

COVERSHEET


Planned document changes:


Briefly:

 No planned changes.

Document changes:

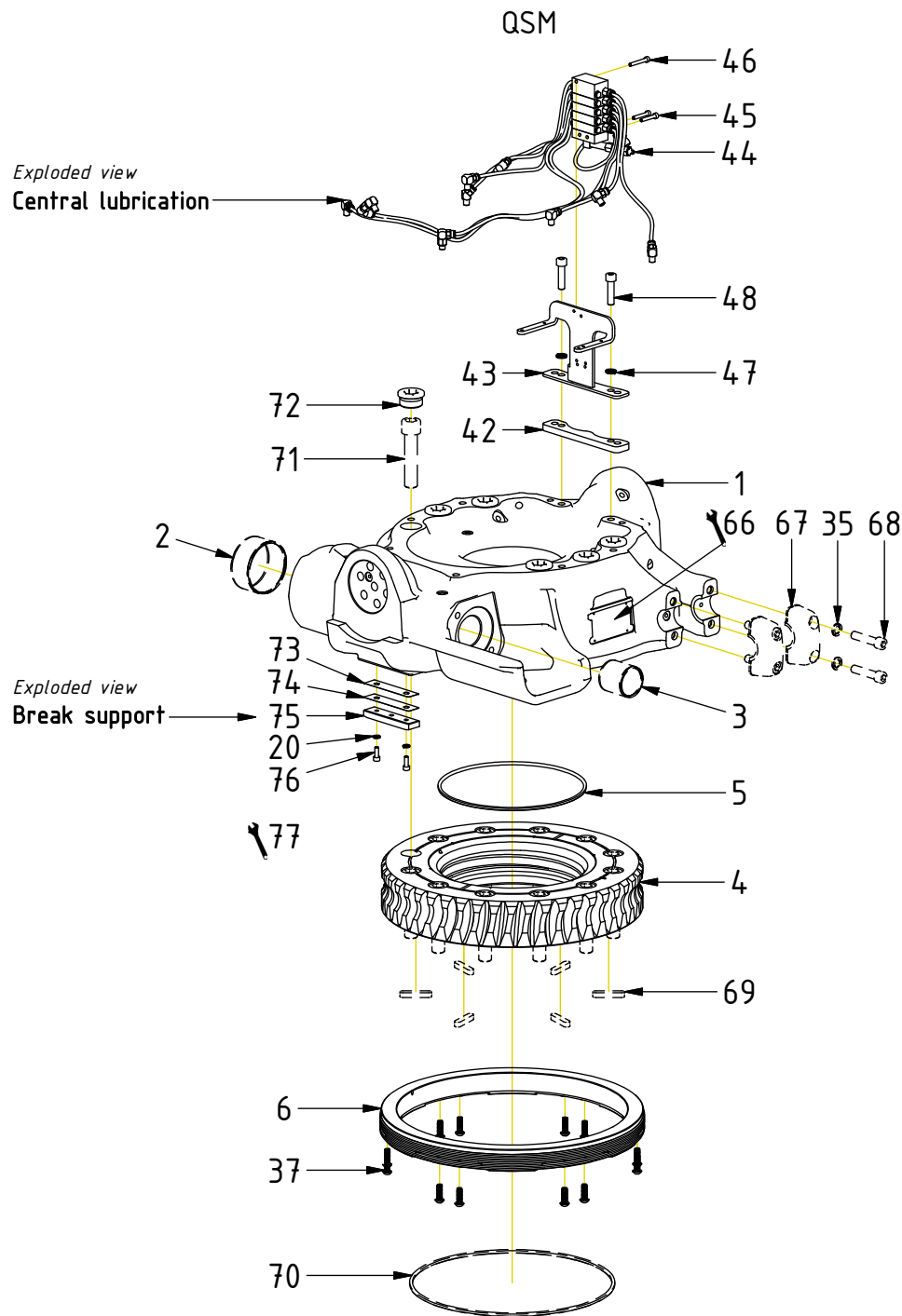
| Date: | Change: | Rev. after change: |
|------------|---|-----------------------|
| 2025-01-08 | Bearing ring w. screws replaced. Nipple to frame added. | T |
| 2024-05-14 | QSM updated. | S |
| 2024-01-08 | Spare parts screws corrected. | R |
| 2023-11-07 | Screws for lubrication kit added. | Q |
| 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.

