

# TRIUMPH CLUB OF NORTH FLORIDA

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November 2017

*Triumph Club*



*Of North Florida*

1409 Forest Ave.

Neptune Beach, Fl. 32266

## ROAD TRIP ACROSS THE BRIDGE OF LIONS ST. AUGUSTINE, FLORIDA



Really they are waiting on the bridge to come back down. Hot delay, but great for getting pictures - page 13

See article by member Brian Fitzgerald about his car. Page 4

Notify Norm Reimer of address changes at (904) 246-6044 or email to "suenorm@comcast.net"

*All opinions expressed in the articles, columns and other material included in the newsletter are those of the author and do not necessarily reflect the position of the Triumph Club of North Florida, its officers or members. The Triumph Club of North Florida is not responsible for any technical advice which may appear in these pages.*

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## Member Help Groups

### Wiring Problems

Charles Fenwick  
Lance Brazil

### Polishes, Waxes, Finishes

Lance Brazil

### Vintage Triumph racing

Don Marshall  
904-259-9668

If you would like to volunteer to help other members with problems on their cars, let us know and you can be listed here.

## Coming Events

**December 9th, Saturday, Christmas Party at Margot's house off San Pablo near Mayo. More detail information was sent in email.**

January 7th - Planning Meeting to follow regular meeting

January 13th - The Pine School will host the 11th Annual 100 Years of Cars Show on Saturday, January 13th, from 10am to 3pm and will feature 200 rare collector cars on display. please visit: [www.100yearsofcars.com](http://www.100yearsofcars.com)

February 4th - Club meeting , 1:00PM at Kings Head Pub

March - TBD

### OTHERS:

FCCC - <http://www.carcouncil.org/events/> ; for other local car events



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**Subject: No Nativity Scene in Washington, DC this year**

The Supreme Court has ruled that there cannot be a Nativity Scene on Capitol Hill this Christmas season.

This isn't for ANY religious reason. They simply have NOT been able to find Three Wise Men in the Nation's Capital.

A search for a Virgin also continues.

There was NO problem, however, finding enough asses to fill the stable.

## TRIUMPH - ISH

Ok, it's not a Triumph, but it's as close as I'm going to get.

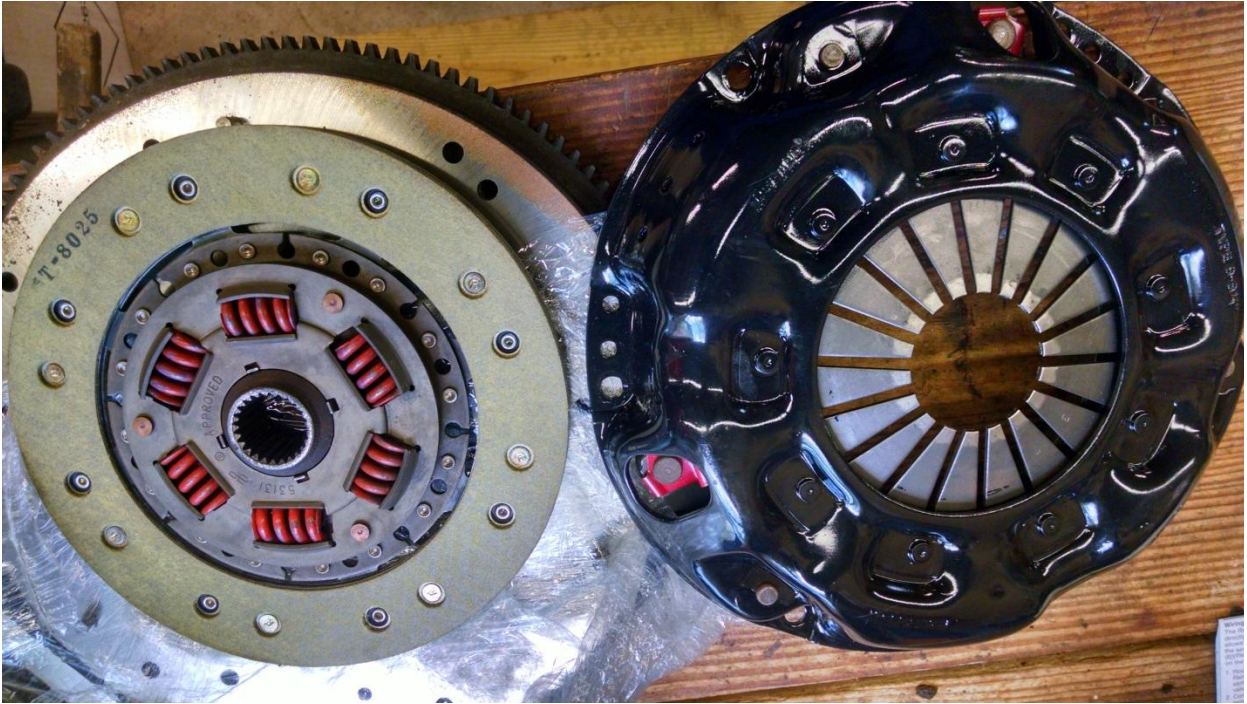
I bought my Jensen Healey in the fall of 2014 from a friend of mine who is a used car dealer. He bought it from an estate sale in Upstate New York. The car had lived its entire life in NY hadn't been registered since 2005, so needless to say it didn't run.

