TS 1033520 New Tool for Troubleshooting DTNA Powernet Issues 🔗 📎

This document has been superseded by the Powernet Assesment Tool page on DTNAConnect. Please refer to it for the most current information.

TS 1033520 New Tool for Troubleshooting DTNA Powernet Issues

Tool Letters

Link to tool letter removed - See updated info on DTNAConnect.

Tool Letter Numbers

BCT-460DTNAK PowerNet Assessment Tool - 18 TL-5

AC-107 Adaptor Kit - 18 TL-6

AC- 105 Replacement Clamps and Lead set - 18 TL-7

AC-94 20' Voltage Drop Test Lead Set - 18 TL-8

AC-90 Charging Station - 18 TL-9

Video

Refer to the ARC Video Channel in ARC for training video's. The video's are in the "Tools" section, in ARC.

Applicable Vehicles

All

Issue/Solution

The AutoMeter BCT-460DTNA PowerNet Assessment Tool is now available. The BCT-460DTNA is the only Daimler-approved tool for troubleshooting vehicle powernet issues. The tool is required for all Battery, Starter, Alternator and Heavy Electrical Cable diagnostics and warranty.

See the attached PDFs for complete instructions for using the tool.

This document was generated from the following discussion: New Tool for Troubleshooting DTNA Powernet Issues

tommiegriffin

Add tags

Attachments

54 Kudos

Comment

Comments



Scott_Trippel 06-01-2018 09:21 AM

Excellent Joe

Do you know if this tool can be used for Battery Warranty?

Some of us have been discussing and feel we must still use the Cadex unit

@D70KYSI

@D70ERBL

@D70TASI

2 Kudos



Scott_Trippel 06-01-2018 01:44 PM

Thank you Alexander great answer. Have a great weekend.



Eric_Bloom 06-18-2018 04:15 AM

Joe in todays truck updates 54-278 powernet troubleshooting states that see below so it is June 18 when will the new tool be shipped out ?

" IMPORTANT: When troubleshooting powernet issues, use the BCT-460DTNA PowerNet Assessment Tool. As of May 29, 2018, the AutoMeter® is the only Daimler-approved tool for troubleshooting vehicle powernet issues. "

1 Kudo



Scott_Trippel 06-18-2018 08:52 AM

We have been waiting to see it as well



Kyle_Siebert 06-18-2018 06:53 PM

It's pretty awesome. The face of the tester detaches so it's like a tablet. Very easy to use. But very easy to mess up. I'm saying this because while I was at another shop for a few months, they used this and twice the truck got kicked back to me because both techs used it wrong and both times the main positive cable was loose at the positive jumper connection. It wasn't touched on replacement of the starter because the nut was not blemished, from a wrench or socket.

Sent from Kyle Siebert



Talbert_Simonia 06-18-2018 07:52 PM

I showed our Service manager and the Assistant Manager this tool. They had never heard about it. They do not even know if it is a automatic ship. AHH the frustration of being the one. That sees the update's first. Then waiting quietly likes it Christmas for something to show up.

3 Kudos



Kyle_Siebert 06-19-2018 06:18 AM

Hahahaha

Sent from Kyle Siebert



Scott_Trippel 06-19-2018 06:24 AM

The letter says it is essential and will ship automatically

ORDERING INFORMATION
This tool is essential and will be automatically shipped and invoiced to your facility during the month of May 2018. Additional tools can be ordered through Paragon using a DDE supplier prefix:

Part Number

- DDE BCT-460DTNAK ADVANCED POWERNET DIAGNOSTIC TOOL-KIT



Kyle_Siebert 06-19-2018 10:48 AM

It should have been caught on the voltage drop test under load.

But it if he put the positive lead Anywhere else than the positive battery stud, he could have gotten inconclusive results.

The tool tells you to put the lead on the batteries, from what I remember. doesnt say the stud of the batteries. So a tech that barely passed the Powernet course on ARC, doesnt understand putting a meter lead somewhere else is going to affect the results.

I dont remember if the Powernet course is a requirement but it certainly should be. Maybe it should be a lot harder to pass too. Because that is a excellent course full of usefull information.

2 Kudos



Chaz_Trimble 06-19-2018 03:31 PM

Powernet is very important I agree Kyle. If more understood loading a circuit and checking for voltage drop electrical diagnostics would be just like anything else.



Scott_Trippel 06-19-2018 03:37 PM

I can't wait for this tool.

It will greatly improve the speed of diagnostics and increase customer uptime and find the failure quicker and easier.

1 Kudo



Eric_Bloom 06-21-2018 05:17 AM

ours showed up this morning time to unbox and check it out (I like the wall mount charging station that comes with it)



Eric_Bloom 06-21-2018 11:41 AM

So can somebody tell me when you set up an ampnet account do you set up 1 account for the shop or does every tech set up an account . if it is 1 account and you are not in how does everybody get the results ?

Kyle_Siebert 06-21-2018 01:02 PM



One account for the shop. The results are instant. Pass fail. D70ROC1 might know someone at his other location that has been using this tester for the last year and a half.



Robert_Cadell_J 06-21-2018 01:43 PM

Thanks for the mention Kyle but I have no clue my job role changed I'm not "in the shop", I moved over to our Elgin sweeper project, I have seen the tester I have not used it as of yet. I'll ask #tommiegriffin I think he has used it.



Eric_Bloom 06-22-2018 06:29 AM

thanks Kyle we are ready to go. I guess we will hold a shop training class to figure this new tool out.



Scott_Trippel 06-22-2018 06:46 AM

We will hold a training class when we receive it as well

Scott_Trippel 06-22-2018 07:07 AM



I wonder if DTNA can post a Training Video?

That would be excellent in the interim before an ARC training class.

3 Kudos



Steve_Gajdosik 06-22-2018 08:49 AM

HEY GUYS, WE RECIEVED OUR BCT-460 AND SET UP OUR ACCOUNT, THE QUESTION I HAVE IS WHEN CHECKING A BATTERY OUT OF STOCK THE TOOL REQUIRES A VIN# AND WILL NOT LET YOU BYPASS THIS STEP, ALSO A BATTERY SER# IS NOT REQUIRED, ARE WE NOT SUPPOSE TO USE THIS TOOL FOR BATTERY WARRANTY? WAS THIS FEATURE OVERLOOKED OR OPERATOR ERROR?



Scott_Trippel 06-22-2018 09:31 AM

Just got ours too.



Eric_Bloom 06-22-2018 11:45 AM

So we are going under the assumption that the cadex tool is what is used for battery warranty , unless somebody from Freightliner puts in writing that this is now the battery test tool for battery warranty.



Scott_Trippel 06-22-2018 01:28 PM

I asked that question and was answered as the new tool can be used. Make sure the Ampnet account is set up.

1 Kudo



Scott_Trippel 06-22-2018 01:31 PM

I went through all the set up as was learning to use the tool to put on a course. I charged the tool, the control module said charged, but the LED indicator indicates the load modules state of charge.

Any way went to test batteries and it wanted to measure the battery temp and it would not. That is when I discovered the Bluetooth not connecting and found the load module dead.

Also had a problem with the cables giving me a connection message. I believe it was due to a dead load module.



Eric_Bloom 06-25-2018 07:13 AM

I had the same problem this morning I do not know why the control module charged put the load module did not. now that every thing is charged it is ready for use. I found out by my blue tooth not connected also. well it is a learning curve. I would think that there would have been a video put up on ARC to show the tool in action. The first day next week when we have a full shop we will spend an hour or 2 or 3 getting to use this as a group.



Eric_Bloom 06-25-2018 07:31 AM

So they way I understand TSB 54-303 is any charging, wiring, battery, or other issues you need the new tool, the same as TSB 54-278 says. It does not say that this tool is for battery warranty as an over the counter parts sales, or checking the batteries on a new truck pdi. So we will use the cadex tool until a letter is issued by DTNA to stop using the cadex tool 100%



Scott_Trippel 06-25-2018 07:55 AM

See this https://www.dtnasolutions.com/docs/DOC-1033520

@Alexander DeMoss said this :

Yes, as stated in 18 TL-5, "The completed form must be submitted with the warranty claim, with the test results of a failed component." Also see TSB 54-303 after it goes to print. This AutoMeter device is intended to be the successor to the CADEX and, instead of being "just a battery tester", should incorporate all the tests and document all the values contained in TSB 54-278. I checked the text on TSB 54-278, and it makes no mention of the CADEX tester specifically.

So, new tool, and keep your eyes out for a communication on timing for warranty expectations. I think the CADEX has been a decent device and could remain useful in a battery maintenance role, just not for DTNA warranty purposes after the change is announced.

Update 6/1/2018: I spoke with DTNA Warranty and an IWI letter will come out very soon to outline the correct process.

1 Kudo



Scott_Trippel 06-25-2018 08:08 AM

Also see https://www.dtnasolutions.com/docs/DOC-1033520



Eric_Bloom 06-25-2018 08:24 AM

yea I read what Alex posted on June 1, like I said until DTNA says to stop using the CADEX tool for ALL BATTERY TESTING over the counter or pdi inspections we will only use the new to for charging system issues.



Eric_Bloom 06-25-2018 08:25 AM

Again I read this when it was posted



Eric_Bloom 06-26-2018 06:32 AM

Just did our first real test. 1 the tool is very easy to use. 2 it takes a little getting used to the amp net web site to find and print the results. 3 it prints out a very nice report now I hope there are no more issues getting paid for there claims. As a side note the amp net web site should be loaded into everybody's laptop so the tech can print out the results.



Eric_Bloom 06-26-2018 07:03 AM

One thing we found out when you are testing a Cummins and the intake heater is cycling it will come up as a failed alternator make sure your engine is up to temp on engines with intake heaters.

4 Kudos



Talbert_Simonia 06-26-2018 09:56 PM

I finally found it. Hidden in one of the service offices. And no one knows what to do with. They will leave it in the box. and not say a thing. Because I don't think I am suppose to know they have it. The frustration.



Kyle_Siebert 06-27-2018 08:21 PM

I better go check the service offices.

1 Kudo



Eric_Bloom 07-05-2018 04:29 AM

Just tried no good the site must be down



Scott_Trippel 07-05-2018 07:03 AM

I just tried as well, says the site is down.



Scott_Trippel 07-05-2018 09:57 AM

I did our first test and right away I had a VIN problem. It would not accept 2 Western Star VINs but did accept 1, that is a BIG problem. The Ampnet site not working either is another problem for printing results

Good things are the test is quick, except if you have a Western Star with frame mounted battery box with A DEF tank, the bottom inside battery is impossible to get a temp reading without removing the battery. Lots of extra work.



Chaz_Trimble 07-05-2018 10:02 AM

Ok so Ampnet is down, not just me.



Scott_Trippel 07-05-2018 10:13 AM

Not Just You Chaz, the whole world is on hold. 😞



Talbert_Simonia 07-05-2018 11:10 AM

NOOO! They just got the tool at work. I explain to everyone on how it is suppose to work. Now it doesn't log in. When get to work today. They may not be happy.



Scott_Trippel 07-05-2018 12:37 PM

Hope they get it working before tomorrow, tech training begins at 8 am Mountain time tomorrow.

1 Kudo



Scott_Trippel 07-06-2018 10:29 AM

I emailed Ampnet at ampnet.help@autometer.com

Seeing when the site will be up, for now they said use the usb connection and download to a thumb drive and print from there

2 Kudos



Talbert_Simonia 07-06-2018 12:02 PM

Making a simple process. More complicated.



