



# Oliva Torras

**Date:** July, 14<sup>th</sup>, 2014  
**Bulletin:** SB14070023  
**Subject:** Compressor speed control on Drive Kits

This bulletin is issued to clarify the selection of Drive Kits when several speed options are proposed for a specific engine.

## Definitions of maximum speeds:

The maximum compressor speed, for a specific drive kit, is indicated on the assembly drawing of the kit, available on line. This maximum compressor speed corresponds to the speed of the engine at which it delivers the maximum output..

In fact, two speeds have to be considered:

- Maximum continuous speed: This is the speed typically used when cruising at high speed on motorways ( when allowed)
- Maximum peak speed: This is the maximum governor speed with diesel engines. This speed can be achieved during gear changes.

## Recommended maximum speed:

When using high pressure refrigerant ( R 404 A) and in alignment with the main refrigeration units producers, Oliva Torras is recommending not to exceed 3500 rpm as maximum continuous speed and 4000 rpm as maximum permitted peak speed.

## Oliva Torras Proposal:

When designing a compressor Drive Kit, Oliva Torras engineers are checking the maximum compressor speed of each study. When the engine drive configuration and the standard clutch pulley size is showing an excessive compressor speed, a special clutch pulley or a special crankshaft pulley is designed to reduce the compressor speed to an acceptable value.

In this case, the kit reference is followed by the letter **%E+**.

The kit numbering systems including the letter **%E+** are applying to the compressors: Tama( Valeo) ; Que; Unicla.and include a special clutch.



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With original clutch pulley ( $\varnothing$  119 mm), the compressor speed is 4.660 rpm.

Drive Kit: KC09090171

Poly-V $\varnothing$ 119 4.660 rpm	Poly-V 6K $\varnothing$ 157 3.530 rpm
COMPRESOR <input type="button" value="v"/> <b>KC09070171</b> <input type="button" value="shopping cart"/>	COMPRESOR <input type="button" value="v"/> <b>KC09070171E</b> <input type="button" value="shopping cart"/>
	COMPRESOR <input type="button" value="v"/> <b>KC09070171S</b> <input type="button" value="shopping cart"/>

With a modified clutch ( $\varnothing$ 157 mm), the compressor speed is 3.530 rpm.

Drive Kits: KC09090171E, when a Valeo (TM), Que (QP) or Unicla (UP or UPF) compressor is used  
or KC09090171S, when a Sanden (SD) compressor is used

Similarly, when the drive kit reference is including the letter **S** it means that the drive kit includes a special clutch to reduce the speed of a **S**anden Compressor.

### Important note:

The development of a reduced compressor speed drive kit is obviously linked to the engine compartment environment and the drive system components characteristics. In many cases, this development is just undoable and this is the reason why some kits are showing high compressor speed.

Oliva Torras recommend then to use low pressure refrigerants in those cases.