

**Sequence VIE/F Engine Rebuild Task Force
Agenda
October 27 @ 1:00 PM CST**

Scope:

The ASTM Sequence VI Surveillance Panel requested a Task Force be formed to explore the possibility of extending the life of the Sequence VIE specially built General Motors (GM) 3.6 L (LY7) engine. New engines will be built from new GM assembled short blocks and other new and used individual components.

Objective:

The Task Force will:

- Review GM's proposal of building new VIE engines from new GM assembled short blocks and new GM individual components.
- Determine total quantity of engines needed.
- Determine parts availability and acquisition for new engine build. Coordinate with OHT and GM.
- Determine which used parts from used VIE engines will be needed for new engine builds.
- Determine availability of these used parts and develop inspection and selection criteria.
- Inspect and select used parts for use in new engine builds (each lab will be responsible for this task).
- Develop and implement a standardized build procedure (engine assembly manual).
- Determine stand availability for testing lab built engines.
- Develop a test plan to prove out lab built engines.
- Report results, conclusions and recommendations to Sequence VI SP.

The agenda for this meeting is shown below, if you have any additions please send them to me and Cc this distribution.

1.0 Roll Call

Do we have any membership changes or additions?

2.0 Approval of Minutes from meeting 10/22/2015.

ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/minutes/VIE_FEngine%20RebuildTaskForce20151022.pdf

Motion to Approve: Adrian, Jason B. 2nd Unanimous

3.0 Action Item Review

3.1 Adrian to contacted GM regarding list of questions from previous meetings. **Contacted Tim, waiting on response**

4.0 Old Business

4.2 Coordination of engine build workshop early 2016.

5.0 New Business

5.1 Review build manual and short block inspection at IAR

Presentation of short block was reviewed by Adrian and the build manual was previewed.

Need to add timing gears and coolant plug to the build manual.

6.0 Review of action items.

How do we handle the RP on future short blocks?

Can the etched number on the short block be used as engine identifier?

7.0 Schedule for next conference call.

11/11/15

Sequence VIE/F Engine Rebuild Task Force

Adrian Alfonso, Chairman
27 October 2015

Agenda

- **Present/Review Scope and Objectives**
- **Review Results of Engine Build**
- **Review Parts Acquisition**
- **Review Build Manual**

Scope and Objectives

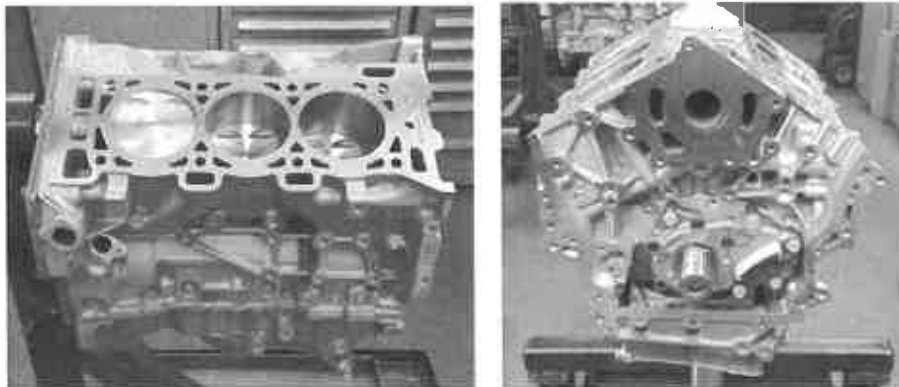
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As Received Engine Short Block

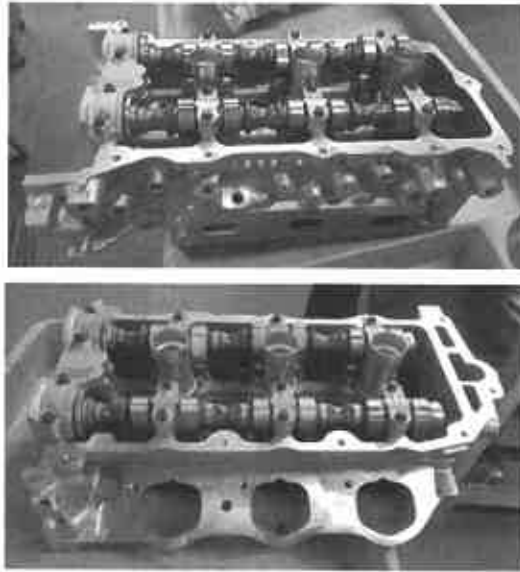
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As Received Heads

