

## COVERSHEET

## Planned document changes:

**Briefly:**

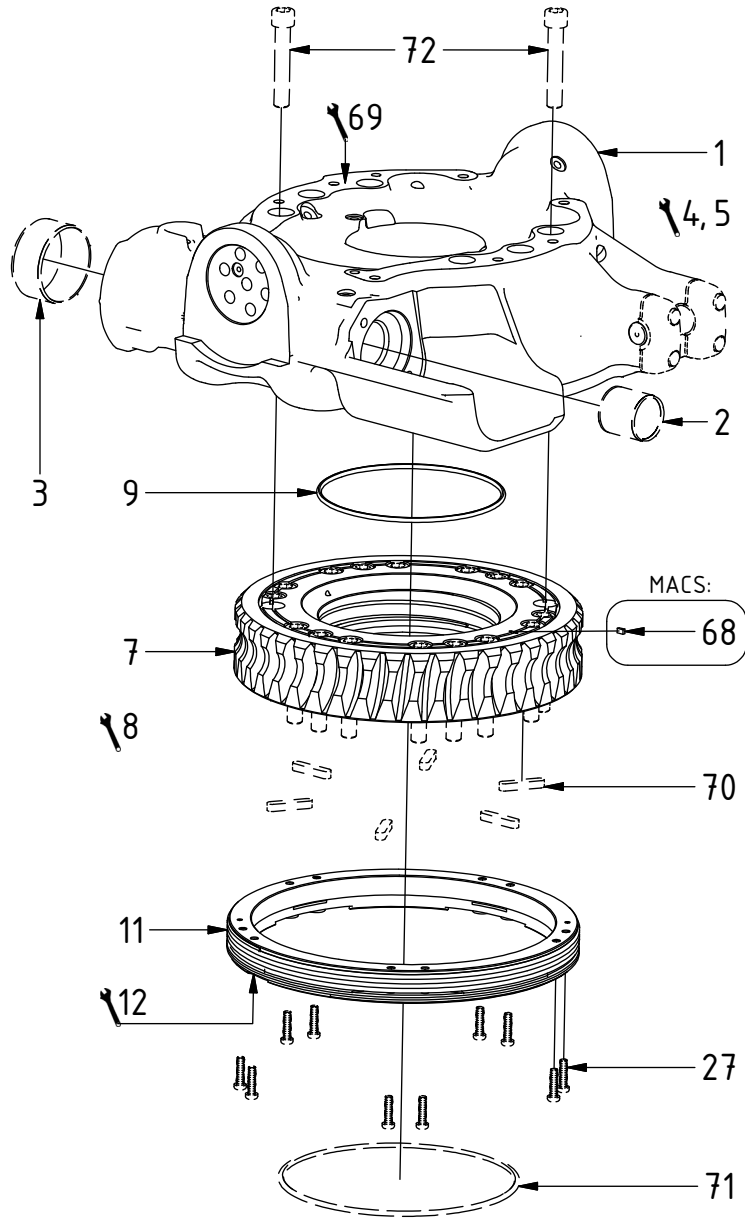
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No planned changes.

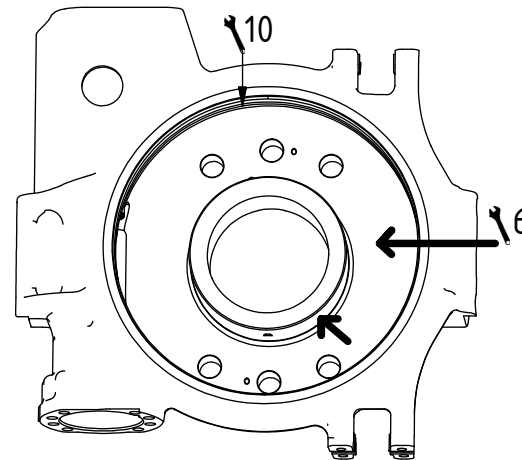
## Document changes:

| <b>Date:</b> | <b>Change:</b>                                      | <b>Rev.<br/>after change:</b> |
|--------------|---|-------------------------------|
| 2019-01-14   | Worm wheel 18 holes replaces 12 holes.              | I                             |
| 2018-11-28   | New instructions added: Without Swivel/QSM.         | H                             |
| 2018-07-02   | Layout/irrelevant.                                  | G                             |
| 2018-04-23   | Pipe plug for MACS moved position/location.         | F                             |
| 2017-10-16   | Sensor for MACS replaced, new distance 3mm.         | E                             |
| 2017-08-04   | Clarifying photo for hoses added. Coversheet added. | D                             |

# EC214 - Rotator frame

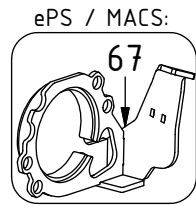
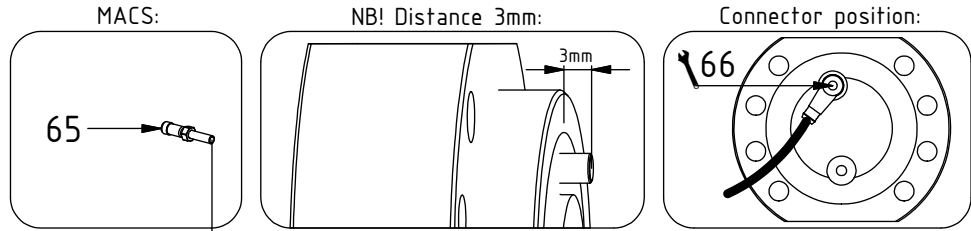


