

# Spoiler Alert

REVEALING THE SECRETS OF OUR SNEAKY STREET/STRIP 'STANG

Text and Photos by KJ Jones

**T**hanks to a burgeoning aftermarket, our Mustang hobby has spawned fans of all of the popular EFI platforms over the years. The latest group of hard-core 'Stangbangers in the Mustang Nation is the ever-growing contingent of '11-'13 Coyote 5.0 GT owners who have taken to immediately modifying their new Ponies.

We're equally geeked about Coyotes and ecstatic about such strong enthusiasm for the latest ride. However, the Mustang scene's roots will always be based on the original 5.0s of '79-'95. Yes, Foxes truly make our hearts palpitate, especially the fuel-injected variety. Based on the "more Fox coverage" emails and Facebook messages we receive, it appears a number of you concur.

Those of you who pay close attention to our tech activity are aware of our most-recent Fox Rod effort, Project Cheaper Sleeper. Founded on a '91 LX hatchback, it began when your tech editor picked up the stocker for the insanely low price of \$1,000 ("Beg, Borrow, and Deal," Jan. '13, p. 74).

These days, stock or lightly modded Mustangs of all genres are readily available for low-dollar resurrections of all sorts. With this in mind, our strategy for Cheaper Sleeper is to upgrade the Pony with new and used bolt-on performance hardware on the cheap. Certainly it will have street/strip capabilities, but we've resisted the urge to add beauty to the brawn. That's the other part of the plan—keeping our 'Stang looking as unassuming as a good street sleeper should.

Our longtime engine specialist Rocco Acerrio of A.R.E. Performance & Machine [(805) 583-0602] and Jack-of-all-Mustangs Stevie Morrow from Stevie's Garage [(805) 578-0605] are the dynamic duo bringing together all of our project's proposed trickery. It starts with the undercover engine that you'll read about in the following pages.

Yes, the makeover of our 'Stang's high-mile, stock 5.0 is at the front of this effort.

However, this upgrade evolved beyond the initial plan of simply replacing the top half with a set of Explorer/GT-40 iron cylinder heads, intake manifold, and an aftermarket camshaft.

When you look at the project's bigger picture detailed through the images and comments in sidebars surrounding the engine info, Stevie's knowledge of Fox 'Stangs, masterful craftsmanship, and overall production talent, definitely were the keys to creating Cheaper Sleeper with the high degree of stealthiness that we envi-

sioned from the beginning.

Make sure you give this segment a thorough read, as it lays the foundation for our next installment which will focus on tuning, dynoing, and drag racing our project Fox.

▼ SoCal Fox guru (and veteran street racer), Stevie Morrow, put his infinite mechanical talent and crafty wisdom into Project Cheaper Sleeper's performance makeover. Our '91 LX Mustang may look as plain as they come. But, believe us when we tell you, this street Pony offers a cool that goes far beyond what your eyes can see.



**HORSE SENSE:** When it comes to cost and projects like this being "cheap," we must emphasize that while many of the parts we're highlighting on our Pony are new, that doesn't mean these awesome Mustang pieces are attainable only by buying new parts. Keeping costs low for new equipment, or perfectly fine used gear, is all about having patience, doing good research, and acting quickly when a great deal comes your way.





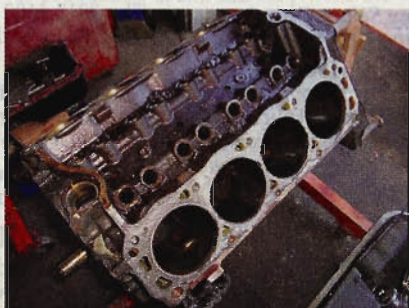
▲ The first order of reconstructive business was extracting Sleeper's high-mileage virgin 5.0-liter engine. In past reports, we've recommended taking advantage of the opportunity to clean up the engine compartment, by rattle-can painting it or installing Scott Rod Fabrication's dress-up panels. While it was tempting to go this route, we limited the cleanup to a good power washing, so as to not draw too much attention to the fresh engine.



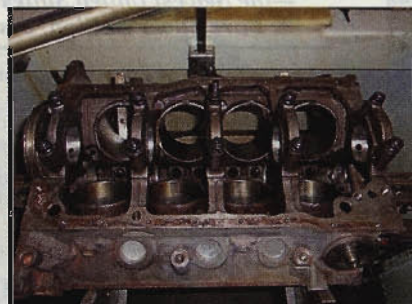
▲ Sleeper's original pistons and rods also checked out well considering the mileage they've endured. However, the same could not be said for the rings or rod bearings. Both showed wear that confirmed we made the right move in pulling the engine instead of simply replacing the heads, camshaft, and intake manifold.



▲ With the engine out and the intake-manifold assembly removed, we're able to see that Cheaper Sleeper's stock bullet was a bit leaky.



