



# Service Bulletin

## PRELIMINARY INFORMATION

**Subject:** Supplement to SI Timing Procedure for High Feature V-6 Engine

**Models:** 2013 Cadillac ATS  
2007-2013 Cadillac CTS  
2007-2013 Cadillac SRX  
2007-2011 Cadillac STS  
2013 Cadillac XTS  
2007-2013 GMC Acadia  
2010-2013 GMC Terrain  
2007-2009 Pontiac G6  
2007-2010 Saturn Outlook  
2007-2009 Saturn Aura  
2007-2013 Buick Lacrosse Allure (Canada only)  
2008-2013 Buick Enclave  
2008-2010 Saturn Vue  
2010-2013 Chevrolet Camaro  
2012-2013 Chevrolet Impala  
2008-2012 Chevrolet Malibu  
2008-2013 Chevrolet Equinox  
2009-2013 Chevrolet Traverse  
2008-2009 Pontiac Torrent  
equipped with  
2.8 LP1  
3.0 LF1 or LFW  
3.6 LY7, LLT, or LFX

*This PI was superseded to update models and years. Please discard PIP4384F.*

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

### Condition/Concern

THIS PI IS NOT FOR DIAGNOSTIC PURPOSES. THIS PI IS A SUPPLEMENT TO THE SI TIMING PROCEDURE FOR THE HIGH FEATURE V-6 ENGINE.

### Recommendation/Instructions

**Note:** View video 10208.01D from the Common Training Website before beginning (U.S. Dealers only). Canadian dealers should view Tech Assist video 16038.01W on the LMS website and a related video on GM GlobalConnect (Library - Service>Technician Resources>TAC Talk Video Help).

**Note:** In a front wheel drive vehicle it may be easier to remove the engine before beginning.

**Note:** When removing the front cover, be sure to remove the belt tensioner and all the bolts. Damage may occur to the block if this procedure is not followed.

**Note:** When removing the front cover do not pry against or strike the cam actuators. This will cause damage to the reluctor or actuator.

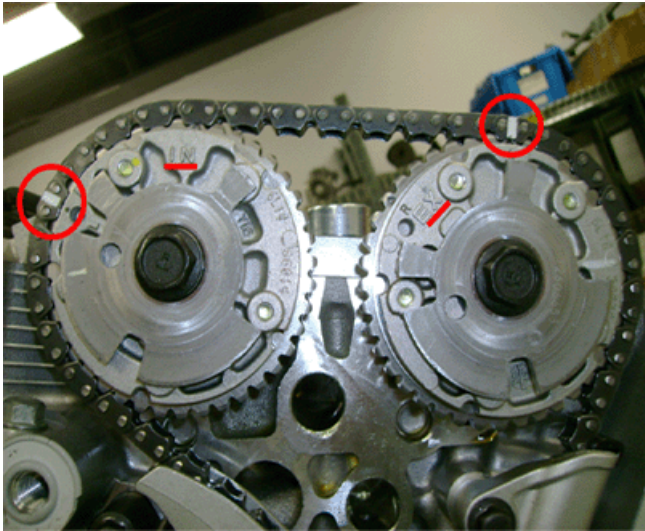
**Note:** Intake cam actuators have marks on them for position R for the Right Bank and L for the Left Bank and must be positioned respectively.

**Note:** BE SURE to note the orientation of the injector wiring harness. The harness with connector should come out on the front side of the engine. It can be installed backwards and will cause misfires and/or fuel trim DTCs.

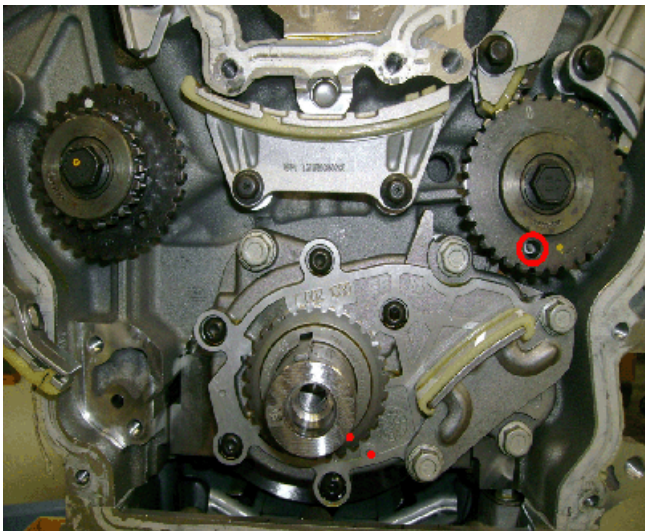
**Note:** 4 screw Delphi and 5 screw Aisin cam actuators are interchangeable, but will require the correct shim behind them when applicable. 4 screw Delphi actuators use a 0.043 in. shim and the 5 screw Aisin actuators use a 0.063 in. shim.

Here are some pictures that may assist when timing this engine.

