October 2019 Volume 24 Issue 10

# SUSQUEHANNA VALLEY GTO

# The G T O Tiger Times

The Voice of the G T O and Pontiac Enthusiast in Central Pennsylvania

## President's Corner

Life sure comes at you fast. Lately I've had more obligations than time! I sure thought the fall season would be my time to catch my breath, but nope! I got a phone call in late August that my son was one of 13 kids signed up to play fall baseball, but there were no coaches available. I have helped with coaching a few times before with Holden's teams, but never been head coach. I think I was more nervous than the kids at first, but so far, I'm certain that I have learned far more from them than they have from me! Where am I going with all this rambling? Just giving thanks for everyone's understanding this year, I know I have missed meetings and events much more than anticipated. This fall season has consumed quite a bit of my time too.

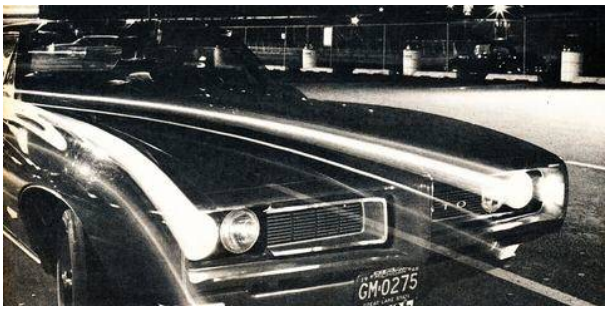
As we head in to fall, we still have a couple of events to go! October is our traditional fall cruise time, and we will once again tour Adams county. Our ending spot last year got rave reviews from the attendees, so we will be ending there again! It doesn't hurt that in talking to the owner I have discovered he is a Pontiac guy, and is working on a '68 Firebird! At the September meeting it was decided that we will combine the October meeting with this event, as the first 2 weekends in October are loaded already, with Fall Carlisle and Hershey as well as the fall Ocean City show. We will have a short meeting to go along with lunch at our ending point on the cruise. Keep an eye on your email inbox for more details.

October is also the time for officer nominations. If anyone has a nomination to make for an officer position with the club, be it yourself or someone else, this would be the time. Nominations can be made at the meeting after the cruise or by notifying me (or any officer you wish). If there are no contested positions and everyone is up for another year, there will be no need for a vote. Should there be any contested positions, a vote will take place at the banquet in November. Speaking of the banquet, mark your calendars for November 23rd, and keep an eye on your actual mailbox for the official invitation coming your way in mid-October.

As we wind down for the year (believe me, I am not ready either!), get those Pontiacs out to stretch their legs!

## Pontiac Memorabilia

I recently got a surprise from way back in Pontiac history. This little gem is a service technician pin. It seems my Pontiac ties go a lot further back than I knew! I had almost forgotten about the stories of my grandfather's days as a mechanic at White's in Littlestown when it was a Pontiac dealer back in the 50s.


The GTO Tiger Times, A 2006-18 GTOAA Award winner for Chapter Newsletter Excellence

# Club News


If you have comments about, or suggestions to help improve The GTO Tiger Times, please contact Russ Esenwine.

secretary@svgto.com

Meeting Notes 09/08/2019

In Attendance:
Mike Gettys
Alan Haynes,
Russ Esenwine,
Bob Krewson,
Earl Briggs,
Doug Warble,
Jum Eyer,
Glen & Deb Hill,
Rich & Darlene Slarb,
Jeff Jukes,
And Ken Fernsler

Vice President Mike Gettys called the meeting to order with opening remarks.

Bob Krewson presented the Treasurer's report.

First order of discussing was a post mortem of the All Pontiac/ECR Show held 3 weeks prior.

We were very pleased at how the show ran this year. Being this was the first year hosting the ECR, we didn't know what to expect. All in all, it was a fine show. Weather mostly cooperated, registration went smoothly with nary a hiccup. The new showfield layout seemed to work out well. We had a total of 166 registrations for the day.

