RENAULT SPORT
INFORMATION NOTE N°7

FORMULA RENAULT 2.0

REFERENCE	NI_2014_FR20_07_UK
DATE	July 4th, 2014
SUBJECT	Crashbox repair procedure reminder, accelerated engine wear mode, new Toolbox 6.3 software release

1. Crashbox repair REMINDER

Front and rear crashboxes are FIA approved parts (FIA approval 2011). Consequently, crashbox repair may only be achieved strictly following the conditions below:

- For small area impact repair (impact area not exceeding 2cm²), teams must firstly ask a repair agreement from the Renault Sport technical scrutineers. If the agreement is given, teams can directly handle the repair. Front crashbox threads repair is also allowed.
- Important crash box repair (impact area exceeding 2cm²) must exclusively be carried out by the chassis manufacturer Tatuus Racing s.r.l. Crashbox repair feasibility is at the discretion of the manufacturer. Any important repair must go along with a proper repair certificate issued from Tatuus Racing s.r.l.
- In case of damage to a mounting point on the chassis/gearbox or wing fitting, the front or rear crashbox must be changed.

Finally, any repair achieved (small or important repair) to the crashbox must be accompanied by a written declaration from the entrant to the Renault Sport technical scrutineers. It must also be mentioned in the vehicle's technical passport.

Contact details for crashbox repair:

Artico Sandonà : Technical director
artico.sandona@tatuus.it
Tel: +39 039 6040828

Tatuus Racing s.r.l
Via Verga, 12 – 20049
Concorezzo
Italy

Any other crashbox repair not complying with the repair procedure and conditions detailed previously will be considered as a non-conformity.

2. Accelerated engine wear induced by car spin

Following a few engine failure occurrences, deep analysis have pointed out a correlation between violent reverse rotation drive of the engine (happening during car spins when clutch not engaged or activated too late by the driver), and accelerated engine wear. Indeed, in reverse rotation, the oil pump does not fill the engine with pressurized oil but suck up the oil from the engine increasing parts friction.

In this condition, Renault Sport can obviously not guarantee the full mileage (5500 km) which an FR2.0 engine should complete between each rebuild.

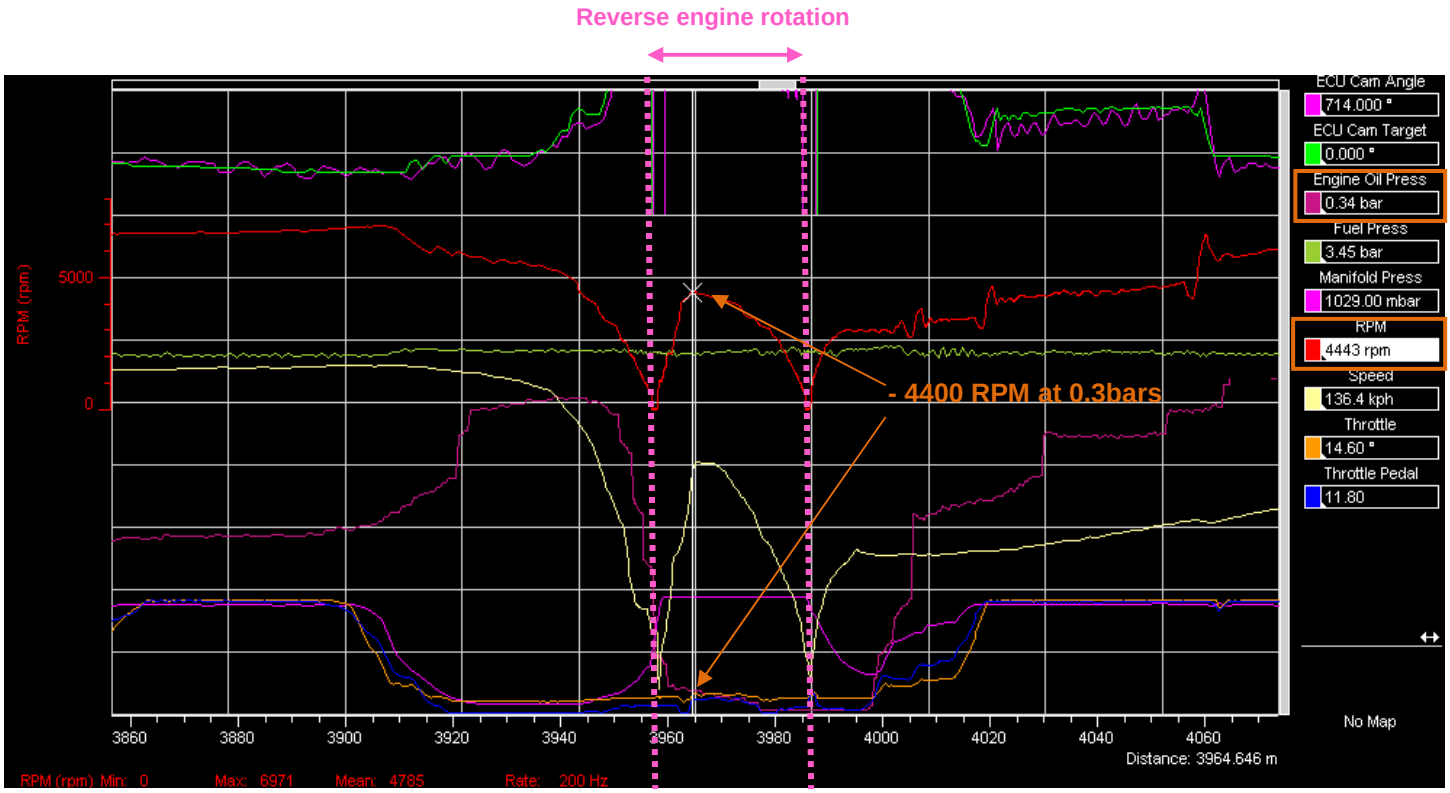
Consequently, we strongly recommend teams to pay particular attention to engine parameters during every car spin (reverse RPM, engine oil pressure, clutch pressure, number of occurrence…) in order to detect any reliability damaging factor.

As we cannot quantify the extent of damages during engine reverse rotation (depending on number of occurrence, speed, maximum invert RPM, oil pressure, etc…), we do recommend teams, in case of doubt, to send their engines for check to ORECA who will be able to detect any negative impact on engine parts wear. We also recommend teams to highly brief their drivers to press the clutch as soon as the car starts to spin.

In the meantime, Renault Sport Technologies has fully taken into consideration the over cost which may be induced by these occurrences, and is currently working on solutions to reduce the risk of engine damages during car spins.

Example:

In order to figure out the degree of potential engine damage brought during a car spin, please see below a typical example: the engine ran at 4400revs in reverse rotation according almost no oil pressure.



Such reverse engine rotation has a potential negative effect on reliability and it has been recommended to send the engine for check to ORECA.
However, this occurrence must be considered as an example and not as a reference case. Smaller engine reverse rotation may be as damaging as this occurrence (or even worse).

3. New Toolbox 6.3 software release

We would like to inform you that a new Pi Toolbox software release (release 6.3) has been issued from Cosworth.

The main feature of this new release is the free access to 6 worksheets (instead of 1 previously).

This latest version of Pi Toolbox can now be downloaded onto the Renault Sport extranet, following the *Softwares/Pi Toolbox* directory.

Motorsport Dpt.
Renault Sport Technologies