



TECHNICAL BULLETIN 036

14/06/2010

FORD PUMA 1.7 / SYNCHRONOUS DRIVE / INSTALLATION INFO

EXPLANATION:

Although this tensioner is automatic (Fig. 1) in this drive (Fig. 2), it is not an eccentric tensioner, and it needs a precise setup procedure, which is different to the one known for a common pin loaded tensioner.

POINT OF ATTENTION:

Do not install the tensioner, torque up the bolts and then pull the pin out: Doing so the spring of the tensioner cannot do its job properly. This is because the bottom tensioner bolt has been torqued before the setting pin has been partly drawn out. This way, the spring cannot push up the front plate to the correct position.

Evidence of this can be found with the bottom tensioner bolt sitting on the left hand side of the slotted hole (Fig. 3)



BULLETIN

GATES REFERENCE:

5433XS, K035433XS, T43167.

MAKE:

FORD

MODEL:

Puma.

MOTOR:

1.7 Petrol 16V.

MOTOR CODE:

17HDEY.



FIG. 1

Slotted hole

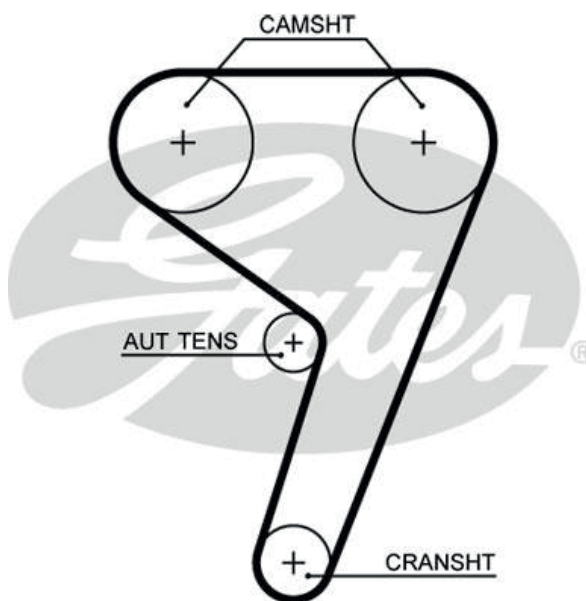
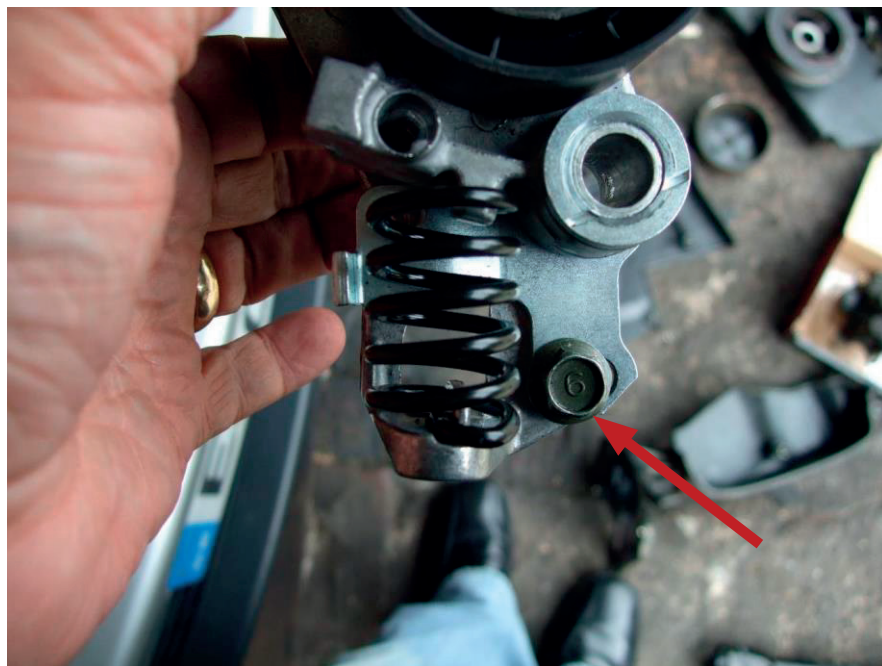


FIG. 2



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GAT4404C

FIG. 3

An incorrect front plate position allows the engine, if switched off, to “kick back” and compress the spring too far. This leads to very low belt tension, causing tooth jump and/or belt damage.

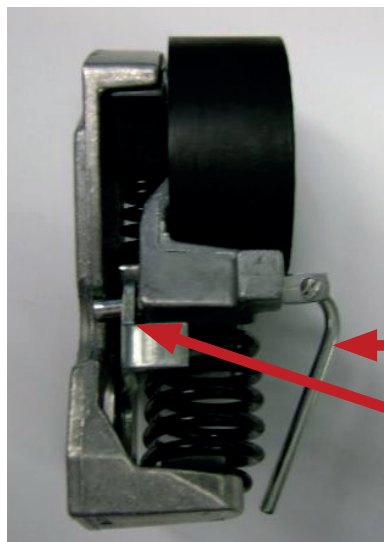
INSTALLATION PROCEDURE:

1. The engine has to be at ambient temperature and at TDC (Top Dead Centre).
2. Insert the pin, locking the crankshaft and the camshaft setting bar. (Gates tool kit GAT4404C).
3. Loosen the camshaft sprocket bolts while holding the camshafts in place with the open spanner. Loosen the sprockets from the tapers.
4. Move the tensioner out of the belt (12 mm open spanner) till a 5 mm pin can be inserted up to the back plate (Fig. 4).
5. Remove the bottom bolt.
6. Remove the belt retainer. (right hand side of the crankshaft sprocket)
7. Remove the belt and the tensioner.
8. Install the new tensioner. (torque the top bolt only, leave the bottom bolt loose)
9. Install the new belt.
10. Install the belt retainer. (9 Nm)
11. Withdraw the tensioner pin 2-3 mm (free from the back plate) (Fig. 5)



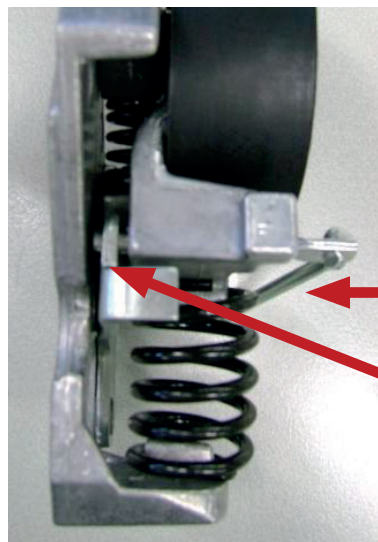
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Tensioner pin
Position !

FIG. 4



Tensioner pin
Position !

FIG. 5

12. The spring pushes the pulley into the belt and moves the front plate, leaving the bottom bolt towards the right of the slotted hole. (Fig. 6)
13. Tighten the bottom tensioner bolt. (20 Nm)
14. Withdraw the pin completely.
15. Install the crankshaft pulley (use Gates tool GAT4629, Ford OE tool 303-510 or 21-214)
16. Use a **new** crankshaft pulley bolt. (40 Nm + 90°) This is critical!
17. Ensure the engine is still at TDC (Top Dead Centre).
18. Tighten the camshaft sprocket bolts (exhaust (left) 60 Nm), (inlet (right) 105 Nm), while holding the camshafts in place with the open spanner.
19. Remove the locking tools.
20. Turn the engine 2 revolutions then check position: TDC (Top Dead Centre) and try both, the crankshaft pin and the camshaft setting bar to be inserted.



FIG. 6