The Friday set up crew did an outstanding job, as the preliminary work meant we could hit the ground running on Saturday morning.

We will be looking into other activities to organize for the Friday portion of the event. Again, since this was the first year, we had no idea what to expect. That being said, there were 15-18 cars there on Friday, with about 25-30 people throughout the day.

We would like to thank all the volunteers who pitched in to make everything run smoothly. We could not pull it off without you!

About a month ago, Brian sent out an email outlining a sponsorship "Buy a Brick" promotion with the Pontiac transportation Museum. There was an open discussion with members present and it was unanimously voted on to move forward with this sponsorship. We have established a budget of $500 for this effort. More information to come when it becomes available.

A reminder that Officer nominations are due at the October meeting. If you would like to throw your hat into the cage and run for an officer position, nomination will be accepted then. If no new nominations are received, the current officers will automatically be carried over for another term by default. In the event of new nominees, the elections will be held during the Holiday Banquet.

Speaking of (nice segue) the Holiday Banquet will be on Saturday, November 23th at Enck's Catering facility in Manheim. Information will be forthcoming as to costs and menu, though we don't think anything will change much from prior years.

Meeting adjourned

**Next Meeting:**

The next regular club meeting will be held Saturday, October 19th at the Mason Dixon Distillery at the conclusion of the Gettysburg Cruise. Those wishing to travel in a group are to meet at the Rutter's in Heidlersburg, and the intersection of PA RT 234 & US15 at noon.  inal details about the cruise will be coming forthwith via email from da Prez.


## GTOPA Car Show

Sunday, September 22nd. The only Sunday in September OR October without a scheduled ball game to be at. What to do? Something I've not been able to do nearly enough this year: go to a car show! That particular day there were 2 Pontiac events to choose from: This show in Easton, PA or the Keystone POCI show in Lebanon. Personally, I chose this show to help support a fellow chapter of GTOAA, the GTO Association of PA. The show is held at Star Buick/GMC in Easton, PA (also a former Pontiac dealer) and is always the day after the Neffsville car show. It was a great day for a car show! It felt more like July than September with 90-degree temperatures, but sunshine was abundant and that brought out the cars! This show has changed slightly as it now is open to any brand, however they do have several Pontiac classes, along with classes for Buick, Oldsmobile, and one for any other brand. In all over 120 cars were present, over half of which were Pontiac. In all it was a relaxing day and a nice show with lots of Pontiac iron!

## Keystone POCI Show

Another choice on Sunday, September 22nd a little closer to home for the Lancaster members was the Keystone POCI show at Ebersole GMC (also a former Pontiac dealer). Vic Schreck reports that this was also a nice show and this one was Pontiac only. In attendance were Vic & Geri, Ralph Moyer, Stacey Moyer, Doug Moyer & family, Bob McCoy, Ken Fernsler, and Wilbur Young. Apologies if I missed anyone! These guys know how to put on a nice show so I do believe it was a good time. The only complaint I have is I couldn't be at both shows!

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More pictures from the Star Pontiac Show

**Our 24th Year!**

**2019 Club Officers**

Brian Little—President

President@svgto.com

Mike Gettys—Vice President

vp@svgto.com

Bob Krewson—Treasurer

treasurer@svgto.com

Russ Esenwine—Secretary

secretary@svgto.com

## History of Pontiac V8

Part III (1969 to 1970)

Well the history of Pontiac V8 motors seems to keep getting more and more interesting…With 1967 and 1968 in the books what else could Pontiac do to keep the performance up and growing? Hang on and let's see what was going on.

*1969*

A little recap from the mid-1968 year as described in an article from Pontiac V8 Engine History – 1955 to 1981. The Ram Air 400 available in the GTO and new Firebird was very much the same for 1968, and it came to be known as "Ram Air I" when a new Ram Air engine was brought to market in May 1968. The Ram Air II (R/A II) was rushed through the development process so Pontiac could give its customers a high-winding V-8. It borrowed technology from a new high performance engine that Pontiac was developing for 1969, which contained some very unique pieces aimed at reaching its intended 6,000-rpm limit.

