

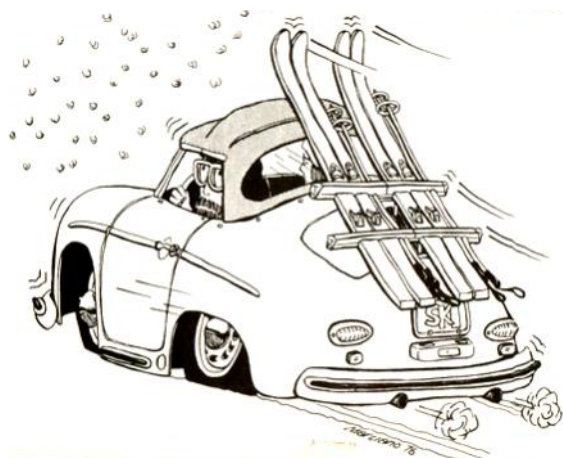


# ***TubTimes*** **LITE**

***Official newsletter of***

**TYP356ne**

**VOLUME 16, ISSUE 4L, APRIL 2016**



## ***An Unlikely Snowbird***

**Craig and Amy Bush's  
beautiful 356A Speedster in  
the snow**

## **TYP356NE OFFICERS**

*President*— Peter Venuti

*Vice President*— Allen Sisson

*Secretary*—Peter French

*Treasurer*—Dennis McGurk

*Membership Chairman*—Allen Sisson

*Website Coordinator* Gordon Nichols

*Newsletter Editor* —Ed Tobolski

*Past President*—Tom Tate

*Directors at large*—

Norman T. Brust

Ken Nykiel

Ralph Hadley

Jeff Leeds



### ***Presidents Message***

**W**ith a soggy weekend for the LA Literature & Toy show behind us, and spring officially started (at least according to the calendar) it is time to start thinking about waking UP our cars from their winter rest.

After a long winter storage, please be sure to allot sufficient time during the process of getting road ready. You want to ensure your vehicles are safe. If you are reinstalling batteries and the like, ensure everything is properly secured and torqued as appropriate. Physically, and visually, inspect your fuel lines for leaks and dry rot. Check your brake fluid level and the brake system for leaks or seeping seals - or for lines that should be replaced. We want this to be another great and safe driving season, so let's all do our part to ensure our cars are up to the task. If you find a task beyond your skill level, don't be afraid to reach out to fellow members - using the Club list - for advice on how to solve a problem; or, use the Club resources to identify one of our sponsors that would excel in particular area of repair.

While we are on the topic of dusting off old things, we are looking for a new home for the monthly board meeting. While the Met Bar & Grill has served us well for a number of years, a change in that venue's policy is causing us to look for a new location. For the April board meeting, we will be trying a spot in Newton called Mick Morgan's, an Irish restaurant/pub in Newton located at 118 Needham St. As always, these meetings are open to all Club members so please feel free to drop in. Date and time can be found on our website's calendar.

Lastly - with such a mild winter and the lack of sand and salt used on our roads this year - if the mild weather continues in April, we could be on the road soon. If anyone has that itch to scratch, we could use a volunteer to run a loafer's lunch in April. Please contact me, or another board member, if you are interested- or just want to learn more about loafer's lunches.

Hope to see you all on the road very soon! Peter Venuti

### **WHAT'S IN THIS ISSUE?**

- *Club Event Schedule for 2016* —page 3—4
- *One Lap Of America*- page 4
- *Yankee Steam Works Tour* - page 5
- *McManus engine project*—page 6 - 9
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- *Club Items Available*—page 12
- *Club Sponsors*—page 13

# ***2016 Calendar of Events***

The events highlighted in **blue** are TYP356ne Club events.  
For more information go to the club website - [www.typ356ne.org](http://www.typ356ne.org)

## ***APRIL***

- Tuesday, April 5th, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Mick Morgan's Irish restaurant/pub. 118 Needham St., Newton, MA. 02464  
Morgan's is exactly one mile east from the Highland Ave exit (19) of 128/I95, members invited.
- Saturday, April 16th, – Porsche Only Swap Meet, Giant Center, Hershey, PA.  
Check with other TYP356ne members to see who's going/carpooling.  
For full info go to - <http://cpa-pca.org/swap/2016/index.html>

