

EGR COOLERS









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Why Do EGR Coolers Fail?

EGR Coolers are used on many later model diesel engine vehicles these days. They are there for environmental reasons, to assist in reducing NOx emissions from diesel engines.

The Exhaust Gas Recirculation Cooler is a Heat Exchanger that does what its name suggests, cools exhaust gases prior to re-entering the intake manifold.

Some models of vehicle suffer from failure more than others. Some of this is due to EGR Cooler design, but the main reason they all fail is due to excessive EGT (Exhaust Gas Temps). The main culprit for this is "Incorrect Fuel Delivery", bad injectors. When the fuel is not atomized correctly it leads to greatly increased EGTs. These much higher EGTs can and do boil the coolant with in the EGR Cooler, this will then cause the cooler to become fractured either internally or externally. When they fracture internally, engine coolant will then be "sucked" from the cooling system and exited out through the exhaust. This will obviously lead to an over heating event, causing possible engine component failure. High EGTs can also be caused by exhaust system failures. Such as over boosting turbos, blocked or restricted exhaust systems.

Summary; if the real reason for failure is not identified at repair time, then the most likely out come will be the failure of the newly fitted part



Popular Exhaust Gas Recirculation Coolers. "EGR Coolers"



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61057005 (Genuine) Part Number

Ranger/BT-50 Ford / Mazda

WLAT/WEAT/WEC 2.5/3.0 DOHC Diesel.

2006-2011



61057007 (after market) Part Number

Ford / Mazda Ranger/BT-50

P4ATP5AT

2011-6/2015

2.2/3.2 DOHC Diesel (4 cyl. & 5 cyl.)



Part Number 61057008 (Genuine)

Ford Ranger

P5AT3.2 DOHC Diesel Euro V Engines 6/2015 -



61057006 (after market) Part Number

Transit Ford

Duratorg 2.4 DOHC Diesel

2006-2013

Part Number

2006-2013

61057011 (after market)

Ford Transit

Duratorg 2.2 DOHC Diesel





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Part Number 61057012 (after market)

Ford Transit RWD
Duratorq 2.2 DOHC Diesel

2011-2015 Euro V



Part Number 61057013 (after market)

Ford Transit FWD
Duratorq 2.2 DOHC Diesel

2006-2011 Euro V

2010-2019

2011-2018



Part Number 63022140 (Genuine)
Hyundai / Kia Sante-fe / Sorento
D4HA/ D4HB 2.2 DOHC Diesel



Part Number 63024480 (Genuine) Hyundai / Kia iLoad / Sorento

D4CB 2.5 DOHC Diesel 2006-2011



Part Number 63024750 (Genuine)

Hyundai / Kia iload / iMax D4CB 2.5 DOHC Diesel



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Part Number 63030001 (after market)

Isuzu NPR / NQR 4HK1 5.2 16v Diesel



Part Number 63030002 (Genuine)

Isuzu Excavator

4JJ1 3.0 DOHC Diesel Extra threaded bung & flanged coolant pipe



Part Number 63030003 (Genuine)
Isuzu / Holden D-max / Colorado
4JJ1 3.0 DOHC Diesel

2008-2012

Part Number 63060003 (Genuine)
Nissan Navara / Pathfinder 140Kw

YD25 2.5 DOHC Diesel 2009-2015 includes valve



Part Number 63060003A (after market)

Nissan Navara / Pathfinder YD25 2.5 DOHC Diesel

2009-2015 No Valve



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Part Number Nissan YD25 2006-2015 63060004 (Genuine) Navara / Pathfinder 2.5 DOHC Diesel



Part Number Toyota 1KDFTV 2006-2015 63080001 (Genuine) Hi Ace (not Jap. Imports) 3.0 DOHC Diesel



Part Number Toyota 1KDFTV 2005-2015 63080002 (Genuine) Hi-lux / Prado 3.0 DOHC Diesel



Part Number Range Rover 27TD 2006-2010 63130001 (after market) Range Rover 2.7 DOHC Diesel V6



Part Number Nissan YD25 2006-2015 62061007 Navara / Pathfinder EGR Delete Kit Off Road Use Only



"Don't Blame the EGR Cooler!"

• EGR Coolers. EGR Coolers are as the name suggests related to and part of the EGR system. They are found on most Direct Injection and Common Rail Diesel engines today. They consist of a small radiator situated inside the EGR pipe running between the exhaust and the intake manifold. Their job is to cool the exhaust gases traveling to the intake. This is done with coolant from the cooling system. Problem with these is that sometimes the cooler cracks internally and allows coolant to be sucked from the cooling system and ultimately leading to an over heat situation. These should always be pressure tested regardless of the age of the EGR Cooler itself. One of the leading causes of EGR Cooler failure is again our old friend "High EGTs". The high EGT can boil the coolant with in the cooler causing it to swell and crack.



- Mufflers. A blocked or collapsing muffler will cause excessive "back pressure". Quite simply if
 the engine cannot expel its hot exhaust gases they are going to back up and cause failure of
 turbos and cylinder heads. It is the same if the vehicle has a bent or damaged exhaust pipe,
 same result.
- Diesel Particulate Filters, DPF. Found in many late model diesel engine vehicles. Just as the name suggests they filter "Particulates" from the emitted exhaust gases before they enter the atmosphere. These heavy particulates are not good for us air breathing animals, nor are the NOx gases mentioned earlier. These DPF filters are cleaned by the engines ECU controlling either an increased fuel delivery or by directly injecting fuel into the catalyst at a set parameter so as to burn off build up with in the filter. This is only meant to happen within certain requirements of vehicle operation, such as road speed. However, vehicles which have lived a life of low-speed travel can end up with blocked DPFs. This has an environmental as well as a mechanical disadvantage. Again, affecting the EGTs.

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