I moved to Saint Augustine in the spring of '15 and finally got around to getting the Jensen operational.

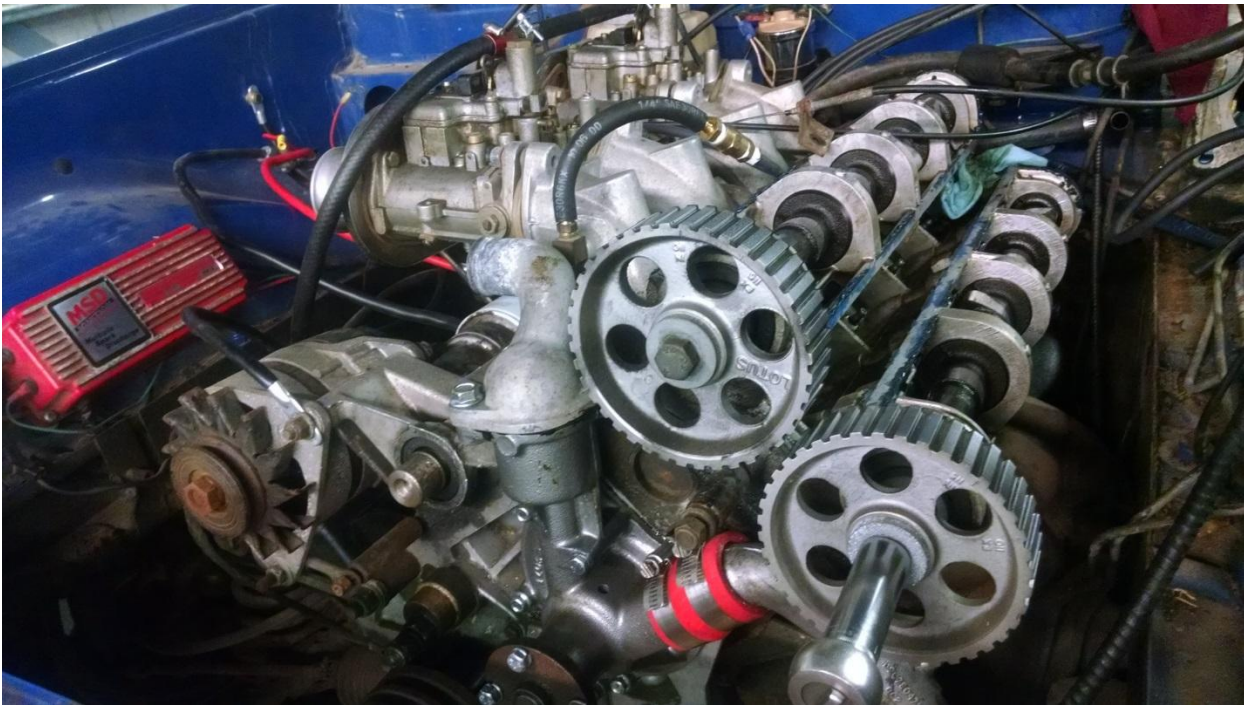


I had to completely rebuild the brake system as everything was seized, the master was leaking and while I was at it I pulled the power booster to make it a clean sweep. The front brake calipers are the same as the Spitfire 1500. The rear brakes are Lockheed drums.

I also replaced the rear main seal in the engine, had the clutch refaced with Kevlar lining, and had the transmission rebuilt. This Jensen is equipped with the Getrag 235/5 five speed which