## ***MAY***

- Monday, May 2<sup>nd</sup> - **One Lap of America visits Palmer Motorsports Park**,  
Palmer, MA - Whisky Hill Road Course , see details on page 4
- Tuesday, May 3rd, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- Saturday, May 14th, **Visit to Yankee Steamworks**  
679 Boston Post Rd, Guilford, Connecticut (203) 453-1453 see details on page 5
- May 14 – 21, Porsche Excellence Center Tour in Atlanta

## ***JUNE***

- Tuesday, June 7th, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- Saturday, June 11th, 10am – 1pm - **Paul Russell Tour**  
106 Western Ave, Essex, MA 01929,
- Wednesday, June 15th, 10:30am – 1:00pm - **June Loafers Lunch**
- Saturday, June 18th—2nd ANNUAL RETRO AUTOMOTIVE PIG ROAST and Covered Bridge Tour
- June 19 – 25, PCA Porsche Parade, Jay Peak ,Vermont  
<https://www.pca.org/event/2015-10-13/porsche-parade-2016-jay-peak-vermont>.
- Sun, June 19th, 9am – 2pm - GERMAN CAR DAY AT THE MOT  
15 Newton St, Brookline, MA 02445
- Sun, June 26th, 1pm – 4pm - **Allen Sisson/Mary Grace TYP356ne Barbecue/social gathering.**  
1 Spruce Way, Medfield, MA 02052

## ***JULY***

- Tuesday, July 5th, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- Thursday, July 7, 10am – 2pm - **Alex and Danna Dearborn's July Loafers lunch**  
12 Captain's Way, Kittery Point, ME 03905.



- Sunday, July 10, 9am – 3pm - Endicott Estate Car Show  
656 East St, Dedham, MA 02026

## AUGUST

- Tuesday, August 2nd, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- Saturday, August 6th, 10am – 1pm - **Tech Session at The Carrera Gruppe**  
3 Owens Ct, Unit 7, Hampstead, NH 03841
- Wednesday, August 17th, - **August Loafer's Lunch**

## SEPTEMBER

- September 1 – 5, The Annual Historics Classics weekend at Lime Rock Park  
60 White Hollow Rd, Lakeville, CT 06039.
- Saturday, September 3rd, 2016, 12pm – 3pm - **Unobtanium Open House**  
14 W Shore St. Ravena, NY 12143
- Tuesday, September 6th, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- September 7 – 11, 2016 – 356 Registry—East Coast Holiday, see details on page 10
- Sunday, Sep 18, **2nd Annual Club Day**

## OCTOBER

- Tuesday, October 4th, 6pm – 8pm - **TYP356ne Monthly Board Meeting**  
Location to be determined, members invited.
- Sunday, October, 2nd.— NER/PCA will be hosting their annual concours at the Endicott Estate, as always, TYP356ne members are welcome to attend.  
  
Promotion and sign up information will be available early this summer.
- October 7 – 9, 2016 - **Fall Foliage tour**  
Bill Collins will be organizing the tour, beginning in southern New Hampshire and touring throughout New England, where-ever the color is best. This tour is limited to 15 couples to be manageable. Route and lodging TBA as we get closer to October.



### Monday, May 2<sup>nd</sup>

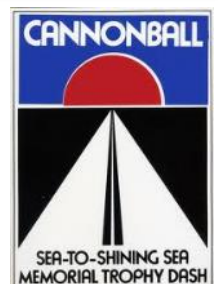
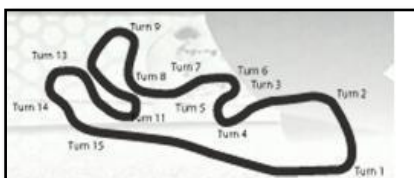
One Lap of America visits Palmer Motorsports Park,

Palmer, MA - Whisky Hill Road Course

Gordon Nichols will be organizing this MONDAY event which is the **ONLY** day the One Lap will be anywhere near New England. It's your only chance to see these amazing racing machines as they make their way around America in 9 days in a mini-"Cannonball Run".

