



Serpentine Belt Kit Installation Instructions



Accessory belt
and belt roller installation
for Porsche 996 Turbo
ES2575111
(see page 3 for individual parts and numbers)

This tutorial is provided as a courtesy by ECS Tuning.

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

Although this material has been prepared with the intent to provide reliable information, no warranty (express or implied) is made as to its accuracy or completeness. Neither is any liability assumed for loss or damage resulting from reliance on this material. SPECIFICALLY, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER WARRANTY IS MADE OR TO BE IMPLIED WITH RESPECT TO THIS MATERIAL. In no event will ECS Tuning, Incorporated or its affiliates be liable for any damages, direct or indirect, consequential or compensatory, arising out of the use of this material.

996 Turbo Accessory Belt Replacement

In this tutorial, we will show you how to replace the accessory belt on your Porsche 996 Turbo. The procedure is not difficult, and can be completed using common tools.

In a separate section, we also demonstrate how to replace the two idler (deflection) rollers and install a new belt tensioner roller. These three rollers are robust, and generally last for many thousands of trouble-free miles. Like any roller, however, they are subject to external roller surface wear and pitting, and internal bearing failure. Installing fresh rollers is a logical part of an accessory belt replacement, especially on high-milers.

Things you ought to know before starting:

1) Idler rollers bolt to the engine; each new roller ships with a fresh bolt. The left tensioner bolt comes out of the engine easily; the right side tensioner is harder to remove since it is blocked by the rear engine carrier. We will demonstrate a method for removing the “tough” idler roller bolt to make your job easier.

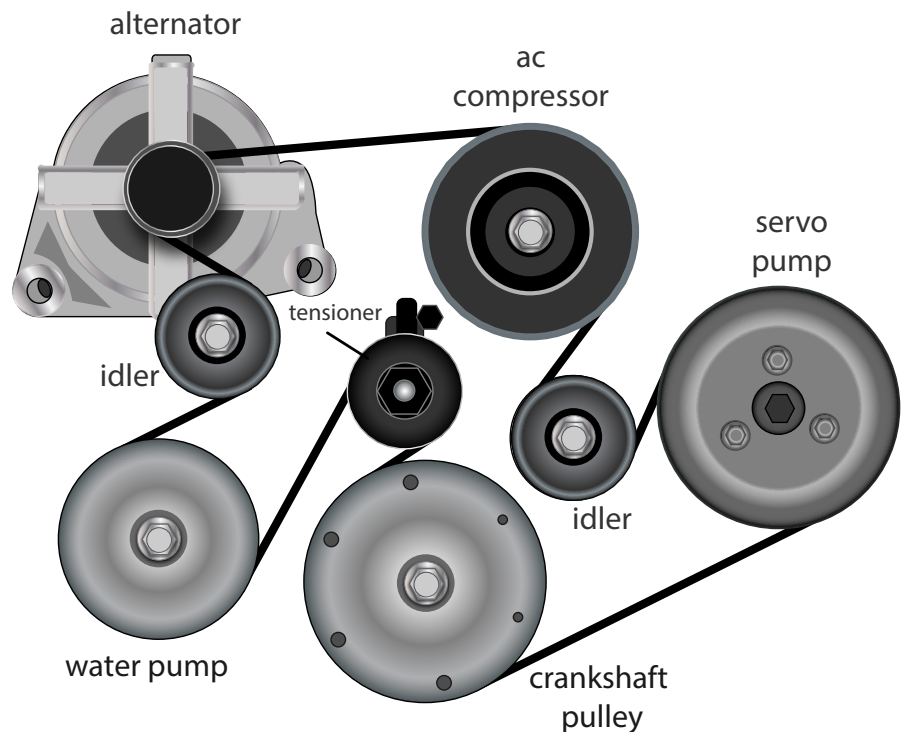
2) The tensioner roller is not hard to replace, IF you reuse the original tensioner bolt. Some manuals suggest replacing the bolt, probably because the new bolt comes with micro-encapsulated thread-locker applied to the threads.

