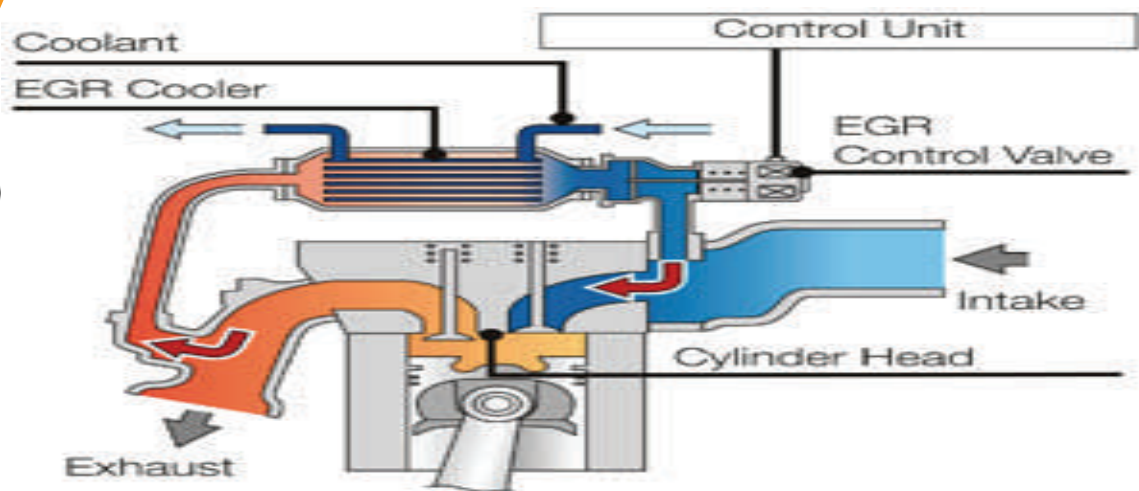


South East Diesel Collaborative Information Sheet



Exhaust Gas Recirculation (with a DPF)



Description

It is a device designed to reduce Nitrogen Oxides (NO_x) that recirculates a portion of engine exhaust back into the engine to cool peak combustion temperatures and thus reduce NO_x. Some units may require the addition of electronic controls. The two types of EGR systems are high-pressure (re-circulation of part of the exhaust directly into the engine) or low pressure (re-circulation of part of the exhaust after it has been through a diesel particulate filter and cooled). Both work to reduce peak temperatures in the engine and thereby reduce NO_x. High pressure EGR is used with original equipment new engines while low pressure EGR may be either installed as original equipment on a new engine or as a retrofit.

Performance Information

High pressure EGR's reduce NO_x by about 60% while low pressure systems reduce NO_x by 40-50%. The potential retrofit EGR purchaser should consult the EPA or California Air Resources Board (CARB) for a list of EGRs that have been verified for use through those agencies' respective testing programs.

Cost Information

An EGR can cost from \$13,000-\$15,000.

Applicable Equipment

The EGR technique has proved to be very useful in internal combustion engines used in motor vehicles like light duty trucks, passenger cars and other on-road motor equipment. EGRs can be used with ULSD, conventional diesel, and biodiesel fuels.

Maintenance Considerations

The EGR system does not require regular maintenance.

Emissions Reduction

Exhaust gases usually contain a small amount of unburned hydrocarbon which is burned out when it is reintroduced into the engine cylinder, which then reduces the emission of gas by-products. High pressure EGRs can reduce NOx by more than 70% while low pressure EGR systems can reduce NOx by 40%-50%.

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