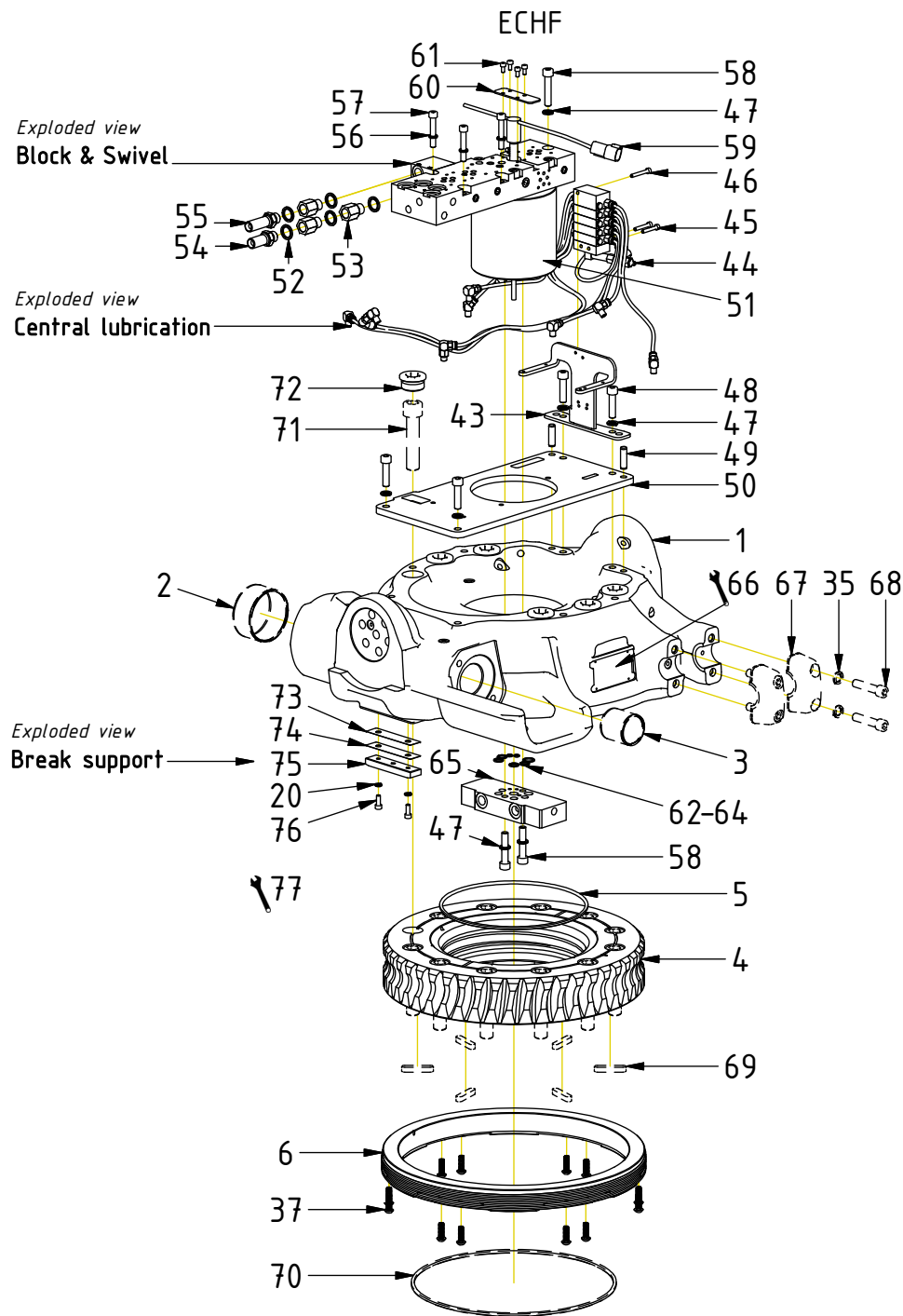
Dashed lines for overview, mounts
on other pages/assemblies.

EC219 - Rotator frame



| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|------------------------------------|---------|-----|--|
| 1 | Rotator frame EC219 V5 | 1062295 | 1 | (POS.2-3 incl.) |
| 2 | Bushing WB802 80/85x40 | 630103 | 1 | |
| 3 | Bushing WB802 45/50x50 | 630102 | 1 | |
| 4 | Worm wheel EC219 | 1016409 | 1 | |
| 5 | O-ring 225x5 | 7001662 | 1 | |
| 6 | Bearing ring EC219 with steering | 1077005 | 1 | (Only compatible with 8x25) |
| 20 | Washer NL 6mm | 611039 | 2 | |
| 35 | Washer NL 12mm | 611042 | 10 | QTY: 8 part of top part |
| 37 | Screw TX45 8x25 10,9 FZB | 1078840 | 12 | Torque: 34Nm Tighten in cross pattern |
| 43 | Mounting plate lube. ECHF/QSM | 1031517 | 1 | |
| 44 | Lubrication kit | 1021135 | 1 | |
| 45 | Screw MC6S M5x30 12.9 | 610403 | 2 | |
| 46 | Screw MC6S M5x35 12.9 | 610404 | 1 | |
| 47 | Washer NL 10mm | 611041 | 2 | QTY: 7 for ECHF |
| 48 | Screw MC6S M10x40 12.9 ZFSL | 612020 | 4 | QTY: 4 for ECHF. Torque: 79Nm |
| 66 | Punch serial no into rotator frame | | | |
| 67 | Clamping half Complete | 1016393 | 4 | Part of top part |
| 68 | Screw MC6S M12x55 12.9 ZFSL | 6000155 | 8 | Part of top part. Torque: 136Nm |
| 69 | Feather Key | 650102 | 6 | Part of quick hitch |
| 70 | O-ring 319,3x5,7 | 710908 | 1 | Part of quick hitch |
| 71 | Screw MC6S M20x90 12.9 | 610556 | 12 | Part of quick hitch. Torque: 649Nm |
| 72 | Pipe plug M36x2 | 650408 | 6 | |
| 73 | Shim supporting plate 0,1mm | 1055262 | 1 | |
| 74 | Shim supporting plate 0,3mm | 1055260 | 1 | |
| 75 | Supporting plate | 1055258 | 1 | |
| 76 | Screw MC6S M6x16 12.9 ZFSL | 6000017 | 2 | |
| 77 | Break play: 0,5 - 0,7mm | | | Assy. between frame & quick hitch |