Replacing the tensioner roller bolt is a Royal Pain, however. There is no room to slide out the old bolt and slide in a new one with the tensioner installed on the engine. Trust us when we say that there is no fast and easy way to remove this bolt that does not involve time consuming and costly additional disassembly of several bolt-on accessories, lines, hoses, and brackets.

Long story short? If you demand a new tensioner roller bolt, be prepared for sizable added expense, in time and money.

We will reuse the original bolt:

- It's a robust 10.9 harness M10 x 1.5 size.
- The final tightening torque spec is 44 ft-lb; much less than the bolt's rated maximum.
- It is not a one-time-use, torque-to-yield bolt and can logically be returned to service for this application.
- We will use a medium strength thread locking compound to ensure that the bolt does not come loose, and include it in your kit.



Belt routing 996 Turbo

Serpentine Belt Kit Installation

ES2575111



Complete kits include pulleys, belt and all necessary hardware.



Tools

- 7mm socket (hose clamps)
- 13mm socket
- 15mm combination wrench
- 24mm combination or offset box
- E14 torx (for new tightening new idler pulley bolts)
- Loctite® 242 thread locking compound (included in your kit)
- 3/8-inch ratchet
- torque wrench
- screwdriver
- pry bar
- pliers or spring clamp tool

Part Numbers

Individual Parts

Accessory Belt [ES2535857](#)
Tensioner Roller [ES2570168](#)
Idler Rollers [ES1484013](#)

Accessory Belt Kit [ES2575111](#)

Serpentine Belt Kit Installation

ES2575111



Serpentine Accessory Belt Replacement - ES2535857

Step 1

Using a 13mm socket, loosen/remove the M6 mounting bolt at the rear of the air filter housing.)



Step 2

Loosen the worm-drive screw at the filter housing hose clamp, using a screwdriver or 7mm socket (left arrow).

Disconnect the Mass Air Flow sensor (MAF) electrical plug (right arrow). Press the small release tab on the side as you pull the connector off.

(The coolant recovery bottle cap and fuel filter are labeled for geographic reference.)



Step 3

Rotate the right side of the air cleaner housing upward as you pull it from the air hose.

Pull the housing out just far enough to unfasten the MAF wiring harness from its attachment clip on the air filter housing. (See next photo.)



Serpentine Belt Kit Installation

ES2575111



Serpentine Accessory Belt Replacement

Step 4

After you free the MAF harness from the retaining clip (arrow), remove the air filter housing and lay it aside.

Caution: Do not drop the two rubber mounting grommets at the base of the filter housing. These can fall out without a sound.



Step 5

Using a socket and long handled ratchet or breaker bar, rotate the 15mm hex on the tensioner arm clockwise to relieve belt tension.

Slide the belt off the tensioner roller.

Remove the belt from the remaining pulleys.



Step 6

Install the new belt. Route the accessory belt around pulleys. Start at the bottom, at the crankshaft pulley, then route the belt around the remaining pulleys. We experimented and found it easiest to install the belt on the idler roller beneath the alternator, last.

Use a 15mm socket and long handled ratchet or breaker bar to rotate the tensioner clockwise until you can slide the belt over the last idler (left arrow).



Serpentine Belt Kit Installation

ES2575111



Serpentine Accessory Belt Replacement

Step 7

- Carefully inspect the belt routing. Make sure the belt is centered in all accessory pulleys before starting the engine.
- Secure and reconnect the MAF sensor harness.
- Reinstall the air filter box. Reinstall the clamp on the air inlet hose, and the rear attachment bolt removed in Step 1.



Replace the Idler and Tensioner Rollers (Kit Number ES2575111)

Step 1

Remove the air filter housing and serpentine belt using the steps in the previous section.

Using a 15 mm wrench or socket, loosen the left idler pulley bolt; remove the belt and pulley.



Step 2

Install the new left hand idler roller. Using an E14 Torx socket and torque wrench, tighten the bolt to 23Nm (17 ft-lb).



