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520HP Small-Block
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ROAD-RACER
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INTAKE

That's a rare Trans-Am Tunnel Port aluminum intake for the Windsor inline-style heads that were part of Ford's Trans-Am engine arsenal from 1968 through 1970. The intake even has factory C8FE-6090-A casting numbers. The carburetors are Holley vacuum-secondary 615-cfm units turned 180 degrees to simplify the linkage.

HEADERS

You can't expect a car owned by JBA not to have a set of custom-built 1¼-inch headers that transition directly into a set of 3½-inch side pipes open for all to hear.

HEADS

Vintage road racing rules push the concept of using only parts that were in vogue when the car was raced, so the 302 uses ultra-rare vintage inline Windsor Tunnel Port heads ported by John Bridges and fitted with 2.055/1.60-inch intake/exhaust valves. The intake ports cover a massive 3.8 square inches at the port mouth making them the largest-ever Ford small-block heads.

SHORT-BLOCK

A new-school Ford Racing block would probably be more durable, but the rules call for a foundation that's now sneaking up on 40 years old. JBA Racing Engines used a Crower 4340 steel 3.00-inch stroke crank and Crower 5.50-inch steel rods, pushing 12.5:1 compression Arias pistons. Road racing means keeping everything together, so JBA also used an Aviaid wet-sump lubrication system (dry sumps aren't legal) that keeps the 7,500-rpm small-block fed with 40W Redline race oil.

TUNNEL PORT TRANS-AM 302 FORD / JBA Headers and Performance Products, San Diego, CA

J Bittle has always had a thing for Fords. His company is primarily known for its headers for late-model performance cars and trucks, but J really loves the older muscle. This is the 302ci small-block Tunnel Port Ford that rests in his also-very-rare '68 Trans-Am Mustang. The car is no clone—it's the actual Hinchliff/Ross Mustang that participated in at least eight SCCA Trans-Am races during the tumultuous late-'60s seasons. While the engine may look tame, this is no pantywaist small-block Ford. The incredibly rare Tunnel Port eight-barreled intake and heads contribute to the engine's 450 flywheel horsepower. The dyno chart reveals actual rear-wheel horsepower numbers. Bittle runs the Mustang in various Historic Motor Sport Association (HMSA) vintage road races throughout the West Coast. We've seen some of his "gun camera" footage of race-week adventures at the '04 Chrysler Classic Speed Festival at the North Island Naval Air Station track where Bittle finished Eighth and was right there in the mix against other famous Trans-Am cars like the No. 13 Smokey Yunick Camaro owned and driven by Vic Edelbrock. **By Jeff Smith / Photo: Wes Allison**

The shocks are hangin' loose because we removed the Monte Carlo bar so you could see the engine better.

SCREAMIN' ROAD-RACE POWER

Rear-wheel numbers from JBA Racing's Chassis Dynamics dyno.

| RPM | TQ | HP |
|-------|-----|-----|
| 4,000 | 219 | 165 |
| 4,500 | 237 | 205 |
| 5,000 | 251 | 241 |
| 5,500 | 277 | 293 |
| 6,000 | 295 | 340 |
| 6,500 | 292 | 364 |
| 7,000 | 285 | 381 |
| 7,500 | 275 | 394 |

CAM

The cam in this vintage bullet is a Comp Cams mechanical roller with 273/283 degrees of duration at 0.050-inch tappet lift with 0.640-inch lift squeezing a set of Comp Cams double-wound valvesprings.

VALVETRAIN

Peek under those stock valve covers and you won't find wimpy stock stamped rockers, but still, these Trans-Am wingers had to make do with what Ford supplied. In this case, the valvetrain includes a specially designed rocker-shaft system with ductile-iron 1.6:1 rockers. When you buzz this motor to over 7,500 rpm, you'd better make sure it will live. Think about the heat these rockers are makin' at full song.

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THIS MONTH'S COVER:

Wes Allison saved our bacon again, brilliantly shooting McGean's Camaro at the last possible second. Then management almost vetoed the shot, claiming it looks too good for CC. Meanwhile, we're just embarrassed that we had to use yet another Camaro on the cover.

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