seal	1
	M1	04-07		519468	Solenoid valve, 12 volt, Jet connector	1
	M12	04-07		11082448	Piston	1
	M18	04-07		11040532	Plug assembly	3
	M22	04-07		503499	Screw	4
	M200	04-07		519467	Coil kit, 12 volt, Jet connector	1
	QM200	04-07		11121272	Coil nut kit	1
TW	F32	05-12		11001792	4-way valve assembly	1
	F324	05-12		730036	O-ring	2
	G420	05-12		511851	Gasket/O-ring seal	1
	M1	05-12		519468	Solenoid valve, 12 volt, Jet connector	1
	M12	05-12		11082448	Piston	1
	M16	05-12		140644	Plug assembly	1
	M18	05-12		11040532	Plug assembly	1
	M22	05-12		503499	Screw	4
	M200	05-12		519467	Coil kit, 12 volt, Jet connector	1
	QM200	05-12		11121272	Coil nut kit	1
U3	F32	11-08		503925	4-way valve assembly	1
	F324	11-08		730036	O-ring	2
	G420	11-08		511851	Gasket/O-ring seal	1
	M1	11-08		519468	Solenoid valve, 12 volt, Jet connector	1
	M12	11-08		507292	Piston	1
	M16	11-08		140644	Plug assembly	1
	M18	11-08		11040532	Plug assembly	1
	M22	11-08		503499	Screw	4
	M200	11-08		519467	Coil kit, 12 volt, Jet connector	1
	QM200	11-08		11121272	Coil nut kit	1
U4	F32	11-08		503925	4-way valve assembly	1
	F324	11-08		730036	O-ring	2
	G420	11-08		511851	Gasket/O-ring seal	1
	M1	11-08		11003624	Solenoid valve, 24 volt, Jet connector	1
	M12	11-08		507292	Piston	1
	M16	11-08		140644	Plug assembly	1
	M18	11-08		11040532	Plug assembly	1
	M22	11-08		503499	Screw	4
	M200	11-08		11003626	Coil kit, 24 volt, Jet connector	1
	QM200	11-08		11121272	Coil nut kit	1



Variable Displacement Motor



E103 173E

* = included in base motor seal kit Q210

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

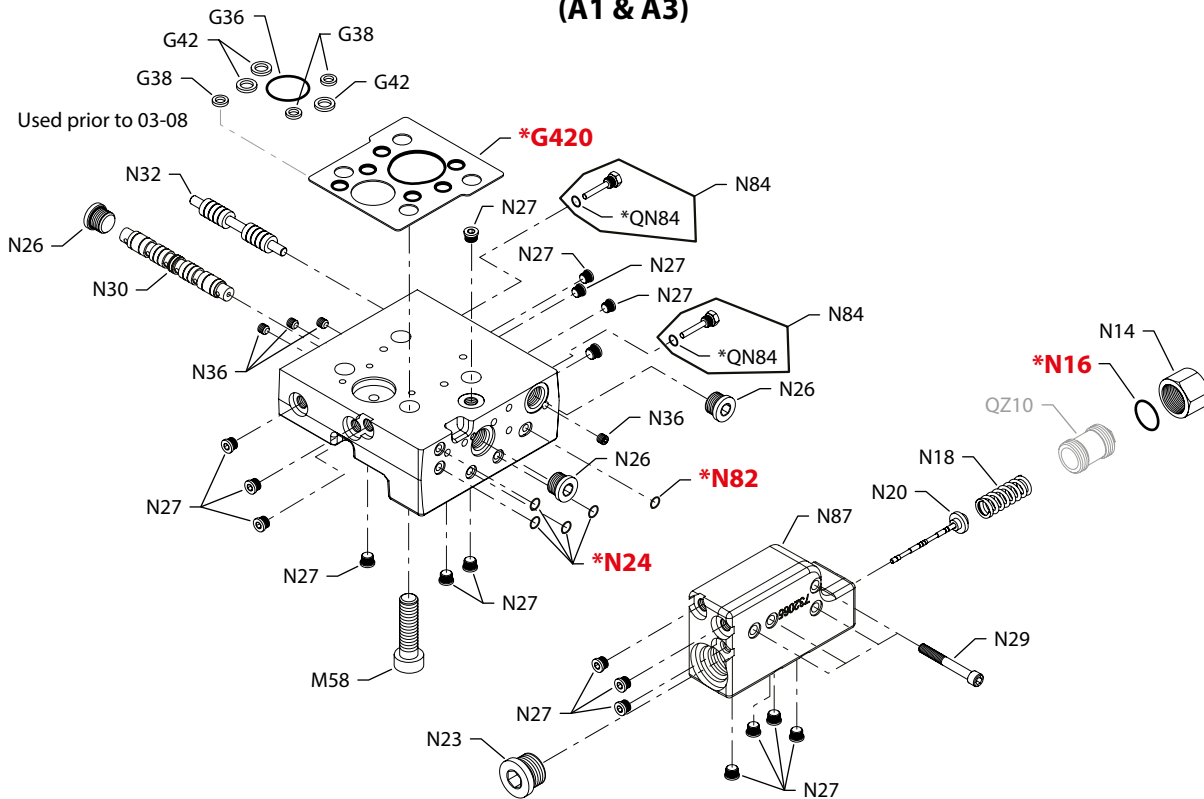
Electric proportional

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
Y3	F32	03-15		727115	4-way valve assembly	1
	F324	03-15		730036	O-ring	2
	G420	03-15		511851	Gasket/O-ring seal	1
	M1	03-15		519448	Solenoid valve, 12 volt, Deutsch connector	1
	M1Q1	03-15		519576	Control kit	1
	M15	03-15		067694	Screw	2
	M16	03-15		140644	Plug assembly	4
	M18	03-15		11040532	Plug assembly	10
	M150	03-15		503499	Screw	2
	M151	03-15		348060	Screw	2
	M321	03-15		519114	Spool	1
	QM034	03-15		11099849	Solenoid valve seal kit	1
Y8	F32	03-15		727115	4-way valve assembly	1
	F324	03-15		730036	O-ring	2
	G420	03-15		511851	Gasket/O-ring seal	1
	M1	03-15		518081	Solenoid valve, 24 volt, Jet connector	1
	M1Q1	03-15		11052890	Control kit	1
	M15	03-15		067694	Screw	2
	M16	03-15		140644	Plug assembly	4
	M18	03-15		11040532	Plug assembly	10
	M150	03-15		503499	Screw	2
	M151	03-15		348060	Screw	2
	M321	03-15		519114	Spool	1
	QM034	03-15		11099849	Solenoid valve seal kit	1
YA	F32	04-27		727115	4-way valve assembly	1
	F324	04-27		730036	O-ring	2
	G420	04-27		511851	Gasket/O-ring seal	1
	M1	04-27		519448	Solenoid valve, 12 volt, Deutsch connector	1
	M1Q1	04-27		521262	Control kit	1
	M15	04-27		067694	Screw	2
	M16	04-27		140644	Plug assembly	2
	M18	04-27		11040532	Plug assembly	7
	M150	04-27		503499	Screw	2
	M151	04-27		348060	Screw	2
	QM034	04-27		11099849	Solenoid valve seal kit	1
YB	F32	04-27		727115	4-way valve assembly	1
	F324	04-27		730036	O-ring	2
	G420	04-27		511851	Gasket/O-ring seal	1
	M1	04-27		519448	Solenoid valve, 12 volt, Deutsch connector	1
	M1Q1	04-27		521263	Control kit	1
	M15	04-27		067694	Screw	2
	M16	04-27		140644	Plug assembly	2
	M18	04-27		11040532	Plug assembly	7
	M150	04-27		503499	Screw	2
	M151	04-27		348060	Screw	2
	QM034	04-27		11099849	Solenoid valve seal kit	1

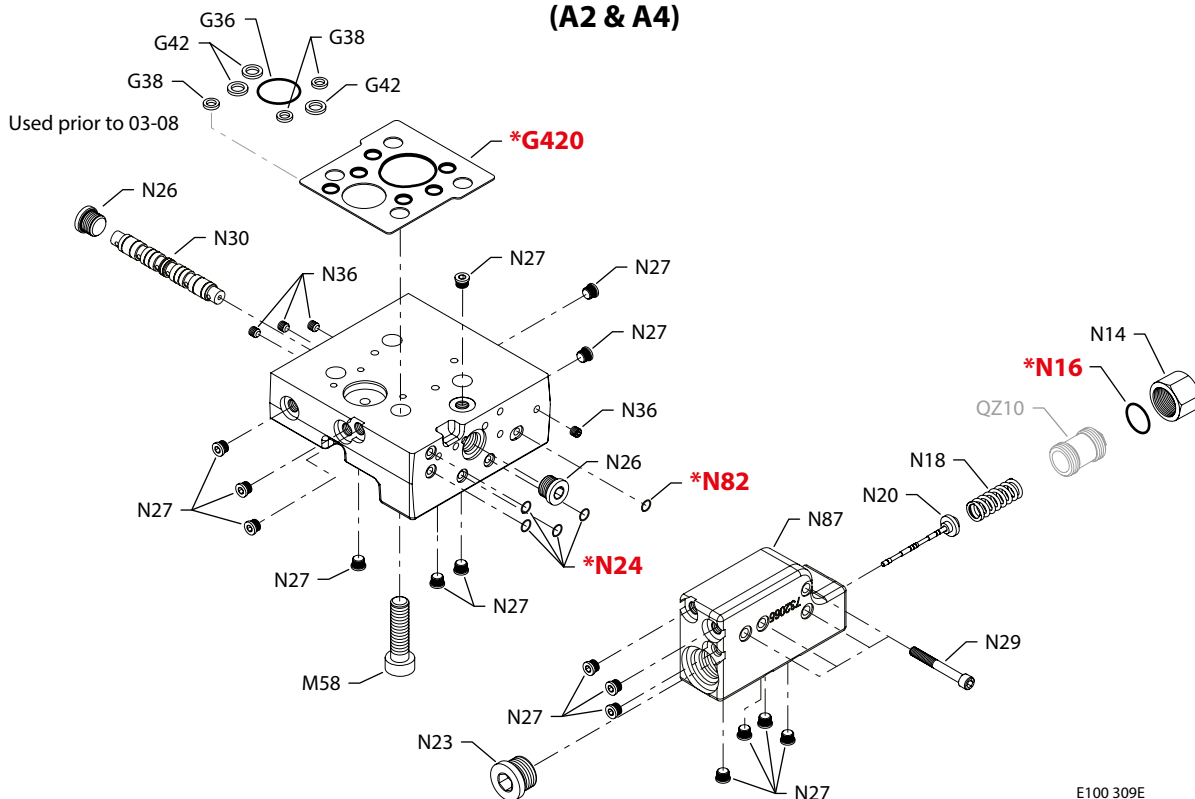


Variable Displacement Motor

(A1 & A3)



(A2 & A4)



* = included in base motor seal kit Q210

E100 309E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

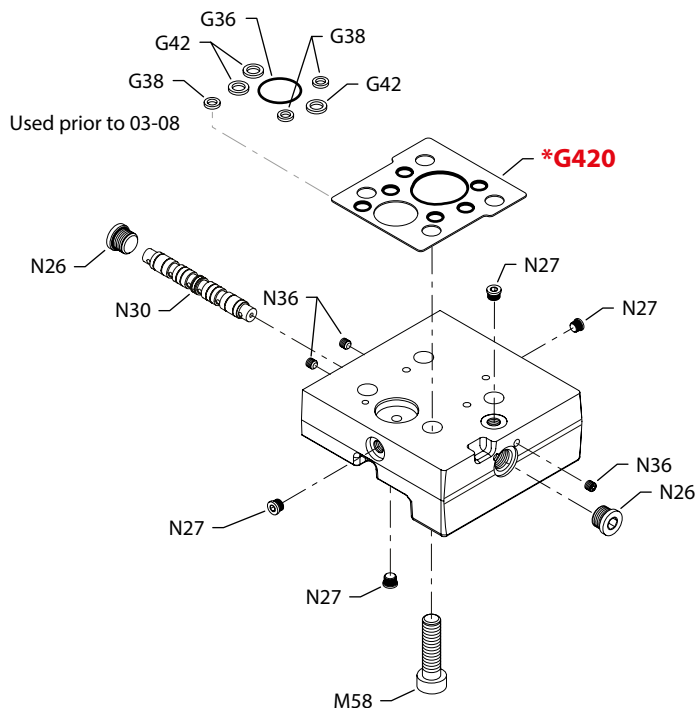
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A1 & A3	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N14	92-33		342709 (9003575-0101)	Nut	1
	N16	92-33		001149 (9004201-6200)	O-ring	1
	N18	92-33		509152	Spring	1
	N20	92-33		746016	Relief valve	1
	N23	92-33		315325 (9005110-8700)	Plug assembly	1
	N24	92-33		732479 (9004105-0100)	O-ring	4
	N26	92-33		140644	Plug assembly	3
	N27	92-33		11040532	Plug assembly	18
	N29	92-33		713719 (9007314-0610)	Screw	4
	N30	92-33		519114	Shuttle valve assembly	1
	N32	92-33		346080	Spool	1
	N36	92-33		092114 (9007712-0604)	Set screw	4
	N58	92-33		714436	Screw	4
	N82	92-33		144725 (9004105-0110)	O-ring	1
	N84	92-33		735266	Stop assembly	2
	QN84	92-33		039297 (9004201-1200)	O-ring	2
	N87	92-33		503887	PCOR housing assembly	1
A2 & A4	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N14	92-33		342709 (9003575-0101)	Nut	1
	N16	92-33		001149 (9004201-6200)	O-ring	1
	N18	92-33		509152	Spring	1
	N20	92-33		746016	Relief valve	1
	N23	92-33		315325 (9005110-8700)	Plug assembly	1
	N24	92-33		732479 (9004105-0100)	O-ring	4
	N26	92-33		140644	Plug assembly	2
	N27	92-33		11040532	Plug assembly	16
	N29	92-33		713719 (9007314-0610)	Screw	4
	N30	92-33		519114	Shuttle valve assembly	1
	N36	92-33		092114 (9007712-0604)	Set screw	4
	N58	92-33		714436	Screw	4
	N82	92-33		144725 (9004105-0110)	O-ring	1
	N87	92-33		503887	PCOR housing assembly	1

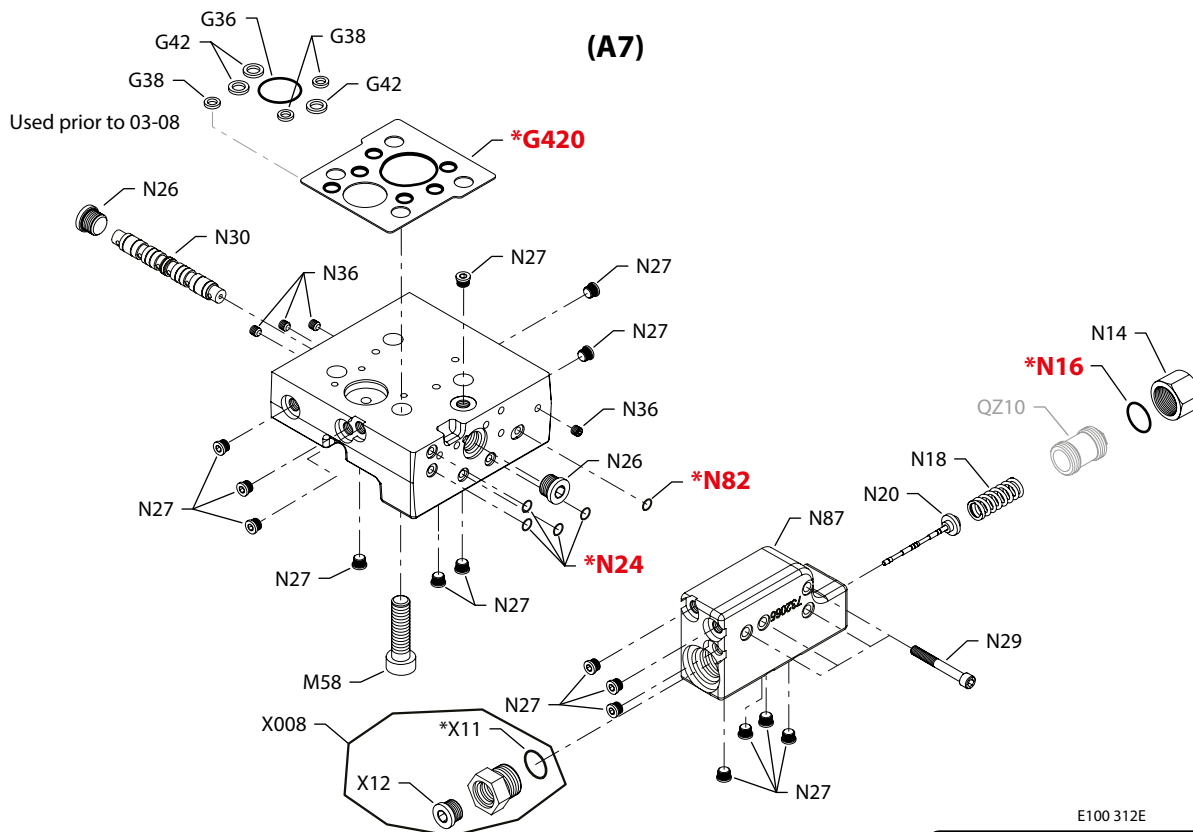


Variable Displacement Motor

(A5 & A6)



(A7)



* = included in base motor seal kit Q210

E100 312E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

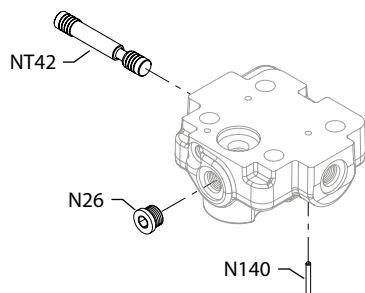
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A5 & A6	G36	92-33	03-07	364976	O-ring (SB-2002-001)	1
	G38	92-33	03-07	792739	O-ring (SB-2002-001)	3
	G42	92-33	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N26	92-33		140644	Plug assembly	2
	N27	92-33		11040532	Plug assembly	4
	N30	92-33		519114	Shuttle valve assembly	1
	N36	92-33		092114 (9007712-0604)	Set screw	4
	N58	92-33		714436	Screw	4
A7	G36	01-07	03-07	364976	O-ring (SB-2002-001)	1
	G38	01-07	03-07	792739	O-ring (SB-2002-001)	3
	G42	01-07	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N14	01-07		342709 (9003575-0101)	Nut	1
	N16	01-07		001149 (9004201-6200)	O-ring	1
	N18	01-07		509152	Spring	1
	N20	01-07		746016	Relief valve	1
	N24	01-07		732479 (9004105-0100)	O-ring	4
	N26	01-07		140644	Plug assembly	2
	N27	01-07		11040532	Plug assembly	16
	N29	01-07		713719 (9007314-0610)	Screw	4
	N30	01-07		519114	Shuttle valve assembly	1
	N36	01-07		092114 (9007712-0604)	Set screw	4
	N58	01-07		714436	Screw	4
	N82	01-07		144725 (9004105-0110)	O-ring	1
	N87	01-07		503887	PCOR housing assembly	1
	X008	01-07		779587	Adapter plug assembly	1
	X11	01-07		001149 (9004201-6200)	O-ring	1
	X12	01-07		140644	Plug assembly	1