We may do a Loafer's Breakfast along the way so we can get out there near the 8:30am Time Trials start. This will get further organized as we get closer to the event. Here is the One Lap web site:

<http://www.onelapofamerica.com/currentEvent/Course.do>



## Saturday May 14th—The Yankee Steam Works Tour and 356 Shoreline Cruise

**P**lease join Anna Marie and Greg Lane for a late morning TYP356ne cruise through southeast Connecticut, a tour through the Yankee Steam Works Museum, all capped by a light lunch nearby. Those making longer stays in the area will be welcome to join the Lane's at their home for wine, cheese and more 356 talk later that afternoon.



### **The Main Event**

**Date:** Saturday, 14 May, rain or shine. Drive less-precious vehicles if the weather threatens.

### **Timing:**

11:00am - Stage cars. Start location and drive details to be provided upon registration (see below).

11:30am – Commence the driving tour through scenic roads in Southeast Connecticut.

Cheese and appetizers will be available at the end of drive.

12:30pm – Arrive Yankee Steam Works in Guilford, CT.

1:30pm - Close with a catered lunch across the street where we have reserved the upstairs banquet room and will have available a buffet of light options, including vegetarian choices.

### **The Yankee Steam Works**

Eclectic collection of neat vehicles, much of it steam powered and most of it restored by Chris Greaves and his friends.

Four steam cars, two wooden steam launches, a genuine steam roller, Auburn, Cord, Rolls-Royce, Franklin (and other) autos, a British double deck bus and an 11 foot tall beam engine now under construction.

Chris will give a fascinating and entertaining tour of his collection.

**Registration and Program Cost:** \$35.00 per person to cover lunch, a museum donation and wine/beer at the Lane's. **Limit:** 40 persons (due to parking and seating restrictions)



Send check payable to Greg Lane to reserve your places, first come first served. Also send your email address, so that he can forward event details (start point, destination, directions, etc.):

Greg Lane  
13 Bradley Road  
Madison, CT / 06443

**Staying Overnight in the area?** Let Greg know upon registration and he will forward lodging suggestions as well as beer, wine and cheese soiree details after the Yankee Steam tour.

**Questions?** Call Greg Lane at 203-245-0240 or email: [annamarie@cshore.com](mailto:annamarie@cshore.com)





## Greg and Christine McManus 2005 356 engine project

### Long Term Test Results



**I**t has been 11 years since the inception of this project on our 356B Super Cabriolet engine. My investigation started around 2004 gathering information with actual work with Rainer Cooney starting around 2005, with completion about a year later culminating with the dyno test procedure. The results of this process have been in my opinion a resounding success overall albeit a few teething issues associated with the computer engine management programming, as the parameters needed to be determined for optimum engine operation which required a lot of driving with adjustments made until the desired results were achieved.

The engine currently has 17,000 miles trouble free miles while achieving all and more of my initial objectives. As is always the case on a new project, once achieved other discoveries are made.

The Bursch header and single exhaust made sufficient noise that, while fun by yourself, was a bit of a distraction when 2 people were in the car trying to communicate. The 2<sup>nd</sup> issue, my initial horsepower objectives of 150 HP were not achieved. Both issues have been resolved; Rainer took a 356 sport exhaust apart and refabricated larger tail pipes to facilitate the higher back pressures. For the additional horsepower, Rainer changed out the SX-2 cam from NLA and installed an SX-3 cam essentially a full race cam. The engine sounds great with the new exhaust and without doubt has hit the 150 HP target with the new cam. All achieved with an idle around 900 rpm's that is possible with the fuel injection system.

So other than minor carb synchronizing, changing the oil and filter and spark plug replacement around the 100,000 mile range, a fun car to drive has become more fun to drive. By the way, the increase in low end torque from the dual spark plugs is hard to describe in regard to driving at low speeds up steep inclines.

The following are some excerpts from previous articles related to technical sessions at Rainer's shop, 356 Registry, and Hemming's sports & Exotic car magazines

Getting lots more power out of an engine is a snap, really. Bigger carbs, a free-flowing exhaust and a wild cam will do the trick, so long as you don't mind a rough idle, a narrow power band, the occasional bent or broken part, hard starting and frequent visits to the gas pump. What if you want to, say, double the output, without compromising drivability, economy and reliability? That was the tall order that Greg McManus set before Porsche specialist Rainer Cooney.