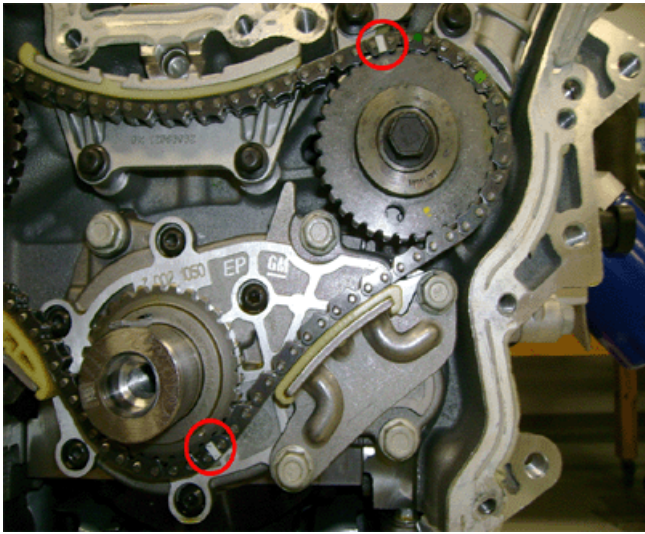
Start with engine in stage one position with tool EN 46105-1 or EN 48383-1 on the left bank or bank 2. The circular timing marks on the camshafts should be aligned as shown.



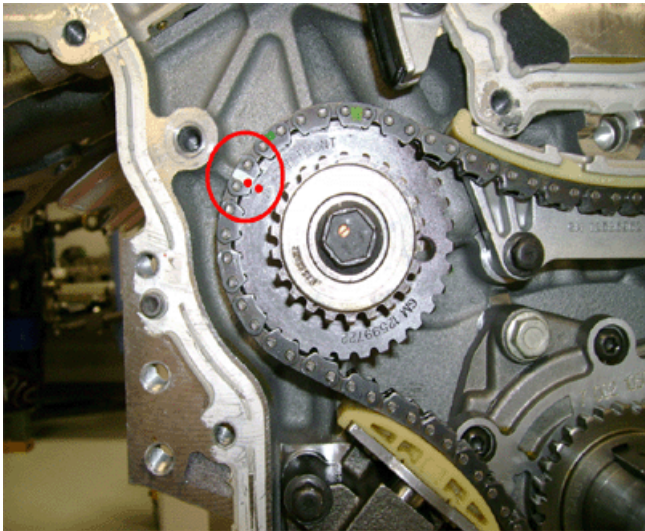
The intermediate gear for the left secondary chain is shown below. The painted link should be visible through the hole.



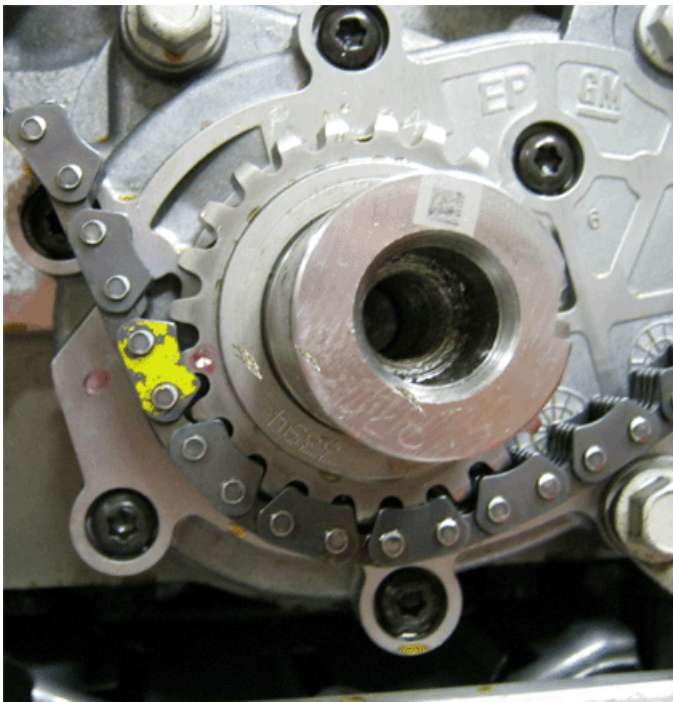
Stage one primary chain alignment for the crankshaft and the left intermediate gear are shown below. The intermediate gear has a triangular shaped timing mark that aligns with the painted link and the crankshaft has a dot to dot alignment.



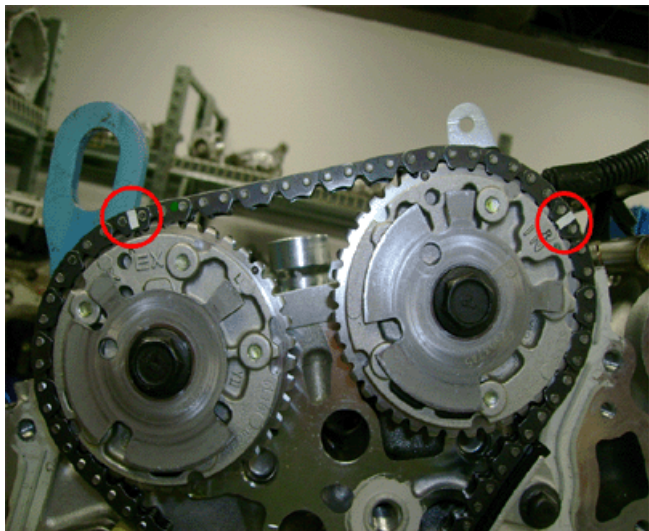
The right intermediate gear has a triangular mark that aligns with the painted link.



