

## Auxiliary belts and tensioners change for 20v/vt air con model

The standard service interval for the Fiat Coupe 20v turbo cam belt is every 60k or 5 years and the auxiliary belts should be changed at the same time, if not sooner. It should be noted though that it is advisable to change the auxiliary belts much sooner - probably every 2.5 years. When the cam belt is changed you need to remove both the auxiliary belts anyway and it is an ideal time to change the tensioners at the same time. Reusing old belts is **never** advised, it is a false economy not to replace them.

Most Fiat coupe specialist will change all the auxiliary belts and tensioners during a cam belt change (also including water pump change).

There have been a number of cases where the air con/alternator belt or power steering belt has snapped and caused damage to the cam belt. It is possible for the belts to snap/come off and get wedged behind the crank pulley. If the cam belt snaps or jumps then there is the potential for damage to pistons, rods, head and valves. These are expensive items and there is a substantial amount of labour to replace them.

### Parts needed:

Alternator/Aircon bits

- 7774452 – Adjustable tensioner

- 46514138 - Belt

Power steering belts/pulleys

- 71719400 - Belt

- 46441096 – Adjustable tensioner

- 46440604 – Fixed tensioner

[Picture 1 - New parts ready for fitting](#)



## **Tools needed**

- Set of spanners/socket set (8 to 19mm)
- 7mm Allen key
- Custom made long Allen key 8mm (\* see text below)
- Axle stands
- Trolley jack(s)
- 1 thick long elastic band
- Tube of thread-lock
- Wheel chock/bricks etc
- Degreaser & cloths
- Masking tape

\* The Fiat Coupe workshop manual states you should make a tool for the alt/air con tensioner. It is basically an elongated 8mm Allen key with a stubby end. You can use an old Allen key and grind the end off, so there is about 10mm depth after the 90 degrees bend, if it is too long you won't be able to fit it down the space. You can then extend the handle by welding on a length of 7mm steel bar – but you could use some copper piping crimped over the Allen key. The Allen key needs to be about 200mm long.

[Picture 2 - long stubby Allen key](#)



## **Step 1: Jack the car up**

Loosen the driver's side (RHD models) wheel bolts and chock the back wheels. Jack the car up from the front mounts and place the axle stands in a suitable positions. Remove the driver's side wheel and place under the chassis somewhere as a safety backup if a stand fails. Open the bonnet.

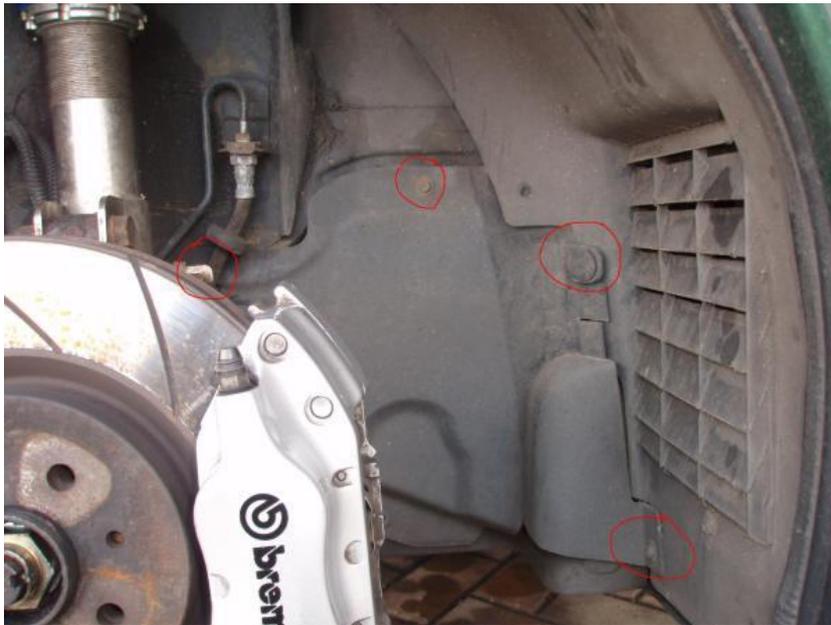
## **Step 2: Remove the undertray & o/s wheel cowling**

Remove the front undertray – usually 8/10 screws, 2 bolts and cable ties at the rear. Put the undertray somewhere safe. If you have a front subframe brace this will need to be removed in order to get the undertray off.

