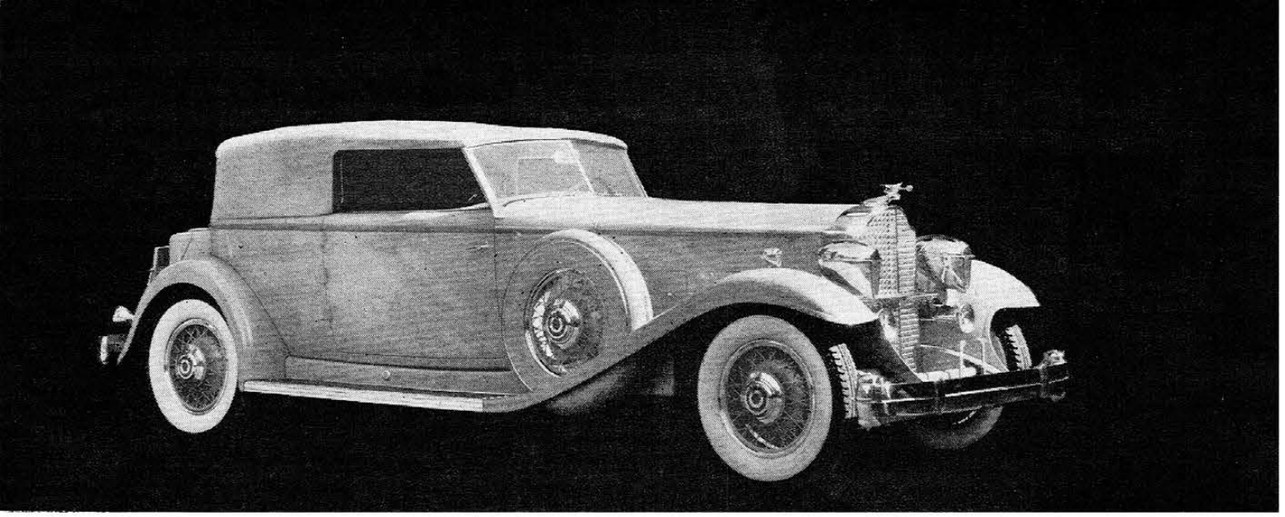


As an example of craftsmanship of classic era, this 1932 Packard was outstanding. Attention to detail extended beneath shell.

THE CLASSIC ERA-- ENGINEERING'S GOLDEN AGE

We may be on the threshold of a new cycle in fine cars. Here's what it may mean to you

BY GRIFF BORGESON

THE POPULAR IDEA that engineering advancements in the auto industry are first applied to sports or racing cars and then filter down to more sedate machinery is more often wrong than not.

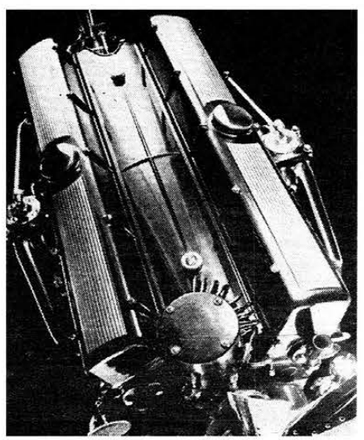
Improvements in any field generally have a way of showing up where the money is, and cars are no exception. Engineering progress and refinement are most likely to have their first effect on luxury cars. This fact was demonstrated with dazzling consistency in the kind of car known today as "classic."

The term *classic*, according to the definition most often used, is restricted to cars built during the period between World Wars I and II. It's further restricted to cars that were expensive. These are two points the experts agree on. Beyond them, however, the authorities argue with much passion and prejudice about the other characteristics a car had to have to fit in the classic category. But some cars—Hispano-Suiza, Rolls-Royce, DV 32 Stutz—were undeniably classics.

These machines and the few others whose right to the title can't be challenged all had a lot in common besides cost and vintage. They had a certain air of elegance. They were beautiful—in the traditional, pre-streamlining sense. And they were made not only to look good but to *be* good. Their engineering, ranging from fine to sublime, was vastly superior to that of ordinary passenger cars.

One reason was that engineering advances *were* incorporated in the classics just as quickly as they became practical. Chrysler likes to point out today that as far back as 1932, Chrysler cars were fitted with power brakes. Right. The Le Baron and Dietrich-bodied Imperials of that year (classics, by anyone's definition) did use an excellent vacuum booster for their braking systems. Unlike the power brakes of today, they were designed to permit the driver to select the exact degree of "assist" that he wanted by turning a simple lever on the instrument panel. He had his choice of all-off, all-on, and anything in between.

Mechanical masterpiece was this Cadillac 16-cylinder V-type engine powering the GM luxury vehicle of the 1930's.



