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Alfa 164 Technical Service Bulletin 01.93.03

A new style, non oil-fed, timing belt tensioner is now supplied as a replacement part for all Alfa Romeo V-6 engines - model years 1981 through 1993. This new style tensioner (part number 605-88421) supersedes all old style, oil-fed tensioners. To retrofit this new style tensioner, you must plug off the old style tensioner's drain back hole in the block with a special plug (part number 608-97507) and replace the hollow stud which previously fed oil to the old style tensioner with a special adapter stud (part number 608-97506).

ON MILANO & GTV 6 MODELS:

Access the old style timing belt tensioner by removing the radiator, auxiliary drive belts and the timing belt covers.

ON 164 MODELS:

1. Remove the passenger's side front wheel.
 2. Remove the strut assembly (foul bolts on the bottom and three nuts on top of the shock tower).
 3. Remove the front inner fender panel.
 4. Remove the water pump-A/C belt and the power-steering pump belt. Use special tool 1822-104 to loosen the rear power-steering pump adjusting nut.
 5. Remove the radiator hoses from the thermostat housing/water pump.
 6. Remove the two lower timing-belt covers.
 7. Remove the top engine "dog-bone brace" and the two top timing belt covers.
2. Using a socket on the crankshaft nut, turn the engine clockwise and line up the top dead center marks at the crankshaft pulley.
 3. Very carefully and clearly mark the relative position of the camshaft drive pulleys in relation to the cylinder heads. On Milano and GTV6 models, you will also need to mark the auxiliary drive pulley, as it drives the ignition distributor. Be sure to make your marks clear and accurate. If you do not mark the cam pulleys you will have to remove the valve covers in order to reference the factory marks. **IF YOU MIS-TIME THE CAMS YOU COULD BEND VALVES - SO BE VERY CAREFUL!**
 4. Remove the old style timing belt tensioner. Do not lose the retaining nuts and washers, as you will reuse them later to mount the new style tensioner.
 5. Remove the old timing belt (you must remove the Remove the Motronic crank sensor if the vehicle is a 164).
 6. Remove the long hollow oil-feed stud. The stud can be easily removed if you "double nut" it and you shock it lose by striking it sharply, two or three times on the end with a brass hammer. Be sure to wear eye protection and do not use a steel hammer – brass only!
 7. Clean the area around the hole for the stud and clean all traces of oil from the threads in the block. Blow air directly into the hole to dry the threads and to back- flush the oil out of the oil passage.
 8. Apply several drops of Wurth thread locker part number 8932423- to the 10 MM end of the special conversion stud (part number 608-97506). Do not use any other type of thread lock. Use only Wurth part #8932423. No other sealer or lock compound is recommended.
 9. Double nut the 8 MM end of the special conversion stud and thread it into the block until the 10 MM portion of the stud is flush with the surface. Remove the double nuts.
 10. Drill, tap and plug the drain-back hole. Start by drilling it out with a 1/4" drill bit. Put tape on the bit 1/2" from the end so that you can gauge your drilling depth.

Next, enlarge the hole using a 17/64" bit. Also put tape on this bit 1/2" from the end to gauge drilling depth.

You may notice that the passage you are drilling out goes into the block at an angle and is not a straight passage. This is normal, in that this passage is cast and not machined. Let your drill bit follow the passage. When the hole is plugged, the thread locker will compensate for any irregularities and since the passage is not under any pressure, it will provide a positive seal.

Use an 8 MM x 1.25 tap and thread the hole 1/2 way – remove the tap and clear away any shavings. Then tap the hole the rest of the way. Again, clear away any shavings.

11. Apply Wurth threadlocker to plug (part number 608- 97507) and thread it into the hole until it is flush. Clean away any excessive threadlocker.
12. Install the new style belt tensioner. Mount it using the same nuts and washers that retained the old tensioner.
13. Install a new timing belt. Pay close attention to the timing reference marks made earlier. Use special tool (part number 608-97517) to retract the tensioner pulley and slip the belt over the tensioner pulley. Double check that you did not disturb the top dead center position of the crankshaft and that you engaged the appropriate teeth of the cam drive pulleys. Use great care so as to maintain proper cam timing. On Milano and GTV/6 models you must properly index the auxiliary drive so as to maintain the proper ignition timing.

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ADJUSTMENT PROCEDURE NEW STYLE, NON OIL-FED, V-6 Timing Belt Tensioner

IMPORTANT NOTE

This new style tensioner has a temperature sensitive clutching device. It is important that it is only adjusted on a cold engine and when the workshop's ambient air temperature is between 59 and 96 degrees F. (15 - 35 C).

1. With engine cold and positioned at top dead center, loosen both tensioner-retaining nuts. Use a 3/8 square drive inserted into the lift square (see Figure "A" attached) of the tensioner and rotate the assembly counter-clockwise (into the drive belt) until a resistance is felt.
CAUTION: Do not use excessive force! Torque applied to the lift square must be at least 11 foot-pounds but no greater than 18 foot-pounds. Too much force may damage the clutching mechanism.
2. Holding the tensioner in this position, lock down the tensioner by tightening the adjustment nut to approximately 15 foot-pounds.
3. With tensioner set in this way, rotate the engine clockwise at least four crankshaft revolutions, to seat the belt.
4. On the last revolution, line up the top dead center marks.
CAUTION: Do not back up the engine at any time. If you accidentally pass T.D.C., keep going and bring it around again. Do not back up!
5. After performing steps 3 and 4, hold the tensioner with the 3/8 drive in the lift square. Loosen the adjusting nut and very slowly, let the tensioner back off, until the position indicator pointer (see Figure "A" attached) is lined up with the nominal reference mark.
CAUTION: Do not let the tensioner back off past the nominal mark or you will have to repeat the entire procedure from the beginning!
6. Tighten the adjustment nut and the tensioner pivot nut to 20 foot pounds.
7. Rotate the engine several more complete revolutions in a clockwise direction. Line up top dead center just as you did in step #4. Verify that the position indicator pointer is still lined up with the nominal reference mark.
Note: The position indicator pointer will only line up with the nominal reference mark when the engine is exactly on top dead center and when the engine is cold.

164 Top Dead Center Mark Alfa 164 Technical Service Bulletin 01.94.04 Information: Publication Correction for T.D.C Mark

Models: 164 All
Date: 10/17/94

The method for locating T.D.C as printed in the current 91,94 & 95 Service Manuals showing a HOLE in the flywheel for T.C.C is incorrect for U.S. Spec engines. Severe engine damage may occur if the hole in the flywheel is used as a T.D.C reference mark

The correct marking for T.D.C. on the flywheel is a SCRIBED LINE (See Illustration).

Refer to T.S.B. # 00.91.03 for the methods of locating T.D.C.

The following is the list of pages within each manual that need correction.

1991 Service Manual = pages 00-37, 00-45 & 01-91

1994 Service Manual = pages 00-34 & 01-92

1995 Service Manual = pages 00-35 & 01-91

1-Scrubed Line
on Bellhousing

2-Scrubed Line
on Flywheel

