

# PRODUCT INFO

## NEWS ABOUT CARQUEST ENGINE AND TEMPERATURE CONTROLS

### Ester and PAG Oils

When R12 was the only refrigerant on the market, the chemical offering was very straightforward. You had two classes of mineral oil: Ford Paraffinic (#59001) and a basic 500/525 viscosity (#59000) for everyone else. Customers could also buy mineral oil in a spray for lubricating "O" rings, etc.

With the advent of retrofitting and R134a, two new classes of oils evolved: Esters and Polyalkylene Glycol (PAG). Esters are primarily used in retrofits, although they have been approved for a limited number of OE R134a applications. PAGs are essentially an OE R134a oil.

For Esters, 100 is by far and away the dominant viscosity, and it is the oil CARQUEST recommends for servicing A/C systems that have been converted from R12 to R134a. This Ester is compatible with the mineral oil remaining in the system and is not as hygroscopic as PAGs. We do not advocate using an Ester in OE R134a systems unless it was approved by the OE manufacturer for that system.

PAGs own the vast majority of the OE market, and this is the oil CARQUEST recommends for



servicing an originally equipped R134a A/C system. There are a large number of viscosities of OE PAGs. CARQUEST and most of the aftermarket have trimmed that number down to three — 150 viscosity for GM, 100 viscosity for imports, and 46 viscosity for Ford and the remaining imports.

The standard package is an 8 oz. size can (#409502, #409501, #409503, and #409500). But in some cases the technician just wants to "top off" the system with a small charge of oil. For those situations, you have the 2+2s ... two oz. of oil and two oz. of R134a (#409512, #409513, #409514, and #409506). For shops heavy into conversions, there's a quart size of Ester oil (#409510).

For those who like convenience, CARQUEST will soon have a pint can of Ester oil which has fluorescent dye mixed in it. Black light leak detection is the preferred way to find a leak in an A/C system, but getting dye into a system is messy and time consuming. This product makes the process very simple; the technician can add the oil and the dye in one step.

We also offer a fluorescent dye remover and cleaner under part #400500. (Residual dye which splatters on the engine, etc. must be removed to determine exactly where the leak is coming from.)

#409517 and #409518 are the only A/C flush solvents to use in supporting the CARQUEST Temperature Controls compressor warranty. You cannot flush out a system with an oil-based flush, and you don't want to flush a system with a product that is flammable, such as mineral spirits. Oil flushes don't evaporate from the A/C system and are not easily removed; oil flush left in the system will remain there and cause future problems. #409517 and #409518 are the only products which clean the system thoroughly and safely, leaving no residual solvent in the system.



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## All-Rubber Spark Plug Boots Solve OE Problems



OE boots for overhead cam engines are often 3-piece, with a rubber top and bottom but a plastic tube as the center component. High secondary voltage can punch through the wall of the plastic tube and short out to the engine block or the valve cover.

This OE design was original equipment on Ford 4.6L as well as many import OHC engines. To solve this problem, we're now introducing all-silicone-rubber boots that provide superior dielectric strength, far exceeding both OE and aftermarket competitors. We've extended this design to 23 different boots, affecting more than 40 applications in our wire set line. The Ford boots are already available, and the import boots are being introduced based on popularity of the applications.

## Anti-Theft Relay

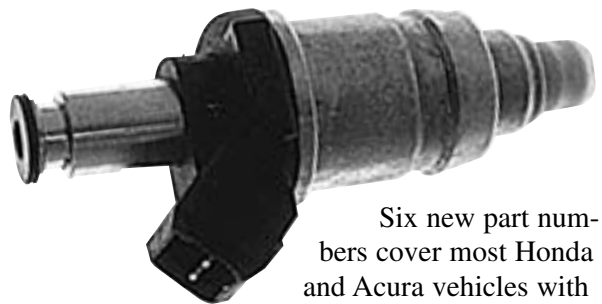
Protect any car from theft by installing this relay in the ignition system. The relay self-arms each time the ignition is shut off. Once this has been done, power to the starter is cut off until the driver turns on a selected circuit — dome light, heater, power door locks, etc.

This is a total vehicle protection system, yet it's simple to install, with no remote transmitters to lose, no annoying siren, no batteries to wear out, and no complicated instruction booklet to study. You just connect the relay to the starter circuit and to a secret wire that only you select, and you're



done. It doesn't require any user action, and in some states it qualifies for a reduction in the insurance premium. One model (RY-600) fits all domestic and import cars, even including positive-ground systems. Installation instructions are in the box.

