CHARGIN' THUNDER

Super Coupe Club of America

Volume V ***September 2000***

Dedicated to the preservation and performance of the 1989 – 95 Thunderbird Super Coupe & 1989/90 Cougar XR7

I can do all things through Christ which strengthens me. Philippians 4:13

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Changes of Address

Address changes MUST be submitted in writing by the 25th of the month prior to a Chargin' Thunder (CT) printing. The CT is mailed each March, June, September, and December. This will give us time to change it in the computer prior to the next mailing. Address changes are not taken over the phone. They must be in writing via letter, or email (sccoa@usa.net) stating old address and new address. We cannot be responsible for "lost" issues due to late notice of address change. Replacement cost of any lost issue is $5.00.

Mailing of Newsletters

The CT newsletter is mailed out quarterly in the third, sixth, ninth, and twelfth month of the year. All issues are mailed at the same time via Bulk Mail Postage.

Problems & Complaints

Our highest priority is getting the CT newsletter mailed to you on a timely basis. Please let us know if you have ANY problem at all. Call or email us with your questions or concerns.

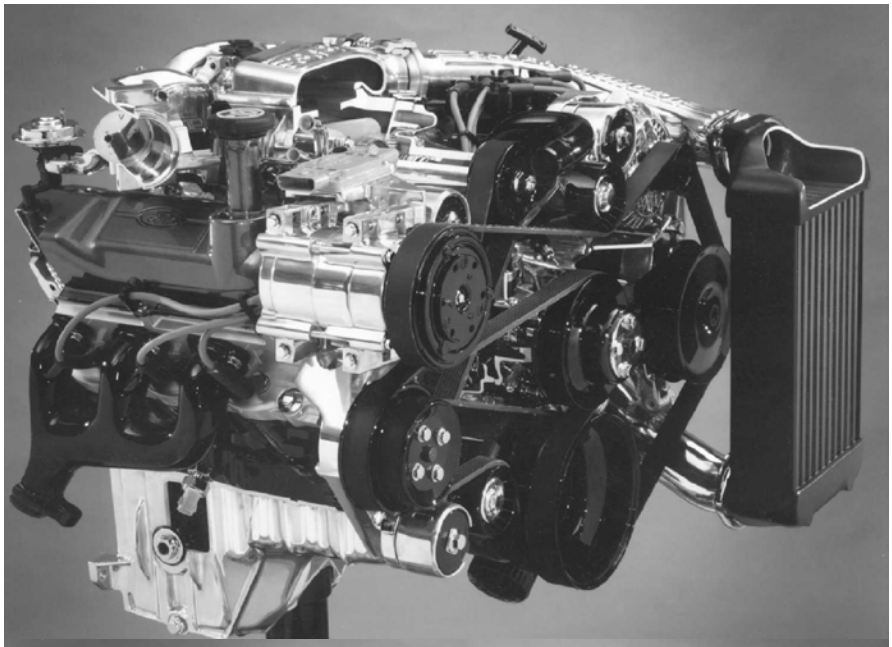
New Membership & Renewal

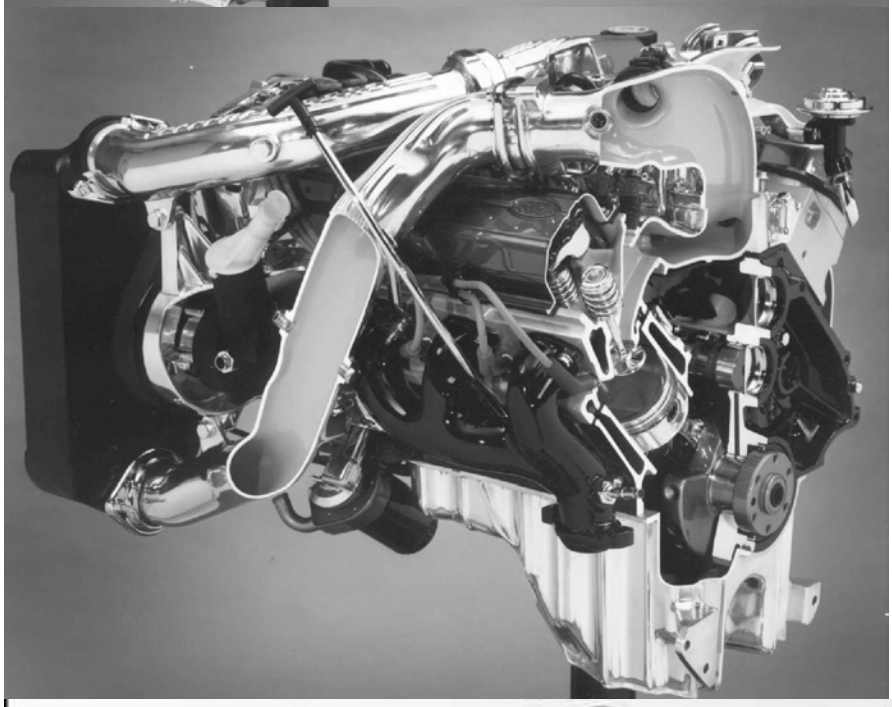
Membership and subscription to the CT newsletter is $40 US per year. Dues for those outside the USA and Canada are $50 per year. Each club year begins with the March issue and concludes with the December issue. Renewal slips are placed in each December issue for the upcoming club year. Each January brings a new club year. New members and late renewals receive issues of the CT back to the previous March (which is the month the first CT of the year is mailed) to keep them totally up to date and keep their yearly volume of issues complete.

Classifieds

Any member may place "car" or "used parts" ads for free in the CT. Send your ad to us via email or post card/letter and it will appear in the next issue. Include your member number with your request. Ads must be typed or printed legibly, please.

Businesses wishing to place an advertisement in a CT newsletter should contact Patty or Bill. 513-697-6501





From The Birds Nest

By Bill Evanoff

SCCoA members have attended numerous car shows and racing events over the last four years, but our organization has yet to hold its own show strictly for SC and XR7 owners. Many members have been recently requesting a "national" get together and I believe it could be a smashing success and simply a great excuse for an owner's party!

I have read about Mustang owners holding national events and they get thousands to attend. I have also read about Taurus SHO owners getting together in a central spot in the past and they would get several hundred cars to attend. I believe it is high time we had our go at such a major undertaking. Begin thinking about attending this outing as I'm tentatively planing it for next April somewhere in the middle of the US. It will be one big blowout with many possible activities such as autocrossing, drag racing and of course, a car show and shine. The long drive will be worth it to attend with hundreds of other SC owners and enthusiasts! I'll have more information regarding this proposed event in the December CT.

A new owner for SCP

Bill Hull has offered the Super Coupe Performance (SCP, formerly SCP Inc.) business to Patty and me. Starting around the first of September, we will assume ownership of this wonderful SC parts source. One party will once again direct the SCCoA "Club" and the SCP "Parts" business as they have been in the past.

Many people may not give this a second thought, but I wish to make a few comments about the way that Patty and I will handle the "Club" and the "Parts". First of all, we will continue to run the SCCoA as a separate entity. We will not have a SCP list of parts at the end of each newsletter, nor will we make any other special references or considerations for the SCP business in the CT newsletter.

SCP has had a half or full-page ad in all of the past years newsletters and this will likely continue. The members of this club are likely interested in what SCP has to sell after all, so this is a natural place to advertise to SC owners.

The SCCoA web site will continue to be a place where everyone can freely discuss and critique all the suppliers of Super Coupe parts.

Patty and I look forward to serving you and we thank Bill Hull for getting the ball rolling so well for all of us performance starved SC owners. If it were not for Hull, this club would not exist and we would all be driving around with only a K&N filter in our air box and a 10% overdrive pulley which would have likely blown all our head gaskets off by now!

More Octane

In a previous From the Birds Nest editorial I discussed our cars' need for high-octane fuel. I have recently learned about a web site that may help many owners of highly modified SC engines. Check out: http://www.racegas.com This site contains the locations of gas stations which sell 100 and 104 octane unleaded fuel. If you feel you can benefit from such gas, it's worth a look.

Club Vehicle Stickers

I have had many requests lately from people looking for additional club vehicle stickers. I briefly discussed how to get extra stickers in the March 2000 issue, but it bears repeating again.

Extra stickers can easily be obtained by sending a self-addressed and stamped envelope to SCCoA at 6239 Fay Court, Loveland OH 45140. Each extra sticker is $5 and we will mail them out immediately to you.

Header EGR Issues

In the June Chargin' Thunder I wrote a lengthy article about how to install headers on your SC. Within the article, I wrote about the difficulties of hooking up the EGR tube to the header. I wish to update the article to say that the current SCP headers that are being manufactured are again available with the proper EGR fittings for the early model 5-speed cars as well as the late model '94/95 cars which also have EGR. I recently saw several sets of headers and also talked with some of the people who have purchased the current designs and they claim to fit like a glove with regards to the EGR hookup.

More Club Logo shirts Available

I have made a second large purchase of the silk-screened SCCoA Club Logo shirts. The first batch sold out quickly at the World Ford Challenge and Carlisle. I now have more double extra large and even a few triple extra large sizes available. The front and back design is shown here along with the "Got Boost?" design on the right sleeve. They make great presents and don't forget that Christmas is coming quickly, so order soon to get the sizes you want. To order, simply write me a letter stating which size(s) you are requesting and the quantity.

Sizes Medium, Large, and Extra Large are $15. Size XXL is $18 and size XXXL is $20. Shipping cost for one shirt is $3. Shipping for two or more shirts is $4.

Front of the "Club Logo" shirt

Rear of the "Club Logo" shirt

Fun Ford Weekend 2000 Atlanta

By Mike Puckett

Fun Ford Weekend opened with the threat of rain this year. With high hopes, Rick Cunningham and I met at Shoney's for breakfast on Friday morning. It's about an hours drive up I-85 and we arrived trackside around 9:30 am. A few sprinkles drizzled on us during the drive up but it was dry at Atlanta Dragway. Rick and I both had new engines since last year and we were hoping to run some really good times. Before they opened the track for test and tune we went over to inspect it and found that they had dug up and repaved the first 1/8 mile with fresh concrete. With only a coating of track bite, we were the first group to run on the fresh surface. Track bite is a rubbery like coating that is put on the track to simulate the rubber that's built up from burnouts. Although it seemed to stick to the bottoms of our shoes just fine it was a different story for our tires. Trying to get traction off of the line proved difficult for everyone all weekend and contributed to our slower than expected times.

As soon as the Friday test and tune was opened, Rick and I headed for the staging lanes. Rick was 2-0 in our head to head confrontations and I was looking to even things up. Rick spun his tires on the start and revenge was mine as my tires bit and I won by a car length to take our series to 2-1. We were disappointed in our times as we only ran in the mid 14's instead of mid 13's. That pretty much set the tone for the day as we struggled with traction and our transmissions. Mine had a pronounced crunch going to 3rd and Rick's shifted into overdrive prematurely. We both ran between 14.5 and 14.8 all day. My second run was against an early 90's Mustang convertible which I won running a 14.5 vs his 14.7. Next, I went up against another early 90's Mustang, beating his 14.3 with my 14.7 as he slept through the lights and I jumped him off the line by .6 second, a full car length. Meanwhile, Rick made a solo pass and then two runs against a Maverick wearing slicks. In the first one he just beat the Maverick at the line with a 14.5 vs a 14.7 but in the second run the Maverick cranked it up and ran a 12.9 to Rick's 14.8. His next run was against a 65 Mustang but Rick's 14.5 was more than a match for the Mustang's mid 15. Unable to reach the 13's we called it a day, vowing to run better Saturday.

We arrived Saturday morning and started looking for other SC's. Rick brought his teenage son while my wife and 10 year old daughter came with me. It was my daughter's first time to a car race of any kind and she became an instant fan, especially when I won. As it turned out the only other SC to show up was Steve Griffith from Montgomery, AL. While Rick and I ran in the “street Ford” class, Steve ran in 'true street' and turned out to be the class of the SC's running consistently in the 13's all weekend.

“True Street” is an interesting class. It starts with a 30 mile run through the countryside escorted by the Sheriff, and ends with 3 back to back runs after a 30 minute cool down. Steve said that the back road tour was the most fun part as a train of 52 Mustangs and 1 SC, like a funeral procession, wound its way through the back roads and the interstate. The roads were all blocked off for them and people watched in awe as they flowed past. There were separate winners for each bracket from 9 to 15 seconds. The one in each bracket with the lowest and most consistent times was the winner of the bracket. Some of these Mustangs were really quick and the pairings were at random. Steve ran a 13.6 vs a 10.2, a 13.7 vs an 11.0, and a 13.8 vs a 14.3 against a variety of Mustangs.

Back at the “street Ford” competition, Rick and I ran through our qualifiers. The event had gotten off to a late start and we were only allowed 3 qualifying runs each. Even with our BFG Drag Radials we had traction problems. On my first run I spun my tires and couldn't run with a 90 Mustang's 12.8. My next opponent was a Ranger pickup and I ran my best time of the weekend with a 14.3 beating his 14.7 and on my last qualifier I won a sleeper against another pickup with a 14.5 vs a 16. Rick came up against some really quick Mustangs running in the 12's with his times varying from 14.5 to 14.8. We were still having transmission problems with Rick losing time due to the shift to overdrive and mine giving a good solid crunch on every 3rd gear shift. Neither one of us could get any consistency

and wanted to avoid mechanical problems so we called it a day since they were running over 2 hours late at this point. Steve returned on Sunday and made 2 more passes running a 14.0 qualifier and then breaking out running a 13.5 against his 13.6 dial-in.

