



NUMBER 012

31/03/2006

VAG 1.9 D / Synchronous Drive / Installation Info.

GATES REFERENCE:	5543XS & Kits, 5559XS & Kits	
MAKE:	AUDI / SEAT / SKODA / VOLKSWAGEN	
MODEL:	A3, Cordoba, Ibiza, Inca, Leon, Toledo, Octavia, Bora, Caddy, Golf, New Beetle, Polo	
MOTOR:	1.9SDI, 1.9TDI	
MOTOR CODE:	AGP, AGR, AHF, ALH, AQM, ASV, ASY, AYQ	

Introduction.

Through our experience with product claims in the field we have learned that many failures associated with these kits are due to incorrect installation of the tensioner.

Product specification.

The tensioner (Gates part number: T43062) in these kits has a metal pulley. It has been upgraded in the course of 2004 in line with OES evolutions. In some cases you may still find an old model mounted on the engine, which is slightly different than the latest version delivered in actual Gates kits. The new tensioner with OE ref. 038109243N replaces following OE parts; 038109243 and 038109243G.

In Fig. 1 you can see that only the new version has a crosshatch belt wear indicator (see also Fig. 4). This section indicates when the timing belt is worn out and when it needs replacement.

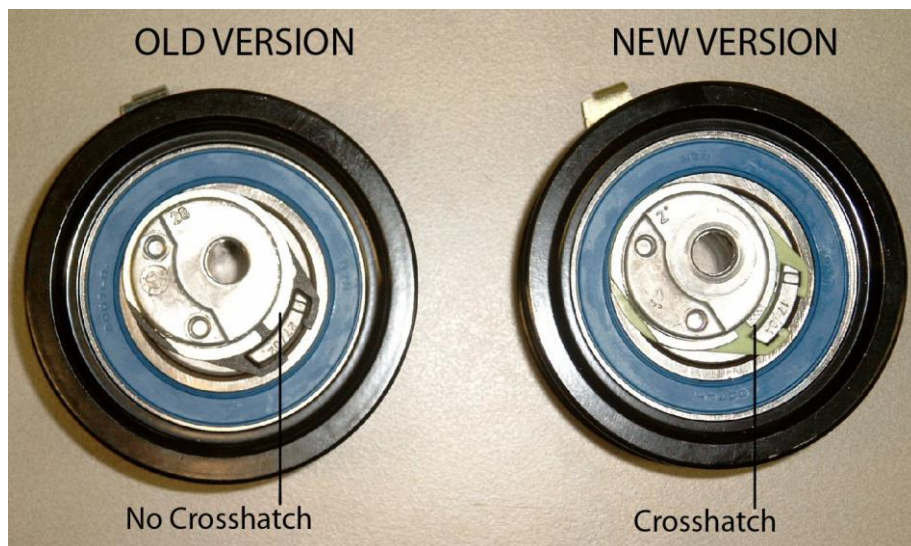


Fig. 1



In Fig. 2 you can see that the new tensioner also has a shorter spacer. However, the distance between the engine block and the pulley remains the same.

