

# DETROIT DIESEL



## Installation Instructions

### 18SP571 – Install EGR Valve S-Pipe Clamp Kit 23532831

#### Introduction

This kit is used to correctly install the S-pipe to the EGR valve assembly. The EGR valve/S-pipe joints are designed to flex with a high degree of temperature changes without leaking. Correct installation of this kit will help ensure leak-free EGR valve operation. The kit includes the items listed in Table 1.

Part No.	Qty.	Description
23533003	1	Clamp Assembly
23532665	2	Pin, Clevis
23532549	1	Saddle
11507036	1	Nut, M8 X 1.25
23527726	1	Washer, M8 Spherical Face
23531927	2	Clip, Clevis Pin Retaining
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**Table 1 Components of Kit 23532831**

#### Installation

Install the kit as follows:

	<b>CAUTION:</b>
To avoid injury from hot surfaces, allow the engine to cool before removing any component. Wear protective gloves.	

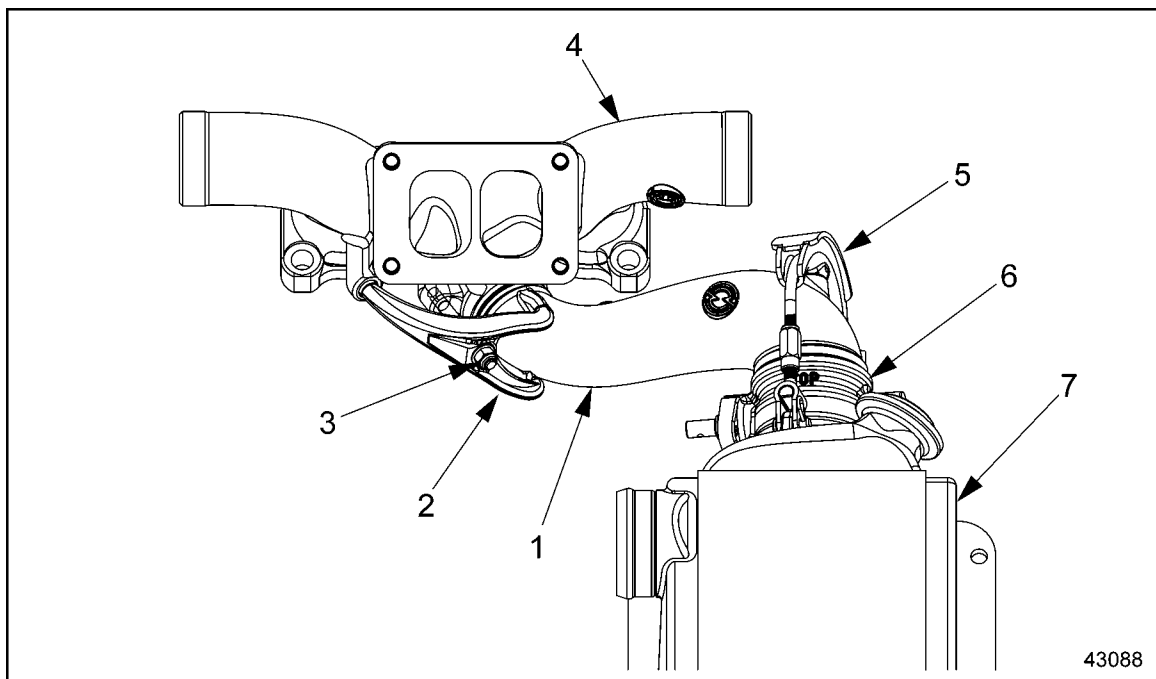
	<b>CAUTION:</b>
To avoid injury from accidental engine start-up while servicing the engine, disconnect/disable the starting system	

1. Ensure the engine is at ambient temperature and cool to the touch. If there is no leak present at the joint between the manifold and S-pipe, skip Steps 2, 4, 5, 8, 9, and 10. If a leak *is* present, remove the nut, spherical washer and crab. Discard the nut and washer.

**NOTE:**

The former spherical washer can be reused. In the event it is lost or damaged, a replacement is provided in the kit. The former nut, if it is similar to the one provided in the kit, can be reused.

