



**GM/Isuzu 4HK1TC  
(ESZXH05.23FA) 5.2 Liter  
Part No. 069-3684, 069-3683 & 069-3385**



**CAUTION:**

Always wear gloves and safety glasses when performing this service

**EGR System Consists of:**

- Cold side EGR valve (after EGR cooler), which controls exhaust gases for proper emissions control of  $\text{No}_x$  gases
- EGR cooler (controls temperature of exhaust gases to the air intake to the engine)
- EGR temperature sensor (measures EGR cooler exhaust temperature and efficiency)

**These items are critical for proper emissions management control and must be cleaned on a regular basis for optimum efficiency.**

**First steps before any service can be performed:**

1. Add DieselTune™ Max Strength Fuel Injector Cleaner (400-3012) to the vehicle's fuel tank.
2. Remove the plastic engine cover.
3. If the engine is hot, the EGR cooler must be cooled – see note in step 8.

## Tools and Adapters Required:



## Locations of EGR components:

- EGR cooler (Figure 1)
- EGR valve (Figure 1)



4. Remove 6 bolts on the EGR cooler outlet where connected at the EGR valve (see Figure 2, 2A).

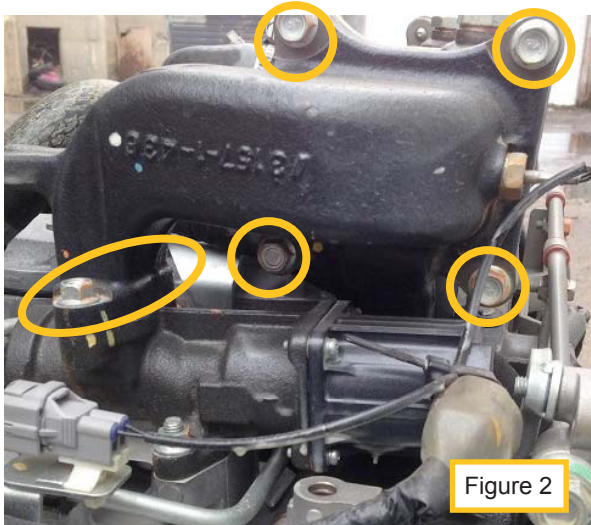


Figure 2

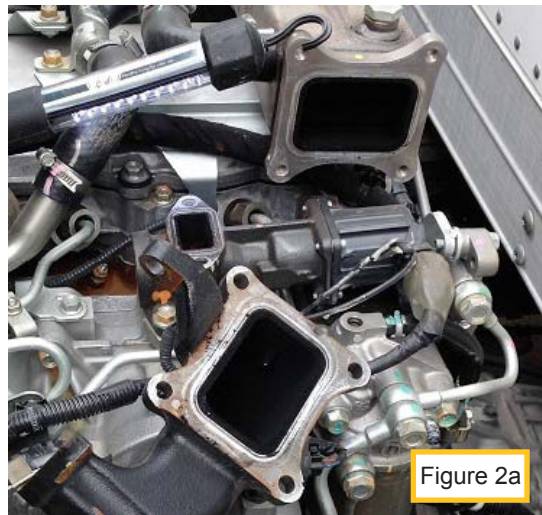


Figure 2a

5. Turn thumbscrew on 069-3385 fully counterclockwise but do not remove it from the adapter. Remove EGR valve solenoid (4 screws) and set aside, install 069-3385 in its place using only two screws (see Figure 3). Disconnect EGR valve solenoid electrical connector. Rotate thumb screw fully clockwise, EGR valve is now open.