Greg's beautifully restored 1963 Porsche 356B Cabriolet was equipped at the factory with the Super version of the 1,582-cc, air-cooled flat four, rated at 75hp. "It was a fairly stock engine, and he was in search of more," Rainer said. How much more was possible? Rainer estimated that by using a dual-plug digital ignition system, substituting fuel injection for the twin Webers, raising the compression ratio and bumping up the displacement, an honest 150hp at the flywheel might be within reach.

A key step was to raise the stock 9 to 1 compression ratio to 10.5 to 1. Higher compression yields higher output and better efficiency, Rainer noted, "as long as you can keep the engine from blowing up." He sent the heads to Porsche



Above- Photo from Hemmings photo shoot with photographer suspended on rig cantilevered off van in front

specialists, Competition Engineering, who unshrouded the valves and added enough material to reduce the volume of the combustion chamber by 4.5 ccs. Domed JE pistons subtracted another 4.5 ccs, yielding a compression ratio dead on the target. The four cylinder barrels were machined from solid aluminum billet and Nikasil plated by LN Engineering. The aluminum barrels expand and contract at the same rate as the heads, eliminating sealing problems, and offer superior cooling. The cylinders have a bore of 90mm, up from the stock 82.5, to yield a displacement of 1,883cc. More is more.

One thing leads to another, and the higher compression required a twin-plug setup to ensure thorough, even combustion. Rather than employing a twin-distributor setup, which he thought “would have compounded the potential for things to get out of whack,” Rainer adopted an engine management system made by Simple Digital Systems that provides precise control of ignition and fuel injection. TWM throttle bodies further simplified the installation of fuel injection, matching the bolt pattern of the Webers that had been on the engine. With a full-flow, remote filter oil system, a Bursch dual-diameter header system and a Magnaflow stainless steel muffler aboard, all that was left was the lengthy process of fine-tuning the engine management settings.

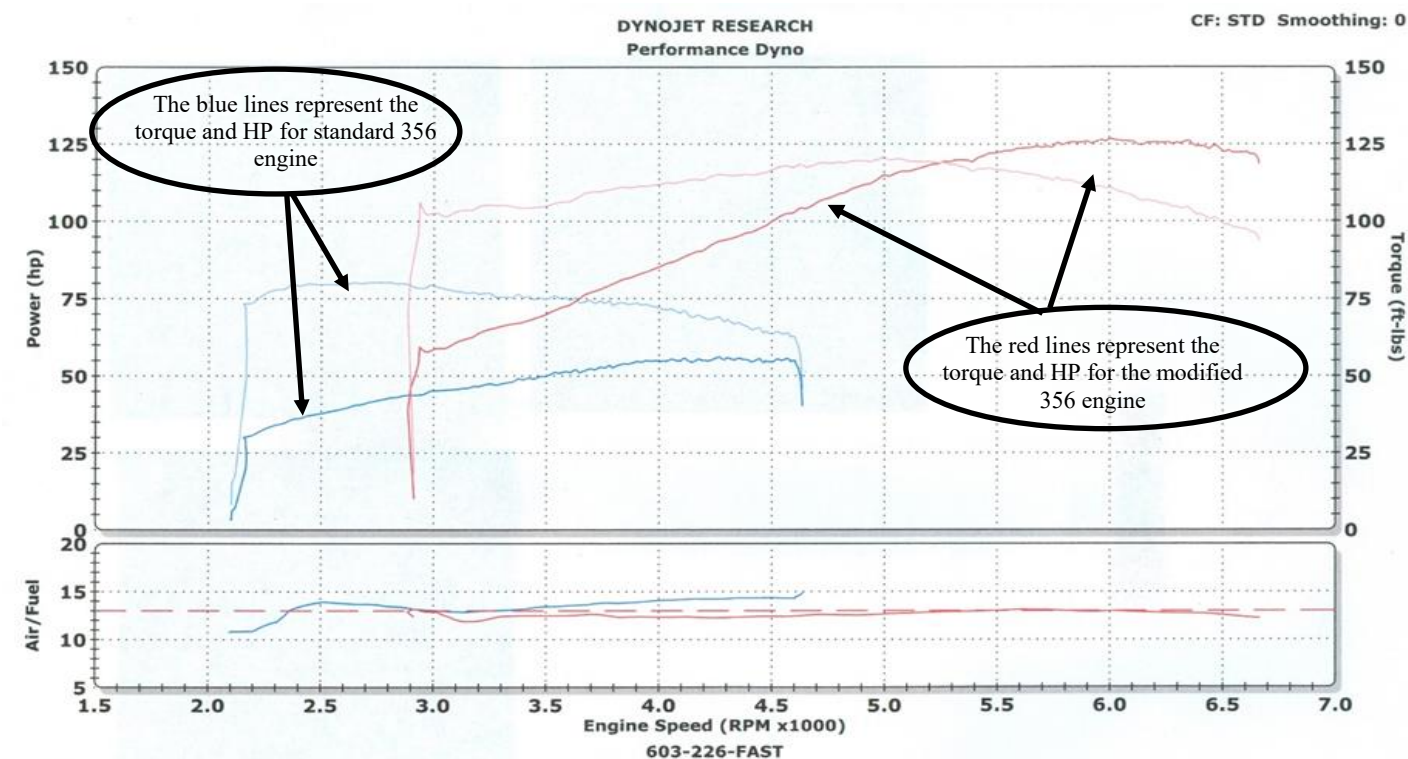
It was time for the rubber to meet the road. Rainer and Greg brought the 356 to Performance Dyno in Concord, New Hampshire, along with an unmodified 1962 356 for comparison's sake. The Dynojet recorded maximum power of 126.80 hp, and maximum torque of 120.82-lbs.ft. – well above the stock rating of 75 hp and 89-lbs.ft., even without taking powertrain losses into consideration. Rainer figures that there's probably 145-150hp at the flywheel, which means that's one mission accomplished. But what about drivability?