The R/A II featured all-new cylinder heads with redesigned round exhaust ports. The port work improved exhaust air-flow by about 10 percent over a comparable D-port, and the outlet shape was intended to make fitting tubular headers easier for racers. The valvetrain was comprised of specific heavy-duty components, and the new number-041 hydraulic-lifter cam was teamed with 1.5:1 rockers to produce .470 inch of valve lift. The combination was rated at 340 hp for the Firebird and 366 for the GTO.

Two new performance engines were introduced for the 1969 Firebird and GTO, and both carried over into 1970 with minimal changes. Rated at 335 hp for the Firebird and 366 in the GTO, the 400 H.O., or Ram Air III (R/A III) as it was later known, utilized D-port cylinder heads and high-flow exhaust manifolds. Pontiac's top engine option in 1969 and 1970 was its Ram Air IV (R/A IV), which had a solid 6,000-rpm operating limit. The intake-port roof of the round-port R/A IV cylinder head was raised 1/8 inch and the intake port volume was increased from 153 to 180 cc, which allowed it to operate at its intended limit.

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## National Organization Information

Susquehanna Valley GTO is an affiliated chapter of the GTO Association of America, the premier national organization for GTO enthusiasts. Each month GTOAA members receive **The Legend**, a Golden Quill Award winning publication. Members can read the technical articles and have access to the GTOAA Technical Advisors Staff, use 50 words of free advertising monthly, view the feature articles on some of the most interesting GTOs you'll come across, and have access to the GTOAA Club Store merchandise. For an on-line preview of The Legend, go to www.gtoaa.org. For local chapter information, send an e-mail to Bill Vantuono at chapters@gtoaa.org . To receive a membership application by mail, write to: GTOAA, PO Box 213, Timnath, CO. 80547, or send an e-mail to: membership@gtoaa.org for more information.

The GTOAA National Meet is hosted by various local chapters, and is held annually. The acclaimed Concours and Popular Vote Car Shows bring some of the finest GTOs together for superb viewing. Other highlights include many renowned Technical and Special Interest speakers, the multi-day swap meet, drag tracing, and other great events.

**1995** **2019**

*Continued from pg 4*

The high-flow R/A IV cylinder heads were complemented by a new cast aluminum 4-barrel intake manifold with enlarged runners and separate cast-iron heat crossover. The 041 camshaft teamed with 1.65:1 ratio rocker arms produced a gross valve lift of .520 inch the most ever used in any production Pontiac engine. The mill was rated at 345 hp for the Firebird and 370 hp for the GTO. Increased displacement was required to motivate GM's full-size cars, which continued getting larger year after year. Pontiac's 428 grew to 455 in 1970 by increasing bore size .030 inch and replacing the 4-inch-stroke crank with a 4.21-inch unit. The 455 H.O. was comparable to the previous year's 428 H.O. and availability was limited to larger models and the GTO. The R/A III and R/A IV continued as Pontiac's top engine options in the GTO and Firebird model lines.
Below is a recap of the motors available in 1969 from Pontiac –

**350** cubic inch now in its 2nd year of production with both 2 and 4 barrel carbs. New to the lineup was a 350HO which was a 350 with 400 large valve heads (#48) and the 400 HO camshaft which rated it at 330 HP. For clarification and a part I overlooked in Part III is the 350 motor is actually a 354 cubic inch motor…3.875" bore and 3.75" stroke.

**400** cubic inch now in its 3rd year had many options available depending on your taste in cars and performance…

**400HO** available from 1967 thru 1970. It was rated at 330HP was considered top of the line until the Ram Air Motors hit the street.

