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TUNNEL OF LOVE

Some 317,404 Mustangs were produced in the 1968 model year run, with the majority (249,447) of them being Hardtop Coupes. Fastbacks, which accounted for 42,325, were popular with the street performance crowd, including one in particular for its role on the streets of San Francisco in *Bullitt*, with Steve McQueen behind the wheel. Meanwhile 25,376 convertibles were assembled for open-air lovers. Ford's Pony Car was still selling strong in '68 and the Ford advertising folks said the car 'made dull people interesting and interesting people absolutely fascinating!'

Nearly any combination of engine options, from the base six-cylinder to big blocks, could be ordered for any body style, and 17,458 'GT Package' versions were built that year, equipped with GT fender markings, side stripes, front fog lights (round), GT gas cap, Wide-Oval tyres and GT 'Styled' steel wheels.

For certain sales regions of the country, special limited edition Mustangs were offered, including a GT/CS California Special variant for Golden State buyers, which were hardtops fitted with a side scoops, rear spoiler, Shelby large tail lights, special side stripes, turn-screw hood locks, and blacked-out grille (less the standard Mustang emblem) along with rectangular fog lamps. An equally unique 'High Country Special' version for Mustang purchasers in Colorado was created as well. These special

Jim Maxwell looks at a Mustang with a 38-year racing pedigree, and a healthy dose of power from a legendary small-block that was the boss before the Boss; behold the Tunnel Port!

Words & Photography: Jim Maxwell

This car has had a colourful racing history, but it ain't ready to retire yet!

Mustang hardtops were actually the brainchild of Carroll Shelby, who was a hero to the Ford Motor Company during this era by creating loads of publicity (along with extra car sales) with his Shelby Mustangs. Hardtop Mustangs were not ignored by Ol' Shel, as he proposed a Paxton super-

charged, Cobra Jet-engined production Mustang in late 1967 to the bigwigs at Ford. While the front office didn't bite for the engine option, the sales office chose to run with the styling changes only of the Shelby prototype car, therefore creating the two regional Mustangs. Carroll Shelby was 'the man'



RACING LINES: TUNNEL PORT MUSTANG

when it came to road racing Mustangs, be it his own Shelby fastback versions, or standard Mustang hardtops built for all-out competition. Because of Shelby's know-how and the efficient race organisation he built, Ford won the Trans-Am Sedan Racing series points championships in both 1966 and 1967, thanks in a large part to his efforts. In '66 there were private Trans-Am Mustang racers competing (customers of Carroll Shelby) and they did quite well, even without full factory support. However, for the last race of the season, Ford hired Shelby to assemble a car to run the event (to help gain points for the championship battle) and it won the race, securing the season points championship.

For 1967, Ford went all-out bank-rolling Shelby with a two-car team in the Trans-Am wars. Ol' Shel wittily called it the Terlingua Racing Team, named after a tiny West Texas ghost town located about 'eight hours from nowhere', near the Chiricahua Ranch where Shelby spent time relaxing. The on-track competition was serious, but there was always time for a little fun, hence the crazy race team moniker.

SCCA (Sports Car Club of America) Trans-Am racing was the rage in the Sixties, and the hard-fought battles between Chevy, Pontiac, Ford, Mercury, Dodge, Plymouth and American Motors from these glory days are now legendary by any standards. Tight, twisty tracks, others with long straights good for 150mph-plus speeds, switchbacks, esses, chicanes, hills and hard braking made it very exciting to watch and participate in, providing door-handle-to-door-handle racing.

In 1968, production Mustangs changed over from the tried-and-true 289 V8 engine to an updated 302cu.in. version and for the racing Mustangs, there was a brand-new 'Tunnel Port' version of the 302 that replaced the old 271hp K-code 289 that had been so successful. SCCA rules called for a 305cu.in. limit for Trans-Am racing, so the new, larger 302 displacement was ideal.

The beauty of the 302Tunnel Port race engine was its cylinder heads. Stamped with part number C8FE-6090-A, Tunnel Port heads featured large free-flowing intake ports (round) that measured 3.8sq.in. in area at the intake manifold face. The ports were designed to be as straight as possible, drawn from a clean sheet of paper, with the pushrods added afterwards, inserted directly in the centre of the ports and enclosed with thin-wall tube. The exhaust ports were oversized as well, and enlarged 2.12in. intake valves (compared with 1.78in. on the previous 289) allowed for increased breathing, with larger exhaust valves (1.54in. compared with 1.44in. for the 289).