▲ Rocco Acerrio (with help from his brother Tony) of A.R.E. Performance & Machine tore the LX's bullet down to a bare block and gave it a thorough inspection, as we were really curious to learn the condition of the 145,000-mile engine.



▲ This is where Cheaper Sleeper's engine rebuild gets interesting. While the block was loaded on the line bore at A.R.E., our initial plan of simply rebuilding the 5.0 with a fresh set of bearings, rings, and gaskets morphed into setting up the engine as a 331ci stroker. The change required opening up the cylinder bores from 4.000 to 4.030. OK, so it's not a stock 5.0 anymore. However, at the end of the day, the increased size is totally undeterminable by simply looking at the engine, right?



▲ Oil leakage was more prevalent on the bottom side of the engine. We have no reason to think the leaking pan-rail gasket isn't original—just like everything else on the bone-stock 'Stang.



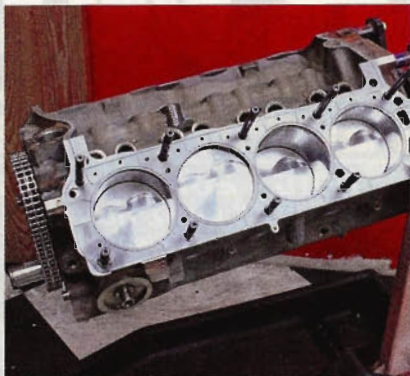
▲ "Despite the oil leaks, this engine really was in fairly good shape," Rocco says. Upon detailed inspection, we found the walls in each cylinder were still clean and within the factory "roundness" tolerances, so sleeves or completely replacing the block would not be required.



▲ The engine upgrade is highlighted by Scat's economical small-block Ford stroker package (PN 1-45160-X), which is available new through online parts distributors for less than \$1,000. The package includes forged 5.4-inch H-beam rods; and SRP's flat-top, 10.4:1-compression forged pistons with 5cc valve reliefs, 0.927 pins, and Total Seal rings.



► Scat's 9000 Series cast 3.250-inch-stroker crankshaft and new bearings round out the set. The crank has standard 5.0/302 main and 2.123-inch rod journals. Note that Scat doesn't offer this stroker combination with a 50-ounce balance, which is standard for '79-'93 5.0-liter engines. Our new crank is a 28-ounce unit.



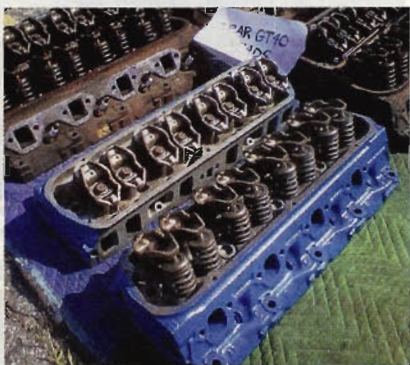
▲ With the Scat rotating setup and camshaft installed, a new Melling oil pump and the stock oil pan complete Cheaper Sleeper's short-block.



▲ Something to keep in mind whenever you buy used cylinder heads (iron or aluminum) is the straightness of their deck surfaces. Warping and high spots are impossible to see with the naked eye, so it's important to check the heads (by running a straight edge diagonally across the head surface or having a machine shop check it) before assembling your engine.



▲ Theoretically, we could have opted for a Ford Racing Performance Parts Boss 302 or 351 block, larger displacement, aluminum heads, and other exotic parts for the engine. However, Rocco believes the stock-block, iron-headed, 331/nitrous approach that we're taking is ideal for budget-conscious street 'Stangs. "The main reason I prefer a 331 over a 347, especially in street applications, is because with the smaller engine there's a lot less sideload on the piston skirt (due to the shorter stroke). This actually helps increase the overall longevity of the engine—a good thing, since the plan is to use the car daily," Rocco said. "A combination like this should be good for 325-350 hp on muscle. Of course, iron GT-40s are a limiting factor if they're not ported well, but with the addition of nitrous, this setup could prove to be a surprisingly good bullet for those who want to move up from stock and not spend too much money."



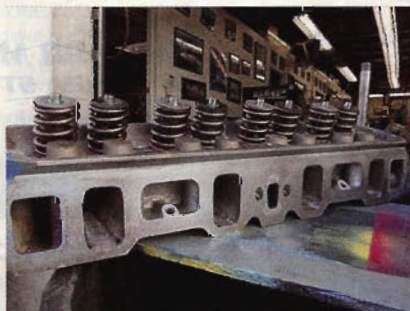
▲ This set of '93 (F3) Ford Explorer GT-40 cylinder heads caught your tech editor's eye at the Long Beach High Performance Swap Meet. The heads, identified by three vertical bars and "GT" symbols that are stamped on the side of the castings, feature 1.84-inch intake and 1.54-inch exhaust valves—slightly larger than the 1.78/1.46 valve sizes for the E7TE castings on Mustang 5.0-liter engines. These castings typically carry a \$100 to \$200 price tag (\$300 for ported heads) at swap meets or on Mustang-parts forums.