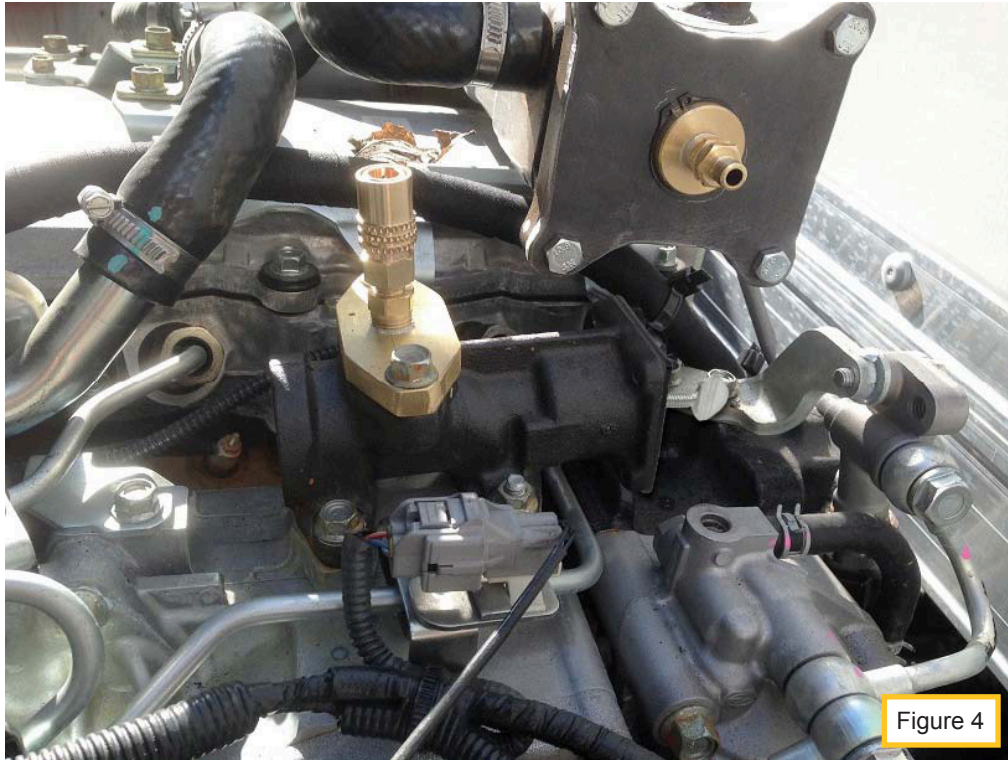
Figure 3

**Note: For easier installation of 069-3385 EGR manual valve opener, it is best to remove EGR valve assembly first (4 bolts). Install 069-3385 and then reinstall EGR valve assembly.**



**Quick Tip: Place the EGR cooler outlet pipe into a bucket/container and fill container with EGR fluid until submerged, this will aid in the dislodging of soot from the pipe while the EGR cleaning procedure is performed see step 16.**

6. Install EGR 069-3684 (intake) and 069-3683 (exhaust) adapter using the existing bolts (see Figure 4).



7. Attach EGR manifold adapter 069-3399 to EGR intake and exhaust adapters. Attach EGR tool 500-0170 to 069-3399. Ensure air valve and fluid valve are closed – see EGR tool user guide.
8. Unscrew fill cap and fill with 64oz (946mL) of Part# 400-0280 EGR System Cleaner. For first application or severe coking, 128 oz. or more may be required.

**Note: When using 128 oz, use 64 oz on exhaust side first then use 64 oz on intake side. In between exhaust and intake cleaning the air pressure must first be set to zero before adding the remaining 64 oz.**

9. Reinstall the fill cap and hang tool from the hood latch. Connect shop air. Set air pressure on EGR tool to 40-50 psi.

**NOTE: If engine is hot, the EGR cooler must be cooled before treatment can start. Before step 10 can proceed, open EGR tool air valve, keeping the fluid valve closed, turn valve on the EGR manifold adaptor 069-3399 to exhaust and flush cooler with air for 2 minutes.**

10. Start vehicle engine. Set EGR manifold adapter to exhaust.

11. Open air valve on EGR tool, adjust regulator to maintain initial pressure and then open the fluid valve on the EGR tool.
12. After 1/4 of the fluid has been consumed, turn the fluid valve off and let the air flow for an additional 2 minutes to flush deposits into exhaust stream.
13. Repeat step 11-12 allowing another 1/4 of the fluid to be consumed.
14. Set valve on adapter to intake, open fluid valve and continue service until EGR tool is empty.

**Note: At any time during the intake service you hear a diesel knock sound, turn manifold adapter valve to off for 2 minutes. After two minutes then turn manifold adapter valve to intake and continue service.**

**Let the vehicle operate for an additional 5 minutes and rev the engine several times to clear all residual fluid.**

15. Turn the fluid and air valve on tool to the closed position. Turn Vehicle off. Detach shop air line and depressurize the tool by rotating the regulator knob counter clockwise.
16. After EGR cooler outlet pipe has soaked for at least 15 minutes, clean the pipe using EGR cleaning fluid and a flexible 2" round brush inside a bucket or waste container. Fluid can be saved to be used on other EGR components if required.
17. Remove adapters and reassemble vehicle components in the reverse order of removal.
18. Add DieselTune™ Complete Fuel Supplement (400-3022) to the vehicle's fuel tank.
19. After service, reset any engine codes. The vehicle should then be set to run a manual regeneration cycle or if that is not possible, the vehicle should be driven at highway speeds (or in the case of non-highway equipment operated under a load) for approximately 30 minutes. This is necessary to remove all of the cleaning solution from the passages and cooler(s) and to combust any material that has reached the diesel oxidation catalyst (DOC) and diesel particulate filters (DPF).

**This should be done as soon as possible.**

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