This cylinder head design was exotic - the engineers at Ford were taking this 1968 SCCA Trans-Am series rather seriously! Race versions of the Tunnel Port 302 utilised shaft-mounted rocker



J Bittle with the rare racer that he and his company have rescued and revived

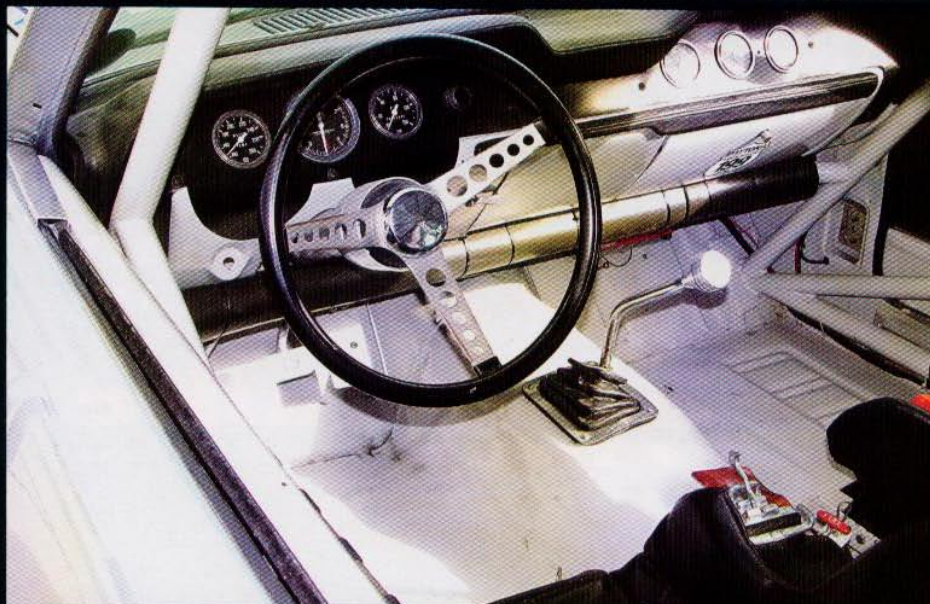


This car is still racing on the Historic Sedans circuit

arms and a solid lifter camshaft. A forged steel crankshaft and 12.5:1 compression pistons were part of the package. The design of the Tunnel Port heads required a special four-bolt mains block (with revised oil passages) to help lubricate the shaft-mounted rockers. There was a unique road racing-style oil pan included, which had an eight-quart capacity.

On top of the engine sat an aluminium eight-barrel intake manifold, fitted with a pair of Holley 5-40cfm carburetors. With the improvements to the blocks and the high-performance heads, the '68 Tunnel Port 302 was designed to





small blocks were assembled. The Ford Motor Company had taken a more active role in the race programme for 1968 and, for whatever reason, they had transferred Trans-Am engine assembly responsibility from Carroll Shelby's West Coast operation to their own Dearborn, Michigan-based Engine & Foundry Division. Perhaps the problem was the United Auto Workers (UAW) fitting together powerplants designed for pure racing, ones that they may have had only passing interest in.

Poor-quality engine assembly and a continual oil starvation problem (experienced after sharp curves of the race track) created numerous engine failures and a disastrous Trans-Am season for Ford ... Chevy's Penske Team easily won the points championship and the majority of 1968 events.

Besides the two 1968 Shelby team cars, there were a few other Tunnel Port Mustangs competing, including the 'independent' car of Ed Hinchliff from Ypsilanti, Michigan, a Ford Motor Company employee (Advanced Vehicle Development) with a passion for speed. Hinchliff purchased a Mustang hardtop through the employee purchase plan and was able to obtain one of the rare 302 Tunnel Port engines as a result of being friends with Ford's Lee Morse, one of the people in the racing department at the time.