In the driver's side wheel well there is a cowling that protects all the important things.

Towards the front there is a panel which has 3x 10mm bolts and a plastic popper. Remove all these and the panel will just pull out.

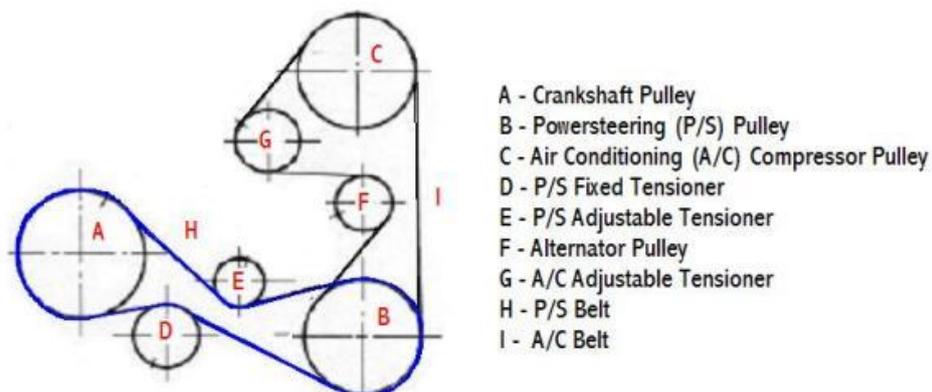
[Picture 3 - Wheel cowling, 3 bolts and plastic popper circled](#)



## **Step 3: Removing power steering belt & tensioners**

With the undertray and wheel cowling removed you will be able to see the belts.

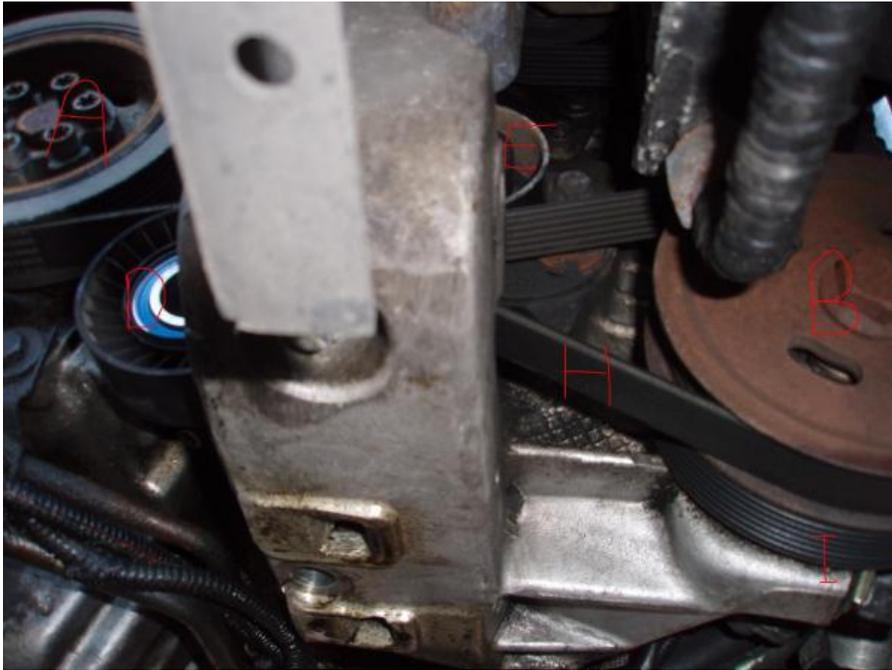
[Picture 4 - Belts diagram](#)



The power steering belt is shown blue in Picture 4. It is held in place with 2 tensioners, D is fixed and held on with a single 15mm bolt, E is adjustable and held on with 2x 13mm bolts.

