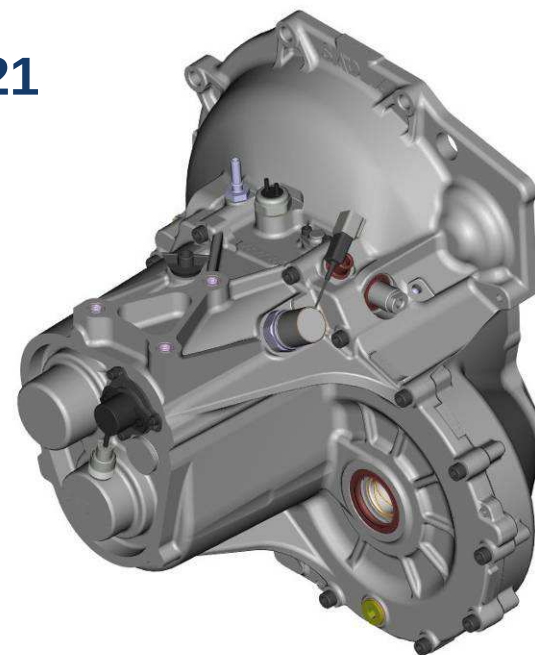




## TECHNICAL MANUAL

**GEARBOX/ ST82LW PEUGEOT / OPEL**

**Version : 17/11/2021**



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## 1. GENERAL DETAILS

The transmission kit is composed of 5 forward gears + 1 reverse gear. The weight of the complete gearbox is 34.5kg.

The gearbox includes:

- the self locking differential
- the mechanical upshift sensor
- an electric reverse gear locking mechanism
- the slave cylinder
- the oil pump

## 2. RATIO CHARTS

PEUGEOT SPORT / OPEL MOTORSPORT has homologated the ratio charts below :

|                 | 1st |                        | 2nd |                        | 3rd |                      | 4th |                      | 5th |                      |
|-----------------|-----|------------------------|-----|------------------------|-----|----------------------|-----|----------------------|-----|----------------------|
| Primary shaft   | 12  | Ref : D829063N01915F5F | 14  | Ref : D829063N01915F5F | 17  | Ref : C8214N1725915F | 22  | Ref : C8214N2226915F | 21  | Ref : C8214N2120915F |
| Secondary shaft | 32  |                        | 27  |                        | 25  |                      | 26  |                      | 20  |                      |

| REVERSE GEAR |    |
|--------------|----|
| Primary      | 16 |
| Idler        | 22 |
| Secondary    | 37 |

| DIFFERENTIAL         |                         |                        |
|----------------------|-------------------------|------------------------|
| Version              | 1                       | 2                      |
| Driving ramp (angle) | 27°                     | 42°                    |
| Braking ramp (angle) | 57°                     | 63°                    |
| Part number          | F90623711 (Tarmac spec) | F90623711(Gravel spec) |

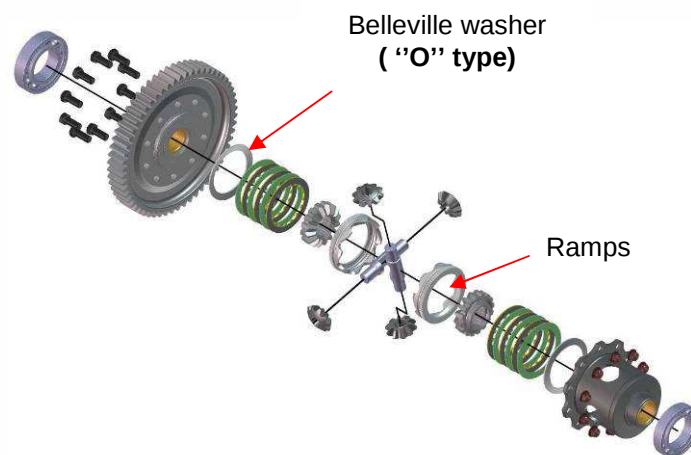
| FINAL DRIVE |    |    | Ref            |
|-------------|----|----|----------------|
| Final drive | 12 | 56 | CPL12569062091 |

### 3. DIFFERENTIAL SET-UP

The differential is a self-locking type, with 6 frictions faces on each side and pressure plates with ramps, acting either for accelerating or braking phase.

The preload is adjusted by changing the Belleville washers stroke.

The locking ratio may be adjusted by changing the ramps. The chosen ramps are 27 ° for acceleration and to 57° for deceleration.  
"tarmac selection" (second option : 42°/ 63° gravel selection)



From the factory, the preload of the differential is adjusted to 130Nm, cold with no running-in.

- Preload decreases from approximately 15% after 50 kilometers of running.
- The measured preload when cold is approximately 15% higher than when measured warm.



Note: If the run-in and hot, preload decreases between 35 to 40Nm, it will be necessary to replace the Belleville washer.

Note: If the run-in and hot, preload decreases more than 40 Nm, it will be necessary to replace the Belleville washer and the friction/plate discs.

#### 4. LIST OF BELLEVILLE WASHERS AVAILABLE

| REFERENCE | DESIGNATION                     | Preload (20°C) |
|-----------|---------------------------------|----------------|
| F9004241  | BELLEVILLE WASHER CURVE 0,6 mm  | 38 N.m         |
| F9004242  | BELLEVILLE WASHER CURVE 0,8 mm  | 51 N.m         |
| F9001096  | BELLEVILLE WASHER CURVE 1 mm    | 64 N.m         |
| F0085914  | BELLEVILLE WASHER CURVE 1,2 mm  | 76 N.m         |
| F9001097  | BELLEVILLE WASHER CURVE 1,35 mm | 86 N.m         |
| F1401052  | BELLEVILLE WASHER CURVE 1,5 mm  | 95 N.m         |
| F9001098  | BELLEVILLE WASHER CURVE 1,7 mm  | 108 N.m        |
| F9001010  | BELLEVILLE WASHER CURVE 1,85 mm | 117 N.m        |
| F9001102  | BELLEVILLE WASHER CURVE 2 mm    | 127 N.m        |
| F9001099  | BELLEVILLE WASHER CURVE 2,2 mm  | 140 N.m        |
| F9001100  | BELLEVILLE WASHER CURVE 2,4 mm  | 152 N.m        |
| F9001101  | BELLEVILLE WASHER CURVE 2,6 mm  | 165 N.m        |

## 5. LUBRICATION

Oil capacity: 1,0 L (+ 0.1 L with the cooling circuit)

Lubrication: integrated pump

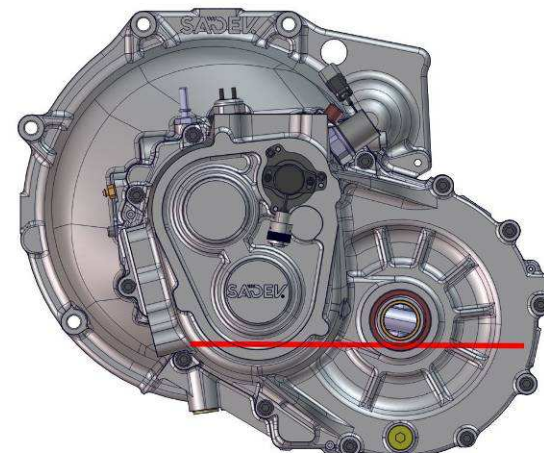
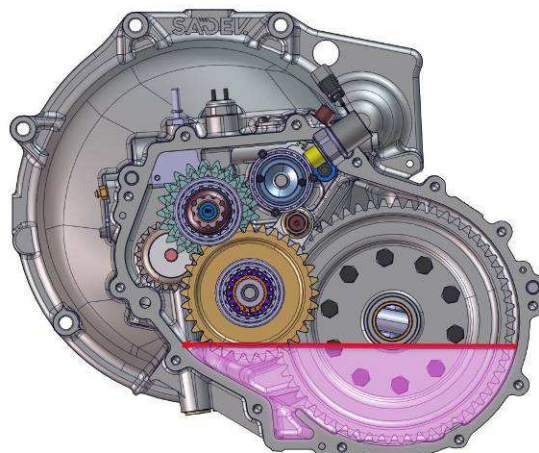
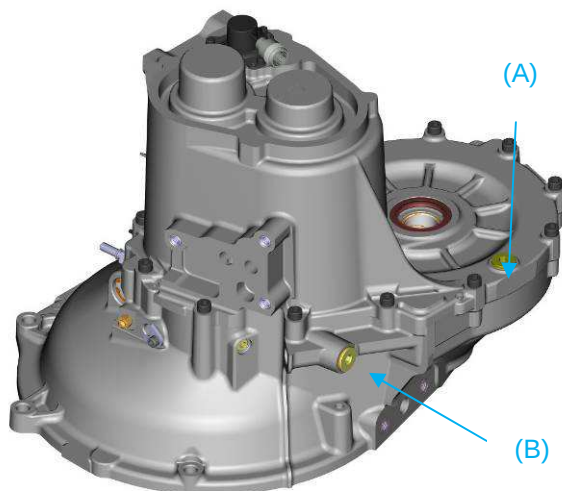
| 1 <sup>st</sup> oil change | Oil change | Viscosity |
|----------------------------|------------|-----------|
| After a 50 km running-in   | 300Km      | 75W90     |

Gearbox cooler:

- Not delivered with the gearbox, **add oil according to the cooling circuit capacity**

TO DRAIN THE GEARBOX:

- Disassemble the drain magnet plug (A), and clean it up
- Pump suction screen : SADEV suction screen (B) ➡ **CLEAN THE SUCTION SCREEN AT EVERY OIL DRAIN**



Oil level (with 1.0Liter)

WASHING UNDER PRESSURE:

- When the gearbox is removed, seal correctly all the openings, to prevent any water getting into the gearbox.

## 6. SENSORS

CONTACTLESS BARREL POSITION SENSOR (F0089049): +0.5V to +4.5V

**Nota Bene:** Sensor adjusted in our workshop = **2.500V  $\pm$ 0.05** on 2<sup>nd</sup> gear

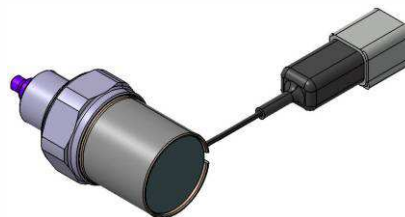
- Red wire: +5Vdc
- Black wire: Ground
- Brown wire: Signal between 10 and 90% of 5Vdc



| Barrel angle<br>°deg | Voltage (V) | Gear |
|----------------------|-------------|------|
| 0                    | 0.58        | R    |
| 57.5                 | 1.22        | N    |
| 115                  | 1.86        | 1    |
| 172.5                | 2.500       | 2    |
| 230                  | 3.12        | 3    |
| 287.5                | 3.76        | 4    |
| 345                  | 4.39        | 5    |

REVERSE GEAR SOLENOID (F90534161): NOT POLARIZED

supply voltage:12V



THE POWER SHIFT SENSOR (F0089071):

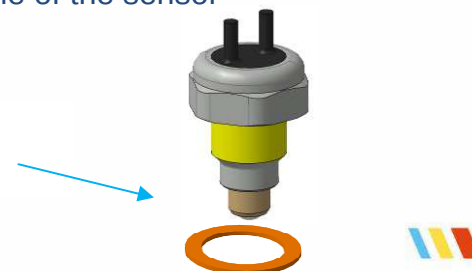
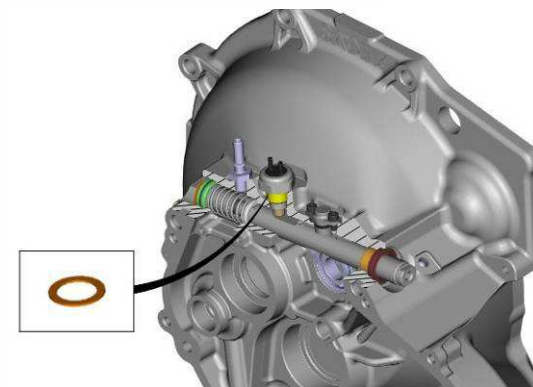
CONNECTION: NOT POLARIZED

Sensor position adjusted in our workshop

Setting: the more you increase the thickness of the washer the more you delay the detection time of the sensor