All in all it was a good weekend. Even though I didn't run a 13, I did win 5 out of 6 races. Once there's some rubber built up, the track is seasoned a bit and our transmission woes are fixed, we'll go back and give the 13's another shot. Hopefully, also, we'll have a few more SC's running next year. This event falls in the middle of April every year and we would really like to see a strong SC contingent at future Fun Ford Weekends.

Head Gaskets, The Little Known Facts

By Steve Webb

I'm sure most everybody that is reading this article has either had a head gasket fail, or knows someone that has. Well, I'm going to try and explain exactly why head gaskets fail, how to properly fix them, and most importantly, how to prevent them from failing again.

Before I get into the technical part, I would like to say that the Ford 3.8L V6 is not the only motor that has head gasket failures. I worked as an engine machinist for 3 years, and continue to use the shop, and have seen EVERY type of motor come through. One of the most frequent customers of our shop was a European used car dealer. BMW, Audi, Porsche, Mercedes, VW, Honda, Toyota, Volvo, Mitsubishi. You name it, I've seen it. They used to bring in about 3-4 heads a month to have them surfaced. Most with 50 to 60K miles. Any motor that has an aluminum head WILL blow a head gasket sooner or later. That is a fact of life. The harder you push the motor or the more it is abused, the faster it will blow. It really bothers me reading all the posts on the website about suing Ford for head gasket failures. It wasn't all that long ago that a motor would only last 75K miles. Your typical mid 80s V8 was due for a rebuild by 100K miles, so lighten up on Ford on this one. At least they don't crack heads like the late 70s-early 80s 350 Chevy's did. We once had a customer that brought us 6 sets of Chevy 350 heads. EVERY LAST ONE WAS CRACKED!!!! Not only did all six of the motors blowup, but the heads were all junk too. Ford did have a head gasket manufacturing problem for a while, but they are doing their best to make up for it. You don't hear anyone wanting to go after GM for their 350 blowing after 10 years do you?

Now I would like to describe what a head gasket is and what its purpose is. Most car manufacturers use a relatively cheap OEM gasket. Essentially a steel shim with a fiber like coating. The main component of a head gasket, and what is the most common cause of failure, is the "fire ring". The fire ring is a stainless steel ring that encircles the cylinders and gets compressed when the heads are torqued down. A typical compressed fire ring is about .040" thick. The rest of the head gasket is there to simply seal the coolant and oil passages. Felpro has a much better gasket design. They actually have two styles. Their Blue Stripe and the higher performance Print-o-Seal. The Blue Stripe is the standard replacement gasket. The Print-o-Seal has a silicon bead molded into it around all coolant passages. Typically, the Print-o-Seal is only needed on motors that have problems sealing coolant passages or are going to be used in severe conditions. Since this is not the case with the SC motor, the Blue Stripe style is the only offering. They are still very high quality gaskets, but there is not enough demand for high performance 3.8 V6 head gaskets for Felpro to justify making Print-o-Seals for our motor.

The fire ring is the only part of the head gasket directly exposed to the combustion process. Cylinder pressures and temperatures vary from ambient (normal atmosphere), to at least 1000 PSI (up to several thousand PSI in a race motor) and temps will climb into the thousands also. To put this in perspective, the fire ring is subjected to this "shock" about 10 times a second at idle, and about 100 times a second at redline (5500-6000RPM). If you think of this, it's amazing it can live for very long at all.

The vast temperature changes further complicate the job of head gaskets. Even on

motors with cast iron blocks and heads, there can be significant expansion due to temperature changes. Our motors have cast iron cylinder blocks and aluminum heads. This poses a new problem because aluminum expands at about three times the rate of cast iron. So, you have additional forces on the fire ring. Something like taking a layer cake and trying to slide it apart. Additionally, you have the combustion chamber at several thousand degrees on one side and coolant at about 200 degrees on the other. This places even more stress on all the parts involved.

So now you know what a head gasket is and what it does. So why do they fail? Well, here is a list of common causes. Ranked by what I saw at the shop.

- **Overheating.** By far the most common. Could be as simple as a defective $5 thermostat or a plugged radiator, but run the motor hot and bad things happen.

- **Detonation.** This could be a result of low octane fuel, carbon buildup, too much ignition timing, or overheating. A combination of these will produce failures in a hurry. In the combustion chamber, the only thing that keeps the pistons from melting is a small layer of gas that "clings" to the piston dome. Detonation sends a shockwave and flame spike through the cylinder that rips this layer away exposing the actual metal surface to the combustion temperatures. My head gaskets failed from detonation. The detonation actually split the fire ring. Severe detonation can burn holes through pistons too.

- **Electrolysis.** What is this? Well, coolant will actually accumulate an electrical charge over time. The engine block is used as a ground for the electrical system, so there is a small current flowing through the metal. When antifreeze is electrically charged, it is corrosive to some engine components. Mostly, it will start eating away at aluminum parts (ever wonder why timing covers and old style thermostat housing were pitted?) but it will eat away at the head gaskets too. I'll bet you always wondered why your owners manual said to change antifreeze every two years. Bingo, there it is. This electrically charged antifreeze will eat at the gasket until it fails. Sections of the fire ring that are very close to coolant passages are very susceptible to this. Where did yours fail? Yep, thought so…….My failed around the front edge of No. 4. Right where the gasket is very thin around the cylinder/coolant passage. Electrolysis affects plain water too, so don't think that running 100% water will eliminate this. Water does behave differently though since it has a different chemical composition than Ethylene Glycol antifreeze. Plus, 100% water will boil at about 227 degrees in your cooling system. Right about where the fan kicks on. Not a very good idea.

- **Improper Assembly.** This is mostly after the first failure. Damaged/dirty deck surfaces and improper head bolt torque are the major reasons.

- **Defective components.** Cracked heads, cracked blocks, defective gaskets. Usually, the first two are caused by overheating. Defective gaskets are rather rare, but nobody can be perfect.

So what can you do to prevent head gasket failures? Here's a quick list:

1. **Change Antifreeze every two years.** This will keep Electrolysis out of the picture. It will also help the next item.
2. **Clean the radiator.** If your car has high miles, or you are unsure of the previous owners maintenance schedule, having the radiator cleaned or replaced is a good idea. SCs have a weak cooling system to begin with, block 25% of the radiator with crud and your motor's toast. A new radiator should be mandatory with a new motor.
3. **Change the thermostat.** I once spent $800 to rebuild my brothers motor in his '89 Mazda MX6 turbo (same as Ford Probe, actually the Probe was a MX6 with some cosmetic changes) because the thermostat wouldn't open more than 1/8".
4. **Run premium fuel.** With the supercharger, our motors have an effective compression ratio of about 12:1. In a naturally aspirated, carburated motor, this would require about 105-108 octane race fuel. I know there are some people that claim to run regular fuel

with no problems, but figure this, regular is about $.20 cheaper than premium right? So you save about $3 per tankful. As an average, I think 300 miles is a typical tank of fuel. That's what, about $1 per 100 miles. At that rate, it will take 100,000 miles to save $1000. Or about the cost of replacing head gaskets. Now is it really worth the $3? Detonation can destroy your motor before you have a chance to lift of the gas pedal.

5. **Open up the exhaust system.** Now I know you're asking how this helps. Well, when you have exhaust gas at several thousand degrees in the cylinder, the faster you can get it out, the cooler the motor will run. SCs have restrictive exhaust systems that do not adequately let the exhaust out at high engine speeds. It's like a chain reaction. A restrictive exhaust keeps hot exhaust gases in the motor, already taxed cooling system must now handle even more heat, poor fuel goes into detonation because of extra heat. BOOOM!!! B-bye head gasket. Just don't fall into the "bigger is better" thing when designing your exhaust system. Dual 2 ¼" pipes are plenty for 95% of SCs. True duals just hurt low end power on little motors like ours. Use a single 3" center pipe (same area as dual 2 ¼"s) or if you must have true duals, run an H or X pipe.
6. **Balance modifications.** This goes with No.5 too. Don't go over board on intake mods like a bigger MAF, throttle body, overdrive pulley, S-model blower etc etc and then wonder why the motor blows. Putting more air in, means more air must get out. Read No. 5 again.

I hope that helps answer some questions about why they blow and what to do to prevent them. But what if your head gaskets have already blown? What can be done during reassembly to keep them intact. Here's yet another list:

1. **Mill the heads.** Cheap and easy insurance. Most aluminum heads will have marks in them from the fire rings. Especially around the area where the gasket blew. Milling the heads should cost about $50 for the pair and is one of the best things you can do to ensure good head gasket sealing. If you have the entire motor apart, have the block's surface milled too. Even a slight scratch can cause the new gaskets to fail prematurely. Marks larger than .002", or about the thickness of a human hair, should be removed by milling the head/block. Total cost to mill both heads and both decks on the block should be about $125-$150. Cheap insurance when you figure that against doing the head gaskets a second time.
2. **Use Felpro gaskets.** Need I say more?
3. **New head bolts.** This is really a must. With the torque to yield style bolt, reusing them is just asking for one to snap. ARP studs are much better if you can afford them. Just don't do the torque to yield on them. Torque the ARP's in sequence in three stages. 30-50-75 ft/lbs.
4. **Cleanliness is next to godliness.** Make sure every component is clean. That little piece of old gasket on the block's gasket surface is bound to cause problems.
5. **Take your time.** If you rush, you may miss or forget something. If you take the car to a shop, try not to pressure them to hurry. I know everyone hates to have someone hounding them to get their job done. Do you want that mechanic to be mad at you? Take him a case of beer and you'll have a friend for life. Be a nuisance, and you'll be lucky if the car ever runs.
6. **PORT THE HEADS!** For anyone that saw me at Carlisle, this should be a no brainer. It is the most expensive mod, but if the heads are off already…. The stock exhaust port is just plain horrible. Even the best exhaust system can only help these weak ports so much.
7. **Never time or money to do it right, but always time and money to do it again.** This was one of our sayings at the shop when we had a customer that tried to cut corners. Save $50 by not milling the heads, and another $175 by assembling it themselves. Waste $1500 when it blows to pieces and the wind up having us do it the second time. If you don't know, don't do it. Or ask for help. It's just not worth it.

So there it is. That is a real general overview of the whats and whys of head gaskets. I could go into this much deeper, but that could take pages and pages to describe everything in close detail. I hope everyone that reads this has learned at least something about their engine. Even I learn something new all the time.

Super Coupe Club of America

Custom Embroidered Auto Apparel

- Your source for custom Thunderbird SC and Cougar XR7 embroidered apparel. http://www.sccoa.com/apparel/

Heavyweight T-Shirts: Gildan Super Heavyweight Tee 100% cotton 6.1 oz preshrunk jersey knit Double needle topstitched neckline Double stitched sleeve and waist hems Seamless collar with taped neck and shoulders Quarter turned to eliminate center crease European straight cut comfortable fit	**Available Colors:** White*, Natural*, Ash*, Black*, Sports Grey*, Maroon, Orange, Forest*, Royal Blue*, Red*, Navy Blue*, Purple, Light Blue, Light Pink, Yellow Haze, Mountain Rose, Stone Blue, Serene Green, Eggplant, Charcoal, Leaf, Cedar, Indigo Blue, Prairie Dust, Tan, Chestnut, Blue Dusk, Olive, Brick, Sand, Mango, Key Lime, Daisy, Bermuda, Azure, and Coral.	**Sizes:** All colors available in: M - L - XL – XXL *** indicates size available in XXXL** Embroidery available in: **White, Khaki, Black or Stainless Steel** **Price: $ 20.00**	
Classic Denim Shirts: Three Rivers Classic Denim Shirt 100% cotton long sleeve denim shirt Button down collar with wood toned buttons. Left chest pocket. Single- button cuff and sleeve placket. Double-needle stitched. Generous cut.	Available Colors: White, Natural, Khaki, Black, or Light Blue Embroidery available in: White, Khaki, Black or Stainless Steel	**Size:** S - M - L – XL	**Price:** **$45.00**
		XXL – XXXL	**$50.00**
		XXXXL - XXXXXL	**$55.00**
		Large-Tall XL-Tall XXL-Tall	**$53.00**
Golf Polo Shirts: Harvard Square 100% Heavy Pique Sportshirt 7.25 oz ring-spun Egyptian cotton 3 wood-tone button placket. Fashion knit collar. Welt cuffs. Side vents with 2.5 inch extended tail.	**Available Colors:** Denim, Yellow, Sports Grey, Sage, Wine, Ash, Fushia, White, Red, Putty, Royal Blue, Natural, Forest, Green, Navy Blue and Black **Sizes:** S - M - L – XL - XXL – XXXL	**Embroidery available in:** White, Khaki, Black or Stainless Steel Price: **$ 40.00**	
Heavyweight Sweatshirts: Fruit of the Loom 12 ounce, 90% cotton/10% polyester blend fleece fabric Shrinkage-controlled fabric Set-in sleeves Cover-stitched armholes, collar and band bottom	**Available Colors:** Black, White, Ash, Dark Gray, Natural Beige, Maroon, Forest Green, Navy, Red, Royal Blue **Sizes:** S-M-L-XL-XXL	**Embroidery available in:** White, Khaki, Black or Stainless Steel Price: **$ 40.00**	

All items come with your choice of two logos, Cougar XR7 or Thunderbird Super Coupe:

All items are guaranteed satisfaction, just mail the item back and I will refund your money or exchange the item.
All shipping and handling is a flat U.S. $5.00, regardless of how many items you order or where in the world the apparel is shipped to. This covers insurance and USPS's Delivery Confirmation Receipt service.

