TECHNICAL BULLETIN 026

17/11/2008

SOFIM 2.4, 2.5, 2.8 DIESEL / SYNCHRONOUS DRIVE / INSTALLATION INFO

BULLETIN

GATES REFERENCE:
5039, 5113, 5334XS, 5335XS, 5495XS & related kits.

MAKE:
FIAT
IVECO
OPEL
PSA
RENAULT

MODEL:
Various

MOTOR:
2.4, 2.5, 2.8 D, TD, DTI, DTIC, DCI, JTD, HDI (all 8 valves).

MOTOR CODE:
Various

1) TIPS FOR INSTALLING THE PULLEYS:

- Always remove rust or remaining grease from the axle/back plate before assembly (orange arrow). If you fail to do this, you will push all the dirt to the bottom of the back plate creating a build-up of debris, which will damage the bearing due to misalignment or create an incorrect tightening torque.
- Always install the bearing by pushing on the centre part of the bearing (✔)
- Never **force** the idler over the axle by pushing on the outside of the bearing (✘). (Fig. 1 and Fig. 2)

This would lead to misalignment of the bearing and cause an idler brake-down. It also could lead to the seal coming loose, causing loss of grease and dirt penetration into the bearing.

Misalignment will also lead to the belt coming in contact with the back plate. This will leave a rubbing mark on the back plate (Fig. 3).

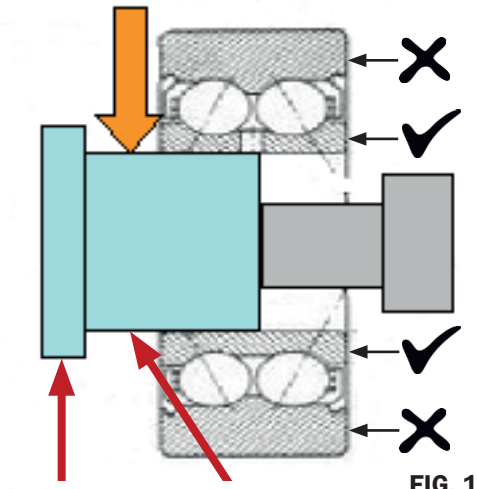


FIG. 1

FIG. 2

FIG. 3

TECHNICAL BULLETIN 026

17/11/2008

- Always check the play between the axle and the bearing. If there is excessive play, replace axle/back plate.
- Always apply the OE recommended tightening torque; it is very important as it determines the preload of the bearing.
- Always use fixing glue in order to avoid the bolt/nut coming loose due to vibrations and thermal expansion/contraction of the different metal parts (if the bolt/nut loosens, the bearing falls apart) (See Fig. 6).

Attention:

- A correct tightening torque on a badly positioned bearing or a dirty axle will result in a failure.
- The tension on the belt also affects the performance of the idlers on this engine. Use Gates STT-1 sonic belt tension tester for correct belt tension setting.

2) RESULTS OF WRONG INSTALLATION METHOD:

Fig. 4: The bearing balls rolling outside their track due to misalignment and incorrect torque setting.

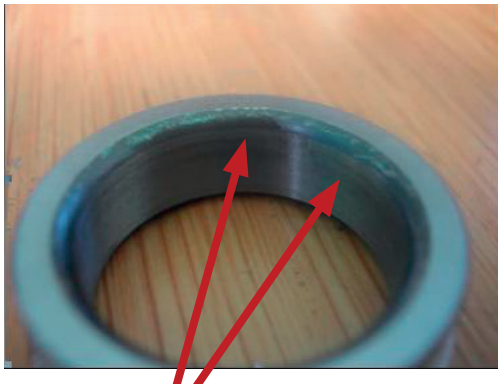
Fig. 5: Abnormal rotation of the interior rings through incorrect tightening.

Fig. 6: A too low tightening torque will lead to the bearing falling apart.

Fig. 7: Deformation of the bearing balls because of excessive temperature, resulting from too high tightening torque.

Ball traces

FIG. 4



Abnormal rotation traces

FIG. 5

FIG. 6

FIG. 7

TECHNICAL BULLETIN 026

17/11/2008

FIG. 8

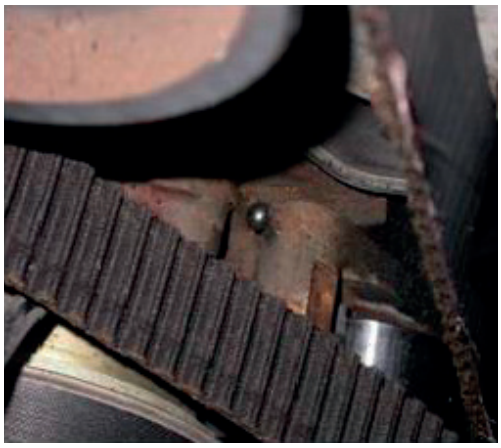


FIG. 9

Figure 8: The seal has come out of the bearing and the ball cage has been completely destroyed.

Figure 9: This results in bearing balls in the lower engine compartment. Remove all possible debris from the drive system.