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TECHNICAL REPORT

Assembly for oil feed pipes OP10072-OP10436 for K9K engines Renault - Nissan

PURPOSE

To inform the customer about the recommendations for mounting the turbo oil feed pipes OP10072 / OP100436.

DESCRIPTION

K9K is the family of straight four-cylinder diesel engines, turbocharged and common-rail direct injection developed **in collaboration between leading Renault and Nissan brands**.

These engines count with a **engine displacement of 1461cc** and their power oscillate between 65 HP, in their version of low power that complied with the anti-pollution regulations EURO 3. Up to 110 HP reaching in the EURO 5 versions.

All of them install a Borg-Warner turbocharger, with a fixed geometry in the less powerful versions and a variable geometry in those of greater power.

For the lubrication of the turbo its used engine oil, which is transported from the cylinder head to the turbocharger core through the oil feed pipe.

Some variants of these K9K engines, mount a rigid oil feed pipe because they have enough space for mounting.

However, in other variants, due to the design change of the components, such as the intake manifold and the exhaust manifold and of the exhaust gas recirculation system, the **space its limited**, so the oil feed pipe it's made with a flexible part in order to help the assembly.

DISASSEMBLE

1) Remove the upper engine cover.

2) Remove the intake filter housing and air inlet hose from the intake to the turbo

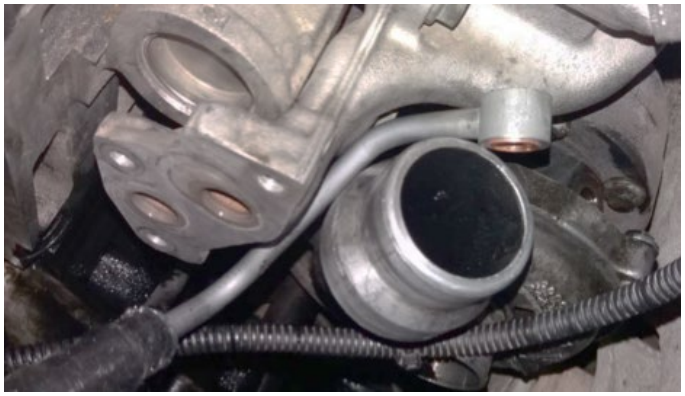
3) Remove the metallic pipe between turbo and intercooler.

Once this is done we should have access to two connectors of the lubrication tube.

4) Loosen the connectors of the old pipe and remove.

ASSEMBLY

5) Insert the new pipe between the intake manifold and the compressor outlet nozzle, as shown in the following figure:



6) Place the pipe in the proper position in the turbocharger and screw it slightly without tightening it. In this step make sure that the copper washers are correctly positioned.

7) To introduce the end of the pipe in the cylinder head, it's necessary pull out the most flexible part of the pipe in the indicated direction. Then, apply the corresponding tightening of 35 Nm.

*In this point of the assembly, is where **the importance of the flexible area of the pipe resides,** since if it's totally rigid it wouldn't be possible its installation.*

*The technologies and materials used by the manufacturers for this flexible zone are diverse. **Ajusa uses a flexible pipe made of elastomer** formed together with the use of a thermal sheath that increases even more the resistance*

8) Apply the corresponding tightening to the screw of the ending pipe which is threaded in the turbocharger of 14 Nm.

Once this is done, **reassemble the intake system in the reverse order of disassembly**, shown at points 1,2 and 3.