POS in order of assembly



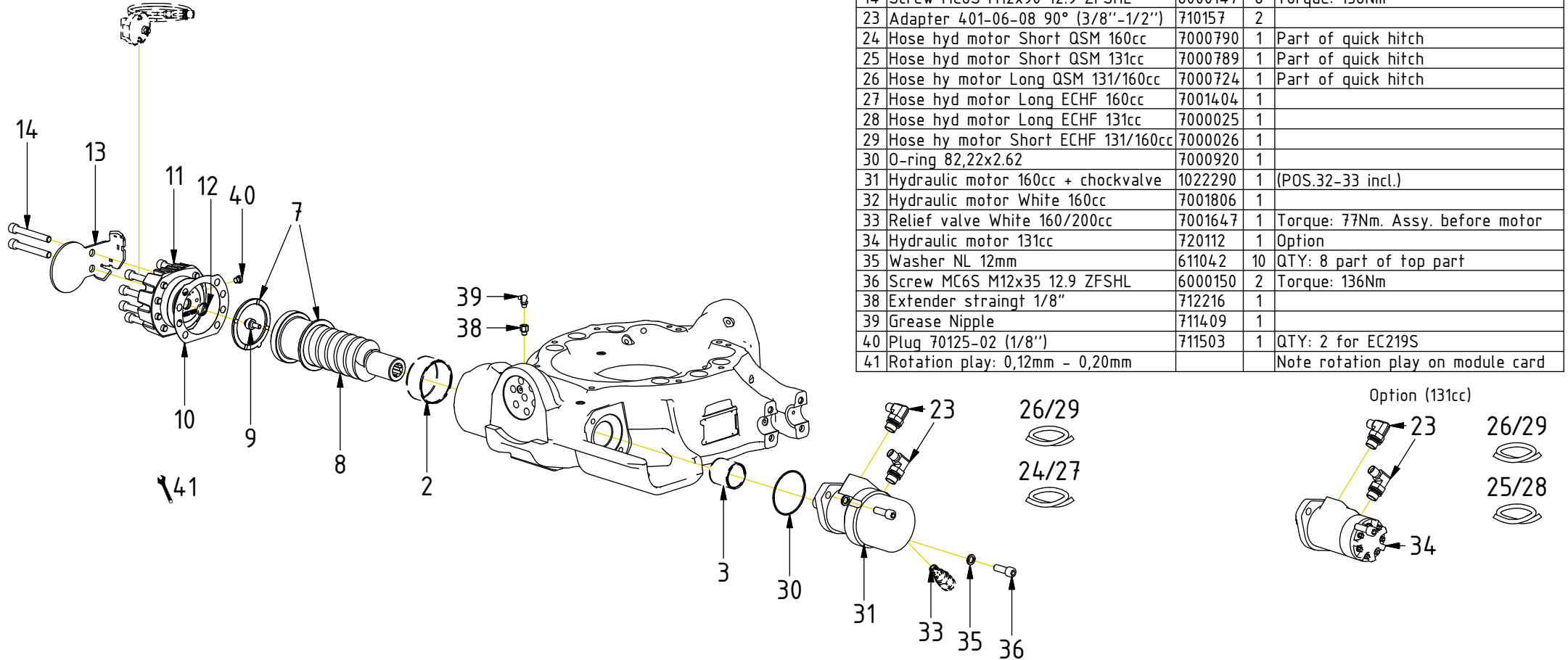
| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|---------------------------------------|---------|-----|--|
| 1 | Rotator frame EC219 V5 | 1062295 | 1 | (POS.2-3 incl.) |
| 2 | Bushing WB802 80/85x40 | 630103 | 1 | |
| 3 | Bushing WB802 45/50x50 | 630102 | 1 | |
| 4 | Worm wheel EC219 | 1016409 | 1 | |
| 5 | O-ring 225x5 | 7001662 | 1 | |
| 6 | Bearing ring EC219 with steering | 1077005 | 1 | (Only compatible with 8x25) |
| 20 | Washer NL 6mm | 611039 | 2 | |
| 35 | Washer NL 12mm | 611042 | 10 | QTY: 8 part of top part |
| 37 | Screw TX45 8x25 10,9 FZB | 1078840 | 12 | Torque: 34Nm Tighten in cross pattern |
| 43 | Mounting plate lube. ECHF/QSM | 1031517 | 1 | |
| 44 | Lubrication kit | 1021135 | 1 | |
| 45 | Screw MC6S M5x30 12.9 | 610403 | 2 | |
| 46 | Screw MC6S M5x35 12.9 | 610404 | 1 | |
| 47 | Washer NL 10mm | 611041 | 2 | QTY: 7 for ECHF |
| 48 | Screw MC6S M10x40 12.9 ZFSL | 612020 | 4 | QTY: 4 for ECHF. Torque: 79Nm |
| 49 | Cylindrical pin | 1015672 | 2 | |
| 50 | Valve plate ECHF | 1024824 | 1 | |
| 51 | Valve bl. & Swivl for slipring Compl. | 1027386 | 1 | |
| 52 | Washer GBR06 3/8 | 710703 | 5 | |
| 53 | Adapter 236-06-06 | 710131 | 3 | |
| 54 | Adapter 1260-06-32 (3/8") | 710242 | 1 | |
| 55 | Adapter 1260-06-43 (3/8") | 710262 | 1 | |
| 56 | Washer NL 8mm | 611040 | 3 | |
| 57 | Screw MC6S 8x50 12.9 | 610439 | 3 | |
| 58 | Screw MC6S M10x50 12.9 ZFSL | 611515 | 3 | |
| 59 | Kit slip ring ECHF DTM | 1030298 | 1 | For QS. See "Slip rings" |
| 60 | Cover plate slip ring | 1026200 | 1 | |
| 61 | Screw MC6S M5x10 12.9 | 610594 | 4 | |
| 62 | O-ring 6,07x1,78 | 712422 | 2 | |
| 63 | O-ring 12,42x1,78 | 710973 | 4 | |
| 64 | O-ring 15,6x1,78 | 710912 | 1 | |
| 65 | Connection block ECHF | 1028391 | 1 | Guide with spring pin from swivel |
| 66 | Punch serial no into rotator frame | | | |
| 67 | Clamping half Complete | 1016393 | 4 | Part of top part |
| 68 | Screw MC6S M12x55 12.9 ZFSL | 6000155 | 8 | Part of top part. Torque: 136Nm |
| 69 | Feather Key | 650102 | 6 | Part of quick hitch |
| 70 | O-ring 319,3x5,7 | 710908 | 1 | Part of quick hitch |
| 71 | Screw MC6S M20x90 12.9 | 610556 | 12 | Part of quick hitch. Torque: 649Nm |
| 72 | Pipe plug M36x2 | 650408 | 6 | |
| 73 | Shim supporting plate 0,1mm | 1055262 | 1 | |
| 74 | Shim supporting plate 0,3mm | 1055260 | 1 | |
| 75 | Supporting plate | 1055258 | 1 | |
| 76 | Screw MC6S M6x16 12.9 ZFSL | 6000017 | 2 | |
| 77 | Break play: 0,5 - 0,7mm | | | Assy. between frame & quick hitch |

