

REFERENCE	BT_2012_FR20_1_UK
DATE	10th February, 2012
SUBJECT	Wear on gearbox main housing sleeve
PART	Gearbox housing

**1. Gearbox secondary shaft: wear on main housing sleeve**

SADEV and Renault Sport have noticed a wear in the bottom of the main housing sleeve. This wear is changing the tooth clearance of the bevel gear, so may reduce its lifetime.

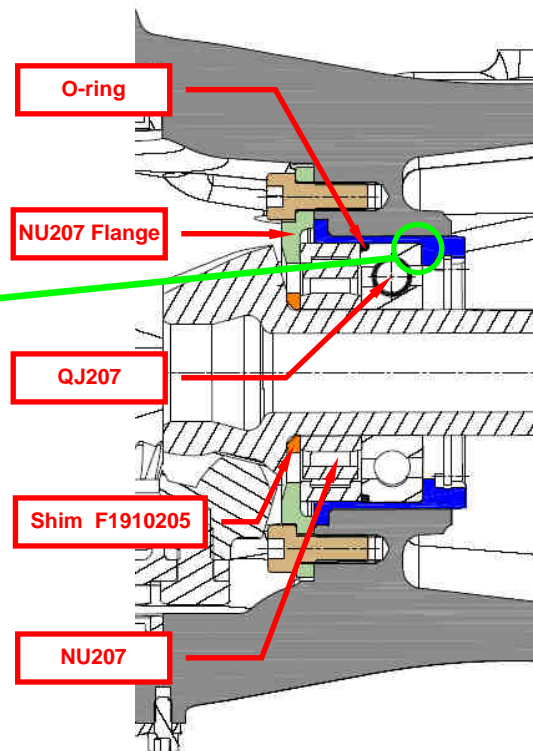
The o-ring placed between the NU207 and QJ207 bearings is deformed by temperature and is losing its efficiency of locking the QJ207 bearing outer race.

In order to improve the assembly:

- The o-ring 01 00 201 222 (Ø68x2) is substituted by the **new reference 01 00 202 061** in Viton®: (Ø67.6x2.4).
- It is now advised to change the o-ring every 2,500km.

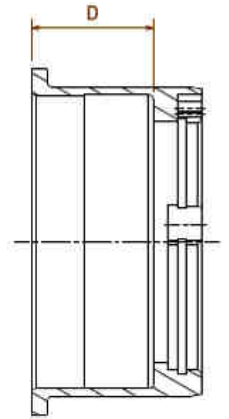


*Damaged sleeve*



**i. Assembly of the Bearings**

It is advised to check the bottom of your main housing sleeve and to measure the dimension "D".



In order to check the depth "D", the bearings must be removed.

To remove the bearings:

- keep the sleeve tightened with washers and bolts
- Use a bearing extractor to remove the NU207 roller bearing.
- Remove the o-ring seal (2).
- Remove the QJ207 bearing (pushing with one of the internal race of the bearing).
- Check their wear (replace them if necessary).



**SADEV is proposing a thinner NU207 flange F1910217 in order to keep the bearings in the right interval of tolerances:**

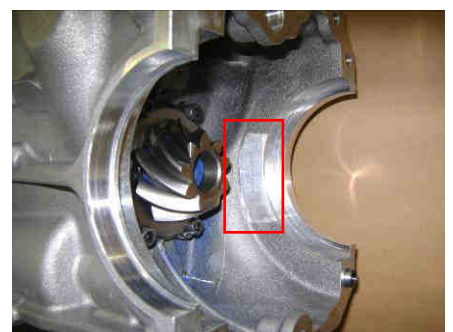
- If "D" lower than 30.20mm use the F1910203 Bearing plate of NU207 (original one)
- If "D" higher than or equal to 30.20mm use the new and thinner F1910217 Bearing plate of NU207 (3.66mm)
- If "D" higher than 30.35mm, the sleeve F1910028 must be replaced as soon as possible

**Note:** the sleeve won't be more expensive than the bearing plate. 2012 bearing plate price = 89.02€ excl. VAT

The position of the pinion of the secondary shaft must be adjusted. As the dimension "A" marked on the main housing (around 137.25) is linked to the depth of the sleeve "D".

The thickness calculation of the shim F1910205, "C", is obtained by the following formula:

$$C = A - 129.74 - B + D$$



**Reminder:** "B" is the combined height of both NU207 and QJ207 bearings.

## ii. Sleeve replacement

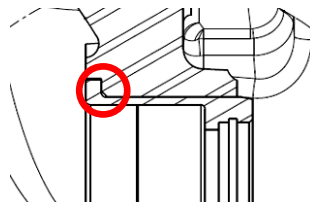
**The sleeve must be changed only if the depth "D" is higher than 30.35mm.**

We remind you that too much play may **ONLY** result in increasing the wear rate of the bevel gear. Running with such a play is possible, but the replacement of the sleeve is the only way to stop the sleeve wear.

It is advised to send your main housing to Sadev to change the sleeve. However, to save money and time, Renault Sport and Sadev have chosen to allow you to replace the sleeve yourself, following the procedure below.

### **Don't remove the reverse transfer gear axle.**

- Remove the bearings of the main housing.
- Heat the main housing near the sleeve up to 135-145°C.
- Press remove, or use a mallet to extract the sleeve from the housing.
- Clean the surfaces of the housing in contact with the sleeve.
- Heat the main housing around the hole made for the sleeve up to 135-145°C.
- Put some Loctite® 128467 or 648 (glue for cylindrical assembly) on the Ø76mm-diameter of the sleeve.
- Use a mallet to fit the new sleeve, taking care to:
  - Push hard enough to get contact between the shoulder of the sleeve and the housing.



- Respect the sleeve orientation to ease the mounting of the reverse gear snap ring:

**Pockets towards  
primary shaft  
bearing**



- Place the NU207 flange on the housing and tight the M8 bolts in order to keep the sleeve tighten while the housing is cooling down.
- When the housing is at room temperature, unscrew the M8 bolts and remove the NU207 flange.
- Change the clips 0601001 of reverse transfer gear axle.
- Refit the bearings of the main housing.



**Note:** although the sleeve can be change without specific tools, we have decided to propose one in case you need. This tool will be available soon but won't be sold by your Renault Sport spare parts dealer. 4 sets of tools will be available only through your Renault Sport Technical Delegate, Julien JEHANNE.

### iii. New setup shims

New shim thicknesses are now available to cover a wider range of setup:

- Tooth clearance shim (ref. F1910320): from **2.1mm** to **3.4mm** by step of 0.05mm
- Secondary shaft advance shim (ref. F1910205): from 3.05 to **4.3mm** by step of 0.05mm

The setup shims (F1910205, F1910320 and F1910212) are now available separately.

Part description	Sadev Reference	Renault Sport commercial reference
Standard NU207 bearing plate	F1910203	01 01 910 203
New NU207 bearing plate 3.66mm	F1910217	01 01 910 217
Sleeve	F1910028	01 01 910 028
Shaft advance shim	F1910205	19 10 205 XXX*
Tooth clearance shim	F1910320	19 10 320 XXX*
Gears shim	F1910212	19 10 212 XXX*
New sleeve o-ring in Viton®	0202061	01 00 202 061
clips of reverse transfer gear axle	0601001	01 00 601 001

\*XXX must be replaced by the required thickness

For example:

Secondary shaft advance shim F1910205 with a thickness of 3.15mm → ordering ref: 19 10 205 **315**

**New o-ring ref. 01 00 202 061 is mandatory for 2012 season.**

**Both NU207 flanges are allowed for 2012 season.**