▲ An Explorer upper/lower intake-manifold set will top off the new engine. As with the cylinder heads, porting the intake is highly recommended. There are great deals online for already ported intakes. Although we scored the heads and intake as a set (at the swap meet), a Tom Moss-ported Explorer manifold was purchased by way of a classified ad on [www.corral.net](http://www.corral.net). We're using the Moss intake; eventually we'll port the swap-meet manifold and sell it later. Bartering, exchanging, wheeling, and dealing—that's the essence of upgrading any aspect of a Mustang when you don't have a huge budget.



▲ Despite the increase in engine size, we're staying with Anderson Ford Motorsports' N41 hydraulic-roller camshaft for Sleeper's new bullet. The N41 boasts 0.512-inch-intake/0.512-inch-exhaust valve lift with 1.6-ratio rocker arms and 222/230 degrees of duration at 0.050. Lobe separation for the cam is 110. It's a best-of-both-worlds setup for NA or nitrous-injected performance. One of the main reasons for using the N41 is because its valve-lift specs aren't such that new pistons or fly-cut valve reliefs are required. Remember, our original plan was to top off the original short-block while it was still in the engine bay.

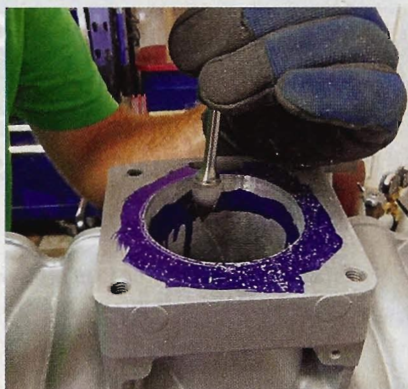


▲ In addition to more cubes, porting the GT-40s is another sleeper element of this engine upgrade. We worked a barter deal for a wicked port job on the swap-meet heads. After opening up the runners (and going as far in as possible to remove excess casting flash), Rob Bieschke performed a five-angle-intake (35, 45/back-cut to 37, 55, 65 and 75 degrees) and three-angle-exhaust (35, 45, 55 degrees) valve job; "bowl-hogged" the intake ports on both heads; and rebuilt the them with new valve guides, seals, valvesprings, and their associated hardware. As Rocco notes, there certainly are better cylinder heads that can be used on a 331. However, when you're keeping funds close and aren't out to set the world on fire with your 'Stang, the iron heads are a great bang for the buck.



▲ Hot Rod magazine's Mike Finnegan stepped forward to help the Cheaper Sleeper program with an offer to open up the throttle-body bore on the upper manifold to 75 mm. While Tom Moss enlarges the bore to 70 mm (stock is 65 mm), we're using a big Anderson Ford Motorsport Power Pipe and BBK's 75mm throttle body to feed air into the ported intake and heads.





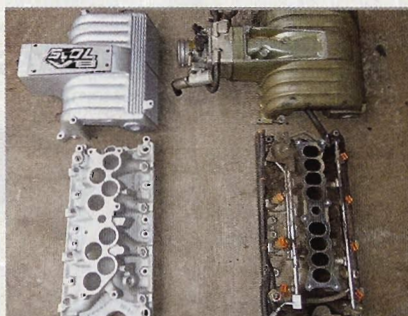
▲ Once the outline for porting is scribed, Mike uses a high-speed cutter to remove material from the bore.



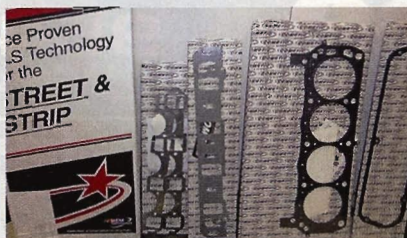
▲ After using the heavy-duty tools, Mike uses sandpaper and Scotchbrite pads to put the final touches on the bigger bore.



▲ The throttle-body bore now measures 75 mm and is ready for big air. Total cost? Sixty bucks—\$45 for materials and \$15 for Mike's lunch.