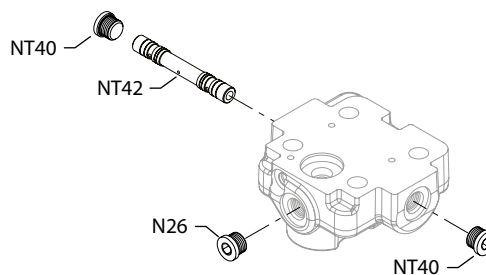


Variable Displacement Motor

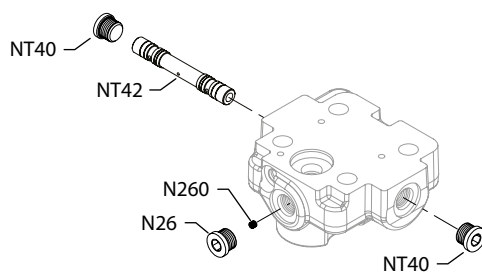
(C0)



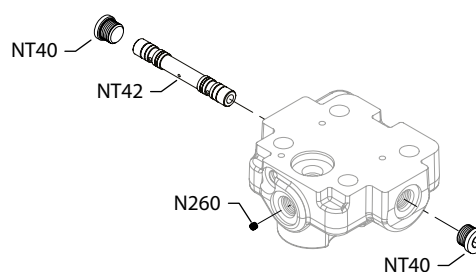
(C2)



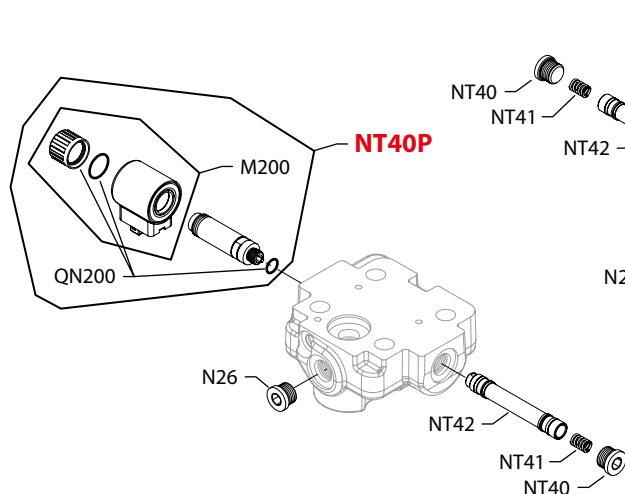
(C5)



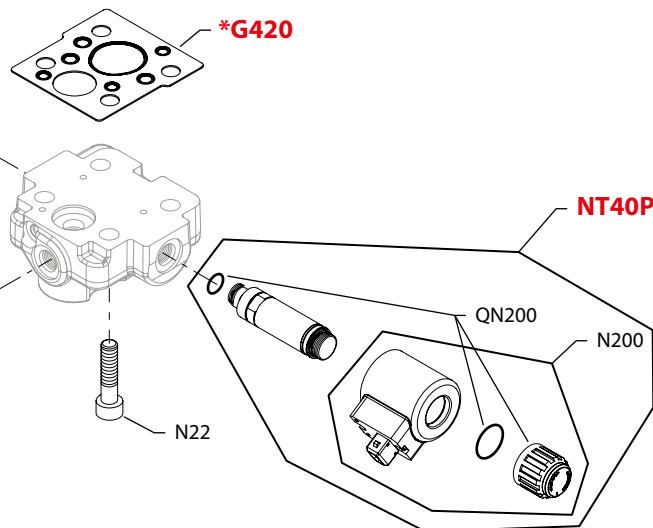
(C7)



(D7)



(E7 & E8)



E103 176E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

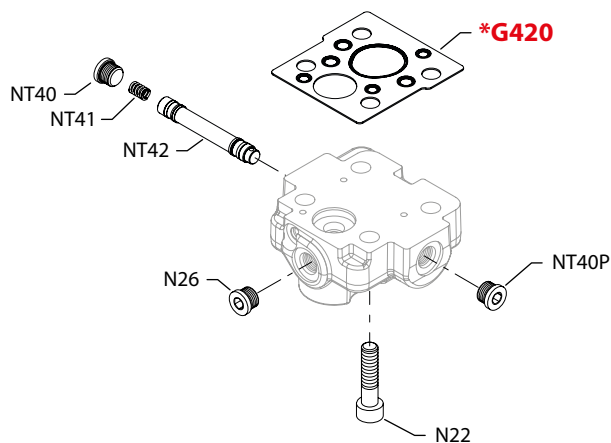
Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B1, B2 & B3				No parts		
C0	N26	96-10		140644	Plug assembly	1
	N140	96-10		503503	Pin	1
	NT42	96-10		508175	Spool	1
C2	N26	95-15		140644	Plug assembly	1
	NT40	95-15		140644	Plug assembly	2
	NT42	95-15		508156	Spool	1
C5	N26	95-15		140644	Plug assembly	1
	N260	96-31		913897 (9007712-0605)	Set screw	1
	NT40	95-15		140644	Plug assembly	2
	NT42	95-15		508156	Spool	1
C7	N260	02-45		913897 (9007712-0605)	Set screw	1
	NT40	02-45		140644	Plug assembly	2
	NT42	02-45		508156	Spool	1
D7	M200	04-07		519467	Coil kit, 12 volt, Jet connector	1
	N26	04-07		140644	Plug assembly	1
	NT40	04-07		140644	Plug assembly	1
	NT40P	04-07		519468	Solenoid valve, 12 volt, Jet connector	1
	NT41	04-07		518382	Spring	1
	NT42	04-07		520936	Spool	1
	QN200	04-07		11121272	Coil nut kit	1
E7	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	N200	06-22		519467	Coil kit, 12 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		11086697	Solenoid valve, 12 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QN200	06-22		11121272	Coil nut kit	1
E8	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	N200	06-22		11003626	Coil kit, 24 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		11086698	Solenoid valve, 24 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QN200	06-22		11121272	Coil nut kit	1

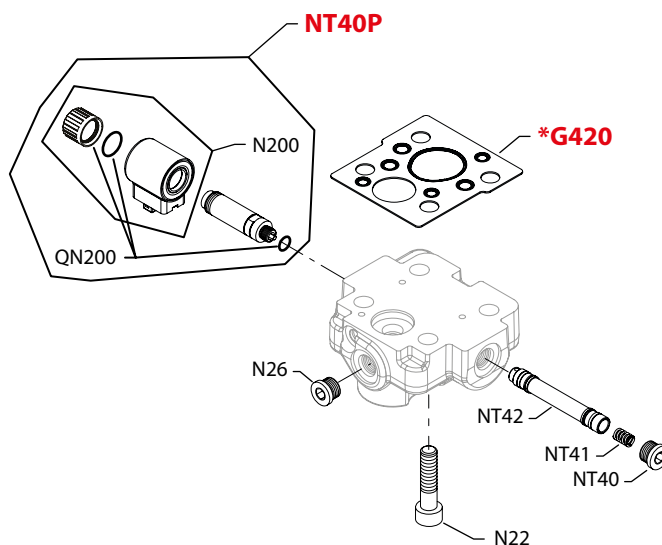


Variable Displacement Motor

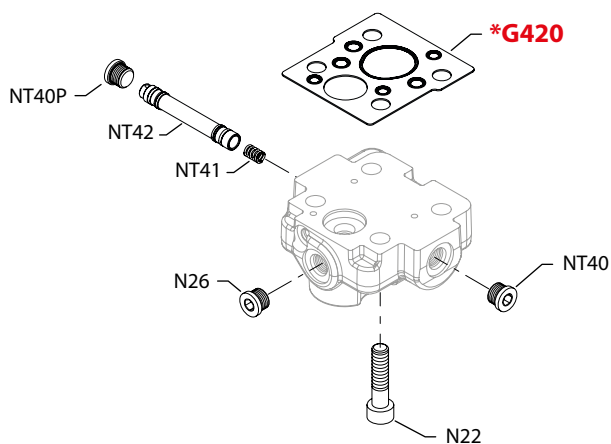
(EL)



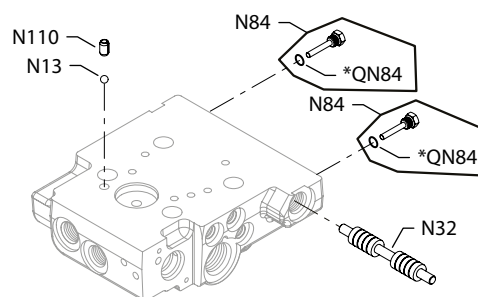
(F7 & F8)



(FR)



(K1)



* = included in base motor seal kit Q210

E103 177E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

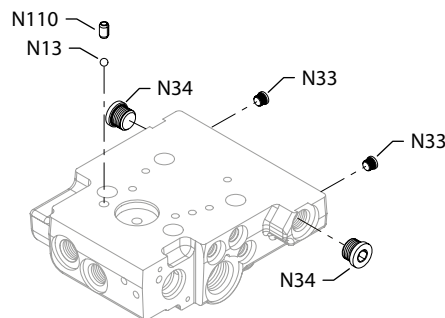
Variable Displacement Motor

Servo pressure supply

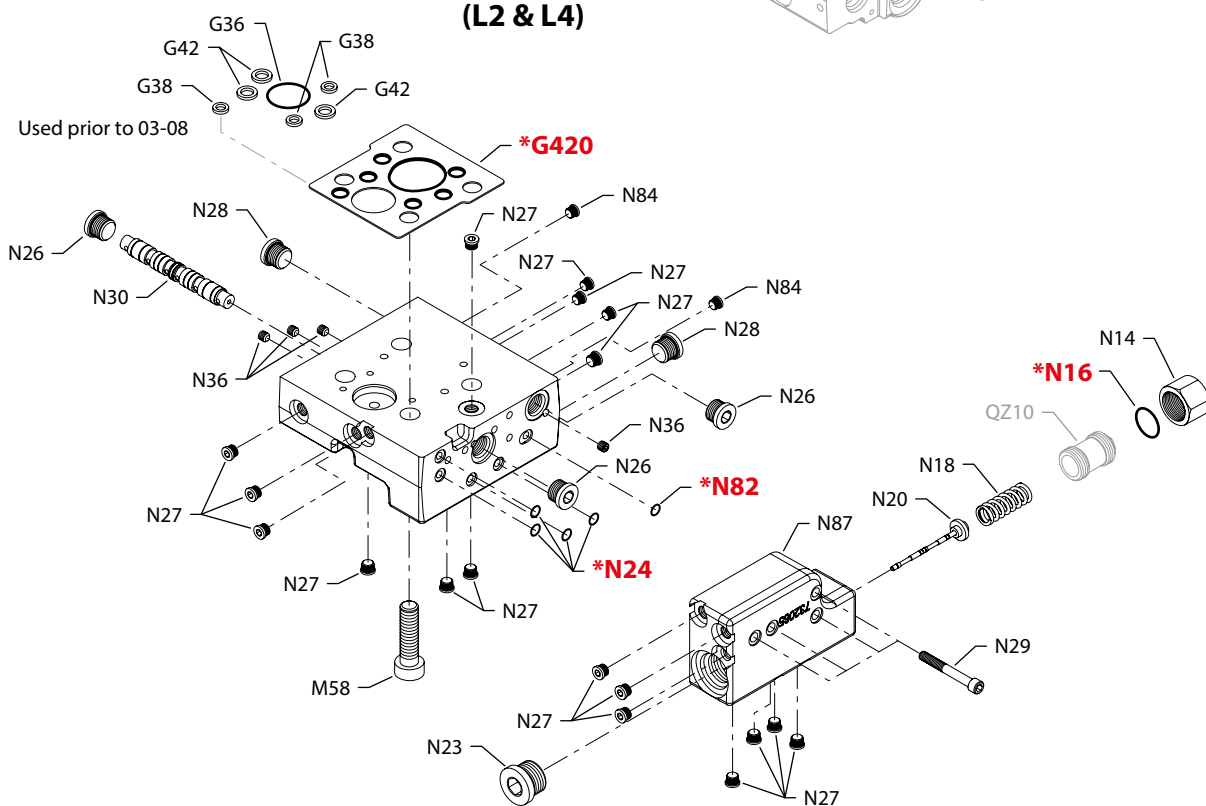
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
EL	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		140644	Plug assembly	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
F7	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	N200	06-22		519467	Coil kit, 12 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		11086697	Solenoid valve, 12 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QN200	06-22		11121272	Coil nut kit	1
F8	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	N200	06-22		11003626	Coil kit, 24 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		11086698	Solenoid valve, 24 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QN200	06-22		11121272	Coil nut kit	1
FR	G420	06-22		511851	Gasket/O-ring seal (SB-2002-001)	1
	N22	06-22		503499	Screw	4
	N26	06-22		140644	Plug assembly	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		140644	Plug assembly	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
K1	N13	95-24		915967	Ball	1
	N32	95-24		346080	Piston	1
	N84	95-24		735266	Limiter assembly	2
	N110	95-24		505522	Slotted pin	1
	QN84	95-24		039297	O-ring	1

Variable Displacement Motor

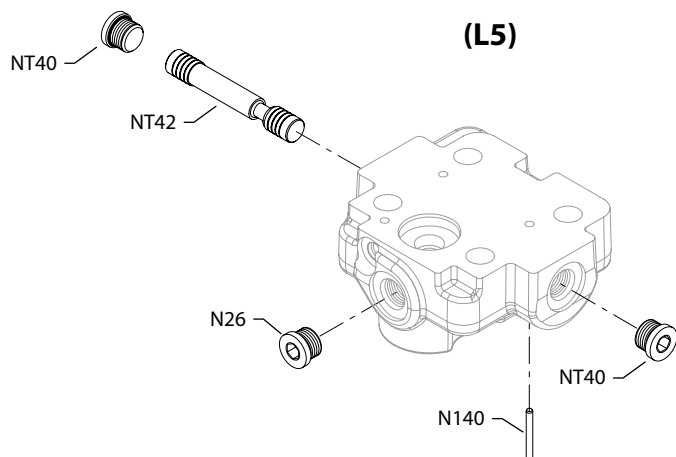
(K3 & K4)



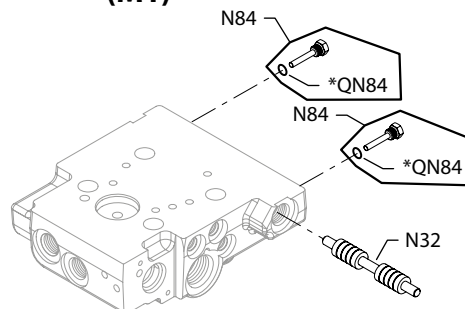
(L2 & L4)



(L5)



(M1)



* = included in base motor seal kit Q210

E103 178E

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

Parts Manual

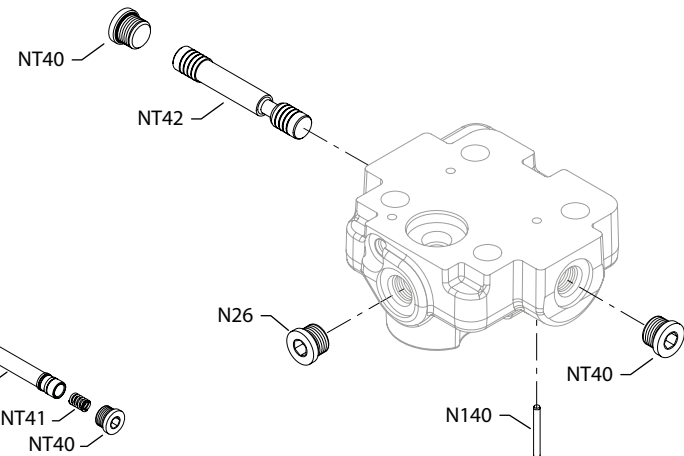
Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
K3	N110	95-24		505522	Slotted pin	1
	N13	95-24		915967	Ball	1
	N33	95-24		11040532	Plug assembly	2
	N34	95-15		140644	Plug assembly	2
K4	N110	95-24		505522	Slotted pin	1
	N13	95-24		915967	Ball	1
	N33	95-24		11040532	Plug assembly	2
	N34	95-15		140644	Plug assembly	2
L2 & L4	G36	91-26	03-07	364976	O-ring (SB-2002-001)	1
	G38	91-26	03-07	792739	O-ring (SB-2002-001)	3
	G42	91-26	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N14	91-26		342709 (9003575-0101)	Nut	1
	N16	91-26		001149 (9004201-6200)	O-ring	1
	N18	91-26		509152	Spring	1
	N20	91-26		746016	Relief valve	1
	N23	91-26		315325 (9005110-8700)	Plug assembly	1
	N24	91-26		732479 (9004105-0100)	O-ring	4
	N26	91-26		140644	Plug assembly	3
	N27	91-26		11040532	Plug assembly	18
	N28	91-26		140644	Plug assembly	2
	N29	91-26		713719 (9007314-0610)	Screw	4
	N30	91-26		519114	Shuttle valve assembly	1
	N36	91-26		092114 (9007712-0604)	Set screw	4
	N58	91-26		714436	Screw	4
	N82	91-26		144725	O-ring	1
	N84	91-26		11040532	Plug assembly	2
	N87	91-26		503887	PCOR housing assembly	1
L5	N26	95-24		140644	Plug assembly	1
	N140	95-24		503503	Pin	2
	NT40	95-24		140644	Plug assembly	2
	NT42	95-24		507782	Spool	1
M1	N32	95-24		346080	Piston	1
	N84	95-24		735266	Stop assembly	2
	QN84	95-24		039297 (9004201-1200)	O-ring	2
NN	No parts					

(M4 & M6)



(R2 & R4)

Used prior to 03-08

Diagram illustrating the exploded view of the R2 & R4 engine assembly, showing various components and their assembly order. The components are labeled with part numbers:

- G42
- G38
- G36
- N26
- N27
- N28
- N30
- N36
- M58
- N23
- N24
- N82
- N84
- N14
- N16
- N18
- N20
- N29
- QZ10

The diagram shows the engine block, various ports, and mounting points. The components are arranged in an exploded view, indicating their relative positions and assembly sequence. The asterisk (*) indicates a specific version or note for certain parts.