| POS | DESCRIPTION  | PART    | QTY | COMMENTS   |
|-----|--|---------|-----|--|
| 1   | Rotator frame EC214  | 1025822 | 1   | (POS.2-3 included)                                       |
| 2   | Bushing WB802 45/50x50   | 630102  | 1   |  |
| 3   | Bushing 80/85x40   | 630103  | 1   |  |
| 4   | Note serial/cast/manufacturing numbers according to module card  |         |     |  |
| 5   | Make sure all bushings, threads and holes are free from debris   |         |     |  |
| 6   | Grease area in rotator frame connecting to worm wheel  |         |     |  |
| 7   | Worm wheel 18h EC214   | 1046396 | 1   |  |
| 8   | Grease area of worm wheel connecting to o-ring and bearing ring  |         |     |  |
| 9   | O-ring 160x5   | 712425  | 1   |  |
| 10  | Oil area in rotator frame connecting to bearing ring   |         |     |  |
| 11  | Bearing ring   | 1016538 | 1   |  |
| 12  | Assemble bearing ring against worm wheel in turning motions using M8x100 screws. Adjustment on p.4 when motor is assembled |         |     |  |
| 27  | Screw TX40 M8x30   | 612201  | 10  | Torque: 34Nm   |
| 68  | Magnet 8x5x3   | 6000047 | 1   | Loctite 415. Harden 1 minute                             |
| 69  | Punch serial number into rotator frame   |         |     |  |
| 70  | Feather Key  | 650102  | 6   | Part of quick hitch assembly                             |
| 71  | O-ring 249,3x5,7   | 712424  | 1   | Part of quick hitch assembly                             |
| 72  | MC6S M16x90  | 610530  | 14  | Torque: 333Nm. Also part of quick hitch assembly: QTY 18 |