Ed and his Engine-Engineering buddies at Ford tried many unique set-ups on the Tunnel Port engine, including the use of now-rare intakes manifolds (incorporating single plane spider-style runners) he utilised in testing. Ed also used a rare 'ram box' style of Tunnel Port intake manifold,

be a very potent and reliable engine, developing 420 horsepower with an 8500rpm redline.

The very first race for the Trans-Am series in 1968 was held at the Daytona Speedway and a Shelby Team car saw an instant victory. Power from the Tunnel Port was impressive and the future looked bright for the Mustangs for the

new season. But the overall success of the previous two race seasons didn't carry over during the '68 racing events. The engines produced lots of horsepower, but the reliability was less than stellar. Only two more races were won with Mustang Tunnel Port 302s that year, and many feel the problems were centred on how and where the exotic

Now back in its original livery, this car has all the comforts of a true road-racer ...

... i.e. not many! But when a car looks this good stripped-out, who needs comforts?





which were the predecessors to the famous Boss 302 plenum manifolds.

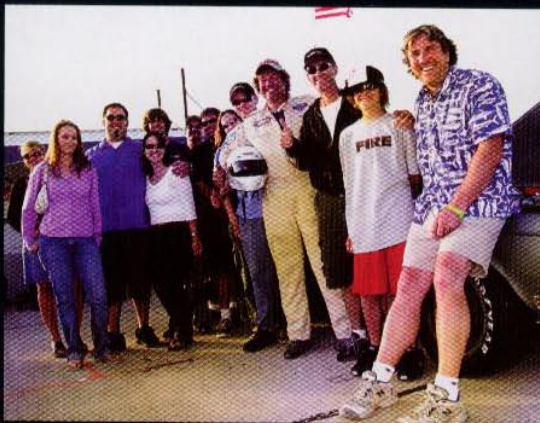
At the end of the 1969 season, Steve Ross purchased the car and repainted it Light Yellow prior to his campaigning it in five T/A races in 1970. In 1971 the Hinchliff/Ross '68 Mustang was sold and campaigned in the Mexico City FIA Road Races through the early Seventies, where it wore bright red paint and the number 65 on the doors.

This Hinchliff/Ross 1968 Mustang was brought out of Mexico in 1995 by Mark Gillette of Dallas, Texas, sold to three subsequent owners, prior to its purchase and restoration by J. Bittle. It is also documented in the Trans Am Road Racing Registry as Historic Vehicle No. 66, the Hinchliff 1968 T/A Mustang. Today it's a historical piece of Ford Trans-Am racing history, and still sees duty on America's road racetracks.

An interesting footnote in the history of Hinchliff 1968 Mustang is its use by Ford Motor Company for the filming of a movie documenting the Trans Am season, *Ford Flat Out*. There were modifications to the roll cage and roof for the camera mounts, which were distinguishing characteristics that helped verify the heritage of this car following its discovery over 10 years ago down Mexico way.

J. Bittle went through great efforts to search out and locate all the correct components (including one of the ultra-rare 302 Tunnel Port powerplants) to revive the former SCCA Trans-Am machine to its former glory, and today it is restored to its original 1968-1969 condition, save for some safety upgrades.

His company, JBA Headers, came up with a set of 1.75in. diameter, 34in. primary tube length 'Shelby Team Car' headers and matching era-correct 3.5in. side exhausts. MSD ignition was added and today, thanks to modern



Racing is a true family affair ...

A very rare find - an original Tunnel Port 302 and dual-quads

technology, camshaft improvements and careful assembly (done by the staff at J. Bittle Racing Engines) the engine produces an impressive 470 ponies.

After a lengthy restoration process

(that included help from wife Vicki, and kids AJ and Austin) the Silver Mink-coloured Mustang racer today is a true time-warp machine. The car was part of the big Ford 100 Years of Racing celebration in Dearborn and is an important part of the road racing history of the Mustang. Bittle loves to run the car hard and it makes for a great escape (on selected weekends of the year) to go out and recreate the on-track excitement of 1968! ✦

For further detailed info on the history of this car, check out: www.jbaracing.com Thanks to all the hard work and dedication that went into the lengthy resurrection of this race racer, today it can proudly flex its Tunnel Port muscles and has proven to be a very fast and reliable performer, even when pushed hard at the historical events it participates in.

