

TRIUMPH CLUB OF NORTH FLORIDA

Volume 30 Issue 1

Jan 2018

Triumph Club



Of North Florida

1409 Forest Ave.

Neptune Beach, Fl. 32266

Drive to the Old Spanish Sugar Mill restaurant in DeLeon Springs



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 will be listed here.

Coming Events

January 27th - 8th Palatka Classis Airplane and Car Show (see page)
<https://signedevents.net/united-states/palatka/palatka-airplane-automobile-show/>

January 31st - Last day for Early Dues of \$15.00

February 10th - Club meeting , 1:00PM at Kings Head Pub for regular business meeting. This date is also *Drive Your British Car Day* so, weather permitting drive your Triumph.

March 3rd - Tour of Morgan Dealership in Daytona, subject to availability

April 7th - Meade Garden Show (more details later)

May 19th - Celebrate the Royal Wedding at the Kings Head British Pub, 1:00 PM

May 26th - Boot sale at the Kings Head Pub

OTHERS: Jax International Auto Show - 2/16-18 at Prime Osborn Center

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

President's Corner

On Saturday, January 13, 2018 members of TCNF gathered at El Potro's Mexican Restaurant to plan events for the year. Twelve members participated in the planning. Everyone in the club was invited. We had Mike Dahnert, Brian Fitzgerald, Mark Lipsky, Margot Radzimski, Roy and Laura Carr, Charles Fenwick, Jr., Charles Fenwick III, Alex and Penny Levy, Norm Reimer, and Barry Northway, along with Lance Brazil.

The following dates were chosen for events with every effort made to avoid conflicts with holidays, times to be announced in newsletter:

February 10th. Kings Head British Pub for regular business meeting. This date is also *Drive Your British Car Day* so, weather permitting drive your Triumph.

March 3rd. Tour of Morgan Dealership in Daytona, subject to availability,

April 7th. Meade Gardens Show.

May 19th. Celebrate the Royal Wedding. Due to time differences the wedding will be over by the time we wake up. King's Head British Pub.

May 26th. Boot Sale (sale of no longer needed items for your British Car.) Pub

June 2nd. Visit to Fort Clinch, Fernandina.

July and August too hot to do anything outside, we will have Pub meetings.

July 7th. Pub

August 5th Pub

Notice that July is slated for a Saturday Meeting and August is slated for a Sunday to give all members a chance to attend.

September 15th. Washington Oaks Picnic

October 20th. TCNF British Car Show.

All of these dates are subject to change. If something does change, you will be notified by special email and in the newsletter.

Someone mentioned at the meeting that I do not answer my phone. As many of you are aware, most of us with cell phones do not answer unknown numbers. I send unknown numbers straight to voicemail. If you call me (my number is in the newsletter) and your call goes to voicemail, *Leave A Message* and I will call you back and put your information into my phone for future calls. – Lance Brazil

NFTC January Drive to the Old Spanish Sugar Mill restaurant in DeLeon Springs

The drive to the Old Spanish Sugar Mill restaurant in DeLeon Springs was a resounding success. The cold temperature kept many Triumphs at home. Leaving the parking lot of the PDQ restaurant in St. Johns was a 1966 TR4A, a VW, Mercedes, and Miata. Joining us at the intersection of SR 16 and SR 17 was Charles Fenwick in his son's Spitfire. The drive through the Florida countryside was very pleasant. Arriving in DeLeon Springs at almost the exact same time was Erik in his right-hand drive Spitfire, and his wife Karin, in her Jaguar, with their two guests from Sweden, and Vic Hall and his son. All together, there were 14 of us enjoying cook-your-own pancakes at the restaurant. The Swedes, along with Gerry, win the prize for the most efficient utilization of the in-table griddle. After brunch, we talked about ideas for events in 2018. There were some excellent ideas. Please let me know if you have any ideas.

It is always a pleasure to see how the love of old English cars brings a diverse, yet cohesive group, of people together. Among the 14 were nine TCNF members, and five guests. They included native Floridians, immigrants, children of immigrants, retired military, scientists, with ages ranging from 30's to 80's... all lovers of classic cars.

Penny



How to use a Multimeter, Part 5: Measuring voltage drop

by [Rob Siegel](#) (from Hagerty Magazine)



During the past month, we've covered how to use a multimeter to measure the trinity of [voltage](#), [resistance](#), and [current](#). I've explained how this covers most electrical diagnosis in a car—how most of the time, you're either trying to verify the presence or absence of voltage to a device or the presence or absence of continuity between a device and the voltage source (or ground). Also, when you're trying to find the source of a parasitic drain on the battery, you're trying to determine how the current measurement is less commonly used.

The last arrow you need in your electrical diagnosis quiver is the voltage drop measurement. It's used to help diagnose high-resistance failures. People sometimes talk about the voltage drop measurement in hushed reverent tones, as if it is the key to all electrical diagnosis, and by knowing it you're inducted into the Illuminati. It's not that big of a deal. It certainly isn't a panacea to all electrical problems. But every once in a while, it is handy.

