DIAGNOSTIC TIP: POSSIBLE CRANK NO START OR EXTENDED CRANK AND POTENTIAL DTC P0014 P0017 P0365 P0366

#PIP5598D: Diagnostic Tip: Possible Crank No Start Or Extended Crank And Potential DTC P0014 P0017 P0365 P0366 - (Apr 23, 2021)

Subject: Diagnostic Tip: Possible Crank No Start Or Extended Crank And Potential DTC P0014 P0017 P0365 P0366

Brand:	Model:	Model Year:		VIN:		Engine:	Transmission:
		from	to	from	to		
Buick	Encore	2016-2021		All	All	1.4 LE2	All
Chevrolet	Cruze	2016-2019		All	All	1.4 LE2	All
Chevrolet	Equinox	2018-2021		All	All	1.5 LYX	All
Chevrolet	Malibu	2016-2021		All	All	1.5 LFV	All
Chevrolet	Spark	2016-2021		All	All	1.4 LV7	All
Chevrolet	Trax	2019-2021		All	All	1.4 LE2	All
GMC	Terrain	2018-2021		All	All	1.5 LYX	All

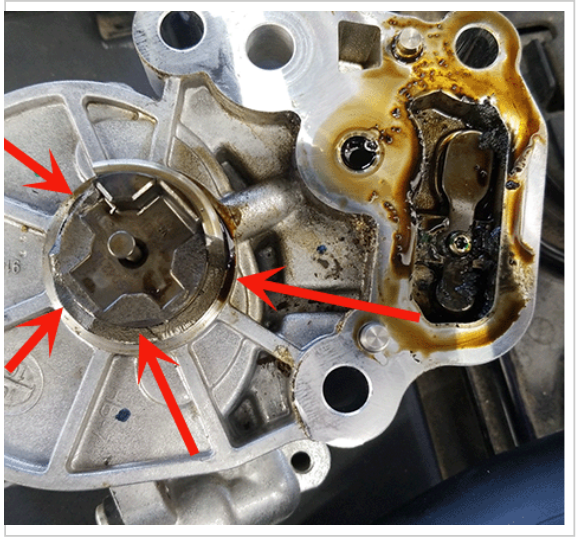
Involved Region or Country	North America
Condition	Possible Crank No start or Extended Crank and potential DTC P0014 P0017 P0365 P0366
Cause	Possible exhaust camshaft reluctor out of phase

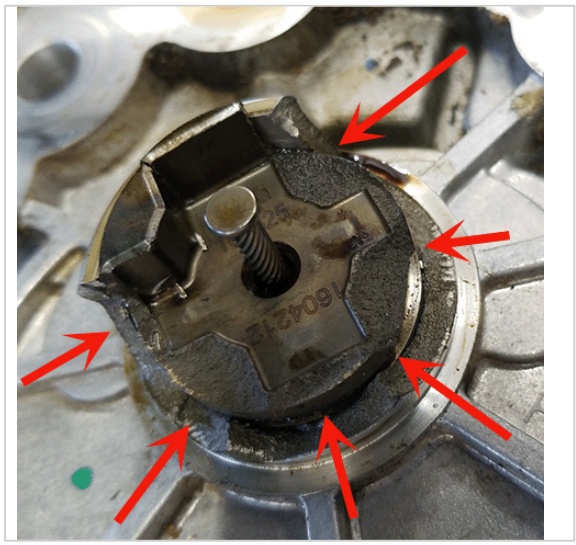
Correction

Complete latest diagnostics in service information for "Engine Cranks But Does Not Run".

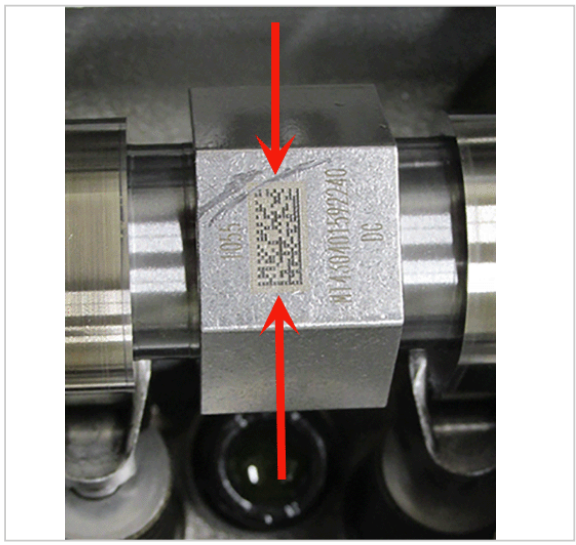
If unable to determine root cause of no start condition using published SI diagnostics proceed with the following.