POS in order of assembly

EC219S

| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|------------------------------------|---------|-----|-----------------------------------|
| 2 | Bushing WB802 80/85x40 | 630103 | 1 | |
| 3 | Bushing WB802 45/50x50 | 630102 | 1 | |
| 7 | Axial washer (with ear) | 1079941 | 2 | Face grooves 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 | (POS.12 incl.) |
| 12 | Seal end lock 20x27.5x3.2 | 1063616 | 1 | |
| 13 | Protection plate EC219S | 1063372 | 1 | |
| 14 | Screw MC6S M12x90 12.9 ZFSHL | 6000147 | 8 | Torque: 136Nm |
| 23 | Adapter 401-06-08 90° (3/8"-1/2") | 710157 | 2 | |
| 24 | Hose hyd motor Short QSM 160cc | 7000790 | 1 | Part of quick hitch |
| 25 | Hose hyd motor Short QSM 131cc | 7000789 | 1 | Part of quick hitch |
| 26 | Hose hy motor Long QSM 131/160cc | 7000724 | 1 | Part of quick hitch |
| 27 | Hose hyd motor Long ECHF 160cc | 7001404 | 1 | |
| 28 | Hose hyd motor Long ECHF 131cc | 7000025 | 1 | |
| 29 | Hose hy motor Short ECHF 131/160cc | 7000026 | 1 | |
| 30 | O-ring 82,22x2.62 | 7000920 | 1 | |
| 31 | Hydraulic motor 160cc + chockvalve | 1022290 | 1 | (POS.32-33 incl.) |
| 32 | Hydraulic motor White 160cc | 7001806 | 1 | |
| 33 | Relief valve White 160/200cc | 7001647 | 1 | Torque: 77Nm. Assy. before motor |
| 34 | Hydraulic motor 131cc | 720112 | 1 | Option |
| 35 | Washer NL 12mm | 611042 | 10 | QTY: 8 part of top part |
| 36 | Screw MC6S M12x35 12.9 ZFSHL | 6000150 | 2 | Torque: 136Nm |
| 38 | Extender straingt 1/8" | 712216 | 1 | |
| 39 | Grease Nipple | 711409 | 1 | |
| 40 | Plug 70125-02 (1/8") | 711503 | 1 | QTY: 2 for EC219S |
| 41 | Rotation play: 0,12mm - 0,20mm | | | Note rotation play on module card |