To order, mail your order with check or money order made out to: **Ron DiPaola** to the following address: Ron DiPaola 206 South Duane Ave. Endicott, New York 13760	For more information, check out the Custom Embroidered Auto Apparel website at: http://www.sccoa.com/apparel or give Ron DiPaola a call at (607) 748-0581.
Order Form: Name: _____ Shipping Address: _____ _____ Phone: _____ Email address: _____ Your phone number or email address are very important, as occasionally, I need to get in touch with you to clarify your order.	**Your order:** (be sure to specify the shirt type, shirt color, embroidery color and the size) Write in here or enter on another sheet of paper:

Carlisle 2000

By Pat DiPersia

The All-Ford Nationals, an annual Ford car show held yearly in Carlisle, PA celebrated its sixth anniversary for 2000. The show is the first weekend in June each year. It runs from Friday morning to Sunday afternoon. The SCCoA has been actively participating in Carlisle for several years and has been taking up more space each year. This year was no exception!

Preparations began many months before the first SC arrived on the Carlisle Fairgrounds. The most important arrangement of all – a hotel! As per the SCCoA norm, many rooms were reserved at the local Super 8 in December. This year, we sold out the SCCoA rooms several months before and many members had to scramble to find other accommodations (A word to the wise – get your reservations in early!)

The first cars began to arrive Thursday evening, as per our own Duffy Floyd's nightly newsletter, live at Carlisle and Super 8. He reported that a handful of SCs already began to litter the Super 8 parking lot in anticipation for the weekend events.

This roving reporter arrived Friday afternoon, sometime around 2pm. I was delighted to see the great turnout that was already at the fairgrounds! Usually, Friday is a dull day with maybe a dozen SCers showing up. Most spend Friday driving and arrive at the Super 8 ready for Saturday morning. This year was a definite exception with close to 40 cars already on the grounds Friday!

There wasn't too much to report from Friday at the show. As usual, no one knew where to park for their class and we had the usual mix-ups, but Saturday is when it counts. This year, Carlisle Productions broke up the SC class even further. Instead of two classes to unevenly break the 1989-1992 and 1993-1995 SCs up, three classes were formed: 1989-1991, 1992-1993, and 1994-1995. Stock and modified cars were mixed together, however.

Friday's day at the fairgrounds ended around 5:00 pm when an announcement was made that a bad front was fast approaching the area and storms and hail were expected at any moment. The SCs slowly made their way out of the fairgrounds to gather back at the Super 8 for dinner. Back at the hotel, many of us were left to check in and relax until the 6:45 dinner bell rang. This reporter finally was able to check in and received his room key – for the wrong room! As I entered my room, I found the TV on – closer inspection revealed people in my bed as well! How dare they! After profusely apologizing (For something that wasn't my fault) I returned to the front desk to give it another go-round. Dick Adams seemed to find it very amusing and was trying to find out what the couple in my room was doing. I won't say.

Around 6:30 p.m., a crowd gathered in the parking lot and lobby as the skies opened up. We were lucky enough to avoid any hailstorms, but we had just enough rain to mess up the cars. The wash area would be seeing us in the morning! By 6:45 pm, a restaurant had been decided upon and the rains had already stopped. We made our trek down the street (On foot, no less) to Bonanza. The restaurant could only seat us 4 at a time and forced us to break up. While it kept us on better behavior, since we usually cause trouble in numbers, we also were able to meet new people for anyone that had parties smaller than four at the table.

NEWS FLASH

Rumor has it that the "Giveaway" car for Carlisle 2001 will be a low mileage 1990 35th Anniversary SC! If there ever was a great reason for attending this terrific show next June…THIS IS IT!

Carlisle 2000 *– The LARGEST SCCoA gathering EVER! The official count on Saturday was 56 SCs and XR7s*

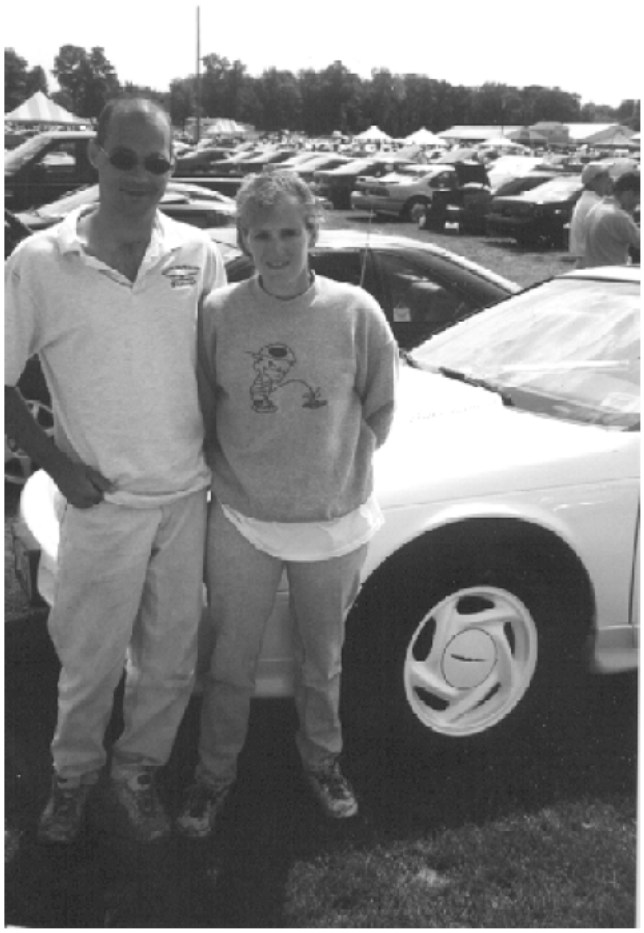
Sections of the SC show field on Saturday

Chuck Carroll's 35th Anniversary which won 2'nd place honors in the '89/90 Class

Andy Erickson's SC - Celebrity Pick Award Winner

The '94/95 SC row was packed on Saturday

Marisa Burns & Ron DiPaola



Cherri & Tom (the burnout King) Roney

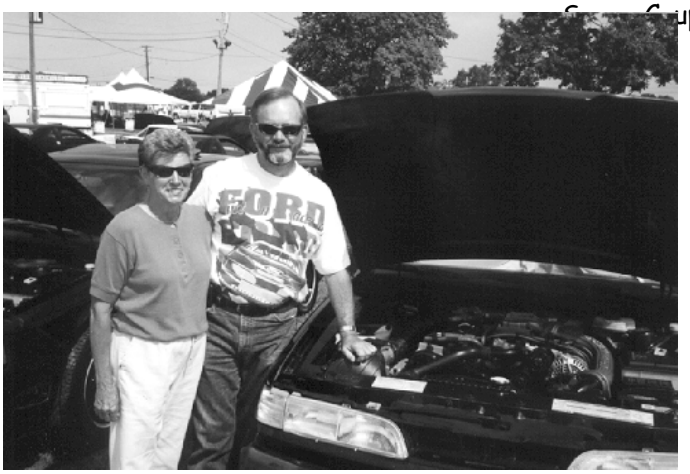
Amanda Okul & Bryan Moore
Amanda had a SC first, then convinced Bryan to buy himself one!

Birthday Boy Bill Schlabach & daughter Karen Peckrul

Make your reservations NOW for the Carlisle show in 2001.

We will be staying at the Super 8 Motel in Carlisle again. They have been gracious hosts to us the last two years. The SCCoA has booked a large group of rooms under the "SCCoA/Bill Evanoff" name. Ask to be placed under this booking when you call. Don't be shut out...Call Now!

Super 8 Motel **100 Alexander Spring Rd., Carlisle PA 17013** **717-245-9898**



Fran Schenz & Curt Hungerford

Under the SCCoA tent

Carol Lam and Wayne Ing

Judy and Dick Adams (aka Judge Judy & Da' Judge) received 3rd place honors in the '94/95 class

The Good, The Bad, & the Reckless! L to R - Tom Roney, Russ Jamison, Marcin Ceglinski Micah Miller, Dario Thunderplane, Kit Duty, Chuck Carroll, Tim Hendelman, Andy Erickson

The fun began after dinner on Friday night. The parking lot of the Super 8 had about 25 SCs, an F-150 (Courtesy of Micah Miller) and an Explorer (Courtesy of Bill Hull.) Put us all together and what do you get? Burnout contest! Micah suddenly appeared with several gallons of bleach in the back of his truck and the SCs began lining up for their turn. Micah started the evening with some kick-ass burnouts in his F-150, followed by plenty of wheel spinning from the SCs, and even an attempt from Bill Hull (We think he might have had the Explorer in 4wd which is why he couldn't break the wheels free.) This continued on for several hours, with a few hotel guests watching from their front row window seats. As long as the beer flowed, the people were kept happy. The fun started to die down around 11pm or so when everyone appeared tired and realized they had to wake up early to get the cars in order.

Saturday morning approached fast. Everyone had their own plans for breakfast, ranging from Friendly's, to McDonald's, to the hotel's continental breakfast. Other's were so concerned with getting their SC's ready that they just skipped breakfast. Upon arriving at the field, there were already plenty of SCers in the wash area and down on the field cleaning their cars. Hoods were up, moonroofs popped, and doors hanging open. It was a sight to see. Most everyone figured out where they had to park to be in the correct area for judging, and the SCCoA took up almost three rows at Carlisle with all the cars!

During the day, many of us continued to work on our cars and suntan (Uh, I mean, sunburn.) There were several trips to the dyno made during the day to make sure our cars were performing to peak specifications. Otherwise, Saturday was filled with good times, good chat, and good cars!

With a few hours of sunlight remaining, we packed up the cars around 5:00pm and headed back to the hotel for showers and preparations for dinner. There was a mad dash for dinner as the group somehow got separated at the hotel and the manager was giving us messages and directions left behind by other members. We arrived at a great new restaurant, of which I was unable to remember the name nor could I find anyone else that could. They were extremely accommodating, especially on such short notice for 40 people to show up, and happy to have us! The food was out of this world, and we've already planned to visit again next year, but hope to give a little more time notice.

Back to the hotel we headed in our caravan of SC's. Many people walking about town gave us looks and thumbs up (I'm sure the town of Carlisle is used to many cars, but I guess they're not used to such nice cars like SC's!) A few of us made sure to give displays to the onlookers on the sidewalks – we even received some hollering and whistling!

The night back at the hotel started out slow. The crowd had not yet all arrived yet, but we had already taken up most of the parking lot. Then, it happened – the F-150 and remaining SC's pulled up! The New York boys had found a go-kart track and were out having fun without us. They even came back with some battle scars to prove it. I guess being hit head-on at 25mph in a go-kart DOES hurt.

Once the F-150 arrived, the night started to get a little more exciting. The bottles of bleach once again made their way out, and after the first patch of rubber was laid down, the hotel manager quickly came running out. Thinking he was about to yell and scream after last night's fun, I met him halfway and started talking to him. He was extremely upset that no one had called him

of America

The Surgeon General...

never warned us ...

about <u>smoking</u> the competition!!!

Boys will be boys out in the Super 8 parking lot at night.

These photos compliments of Russ Jamison

Should these guys be driving?

Club Super 8 on Saturday night

Ken Seegers on the Dynotec chassis dyno. "Hey where's the steering wheel?"

Above: Micah Miller's best burnout effort in his 5.4L F150. He'll be back next year in his SC if he can get his lug nuts to stay put!

Left: I always thought the Super Coupe looked like it was going 120 mph while standing still. Here's one actually doing it!

and he had missed all the fun from the previous night, so he made sure to be here for tonight's excitement! Unfortunately, after about three or four more runs through the bleach, the hotel manager's phone started ringing off the hook. Apparently, the hotel guests were not as easily amused as he was and we were forced to discontinue our fun. But don't worry, we found other ways to amuse ourselves! Once again, we had cold refreshments, good friends and great cars!

The crowd started breaking up around midnight, with the last to head off to bed after 1am. When the sun began to shine on the morning dew of the SC's, one could tell we were a tired bunch of people! Most SC's didn't move from the Super 8 until after 9:00 and 10:00am. Everyone moseyed about, finding breakfast and eventually making his or her way to the Fun Field. Of course, we did have our early risers, but they apparently are used to less sleep! Sunday found yet more SC's on the dyno checking their ever-important horsepower and torque numbers, making sure all was in line.

Throughout the day, the SC's began to make their treks back home, starting with those with the most distance to cover. One SC had to pull out early to try and make it home before their grand-daughter was born (Congratulations, Dick & Judy Adams!) The last of the SC's pulled out in the late afternoon, with only a short distance to cover to arrive back home.

All in all, it was a great weekend! As stated earlier: Cold refreshments, good friends and great cars! Oh, and was sunburn mentioned? Even the SC's started turning red from the sun!

As for awards, the SCCoA was awarded third place for club participation, only to be beaten by the Merkur club (All 100 Merkurs ever made were on hand) and the Fairlane Club of America. Individual awards were given out Sunday, as well as the winner's parade. Congratulations to all of our SCCoA winners!

Thanks to everyone who participated and made the weekend memorable and fun! Until next year.

WINNERS LIST:

1989-1990 SC THUNDERBIRDS-STOCK/MOD
TOM WILHELM 1990 SC 1ST PLACE
CHUCK CARROLL 1990 T-BIRD SC 2ND PLACE
BILL & PATTY EVANOFF 1990 T-BIRD SC 3RD PLACE

1991-1993 SC THUNDERBIRDS-STOCK/MOD
RICHARD SIGETHY 1993 T-BIRD SC 1ST PLACE
RONALD E DIPAOLA 1993 T-BIRD SC 2ND PLACE
CHRIS IAROCCI 1991 T-BIRD SC 3RD PLACE

1994-UP SC THUNDERBIRDS-STOCK/MOD
WALLY & ELLY TUPPER 1995 T-BIRD SC 1ST PLACE
RICK HUBBS 1994 T-BIRD SC 2ND PLACE
DICK & JUDY ADAMS 1995 T-BIRD SC 3RD PLACE

89-97 COUGAR ALL
BRIDGET WIDDOWSON 1991 XR7 1ST PLACE
JEFF DILLMAN 1989 XR7 2ND PLACE
CASEY LEONARD 1989 COUGAR 3RD PLACE

CELEBRITY PICK: ANDY ERICKSON

To SC or not two SC?

