



CarCareCenter

WHAT ARE YOUR CHALLENGES?

Each of you face challenges everyday that you have to address and determine the best solution(s). What you may not think about are the challenges that you face before a customer ever comes into your shop. There are four major challenges that you may not stop and think about.

IMAGE

Thanks to 60 Minutes, 20/20 and other exposes, the automotive repair industry doesn't always have the best image. We must make the effort to change that image. It starts with appearance, but moves to explaining not only what repairs are needed, but why they are needed. Lets face it, cars today are much more complex than just 10-15 years ago. Customers don't understand the changes or why it costs more to repair them today. We must take the time to provide good information so the customer can make an educated decision when it comes to repairing their vehicle. Customers make better buying decisions when provided with adequate information to make that decision.

UNEXPECTED EXPENSE

How many people plan and budget for automotive repair? Very few! So, customers are taking money from something else to repair their vehicle. In most cases people are neglecting or delaying something else to pay for automotive repair.

HIGHER EXPENSES

As was mentioned earlier, with the technology changes on vehicles over the last 10-15 years, the cost of

repairs have skyrocketed. What use to cost \$100-\$125 to install four shocks on a car can now cost more than \$350-\$500 for two shocks and two struts. How about the cost of brakes (semi-mets), engine management components (EGR, ECM, etc.), CV joint or shafts compared to u-joints. Customers need to know their vehicle is different than it use to be.

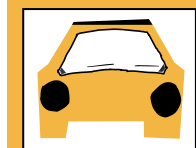
WHAT DO THEY HAVE TO SHOW FOR IT.

If you spend \$200 on groceries or clothes, you have something to show for it. When you spend \$200 on automotive repair, you get the same old car back! No new paint job, the dents are still there, the paint is still faded or peeling. OK, maybe the vehicle runs a little smoother, starts better, stops when they push the pedal, but they still didn't get anything new or tangible for their expenditure.

Keep these challenges in mind when dealing with customers, you'll be surprised how you can use these challenges to better understand the customer's point of view and explain the benefits of the needed repairs.

AUTOMOTIVE TRIVIA

How many bolts are used to secure a water pump on a 1963 Corvair?



What was the last year Corvairs were produced? (No, it was not 1963!)

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For comments or suggestions, please contact Headquarters at:
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Fall 2001 ASE certification tests will be offered at night on Nov. 8, 13 & 15, 2001. The registration deadline is September 28, 2001.

Contact ASE Customer Service at:
13505 Dulles
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www.asecert.org



PROMOTION UPDATE

2001 Brake Promotion Results:
Ticket average \$369.90
Average rebate \$12.29

2001 Tune-Up Promotion Results:

The promotion ended July 31. Results will be posted in the next issue.

2001 Belt & Hose Promotion

Starts September 1 and ends October 31. Belt tensioners have been added, increasing the rebate amount to \$45.

Inside this issue you will find a one page Consumer Information piece on preventative maintenance that can be copied and put in the waiting area, or attached to each customer's invoice!



2001 Promotions

March-April

Brake Promotion
Up to \$30

June-July

Tune-Up Promotion
Up to \$54

September-October

Belt & Hose Promotion
Up to \$45

December-January

Winter Promotion
Up to \$40

DOMESTICALLY SPEAKING

Thick Film Ignition (TFI) System Modules: Gray or Black?

Most technicians who deal with Ford driveability and no start problems have become very familiar with the Thick Film Ignition (TFI) system. Ford started using the 6-pin TFI module with the EEC-4 computer system in 1983, and for years it remained basically unchanged.

Ford's early TFI system, the Push Start TFI system, uses a gray TFI module. Originally, the TFI module was always mounted on the distributor. In the late '80s, Ford began to relocate the TFI module away from the distributor on some vehicles to provide better protection from the effects of engine heat, but system operation remained the same. The system uses a Hall effect pickup (stator) in the distributor, which generates a battery voltage, 50% duty cycle square wave, called the PIP signal, to the EEC-4 computer and the TFI module. The EEC-4 computer processes this signal and sends out another battery voltage, 50% duty cycle square wave, called the SPOUT signal, to the TFI module. As long as the TFI module is receiving a SPOUT signal, it will fire the coil at the rising edge of that signal (except during engine cranking, when SPOUT is ignored) and the vehicle will run with the amount of timing advance commanded by the computer. If the TFI module does not receive the SPOUT signal, it will fire the coil at the rising edge of the PIP signal, and the vehicle will run at base timing. This is true on all TFI systems.

Ignition dwell with the Push Start (gray module) system is controlled by the TFI module alone, and increases with engine RPM. The Ignition Diagnostic Monitor (IDM) signal on a Push Start TFI system comes from the

coil negative circuit and is filtered through a 22k ohm resistor to pin 4 on the EEC-4 computer. The computer monitors this circuit to verify a coil firing for each PIP signal, and sets codes if it sees missing or erratic signals. Another feature unique to the Push Start TFI system is the start input on pin 4 of the module connector, which is wired into the starter relay trigger circuit, and signals the TFO module that the engine is cranking. When the module sees battery voltage on this circuit, the SPOUT signal is ignored.

