

715 HOLLEYS

Everything You Ever Wanted To Know !

– Bill Heinson

When the GT350 Mustang project was gearing up, the people at Shelby found that they needed something that wasn't readily available. What they needed was a four-barrel carburetor that would work on a 289 small-block and maintain fuel control on a road race car. This carburetor also needed to be usable on the street and, as with every part that went on a GT350, had to be low cost. Cobra race engines used four two-throat Weber carburetors, which are generally recognized as the finest carburetion system ever designed. Webers worked flawlessly (as long as someone stayed on top of them) but they were both very expensive and impractical for a street car.

Most of the Holley carburetors at that time would flow a sufficient amount of air, but they had floats that pivoted on the side. They were fine as long as you were going in a straight line. When you added some speed and the centrifugal force increased during hard cornering, they couldn't control the all important fuel level inside the float bowls. The fuel level inside a carburetor controls the timing of all of

the fuel delivery circuits and needs to be maintained for proper fuel delivery. A race driver would find himself hung out in a corner and at the critical time when power is required, it's not there because either way too much or no fuel is being supplied to the engine.

Along with the fuel delivery problem, the carburetor had to flow sufficient air for the engine to develop around 350 horsepower. One thing was evident right away—the 4100 series Ford carburetor used on the 289 Hi-Po wasn't going to work. Even if this unit could be modified to flow sufficient air, the floats were still hinged on the side and it did not lend itself for much in the way of re-designing. GT350 project engineer Chuck Cantwell turned to the Holley Carburetor Company who had been supplying carburetors for big block Ford and Chrysler performance engines.

Almost all of the Holley carburetors at that time had side-hung floats. At some point in the early 1960s, someone—either at Ford or Holley—recognized the need for a carburetor that had floats which pivoted in the center. This is how the unique “center

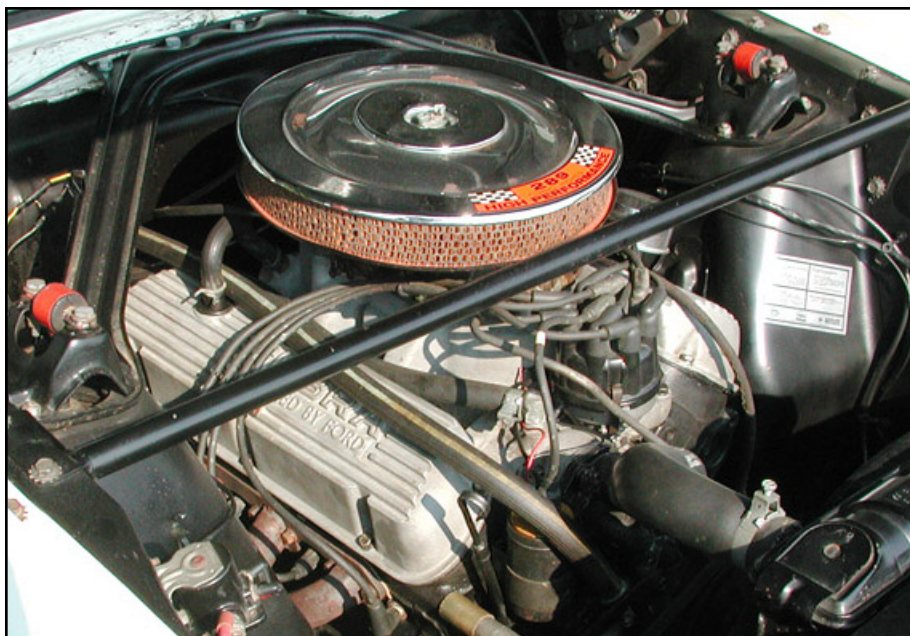
pivot” float bowl, which eventually came to be called the “LeMans bowl,” came into being. The earliest production LeMans bowl carb is likely the 2953, which was used on the 1965 410 HP 427 Ford.