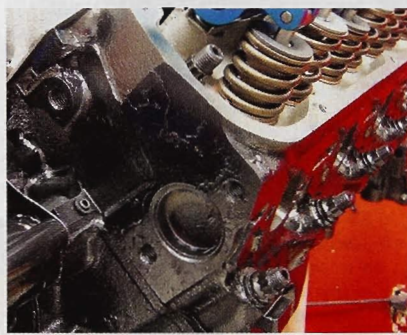
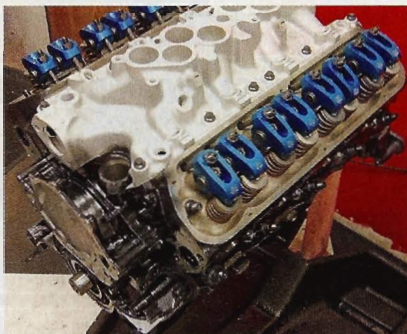
▲ Here's a comparison of the two intake manifolds. The stock intake (right) can flow approximately 150 cfm of air through its upper/lower runners. We found data that shows a well-ported OEM 5.0 intake can flow 200 cfm. To give you an example of the stock-to-Explorer-intake difference prior to porting, an Explorer intake set flows 200 cfm. However, with port work, the manifold's airflow increases to 240-250 cfm. Physically, the key difference between both manifolds is their runner length and port layout. The 5.0 H.O. Mustang intake has shorter runners and inline ports in the lower manifold. Conversely, the Explorer's upper runners are just slightly longer and the lower ports are offset.



▲ A full complement of Cometic gaskets seal 'Sleeper's engine. Because we're firing nitrous through this bullet, Kevlar-fiber intake gaskets (PN IR339SP2060KF) measuring 2x1.2.00-inch (to accommodate the enlarged ports) were substituted for standard pieces. And for the bottom end, Cometic's StreetPro collection (PN PRO1015B) is an all-inclusive set that ensures such areas as the oil pan, timing cover, and water pump are fully sealed.



▲ We've long been familiar with multi-layered head gaskets (and Cometic's MLS pieces are being used on this engine), but three layers of steel on the exhaust side is something new. These stout gaskets (PN EX160SPA051S) are large enough to work with our ported heads (1.290x1.550-inch).



▲ Rocco completed our long-block assembly with ARP fasteners throughout, as well as a set of Ford Racing's 1.7-ratio Cobra roller rocker arms (PN M-6564-E351); Trick Flow's valvespring kit (PN TFS-2500100); and PRW's 6.300-inch, chrome-moly pushrods (PN PRW-94080516300). All are available through Anderson Ford Motorsport, as well as the used market. Taking a close look at the 331, you'll see that the three-bar identifying marks on the GT-40 heads were removed for stealth.



▲ While a stock appearance is the theme we're trying to maintain with this build, fuel supply is one area that allows for compromise. With that in mind, Ford Racing Performance Parts 34-lb/hr, six-hole fuel injectors (PN M-9593-LU34K) were installed in the factory rails. The squirters are updates to tried-and-true 30-lb/hr units.



▲ To the uninitiated, Holley's adjustable fuel-pressure regulator (PN 512-500-1) can easily be mistaken for an '86-'93 5.0's stock regulator. Of course, the difference is that the new unit will allow us to adjust fuel pressure accordingly, ensuring proper volume is being fed to the 331.



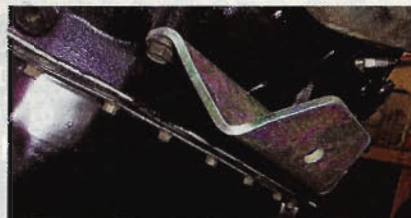
▲ Adding a 180-degree thermostat is thought of as the normal thing to do for a pushrod street-stroker build. Stevie suggested using the lower-rated 160-degree 'stat for Cheaper Sleeper's bullet. Some believe the 160 is too cold for this application and upon startup may effect engine temperature to a point where the ECU never transitions to a Closed Loop fuel map, thus running rich. However, Modotek's BlackBox 2.0—a slick new engine-management system that we discuss elsewhere in this report—has provisions for compensating for this situation and averting lean conditions with the cooler 'stat.

▶ These new heater-core hoses are part of National Parts Depot's Street Bandit line of silicone cooling system hoses (PN M-8260-30SB). We selected the entire premolded, direct-replacement six-hose package (includes upper/lower radiator hose, bypass hose, and new clamps) based on its stock look, long-range durability over the stock hoses, and low cost.