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

Parts Manual

Series 51 160cc Variable Displacement Motor

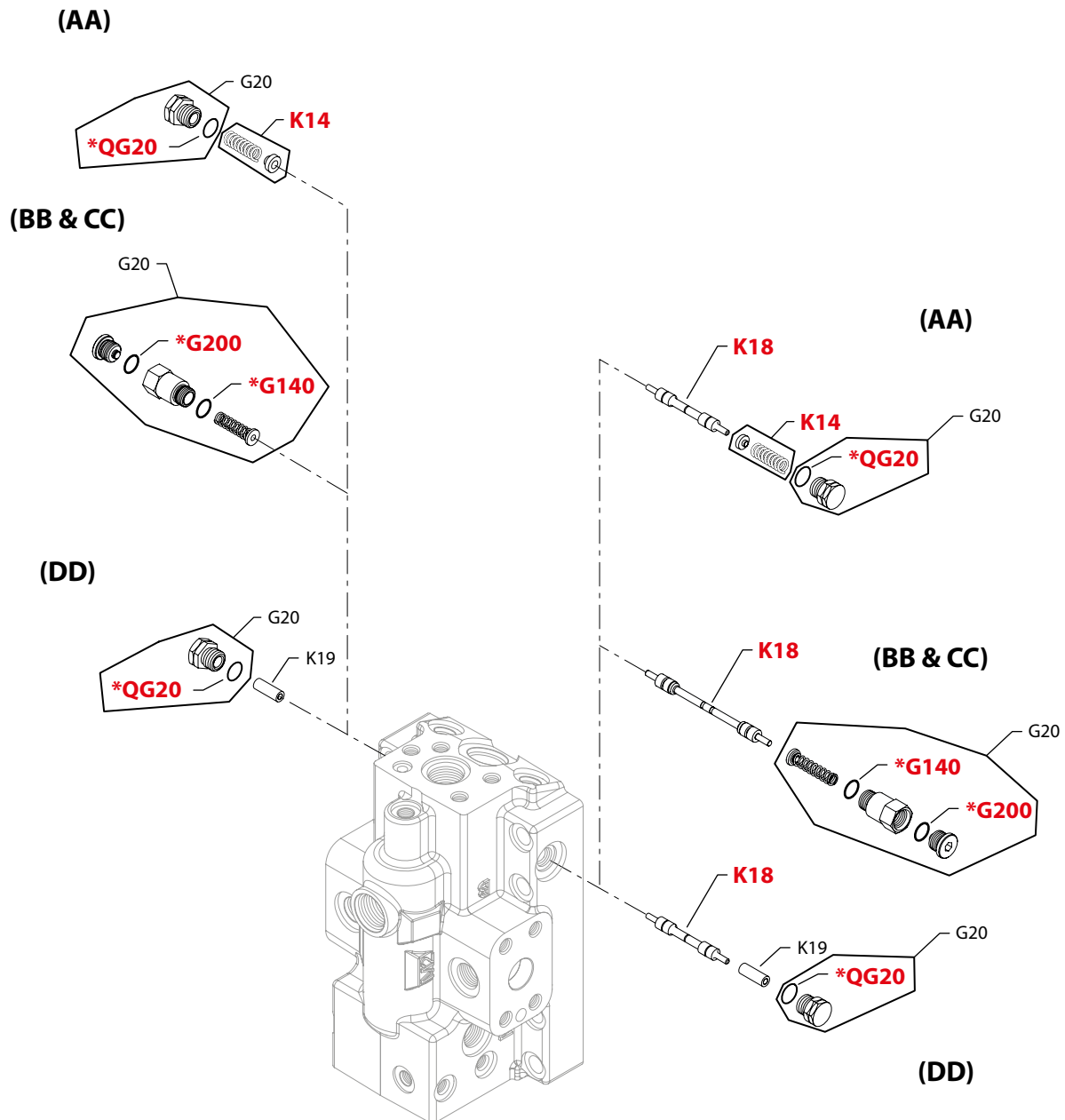
Variable Displacement Motor

Servo pressure supply

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M4	M200	06-22		11003626	Coil kit, 24 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		11003624	Solenoid valve, 24 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QM200	06-22		11121272	Coil nut kit	1
M6	M200	06-22		519467	Coil kit, 12 volt, Jet connector	1
	NT40	06-22		140644	Plug assembly	1
	NT40P	06-22		519468	Solenoid valve, 12 volt, Jet connector	1
	NT41	06-22		518382	Spring	1
	NT42	06-22		520936	Spool	1
	QM200	06-22		11121272	Coil nut kit	1
NN				No parts		
R2 & R4	G36	91-26	03-07	364976	O-ring (SB-2002-001)	1
	G38	91-26	03-07	792739	O-ring (SB-2002-001)	3
	G42	91-26	03-07	754580	O-ring (SB-2002-001)	3
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	N14	91-26		342709 (9003575-0101)	Nut	1
	N16	91-26		001149 (9004201-6200)	O-ring	1
	N18	91-26		509152	Spring	1
	N20	91-26		746016	Relief valve	1
	N23	91-26		315325 (9005110-8700)	Plug assembly	1
	N24	91-26		732479 (9004105-0100)	O-ring	4
	N26	91-26		140644	Plug assembly	3
	N27	91-26		11040532	Plug assembly	18
	N28	91-26		140644	Plug assembly	2
	N29	91-26		713719 (9007314-0610)	Screw	4
	N30	91-26		519114	Shuttle valve assembly	1
	N36	91-26		092114 (9007712-0604)	Set screw	4
	N58	91-26		714436	Screw	4
	N82	91-26		144725 (9004105-0110)	O-ring	1
	N84	91-26		11040532	Plug assembly	2
	N87	91-26		503887	PCOR housing assembly	1
R5	N26	95-24		140644	Plug assembly	1
	N140	95-24		503503	Pin	2
	NT40	95-24		140644	Plug assembly	2
	NT42	95-24		507782	Spool	1



Variable Displacement Motor



E103 179E

* = included in base motor seal kit Q210

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

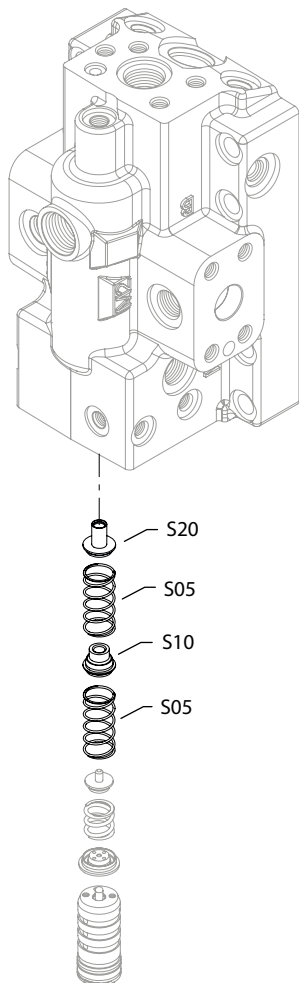
Variable Displacement Motor
Loop flushing

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
AA	G20	92-33		518016	Plug assembly	2
	K14	92-33		513596	Spring seat assembly (SB-2000-044)	2
	K18	92-33		707745	Loop flushing spool	1
	QG20	92-33		085043 (9004201-3700)	O-ring	2
BB	G20	11-15		521692	Spring housing assembly	2
	G140	11-15		085043 (9004201-3700)	O-ring	2
	G200	11-15		085043 (9004201-3700)	O-ring	2
	K18	11-15		521673	Loop flushing spool	1
CC	G20	11-15		521692	Spring housing assembly	2
	G140	11-15		085043 (9004201-3700)	O-ring	2
	G200	11-15		085043 (9004201-3700)	O-ring	2
	K18	11-15		11002600	Loop flushing spool	1
DD	G20	11-15		518016	Plug assembly	2
	K18	11-15		707745	Loop flushing spool	1
	K19	11-15		11020889	Spacer	2
	QG20	11-15		085043 (9004201-3700)	O-ring	2
NN				No parts		

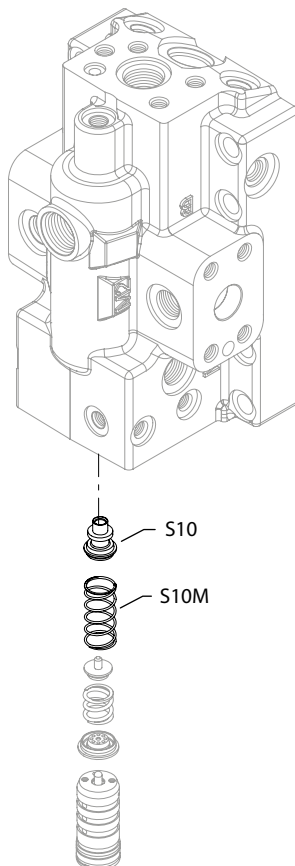


Variable Displacement Motor

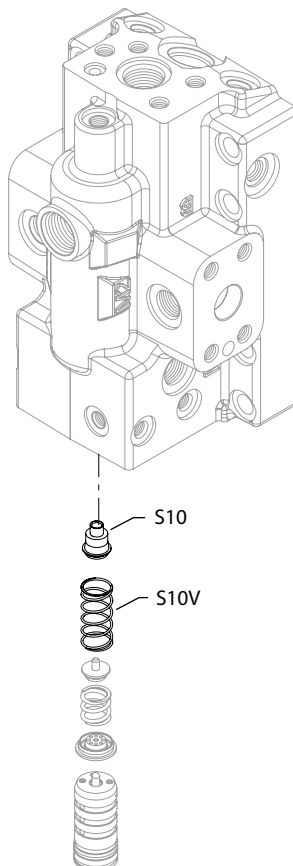
(A, B, D, E, G, H, J,
K, U, Y & Z)



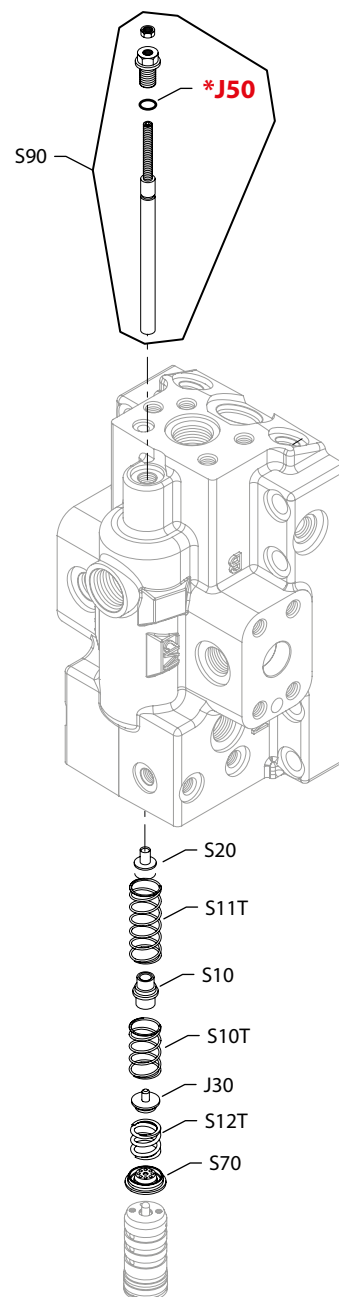
(M)



(V)



(S & T)



* = included in base motor seal kit Q210

E100 336E

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

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

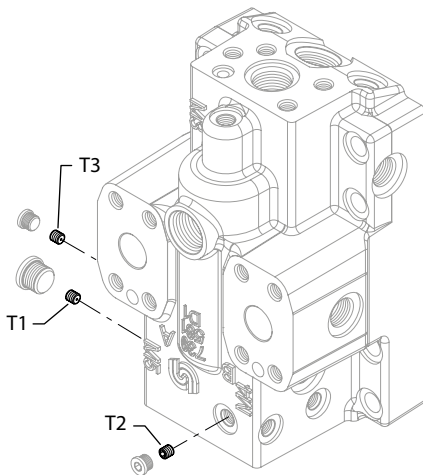
Control ramp

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A & B	S05	95-36		721472	Spring	2
	S10	95-36		724526	Spring guide	1
	S20	95-36		11014064	Spring guide	1
D	S05	92-33		721498	Spring	2
	S10	92-33		724526	Spring guide	1
	S20	92-33		11014064	Spring guide	1
E	S05	92-33		721472	Spring	2
	S10	92-33		724526	Spring guide	1
	S20	92-33		11014064	Spring guide	1
G	S05	92-33		721480	Spring	2
	S10	92-33		724526	Spring guide	1
	S20	92-33		11014064	Spring guide	1
H, J & K	S05	92-33		721514	Spring	2
	S10	92-33		724526	Spring guide	1
	S20	92-33		11014064	Spring guide	1
M	S10	03-46		519774	Spring guide	1
	S10M	03-46		519692	Spring	1
N				No parts		
S & T	J30	95-12		507670	Spring guide	1
	J50	95-12		732479 (9004105-0100)	O-ring	1
	J90	95-12		509231	Threshold adjust screw assembly	1
	S10	95-12		735936	Spring guide	1
	S10T	95-12		735837	Spring	1
	S11T	95-12		735829	Spring	1
	S12T	95-12		509180	Spring	1
	S20	95-12		735910	Spring guide	1
	S70	95-12		505281	Spring seat	1
U	S05	92-33		721506	Spring	2
	S10	92-33		724526	Spring guide	1
	S20	92-33		11014064	Spring guide	1
V	S10	02-34		518487	Spring guide	1
	S10V	02-34		721456	Spring	1
Y	S05	92-33		721514	Spring	2
	S10	99-35		724526	Spring guide	1
	S20	99-35		11014064	Spring guide	1
Z	S05	99-35		721522	Spring	2
	S10	99-35		724526	Spring guide	1
	S20	99-35		11014064	Spring guide	1

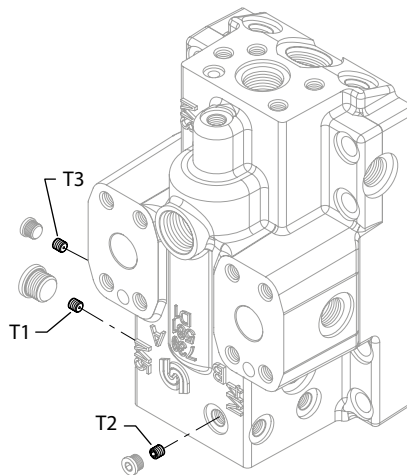


Variable Displacement Motor

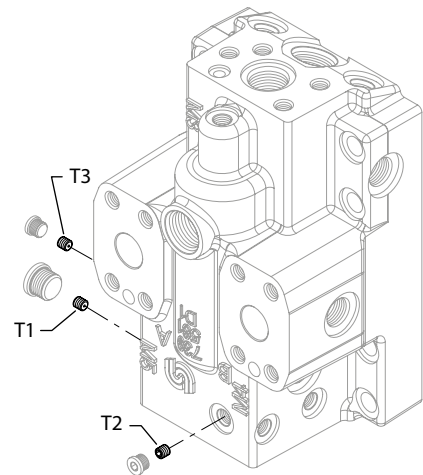
(A0)



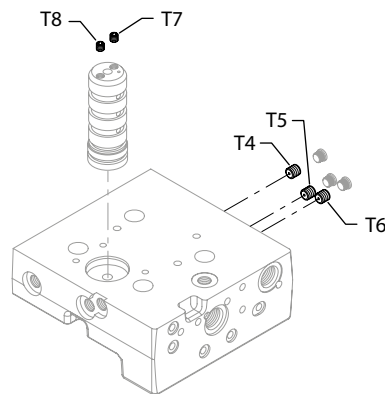
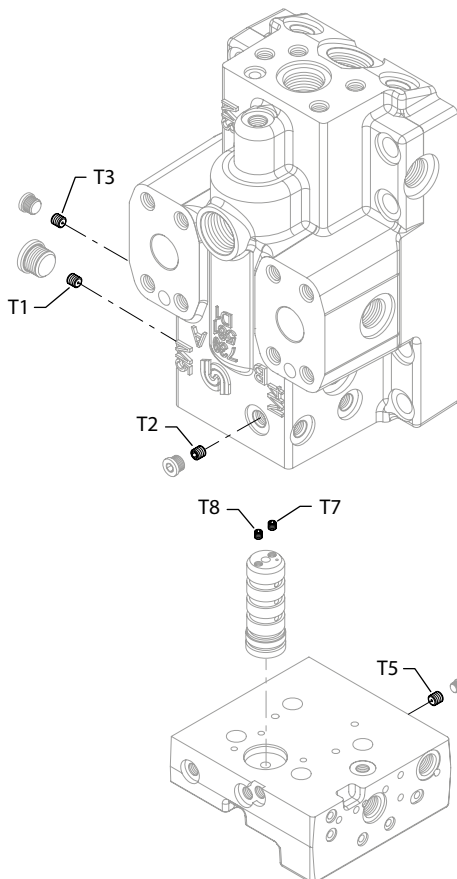
(A2, A8 & B6)



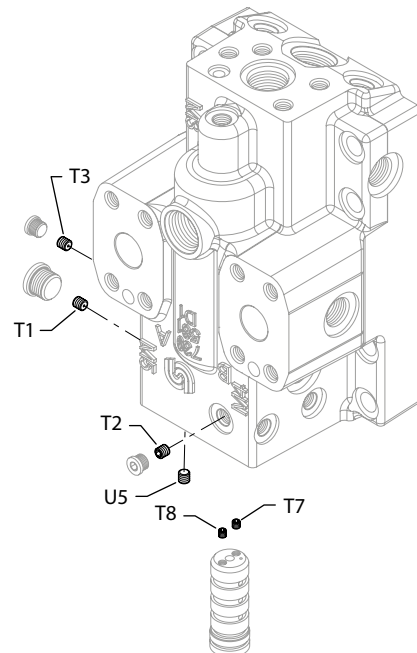
(A6)



(A7)



(A9)