Exploded view
ePS2 Sensors



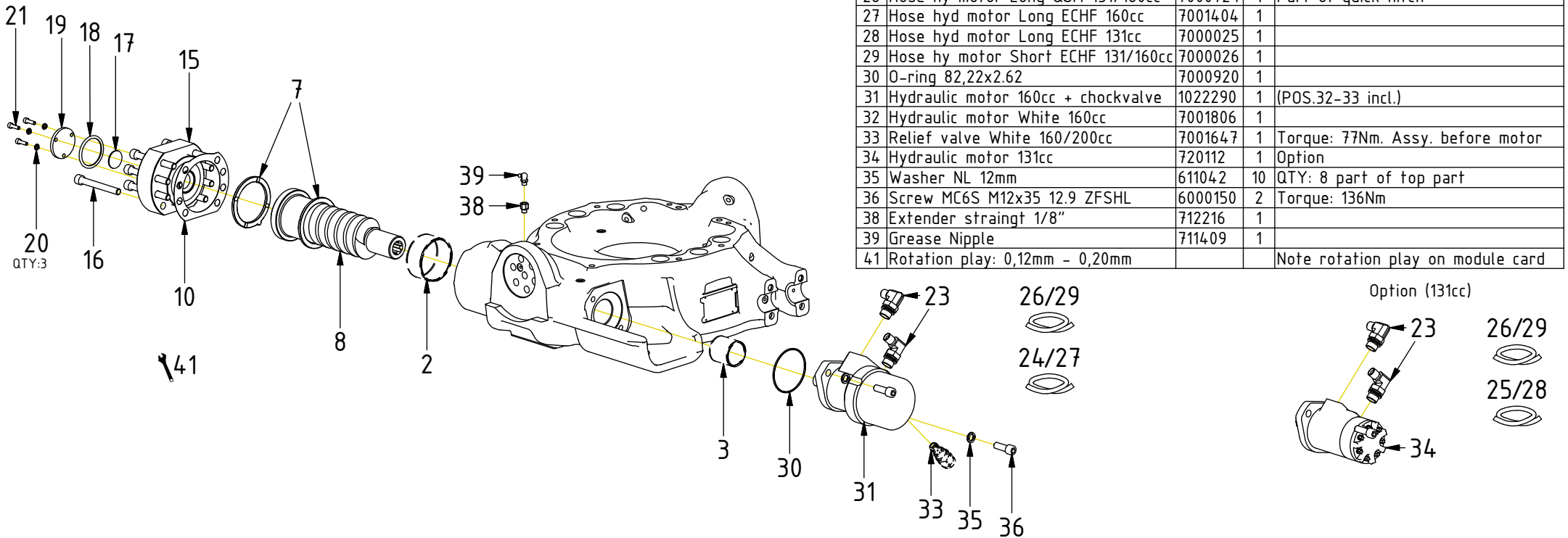
POS in order of assembly

EC219/EC219PS

| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|------------------------------------|---------|-----|-----------------------------------|
| 2 | Bushing WB802 80/85x40 | 630103 | 1 | |
| 3 | Bushing WB802 45/50x50 | 630102 | 1 | |
| 7 | Axial washer (with ear) | 1079941 | 2 | Face grooves toward worm screw |
| 8 | Worm Screw EC219 | 1016408 | 1 | |
| 10 | Shims kit End Lock 0,3-0,4-0,5 mm | 1034434 | 1 | |
| 15 | End lock EC209/EC214/EC219 | 1016557 | 1 | |
| 16 | Screw MC6S M12x100 12.9 Geomet | 611514 | 8 | Torque: 136Nm |
| 17 | Spacer Plate | 1065370 | 1 | |
| 18 | O-ring 27x5 | 7000485 | 1 | |
| 19 | Cover end lock | 1041613 | 1 | |
| 20 | Washer NL 6mm | 611039 | 2 | |
| 21 | Screw MC6S M6x20 A4-80 | 611513 | 3 | |
| 22 | Protection ePS | 1033565 | 1 | For ePS1 |
| 23 | Adapter 401-06-08 90° (3/8"-1/2") | 710157 | 2 | |
| 24 | Hose hyd motor Short QSM 160cc | 7000790 | 1 | Part of quick hitch |
| 25 | Hose hyd motor Short QSM 131cc | 7000789 | 1 | Part of quick hitch |
| 26 | Hose hy motor Long QSM 131/160cc | 7000724 | 1 | Part of quick hitch |
| 27 | Hose hyd motor Long ECHF 160cc | 7001404 | 1 | |
| 28 | Hose hyd motor Long ECHF 131cc | 7000025 | 1 | |
| 29 | Hose hy motor Short ECHF 131/160cc | 7000026 | 1 | |
| 30 | O-ring 82,22x2.62 | 7000920 | 1 | |
| 31 | Hydraulic motor 160cc + chockvalve | 1022290 | 1 | (POS.32-33 incl.) |
| 32 | Hydraulic motor White 160cc | 7001806 | 1 | |
| 33 | Relief valve White 160/200cc | 7001647 | 1 | Torque: 77Nm. Assy. before motor |
| 34 | Hydraulic motor 131cc | 720112 | 1 | Option |
| 35 | Washer NL 12mm | 611042 | 10 | QTY: 8 part of top part |
| 36 | Screw MC6S M12x35 12.9 ZFSHL | 6000150 | 2 | Torque: 136Nm |
| 38 | Extender straight 1/8" | 712216 | 1 | |
| 39 | Grease Nipple | 711409 | 1 | |
| 41 | Rotation play: 0,12mm - 0,20mm | | | Note rotation play on module card |

Option ePS:

Exploded view
ePS1 Sensor

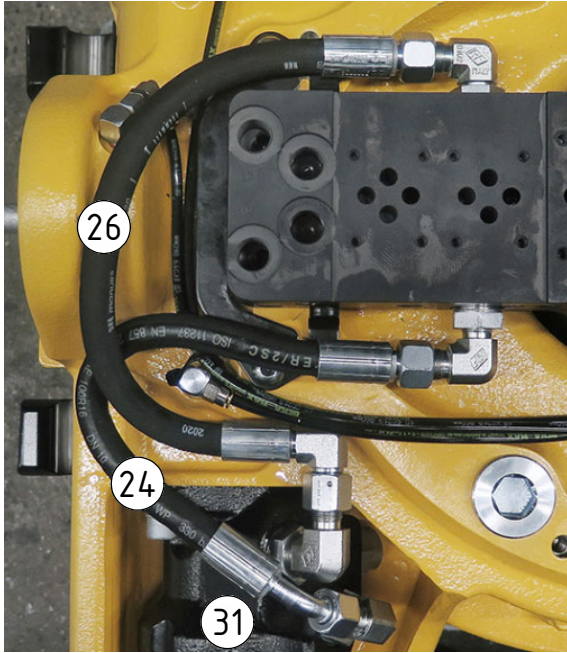


POS in order of assembly

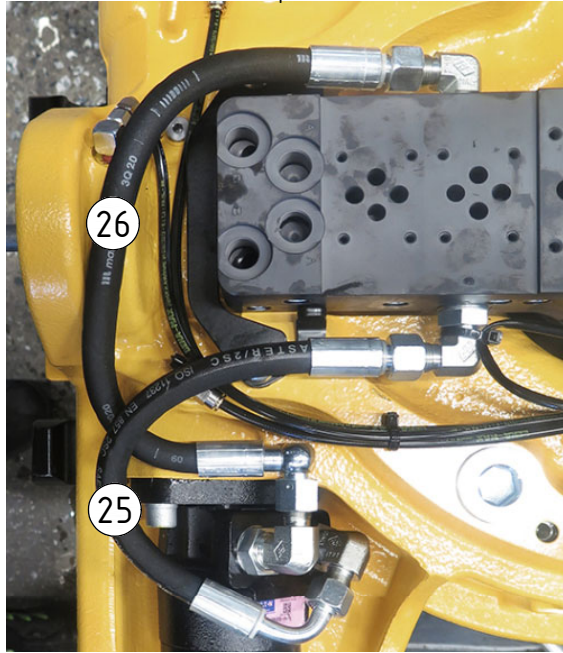
EC219 - Rotator frame

POS in order of assembly

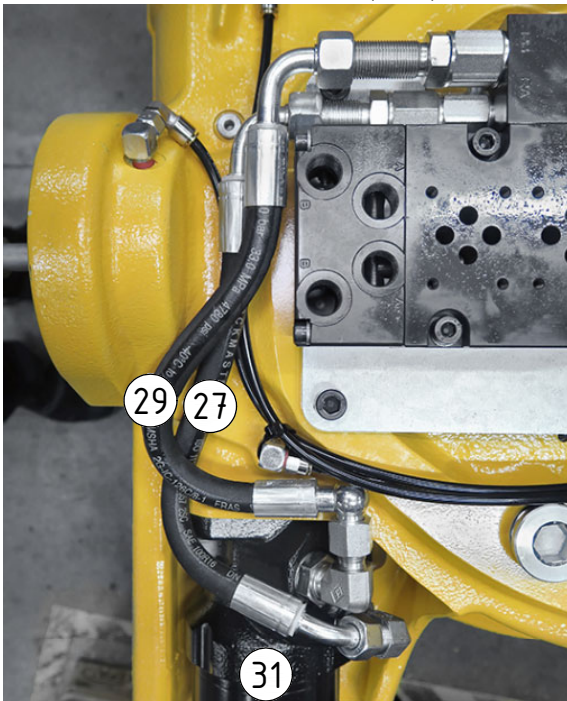
QSM - Standard (160cc)