Set power shift washer, part number F9050417-1

Thickness: F9050417-1.00 ; F9050417-1.25 ; F9050417-1.50 ; F9050417-1.75 ; F9050417-2.00



## 7. GEAR SHIFTING

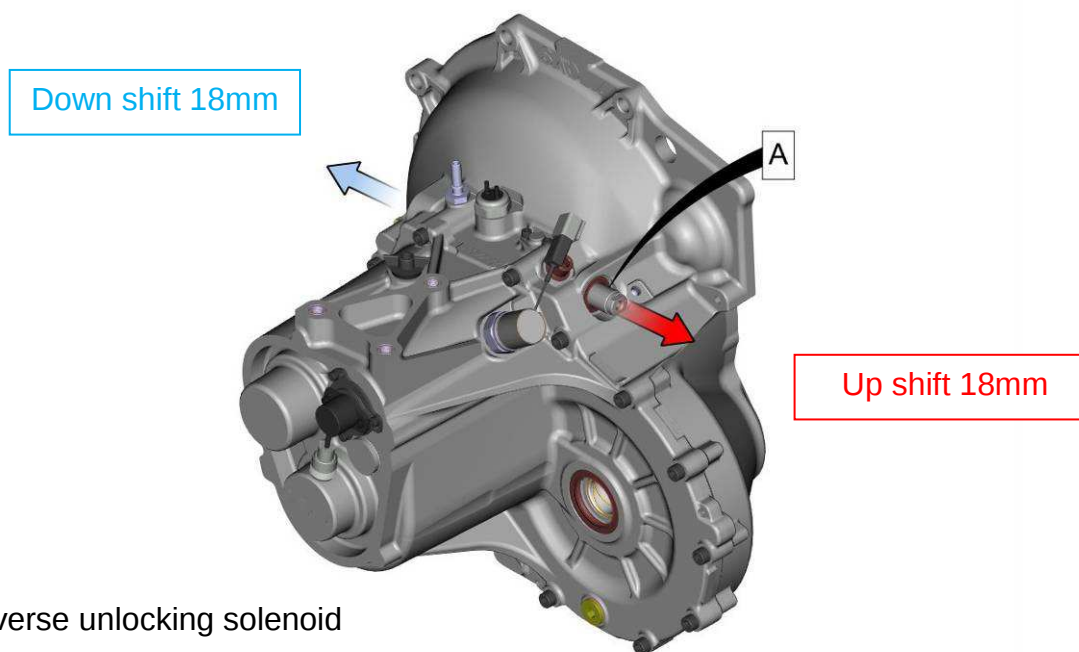
IN MANUAL: Pull on the selector shaft to shift up the gears (A).

GRID: R-N-1-2-3-4-5

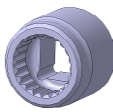
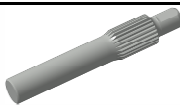
SELECTOR SHAFT THROW: 18mm Up / Down

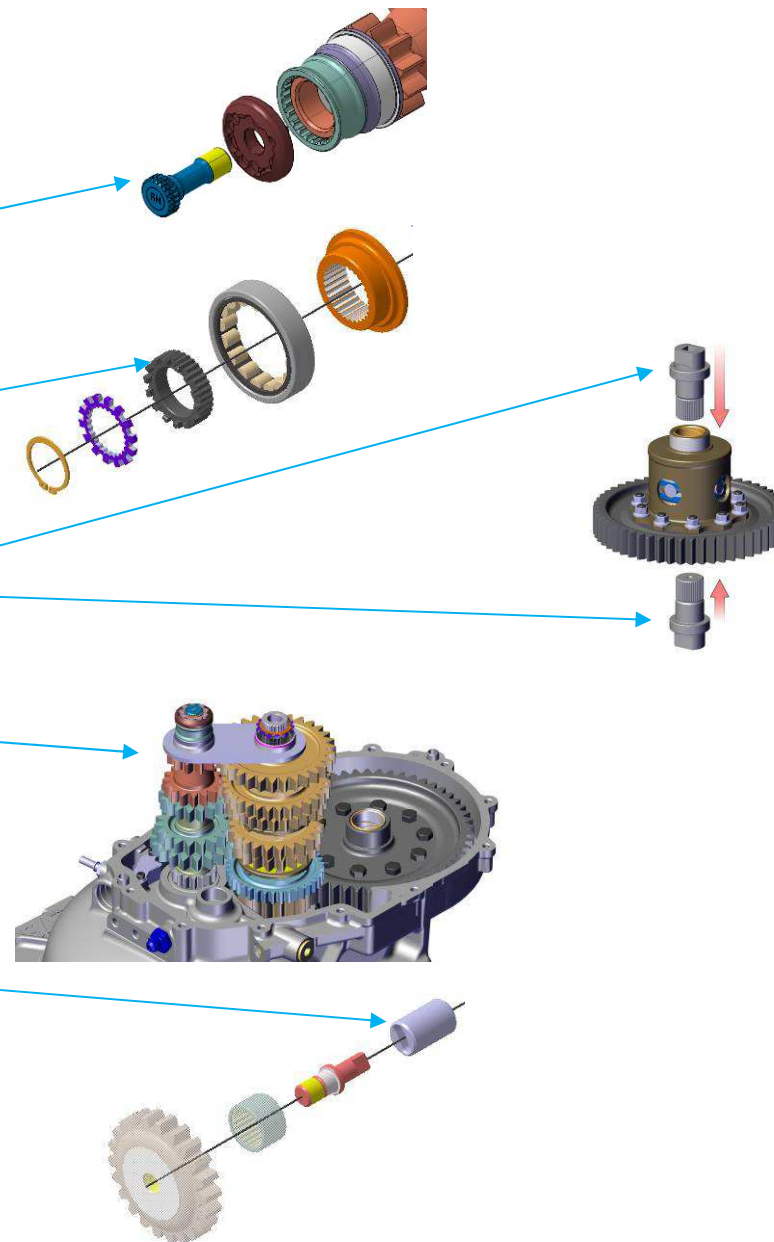
REVERSE GEAR LOCKING SYSTEM:

- From Neutral to Reverse gear => use the reverse unlocking solenoid
- 
- From 1st to Neutral => use the reverse unlocking solenoid



## 8. SPECIAL TOOLS

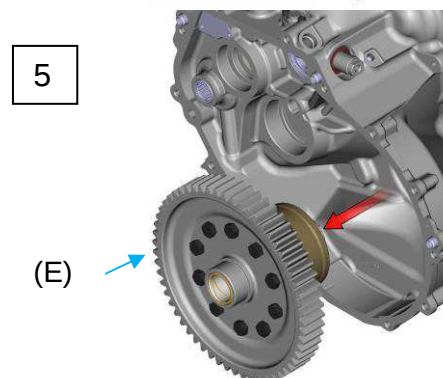
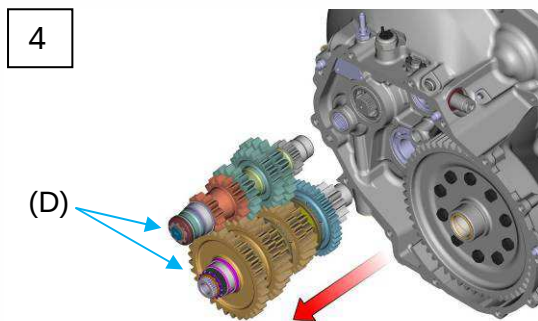
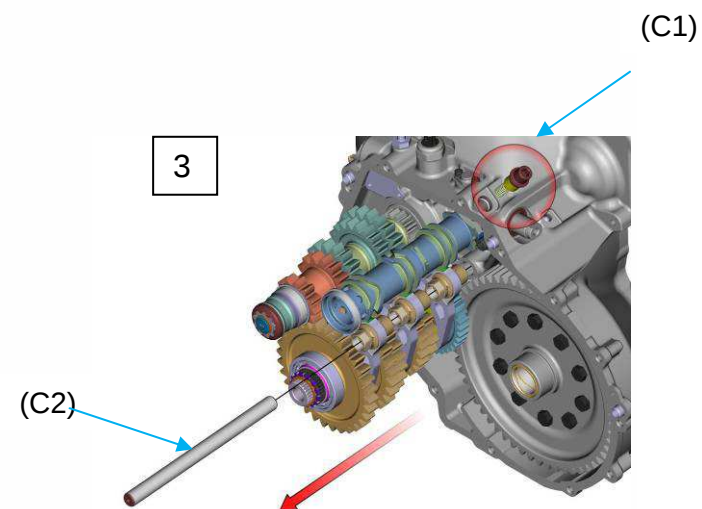
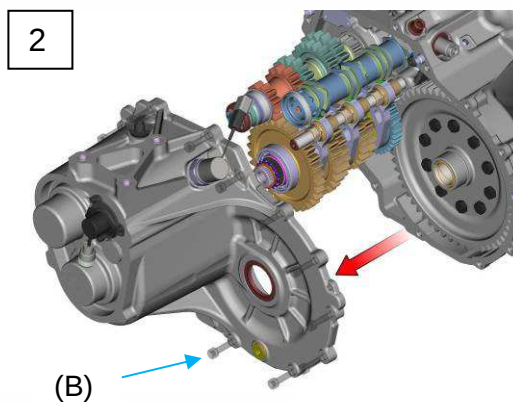
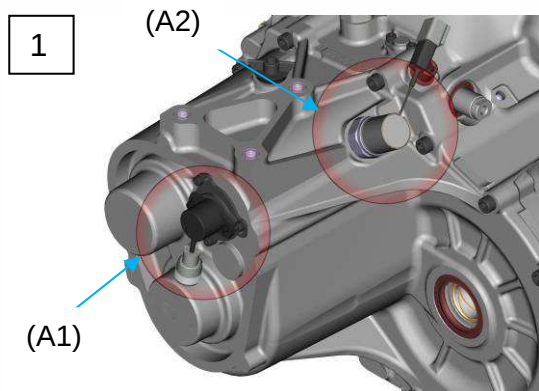
|                                                                                     |                |                                                  |
|-------------------------------------------------------------------------------------|----------------|--------------------------------------------------|
|    | FOUT9062100    | Socket for primary shaft screw (F9062105)        |
|     | FOUT9003276    | Socket for secondary shaft nut (F9062202)        |
|    | FOUT9046009 x2 | Socket for diff input shaft preload (41 splines) |
|    | FOUT9063001    | Anti-splay plate<br>(locking tool for geartrain) |
|  | FOUT3201001    | Socket for pump axle (F3201054)                  |
|   | FOUT1517001    | Clutch centring shaft                            |



## 9. INFORMATION ABOUT DISASSEMBLY

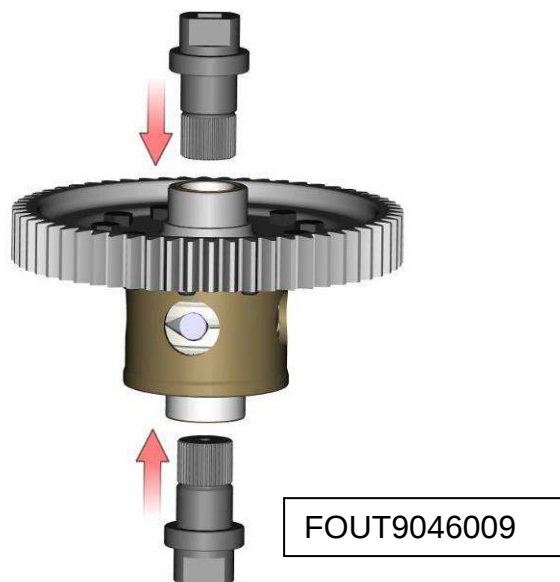
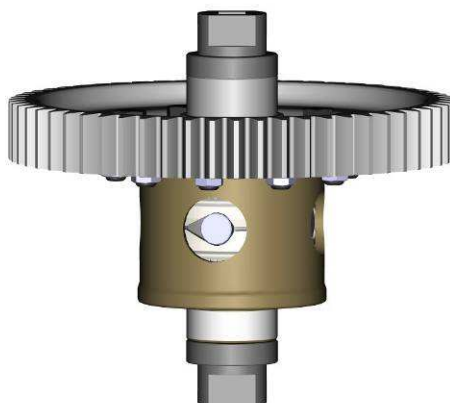
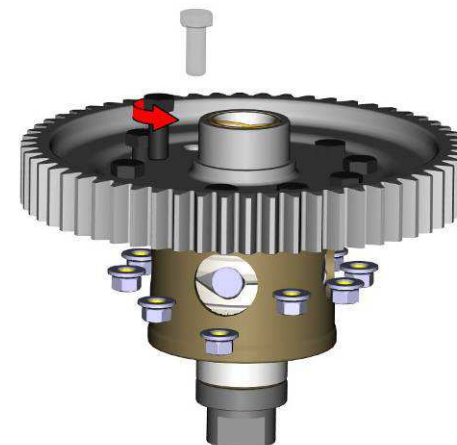
### DISASSEMBLY OF THE GEAR CLUSTER :

- 1- Remove the potentiometer (A1) and the reverse gear sensor (A2) from the housing.
- 2- Unscrew the M8 bolts and remove the cluster housing (B)
- 3- Remove the indexer screw (C1) then the fork shaft (C2) to disassemble the barrel and the forks.
- 4- Remove the gear cluster (D).
- 5- Remove the differential (E).