was also used in the BMW 2002. This makes getting parts "FUN". It helps to speak German. I don't. Fortunately I found a transmission shop that had a for real German transmission tech on staff.



The actual clutch lining is a standard Triumph part. I didn't think to ask which model. Just shows how similar all these cars are.

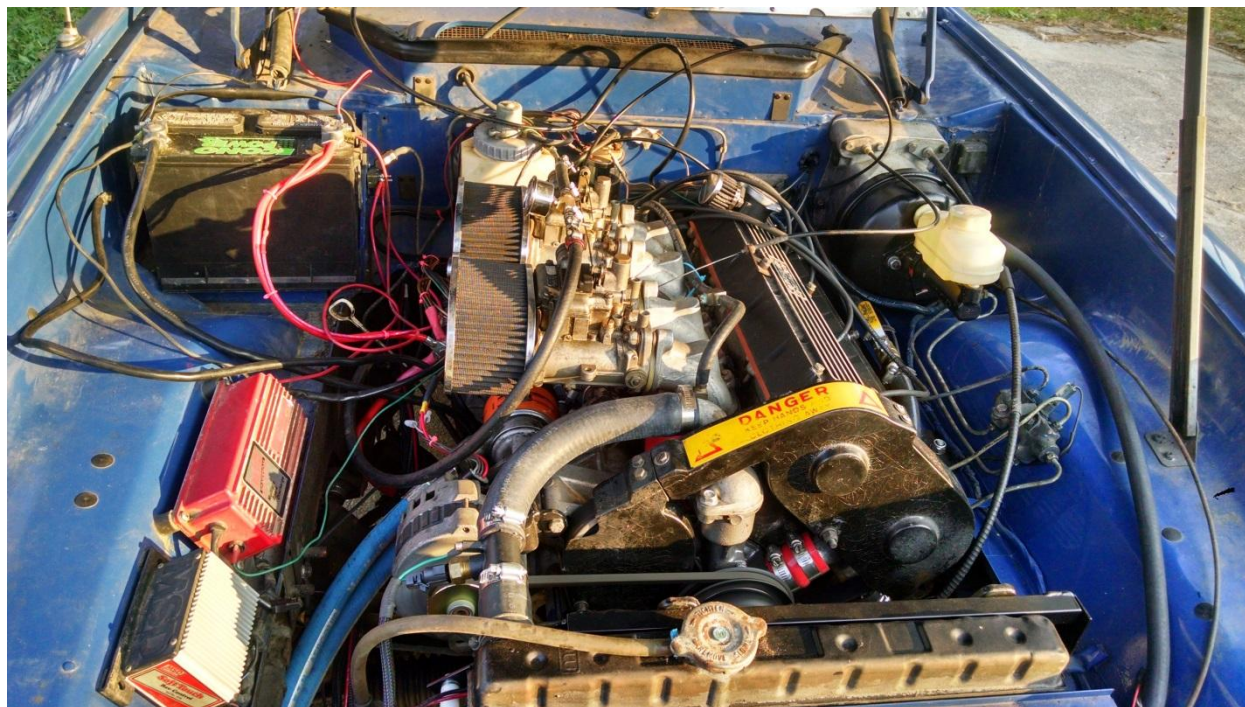


This thing is actually a nice running little four cylinder. It's a 2 liter, dual overhead cam, four valve per cylinder Lotus 907. The previous owner had replaced the Zenith Stromberg carburetors with a set of 45MM Dell'OrtoDHLA.