By Wisco-Andy Erickson

Ever hear either of these expressions? "You can tell the age of the boys by the price of their toys", or "Whoever dies with the most toys wins". One of my best friends used to lean on these remarks from time to time when he realized he had just over indulged himself again. Yes, my friend Wayne had a lot of toys.

As for me, I hadn't paid much attention to surrounding myself with toys the past few years. I have never owned a boat, ski-doo, a cycle, snowmobile, or an ATV. I was only interested in paying my bills and saving up for that "rainy day". I had a young family and they were my priority. Well, time can change everything, so it is said. I looked around one day and noticed my kids were growing up and I began to realize that I could afford it now and I was in serious need of a diversion. A hobby to pass my spare time was in order. Well, little did I realize that my frugal ways were about to change big time and my newly deemed "fun money" would be spent with reckless abandon.

It all started so innocently

It began on a clear sunny day in July 1998 when I was driving past a Ford dealer in a nearby town. I was attracted by the sun's bright reflection off this ominous looking black car in the front row of

the lot. I made a quick U-turn and pulled in to the lot to check it out.

"Hmmm " I really like this car! It's good looking, comfortable, has the clean lines and should be easy on the wallet. A day later I was the owner of this pristine 1995 Thunderbird LX. I finally had a sporty looking car again after driving company provided cars for several years. This was the jump-start of what was to become a little more that just a pastime.

My enthusiasm ramps up

I was cruising to the store on an errand anonymously enjoying my new illegal window tint job and new fat Goodyear tires when my head nearly twisted off as my eye balls followed this gorgeous red Tbird making a turn in front of me from the other direction. "What the heck model Tbird was this?" It had different bumper covers, and hold it, what is this embossed on the rear bumper cover, T H U N D E R B I R D S C? I gotta check this out. Hey I want this kind instead. So it didn't take long on my PC to track down the SCCoA. My search for a SC had started.

Andy's red SC

I really lucked out because in less than two months I found one sitting on the lot at the local Ford dealer. It was the very same red SC that had turned my head two months prior. It happened that a very generous dad had traded this beauty in on a new Explorer for his son. I went over every square inch of this car like a jeweler appraising a gemstone. His loss was my gain because I traded my LX in on this cherry SC during my lunchtime from work the same day.

SC fever takes a grip on me.

In a few short days all of the Tbird web sites were book marked on my browser. I began to read more about the other SCs on the member's page of the SCCoA and the modifications that were possible. I began to daydream about the possibilities. Oh yeah, now I could taunt the local Chevy and Mustang boys. "What was this and where did this mysterious lowered, dark windowed, chrome wheeled Thunderchicken come from and what's under the hood?"

Andy's white SC with the Coy Miller engine

Another goal formed in my imagination. It was clear to me now. I will try to bring a little more respect for Fords to this bastion of Chevy zombies called Janesville, Wisconsin. At the same time I could show off a lot in my new alter ego. So the mail order frenzy began and, Scott, the U.P.S. driver delivered my loot routinely, and even expressed his approval of the new chrome Cobra R wheels. He watched while I pulled the boxes open like it was Christmas for a 10-year-old

"When in the heck will those gears arrive?" Gotta remember to get that appointment set to hang the Dynomax catback. I was on my way to SC nirvana.

Full blown SC perversion?

Three quarters on my way to the completion of my deluxe SC, the kind of SC I had viewed and read about on the BBS, I was facing a new dilemma. It started with a phone call to Mike Filby, a fellow SCCoA member. I called him to negotiate a price for the car cover he was selling. Mike was shipping out to Japan in the Navy in a few weeks and was in process of selling his white 1991 auto including all of the spare parts. Hold it, how could I pass up this opportunity?...A fine SC with all of the mods on it. All of the stuff I wanted and for a great price. It took one nights sleep to think it over. I called Mike and told him I planned to catch a plane and fly over to look at this sub 14 second ET, Coy Miller bird.

This was probably one of the shortest periods of indecision I've ever had. I drove that '91 over

400 miles directly home to my garage the same day without a moment of buyers remorse.

Justifying two SCs in my own mind. Here's how it's done.

1. Some parts can be shared between the two while new parts are on order.
2. Theoretically one SC should always be in driving condition for SCCoA events.
3. I can always sell one and keep my favorite one (yeah right).
4. I will have twice as much fun!

So there you have it. Now I am another one of the growing number in the club with two SCs, and yes, I am having twice as much fun, at least for now. They are both looking and running good.

One day I pulled the encyclopedia open because I was looking for help to come up with a custom license plate. I read that Thunderbirds are a part of Native American mythology in tribes of the Pacific Northwest and the Great Lakes. These giant, birdlike creatures were said to generate lightning from their eyes and to cause thunderclaps by flapping their massive wings in the sky.

Well, I don't buy in to that legend but I do know that these Thunderbird Super Coupes are NO MYTH!

Keep flyin' low!

4.3 L Stroker SC V6

How Far Can the Eaton M90 Go ??

By Fred Holzhauer fredholz@concentric.net

Talk to anyone at Eaton, or Magnuson, about the M90 blower. They will say it runs good at 8 to 10 psi boost pressure and runs great below 8. You can translate that into, "It's not very efficient". Neither is the implementation on our 3.8 Liter SC's. Stock blower boost is far above that optimum range, and overdrive on the blower complicates matters further. 10% overdrive on the later models brings boost pressure up to 15 - 16 psi. Thank Ford for the intercooler !

The benchmark for documented SC engine performance undeniably belongs to Coy Miller Racing Engines (CMRE). His heads are works of art !! But no matter how much development goes into port flow, cam dynamics, and combustion chamber, he's still at the mercy of the blower, the limiting factor.

A couple of the Parasitic Loss Factors are:

1) Horsepower Loss vs. RPM - which is an indication of mechanical efficiency, and is totally inherent in the blower design. The "S" mod addresses this area of performance.

2) Horsepower Loss due to Cavitation – at higher flow rates the blower is pulling for more air than can come through the plumbing, in effect, "gasping for air". The Magnum Powers plenum and your intake mods improve this area of concern.

3) Horsepower Loss vs. Boost Pressure - also a response of the blower design. However, boost pressure is also affected by engine flow characteristics, and by engine displacement.

When you run a positive displacement blower, a set amount of air gets pushed into a set amount of space, the engine displacement. It takes more boost pressure to cram 600 cfm into 3.8 liters at 5000 rpm as it does to cram it into 5.0 liters at 5000 rpm. We can vary the rpm that the 600 cfm comes about by using different pulley ratios. We can vary the displacement of the engine. Hmmm.

Two questions emerge, here:

1) How much would that help? Coy's dyno's boosted 15.5 psi on average.

2) How big can you get? After some measuring, 4.25 looked practical.

Let's see: $(P_1 x V_1)/T_1 = (P_2 x V_2)/T_2$ or 15.5 psi x 3.8 = ??? x 4.25 ??? = 13.8 psi at a common

temperature. But wait! By pushing into less pressure, you generate less heat, and a lower heat means a lower T_2, which in turn is a lower P_2 . Time to get out the thermodynamics book. After a little more numbers work, I came up with my final pressure at 12.5 psi. Better by 3 psi. How much hp does it take to run a pump making 600 cfm into 3 psi ? About 25 hp !

Torque improvement would be primarily due to stroke ratio or 4.25/3.8 or 11.8 %.

I'd seen a couple dyno curves on Coy's stage 2 motors around 430 hp and 490 torque. 430 hp + 25 hp = 455 hp. 490 lb-ft x 1.118 = 548 lb-ft. Using the same amount of air ! Wow ! I had already shown in my elevation effects studies that the blower efficiency at reduced pressures went up dramatically. My milehigh boost figured out to be 9.9 psi.

Looking good ! So, I decided to try it.

First order of business – the crank. No such thing as a stock forged 4.3 crankshaft. I investigated the cast truck crank (not strong enough), and then a custom forging through Morana (too expensive and with an untested oiling system). Settled on using a SC crank. The options there were offset grinding (everyone knows you can't grind a SC crank, but then the journal size is an issue, too) and the sputtered metal (weld) buildup. Settled on that.

Coy Miller stage 2 heads are the best thing out there, period.

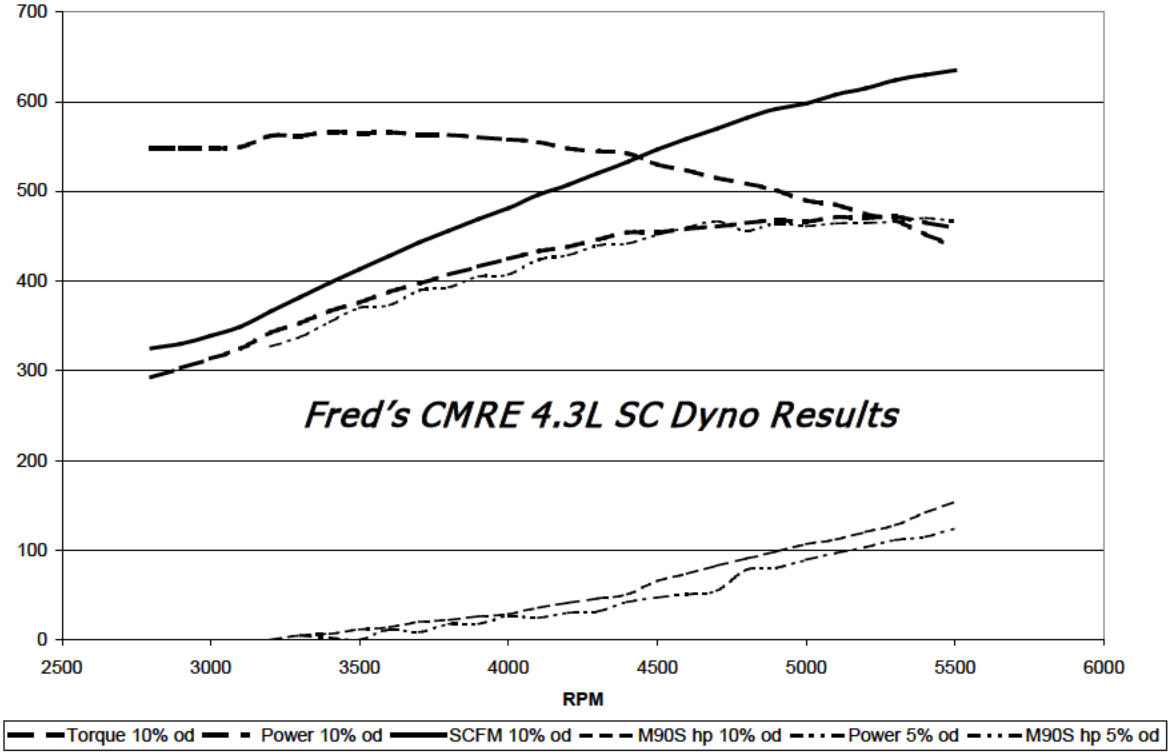
I speced the cam on the torquey side, to help out with elevation, according to the thoughts expressed in the last issue of CT.

Since Coy has messed around with compression ratios and overdrive ratios, I fixed the compression to come in just a tad higher than a Stage 2 at WOT as a nod to elevation. The bonus here is a base compression that makes part throttle operation look enticing. 9.6 Vacuum ought to be good, at least. With a bigger blower, I'd have been tempted to go around 8.0 CR and stuff all the air in that I could.

The cam doesn't really affect the WOT performance that much. It was chosen more for the part throttle response (you haven't suffered until you've driven an 8.2 compression SC in the nonboost mode at mile high).

We're all better editors than authors, so what I wound up with is a CMRE Stage 2 engine the way I wanted it for elevation, without too many tweaks besides the stroke, base CR, and the cam.