Parts Manual

Series 51 160cc Variable Displacement Motor

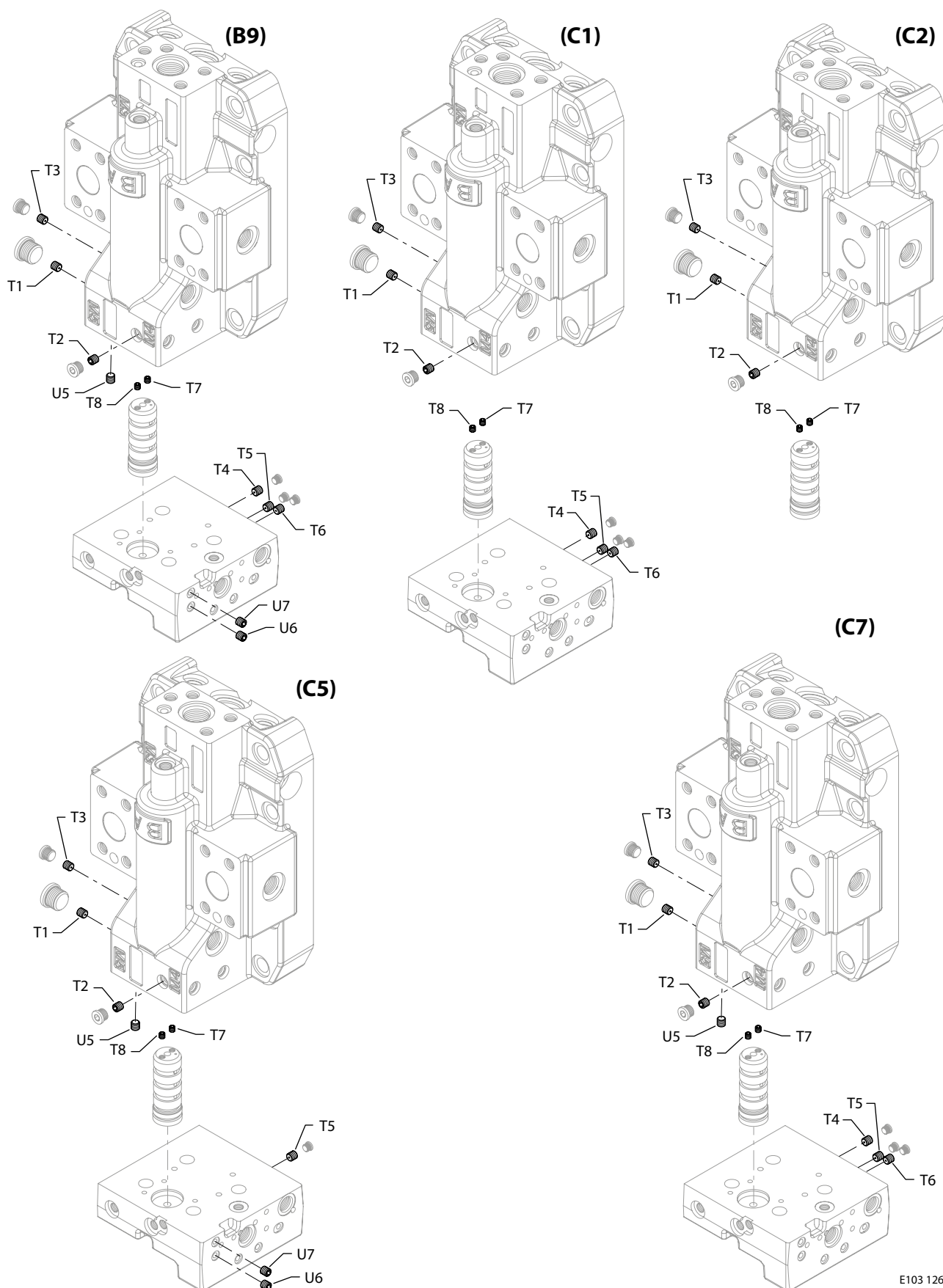
Variable Displacement Motor

Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
A0	T1	92-38		913897 (9007712-0605)	Set screw	1
	T2	92-38		913897 (9007712-0605)	Set screw	1
	T3	92-38		913897 (9007712-0605)	Set screw	1
A2	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
A6	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
A7	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
A8	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
A9	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
B6	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		913897 (9007712-0605)	Set screw	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1



Variable Displacement Motor



Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

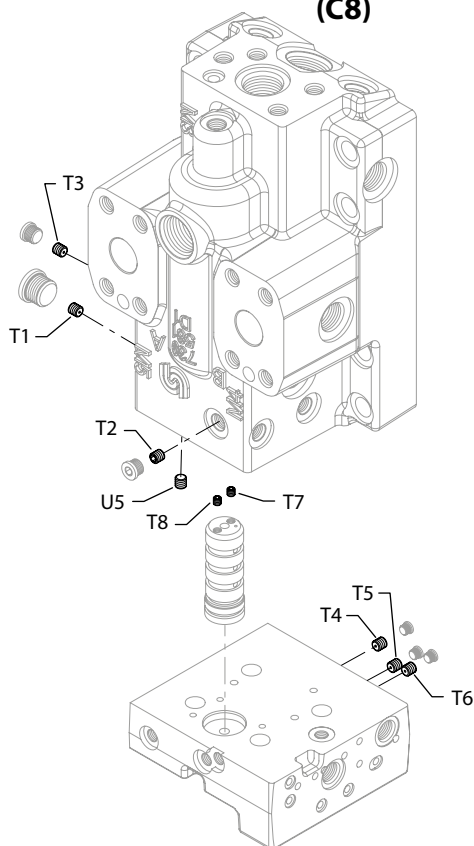
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
B9	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		679316	Orifice. 0.5, M6 x 8	1
	T3	92-33		679316	Orifice. 0.5, M6 x 8	1
	T4	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
C0				No parts		
C1	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		578542	Orifice. 0.8, M6 x 8	1
	T6	92-33		913897 (9007712-0605)	Set screw	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
C2	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
C5	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
C7	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T4	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		913897 (9007712-0605)	Set screw	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1

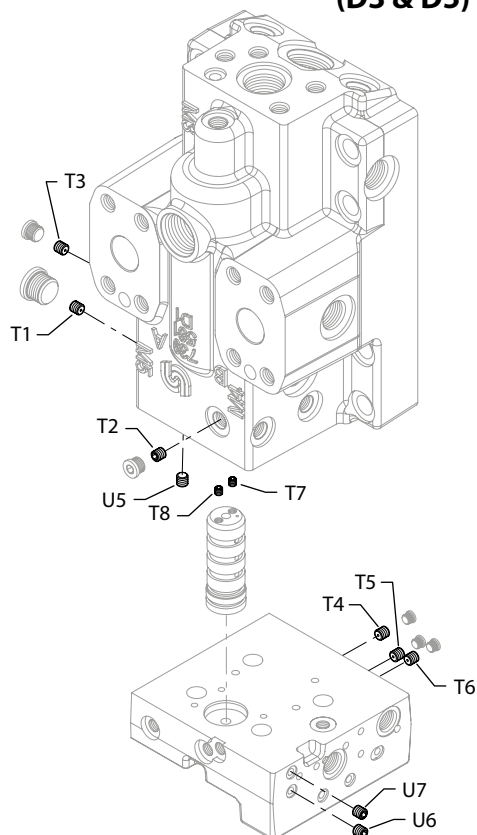


Variable Displacement Motor

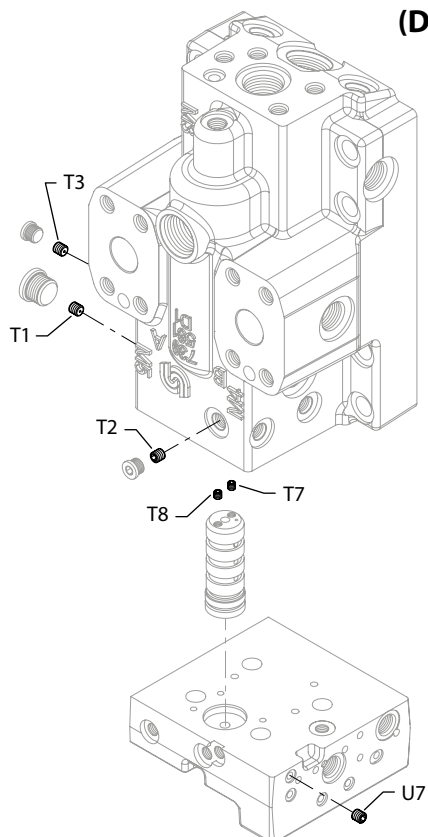
(C8)



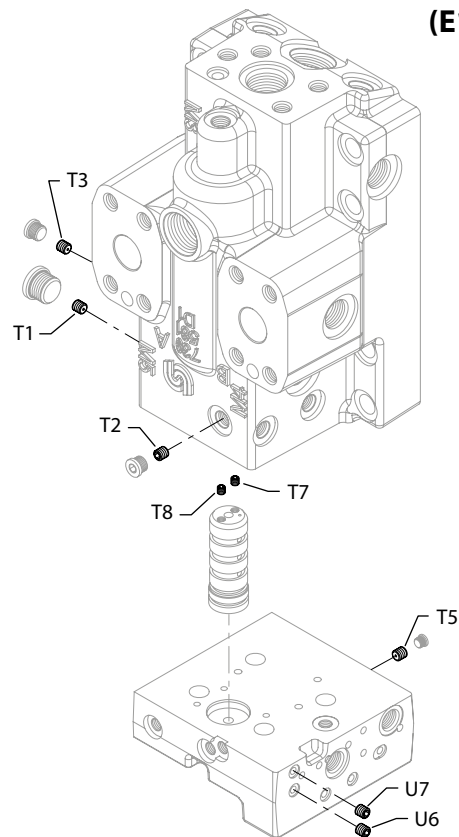
(D3 & D5)



(D7)



(E1)



Parts Manual

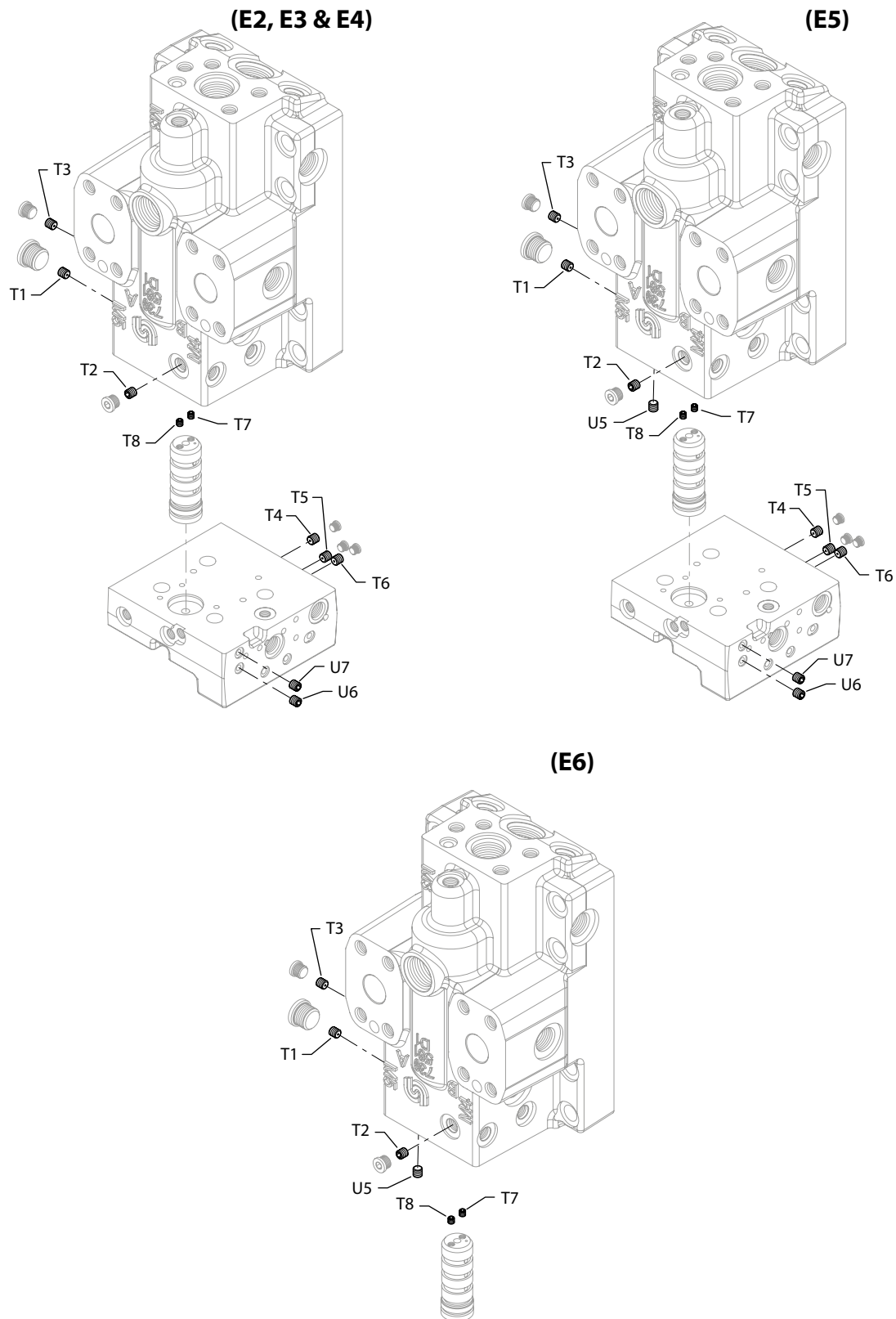
Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
C8	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
D3	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T3	92-33		511825	Orifice. 0.6, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
D5	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T3	92-33		511825	Orifice. 0.6, M6 x 8	1
	T4	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		913897 (9007712-0605)	Set screw	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
D7	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		511825	Orifice. 0.6, M6 x 8	1
	T8	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
E1	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1

Variable Displacement Motor



Parts Manual

Series 51 160cc Variable Displacement Motor

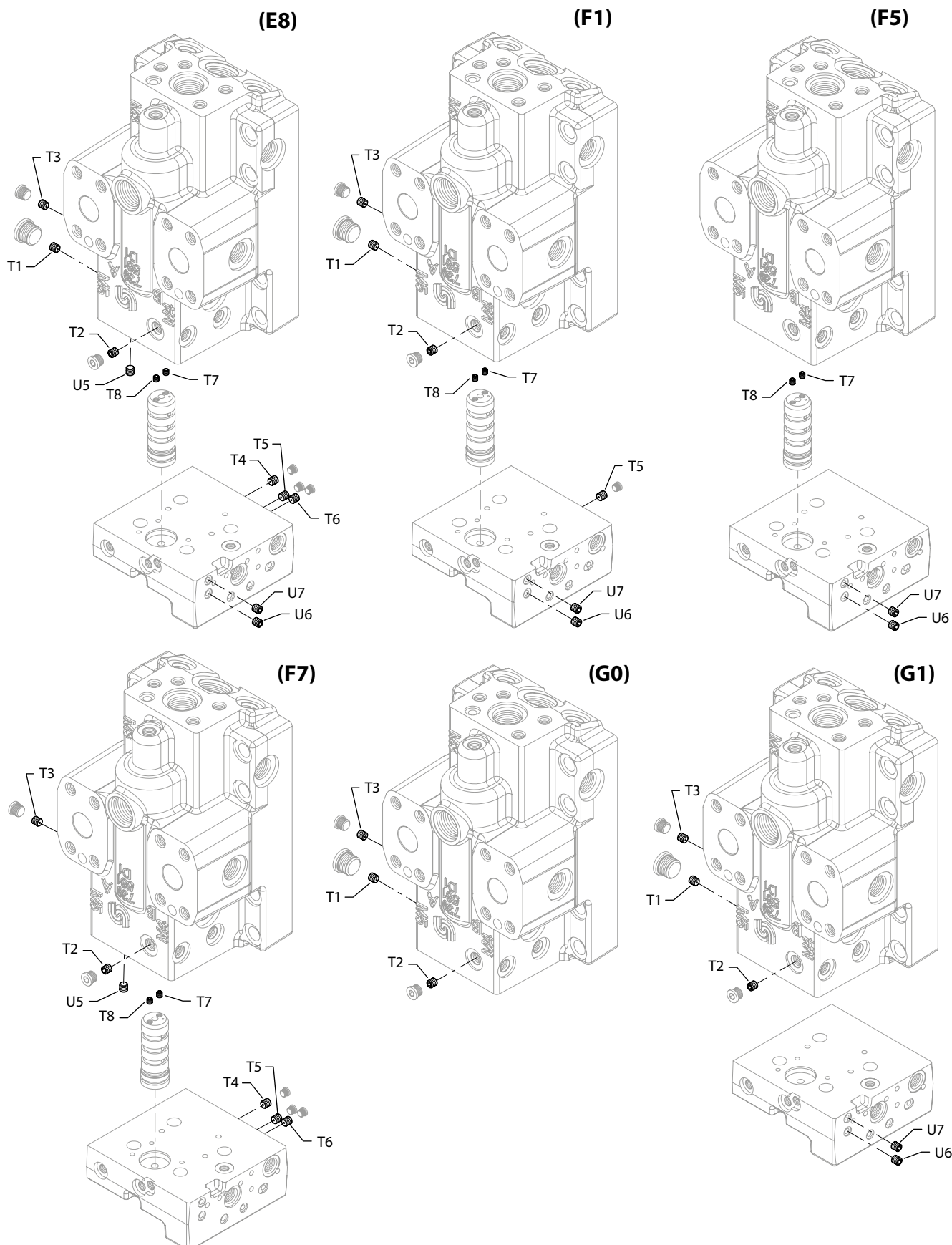
Variable Displacement Motor

Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
E2	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
E3	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		913897 (9007712-0605)	Set screw	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
E4	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
E5	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
E6	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1



Variable Displacement Motor



Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

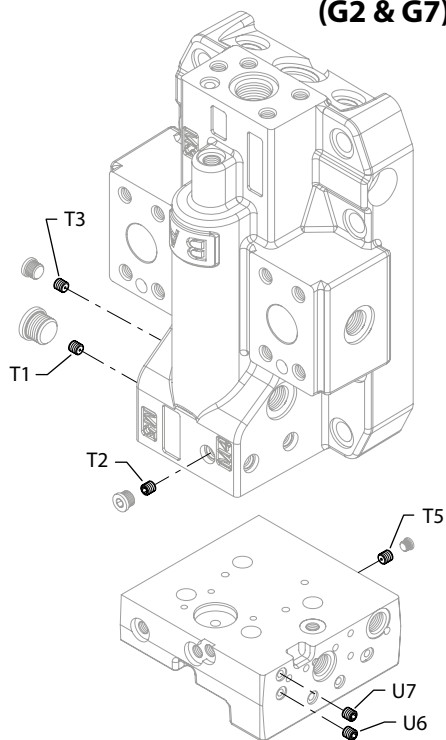
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
E8	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		913897 (9007712-0605)	Set screw	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
F1	T1	92-33		679316	Orifice. 0.5, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
F5	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		913897 (9007712-0605)	Set screw	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
F7	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
G0	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		679316	Orifice. 0.5, M6 x 8	1
	T3	92-33		679316	Orifice. 0.5, M6 x 8	1
G1	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		679316	Orifice. 0.5, M6 x 8	1
	T3	92-33		679316	Orifice. 0.5, M6 x 8	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1

