

WARNING!

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

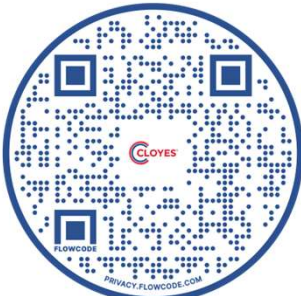

Ask yourself . . . Why does this vehicle need a timing system replacement? If the current timing system failed due to unhealthy engine conditions, your vehicle may need a more extensive repair or even an engine replacement.

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		Repair	
<p>Watch this 7-minute video to help determine if this engine is repairable.</p> <p>GM HFV6 Video 1</p>		<p>If the answer to first video is YES, watch this 8-minute video to save time and ensure proper installation.</p> <p>GM HFV6 Video 2</p>	

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 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.



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 shoe (see 4:28 mark in 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 use of thrust washers behind cam phasers. Cloyes phasers VC108, VC109, VC110 and other 4-bolt 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.

AFTER THE REPAIR

OIL & FILTER

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

- Advise vehicle owner to check oil level 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.

BEFORE, DURING or AFTER THE REPAIR

Contact us with any questions you may have . . . Better safe than sorry!

Cloyes Tech Hotline – (479) 646-1662 ext. 228

Cloyes Tech E-Mail – TechSupport@Cloyes.com

7:30am – 4:30pm Central Time

NOTES SECTION

9-0753S ♦ 9-0753SX ♦ 9-0753SVVT



CHECK CONTENTS OF YOUR KIT		YOUR KIT NUMBER		
PART	DESCRIPTION	9-0753S	9-0753SX	9-0753SVVT
C753	Primary timing chain	1	1	1
9-5530	Primary chain guide – upper	1	1	1
9-5548	Primary chain guide - lower	1	1	1
9-5537	Primary chain guide - R lower (incl gasket)	1	1	1
C754	Secondary timing chain	2	2	2
9-5531	Secondary chain guide – L	1	1	1
9-5532	Secondary chain guide – R	1	1	1
9-5533	Secondary chain tensioner guide – R	1	1	1
9-5534	Secondary chain tensioner guide - L	1	1	1
9-5535	Secondary chain tensioner - L upper (incl gasket)	1	1	1
9-5536	Secondary chain tensioner - R upper (incl gasket)	1	1	1
S921	Crank sprocket	1		1
S930	Idler sprocket – L	1		1
S932	Idler sprocket – R	1		1
VC108	VVT cam phaser – exhaust L & R (incl bolt)			2
VC109	VVT cam phaser – intake L (incl bolt)			1
VC110	VVT cam phaser – intake R (incl bolt)			1
VTS108	VVT solenoid – intake & exhaust (L & R)			4
	TOTAL NUMBER OF COMPONENTS	15	12	23

Note: Additional kit numbers:

- 9-0753SK3 will also contain water pump
- 9-0753SK6 will contain water pump and accessory belt drive system