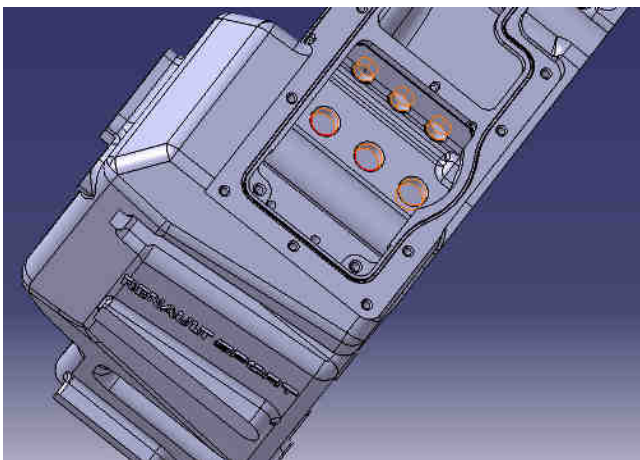


REFERENCE	BT_2011_FR20_2_UK
DATE	13 <sup>th</sup> January 2010
SUBJECT	Oil tank and gearbox housing upgrades
PART	Oil tank, gearbox housing

## 1. Oil tank upgrade – FREE OF CHARGE

The oil tank must be upgraded by Sadev before the start of 2011 season, to solve the oil transfer issue. The modification consists in drilling 6 holes inside the oil tank, as shown below:



The oil tank must be completely disassembled and cleaned. Only the main housing must be sent to Sadev without any internal parts.

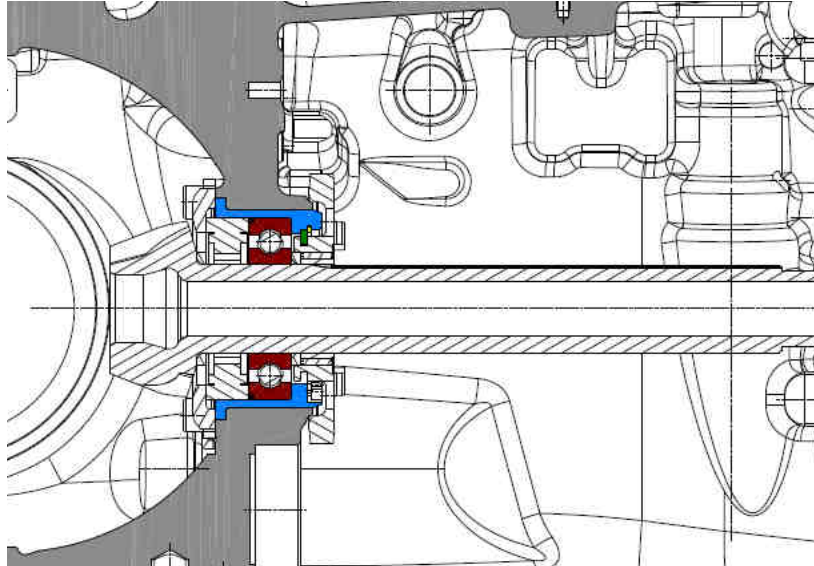
With this modification, the aluminium pipe between oil tank and catch tank is not needed anymore. This pipe will be in C category for 2011 season.

**Note 1:** this modification is mandatory for 2011 season.

**Note 2:** all the new cars delivered since the 1<sup>st</sup> of september already have an updated oil tank.

## 2. Gearbox housing upgrade – FREE OF CHARGE

The gearbox housing must be upgraded by Sadev before the start of 2011 season. This modification will improve the reliability of the housing, adding a sleeve around the secondary shaft main bearings (in blue).