The goals were:
1) Better blower efficiency.
2) More torquey part throttle response.
3) An engine that would "git with it" up in Denver



RESULTS

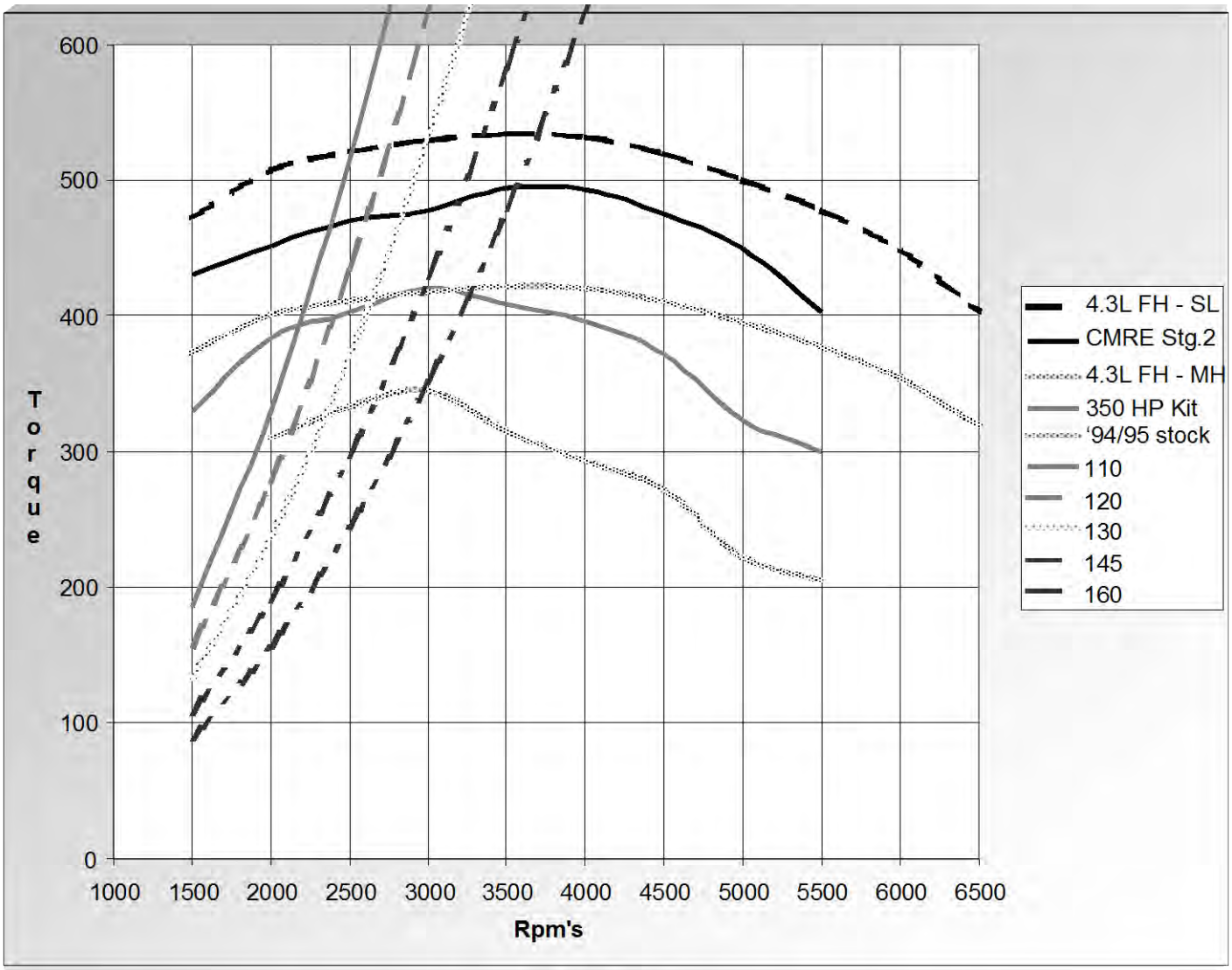
About as expected, really. On breaking in, we loaded the engine to 110 lb-ft at 3000 rpm, and were rewarded with a vacuum in the high 10's. After some tuning we posted a 3 pass average of 472 hp peak and 566 torque peak. Made 450 hp by 4400 rpm and stayed over 460 hp from 4600 all the way to 5600 rpm.

Now I had my own data to calculate the power consumption of the blower. At 5500 rpm, the S-ported M90 used 153 hp at 10% overdrive. I figured 124 hp with a 5% overdrive, resulting in the same horses but slightly less torque. What that means is we were making nearly 600 hp before parasitic losses.

The moral of the story is to make 500 hp we will have to get a bigger blower.

SC Torque Convertor Selection

by Fred Holzhauer – fredholz@concentric.net



The chart shows installed SC engine torque curves (horizontal) in various states of tune. The stall response (vertical) of torque convertors is plotted for several popular constants. Where the two types of curves cross is the launch torque and stall speed of that particular combination.

Fill in the following table while following the steps in the outline. This will generate a fairly complete profile for your car.

Constant	Multiplier	Stall Rpm	Torque	1st Ratio	Rear Ratio	Tire Diam

Step 1 - Identify the engine torque curve most like your vehicle. Be realistic. If you feel you are in between curves, then draw your own. Many SCCoA members with modifications underway fall in between the stock and 350 kit curves.

Step 2 - Choose your vehicle application: Daily Driver. Sport Driving. Drag Racer.

Daily Drivers should use the stock convertor, which has a 110 constant. In some cases a 120 is appropriate. Stall should be below 2200 rpm.

Sport Drivers should choose a convertor that is at least one size up from stock, and crosses their torque curve somewhere under 2600 rpm. 120 or 130 will normally fit the bill. If you have an aftermarket cam, this is your minimum category.

Drag Racers shouldn't mess around. Pick whatever curve crosses your torque curve at its highest point. Driveability and economy are out the window in this category. Typically your choice will be a 145 or 160 constant.

Record the constant chosen, stall speed, and torque at stall in your table.

Step 3 - Determine transmission gearset. 89 – 93 have 2.40 1st gears, 94 – 95 have 2.84 1st gears, – unless you changed it.

Step 4 - Identify rear end gear ratio. Most automatics have 3.27; a few have 3.08's - unless you changed it. You can use the axle code found on the ID panel inside driver's door.

Code	Ratio
M	2.73
Z	3.08
E	3.27
K	3.55
W	3.73

Step 5 - Read the multiplier from the table below. This shows typical starting torque multiplication for the constant you chose. This table has exceptions. Only your manufacturer can say for sure.

Constant	Multiplier
110	1.95
120	2.00

130	2.10
145	2.30
160	2.40

Step 6 - Record your tire diameter in inches. Your table should be full, now.

Step 7 - Now we can figure your launching force! Taking the data from your table,

16.8 x Multiplier x Torque x 1st Ratio x Rear Ratio / Tire Diameter = lbs force

The equation takes a 30% driveline loss into account. After the car is moving over 5 mph, the loss improves to about the often quoted 18%. You can see that a higher constant on your convertor helps your launching force a lot!

Remember that if you have an aftermarket cam, your stall speed should be close to the rpm that the cam begins to really breathe, as measured by the seat-o-the-pants dyno.

The trade off to higher stall units is less efficiency and a flatter part throttle response in non lockup operation. This is the time to exercise the art of compromise, and is the basis for my recommendations in Step 2. The usual disclaimers apply.

Another consideration for the '94/95 model year crowd is the fact that transmission input torque is regulated by the PCM to 600 lb-ft, with a spark timing retard mechanism. What this means is unless you modify your chip, you will not get very much launch advantage from a higher stall convertor. In fact, you will incur the higher driveline losses only.

When you go to order a torque convertor, you can quote the constant, or "K" value, but you are more likely to get good technical help by supplying the torque figure and stall speed together. They will likely chose the model they recommend from a similar chart. At this point, ask for the torque multiplication factor of the model selected, and then you can update your profile.

For those who are interested, the stall speed relation is $K = (RPM / (TORK)^{1/2})$

The 4.3L torque curves are prototypes derived from computer models, used to help in the design of my "Outlaw Mountain Motor", which should be a reality this summer, Coy Miller willing. Both the Sea Level (SL) and Denver Mile High (MH) curves are provided, as curiosities. Results of this most $ intensive research will be available in a future CT article, assuming our SCCoA Prez is interested in stroked and overbored, high compression, with every-trick-in-the-book SC engines.

Thanks to Jerry Wroblewski for his experience and help. He's one of those who contribute to the state-of-the-art of the MN12's.

Twenty years from now you will be more disappointed by the things you didn't do than by the ones you did. So throw off the bowlines, Sail away from the safe harbor. Catch the trade winds in your sails. Explore. Dream.

Mark Twain [Samuel Langhornne Clemens] (1835-1910)

SC Crazy in Nebraska

By Keith & Pat Pirnie

Our love affair with the Thunderbird SC started over ten years ago, in 1990. I was familiar with the Thunderbird because my brother-in-law, Joe, had purchased a new 1984 Turbo Coupe and later a 1988 Turbo Coupe. I had always been impressed with the interior quality, seat comfort, handling and styling of these cars. However, the turbo four seemed a little low on bottom end power especially if hooked to an automatic.

When considering the purchase of a new car in 1990, another brother-in-law, Brian, steered my attention toward the recent MOTOR TREND car of the year, the Thunderbird. He had already had done a lot of research about the car, himself. That encouraged me to visit the local Ford/Mercury dealer. Admittedly, I wasn't really enthusiastic about car shopping because everything that I could afford was slow and boring. The local dealer did not have an SC, but did have a black XR7 Cougar. I test-drove that, and after the first minute knew that this MN12 car was the one for us. While the Cougar was nice, my wife, Pat, decided it had to be a Thunderbird SC and red in color, since it was supposed to be her car.

We started the search for that red SC. Brother-in-law, Joe, came to the rescue and located a new 1990 at a small dealership only 100 miles away. The car was a base model SC without many options. Clearcoat red with black cloth interior, automatic trans, and dual power seats were included. That kept the price down around $20,000, but was still high for a married couple with kids. Soon it was sitting in our garage, much to the chagrin of brother-in-law, Brian, since I had just purchased HIS dream car.

Pat has really enjoyed her SC over the years. Almost every week she receives a compliment on her great looking car (even after being 10 years old). Personalized license plates "MOMS SC" let everyone know whose car it really is. Over the years, I've managed to sneak on several improvements including a Flowmaster exhaust, K&N filter, and 10 percent overdrive blower pulley. She seemed to enjoy the upgrades.

One time while traveling through South Dakota on vacation, Pat was driving and I was sleeping reclined in the passenger seat. Both our boys were sitting in back. Suddenly I awoke to the sensation of hard acceleration and heard shouting from the back seat. "Smoke him, Mom". I glance off to my right and see a 70's model yellow Corvette convertible alongside. We are engaged in a drag race and the Vette is banging gears and getting rubber trying to keep up with MOMS SC with its load of kids and luggage. The Vette finally passes us, after Pat has let off the throttle, after doubling the posted speed limit. She

continues to drive with no conversation as if nothing has happened. I asked her, "What was that all about"? She responds, "He was showing off in his Vette and I just taught him not to mess with SCs". When the boys began driving, they'd always want to race their friends. Nothing is much more humbling, than being beaten by a kid driving his mothers car.

Last year, as the miles started to accumulate on the SC, we began considering the purchase of a new vehicle. We tested everything including a Lincoln LS, Grand Prix GTP, and the new Bonneville SSEI. The end result was, Pat liked the old Super Coupe better than the new cars. She wanted a new SC, just like her old one. We developed an action plan. Buy another Super Coupe as an interim, car and completely restore and rebuild hers. We drove all over the state looking at every Super Coupe that was advertised. We explored the Internet and finally located a red, black interior 1992 SC that was a one owner in Louisville, Kentucky. A deal was cut over the phone and we were off on **another** road trip adventure to buy a car. The '92 was indeed in good shape and was fully loaded with most every option available. We ended up driving that weekend through a blizzard to get home.

One small miscalculation in the action plan showed up. By the time we had gotten home, Pat had fallen in love again with "this" SC and all the extra options, like moonroof, premium sound cd, keyless entry and cornering lamps. The interim car was **NO** longer a temporary player. So now, I have been given the "hand me down" base 1990 and MOMS SC plates have moved to the loaded 92. After driving the '92 for a while, Pat decided that she preferred the nice cloth interior of the '90 over the leather in the new car. In an effort to please her, I switched seats and door panels between cars. She got the cloth (like new) and I ended up with the "hand me down leather" (also like new). We both ended up happy in that deal.

During the process of increasing number of SC's, I decided to make a major change in my garage. Getting too old and fat to work under these cars, I decided to buy a car lift. That became my Christmas gift to myself. Nice present, huh! While the lift was being built, I modified the roof in my garage to accommodate the height of the raised car. I did the reconstruction myself with needed advice from a truss engineer. There was a little ***STRESS*** in the Pirnie household over that garage ceiling. After having lived in the same house for twenty years, we had only had that ceiling finished for several months. We had done all the work ourselves on drywall, and texturing and even installing ceiling fans (yes, in the garage). And here I was tearing it out for this damn lift *thingamjig!*

I believe that I got the silent treatment for a day or two, when that new ceiling left in the dumpster. But good-natured Pat returned

The new 3.73 equipped aluminum housing

to help me hang new sheet rock and retexture, after I completed the installation of the new raised trusses. Heck, she even

helped me install ceramic tile between the white laminate cabinets and my new butcherblock countertops. The garage was almost done by the time the lift arrived. Now I can stand under DADS SC while working on it, or park MOMS SC under it. **** Ladies**...this lift would be a great gift for your husband. I did a lot of research on these lifts before buying one. Anyone seriously interested can contact me for free advice. It is a fantastic tool.

Work on the '90 has started again, now that it is ***"HIS".*** Recent upgrades include a Lentec overdrive delete valve body. A Motorsports aluminum 3.73 rear end center section is presently being installed along with a late model fuel tank with high flow pump. The engine has been upgraded with a raised top, ZR intake, C&L mass air meter, and MN12 I/C fan. The cats have disappeared and the battery has relocated to the trunk. A new pillar gauge pod houses digital oil pressure and water temp gauges. Some repainting and an engine overhaul is planned for the future.

So that's how easy it is to go from one SC to two (matching HIS and HERS). I wouldn't mind a wrecked parts car but its got to be a total, so I don't end up owning and trying to restore number three.

Thanks to all members who have helped with parts and advice. The SCCoA is the best!

Tech Tip: Here is one tip that I figured out for myself. My oil pan plug was dripping and the plastic washer was cracked and disintegrating. Ford has an upgrade to the original plug with a built in rubber sealer. The part number is F75Z-6730-BA. Over torquing your old plug trying to stop a leak could crack your aluminum oil pan or damage the threads.

