Subaru Timing Belt Replacement Instructions

Subaru Timing Belt Replacement Instructions: A Step-by-Step Guide

Maintaining your Subaru’s engine is essential for reliability, performance, and peace of mind. One of the most critical maintenance tasks is replacing the timing belt. A broken belt can cause catastrophic engine damage, leading to costly repairs. This guide provides clear, concise instructions for Subaru owners who want to replace their timing belt themselves or simply understand what the process involves.

Why Timing Belt Replacement Matters

The timing belt synchronizes the rotation of the crankshaft and camshaft(s), ensuring valves open and close at the correct times. Over time, the belt’s rubber can degrade, stretch, or develop cracks. Subaru models such as the Impreza, Legacy, and Outback often recommend replacement every 105,000 miles (or 168,000 km). Ignoring this interval can result in valve-to-piston contact, severe engine damage, and expensive downtime.

Key Symptoms of a Failing Belt

- Engine misfires or runs rough
- Unusual rattling or ticking noises from the front of the engine
- Loss of power or hesitation during acceleration
- Check Engine Light illuminated (often with codes like P0335 or P0336)

Tools and Parts You’ll Need

Before you begin, gather the following items. Having everything on hand will keep the job efficient and reduce the risk of errors.

1. **Timing Belt Kit** – Includes the belt, tensioner, and water pump (if necessary). Subaru typically recommends a complete kit for a smoother replacement.
2. Socket set (10-mm, 12-mm, 13-mm, 14-mm)
3. Torque wrench
4. Flathead screwdriver
5. Jack and jack stands (or ramps)
6. Engine oil drain pan and new oil filter
7. New coolant (if you’re replacing the water pump)
8. Thread locker (Loctite 242 or similar)
9. Timing belt alignment tool (or a set of timing marks on your engine)
10. Owner’s manual or a reliable service manual for your specific Subaru model

Step-by-Step Timing Belt Replacement Instructions

1. Preparation & Safety

Park your Subaru on a flat surface, engage the parking brake, and disconnect the battery. Drain the engine oil and coolant to avoid spills. Raise the front of the vehicle with a jack and secure it on jack stands.

2. Remove Engine Components

Remove the engine cover, air intake, and any accessories that block access to the timing belt cover (such as the serpentine belt pulley or alternator). If your model has a timing belt cover that is secured with bolts, unscrew them carefully.

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3. Mark the Camshaft and Crankshaft

Use a marker to set a reference point on the camshaft gear and crankshaft pulley. This ensures the new belt aligns correctly. Some Subaru models have a “Timing Belt” or “Camshaft” alignment mark on the timing cover. If yours does, use it.

4. Loosen the Timing Belt Tensioner

Locate the tensioner pulley (often a rubber or hydraulic unit). Using a socket wrench, rotate the tensioner to relieve tension on the belt. Some models require a special tool to lock the tensioner in place while you remove the belt.

5. Remove the Old Belt

Carefully slide the old belt off the pulleys. Inspect the pulleys for wear or damage; replace any that are worn or have worn teeth.

6. Install the New Belt

Place the new belt over the camshaft pulley first, then the crankshaft pulley, and finally the other accessories (alternator, power steering pump, etc.). Ensure the belt sits correctly on each pulley’s teeth.

7. Re-tighten the Tensioner

Rotate the tensioner to apply tension to the new belt. Use a torque wrench to tighten the tensioner bolts to the manufacturer’s specified torque (usually 15–18 ft-lb). Verify the belt’s tension by gently pulling on it; it should not sag more than 1/4 inch.

8. Re-install Engine Accessories

Reattach the alternator, water pump (if replaced), and any other components removed earlier. Tighten all bolts to the correct specifications.

9. Refill Fluids

Replace the engine oil and filter. Refill the coolant system with fresh coolant. Check for leaks around the timing belt cover and water pump.

10. Final Checks

Reconnect the battery. Start the engine and let it idle. Listen for unusual noises and observe the timing marks to confirm proper alignment. If the engine runs smoothly and all systems are operational, the job is complete.

Maintenance Tips & Common Mistakes

- **Always Use the Correct Belt** – Subaru timing belts have specific width and length specifications. Using an incorrect belt can cause misalignment.
- **Check for Wear on Pulleys** – If a pulley is worn, the belt may slip or wear out prematurely.
- **Follow Torque Specifications** – Over-tightening can damage components; under-tightening can lead to belt slippage.
- **Replace the Water Pump** – Many Subaru models use a belt-driven water pump. Replacing it at the same time prevents future coolant leaks.
- **Keep a Clean Work Area** – Oil and coolant spills can contaminate the belt or damage nearby components.

When to Seek Professional Help

If you’re uncertain about any step, have limited mechanical experience, or lack the proper tools, it’s wise to consult a professional mechanic. Timing belt replacement is a critical procedure,