Serpentine Belt Kit Installation

ES2575111

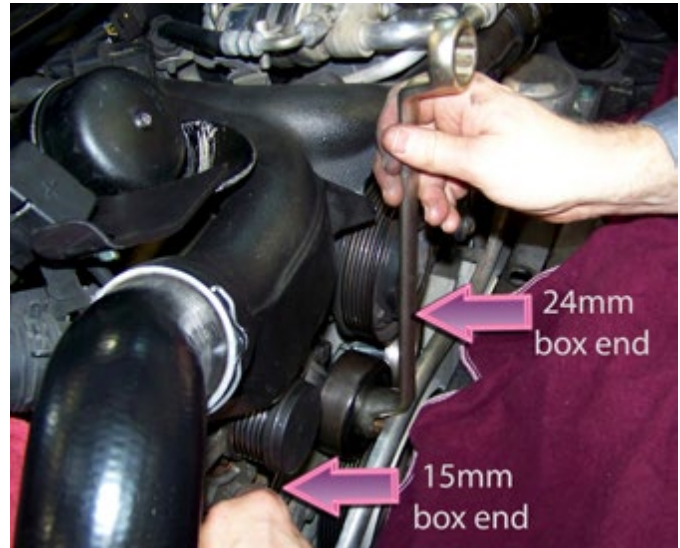


Replace the Idler and Tensioner Rollers (Kit Number ES2575111)

Step 3

Use a 24 mm box and a 15mm box to unscrew the M10 tensioner roller bolt and hex nut.

Remove the nut, bolt, and tensioner roller.



Step 4

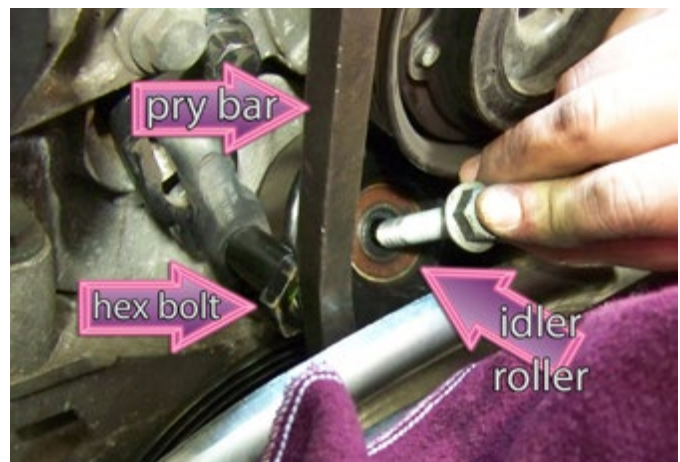
Temporarily reinstall the tensioner roller bolt and hex nut in the tensioner pivot arm, without the tensioner roller.



Step 5

Insert a long pry bar with a curved end between the head of the hex nut and the rear engine support bar.

Using the head of the nut as a fulcrum, pry against the stamped steel support bar. Flex the bar away from the engine just far enough to remove the idler roller bolt and pulley.



Serpentine Belt Kit Installation

ES2575111

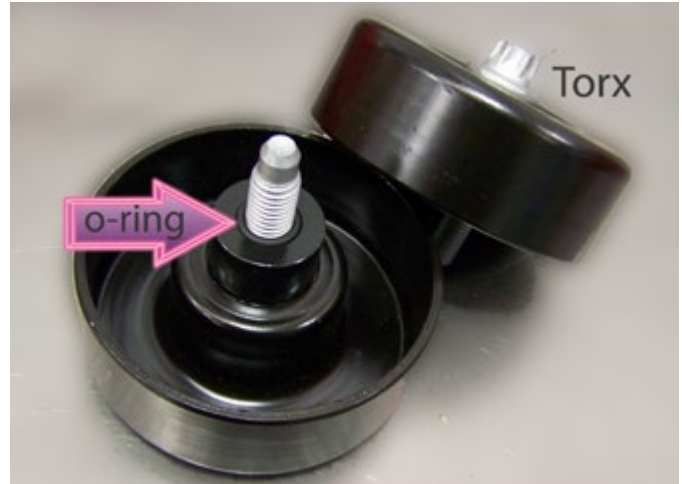


Replace the Idler and Tensioner Rollers (Kit Number ES2575111)

Step 6

The new idler rollers (Porsche refers to them as deflection rollers) come with a small o-ring on the bolt. Leave it in place; it's there only to keep the bolt from falling out as you install the roller.