Eric_Bloom 07-06-2018 12:23 PM

Yea a $2000.00 tool that should have the capabilities to print, the cadex keeps on working.

1 Kudo



Scott_Trippel 07-09-2018 06:44 AM

I have been training our staff to use this tool, and I will have to say it is impressive, it is fast and accurate.

I like the DTNA powernet assessment because it has the tech look further for a fault that may cause failed batteries, which is what we have been missing. Good value for the customer.

1 Kudo



Scott_Trippel 07-10-2018 12:08 PM

First thing Ampnet site is up an running

Second I have trained all our staff, so I have used the tool a lot now. I have 135 tests on the ampnet side loaded.

I did all the same tests on the same NEW truck.

I had the alternator ***fail for diode***, then the ***next group it passed***, then the ***next group the regulator failed***, and ***the last 4 it has passed every time***.

Nothing was changed or repaired.



Talbert_Simonia 07-14-2018 06:48 PM

The results are sent to you by the email that you give it. Plus it is sent to Diamler automatically. This is to help stop the cheating.

1 Kudo



Robert_Cadell_J 07-15-2018 06:28 AM

I'd print a copy and put it with the ro, we use print to pdf and have file folders in a specific drive in our server we save a pdf copy of it in the ro folder. Same affect.

Rob "Doc" Cadell

Diagnostic Technician

TransChicago Truck Group BFWD

Shorewood IL 60404

803 917 5397 cell

Keep digging you'll find the answer

1 Kudo



Kyle_Siebert 07-31-2018 07:47 PM

Is this tool only for elite dealerships? Any way of finding out when ours will be shipped or if it was shipped?



Chaz_Trimble 07-31-2018 10:28 PM

Our facility is not Elite yet and we have the tool Kyle. As far as checking where it is I'm not sure. Maybe the parts department could see if y'all have been charged for it and check it's status that way?

1 Kudo



Talbert_Simonia 08-01-2018 12:02 AM

Kyle when ours showed up. No one knew about it. It stayed hidden in a office. for a couple of weeks. I trip over it. Then informed the service foreman. On what it is. And that we need it out on the floor.



Eric_Bloom 08-01-2018 04:18

we have ours and we are not elite support



Eric_Bloom 08-01-2018 04:19





Eric_Bloom

08-01-2018 04:2

Here is ours hanging up in our freshly painted shop

1 Kudo



Kyle_Siebert 08-01-2018 10:41

I take it BCT-460DTNAK PowerNet Assessment Tool is probably the part number im going to use for the search D70CHTR

Thanks



Chaz_Trimble 08-01-2018 03:3

Yes sir that should work.



Kyle_Siebert 08-01-2018 05:0

Thanks. It shipped 6-20-18. Not sure what happened to it after that

Sent from Kyle Siebert



Kyle_Siebert 08-01-2018 05:0

18-TL 5 had a email to inquire about the tool and they were able to give me the shipping date and other useful info.

1 Kudo



Chaz_Trimble

08-01-2018 05:0

Good deal. Good to post for others to know.



Kyle_Siebert

08-03-2018 04:5

We found it, stuffed into a shelf.

1 Kudo



Scott_Trippel

08-09-2018 06:4

Was the video link supposed to take you directly there?

When you click the link it takes you to a page that says to go to ARC and select the video channel, and it still does not show till you click on technical then electrical. FYI



Scott_Trippel

08-09-2018 08:0

Awesome



Kyle_Siebert

10-29-2018 11:39

I finally used this for a intermittent weak battery complaint. Has to be charged for 20 minutes to start after sitting a few days. The ground side had a 1.2 volt drop per the tool. I wasn't happy with the tools operation. It works great if there are no issues with the system but In my case I had a 1.2 volt drop and would like to figure out where it was by moving my voltmeter and load testing again. But I didn't have that option to do so. A option to move the meter and run the test multiple times when this issue does come up would only take 10 minutes if that, to be able to pinpoint the source of the voltage drop/ consumer of voltage/ high resistance in the circuit.

1 Kudo



Scott_Trippel

10-29-2018 12:4(

That is how I view it as well.

The Voltage drop measures the Positive and Negative from the Battery to Starter/Alternator.

This should be enough to first clean the connections then retest, if it passes it was dirty/loose connections. If it fails again look to cables.

Correct?



Kyle_Siebert

10-30-2018 05:4

I should have remembered this. I did find this individual load test about 2 years ago. I used it on a Sam chassis power and ground stud outside the cab. Put the load to 100amps and it was a very low voltage drop somewhere around .07 volt drop to the battery's. I wasn't comfortable with the results because it said it used a lower current than I wanted like 58 amps. I was hoping for 100 amps. I'll play with it though. Thanks for the reminder.



Kyle_Siebert

10-31-2018 06:37

In order to complete a powernet assessment, for warranty (November 10th), do we have to do a parasitic draw test too?

1 Kudo



Jeff_Riley

11-05-2018 02:07

The PDF file "AMP NET Signup Procedure.pdf " is not readable.



Kyle_Siebert

11-05-2018 02:48

Go to 18 TL-5 New PowerNet Tester post. I attached it to there on the main post.



Kyle_Siebert

11-06-2018 07:40

Any luck getting that pdf D70JERI



Scott_Trippel

11-07-2018 04:49

Did you look at the attachments at the beginning.

there are a lot of attachments there



Jeff_Riley

11-07-2018 05:36

Yes, Thank You

1 Kudo



Kyle_Siebert

11-07-2018 07:10

It wasn't working yesterday, for whatever reason it's working this morning now.

1 Kudo



Thomas_Duman1

11-21-2018 09:51

Having an issue with diagnosing a starter. Running the starter test Ampnet says the starter is good even when the starter only starts after clicking several times. Has anyone had this issue?



Kyle_Siebert

11-21-2018 11:14 A

If everything else passes testing with the ampnet then it needs a starter. Technically see the SB 54-278 for powernet. It will have you diag the starter at the end. Making sure the cables to it are intact is very important as its very commonly missed in diag of a starter. That's why the ampnet was made. Im pretty sure its not going to tell you its got a bad starter.

1 Kudo



Kyle_Siebert

11-21-2018 11:18 A

Also not starting could be caused by ignition key, sam cab, clutch pedal switch, overadjusted clutch and im sure theres more. So review that bulletin and the overadjsuted clutch SB 25-034

1 Kudo



Scott_Trippel

11-21-2018 11:54 A

Yes, it could be the IMS.

I am trying to determine if a bad IMS or solenoid would be detected by the autometer tool



Thomas_Duman1 11-29-2018 12:39

How would a parts warranty work. Customer purchases new batteries and has a failure in battery. Can the ampnet tester upload information for just batteries with serial numbers. When filing attached the ampnet print in pdf form, correct?

thanks

Thomas Duman

Neely Coble Co UYSD



Talbert_Simonia 11-29-2018 12:50

Yes you can test the batteries only. Then print and send the results in.

1 Kudo



Jeff_Randolph 01-11-2019 04:54

Is there any way to redo tests? For example. I was completing a powernet test. During the alternator test with the engine running the clamp fell off resulting in a failed test. Results say bad alternator and now shows no way to complete powernet without starting all tests over.



Kyle_Siebert

02-21-2019 11:08

I think this solution should be in this title for a good video on how to use the autometer
Video Link : 1725

1 Kudo



Kyle_Siebert

02-22-2019 04:1

Community Advocates The warranty webinare is attached to the main post here



Scott_Trippel

02-28-2019 06:4

Deactivated user

We are ordering another tool for field service use.

I am sure we can add another tool to ampnet, has anyone doe this before?

How will we be able to differentiate one too from another?



Scott_Trippel

02-28-2019 08:0

Thank you Bradly



Scott_Trippel

02-28-2019 11:28

Our field service tech used it out side today at -5C which is not cold, just has -31 5 days ago.

The cables are not cold friendly, get very stiff.

Can the replacement cables supersede to a arctic type electrical wire?

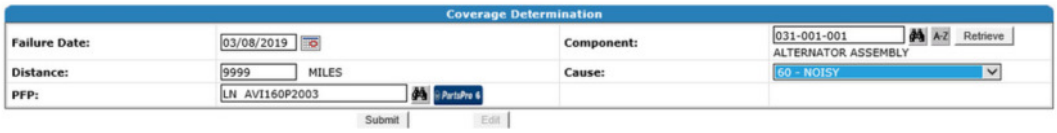
Deactivated user

1 Kudo



Kyle_Siebert

03-08-2019 10:3



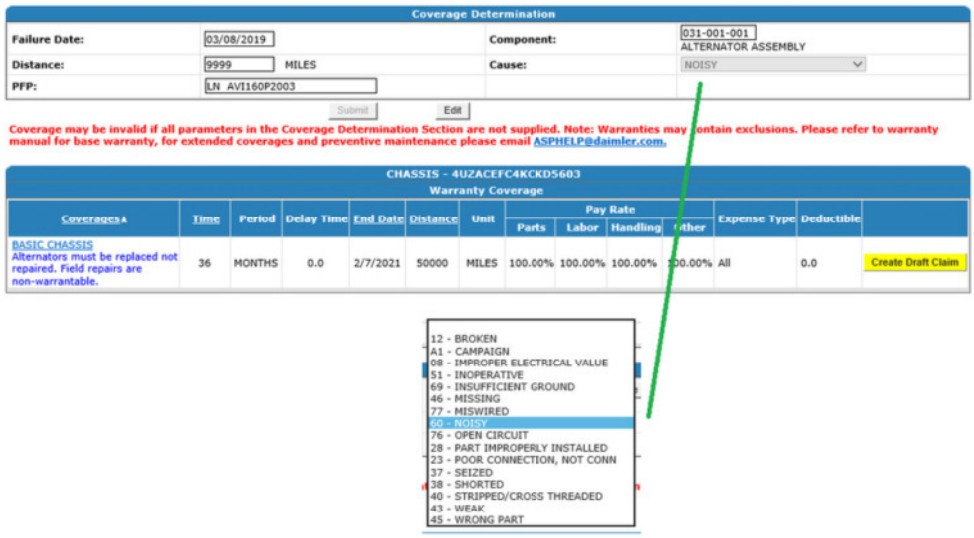
Can we change this in OWL, as you're saying noisy isn't a cause but heres the proof. Sometimes the noisy bearing cannot be felt but only heard at a 1,000 engine RPMs.

2 Kudos



Kyle_Siebert

03-08-2019 10:5



3 Kudos



Scott_Trippel

03-12-2019 07:2

We had a Alternator denied because the powernet was not done.

The tech replaced the alternator. The complaint was, Alternator not charging, belt is off and cannot spin alternator". The tech verified that the bearings were seized. So naturally he did not do a powernet he could see the failure.

Big grey area for me?

1 Kudo



Kyle_Siebert

03-12-2019 09:3

I understand both sides.

Because the alternator could have overheated and failed from consistently charging a bad battery.



Kyle_Siebert

03-12-2019 09:3

Grey area to me would be if the starter failed and it has warranty. But you have a battery fail and those don't have warranty. Are we supposed to deny the starter warranty because the battery could have caused the starter to fail?

Then the parts warranty side. If a alternator was replaced by a dealership and had a powernet or not done. Customer pay. 2 months later it fails again, you do a powernet and 1 battery is bad. Is the alternator going to be parts warranty or not. Did the battery cause the alternator to fail or did the alternator cause the battery to fail.

I would like to see complex situations like these evaluated so we know what to do in those circumstances.

