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Show-Quality Shaker Hood Scoop Detailing

Detailing the superb Shaker hood scoop

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September 21, 2016

The Shaker hood scoop, Ford's wildly popular cold-air induction system, was proposed as a styling element when Larry Shinoda arrived at Ford from GM. But as it was, the Shaker was a non-functional, dummy hood scoop, merely a cosmetic decoration. Shinoda successfully pushed to make it functional.

It first appeared as an option on 1969 Mustangs as part of the R-code 428 Cobra Jet Ram Air engine package. On the September price schedule, a 428 CJ with the Ram Air setup cost $133.34 more than the Q-code, non-Ram Air 428CJ.

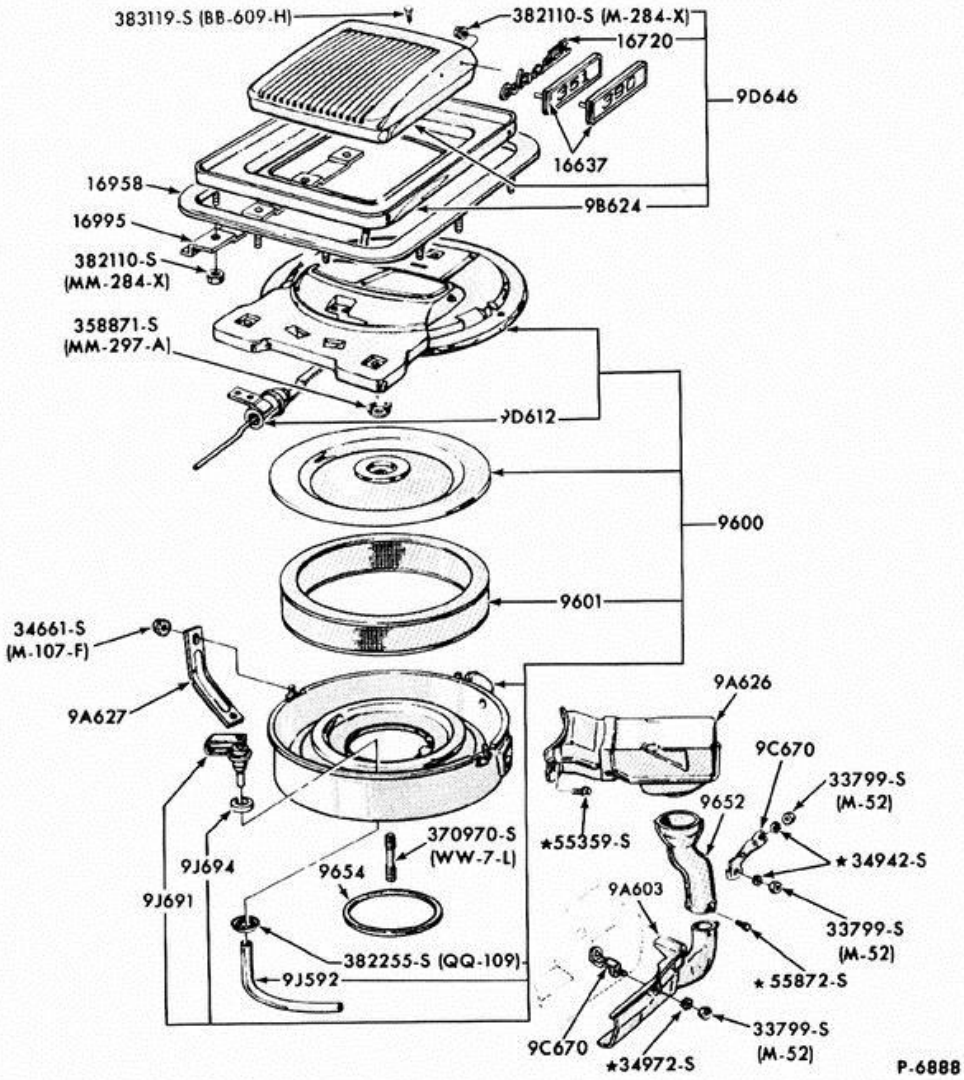
Later in the model year, availability expanded to the Mach 1's base 351 Windsor, optional 390, and the mid-year Boss 302. The Shaker remained an option in 1970 but was dropped from the Mustang lines as an option for 1971. On mid-size Fords, the Shaker continued as an option on 429- and 351-powered Torinos and Cobras through 1971, though with a different Shaker top. Like the popular Magnum 500 wheels, the Shaker was not available on Mercurys. Ram Air with a hood-mounted scoop was, but not with a Shaker.

Though the Shaker base looks very similar to conventional non-shaker breathers, they are different units. Shakers also have three studs to mount the Shaker lid and upper components.

Functionally, Shakers drew air from the snorkel, just like conventional Ford breathers during normal engine operation. High manifold vacuum at part throttle held the flapper door shut. But when manifold vacuum dropped to 7 inches Hg or lower, the flapper door (official Ford lingo calls it a "Ram Air Valve") opens and the engine draws cool air through the Shaker from outside the engine compartment. It's a nifty gadget that's high on style and adds value to a Mustang.

Piecing one together is expensive, and reproductions are available through Scott Drake and other retailers. However you choose to go, getting it to look like a factory original is important. Jeff Yergovich of R & A Motorsports in Lee's Summit, Missouri, walked us through a vintage Shaker to see how they're put together, and how to detail one to show condition.

