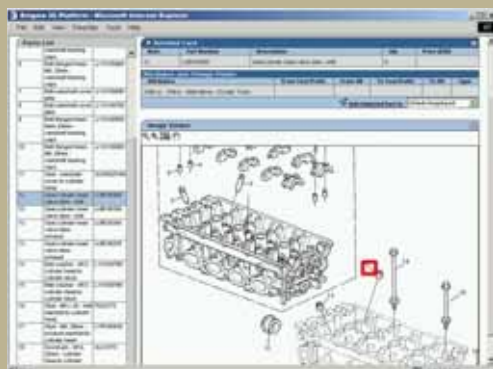




by **John Snow**, Vice President of Marketing and Business Development, Enigma



Enigma 3C Platform provides maintenance, diagnostic, and parts information

Trading in a socket wrench for a software patch

The good old days of taking your car to the repair shop down the street and hoping for the best as Mr. Fix-It rolls up his sleeves, grabs his toolbox, and looks under the hood will soon be a thing of the past.

When it comes to automobile repairs in the future, technicians will be carrying laptop computers and handheld devices that will connect to the car they are fixing, as well as the entire dealer network. This technology will enable technicians to seamlessly link to the car's onboard diagnostic system, its internal software and computer coding, as well as the automaker's electronic parts and service catalogs and the manufacturer's design network. With this electronic exchange of information, technicians will be able to digitally communicate with the vehicles they are fixing to determine what repairs are needed, quickly order the necessary parts, and complete the service faster and more efficiently than ever before.

How to make it happen

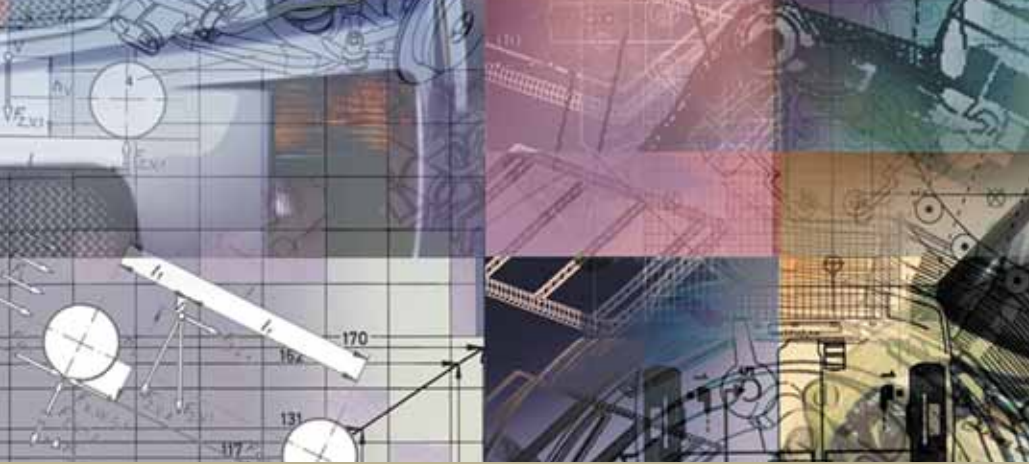
Imagine that a car pulls into a dealership for service and the technician simply types the car's VIN (Vehicle Identification Number) into his laptop. Instantly, the entire repair history of the vehicle as well as the latest service bulletins for that make and model appear on the computer screen. Then, with another click of a button, the technician links up with the vehicle's onboard diagnostic system and other software within the engine control unit and retrieves Diagnostic Trouble Codes (DTC), which indicate if the vehicle has been operating properly.

The digital information from the car then automatically interfaces with the car's electronic service manual, which

guides the technician through the proper troubleshooting and repair procedures and identifies any parts that may be needed. He then clicks on the appropriate part number(s) and pulls it from inventory or, if it is not in stock, initiates an order to a supplier. Along the way, if the technician encounters an unexpected problem while servicing the vehicle—or discovers a better way to make repairs than the ones recommended—he shares those details with other technicians as well as the manufacturers via a real-time service incident and best-practices feedback section.

Armed with direct service feedback from the technicians on the front lines, the manufacturers can compare maintenance problems with DTCs and repair procedures so they know when to issue service bulletins and how to improve the vehicle's design in future models. Those service bulletins will then be automatically linked to the appropriate VINs, DTCs, parts, and procedures in the electronic repair manuals, ensuring that all technicians in the dealership network are immediately notified of any changes.

This entire service workflow will be accessible and executed from within a single application that is tailored to the needs of technicians and part managers—the definition of an integrated service bay. This includes customer quote generation, repair procedures, parts ordering, labor rates, job cards, time sheets, warranty information, and third-party services (e.g., body shop repairs). This way, nothing slips through the cracks, consistent pricing is guaranteed, and it becomes possible to view the service operation as a whole allowing further efficiencies to be made.



Creating a shared service knowledge pool ultimately helps the OEM and dealer sell more cars by enabling the automaker to build a car that is more reliable and easier to fix. And technicians, supplied with the most appropriate service and parts insight into all car makes and models, will more efficiently and effectively service the high-tech, computer-driven vehicles of tomorrow as they head toward hybrid technology, satellite navigation, and other future developments.

The future is now

The advances outlined for the auto technicians of the future are not unrealistic to imagine and implement, especially when you consider the technological advances in the design of automobiles. Unitized construction, digital controls and software coding, and the seamless melding of form and function have led to cars that—compared to a decade ago—rarely break down, are effortless to drive, and meet extreme requirements in safety, emissions, and other standards. In addition, advances in technology have made speech-enabled navigation systems available in many new cars, and advances in software make it possible for automakers to create and maintain electronic service and parts catalogs much more efficiently than the paper systems of the past.

However, as it stands today, advances in technology have been slow to reach the service side of the automotive industry. Many technicians spend their time chasing down service and parts information from outdated service manuals and bulletins. Then, after finally figuring out what service and parts are needed, they have to track down the right parts and, if they do not have them in stock, call other dealers

or auto parts shops. This time-consuming process leads to less-efficient and less-effective automobile repair service and frustrated customers.

The economics of the auto business have changed in recent years, with the winners often determined by the use of advanced technology. It is time for technology to improve the service side as well. Gross profit margins on new vehicles have eroded while the profits that dealers and OEMs derive from aftermarket sales—in both spare parts and service—have significantly increased. The **National Automobile Dealers Association** estimates that service and parts sales make up about 45% of dealers' profits.

The benefits of an integrated service bay are obvious: First-time fix rates will improve, as would customer satisfaction and service profits; parts misorders will fall, as would the amount of money dealers have tied up in unwanted inventory and unnecessary shipping; technicians will be more productive, so margins would increase; and service-driven design changes will occur sooner, leading to better-quality vehicles and marketplace advantage.

Ultimately, what this is about is getting value—in greater dealer loyalty, improved customer satisfaction, higher profits, and better vehicles. Demonstrating clear-cut efficiencies, productivity improvements, and greater customer satisfaction by taking advantage of new and developing technology on the service side is the next frontier for automakers. In an age when the service revenues are growing much faster than new-vehicle sales, that is both a competitive differentiator and a growth business. **aei**



Volvo's Information & Diagnostics for Aftersales program is based on Enigma 3C Platform