The Ladies Corner: It was nice seeing several women showing their Super Coupes this year at Carlisle. One of which was Elly Tupper, a car enthusiast and a great lady! She is the proud owner of a 1995 SC, as well as a host of other collectible Fords. Elly won 1st place in her class and truly had the cleanest SC engine at Carlisle. So ladies, start your engines and come out to car events and show off those birds! Patty Evanoff

Red Birds, Red Ponies, and Just Plain Red Fords

By Elly Tupper

My love affair with cars began when I was a child. My Dad and I used to stop and look at every Model A, Model T, Maxwell, or you name it. As a teenager I prided myself with being able to identify any car coming down the road. When I first saw the new 1956 Thunderbirds, it was love at first sight. At that point however, it was only a dream, probably never to be obtained.

In 1988 my husband and I went to a very large car show in St. Ignace, Michigan and there were five early Thunderbirds on display. After taking many pictures of a red '56, I knew it was the car of my dreams. Two years later we heard of a red '56 for sale about 200 miles from home. We went to look at it, bought it, and drove it home with the former owners license plate still attached. UNBELIEVEABLE!!! Upon checking my old pictures, this was the exact same car I had taken pictures of in St. Ignace two years previously. It was meant to be my car. This started a hobby that may have gotten a little out of control.

Next came a 1965 red Mustang convertible. Coming home from a Northern Michigan vacation, we drove through my old childhood hometown and sitting in a yard were three Mustangs for sale. Our son Dave was a Mustang fan and yes, we stopped and Dave drove it home.

Dave then found a rough 1966 red Mustang fastback that we bought for him to drive. I really liked that body style. That summer we attended the Battle Creek, Michigan Balloon Festival and beside the road leading to the festival were three 1965 Mustangs. A man and his two sons had driven them from Oklahoma to Michigan to be sold. One was a red on red fastback and I decided it was the perfect car for a high school teacher to drive to school. So, it went home with me and yes, I did drive it to school for three

The Tupper's '95 SC, '64 Bird, and '56 Bird

years. The students knew that if they parked too close to Mrs. Tupper's car it could be hazardous to their health.

By this time, we were in to the car show bit in the summer and renting several garages in various parts of our town. Our fleet didn't fit in our two-car garage.

Back in 1971, we had purchased a full size red Ford convertible to be used as our

The '71 convertible and '59 Galaxie convertible

family car. When it was four years old it became "Mom's Car". It was a great car and since they stopped making convertibles at that time I drove it nine more years as a daily driver. By this time we decided we had something special...a one owner car, that was still all original (yes, even the convertible top was original). So it is now part of the special red Fords collection at our house.

My husband, Wally, decided to get into the act, so he found his dream car in Hemmings and he and our son flew to Alburquerque, NM and drove back in a red on red '69 Mach 1 Mustang 428 Cobra Jet. It is a perfectly restored concourse car that had been trailered but is now driven. We have had it in 11 national Mustang shows and it has won 11 gold awards. We also had it tested, and it still does 0 – 60 mph in 5.5 seconds.

By this time, we were both hooked and decided that since our very first new car was a red 1959 Ford Galaxie convertible maybe we should have one of those for old times sake. After looking seriously for two or three years we found one in Florida. We bought a one-way airline ticket, only to find that the pictures we had seen were fine, but the car wasn't. A quick call to our travel agent got us home and we continued our search. The next year we found one out in Colorado and this set of one-way tickets found us driving home in our beautiful '59 Ford.

You may have noticed that our cars are all red. 43 years ago when we got married, Wally told me he would pick out the make, engine, etc. for whatever car we would purchase, but that I could pick out the color. WE HAVE HAD 43 YEARS OF RED CARS.

I saw a red '64 Thunderbird for sale in a magazine five years ago and it needed a home so we took the car ferry across Lake Michigan to Wisconsin and brought the car back to Michigan aboard the ferry. It isn't a show car, but it is fun to drive. It goes down the road like a boat riding the waves, has power everything, and even cold air conditioning. It is great for road trips and cruises and is an attention getter. We call it our 10 – 10 car... because from 10 feet away it looks like a perfect 10.

In 1997 we were at a Ford dealership that is owned by a friend of ours. He said "Hey, Elly, see that red Thunderbird over there? It is beckoning to you". I argued that it didn't have a chrome bumper, and I wasn't interested, but it did have a nice shape. It looked like a mean machine and I liked its face...so I took it for a drive. That was the start of my love affair with my 1995 Super

Coupe. It had been a dealer demo car for 18 months so we are the first people it was titled to and it has very low mileage. What a great ride, wonderful handling and just an all around pleasure to drive. Also, no one beats me at a stop light!!! It has found a home forever. It will remain stock and be shown some, driven some, and forever loved.

This summer we went to our first Carlisle All Ford Nationals show in the SC and really enjoyed getting to know many of the other Super Coupe owners. Everyone made us feel very welcome.

After wondering aloud with people as to what cars made today would people want to collect for the future, we now know and own our "New Classic", the 1995 Super Coupe.

We are now retired and have moved to a new area and we have a large heated pole barn. We have room for one more car. So we have a new red 2001 Thunderbird on order. We will then be a four Bird family!

The '65 Mustang convertible, '69 Mach 1 Mustang 428 Cobra Jet, and '65 Mustang fastback

Raised and Enlarged Supercharger Top Comparison Review

By Bill Evanoff

The raised and enlarged supercharger outlet adapter, or more commonly referred to as the supercharger "top", has become one of the most popular modifications and for a very good reason…**They work!** Within the past year several SC enthusiasts have began producing their own versions of this tried and true product and I wanted to review the new offerings and compare them to the original raised top produced by Bill Hull's company, Super Coupe Performance (SCP).

Hull began producing these tops in mass about four years ago. The SCP tops have gone through several iterations and I believe it is worthy to review the history behind this modification. I'm not going to play Al Gore and claim I invented the Internet, but I did have a very small part to play in the development of the raised tops.

I first spoke with Bill Hull around 1993 and he shared with me that he had performed a modification to his top. At the time, I couldn't perceive what he had done even though he explained it to me quite well. I finally acquired a spare top and I discussed improving the crimped neck factory design with a friend at a local machine shop. We settled upon the changes necessary and I brought my interpretation of a raised top to the first-ever SCCoA national meet at the Carlisle All Ford Nationals in 1996. I had not painted or installed the top prior to the show, but at least the small, but enthusiastic group of SC owners at the show could critique it.

This was the first time I had the opportunity to meet Hull in person and I saw his first generation raised top mounted on his SC. I can tell you Generation-1 top wasn't pretty, but it was functional. It was welded extensively around the neck area to open it up and Hull had used a one-inch carburetor spacer to raise the base. The inside diameter of Gen-1 looked to be much larger than what I made but there were some drawbacks. The collar nut had been removed, therefore a precision bent piece of exhaust tubing and some rubber connectors made the transition to the intercooler. Hull never tried mounting it to the stock upper IC tube as the top he had made was raised substantially and he just assumed that the upper IC wouldn't align itself with the IC.

The top I had made was raised with a ½ inch spacer that went into the neck area. The tops neck had been milled to remove the pinched area and a custom solid spacer was welded about the base and neck to raise the body and substantially enlarge the neck. The collar nut was retained for a very clean and visually pleasing factory look. I'll call this the Gen-2 top. The only change necessary with this design was minor notching of the upper IC tube mounting lug located under the alternator due to the height difference.

Hull liked the top I had fabricated but felt a ¾" raised top would fit equally well yet provide more flow capability. He took what was learned from Gen-1 and Gen-2 and a short time later he began producing tops and sold them to eager SCCoA members through the club, which was quickly becoming a SC performance parts business also. The ¾" raise proved to be the optimum size as it opened up the neck hole even further and no one reported any hood clearance issues. Glowing reports flooded back to Hull about the increased performance the Gen-3 tops offered.

Hull continued to improve the tops and began offering the "stealth" version, which

was a welded up top that had been milled all about the base to remove the welding bead. The stealth top made it less obvious to the casual observer that your top was modified but any true SC enthusiast still couldn't miss the Gen-4 stealth top because of its thicker lower flange.

Anyone who may have ever seen one of the Gen-3 or Gen-4 tops realizes how much work goes into these tops. To really open up the inside neck area to the maximum allowable, it takes hours using a die grinder and a carbide burr after the machine shop finishes welding up the exterior of the top. The SCP tops were produced like this until recently when they developed a fully cast top which eliminated the extra die grinding that was so time consuming.

The Competitors

"Tbird" Tim Mendoza (TBT):
Tim Mendoza is a SC enthusiast who has entered the SC top market within the past year. The following few paragraphs are Tim's own words from his web site. You can find several pictures of his tops and some customer testimonials there.
Check out www.geocities.com/scconw/

In the past, SC performance enthusiasts discovered that by increasing the volume available inside the blower top, gains in horsepower could achieved. Some enthusiasts started making hi-rise tops by adding an aluminum spacer to increase the volume of air. This was not the only modification required on the top, though. In order to feel the full affect, the throat area leading to the upper intercooler tube must be hogged out allowing better flow of the additional volume of air. This mod will give you approximately 10-15 HP. It does not cause any extra stress on your blower. Other people make these tops and in fact one company actually has a one-piece casting. Their unit is very nice, but very expensive. Most people are on a tight budget and although this is one of the BEST modifications, few can afford it. WELL I AM HERE TO CHANGE THAT.

I start with aircraft-quality 6061 T6 aluminum material. It is CNC machined to make the 3/4" spacer. I then take a stock SC Top (which you can supply or I will find one and charge you), and cut out the throat area to allow for better air- flow. Then I weld the spacer to the stock top and blend all the welds (internal and external). The top receives a heat dispersant coating on the inside making it very slick and allowing the heat to move away quicker (no other top maker does this). The top is then painted a color as close to stock as humanly possible. As you can see from the pictures *(see the pictures on his web site, Editor)*, this is a quality part. I even have installation instruction on-line as well as providing the top, bolts, and even the teflon tape to install the unit.

The cost as you can see is much less than the competition. I am trying to get as many SC owners to realize the joy of that EXTRA power under the hood. After exhaust, this should be the next performance modification. So if you were thinking of what to do next or "I wish I had money for.." Now you know what to do and you DO have the money.

Embree Specialty Machine (ESM):
Danial Embree is a machine shop owner with a passion for modifying Super Coupes. One can check out his sc top web site at:
www.embreemachine.com/super_charger.htm
The following few paragraphs are from his web site and a note he sent me along with a top for review.

The Embree Specialty Machine Super Coupe supercharger exit duct features a one inch lift, increased plenum volume, improved guide vanes and increased exit diameter.

The modified exit duct redirects airflow into the supercharger duct system and reduces the pressure drop produced by the restrictions present in the stock exit duct design. Pressure increases of 1½ to 2 pounds can be expected at wide-open throttle. This item does not affect driveabilty or gas mileage. Fits under stock hood and requires slight modification of the upper supercharger duct tubing position.

The raised top will give a 15 HP improvement on a stock SC and 20 HP on a car with a free flowing exhaust and other airflow improvements.

There are two options available on the ESM top. One can order a 1/8" pipe fitting to enable a line to be connected to check pressure drop to see how much boost pressure is lost in the IC tubes and the intercooler. Secondly, an "almost chrome", or any translucent color powder coating is available. Both these options are $15 each. Solid colors are included in the base cost.

This modification requires a rat tail file and about 15 minutes of your time. Full installation instructions included. Technical support available by phone or email.

Super Coupe Performance (SCP)

The SCP web site can be found at:
www.supercoupeperformance.com
Pictures of the SCP top can be found under the "engine" section of the site. During the writing of this article Bill Hull was the owner of SCP and he offered the following statement regarding the SCP tops.

The single, most earth shattering, improvement in Super Coupe performance (except for the EEC-tuner, of course), since the 'puter chip itself!

The ORIGINAL, the only s/c top qualified to be called the "Big Dog". SCP has sold over 500 raised & enlarged blower tops over the past 4 years and no one has ever complained about the performance gain or the price. I have always had a 100% money back guarantee - no one has ever sent back an SCP top for a refund - EVER!

The SCP blower top is the only one that is a new casting. Not only is the throat opening much larger than the other two alternatives, the new casting is much "prettier". Let's face it, when you pop the hood on your SC don't you want the top of your engine, your supercharger top, to look good!?

From the very beginning of production of raised tops when we had a machine shop do the welding & CNC porting, we added extra material to the outside of the neck which allowed us to make the throat area WIDER as well as taller because of the 3/4" raise. Widening the throat area allows for a smoother transition for the air to flow from the square portion of the top (out of the blower discharge port) to the circular throat area. All of this costs more money and requires about 3 hours of hand porting and polishing work. Check to see if the two alternatives do this. My guess is their throat will be much narrower at the base because they avoid this extra work and cost

One of the alternatives has claimed on the SCCoA BBS to expect a 20hp increase at the rear wheels on a stock SC. Without headers and a free-flowing exhaust system, it will never happen. The other alternative first claimed a "heat-dissipating" coating on his welded top, now from the latest comments on the SCCoA BBS he claims that they are ceramic coated (which would have the opposite effect)!

Buy the only top that offers show quality appearance, superior build quality, great value, and the ultimate in performance! In summary - You Get What You Pay For!

The Review:

When I first conceived this top review, I tried to come up with a set of criteria I felt would be important to any potential modified SC top customer. Obviously, price is always a consideration, but most SC owners also demand top performance and good looks. These three criteria will be the basis for this review.

