



THE RESURRECTION OF VICKY

Balancing an engine

PART 14

By Ken New

Engine balancing is not a do-it-yourself procedure. To install a balancing machine in the average collector car owner's garage is rather absurd. Not only does a balancer take up a lot of precious room and cost an arm and a leg, operating such a sophisticated piece of equipment is far beyond the knowledge or ability of the average old car owner who may never own more than a half-dozen collector cars in his lifetime. Balancing an engine is a big job which should be left to a trained professional using top quality equipment and state-of-the-art technology.

Since the series of articles on the restoration of *Cars & Parts'* project car, a gorgeous red and white 1955 Ford Crown Victoria, began in the fall of 1986, many readers of the magazine have written to express opinions on the project, offer helpful advice and to praise the staff's efforts. Most wrote to say that they liked the series and that many of their questions about restoration had been answered.

But one writer challenged *Cars & Parts* to keep the Vicky restoration series "in the backyard" — away from the likes of a modern well-equipped machine shop. He

1. More efficient fuel use, smoother operation, increased horsepower and 100% longer engine life are benefits derived when an engine is balanced. Terry Hygema, Classic Car Centre's machine shop supervisor, balanced Vicky's reciprocating and rotating engine parts to within half a gram.

2. The balancing process began by weighing the eight pistons individually on an extremely accurate Stewart-Warner digital component scale.

3. The heaviest piston pushed the scale to 566 grams while the lightest weighed in at 559.5 grams for a 6.5-gram variance. Each weight was recorded on the piston with a felt marker.

4. Machinist Jim Roach fly cut the inside of the heavier pistons on a lathe to match the lightest piston at 559.5 grams.

5. Roach points to the piston skirt area provided for cutting away excessive weight. Since all piston designs aren't the same, location of pad for weight removal can vary from one design to another.

6. Only the lightest piston wasn't trimmed. All pistons matched within half a gram in weight after machining.



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