Note: These results are based on the original SX-2 cam, the SX-3 cam has not been dyno'd but without a doubt has increased horsepower.

#### PERFORMANCE DATA

Modified 356  
0-60:7.3 seconds  
0-100:19.1 seconds  
Top speed:136mph  
Fuel economy 29.25mpg

Stock 1963 1600 Super  
0-60:11.5 seconds  
0-100: 40.1 seconds  
Top speed: 111.3 mph  
Fuel economy: 24.4 mpg  
(Source: *Autocar*, September 1962)



Dynopull\_001.drf - 12/21/2006 1:50:51 PM Run Type: RO Run Conditions: 48.27 °F, 29.80 in-Hg, Humidity: 18%, STD: 0.98  
Max Power = 56.24 Max Torque = 80.33  
Twin grill roadster stock

Dynopull\_009.drf - 12/21/2006 2:12:54 PM Run Type: RO Run Conditions: 51.07 °F, 29.84 in-Hg, Humidity: 12%, STD: 0.98  
Max Power = 126.80 Max Torque = 120.82  
new Cam



The following is a quote from David LaChance from Hemmings:

We got a chance to drive Greg's car from Rainer's Meister Restorations to the dyno shop, and we can tell you that the power band feels broad, deep and seamless. Let the revs drop in high gear, step on the gas, and the engine responds willingly - no chugging or backfiring, just a steady, uninterrupted flow of power. Punch it in top gear at 90mph, and you're rewarded with a shove in the back. "The challenge on the highway is keeping it at 60," Greg said. In top gear, the cam comes alive at 3,000 rpm, right on the edge of extralegal speeds, "and you have to hold yourself back." But wait, there's more. How does 30 mpg and durability that at least matches that of the original, sound to you? "I drive a lot of these cars, and nothing comes close to this thing," Rainer said. "I would dearly love to have an engine like this in my car."

*As a note Rainer has since put an engine with similar modifications in his speedster.*

Greg



View of dyno test



We are all looking on screen for dyno results



Engine in progress in Rainer's shop



Engine installed in the 356 / note, no distributor or oil filter / full flow oil filter under left wheel well and electronic ignition