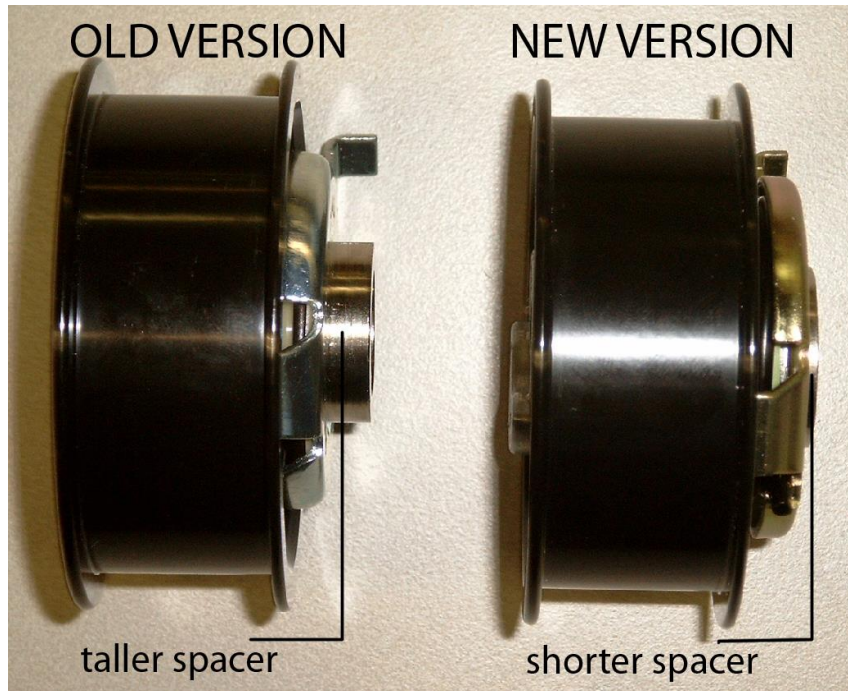


Fig. 2

Guidelines for installation of the new tensioner.

Before replacing the timing belt and tensioner, following points should be respected:

1. The engine must be at room temperature.
2. The engine must be put at Top Dead Centre (TDC).
 - There is a timing mark on the flywheel which can be viewed from the top through a window in the gearbox housing.
 - The injection pump has to be blocked with a pin.
 - The vacuum pump has to be removed to fit the locking tool for blocking the camshaft.
3. The engine must always be rotated clockwise!

Setting the tension.

After installation of the new tensioner, verify that the index tab is located and properly seated in the slot (Fig. 3 and Fig. 4). Use the special tool to set the tensioner and turn the tensioner clockwise until the pointer lines up perfectly in the window, between the lines A and B. You can use a mirror to properly see this in the engine compartment. Now tighten the bolt at 23Nm. Now you **must** rotate the engine two revolutions clockwise and then re-check the tensioner pointer. **Do not skip this step!**





When after two engine revolutions the pointer is between lines A and B and the index tab is **in** the slot and pushing against the **right hand** side (Fig. 3 and Fig. 4), only then the tensioner is perfectly positioned.

If the pointer is not well positioned, the mechanic should restart the tension-setting procedure completely.

When you are in the tension-setting, never turn the tensioner anti-clockwise!