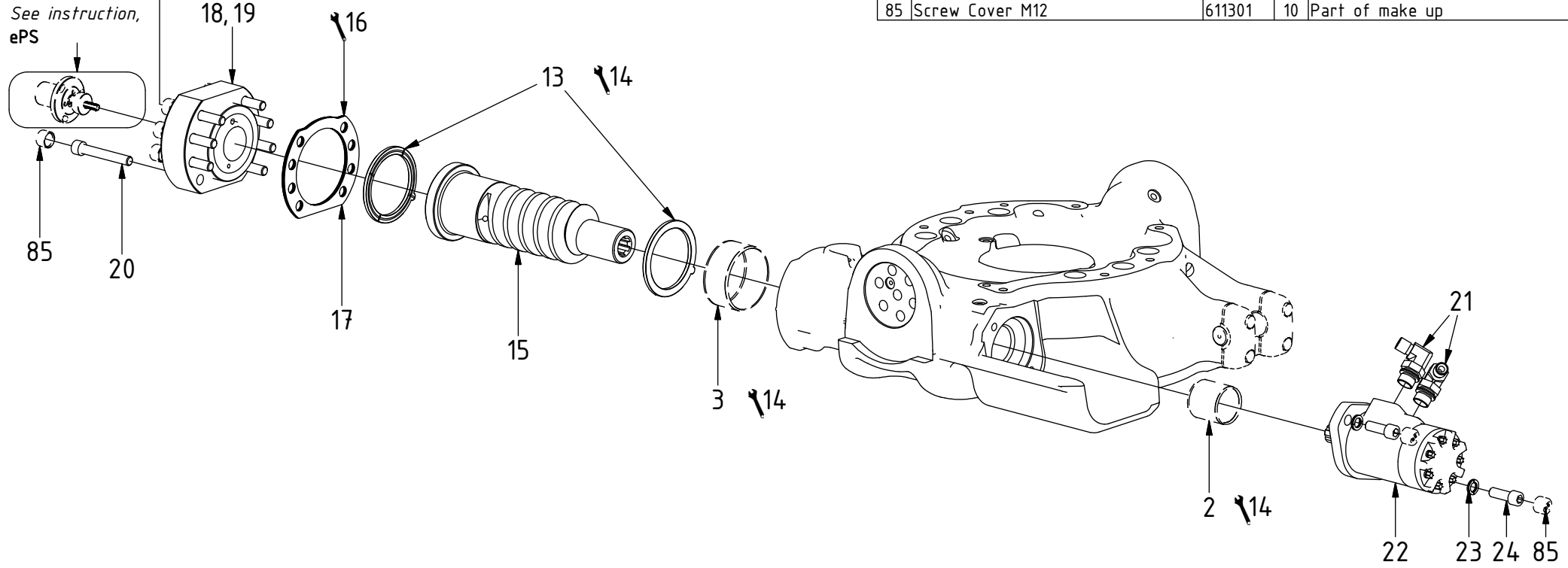


# EC214 - Rotator frame

POS in order of assembly

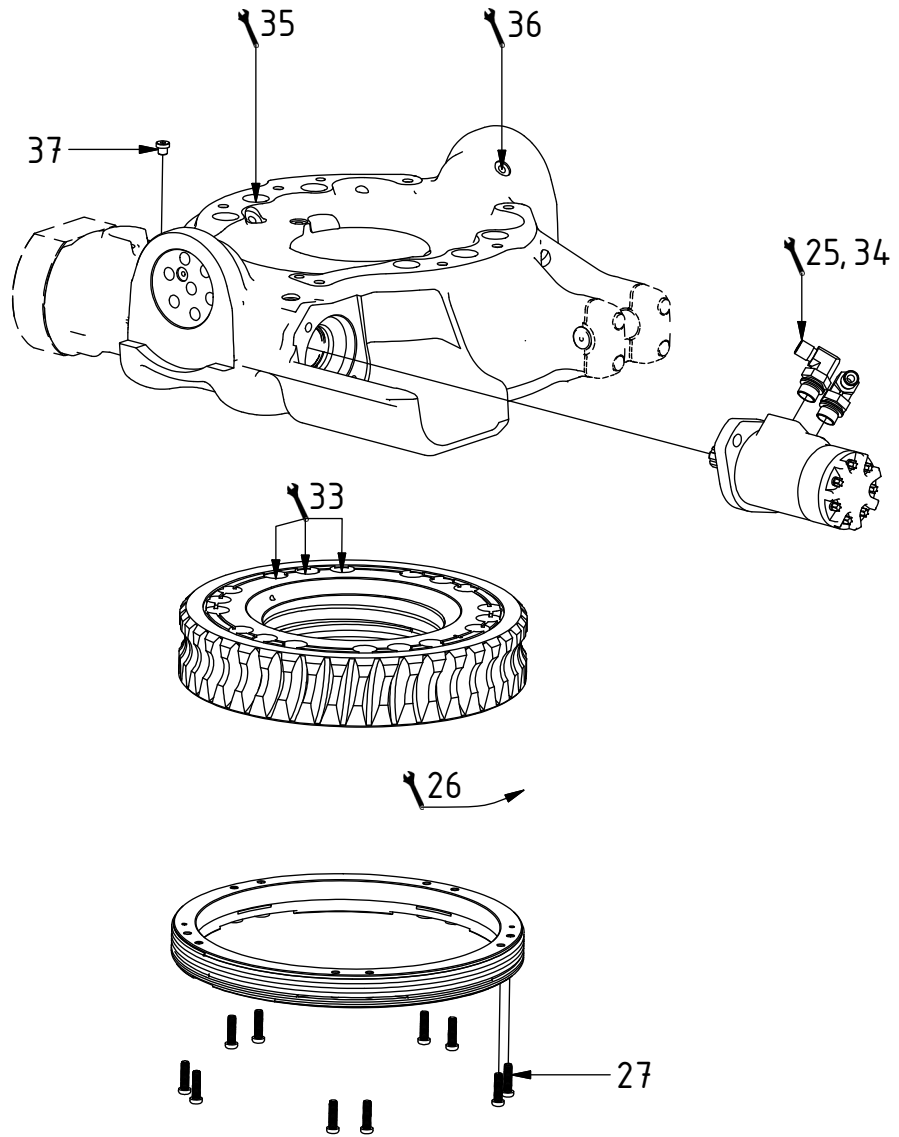


See instruction, ePS

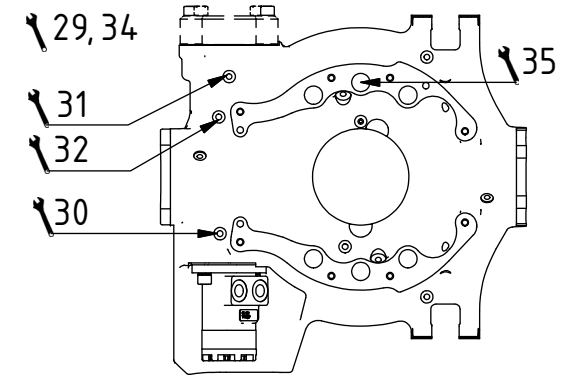
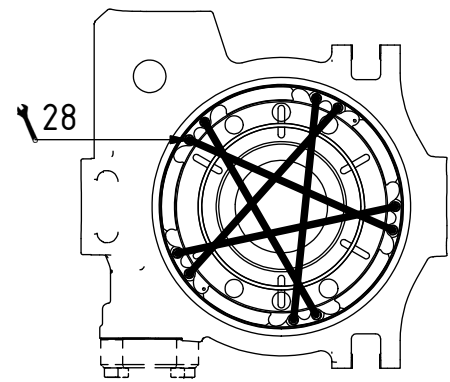


| POS | DESCRIPTION  | PART    | QTY | COMMENTS  |
|-----|--|---------|-----|---|
| 2   | Bushing WB802 45/50x50   | 630102  | 1   |   |
| 3   | Bushing 80/85x40   | 630103  | 1   |   |
| 13  | Axial washer (with ear)  | 1010758 | 2   | Face groove toward worm screw                                   |
| 14  | Grease axial washer and bushings in rotator frame generously                                     |         |     |   |
| 15  | Worm Screw EC219   | 1016408 | 1   |   |
| 16  | Rotation play: 0,05mm - 0,20mm   |         |     | Note rotation play on module card                               |
| 17  | Shims kit End lock<br>0,3-0,4-0,5-0,8-0,9-1,1 mm   | 1034434 | 1   | (1016421, 1016422, 1016423, 1025221, 1025222, 1025223 included) |
| 18  | End lock   | 1016415 | 1   | For standard & option MACS                                      |
| 19  | End lock ePS   | 1016557 | 1   | For option ePS  |
| 20  | Screw MC6S 12x80   | 610484  | 8   | Torque: 136Nm   |
| 21  | Adapter 90°  | 710157  | 2   | Assemble before connecting motor to rotator frame               |
| 22  | Motor CL131CC  | 720112  | 1   |   |
| 23  | Washer NL 12mm   | 611042  | 2   |   |
| 24  | Socket Head Screw 12x35  | 610578  | 2   | Torque: 136Nm   |
| 65  | Inductive sensor M8 PNP MACS   | 1043698 | 2   | Distance 3mm. Nut torque: 3Nm                                   |
| 66  | Attach temporary connector, turn clockwise into position, disconnect connector, tighten with nut |         |     |   |
| 67  | Protection ePS/MACS  | 1033565 | 1   |   |
| 85  | Screw Cover M12  | 611301  | 10  | Part of make up   |