Remove cam cover assembly and perform steps below to confirm exhaust camshaft reluctor orientation. During disassembly the vacuum pump drive lugs should also be inspected for damage. (Photo below show damaged vacuum pump drive lugs)





Rotate the exhaust camshaft to position the 2D matrix marking on the camshaft hex in the 12’ o'clock position. (Reference photo below for 2D marking.)



Once the exhaust camshaft 2D matrix has been positioned at 12’ O'clock. Verify the small tang located on the camshaft reluctor ring (Arrows below showing tang on reluctor) is inline with the 2D matrix marking. Also shown are additional reference points used to verify exhaust cam reluctor orientation to camshaft.

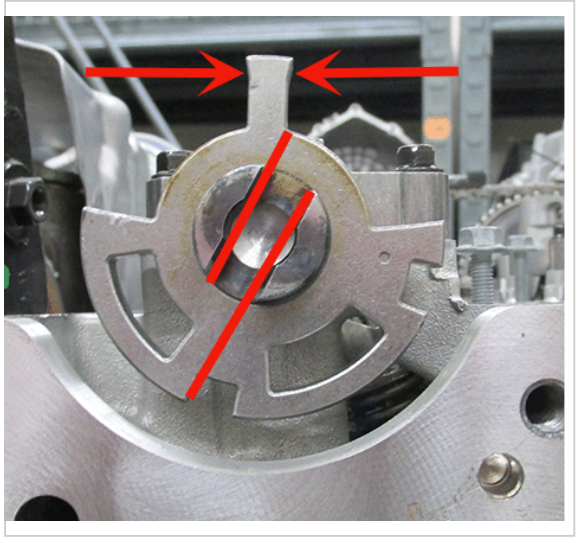
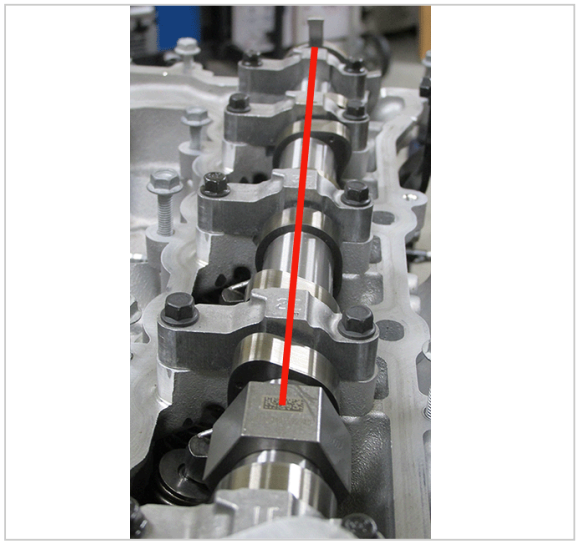


Photo below is showing the proper relationship between the 2D matrix marking and the small tang on exhaust cam reluctor wheel.



If you find the vacuum pump drive lugs are broke and/or the exhaust camshaft reluctor is out of position then replacement of the exhaust camshaft and vacuum pump will be required.

Note: If needed, It will also be necessary to locate and remove the broken vacuum pump drive lugs and other metal debris during repairs.

Note: This is a preliminary temporary diagnostic and repair. As more investigation and information becomes available this PI will be updated or advanced to a bulletin.

Version	5
Modified	10/08/2018 - Created on 12/11/18 - Updated to include Chevrolet Spark 05/20/2020 Updated to include 2020 MY and Chevrolet Trax 08/20/2020 Updated to include DTC P0014 P0017 04/23/2021 Updated to include 21MY and add DTC P0365 P0366

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