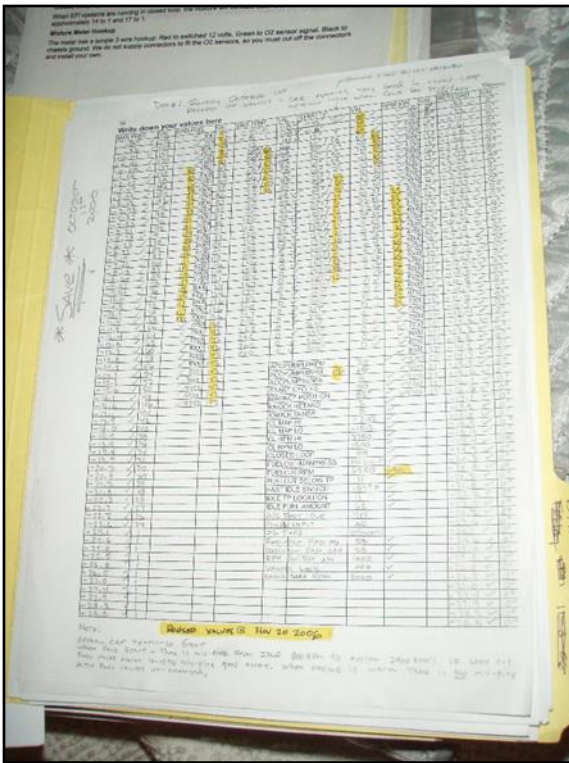


Left—LCD programmer fits in glove compartment and rheostat with LED mixture meter to observe and control air fuel ratio while driving to assist in fine tuning engine program

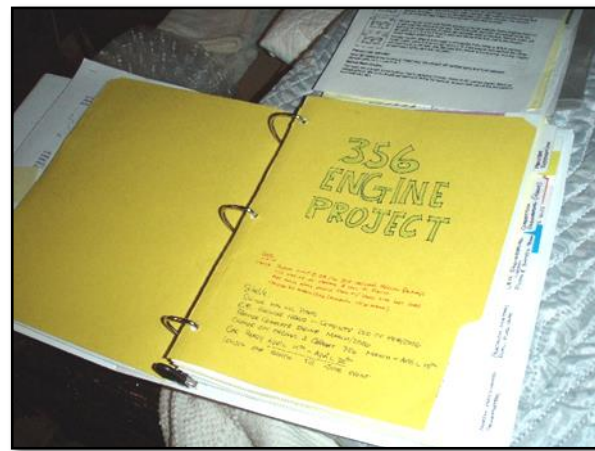


This is the computer mounted under the passenger floor board



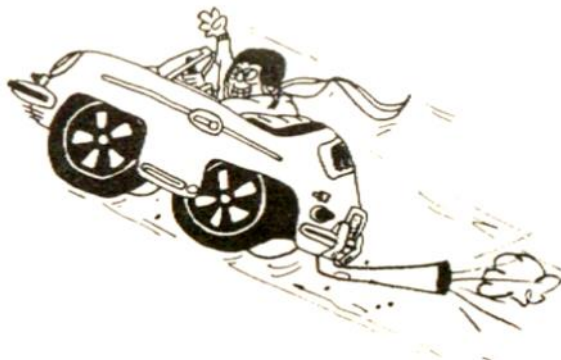


Above—Sample page of engine parameters used to identify optimum engine operation. As a note, the computer can be operated in complete automatic mode with feedback from the oxygen sensor or for more aggressive driving using the LCD in the glove compartment to change to a manual mode



Above - My project notebook with records of all correspondence, parts, costs and misc. info

Right—Page from SDS (simple digital system) operation manual with list of various engine parameters that can be custom modified as needed



#### LCD Programmer

The programmer allows you to access all points within each parameter and change values to program to the system. When powered up, SDS EFI should appear in the LCD window. From here, parameters may be called up by pressing the right or left parameter select buttons (< or >). As each parameter is gone through, the next parameter will appear in the window.

Parameters will appear in the programmer window in the following order from left to right:

GAUGE 1  
GAUGE 2  
GAUGE 3 *B.H. Vol 4*  
TACH 1/0(D only) or MAGNET SEEN/NOT SEEN (E, F only)  
A/C FAST IDLE or NITROUS RETARD (E, F only)  
PIN 13 INPUT (E, F only)  
O2 TYPE (standard or wideband)  
IDLE FUEL AMOUNT  
IDLE TP LOCATION  
RADIATOR FAN ON  
RADIATOR FAN OFF  
FAST IDLE SWITCH  
RPM SWITCH ON AT  
FUEL CUT BELOW TP  
FUEL CUT/RPM  
FUEL CUT/MANPRESS  
VALUES LOCK ON/OFF  
CLOSED LOOP ON/OFF  
CL LO RPM LIMIT  
CL HI RPM LIMIT  
CL MAP LO  
CL MAP HI  
KNOCK MAX RPM (E, F only)  
KNOCK SENSE (E, F only)  
KNOCK RETARD (E, F only)  
MAGNET POSITION (E, F only)  
START CYCLES  
START 32 points  
RPM IGN (E, F only) 38 points  
IGN RET-ADV/LOAD (E, F only) 64 points  
ENGINE TEMP 32 points  
MANIFOLD PRESS or TP 64 points  
RPM FUEL 38 points  
ACC PUMP SENSE  
ACC PUMP LO RPM  
ACC PUMP HI RPM  
then, back to GAUGE.