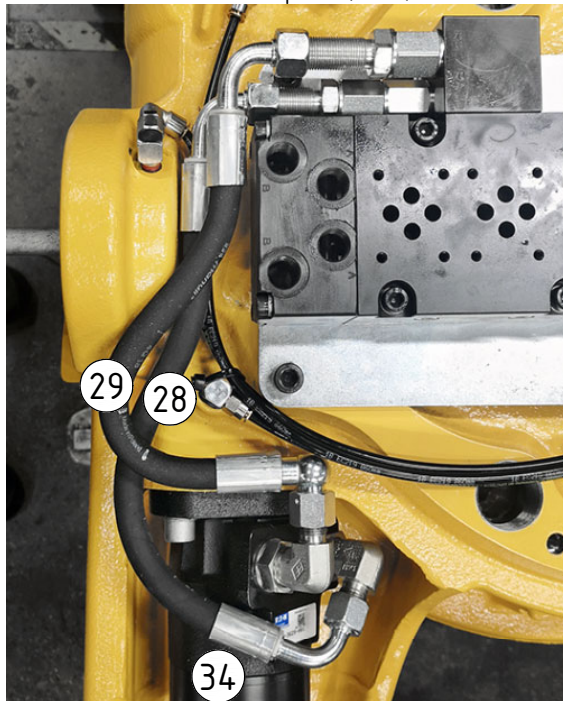
QSM - Option (131cc)



ECHF - Standard (160cc)

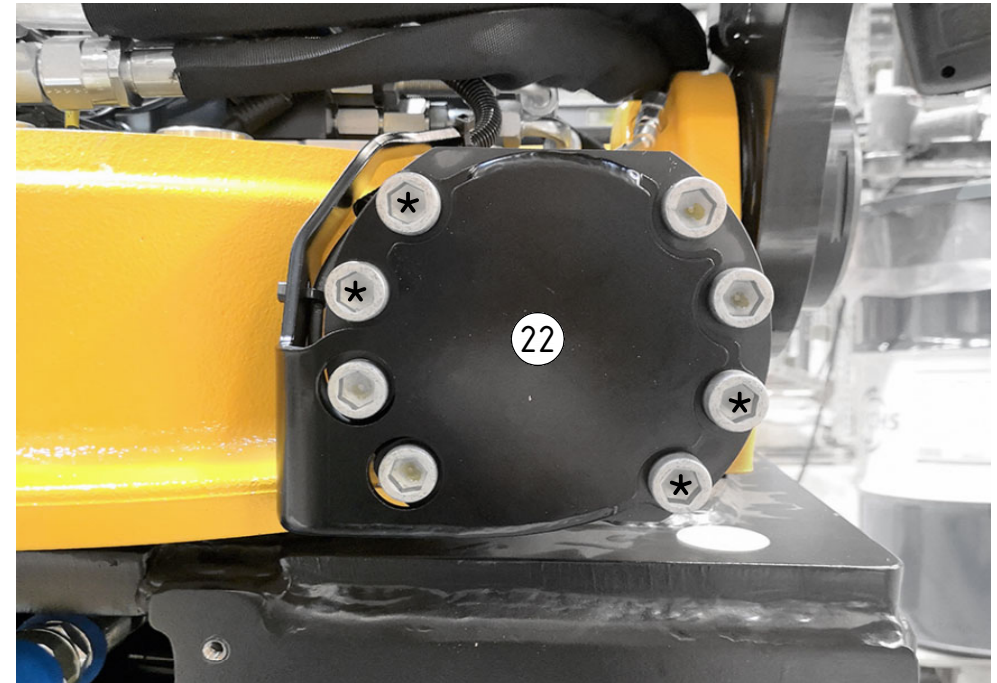


ECHF - Option (131cc)



| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|------------------------------------|---------|-----|---------------------|
| 22 | Protection ePS | 1033565 | 1 | For ePS1 |
| 24 | Hose hyd motor Short QSM 160cc | 7000790 | 1 | Part of quick hitch |
| 25 | Hose hyd motor Short QSM 131cc | 7000789 | 1 | Part of quick hitch |
| 26 | Hose hy motor Long QSM 131/160cc | 7000724 | 1 | Part of quick hitch |
| 27 | Hose hyd motor Long ECHF 160cc | 7001404 | 1 | |
| 28 | Hose hyd motor Long ECHF 131cc | 7000025 | 1 | |
| 29 | Hose hy motor Short ECHF 131/160cc | 7000026 | 1 | |
| 31 | Hydraulic motor 160cc + chockvalve | 1022290 | 1 | (POS.32-33 incl.) |
| 34 | Hydraulic motor 131cc | 720112 | 1 | Option |