1 Kudo



Kyle_Siebert

03-12-2019 09:3

Certainly it shouldn't be a case by case bases. We should have a tree or have these details worked out. For more quicker trucks in and out. Waiting for a warranty ticket and having the tech involved with the story just means more time were not getting paid for. And more down time for the customer.

1 Kudo



Grant_Overton

03-13-2019 09:3

as per many conversations with Bradly Maddox, at power net

you have a drop down screen that asked for physical damage, say yes, replace the alternator and continue test it will ask you to test batteries, cable drop , starter, and alternator , battery pack again and then send your completed claim data to power net, .

same for starter, if you find terminal nut backed off and starter stud damaged from loose connection and are unable to tighten or repair connection, claim the nut as pfp and replace the starter, finish the power net testing and file the claim,

1 Kudo



Shawn_Klein

04-25-2019 02:3

You have to type in the 17 digit VIN, even if it's a different OEM's.



Shawn_Klein

04-26-2019 10:2

How do you test the remote sense circuit if it is sealed in a connector that plugs into the alternator? Also, what if an alternator does not have a remote sense? How do you perform the test on that type of alternator?



Scott_Trippel

04-26-2019 12:1

Unplug the connector, use a test lamp or DMM, key may have to be on.

I prefer using an incandescent test lamp

2 Kudos



Kyle_Siebert 04-28-2019 01:3

Had a M2, cummins with eaton procision trans that came in for intermittent no start. Tech spent 1 hour on NFF and released it cause we couldn't duplicate the complaint. It came back and I couldn't replicate complaint and found fuses that looked like a open pair of scissors and weren't installed into female terminals in PTPDM, they also mentioned they could bar the motor over and it started. Couldn't find where they barred motor over and considering I found the fuses installed like that, it was because of the fuses and a loss of communication to the auto trans. Was going to pull the starter to check for a chewed up portion on it but considering my efficiency going down due to a unreasonable check when we had a known possible cause I didn't. Came in the third time and was told they turn it over by the alternator pully. They towed it in and guess what, it starts.

Performed the powernet with the autometer and my how dangerous it is to install those lugs on the starter! Wire brushed some of the epoxy off and installed lugs to the starter but failed. Had to remove the lugs and clean off with paint thinner to get a good contact because I had excessive voltage drop. Reinstalled lugs and passed. **We should really have this step done to install the lugs with the batteries disconnected for testing.** Also I felt **really uncomfiterable wedging the red clamp between the frame rail to get access to that lug.** Nothing you can really do about/ **maybe a large gauge cable with a eyelet can be installed instead of the lug though.** So the meter can be safely clamped onto the other end of this cable. I know its insulated but, wear and tear, and is that rivet for the pivot insulated?

Everything passed on the powernet. So i pulled the starter off and found the flywheel chewed up about 2 inches clockwise from where it was when the starter was removed. This caused the starter to jam up and not fully engauge the flywheel and in turn prevent the high current contacts from engauging that then prevented current flow to the starter motor. I suspect it made a thud noise when it acted up/ given my past experience with this condition.

Not sure if this was the flywheel damaged on installation or the starter. The starter teeth appeared perfect. When I saw this it was from a water damaged truck that was in 5 foot deep water and my theory was that the batteries ran low and the starter was being engauged by a short in the crank circuit. Batteries were dead and once charged up it started fine but a month later it wouldn't start and would just make a thud noise. Tech replaced starter and a month later I pulled the starter and saw the chewed up flywheel.

We are **hopefully** going to file a warranty inquiry if we can replace the starter too. **Hopefully** we'll get a clear response back from the inquiry as to it being ok to replace the starter with the flywheel. But their response is always undetermined, unclear and sketchy on weather we'll get paid for the warranty work or not. Typically our warranty admin will review the warranty manual to try to make sense then make the inquiry and they'll respond back with follow the warranty manual.

In the future, are we going to get paid the whole time to do a powernet assessment with the autometer for a NFF on a intermittent no crank?

Deactivated user



Kyle_Siebert

04-28-2019 01:4

Also looking thru the PDF for FAQ, I found this

- **Is the ridge on both sides? ○ No, the ridge is only on one side.**

What does this ridge refer to?

Deactivated user



Kyle_Siebert

04-29-2019 01:5

The flywheel is cummins, if flywheel has 3 spots of damage on a 6 cylinder motor than its likely runout, requires EDS case, has 2 severly damaged spots and 1 tiny ding all about 1/3 apart. If its cummins side I have to complete the EDS case. They haven't heard of our autometer tester. If there is no runout issues measured on the flywheel then its got to be the starter and goes freightliner. And the flywheel teeth are serviceable so I cant just order a flywheel or ring gear yet till we figure out which one is bad. So we got to down a bay to pull the trans and find out.



Clayton_Campbel

05-13-2019 08:12

so got a brand new P4 in the shop for a draw but trucks been out in the lot for 4 days, starts right up, so im forced to use this Ampnet tool, it doesn't have a feature to test for a draw that I can find, so I go through all the hoops, removed the drivers steps.fairing, remove remve all the crap for the APU from the hold down, remove all the cables just to remove the flippin mudflap from the top of the batteries so I can tell what size the batts are , put it all back together, test the whole pack, take it all back apart, test each batt individually only to find they theyre a little low, it says connect a batt charger, here I got two hours into these batteries and still no draw test, ... I know how to test for a draw but but the BCA clicks off without the grounds connected at batts as there's not enough amps to hold the relay closed.... any ideas



Scott_Trippel

05-13-2019 10:55

Refer back to the Powrenet Assessment Letter 54-57 it has a draw test in it. see page 9 key off loads

1 Kudo



Kyle_Siebert

05-13-2019 11:23

Alternator remote sense is direct battery feed and could cause up to a 5 amp draw if failed.

The ampnet does not have a test for draw and last time I tried inputing that into the session. It did not lead to a battery draw test. Ive been told it will be updated to included in the autometer test. Not a draw test using the autometer but instructions to perform one with your own tooling.

Also, following battery testing per the powernet is very important, in my opinion. We have been told it doesn't matter with the new tester but I have found a bad battery by charging and testing it correctly with the autometer tool vs charging and testing it with the autometer tool. Let me explain. To correctly charge dead batteries they have to get up to 80% State Of Charge SOC. Then they have to sit for a hour with the charger off it to balance the chemicals. Then after a hour has passed, you can test the batteries. If you do this, and you have a complaint of intermittant dead batteries, I have found several times where it fails the batteries. But if you charge the batteries to 80% SOC and test them right away, it will pass the autometer testing for a good battery. I have a smart charger at work that tells me the SOC while charging them. I would follow the powernet bulletin on charging if you don't have a smart charger.

Do you have a amp clamp or old megatronics battery tester? The megatronics battery tester has a really nice amp clamp. With a amp clamp you don't have to disconnect anything.

I've already asked about the mudflap and checking battery CCA and they wont pay extra for that. You can use parts pro to look up CCA.

"BCA clicks off without the grounds connected at batts as there's not enough amps to hold the relay closed.... any ideas" Im trying to understand what your getting at with this.

1 Kudo



Clayton_Campbel

05-15-2019 05:0

I was doin the draw test the old school way with the VOM leads between the battery ground stud and all the batt grounds then removing them one at a time, ended up hooking everything back up and just using the amp clamp on the ground , had .6A after everybody went to sleep, which is well within spec from what ive read, its a brand new truck that's been sitting, then brought to TK for a APU install, after which it was to drained to start, thanks for the input fellers.



Kyle_Siebert

05-15-2019 05:4

It's rough using the VOM in series to measure draw. The amp clamp is great to find a draw. But when you don't find anything excessive when you checked all the cables with the amp clamp, they tend to add up to over 1 amp when you have 6 grounds going to the batteries. Just because it's like the nature of the clamp to pick up something when there is nothing there. What I've done in the past is used a old cable I acquired with 3/8 ring terminals on it. I remove all the ground cables and put one end of the cable on a battery and the other end of the cable connects to all the ground cables. Start it up, shut it off, turn the master disconnect off, and close the driver door latch with a screwdriver.

Wait the time the bulletin says (10 min?) and with a amp clamp I can then measure total system loads by clamping around the installed ground cable in line. If you don't have the amp clamp then you can hold your meter on another battery ground stud, and the other end goes on the cable end with all the system grounds attached to it. Then remove the cable you installed from the battery. Then you can measure total system amperage with the system never losing ground and affecting the truck. Don't forget to change your meter leads over when your done so you don't blow the fuse in it. And don't forget to open the door latch you closed with the screwdriver. Otherwise the door won't close. I close this latch on m2s because you can't access the batteries with out opening the door. Opening the door wakes up ECUs and will spoil your test and make you think you have a load when you don't. Same rules apply to a Cascadia with the door opening. But you have plenty of room to the batteries that you don't have to open the door.



Scott_Trippel 05-15-2019 07:2

Deactivated user Feedback

I was testing 2 loose RV batteries for a customer. They felt one battery was weak. I tested the first one and it passed, the second one needed a charge. I charged it at 2 amps with a smart charger for 8 hours. I tested it again and it passed. What I did this time was look at the Data on the tester.

The good batter was at 100% SOC and I noticed it measured "battery Health" at 96%. The bad battery after charging measured 100% SOC but "battery Health" was 76%.

Can some one explain how the tester measures this "battery Health"?

Scott_Trippel 05-21-2019 09:3



No one has answered it yet



Kyle_Siebert 06-06-2019 07:3

Had one today S**low Crank No Start** on a MBE900**,** the prior tech used the **Autometer** tool and he had "excessive" voltage drop. Stud at starter spun and broke for power cable. Got a new starter and now voltage drop passes but still slow crank no start.

I spent 15 min and found the a/c compressor seized up. Took the belt off and it fired right up. Couple other things that can cause a slow crank would be a trans issue, torque converter, alternator seized, extremely cold engine oil, **Please add to this list if anyone thinks of anything else.**

This is a excellent tool and I highly recommend using it for all Starter, alternator and battery failures and required for warranty. But, the results should have some more grey area when using it for a older customer pay truck. A .7 volt drop on a battery cable doesn't mean rip the cables apart and clean them off. A 3 to 12 volt drop certainly does. The old and new starter was plulling 1400 amps with the seized a/c compressor.

I kind of think we need troubleshooting trees for; no crank, slow crank or parasitic draw. We're kind of being left in the dark here to diagnose and repair something very complicated in less than 3.2 hours. The tool is great but a diagnostic tree to go along with it would help in a tremendous way. It could lead to a point for replacing the clutch switch and have a note that if under 3 years 300,000 miles to contact Wabco for warranty. This tree would cover all bases, so the tech, forman, service advisor and right down to the customer would know what were getting into.

Deactivated user

Feedback

TECHCOM

Deactivated user



Clayton_Campbel

06-07-2019 04:0

spun crank or rod bearings

1 Kudo



Steven_Briggs

08-29-2019 08:4

HAS ANYONE HAD AN ISSUE WHEN DOING THE INITIAL BATTERY BANK TEST, EVER TIME I PRESS START TEST, IT SAYS THE ENGINE IS RUNNING AND TO TURN OFF THE ENGINE? THE IGNITION IS OFF AND ENGINE IS NOT RUNNING THOUGH.



Pedro_Guerrero

12-10-2019 03:33

Any word on the letter that outlines usage on bench testing batteries for parts?



Scott_Trippel

12-11-2019 07:34

Good question?