## Honda/Acura Fuel Injectors

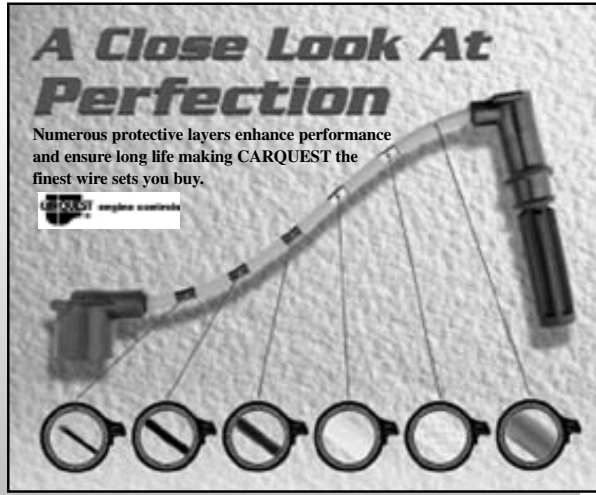


Six new part numbers cover most Honda and Acura vehicles with multiport fuel injection, from the mid '80s to the late '90s. Part numbers are FJ262 through FJ267. Like most CARQUEST E.C. parts, they're an exact match to OE; our new catalog CQENA-00 has the specific application information, and pictures and OE number interchanges can be found in the CQENGB-99 buyers' guide. With most of these models, there's even a listing for the matching pigtail.

## New W & C Countertermat

This great new countertermat has a wire set message on one side, and a chart of terminals & connectors on the other side. The wire set side features our new all-rubber OHC boot design for better dielectric strength on Ford 4.6L and others,

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improved crimp position for better terminal retention, Ford DIS boots for tightly sealed coil towers, pre-greased silicone boots to help prevent the boot from sticking to the plug, and high-temp silicone boots for many truck and car applications. Individually magnified components invite the counterman and the technician to take a "close look" at our wire and see what separates us from the competition.

The terminal chart is organized like the Wire and Cable Illustrated Parts Guide. Terminals are divided into five color-coded categories:

- **OEM Electronic Terminals (Green)**
- **PVC Insulated Terminals (Red)**
- **Nylon Terminals with extended barrel (Blue)**
- **Crimp type Heat Shrink Terminals (Purple)**
- **Self Solder Heat Shrink Terminals (Maroon)**

There's also a stud chart to verify correct stud size for ring terminals, and instructions for the heat shrink and self-solder terminals, and a footnote that explains the numerical relationship between TA and bulk STP part numbers.

## A/C System Lubrication Failures

When an A/C compressor needs to be replaced, you should try to diagnose the reason for the failure. The replacement compressor might also fail rapidly if the problem which caused the failure hasn't been corrected.

One of the more common failures is caused by the compressor functioning without the proper

type and amount of lubricant. Always comply with the manufacturer's recommendation and insure that the proper type and amount of lubricant has been placed in the A/C system. The lubricant doesn't stay in the compressor — it continually flows through the A/C system, but it's necessary to keep the compressor properly lubricated. If a problem develops that impedes the proper flow of the lubricant, a premature compressor failure will occur.



The refrigerant takes lubricant with it as it moves through the system. As the refrigerant is moved from the low side to the high side, it also carries the oil. If a failure occurs which lets the oil escape from the refrigerant's grip, or if some problem impedes the flow of oil, the A/C system is headed for failure.

These days, most compressors are shipped dry, and the installer must add the proper type and amount of lubricant to the compressor. A compressor can be damaged by lack of lubricant or too much lubricant, or by an improper amount of refrigerant in the system. If there is not enough refrigerant in the system, there will not be enough lubricant carried with the smaller amount of refrigerant. If the system is overcharged, the flow of lubricant can be adversely affected by the higher head pressure, and there is also the possibility of oil pooling in the condenser and/or drier.

If a leak develops anywhere in the pressurized system, the oil will also leak out. A considerable amount of oil can leak out in a very short period of time, and compressor failure can occur after a very small amount of oil has leaked out.

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A problem can also arise when the condenser has a heavy load of contaminants. The installer flushes the condenser and assumes that since the flush came out clean, the condenser was clean. But most modern condensers are "dual pass"—the high-pressure line from the compressor comes into the condenser at the top and splits into at least two parallel passages. If one of these passages happens to be clean, and the other is totally clogged, the flush will follow the path of least resistance and flow through the open side. This

leaves a tremendous amount of contaminant in the system, which goes unnoticed by the installer. If a significant amount of these contaminants later exit the condenser, they will flow to other components and will cause the slowing or stoppage of the lubricant flow. The proper way to check a condenser is by using either an infrared or touch-type pyrometer to determine pressure drops across the face of the condenser or between the inlet and the outlet. If flushing cannot help the situation, the condenser must be replaced.