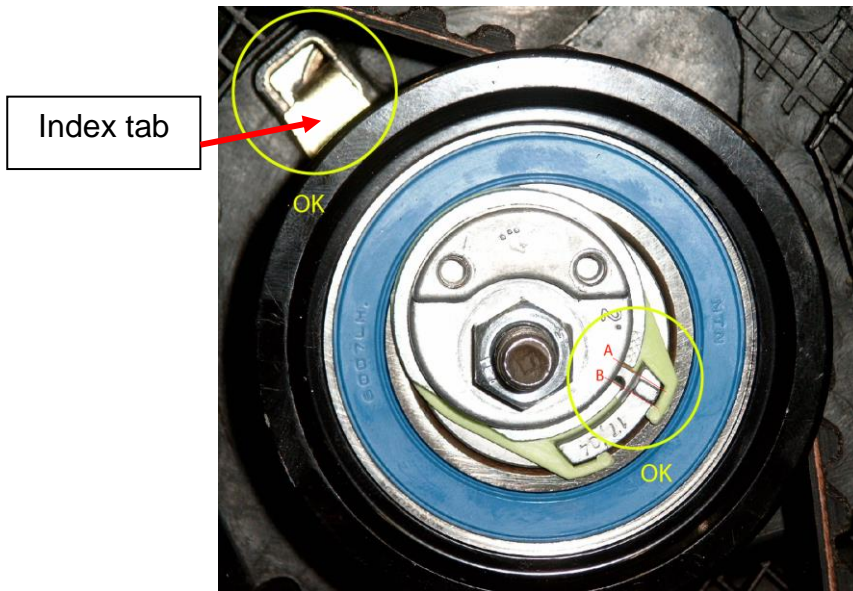


Fig. 3

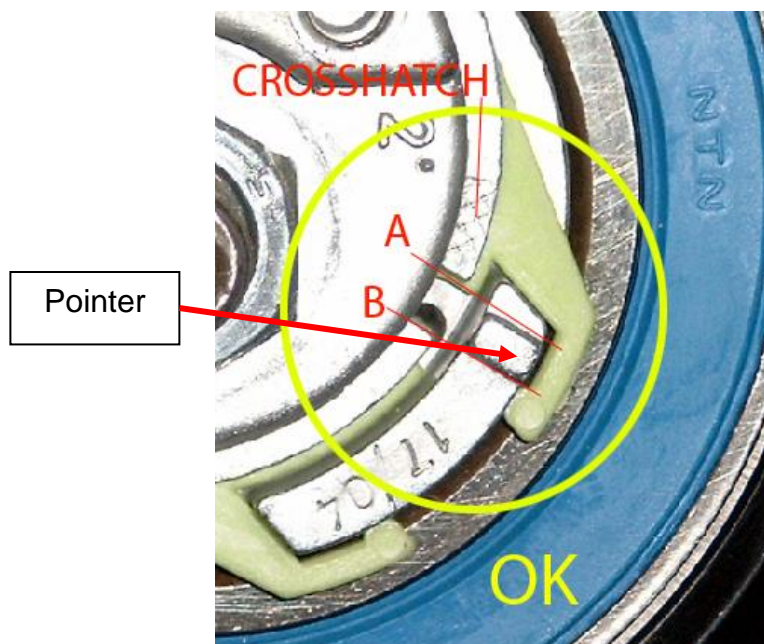
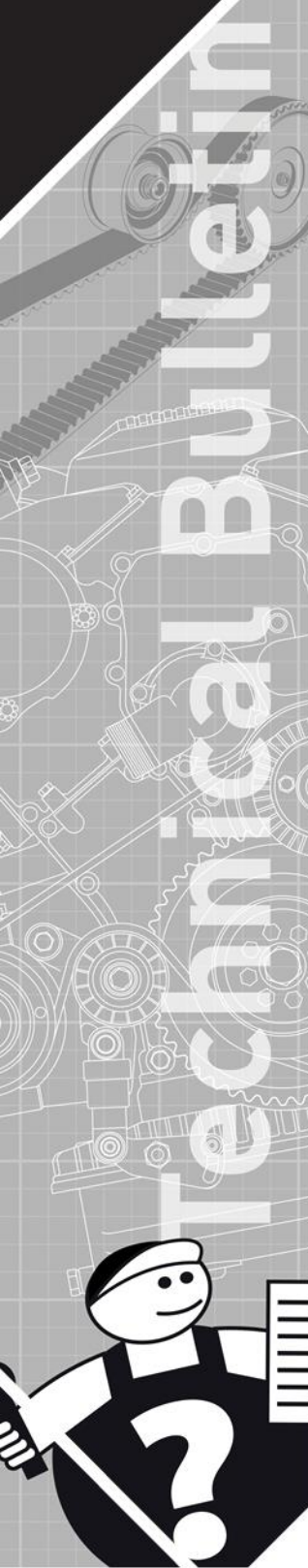


Fig. 4





Possible installation errors.

Fig. 5 shows one of the common errors. Pointer is perfectly positioned between lines A and B but the index tab is not OK. The index tab is in the slot but is not pushing against the right hand side of the slot. The reason for this is that the tensioner was moved anti-clockwise during the tensioning process.