I assume you are re-testing for customer returned batteries that have coverage?

For Alliance batteries I am going to assume that one would need to follow the guidelines in the Warranty manual.

The issue is you will not have a truck there to confirm the starting and charging system pass.

See section 2.1 in the warranty manual and section 2.8

Alliance Batteries

East Penn batteries, labeled Alliance Group 31 Batteries with part number "AE...", provide an 18-month warranty

without proration. Detroit brand batteries of the same group and amperage are interchangeable with Alliance

batteries and have the same coverage period. The coverage period begins on the day the battery is installed.

Proof Of Purchase/Installation

No Ship Date

If a battery does not contain a ship date, a copy of the customer's original sales receipt and/or part sales invoice

will be required as proof of purchase/installation.

Ship Date on Battery

The ship date is located on a Code Sticker on the battery. This sticker is allowed as proof of purchase/installation

(instead of a sales or repair order invoice) if requested by the customer.

Replace Date on Battery

If the customer chooses to use the ship date as proof of purchase, the replacement date is considered the 15th of

the month listed on the Code Sticker



Bernard_Gurney

12-11-2019 09:50

D70CHVAD70BRM4



Shawn_Klein

03-26-2020 06:2

To clarify: This information is now under DTNAConnect Resources>Service Diagnostic and Tools>Specialty Tools>Chassis Tools. Unfortunately, I can't get any of the documentation hyperlinks to work.

1 Kudo

Powered by Khoros



BCT-460DTNA PowerNet Assessment Tool Work Instructions

Note: The BCT-460DTNA performs a complete electrical system test (PowerNet Test) that checks the Battery P state of charge, Battery Interconnect cables voltage drop, Individual Batteries, Starter Cables voltage drop, Sta Alternator Cable voltage drop, and Alternator test. **A completed PowerNet Test must be completed for all warranty claims.**

SAFTEY



- Carefully read all operating instructions before using the BCT-460DTNA
- Wear eye protection when working around batteries.
- Be sure each test is completed before removing load clamps to prevent arcing and potential explosion from battery gases. Never remove load clamps while testing. Keep sparks, flames, or cigarettes away from batteries.
- Keep hair, hands, and clothing as well as tester leads and cords away from moving blades and belts.
- Provide adequate ventilation to remove vehicle exhaust.
- In extremely cold temperatures, check for frozen electrolytic fluid before applying load. Do not attempt to Load Test or charge a battery under 20 degrees. Allow the battery to warm to room temperature before testing or charging.
- ***Warning!*** Never attach the BCT-460DTNA to a battery that is connected to any other tester or charging unit Damage may result.

WARNING!

TESTING OF HYBRID VEHICLES

DO NOT test the starter, alternator and/or 12 volt starting battery while it is in the vehicle.

DO NOT remove, service or test the hybrid battery pack under any circumstances.

Remove the 12 volt starting battery, starter or alternator from the vehicle prior to testing.

CAUSE OF BATTERY FAILURE

- **Incorrect Application:** Wrong size battery may have inadequate cold cranking rating for original vehicle specifications.
- **Incorrect Installation:** Loose battery hold-downs cause excessive vibration, which can result in damage to th plates.
- **Improper Maintenance:** Low electrolytic fluid and corrosion on battery connections can greatly reduce batt life and affect battery performance.
- **Age of Battery:** If the date code on the battery indicates it is fairly old, the failure may be due to natural causes.
- **Overcharging:** Overcharging caused by a high voltage regulator setting or incorrect battery charging can cau excessive gassing, heat and water loss.

Undercharging: Undercharging caused by a faulty charging system or low voltage regulation can cause lead sulf to gradually build up and crystallize on the plates greatly reducing the battery's capacity and ability to be recharged.

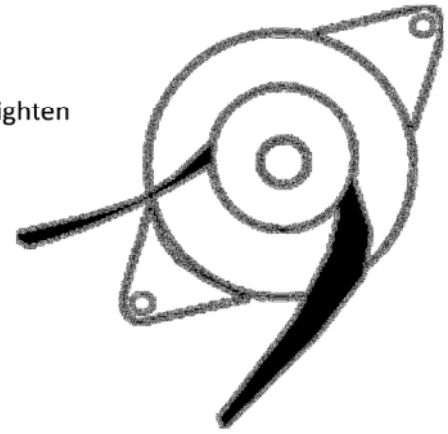
INSPECTION



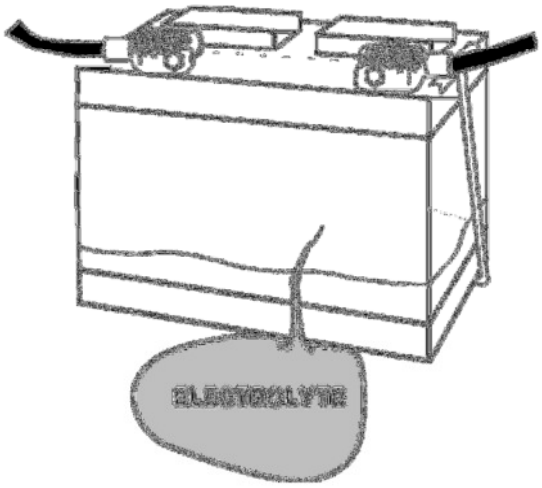
/alid heavy duty electrical system testing depends on all the components being in good
)perating condition. In addition, the battery MUST have sufficient charge for testing. Carefully
)erform the following steps before attempting any electrical diagnosis.

Visual Check

Inspect Belts for cracks, glazed surface and fraying. Tighten loose belts before proceeding.



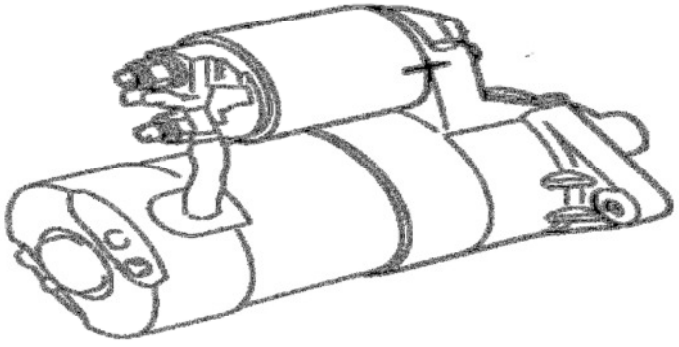
Inspect Battery for terminal corrosion, loose or broken posts, cracks in the case, loose hold-downs, low electrc level (if possible), moisture and dirt around the terminals.



If the battery terminals are corroded or dirty, clean terminals before performing any tests

Important Note: A damaged battery must be replaced before proceeding.

Inspect Starting System – Check starter, solenoid for loose connections, loose mounts and frayed or cracked ca



WIRELESS COMMUNICATION



Bluetooth

The BCT-460DTNA uses Bluetooth to communicate between the control module and load module. This allows you to make the connections, rei the control module and the run the tests from inside your vehicle.

The BCT-460DTNA control module and load module come paired from the factory.

Bluetooth will work as long as the distance between the load module and control module is less than 30 feet. Walls, windows and other objects between the control module and load module will affect the range.

If you do experience any communication issues please look at the troubleshooting guide at the back of this manual on how to correct them.

Wi-Fi

The BCT-460DTNA uses Wi-Fi to communicate between the control module and AMPNET server. The AMPNET service will provide firmware upda for the control module and the load module. You will need to pair the control module with your local wireless LAN. See Wi-Fi section for instructio setting up the wireless connection.

AMPNET

The data from your BCT-460DTNA can be downloaded to the data management software known as AMPNET. This is software that can be used display and track your battery, starting system, and charging system test results in graphical form.

CONTROLS AND FUNCTIONS

Control Module (CM) and Load Module (LM) mated and latched



Control Module (CM)



Load Module (LM

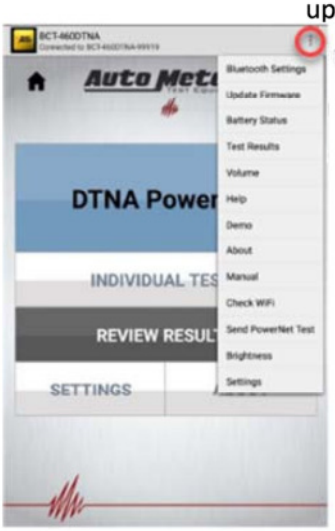


Load Module (LM) Push Button Power

On: Push and Hold button for 1 second
Power Off: Push and hold for more than 5 seconds
Reboot/Reset: Push and hold button for 3-4 seconds

CONTROLS AND FUNCTIONS cont.

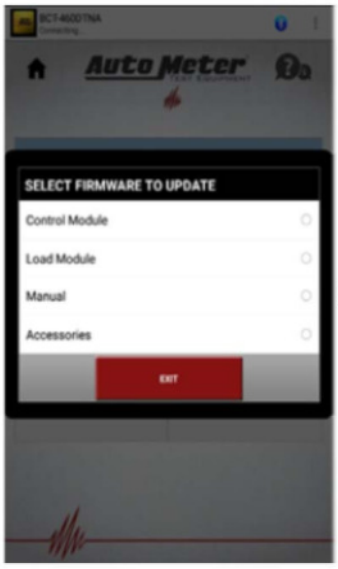
The following screens are located in the option menu, by selecting the 3 Dots icon in the upper right corner on the main screen.



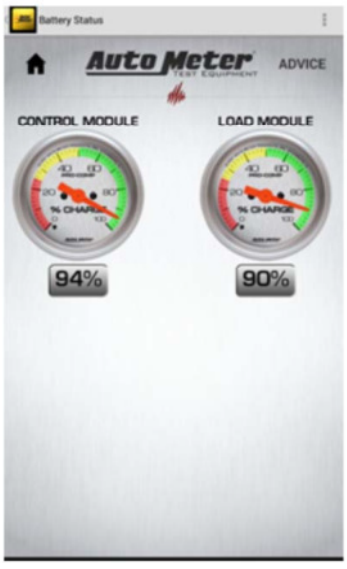
Options Menu
Click on the 3 dots to access the drop down menu. The drop down menu is for options of the tool.



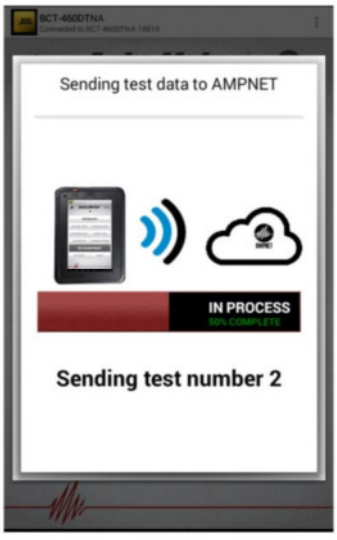
About Screen
The About screen gives user the information about the applications version and how to contact Auto Meter.



Update Firmware
Update software screen allows the user to update both the Control modules application or the Load module firmware.



Battery Status
Display the state charge of the batteri the Control module and the Load mod (LM). This screen car be used to verify the and LM are connec



Send PowerNet Test
If the test results are not showing up in AmpNet, use this option to manually send the test to AmpNet.