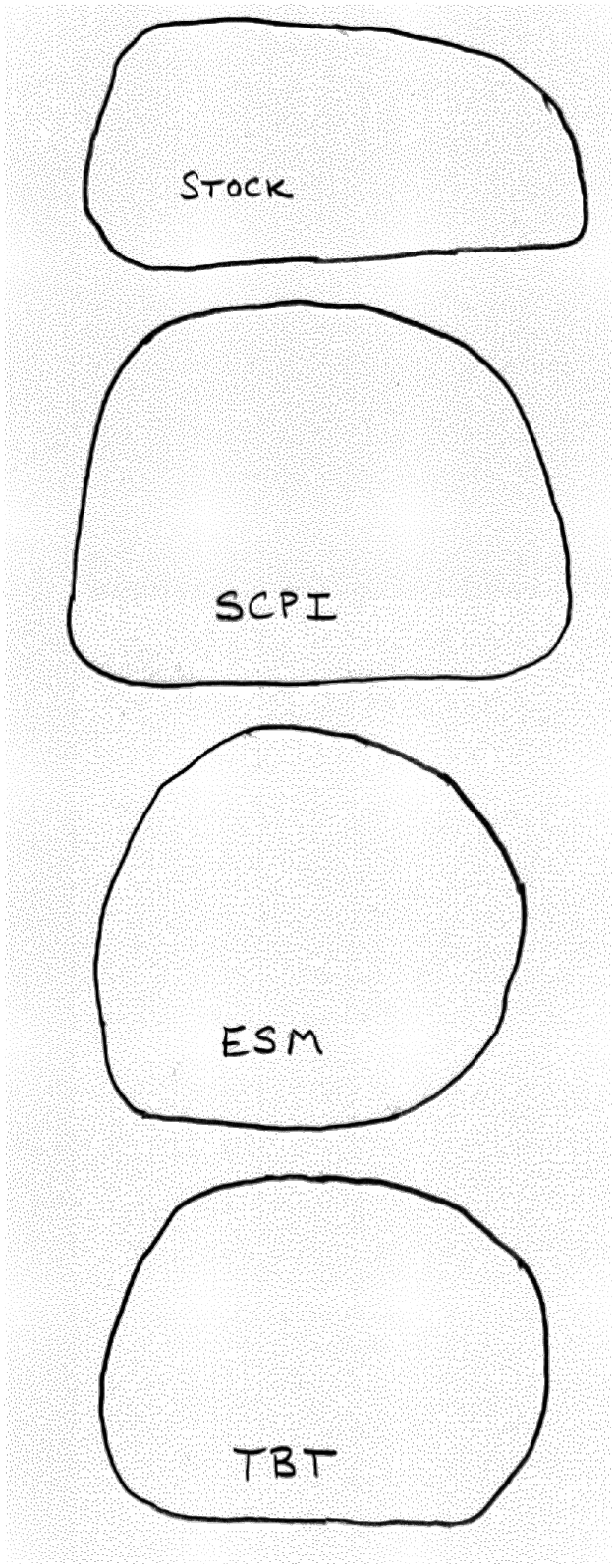
Price:

The TBT top led the pack here with a low base price of $270 (with core exchange). The ESM top followed closely behind at $300 (with core exchange). The SCP top rounded out this trio with a price of $450 (no core exchange required).

Performance Potential – Flow Area:

The absolute best way to judge performance of any part is to actually put it on a dyno and test it back to back with its competition on the same vehicle on the same day. I would have loved to do such a test, but high dyno costs and time restraints prohibited this valuable comparison. If anyone ever wishes to do a dyno comparison, I will gladly reassemble all these tops together again for a rematch.

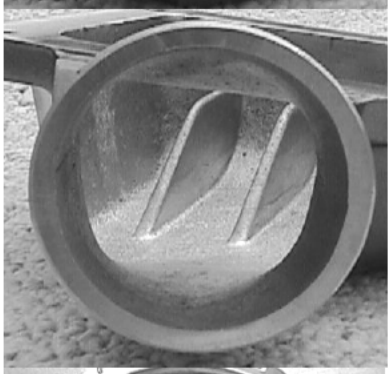
The next measure of performance I could come up with is getting an accurate measure of the airflow capability of each top. I used modeling clay and inserted a hunk into each of our competitors' neck area. The clay was made to conform to the smallest cross sectional area and then removed and this cross section was traced on to a piece of paper. The cross sectional areas of each top are shown here.



To get an accurate measure of the area of each opening, I referred to my Machinery's Handbook. This engineering book stated that areas of plane surfaces of irregular outline could be accurately calculated using Simpson's Rule. I won't bore anyone with the math, but for those who care about such things, at least you know the methodology and formulas I used for my area analysis.

The SCP came out the winner in this category with 5.22 square inches of flow area. The ESM was next largest with 4.41 square inches, and the TBT calculated out to 4.16 square inches. As a comparison, the stock top has a 3.313 square inch flow area. This information is tabulated in Table 1.

The factory top opening



The SCP top opening

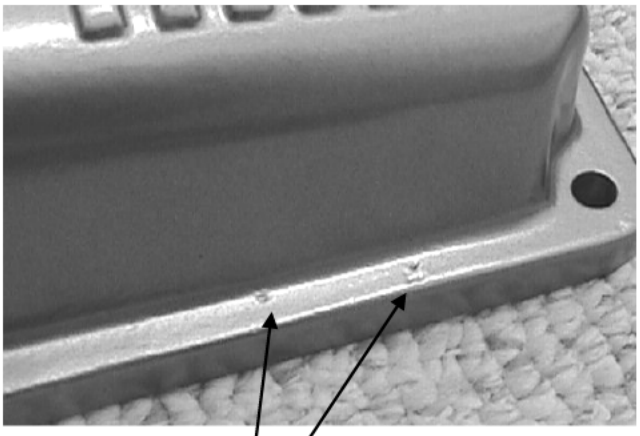
Note that this casting has yet to have the collar nut installed.

The TBT (left) and the ESM (bottom-left) openings were very difficult to photograph due to the dark coatings sprayed on their inside.

Good Looks:

The three tops were judged on appearance in the following way. (1) Were there any blemishes in the paint (powder coating) or metal? (2) How accurately did the paint match the original factory gray color? (3) What is the overall impression of the appearance and quality workmanship?

With regards to paint (or powder coating) blemishes and casting flaws, none of the tops were what I would consider flawless. The SCP top came the closest with only two minor casting flaws. These were on the lower part of the base where they were not very obvious.

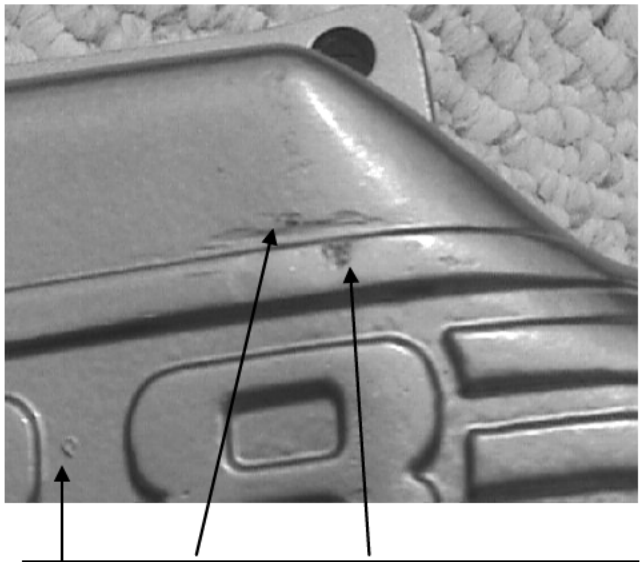


SCP casting/paint flaws on **flange**

The ESM top was also very good with five minor flaws. The largest is shown in the picture on the next page. Four of the flaws were on the flange and one on the lettering.

One of the ESM casting flaws

The TBT top displayed nine paint flaws and several very large metal flaws. The top surface where the "3.8L" is displayed looked like it had been gouged with a grinding tool of some sort. I found this to be the most objectionable flaw on the top. Many of the flaws were unfortunately on the top face of the unit.



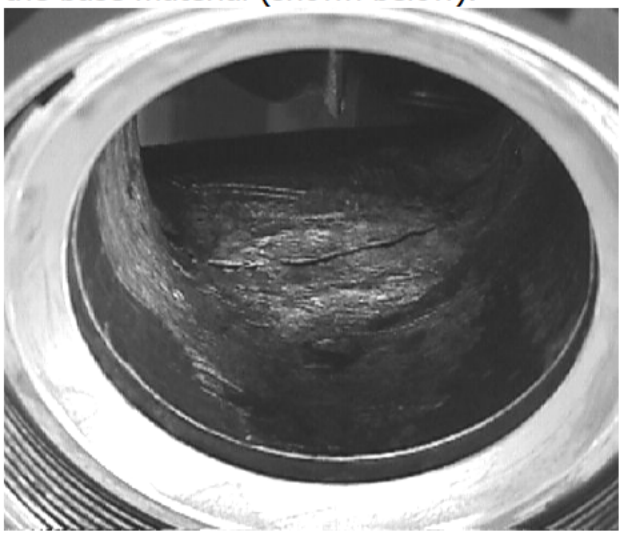
Some of the Tbird Tim casting/paint flaws. One can see the deep metal gouges above the "8".

The factory gray paint is not what I would call the most visually pleasing as it is quite dull. All the tops finishes were in my opinion better looking than the factory gray as they all have a better shine to them. The SCP was the closest to a factory match with a hard powder coated finish. The TBT came next closest with a slightly dark gray painted finish. The ESM top had a "almost chrome" powder coat and it was the least close in color, but as this was an optional color that was a $15 option I cannot comment on their standard gray finish. The powder coat on the ESM had a checked or crackle look to it that detracted from the chrome-like finish.

Judging an overall appearance winner is simply too subjective for me to offer, but I will state their appearance differences. Because the SCP top is a brand new casting, it had only very minor appearance flaws and because the mounting base is not overly thick, it resembles the factory top the closest. The mounting base on the SCP top is the same thickness as the factory top therefore one can reuse the factory fasteners.

The other tops require the use of a spacer plate and welding to achieve their "raised and enlarged" features. No matter how professionally this welding and remachining is done, it still cannot duplicate the look of a fresh new casting.

The ESM top was the better appearing of the two welded tops simply because it didn't have any large flaws like the TBT. The inside neck area of the ESM did have a rough looking area where the spacer met the base material (shown below).



Due to the fact that the TBT and ESM tops have come from customer cores, one may get a better top when they order from these sources or possibly a worse example. I trust that these manufacturers embellish their tops to make them visually pleasing but a core is a core and perhaps they can only do so much with some bad examples. In regards to the poor cosmetic showing from the TBT I can only guess that these flaws are not to be normally expected, but this particular top was mailed to a SCCoA member as shown.

The Winner!

I'm sure you are all dying to have me judge a winner in this contest, but I'll leave that up to you. With increased competition, the consumer comes out the winner in the end. It's obvious one needs to weigh which criteria are most important when picking an improved top. Pick the ideal mix of price, performance, and appearance that suites you!

Table 1 summarizes the measurements I took and also gives a few statistics such as how much larger a top is compared to the stock top and also gives an estimate of which top offers the most "bang for the buck" by comparing price to throat size.

All the manufacturers offered some sort of installation kit. Some were more comprehensive than others were. Those tops with thicker flanges included new bolts. The SCP kit included everything one would need for a complete installation. Teflon sealing tape, anti seize compound, and the proper (Ford recommended) Loctite gasket eliminator is included with this top. The Loctite is used for sealing the top to the supercharger housing and the anti-seize is used to lubricate the collar nut threads.

The TBT unit came with teflon sealing tape only and the ESM unit had neither sealing tape, Loctite, or anti-seize.

Personal Bias

On a personal note, this issue marks the first time I have published a Chargin' Thunder newsletter as the owner of the Super Coupe Performance parts business. This article was primarily written several months ago before this occurred and I have tried my best to not give any personal opinions or view, but only facts.

I'm sure it has crossed everyone's mind that I am liable to be biased in this review to favor the SCP tops I will now be selling. To that comment, I say let's do a REMATCH...any time or anywhere as I am confident of the data published in this article. Anyone is welcome to repeat this test for themselves with these three different supercharger top manufacturers.

ADVICE FOR IDIOTS:

An actual tip from page 16 of the HP "Environmental, Health & Safety Handbook for Employees: "Blink your eyelids periodically to lubricate your eyes."

IDIOTS IN THE NEIGHBORHOOD:

I live in a semi-rural area. We recently had a new neighbor call the local township administrative office to request the removal of the Deer Crossing sign on our road. The reason: Many deer were being hit by cars and he no longer wanted them to cross there.

Table 1

Supplier	Price ($)	Core Charge ($)	Area (Sq. In)	% larger than stock top	Sq. in of flow area per $
Stock Ford Top	Free	n/a	3.31	n/a	
Tbird Tim Mendoza	270	55 (refundable)	4.16	25.6	0.0154
Embree Specialty Machine	300	65 (refundable)	4.41	33.1	0.0147
Super Coupe Performance	450	0	5.22	57.6	0.0116

Magnum Powers™ Inlet Review

By Bill Evanoff

It isn't very often a completely new Super Coupe engine performance part is developed. A careful Chargin' Thunder reader should have noticed that a new part did debut in the last issue in a Super Coupe Performance (SCP) advertisement. If you were as curious about the Magnum Powers inlet as I was, I'll bet you were wondering "what can that humongous inlet do for me?" just like I was. Today, you will get your answer!

Being the speed crazed...err, I mean "scientifically" minded person that I am, I felt a test was in order to judge the effectiveness of this new inlet on a car equipped with the SCP 340 HP kit. Coy Miller has already dyno tested this inlet on several of his engines with terrific results and he has adopted it across the board as the inlet of choice for his extreme output monsters. The question is, "It's great for Coy, but will it help my little old motor with stock heads and bolt-on parts"?

