

Replacing the serpentine (drive) belt

Words & photos: Bob De Bont

After hearing various reports of NCs having idler pulley issues, I placed it as my next mid-life maintenance task.

1 First check the belt for undue wear with a bright torch.

There are a number of ways to check the pulleys; squealing and general noise is a dead giveaway.

To check the idler pulley: with the motor

running check the tracking of the belt under the pulley; it should run straight and true.

For the tensioner pulley: look for anything unusual around the pulley or on the power steering pipes directly below the pulley.

The ultimate check is to remove the belt and check each pulley by hand but since you need to remove various parts to gain access, might as well bite the bullet and replace all the parts.



After 170,000km, it was time to replace my belt and both idler and tensioner pulleys were showing signs of wear.

2 Replacing the belt, idler and tensioner pulleys is a fairly simple job requiring basic tools and should take about one to two hours at a leisurely pace.

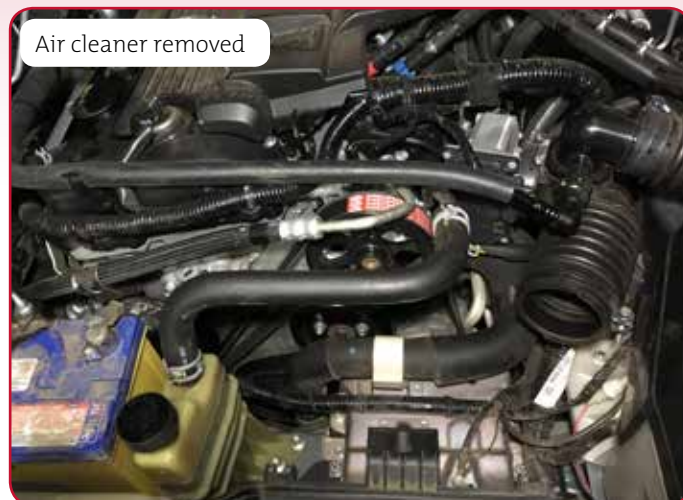
First you need to identify which parts you need and order them from your preferred source. Be aware that Mazda changed the alternator pulley size between the **NC1** (2006-2008) and **NC2** (2009-on) which results in a different length belt being required. People have managed to fit the shorter belt from the NC1 on to an NC2 but frequently report bearing issues soon after. There are also different length belts for cars without air conditioning (A/C).

- » Mazda multi V-Belt for **NC1** with A/C: LFG1-15-909B [2245mm]
- » After-market for **NC1**: Gates 6PK-2245 or Dayco Belt 5060883 (2241mm).
- » Mazda multi V-Belt for **NC2** with A/C: LF9J-15-909A [2253mm]
- » After-market for **NC2**: Bosch 1987947569 [2253mm] Gates 6PK-2255 or Dayco Belt 5060885 [2250mm]
- » Mazda tensioner pulley: LF17-15-980E (bearing NSK EP 6203DUL)
- » After-market tensioner pulley: Gates 38408 or Dayco 89372
- » Mazda idler pulley: LFH1-15-940A (with A/C) (bearing NSK EP 6203DUL)
- » After-market idler pulley: Gates 36263 or Dayco 89144
- » Gates kit for **NC1**: K036PK2245

3 Some claim you can remove and refit the belt by only removing the battery and its case. To make my life easier, I also removed the rear section of the air cleaner box to allow easier access to the other pulleys.

Step 1: Write down the various radio pre-sets along with the trip meter reading if required.

Step 2: Remove the air cleaner housing by disconnecting the electrical connection from the MAF. Loosen the hose clamps and disconnect the two spring clips. Carefully extract the filter and the rear half of the air cleaner housing.



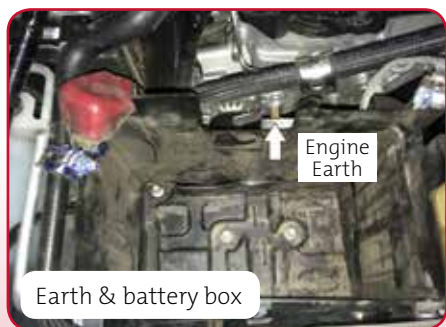
Step 3: Remove the battery box cover, then remove the *Neg-* and *Pos+* leads from the battery. Loosen the hold-down clamps on the battery enough so that the hooks at the bottom can be turned to

on an MX-5 NC



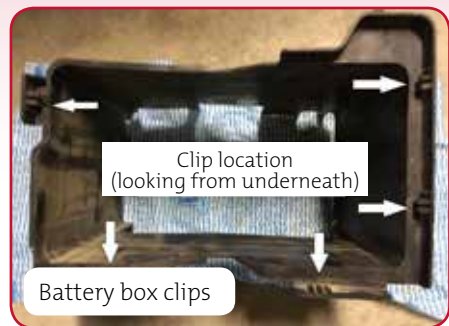
the side and the clamp removed with the nuts and hooks attached. Use the strap to remove the battery and set it aside.