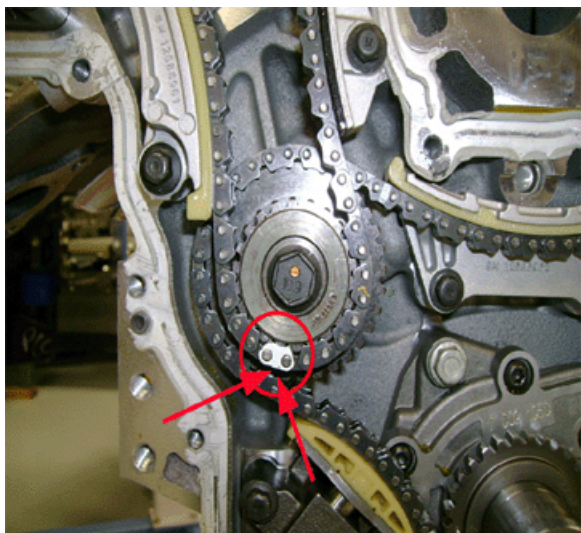
Remove EN 46105-1 or 48383-1 from the left bank. The engine will need to be rotated 115 degrees clockwise for stage two timing. The crankshaft marks should align dot to dot. Tool EN 46105-2 should fit easily on the rear of the cams on the left bank of the engine.



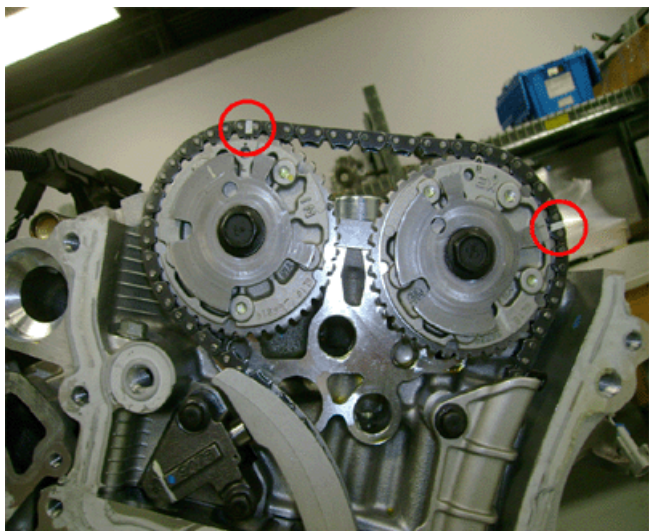
EN 48383-3 should be installed on the right bank or bank one. The triangular marks should be aligned as shown.



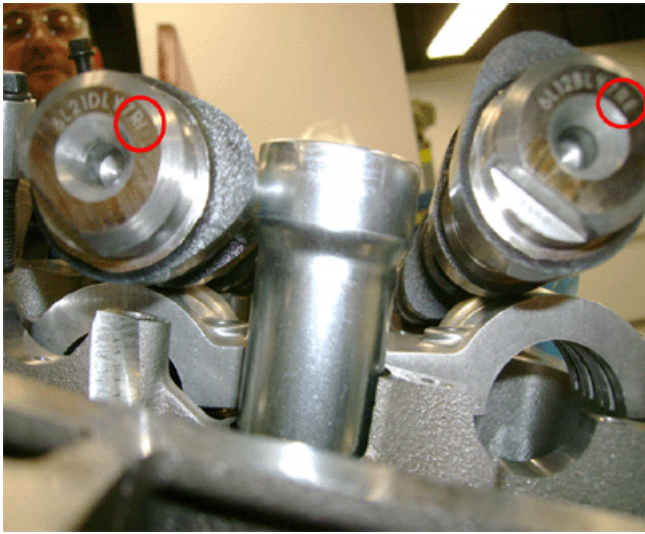
The painted link on the right intermediate shaft should be aligned with the hole in the rear gear.



The left camshafts will be aligned as shown when in Stage two timing position.



If there are any concerns in identifying the correct location for the camshafts check the number stamped in the rear of the camshaft RI is right intake, RE is right exhaust, LI is left intake and LE is left exhaust.



Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.

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GM bulletins are intended for use by professional technicians, NOT a "do-it-yourselfer". They are written to inform these technicians of conditions that may occur on some vehicles, or to provide information that could assist in the proper service of a vehicle. Properly trained technicians have the equipment, tools, safety instructions, and know-how to do a job properly and safely. If a condition is described, DO NOT assume that the bulletin applies to your vehicle, or that your vehicle will have that condition. See your GM dealer for information on whether your vehicle may benefit from the information.



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