Two-Part Paint System Predominates

A two-part basecoat/clearcoat paint system has brought a whole new look to automotive finishes, according to the paint experts at Martin-Senour. And this new look, which comes from using a clearcoat reducer over a highly pigmented color coat, is the predominant paint system employed on today's new cars.

The basecoat/clearcoat system has become the predominant method used in automotive paint and refinishing because of its quick drying time and flash-off, flexibility in application and better handling and control in color matching. Over 65% of all the automobiles made in the U.S. this year will be painted with some form of this two-part paint system. And new cars aren't the only vehicles that can benefit from the basecoat/clearcoat system.

Because a basecoat/clearcoat system, such as the Tec/BASE system from Martin-Senour, has a much faster drying time and is easier to color match, paint and body refinishers are going to want to use the system in order to match, as closely as possible, an OEM finish.

Editor's Note: Special thanks to Gary Schwesinger, Martin-Senour's Marketing Manager, for providing this information on the two-part paint system utilizing a basecoat/clearcoat.

Higher Priced, But Smaller Cars

The average price of a domestic car will rise to $13,800 by 1995, up $2,200 from 1985's price of $11,600, and average import prices will remain about $900 higher. That's according to a recent forecast study conducted by the University of Michigan's Office for the Study of Automotive Transportation.

The forecast study also predicts that cars will tend to be smaller, but carry more luxury options; average owners will keep their cars five years (up from four) and imports will have a larger share of the subcompact and compact market segments.

Additionally, the University of Michigan's forecast study states that complicated electronics and improvements in quality and durability will produce a decline in do-it-yourself car repair. Cars of the near future will be built with more high-tech equipment, such as anti-lock brakes, four-wheel steering, four-wheel drive, active suspensions and plastic body panels.

Untapped Sales Double

Unperformed vehicle maintenance (measured in potential parts sales excluding labor) rose to $23 billion in 1986, up from $12 billion in 1978, according to the Motor & Equipment Manufacturers Association (MEMA).

MEMA attributed the increase to changes in both the shop and motorist population. For example, MEMA cited a 100,000 reduction in the number of service bays, fewer service stations and conversions to gas-only operations as contributors to the untapped service market.

Meanwhile, the vehicle population in the U.S. has grown by more than 20 million units, the rising age of the average motorist has lowered do-it-yourself activity and less preventive maintenance is done on older cars, according to MEMA.

What this means, states MEMA, is that the $23 billion in untapped sales represents a 32% growth potential of the $71 billion worth of parts sold in 1986. MEMA claims that no other source represents as much growth for the automotive aftermarket as the improvement of the car maintenance level.

Cool Approach to Diesel Efficiency

Diesel engines for trucks and other vehicles could perform longer and more efficiently with a new device that monitors the engines' internal temperature.

Researchers at the National Bureau of Standards have developed a thin film of chemically inactive metals (such as platinum and gold) that are applied to valves, piston crowns and other engine parts. These films conduct a current whose voltage can then be translated to a temperature reading using a device specifically designed for this purpose. The current conducting film and temperature-reading device make it possible to monitor an engine for overheating.

Thin films are more effective than connecting wires in diesel engines for several reasons: since they're only 0.002 of a millimeter thick, the films don't create obstructions that block heat transfer inside engine parts; the films conduct heat in tens of microseconds (much quicker than wires) and the films disperse the heat produced by engine operation, eliminating the need for a radiator.

A prototype of the engine is being tested, but commercialization is not expected for at least five years, according to the National Bureau of Standards.

Star Wars in a Car

Motorists may think they're in the cockpit of the latest space capsule or jet fighter if a new instrument panel concept is mass-produced in autos of the near future.

The new space-age instrument panel will display the image of an automobile's panel at what appears to be 10 feet in front of the driver's eyes. In actuality, the panel's image will be immediately in front of the driver.

Known as the "Heads Up Display," this low-cost instrument panel concept will allow motorists' eyes to remain focused on far-field driving distances, rather than refocusing between the dashboard and the road.

Turbo Technology Charges into the Future

Further advances in engines are a distinct possibility for some American cars in the next two to three years. In fact, one of these advances — a ceramic rotor turbocharger — has already appeared on 1987 Buick GNX's. Developed by the Garrett Automotive Group, the ceramic rotor turbocharger is supposed to reduce turbo lag by 30%.

Another engine advance, also developed by the Garrett Group, that may appear on U.S. model cars in the next few years, is a variable nozzle turbine (VNT). Designed to adjust the turbine flow area at any time to meet any set of conditions, a VNT allows a turbo to act as if it has a small housing at low speeds, thereby providing greater torque. As engine speed increases, the engine's black box can adjust the turbo nozzle to meet changing power requirements.