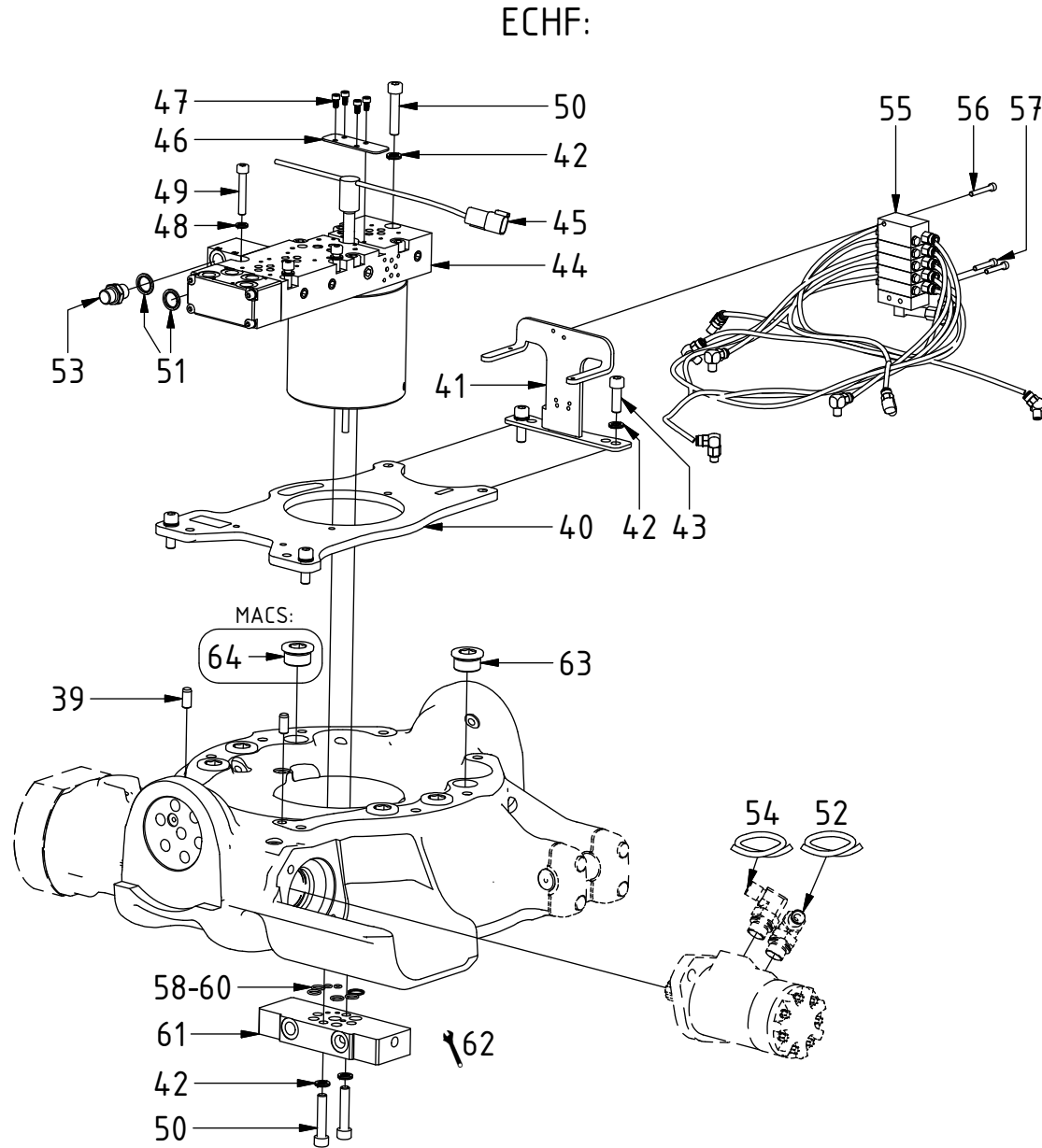
# EC214 - Rotator frame



| POS | DESCRIPTION   | PART   | QTY | COMMENTS   |
|-----|---|--------|-----|--|
| 25  | Attach temporary quick couplings to activate hydraulic motor  |        |     | Connect return hose to inner adapter, closest to rotator frame |
| 26  | Tighten bearing ring by hand while rotating worm wheel until hydraulics starts swaying. Loosen bearing ring and without hydraulics retighten until it nudges the worm wheel. Loosen bearing ring by 3cm |        |     |  |
| 27  | Screw TX40 M8x30  | 612201 | 10  | Torque: 34Nm   |
| 28  | Tighten screws in CROSS PATTERNS evenly on both sides. Then torque tighten in cross patterns. Repeat torque once more   |        |     |  |
| 29  | Attach temporary grease nipples   |        |     |  |
| 30  | Fill with grease while rotating   |        |     |  |
| 31  | Fill with grease while rotating, 5 seconds. Disconnect the temporary grease nipple  |        |     |  |
| 32  | Fill until grease emerges from POS.31   |        |     |  |
| 33  | Rotate worm wheel until the holes matches the holes in rotator frame. The head of Screw 16x90 (POS.72) may be used as measurement   |        |     | Attention, do not measure using your fingers!                  |
| 34  | Disconnect the temporary quick couplings and remaining grease nipples   |        |     |  |
| 35  | Check that no grease fills the holes mounting to quick hitch  |        |     |  |
| 36  | Central Lubrication is applied gradually, finish at POS.55  |        |     | See "Central lubrication"                                      |
| 37  | Plug Bsp 1/8"   | 711503 | 1   |  |