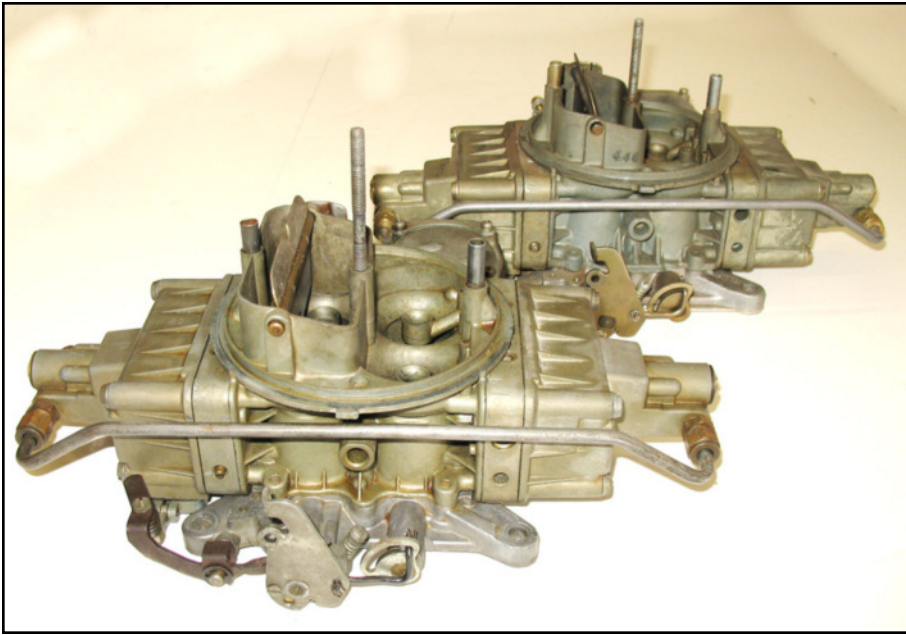
Incidentally, the name “LeMans” was coined for a particularly interesting carburetor that Holley never released for production. It was installed on the 427-powered GT40 MK II and does not appear in any Holley engineering literature. These prototype units had engineering numbers that were usually hand-engraved. They have a number of features found on later racing carbs, such as the air horns milled off the primary side where the choke plate would normally reside; cam-operated throttle linkage opened the primary and secondary side of the carb at the exact same time; and large diameter throttle shafts supported by ball bearings. If you have a copy of “Remembering the Shelby Years,” page 307 shows Steele Therkleson and another Shelby tech working on two of these carburetors.

Holley also supplied a carb for Chrysler in the form of a three-barrel for the 426 Hemi. The list number was 3085. The carburetor intended for the GT350 was designated List 3259. At 715 CFM, it's the smallest LeMans bowl carburetor in air flow but the largest number of units produced. (The three other carburetors, the 2953 was 850 CFM, the 3085 was 950 CFM, the 3255 was either 750 or 780 CFM depending on which Holley manual you are reading).

The 3259 shared the float bowl assemblies with the big block carburetors, but not much else. This carburetor has a lot of components in common with an earlier performance carburetor, the 2668 that was used on the 410 HP 427 low-riser and some 289 Cobras.

The first carburetors intended for the 306 HP 289 on the 1965 GT350s were stamped with the list number





Two identical "LeMans" float bowl 715 CFM 3259 Holleys. The one in front is an original unit, dated December 1964. The carb in back is a service replacement from Holley. There are subtle differences between the two units. The accelerator pump arm on the original is black, the replacement is plated. The secondary close link is black on the original and plated on the replacement. There is also a huge difference in the value of these two carburetors.

followed by a three character date code. That's all; no "S1MS" number. This is important to mention because a noted Shelby restorer related to me that he sold a guy the correct carburetor for his car. The customer assumed it should have an S1MS number and when it wasn't there he complained, loudly, that he had been sold an incorrect carb. Until the early 1970s, Holley dated their carburetors with a three character date code. The first number was the year, the middle character was the month and the last number was the number of the week the carburetor was manufactured. To designate the months, they used 1 for

January thru 0 for October, November was A and December was B. For example, a 4B5 date stamp meant the carb was manufactured 1964, December, 5th Week.