Italian carburetors on a British engine with a German transmission. What would Churchill think?!

Obviously I had reinstalled it at this point, but you can see the water pump had been rebuilt and I was replacing all the rubber hoses on the engine and the timing belt and belt tensioner.

This is how it looks now.



Before I put it back on the road, I had to fix a couple of bad wires in the trunk that a mouse had found, and I replaced the carpet due to said furry friend.

The car is actually very easy to drive. First gear is low enough to make getting it rolling easy as the 907 was never known for its low end torque. I don't rev it very high because I'm in no hurry to see what the inside of the engine looks like, but the factory redline is 7,000 rpm. I set the rev limiter at 6600. It could easily be a daily driver in good weather. I don't like it getting wet. British cars are made from Alka Seltzer.

I made a few modifications to it for dependability purposes. I replaced the stock clutch fan [which is no longer available] with a Toyota electric fan. Since I added an electric fan, I replaced the itty bitty 38 amp Bosch alternator with a 130 amp GM alternator from a Chevy Tahoe. I also installed a new oil cooler and an electric vacuum pump to drive the power brakes.

That aside, it rides well, has good leg room and seems to get about 27 mpg.

When I tell people what it is, I've heard the response, "Austin Healey?", or [this one was classic] "Nash Healey?", but usually just "What?, I've never heard of that." I say it's like a Triumph Spitfire only a little bigger.

According to the internet, about 10,000 of these were made and the speculation is that about 1,000 remain. I've seen one other at the King's Head Pub. It was baby blue and in nice shape.

My plans for it are to change all the bushings in the rear suspension in the February/March time frame and otherwise just keep it maintained. For example I didn't use it for 2 weeks as I had to get both the original tach and speedometer rebuilt in November. But now they're back in the car and working.

I don't plan on selling it.

Thanks for reading.

## Brian Fitzgerald



A friend of mine was driving in St John's county few weeks ago and knowing I have a Triumph, took this "rare" picture of a Triumph actually on the road.

Can you tell who this is?

# How to Use a Multimeter, Part 4: Measuring Current (amperage)

by [Rob Siegel](#)

First, we discussed how to use a [multimeter for measuring voltage](#), or simply verifying that voltage is present. Last week, we addressed [measuring resistance](#)—verifying that a wire is continuous and not broken somewhere. Today we’re discussing how to use a meter to measure current, also referred to as amperage.

Let me say right off that measuring current is a far-less-common application than measuring voltage or resistance. For the most part, either a circuit works or it doesn’t. If it doesn’t, it’s usually because it doesn’t have a voltage supply (which is verified by using the meter to confirm the presence of voltage), it doesn’t have a path for the current to flow (which is verified by using the meter to confirm continuity), or because a part is bad. Thus, it’s rare that you’d need to independently measure *how much* current is actually flowing unless you’re trying to find the source of a parasitic drain that’s running down the battery. We’ll get to that at the end of this installment.

A current measurement is fundamentally different from a voltage or resistance measurement. To use the language we offered a few weeks ago, a **current** measurement is taken with the circuit **powered**, in **series** with **the entire** circuit. It’s like the water meter in your house—the entire water consumption flows through the meter so it can spin the vane inside it, which is used to measure the amount of water flowing. When you connect a meter to a circuit and use it to measure current, *all of the current in the circuit flows through the meter*.