Chrysler was not the only make that introduced vacuum-boosted brakes in '32. Lincoln had them too, in combination with one of the finest braking systems in use anywhere in the world. An Autocar road test of a '32 KB Lincoln reported the astonishing stopping distance of 28 feet at 30 mph. Lincolns of the classic period (which at the time were as little like the Ford Motor Co.'s Lizzies as a yacht is like a tugboat) were equipped with enormous, deeply ribbed brake drums and light-alloy, heat-dissipating brake shoes.

Actually, the power-brake concept derived from still earlier classic practice. Mercedes-Benz had the Robert Bosch vacuum assist in its 1926 Type K. Rolls-Royce in 1923 used a power take-off from the transmission which spared the driver's leg muscles by forcing the brake linings against the drums with immense pressure. And Rolls got the idea from the 1919 Hispano.

Many other pleasant refinements of motoring first saw the light of day on classics—the "one-shot" lubrication system, for example, which enables the driver to lube every grease fitting on the car by simply pressing a button or moving a lever. Oddly enough, this system is being currently revived, even though today's cars have few grease fittings left to lube. But Packard and Rolls-Royce featured this convenience back in the Twenties, when it was really useful.

Another nicety sported by many classics was a shock-absorber adjustment control on the instrument panel. You could get as soft or as firm a ride as changing road conditions might require. This kind of careful attention to detail put classic cars worlds away from the more plebeian products of the time. It still has a powerful attraction for anyone who responds to thoughtful engineering.

Still, these details were just a few visible signs of classic engineering quality. Most of it, iceberg-like, was below the surface.

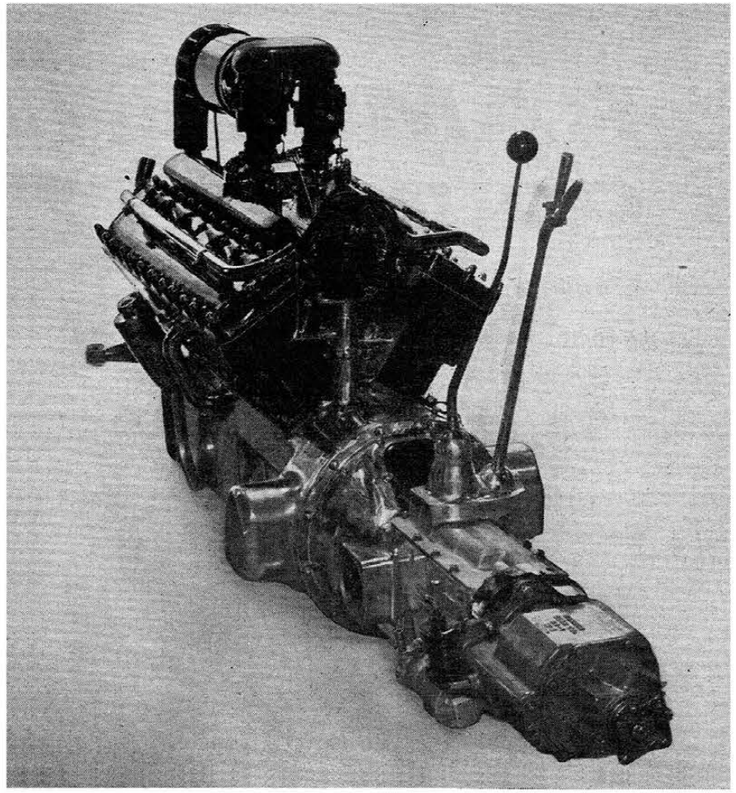
If you've ever lifted the hood of a fine classic car you know what I mean. What you've seen is an engine designed not only to perform superbly but also to look beautiful—clean, uncluttered, magnificently finished.

Naturally a cylinder block needn't be polished and enamelled to perform properly, but the true classic engine had gorgeous finish as a matter of course. Polished aluminum crankcases were common. Cam or rocker covers on ohv engines were most often of polished light alloy, frequently "scrolled" with thousands of tiny circles. Cooling-system piping on the engine was usually of cast brass, polished and bright-plated, and the nuts and bolts, the fuel and oil tubing were plated too.

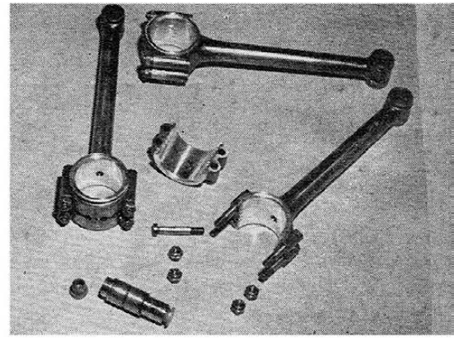
The beauty of these engines was not just skin-deep. Far inside them, where their plutocratic owners were not likely ever to look, there was no deviation in the pattern of perfect quality. Every square inch of the crankshaft's surface was machined smooth and clean. The connecting rods of a Lincoln of the Twenties, which measured just under 15 inches from end to end, were machined all over, with every flake of excess metal milled away to leave a strong but fantastically light H-section that was hardly less graceful than filigree. Mercedes-Benz rods were round and hollow ground to almost a mirror finish. Every washer in the vintage Mercedes car was ground on its upper and lower surfaces to insure their being perfectly parallel. To gild the lily, the outer, upper edge of each washer was chamfered.

