



IMPORTANT INFORMATION GM HFV6 2.8L/3.0L/3.2L/3.6L

WARNING

**PERFORMING THIS REPAIR ON AN UNHEALTHY ENGINE MAY
RESULT IN A COSTLY PREMATURE FAILURE WHICH MAY NOT
BE COVERED BY WARRANTY**

Ask yourself...Why does this vehicle need a timing system replacement? If the current timing system failed due to unhealthy engine conditions, your vehicle may need a more extensive repair or even an engine replacement.

Excessive engine sludge, PCV issues, particulate/debris buildup in the oil system will:

- Clog oil feed ports, reducing oil feed/lubrication to components.
- Prematurely wear chain components resulting in chain stretch.
- Affect the performance of cam phasers and chain tensioners leading to timing system instability which can result in premature failure.

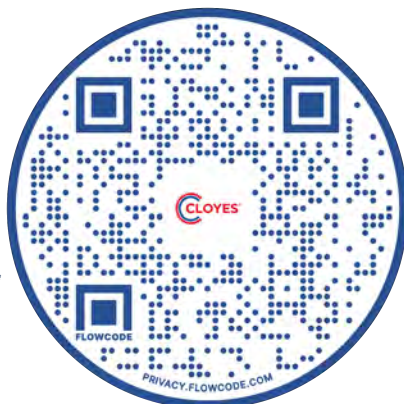
Direct injection engines are especially prone to particulate matter issues.

This could be up to a 15-hour repair. Avoid a costly failure.

Watch these two videos - total time just 15 minutes.

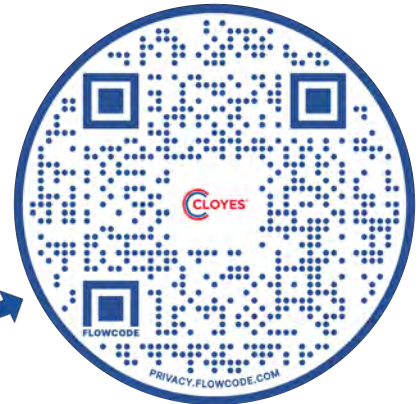
DIAGNOSIS VIDEO 1

WATCH THIS
7-MINUTE VIDEO
TO DETERMINE IF
THE ENGINE IS
REPAIRABLE



REPAIR VIDEO 2

IF THE ANSWER TO
VIDEO 1 IS YES,
THEN WATCH THIS
8-MINUTE VIDEO
FOR PROPER
INSTALLATION



IF YOU WATCHED THE VIDEOS AND HAVE DETERMINED THAT A TIMING SYSTEM REPLACEMENT IS THE CORRECT REPAIR, HERE ARE THE KEY INSTALLATION TIPS

ENGINE INSPECTION CHECKLIST DURING REPAIR

CHECK OIL PRESSURE

- GM specifies 30 PSI of oil pressure at 2,000 RPM for this engine,

ENSURE PCV SYSTEM IS CLEAR OF SLUDGE BUILDUP

- PCV tube is in the right-hand valve cover.
- Clean the valve cover PCV tube and chamber.
- A healthy PCV systems will prevent sludge buildup.
- Use the updated valve cover gasket which helps prevent the PCV system from being overwhelmed by oil splash.



CHECK IDLER SPROCKET MOUNTING POSTS

- Cracks can develop in the idler sprocket mounting points of both the left or right banks. These cracks will cause reduced oil pressure/oil feed to the idler sprockets.

CHECK VVT SYSTEM OIL SUPPLY

- Check all oil feed ports to the phasers, solenoids, and tensioners.
- There are check valves located on the bottom of each cylinder head at front of the engine. Blockage in these check valves will create VVT issues and must be removed and replaced if oil supply issues are present.



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CHECKLIST DURING THE TIMING KIT INSTALLATION

PRIMARY GUIDE LOWER

- Unless you are servicing the oil pump, do not disturb the bolts on this guide. Leave guide bracket in place and simply replace nylon show (see 4:28 mark in the Video 2). This maintains critical torque consistency of the oil pump housing bolts.

IDLER SPROCKETS

- Make sure you install the idler sprockets on the correct banks. The flat side with the protruding center feature installs against the engine.

CAM PHASERS

- Vehicles with production date prior to 6/5/2009 require the use of thrust washers behind cam phasers.
- Cloyes phasers VC108, VC109, VC110, and other 4-bolgt style phasers require GM #12632859 washers, approx. 0.051" - 0.053" thick.

TENSIONER ACTIVATION

- Double check tensioner activation. After the pin is pulled, you may still need to fully compress and release the tensioner piston to ensure proper activation.



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CHECKLIST AFTER THE REPAIR

OIL & FILTER

After the successful timing system installation, advise the vehicle owner of the importance of frequent and high-quality oil changes.

- Advise vehicle owner to check oil levels often!
- This engine consumes oil, multiple "top-offs" may be needed between service.
- We recommend oil and filter change EVERY 3,000-5,000 MILES.
- Use only GM recommended Dexos full synthetic oil and a high-quality filter.