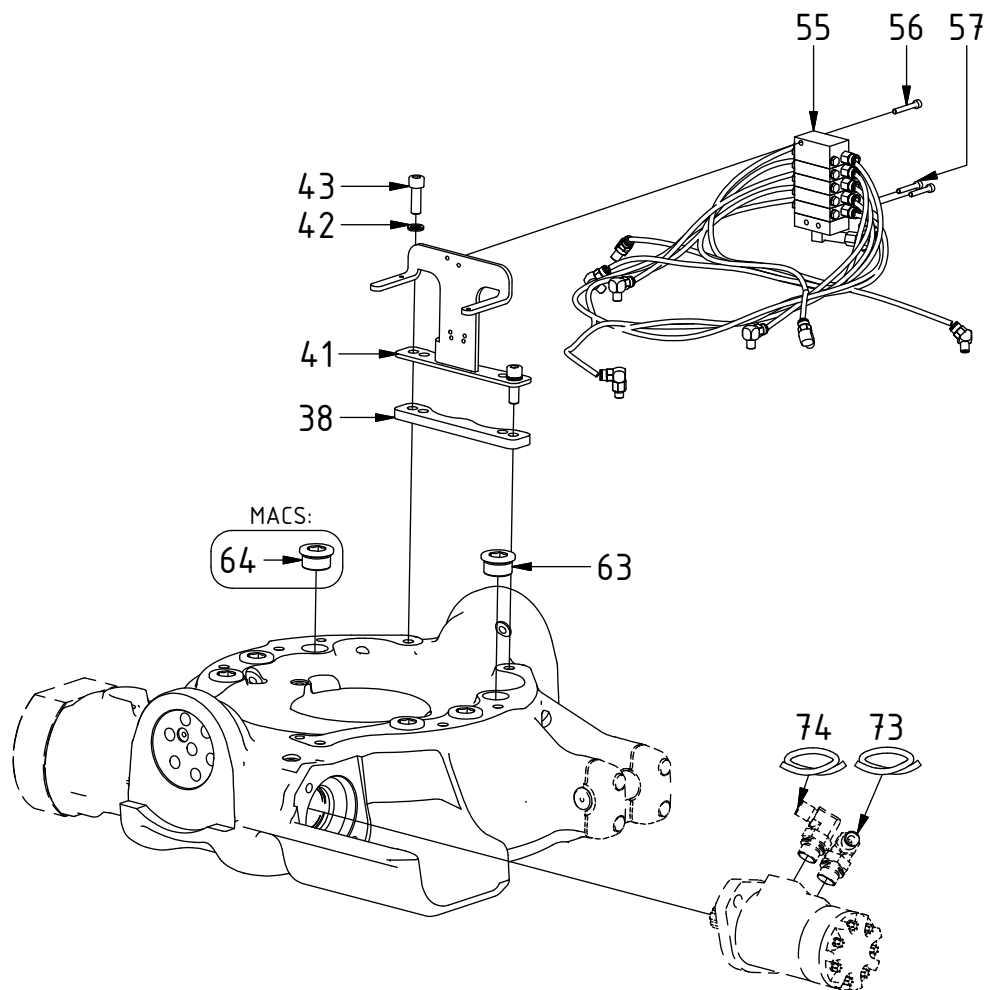
# EC214 - Rotator frame



| POS | DESCRIPTION   | PART    | QTY | COMMENTS                      |
|-----|---|---------|-----|-------------------------------|
| 39  | Cylindrical pin                                     | 1020539 | 2   |                               |
| 40  | Valve plate   | 1026199 | 1   |                               |
| 41  | Mounting plate lube. ECHF/QSM                       | 1031517 | 1   |                               |
| 42  | Washer NL 10mm                                      | 611041  | 19  |                               |
| 43  | Socket Head Screw 10x30                             | 610452  | 4   |                               |
| 44  | Valve block & Swivel Complete without slipping ECHF | 1027386 | 1   | See "Valve blocks & Swivels"  |
| 45  | Kit Slip ring ECHF DTM                              | 1030298 | 1   | For QS, see "Slip rings"      |
| 46  | Cover plate slip ring                               | 1026200 | 1   |                               |
| 47  | Socket Head Screw MC6S 5x10                         | 610594  | 4   |                               |
| 48  | Washer NL8  | 611040  | 5   |                               |
| 49  | Socket Head Screw 8x50                              | 610439  | 5   |                               |
| 50  | MC6S M10x50   | 610457  | 11  |                               |
| 51  | Sealing washer 3/8"                                 | 710703  | 2   |                               |
| 52  | Hose hydraulic motor Long                           | 743005  | 1   |                               |
| 53  | Adapter 3/8"  | 710106  | 1   |                               |
| 54  | Hose hydraulic motor Short                          | 743006  | 1   |                               |
| 55  | Lubrication kit                                     | 1026699 | 1   | See "Central lubrication"     |
| 56  | Socket Head Screw 5x35                              | 610404  | 1   |                               |
| 57  | Socket Head Screw 5x30                              | 610403  | 2   |                               |
| 58  | O-ring 6,07x1,78                                    | 712422  | 2   |                               |
| 59  | O-ring 12,42x1,78                                   | 710973  | 4   |                               |
| 60  | O-ring 15,6x1,78                                    | 710912  | 1   |                               |
| 61  | Connection block ECHF                               | 1028391 | 1   |                               |
| 62  | Guide with spring pin                               |         |     | Spring pin included in swivel |
| 63  | Pipe plug M30x1,5                                   | 650410  | 6   | QTY: 5 for option MACS        |
| 64  | Pipe plug M8x1 MACS                                 | 650412  | 1   |                               |