### DISASSEMBLY THE DIFFERENTIAL :

1. Install the differential assembly on a vise with tool FOUT9046009 (A)
2. Before removing the differential, check and note its preload using a second toll FOUT9046009 (B)
3. Remove the upper tool FOUT9046009, and unscrew the 10 screws HM 10 as well as the 10 flange nuts M10x125 (Heat if necessary) (C)

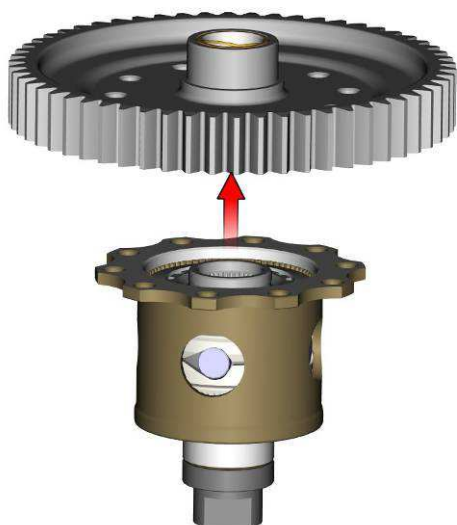
**A****B****C**

Remove the crown. **(D)**

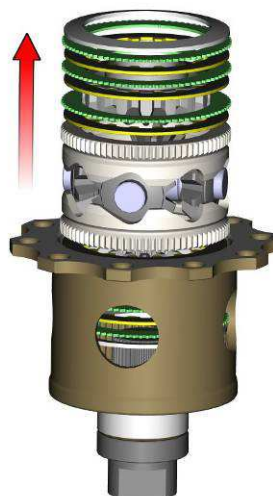
4. Extract the entire mechanism from the differential case. **(E)**

CAUTION: Remove the components from the differential mechanism one by one, noting their direction and order of assembly.

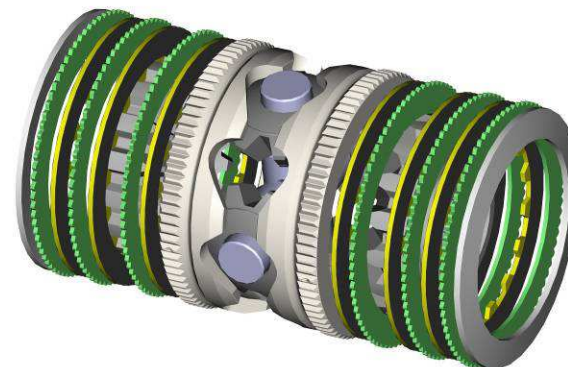
1. Clean and degrease the parts, check their condition and replace them if necessary "Belleville washers, core discs, friction discs etc." **(F)**



D



E



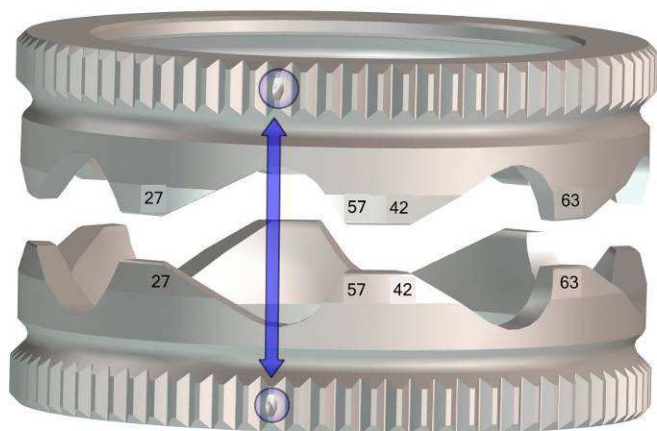
F

The differential plate chosen by PEUGEOT SPORT / OPEL MOTORSPORT have double ramps, so to switch from the tarmac version to the gravel version you just have to position the planet axles in the appropriate ramps.

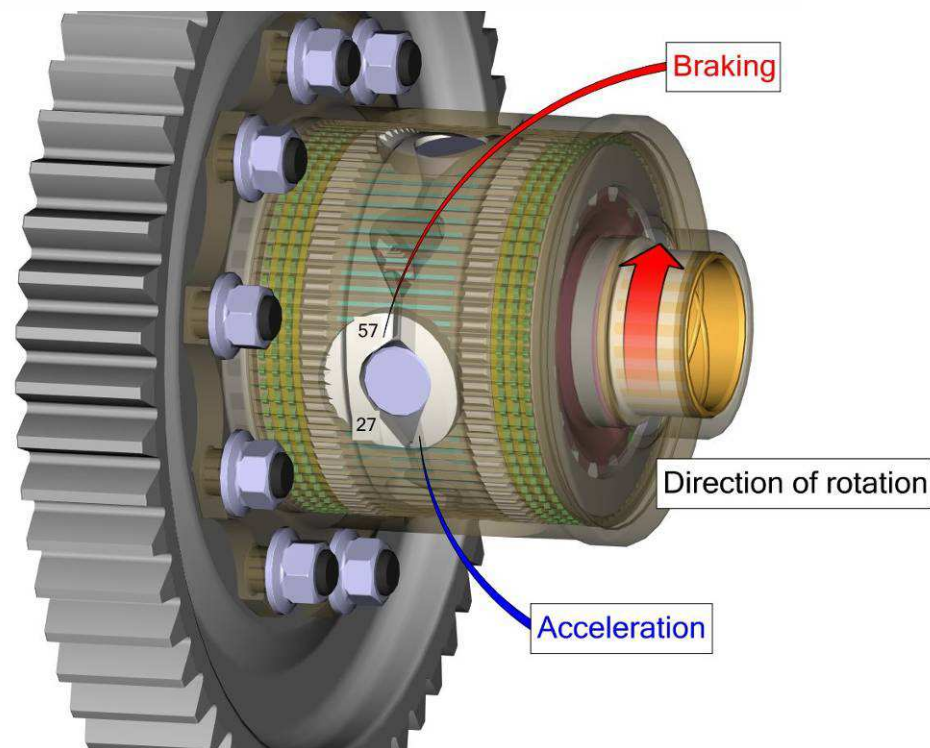
Technical characteristics of differential plate approved by PEUGEOT SPORT / OPEL MOTORSPORT: see page 3

The differential plate has marks to direct one opposite to the other. Be careful to always keep the marks aligned with each reassembly. (see photo 1)

The angles of the differential plate are engraved on the parts.

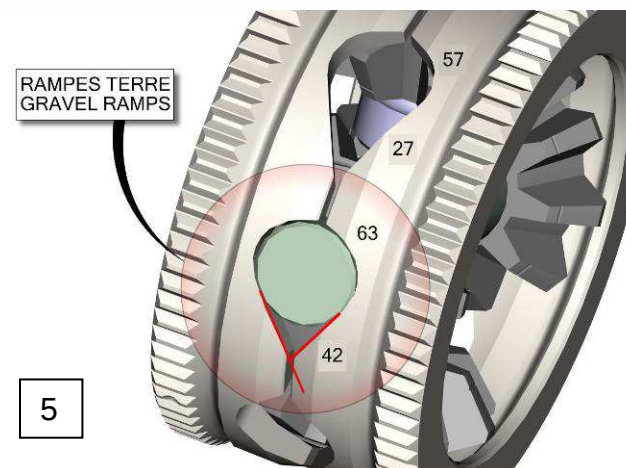
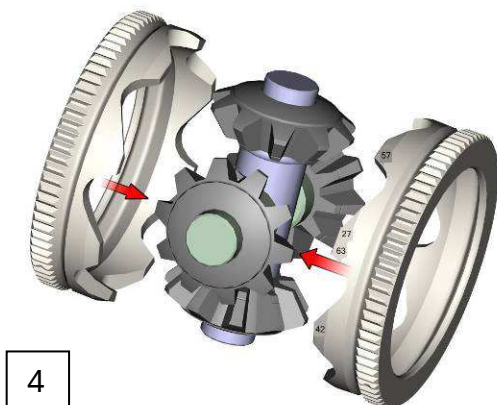
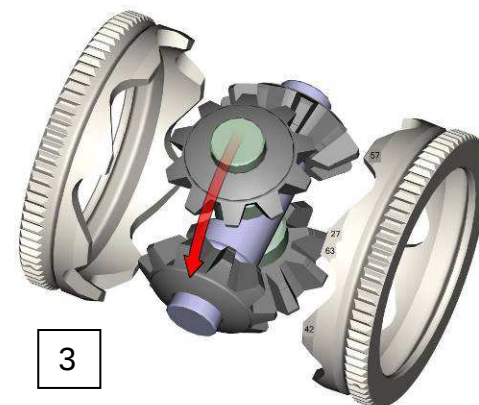
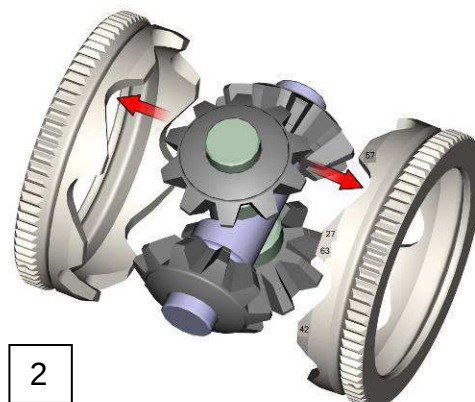
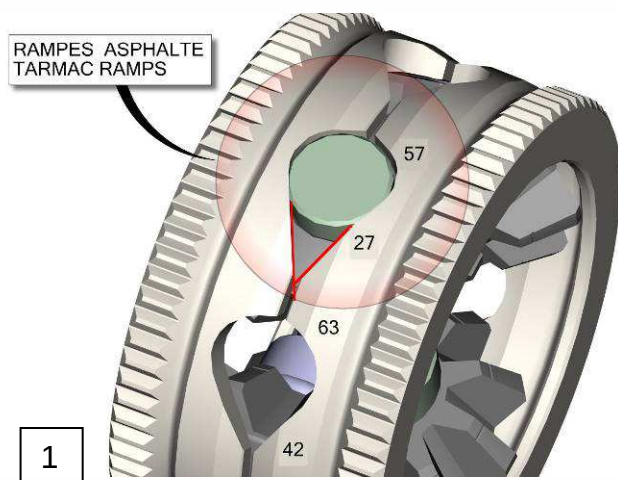


1



2

# PROCEDURE FOR CHANGING TARMAC RAMP (27 ° / 57 °) IN GRAVEL VERSION (42 ° / 63 °)



Reassemble the components of the differential mechanism lubricated with gearbox oil one by one in the direction and order previously noted.

**CAUTION** : Check the correct orientation of the Accel / brake ramps (see illustration on page 13) before refitting the differential plate in the differential case.