**Ram Air III**

The Ram Air III was the base engine in the Judge series of the GTO in 1969 and 1970. It also was the base engine in the Firebird Trans Am of 1969 and 1970. It basically was a 67-8 H.O version with a "Ram Air" air cleaner assembly. It utilized the 288/302 duration camshaft (auto trans.) and used the "744" cam (301-313) in the earlier manual trans versions, later downgraded to the "068" version. It was rated at 366 bhp (273 kW) in the GTO version. The Ram Air III had used a similar block to the Ram Air IV in that it was drilled for 4-bolt main bearing caps but used a cast crank and cast rods, and 2-bolt main bearing caps in 1969. In 1970 the casting number #9799914 Ram air III 4-bolt main block, also used the 4-bolt main caps on Ram Air applications. This engine also had the distinction of using the cast-iron "headers" made famous on the original HO engine in 1967.

**Ram Air IV**

The Ram Air IV replaced the Ram Air II in 1969. All 1968–69 #9792506 Ram Air 400 blocks have 4-bolt caps. The Ram Air IV used the RA II's camshaft but lift in the RA IV was increased to 0.52 in (13 mm) thanks to the use of 1.65 ratio rocker arms (vs 1.50). The RA IV heads had 1/8" taller intake ports, larger intake port volume with more airflow, yet shared the Ram Air II round exhaust ports. In addition, a shallower spherized-wedge combustion chamber moved the tuliped valve heads .040" closer to the piston at TDC, improving mixture draw considerably during the intake stroke. The RA IV also used a lightweight aluminum intake-manifold that produced a weight savings of 10–15 lb (4.5–6.8 kg). From 1969 though 1970, the RA IV was available in both A-Body (GTO/Judge) and F-body (Firebird/Trans Am) form. While 1969–70 A-body RA IV production was low (1517) only 102 RA IV Firebirds and 55 Trans Ams were built in 1969. RA IV Trans Am production jumped to 88 units built in 1970. After RA IV production ended, Pontiac continued using its round-port cylinder-head design in 1971. However, by this time compression had dramatically dropped off, marking the beginning of the end of the muscle car era.

**Ram Air V**

In 1969 Pontiac created four versions of the Ram Air V engine: a 303 cu in (5.0 L) short deck version for SCCA Trans-Am racing, a 366 cu in (6.0 L) variant for NASCAR, a 400 cu in (6.6 L) version for street use in GTOs and Firebirds, as well as a 428 cu in (7.0 L) adaptation for drag racing.[3] The cylinder head design is similar to the Ford FE tunnel-port head used in the GT40 and Can-Am series racing. So large are the intake ports that the pushrods run through the center of each port via pressed-in tubes, in addition to streamlined airfoils over the tubes themselves to improve port shape, and increase flow velocity. The 303 had shorter connecting rods, smaller 2.5 in (64 mm) journals and a solid lifter version of the Ram Air IV camshaft. It shared the 4.121 in (104.7 mm) bore of the 400, but with a 2.84 in (72.1 mm) stroke for a displacement of 303 cu in (5.0 L). The short deck engine weighed about 40 lb (18 kg) less than the other variants and had an 8000 rpm redline. Pontiac's SCCA Trans-Am program was promising, with race-ready engines producing 475 hp (354 kW) to 525 hp (391 kW).