It appears that the time frame from design/manufacture to installation on the 1965 GT350 was cut pretty close. The first 3259s were produced at the end of 1964. The very earliest date code found so far is 4B2, which decodes to the second week of December of 1964. Recently surfaced paper work from Holley in the form of a single surviving engineering data sheet, [page 6 of 6] shows a file date of November 17, 1964. The project was

released to manufacturing on December 2, 1964. Since the first production GT350s were built in January 1965, the carburetors arrived just in time. SCCA signed off on the car for the 1965 season and the rest is history.

As is typical with just about all limited production cars, issues surfaced and updates were made. The second series was the "List 3259-1." This carburetor carried a Shelby stamped part number "S2MS-9510A" along with the date code. Some of the changes involved richer primary jetting and more material in places that tended to warp on the earlier units. This was done in mid-1965 (probably after the carry-over cars were produced) and continued on the 1967 GT350s.

One other thing worth mentioning about the LeMans float bowls is that they had a very short life, disappearing after 1967. There were a number of reasons for this; one was the fact that the float levels couldn't be adjusted from outside the car. Another was that on large displacement street driven engines, the placement of the needle valve was very low and close to the intake manifold causing heat to leach into the carburetor and boiling the gas inside—a condition known as "heat soak." The second design center pivot bowls first installed on the 1965 396 Chevrolet engines and on all of the performance aftermarket carburetors since cured these and other problems.

A few of the small letter intake manifolds and 3259s were installed on 289 Cobras at Shelby American. Nine cars had aluminum intakes, six used the 2668, three with the 3259 carb. Production of these cars was winding down in 1965 as the new 427 models



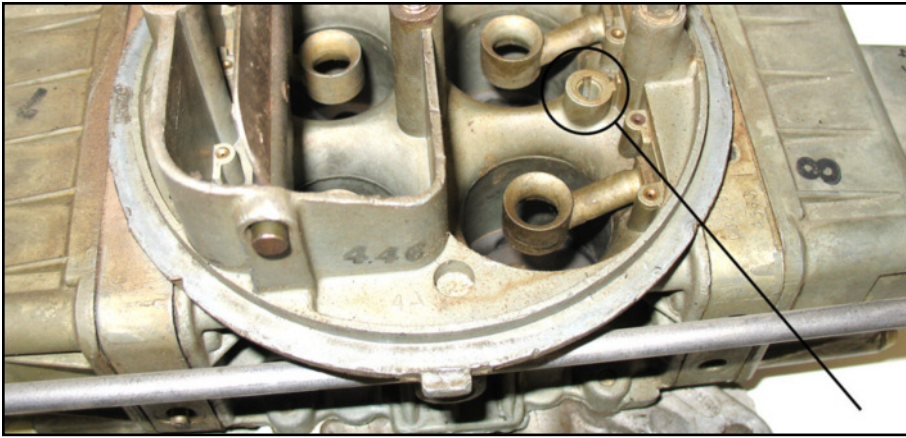
The original carburetors had the List number and a three character date code. That's all. Seems kind of a shame to pay big bucks for so little.



This one is a re-issue carb. It was manufactured the 270th day 1982.



This is the later updated 715 with the S2MS number. Manufactured the third week of January, 1967.



This photo shows the secondary accelerator pump squirter boss as cast into the service replacements. I can not tell you how many of these carburetors I have seen for sale on eBay with this boss being advertised as original units.

began to arrive. The carburetors showed up after most of the cars were long gone. The 3255s and 3259s were also offered through the Shelby aftermarket performance parts program.