To proceed to the modification, you must send all the following parts to Sadev:

- *Complete gearbox housing (2 parts):* must be cleaned and completely disassembled
- *Differential casing,* at least with bearings and final drive
- The *tooth clearance shims* you were using
- *Secondary shaft,* with its bearings and bearing plate
- It is possible to leave to following parts into the housing:
  - o *Primary shaft bearing*
  - o *reverse gear axle (ref. 0101910419)*
  - o *barrel bearing*
  - o *suspension rocker axles*






**Sadev will put the complete final drive (differential and secondary shaft) back with the good setup shims into the housing before to send it back.**

**Note:** this modification is mandatory for 2011 season.

### 3. New gearbox housing assembly

#### a. Parts included in the package

The parts that will be delivered with the update kit are:

	Ref. SADEV	F1910029	Main Housing machined with sleeve
	Ref. SADEV	F1910213	Rotation stopping fork Evo
	Ref SADEV	F1910214	Reverse gear wheel clips
	Ref SADEV	F1910216	QJ207 C2 chamfered bearing
	Ref SADEV	0201222	O-Ring Ø2x68

The package also includes:

- a bearing NU207 (ref: 0100103024).
- a shim F1910205 corresponding to the calculated value 'C' (see User Manual chapter D-3.6.1).
- if necessary, 2 tooth clearance shims F19103201 corresponding to the calculated value 'Z' (see User Manual chapter D-3.6.2).

- Glue components

**WARNING:**

Glue components have been chosen during tests sessions. Only 'Loctite' brand components must be used. Consequences of false glue component choice can't be ensured by Sadev.

**b. Information about disassembly**

All the instructions of the User Manual (part D) remain valid.

No additional specific SADEV tool is needed for servicing a gearbox equipped with an upgraded main casing.

Next paragraphs will detail the changes on servicing, induced by the upgrade.

**c. Ratios**

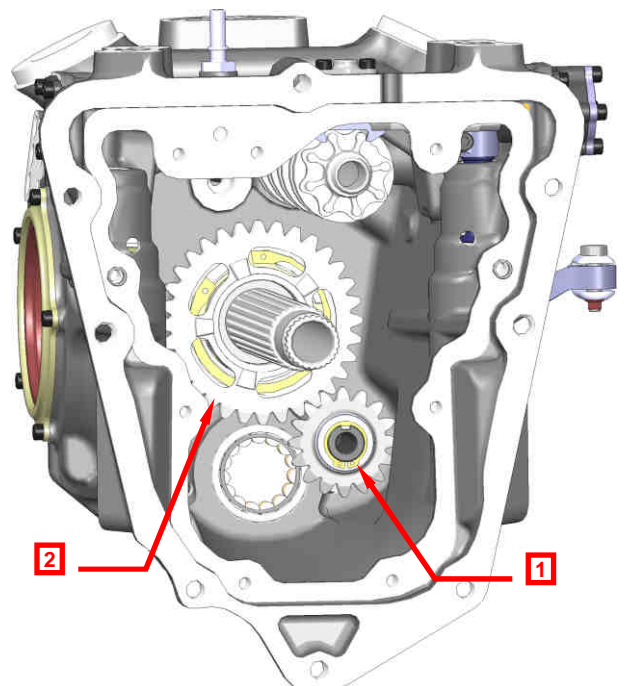
- Disassembly/assembly of Reverse gear

Reverse transfer pinion (1) :

- Forward gears must be removed.
- Remove the circlips, the ergot spacer and the reverse transfer pinion.
- Degrease the parts, check their states and replace them in case of damage or excessive wear or play.
- To change the roller needle bearing: press remove it. Clean and degrease the internal diameter of the transfer pinion and the external diameter of the new roller needle bearing.
- Put some Loctite603 on the external diameter of the bearing, and press fit it inside the transfer pinion, taking care not to damage it.
- Lubricate the bearing with gearbox oil and refit the parts and the circlips on the reverse axle.

Reverse gear wheel (2) :

- Put a tong through the pockets of the wheels and remove the reverse gear wheel clips. The reverse gear wheel and the rotation stopping fork evo can be removed.
- Degrease the parts, check their state and replace them if necessary.
- Install the roller needle bearing of the reverse gear wheel on the secondary shaft (if it has been removed).
- Reinstall the rotation stopping fork evo in the groove of the reverse gear wheel, and hold the clips between them.
- Push the rotation stopping fork evo inside the pockets in the sleeve and release the clips inside the groove.



