

COVERSHEET


Planned document changes:


Briefly:

No planned changes.

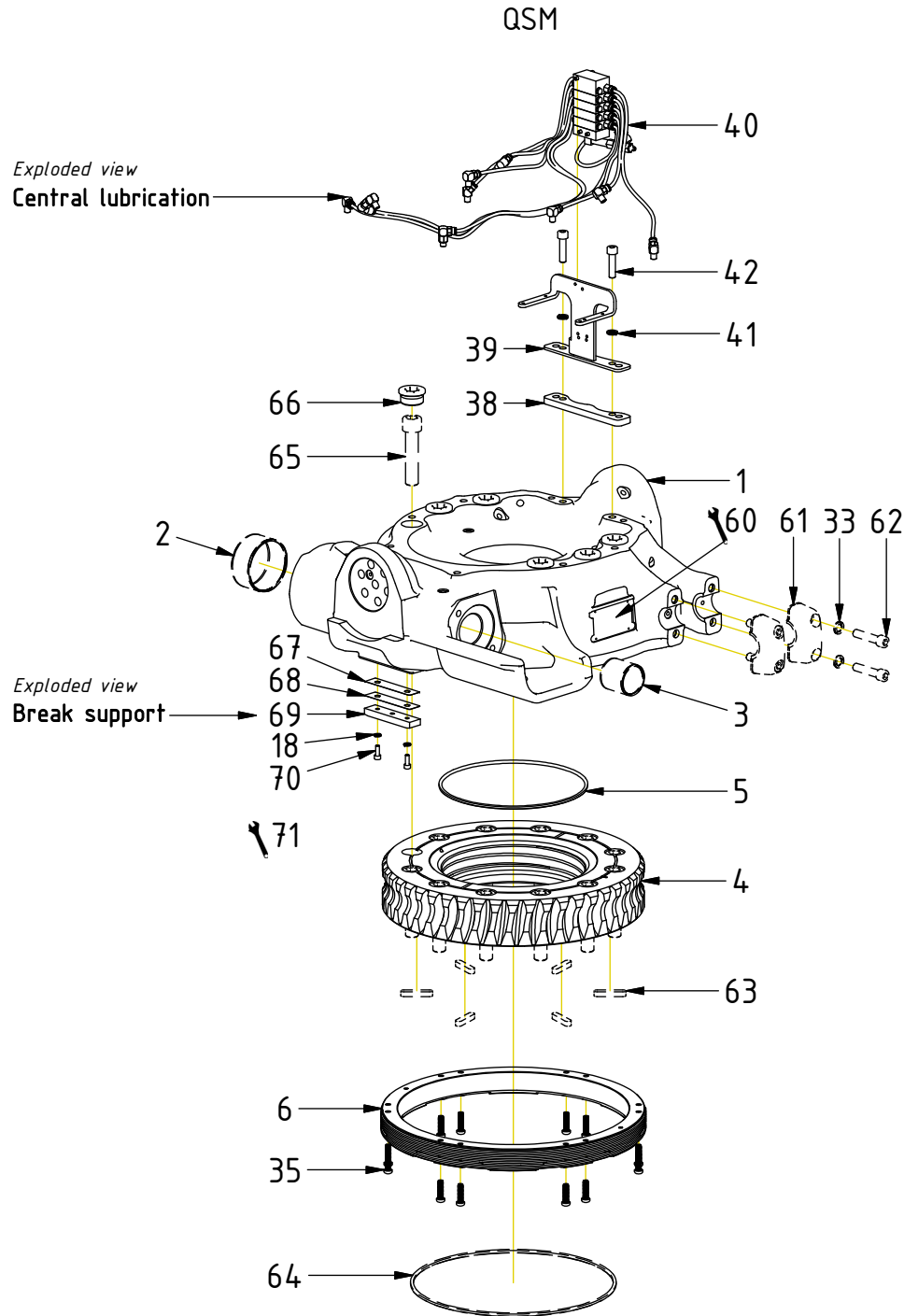
Document changes:

Date:	Change:	Rev. after change:
2023-06-29	Loxal added. O-ring for worm wheel updated.	P
2022-05-13	EC219S added. (EC219 with ePS2 compatible sensors)	O
2022-01-26	Details for end lock added.	N
2021-09-03	Rotator frame replaced. Break support added.	M
2021-07-05	Layout/irrelevant.	L
2021-05-28	Bearing ring updated.	K
2020-12-11	Option 131cc motor on ECHF clarified. Photo added.	J
2020-10-06	Motor hoses QSM & ECHF replaced. Photo replaced.	I
2018-11-16	QSM added (also applicable for "Without swivel")	H
2018-08-10	Layout/irrelevant.	G
2018-06-21	Layout/irrelevant.	F
2018-03-19	New location for seiral no.	E
2017-10-17	Sensor for MACS replaced.	D
2017-08-07	Layout/irrelevant.	C
2017-05-11	Rotator frame replaced. Coversheet added.	B

Readers note:
 Indicates instruction.