# EC214 - Rotator frame

Without Swivel / QSM:



| POS | DESCRIPTION                    | PART    | QTY | COMMENTS                     |
|-----|--------------------------------|---------|-----|------------------------------|
| 38  | Spacer central lubrication QSM | 1047832 | 1   |                              |
| 41  | Mounting plate lube. ECHF/QSM  | 1031517 | 1   |                              |
| 42  | Washer NL 10mm                 | 611041  | 19  |                              |
| 43  | Socket Head Screw 10x30        | 610452  | 4   |                              |
| 55  | Lubrication kit                | 1026699 | 1   | See "Central lubrication"    |
| 56  | Socket Head Screw 5x35         | 610404  | 1   |                              |
| 57  | Socket Head Screw 5x30         | 610403  | 2   |                              |
| 63  | Pipe plug M30x1,5              | 650410  | 6   | QTY: 5 for option MACS       |
| 64  | Pipe plug M8x1 MACS            | 650412  | 1   |                              |
| 73  | Hose hydraulic motor Short QSM | 7000789 | 1   | Part of quick hitch assembly |
| 74  | Hose hydraulic motor Long QSM  | 7000790 | 1   | Part of quick hitch assembly |

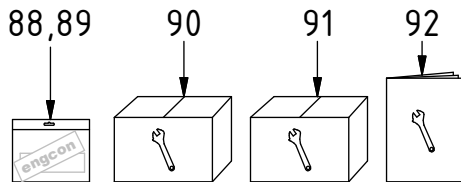
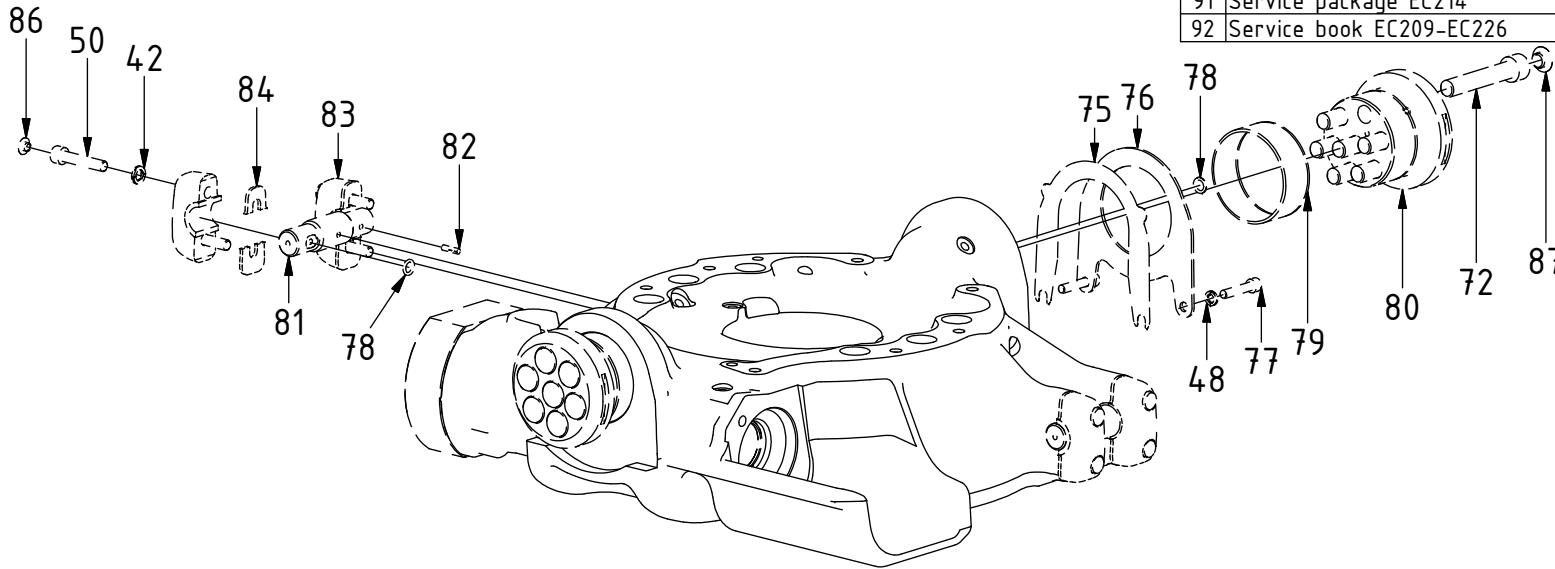
POS in order of assembly

# EC214 - Rotator frame

Top part, service, make up

| POS | DESCRIPTION                   | PART    | QTY | COMMENTS   |
|-----|-------------------------------|---------|-----|--|
| 42  | Washer NL 10mm                | 611041  | 19  |  |
| 48  | Washer NL8                    | 611040  | 5   |  |
| 50  | MC6S M10x50                   | 610457  | 11  |  |
| 72  | MC6S M16x90                   | 610530  | 14  | Torque: 333Nm. Also part of quick hitch assembly: QTY 18 |
| 75  | Shims tilt axle               | 1016420 | 1   |  |
| 76  | Tilt axle washer              | 1016417 | 1   |  |
| 77  | MC6S M8x40                    | 610437  | 2   |  |
| 78  | O-ring 9,92x2,62              | 710968  | 4   | QTY: 8 for option Wide                                   |
| 79  | Bushing 85/90x35              | 630321  | 2   |  |
| 80  | Tilt axle                     | 1016416 | 2   |  |
| 81  | Cylinder axle                 | 1016458 | 2   |  |
| 82  | Slotted pin                   | 640413  | 2   | QTY: 4 for option Wide                                   |
| 83  | Clamping half                 | 1022942 | 4   | (POS.84 included)  |
| 84  | Rubber spacer clamping half   | 1016439 | 4   |  |
| 86  | Screw Cover M10 Clamping half | 1021468 | 8   | Part of make up  |
| 87  | Screw Cover M16 Cast yoke     | 1004801 | 14  | Part of make up  |
| 88  | Sticker kit - EC214           | 1033124 | 1   | Part of make up  |
| 89  | Sticker kit - EC214 GR        | 1033123 | 1   | Part of make up  |
| 90  | Service package EC214         | 1041446 | 1   | For rotation & break play                                |
| 91  | Service package EC214         | 1041445 | 1   | With tilt axle & cylinder axle                           |
| 92  | Service book EC209-EC226      | 922004  | 1   |  |