Remove the 13mm bolts and the belt will loosen, pull belt out. Completely remove the 13mm bolts and the adjustable tensioner will come off. You can then remove the 15mm bolt for the fixed tensioner and it will also come off.

[Picture 5 - Belts and tensioners are now visible](#)



#### **Step 4: Removing alternator/air con belt**

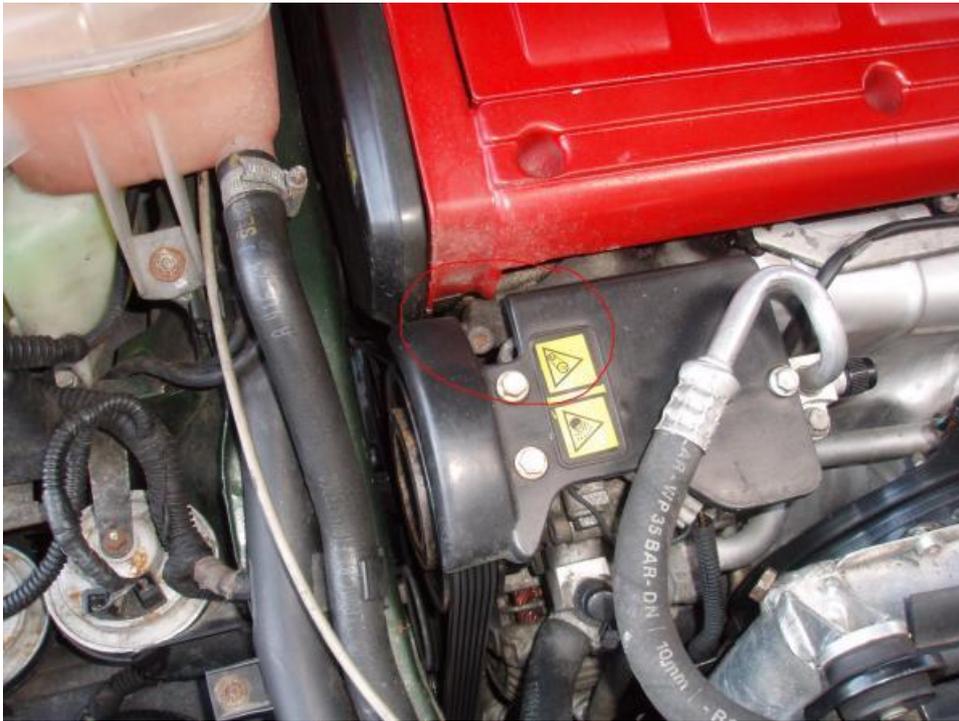
With the power steering belt and tensioners out the way you can now gain easier access for the alternator/aircon belt and tensioner. Prior to removing anything cover the chassis leg with tape to protect it from scratches.

Use a 10mm socket to remove the 3 bolts that hold on the plastic cover over the air conditioning compressor. The tensioner bolt for this belt is in the centre of the tensioner. Release the tensioner of the belt (anticlockwise) with the custom made Allen key (see above), and then undo (anticlockwise) the micro adjuster just next to the air con compressor – undo the adjuster completely so the long bolt comes out the adjuster. The belt should now be loose, pull the belt towards the front of the car and the tensioner will pivot forwards too. You can now pull out the belt.

With the belt out the way you can now turn to the tensioner. Undo the tensioner with the Allen key as much as you can. After a while the Allen bolt will visibly protrude out the centre of the tensioner however if you have big hands you won't be able to get your fingers to it. Slip a large wide elastic band down the gap and wrap it round the bolt, then rotate the band and the bolt will turn too.

When the bolt is completely undone you can remove the tensioner, however there is not enough space to remove the tensioner & bolt. You need to pull the whole assembly out (tensioner & bracket behind). The bracket is only held on with the micro adjuster (already removed), the centre bolt (removed) and a pivot mount. Get underneath the car and push a small screwdriver behind the bracket, it will come off easily – make sure it doesn't smack you in the face.