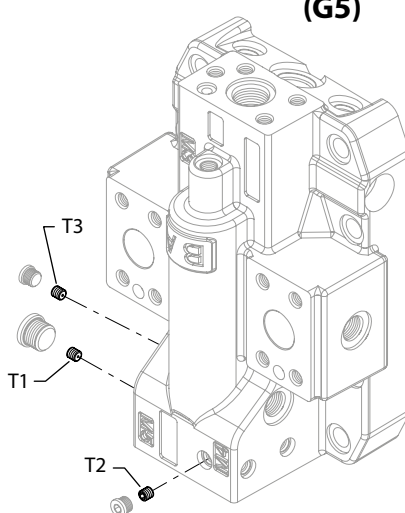


Variable Displacement Motor

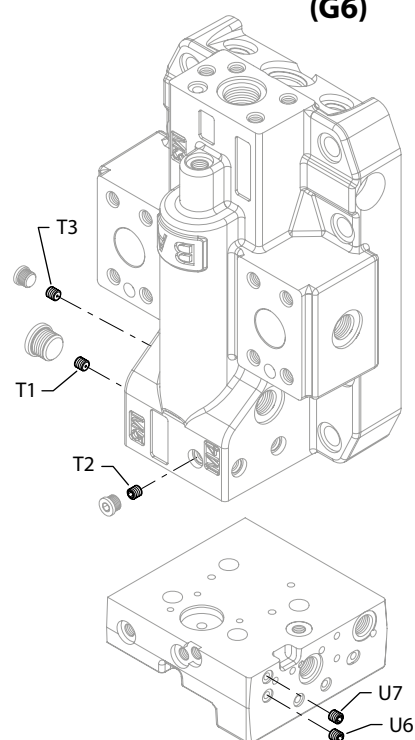
(G2 & G7)



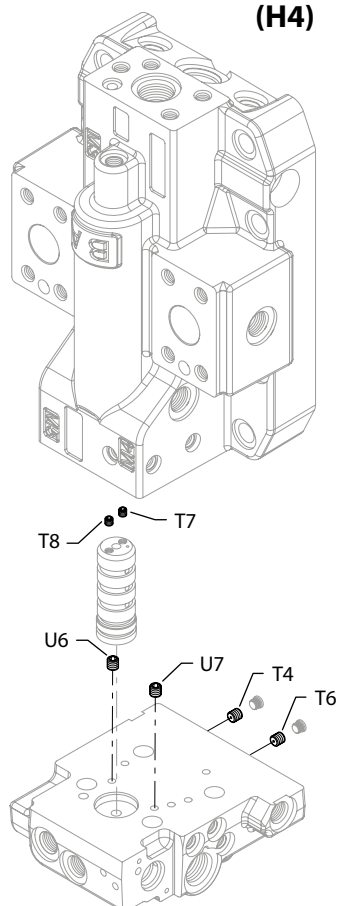
(G5)



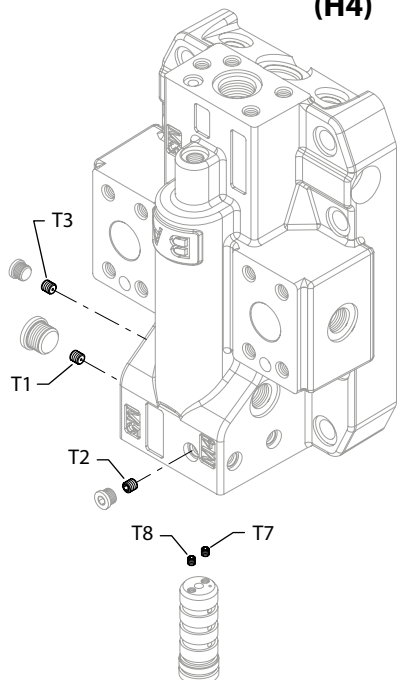
(G6)



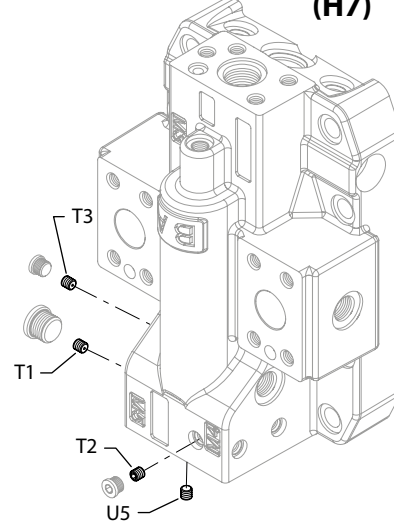
(H4)



(H4)



(H7)



Parts Manual

Series 51 160cc Variable Displacement Motor

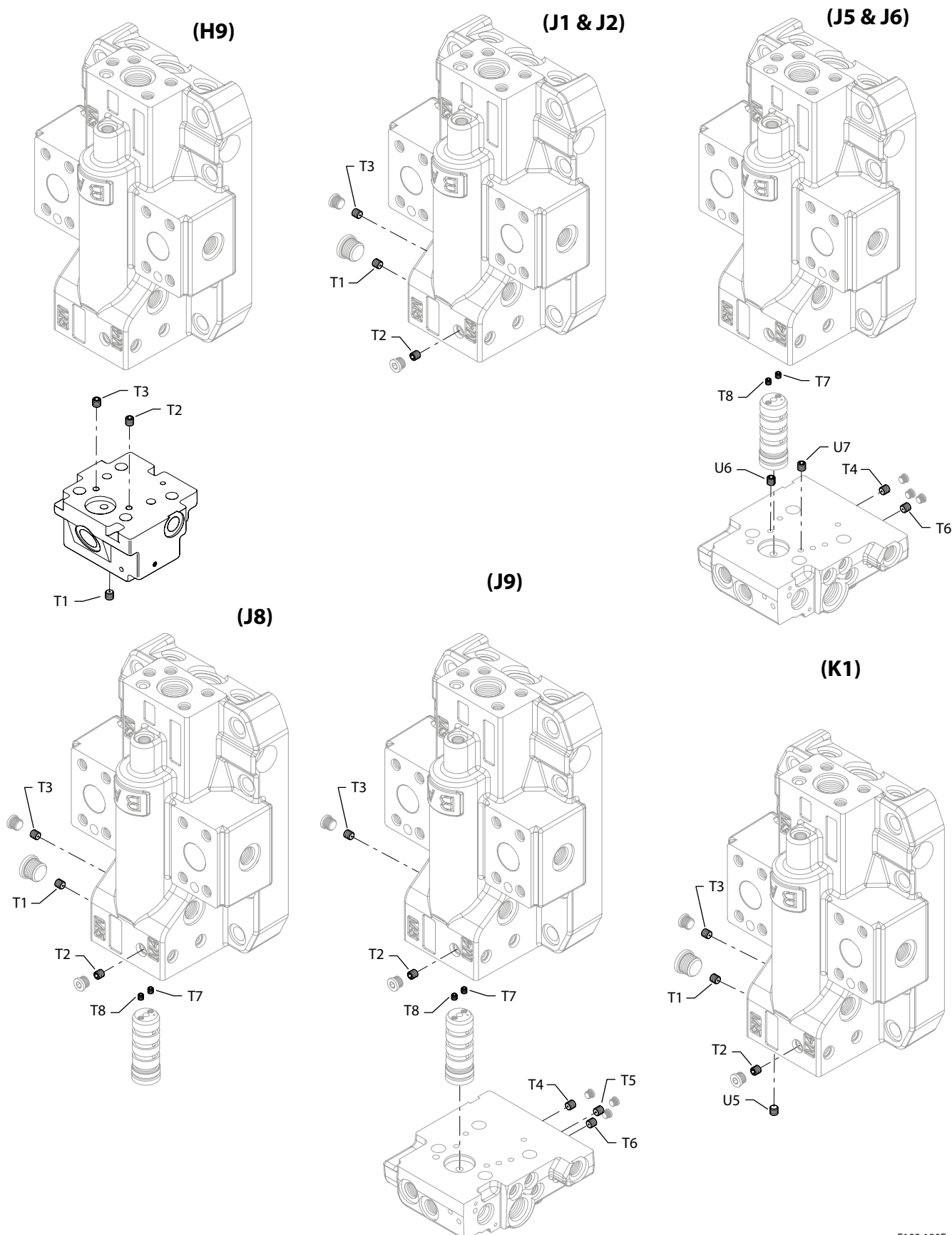
Variable Displacement Motor

Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
G2	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
G5	T1	92-33		679316	Orifice, 0.5, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
G6	T1	92-33		679316	Orifice, 0.5, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
G7	T1	92-33		679316	Orifice, 0.5, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
H4	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
	U6	92-33		044081	Orifice, 0.7, M6 x 8	1
	U7	92-33		044081	Orifice, 0.7, M6 x 8	1
H5	T1	92-33		044081	Orifice, 0.7, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
H7	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	U5	92-33		913897 (9007712-0605)	Set screw	1



Variable Displacement Motor



Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

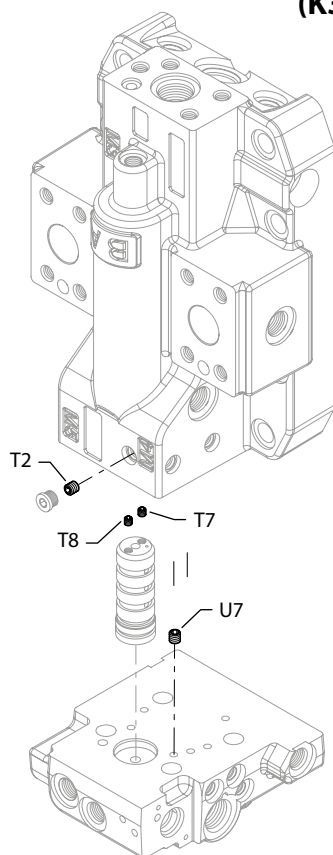
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
H9	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
J1	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
J2	T1	92-33		511825	Orifice, 0.6, M6 x 8	1
	T2	92-33		511825	Orifice, 0.6, M6 x 8	1
	T3	92-33		511825	Orifice, 0.6, M6 x 8	1
J5	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T6	92-33		913897	Set screw	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
J6	T4	92-33		913897	Set screw	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
	U6	92-33		578542	Orifice, 0.8, M6 x 8	1
	U7	92-33		578542	Orifice, 0.8, M6 x 8	1
J8	T1	92-33		679316	Orifice, 0.5, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
J9	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
	T4	92-33		913897	Set screw	1
	T5	92-33		578542	Orifice, 0.8, M6 x 8	1
	T6	92-33		913897	Set screw	1
	T7	92-33		639096	Orifice, 0.6, M5 x 6	1
	T8	92-33		639096	Orifice, 0.6, M5 x 6	1
K1	T1	92-33		679316	Orifice, 0.5, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		679316	Orifice, 0.5, M6 x 8	1
	U5	92-33		913897 (9007712-0605)	Set screw	1

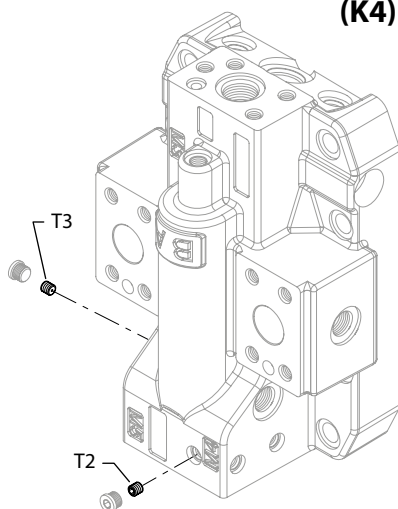


Variable Displacement Motor

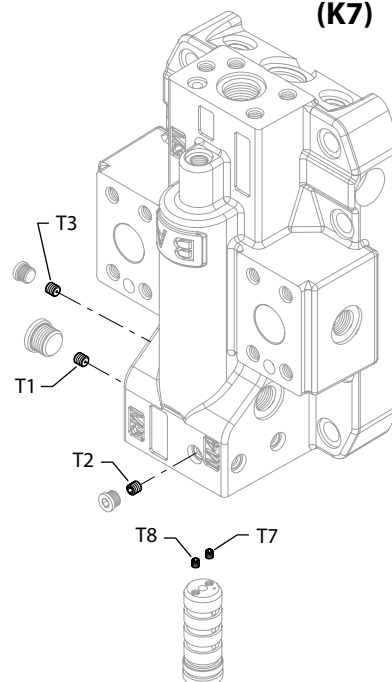
(K3)



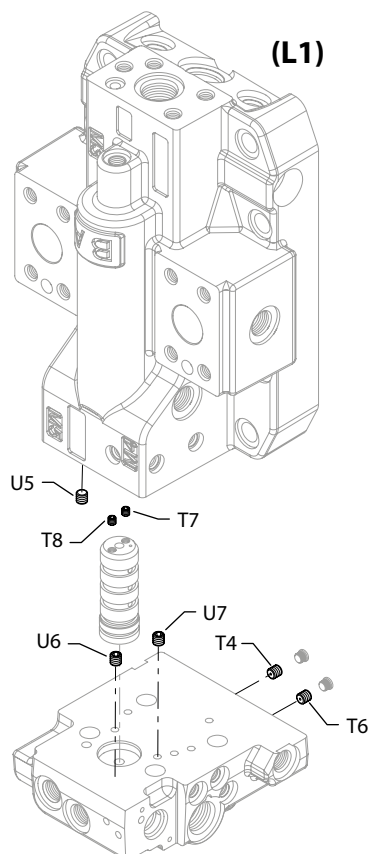
(K4)



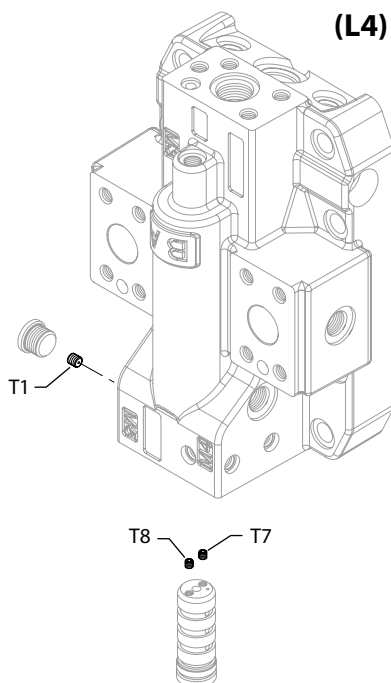
(K7)



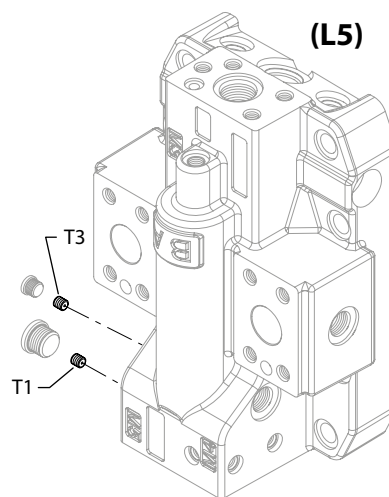
(L1)



(L4)



(L5)

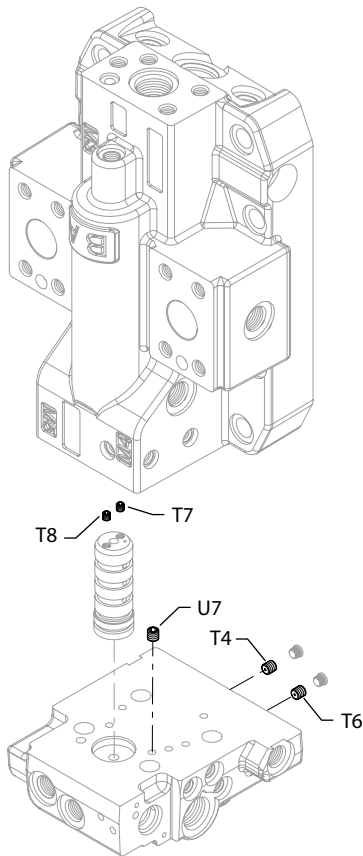



Variable Displacement Motor
Orifice

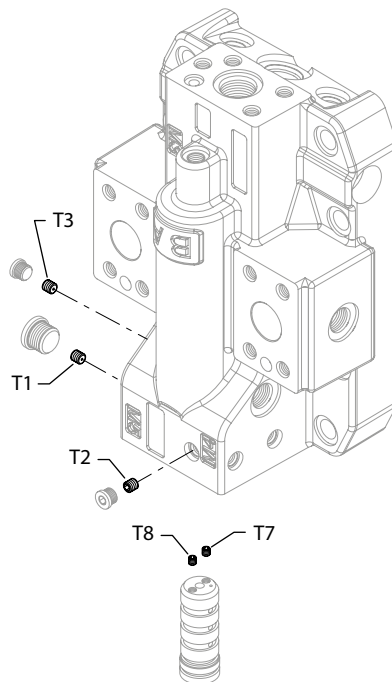
Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
K3	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
K4	T2	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		578542	Orifice, 0.8, M6 x 8	1
K7	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		679316	Orifice. 0.5, M6 x 8	1
	T3	92-33		679316	Orifice. 0.5, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
L1	T4	92-33		578542	Orifice, 0.8, M6 x 8	1
	T6	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
L4	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
L5	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T3	92-33		679316	Orifice. 0.5, M6 x 8	1

Variable Displacement Motor

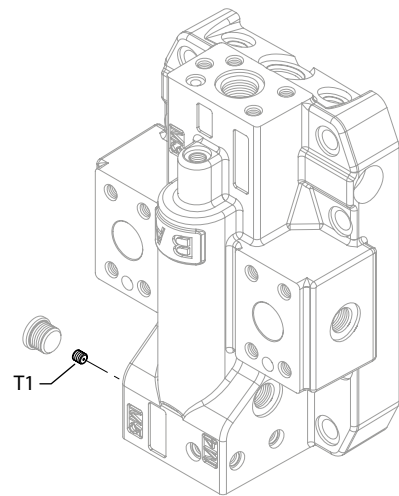
(M1)



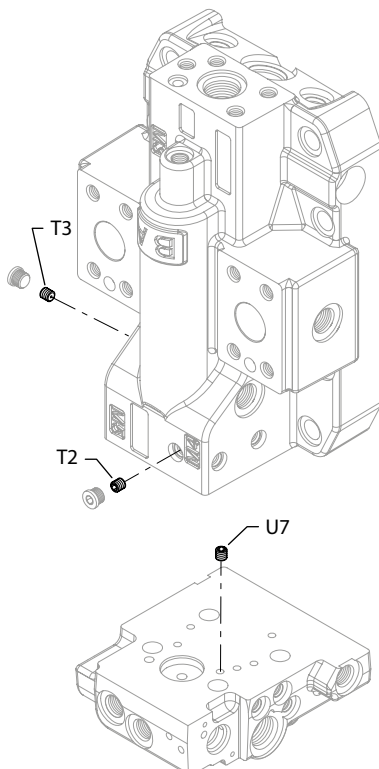
(M2)



