

Group:	17-Intake and Exhaust
Bulletin No.:	SB-15-017
Issue Date:	03-06-2015

# TECHNICAL SERVICE BULLETIN

## 08MY-10MY J05 Broken Exhaust Manifold Studs

*Supersedes SB-11-001 dated 7-21-2011*

### OVERVIEW

New parts are available to prevent repeat exhaust manifold stud failures on the J05 engine. This bulletin provides instructions for an exhaust manifold attachment modification at the #1 and #4 cylinder locations. Modifications to the manifold insulator shield and the turbocharger water return pipe have also been made to accommodate the longer studs.

**NOTE:** This procedure is provided as technical information and is not an authorization for a warranty repair.

### SUBJECT VEHICLES

Certain 2008MY through 2010MY Hino Conventional vehicles equipped with a J05 engine.

### BEFORE YOU BEGIN:

- Read and understand all instructions and procedures before you begin the work.
- Read and follow all WARNINGS and NOTICES set forth in this publication. These alerts help to avoid damage to components, serious personal injury, or both.
- Park the vehicle on a level and solid surface and apply the parking brake.
- Place the gear shift lever in "Neutral" or "N".
- Confirm the engine is stopped, the ignition switch is in the off (LOCK) position, and the key is removed.
- Wear safety glasses to prevent eye injuries.
- Place wheel chocks in front of and behind all the wheels to prevent the vehicle from moving.
- Wait until the engine and exhaust are cool enough to touch before servicing the exhaust studs.

### PARTS

PART NUMBER	PART DESCRIPTION	QUANTITY
SZ91016297	Spacer (45 mm)	5
17444E0060	Spacer (20 mm)	1
SZ91016217	Spacer (8 mm)	6
SZ12610009	Stud (96 mm)	5
SZ12610006	Stud (67 mm)	1
SZ12610012	Stud (56 mm)	6
SZ17810007	Nut (14 mm)	12
S171041610	Manifold Gasket	4

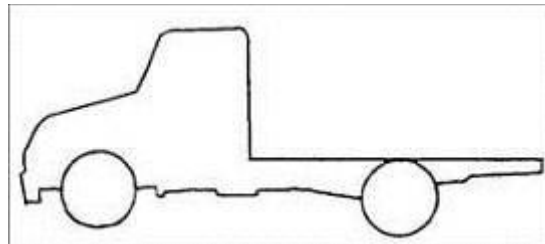
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S241091860	Turbo Gasket	1
S171042010	EGR Cooler Gasket	2
S241791430	Intake Pipe Gasket	1
S241091840	Exhaust Connector Gasket	1
S171041490	Exhaust Pipe Gasket	1
SZ46910009	Clip (Water Return Pipe)	2
SZ43014003	Gasket (Water Pipe inlet/return)	8
SL72201210	Gasket (Oil inlet)	2
SL72201415	Gasket (Oil inlet)	2
S241351161	Gasket (Oil outlet)	2
16895E0200	Water Return Pipe	As required
S171416472	Exhaust Manifold	As required
S170445501	Exhaust Manifold Insulator	As required

### VEHICLE PREPARATION:

1. Park the vehicle on level and solid surface.



2. Confirm the engine is stopped, the ignition switch in the off (LOCK) position and the key is removed.



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3. Apply the parking brake.



4. Chock the front wheels.



### REPAIR PROCEDURE:

**WARNING:** Touching a hot exhaust may result in burns or serious injuries. Do not touch the exhaust when hot.

1. Allow the engine to cool to the point where the exhaust is cool to the touch.

Remove the turbocharger, water return pipe, insulator shield, and exhaust manifold from the engine as outlined within the Engine Workshop Manual. Retain the turbocharger, exhaust manifold, and insulator shield for reinstallation.

**NOTICE:** Replacement of the original water pipe depends upon the size of the exhaust manifold stud for the #1 cylinder.

The original water return pipe **MUST BE DISCARDED** if the #1 cylinder is equipped with the short (56 mm) exhaust manifold studs.

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The original water pipe should be retained for reinstallation if the #1 cylinder is equipped with the long (96 mm) exhaust manifold studs, as shown below.

**2.** First remove and discard any broken exhaust manifold studs from the cylinder head. Then, remove and discard all remaining exhaust manifold studs from the cylinder head. Clean the threads of the exhaust stud bores using an M10x1.5mm tap.

**NOTICE:** There are three different lengths of the studs to be installed in the cylinder head. Be sure to install each stud in the correct location.