(*Continued on page 62*)

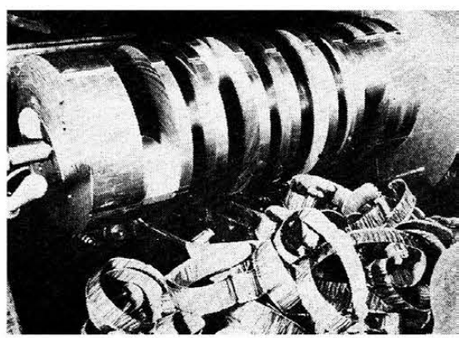
One of the most famous cars of the pre-World War II era was the 1932 KB Lincoln, powered by this splendid V-12. Car had stopping distance of 28 feet at 30 mph!



Connecting rods, for instance, were carefully polished for fine interior finish.



Bugatti crankshaft was turned out of a solid steel billet, rather than being cast as is the less costly method used today.



SPORT REPORT

Stock engines are in the news—on the bricks, dirt tracks, road circuits and Daytona's white sand

THE LATE WILBUR SHAW'S career behind the wheel and later at the helm of the Indianapolis 500 covered more than two decades auto racing. The story of these years, as he saw them, will soon be told.

Shortly before the fatal airplane crash last October, Shaw completed his autobiography. Final editing was in the hands of Mrs. Shaw and Al Bloemaker, public relations man for the speedway. The book reportedly will be published shortly, in time for the 1955 Memorial Day classic.

As for this year's 500-mile race, there is the customary flurry of reports on passenger car engines being developed for the event. One source even insists that a Dodge is in the process of preparation. How many of these will even reach the qualifying stage, much less the starting lineup, is highly speculative.

Deadline for entering is April 15 and don't be surprised if you see a foreign-engined car on the list. An overseas publication also says that Mercedes has its eye on the 500, although not for this year, with the engine from the new eight-cylinder 300 SLR as the basis for the effort.

Stock engines, however, have made some headway with the AAA Contest Board, which has announced a new maximum limit of 336 cubic inches for both sprint and championship classes. The new rules does not apply to Indianapolis, where maximum limit remains at 274 cubic inches.

All this gives the stock engines certain advantages, since racing engines still are restricted to displacement of 274 and 220 cubic inches in championship and sprint cars, respectively. Stock blocks and heads must be used.

LAST CALL FOR BIG ONES?

SPORTS CAR RACING probably will have a new ruling from the FIA which promises to upset the current pattern. A special committee is studying a proposal that engines in major events be limited to 3,000 cc (183 cubic inches). It would be a hard blow to the users of hefty Detroit products, since the SCCA and various independent sports car clubs in the U.S. would undoubtedly fall in line, as well as the AAA.

It's especially interesting to speculate upon the effect this would have in the Mexican road race. All-American entries, such Ak Miller, would be faced with new problems.

One of the most promising solutions is the new Myer-Drake unit which apparently has been designed with this turn of events in mind. Three such engines, in experimental form, have been installed in domestic sports cars. And Briggs Cunningham is expected to give another version a whirl in the forthcoming LeMans race (June 11-12).

Cunningham again has the only U.S. car in the lists for LeMans, will also be running a D-type Jaguar. However, the latest release on entries shows him with only one car up for the 24-hour famous event.

Most fans of U.S. stock car racing on dirt tracks under AAA and NASCAR sanctions are having trouble forecasting the effect 1955 models will have on results. In the past, the Hudson Hornet has had things pretty much its own way, and 1954 versions —still eligible—will continue to figure prominently. The new Hornet will have a hard battle with such threats as the Buick Century, Chrysler's 300, and the torsion-bar Packard during the current stock-car season.

The Chrysler 300 already has a pretty good start. It took first and second in the 160-mile Grand National, of NASCAR's Speed Week, after the first car to cross the finish line (a Buick Century) was disqualified in the follow-up inspection for having polished valves. Oddly, driver of the winning Chrysler 300 was Tim Flock, who finished first last year in an Olds and then was disqualified for modifications in the engine.

Top times in the one-mile speed runs earlier during Speed Week included a two-way average of 127 mph by a Chrysler 300, a run of 124 mph by a Thunderbird (which also did 84 mph in the mile from a standing start on the sand.)