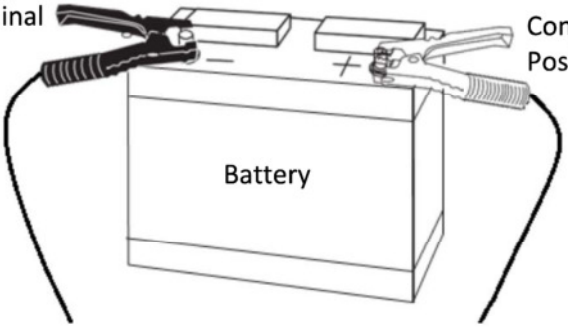


Bluetooth Setting
Use this screen to connect or verify th CM and LM Bluetoo connection.

Hook Up



Connect Black Clamp to
Negative (-) Terminal



Connect Red Clamp to
Positive (+) Terminal

CONNECTING ADAPTORS TO COMPONENT

- Clean matting surface for adaptor with a wire brush to remove any dirt, grime or corrosion protection covering
- Make sure the adaptor is properly torqued to component.

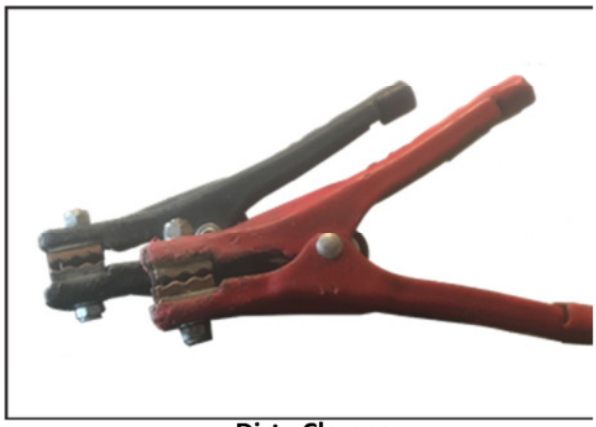


CONNECTION ERRORS

- If the clamps are reversed the Reversed Connection warning will be displayed on the Control Module with an audible beeping.
- If one or both of the clamps are not in complete contact (both of each clamp jaws) A "Check Connections" screen will appear on the control module.
- Clean battery terminals with a wire brush if battery terminals are corroded or dirty. Clean clamp jaws with 1 part ammonia and 10 parts water if clamp jaws are corroded or dirty.



Clean Clamps



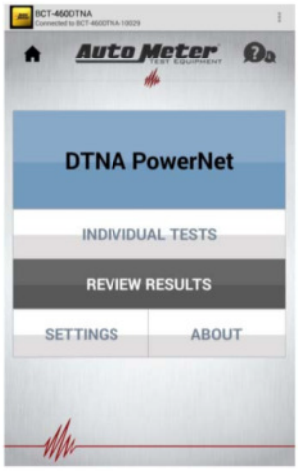
Dirty Clamps

PowerNet Test (Info Screen)



Note – the tool has to have been set up and connected to Wi-Fi before these work instructions can be followed. Refer to manual for Wi-Fi connections and set up.

To start the PowerNet test. Press the Blue Icon that says "DTNA PowerNet" on the main screen



If Resume is chosen a list of tests will appear and the use choose the test they wan resume. The test are organiz Vin and Date. The latest start will be at the top.

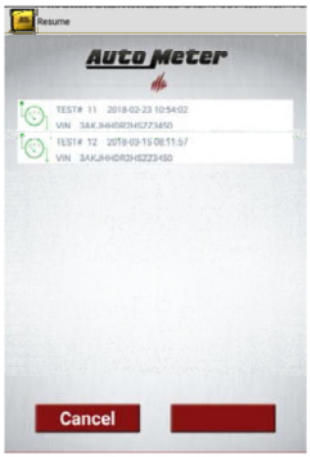
Safety screen



New



Resume



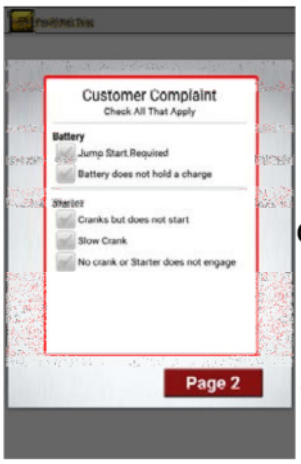
The user will be asked if this is a "New" test or do they want to "Resume" a previous test that was already started.

Go to page 7

The test will start at retesting the battery pack to verify the pack is charged. After the pack test, the test will resume at last step that hasn't been completed.

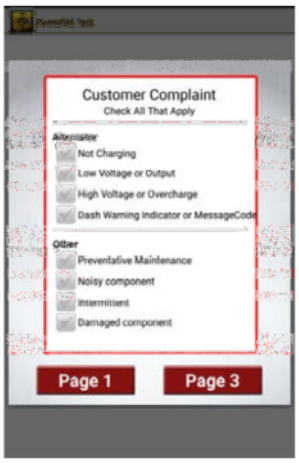
PowerNet Test (Info Screen)

Continued from page 6



Check all that apply

Click on page 2 to continue to the next screen



Check all that apply

Click on page 3 to continue to the next screen



Click on the page number to return to the previous screen.

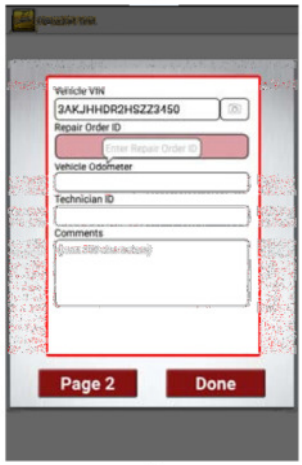
The complete 18 digit Vehicle VIN must be entered.



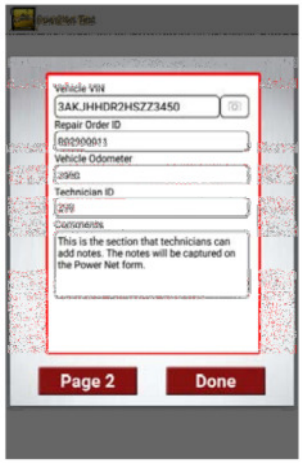
Click on the Camera Icon to open screen for scanning vehicle QR code.



VIN QR Code Locatio
Freightliner – Driver door jamb by striker
Western Star – Drive door jamb by door hinges



The complete Repair Order ID must be entered.



Vehicle Odometer, Tec ID and repair comments, can also b entered. Press Done o the keypad when finished entering data Move on to next scree by pressing Done button on the bottom

Continue to page 8

PowerNet Test (Battery Pack Test)

Continued from page 7

[redacted]

No

Yes

If “No” is selected for “Does the Vehicle Have an Auxiliary Battery Pack” the tester will skip over testing the Auxiliary battery pack.

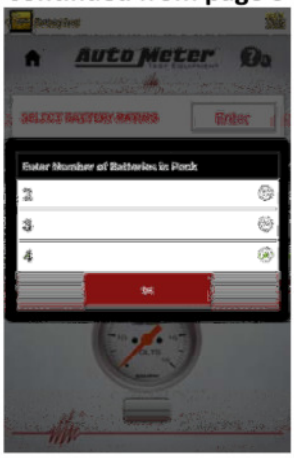




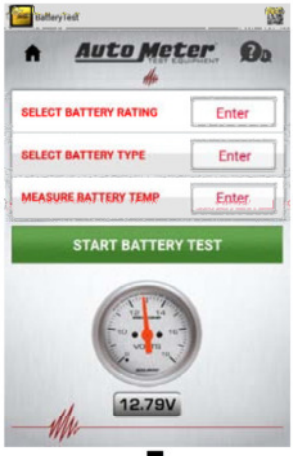
Continue to page 9

PowerNet Test (Starting Battery Pack Test)

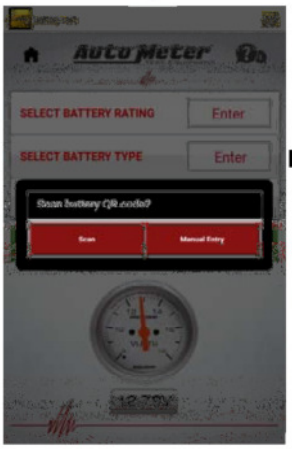
Continued from page 8



Note:
If an error has been made in any of the battery data fields. Just reselect the battery data field to change the data.



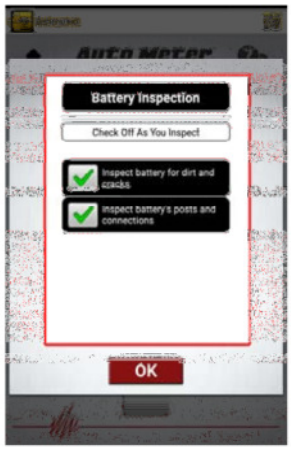
Select Battery Rating to bring up screen for scan or manual entry option.



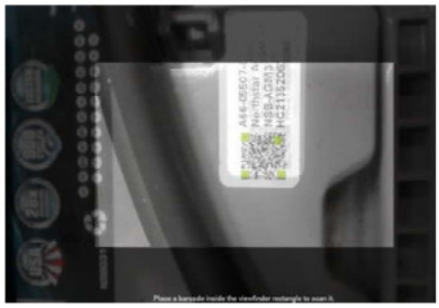
"Manual Entry"

"Scan Battery QR C

When the battery QR cc is scanned, t battery ratir type, and ser number ar entered into tool.







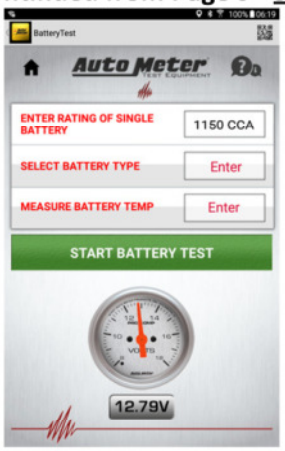
Continue to page 10
Section A

Continue to page 10
Section B

PowerNet Test (Starting Battery Pack Test)

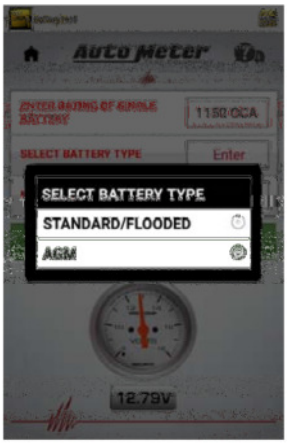


Continued from Page 9 - Section A

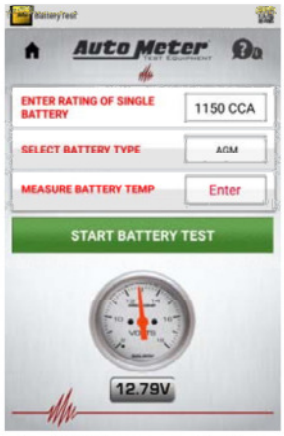


Select "Battery Type" to input the type of battery

If an error has been made in any of the battery data fields. Just reselect the battery data field to change the data.

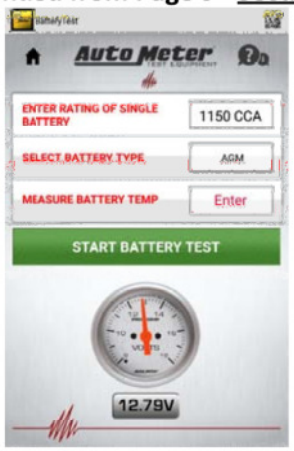


Select the type of batteries that are in the battery pack.
Gray Case - AGM
Black Case - Standard/ Flooded

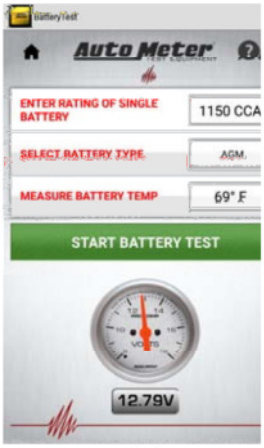


Select "Measure Battery Temp" to input the battery temperature.