Also note that while the original roller bolts had 15mm external hex heads, the new bolts are E14 Torx.



Step 7

Reverse the process to install the right side idler roller.

Pry on the engine support again to make extra room, then slide the new roller in place. Maintain the pressure with the pry bar until you have the bolt screwed in.

Torque the bolt to 23Nm (17 ft-lb).



Step 8

Note: Torquing the Torx bolt in these tight quarters requires a little ingenuity. There is too little room to squeeze the E14 socket and the head of a torque wrench between the crossbar and bolt head.

We pry on the cross bar again to make extra room, then use a 7/16 crow's foot, a short lateral extension bar, and a torque wrench to tighten the idler roller bolt to specs.



Serpentine Belt Kit Installation ES2575111



Replace the Idler and Tensioner Rollers (Kit Number ES2575111)

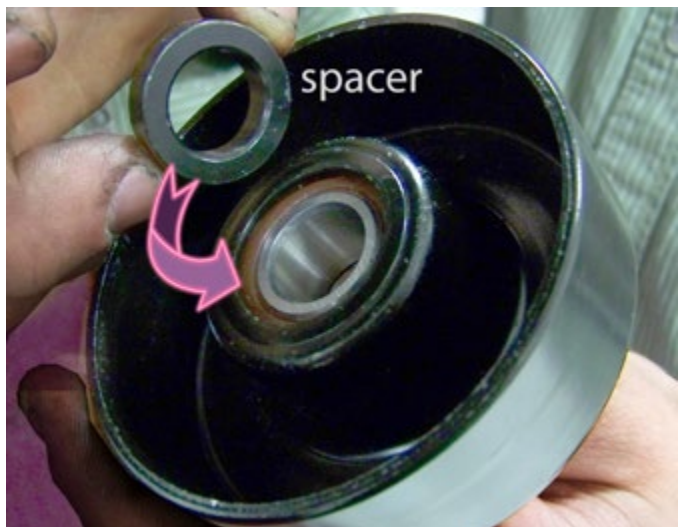
Step 9

Since we are re-using the tensioner roller bolt, we apply thread sealer to the threads. Loctite 242 is a good, general purpose thread locker that allows disassembly at a later date.



Step 10

Before installing the tensioner roller, make sure the spacer is properly installed on the rear of the roller.



Step 11

On the front side of the tensioner roller, make sure the washer is installed with the convex face toward the bearing.



Serpentine Belt Kit Installation

ES2575111



Replace the Idler and Tensioner Rollers (Kit Number ES2575111)

Step 12

Install the tensioner roller. Slide the hex head bolt into the roller and thread it onto the bolt.



Step 13

Reach around to the back of the tensioner arm and hold the through-bolt with a 15mm box wrench as you tighten the hex nut to 60Nm (44 ft-lb).

We use a 24mm crow's foot with the torque wrench due to the rear cross bar.



Step 14

Refer to Section 1 of this document for accessory belt installation instructions.



Serpentine Belt Kit Installation
ES2575111



Maintain Your 996T with Repair Tutorials from ECS Tuning



**2000-2005
Porsche 996 Turbo
Maintenance**

Want more information about maintenance and repair procedures? ECS Tuning has prepared several tutorials showing you how to maintain the 996 Turbo, including [major maintenance](#), [minor maintenance](#), and [fuel filter replacement](#).

Shop at ECS Tuning for quality parts and service products to keep your Porsche running strong and looking good.