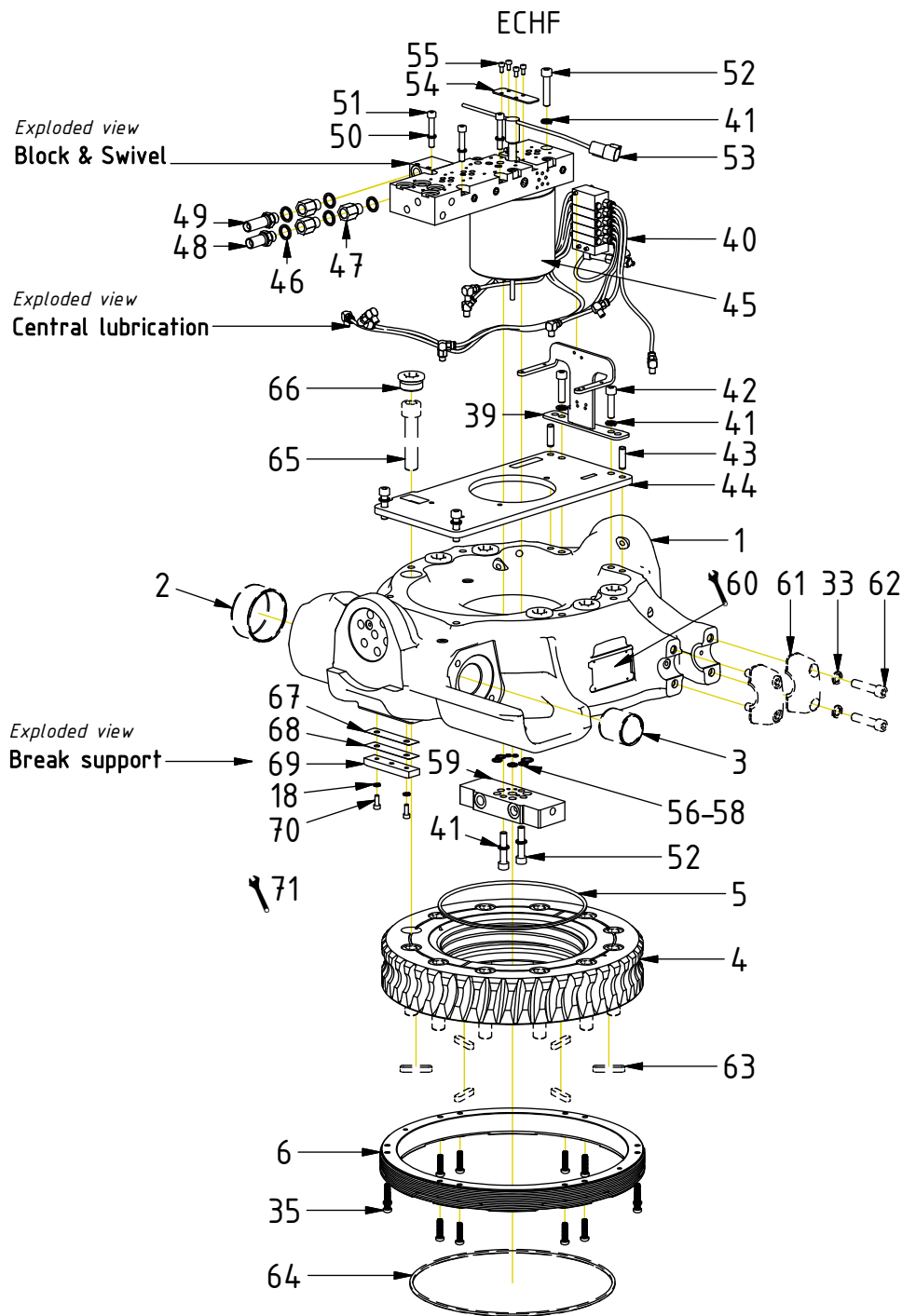
 Represents Hose.

Dashed lines for overview, mounts
on other pages/assemblies.



POS	DESCRIPTION	PART	QTY	COMMENTS
1	Rotator frame EC219 V5	1062295	1	(POS.2-3 incl.)
2	Bushing WB802 80/85x40	630103	2	
3	Bushing WB802 45/50x50	630102	2	
4	Worm wheel EC219	1016409	1	
5	O-ring 225x5	7001662	1	
6	Bearing ring	1061929	1	
18	Washer NL 6mm	611039	2	
33	Washer NL 12mm	611042	10	QTY: 8 part of top part
35	Screw TX45 M8x30 FZB 10,9	612201	13	Torque: 34Nm
38	Spacer central lubrication QSM	1047832	1	
39	Mounting plate lube. ECHF/QSM	1031517	1	
40	Lubrication kit	1021135	1	
41	Washer NL 10mm	611041	2	QTY: 7 for ECHF
42	Screw MC6S M10x40 12.9	610453	2	QTY: 4 for ECHF. Torque: 79Nm
60	Punch serial no into rotator frame			
61	Clamping half Complete	1016393	4	Part of top part
62	Screw MC6S M12x55 12.9 ZFSL	6000155	8	Part of top part. Torque: 136Nm
63	Feather Key	650102	6	Part of quick hitch
64	O-ring 319,3x5,7	710908	1	Part of quick hitch
65	Screw MC6S M20x90 12.9	610556	12	Part of quick hitch. Torque: 649Nm
66	Pipe plug M36x2	650408	6	
67	Shim supporting plate 0,1mm	1055262	1	
68	Shim supporting plate 0,3mm	1055260	1	
69	Supporting plate	1055258	1	
70	Screw MC6S M6x16 12.9 ZFSL	6000017	2	
71	Break play: 0,5 - 0,7mm			Assy. between frame & quick hitch