Theory of voltage drop measurement

Here's the deal. As we discussed last month in the piece about how electricity works, Ohm's Law tells you that voltage equals current multiplied by resistance ($V = I * R$). This can also be written as current equals voltage divided by resistance ($I = V / R$). Usually, the voltage is a constant 12 volts, the resistance of the wires is negligible, the electrical device in the circuit (the bulb or motor or whatever it is) has an integral resistance, and together, the voltage and resistance determine the amount of current that actually flows.

But anywhere there is a connection—for example, a wire with a ring terminal that is screwed to the body of the car to ground it, a spade terminal that is pushed onto a lug, or even the connections between the battery terminals and the battery posts—there is the possibility for corrosion to form. Corrosion has high electrical resistance that can cause the voltage to drop, which in turn causes the amount of current flowing to fall. What's worse is that these visible terminal connections aren't the only places where corrosion can cause a voltage drop. It can happen inside a switch or a relay. The mating surfaces are simply small pieces of metal that make and break electrical contact. Over time, they can pit and corrode, and the resulting resistance causes the voltage to drop, which in turn impedes the flow of current.

Voltage drop most affects devices that draw a lot of current. At the top of that list is electric motors. By far, the biggest electric motor in your car is the starter motor. So when you turn the key and hear *Rrrrrrr... Rrrrrrr*, and when you've verified that your battery is good, the culprit could be corrosion causing voltage drop between the battery and the starter, or between the starter and ground. So, you're probably thinking, what's the big deal? If you suspect corrosion between the battery and the starter, why not just measure the resistance? We've covered how to do a resistance measurement. You own a multimeter. Why not just check it?

The answer is twofold. First, very small amounts of resistance can have a very large effect on the amount of current that flows. Most multimeters do not measure small resistance values very accurately. And besides, you really don't know what the "good" and "bad" resistance readings are anyway.

Second, even if you *could* measure the resistance accurately with the circuit unpowered, what the actual resistance value would be when hundreds of amps of current are flowing through the circuit might be dramatically different.

Now, you're probably thinking, "OK, you say I can't directly measure resistance, but I *can* directly measure current. Why not just measure it and see if it's low?" Well, maybe. The first problem is the same one we mentioned with measuring resistance—you don't really know what the "good" and "bad" current values actually are. But another problem is that a starter motor will draw hundreds of amps, and this is way too much current to measure with your multimeter. Remember, to do a current measurement, you need to put the meter in series with the circuit. All of the current in the circuit has to flow through the meter to capture the measurement. If you try measuring the starter motor's hundreds of amps of current that way, you'll blow up your meter, or at least its internal fuse, in two seconds.

However, because of the wonderful relationship between voltage, current, and resistance dictated by Ohm's Law, you can measure the drop in voltage across a connection fairly accurately, and use it to infer the presence of resistance at that connection. Pretty neat, actually. *Science!*

The voltage drop measurement

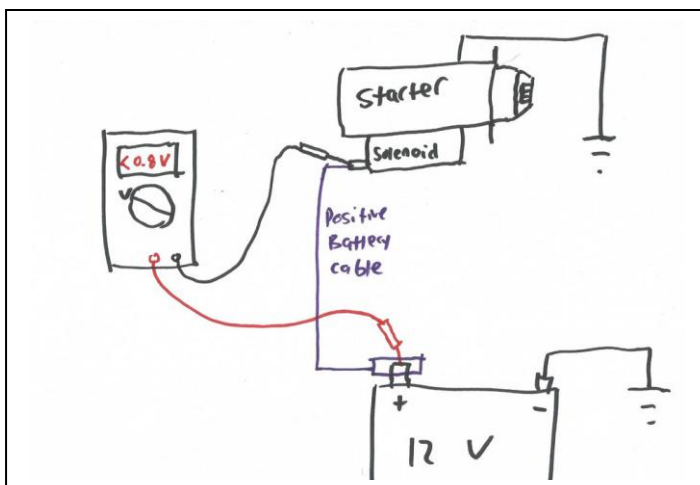
To configure a multimeter to measure voltage drop, you set it up the same way as you would any other voltage measurement:

1. Put the black probe in the socket labeled "COM" for "common," meaning it's common to all measurements. Once it's there, it'll never need to be moved.
2. Put the red probe in the socket with the V. It's almost certainly the one that's also labeled with the omega symbol (Ω) for resistance.
3. Turn the big rotary dial to the setting for DC voltage, which is a V with solid lines over it. It's not the one with a wavy line over it; that's for AC voltage (house electrical current). If you don't have an autoranging meter, select the voltage range to measure a small voltage such as 2V.

Then, hold the probes across the connection where you're trying to measure the voltage drop, and energize the circuit.

So, what's different from a regular voltage measurement? What's different is that, instead of putting the red probe lead on the "+" side of the circuit and the black probe lead on the negative (ground) side, you put the red and black probe leads at two different points on the same side of the circuit, between two positives or two negatives. That's the secret sauce. It's nothing exotic. Just ketchup and mayo, really.