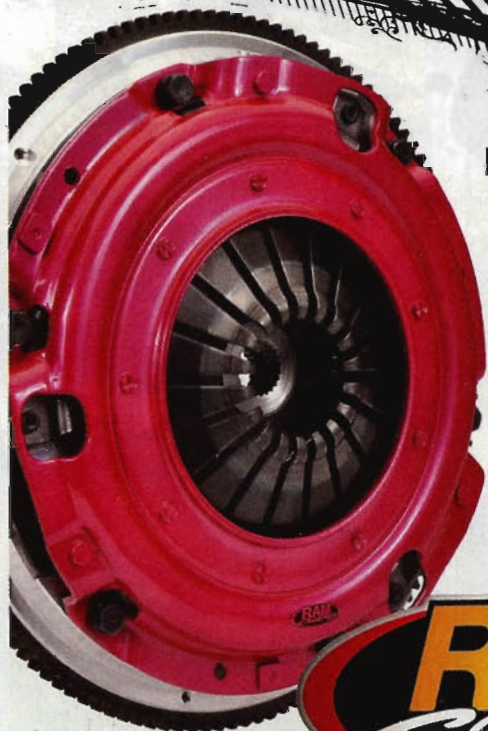


► Stevie lowers our Pony's stroked motor between the fenders. Why is the exhaust valve for the No. 4 cylinder exposed? Plain and simple, we misplaced one of the retainer nuts for the rocker arm and simply moved forward with the installation until a suitable replacement was found. Notice that the Cobra rockers are standard bolt-down pieces that use the factory mounting channels. While stud-mount rockers are a more rugged option, going that route requires additional machine work on the iron cylinder heads, which can be expensive. By going with the 1.7-ratio rockers, valve lift for our setup increases to 0.544/0.544, which is still within the safe parameter for piston-to-valve clearance.



▲ Nowadays, containing a 'Stang's mysterious badness below a flat hood is a requirement for sleeper status. Given the height of the Explorer intake manifold and the addition of a nitrous plate, we're using Team Z's 3/4-inch-drop engine mounts (PN TZM-MMDrop) to ensure retention of the OEM bonnet.

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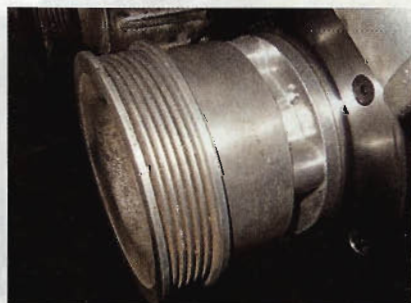
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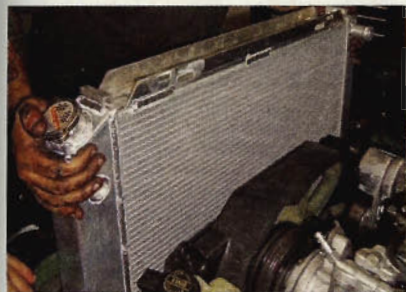
▲ If you're asking how we're getting the 1.7s to work under the stock valve covers, the answer is by cutting the oil baffles out of the covers.

► Credit Stevie for coming up with a way to retain our project's pollution controls. One of our hopes is that with all of its OEM smog equipment intact, Cheaper Sleeper might successfully pass California's visual inspection. Its presence will probably fool many an unsuspecting Brand-X jockey into thinking the combo is tamer than it appears.



▲ The 331's underdrive crankshaft pulley comes straight from the vast archive of 5.0 parts that belong to SoCal super enthusiast Sal Ybarra. The pulley is an O-G Kaufmann Products piece that measures 4 inches in diameter, about 2 inches smaller than the factory wheel.





▲Cooling is one of our biggest concerns, as Cheaper Sleeper's primary daily assignment will be traversing the streets and freeways of Southern Cali. Between the months of April and October, these trails are sweltering. National Parts Depot offers a seriously affordable direct-replacement, three-row, aluminum unit (PN M8005-3AL) that truly is must-have equipment for any Fox, sleeper or not, that is subjected to similar operating conditions. Aluminum rads also can be sourced through local 'Stang scenes. However, despite their underground availability, we see parts like this as not worth taking a chance on buying used since NPD sells this new cooler for about the same price as the going rate for used (\$150).



▲Here is Project Cheaper Sleeper's understated stroker as Stevie tops it off with the upper intake manifold. As you can see, all of the factory accessories, lines, and hoses remain intact.

►A conversation with engine-lubrication guru Lake Speed Jr. gave us great insight about the importance of treating new engines (especially camshafts, which require higher amounts of zinc)



with lubricant that's designed for tighter clearances and low-temperature break-in. Driven Racing Oil's BR-30 is a SAE 5W-30 lubricant that provides excellent ring sealing; it can be used for dyno tuning and about 400 miles of street driving. After break-in (for us, it's once the dyno's rollers stop turning), HR-4 will pull daily duty. It is Driven's synthetic 10W-30 formula that contains higher levels of zinc for increased protection against camshaft wear.

►Autolite's Jay Buckley recommends XP103 Iridium spark plugs for stock or moderately modded pushrod 5.0/nitrous engines with iron heads that won't see more than a 150 shot. If you're bold enough to shoot a bigger gun with a stock-block engine setup like ours, AR-92 plugs are colder and about the best bet for taking that kind of chance.



## HORSE POWER



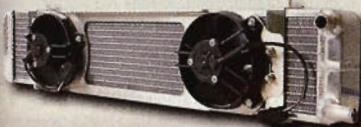
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## STEALTH RUNNING GEAR

**T**he factory AOD transmission is a prime candidate for failure in Mustangs that undergo substantial performance mods, and then are subjected to somewhat severe usage on the street or at the track. Our friends at Performance Automatic turned us on to a turnkey transmission package that remedies this (available exclusively through Latemodel Restoration). So into Cheaper Sleeper it went.