POS in order of assembly

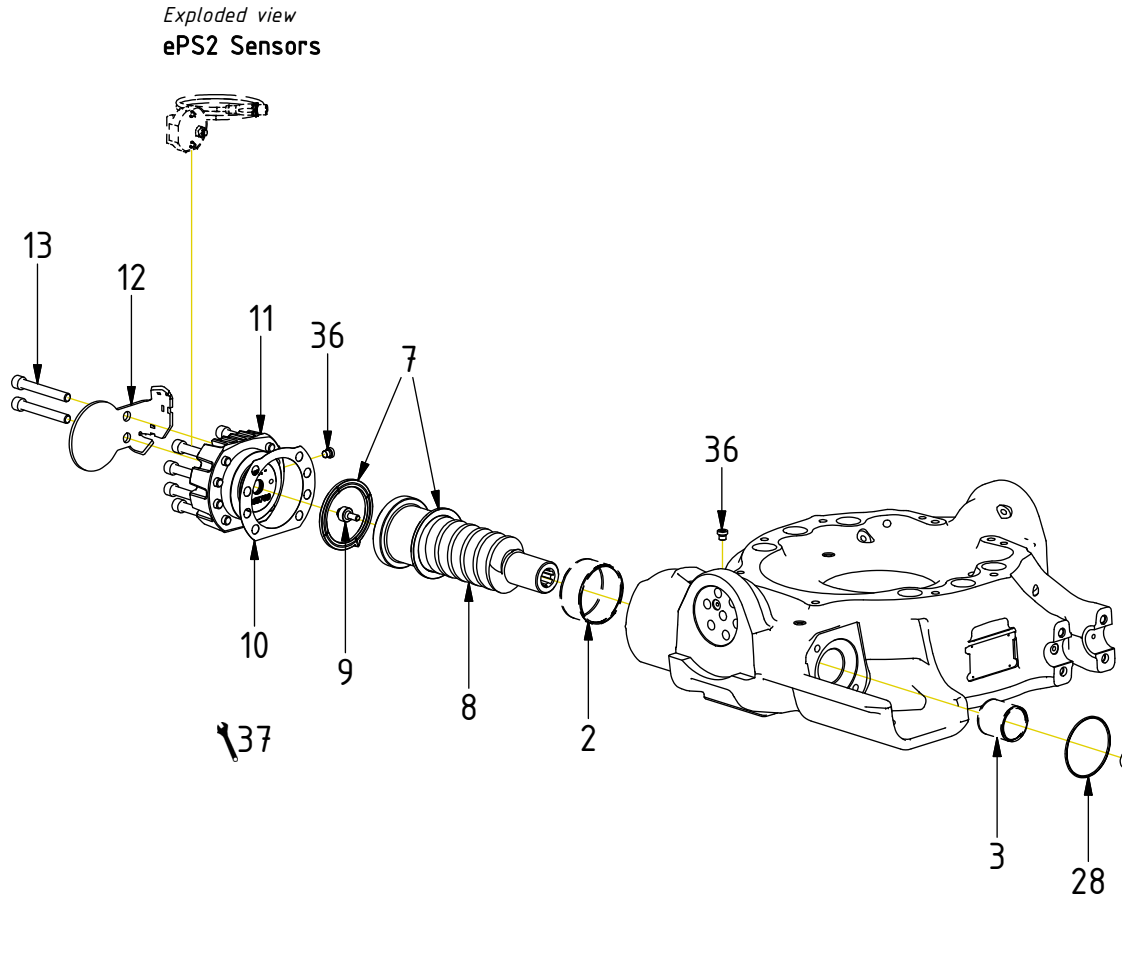


POS	DESCRIPTION	PART	QTY	COMMENTS
1	Rotator frame EC219 V5	1062295	1	(POS.2-3 incl.)
2	Bushing WB802 80/85x40	630103	2	
3	Bushing WB802 45/50x50	630102	2	
4	Worm wheel EC219	1016409	1	
5	O-ring 225x5	7001662	1	
6	Bearing ring	1061929	1	
18	Washer NL 6mm	611039	2	
33	Washer NL 12mm	611042	10	QTY: 8 part of top part
35	Screw TX45 M8x30 FZB 10,9	612201	13	Torque: 34Nm
39	Mounting plate lube. ECHF/QSM	1031517	1	
40	Lubrication kit	1021135	1	
41	Washer NL 10mm	611041	2	QTY: 7 for ECHF
42	Screw MC6S M10x40 12.9	610453	2	QTY: 4 for ECHF. Torque: 79Nm
43	Cylindrical pin	1015672	2	
44	Valve plate ECHF	1024824	1	
45	Valve bl. & Swivl for slipring Compl.	1027386	1	
46	Washer GBR06 3/8	710703	5	
47	Adapter 236-06-06	710131	3	
48	Adapter 1260-06-32 (3/8")	710242	1	
49	Adapter 1260-06-43 (3/8")	710262	1	
50	Washer NL 8mm	611040	3	
51	Screw MC6S 8x50 12.9	610439	3	
52	Screw MC6S M10x50 12.9 ZFSHL	611515	3	
53	Kit slip ring ECHF DTM	1030298	2	For QS. See "Slip rings"
54	Cover plate slip ring	1026200	1	
55	Screw MC6S M5x10 12.9	610594	4	
56	O-ring 6,07x1,78	712422	2	
57	O-ring 12,42x1,78	710973	4	
58	O-ring 15,6x1,78	710912	1	
59	Connection block ECHF	1028391	1	Guide with spring pin from swivel
60	Punch serial no into rotator frame			
61	Clamping half Complete	1016393	4	Part of top part
62	Screw MC6S M12x55 12.9 ZFSHL	6000155	8	Part of top part. Torque: 136Nm
63	Feather Key	650102	6	Part of quick hitch
64	O-ring 319,3x5,7	710908	1	Part of quick hitch
65	Screw MC6S M20x90 12.9	610556	12	Part of quick hitch. Torque: 649Nm
66	Pipe plug M36x2	650408	6	