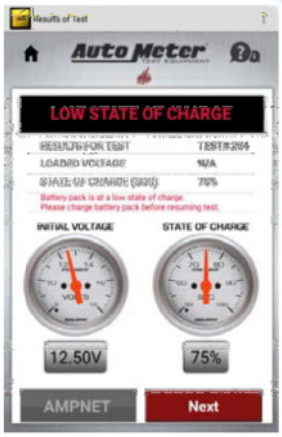
Continued from Page 9 - Section B











If battery pack has a low state of charge. Charge the battery pack before proceeding. The PowerNet test can be resumed after the battery pack has been charged and tested.



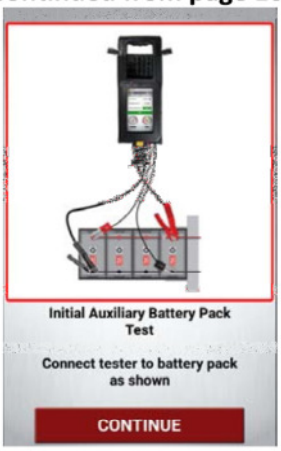
If the truck does NOT have an Auxiliary Battery Pack Continue to page 13

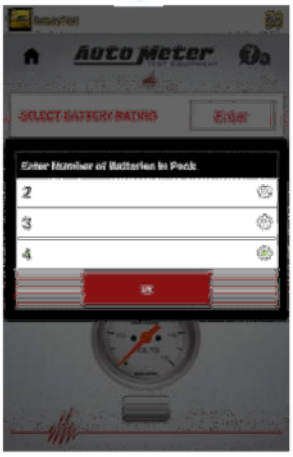
If the truck has Auxiliary Battery Continue to pag

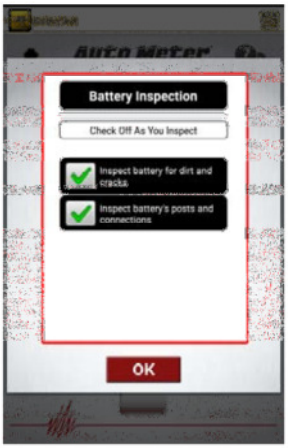
Pag

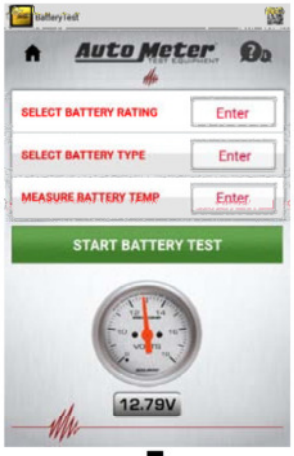
PowerNet Test (Auxiliary Battery Pack Test)

Continued from page 10

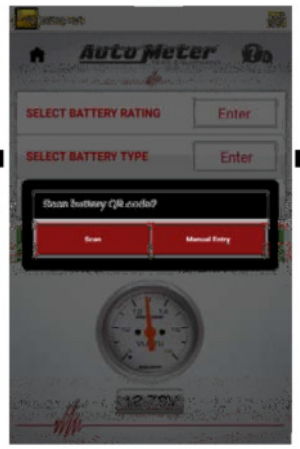








Note:
If an error has bee made in any of th battery data fields. J reselect the batte data field to change data.

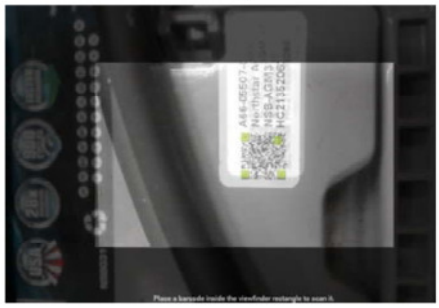


"Manual Entry"

"Scan Battery QR C

When the battery QR cc is scanned, t battery ratir type, and ser number ar entered into tool.





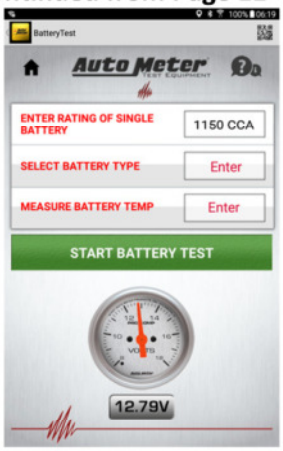
Continue to page 12
Section A

Continue to page 12
Section B

PowerNet Test (Auxiliary Battery Pack Test)

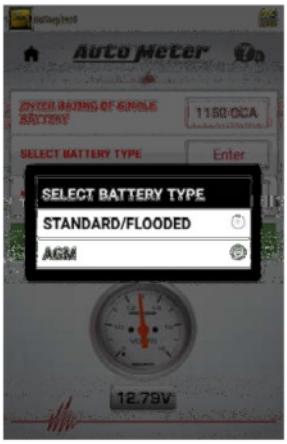


Continued from Page 11 - Section A



Select "Battery Type" to input the type of battery

If an error has been made in any of the battery data fields. Just reselect the battery data field to change the data.

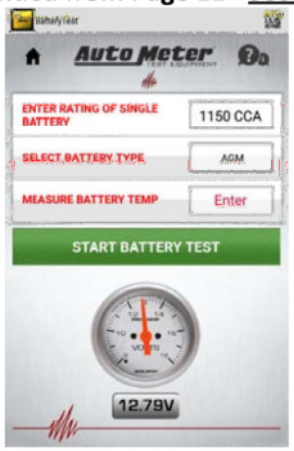


Select the type of batteries that are in the battery pack.
Gray Case - AGM
Black Case - Standard/ Flooded

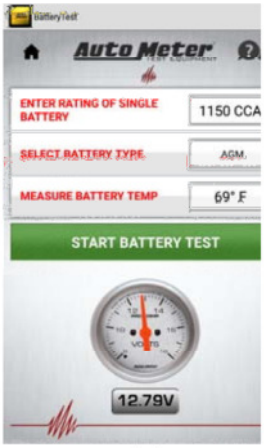


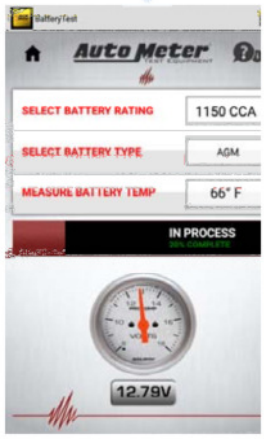
Select "Measure Battery Temp" to input the battery temperature.

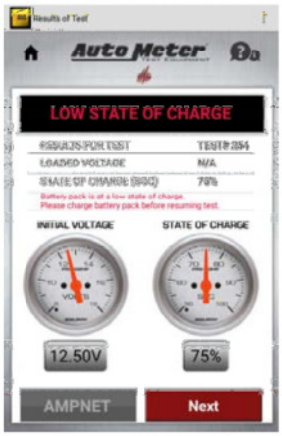
Continued from Page 11 - Section B











If battery pack has a low state of charge. Charge the battery pack before proceeding. The PowerNet test can be resumed after the battery pack has been charged and tested.



Continue to page 13

PowerNet Test (Individual Battery Test)

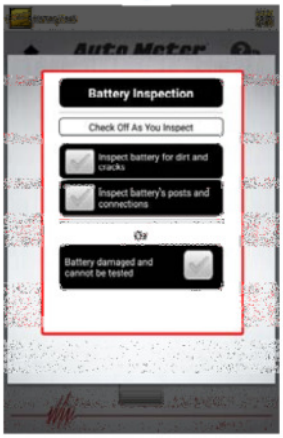
Continued from page 10 or 12



Disassemble battery pack to test individual battery.



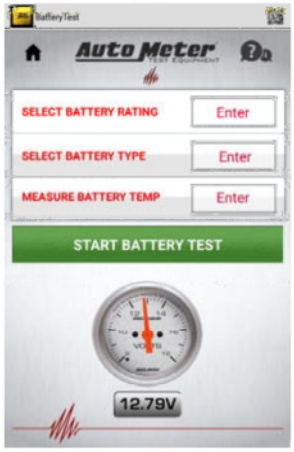
Note:
Disconnect positive and negative battery interconnect cables to test batteries individually.

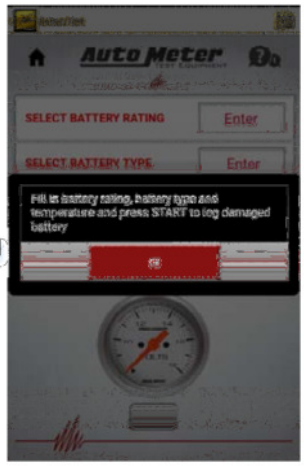


Select all that apply

Standard battery testing

If "Battery Damaged and Cannot be Tested" is selected.





If "Battery Damage" is selected. The test will resume at the next individual battery test. If the last battery is selected as "Battery Damaged" the test will stop and direct to replacing faulty battery.

Battery damaged and cannot be tested

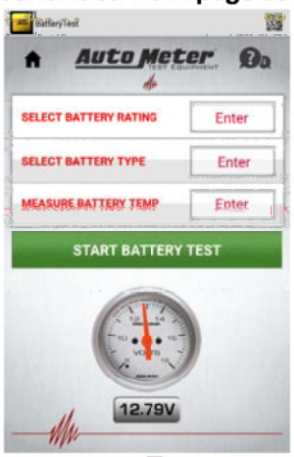
"Battery damaged and cannot be tested" prompt

By selecting this prompt you acknowledge that the battery is physically damaged and unsafe to test. There will be no battery test performed. The test result o "Damaged Battery" will be captured on the test data.

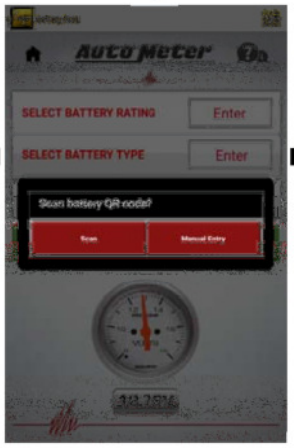
Continue to page 14

PowerNet Test (Individual Battery Test)

Continued from page 13



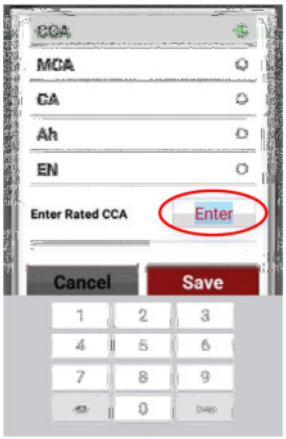
Select Battery Rating to bring up screen for scan or manual entry option.



"Manual Entry"

"Scan Battery QR Code"

When the battery QR code is scanned, the battery rating, type, and serial number are entered into the tool.



Select "Enter Rated CCA" to input the battery CCA rating.

