

Drive Belt Falls Off Diagnosis

Diagnostic Aids

If the drive belt repeatedly falls off the drive belt pulleys, this may be caused by pulley misalignment. An extra load that is quickly applied on released by an accessory drive component may cause the drive belt to fall off the pulleys. Verify that the accessory drive components operate properly.

If the drive belt is the incorrect length, the drive belt tensioner may not maintain the proper tension on the drive belt.

Test Description

The number(s) below refer to the step number(s) on the diagnostic table.

- This inspection is to verify the condition of the drive belt. Damage may have occurred to the drive belt when the drive belt fell off the pulley. The drive belt may have been damaged in which case caused the drive belt to fall off the pulley. Inspect the drive belt for cuts, tears, sections of ribs missing, or damaged belt plies.
- Misalignment of the pulleys may be caused from improper mounting of the accessory drive component, incorrect installation of the accessory

drive component pulley, or the pulley being bent inward or outward from a previous repair. Test for a misaligned pulley using a straight edge in the pulley grooves across two or three pulleys. If a misaligned pulley is found refer to that accessory drive component for the proper installation procedure of that pulley.

- Inspect the pulleys for dents, bends or other damage. Damage to the pulleys that would prevent the drive belt from seating properly in the pulley grooves. Damage would also prevent proper alignment of the drive belt pulley, when the smooth surface of the drive belt is required to drive the pulley.
- Accessory drive component brackets that are bent or cracked will let the drive belt fall off.
- Inspection of the fasteners can eliminate the possibility that a wrong bolt, nut, spacer, or washer was installed. Missing, loose, or the incorrect fasteners may cause pulley misalignment from the bracket moving under load. Over tightening of the fasteners may cause misalignment of the accessory component bracket.

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Step	Action	Yes	No
Notice: Refer to Belt Crossing Notice in Cautions and Notices. DEFINITION: The drive belt falls off the pulleys or may not ride correctly on the pulleys.			
1	Did you review the Symptoms - Drive Belt diagnostic information and perform the necessary inspections?	Go to Step 2	Go to Symptoms - Drive Belt
2	Inspect for a damaged drive belt. Did you find the condition?	Go to Step 3	Go to Step 4
3	Install a new drive belt. Refer to Drive Belt Replacement. Does the drive belt continue to fall off?	Go to Step 4	System OK
4	Inspect for misalignment of the pulleys. Did you find and repair the condition?	Go to Step 12	Go to Step 5
5	Inspect for a bent or donut pulley. Did you find and repair the condition?	Go to Step 12	Go to Step 6
6	Inspect for a bent or a cracked bracket. Did you find and repair the condition?	Go to Step 12	Go to Step 7
7	Inspect for improper, missing or loose fasteners. Did you find loose or missing fasteners?	Go to Step 8	Go to Step 9
8	Tighten any loose fasteners. Refer to Fastener Tightening Specifications. Replace improper or missing fasteners. Does the drive belt continue to fall off?	Go to Step 9	System OK
9	Test the drive belt tensioner for operating correctly. Refer to Drive Belt Tensioner Diagnosis. Does the drive belt tensioner operate correctly?	Go to Step 11	Go to Step 10
10	Replace the drive belt tensioner. Refer to Drive Belt Tensioner Replacement. Does the drive belt continue to fall off?	Go to Step 11	System OK
11	Inspect for failed drive belt idler and drive belt tensioner pulley bearings. Did you find and repair the condition?	Go to Step 12	Go to Diagnostic Aids
12	Run the engine in order to verify the repair. Does the drive belt still fall off?	—	System OK