67	Shim supporting plate 0,1mm	1055262	1	
68	Shim supporting plate 0,3mm	1055260	1	
69	Supporting plate	1055258	1	
70	Screw MC6S M6x16 12.9 ZFSHL	6000017	2	
71	Break play: 0,5 - 0,7mm			Assy. between frame & quick hitch

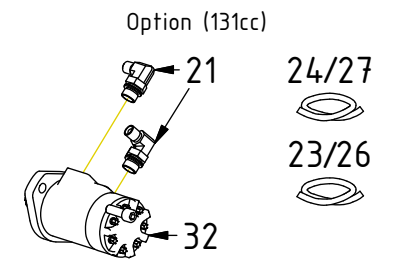
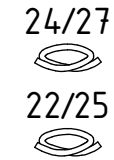
POS in order of assembly

EC219 - Rotator frame

EC219S



POS	DESCRIPTION	PART	QTY	COMMENTS
2	Bushing WB802 80/85x40	630103	2	
3	Bushing WB802 45/50x50	630102	2	
7	Axial washer (with ear)	1010758	2	Face groove toward worm screw
8	Worm Screw EC219	1016408	1	
9	Magnet Spacer Worm Screw	1062693	1	Loxeal 83-52. Torque: 20Nm
10	Shims kit End Lock 0,3-0,4-0,5 mm	1034434	1	
11	End Lock EC219S Cast	1065789	1	
12	Protection plate EC219S	1063372	1	
13	Screw MC6S M12x90 12.9 ZFSHL	6000147	8	Torque: 136Nm
21	Adapter 401-06-08 90° (3/8"-1/2")	710157	2	
22	Hose hyd motor Short QSM 160cc	7000790	1	Part of quick hitch
23	Hose hyd motor Short QSM 131cc	7000789	1	Part of quick hitch
24	Hose hy motor Long QSM 131/160cc	7000724	1	Part of quick hitch
25	Hose hyd motor Long ECHF 160cc	7001404	1	
26	Hose hyd motor Long ECHF 131cc	7000025	1	
27	Hose hy motor Short ECHF 131/160cc	7000026	1	
28	O-ring 82,22x2.62	7000920	1	
29	Hydraulic motor 160cc + chockvalve	1022290	1	(POS.30-31 incl.)
30	Hydraulic motor White 160cc	720134	1	
31	Chock valve White 160/200cc	1044091	1	Torque: 77Nm. Assy. before motor
32	Hydraulic motor 131cc	720112	1	Option
33	Washer NL 12mm	611042	10	QTY: 8 part of top part
34	Screw MC6S M12x35 12.9 ZFSHL	6000150	2	Torque: 136Nm
36	Plug 70125-02 (1/8")	711503	1	QTY: 2 for EC219S
37	Rotation play: 0,12mm - 0,20mm			Note rotation play on module card