It is recommended that the differential plate opening faces the holes in the differential case to ensure the lubrication of the packing. (1)

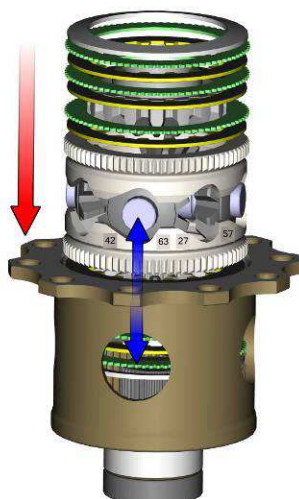
Refit the differential crown on the differential case ideally with new 10 M10x125 nuts and 10 new HM10 screws glued to loctite 648 and tightened to 100N.m. (2)

NOTE: Screws and nuts previously cleaned and degreased if they are reused.

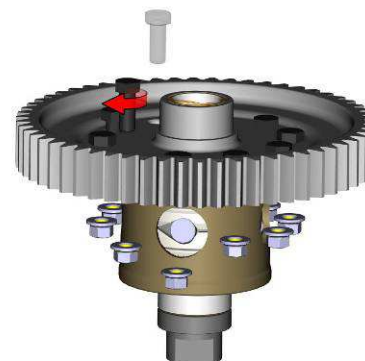
Reposition the differential assembly in the clutch housing. (3)

Reassemble the primary and secondary lines, then the forks; barrel and fork axle. Refit the cluster housing with the M8 screws previously cleaned and glued with loctite 222 and tightened to 25 N.m.

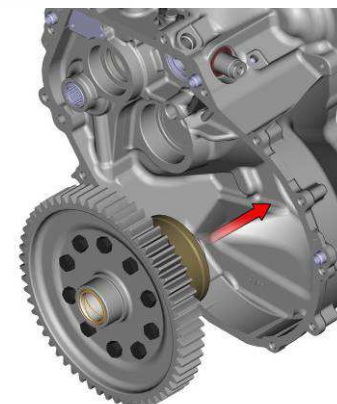
Assemble on the cluster housing the reverse gear solenoid and barrel sensor and its support.



1



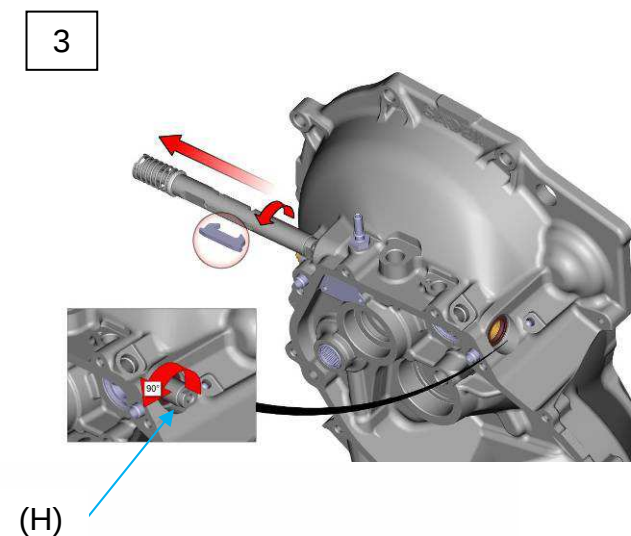
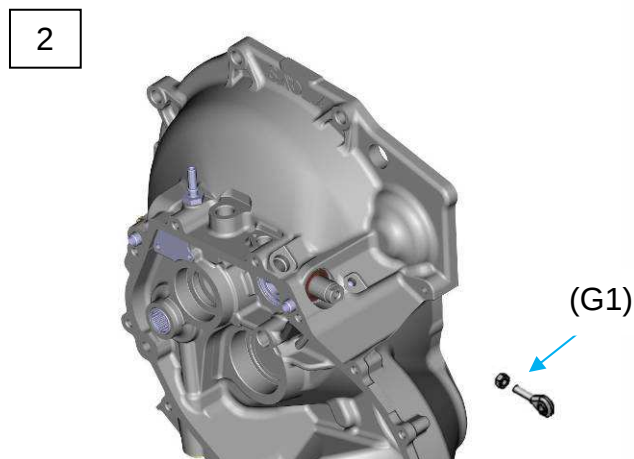
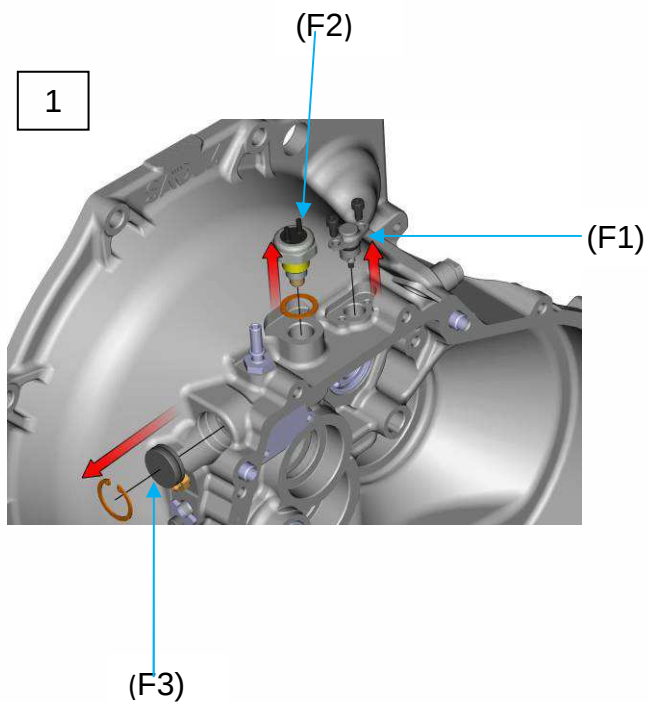
2



3

## REMOVING THE SELECTOR SHAFT :

- 1- Remove the complete ratchet spring guide (F1), the power shift sensor (F2) and the end cap (F3).
- 2- Disconnect the male rod end (G1).
- 3- Turn the selector about 90° anticlockwise **"indexor side"** (H) and remove. Be careful to keep the dual pin rock!



## 10. SERVICE PLANNING

The service plan of the gearbox is based on common experience of both SADEV PEUGEOT SPORT and OPEL MOTORSPORT. The information given about service plan can be updated depending on future developments.

| ELEMENT                 | PART NUMBER | ACTION                                                                          | FREQUENCY               |
|-------------------------|-------------|---------------------------------------------------------------------------------|-------------------------|
| <i>Gearbox check-up</i> | <i>all</i>  | <i>Complete rebuilding in order to check all the gears and the differential</i> | <i>800 - 1000 km ES</i> |

| KIT                   | MAINTENANCE                                                                                                                               |
|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <i>KITREVST82LW02</i> | <i>Control primary and secondary geartrain, selector, differential (all safety fixing components, shafts nuts , clips, O'rings seals)</i> |
| <i>KITRLTST75LW</i>   | <i>Bearings :Control and/or change all bearings of the gearbox</i>                                                                        |

| PART NUMBER<br>KITREVST82LW02 | DESIGNATION                         | Qty | Attribution         |
|-------------------------------|-------------------------------------|-----|---------------------|
| 0206008                       | Viton double lip seal Ø 30 x 40 x 7 | 1   | Primary geartrain   |
| 9907109                       | SW18 Seeger snap ring               | 1   | Primary geartrain   |
| F9062602                      | Ø 23 x 1,7 Snap ring                | 1   | Primary geartrain   |
| 0601004                       | Ø27 Outer circlip                   | 1   | Secondary geartrain |
| 0305111                       | H M10 x 25 pas de 125 cl 12.9 Screw | 10  | Differential        |
| F9062314                      | M10 x 125 Collar nut                | 10  | Differential        |
| 0201017                       | Ø 10 x 2,5 Nitrile O'ring           | 1   | Selector            |
| 0201290                       | Ø 10 x 1,5 Nitrile O'ring           | 1   | Selector            |
| 0202079                       | Ø 14 x 1,5 Viton O'ring             | 1   | Selector            |
| 0205099                       | Ø 20 x 30 x 5 Double lip seal       | 1   | Selector            |
| 0801026                       | 0,6 x 5,5 x 15,5 Spring             | 1   | Selector            |
| 0206060                       | Ø 42 x 55 x 7 Viton double lip seal | 1   | Housing             |
| 0599002                       | 16,1 x 23 x 1 Copper washer         | 3   | Housing             |
| 0202041                       | Ø 8,5 x 1,5 O'ring                  | 1   | Housing             |
| 0206024                       | Ø 32 x 52 x 7 Viton double lip seal | 1   | Housing             |
| 0201105                       | Ø 36 x 2 O'ring                     | 1   | lubrication         |

| PART NUMBER<br>KITRLTST75LW | DESIGNATION         | Qty | Attribution         |
|-----------------------------|---------------------|-----|---------------------|
| 0103012                     | NU 1007 ECP Bearing | 1   | Primary geartrain   |
| 0103056                     | NU 205 ECP Bearing  | 1   | Primary geartrain   |
| 0103012                     | NU 1007 ECP Bearing | 1   | Primary geartrain   |
| 0103018                     | NJ 2206 ECP Bearing | 1   | Secondary geartrain |
| 0101010                     | 6209 Bearing        | 1   | Differential        |
| 0101041                     | 6009 Bearing        | 1   | Differential        |
| 0101126                     | 61809 Bearing       | 1   | Selector            |
| 0101004                     | 6004 Bearing        | 1   | Selector            |

| PART NUMBER<br>02990612 | DESIGNATION                          | Qty | Attribution    |
|-------------------------|--------------------------------------|-----|----------------|
| 0299061                 | Piston O'ring 85 sh. Ø 52 x 47,5 x 3 | 1   | Clutch bearing |
| 0299062                 | Piston o'ring85 sh. Ø 40 x 44,5 x 3  | 1   | Clutch bearing |
| 0211012                 | Ø 55,25 x 2,62 O'ring                | 1   | Clutch bearing |
| 0211013                 | Ø 52 x 1,5 O'ring                    | 1   | Clutch bearing |

## 1) SADEV workshop rebuild

- The gearboxes are delivered sealed and numbered.
- SADEV will adopt a careful attitude when receiving a gearbox without any 'SADEV' seals. This will also be valid if the gearbox shows minor or major damages.

### In house gearbox rebuild :

At the time the gearboxes return to us, we follow a strict Receiving procedure, so that we can do a full service complete with bench testing of the gearbox. We must receive the complete product as described below:

- Gear box drained and cleaned
- Release bearing in place
- Oil pump in place
- Lubrication ports closed with proper plugs
- Shifter sensor and reverse gears locking, in place
- Drain plug and drain plug seal in place
- Differential in place
- A form specifying the kilometres of the special stages and road stages since the last service

### Administrative procedure:

1. Contact Peugeot Citroën Opel Racing Shop sales department: <mailto:racingshop@stellantis.com> Tél:33(0)130112700
2. APPROXIMATELY 2 TO 3 WEEKS OF DELIVERY LEAD TIME MUST BE CONSIDERED, [please confirm with our sales department.](#)

## 2) Rebuilt by yourself

- Retail parts to rebuild the gearbox, are available only from PEUGEOT CITROEN OPEL RACING SHOP sales service.

**SADEV IS NOT RESPONSIBLE FOR ANY DAMAGE FOLLOWING A SERVICE NOT DONE AT A SADEV APPROVED AGENT/DEALER**



| Type of gearbox | N° of gearbox                           | Date |
|-----------------|-----------------------------------------|------|
|                 |                                         |      |
|                 | (Visible on the top of gearbox housing) |      |

| Team | Delivery adress |
|------|-----------------|
|      |                 |

| Work requested |
|----------------|
|                |

| Deadline requested | Next race |
|--------------------|-----------|
|                    |           |

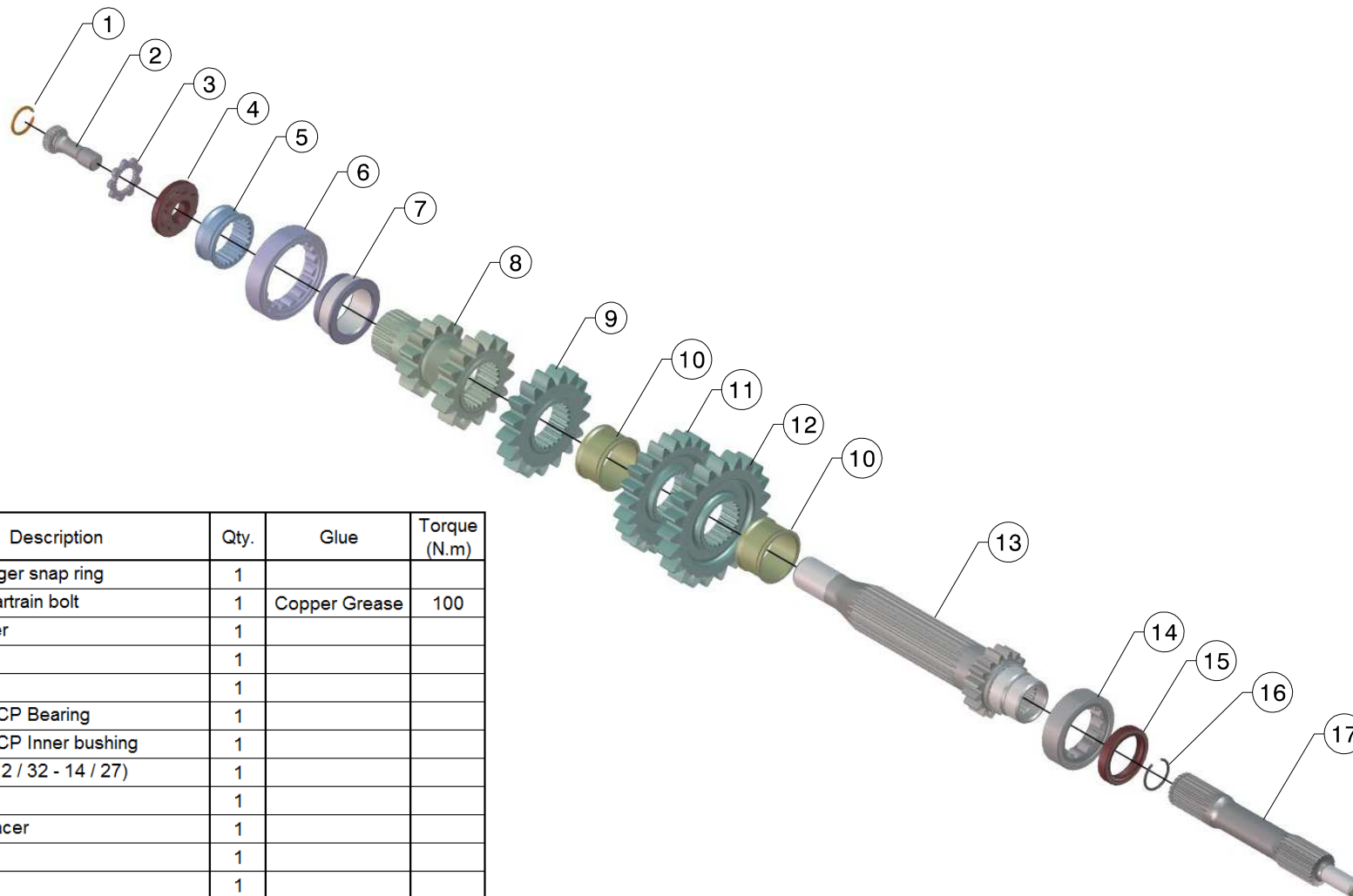
|               | Test | Race |
|---------------|------|------|
| Special stage |      |      |
| Connection    |      |      |
| Total mileage |      |      |

| Type of oil used |
|------------------|
|                  |

| General information  |
|----------------------|
| <b>Comments:</b><br> |

This document must be sent for servicing with the gearboxType

## 1 Primary Geartrain

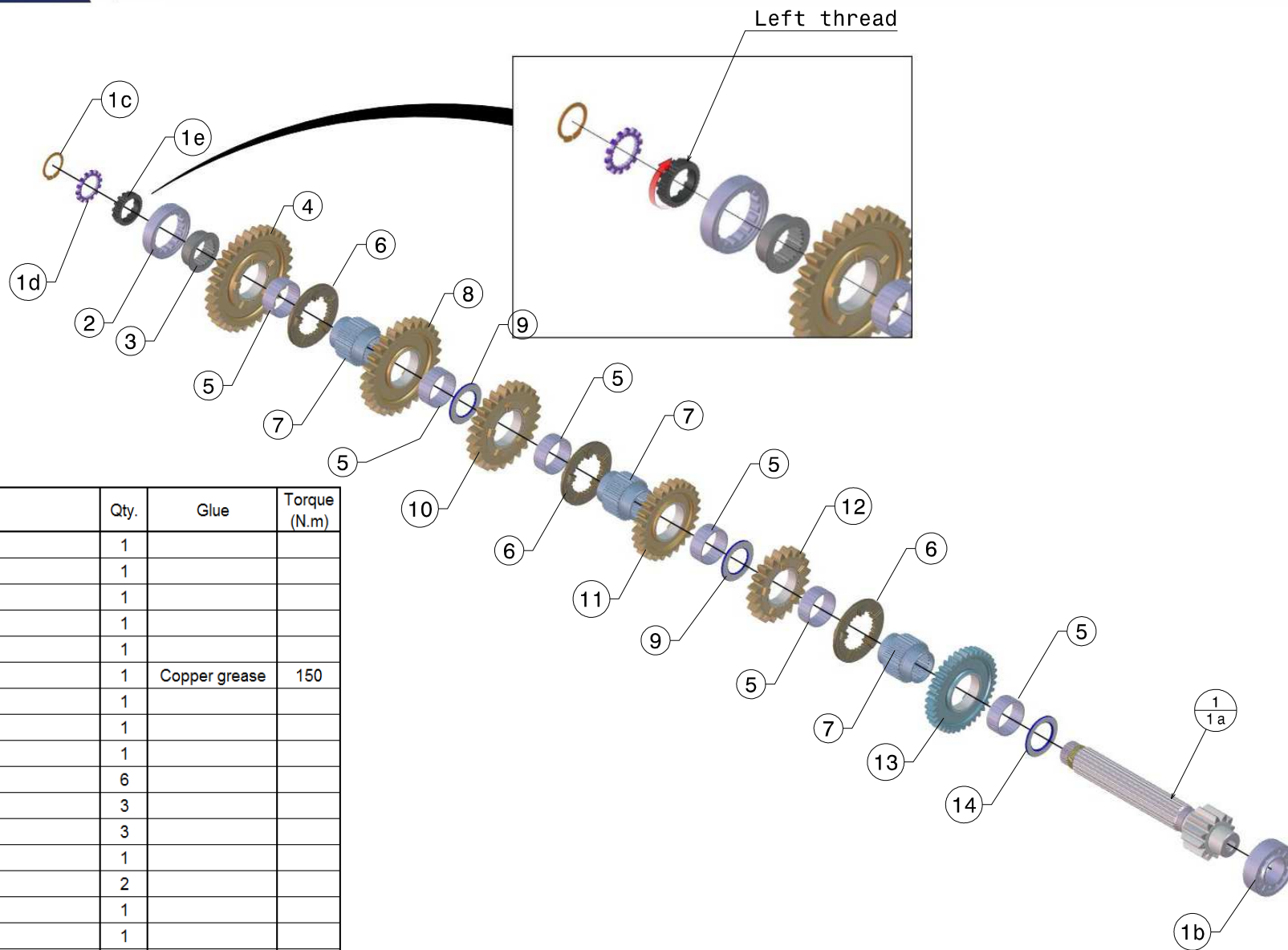


| N°   | Reference      | Description                   | Qty. | Glue          | Torque (N.m) |
|------|----------------|-------------------------------|------|---------------|--------------|
| 1*   | 9907109        | SW18 Seeger snap ring         | 1    |               |              |
| 2    | F9062105       | Primary geartrain bolt        | 1    | Copper Grease | 100          |
| 3    | F9062106       | Lock washer                   | 1    |               |              |
| 4    | F9062104       | Bushing                       | 1    |               |              |
| 5    | F9062107       | 6th Spacer                    | 1    |               |              |
| 6**  | 0103012        | NU 1007 ECP Bearing           | 1    |               |              |
| 7    | F9062103       | NU 1007 ECP Inner bushing     | 1    |               |              |
| 8    | D829063N01915F | 1-2 Ratio (12 / 32 - 14 / 27) | 1    |               |              |
| 9    | C8214N1725915F | 3 Ratio                       | 1    |               |              |
| 10   | F9062101       | Primary spacer                | 1    |               |              |
| 11   | C8214N2226915F | 4 Ratio                       | 1    |               |              |
| 12   | C8214N2120915F | 5 Ratio                       | 1    |               |              |
| 13   | F9062108       | Primary shaft "reverse 13.25" | 1    |               |              |
| 14** | 0103056        | NU 205 ECP Bearing            | 1    |               |              |
| 15*  | 0206008        | Ø 30 x 40 x 7 Lip seal        | 1    |               |              |
| 16*  | F9062602       | Ø 23 x 1,7 Snap ring          | 1    |               |              |
| 17   | F1517601       | Clutch shaft                  | 1    |               |              |

(\*) parts included in the rebuilt kits :KITREVST82LW02

(\*\*) parts included in the kits bearing :KITRLTST75LW

## 2 Secondary Geartrain

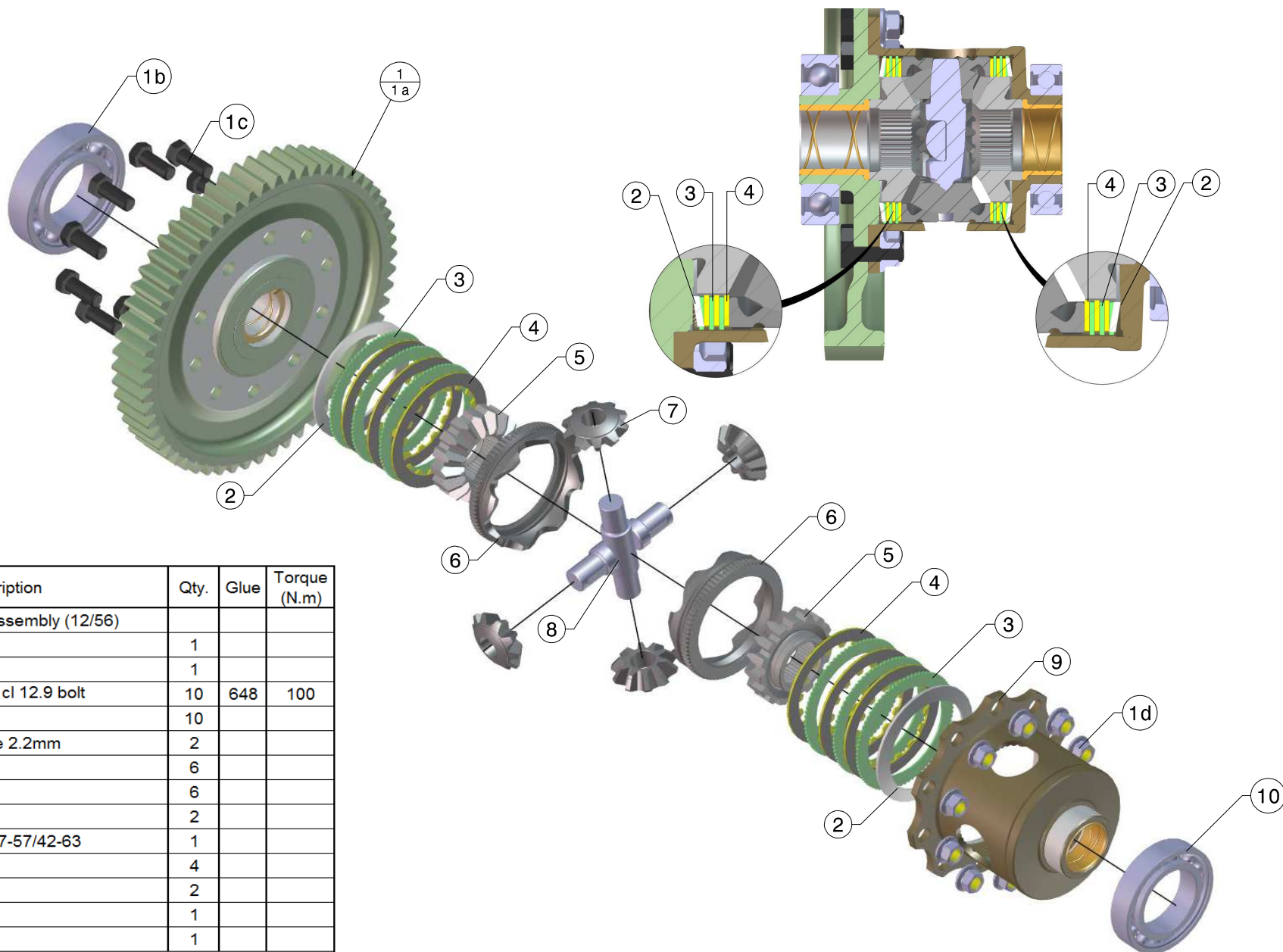
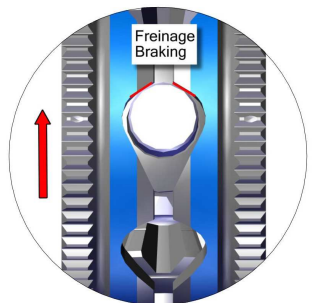
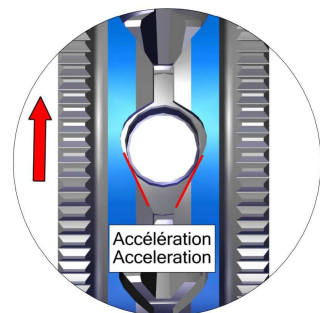


| N°  | Reference        | Description                         | Qty. | Glue          | Torque (N.m) |
|-----|------------------|-------------------------------------|------|---------------|--------------|
| 1   | CPL12569062091   | Complete final drive (12/56)        | 1    |               |              |
|     | F9062216         | a Secondary shaft                   | 1    |               |              |
|     | 0103018          | b** NJ 2206 ECP Bearing             | 1    |               |              |
|     | 0601004          | c* Ø27 Outer circlip                | 1    |               |              |
|     | F1705202         | d Lock washer                       | 1    |               |              |
|     | F9062202         | e M29 x 150 Nut                     | 1    | Copper grease | 150          |
| 2** | 0103012          | NU 1007 ECP Bearing                 | 1    |               |              |
| 3   | F9062208         | NU 1007 Inner ring                  | 1    |               |              |
| 4   | D829063N01915F5F | 1 Ratio                             | 1    |               |              |
| 5   | 0105043          | 38 x 43 x 17 Bearing                | 6    |               |              |
| 6   | F9062205         | Dog ring "5°"                       | 3    |               |              |
| 7   | F9062201         | Dog ring hub                        | 3    |               |              |
| 8   | D829063N01915F5F | 2 Ratio                             | 1    |               |              |
| 9   | F9062206         | Shim                                | 2    |               |              |
| 10  | C8214N1725915F   | 3 Ratio                             | 1    |               |              |
| 11  | C8214N2226915F   | 4 Ratio                             | 1    |               |              |
| 12  | C8214N2120915F   | 5 Ratio                             | 1    |               |              |
| 13  | F9062215         | (37x22) Reverse gear" Lenght 13.25" | 1    |               |              |
| 14  | F9062207         | Shim (reverse gear)                 | 1    |               |              |

(\*) parts included in the rebuilt kits :KITREVST82LW02

(\*\*) parts included in the kits bearing :KITRLTST75LW

### 3 Differential



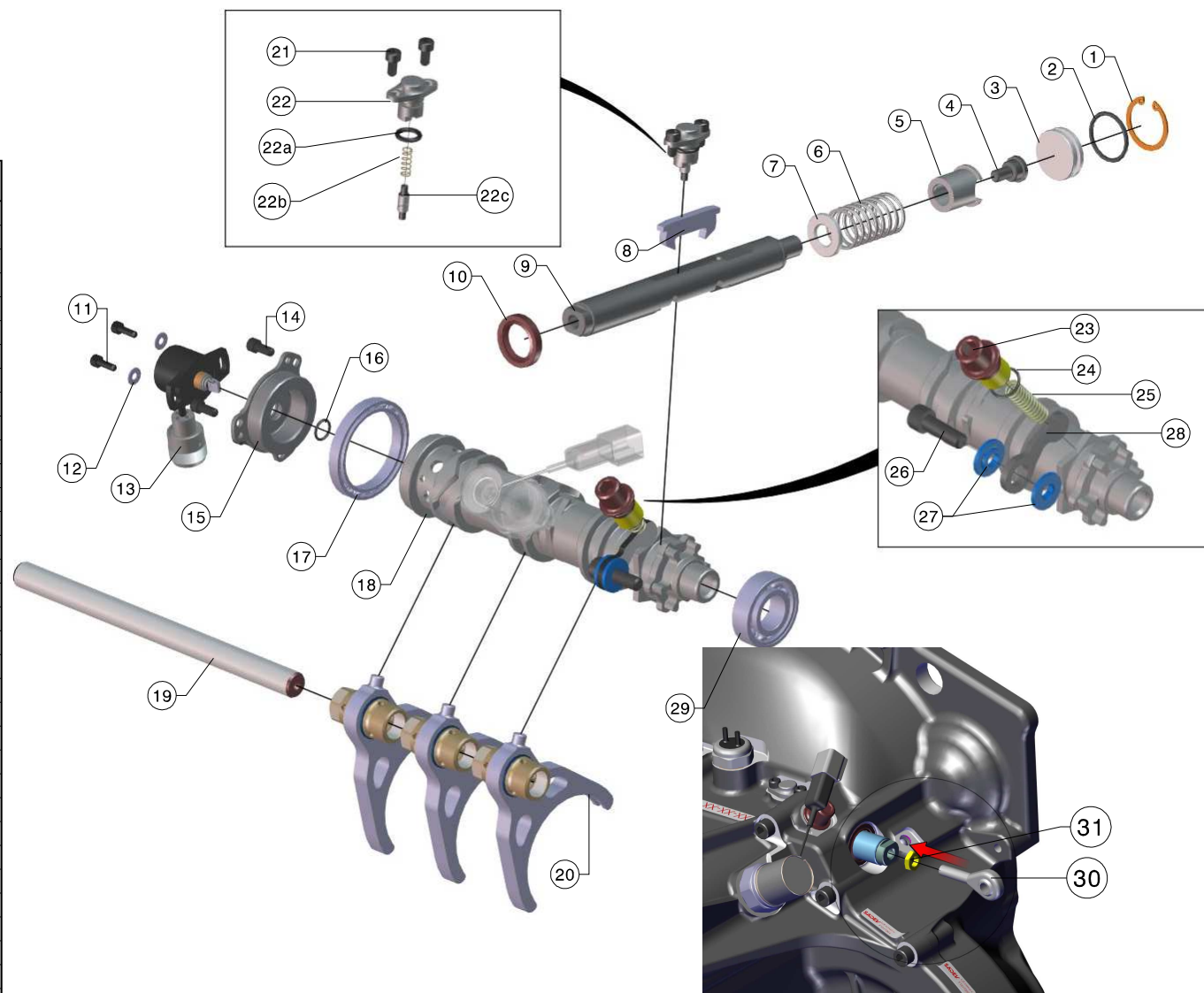
| N°                                                      | Reference      | Description                           | Qty. | Glue | Torque (N.m) |
|---------------------------------------------------------|----------------|---------------------------------------|------|------|--------------|
| 1                                                       | CPL12569062091 | Complete final drive assembly (12/56) |      |      |              |
|                                                         | F1517303       | a Crown assembly                      | 1    |      |              |
|                                                         | 0101010        | b** 6209 Bearing                      | 1    |      |              |
|                                                         | 0305111        | c* H M10 x125 x 25 cl 12.9 bolt       | 10   | 648  | 100          |
|                                                         | F9062314       | d* M10x125 nut                        | 10   |      |              |
| 2                                                       | F9001099       | Belleville washer curve 2.2mm         | 2    |      |              |
| 3                                                       | F9062309       | 1,35 thick core disc                  | 6    |      |              |
| 4                                                       | F9062310       | 1.7 thick friction disc               | 6    |      |              |
| 5                                                       | F1517300       | Sun gear                              | 2    |      |              |
| 6                                                       | F90623711      | Differential plate set 27-57/42-63    | 1    |      |              |
| 7                                                       | F1401006       | Planet gear                           | 4    |      |              |
| 8                                                       | F0085911       | Planet gear axle                      | 2    |      |              |
| 9                                                       | F1517304       | Differential case                     | 1    |      |              |
| 10**                                                    | 0101041        | 6009 Bearing                          | 1    |      |              |
| (*) parts included in the rebuilt kits :KITREVST782LW02 |                |                                       |      |      |              |
| (**) parts included in the kits bearing :KITRLTST75LW   |                |                                       |      |      |              |

## 4 Selector

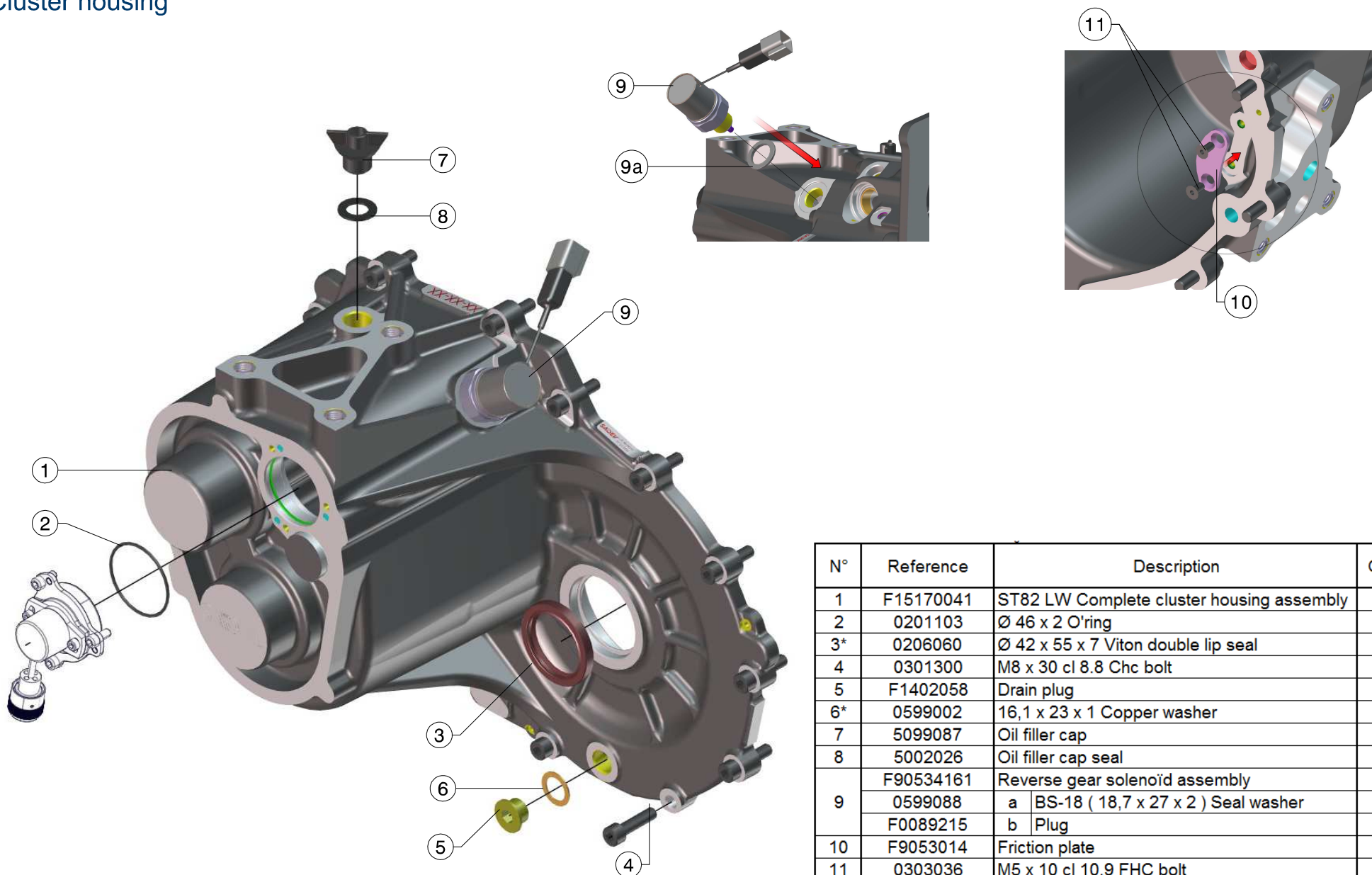
| N°   | Reference | Description                          | Qty. | Glue | Torque (N.m) |
|------|-----------|--------------------------------------|------|------|--------------|
| 1    | 0602010   | Ø29 inner circlips                   | 1    |      |              |
| 2    | 0201068   | Ø 24,5 x 2,4 O'ring                  | 1    |      |              |
| 3    | F9050401  | Plug "closing selector"              | 1    |      |              |
| 4    | F0059021  | Selector axle screw                  | 1    | 243  | 22           |
| 5    | F0059022  | Shoulder bushing                     | 1    |      |              |
| 6    | 0801178   | 2 x 23,8 x 58,5 Spring "5 turns"     | 1    |      |              |
| 7    | F9003667  | Rondelle d'appui évo.                | 1    |      |              |
| 8    | F0059040  | Dual pin rock                        | 1    |      |              |
| 9    | F9062414  | Selector axle                        | 1    |      |              |
| 10*  | 0205099   | Ø 20 x 30 x 5 Double lip seal        | 1    |      |              |
| 11   | 0301425   | M4 x 12 cl 12.9 Chc bolt             | 2    |      |              |
| 12   | 0502023   | M4 Plate washer                      | 2    |      |              |
| 13   | F0089049  | Rotary sensor                        | 1    |      |              |
| 14   | 0301514   | M5 x 12 cl 12.9 Chc bolt             | 3    | 222  | 8            |
| 15   | F9062005  | Support sensor                       | 1    |      |              |
| 16*  | 0201290   | Ø 10 x 1,5 O'ring                    | 1    |      |              |
| 17** | 0101126   | 61809 Bearing                        | 1    |      |              |
| 18   | F9063402  | Barrel assembly (5 speed)            | 1    |      |              |
| 19   | F9053404  | Fork axle                            | 1    |      |              |
| 20   | F9062403  | Fork                                 | 3    |      |              |
| 21   | 0301513   | M5 x 10 cl 12.9 Chc bolt             | 2    | 222  | 8            |
| 22   | F14044032 | Complete dual pin rock pusher        | 1    |      |              |
|      | 0201017   | a* Ø 10 x 2,5 O'ring                 | 1    |      |              |
|      | 0801026   | b* 0,6 x 5,5 x 15,5 Spring           | 1    |      |              |
|      | F9049071  | c Pusher                             | 1    |      |              |
| 23   | F9053411  | Indexor screw                        | 1    |      | 45           |
| 24*  | 0202079   | Ø 14 x 1,5 Viton O'ring              | 1    |      |              |
| 25   | 0801175   | 1,6 x 9,7 x 47 - Spring "12.5 turns" | 1    |      |              |
| 26   | 0301169   | M8 x 25 cl 12.9Chc bolt              | 1    | 243  | 25           |
| 27   | F9050408  | Indexor shoulder bushing             | 2    |      |              |
| 28   | F9050407  | Indexor rocker                       | 1    |      |              |
| 29** | 0101004   | 6004 bearing                         | 1    |      |              |
| 30   | 0999014   | Ø8 rightside male ball joint         | 1    |      |              |
| 31   | 0401002   | M8 H bichro nut                      | 1    |      |              |

(\*) parts included in the rebuilt kits :KITREVST82LW02

(\*\*) parts included in the kits bearing :KITRLTST75LW



## 5 Cluster housing

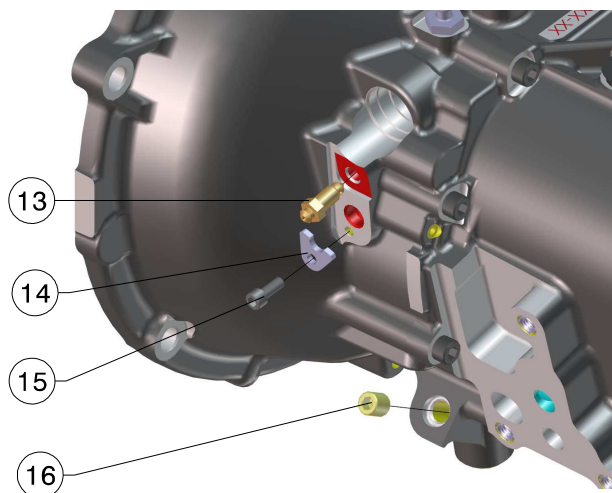


| N° | Reference | Description                               | Qty. | Glue | Torque (N.m) |
|----|-----------|-------------------------------------------|------|------|--------------|
| 1  | F15170041 | ST82 LW Complete cluster housing assembly | 1    |      |              |
| 2  | 0201103   | Ø 46 x 2 O'ring                           | 1    |      |              |
| 3* | 0206060   | Ø 42 x 55 x 7 Viton double lip seal       | 1    |      |              |
| 4  | 0301300   | M8 x 30 cl 8.8 Chc bolt                   | 13   | 222  | 25           |
| 5  | F1402058  | Drain plug                                | 1    |      |              |
| 6* | 0599002   | 16,1 x 23 x 1 Copper washer               | 3    |      |              |
| 7  | 5099087   | Oil filler cap                            | 1    |      |              |
| 8  | 5002026   | Oil filler cap seal                       | 1    |      |              |
| 9  | F90534161 | Reverse gear solenoid assembly            | 1    |      |              |
|    | 0599088   | a BS-18 ( 18,7 x 27 x 2 ) Seal washer     | 1    |      |              |
|    | F0089215  | b Plug                                    | 1    |      |              |
| 10 | F9053014  | Friction plate                            | 1    |      |              |
| 11 | 0303036   | M5 x 10 cl 10.9 FHC bolt                  | 2    | 243  | 8            |

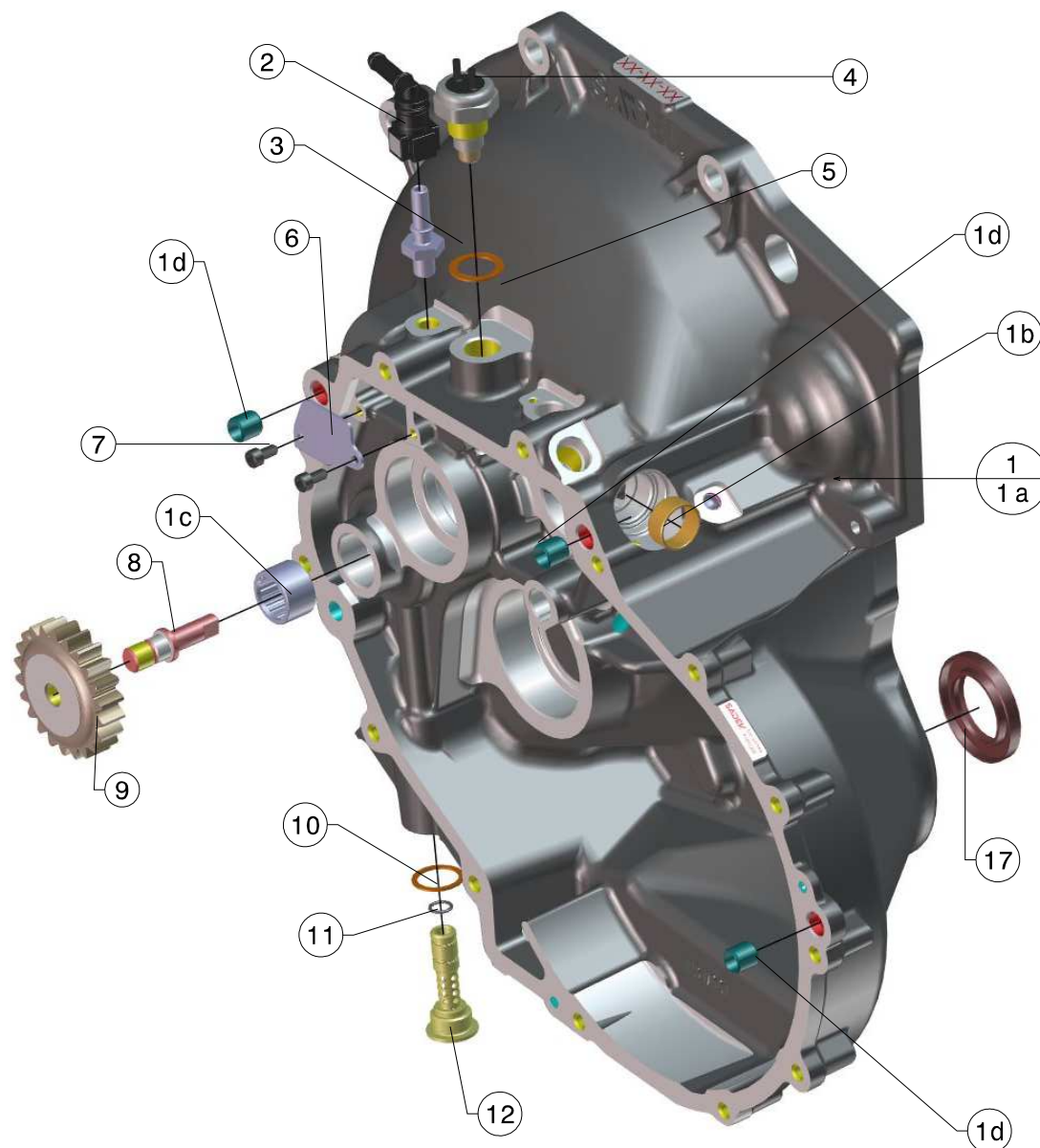
(\*) parts included in the rebuilt kits :KITREVST82LW02

(\*\*) parts included in the kits bearing :KITRLTST75LW

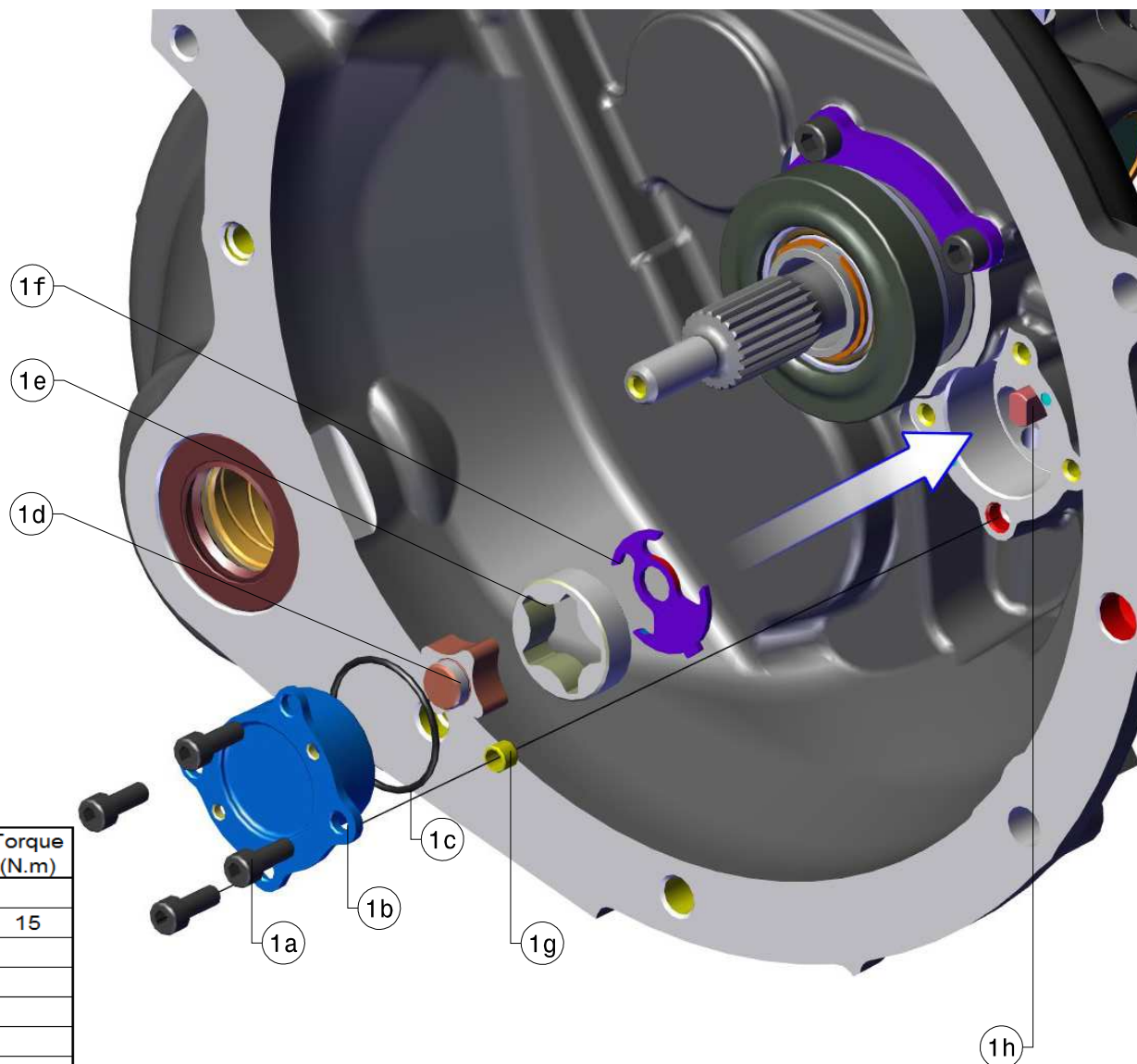
## 5 Main housing



| N°                                                     | Reference | Description                                               | Qty. | Glue | Torque (N.m) |
|--------------------------------------------------------|-----------|-----------------------------------------------------------|------|------|--------------|
| 1                                                      | F15170021 | ST82 LW Main housing assembly                             | 1    |      |              |
|                                                        | F1517002  | a ST82 LW Main housing                                    | 1    |      |              |
|                                                        | 1202028   | b EGB2010-E40 Permaglide bushing                          | 1    |      |              |
|                                                        | 0106021   | c HK 20/16 Needle sleeve                                  | 1    |      |              |
|                                                        | F9063008  | d Ø 10 x 12 x 12 Center pin                               | 3    |      |              |
| 2                                                      | 9999683   | Venting plug                                              | 1    |      |              |
| 3                                                      | F9022106  | Venting fitting                                           | 1    | 542  |              |
| 4                                                      | F0089071  | Cutting sensor                                            | 1    |      |              |
| 5                                                      | F90504171 | Set of shim" power shift "thick 1.00;1.25;1.50;1.75;2.00" | 1    |      |              |
| 6                                                      | F9063007  | Breather deflector                                        | 1    |      |              |
| 7                                                      | 0301059   | M5 x 10 cl 8.8 Chc bolt                                   | 2    | 243  | 8            |
| 8                                                      | F9019050  | Pump axle                                                 | 1    | 648  | 80           |
| 9                                                      | F9062416  | (16x22x37) Reverse idler gear                             | 1    |      |              |
| 10                                                     | F9037059  | Ø19,2 x 24 x 1mm Copper washer                            | 1    |      |              |
| 11*                                                    | 0202041   | Ø 8,5 x 1,5 Viton o'ring                                  | 1    |      |              |
| 12                                                     | F9037056  | Strainer                                                  | 1    |      |              |
| 13                                                     | 5010002   | Coupling                                                  | 1    |      |              |
| 14                                                     | F1517005  | Clamp                                                     | 1    |      |              |
| 15                                                     | 0301468   | M6 x 12 cl 12.9 CHC Bolt                                  | 1    |      |              |
| 16                                                     | 0302079   | M12 x 10 pas de 125 HC Bolt                               | 1    | 542  |              |
| 17*                                                    | 0206024   | Ø 32 x 52 x 7 Viton double seal ring                      | 1    |      |              |
| (*) parts included in the rebuilt kits :KITREVST82LW02 |           |                                                           |      |      |              |
| (**) parts included in the kits bearing :KITRLTST75LW  |           |                                                           |      |      |              |

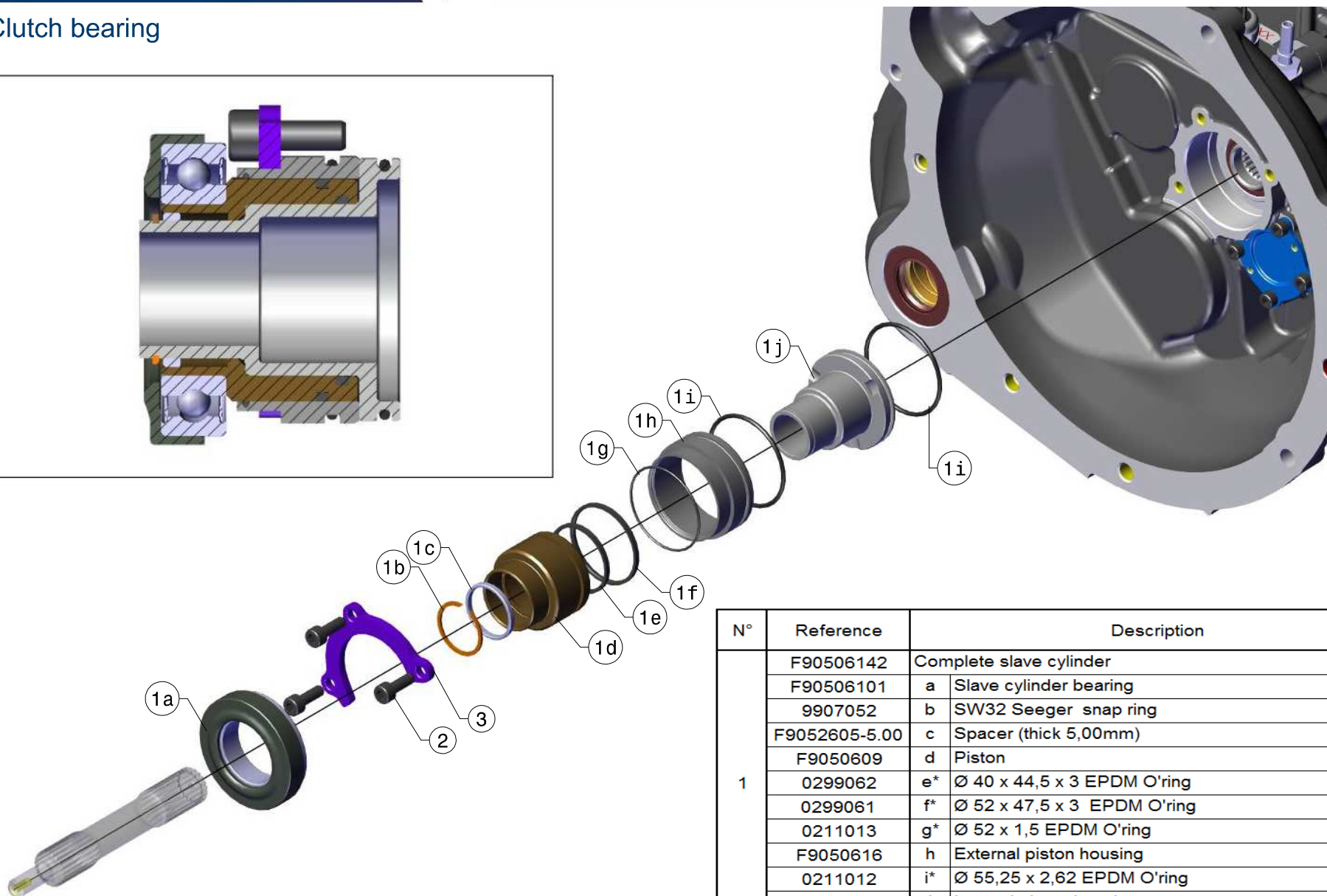
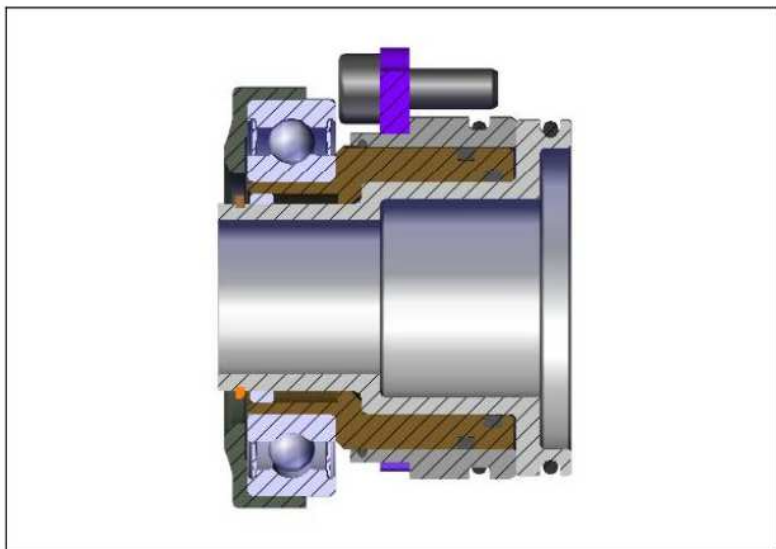


## 6 Lubrication



| N°                                                     | Reference | Description                             | Qty. | Glue | Torque (N.m) |
|--------------------------------------------------------|-----------|-----------------------------------------|------|------|--------------|
| 1                                                      | F90620501 | Complete oil pump                       |      |      |              |
|                                                        | 0301422   | a M6 x 16 cl 10.9 Chc bolt              | 4    | 243  | 15           |
|                                                        | F3201053  | b Gerotor pump housing                  | 1    |      |              |
|                                                        | 0201105   | c* Ø 36 x 2 O'ring                      | 1    |      |              |
|                                                        | F3201052  | d Rotor                                 | 1    |      |              |
|                                                        | F3201051  | e Stator                                | 1    |      |              |
|                                                        | F3201050  | f Pump spacer                           | 1    |      |              |
|                                                        | F1404429  | g Centering pin                         | 1    |      |              |
|                                                        | F9019050  | h Pump axle "assembly see page 5 housin | 1    |      |              |
| (*) parts included in the rebuilt kits :KITREVST82LW02 |           |                                         |      |      |              |
| (**) parts included in the kits bearing :KITRLTST75LW  |           |                                         |      |      |              |

## 7 Clutch bearing



| N° | Reference     | Description                    | Qty. | Glue | Torque (N.m) |
|----|---------------|--------------------------------|------|------|--------------|
| 1  | F90506142     | Complete slave cylinder        | 1    |      |              |
|    | F90506101     | a Slave cylinder bearing       | 1    |      |              |
|    | 9907052       | b SW32 Seeger snap ring        | 1    |      |              |
|    | F9052605-5.00 | c Spacer (thick 5,00mm)        | 1    |      |              |
|    | F9050609      | d Piston                       | 1    |      |              |
|    | 0299062       | e* Ø 40 x 44,5 x 3 EPDM O'ring | 1    |      |              |
|    | 0299061       | f* Ø 52 x 47,5 x 3 EPDM O'ring | 1    |      |              |
|    | 0211013       | g* Ø 52 x 1,5 EPDM O'ring      | 1    |      |              |
|    | F9050616      | h External piston housing      | 1    |      |              |
|    | 0211012       | i* Ø 55,25 x 2,62 EPDM O'ring  | 2    |      |              |
|    | F9050614      | j Internal piston housing      | 1    |      |              |
| 2  | 0301302       | M7 x 20 cl 10.9 Chc bolt       | 3    | 243  | 25           |
| 3  | F9050603      | Slave cylinder support plate   | 1    |      |              |

(\*) parts included in the kits clutch bearing SADEV 02990612