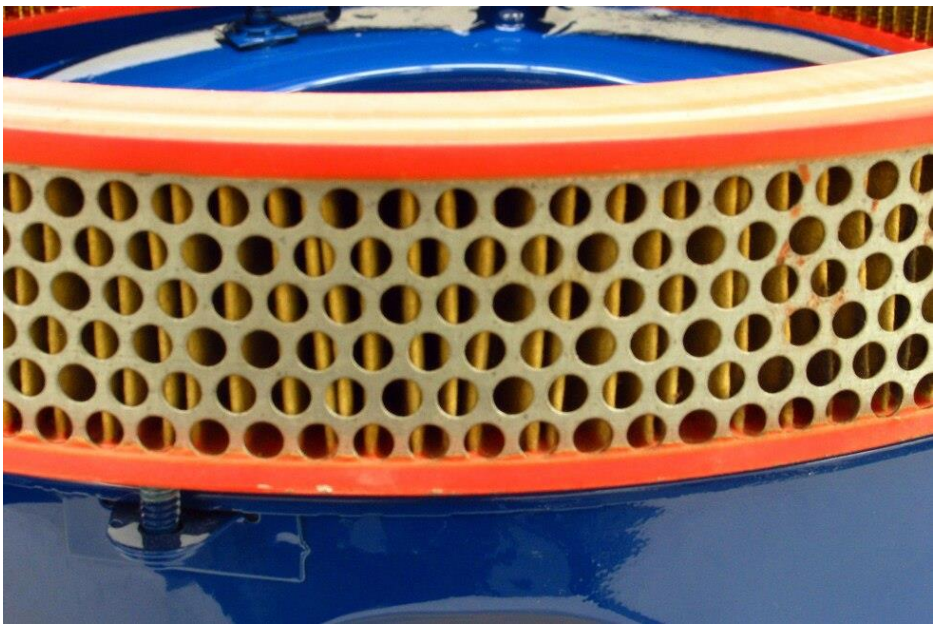
01. The Shaker base was very similar to non-Shakers, but from the lid up, it was a whole different ball game. Ford literature shows that part of the 428 Ram Air package was a 3.50:1 open axle. Non-Ram Air Mustangs got the 3.25:1 ratio.



AIR CLEANER - 8 CYLINDER - RAM AIR
1969 MUSTANG (351, 390, 428 COBRA JET ENGINES)
1970 MUSTANG - 8 CYLINDER 428 ENGINE

02. Straight from the Ford Assembly manual, this exploded shot shows all the parts, right down to the clips and fasteners, and how they go together. Note: The 428's "Cobra Jet" is the only side badge in script; 351 and 390 engines have the rectangular block ID. Boss 302 Shakers have no badging on the side.

03. Shaker bases look the same, but have different heights to place the Shaker at the correct level for the hood, taking into account the actual engine height. Three tabs with studs are spot welded onto the base to mount the Shaker assembly. The breather lid is painted blue, which resists moisture better than chrome. The only two stickers on the breather base are the engine ID sticker on the lid, and the Autolite brand sticker on the base. The wing nut is silver cad plated, and blue paint is standard Ford Corporate Blue.



04. This reproduction Autolite air filter is about as close as we can come to assembly line originals. The repro has orange top and bottom with dark yellow paper media and a silver outer screen with round hole mesh. Assembly line filters were the same color, but with a finer wire in a diamond-shaped mesh. Modern filters like K& N offer improved airflow, but vintage style filters will score extra points at shows, provided the judges check them. Serious car show competitors often have a show-only filter.

05. To help secure the Shaker setup, given its extra weight, this brace attaches to the breather base on the driver's side. The round hole (left) attaches to the stud rising from one of the intake manifold bolts. The elongated slot fits over the stud on the side of the breather base. The brace is painted semi-flat black and the bolts, with captive star washers, are black phosphate. 351 Shakers have a separate bracket on the intake instead of the stud bolt.

06. The 428 and 390 Shakers use this squared-off snorkel, which has an angled offset where it attaches to the base. Fasteners are plated silver cadmium. 351W engines used a similar looking snorkel, but without the angled offset. The two are not interchangeable. No stickers go on the snorkel.

07. These three black phosphate-plated nuts with captive star washers (inset) hold the Shaker top to the base. The stud is painted Corporate Blue along with the rest of the base, so the center should have blue paint visible.

08. At the front of the Shaker, just below the air intake, is this Philips-head screw helping hold the Shaker top to the frame. It is plated in weather-resistant black phosphate.

09. With the top of the Shaker upside down, you can see the frame it attaches to. Both are semi-flat black. Beneath the frame is a rubber water seal that catches the water that gets between the Shaker and the hood, and drains it out through the rubber tube (front). The drain tube should be routed down in front of the driver's side cylinder head to drain water out onto the ground. These occasionally get misrouted to discharge into the distributor area, allowing water to seep into the oil.

10. Here's what's beneath the Shaker scoop. The Shaker top mounts to this frame, which sits atop what some call the mid-plate. All of this mounts above the air cleaner lid and is painted semi-flat black. Fasteners are black phosphate. The rubber water seal is left out of this picture to show the "mid-plate.

11. Out of sight when installed on the engine, the vacuum motor pulls open the flapper door when engine vacuum drops below a predetermined level. The sound of the flapper door snapping open and shut in response to jabbing the gas pedal has become an endearing sound to those familiar with it. The vacuum motor and mounting nuts are silver cad.

12. This black ring trims the hole in the hood that the Shaker sticks through. Two reinforcing plates go along the side, and 10 studs with speed nuts hold it tight. A bit of dum-dum (body sealer) goes underneath according to the Ford assembly manual. R & A Motorsports offers hardware kits for attaching the ring.

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A great idea stands the test of time. Though the Shaker lasted only two years as a Mustang (1969 and 1970) and Torino (1970 and 1971) option back in the day, it was too good an idea to lay dormant forever. In 2003, the Shaker reappeared as a standard feature on the Mach 1 Mustang. Manufactured by Classic Design Concepts, it was also available as a very popular aftermarket item.

Sources:
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