POS in order of assembly

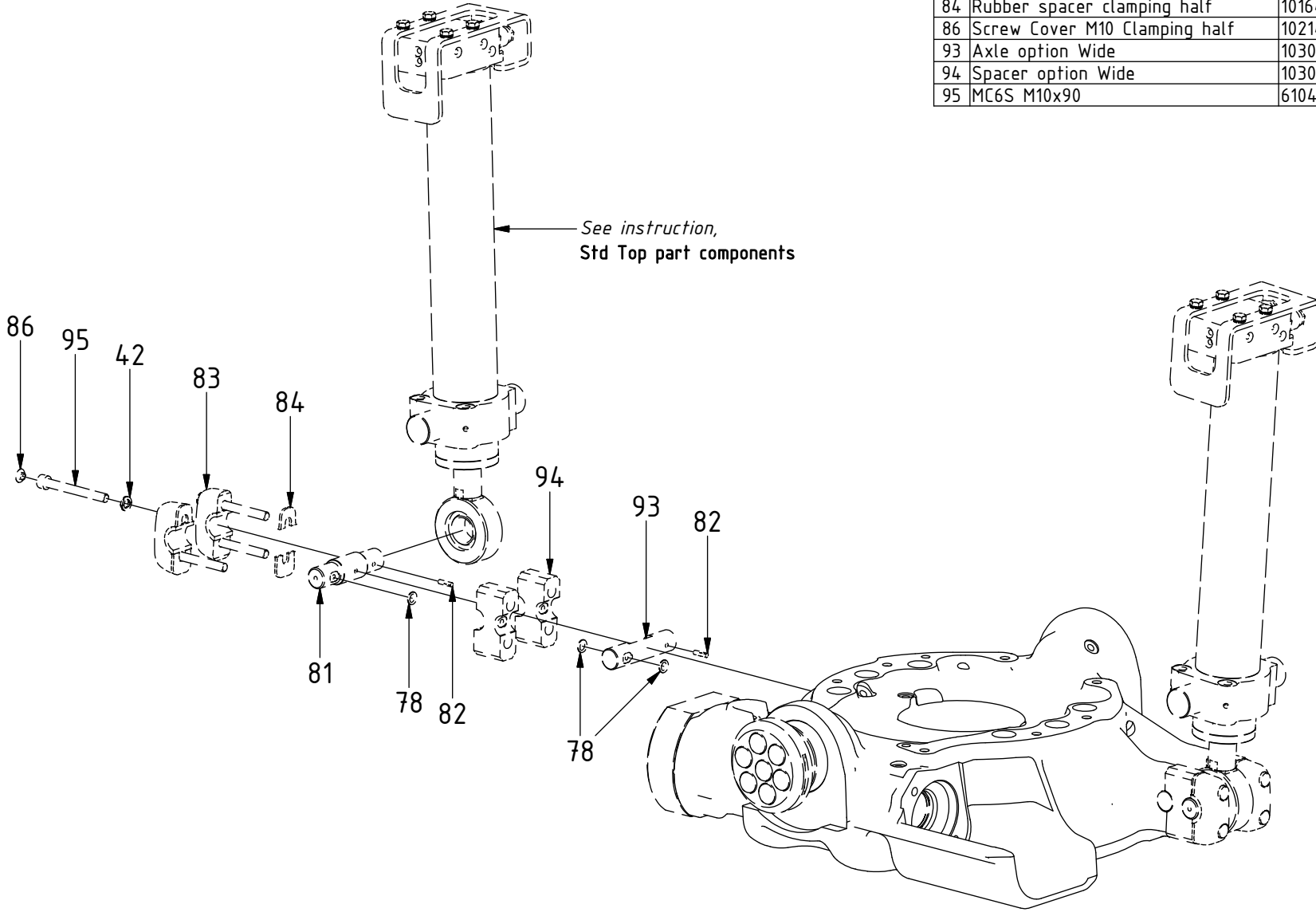


Dashed lines for overview, mounts on other pages/assemblies. indicates instruction. represents hose.

# EC214 - Rotator frame

Top part, option Wide

| POS | DESCRIPTION                   | PART    | QTY | COMMENTS               |
|-----|-------------------------------|---------|-----|------------------------|
| 42  | Washer NL 10mm                | 611041  | 19  |                        |
| 78  | O-ring 9,92x2,62              | 710968  | 4   | QTY: 8 for option Wide |
| 81  | Cylinder axle                 | 1016458 | 2   |                        |
| 82  | Slotted pin                   | 640413  | 2   | QTY: 4 for option Wide |
| 83  | Clamping half                 | 1022942 | 4   | (POS.84 included)      |
| 84  | Rubber spacer clamping half   | 1016439 | 4   |                        |
| 86  | Screw Cover M10 Clamping half | 1021468 | 8   | Part of make up        |
| 93  | Axle option Wide              | 1030070 | 2   |                        |
| 94  | Spacer option Wide            | 1030069 | 4   |                        |
| 95  | MC6S M10x90                   | 610465  | 8   | Torque: 34Nm           |

