

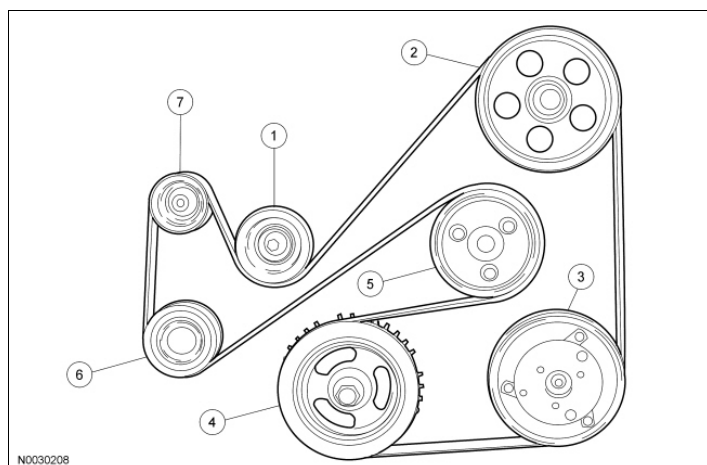
Accessory Drive

The accessory drive:

- has a single serpentine drive belt with 6 ribs.
- has automatic tensioning.
- is not adjustable.

The accessory drive system provides power to operate components which power other systems. These could include components such as the generator, power steering pump and A/C compressor. Each of these components is equipped with a pulley which is driven by the accessory drive belt. The accessory drive belt is driven by the engine crankshaft pulley. One or more idler pulleys may be provided to facilitate belt routing and alignment. The automatic belt tensioner maintains correct belt tension and compensates for component wear and changes in system load. System load changes can be caused by the A/C compressor clutch engaging or disengaging, or demand changes on other systems powered by the accessory drive belt. To maintain correct operation of this system, it is critical that the correct length drive belt be installed. The pulleys must also be correctly aligned and kept clean.

Accessory Drive Belt Routing



Item	Part Number	Description
1	19A216	Accessory drive belt idler pulley
2	3A733	Power steering pump pulley
3	19D784	A/C compressor pulley
4	6316	Crankshaft pulley
5	8509	Coolant pump pulley
6	6A228	Belt tensioner
7	10344	Generator pulley

Belt Tensioner

NOTE: The accessory drive belt tensioner must be replaced as a complete unit.

Automatic tensioners are calibrated to provide the correct amount of tension to the belt for a given accessory drive system. Unless a spring or damping band within the tensioner assembly breaks or some other mechanical part of the tensioner fails, there is no need to check the tensioner for correct tension.

Accessory Drive**Inspection and Verification**

NOTICE: Under no circumstances should the accessory drive belt, tensioner or pulleys have any fluids or belt dressing applied to them as damage to the belt material and tensioner damping mechanism may occur.

1. Verify the customer concern by operating the system.
2. Visually inspect for obvious signs of mechanical damage.

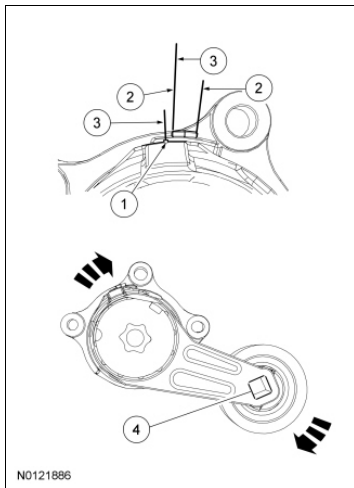
Visual Inspection Chart

Mechanical
<ul style="list-style-type: none"> • Drive belt cracking/chunking/wear • Belt/pulley contamination • Incorrect accessory drive belt • Incorrectly routed accessory drive belt • Pulley misalignment or excessive pulley runout • Loose or mislocated hardware • Incorrectly routed power steering tubes (rubbing) • Loose accessory drive belt • Damaged pulleys • Tensioner arm misalignment

Belt Tensioner With Belt Length Indicator

NOTE: Belt tensioner is shown in the free-state position against the arm travel stops.

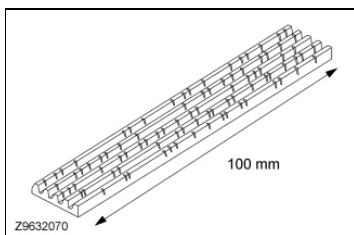
NOTE: 6.2L engine accessory drive belt tensioner shown, other accessory drive belt tensioners similar.



Item	Description
1	Belt length indicator
2	Acceptable belt installation and wear range
3	Belt replacement range
4	Belt tension relief point

3. Check that the belt length indicator, if equipped, on the belt tensioner is in the acceptable belt installation and wear range. If the indicator is in the belt replacement range, either an incorrect belt is installed or the belt is worn beyond the service limit. Install a new belt as necessary.
4. Eliminate all other non-belt related noises that could cause belt misdiagnosis, such as A/C compressor engagement chirp, A/C slugging noise, power steering cavitations at low temperatures, Variable Camshaft Timing (VCT) tick or generator whine.
5. If a concern is found, correct the condition before proceeding to the next step.