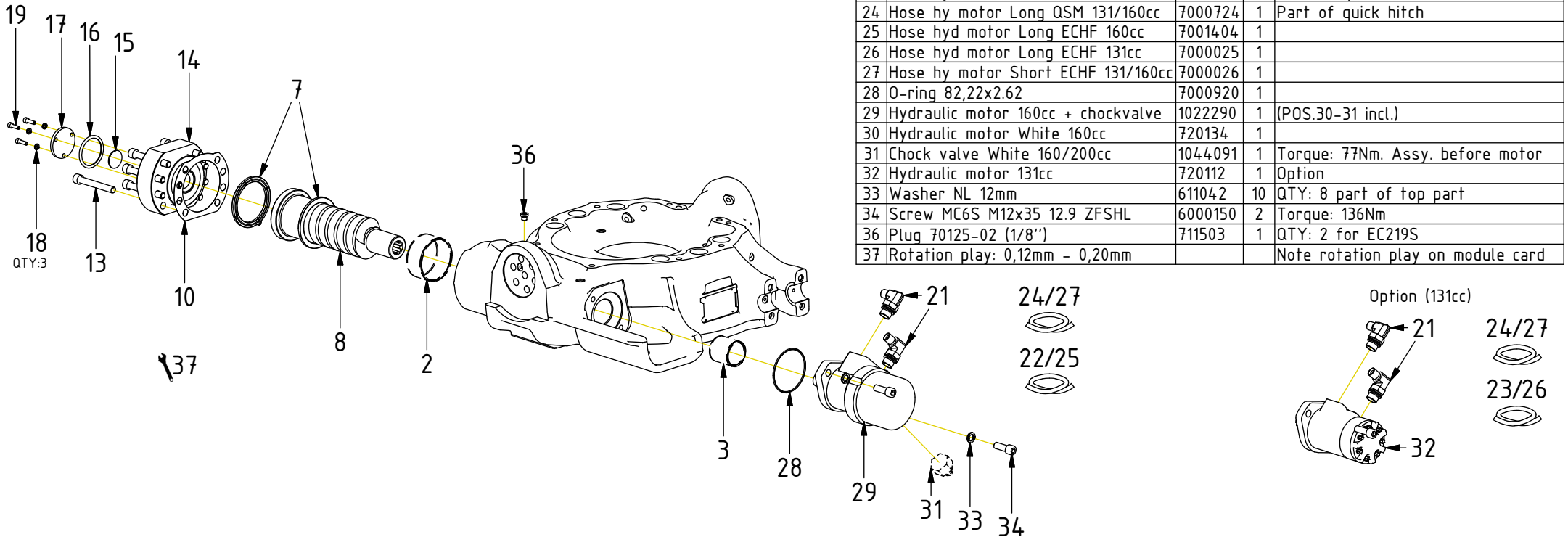
POS in order of assembly

EC219/EC219PS

POS	DESCRIPTION	PART	QTY	COMMENTS
2	Bushing WB802 80/85x40	630103	2	
3	Bushing WB802 45/50x50	630102	2	
7	Axial washer (with ear)	1010758	2	Face groove toward worm screw
8	Worm Screw EC219	1016408	1	
10	Shims kit End Lock 0,3-0,4-0,5 mm	1034434	1	
13	Screw MC6S M12x90 12.9 ZFSL	6000147	8	Torque: 136Nm
14	End lock EC209/EC214/EC219	1016557	1	
15	Spacer Plate	1065370	1	
16	O-ring 27x5	7000485	1	
17	Cover end lock	1041613	1	
18	Washer NL 6mm	611039	2	
19	Screw MC6S M6x20 A4-80	611513	3	
20	Protection ePS	1033565	1	For ePS1
21	Adapter 401-06-08 90° (3/8"-1/2")	710157	2	
22	Hose hyd motor Short QSM 160cc	7000790	1	Part of quick hitch
23	Hose hyd motor Short QSM 131cc	7000789	1	Part of quick hitch
24	Hose hy motor Long QSM 131/160cc	7000724	1	Part of quick hitch
25	Hose hyd motor Long ECHF 160cc	7001404	1	
26	Hose hyd motor Long ECHF 131cc	7000025	1	
27	Hose hy motor Short ECHF 131/160cc	7000026	1	
28	O-ring 82,22x2.62	7000920	1	
29	Hydraulic motor 160cc + chockvalve	1022290	1	(POS.30-31 incl.)
30	Hydraulic motor White 160cc	720134	1	
31	Chock valve White 160/200cc	1044091	1	Torque: 77Nm. Assy. before motor
32	Hydraulic motor 131cc	720112	1	Option
33	Washer NL 12mm	611042	10	QTY: 8 part of top part
34	Screw MC6S M12x35 12.9 ZFSL	6000150	2	Torque: 136Nm
36	Plug 70125-02 (1/8")	711503	1	QTY: 2 for EC219S
37	Rotation play: 0,12mm - 0,20mm			Note rotation play on module card

Option ePS:

Exploded view
ePS1 Sensor

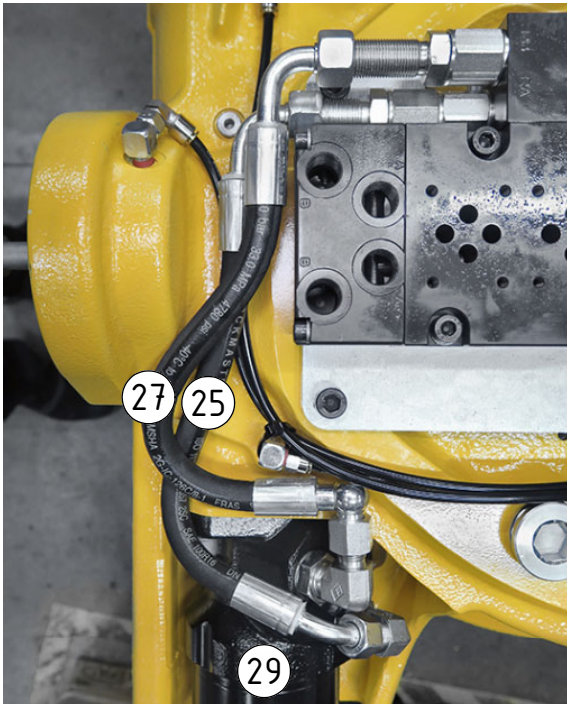


POS in order of assembly

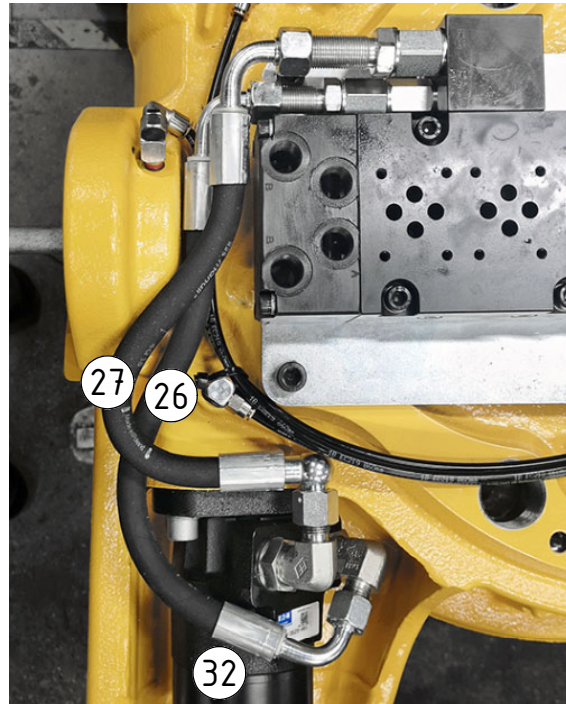
POS	DESCRIPTION	PART	QTY	COMMENTS
20	Protection ePS	1033565	1	For ePS1
22	Hose hyd motor Short QSM 160cc	7000790	1	Part of quick hitch
23	Hose hyd motor Short QSM 131cc	7000789	1	Part of quick hitch
24	Hose hy motor Long QSM 131/160cc	7000724	1	Part of quick hitch
25	Hose hyd motor Long ECHF 160cc	7001404	1	
26	Hose hyd motor Long ECHF 131cc	7000025	1	
27	Hose hy motor Short ECHF 131/160cc	7000026	1	
29	Hydraulic motor 160cc + chockvalve	1022290	1	(POS.30-31 incl.)
32	Hydraulic motor 131cc	720112	1	Option

POS in order of assembly

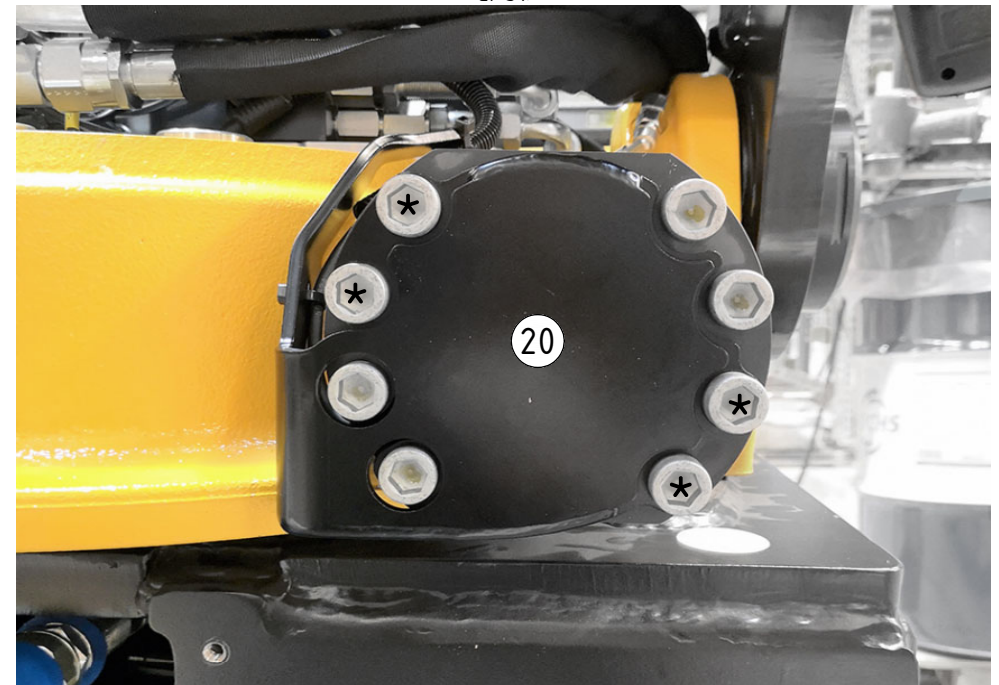
ECHF - Standard (160cc)



ECHF - Option (131cc)