The trans unit in PA's Street Smart kit is designed to hit hard on the street, and more importantly, stand up to hard runs on the quarter-mile by simply dropping



▲ This is the original, 145,000-mile AOD transmission that was removed from Project Cheaper Sleeper. Although it's crudded with oil, the tranny was operating flawlessly before its removal, and actually was a key to the 'Stang's 10.36/eighth-mile-e.t. consistency our win at the NMCA West/Pomona event in 2012.

the gear selector in Second and letting the unit do its thing. We like this idea, as it eliminates having to do the dreaded shuffle that's necessary when trying to manually-shift AOD transmissions.

Our sleeper's additional driveline support comes in the form of an 8.8 rearend that Stevie Morrow assembled with Moser Engineering's direct-replacement, 31-spline

axles and all-new Wavetrac differential. Per our first segment of this series, the original 8.8 received a set of 3.55 gears as an enhancement over the OEM 3.27s. A used-but-like-new 3.73 gearset came our way thanks to the PSCA's Classifieds board. The 3.73s will be the ratio we ride with going forward as it has optimal gearing for setups like Sleeper.



▲ Our Pony's undercover engine mod pretty much mandates that attention be paid to the transmission, as the stock unit simply will not support too much of a power/torque increase. When you consider the cost of a rebuild, a better bet is going with a brand-new setup from Performance Automatic that's designed specifically for Fox Mustangs that are hopped up to the 450-rwhp range. The Street Smart Package (PN PASS53103) is as all-inclusive as a transmission kit can get, featuring everything shown in the photo: AOD transmission, hardened ¾-inch input shaft, street/strip valvebody upgrade, 2,400-stall converter, TV cable, block protector, dipstick, shifter linkage, and SF1-approved flexplate. The cool thing about this set is that everything is brand-new and a direct, no-hassle replacement for all of the OEM trans hardware. For 'Stangbangers with the know-how or gumption to take on a DIY rebuild, the trans unit's internals (extra-wide overdrive band, Kolene Steels, diode sprags, extra 3-4 Red clutches, bushings, washers, seals, and gaskets) are offered as a Max Performance Kit (PN PAKT53701 AOD-90-93), which does not include any of the finishing hardware.

Continued on page 70

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STEALTH RUNNING GEAR CONT.



▲ Taking into account our LX's intended use and the increased converter stall speed, adding a B&M transmission cooler (PN 70264) is a great idea. Road temps in SoCal can easily reach 150 degrees. Plumbing this accessory into the line will ensure the new tranny stays happy on the street and on the dragstrip.

▶ A setup like Cheaper Sleeper is no place for a heavy stock, steel driveshaft. While we're not going above and beyond to lighten the LX, installing a Ford Racing Performance Parts aluminum driveshaft (PN M-4602-G) is a great, affordable improvement to a 'Stang's drivetrain.



▲ With no over-the-top wheel upgrades planned for the project car (save for a possible move to AmericanMuscle.com's all-new 17-inch Ponys), we retained the four-lug bolt pattern. Notice, however, that the lugs are also standard length. The short lugs will allow use of factory 15-inch, 10-hole, and 16-inch Pony wheels and their center caps without anyone knowing that fortified sticks lie just behind them.



▶ Keeping in mind the theory that power finds the weakest link in the drivetrain, we're upgrading Sleeper's 8.8 rear with a bulletproof axle/differential package from Moser Engineering. While 31-spline axles (with C-clips) are a common step up over the OEM 28-spline sticks, the difference maker in this arrangement is Moser's new Wavetrac differential (PN 5W8831). The gear-driven Wavetrac will help improve Cheaper Sleeper's grip in low-traction conditions on the freeway (or if we take it autocrossing) by automatically increasing axle load internally when it's required. At or near zero load, the axles (and each side gear in the Wavetrac) start to turn at different speeds. As the two side gears rotate relative to each other, each wave surface climbs the other, causing them to move apart and create enough internal load within the differential to eliminate the zero-axle-load condition and apply torque to the wheel that has the most grip.



Continued on page 72

TOTALLY COOL

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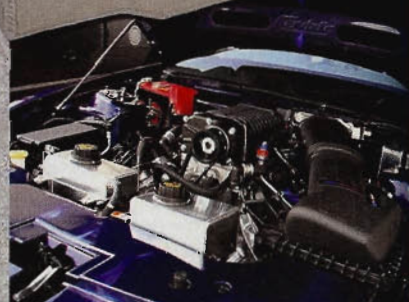


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STEALTH RUNNING GEAR CONT.



▲ A Craigslist search landed us this complete set of OEM 15-inch 10-hole wheels for a hundred bucks. The tires that were mounted on them were sold for \$60, making these stock hoops another \$40 score. (The 16-inch Pony wheels that are currently on the car were purchased for \$40.)