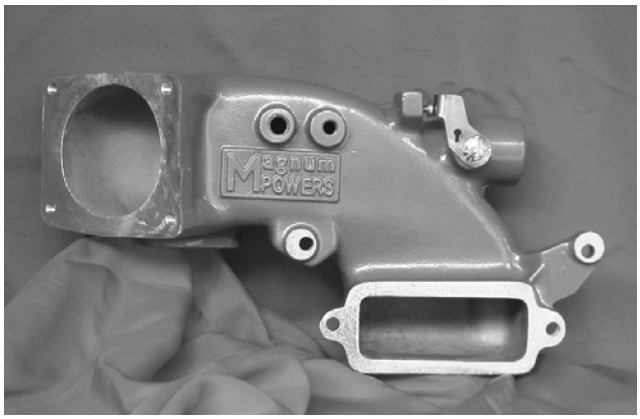
I decided to spend some money on a dyno test of the inlet. Now you can understand why I did not wish to dyno all three supercharger tops in addition to this inlet. At $100 per dyno session, I'd go broke! I had previously tested my car at the Carlisle dyno, but that was two years ago. I felt that to have a truly fair test I must get a new baseline. I went to Paul's Automotive Engineering in Cincinnati, Ohio, for the tests. As an aside, Paul's is a well known restoration and performance shop specializing in Mustangs. Paul himself treated me to a tour of the shop after my baseline run. This facility is capable of doing anything you desire as long as your budget can stand the punishment. Paul commented that a typical concourse Shelby restoration costs over $100K and will take one to two years to complete. They also perform a lot of supercharger installations on late model Cobras and set up many customer cars for road racing. This is one serious place for anyone looking for uncompromising work on his or her Mustang!

The Magnum Powers inlet installed with a 70mm BBK attached to it. A prototype 83mm Magnum Powers throttle body was used for the official dyno pull.

Thankfully, my new baseline was very comparable to the previous one at Carlisle. I did improve slightly on both rear wheel horsepower and torque with readings of 270 HP and 353 T vs. 263 HP and 345 T previously. Paul and the other dyno operators were dutifully surprised with my lil' old 3.8L V6. They said it far exceeded what many modified 5.0L engines put out. The tremendously fat torque curve especially impressed them.

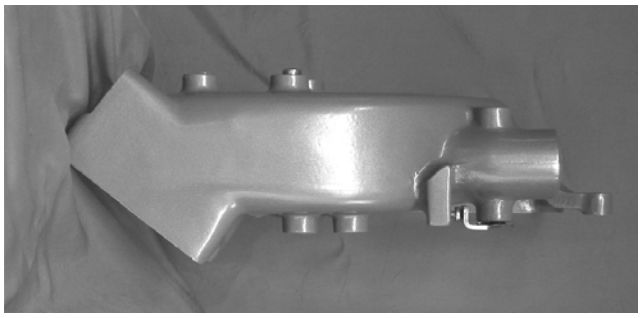
The installation of the Magnum Powers inlet went very smoothly. It was a direct bolt up and had all the factory drilled and tapped holes in all the proper places. My 5-speed SC has EGR, which complicated things a bit when it came time to hook that up. I had the pleasure of being the guinea pig with regards to being the first person to utilize EGR with one of these plenums. The prototype EGR adapter I was provided worked with a bit of persuasion but proved to be a bit of a pain as are all EGR related issues on the SC engine. This adapter is now being made on a production basis, so I'm sure it will have a

factory fit on all future inlets that may require it.



Magnum Powers Inlet - Front View

I also had the pleasure of using the one and only Magnum Powers 83mm throttle body in existence. This Big Dog required the use of a special inlet tube to hook up to my mass air meter. This proved to be an easy hookup and looked extremely impressive to boot. With everything in place, I headed back to Paul's for another set of dyno pulls to see what my new numbers were. I was able to drive the car for a few days prior to the testing and the seat of the pant's feel was positive. The boost came on very hard and engine seemed quicker to spool up. The sound from the huge inlet system was also quite a wail. I could really hear the "S" model whistling away upon full throttle.



Magnum Powers Inlet - Top View
Compare this to a stock inlet and notice how the air stream is much more direct.

I asked for the same dyno operator at Pauls and also went on a day with nearly identical weather conditions for my second set of pulls. I wanted to minimize any variables between the "before" and "after" pulls. Note that no other components were changed on my car. I even used a 73mm C&L mass air unit, which looked plum small, compared to the monster MP 83mm throttle body.

The Results

Let's get straight to the point! The engine was substantially improved in virtually every aspect as can be seen on the chart on the next page. Peak output improved over 17 RWHP at 100 RPM higher in the curve. Peak rear wheel torque was up nearly 15 at 200 RPM lower. Therefore, the usable engine RPM power band has been expanded!

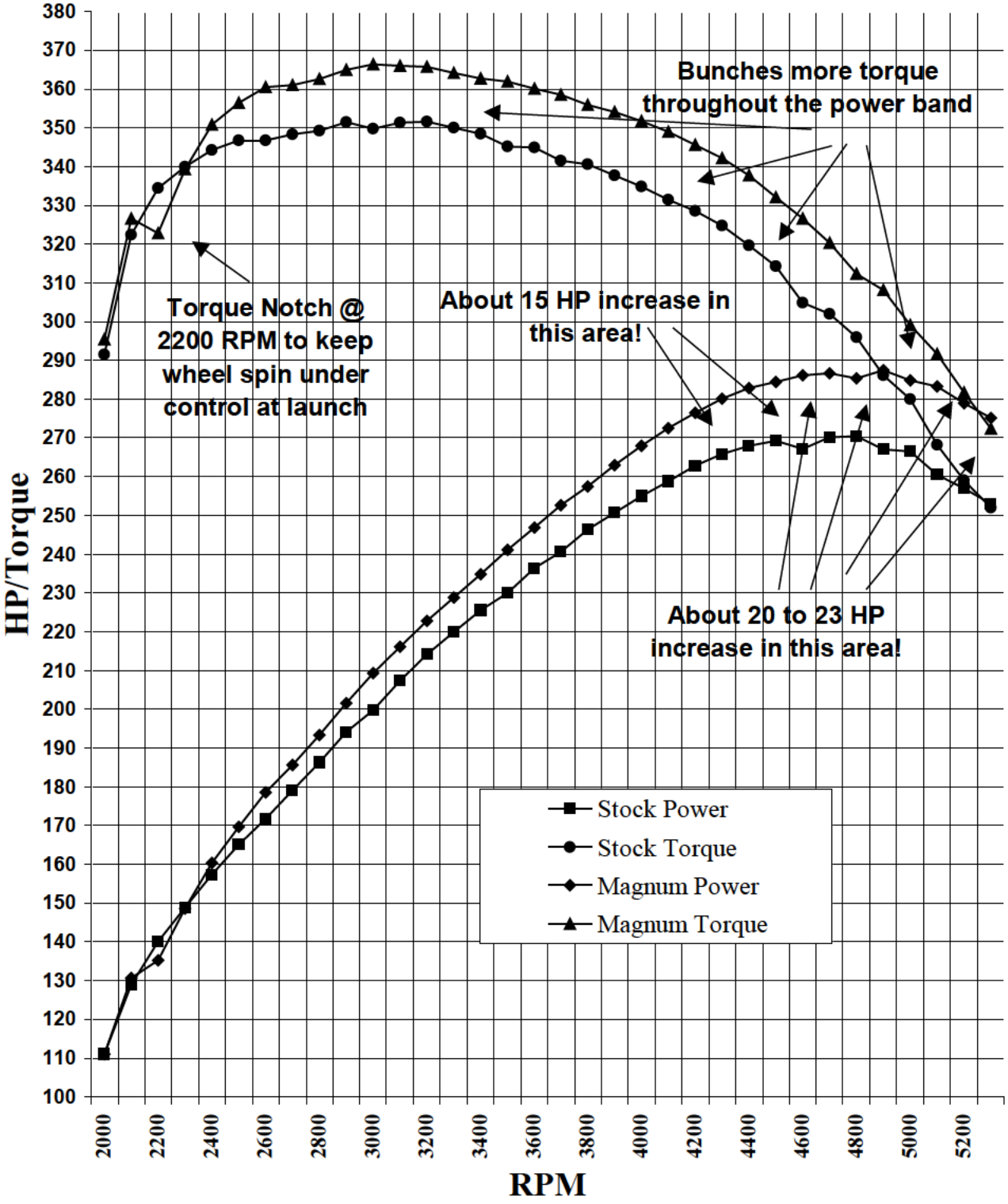
Peak values don't always tell the whole story though. Check out the torque curve. Improvements in torque are almost immediate and start with a 13 to 14 ft-lb advantage as low as 2400 RPM. So much for the idea that putting too large an intake on these motors will cause a loss of low RPM torque. That myth has been disproved! Torque keeps improving with rpm and around 4600 RPM and above the actual difference is between a 20 to 22 ft-lb improvement.

Take a good look at the horsepower curve also. I have already mentioned the 17-peak RWHP improvement, but look at the way the original curve starts to die around 4800 RPM. The Magnum Powers components have extended the useable power band and horsepower improvements over 4800 RPM actually are in the range 20 to 23 RWHP.

Wonder no more, my fellow forced induction friends. The Magnum Powers components have been scrutinized and tested with all the data laid out before you. These parts work like a dream and bolt in place with ease. Give them a try and feel the Magnum Power…or should that be Magnum Powers!

Magnum Powers Inlet & T-Body Rear Wheel Dyno Results

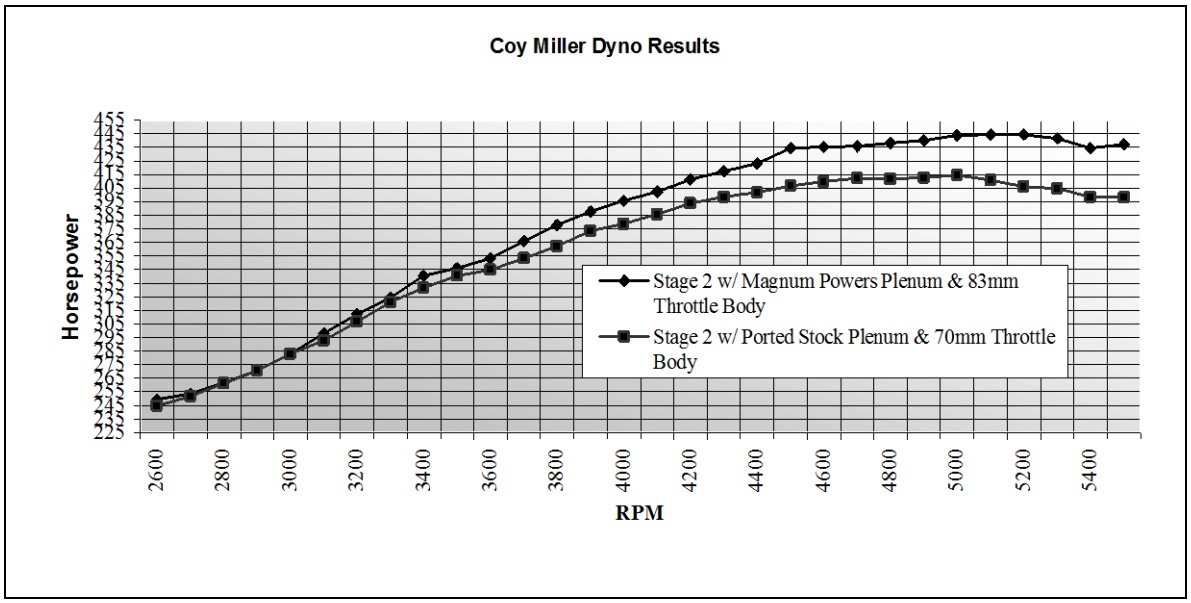
Test vehicle: '90 5-spd. With 340 HP kit bolt-ons. It has STOCK heads & cam!



Magnum Powers™

Serious Performance Parts for your Thunderbird Super Coupe!

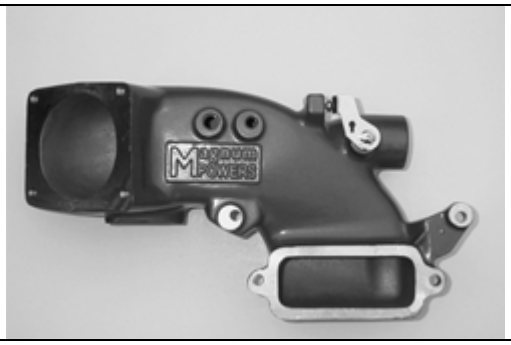
Bolt on an extra **40 horsepower** with Magnum Powers (MP) High Performance Inlet Plenum and Throttle Body! That is right, the Magnum Powers Inlet Plenum starts adding HP at 3100 RPM and keeps right on climbing. See the Dyno Chart below.



Many months of engineering, testing, and thousands of dollars of production tooling were required to bring this plenum to you. The results are awesome and we have the dyno charts to prove it!

Cast from heat-treated 356-T6 aluminum and powder coated for a factory look this plenum is a real eye pleaser, featuring:

- Huge 83mm Throttle Body (TB) Flange accepts stock, 75mm or MP 83mm TB.
- Air passage shaped for maximum airflow.
- EGR valve adapter available.
- Stainless Steel bypass valve, shaft and lever for long life and good looks.
- Powder Coat finish for an OEM factory look
- Hardware included.



MP83mm Throttle Body will be available very soon!!

Factory Authorized Dealers:

Super Coupe Performance (513) 697-6501

Coy Miller Race Engines (540) 433-0545

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