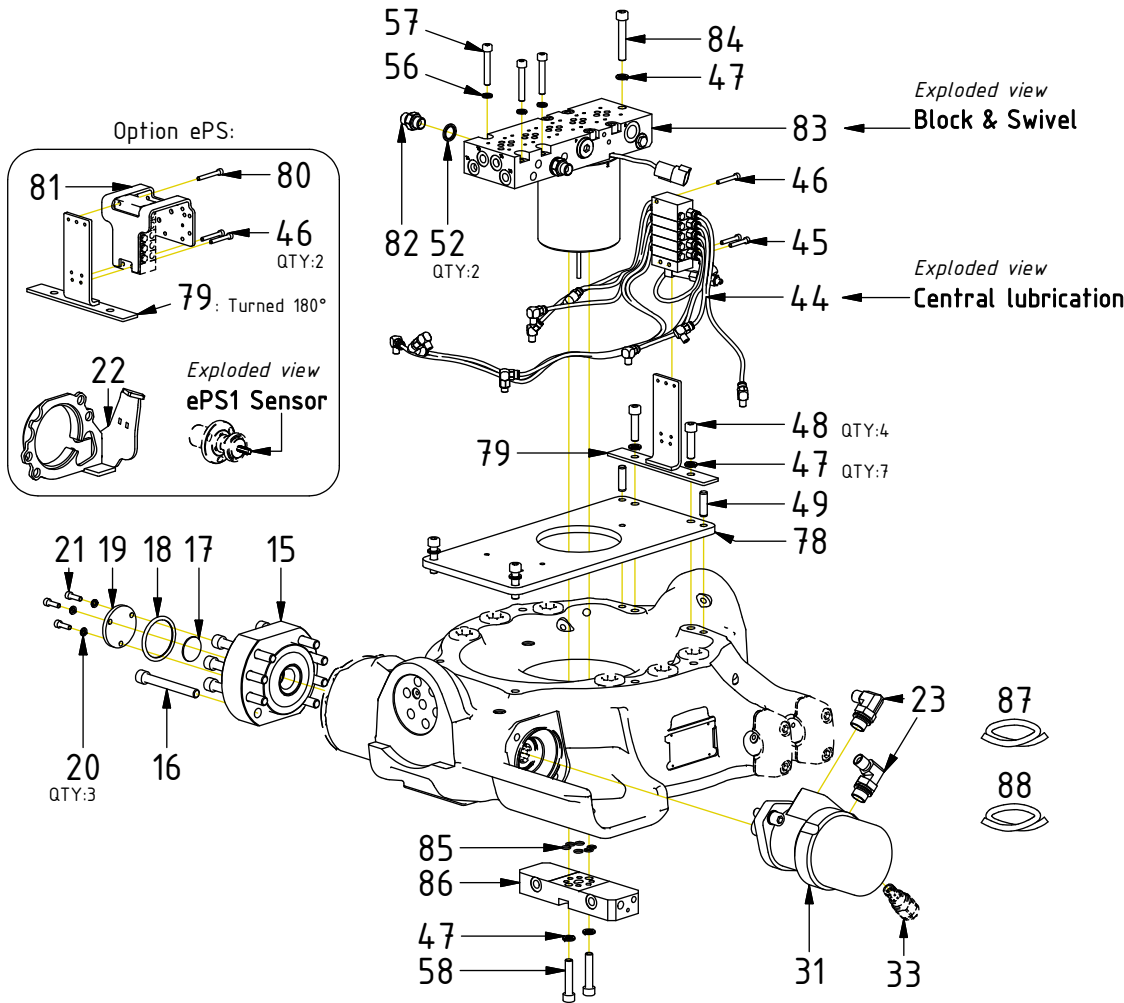
ePS1:



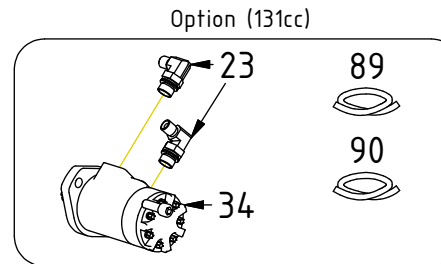
* No torque until control system assembly

SPARE PARTS

EC219 6-ch



| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|---------------------------------------|---------|-----|------------------------------------|
| 15 | End lock EC209/EC214/EC219 | 1016557 | 1 | |
| 16 | Screw MC6S M12x100 12.9 Geomet | 611514 | 8 | Torque: 136Nm |
| 17 | Spacer Plate | 1065370 | 1 | |
| 18 | O-ring 27x5 | 7000485 | 1 | |
| 19 | Cover end lock | 1041613 | 1 | |
| 20 | Washer NL 6mm | 611039 | 2 | |
| 21 | Screw MC6S M6x20 A4-80 | 611513 | 3 | |
| 22 | Protection ePS | 1033565 | 1 | For ePS1 |
| 23 | Adapter 401-06-08 90° (3/8"-1/2") | 710157 | 2 | |
| 31 | Hydraulic motor 160cc + chockvalve | 1022290 | 1 | (POS.32-33 incl.) |
| 32 | Hydraulic motor White 160cc | 7001806 | 1 | |
| 33 | Relief valve White 160/200cc | 7001647 | 1 | Torque: 77Nm. Assy. before motor |
| 34 | Hydraulic motor 131cc | 720112 | 1 | Option |
| 44 | Lubrication kit | 1021135 | 1 | |
| 45 | Screw MC6S M5x30 12.9 | 610403 | 2 | |
| 46 | Screw MC6S M5x35 12.9 | 610404 | 1 | |
| 47 | Washer NL 10mm | 611041 | 2 | QTY: 7 for ECHF |
| 48 | Screw MC6S M10x40 12.9 ZFSHL | 612020 | 4 | QTY: 4 for ECHF. Torque: 79Nm |
| 49 | Cylindrical pin | 1015672 | 2 | |
| 52 | Washer GBR06 3/8 | 710703 | 5 | |
| 56 | Washer NL 8mm | 611040 | 3 | |
| 57 | Screw MC6S 8x50 12.9 | 610439 | 3 | |
| 58 | Screw MC6S M10x50 12.9 ZFSHL | 611515 | 3 | |
| 78 | Valve plate | 1011515 | 1 | |
| 79 | Mounting plate lubrication 6-ch | 1018052 | 1 | |
| 80 | Screw MC6S M5x40 12.9 | 610405 | 1 | |
| 81 | Mounting plate angle sensor ePS | 1029973 | 1 | |
| 82 | Adapter 136-06-06 (3/8") | 710106 | 2 | |
| 83 | Valve bl. & Swivel w. slipring Compl. | 1030297 | 1 | |
| 84 | Screw MC6S M10x60 12.9 | 610460 | 1 | |
| 85 | O-ring 9,25x1,78 | 710901 | 6 | |
| 86 | Connection block 6-ch | 202828 | 1 | "1" on swivel against "X" on block |
| 87 | Hose hyd motor Long 6-ch 160cc | 742635 | 1 | |
| 88 | Hose hyd motor Short 6-ch 160cc | 742634 | 1 | |
| 89 | Hose hyd motor Long 6-ch 131cc | 7000327 | 1 | |
| 90 | Hose hyd motor Short 6-ch 131cc | 7000326 | 1 | |

