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Coding Information

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**Title:** 2010 IBB Valve Bridges Falling Off

**Applies To:** EPA 2010 11L & 13L Engines

**Change Log**

4/16/2014- Updated repair procedure. Added SRT, parts info, code list.  
 4/21/2014- Updated Parts List  
 4/28/2014- Updated Step based Diag

**DESCRIPTION**

If idle or drivability misfire conditions exist, with an ACTIVE Cylinder Misfire DTC logged on vehicle health report, perform the following tests to positively confirm cylinder(s) at fault: relative compression & multiple cylinder cutout test. If unrelated additional DTC's were stored, they will either be addressed during or after the following repair procedure using the [2010 IBB Diagnostics Manual](#).

**NOTE:**

- Navistar is no longer replacing all heads for a fallen bridge. It is determined that some heads are cleanable and able to return to service rather than replacing. The following repair process needs to be followed to determine if the cylinder head is cleanable or needs to be replaced.
- If you are a fleet customer and do not have access to the case file system the truck will need to go to your local dealerships for service

**Possible Diagnostic Codes**

SPN	FMI	Description
<a href="#">1322</a>	<a href="#">31</a>	<a href="#">Missfire- Multiple Cylinders</a>
<a href="#">1323</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 1</a>
<a href="#">1324</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 2</a>
<a href="#">1325</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 3</a>
<a href="#">1326</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 4</a>
<a href="#">1327</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 5</a>
<a href="#">1328</a>	<a href="#">31</a>	<a href="#">Missfire Cylinder 6</a>
<a href="#">731</a>	<a href="#">16</a>	<a href="#">Knock Detected: Cylinder Acceleration Above Normal</a>
<a href="#">111</a>	<a href="#">1</a>	<a href="#">Low Coolant Level</a>

**REPAIR PROCEDURE**

Step	Description	Yes	No
1	Verify customer concern of an engine miss, check for active or inactive codes in ServiceMaxx.	Concern is present, Continue to step 2	No codes and no Engine running as designed. Return Customer
2	Remove the valve cover and inspect the valve bridges. Is the valve bridge off?	Continue to Step 3	Inspect the Inject around the Jake hc and injectors. Dia

			code per the diag manual. <a href="#">2010 IBB Diagnos Manual</a>
3	<p>Check for any coolant loss or SPN 111 FMI1 codes. If there is coolant loss or low coolant codes then diagnose and repair per <a href="#">IK1201066</a>.</p> <p><b>Note: Before continuing with these diagnostics the coolant leak needs to be either repaired or blocked off from leaking any more coolant into the intake. It will be the dealers responsibility to go back and repair the egr cooler if it is blocked off.</b></p>	Issue is diagnosed and repaired/blocked off. Continue to step 4	Verified there is no loss and no coolant internally leaking in air management's. Continue to step 4
4	<p>Reinstall the valve bridge.</p> <p>Does the engine bar over by hand?</p> <p>Bar over the engine by hand and verify that no cylinders are hydro locked. If there is a hydro lock situation then remove the coolant from the cylinder through the injector hole and make sure the engine can be barred over by hand with the injectors back in before continuing.</p>	Continue to Step 5.	Remove the coolant the cylinder per the instructions, then to step 5
5	<p>Run the engine to verify there are no knocks or engine misses.</p> <p>Does the engine run smooth and have no abnormal noises?</p>	Continue to step 6.	Continue to step 6
4	<p>Open a case file with Big Bore Technical Services to determine if the cylinder head can be cleaned or needs to be replaced. Attach the codes, health report, and a description of everything you have done so far to diagnose. Attach a picture of any damage found during the inspection. Add the results to the case file.</p>	Follow Tech Services Instructions	

**Service Parts**

Part Number	Part Description
3007651C97	Cylinder Head Removal Kit
3007648C95	Cylinder Head Kit
62039010402	13L Cylinder Head Gasket
62039010403	11L Cylinder Head Gasket
3006233C1	O2 Sensor
3007498C94	Oil Filter
Customer Determined	Oil

**Standard Repair Time(s):**

Description	SRT Link	SRT	Hours
Cylinder Head Inspection	N/A	T-Time	.5
Cylinder Head Replacement 7600, 8600	<a href="#">N12-1342L</a>	Time	19.4
Cylinder Head Replacement 7600, 8600 w/2010 Emissions	<a href="#">N12-1342U</a>	Time	19.9
Cylinder Head Replacement Prostar 122BBC	<a href="#">R12-1342L</a>	Time	20.2
Cylinder Head Replacement Prostar 113BBC	<a href="#">R12-1342L-20</a>	Time	19.9
Cylinder Head Replacement Prostar w/2010 Emissions Engines	<a href="#">R12-1342U</a>	Time	19.7
Cylinder Head Replacement 5000 w/2010 Emissions Engines	<a href="#">T12-1342U</a>	Time	18.9

**TECH TIPS For Head Replacements**

- 1) Transfer 6 injector hold down spacer pucks beneath the injector hold downs over to the new head (Figure 1)
- 2) Compare new and old head gaskets. An 11L head gasket on a 13L engine will stop the engine from turning over once the head is torqued down since the bore size is smaller than a 13L Piston.
  - A) 11L Gasket does NOT have a notch at the RR corner of the cylinder head gasket (Figure 2)
  - B) 13L Gasket does have a notch at the RR corner of the cylinder head gasket (Figure 3)
- 3) Be sure to properly time the cam gear per the service manual.
- 4) Reuse the Cam Bearings unless they are damaged



Figure 1:  
1. Injector Hold Down Spacer



Figure 2:  
1. 11L Head Gasket



Figure 3:  
1. 13L Head Gasket

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