Most of the first 100 1965 GT350s had a carburetor stamped 4B2. Something else that should be pointed out was the fact that in 1965, Shelby American was one busy place. They were finishing up the 289 Cobras, moving from Venice to the LA Airport and gearing up for the 427 Cobras. And Ford handed them the GT40 project with orders to win LeMans. All this was happening while other people at Ford were breathing down their necks wanting to see white Mustangs with blue stripes winning on Sunday and flowing out of dealership showrooms on Monday. Since Shelby had a group of what could be described as supermen working for him, this was an "inconvenience" but doable. Did I mention that they also were in the process of winning the World Manufacturers Championship with the Daytona Coupe that year?

Another thing that has to be mentioned is the appearance of replacement carburetors. Holley re-issued the 3259 in the 1980s, owing to a demand from Shelby owners restoring their cars. There are a number of ways to identify these newer carburetors. The four digit date code is one. Holley went to Julian dates composed of four numbers: the first 3 digits are the day of the year, the fourth digit is the last digit of the year. For instance, a date code of 0311 would mean that it was built on the 31st day of the year (January 31st) and the year is either 1971, 1981 or 1991. A date code of

1520 would mean that it was built on the 152nd day of the year (May 31st or May 30th in a leap year) 1980. Another sure fire way to tell a later replacement carb is the presence of the secondary accelerator discharge nozzle boss located between the venturis on the secondary side of the carburetor. There was an accelerator pump nozzle mounted there on the "double pumper" carbs. For the vacuum secondary carburetors it was left unmachined. This feature does not exist on the original carbs.

Paying attention to dated items was just about the last thing on anyone's mind at Shelby American. This is evidenced by the fact that there was no attempt made to note or maintain any kind of order with Shelby SFM numbers assigned to Ford VIN numbers on the Mustangs. They couldn't even get the first three GT350s assigned the correct numbers; the first prototype car was assigned SFM5S003!

If, for some reason you need to find the correct dated carburetor for your car, keep in mind that these cars were built from January to July, 1965. Shelby American's production department used what was available and could not hold up production because they were out of something. The project manager, Chuck Cantwell, was doing a juggling act keeping production going. One of his many nightmares had to be a production line stopped with the tech's standing around twiddling their thumbs because they were out of something. This simply couldn't be allowed to happen. Being located in Southern California, the hot bed of the perfor-

mance industry, the company used multiple vendors for parts whenever possible. One of the exceptions was the carburetor.

In talking to people who restore these cars, sell and recondition the carburetors and various car owners, I have compiled a list of the carb dates as installed on various cars. On cars where there is a reasonable assumption that the original carburetor is in place, the dates seem to be all over the place. Mid-400 series Shelby's with 4B5 carbs mixed in with 513 and 552 dated carburetors are not uncommon. I can say that if your car has a carburetor with a date code later than when the car was built, it is not the original carb. The usual date code standard, which is one to three months prior to the manufacturer of the car, does not apply here. The 3259 was available from one source only so they ordered plenty. They were used as needed with no thought given to inventory rotation, using the older stuff first. Within reason, (you wouldn't expect to find an early '65 dated carb on a '67 GT350) I would not replace a carburetor because the date is too early.

There is more than one side when it comes to the question of restoration. One theory is to send it off to one of the carburetor restoration shops and have it completely reconditioned and re-plated. You end up with a new look, factory fresh finished carburetor. The other theory is not to disturb the original finish if possible. The early carburetors were not plated the same color as the later ones. The list number was also stamped in ink on the left side of the air horn. This ink stamp usually disappeared the first time the carburetor was chemically cleaned. The presence of an original stamp here is extremely rare and highly desirable. The question of restoration is best left to the individual car owner.

The information contained in this article is the result of talking to a number of knowledgeable Shelby and Holley people. Dan Case and Dick Roush supplied invaluable information. There may be more information to be had as I am always looking. I have been told that there are 3259s dated 4B1, but I have never seen a photo of one of these. Any inaccuracies in the above information are strictly mine and I plead the fifth. (I may also drink a fifth, but that's another story!)