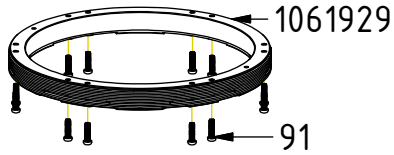


Parts history on p.8

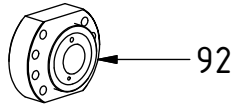
POS in order of assembly

SPARE PARTS

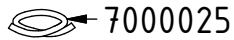
Replaced from 2024-11:



Replaced from 2022-01:

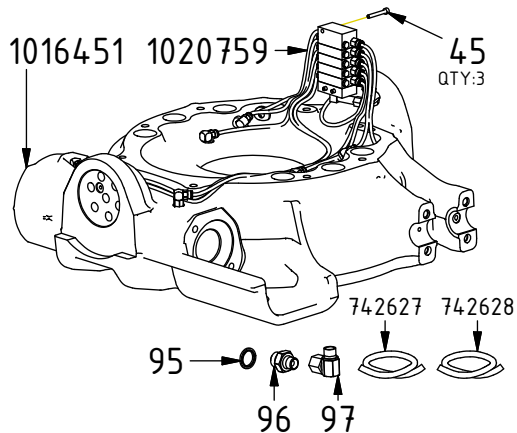


Replaced on ECHF 160cc from 2020-10:



(Still relevant for 131cc)

Replaced from 2013-03:



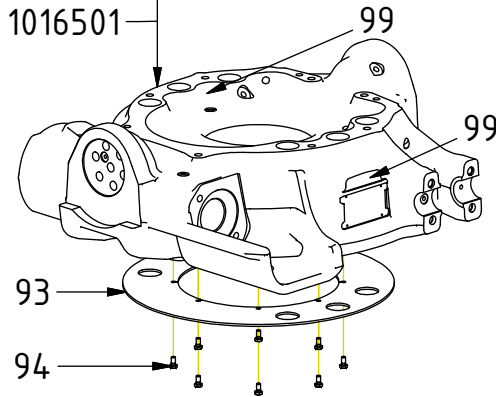
Replaced from

2021-07:

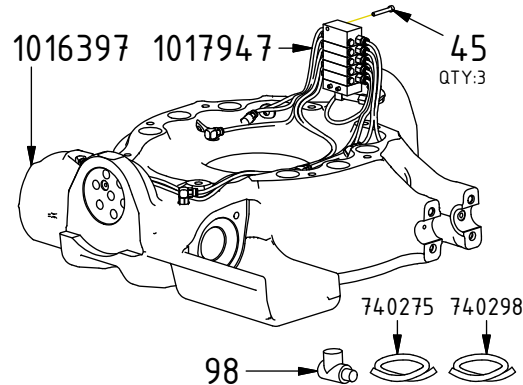
1023009

2017-04:

1016501



Replaced from 2013-01:



| POS | DESCRIPTION | PART | QTY | COMMENTS |
|-----|------------------------------------|---------|-----|--|
| 1 | Rotator frame EC219 V5 | 1062295 | 1 | (POS.2-3 incl.) |
| 6 | Bearing ring EC219 with steering | 1077005 | 1 | (Only compatible with 8x25) |
| 15 | End lock EC209/EC214/EC219 | 1016557 | 1 | |
| 27 | Hose hyd motor Long ECHF 160cc | 7001404 | 1 | |
| 28 | Hose hyd motor Long ECHF 131cc | 7000025 | 1 | |
| 29 | Hose hy motor Short ECHF 131/160cc | 7000026 | 1 | |
| 37 | Screw TX45 8x25 10,9 FZB | 1078840 | 12 | Torque: 34Nm Tighten in cross pattern |
| 44 | Lubrication kit | 1021135 | 1 | |
| 45 | Screw MC6S M5x30 12.9 | 610403 | 2 | |
| 87 | Hose hyd motor Long 6-ch 160cc | 742635 | 1 | |
| 88 | Hose hyd motor Short 6-ch 160cc | 742634 | 1 | |
| 89 | Hose hyd motor Long 6-ch 131cc | 7000327 | 1 | |
| 90 | Hose hyd motor Short 6-ch 131cc | 7000326 | 1 | |
| 91 | Screw TX45 M8x30 FZB 10,9 | 612201 | 13 | Torque: 34Nm. Used with 1061929 |
| 92 | End lock standard & MACS | 1016415 | 1 | Replaced by POS.15 from 2022-01 MACS: Replaces 1028628 from 16-10 |
| 93 | Wear Washer EC219 | 1016414 | 1 | Used until 2017-04 |
| 94 | Screw M6S M6x12 8,8 FZB | 610108 | 8 | Used until 2017-04 |
| 95 | Washer GBR08 1/2 | 710704 | 1 | Used until 2013-03 |
| 96 | Adapter 135-06-08 | 710122 | 1 | Used until 2013-03 |
| 97 | Adapter 090-06-06 90° (3/8") | 710216 | 1 | Used until 2013-03 |
| 98 | Adapter DSVW-15 LR | 710510 | 1 | Used until 2013-01 |
| 99 | Old serial number locations | | | Current location found on p.2/3 |
| 100 | MACS Magnet 8x5x3 | 6000047 | 1 | Loctite 415. Harden 1 minute |
| 101 | MACS Inductive sensor M8 PNP | 1043698 | 1 | Distance 3mm. Nut torque: 3Nm |
| 102 | MACS Inductive sensor M8-M12 | 1028045 | 1 | Replaced by POS.101 from 2017-08 Distance 4mm. Nut torque: 3Nm |
| 103 | MACS Pipe Plug M36/M8 | 650411 | 1 | |