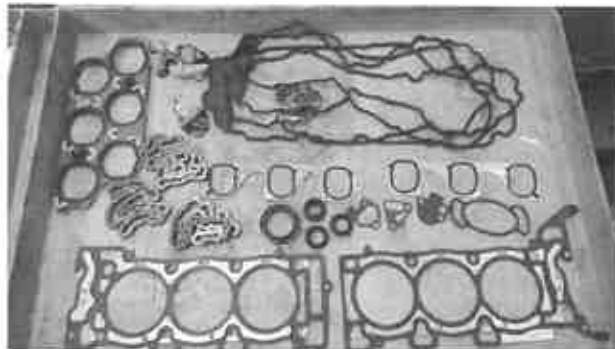
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Kit Components

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- All other miscellaneous O-rings and gasket etc. be purchased from local dealers
- Received 4 valve cover gaskets, need only 2.

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Block Assembly

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Re-used Dowel Pin



Re-used Crankshaft Gear

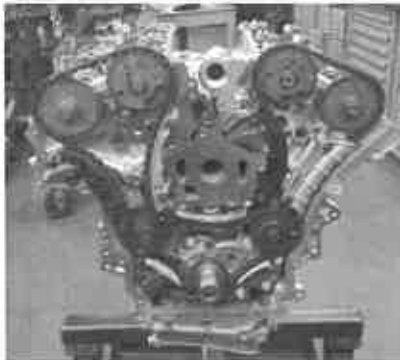


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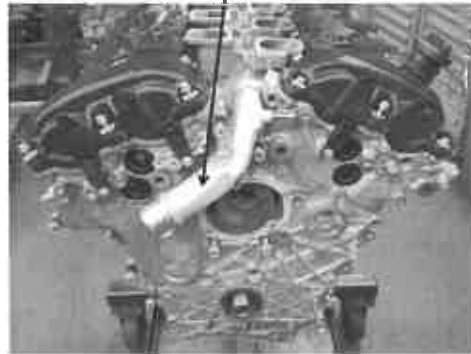
Block Assembly

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Re-used Timing Components



Re-used Water Out

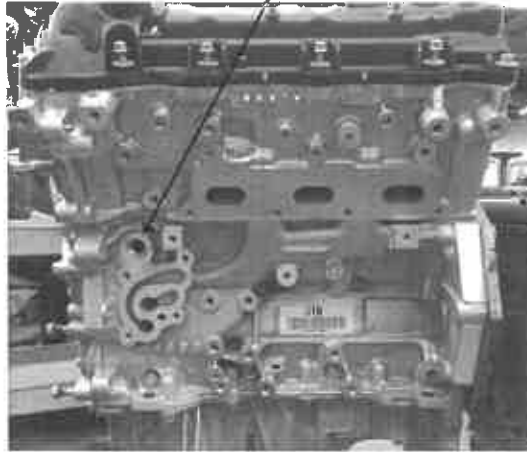


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Block Assembly

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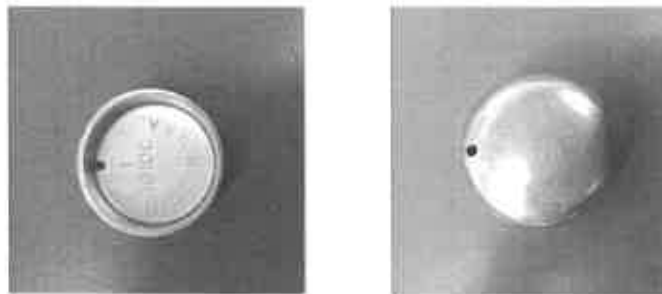
Oil Plug not included with the block



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Thermostat Housing Freeze Plug

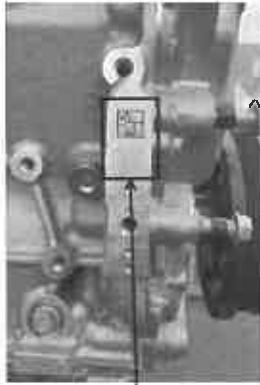
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- 1 inch diameter plug with a 0.060 inch hole
- Currently part of a kit provided by OHT with new engines
- OHT can provide kit with smaller parts (same as new engines)