2. Loosely install the crab and new spherical washer and nut on the M8 stud in the exhaust manifold. See Figure 1.



- |                             |                     |
|-----------------------------|---------------------|
| 1. S-Pipe                   | 5. Turnbuckle Clamp |
| 2. Crab                     | 6. EGR Valve        |
| 3. Spherical Washer and Nut | 7. EGR Cooler       |
| 4. Exhaust Manifold         |                     |

**Figure 1 EGR Cooler and Related Parts**

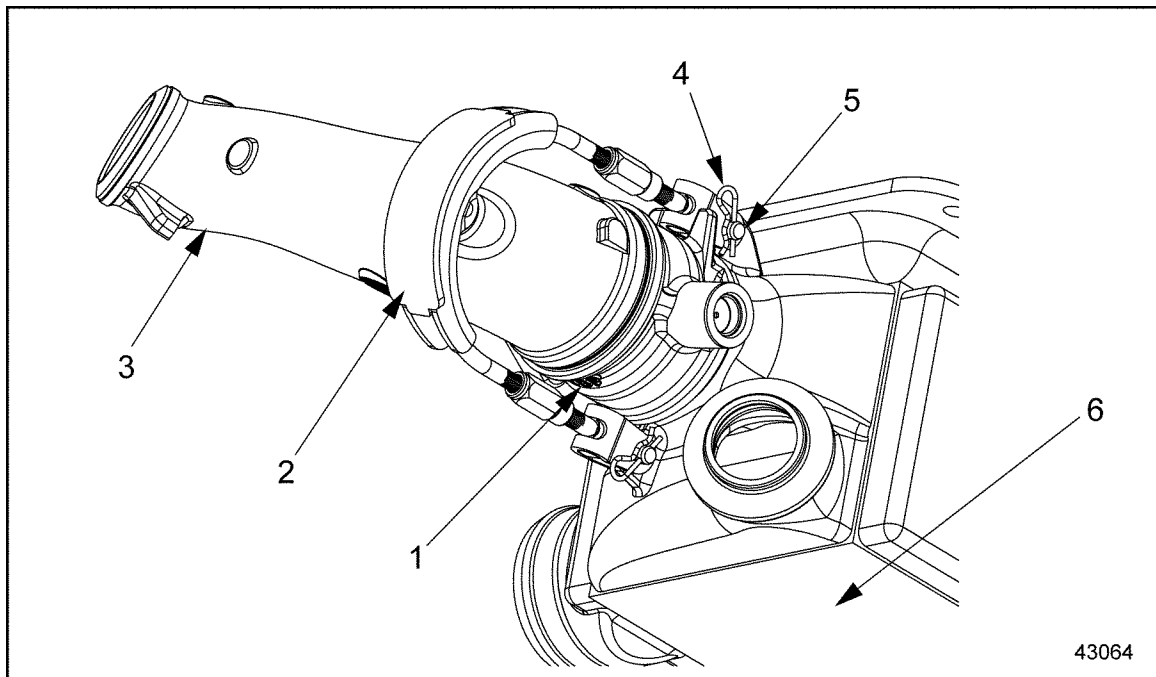
3. Install the turnbuckle clamp on the EGR cooler using the clevis pins and clips. The turnbuckle nuts on either side of the clamp should be extended. Each turnbuckle should be engaged by a few threads. See Figure 2.



5. Slide and rotate the EGR valve into position between the S-pipe and cooler.  
See Figure 3.

**NOTE:**

The valve TOP is indicated on the casting.



- |                       |                     |
|-----------------------|---------------------|
| 1. EGR Valve Assembly | 4. Clip, Clevis Pin |
| 2. Turnbuckle Clamp   | 5. Clevis Pin       |
| 3. S-Pipe             | 6. EGR Cooler       |

**Figure 3 EGR Cooler and Related Parts**

6. Rotate the turnbuckle clamp up and over the S-pipe so that the clamp saddle rests in the bowl on top of the S-pipe. See Figure 3.
7. Tighten the nuts on the turnbuckle clamp by hand, making sure both nuts are tightened equally and the same number of T-bolt and U-bolt threads are engaged into the nuts. This will center the clamp saddle over the S-pipe.

**NOTE:**

If one side is tightened more than the other, the EGR valve will be pulled out of alignment, and the exhaust gas path will not be sealed.

8. Tighten the nut on the crab at the other end of the S-pipe. See Figure 1.
9. Shift the S-pipe back and forth to ensure the spherical joints are properly seated and aligned.
10. Torque the crab nut to 25 – 30 N·m (18 – 22 lb-ft). See Figure 1.
11. Torque the clamp turnbuckle nuts to 20 N·m (15 lb-ft), ensuring the same number of threads on the U-bolt and T-bolts engage into the nuts. See Figure 3.
12. Install air line to fitting on EGR valve actuator and torque to 19 – 22 N·m (14 – 16 lb-ft).
13. Reconnect starting power, start engine, and check S-pipe for proper sealing.

**DETROIT DIESEL**



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