▲ OK, there is one concession that goes beyond cheap but qualifies as cool. We dropped the 10-holes off with Gary at Pico Wheel Service ([www.picowheel.com](http://www.picowheel.com)); roughly two weeks later, we picked up this set of ultra-modified hoops that will be used for 'Sleeper's "drag" configuration. Gary added an inch to two of the 15-inch wheels (making 15x8-inch) for the 235/60R 15 Mickey Thompson ET Street Radials that will be mounted on the rear, and knocked two inches off the remaining two wheels (15x5-inch) for MT's 26x6-inch Sportsman S/R Radials, thereby making a trick set of stock-look big-'n'-littles that we're sure will have people doing double-takes.



MANAGING EXPECTATIONS

**W**hile Cheaper Sleeper's drive-line is filled with stealthy little upgrades, we're equally as excited about some of the tricks that are going on in the 'Stang's engine management and power adder.

As Fox veterans know, getting factory EEC-IV engine management to play nicely with a slew of aftermarket engine upgrades—especially a completely new fuel-injected stroker engine with a power adder—requires manipulating various fuel and timing tables, which is achievable only with chips, piggyback processors, or standalone ECUs. Many of the standalone systems, while excellent, are oftentimes a bit too advanced for some setups. Enter Modotek, an electronics-division of Cometic Gaskets that has created a plug-and-play management system for modified '86-'93 EFI Mustangs that serves these Ponies in the same capacity as the standalones. The BlackBox 2.0 ECU (\$1,349) connects directly into a Fox 'Stang's stock wiring harness, and allows users to precisely tune engines for maximum performance with a laptop.

As the undisputed most affordable power adder, nitrous oxide is the steam enhancer of choice for Project Cheaper Sleeper. For the nitrous setup, Stevie Morrow pulled all of his old-school knowledge out of mothballs, taking vari-

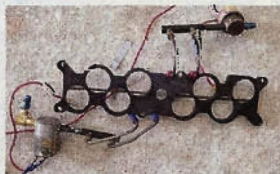
ous NOS-brand bits and creating a 150hp nitrous kit that we anticipate will hop things up quite nicely and make our undercover LX a really fun Mustang.



▲ The 'Stang's original A9P PCM and wiring harness are located... well, *stuffed*, into a tight compartment located in the passenger-side footwell, behind an interior kick panel, carpet, and jute insulation. The much-smaller BlackBox 2.0 totally replaces the factory processor, and shouldn't pose any problem to installation right back where the original box lived.



► A quick Internet search found this NOS GT-40 nitrous plate, which we purchased for less than \$100 (shipped). This is vintage 5.0 hardware here and a gold strike for Project Cheaper Sleeper, as the plate is long discontinued. Yes, the solenoids and hard lines clearly look like they've got years of use, but it's the plate that we're most interested in. Based on its low purchase price, we were certain the remainder of the nitrous system could come together just as inexpensively. For those of you with Holley SysteMax II intakes, the former GT-40 Big Shot kit has been upgraded with a plate designed for those manifolds (PN 02119NOS).



▲ Our plan is to hide the entire nitrous operation from clear view, and Stevie is a self-proclaimed master at "hiding." With the plate mock-mounted on the lower intake, measurements were taken for all of the braided line and fittings necessary to complete the stealth nitrous unit. Plumbing nitrous in this fashion is difficult if not impossible to do with miscellaneous pieces, simply based on its high level of customization. Figure on buying new lines and fittings if you go this route. It's another spendy area, but when you weigh prices against other areas where you've saved some bucks, the value is apparent.

► Earlier we mentioned the importance of fuel volume, and explained why 34-lb/hr injectors and a Holley adjustable fuel-pressure regulator are replacing the factory equipment in the sleeper effort. Of course, a high-volume pump also is necessary for a nitrous-injected 331, and we're keeping things on the secret side with a Holley 255-lph, in-tank pump (PN 12-915).



▲ This is Modotek's BlackBox 2.0—an all-new plug-and-play 5.0 Ford ECU system designed specifically for Fox 'Stangs. It's ideal for Ponies like ours that are being modified to make horsepower and maintain daily driver dependability.

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## MANAGING EXPECTATIONS CONT.



▲ Because the 'Stang's updated stroker is built on the original stock Ford engine block, we're not out to set the proverbial power or e.t. worlds on fire. The combination of 0.024 (fuel) and 0.038 (nitrous) jets gives us a 150hp shot through the GT-40 plate, which should wake our sleeper up enough to make approximately 325-350 ponies at the feet.