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*Continued from pg 5*

.....However the series' General Competition Rules required the manufacturer to produce no less than 250 vehicles with the 303. Plans were made to produce Firebirds and GTOs with advertised ratings of 355 hp (265 kW) and 375 hp (280 kW) respectively but concerns about emissions, the response of the automobile safety lobby, and the warranty implications of a high-revving street engine led to cancellation of the program. The total number of Ram Air V engines produced is not known and a handful of Ram Air V 303's may have made their way onto the Pontiac Firebird Trans Am assembly line. Only about 25 303 cu in (5.0 L) engines were produced and about a dozen 428s and 366s. More 400 cu in (6.6 L) engines were produced by Pontiac than the other versions - estimates range from 80 to 200 units. Quite a few 400s were dealer installed.[3] Ram Air V engines are extremely rare and parts are not readily available. Ram Air V cylinder heads as used on the 400 CID version had an intake port volume of 290 cc (17.70 cu in), nearly twice the size of a typical standard D-port Pontiac head- and flowed in the area of 315 cu ft/min (8.9 $m^3$/min) @ 0.8 in (20 mm) valve lift; in the realm of the NASCAR-dominating Chrysler 426 Hemi. With the intake port pushrod tube airfoils removed, intake port volume was further increased to 315 cc (19.22 cu in). 428 – 1969 was the last year for this motor…It's run was from 1967 to 1969 and in its last year the HP ratings were 360/370/390 HP. Of the many different stories you hear told about how things were done back then vs now is the stories of dealerships installing the 428 in new GTO's or Firebirds for owners that requested the change.

***1970***

The Pontiac motor is now entering its 16th year and the changes just keep coming. High compression is losing out to emissions regulations and HP is still around but torque is one of the new conversations in Pontiac garages. *General Motors produced the Pontiac 455-cubic-inch V-8 engine from 1970 through 1976. The 455 wielded massive horsepower, but a new horsepower rating system and tighter emission controls drove the 455's power lower each year until GM abandoned the engine in 1976.*

*The 455 Pontiac V8 provided large-bodied Pontiacs a torque-friendly engine. Prominently featured in the Pontiac Bonneville, the 455 was also used in the GTO, Trans Am, and the Firebird.*

The Pontiac 455 V-8 was actually a bored out 428-cubic-inch V-8 with a bore and stroke of 4 inches by 4 inches. For the 455, Pontiac expanded the cylinder bore to 4.152 inches and the stroke to 4.21 inches.

In one publication, the author described the 455 in 1970 as the following: *The 1st year of the 455 provided 325 HP with 455 foot-pounds of torque or 335 HP and 480 foot-pounds of torque if it was a HO motor. As described above it offered huge amounts of torque but one thing that was noticeably different was the compression ratio was 8:2/1.*

In another publication the author boasted the following: *The 455 HO designation made its debut in 1970; Rated at 360 or 370 hp (268 or 276 kW) (depending on which vehicle it was installed into) & 500 lb ft (678 N m) of torque, it differed from the regular full sized car 455 by large valve heads with smaller combustion chambers, and a larger camshaft. The 1970 '455 HO' was a conventional "D" port engine - to simplify things, it was a late model year offering which was truly a 'High Output' version of the 455 offered from the onset of the model year in all Pontiacs full sized cars.*

My opinion is that I still am amazed at the creativity coming from the Pontiac engineers. I truly believe that the HP and torque numbers from the 455 motor in 1970 are everything that they (whomever they are) say. Long before 1970 marketing and engineers had different takes on things that could be considered maybe a little to boasting or…for insurance reasons, a little to conservative. Throw in a new way to measure HP in an engine based on emissions regulations from 1 certain state and things get confusing…again. Maybe a good way to measure HP and torque in your car is how it feels when step on the gas.

The 400 motor was still the most popular motor Pontiac offered in 1970. The versions being offered this year ranged from mid-200 HP to 370 HP (Ram Air IV). Still pretty strong numbers but the majority of the motors offered this year began to receive the lower compression of 8:1 on the lower HP motors and 10:5/1 on the higher HP motors. This would be the last year of High Compression Pontiac motors.

In a recap of the motors being offered, I decided not to write about each motor as in the previous I, II and III versions of the History of the Pontiac V8. Instead a recognition that the offerings this year where just a little bit quieter than maybe past years. The 350 HO is no longer available but the 350 motor is in both 2 and 4 barrel offerings. The 400 is still around in 2 and 4 barrel offerings as well as the famed Ram Air IV but 1970 was the end of the line for the Ram Air motors. Emissions would now be part of the same conversation as HP and torque. What was in store for Pontiac now…Part V will hopefully answer some of those question. Until then, enjoy some Pontiac excitement!