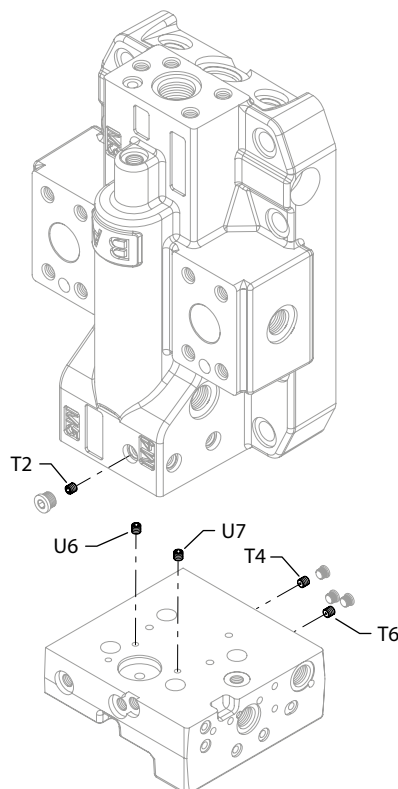
(M3)



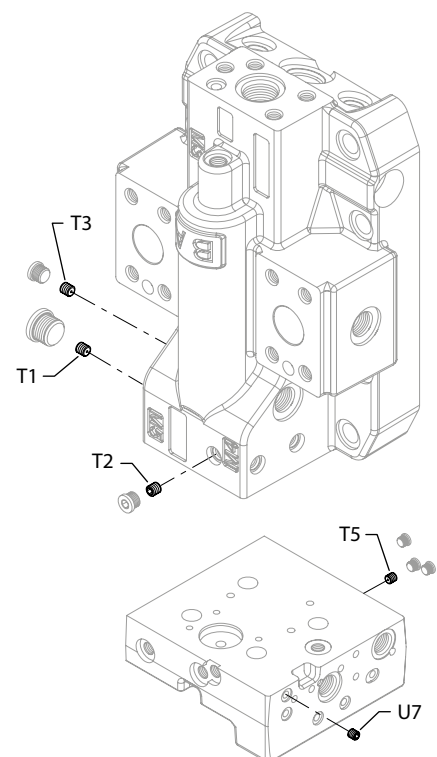
(M4)



(M5)



(M6)



Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

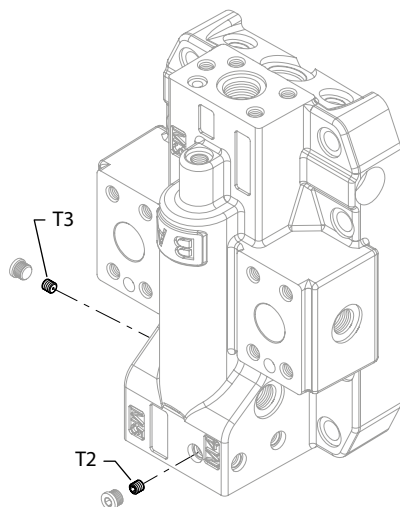
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M1	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	T4	92-33		578542	Orifice. 0.8, M6 x 8	1
	T6	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
M2	T1	92-33		508014	Orifice. 1.0, M6 x 8	1
	T2	92-33		508014	Orifice. 1.0, M6 x 8	1
	T3	92-33		508014	Orifice. 1.0, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
M3	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
M4	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
M5	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T4	92-33		578542	Orifice. 0.8, M6 x 8	1
	T6	92-33		578542	Orifice. 0.8, M6 x 8	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1
M6	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		913897 (9007712-0605)	Set screw	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1

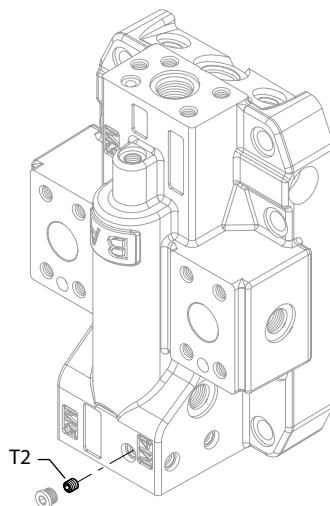


Variable Displacement Motor

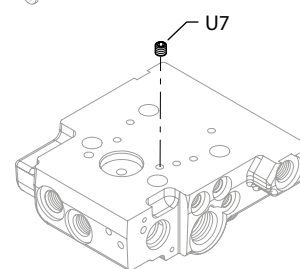
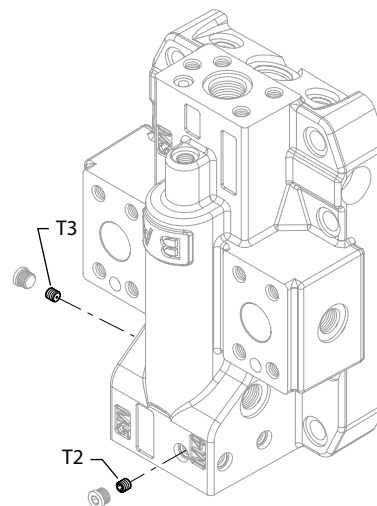
(M7)



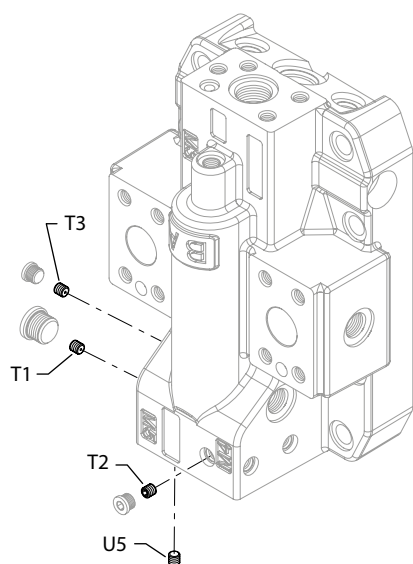
(N1)



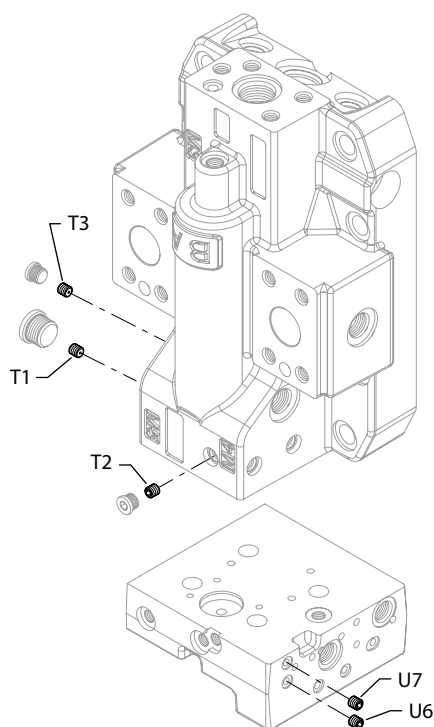
(N2, N7, N9 & NZ)



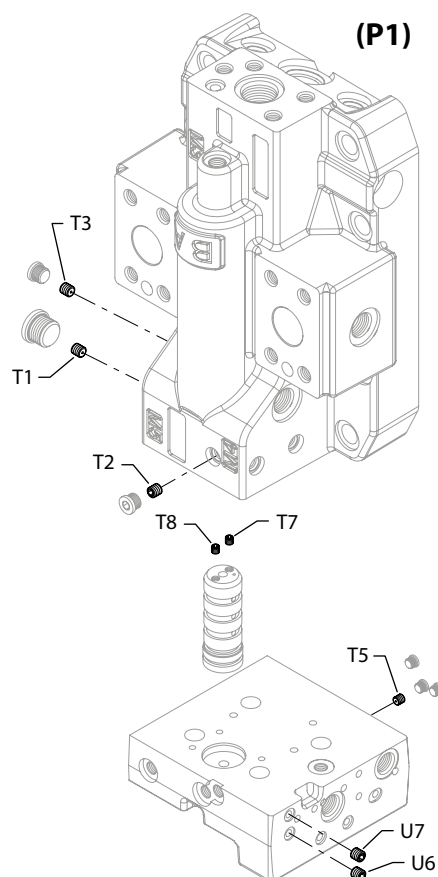
(N6)



(N8)



(P1)



E103 183E

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

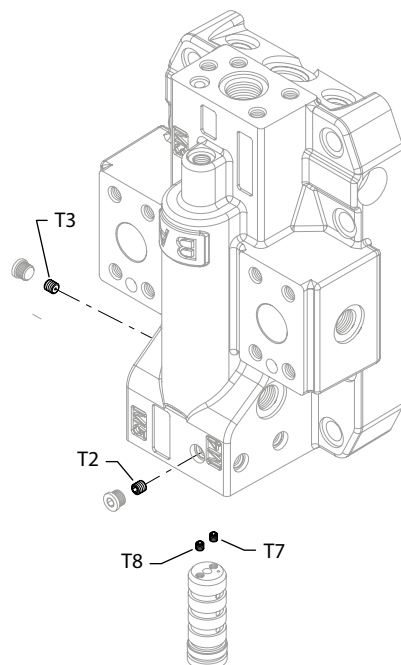
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
M7	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
N1	T2	92-33		516598	Orifice. 1.2, M6 x 8	1
	U7	92-33		508014	Orifice. 1.0, M6 x 8	1
N2	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T3	92-33		511825	Orifice. 0.6, M6 x 8	1
	U7	92-33		511825	Orifice. 0.6, M6 x 8	1
N6	T1	92-33		511825	Orifice. 0.6, M6 x 8	1
	T2	92-33		511825	Orifice. 0.6, M6 x 8	1
	T3	92-33		511825	Orifice. 0.6, M6 x 8	1
	U5	92-33		913897 (9007712-0605)	Set screw	1
N7	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1
N8	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		679316	Orifice. 0.5, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U6	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1
N9	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1
NZ	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1
P1	T1	92-33		578542	Orifice. 0.8, M6 x 8	1
	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T5	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
	U6	92-33		044081	Orifice. 0.7, M6 x 8	1
	U7	92-33		044081	Orifice. 0.7, M6 x 8	1

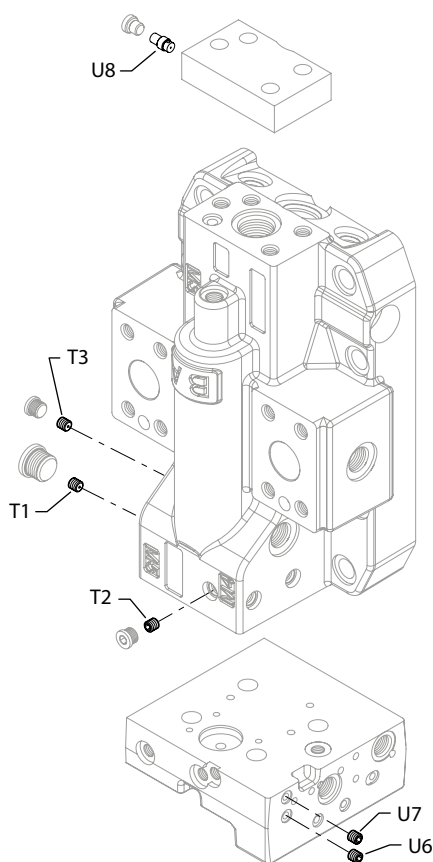


Variable Displacement Motor

(P2)



(W4)



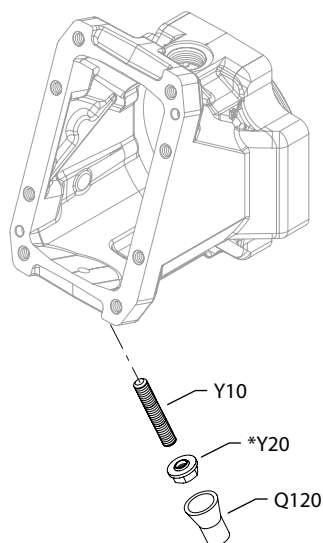

Variable Displacement Motor
Orifice

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kits
P2	T2	92-33		578542	Orifice. 0.8, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	T7	92-33		639096	Orifice. 0.6, M5 x 6	1
	T8	92-33		639096	Orifice. 0.6, M5 x 6	1
W4	T1	92-33		578542	Orifice, 0.8, M6 x 8	1
	T2	92-33		679316	Orifice, 0.5, M6 x 8	1
	T3	92-33		578542	Orifice. 0.8, M6 x 8	1
	U6	92-33		578542	Orifice. 0.8, M6 x 8	1
	U7	92-33		578542	Orifice. 0.8, M6 x 8	1
	U8	92-33		512329	Orificed check valve assembly	1

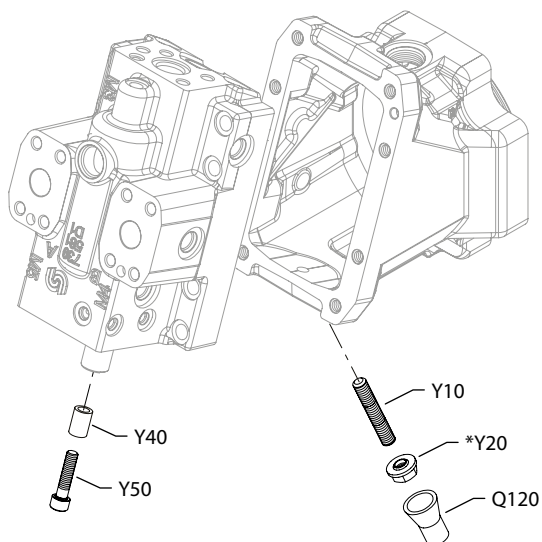


Variable Displacement Motor

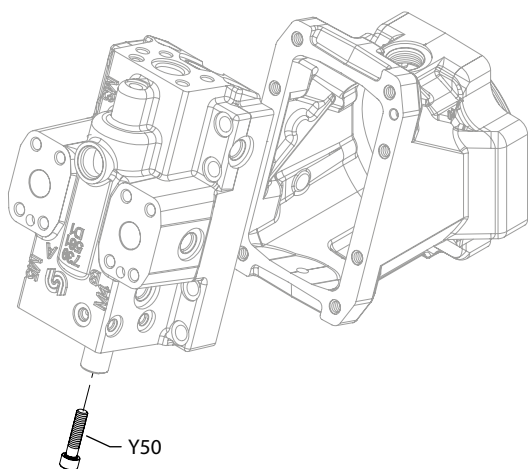
(032-125 & M32)



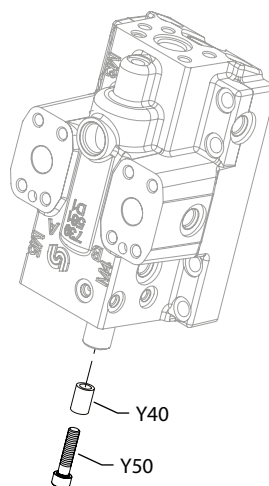
(N11)



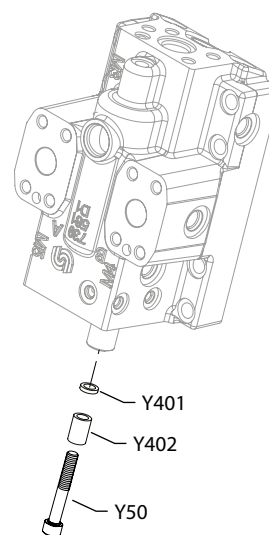
(N50)



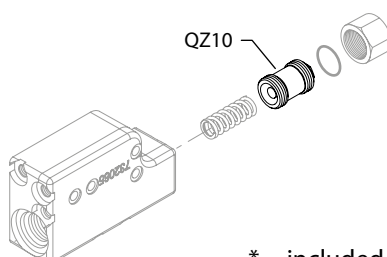
(N57)



(N92)



(11 - 37)



* = included in base motor seal kit Q210

E100 650E

Parts Manual

Series 51 160cc Variable Displacement Motor

Variable Displacement Motor

Minimum displacement

Order code	Item	Date begin	Date end	Part number	Part name	Qty. per model/kit
032-072	Q120	92-33		770842	Safety cap	1
	Y10	92-33		750646	Set screw, M12 x 75	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
073-110	Q120	92-33		770842	Safety cap	1
	Y10	92-33		749564	Set screw, M12 x 90	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
115	Q120	92-33		770842	Safety cap	1
	Y10	92-33		750653	Set screw, M12 x 100	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
125	Q120	92-33		770842	Safety cap	1
	Y10	92-33		11106517	Set screw, M12 x 40	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
	Y40	92-33		329136	Spacer, 35 mm	1
	Y50	92-33		393793	Screw, M10 x 90	1
M32	Q120	92-33		770842	Safety cap	1
	Y10	92-33		11106517	Set screw, M12 x 40	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
N11	Q120	92-33		770842	Safety cap	1
	Y10	92-33		11106517	Set screw, M12 x 40	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
	Y40	92-33		335620	Spacer, 27 mm	1
	Y50	92-33		393793	Screw, M10 x 90	1
N50	Y50	92-33		516029	Screw, M10 x 57.5	1
N57	Y40	92-33		914440	Washer	1
	Y50	92-33		393728	Screw, M10 x 50	1
N80	Q120	92-33		770842	Safety cap	1
	Y10	92-33		11106517	Set screw, M12 x 40	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1
	Y40	92-33		347088	Spacer, 13.0 mm	1
	Y50	92-33		502580	Screw, M10 x 70	1
N92	Y50	92-33		399758	Screw, M10 x 75	1
	Y401	92-33		672071	Spacer, 4.5 mm	1
	Y402	92-33		643098	Spacer, 14.0 mm	1

PCOR adjuster

00			No parts			
11-26	QZ10	92-33	11112452	Adjuster, 70-260 bar		1
27-37	QZ10	92-33	11112453	Adjuster, 270-420 bar		1


Variable Displacement Motor
Overhaul seal kit

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	Q210	92-33		11122324	Overhaul seal kit, S51 160cc	1
	B80C	92-33		083659	O-ring	1
	B80V	92-33		729285	O-ring	1
	F10	92-33		508134	Seal ring	1
	F11	92-33		504207	O-ring	1
	L511	92-33		11070158	O-ring	1
	F324	92-33		730036	O-ring	2
	G36	92-33		364976	O-ring	1
	G100	92-33		792739	O-ring	1
	G140	92-33		085043 (9004201-3700)	O-ring	1
	G200	92-33		085043 (9004201-3700)	O-ring	2
	G420	03-08		511851	Gasket/O-ring seal (SB-2002-001)	1
	G60	92-33		519806	End cap gasket	1
	J50	92-33		732479 (9004105-0100)	O-ring	1
	K50	92-33		001149 (9004201-6200)	O-ring	1
	K51	92-33		085043 (9004201-3700)	O-ring	1
	K52	92-33		001131 (9004201-5000)	O-ring	1
	L40	92-33		519022	Lip seal	1
	L40	92-33		341735	Lip seal	1
	L50C	92-33		056739 (9004104-1580)	O-ring	1
	L50D	92-33		729319	O-ring	1
	L50V	92-33		726927	O-ring	1
	L85	92-33		083659	O-ring	1
	L90	92-33		515751	O-ring	1
	M12D	92-33		504358	Gasket	1
	M12H	92-33		364984	O-ring	1
	M12N	92-33		730036	O-ring	1
	M14D	92-33		509940	Gasket	1
	M16E	92-33		732479 (9004105-0100)	O-ring	2
	M16H	92-33		517862	Seal ring	1
	M16J	92-33		001149 (9004201-6200)	O-ring	1
	M16N	92-33		084673	Seal ring	1
	M211	92-33		365015	O-ring	1
	M242	92-33		056770	O-ring	1
	M24P	92-33		732479 (9004105-0100)	O-ring	4
	M30	92-33		056770	O-ring	1
	M30H	92-33		011296 (9004105-0120)	O-ring	2
	M36	92-33		732479 (9004105-0100)	O-ring	1
	M38	92-33		011395 (9004104-0230)	O-ring	1
	M82	92-33		144725 (9004105-0110)	O-ring	1
	M95	92-33		9004104-0120	O-ring	2
	M96	92-33		9004104-0140	O-ring	1
	M97	92-33		9004105-0130	O-ring	1
	M97	92-33		9004104-0240	O-ring	1
	M99	92-33		K08572	Filter assembly	1
	N16	92-33		001149 (9004201-6200)	O-ring	1
	N24	92-33		732479 (9004105-0100)	O-ring	4
	N82	92-33		144725 (9004105-0110)	O-ring	1
	QG20	92-33		085043 (9004201-3700)	O-ring	2
	QL81	92-33		039297 (9004201-1200)	O-ring	2


Variable Displacement Motor
Overhaul seal kit continued

Order Code	Item	Date Begin	Date End	Part Number	Part Name	Qty. per Model/Kit
	QM84	92-33		039297 (9004201-1200)	O-ring	2
	QN84	92-33		039297 (9004201-1200)	O-ring	2
	QW30	92-33		085043 (9004201-3700)	O-ring	1
	X11	92-33		001149 (9004201-6200)	O-ring	1
	Y20	92-33		076042 (9003509-0012)	Seal nut, M12	1


Service Bulletin: SB-1993-006
Products affected

All Series 51 motors

Subject

End cap gasket change.

