



Preliminary Information

PIP5528 Information assistance for HFV6 re-manufactured engine misfire diagnosis

Models

Brand:	Model:	Model Years:	VIN:		Engine:	Transmissions:
			from	to		
Buick	Allure (Canada Only)	2007 - 2016	ALL	ALL	3.0 LF1, 3.6 LY7, 3.6 LLT	ALL
Buick	Enclave	2007 - 2017	ALL	ALL	3.6 LY7, 3.6 LLT, 3.6 LFX	ALL
Buick	LaCrosse	2007 - 2016	ALL	ALL	3.0 LF1, 3.6 LY7, 3.6 LLT	ALL
Cadillac	ATS	2013 - 2015	ALL	ALL	3.6 LFX, 3.6	ALL
Cadillac	CTS	2007 - 2016	ALL	ALL	2.8 LP13.0 LF1, 3.0 LFW, 3.6 LY7, 3.6 LLT, 3.6 LFX	ALL
Cadillac	SRX	2007 - 2016	ALL	ALL	2.8 LP1, 2.8 LAU, 3.0 LF1, 3.6 LY7, 3.6 LLT, 3.6 LFX	ALL
Cadillac	STS	2007 - 2011	ALL	ALL	3.6 LY7, 3, 6 LLT	ALL
Chevrolet	Camaro	2010 - 2015	All	All	3.6 LLT, 3.6 LFX	All
Chevrolet	Colorado	2015 - 2016	All	All	3.6 LFX	All
Chevrolet	Equinox	2007 - 2017	All	All	3.0 LF1, 3.0 LFW, 3.6 LFX	All
Chevrolet	Impala	2012 - 2018	All	All	3.6 LFX	All
Chevrolet	Malibu	2007 - 2012	All	All	3.6 LY7	All
Chevrolet	Traverse	2009 - 2017	All	All	3.6 LLT	All
GMC	Acadia	2007 - 2017	All	All	3.6 LLT	All
GMC	Canyon	2015 - 2016	All	All	3.6 LFX	All
GMC	Terrain	2010 - 2016	All	All	3.0 LF1, 3.0 LFW, 3.6 LFX	All
Pontiac	G6	2007 - 2009	All	All	3.6 LY7	All
Pontiac	G8	2008 - 2009	All	All	3.6 LY7	All
Pontiac	Torrent	2008 - 2009	All	All	3.6 LY7	All
Saturn	Aura	2007 - 2010	All	All	3.6 LY7	All
Saturn	Outlook	2007 - 2010	All	All	3.6 LY7, 3.6 LLT	All
Saturn	Vue	2008 - 2010	All	All	3.6 LY7	All
Involved Region or Country	North America					
Condition	Some dealers may experience a misfire immediately after installing a GM re-manufactured HFV6 engine, usually limited to 1 bank or 1 cylinder. This is usually a rear cylinder (5 or 6) but could be any.					
Cause	This condition could be caused by the wrong camshaft being installed in the engine at the reman facility.					

Correction:

If you experience this concern, inspect the camshafts to ensure the correct camshaft is installed in each intake and exhaust position by comparing the ring strategy to either the engine that was removed (best way), or the charts below for the engine you are working on. If the wrong camshaft is installed either replace the camshaft with the same one from the original engine if undamaged or a new camshaft.

Note: It is not necessary to replace the engine for this concern.

Please send an email with pictures of the concern as well as the serial number and date off the side of the engine to torri.tullos@gm.com.

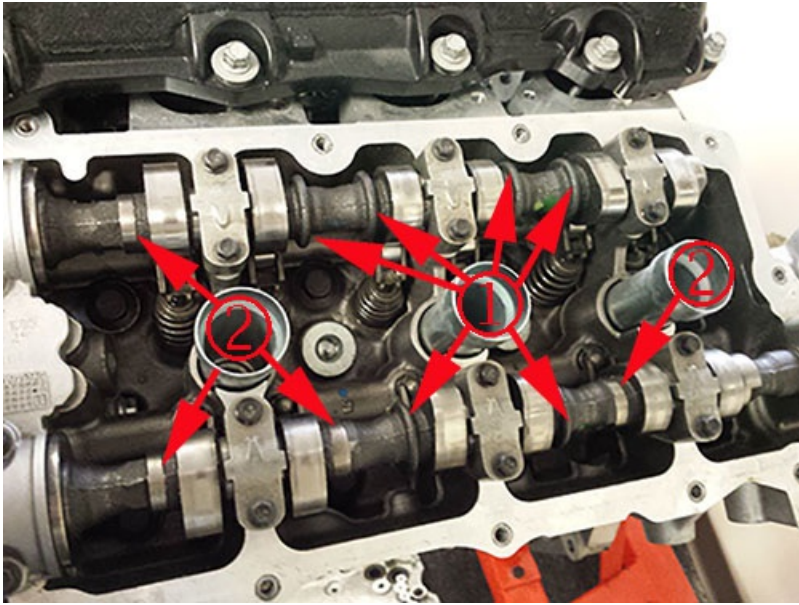
NOTE: Ring strategy camshaft identification is a series of rings along the camshaft that are either simply cast on the camshaft or machined down.

There are 5 rings on each camshaft.

Identification occurs by the order in which the machined or cast rings are on the camshaft.

See picture below for example.

1=Cast Ring 2= Machined Ring



The tables below will help you identify the correct camshafts for your engine.

HFV6 Cam Ring strategy	C = CAST RING			
Top of Table is Rear of cam	M = MACHINED RING			
2007-2011 LY7 (NA, Holden, Suzuki) (IT drive)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	C	M	C	M
	C	C	M	C
	C	C	M	C
	M	M	C	C
Front of Cam	C	C	C	C
2007 LP1, LY7 HO (IT drive)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	C
	M	C	M	C
	C	C	M	M
	C	M	C	M
Front of Cam	M	C	C	M
2008-11 LLT (IT drive, Hollow), 2010-11 LF1/LFW	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	M
	C	M	C	C
	M	M	C	C
	C	M	C	M
Front of Cam	M	C	M	M
2012 LF1/LFW (new thrust ring diameter)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	C
	C	M	C	M
	M	M	C	C
	C	M	C	M
Front of Cam	M	C	M	M
2012-2017 LFX (new thrust ring diameter)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	C
	C	M	M	M
	M	M	M	C

	C	C	M	M
Front of Cam	M	C	C	M
2012 LY7 (new thrust ring diameter)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	C	M	C	M
	C	M	C	C
	C	M	C	C
	M	M	C	C
Front of Cam	C	C	M	C
2012 and newer LLT (new thrust ring diameter)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	M
	C	M	C	C
	M	M	C	C
	C	M	C	M
Front of Cam	M	C	M	M
2014 and newer LF3 (vac. Pump slot, SADI lobe)	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	C	M
	M	M	C	C
	C	M	C	M
	M	M	C	M
Front of Cam	C	C	M	C
2018 and newer LFY and LFX	RH EXH	RH INT	LH INT	LH EXH
Rear of Cam	M	M	M	C
	M	M	C	M
	M	C	M	M
	C	M	M	M
Front of Cam	M	M	M	M

Version History

Version	1
Modified	



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