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The Brush's detractors sniped: "Wooden frame, wooden axles and wouldn't run."¹³

The Model T's key components, in contrast, were crafted from a new type of steel, vanadium, that was lighter but stronger than traditional carbon steel. "We defy any man to break a Ford Vanadium steel shaft or spring or axle . . .," the company's sales literature boasted.¹⁴ The car's four-cylinder engine also had a one-piece block and a detachable head, an unusual design for its day. This made it easy to get inside the engine, which in turn made it simpler to manufacture and repair than most other engines.

Most critically, the Model T was the first car with fully interchangeable parts. If one part failed or was damaged, it could be quickly and cheaply replaced. At 1,200 pounds, the five-passenger touring model weighed 400 to 600 pounds less than comparable cars. Instead of relying on a heavy chassis to withstand primitive roads, the Model T used a light "three-point" chassis and a

suspension that flexed with the road, a blessing with certain drawbacks. One joke of the day described a man who named his Model T the Teddy Roosevelt because, he explained, it was the "Rough Rider."¹⁵

The Model T could go up to 40 miles an hour and got nearly 20 miles on a gallon of gas. The driving controls were quirky, but effective. There were two forward speeds and three floor pedals: one for reverse gear, one for the brake, and the third for the clutch. The accelerator was a stalk mounted on the steering column, like a modern turn signal. The car's construction had no gas gauge, no shock absorbers, and no fuel pump. The carburetor drew in gasoline by gravity. Thus a Model T low on fuel couldn't climb steep hills because the car's angle prevented gas from flowing into the engine. The solution was to back up the hill in reverse.

Despite those drawbacks, as word of Henry Ford's new creation spread, the public reacted with the enthusiasm reserved a century later for iPhones and iPads. Advance orders for 15,000 Model Ts—nearly twice

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the company's total sales the previous year—flooded Ford. In May 1909 Ford stopped accepting Model T orders for two months because the backlog was so big. A month later a Model T finished first in a highly publicized cross-country race from New York to Seattle, taking twenty-two days and averaging 7.75 miles an hour. The victory later lost its luster when the car was disqualified because the engine had been replaced during the race, which was a blatant violation of the rules. But by then the publicity bonanza paid off.

The combination of affordability and versatility made the Model T a sensation, bringing car ownership to thousands of people who previously had deemed it beyond their means. A whole new group of companies soon were launched to produce accessories for Ford's "flivver," an idiom of the day for a small and inexpensive car. One device had spiked steel wheels that would let a farmer drive his car into his fields to haul a mechanical reaper, and others harnessed the Model T's engine to

saw wood or to pump water. Dozens of smaller attachments came to include one that converted the car's engine manifold into a cooking grill.

In 1912 the company built nearly 70,000 Model Ts, and the price of the basic two-seat "Torpedo Runabout" model had been cut to \$590. A year later, in 1913, Henry Ford unveiled another innovation: the moving assembly line. His engineers had been inspired, in part, by the *disassembly* lines of the stockyards of Chicago, where each worker performed a distinct task in cutting up the carcass of a cow. Ford first tried the assembly line concept on the subassembly of components, and found that productivity for those parts immediately surged some 40 percent.¹⁶

Ford spread the concept to other subassembly areas: dashboards, engines, and the chassis. He then created a main assembly line for the full car. To simplify production and boost productivity further, the Model T would no longer be available in red, green, gray, and dark blue, as it had been for years. Instead, Ford

declared, customers could have the car in “any color they want, as long as it’s black.” Ironically, the exact shade was “Japan black enamel.” Had Henry known what Japanese competitors would do to Detroit decades later, he might have picked a different color.

With sales surging and profits booming, the company next transformed not just the auto industry, but all of America. On January 5, 1914, Couzens summoned reporters to his office and read a statement. Ford Motor, he said, would “reduce the [daily] hours of labor from nine to eight, and add to every man’s pay a share of the profits of the house. The smallest amount to be received by any man 22 years old and upwards will be \$5.00 per day.”¹⁷ Initially the new policy didn’t include women workers. They weren’t deemed to be supporting families, though that policy was changed a couple years later. The same reasoning excluded men under twenty-two, though Couzens announced that “Young men who are supporting families, widowed mothers, younger

brothers and sisters, will be treated like those over 22.”¹⁸

Couzens, the no-nonsense finance man, championed the \$5 day instead of Henry himself, many historians say. Either way, it’s clear that commercial considerations were as important as idealistic ones. Alienation was growing among Ford workers, many of whom struggled to support families on the average Ford wage of \$2.34 a day. Turnover at Ford’s Highland Park factory approached 400 percent a year, and the constant cost of training new employees was high. Perhaps most important, Couzens, whose duties included managing sales and distribution, argued that a \$5 day would be a masterstroke of marketing.

Other industrialists condemned the move. The *Wall Street Journal* editorialized that Ford “has in his social endeavor committed economic blunders, if not crimes. They may return to plague him and the industry he represents, as well as organized society.”¹⁹ For all its progressiveness, the new pay policy came with