Step 4: Remove the bolt holding the earth lead to the front of the motor; then, looking into the bottom of the battery box, remove the four retaining bolts.



Moving the box around to gain access, remove the two top wiring harness clips holding the wiring to the box (by compressing the end of the clip with long-nose pliers) and removing the clips from the box.

The top section of the battery box “clips” on to the base. Removing the top section of the battery box allows easier access to the bottom wiring harness clips.



Step 5: With the front of the engine clear for easy access, use a 14mm socket and a long socket handle to remove the serpentine belt. The socket goes on to the centre bolt on the tensioner pulley. A clockwise twist will rotate the tensioner – loosen the belt enough to remove it.



With the belt removed, this is what you'll see!

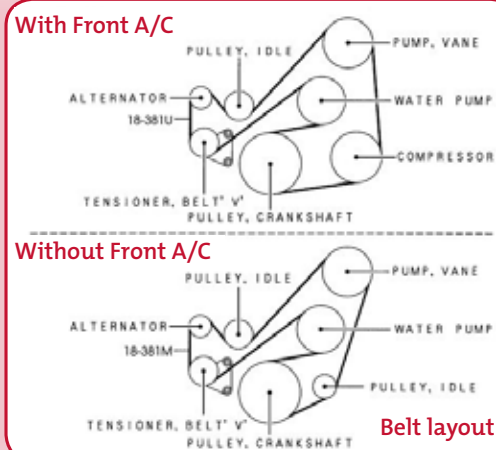
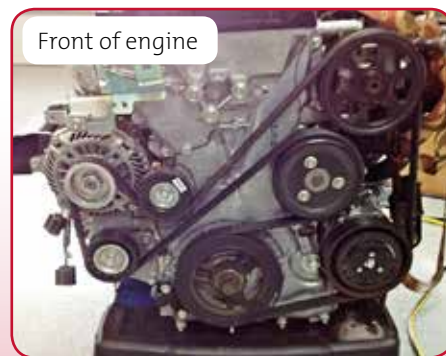
Step 6: Use a 10mm socket to remove the idler pulley bolt.

Step 7: Use a 12mm socket to remove the tensioner pulley bolts.



Step 8: Install the new idler pulley and tighten the 10mm bolt to 13-19 N·m (9-14 ft·lbf.) and the tensioner pulley 12mm bolts to 19-25 N·m (15-18 ft·lbf.)

Step 9: Install the new belt by twisting the tensioner pulley to the right and slip the new belt on following the diagram below. An extra set of hands – or a method to hold the belt in place – is handy as the belt doesn't want to stay in place until it's tensioned.



Once the belt is correctly fitted it's time to reassemble everything.

Step 10: Fit the bottom of the battery box and fasten with the four bolts, then fit the wiring harness clips in place along the bottom.

Step 11: Refit the earth wire to the front of the engine.

Step 12: Snap the upper section of the battery box in place and refit the remaining wiring harness clips.

Step 13: Refit the battery and battery clamp.

Step 14: Reconnect the Pos+ lead and tighten before refitting the Neg- lead, tighten.

Step 15: Refit the battery cover.

Step 16: Refit the air cleaner housing and filter, tighten the clamps and

reconnect the wire connector.

Step 17: Test run the engine and ensure nothing is amiss around the belt area.

Step 18: On the dash, the DSC Off light and TCS/DSC light will be lit (ignition on). To reset the DSC, turn the steering wheel full-lock left then full-lock right then returning to straight ahead. DSC Off light should extinguish. Turn the ignition off then back on and the TCS/DSC light should reset. If the TCS/DSC light remains lit, take the car for a short drive then switch the ignition off and back on.

Step 19: Reprogram your radio preselect channels and clock.

Done!