Description

Effective immediately, a new end cap gasket has been incorporated on all Series 51 motors. It is a direct replacement for the current gasket. The visible differences between the two gaskets are:

1. The new gasket is thicker. It measures .040" versus .030".
2. The new gasket has a red tint to the surface.

The new gasket is a stand alone gasket which should not be used with any sealing aid. The current torque values stay the same.

The new gaskets are now available and **MUST** be used in any repair or conversion.

Models affected

All series 51 motors

Serial numbers

N/A

Part numbers affected

Frame size	Old part number	New part number
60cc	729228	501198
80cc	734368	501199
110cc	734376	501200
160cc	734384	501201
250cc	734392	501202

Parts disposition

- Interchangeable
- Scrap used parts
- Order replacement parts
- Revise existing part orders

Parts Manual

Series 51 160cc Variable Displacement Motor

Service Bulletin: SB-1995-013

Products affected

Series 51: 60cc-250cc motors

Subject

Threshold adjustment screw.

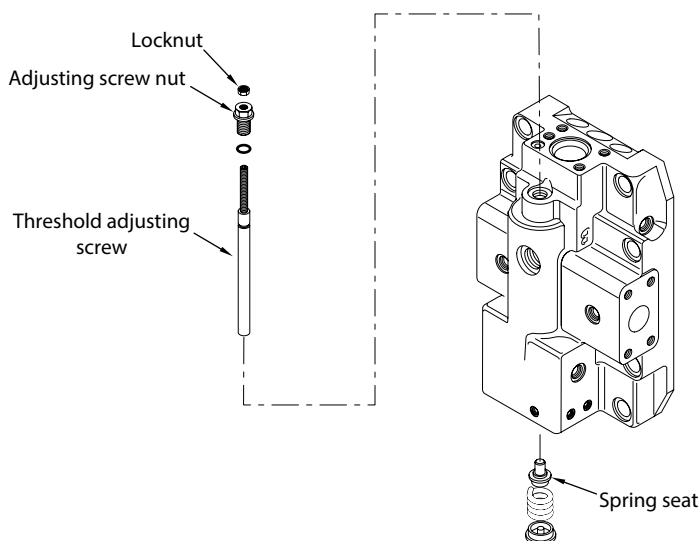
Description

To improve the sensitivity of the threshold adjustment on Series 51 motors, the threads on the adjusting screw are being changed from standard pitch thread to fine pitch thread. The adjusting screw nut and lock nut will also change. At the same time, the bore diameter in the end of the adjusting screw and the pin diameter on the end of the spring seat will decrease.

The old style parts will be obsoleted and no longer available as service parts. A service kit containing the adjusting assembly and the spring seat has been created.

Piece parts are not interchangeable.

All noted parts must be replaced.



Models affected

All series 51: 60cc - 250cc motors

Serial numbers

This change became effective at serial number N-96-07-xxxxx.

Part numbers affected

Frame size	Old hardware				New kits
	Spring seat	Adjusting screw nut	Lock nut	Theshold adjusting screw	Threshold adjusting kit
60cc	722264	732487	69393	729251	507691
80cc	722264	732487	69393	732503	507692
80cc	722264	732487	69393	737353	507672
110cc	722264	732487	69393	732511	507693
110cc	722264	732487	69393	732503	507677
160cc	722264	732487	69393	792051	507694
250cc	722264	732487	69393	792069	507695

Parts disposition

■ Interchangeable - Piece part are not interchangeable



Service Bulletin: SB-1996-005

Products affected

Series 51: 60cc - 250cc motors

Subject

Change to balanced areas between end cap and valve segment.

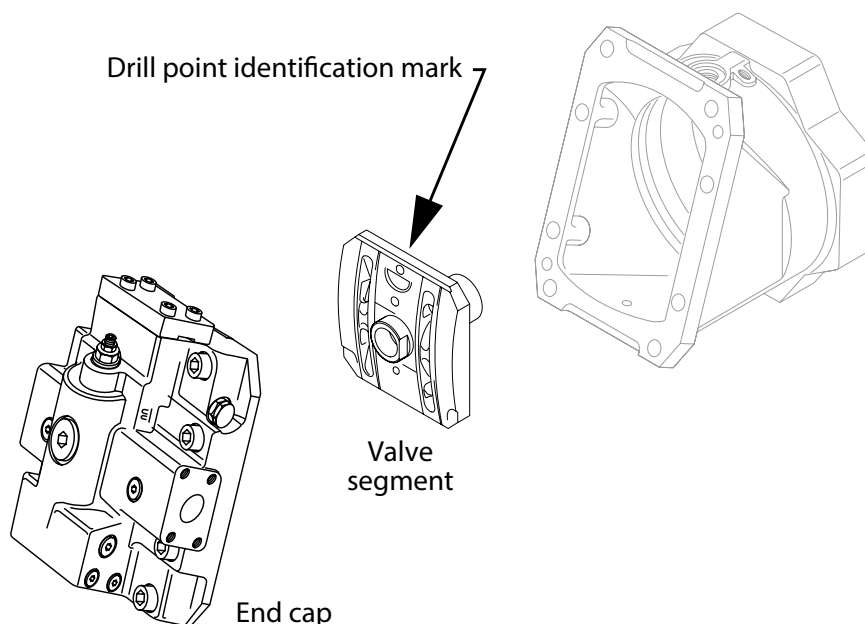
Description

As part of the continuing Series 51 product improvement program, the balance lands on the end cap and valve segment have been changed. The valve segment now defines the balance. The contact surface of the end cap has been made larger while the contact surface of the valve segment has been reduced. The change was implemented in three steps:

1. Change the valve segment so it defines the balance between the valve segment and the end cap. This change was implemented May 1994.
2. Change the end cap to allow a larger contact surface to keep the load area constant. This change was implemented January 1995
3. Change the valve segment to allow a smaller contact surface and reduce the balance. This change was implemented February 1996.

Do not use a new end cap with an old valve segment. However a new valve segment will work with an old end cap. The new valve segment (3rd step) is marked with a drill point on the cylinder block interface side next to the outer drain hole.

The old end cap and valve segment part numbers are obsolete. They are no longer available as genuine service parts.



Service Bulletin: SB-1996-005

Models affected All Series 51 motors

Serial numbers N-96-12-xxxxx and later

Part numbers affected

End caps	Radial ports w/LF		Radial ports w/o LF		Axial ports w/LF		Axial ports w/o LF	
	Old	New	Old	New	Old	New	Old	New
60cc	729210	504226	779793	504227	-	-	-	-
80cc	731794	504230	731794	504231	739615	504232	739615	504234
110cc	731802	504236	731802	504236	739631	504237	739631	504238
160cc	731810	504239	731810	504240	731828	504242	731828	504243
250cc	731836	504244	783282	504245	731844	504246	731844	504247

Valve segment	Standard spindle		Retained spindle	
	Old	New	Old	New
60cc	732701	504718	-	-
80cc	360354	503939	-	-
110cc	349076	504715	501349	507758
160cc	356139	507242	500341	507759
250cc	367896	508202	502561	508202

Parts disposition ■ Interchangeable - except where noted



Service Bulletin: SB-1997-009

Products affected

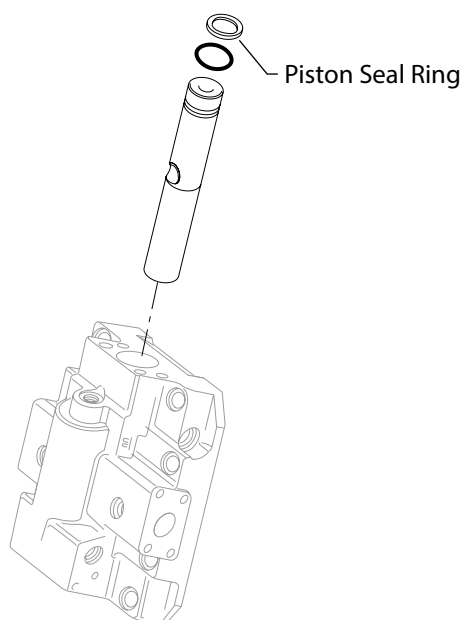
Series 51: 60 thru 250cc variable motors

Subject

Servo piston seal ring change

Description

As a product improvement, Sauer-Danfoss is changing the vendor for the servo piston seal ring used in the Series 51 variable motors. As a result, the old piston seal ring will become obsolete and no longer available as a service part.



Models affected

All Series 51 motors

Serial numbers

N-96-08-xxxxx and after

Part numbers affected

Frame size	Old part number	New part number
60cc	504202	508131
80cc	504203	508132
110cc	504204	508133
160cc	504205	508134
250cc	687277	504136

Parts disposition

■ Interchangeable

Parts Manual

Series 51 160cc Variable Displacement Motor

Service Bulletin: SB-1997-030

Products affected

Series 51: 60 thru 250cc variable motors

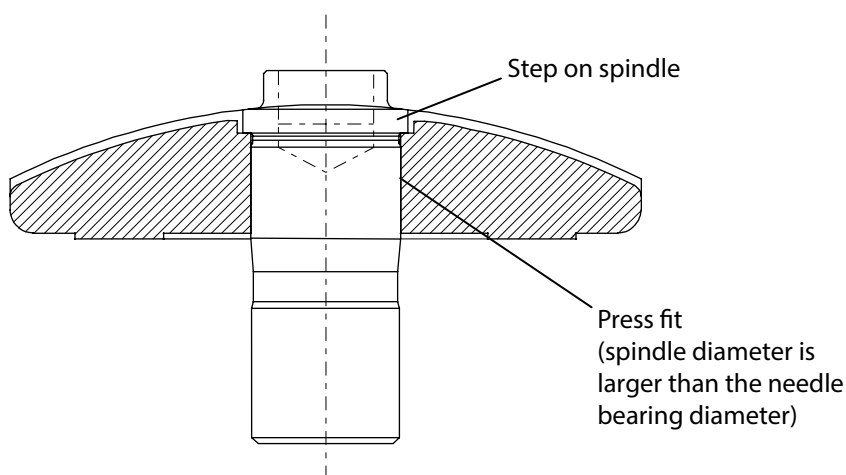
Subject

Change to stepped spindle in valve segment

Description

As part of the continuing Series 51 product improvement, the valve segment spindle design has been changed. The new design spindle has a step that stops against a recess in the valve segment. The new stepped spindle valve segment assembly replaces the valve segment assemblies with the straight spindle and the retained spindle.

The old segment valve assemblies will become obsolete. The stepped spindle valve segment assembly will be the standard for all models.



Models affected

All Series 51 motors

Serial numbers

N-96-08-xxxxx and after

Part numbers affected

Frame size	Obsolete Straight spindle valve segment	Obsolete Retained spindle valve segment	New Stepped spindle valve segment
60cc	504718	-	508197
80cc	503939	-	508198
110cc	504715	507758	508199
160cc	507252	507759	508201
250cc	507757	507760	508202

Parts disposition

■ Interchangeable - except where noted



Service Bulletin: SB-1998-035A

Products affected

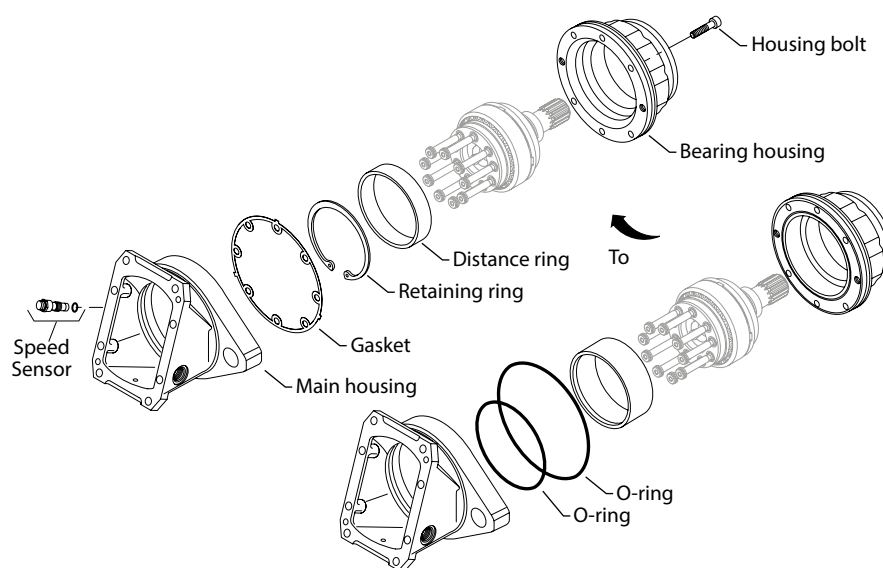
Series 51 cartridge motors

Subject

Incorporation of speed sensor into cartridge motors.

Description

In order to incorporate a speed sensor into the Series 51 cartridge motors, some changes have been made to the main housing and bearing housing. These changes included: adding a boss to the side of the main housing for the speed sensor, changing from O-ring seals between housings to a gasket seal, shortening the distance ring to allow clearance for the speed sensor, and adding a retaining ring to locate the distance ring. These parts are non-interchangeable as both housings have changed. The old housings and distance ring are obsolete and no longer available as service parts. Refer to Service Bulletin SB-1998-021 for housing bolt torque and sequence.



Models affected

51C060, 51C080, and 51C110 cartridge motors

Serial numbers

51C060 motors = N-94-42-xxxxx and after
 51C080 motors = N-94-42-xxxxx thru N-98-32-xxxxx. After N98-32-xxxxx see SB-1998-086
 51C110 motors = N-96-24-xxxxx and after

Part numbers affected

	From	To	From	To	From	To
Description	60cc	60cc	80cc	80cc	110cc	110cc
Main housing	741652	501103	734855	501104	738997	501105
Bearing housing	763756	501108	734632	501109	738971	501110
Retaining ring	--	501120	--	371625	--	504732
Gasket	--	501019	--	507259	--	501113
O-ring	792319	--	916759	--	502206	--
O-ring	502204	--	279570	--	502207	--
Distance ring	741702	501116	734913	501117	739045	501118

Parts disposition

■ Non-interchangeable

Service Bulletin: SB-1999-059

Products affected

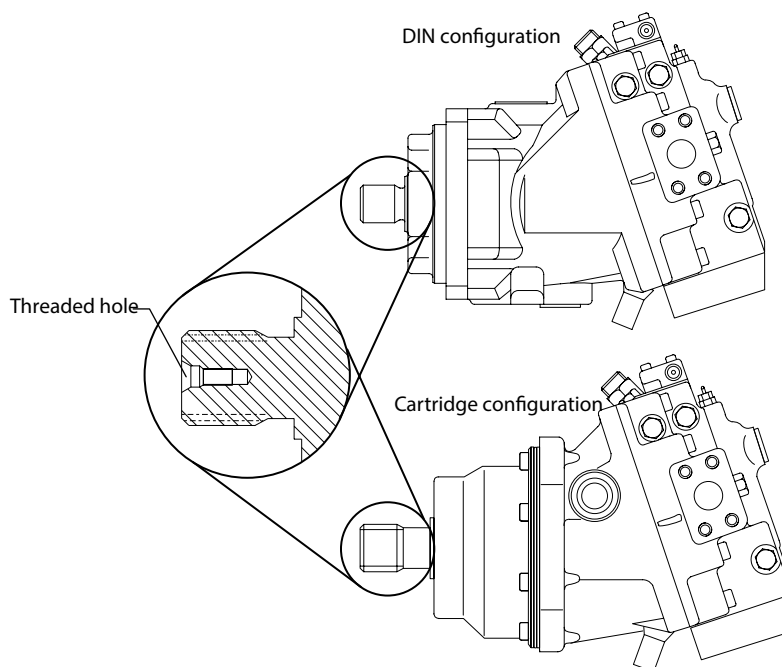
Series 51: 60cc, 80cc, 110cc, and 160cc motors

Subject

Thread change at customer end of DIN shaft assemblies.

Description

As a product improvement, Sauer-Danfoss has changed the threaded hole at the customer end of DIN shaft assemblies to metric threads. Metric shaft assemblies will now have a metric threaded hole. To aid in identifying this change, new shaft assembly part numbers have been released. The new shaft assemblies are interchangeable with the previous shaft assemblies. The previous shaft assembly part numbers will become obsolete.