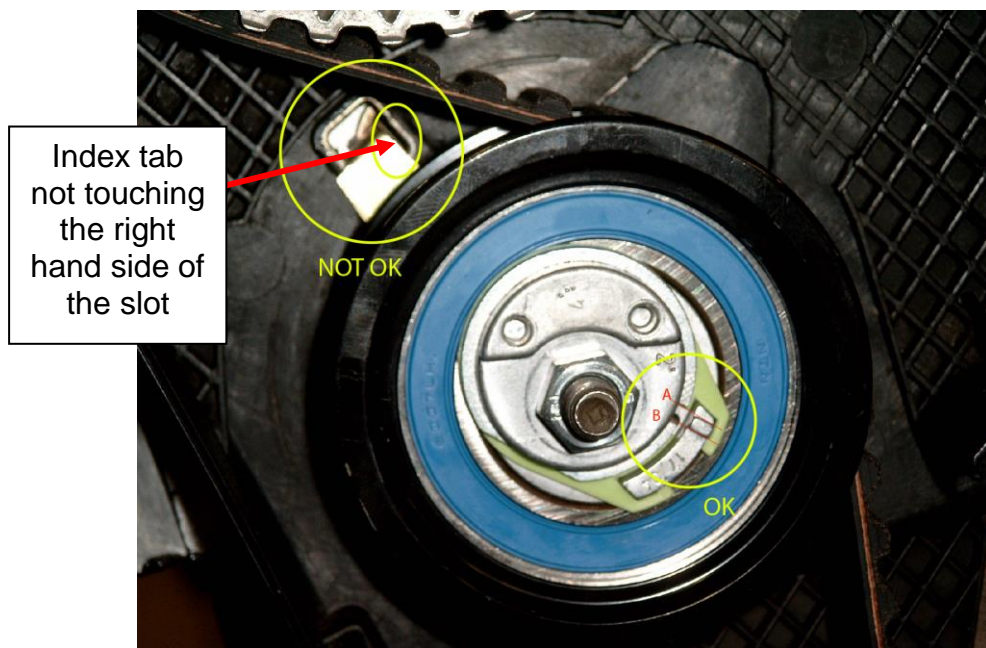


Fig. 5

A second possible error can be seen in Fig. 6. You can see that the pointer has not passed line A and is in front of the crosshatch. This means that the belt will have a too low tension.

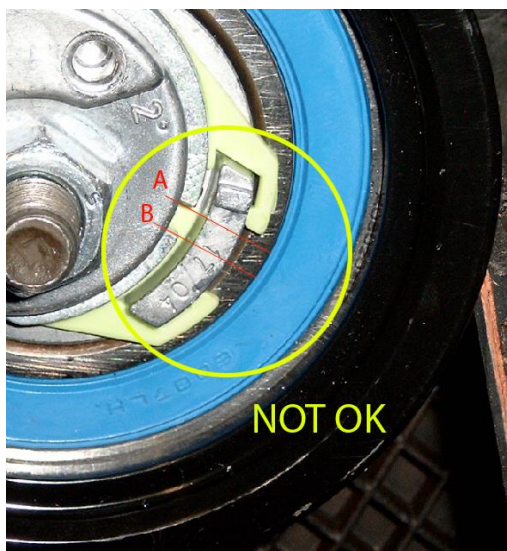


Fig. 6

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A third installation error is shown in Fig. 7. The pointer has passed line B, this means that the belt will be tensioned too much.



Fig. 7

In Fig. 8 you can see a fourth error where the index tab is not locked in the slot although the pointer is perfectly positioned between lines A and B. This way the belt will lose its tension once in operation.