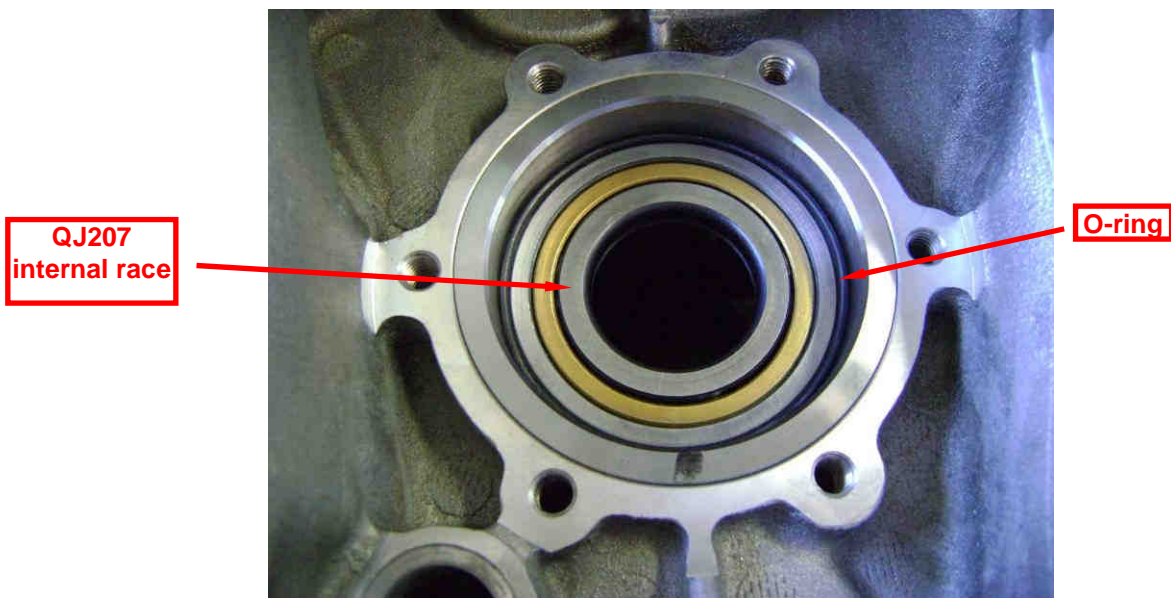
**d. Conical final drive mounting****- Secondary shaft**

On the shaft:

- Assemble the secondary shaft shim which is included in the kit, corresponding to the calculated value C.
- Press fit the inner race of the NU207 bearing, on the secondary shaft.

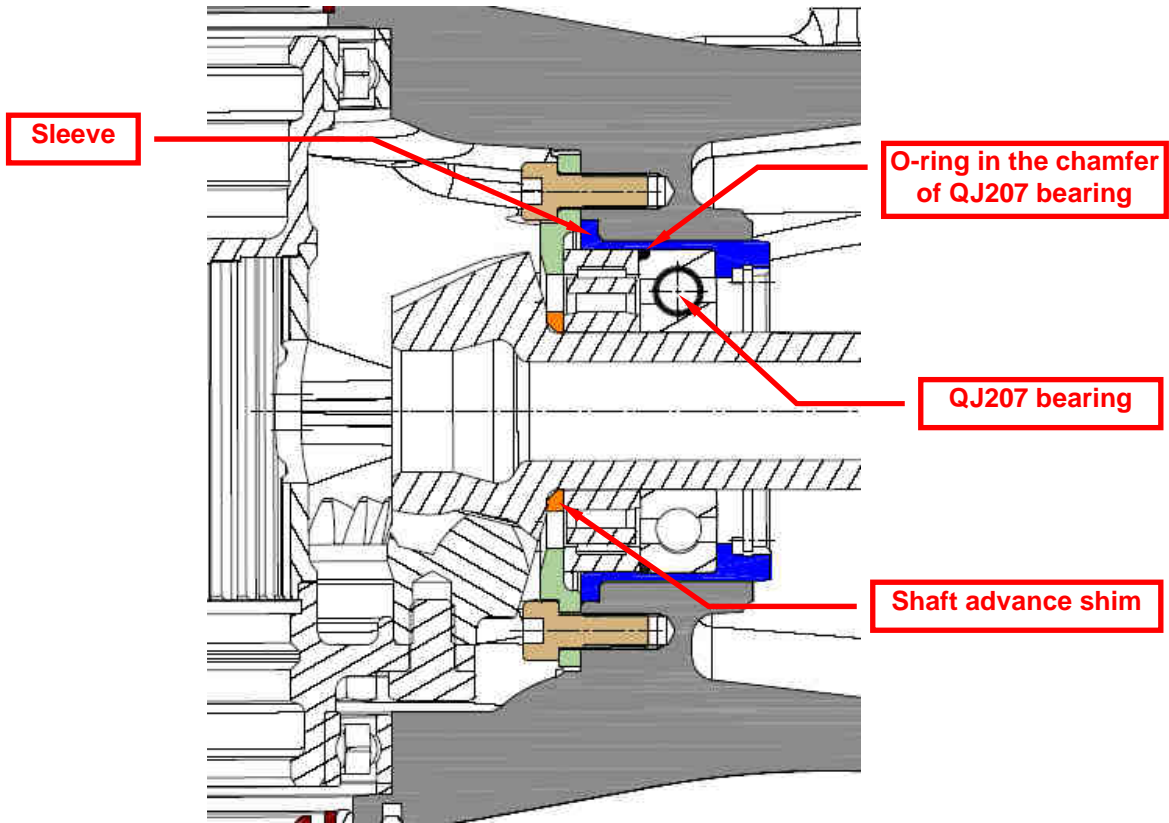
In the main housing sleeve:

- Press fit the QJ207 4-point contact bearing external race, taking care to put its chamfered side towards the 6 M8 thread for the flange. (The chamfer is facing the second bearing, not the sleeve shoulder)
- Set in place the o-ring on the chamfer of the external race of the QJ207 bearing, and an internal race of the QJ207 bearing.



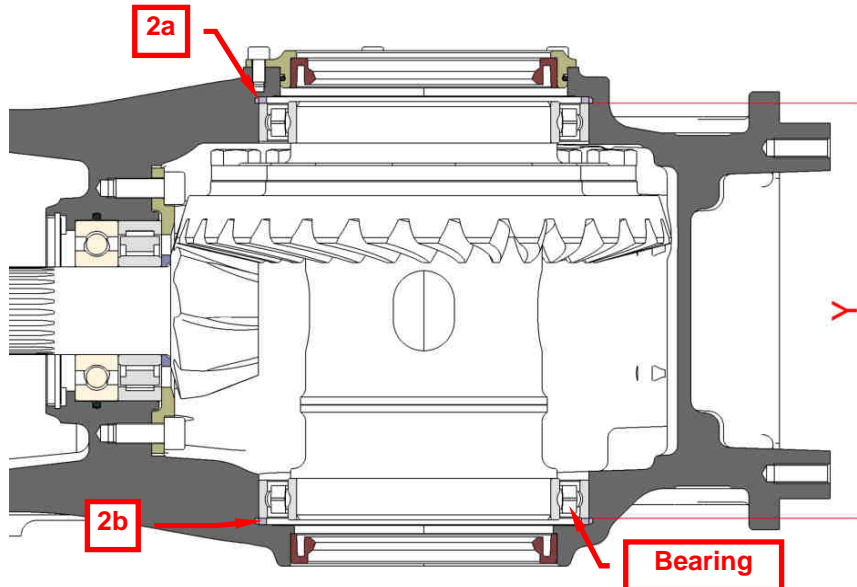
- Fit the external race of the NU207 bearing in the sleeve.
- Place the NU207 flange on the housing, put some Loctite 270 on the M8 bolts and tighten them to 2.5DaN.m.
- Put the shaft through the bearings using a mallet to set it in place.
- Refit the gears (refer to §D-3.3.4 of the User Manual). Do not close the gearbox. Do not fit the nut locking washer and the circlips immediately.





- Crown

There should be no need to change the tooth clearance shims (2a) and (2b) after the housing upgrade.





e. Main Housing Sleeve

Disassembly of the sleeve from the main housing is not advised as it could damage the adjustment between both parts.

#### 4. Logistics

**Both modifications are free of charge.**

Sadev can start to receive and modify parts from January 15<sup>th</sup>, 2011.

The parts must be sent to the following address:

**SADEV**

6 rue des Grands Montains  
85110 Saint Prouant  
France

**To the attention of Teddy BILLAUD**

**Both gearbox and oil tank casings can be modified at the same time. The modification should take 10 days from reception of the parts.**

**Please fill in a return form with each gearbox. Don't forget to mention your address to send the parts back and your maximal delay to get them back.**

For more information, please contact:

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