[Picture 6 - A/C Micro adjuster](#)



### **Step 5: Preparation of area**

With all the belts and tensioners removed you can see the side of the engine a little easier and it is an ideal time to clean it. Apply some degreaser and wipe away the dirt, this will also make the re-fitting cleaner and minimise the chance of dirt getting into the belts areas. It is also worth checking the alt/aircon belt hasn't been rubbing on the cam belt cover (a common problem with warped covers).

### **Step 6: Fit new alternator/air con tensioner**

NB: Make sure the bracket for the tensioner is the correct way round; it does fit on backwards but will misalign and foul the belt.

Clean the bracket and then place the new tensioner on it with the Allen bolt through the centre. Apply a little thread-lock to the Allen bolt threads. Put your hand up the gap at the side of the engine and you should be able to feel the captive nut that the tensioner fits onto. Push this captive nut as far back possible then squeeze the new tensioner and bracket up the gap. Push the bracket of the pivot point and ensure the micro adjuster part is facing up ready for refitting.

Align the Allen bolt with the captive nut and tighten it a little with the long Allen key. Use the elastic band again to tighten more, and then re-use the long Allen key again Push the tensioner towards the front of the car. Use an Allen key to reattach the micro adjuster but do not tighten. Make sure the tensioner spins ok.

Slide the belt over the tensioner and pulleys – if you can't remember which way it should go then refer to picture 3. Tighten up the micro adjuster until the belt feels tight (normal 90 deg twist rule applies to the belt tightness or 1cm max deflection at loosest point), and then finally tighten up the tensioner with the Allen key to lock in place.

### **Step 7: Fit new alternator/air con belt**

You will get a new bolt with the fixed tensioner so no need to reuse the old one. Apply some thread-lock to the 15mm bolt threads and tighten up. Make sure the tensioner spins ok.

On the adjustable tensioner there is a small flat metal plate which fits over the tensioner mount. Apply some thread-lock to the 2x 13mm bolts push them through the plate then through the tensioner moon-shaped hole. Push the tensioner onto the pivot point and rotate it to enable you to fit the bolts. Tighten the bolts up so you can still pivot the tensioner easily. Make sure the tensioner spins ok.

Slide the belt over the tensioners and pulleys (check picture 3 again for correct schematic). If the belt doesn't go straight on then push over all the tensioners and leave it off the main crank pulley. Slide the bottom section of the belt on the pulley as far as it goes and hold it tightly. Turn over the crank by hand with a wrench and 19mm socket and the belt will be pulled over the pulley. Put a 17mm spanner over the centre nut of the adjustable tensioners and turn anticlockwise. This will put tension on the belt, when the tension is reached tighten up the 2x 13mm bolts on the bracket of the tensioner.

### **Step 8: Checking belt tension**

Make sure the car is in neutral and start the car. Listen for any noises, screeching or slipping. Turn the engine off and check the belts again for tension.

### **Step 9: Refit cowling, undertray and wheel**

Refit the cowling into place and tighten up the 3 x 10mm bolts. Slide the undertray back in place align all the mounting holes. Tighten up the front screws attaching to the front bumper, then the 2 bolts attaching to the radiator bottom support bracket and finally the rear bolts.

Refit the wheel and tighten up as much as possible. Drop the car down off the axel stands with the aid of the jack(s).

### **Tighten the wheel bolts to the correct torque: 98Nm**

Start the car up again and check for any untoward noises. Belts usually get a little tighter once the engine is hot and expands.

**Total Time taken - 2 hours**

**Notes:**

The 20v/vt non air con model uses the same tensioner as the air con model, however the belt is different. You can follow the same process as above however the shorter belt takes a slightly different route as there is 1 less pulley. It is also worth noting that you cannot simply remove the air con compressor and use a non aircon belt – the brackets for the alternator also need to be changed i.e. the entire front alloy engine mount.