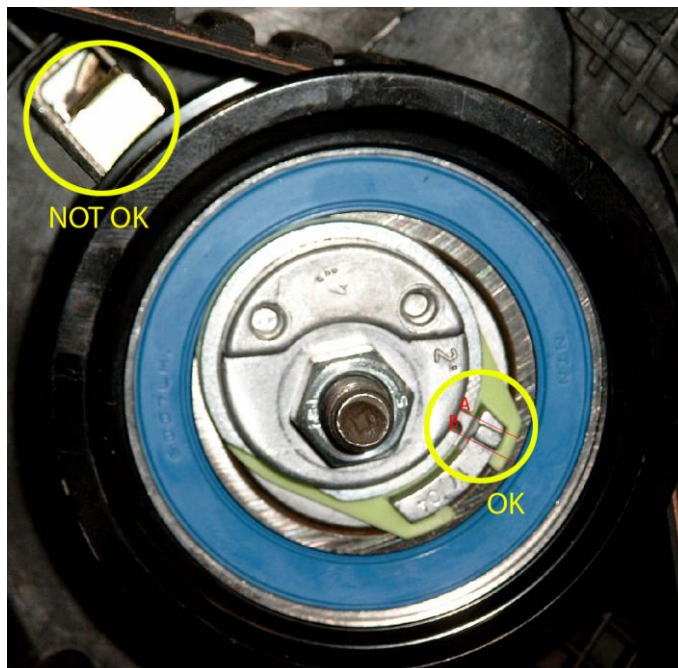
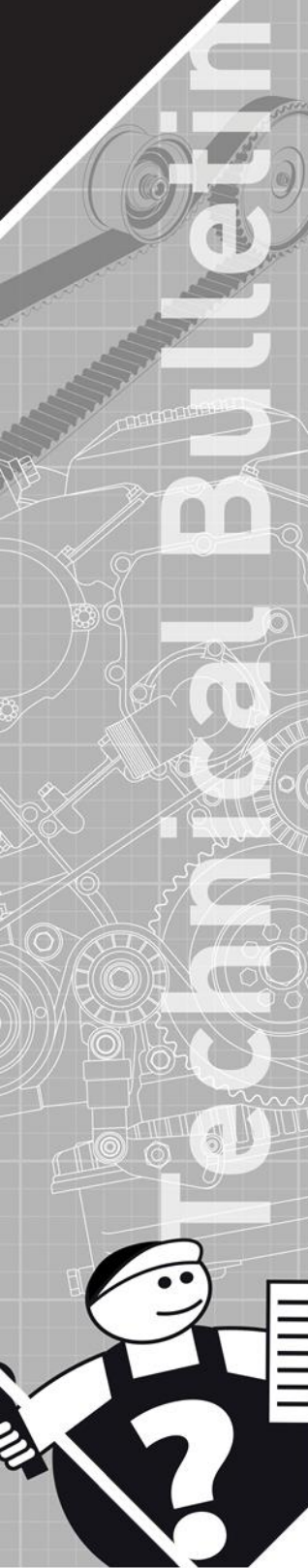


Fig. 8





You can see the marks on the engine caused by this type of wrong fitment in Fig. 9. In this case you will also see that the index tab on the tensioner is slightly bent over.

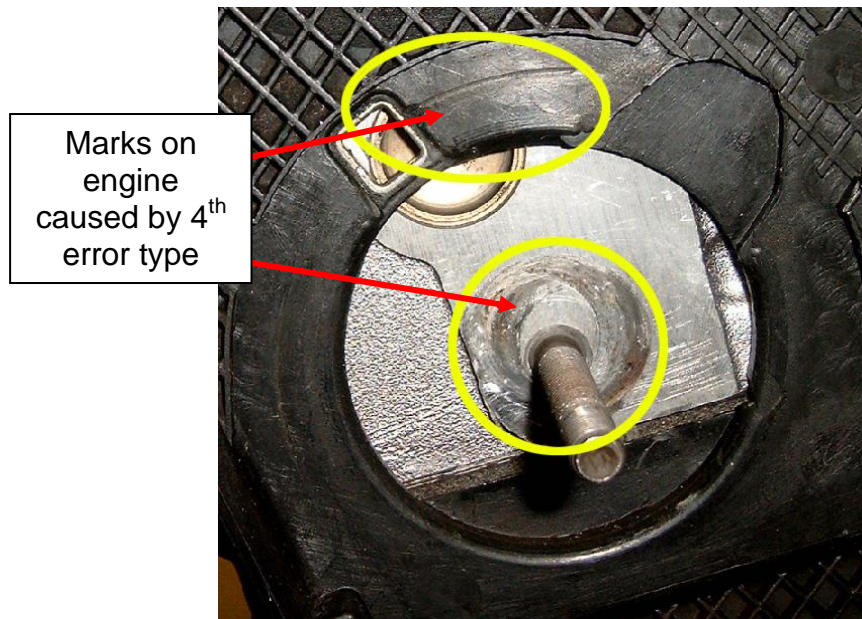


Fig. 9

When the vehicle is released with a wrong positioned tensioner, severe engine damage will happen sooner or later.

We can't stress enough how important it is to follow all the steps in the process of installing this tensioner without skipping one of them. It is better to lose 5 minutes at the installation than to lose an entire engine in the end.

In technical bulletin N°2 we already explained the difference between the belts 5543XS and 5559XS. Please refer to our application catalogue to find the correct kit for your application.



visit our web catalogue: <http://www.gatesautocat.com>