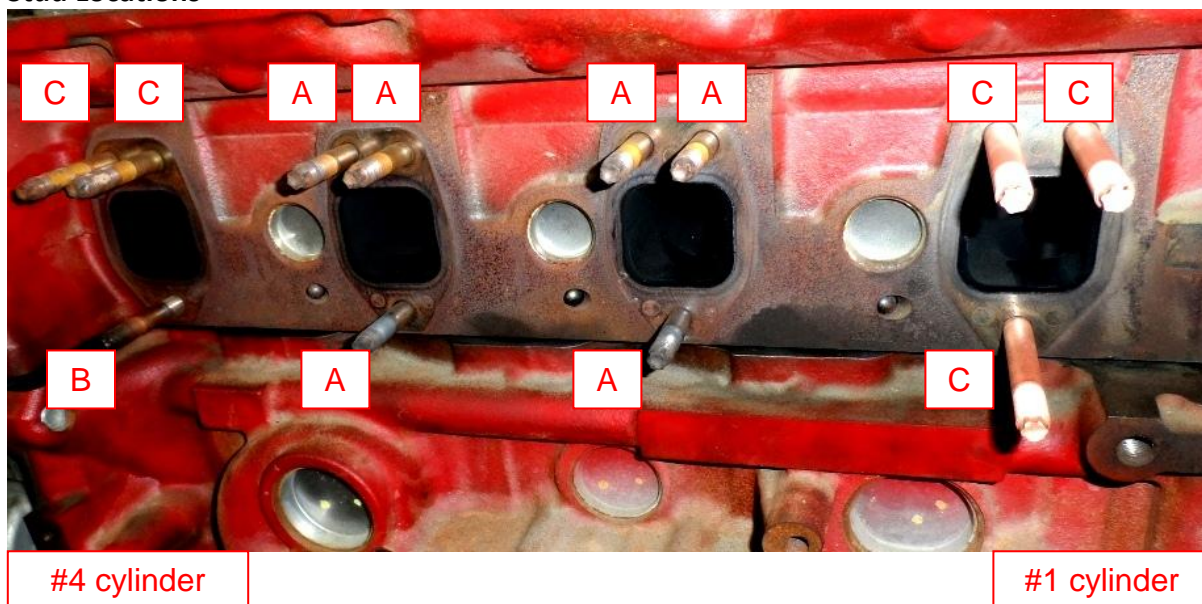
**3.** Install the new studs into the cylinder head as shown in the photograph below. Reference the table below for the correct stud location. Tighten the studs to the specified torque.

**Specified Torque:** 22 lb-ft (30 Nm)

**NOTICE:** Excessive torque on the exhaust manifold studs could cause the cylinder head to crack.

Location	Stud	
	Part Number	Length
A	SZ12610012	56 mm
B	SZ12610006	67 mm
C	SZ12610009	96 mm

### Stud Locations



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4. Check the exhaust manifold for excessive warpage using a calibrated straight edge and a feeler gauge. When measuring across all 4 exhaust manifold ports, the warpage should not exceed .009". If the warpage specification is exceeded, the exhaust manifold **MUST** be replaced.

5. Install the exhaust manifold gaskets and exhaust manifold as outlined in the Exhaust section (EN04) of the Engine Workshop Manual.

**NOTICE:** There are three different lengths of the spacers to be installed. Be sure to install each spacer in the correct location.

Install the spacers as shown in the illustration below. Refer to the table below for the part number of each spacer. Install the 14mm nut (SZ17810007) onto each of the studs, and tighten the nuts to the specified torque following the torque sequence outlined in the workshop manual. Once all 12 nuts have been torqued to specification, re-torque them again in the same sequence.

**Specified Torque:** 43.5 lb-ft (59 Nm)

**NOTICE:** Make sure that the spacer remains centered while tightening the nut.

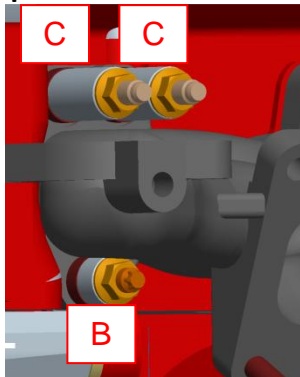
**NOTICE:** There is a different torque sequence for a new exhaust manifold compared to a previously used exhaust manifold. Be certain to reference the Workshop Manual for the proper torque sequence.