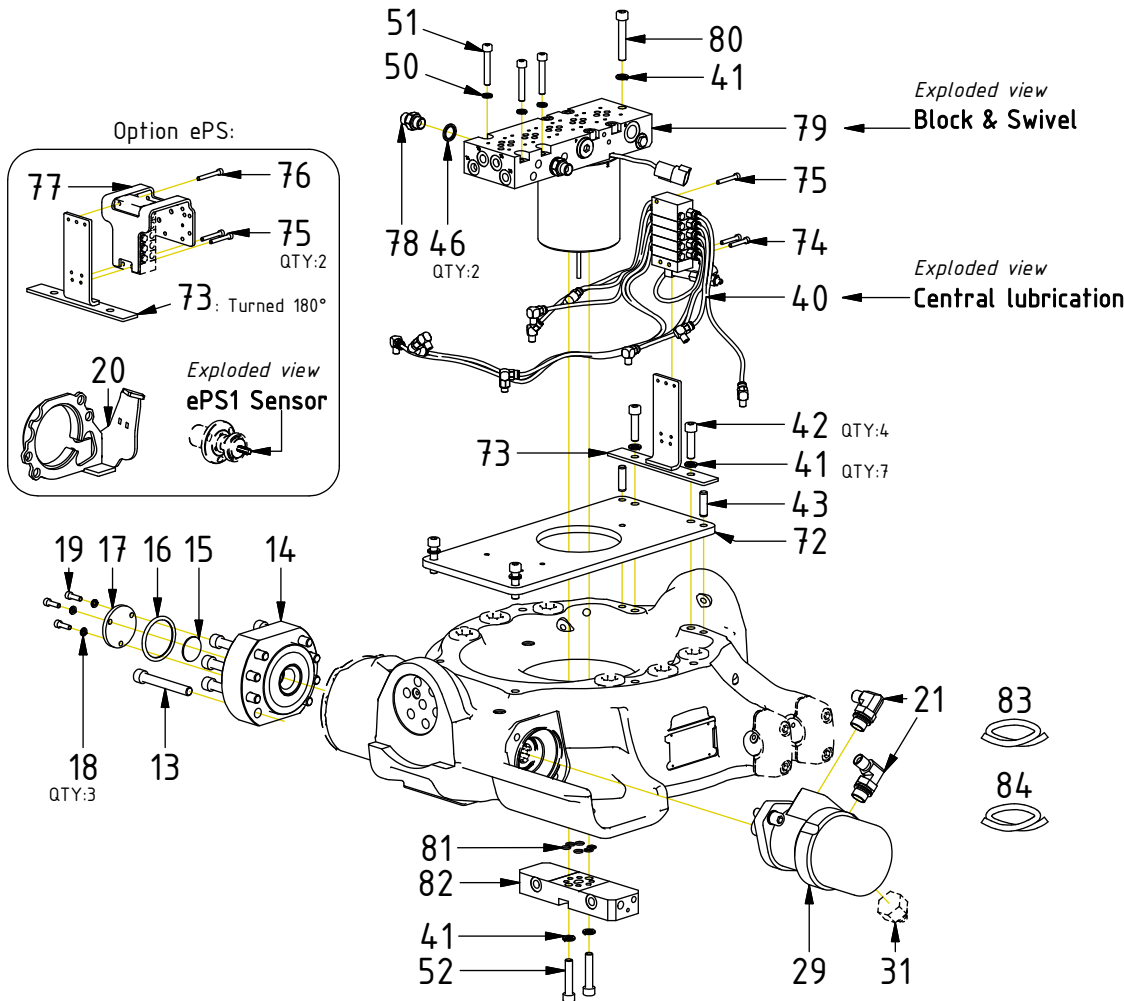
ePS1:



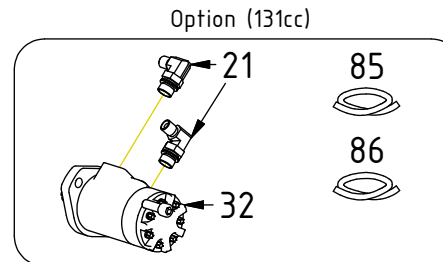
* No torque until control system assembly

SPARE PARTS

EC219 6-ch



POS	DESCRIPTION	PART	QTY	COMMENTS
13	Screw MC6S M12x90 12.9 ZFSHL	6000147	8	Torque: 136Nm
14	End lock EC209/EC214/EC219	1016557	1	
15	Spacer Plate	1065370	1	
16	O-ring 27x5	7000485	1	
17	Cover end lock	1041613	1	
18	Washer NL 6mm	611039	2	
19	Screw MC6S M6x20 A4-80	611513	3	
20	Protection ePS	1033565	1	For ePS1
21	Adapter 401-06-08 90° (3/8"-1/2")	710157	2	
29	Hydraulic motor 160cc + chockvalve	1022290	1	(POS.30-31 incl.)
30	Hydraulic motor White 160cc	720134	1	
31	Chock valve White 160/200cc	1044091	1	Torque: 77Nm. Assy. before motor
32	Hydraulic motor 131cc	720112	1	Option
40	Lubrication kit	1021135	1	
41	Washer NL 10mm	611041	2	QTY: 7 for ECHF
42	Screw MC6S M10x40 12.9	610453	2	QTY: 4 for ECHF. Torque: 79Nm
43	Cylindrical pin	1015672	2	
46	Washer GBR06 3/8	710703	5	
50	Washer NL 8mm	611040	3	
51	Screw MC6S 8x50 12.9	610439	3	
52	Screw MC6S M10x50 12.9 ZFSHL	611515	3	
72	Valve plate	1011515	1	
73	Mounting plate lubrication 6-ch	1018052	1	
74	Screw MC6S M5x30 12.9	610403	2	
75	Screw MC6S M5x35 12.9	610404	1	
76	Screw MC6S M5x40 12.9	610405	1	
77	Mounting plate angle sensor ePS	1029973	1	
78	Adapter 136-06-06 (3/8")	710106	2	
79	Valve bl. & Swivel w. slipring Compl.	1030297	1	
80	Screw MC6S M10x60 12.9	610460	1	
81	O-ring 9,25x1,78	710901	6	
82	Connection block 6-ch	202828	1	"1" on swivel against "X" on block
83	Hose hyd motor Long 6-ch 160cc	742635	1	
84	Hose hyd motor Short 6-ch 160cc	742634	1	
85	Hose hyd motor Long 6-ch 131cc	7000327	1	
86	Hose hyd motor Short 6-ch 131cc	7000326	1	