In the early '90s, Ford began using the Computer Controlled Dwell (CCD) TFI system on some vehicles. This TFI module is always black. With the CCD system, the computer controls primary dwell. The CCD TFI module still ungrounds (fires) the coil at the rising edge of the SPOUT signal, but now the falling edge of the SPOUT signal (which had no meaning to the Push Start TFI module) is used by the CCD TFI module to ground the coil. The PIP signal remains the same 50% duty cycle square wave, but SPOUT signal duty cycle varies according to how much dwell is desired by the computer. Another major difference between the two systems is the IDM circuit. Pin 4 on the CCD TFI module, which was the start circuit input on the Push Start TFI module, is now the IDM signal, output directly from the TFI module to pin 4 on the EEC-4 computer. This signal is still a filtered (low voltage) version of the ignition primary waveform, but is filtered internally in the TFI module rather than through an external resistor. There isn't any start circuit input to the CCD TFI module; the module infers engine cranking from a low rpm input from the PIP signal.

*Since these two TFI systems are so significantly different, yet so similar in appearance, parts application problems will inevitably occur. **A gray Push Start TFI module will plug right in on a CCD system and vice versa. To make matters worse, parts books are often incorrect on TFI module applications!** With the incorrect TFI module installed, the vehicle will run, but driveability and MIL (malfunction indicator lamp) problems will result. For instance, if a gray Push Start TFI module is installed in a CCD system, the computer will not be able to control ignition dwell, and the MIL will illuminate with memory codes for the IDM circuit set, as the gray TFI module is incapable of generating an IDM signal to the computer. If a black CCD TFI module is installed in a Push Start system, dwell will remain fixed, since the SPOUT signal duty cycle never changes. If in doubt about which TFI module belongs on a particular vehicle, consult the ignition system wiring diagram for the vehicle. If the wire going to pin 4 on the EEC-4 computer comes directly from pin 4 of the TFI module, it is a CCD system – if not, it is a Push Start system.*

As with every rule, there is an exception...some 1.9L Central Fuel (throttle body) Injected Escorts and Tracers were built with black TFI modules that are not CCD modules. If you encounter one of these, check the engineering number on the module. A CCD TFI module engineering number always starts with E9 or higher.

Courtesy – Automotive Information Systems, Inc.

HOT TIP!

How to Hire Superstars!

In today's world, if you hire for "skill," it'll put you out of business. So, here's what you need to do: Put skill further down the list, and as the top three, put "attitude," "aptitude," and "ethic." Hire someone with great skills but a poor attitude and you'll regret your decision. And if people don't have the "aptitude" to grow into the job, you'll never be able to develop them to the fullest potential. And if you hire someone who doesn't have the "ethic," then you know where that leads! Don't forget! "skill" is a learned behavior, so if they have the right attitude, aptitude and ethic, they'll be excited to develop the skills they need!

How can you tell if someone has the right "attitude," "aptitude" and "ethic?" It's easy! Take them out to dinner and talk about everything but business! Over the years I've found I can learn more about a person over dinner than I can during a five hour interview!

If you want to learn more about hiring the superstars, or what questions to ask during an interview, go to:

www.elitebusinessservices.com, "Hiring the Superstars!" Elite Business Services, "The Success Tool Company."

LOSS PREVENTION - Material Handling and Lifting

Did you know that nearly half of all occupational injuries involve overexertion? Overexertion injuries include strains, sprains, pulled muscles and repetitive motion injuries. Soft tissue back injuries in particular are some of the most expensive and debilitating types of injuries that occur in the workplace today. Rising medical costs will only add to the outlay in the coming years.

Aftermarket industry employees are especially susceptible to these types of injuries as a result of the tasks that they perform at work. A body man's day is spent bending over, crouching, sanding pushing and pulling sheet metal. Service technicians lean over engine compartments, repairing and removing transmissions and engine parts daily. Other employees receive, move and stock transmissions, batteries, engines, and other heavy parts regularly.

Material handling guidelines

- Provide necessary material handling equipment including transmission jacks, engine hoists, floor jacks, car pushers, pallet jacks and forklift trucks.
- Train technicians on how to use shop equipment and conduct periodic performance checks to ensure that they are following company procedures.
- Maintain equipment in safe operating condition.
- Provide employee training on safe lifting and material handling.
- Integrate training into actual work situations to be most effective.
- Floors should be kept clean, dry and free of oil.
- Arrange tools, materials and equipment in close proximity to the technicians.
- Provide conveyors to move parts up to second floor storage areas to eliminate lifting and carrying injuries.

Proper lifting techniques for employee training

- Think before you lift!
- Assess what you are about to lift and know where you're going to put it down.
- Don't lift the object if it is too heavy: get help.
- Bend at the knees, not your waist.
- Firm up your stomach muscles.
- Hug the object you are lifting; get it as close to your body as possible. (Automotive Trivia Answers: None, Corvairs are air-cooled, 1968).
- Lift with your leg muscles.

These lifting techniques are generally accepted guidelines, but they can't overcome individual employee's physical limitations.

Taking the time to educate your employees on material handling and safe lifting techniques will protect their health and physical well-being as well as reduce your loss exposure for costly workers compensation claims.