It is also a measurement for which you need to reconfigure the meter—you have to move the red probe lead into a different socket than is used for the voltage and resistance measurement.

And, as you’ll see, there is typically a choice of two sockets. If you choose the wrong socket, or if there’s too much current, there is the possibility of blowing up your meter.

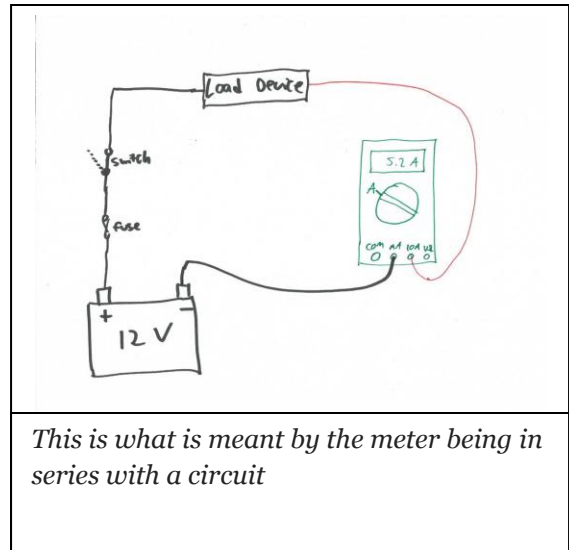
With those warnings in mind, let’s do a current measurement. Note that we use the words “current” and “amperage” (the unit of current) interchangeably, but the meter’s dial and sockets aren’t labeled with a “C” for current. They’re labeled with the letter “A” for Amperage.

**Configure the multimeter to measure current.** There are three configuration steps:

1. As with all measurements, put the black probe in the socket labeled “COM” for “common,” meaning it’s common to all measurements. Once it’s there, it will never need to be moved.
2. Put the red probe in the socket labeled with the symbol “A” for Amperage. On most meters, even auto ranging meters, there are two sockets—a high-amperage setting and a more-sensitive, low-amperage setting. One socket may say “A” and have a rating of, for example, 10A (ten amps) printed next to it. The other may say “mA” for micro-amps and have a rating of, for example, 300 mA printed next to it. When in doubt, use the setting with the higher amperage rating.



3. Turn the big rotary dial to the amperage setting that corresponds with the socket you're using. This varies meter to meter. For example, there may be individual "A" and "mA" settings on the dial that correspond to the "A" and "mA" sockets, or there may be a single "A" setting on the dial. If you have any doubt, consult the documentation for your meter.



*A multimeter configured to measure current on the high amperage setting (red probe in the "A" socket, rotary dial turned to the A setting)*

Note that whether either of the two amperage sockets have an internal fuse varies meter to meter. On some meters, both are fused. On others, only the high amperage (10A) socket is fused. On many inexpensive meters, neither is fused. *This means that if you, for example, connect the meter to a circuit with a 20 amp draw, you can blow up the meter.*

You will sometimes read that to measure current you need to "splice the meter into the circuit." It is exceedingly rare that you'll need to "splice" anything in the sense of cutting a wire. You do, however, need to put the meter *in series with* the circuit, having all the current flow through the meter as if it's a wire in the circuit, as depicted in the drawing above right.

**Turn off the power before you connect the meter, and use alligator clips!** Why is this important? When you use the standard pointy meter leads to complete the circuit when the power is on, all of the current of the circuit will immediately flow through the tiny tip of the probe lead. Due to the small surface area, the probe can heat up and micro-weld itself to what you're testing. Using alligator clip leads spreads the electrical load over a larger area. Attach them, and *then* power the circuit.

**Whenever possible, connect the meter on the ground side of the circuit.** It's the same reasoning you employ when, while replacing the battery, you should always disconnect the negative terminal first and connect it last. For a current measurement, the meter will be in series with the circuit, so the probe leads are as live as any wire in the circuit.