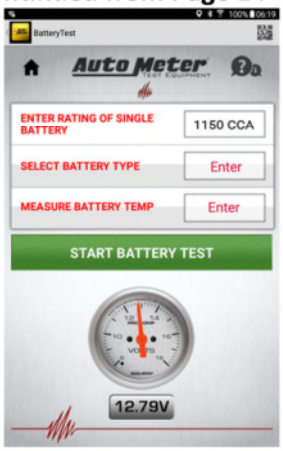


Continue to page 15
Section A

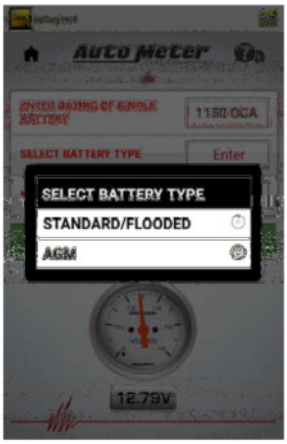
Continue to page 15
Section B

PowerNet Test (Individual Battery Test)

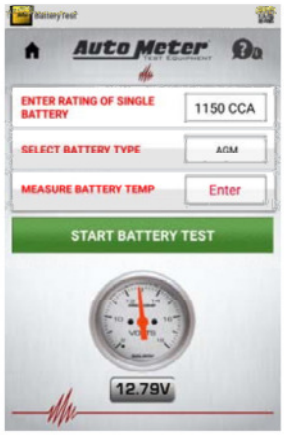
Continued from Page 14 - Section A



Select "Battery Type" to input the type of battery

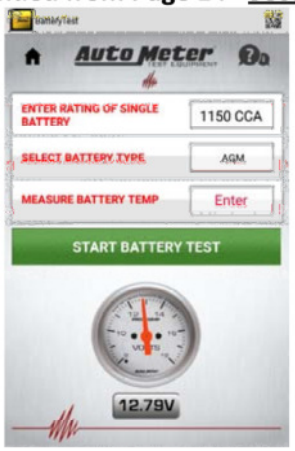


Select the type of batteries that are in the battery pack.
Gray Case - AGM
Black Case - Standard/Flooded

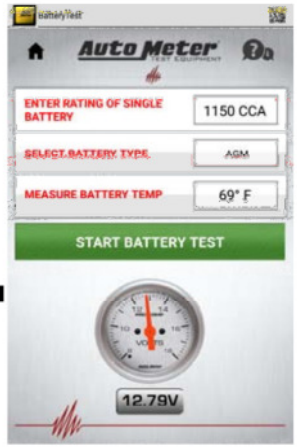


Select "Measure Battery Temp" to input the battery temperature.

Continued from Page 14 - Section B







Select "Start Battery Test to continue

If the "Battery Damaged and cannot be tested" prompt was NOT selected. Continue to Section A on page 16

If the "Battery Damaged and cannot be tested" prompt was selected. Continue to Section B on page 16

Note:
If an error has been m in any of the battery fields. Just reselect battery data field change the data.

PowerNet Test (Individual Battery Test)



Note:
When Needed, the tester will apply a load to the battery to remove surface charge.

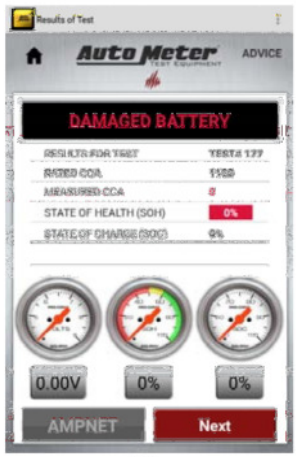
Continued from Page 15 - Section A



Continued from Page 15 - Section B



If the battery QR code **was** scanned, the test will **not** ask to enter the battery serial number. If the battery QR code **wasn't** scanned then the battery serial number **must** be entered.



Steps will be the same on any battery that is labeled as damaged.

Note:
Battery testing will repeat for as many battery as the user inputted into the tester, that are in the battery pack

Continue to page 17

If Equipped with AUXILLARY battery pack Continue to page 19

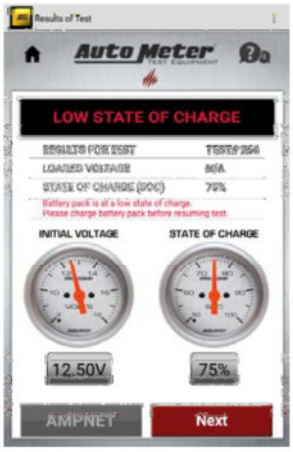
If **Not** Equipped with AUXILLARY battery pack Continue to page 17

PowerNet Test (Individual Battery Test)



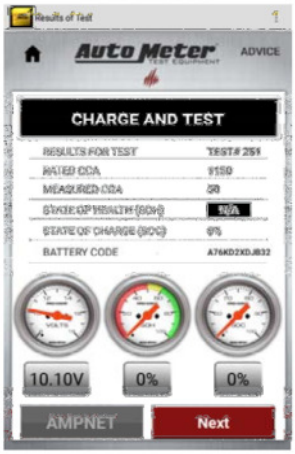
Note:
Depending on the outcome of the battery test. Any one of these test results could show up.

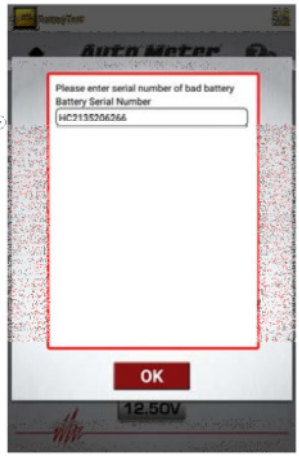
Continued from page 16



Battery will need to be charged before PowerNet can be continued



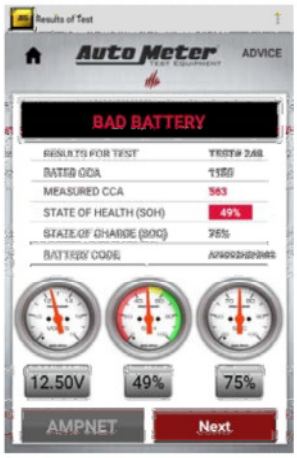




If the batter code **wa** scanned, the will **not** ask enter the ba serial numb the battery code **wasr** scanned the battery ser number **mus** entered.

Note:
Battery testing will repeat for as many battery as the user inputted into the tester, that are in the battery pack





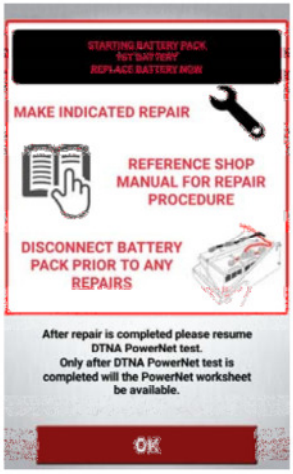
If Equipped with AUXILLARY battery pack Continue to page 19

If **Not** Equipped with AUXILLARY battery pack Continue to page 18

If all batteries test good, no further battery repairs are required. Continue to page 25

PowerNet Test (Individual Battery Re-Test)

Continued from page 16 or 17



Tip:
There will be a prompt to replace the battery for each battery that has failed. If multiple batteries have failed. Replace all the batteries that have failed at the same time.



Every battery, that has been replaced, will need to be retested. Battery testing prompts are all the same as regular battery testing.



The PowerNet test will not continue until all batteries pass the individual battery test







Continue to page 19 or 25

PowerNet Test (Aux Individual Battery Test)

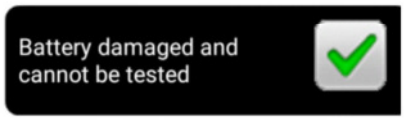
Continued from page 17



Select "Next" to Continue



If the battery QR code is scanned, the battery serial number will be inputted automatically, and no serial number needs to be entered if the battery fails the battery test.



"Battery damaged and cannot be tested" prompt

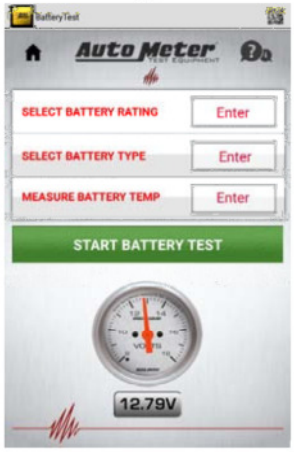
By selecting this prompt you acknowledge that the battery is physically damaged and unsafe to test. There will be no battery test performed. The test result o "Damaged Battery" will be captured on the test data.

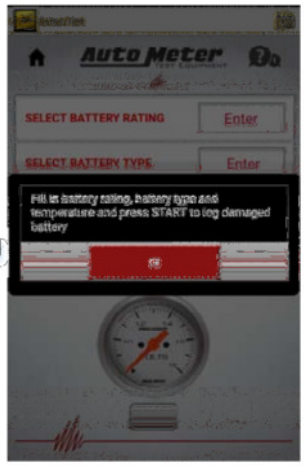


Standard battery testing

If "Battery Damaged and Cannot be Tested" is selected.

Select all that apply



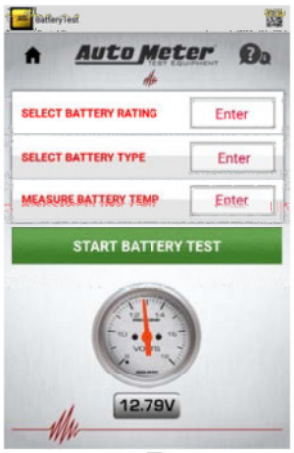


If "Battery Damage" is selected. The test will resume at the next individual battery test. If the last battery is selected as "Battery Damaged" the test will stop and direct to replacing faulty battery.

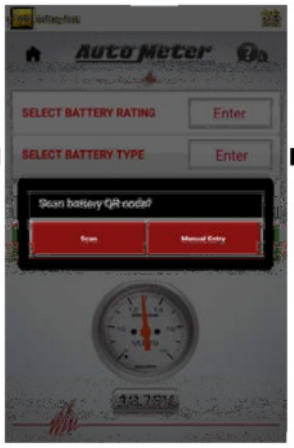
Continue to page 20

PowerNet Test (Aux Individual Battery Test)

Continued from page 19



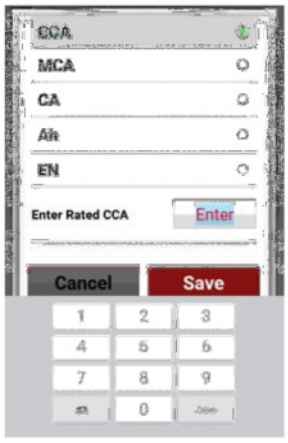
Select Battery Rating to bring up screen for scan or manual entry option.



"Manual Entry"

"Scan Battery QR Code"

When the battery QR code is scanned, the battery rating, type, and serial number are entered into the tool.





