

© Mark with credits to maxwdgdodge@aol.com	An Easy Method For Updating XJR Secondary Tensioners	V. 1.0 Sept. 20, 2009
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Preliminary word

This simplified approach to replace secondary chain tensioners on XK8 / XKR / XJ8 / XJR V8 engines was first described by maxwdg on the The Jaguar XJ8/XJR Forum of www.RoadFly.com (http://forums.roadfly.com/forums/jaguar/jaguar_xj8/9292520-2.html) and rewritten with additional details by Mark and extra precautions at the end borrowed from Chris' write-up of the full tensioners, chains and guides replacement (also available on this web site).

This easier and faster approach should be of great interest to all owners of a V8-equipped Jaguar still equipped with the first (red-brown) or second (beige) plastic tensioners. There is a large consensus on the fact that these tensioners are a weak point and that they should be replaced by the third generation metal tensioners to avoid serious damage to the engine (valves meeting pistons in an unfriendly manner).

The debate remains open as for the preventive replacement of primary chain tensioners and guides. This is not addressed by this document and is a much longer work. Please check "2nd_chain_tension" Chris' write-up which details the whole procedure on this same web site

Tools needed

- metric socket wrenches
- small torque wrench

Parts needed

- new style (metal-bodied) tensioners with (longer) screws;
- cam cover gaskets;
- spark plug aperture gaskets;
- RTV sealant

Torque values are conveniently listed at www.alldatadiy.com, and elsewhere.

1. Preparation

- Put fender covers on to prevent scratching the fenders.
- First, drain the coolant from radiator into a clean container for re-use, then remove supercharger intercooler hoses from the top of engine.

2. Right bank procedure

- On right bank, remove air cleaner housing, disconnect MAF connector from intake tube, remove intake tube from throttle body, and cover throttle body with rag or plastic to prevent debris from finding its way in.
- Remove coil cover from cam cover, unbolt and unplug coils, remove them.
- Loosen cam cover bolts and wiring harness clips, lift cam cover off.

This is a good time to look at the primary tensioners, chains, and chain guides. They rarely fail, but if they are cracked or damaged, stop here and use the traditional approach to change the whole lot. These can be inspected by using a flexible scope, or a good light and angle mirror.

2.1. Getting serious

- Use a zip-tie to secure the chain to the exhaust cam sprocket tightly, as suggested by Bob Gauff.
- Loosen the (lower) exhaust cam bolts – do each a few turns at a time, to release tension on the cam slowly and evenly.
- Then remove the bolts and bearing caps, being careful to keep them clean, in order, and right side up – I simply laid them on the bench, in order, and took the top bolt out on the bench to prevent mix-up.
- Remove the two bolts holding the old tensioner, then lift the exhaust cam just enough to slip out the old tensioner, and set the new tensioner in place – note the small oil feed hole in the bottom of the new tensioners, and that they are marked left bank and right bank.
- Insert the new tensioner bolts.

2.2. Going back to square 1

- Oil and re-install the exhaust cam bearing caps in their original location and orientation – make sure no dirt/debris enters the playing field.
- A few turns at a time, so as to tighten them evenly, tighten the cam bearing cap bolts to snug, then torque them, evenly in stages, to 10 Nm.
- Tighten and torque the two tensioner bolts to 10Nm.
- Remove the zip-tie from the chain/sprocket, pull the spring-retaining pin from the new tensioner.
- Clean the mating surfaces, then re-install the cam covers with new gaskets – a bit of RTV
- at the front joint between the cylinder head and timing cover.
- Reinstall the cam cover bolts and tighten to 10Nm. Start with the two bolts in the center valley, then in sequence from center outward. (Sequence outlined in Alldatadiy).
- Reinstall the coil units, wiring, & coil covers.
- Remove rag from throttle body, re-attach MAF plug and air intake tubing / air cleaner housing.
- Check that wiring harnesses are routed and attached correctly.

3. Left bank procedure

The left bank procedure is nearly identical with a few exceptions listed here.

- Remove the nut holding the dipstick tube, pull the dipstick tube up slightly, and rotate it out of the way – don't pull it out, it's difficult to put back in.
- Remove the Part-load breather tube from the front of the cam cover. Then proceed as on the right bank.
- After reinstalling the camshaft cover and coil cover, re-attach the part-load breather tube, rotate and re-attach the dipstick tube.

4. Final steps

- Re-attach the coolant hoses to the intercooler.
- If you are re-using the coolant drained earlier, it is a good idea to filter it through a clean coarse rag. If not, use a 50/50 mix of distilled water and coolant to refill the cooling system.
- Remove the fuel pump relay in the trunk (boot) relay box.
- Crank the starter for 30 seconds to build up oil pressure and reprime the hydraulic chain tensioners in case they need it.
- Reconnect the fuel pump relay, start the engine and let the car run idle for 10 minutes listening for any unusual noise and checking for any leak.
- Stop the engine and check for any leaks and for coolant level.
- Remove fender covers and close bonnet.
- Enjoy a well deserved test drive.
- Check fluid levels and check for leaks again.