If you connect the meter on the ground side of the circuit (as per the illustration above), completing the circuit to ground will cause power to flow if the circuit wasn't turned off, yet it can't cause a dead short of a live power wire to ground because the meter is already on the ground side. In contrast, if you connect the meter to the positive side of the circuit and accidentally touch a probe lead to ground, it'll cause a dead short of power to ground, which is sure to blow up the meter's fuse or the meter itself.

The photo below shows the meter measuring current on a small fan in a circuit that we've removed from a car for clarity. The positive battery terminal is connected to the positive terminal of the fan. The fan's negative terminal is connected to the meter's red lead, and the meter's black lead is connected to the negative battery terminal. You can't read the meter's display, but it is showing about 5 amps.



*Meter in series in a real circuit, measuring current*

Note, however, that this kind of measurement is usually academic; it's rare that you need to measure the current load from one device. In theory, an electric motor such as a fan or an electric fuel pump may have a higher amperage draw as it goes bad, but since you rarely know what an accurate "good" reading is supposed to be, this can't be considered a definitive measurement.

### **Measuring current to find a parasitic drain and see what's killing the battery**

As state previously, the main application of a current measurement is to determine the magnitude and source of a parasitic drain—something remaining "on" that shouldn't—that is killing the battery. To do this, the meter must be placed between the negative battery terminal and the body of the car, as you need to measure *all* of the current in *all* of the circuits.

The time-worn advice on how to find a parasitic drain is to connect the meter as described, pull out fuses until you see the reading on the meter drop, then see which circuits are connected to that fuse. This is fine on a vintage car with six or eight or 12 fuses, but in practice it is very challenging on a modern-control, module-laden car that may have dozens of fuses and whose control modules may be connected to more than one fuse.

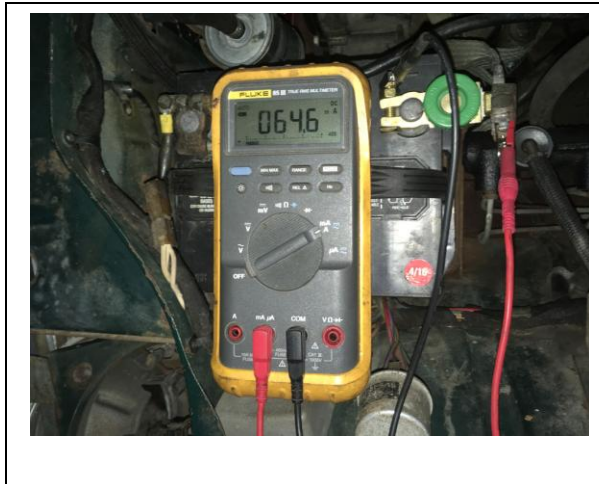
A further problem on a modern car is that the control modules may take from five to 45 minutes to go to sleep. You often need to switch from the meter's high-amperage setting to its more sensitive low-amperage setting in order to diagnose the drain, but when you do that, you break the circuit, which resets the timer on the modules' going to sleep.

There's a trick to this: Buy a battery disconnect switch and install it on the negative battery post. Then:

1. Configure the meter to measure the current at the high-amperage (10A) setting.
2. Turn the disconnect switch so that it connects the battery to ground and allows current to flow.
3. Turn off everything in the car—lights, radio, USB chargers, everything.
4. Connect the meter across the battery switch (between the negative post and ground). Note that you are connecting the meter to a live circuit, so some amount of current will begin to flow, but at least half of it should still flow through the battery switch.
5. Now, flip the switch to disconnect the battery. This will cause all of the current to flow through the meter. Whatever you do, don't turn anything on. Don't touch the lights or turn on a fan. And whatever you do, don't try to start the car! That'll cause hundreds of amps to try to flow through those skinny multimeter leads, and will blow up the meter (or at least pop the fuse) in an instant.
6. Read the meter. With everything in the car shut off, the drain should almost certainly be less than 10A. If the reading is less than the sensitive setting (e.g., 300 mA), you can then:
  - a. Flip the switch to reconnect the battery.
  - b. Configure the meter for the sensitive setting.
  - c. Flip the switch to re-connect the meter.