For example, if your starter is engaging slowly when you crank it, to measure voltage drop in the positive battery cable hold the red probe lead on the positive battery post, hold the black probe lead on the post on the starter solenoid that the positive battery cable connects to, then have someone try to start the car while you watch the meter.



The basics of a voltage drop measurement, where both probes of the meter are placed on the same side of the circuit (here, shown between the positive battery terminal and the positive post on the starter solenoid).

If there is no voltage drop in the cable, the voltage at the terminal on the starter solenoid will be same as it is at the positive battery terminal, and the meter will read zero. But if there is a measurable voltage drop, the meter will tell you what it is. You then can use the meter to hone in on where the drop is (e.g., position the probes between the positive battery post and positive battery terminal, then between the positive battery terminal and the ring connector on the other end of the cable, then between the ring connector and the starter post). If you don't find a drop on the positive side, you can conduct the same test on the negative side, checking between the negative battery post and the case of the starter, then honing in on the individual connections.

If you need to do this by yourself, you can use clip leads to hold the probes in place while you crank the starter and watch the meter. Better still, if your meter has a min/max function, you can capture a few seconds of data and then have the meter tell you what the maximum voltage was.

So, how much of a voltage drop is acceptable? It helps to develop a feel by measuring voltage drop across healthy well-performing connections. On my cars, I typically see less than a 300mV (0.3 volt) end-to-end drop between the positive battery post and the starter post (or the negative battery post and the case of the starter). You can find published tables that claim that, for a starter motor, an end-to-end drop of as much as 800mV (0.8 volts) is acceptable, but that for any individual connection (for example, between the positive battery post and the positive battery terminal) it shouldn't exceed 100mV (0.1 volts). This last point is crucial. I can't tell you how many times I've turned the key on a vintage car and had it go *Rrrrrrr* or just *click*, cleaned the positive battery post, and had the car start right up. This happens so often that I usually forego the voltage drop measurement and head straight for the post cleaner, but if I were to measure, I'd see a big voltage drop between the positive battery post and the positive battery terminal.

For devices that draw less current than a starter motor, you can find published tables that claim there should be no measurable voltage drop at all between a wire and its crimped-on connector, no more than 100mV (0.1 volts) between a connector and the terminal it's pushed onto, and no more than 300mV (0.3 volts) across a switch.

There. You now know how to perform a voltage drop measurement. You may now swagger forth among car people. Heck, send the Illuminati home. Tell them you've gotten the lights working without them. *(Hope you got some good info from this series. Let me know if too much or good stuff)*

JUST FOR FUN

This is pretty impressive.....listen for the rev limiter.

<http://hardnoxandfriends.com/2017/11/27/presidents-limo/> Thanks Norm

After a tiring day, a commuter settled down in his seat and closed his eyes.

As the train rolled out of the station, the young woman sitting next to him pulled out her cell phone and started talking in a loud voice: "Hi sweetheart. It's Sue. I'm on the train". "Yes, I know it's the six thirty and not the four thirty, but I had a long meeting".

"No, honey, not with that Kevin from the accounting office. It was with the boss".

"No, sweetheart, you're the only one in my life".

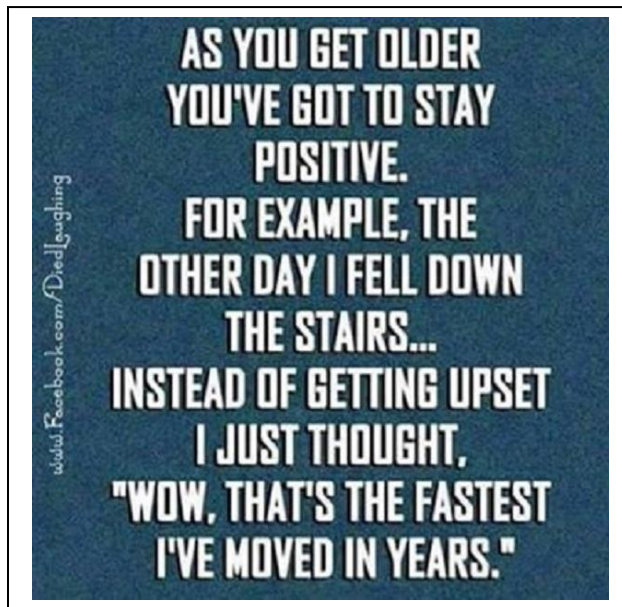
"Yes, I'm sure, cross my heart!"

Fifteen minutes later, she was still talking loudly.

When the man sitting next to her had enough, he leaned over and said into the phone,

"Sue, hang up the phone and come back to bed."

Sue doesn't use her cell phone in public any longer. Thanks Norm



NEW YEARS FOCUS

As the year comes to an end, I urge you to take good care of yourself and avoid accidents because spare parts for old models like us are no longer in stock.

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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