The parameters will automatically loop back to the opposite end upon reaching one of the end selections. By holding down either the right or left parameter select buttons for more than 2 seconds, ranges will advance at the rate of 8 per second until the button is released at the desired location. The << button advances left at 20 frames per touch and can be held down for extremely fast scrolling.

Within each parameter, there are a number of ranges with a corresponding value number beside it. This value number is the one that will be changed to alter the injector pulse width. So, RPM FUEL 5250, 57. RPM FUEL is the parameter, 5250 is the range and 57 is the value. The value number may be any number between 0 and 255 on most parameters, however some parameters have limits. The larger the number, the more fuel will be injected at that parameter and range.

To change a value, use one of the 4 buttons labeled +1, +10, -1, -10. Each button will change the value in the window each time it is depressed by that amount. IE, With a 57 in the window, Pressing the -10 button once will change the value to 47. The +10 and -10 buttons should only be used for quick, radical adjustments. Again, by holding down these buttons for more than 2 seconds, values may be changed quickly to the desired figure. Don't play with these unless you want to change the value.

The VALUES LOCK feature must be selected OFF in order to adjust any values.



**Come to Akron Ohio — It's THE 2016 Holiday!**  
**September 7th - 11th**

**Firestone Country Club Welcome Party**  
**Glenmoor Country Club Concours**

***Other Events Include:***

- Autocross
- Soap Box Derby adult cars
- Chuck Stoddard tech session
- Open houses, tours, hospitality, and more!

***Great dining,  
great cars,  
great driving,  
great friends.  
Come play!***

[www.eastcoastholidayporsche.com](http://www.eastcoastholidayporsche.com)



## CLASSIFIED - FOR SALE/WANTED

### Wanted

Looking for single or pair of SWF 235 mm long windshield wipers with a small set screw in the middle. For a 1955 coupe. Thanks. George Kehler 423-956-2323



### For Sale



"A" bumpers (pre-A as well), just the blades no chrome parts) rear is OEM in pretty good shape and front is Restoration Design. New repros will cost you \$1030 from R D (and you know OEM is worth more than repro.) I'll sell these to another member for pick up in Dedham for \$1000. Tom Coughlin, 781-461-0495

### For Sale

This innovative product allows access to a hidden storage space underneath the passenger foot board. You can store a spare generator, tools, fuel pump, etc. out of view.

- No need to unbolt anything and/or fuss with the retaining clip to remove stock board to access this area.
- A simple high visibility thumb latch is provided to open the hinged door.
- Hidden Hatch is made from high quality hardwood 5 layer Plywood. (.25" or 6 mm same as original)
- Hinge, latch and screws are completely flush to prevent bulges in your floor mat.
- Extra support behind the door stiffens the board to be stronger than the original.
- CNC cut to exact dimensions as original. See last photos for direct comparison with original. If this doesn't fit your car its most likely that the original floors have been bent up or the replacement floors were not installed correctly. If this is the case some sanding may be required :)
- Door opens all the way open and will rest on the floor when open.
- Locknuts installed on all screws to avoid falling apart during road vibrations.

T6 versions available. Tom Tate—[PDO356@gmail.com](mailto:PDO356@gmail.com), 617-428-5762



### Free

I have two Porsche Calendar's, one from 2008, the 60th Anniversary Edition, and a sealed one from 2015. I would offer these FREE to any member who is willing to pick them up here in Stoughton or would like to attend the Board Meeting on the 5th of April. First come, first serve basis. Ken Nykiel - [kjnykiel@yahoo.com](mailto:kjnykiel@yahoo.com)

### For Sale

Griots 6" orbital polisher. Brand new in the box. \$70.  
Dennis McGurk — [denmcg99@gmail.com](mailto:denmcg99@gmail.com)



TYP356ne is not responsible for omissions, errors, misrepresentations, payments, etc relative to any classified advertisements.

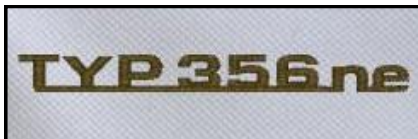
Buy at your own risk!! Send all for sale and wanted items to Ed Tobolski at [tobolsed@verizon.net](mailto:tobolsed@verizon.net). These items will be run once unless renewed.

## CLUB ITEMS AVAILABLE

***Clothing-*** TYP356ne has an online store where you can order hats, polo shirts, canvas bags, and any other item that Land's End Business Outfitters carry in their inventory. The store address is:

<http://ces.landsend.com/TYP356ne>

You know it is our store because TYP356ne will appear in the upper left hand corner of the website. You can customize any of the items you purchase with the black oval patch and/or the gold TYP356ne script.



***Name Tags*** - We have found a quality vendor that can make and ship you a personalized TYP356ne name badge. They are \$8.50 each with the pin style attachment and \$10.50 each with a magnetic attachment, plus \$3.95 postage. Note: the magnetic backing means you do not have to put pin holes in your TYP356ne polo shirt to wear your name badge.



To order go to <http://www.holmesstamp.com/category.aspx?categoryid=207> and click on the TYP356ne name badge and it will take

you through the process. Within a few days you will have your personalized TYP356ne name badge delivered right to your door. If you have any comments or questions contact Tom Gentz at [tgentz@typ356ne.org](mailto:tgentz@typ356ne.org).

### ***Club Grille Badge***

Club members can purchase the "Official Club Badge" for a cost of \$35.00. It is a beautiful badge. Contact Peter Venuti at [pvenuti@typ356ne.org](mailto:pvenuti@typ356ne.org) for further information.



# TYP 356ne

***LIFE'S TOO SHORT TO DRIVE BORING CARS!!!***



## TYP356NE – CLUB SPONSORS

### Meister Restorations

Owners: Rainer Cooney and Jerry Dascoli  
 Location: Rt. 28, North Barnstead, NH  
 Shipping (UPS etc) Address: 1414 Suncook Valley Rd  
 Center Barnstead, NH. 03225  
 Mailing Address: P.O. Box 846  
 Alton, NH. 03809  
 Tel: 603-776-3561

Sales  
 Service  
 Bodywork

**MACKOUL'S  
 CARS**

Owner: Richard MacKoul Foreign Car Repairs  
 220 Worcester St - Rt 122 Paint and Collision Experts  
 North Grafton, MA Used Car Inventory  
 Shop: (508) 839-2324 [mackoulscars.com](http://mackoulscars.com)



Owner: George Nelson  
 Tel: 617-333-0275  
 E-Mail: [ggn356@comcast.net](mailto:ggn356@comcast.net)

**STUTTGART  
 NORTHEAST**

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 507 Maple Street, Danvers, MA 01923  
 978-777-3077

Owner: Jim Mallette  
 Toll Free: (877) 218-2195  
 Fax: (978) 777-9985  
 Email: [stuttgartne@comcast.net](mailto:stuttgartne@comcast.net)  
[www.stuttgartnortheast.com](http://www.stuttgartnortheast.com)



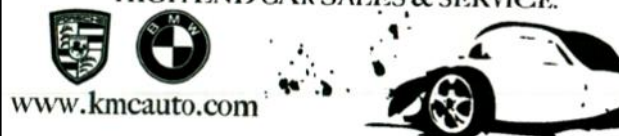
The Best Hardware for the Best Cars



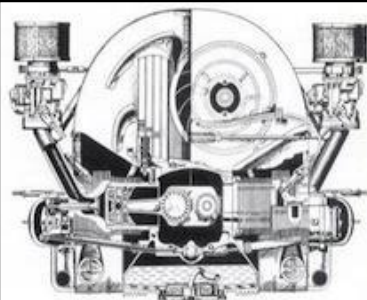
Timothy J. Kachel  
 425 Canal Street  
 South Lawrence, MA  
 617-759-8973  
[info@kmcauto.com](mailto:info@kmcauto.com)

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