In this way, you can switch to the more sensitive setting without cutting power which resets the timer on the control modules.

In the figure below, the above steps have been taken, and the multimeter is reading 64.6 mA (milliamps) on its sensitive setting, which is a minor parasitic draw that I've simulated by leaving the car's dome light on. On a modern car with control modules, 70mA is usually considered an acceptable parasitic drain, but less than 30mA is even better.



*A battery with a battery disconnect switch (green knob) installed, and the meter connected across the disconnect switch, between the battery negative terminal and ground*

Note that there's a way around all of this: You can buy what's called a "current clamp meter," which has a set of hinged jaws that surround the cable whose current you want to measure. It then senses the electric field inductively without your having to "splice" the meter into the circuit. These come in a few different flavors. There are clamp meters that *only* measure current, general purpose multimeters with integrated clamps, and clamp attachments that plug into standard meters.

Be careful, though. First, the main application for clamp meters is in household A/C wiring applications (finding how much current, for example, a refrigerator is drawing), and not all of them even measure D/C current. Second, to be useful for determining parasitic draw in a car, you need an accuracy of about 10mA (one hundredth of an amp), and you have to pay a fair amount to get a clamp meter that's that accurate. Unless you're a professional who does a lot of parasitic draw diagnosis, it's probably not worth it.

Lastly, above I said that "for the most part, a circuit either works or it doesn't." There is a notable gray area here. In a previous installment I listed the types of circuit failures, and there was one labeled "high resistance failure." To troubleshoot this type of failure, you need to do something called a Voltage Drop Test. Now that we've covered voltage, resistance, and current measurements, next week we'll explain about voltage drop testing.

Rob Siegel has been writing the column *The Hack Mechanic*<sup>™</sup> for BMW CCA Roundel Magazine for 30 years. His new book, *Ran When Parked: How I Road-Tripped a Decade-Dead BMW 2002ti a Thousand Miles Back Home, and How You Can, Too*, is available on Amazon.

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These contractors are installing steel pillars in concrete to stop vehicles from parking on the pavement outside a Sports Bar downtown.

They are now in the process of cleaning up at the end of the day and anxious to go home. How long do you think it will be before they realize where they parked their truck?





Meet Up at the Deli



Last British car in line on Bridge of Lions



Parked at the Park



Parked at the Park



Guys with cars above and Gals with cars below



## Join the Triumph Club of North Florida

If you're interested in Triumph cars, You should be a member of TCNF. The benefits are outstanding, a monthly newsletter that is entertaining as well as informative with free ads to members, monthly events, rallies, shows, picnics, tours and camaraderie with fellow enthusiasts...

### Membership Application/ Renewal

----- (Please Print) -----

New \_\_\_\_\_ Renewal \_\_\_\_\_

#### Car Information

Year    Model    Comm #

Name \_\_\_\_\_

1. \_\_\_\_\_

Spouse \_\_\_\_\_

2. \_\_\_\_\_

Address \_\_\_\_\_

3. \_\_\_\_\_

\_\_\_\_\_

4. \_\_\_\_\_

\_\_\_\_\_

5. \_\_\_\_\_

Home Phone (    ) \_\_\_\_\_

Please circle interest in:

Work Phone (    ) \_\_\_\_\_

Tech Sessions

Email Address \_\_\_\_\_

Social Events

Autocross

Tours

Fun Rallyes

Car Show

VTR Member? Yes \_\_\_\_\_ No \_\_\_\_\_

T-S-D Rallyes    Races

TRA Member? Yes \_\_\_\_\_ No \_\_\_\_\_

Make your \$25.00 check payable to:

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c/o Norm Reimer,  
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Neptune Beach, Fl. 32266