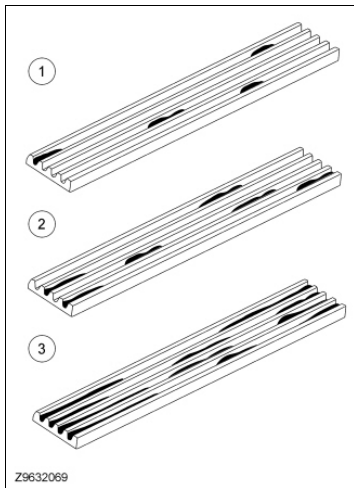
V-Ribbed Serpentine Drive Belt With Cracks Across Ribs



6. Check the belt for cracks. Up to 15 cracks in a rib over a distance of 100 mm (4.0 in) can be considered acceptable. If cracks exceed this standard, install a new belt.

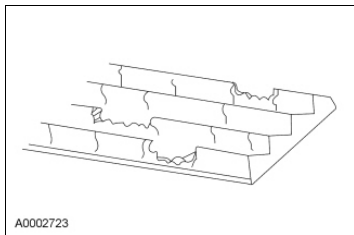
V-Ribbed Serpentine Belt With Piling

NOTE: Piling is an excessive buildup in the V-grooves of the belt.



7. The condition of the V-ribbed drive belt should be compared against the illustration and appropriate action taken.
1. Small scattered deposits of rubber material. This is not a concern, therefore, installation of a new belt is not required.
 2. Longer deposit areas building up to 50% of the rib height. This is not considered a durability concern, but it can result in excessive noise. If noise is apparent, install a new belt.
 3. Heavy deposits building up along the grooves resulting in a possible noise and belt stability concern. If heavy deposits are apparent, install a new belt.

V-Ribbed Serpentine Belt With Chunks of Rib Missing



8. There should be no chunks missing from the belt ribs. If the belt shows any evidence of this, install a new accessory drive belt.
9. If the concern is not visually evident, verify the symptom and GO to [Symptom Chart](#) .

Symptom Chart

Symptom Chart

Component Tests

Drive Belt - Noise/Flutter

NOTICE: Under no circumstances should the accessory drive belt, tensioner or pulleys have any fluids or belt dressing applied to them as damage to the belt material and tensioner damping mechanism may occur.

Drive belt chirp occurs due to pulley misalignment or excessive pulley runout. It can be the result of a damaged or incorrectly aligned grooved pulley.

To correct, determine the area where the noise comes from. Check each of the pulleys in that area with a straightedge to the crankshaft pulley. Look for accessory pulleys out of position in the fore/aft direction or at an angle to the straightedge.

Drive belt squeal may be an intermittent or constant noise that occurs when the drive belt slips on an accessory pulley under certain conditions.

A short intermittent squeal may occur during engine start up and shut down or during very rapid engine acceleration and decelerations, such as:

- Wide Open Throttle (WOT) 1-2 and 2-3 shifts or 2-3 and 3-4 back-out shifts on automatic transmissions.
- WOT 1-2 and 2-3 shifts and any combination of rapid downshifting on manual transmissions.

These special short-term transient events are expected, and are due to the higher system inertias required to meet the electrical and cooling demands on today's vehicle systems. Constant or reoccurring drive belt squeal can occur:

- if the A/C discharge pressure goes above specifications:
 - ◆ the A/C system is overcharged.
 - ◆ the A/C condenser core airflow is blocked.
 - ◆ the A/C anti-slugging strategy executes after a long hot heat sk.
- if the A/C off equalized pressure (the common discharged and suction pressure that occurs after several minutes) exceeds specifications.
- if any of the accessories or idler pulley(s) are damaged or have a worn or damaged bearing. All accessories should be rotatable by hand in the unloaded condition. If not, inspect the accessory.
- if there is evidence of fluid contamination on the accessory drive belt. When the drive belt has been exposed to fluid contamination during vehicle operation, such as leaks from the power steering system, A/C system or cooling system, clean all pulleys with soap and water, rinse with clean water and install a new accessory drive belt. If the drive belt has been exposed to fluids in a localized area during routine vehicle service, such as replacement of hoses or fluids, the drive belt and pulleys should be washed with soap and water immediately (prior to starting the engine), and rinsed with clean water.
- if the accessory drive belt is too long. A drive belt that is too long will allow the accessory drive belt tensioner arm to go all the way to the arm travel stop under certain load conditions, which will release tension to the drive belt. If the accessory drive belt tensioner indicator is outside the normal installation wear range window, install a new accessory drive belt.
- **NOTE:** The accessory drive belt tensioner arm should rotate freely without binding.

Install a new accessory drive belt tensioner if the drive belt tensioner is worn or damaged.

Drive Belt - Incorrect Installation

NOTICE: Incorrect accessory drive belt installation will cause excessive drive belt wear and may cause the drive belt to come off the pulleys.

Non-standard accessory drive belts can track differently or incorrectly. If an accessory drive belt tracks incorrectly, install a new accessory drive belt to avoid performance failure or loss of the drive belt.