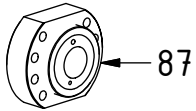
Parts history on p.8

SPARE PARTS

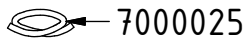
POS	DESCRIPTION	PART	QTY	COMMENTS
1	Rotator frame EC219 V5	1062295	1	(POS.2-3 incl.)
14	End lock EC209/EC214/EC219	1016557	1	
25	Hose hyd motor Long ECHF 160cc	7001404	1	
26	Hose hyd motor Long ECHF 131cc	7000025	1	
27	Hose hy motor Short ECHF 131/160cc	7000026	1	
40	Lubrication kit	1021135	1	
74	Screw MC6S M5x30 12.9	610403	2	
83	Hose hyd motor Long 6-ch 160cc	742635	1	
84	Hose hyd motor Short 6-ch 160cc	742634	1	
85	Hose hyd motor Long 6-ch 131cc	7000327	1	
86	Hose hyd motor Short 6-ch 131cc	7000326	1	
87	End lock standard & MACS	1016415	1	Replaced by POS.14 from 2022-01 MACS: Replaces 1028628 from 16-10
88	Wear Washer EC219	1016414	1	Used until 2017-04
89	Screw M6S M6x12 8,8 FZB	610108	8	Used until 2017-04
90	Washer GBR08 1/2	710704	1	Used until 2013-03
91	Adapter 135-06-08	710122	1	Used until 2013-03
92	Adapter 090-06-06 90° (3/8")	710216	1	Used until 2013-03
93	Adapter DSVW-15 LR	1-710510	1	Used until 2013-01
94	Old serial number locations			Current location found on p.2/3
95	MACS Magnet 8x5x3	6000047	1	Loctite 415. Harden 1 minute
96	MACS Inductive sensor M8 PNP	1043698	1	Distance 3mm. Nut torque: 3Nm
97	MACS Inductive sensor M8-M12		1	Replaced by POS.96 from 2017-08 Distance 4mm. Nut torque: 3Nm
98	MACS Pipe Plug M36/M8	650411	1	

POS in order of assembly

Replaced from 2022-01:



Replaced on ECHF 160cc
from 2020-10:



(Still relevant for 131cc)

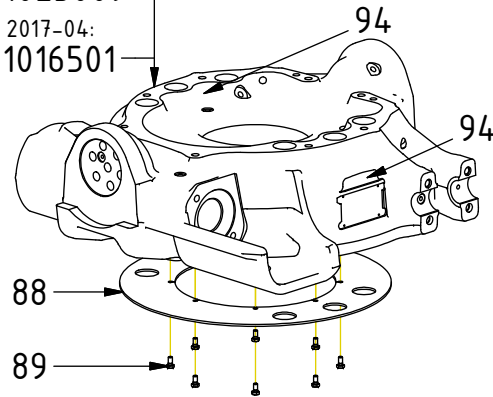
Replaced from

2021-07:

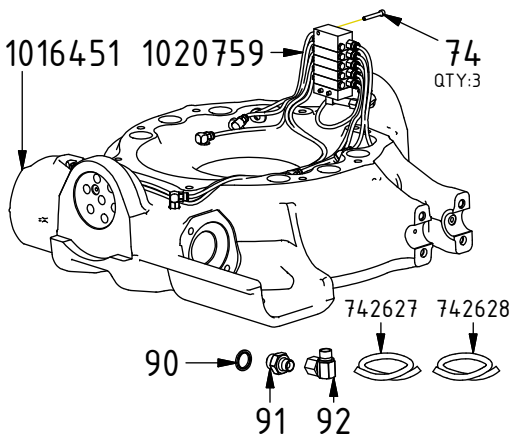
1023009

2017-04:

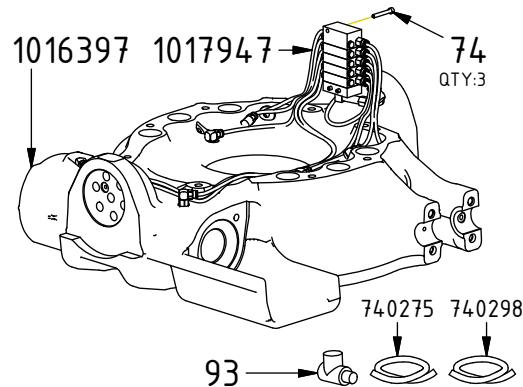
1016501



Replaced from 2013-03:



Replaced from 2013-01:



MACS:

