CLIO CUP
USER MANUAL

2013 USER MANUAL

D. TRANSMISSION / SHIFTING

RENAULT SPORT

RENAULT

D TRANSMISSION / SHIFTING

CONTENTS

D.1 CLUTCH

D.1.1 MECANISM AND FRICTION

All parts are engraves CP7381-REN

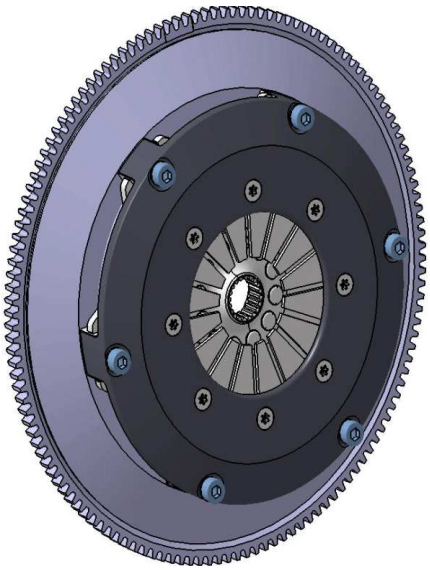
Mechanism

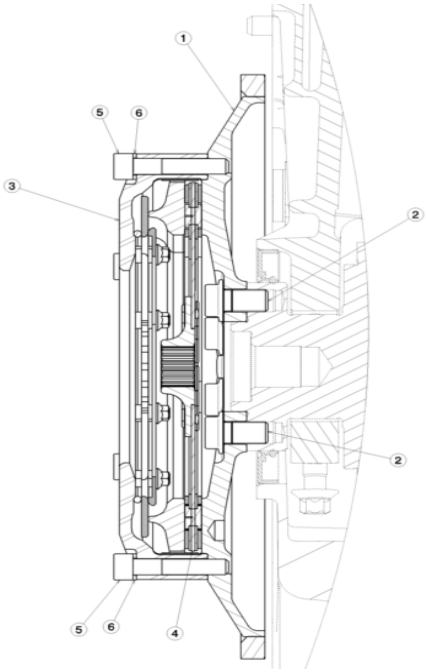
Reference: 7711160633

Clutch disc
6 paddle Driven plate - Rivetted

Reference: 8201370335

The mechanism is fitted on flywheel using 6 HSHC M8x40mm screws + 6 SPS washers

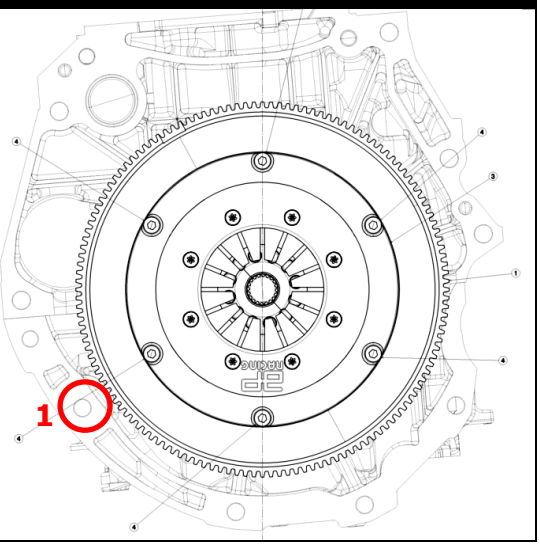




Complete clutch fitted on flywheel

D.1.2 ASSEMBLY & DISASSEMBLY

- Essential special tooling
  - **Mot. 582-01** Stop sector
  - **F9052601** SADEV Clutch / input shaft

	Operations	Photos
1 -	Remove the engine (see chapter C: Engine / Removing & refitting the powertrain).	
2 -	Remove the gearbox from the engine	
3 -	Fit the stop sector **Mot. 582-01** on bottom left hole of cylinder block face **(1)**	
4 -	Fit the **clutch shaft F9052601** (to hold the clutch disc in place).	
5 -	Remove the 6 mechanism's mounting bolts.	
6 -	Remove the clutch mechanism and disc.	
	Check and replace any faulty parts.	

Inspection

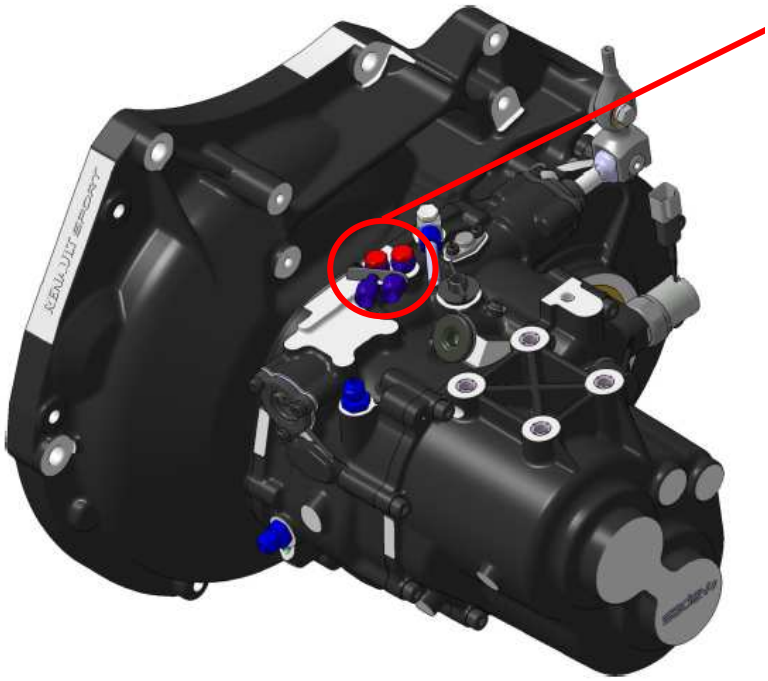
The maximum tolerated taper for the clutch mechanism's pressure plates is 0.3mm. The clutch mechanism should be replaced if the taper exceeds this value.

Refitting

	Operations
1 -	Degrease the flywheel rear face.
2 -	Clean the input shaft grooves and lubricate lightly with copper grease.
3 -	Fit the clutch disc.
4 -	Center the disc using a **clutch shaft**
5 -	Progressively tighten opposing bolts using LOCTITE 243 (blue)
6 -	Tighten to **34 Nm ±10%**
7 -	Remove the locator.
8 -	Refit the gearbox (see chapter D: Gearbox / Removing & refitting)

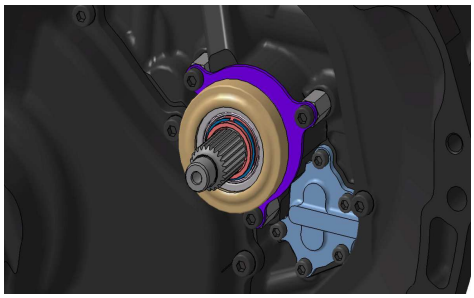
D.1.3 SLAVE CYLINDER

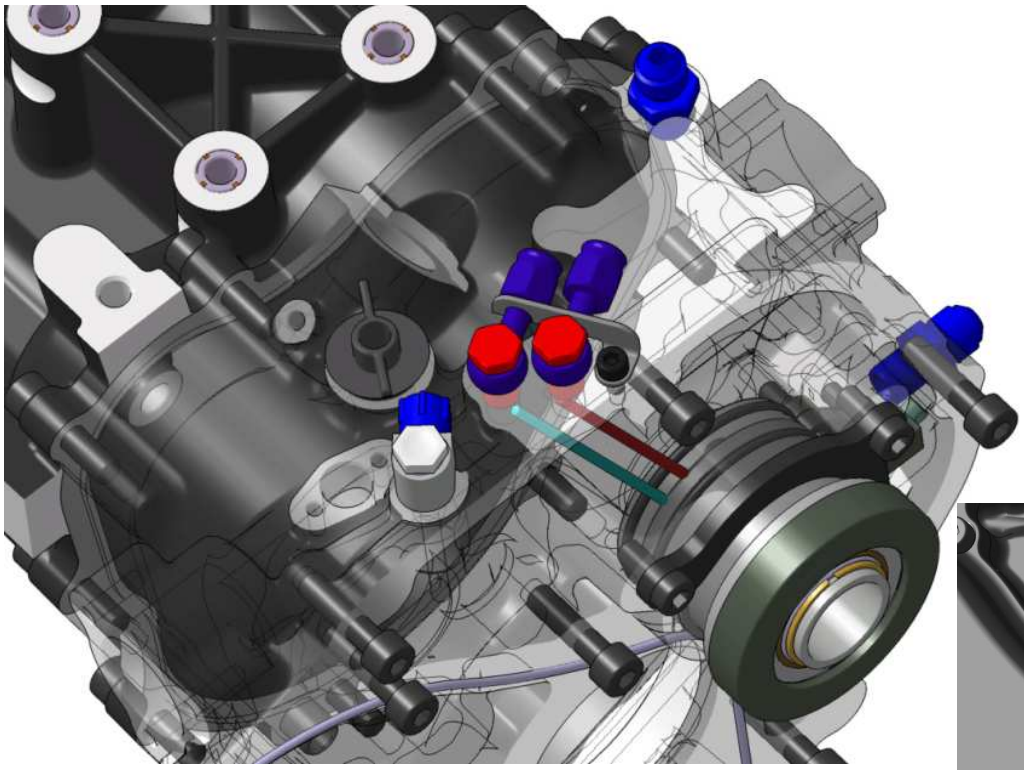
The Slave cylinder is directly integrated to geabox clutch casing and is directly supplied using 2 adapters situated on the top of the gearbox casing :



Bleed and feed fittings of the slave cylinder
NOTE : no hose through clutch casing

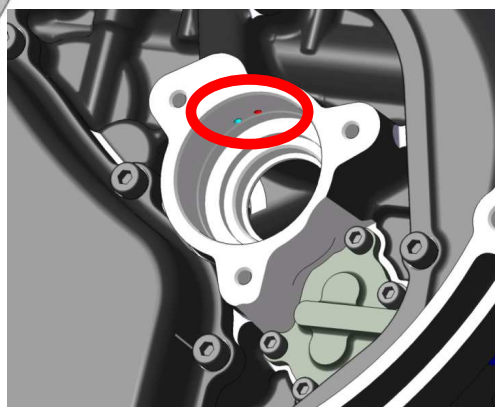
View from engine side
(gearbox oil pump in blue)

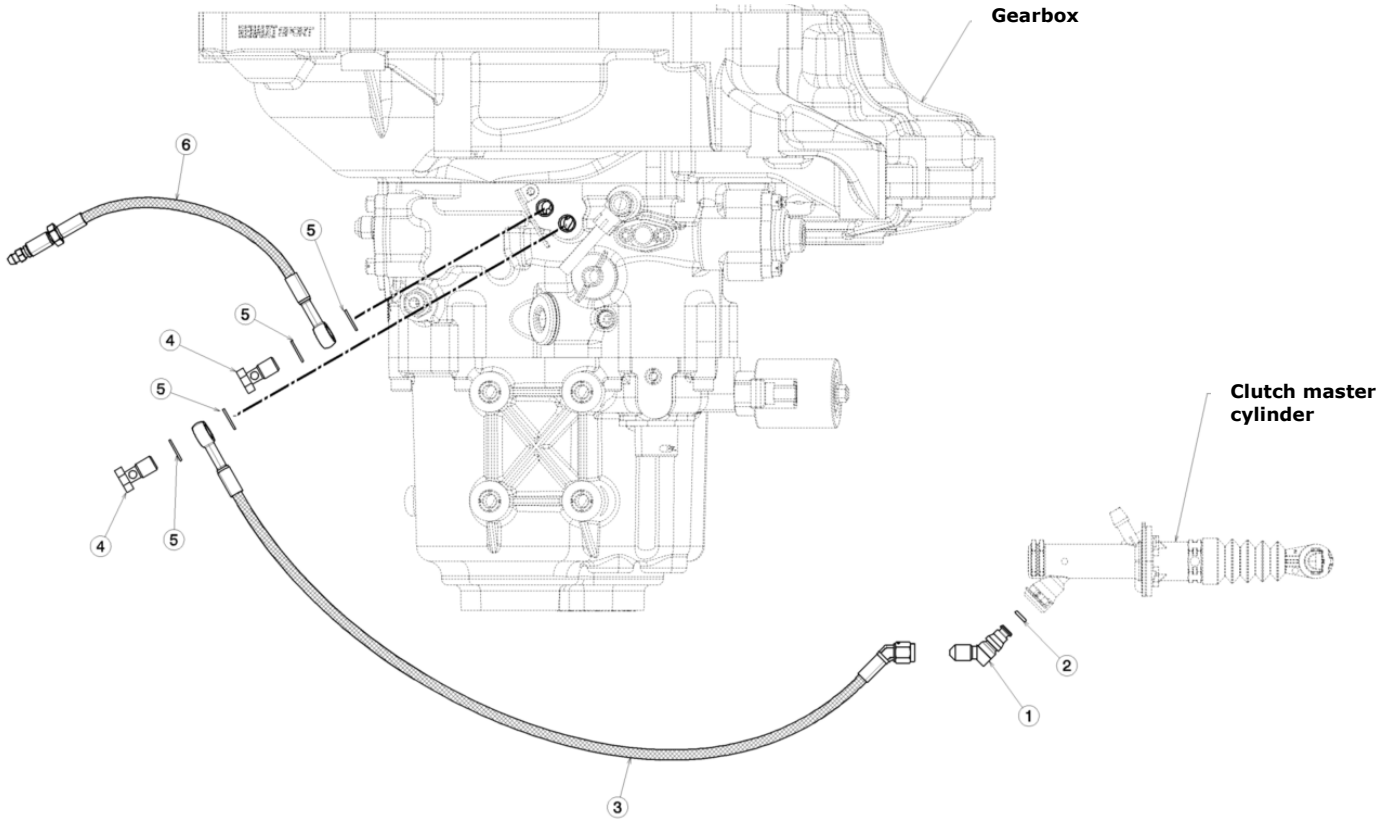




In Blue : Feed Pipe

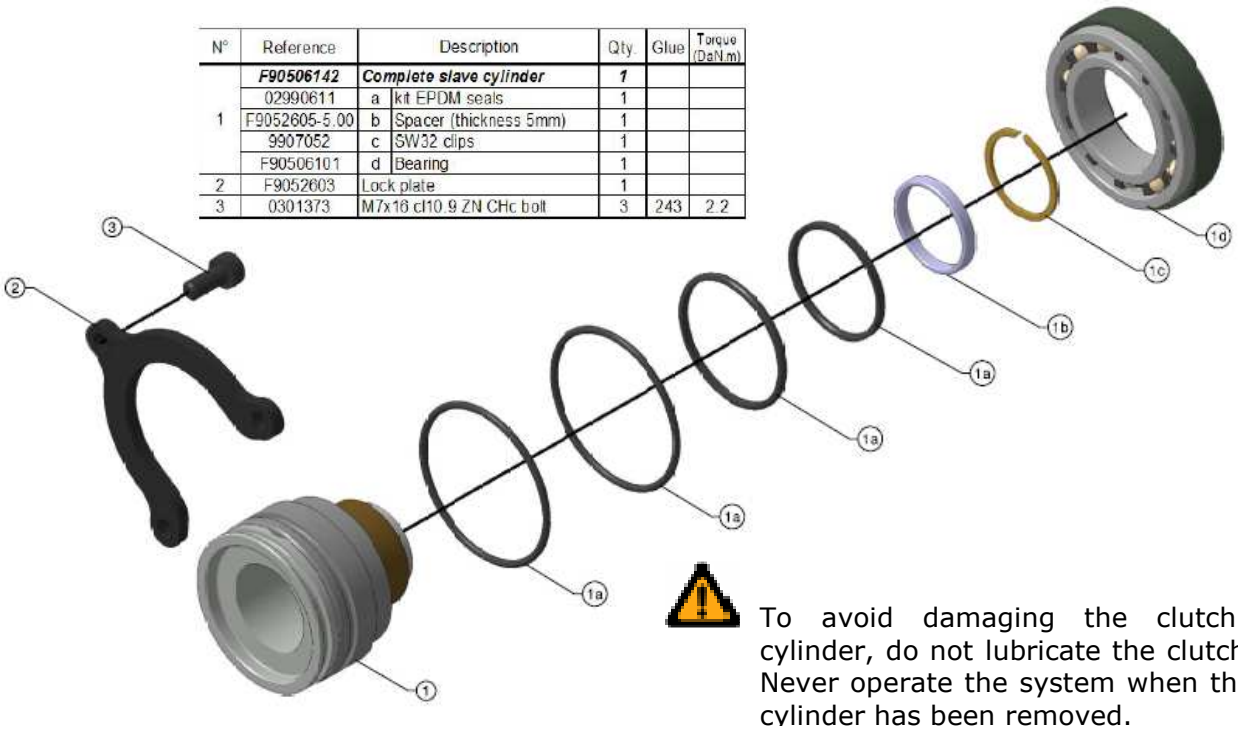
In Red : bleed pipe





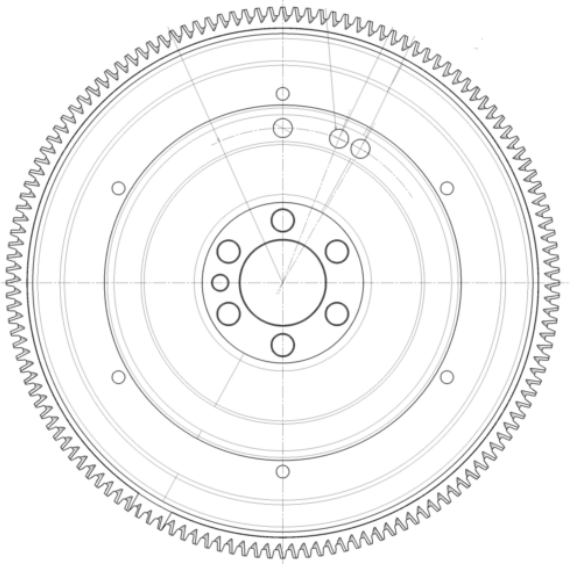
N°	Part	Ref	Qty
1	Union on clutch master cylinder	77 11 161 117	1
2	O ring	77 11 167 287	1
3	Clutch master cylinder > slave cylinder flexible hose (700mm)	82 01 397 672	1
4	Banjo screw M10x100-10	77 11 153 346	2
5	Aluminium seal	77 11 156 532	4
6	slave cylinder > bleeding union flexible hose (200mm)	82 01 397 222	1

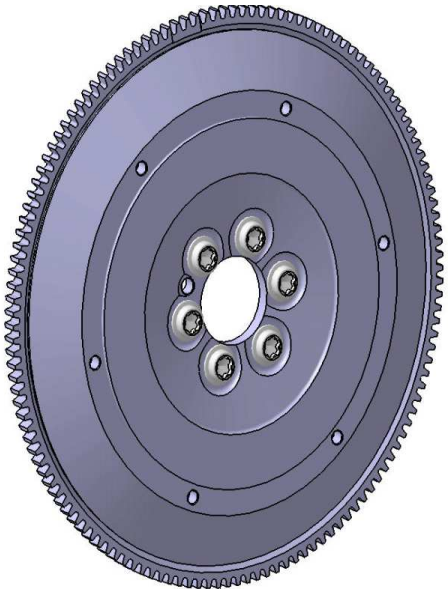
N°	Reference		Description	Qty	Glue	Torque (DaN.m)
1	***F90506142***		***Complete slave cylinder***	***1***		
	02990611	a	kit EPDM seals	1		
	F9052605-5.00	b	Spacer (thickness 5mm)	1		
	9907052	c	SW32 clips	1		
	F90506101	d	Bearing	1		
2	F9052603		Lock plate	1		
3	0301373		M7x16 cl10.9 ZN CHc bolt	3	243	2.2



To avoid damaging the clutch slave cylinder, do not lubricate the clutch shaft. Never operate the system when the slave cylinder has been removed.

D.1.4 FLYWHEEL





NOTE : the flywheel is specifically machined and has nothing to do with the flywheel of the road car

The flywheel is fitted using 6 screws (CZEX M11x100-21.3) ref : 12315 KB00A

Tightening torque : **100 N.m +/-10%**

Weight :

Minimum weight : 4080g **Maximum weight : 4148g**

➔ A weight measured out of the tolerance interval mentionned is a technical non conformity. It is stricly forbidden to machine the flywheel

Mounting instructions:

- use the stop sector **Mot. 582** on bottom left hole of cylinder block face
- Progressively tighten opposing bolts
- Degrease the flywheel bearing surface on the crankshaft.
- Clean the threading of the flywheel mounting bolts on the crankshaft.
- use LOCTITE 243 (blue) for screw

Inspection

The maximum tolerated taper for the flywheel rear face is **0.3mm**. The flywheel should be replaced if the taper exceeds this value.

⚠ Systematically :

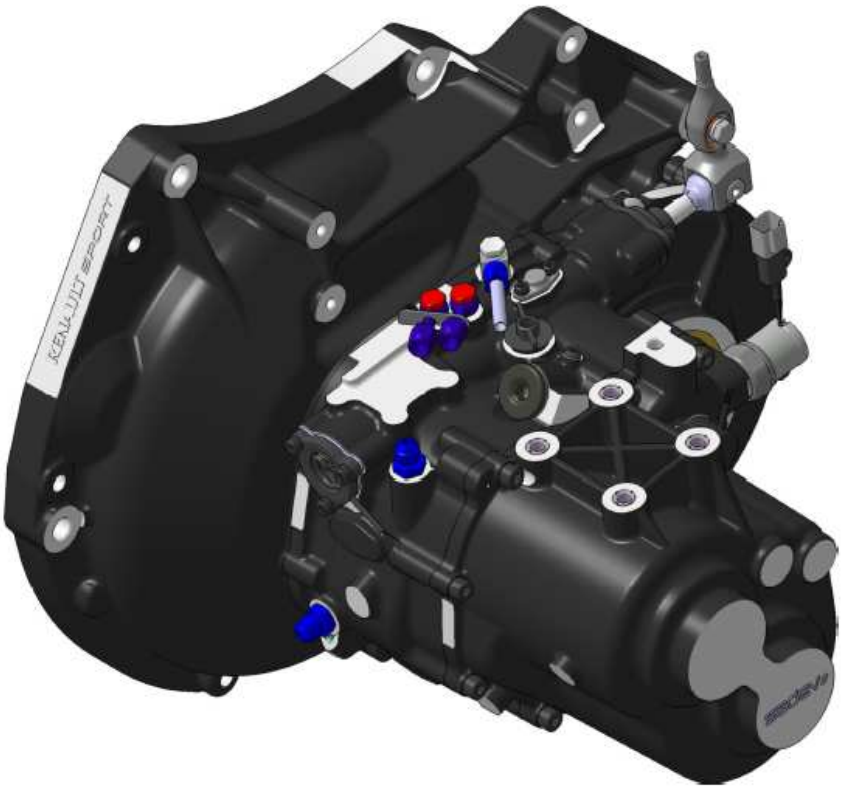
- replace the 6 mounting bolts with new ones after each removing

- control the clutch shaft bearing Ø35X16,8X8 (ref 32202 6096R) located in crankshaft

D.2 GEARBOX

D.2.1 PRESENTATION

The gearbox is a Renault Sport SADEV **ST 82 / 17 RS10233 Clio CUP 2013** sequential gearbox. It has 6 forward gears + 1 reverse gear.



The basic shifting mode is a classic manual sequential version.

The kit includes:

- the self locking differential
- the lubrication system (integrated oil pump)
- the contactless angle sensor for the barrel
- the magnet power shifting sensor
- the reverse gear locking solenoid (activated on steering wheel using the blue button ***"GEAR"***)
- the slave cylinder (integrated to gearbox)

Total weight in this configuration = 42kg

Directly on this basic version, a semi-automatic shifting kit can be fitted on the gearbox (see next page)

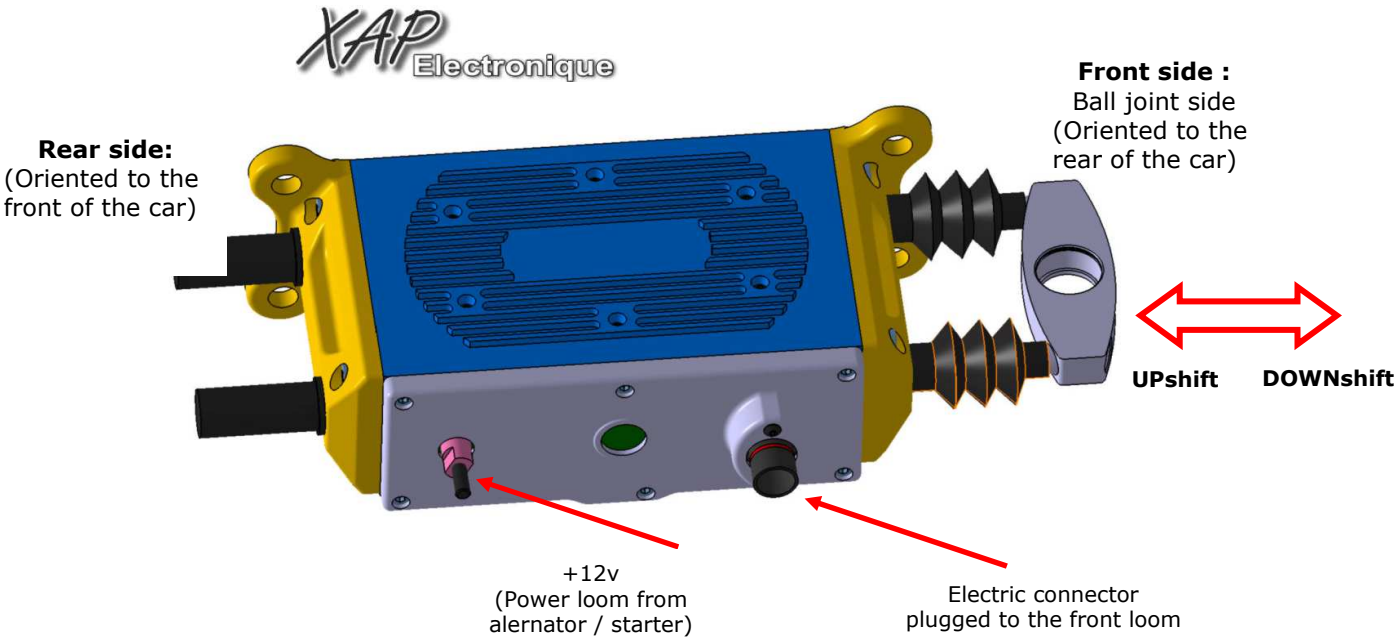
D.2.2 SEMI-AUTOMATIC SHIFTING KIT

This kit is directly available to Renault Sport spare parts dpt. The upgrade consist in 3 main evolutions on both driver and engine compartment :

- Cockpit side :
  - The paddle shift kit fitted to the steering wheel (2 paddles)
- Gearbox side :
  - The rocker articulated on the clutch casing and linked to the manual shifting yoke
  - The XAP_ESHIFT actuator fitted on the clutch casing

➔ This paragraph only describes the gearbox side, driver's compartment side is presented in paragraph D.2.9

D.2.2.1 XAP_ESHIFT actuator (8201370324)



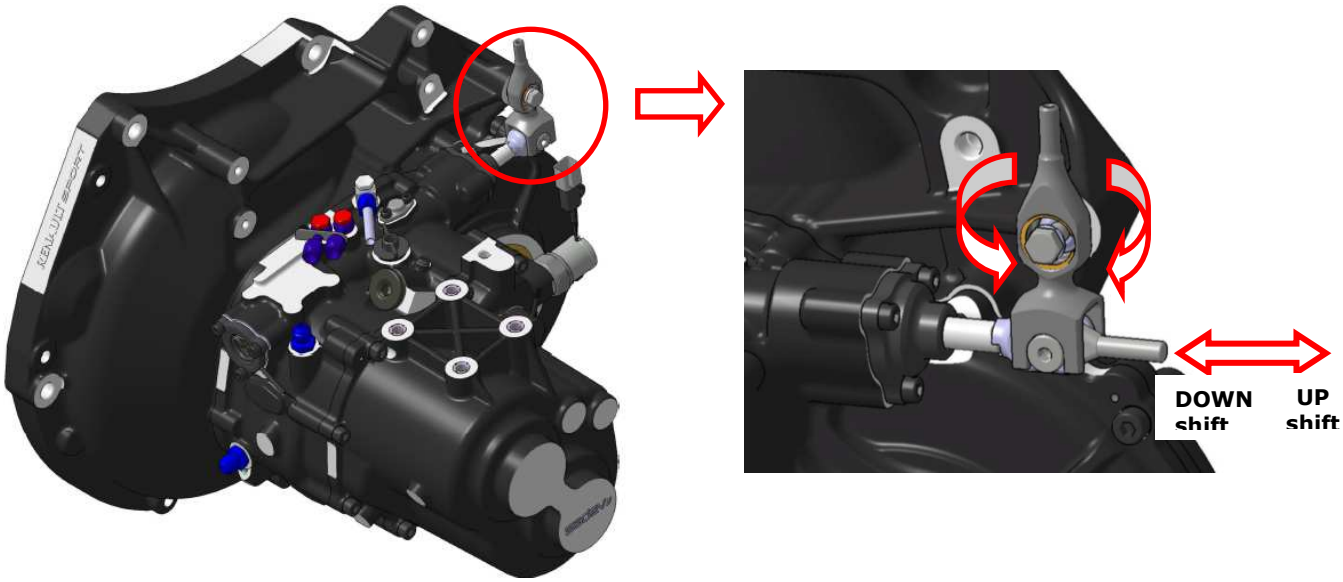
The actuator is fitted to the clutch casing using the following k.. .

Components		qty	references
Front side : ball joint side (oriented to the rear of the car)	Shoulder screw UPS M8XØ10-16	2	82 01 362 800
	Washer SPS Ø10	2	77 11 128 658
Rear side (oriented to the front of the car)	HSHC M8-30	2	77 11 156 928
	Contact washer Ø8X16-1,4	2	77 11 156 918

The ball join is delivered with Actuator but we strongly recommand you to control and change it regularly :

Components	qty	references
Ball join SSVV8	1	82 01 362 794
Inner Snap ring Ø22	1	82 01 362 799

D.2.2.2 ROCKER KIT



Components delivered in the basic version :

Components	qty	references
Selection axis Yoke SADEV	1	82 01 385 484
Nut M6Ø15 SADEV	1	82 01 385 486
Shoulder screw M6XØ8 -16XØ15 SADEV	1	82 01 385 485
HSHC M8-16 cone 90° SADEV	1	82 01 385 487

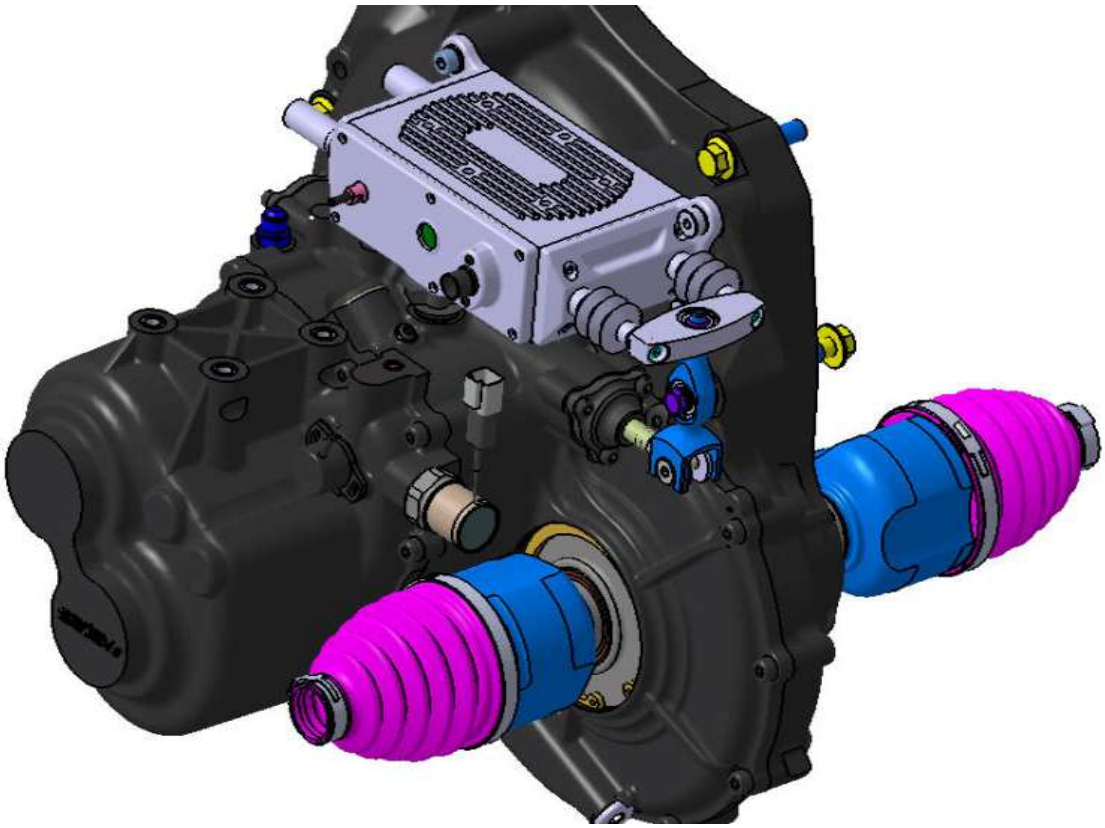
This kit is directly fitted on the basic version. The lower side of the rocker (fork) slides on the screw cap and the nut. This upgrade kit consist in :

Components	qty	references
Rocker SADEV	1	82 01 409 498
Screw HM8-50 cl 12.9 SADEV Gearbox / rocker fastener	1	82 01 385 481
Ball join bushing SADEV	1	82 01 385 482
Washer (ball join spacer) SADEV	1	82 01 385 483

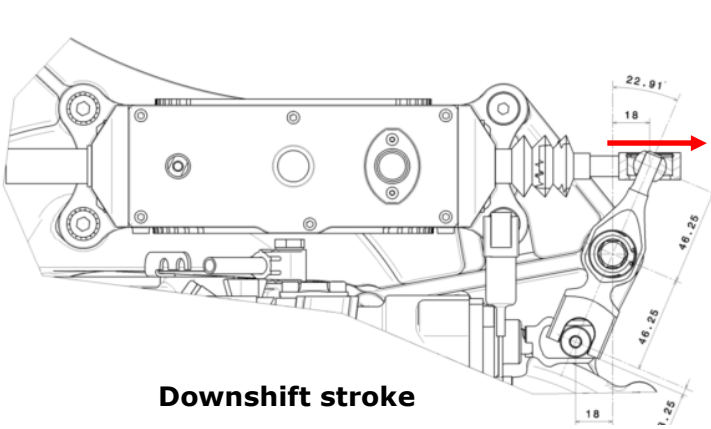
For the same reasons mentionned above for the actuator, the ball joint is delivered with the rocker but we strongly recommand you to control and change it regularly :

Components	qty	references
Ball join SSVV8	1	82 01 362 794
Snap ring Inner Ø22	1	82 01 362 799

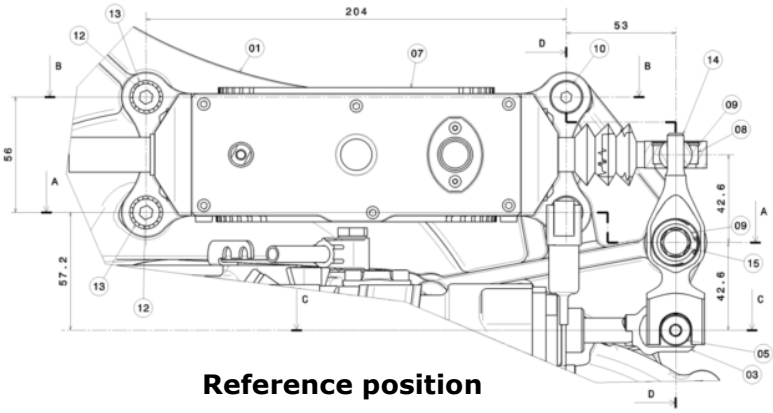
D.2.2.3 ASSEMBLY ON THE GEARBOX SIDE



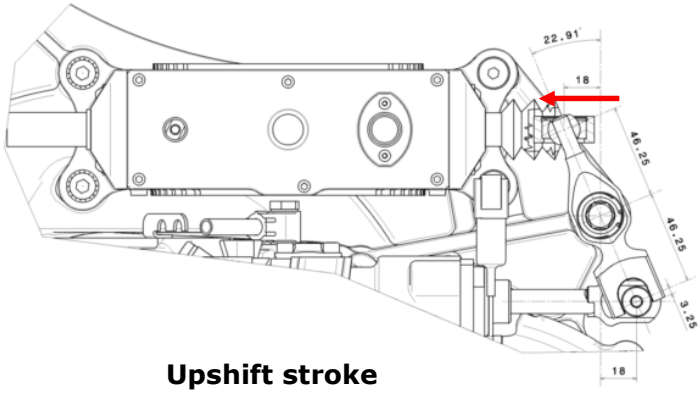
NOTE : **all the tightening torques are indicated in the paragraph D.2.8**



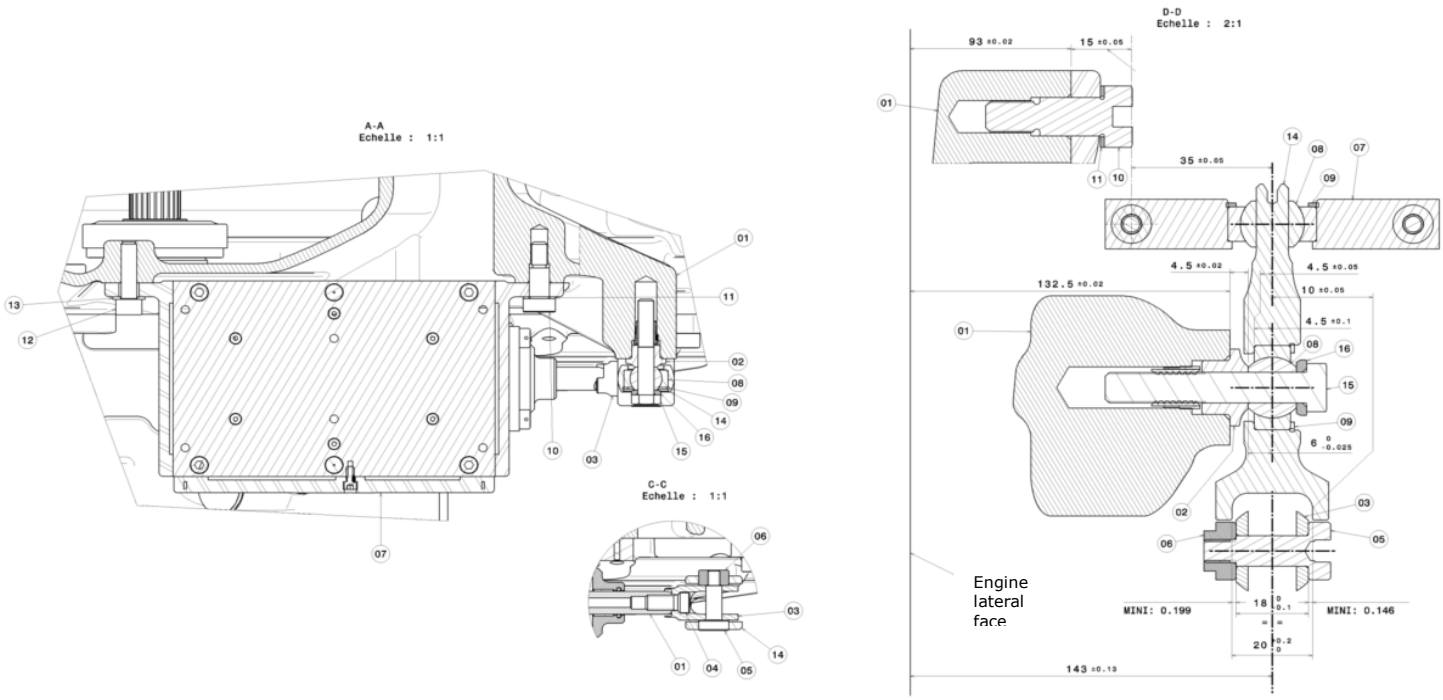
Downshift stroke



Reference position



Upshift stroke



D.2.3 GEARING CHARACTERISTICS

- Ratios charts

	1rst	Ref. C8214P1534915F	2nd	Ref. C8217P1831915F	3rd	Ref. C8217P1622915F	4th	Ref. C8217P2225915F	5th	Ref. C8214P2625915F	6th	Ref. C8214P2924915F
Primary shaft	15 (F9052151)		18 (F9052152)		16 (F9052153)		22 (F9052154)		26 (F9052155)		29 (F9052156)	
Secondary shaft	34 (F9052251)		31 (F9052252)		22 (F9052253)		25 (F9052254)		25 (F9052255)		24 (F9052256)	

- Final drive Ref : CPL15579052011

Primary	15
Ring gear	57

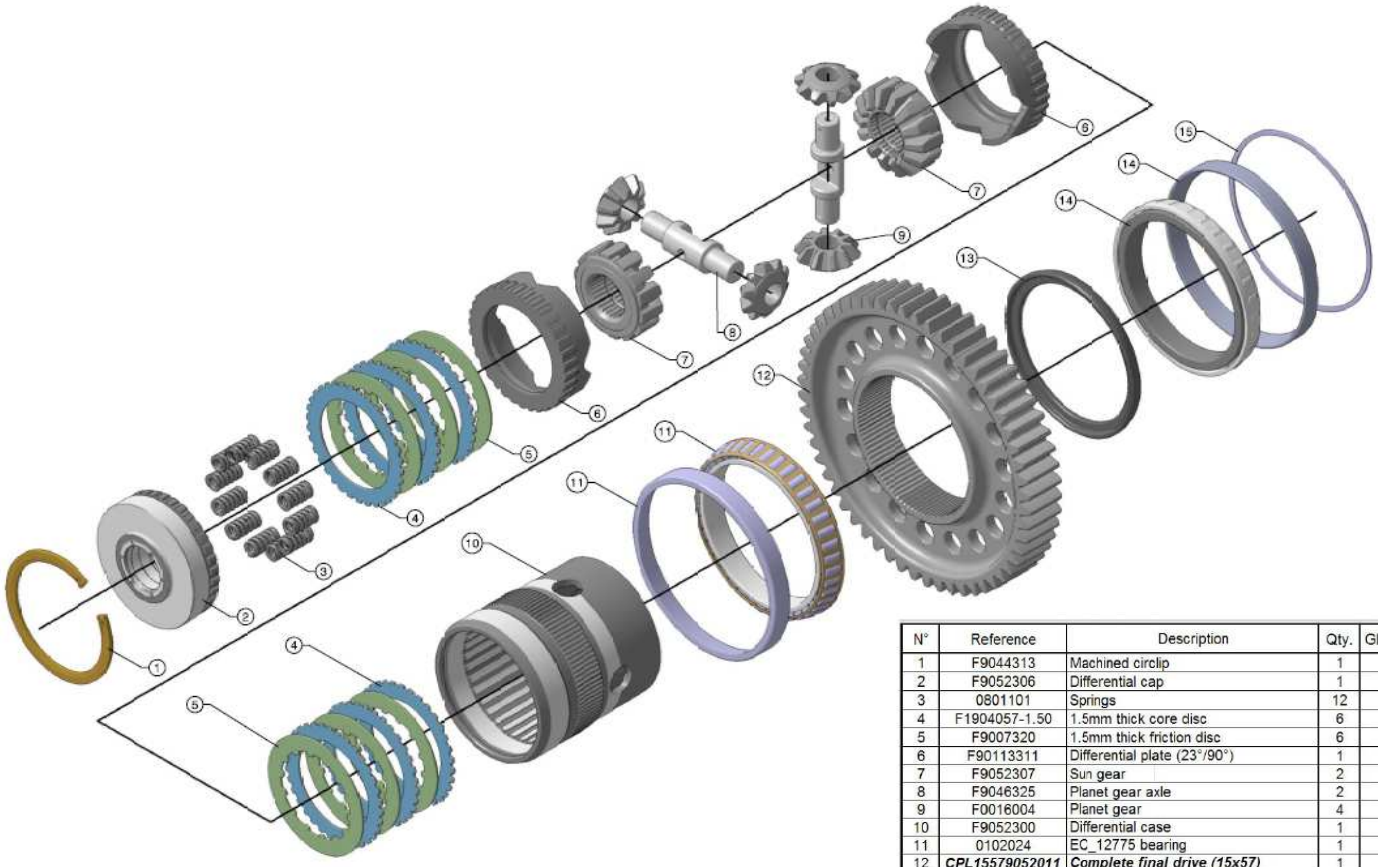
- Reverse gear ratios

Primary	15
Idler	25
Secondary	44

D.2.4 LIMITED SLIP DIFFERENTIAL

The differential is a self-locking one, with 6 friction faces on each side and pressing plates with ramps acting during driving and braking condition.

A unique couple of ramps is available for the Renault CLIO CUP:
- driving ramps angle : 23°
- braking ramps angle : 90°



N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
1	F9044313	Machined circlip	1		
2	F9052306	Differential cap	1		
3	0801101	Springs	12		
4	F1904057-1.50	1.5mm thick core disc	6		
5	F9007320	1.5mm thick friction disc	6		
6	F90113311	Differential plate (23°/90°)	1		
7	F9052307	Sun gear	2		
8	F9046325	Planet gear axle	2		
9	F0016004	Planet gear	4		
10	F9052300	Differential case	1		
11	0102024	EC_12775 bearing	1		
12	***CPL15579052011***	***Complete final drive (15x57)***	1		
13	F9052309	Crownwheel spacer	1		
14	5001002	EC_12218 bearing	1		
15	F00850141	Bearing gauge set	1		

When the differential is brand new, the preload is adjusted by springs at 140Nm (±5Nm), without running-in.

After running-in, the hot theoretical **measured preload will be 120Nm** (±10Nm):

➔ After running-in, if the hot measured preload decreases between 30 to 40Nm, it is necessary to change all springs.

➔ After running-in, if the hot measured preload decreases over 40 Nm, it is necessary to change all springs and the friction/plate disks.

Note:

- The Preload decreases from approximately 15% after a 50 km running-in.

- The cold measured preload (workshop) is approximately 15% higher than that the hot one.

D.2.5 LUBRICATION

- Oil capacity : **1.3L** (without the cooling circuit)
  complete the oil level after filling the cooling circuit : **1.5L**
- Oil Pump : Sadev oil pump fitted on casing (clutch casing side)

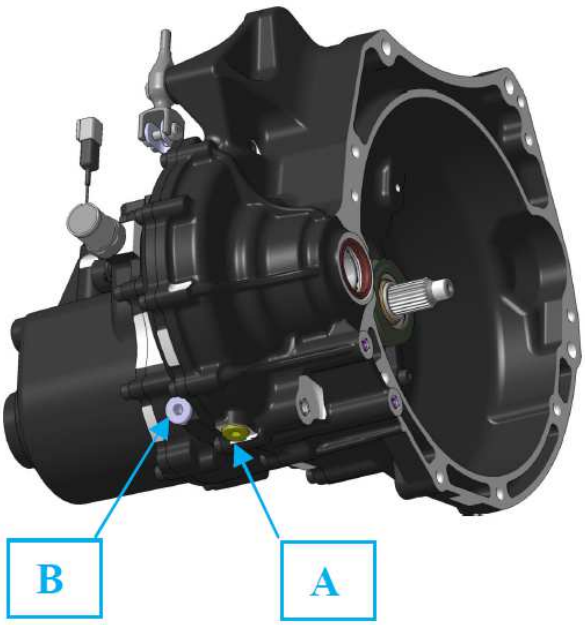
Cooler and hoses:

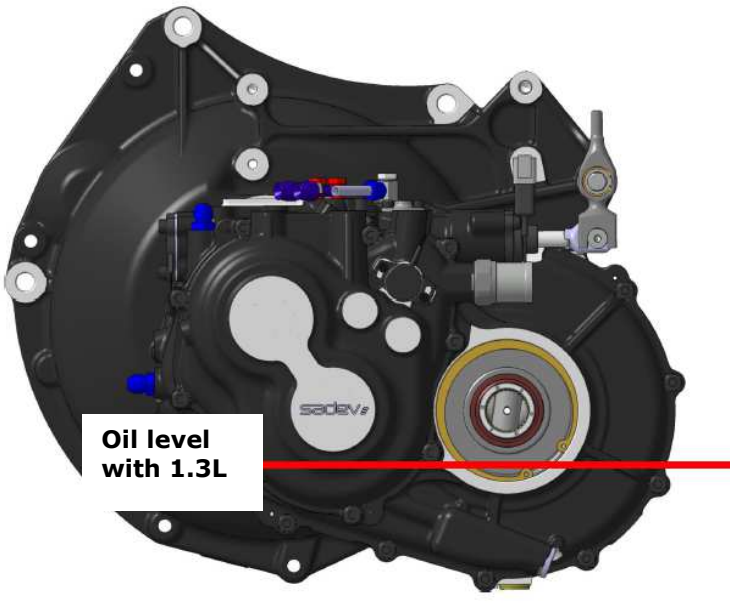
- supplied by RENAULT SPORT (not delivered with the gearbox)
- add manually oil in the cooling circuit

First oil change	Oil change frequency	Lubricant
After the first 50 kilometres	Every 500km	Motul Gear Competition **75W140** Or Elf HTX 755 **(80W140)**

TO DRAIN THE GEARBOX :

- Disassembly the drain magnet plug **(A)**, and clean it
- Suction screen: Sadev suction screen **(B)**



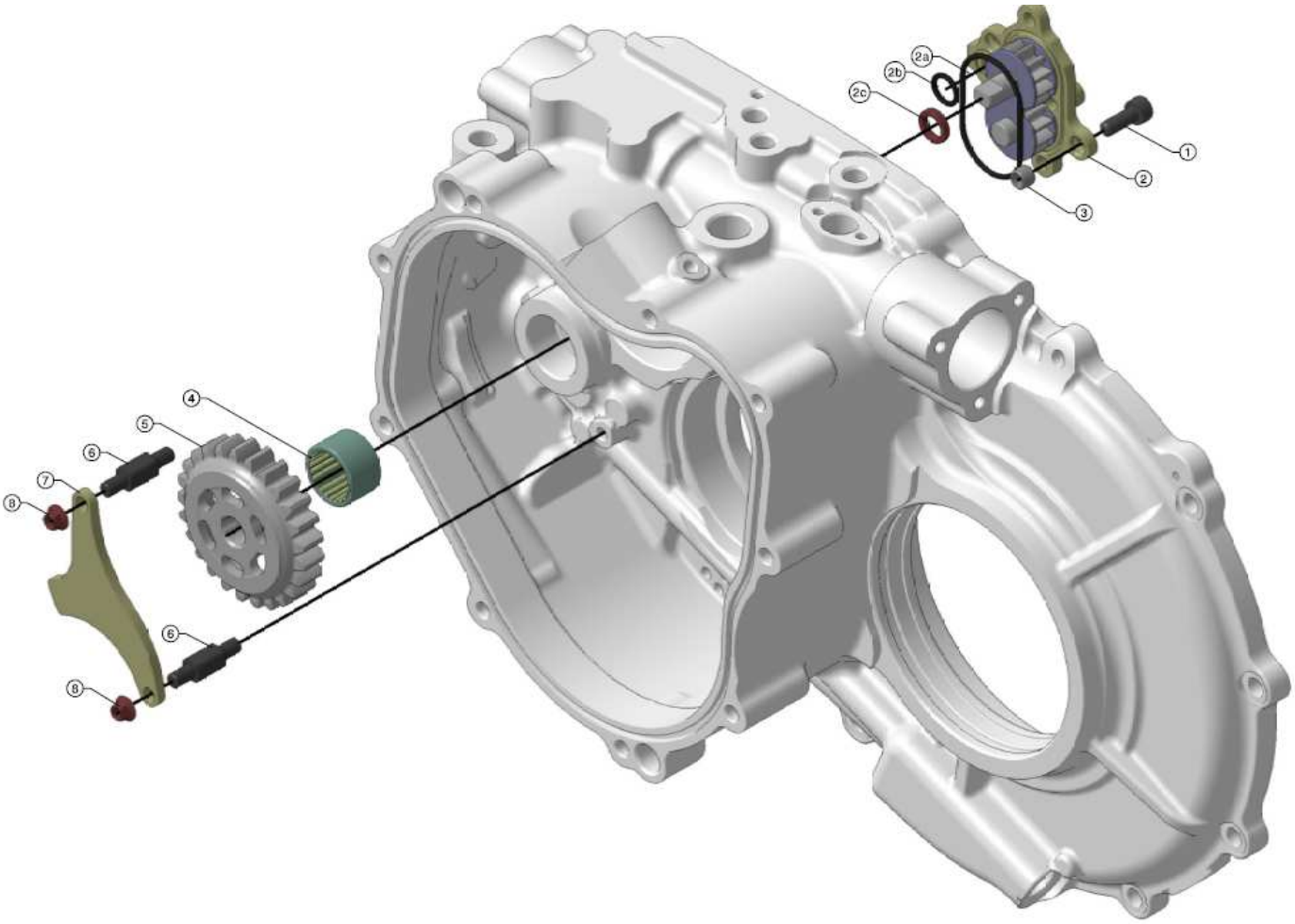


WASHING UNDER PRESSURE :

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

D.2.6 GEARBOX OIL COOLING CIRCUIT

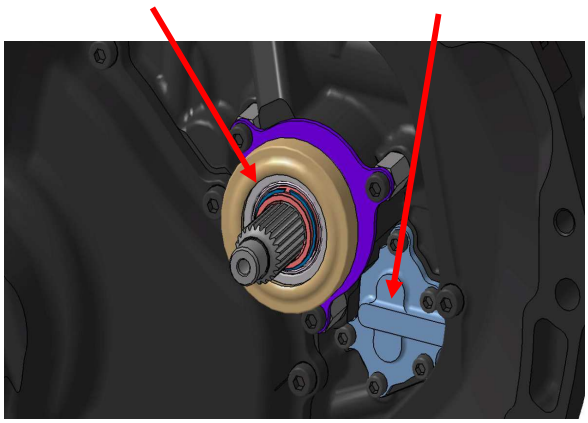
The oil pump is integrated to the clutch casing and is driven by the reverse gear pinion.



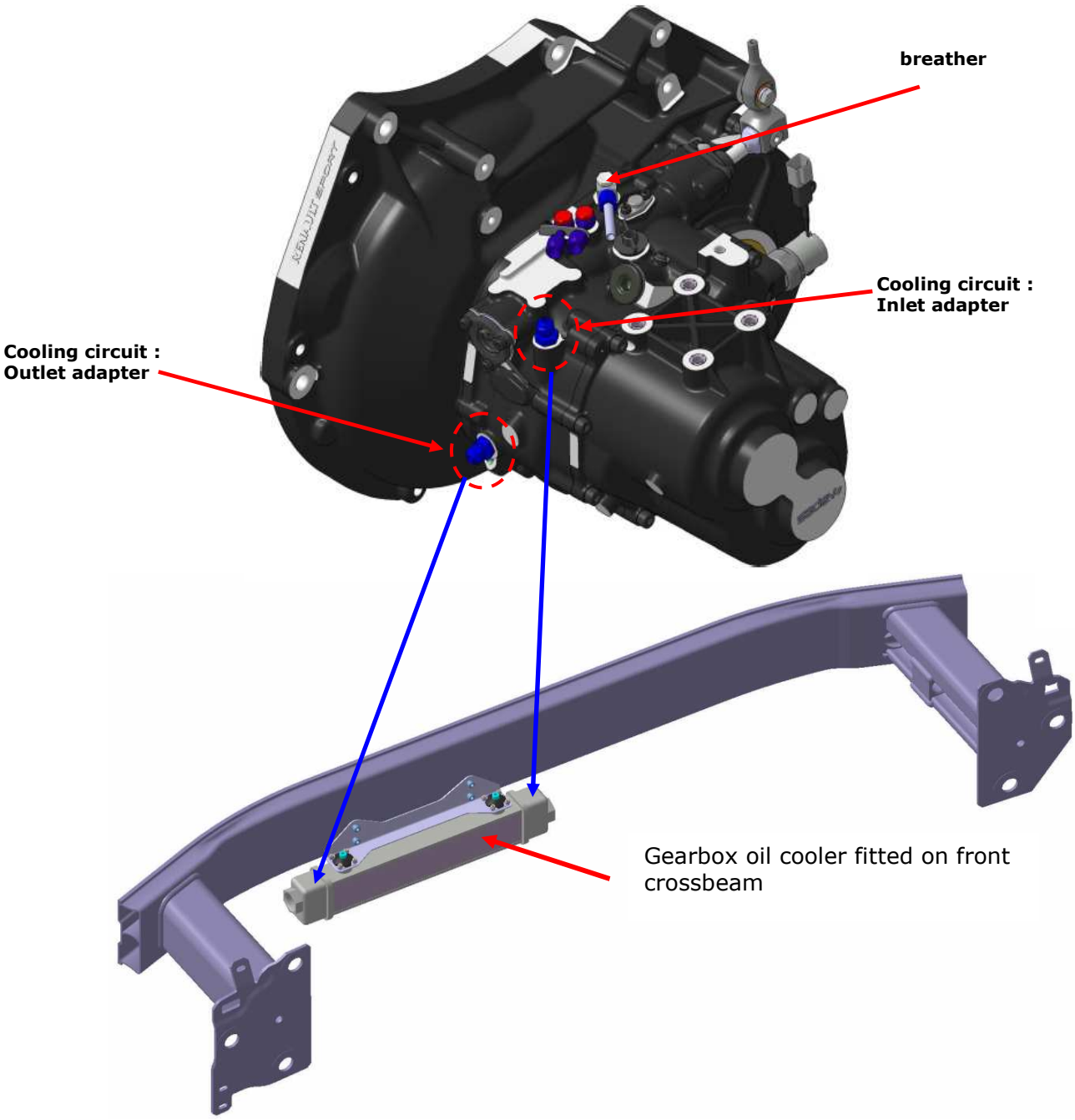
N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
1	0301422	M6x16 cl10.9 ZN CHc bolt	5		
2	***F90460581***	***Lubrication pump***	***1***		
	0201282	a Ø44x2 O'ring	1		
	0201135	b Ø10x2 O'ring	1		
	0203055	c G10x14x3 seal bushing	1		
3	F1404429	Ø8x6.2x6 centering pin	2		
4	0106021	HK2016 bearing	1	648	
5	F9046059	Reverse gear pignon	1		
6	F9046064	Column	2	270	
7	F9046063	Reverse gear pignon stop	1		
8	0499010	M6 Simmonds nut	2	243	1.5

View from engine side

Slave cylinder oil pump



2 adapters are screwed on gearbox casing to fit the 2 hoses to the front cooler



D.2.7 SENSORS / ACTUATORS

As explained in chapter *B - Presentation*, gearbox sensors and actuator status can be observed in dashboard diagnostic pages (long press of "**Page**" button, 3sec, of the steering wheel, Page "**Gear diagnostic**") :

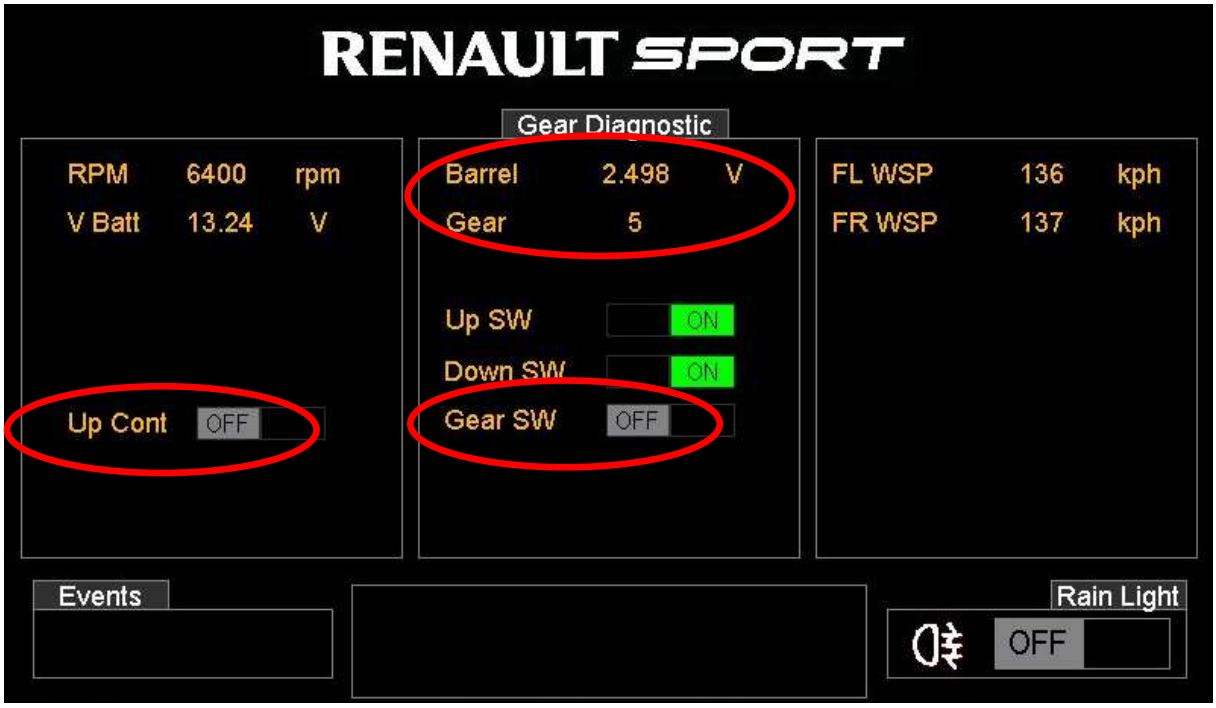


FIGURE 1

D.2.7.1 CONTACTLESS ANGLE SENSOR FOR BARREL:

Range : **from +0.5V to +4.5V**

- Red wire : +5Vdc
- Black wire : GND
- Brown wire : signal between 10 and 90% of 5Vdc

Barrel angle °deg	Voltage (V)	Gear
0	0.6	R
48	1.1	N
96	1.6	1
144	2.1	2
192	2.6	3
240	3.1	4
288	3.6	5
336	4.1	6

Note :
Sensor adjusted with brand new car = **1.100V +/-0.010V : Neutral**

Diagnostic :
The value of the barrel potentiometer tension can be observed on "Gear diagnostic" page (see figure 1): "**barrel**" and "**Gear**"

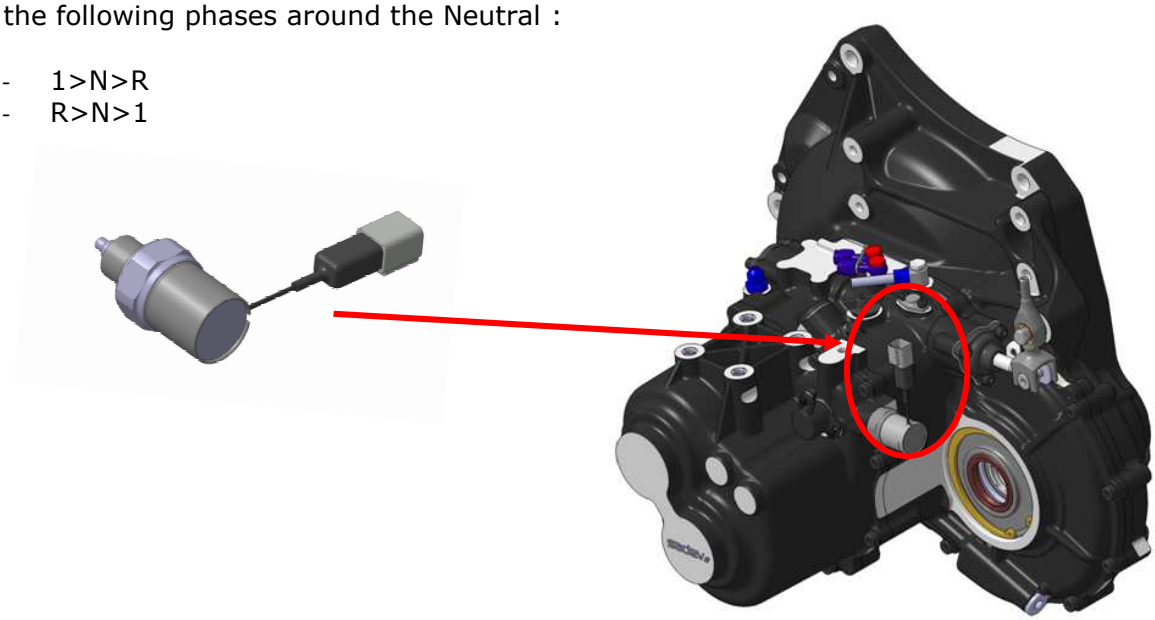
D.2.7.2 REVERSE GEAR LOCKING SOLENOID :

(No unlocking cable)
Characteristics: Not polarized, +12V

This solenoid replaces exactly the function of unlocking cable and is used for the same purpose even if the mode is sequential manual or semi automatic

It is activated by using the blue button ***"GEAR"*** on steering wheel to unlock the barrel during the following phases around the Neutral :

- 1>N>R
- R>N>1



Diagnostic :
To check the activation of the "**Gear**" button when pressed (steering wheel) and the effect on the reverse gear solenoid, check the status on "**gear diagnostic**" page (see Figure 1) of the parameter "**Gear_SW**" (OFF/ON)

D.2.7.3 MAGNET POWER SHIFT SENSOR (UPSHIFT MANUAL SENSOR)

This sensor is only observed when the manual shifting lever is used (not considered by ECU when paddle shift on steering wheel is used)

CAUTION: the sensor is polarised

- Orange wire : +5Vdc
- Brown wire : Ground
- White wire : Signal

Note:
The more you reduce the thickness of the shim (reference F9046442), the more you increase the shifting detection's time.

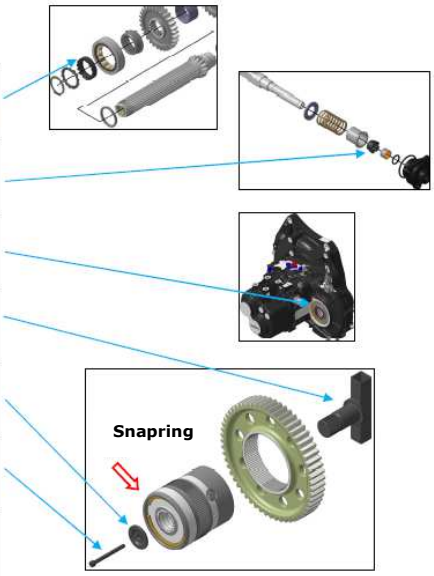
- Decrease the shim thickness if the engine untimely shuts down
- Increase the shim thickness if the gears do not easily disengage

Diagnostic :
To check the activation of the sensor, pull the manual shifting lever and check the status on "**gear diagnostic**" page (see Figure 1) of the parameter "**Up Cont**" (OFF/ON).

D.2.8 ASSEMBLY & DISASSEMBLY

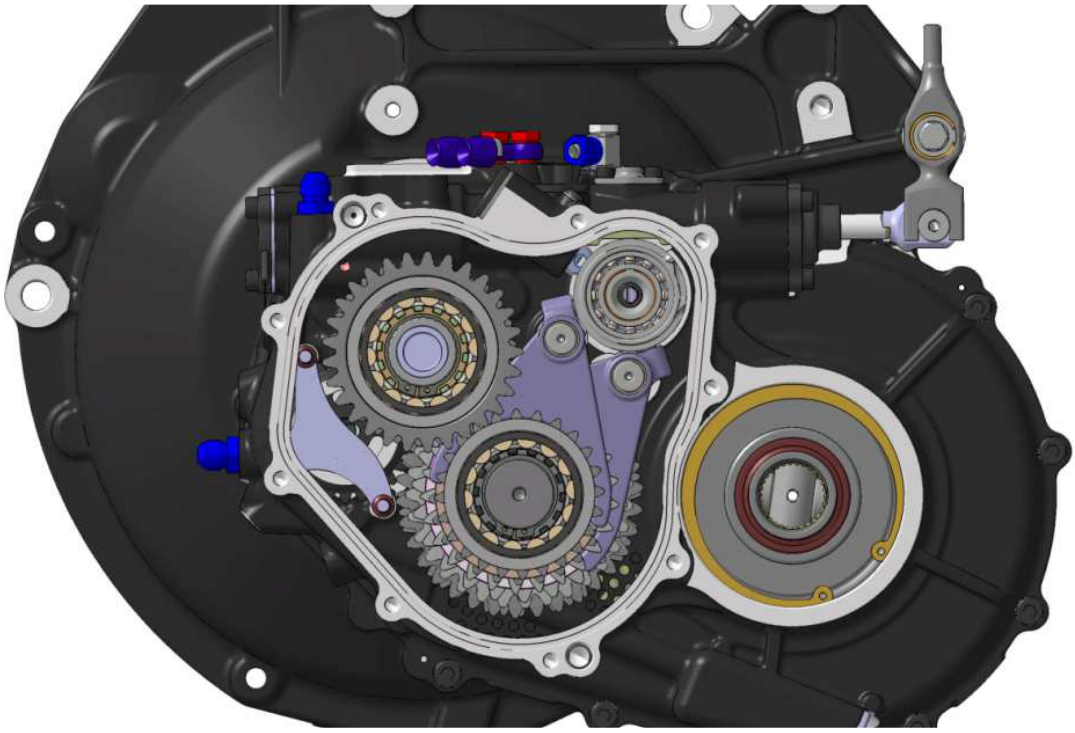
D.2.8.1 SPECIAL TOOLS:

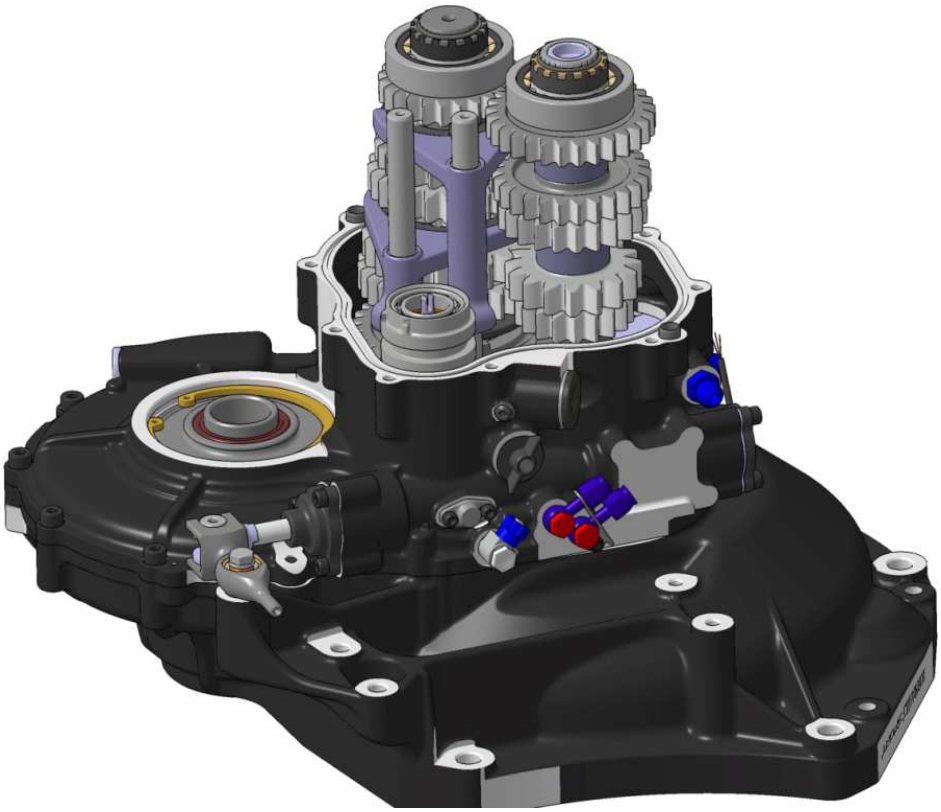
	Reference SADEV	FOUT9045200	Socket for primary and secondary shaft nut
	Reference SADEV	FOUT9046013	Socket for selector axle nut
	Reference SADEV	FOUT9021007	Socket for left preload
	Reference SADEV	FOUT9021006	Socket for right preload (for disassembly the differential)
	Reference SADEV	FOUT9046011	Compression washer (for assembly/disassembly the circlip of differential)
	Reference SADEV	0301359	Bolt CHc thread M6 lenght 70mm (for assembly/disassembly the circlip of differential)
	Reference SADEV	FOUT1914600	Clutch centring shaft



D.2.8.2 Opening the gearbox

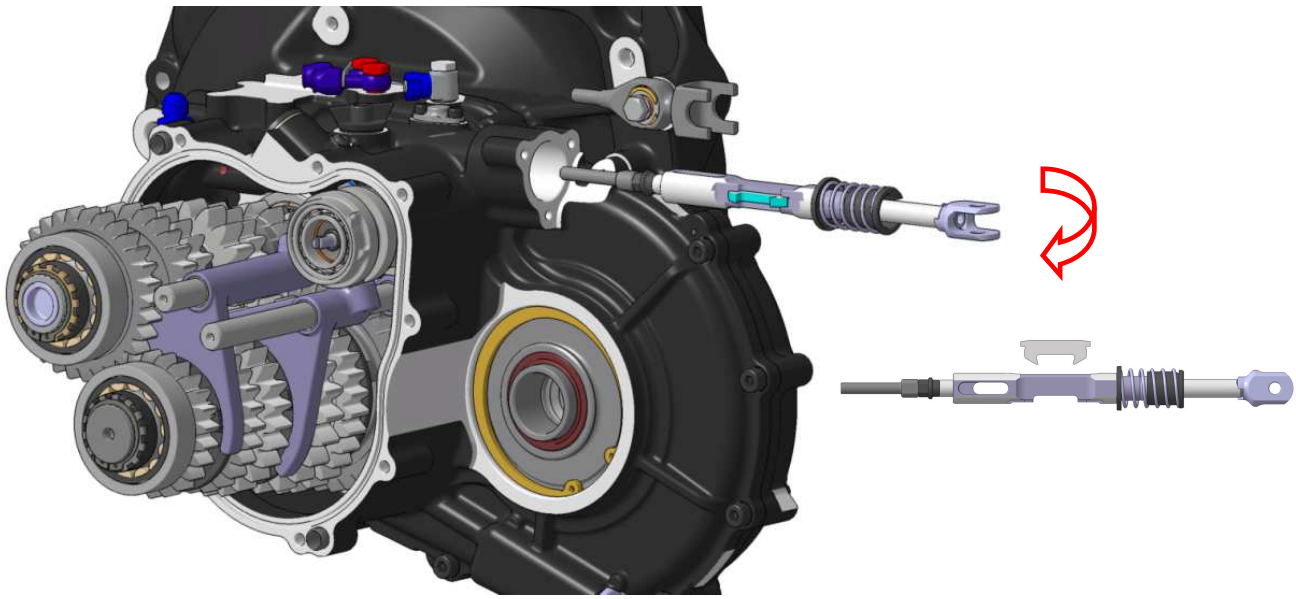
- Remove the upper casing (9 screws)
- Remove the 2 forks axis
- Remove the complete barrel indexer
- Remove the barrel
- Remove simultaneously the primary and secondary shaft with the forks



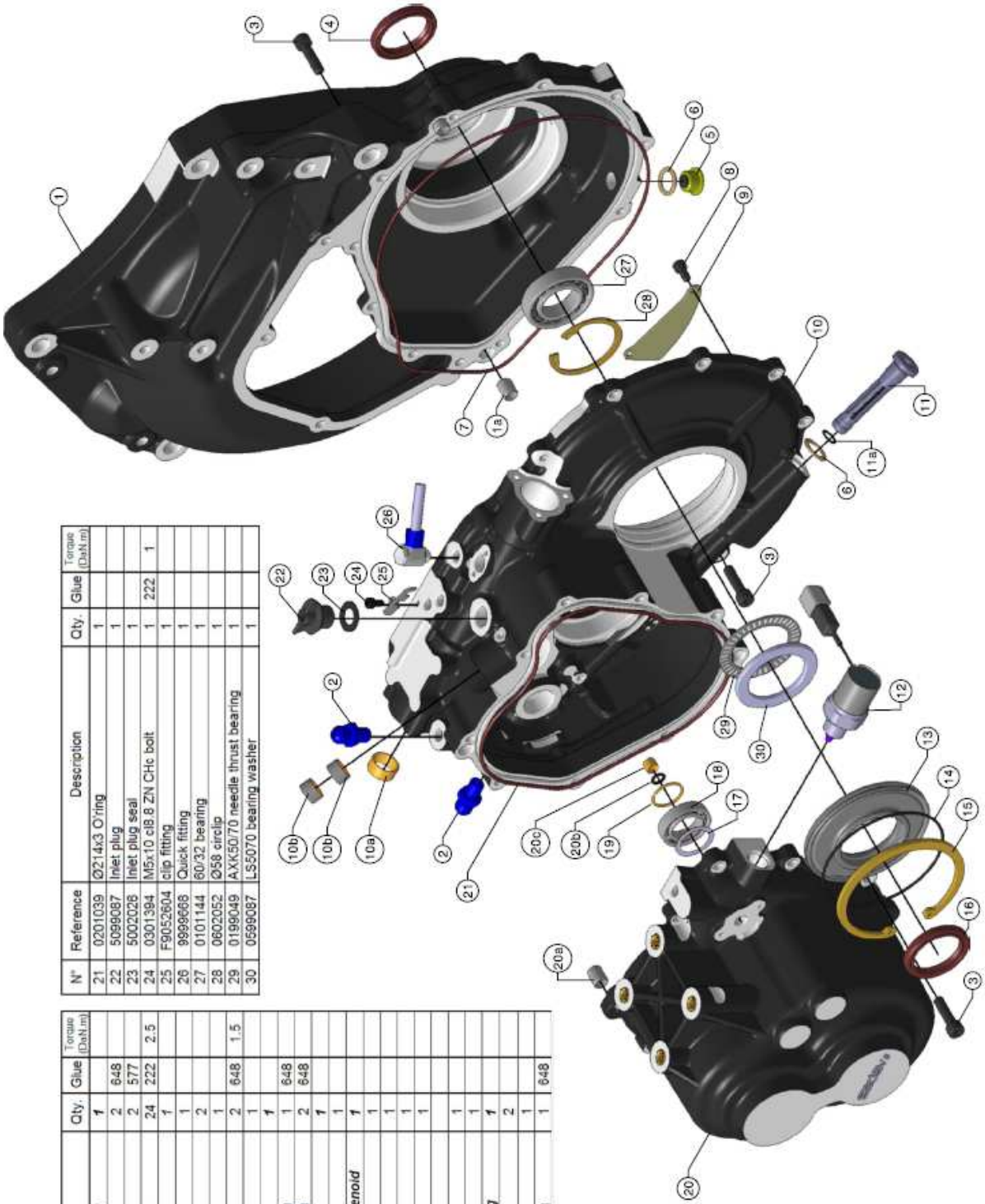


To remove the selection axis, same procedure as for every SADEV Gearbox :

- Put the gearbox in Reverse gear
- Remove the yoke bolt and turn the rocker (if the semi automatic kit is fitted) of ¼ turn
- Remove the selection axis cover (3 screws)
- Remove the dual pin ratchet tappet
- If the barrel is already removed pull the selection axis
- If the barrel is still fitted, turn clockwise the selection axis of ¼ turn to disengage the dual pin ratchet of the barrel, then pull the selection axis



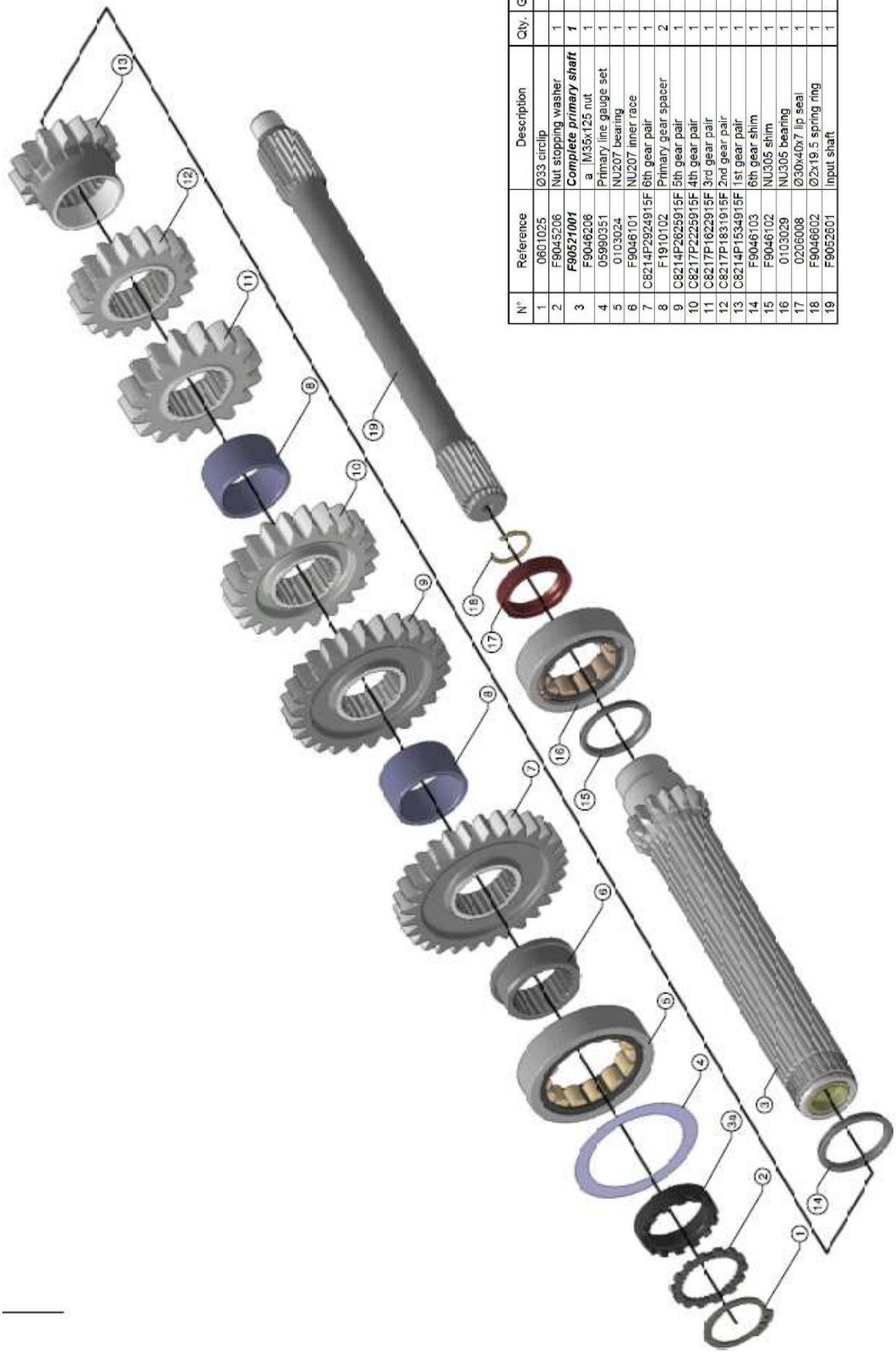
D.2.8.3 CASINGS



N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
1	***F19150021***	***Complete clutch housing***	*1*		
	F0077229	a Ø12x15 pin	2	648	
2	9999543	M12/D06 fitting	2	577	
3	0301293	M8x30 cl10.9 ZN CHc bolt	24	222	2.5
4	0206007	Ø42x52x7 lip seal	*1*		
5	F1402058	Magnet drain plug	1		
6	0599002	16.1x23x1 Drain plug seal	2		
7	0201181	Ø260x2.5 O'ring	1		
8	0301188	M6x12 cl10.9 CHc bolt	2	648	1.5
9	F9046014	Deflector	1		
10	***F90520051***	***Complete main housing***	*1*		
	1202028	a PAP2010 P10 bushing	1	648	
	1202030	b PAP1610 P10 bushing	2	648	
11	***F90460131***	***Suction screen***	*1*		
	0201177	a Ø11x1.5 O'ring	1		
12	***F90524491***	***Reverse gear locking solenoid***	*1*		
13	F90520010	Seal housing	1		
14	0201151	Ø100x2 O'ring	1		
15	0602076	Ø105 circlip	1		
16	0206060	Ø42x55x7 lip seal	1		
17	F9023908	Barrel gauge set			
18	0101128	61905 bearing	1		
19	0601003	Ø25 circlip	1		
20	***F90520071***	***Complete cluster housing***	*1*		
	F0077229	a Ø12x15 pin	2		
	0201131	b Ø8x2 O'ring	1		
	1202011	c PAP0808 P10 bushing	1	648	

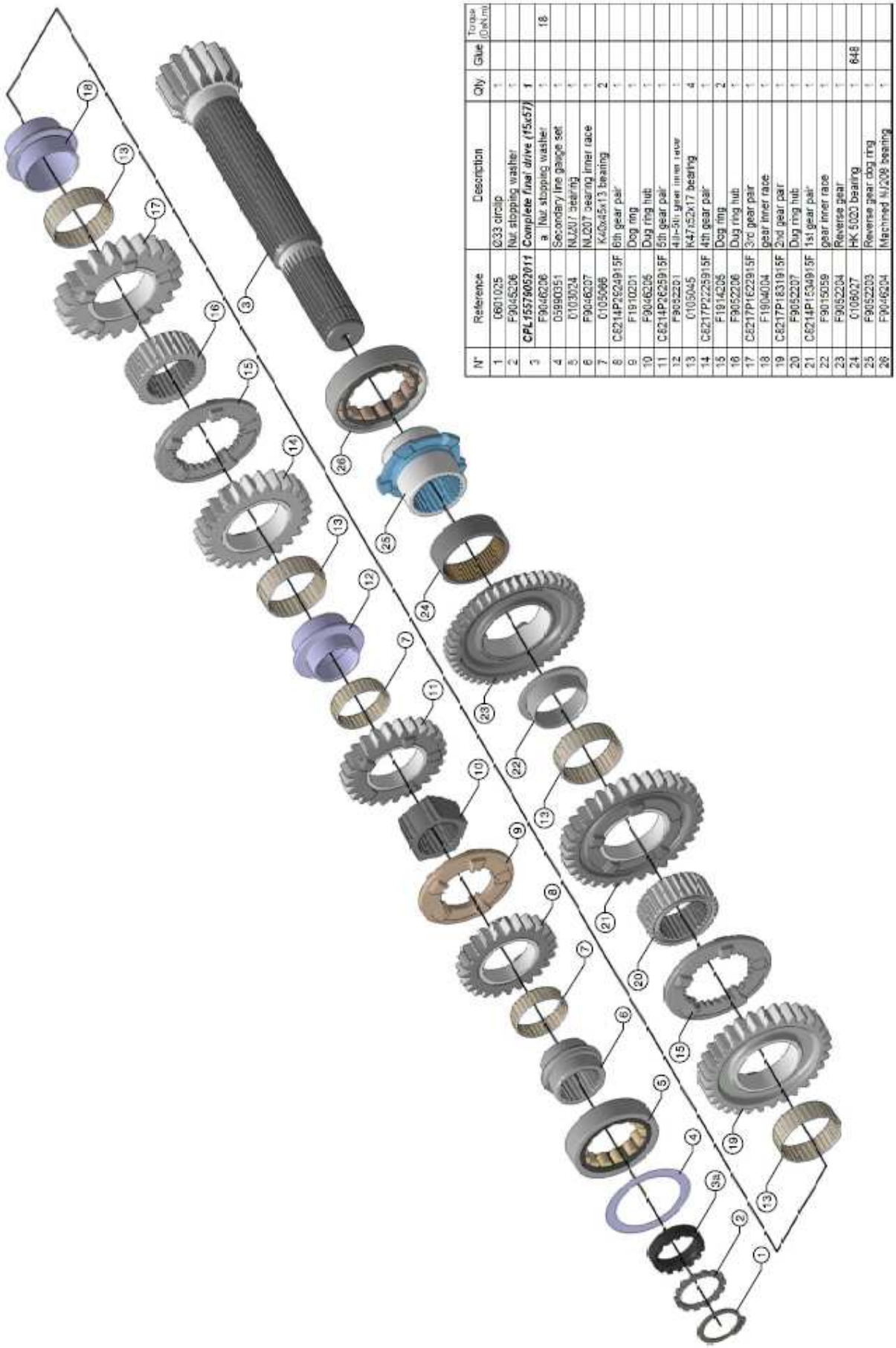
N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
21	0201039	Ø214x3 O'ring	1		
22	5099087	Inlet plug	1		
23	5002026	Inlet plug seal	1		
24	0301394	M5x10 cl8.8 ZN CHc bolt	1	222	1
25	F9052604	clip fitting	1		
26	9999668	Quick fitting	1		
27	0101144	60/32 bearing	1		
28	0602052	Ø58 circlip	1		
29	0199049	AXK50/70 needle thrust bearing	1		
30	0599087	LS5070 bearing washer	1		

D.2.8.4 PRIMARY SHAFT



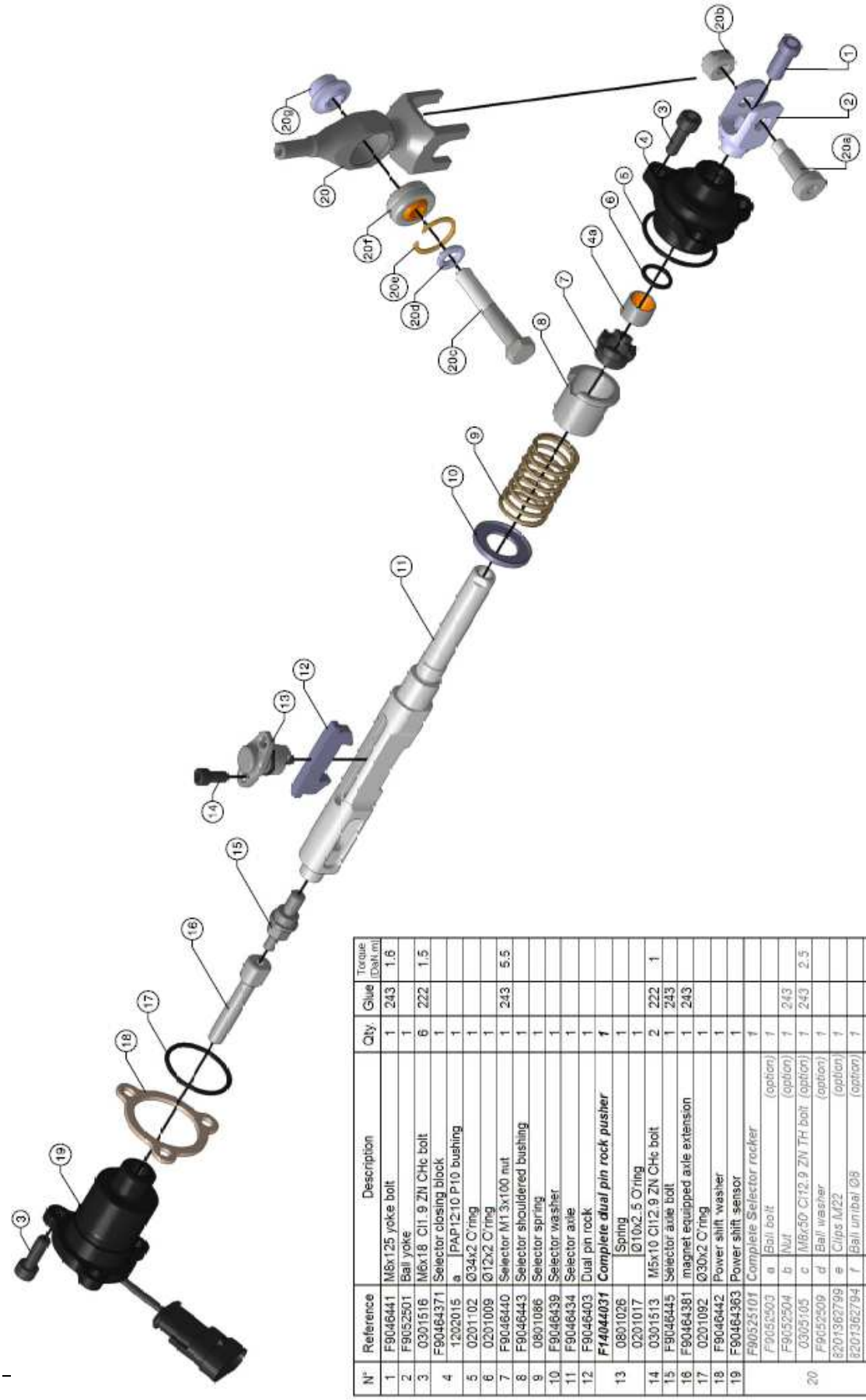
N°	Reference	Description	Qty.	Glue	Torque (DaN m)
1	0601025	Ø33 circlip	1		
2	F9045206	Nut stopping washer	1		
3	***F90521001***	***Complete primary shaft***	***1***		
	F9046206	a M35x125 nut	1		18
4	05990351	Primary line gauge set	1		
5	0103024	NU207 bearing	1		
6	F9046101	NU207 inner race	1		
7	C8214P2924915F	6th gear pair	1		
8	F1910102	Primary gear spacer	2		
9	C8214P2625915F	5th gear pair	1		
10	C8217P2225915F	4th gear pair	1		
11	C8217P1622915F	3rd gear pair	1		
12	C8217P1831915F	2nd gear pair	1		
13	C8214P1534915F	1st gear pair	1		
14	F9046103	6th gear shim	1		
15	F9046102	NU305 shim	1		
16	0103029	NU305 bearing	1		
17	0206008	Ø30x40x7 lip seal	1		
18	F9046602	Ø2x19.5 spring ring	1		
19	F9052601	Input shaft	1		

D.2.8.5 SECONDARY SHAFT



N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
1	0601025	Ø33 circlip	1		
2	F9046206	Nut, stopping washer	1		
3	**CPL1557905201I**	**Complete final drive (15x57)**	**1**		18
	F9046206	a Nut, stopping washer	1		
4	0589035I	Secondary line gauge set	1		
5	0103024	NJ407 bearing	1		
6	F9046207	NJ207 bearing inner race	1		
7	0105066	K40x45x13 bearing	2		
8	C6214P2524915F	6th gear pair	1		
9	F1910201	Dog ring	1		
10	F9046205	Dog ring hub	1		
11	C6214P2625915F	5th gear pair	1		
12	F9052201	4th-5th sprag inner race	1		
13	0105045	K47x52x17 bearing	4		
14	C6217P2225915F	4th gear pair	1		
15	F1914205	Dog ring	2		
16	F9052206	Dog ring hub	1		
17	C6217P1622915F	3rd gear pair	1		
18	F1904004	gear inner race	1		
19	C6217P1831915F	2nd gear pair	1		
20	F9052207	Dog ring hub	1		
21	C6214P1534915F	1st gear pair	1		
22	F9015059	gear inner race	1		
23	F9052204	Reverse gear	1		
24	0106027	HK 5020 bearing	1	648	
25	F9052203	Reverse gear dog ring	1		
26	F9046204	Machined NJ209 bearing	1		

D.2.8.6 SELECTION AXIS



N°	Reference	Description	Qty.	Glue	Torque (DaN.m)
1	F9046441	M8x125 yoke bolt	1	243	1.6
2	F9052501	Ball yoke	1		
3	0301516	M6x18 Cl1.9 ZN CHc bolt	6	222	1.5
4	F90464371	Selector closing block	1		
	1202015	a PAP12/10 P10 bushing	1		
5	0201102	Ø34x2 O'ring	1		
6	0201009	Ø12x2 O'ring	1		
7	F9046440	Selector M13x100 nut	1	243	5.5
8	F9046443	Selector shouldered bushing	1		
9	0801086	Selector spring	1		
10	F9046439	Selector washer	1		
11	F9046434	Selector axle	1		
12	F9046403	Dual pin rock	1		
	F14044031	***Complete dual pin rock pusher***	***1***		
13	0801026	Spring	1		
	0201017	Ø10x2.5 O'ring	1		
14	0301513	M5x10 Cl12.9 ZN CHc bolt	2	222	1
15	F9046445	Selector axle bolt	1	243	
16	F90464381	magnet equipped axle extension	1	243	
17	0201092	Ø30x2 O'ring	1		
18	F9046442	Power shift washer	1		
19	F90464363	Power shift sensor	1		
20	F90525101	*Complete Selector rocker*	*1*		
	F9052503	*a Ball bolt (option)*	*1*		
	F9052504	*b Nut (option)*	*1*	*243*	
	0305105	*c M8x50 Cl12.9 ZN TH bolt (option)*	*1*	*243*	*2.5*
	F9052509	*d Ball washer (option)*	*1*		
	8201362799	*e Clips M22 (option)*	*1*		
	8201362794	*f Ball unibal Ø8 (option)*	*1*		
	F9052508	*g Ball pin rock (option)*	*1*		

D.2.8.7 GEAR SELECTION

N°	Reference		Description	Qty.	Glue	Torque (Daf.m)
1	F9052419		Forks axle	2		
2	***F90524261***		***Complete 3-4 fork***	***1***		
	1202021	a	PAP1515 P10 bushing	2		
	F0077120	b	Selector pin	1		
3	***F90524281***		***Complete reverse fork***	***1***		
	1202021		PAP1515 P10 bushing	2		
	F0077120		Selector pin	1		
4	0301512		M4x10 Cl12.9 ZN CHc bolt	2		
5	0502023		Ø4 washer	2		
6	F0089058		Contactless angle sensor	1		
7	F9052418		Potentiometre axle	1		
8	F9052400		Barrel	1		
9	F9046413		Potentiometre axle pin	1		
10	0101004		6004 bearing	1		
11	**F90464171**		**Complete indexor**	1		
	F90464172	a	indexor	1		
	0599061	b	BS Ø6 seal washer	1		
	F9046418	c	Rotation stop bolt	1	577	
	0801046	d	Indexor spring	1		
	0203059	e	BS Ø24 seal washer	1		
	F9046419	f	Indexor plug	1		5.5
12	***F90524151***		***Complete 1-2 fork***	***1***		
	1202021		PAP1515 P10 bushing	2		
	F0077120		Selector pin	1		
13	***F90524241***		***Complete 5-6 fork***	***1***		
	1202021		PAP1515 P10 bushing	2		
	F0077120		Selector pin	1		

D.2.9 SHIFTING: MANUAL AND SEMI-AUTO MODES

2 modes are possible and are completely independent. It's possible to make randomly upshift and downshift manually (using the lever) or in semi-auto using paddle shift kit.

D.2.9.1 MANUAL MODE

The manual shiting lever is located to the right of the steering wheel.
It is not necessary to release the throttle pedal to make upshifts. An engine cut-off (ignition and injection) occurs to allow the gear shift in good conditions.

In this mode, even if the semi-automatic shifting kit is fitted and plugged, the engine cut-off during upshift phase is only managed by the magnetic power shift sensor status (see D.2.7.3)

Principle

- Pull the gear lever to upshift (magnetic power shift sensor status goes ON)
- Push the gear lever to downshift

  CAUTION : no security to prevent over revs in this case

  NOTE : The use of clutch is recommanded during downshift phases if Heel-toe is not performed

Around Neutral :

Contrarily to previous generations of SADEV Gearboxes, a half stroke of the lever to find the neutral is not required anymore. Only a full stroke of the lever has to be performed.

- N > 1st => press the "gear" button on steering wheel and pull the lever
- N > R => press the "gear" button on steering wheel and push the lever
- R > N => press the "gear" button on steering wheel and pull the lever
- 1st to N => press the "gear" button on steering wheel and push the lever

Travel of the selection axis : **18mm**

The selected gear is displayed on the dashboard screen, on the 2 first "**driver**" pages (see figure 2) and on the "**gear diagnostic**" page (see figure 1, paragraph D.2.7)

NOTE :
When "**Gear**" button is pressed, the characters ***G E A R S*** are displayed in green on the dashboard driver pages :

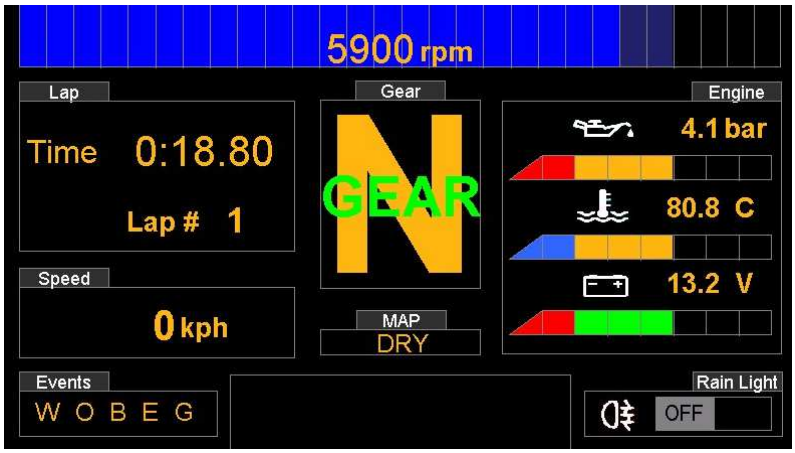
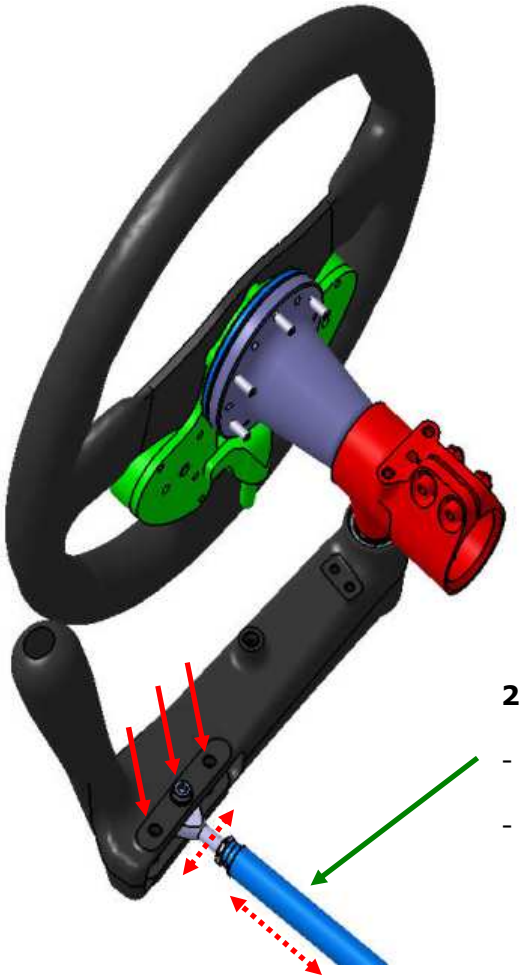


FIGURE 2

Settings

The position of the lever in relation to the steering wheel can be adjusted in 3 ways :

- By changing the position of the ball joint on the lever (3 positions)
- By Rotating the control rod in the appropriate direction around its longitudinal axis to move the gearshift towards or away from the steering wheel. (**Note:** The thread of the two opposite control rod ball joints are inverted.)
- By changing the control rod (2 references availables)



2 types of control rod :

- Length 809mm (fitted by default)
  Ref 8201418758
- Length 784mm (Option)
  Ref 8201418759

D.2.9.2 SEMI-AUTOMATIC MODE

The semi-automatic shifting kit is fitted directly behind steering wheel permanent switch panel, the sensors are already integrated inside.

It is not necessary to release the throttle pedal to change gears. An engine cut-off (ignition and injection) + motorized throttle management ("blip") occur to allow the gear shift to happen under good conditions.

In this mode, even if the manual lever is fitted, the magnetic power shift sensor status is not considered. Only the detection of the paddle sensors movements manage the shifting and the engine cut off.

During downshift phase :

- An automatic throttle movement (called "Blip") is managed to help dog ring movement
- To avoid over revs, the paddle downshift request is not considered if the calculated engine revs exceed 6800rpm after downshift.

Principle

- Pull the right paddle to upshift
- Pull the left paddle to downshift

Around Neutral :

As for the manual mode, only full paddle stroke has to be performed and the use of "**gear**" button remains the same

- N > 1st => press the "gear" button on steering wheel and pull right paddle
- N > R => press the "gear" button on steering wheel and pull left paddle
- R > N => press the "gear" button on steering wheel and pull right paddle
- 1st to N => press the "gear" button on steering wheel and pull left paddle

The selected gear is displayed on the dashboard screen, on the 2 first "**driver**" pages (see figure 2) and on the "**gear diagnostic**" page (see figure 1, paragraph D.2.7)

NOTE :
When "**Gear**" button is pressed, the characters ***G E A R S*** are displayed in green on the dashboard driver pages :

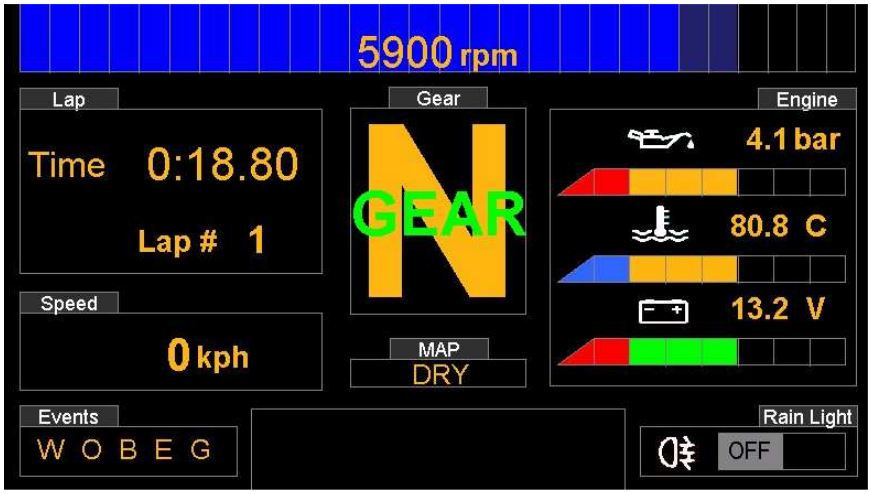
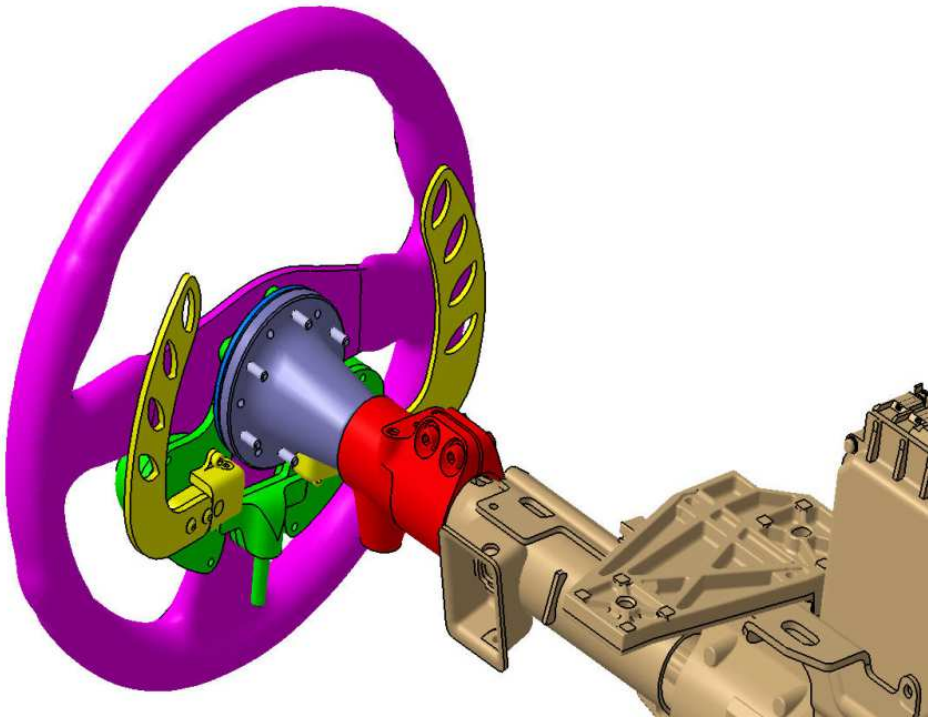


FIGURE 2

The steering wheel paddle shift kit (ref 82 01 406 554) consists in the following references

Components	Sty	References
Right paddle Ref : XAP_PAL98R_1	1	82 01 406 556
Left Paddle Ref : XAP_PAL98L_1	1	82 01 406 557



D.3 GEARBOX AND CLUTCH SERVICE

The service planning is based on the experience of SADEV and the results of the development sessions of the ST8217RS10233 gearbox. Lifespan of the parts and the information given about service planning can be updated in the future.

PARTS	ACTION	FREQUENCY
Clutch shaft	Change	~4000 km or if damaged
Primary line bearings	Change	~4000 km or if damaged
Secondary line bearings	Change	~4000 km or if damaged
Differential bearings	Change	~4000 km or if damaged
Barrel bearings	Change	~4000 km or if damaged
Reverse idle gear bearing	Change	~4000 km or if damaged
Selector axle	Change if contact area damaged	-
Selector spring /Indexing spring /Dual pin rock pusher spring	change	~4000 km
Selector fork pins	Change is too marked	-
Planet gears and bevel gears	Control and change if too marked or pitting	Each disassembly
All safety fixing components (primary/ secondary nuts…)	Change	If damaged
All lips seals – O'ring seals	Change	According to the rebuild kit or if damaged
Drain frequency		Each meeting
Plug seal	Change	Each meeting
Drain magnet plug -Suction screens	Cleaning	Each meeting
All glue fixing composant	Glue the parts as indicated in the user manual	Each disassembly
Final drive	Control and change if damaged	Each disassembly
	Change if damaged	~4000 km
Gears / dog rings	Control	Each disassembly
	Change if damaged	~4000 km
Preload of the differential	Control and Change springs if preload is less than 100Nm At temperature ambiant	~700 km
Friction disks / plate disks	Control and change disks if preload is less than 90Nm at 20°C or change if wear > 0.05mm per disk	-

SADEV proposes 2 rebuild kits:

KIT	MAINTENANCE	FREQUENCY
KITREVST821701	Control primary and secondary geartrain, selector, differential (all safety fixing components, shafts nuts , clips, O'rings seals)	~2000km
KITRLTST821701	**Bearings :** Control and/or change all bearings of the gearbox	~4000km

KITREVST821701

PART NUMBER	DESCRIPTION	Qty	Attribution
0601025	Ø33 circlip	1	*Primary geartrain*
0206008	Ø30x40x7 lip seal	1	*Primary geartrain*
F9046602	Ø2x19.5 spring ring	1	*Primary geartrain*
0601025	Ø33 circlip	1	*Secondary geartrain*
0206007	Ø42x52x7 lip seal	1	*Housings*
0599002	16.1x23x1 drain plug seal	2	*Housings*
F1402058	Magnet drain plug	1	*Housings*
0201181	Ø260x2.5 O'ring	1	*Housings*
0201177	Ø11x1.5 O'ring	1	*Housings*
0201151	Ø100x2 O'ring	1	*Housings*
0206060	Ø42x55x7 lip seal	1	*Housings*
0201039	Ø214x3 O'ring	1	*Housings*
0602076	Ø105 circlip	1	*Housings*
0599061	BS Ø6 seal washer	1	*Gear selector*
0203059	BS Ø24 seal washer	1	*Gear selector*
0201017	Ø10x2.5 O'ring	1	*Selector axle*
0201099	Ø12x2 O'ring	1	*Selector axle*
0201092	Ø30x2 O'ring	1	*Selector axle*
0201102	Ø34x2 O'ring	1	*Selector axle*
0201282	Ø44x2 O'ring	1	*Lubrication*
0201135	Ø10x2 O'ring	1	*Lubrication*
0203055	Ø10x14x3 seal bushing	1	*Lubrication*

KITRLTST821701

PART NUMBER	DESCRIPTION	Qty	Attribution
0103024	NU 207 ECP bearing	1	*Primary geartrain*
0103029	NU 305 ECP	1	*Primary geartrain*
0105066	K40x45x13 bearing	2	*Secondary geartrain*
0105045	K47x52x17 bearing	4	*Secondary geartrain*
0106027	HK 50/20 bearing	1	*Secondary geartrain*
0103024	NU 207 ECP bearing	1	*Secondary geartrain*
F9046204	NJ208 bearing	1	*Secondary geartrain*
0101004	6004 bearing	1	*Gear selector*
0102024	EC-12775 bearing	1	*Differential*
5001002	EC-12218 bearing	1	*Differential*
0101128	61905 bearing	1	*Housings*
0101144	60/32 bearing	1	*Housings*
0199049	AXK50/70 needle thrust bearing	1	*Housings*
0106021	Hk2016 bearing	1	*Lubrication*

Rebuild in SADEV workshop

- REMINDER : The gearboxes are sealed and numbered but their presence is not mandatory
- The absence of the SADEV seals imposes a careful attitude for SADEV in case of minor or major problem, and can lead to a complete reserve if necessary.

Gearboxes shipping for rebuild :

To allow a rebuild in good conditions in SADEV, a gearbox must be sent in the following conditions:

- Drained and cleaned outside
- Salve cylinder and oil pump fitted
- Lubrication adapters must be closed by corresponding plugs (Goodridge…etc)
- All sensors fitted
- Drain plugs and its seal fitted (slightly tightened)
- Differential fitted

Administrative procedure:

1. Contact SADEV sales department before any shipment to schedule the rebuild
2. APPROXIMATELY 2 TO 3 WEEKS OF DELIVERY TIME MUST BE CONSIDERED

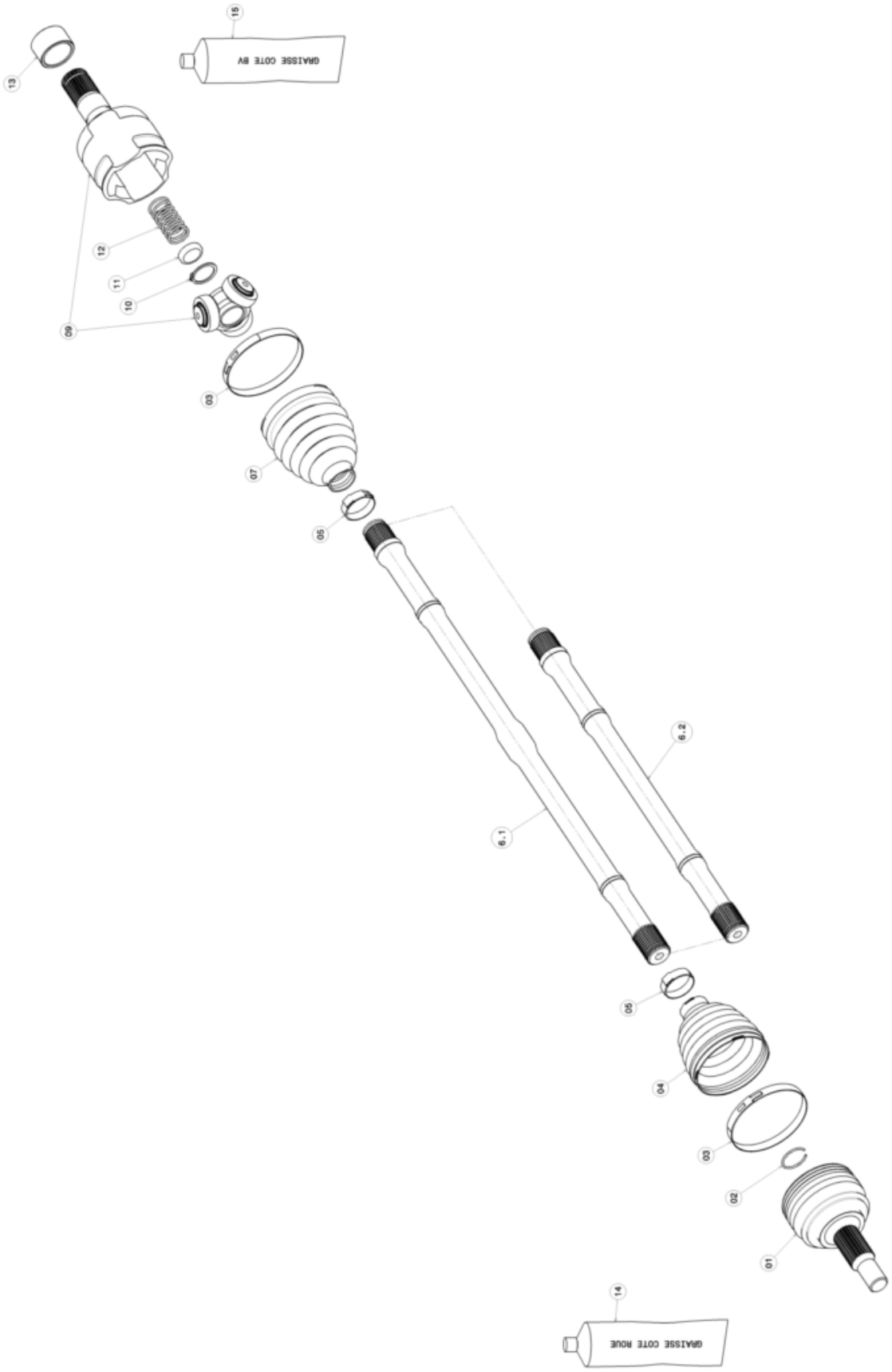
Personal rebuild :

The Personal rebuild is allowed

All parts must be ordered directly to RENAULT SPORT Spare parts department

SADEV IS NOT RESPONSIBLE FOR ANY DAMAGE FOLLOWING A REBUILD NOT PERFORMED IN A SADEV AGREED TECHNICAL CENTER

D.4 TRANSMISSIONS



Part n°	Designation	reference
3	Boot clamp	8201 391 692
4	Driveshaft gaiter / Driveshaft bowl side	8201 366 875
5	Boot clamp	8201 391 695
6.1	Right HS half shaft	8201 363 062
6.2	Left HS half Shaft	8201 363 061
7	Driveshaft gaiter / outer joint yoke side	8201 366 862
9	Driveshaft outer joint yoke	8201 391 698
10	Stop ring	8201 366 894
11	Cup	7711 155 456
12	spring	7711 160 758
13	Hoop 25.5mm	8201 391 690
14	Grease : Wheel side 130+/-10g	7711 162 391
15	Grease : Gearbox side 160 +/-10g	7711 162 392