Location	Spacer	
	Part Number	Length
A	SZ91016217	8 mm
B	17444E0060	20 mm
C	SZ91016297	45 mm

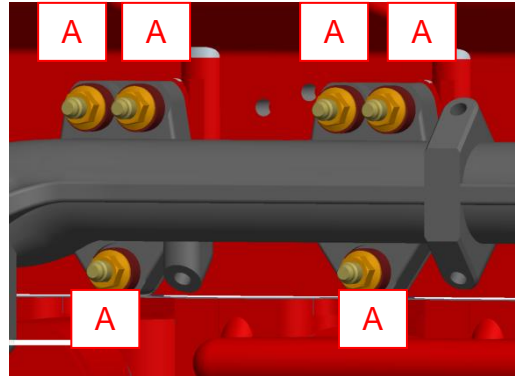
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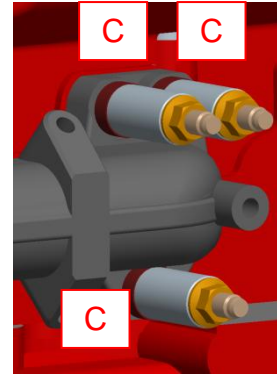
### Spacer Locations



#4 cylinder



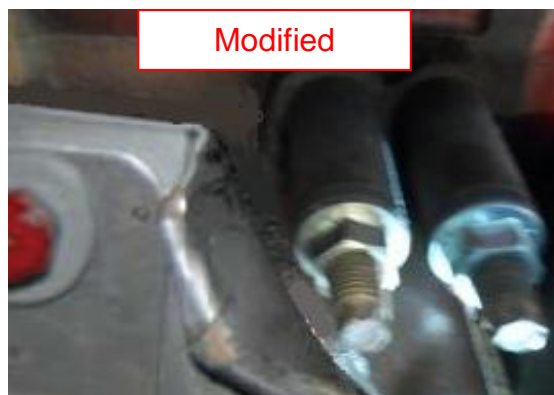
#2 & #3 cylinder



#1 cylinder

6. The original end of the exhaust manifold insulator shield will not allow proper clearance to the longer #1 exhaust stud spacers. If the insulator has not already been modified, the insulator will need to be bent downward to accommodate the longer studs on the #1 cylinder. Bend the corner of the shield downward to provide additional clearance for the #1 stud and spacer. Install the exhaust manifold insulator shield onto the exhaust manifold.

**NOTICE:** Do not cut the shield or bend the shield more than 4 times to prevent strength reduction. Also do not bend the shield in the opposite direction.

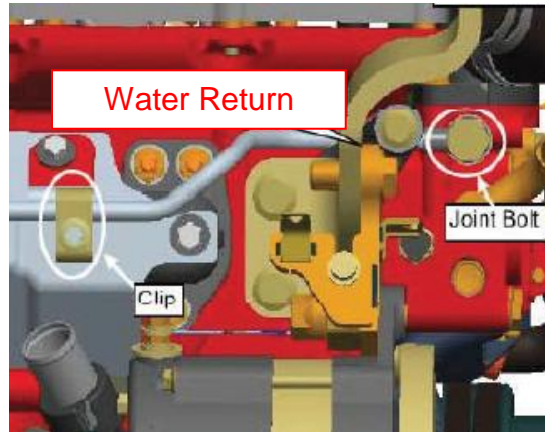


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7. Install the water return pipe (16895E0200) using new sealing washers.

**NOTICE:** As set forth in Step 1, the water return pipe only requires replacement if the engine was equipped with the short 56 mm exhaust manifold studs on the #1 cylinder. **NEVER** attempt to reuse the water return pipe if the engine had the short 56 mm exhaust manifold studs on the #1 cylinder.



8. Install the turbocharger, intake pipes, and exhaust pipe as outlined in the Engine Workshop Manual.

### FINAL INSPECTION:

- To complete this technical service bulletin, review the bulletin and confirm the following:
  - All nuts and bolts have been tightened to their specified torque
  - There are no exhaust leaks present

**NOTE:** This repair may be eligible for reimbursement if a product failure was experienced within the time and mileage limits of the applicable warranty coverage. Reimbursement is obtained via normal claim handling process.

### Claim Application:

*\* Reimbursable in accordance within the terms and policies of the Hino Truck limited warranties.*

- Conventional NA6J, NB6J and NC6J Models: 5.4hrs\*
- Warranty Code: 05211
- Trouble Code 50
- Operation Code: 05201BRE
- Part Number: 9999999

\*If additional labor time is needed to drill out or extract broken exhaust studs, use operation code **05250AOT** to reflect actual work time.