Models affected

All 60, 80, 110, and 160cc motors (Series 51 and 51-1) with DIN shaft assemblies

Serial numbers

See table below

Part numbers affected

Frame size	Shaft code	Previous p/n	New p/n	Bolt size FROM	Bolt size TO	Effective after serial number
60cc	D1	747931	513034	7/16 - 14	M10 x 1.5	N-99-17-xxxxx
60cc	D2	787622	513033	7/16 - 14	M10 x 1.5	N-99-52-xxxxx
80cc	D2	742213	513037	7/16 - 14	M10 x 1.5	N-99-13-xxxxx
80cc	D3	783399	513035	7/16 - 14	M10 x 1.5	N-99-12-xxxxx
110cc	D3	787663	513039	5/8 - 11	M12 x 1.75	N-99-16-xxxxx
110cc	D4	749192	513038	5/8 - 11	M12 x 1.75	N-99-17-xxxxx
160cc	D4	787689	513041	5/8 - 11	M12 x 1.75	N-99-16-xxxxx
160cc	D5	749226	513040	5/8 - 11	M12 x 1.75	N-99-39-xxxxx

Parts disposition

■ Interchangeable



Service Bulletin: SB-2000-044

Products affected

All Series 51 & 51-1 motors

Subject

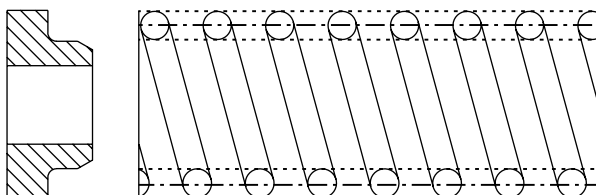
Change to spring and spring seat at ends of loop flushing shuttle spool.

Description

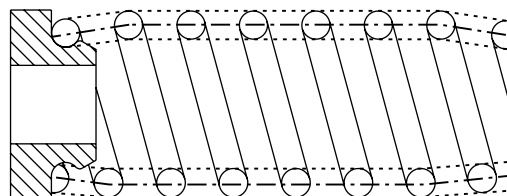
As a product improvement, and to ease assembly, the spring and spring seat at the ends of the loop flushing shuttle spool have been changed. The new spring and spring seat clip together. The old spring and spring seat are interchangeable with the new spring and spring seat as an assembly only.

The old spring seat will become obsolete and no longer available as a service part. The old spring will remain available as a service part.

From:



To:



Models affected

All Series 51 and 51-1 variable motors

Serial numbers

This change became effective at serial number N-00-50-xxxxx

Part numbers affected

From: Spring part number 4350286 and spring seat part number 4800353

To: Spring seat assembly part number 513596

Parts disposition

■ Interchangeable - as an assembly only

Service Bulletin: SB-2001-015

Products affected

All Series 51 & 51-1 motors

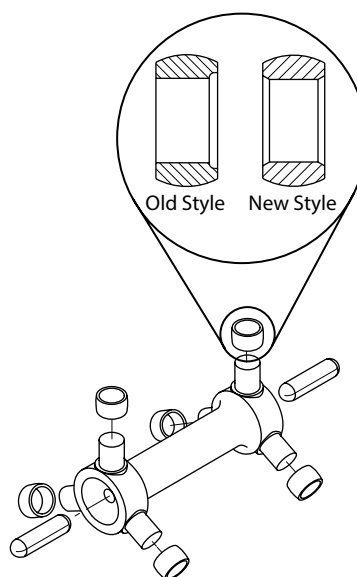
Subject

Incorporation of symmetrical rollers on the synchronizing shaft

Description

As a product improvement and to improve ease of assembly, Sauer-Danfoss has changed the design of the rollers used on the synchronizing shaft in Series 51 and 51-1 motors. The new rollers are symmetrical, in that they can be assembled either direction on the synchronizing shaft. The old rollers were asymmetrical and had to be assembled only one way. The synchronizing shaft has also been changed to accept the symmetrical rollers. The legs for the rollers are now longer in length.

A service kit is available to replace the old design synchronizing shaft and rollers, which are obsolete and no longer available as service parts. The pins at each end of the synchronizing shaft are still the same parts.



Models affected

All Series 51 and 51-1 motors

Serial numbers

Effective after N-01-39-xxxxx

Part numbers affected

Frame size	Old kit part number	New kit part number
60cc	771675	517308
80cc	771121	517309
110cc	773267	516485
160cc	776823	517310
250cc	776831	517311

Parts disposition

- Interchangeable; as an assembly only
- Use parts in stock



Service Bulletin: SB-2002-001

Products affected

All Series 51 & 51-1 motors

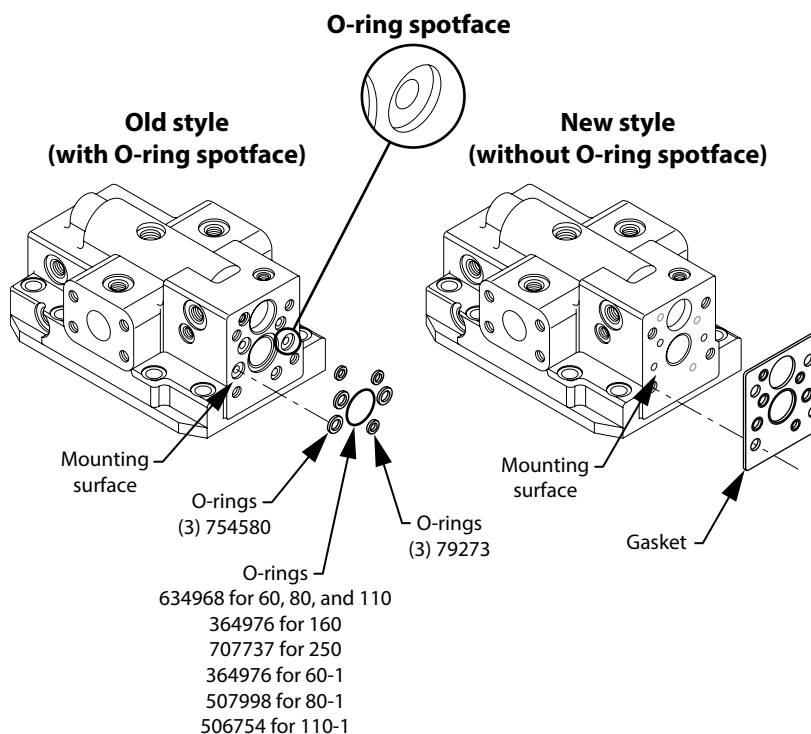
Subject

Sealing change to end cap/control interface

Description

The sealing is improved between the end cap and controls or multi-function blocks on all Series 51 and 51-1 motors. This change replaces individual O-rings with a gasket that incorporates imbedded rubber seal rings. The O-ring spot faces are removed from the end cap mounting face. There is no change to controls' and multi-function blocks' sealing surface.

New end cap part numbers allow better control of this change. Old end cap part numbers are obsolete. You cannot use the new gasket with old end caps and you cannot use the O-rings with new end caps. Control and multi-function block kit now include the O-rings and the new gasket.



Service Bulletin: SB-2002-001
Models affected

All Series 51 and 51-1 motors

Serial numbers

See table below

Part numbers affected

End cap code	Frame size	Old part number	New part number	Manufacture date code	Gasket part number
R and T	60	504226	516057	N-03-14-xxxxx	511810
A	60	504228	515695	N-03-12-xxxxx	511810
R	60-1	506563	516902	N-03-39-xxxxx	512411
A	60-1	506564	516905	N-03-28-xxxxx	512411
H	60-1	510643	516920	N-03-28-xxxxx	512411
R and T	80	504230	515056	N-03-14-xxxxx	511810
A	80	504232	515696	N-03-27-xxxxx	511810
R	80-1	507976	516903	N-03-39-xxxxx	512411
A	80-1	507977	516907	N-03-39-xxxxx	512411
H	80-1	507978	516921	N-03-39-xxxxx	512411
R and T	110	504235	516058	N-03-14-xxxxx	511810
A	110	504237	513592	N-03-01-xxxxx	511810
R	110-1	506601	516904	N-03-39-xxxxx	512411
A	110-1	506602	515697	N-03-39-xxxxx	512411
H	110-1	510634	516923	N-03-39-xxxxx	512411
R	160	504239	516059	N-03-07-xxxxx	511851
A	160	504242	513543	N-03-01-xxxxx	511851
R	250	504244	516060	N-03-07-xxxxx	511851
A	250	504246	513544	N-03-08-xxxxx	511851

Parts disposition

- Non-interchangeable;
- Order replacement parts

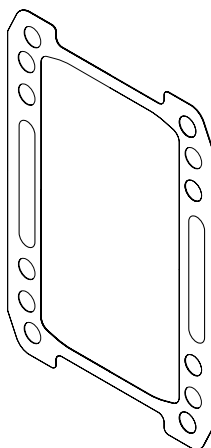


Service Bulletin: SB-2004-004

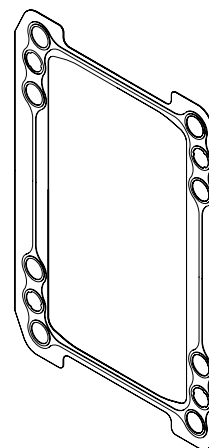
Products affected All Series 51 and 51-1 motors

Subject End cap change

Description Sauer-Danfoss has made a quality improvement change to the gasket sealing the end cap and housing joint. The gasket changed from paper to a rubber coated metal gasket with a raised bead to aid sealing properties. The new gasket is interchangeable with the old gasket. The old gasket will become obsolete and no longer available for service.



Old gasket



New gasket

Models affected Series 51 and 51-1 motors, all sizes (60, 80, 110, 160, and 250 cc)

Serial numbers This change became effective at series numbers:

- N-05-48-xxxxx = 60 cc
- N-04-19-xxxxx = 80 cc
- N-05-48-xxxxx = 110 cc
- N-04-21-xxxxx = 160 cc
- N-04-36-xxxxx = 250 cc

Part numbers affected

Frame size	Old part number	New part number
60 cc	501198	515733
80 cc	501199	517237
110 cc	501200	516124
160 cc	501201	519806
250 cc	501202	515735

Parts disposition

- Interchangeable;
- Revise exiting part orders

Parts Manual

Series 51 160cc Variable Displacement Motor

Service Bulletin: SB-2004-013

Products affected

Series 51; 110, 160 & 250 cc motors and 51-1; 110 cc motors

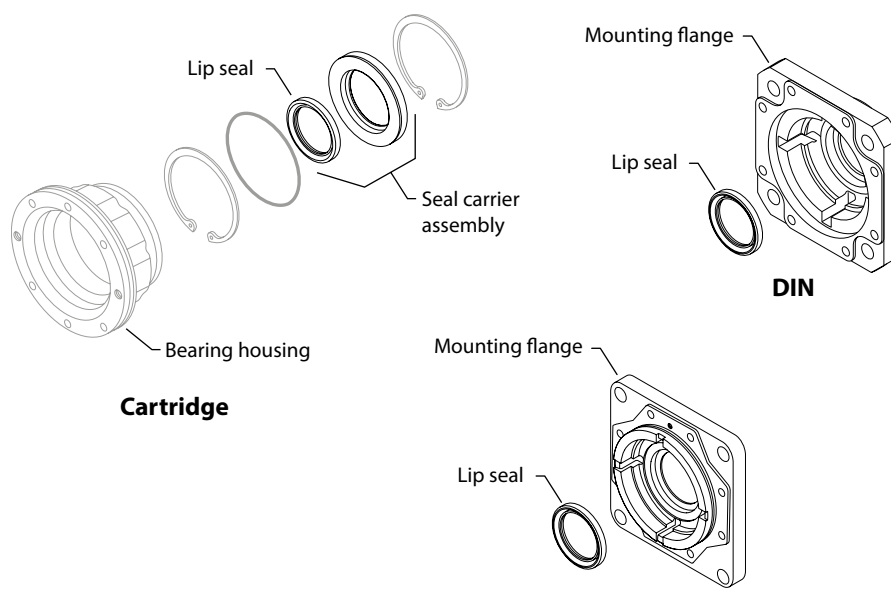
Subject

New shaft lip seal

Description

As a product improvement, Sauer-Danfoss is changing the shaft lip seal in the series 51; 110, 160, & 250 cc motors and in the series 51-1; 110 cc motors. The new seal requires a change to the mounting flange seal bore in SAE & DIN flange options, and the seal carrier used in cartridge motors. The seal carrier assembly part number does not change and is interchangeable with previously built cartridge motors.

The old mounting flange and seal carrier will become obsolete and no longer available. The old lip seal will remain available for service.



Models affected

All series 51 -110, 160, and 250 cc motors and 51-1 -110 cc motors.

Serial numbers

This change became effective at serial number: N-05-45-xxxxx

Part numbers affected

Frame size	Old flange	New flange	Old seal	New seal
51D110 (DIN)	774737	520316	341735	519022
51V110 (SAE)	366534	520319	341735	519022
51D160 (DIN)	510543	520317	341735	519022
51D160 (SAE)	356261	519417	341735	519022
51V250 (SAE)	511051	519418	341735	519022

Parts disposition

- Non-interchangeable
- Use parts in stock
- Order replacement parts
- Revise existing part orders



Service Bulletin: SB-2012-010

Products affected

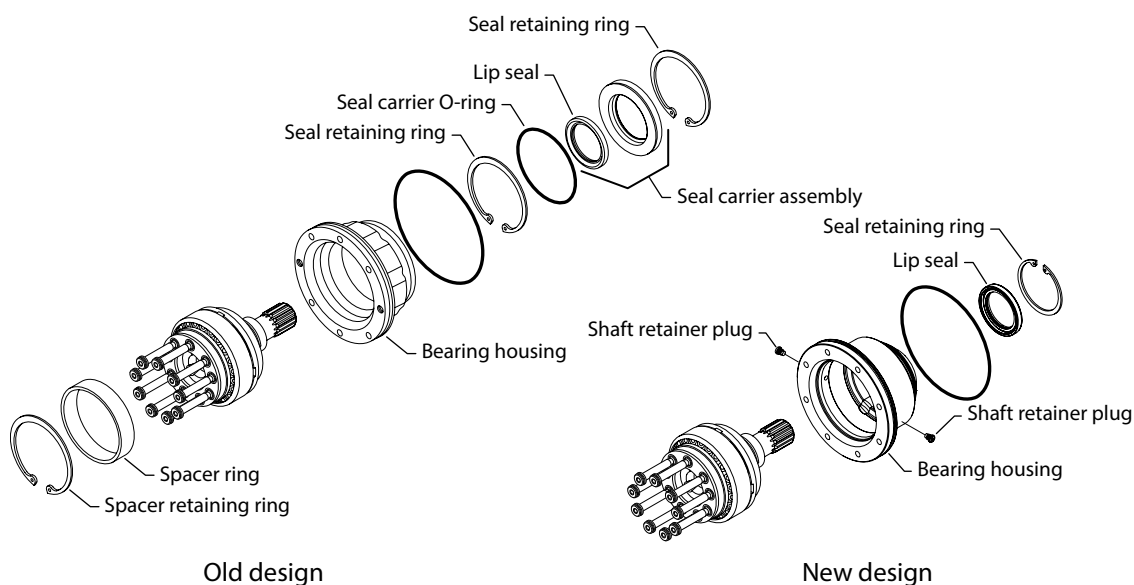
Series 51 160 cc cartridge motors

Subject

Redesign of bearing housing

Description

In an effort to standardize the assembly of bent axis motors, the cartridge bearing housing for the series 51 motors has been changed. The new design uses two special plugs to retain the shaft assembly in the housing rather than a spacer ring and retaining ring. The shaft seal hardware has also changed. The new seal design has the lip seal pressed directly into the housing and held in place with a single retaining ring. The old seal design had an O-ring on a seal carrier assembly with two retaining rings holding the seal carrier in place. The lip seal does not change. The new housing will have improved clearances for use in different planetary gearboxes. The old and new housings are not interchangeable. The old housing, spacer ring, spacer retaining ring, seal carrier assembly and retaining rings that held the seal carrier in place will remain available for service.



Models affected

All series 51 160cc Cartridge motors.

Serial numbers

This change became effective at serial number N12-14-XXXXX. (31 March 2012)

Part numbers affected

Description	Old part number	Replacement part number
Bearing housing	11009384	11038815
Spacer retaining ring	297655	11056747 (retainer plugs)(2)
Seal carrier assembly	510485	No longer used
Lip seal	519022	No Change
Seal retaining ring	518116 (2)	392423 (1)
Spacer ring	515753	No longer used
Seal carrier O-ring	056739	No longer used

Parts disposition

- Non-interchangeable
- Use parts in stock for repair of units built before serial number N12-14-xxxxx
- Order replacement parts
- Revise existing part orders

**Notes**



Products we offer:

- Bent Axis Motors
- Closed Circuit Axial Piston Pumps and Motors
- Displays
- Electrohydraulic Power Steering
- Electrohydraulics
- Hydraulic Power Steering
- Integrated Systems
- Joysticks and Control Handles
- Microcontrollers and Software
- Open Circuit Axial Piston Pumps
- Orbital Motors
- PLUS+1® GUIDE
- Proportional Valves
- Sensors
- Steering
- Transit Mixer Drives

Danfoss Power Solutions is a global manufacturer and supplier of high-quality hydraulic and electronic components. We specialize in providing state-of-the-art technology and solutions that excel in the harsh operating conditions of the mobile off-highway market. Building on our extensive applications expertise, we work closely with our customers to ensure exceptional performance for a broad range of off-highway vehicles.

We help OEMs around the world speed up system development, reduce costs and bring vehicles to market faster.

Danfoss – Your Strongest Partner in Mobile Hydraulics.

Go to www.powersolutions.danfoss.com for further product information.

Wherever off-highway vehicles are at work, so is Danfoss.

We offer expert worldwide support for our customers, ensuring the best possible solutions for outstanding performance. And with an extensive network of Global Service Partners, we also provide comprehensive global service for all of our components.

Please contact the Danfoss Power Solution representative nearest you.

Comatrol

www.comatrol.com

Schwarzmüller-Inverter

www.schwarzmueller-inverter.com

Turolla

www.turollaocg.com

Valmova

www.valmova.com

Hydro-Gear

www.hydro-gear.com

Daikin-Sauer-Danfoss

www.daikin-sauer-danfoss.com

Local address:

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 4444

Danfoss Power Solutions

Building #22, No. 1000 Jin Hai Rd
Jin Qiao, Pudong New District
Shanghai, China 201206
Phone: +86 21 3418 5200

Danfoss can accept no responsibility for possible errors in catalogues, brochures and other printed material. Danfoss reserves the right to alter its products without notice. This also applies to products already on order provided that such alterations can be made without subsequential changes being necessary in specifications already agreed. All trademarks in this material are property of the respective companies. Danfoss and the Danfoss logotype are trademarks of Danfoss A/S. All rights reserved.