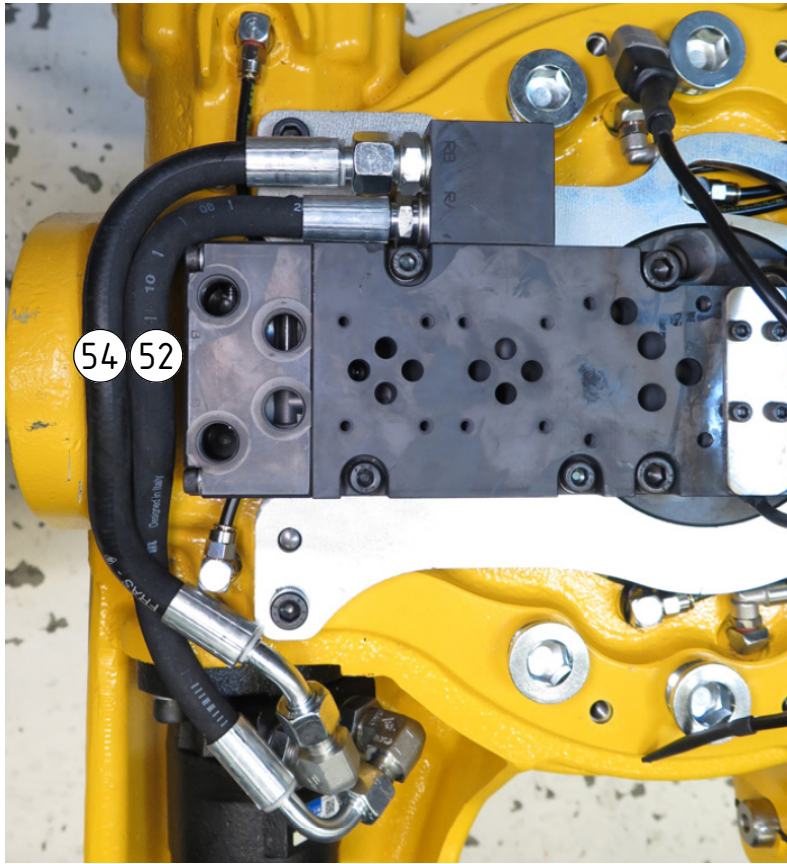


Dashed lines for overview, mounts on other pages/assemblies. indicates instruction. represents hose.



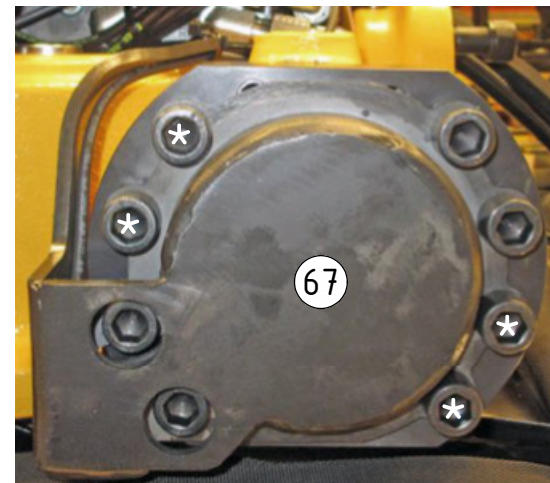
# EC214 - Rotator frame

| POS | DESCRIPTION                    | PART    | QTY | COMMENTS                     |
|-----|--------------------------------|---------|-----|------------------------------|
| 52  | Hose hydraulic motor Long      | 743005  | 1   |                              |
| 54  | Hose hydraulic motor Short     | 743006  | 1   |                              |
| 67  | Protection ePS/MACS            | 1033565 | 1   |                              |
| 73  | Hose hydraulic motor Short QSM | 7000789 | 1   | Part of quick hitch assembly |
| 74  | Hose hydraulic motor Long QSM  | 7000790 | 1   | Part of quick hitch assembly |



As close/tight as possible (see the circled areas)

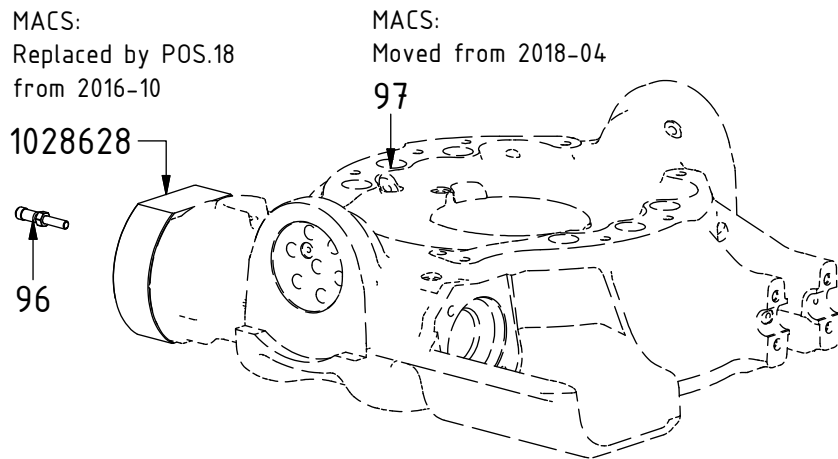
Option ePS/MACS



\*No torque until control system assembly

Related spare parts:

| POS | DESCRIPTION                  | PART    | QTY | COMMENTS   |
|-----|------------------------------|---------|-----|--|
| 7   | Worm wheel 18h EC214         | 1046396 | 1   |  |
| 18  | End lock                     | 1016415 | 1   | For standard & option MACS                                       |
| 65  | Inductive sensor M8 PNP MACS | 1043698 | 2   | Distance 3mm. Nut torque: 3Nm                                    |
| 96  | Inductive sensor M8-M12 MACS | 1028045 | 1   | Replaced by POS.65 from 2017-08<br>Distance 4mm. Nut torque: 3Nm |
| 97  | Pipe plug location           |         |     | Current location found on p.5                                    |



MACS:  
Replaced by POS.18  
from 2016-10

MACS:  
Moved from 2018-04

Replaced by POS.7 from 2018-10