Speediest machine in the meet was a grand prix-type Ferrari which rolled over the white sand at a blistering 174 mph, then turned in a two-way average of 170 mph. It was the fastest time ever recorded during the six-year history of Speed Week.

Next major sporting event in the U.S. is the SCCA's colorful annual event at Pebble Beach, Calif., on April 16-17. As in the past, the road race will be preceded by a concours d' elegance on the swank grounds at Del Monte lodge. •

ENGINEERING'S GOLDEN AGE

(*Continued from page 31*)

It's not hard to argue that refinement carried to this lavish extreme is actually sheer extravagance, and that the manufacturers might better have spent the man-hours producing more cars for more people. But if they had there would have been no classics. Classics, by their nature, made few compromises with costs.

You could have bought a low-priced car for what it cost to produce a set of timing gears for a Silver Ghost Rolls-Royce. But the gears were almost perfectly silent and practically indestructible and this, for Rolls, was what counted. Similarly, the American Crane-Simplex engineers decided that head gaskets were a makeshift and inadequate device, and spent dozens of man-hours on each engine lapping the cylinder heads against the blocks with a fine abrasive compound until a perfect metal-to-metal fit was achieved. Many classic manufacturers, in their eagerness to maintain their reputation for quality, preferred to make in their own plants components that were generally farmed out to outside shops. Hispano-Suiza even designed and manufactured its own spark plugs and tires.

Classic bodies were, of course, no less perfectly engineered than the mechanical innards. The next time you see a luxury car of the Twenties or even the Thirties parked alongside one of today's dream-wagons, tap the metal of each. The difference is appalling. Aluminum, used extensively in classic engines to save weight, was used in the bodies for the same reason. The fenders, being the most vulnerable part of the car, were almost always made of heavy-gauge steel sheet. Windshield frames were usually brass or bronze castings, polished and plated. Interiors were the last word in rich but not garish opulence. The classics were built to make every aspect of driving—from settling into the upholstery to dismantling the engine—pleasant luxury.

In basic design approach, most of the classics stressed not high speed but a superabundance of low-speed torque. The Packard Twelve, for example, had so much pulling power that clean, smooth starts could be made in high gear. The rest of the gears were there for "emergency" use, because getting out of high was rarely necessary. Like most other classics, the Packard was a miracle of smooth running. The famous Rolls-Royce trick of balancing a coin on the idling engine could be performed just as easily on a Packard or a Lincoln Twelve or a Marmon or a Cadillac Sixteen.

Even though today's cars—largely because of improvements in the areas of detail rather than invention—can outperform the noblest classics in many ways, none can deliver the immense power of the classics with the kind of silken smoothness and near-perfect si-

lence that they were able to achieve.

The circumstances that made classic cars possible were a complex of many factors. An important one, of course, was the economic situation of the time. It is no coincidence that most of the classic manufacturers who did not produce a low-priced car to support their prestige model went out of business soon after the Depression. But there were other, more subtle factors too.

One was that "distinction" meant a lot more then than it does today after a generation of ad writers has made it available to anyone with the price of a pint of whisky. Another element was the sense of craftsmanship that had not yet been overwhelmed by the plastic-jukebox age. And another was a way of life that still placed great value on permanence. Classics were made in a time when a man thought in terms of building for future decades and future generations rather than for a quick resale.

These elements of the classic philosophy were nicely stated in a Rolls-Royce ad of 1923:

"To build a motor car so that it shall serve its owner permanently, as his house does, and not transiently, as does his apparel . . .

"To build it with every thought for those who will ride in it—for their safety, their comfort, their convenience and for their sure arrival, however far the destination, however rough the way . . .

"To build it with every thought for the man or woman who has invested in it—not only that its service may be long, but that there may be no interruptions for repairs, and no unforseen expense . . .

"To build it so that it shall yield the utmost mileage from the fuel that it burns, not merely because the saving is important, but because simple efficiency includes economy . . .

"To build, in all, not the most luxurious motor car in the world, but the most perfect—remembering that perfection respects all details, and ignores not one."

There are still a few cars in Europe that are built more or less according to these specifications. One of them is today's Rolls, another is the Mercedes 300 S. But it's been a long time since a classic has been made in America. There has, of course, been no thundering demand for one. But the fact that classic car fans exist in surprising numbers and that many of them are not nostalgic, backward-looking, middle-aged folks, but kids who weren't born when the classics were new, may indicate that there's a market for an American classic right now.

The Ford Motor Company is betting that there is. Their new Continental experiment is a painstaking, deliberate translation of classic traditions into modern machinery and modern needs. It's not impossible that this one costly and carefully studied effort may put the U.S. on the threshold of a new classic cycle. •