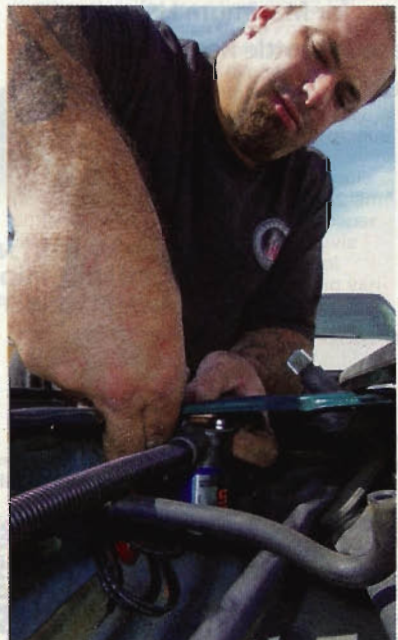
▶ Not taking any chances with the decrepit and rather small solenoids that were included with the nitrous plate, an equally handsome online deal was made for this pair of brand-new NOS Big Shot solenoids.



▲ This is the fairly typical look of a Fox's console/ashtray area. The door is broken and years of grunge are apparent. It's a disaster to some, but we think it's perfect for the next step in our hidden nitrous plan.



▲ In the cockpit of our sleeper, Stevie plumbed the nitrous-feed line along the driver's seat and below the console. Once the bottle is open (and a swap-meet-purchased remote bottle-opener handles that task), a high-pressure shut-off valve procured at a local hardware store puts starting and stopping nitrous flow at the driver's fingertips. The entire setup was created for about \$40.



▲ The nitrous unit is another area where Cheaper Sleeper's covert nature is taken to the next level. Using scrap metal, Stevie fabricated a trick solenoid bracket that allows us to hide the NOS nitrous, fuel, and purge solenoids out of sight in the Mustang's cowl-box area. Each solenoid is wrapped in black tape to ensure they're not spotted. A small cover plate is welded to the cowl box to finish the hide-away effort.

▲ Since the Mustang's interior is a no-smoking zone, we had absolutely no problem letting Stevie have his way with the console, ash tray, and lighter. Switches for the purge and bottle warmer—and an LED indicator for the warmer—were mounted in this area before the console was reinstalled.

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▲ Who knows what evil lurks behind the closed ashtray lid?

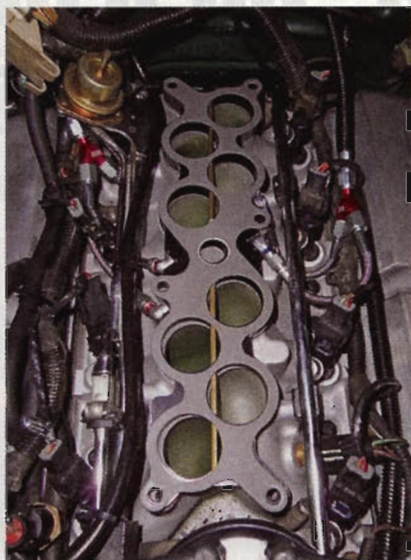


▲ Placement of the 10-pound nitrous bottle (inside an unused duffle bag) is the nitrous system's interior highlight. Stevie bench-builds the setup, first to confirm exactly where brackets must be positioned, and then whether the bag will zip shut once the bottle is secured.

► Our gym-bag nitrous tank sits perfectly behind the passenger seat. A look like this can be left as-is, or even covered with a jacket or sweatshirt for additional camouflage.



▲ Back under the hood, silver nail polish works great for blending nitrous plates into the flow of EFI upper/lower intake manifolds.



▲ Here's one last look before the upper intake manifold is installed and Project Cheaper Sleeper's nitrous system goes completely into hiding forever. Visible are the two Y fittings on each side of the intake—these feed nitrous and fuel from their respective solenoids, which are mounted behind the firewall. Basic wire loom shields the braided line from the curious, and a black fuel-feed from the Schrader valve (zip-tied to the passenger-side fuel rail) makes this setup pretty incognito, with the exception of spray bars running the length of the plate. Thankfully, gaskets for Explorer intake manifolds are still available. We found them in stock at Gene Evans Team Ford & Lincoln in Atlanta, Georgia, where NMRA Coyote Stock World Champion Joe Charles serves as parts master.



▲ The finished engine looks pretty plain-Jane, doesn't it? Down below, Bassani short-tube headers and a full exhaust system with an X-shaped crossover that includes high-flow catalytic converters and stainless mufflers let out the growl. Now you know the secrets. Try one or try 'em all on your low-buck Mustang project. Hop-up efforts like this are a lot of fun, and they definitely prove that pretty and expensive don't always apply to cool Ponies. **5.0**

## SOURCES

### ANDERSON FORD MOTORSPORT

(217) 935-2076  
www.andersonfordmotorsport.com

### ARP

(800) 826-3045  
www.arp-bolts.com

### A.R.E. PERFORMANCE & MACHINE

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www.cometic.com

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