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Potential Engine Identifier



Etched on the block



Sticker

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Parts List

| Parts Received in kits | |
|----------------------------------|-------------|
| Gasket kit: | |
| Name | Part Number |
| Lower intake gasket | 12603028 |
| Upper intake gasket | 12581397 |
| Valve cover gasket | 12641261 |
| cylinder head gasket | |
| Set of Valve cover grommet | |
| Timing Chain Kit: | |
| camshaft position actuator seals | |
| crankshaft seal | 12608750 |
| timing cover water pump seal | 12622550 |
| chain tensioners (3) | NA |
| | 125689477 |
| Tensioner's gaskets (3) | 125689478 |
| | 125689479 |
| Chains (3) | |
| Agitators seals (4) | 12593717 |

| Parts from Used Engine | |
|-----------------------------------|-------------|
| Name | Part Number |
| Head Bolts | |
| Fixed gears | |
| Spark plugs | 12597464 |
| Dowel pins | |
| Crankshaft gear | |
| Timing chain guides | |
| Lower Intake | |
| Upper Intake | |
| Water out (gooseneck) and O-rings | 12576885 |
| Crank sensor | |
| Coolant sensor | |
| Oil plug (side of engine) | |
| Dip stick | |
| Camshaft position actuators | |
| Exhaust manifold (need more) | |
| Harmonic balancer (need more) | |
| Coil pack | |
| Intake (from VID) | 12616617 |
| Throttle Body (need more) | |
| Knock sensors | |
| Oil pan | |
| Oil filter gasket | 12634318 |
| Water pump gasket | 12634750 |
| Exhaust manifold gaskets (2) | 12576282 |
| | 12576283 |
| Thermostat gasket | 12625923 |
| Oil pump pickup seal | 12566837 |

- Tim Cushing out of office until November 2nd.
- Missing P/Ns will be researched and provided to all.

IAR has these in stock, each lab might have to purchase their own

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Parts Acquisition

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- Use new chains with every new engine build
- Use new seals for every engine build. If seals are not in kits from GM, acquire those from local dealers
- OHT can continue to supply smaller components currently provided with new engines, there is enough inventory for GF-6 and GF-7
- Questions for GM (Tim Cushing is out until 2 Nov 15):
 - Can we get the number of blocks requested?
 - Get head gaskets and head bolts in a batch up front?
 - Get remaining parts missing from kit from local dealer network?
 - Confirm identifying number can be used for block?

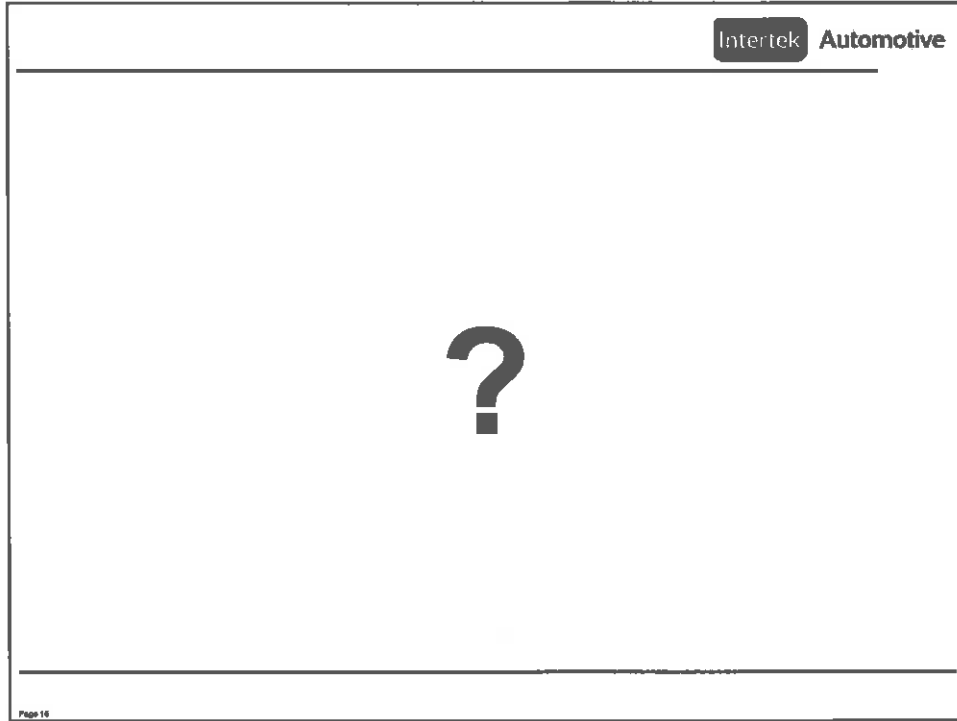
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Build Manual

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- ftp://ftp.astmtmc.cmu.edu/docs/gas/sequencevi/procedure_and_iis/VIE/2012%20Malibu%20Assembly%20Information.pdf

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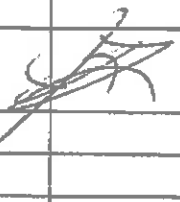



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