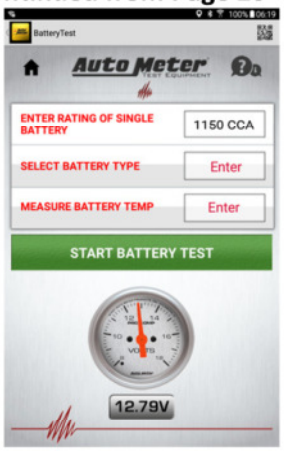
Continue to page 21
Section A

Continue to page 21
Section B

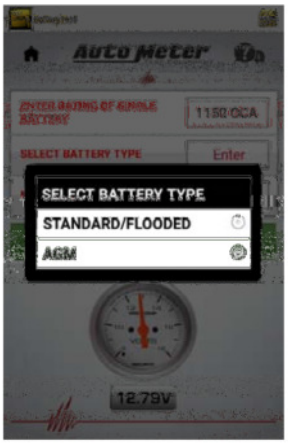
PowerNet Test (Aux Individual Battery Test)



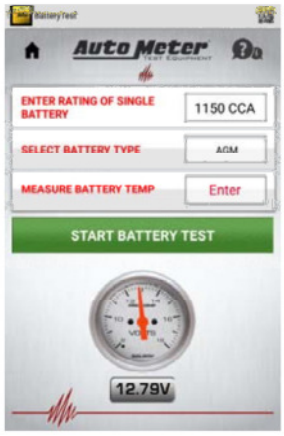
Continued from Page 20 - Section A



Select "Battery Type" to input the type of battery

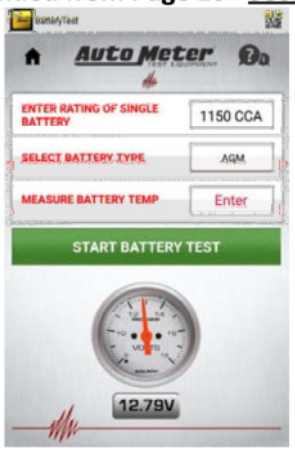


Select the type of batteries that are in the battery pack.
Gray Case - AGM
Black Case - Standard/Flooded

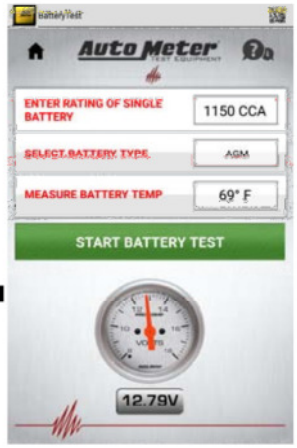


Select "Measure Battery Temp" to input the battery temperature.

Continued from Page 20 - Section B







Select "Start Battery Test to continue

If the "Battery Damaged and cannot be tested" prompt was NOT selected. Continue to Section A on page 22

If the "Battery Damaged and cannot be tested" prompt was selected. Continue to Section B on page 22

Note:
If an error has been r in any of the battery fields. Just reselect battery data field change the data.

PowerNet Test (Aux Individual Battery Test)



Note:
When Needed, the tester will apply a load to the battery to remove surface charge.

Continued from Page 21 - Section A



Continued from Page 21 - Section B



If the battery QR code **was** scanned, the test will **not** ask to enter the battery serial number. If the battery QR code **wasn't** scanned then the battery serial number **must** be entered.



Steps will be the same on any battery that is labeled as damaged.

Note:
Battery testing will repeat for as many battery as the user inputted into the tester, that are in the battery pack

Continue to page 23

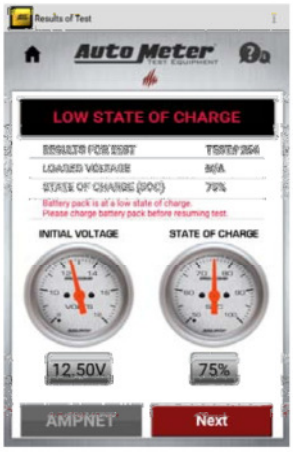
Continue to page 24

PowerNet Test (Aux Individual Battery Test)



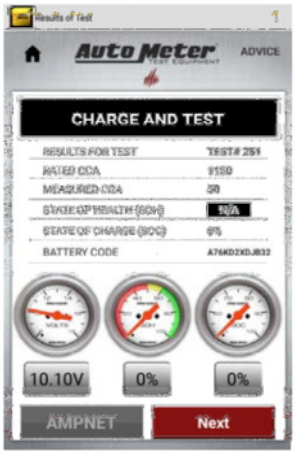
Note:
Depending on the outcome of the battery test. Any one of these test results could show up.

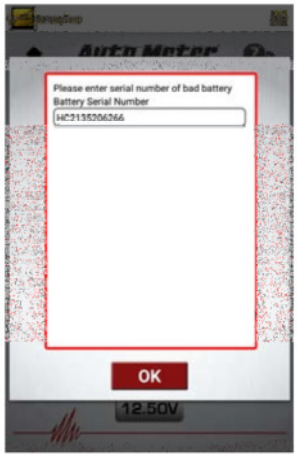
Continued from page 22



Battery will need to be charged before PowerNet can be continued







If the battery QR cc
was scanned, the tes
not ask to enter th
battery serial numbe
the battery QR coc
wasn't scanned ther
battery serial numb
must be entered





Note:
Battery testing will repeat for as many battery as the user inputted into the tester, that are in th battery pack

Continue to page 24

If all batteries test good, no further battery repairs are required.
Continue to page 25

PowerNet Test (Individual Battery Re-Test)

Continued from page 22 or 23



Tip:
There will be a prompt to replace the battery for each battery that has failed. If multiple batteries have failed. Replace all the batteries that have failed at the same time.

After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.



Every battery, that has been replaced, will need to be retested. Battery testing prompts are all the same as regular battery testing.



The PowerNet test will not continue until all batteries pass the individual battery test







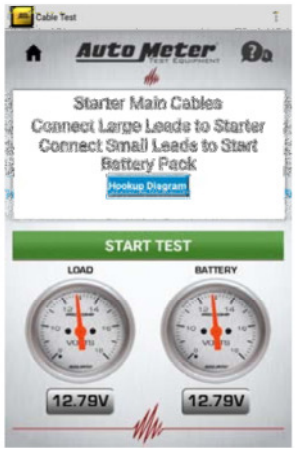
After battery pack passes testing. Continue to page 25

PowerNet Test (Starter Cable Test)

Continued from page 18 or 24









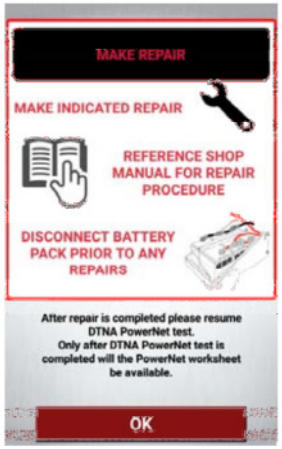
Continue to page 27

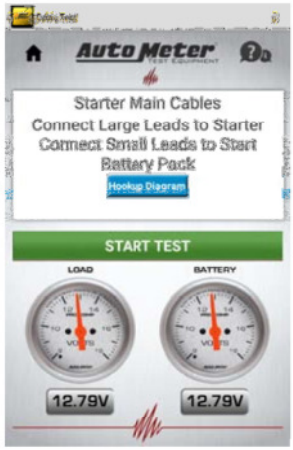


Continue to page 26

PowerNet Test (Starter Cable Test)

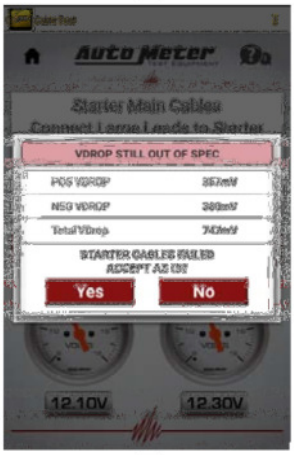
Continued from page 25





No





Yes

Note:
After the Voltage Drop test has failed 2 times. There is an option to accept the voltage drop "As Is". If yes is selected, the test continues to next test.





After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

Continue to page 27

PowerNet Test (Damaged Starter Test)

Continued from page 25 or 26

"Starter damaged and cannot be tested" prompt

By selecting this prompt you acknowledge that the Starter is physically damaged and unable to test. There will be no starter test performed. The test result of "Damaged Starter" will be captured on the test data.

Leave the box unchecked if the starter is NOT damaged.



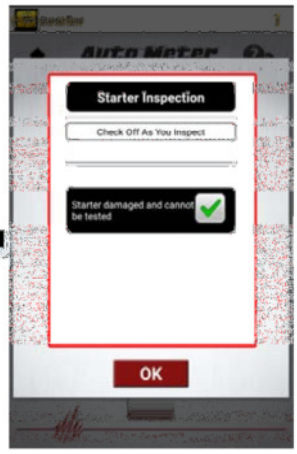
If **"Starter damaged and cannot be tested"** is selected a verification prompt will pop-up.

No



If **"Starter damaged and cannot be tested"** is **NOT** selected.
Continue to page 28

Yes











After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

The test will start off retesting the starting battery pack, then will continue to page 28

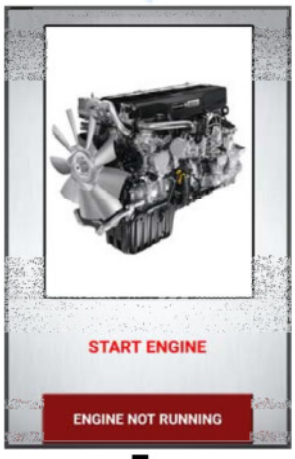
PowerNet Test (Starter Test)

Continued from page 27



Yes



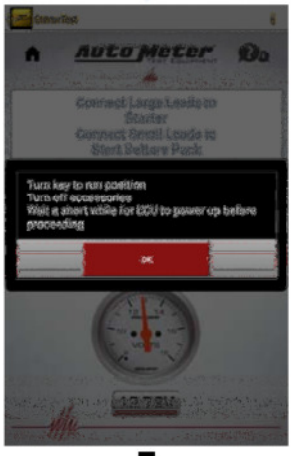




Continue to page 29

No







Continue to page 30

PowerNet Test (Starter Test)

Continued from page 28



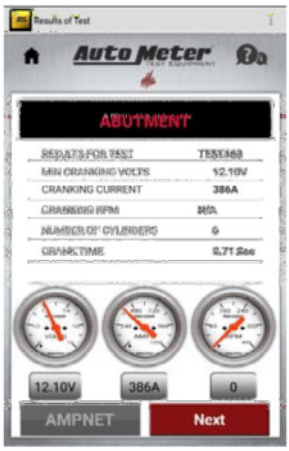


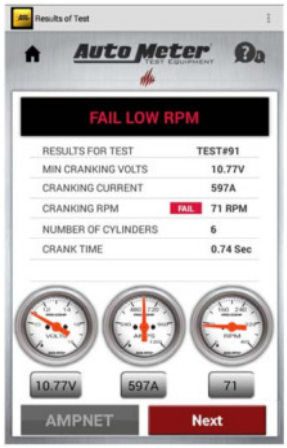


Continu page 3

Note:
Depending on the outcome of the starter test. Any one of these test results could show up.

Abutment is when a start is requested – the starter pinion gets extended to initiate the crank – but the pinion runs into the side of the ring gear and the engine doesn't rotate





Fail Low RPM m that the engine over too slow start the engi Root cause of the engine i rotating too slo needs to be dc

After repairs finished. PowerNet T must be resu to complete PowerNet fo

See Engine Diagnostics is when the engine takes too long to start. The starter is not at fault





Bad Starter me that the starte failed and neec be replaced

The test will start off retesting the starting battery pack, then will continue to page 28

PowerNet Test (Start Enable Circuit Test)

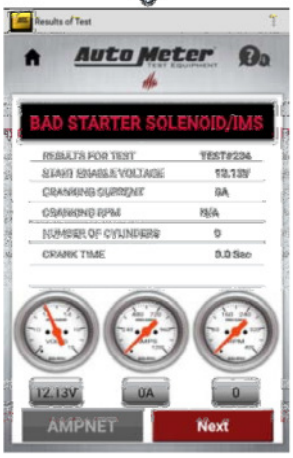


Continued from page 27



If there is **NOT** low voltage on IMS Circuit

If there is low voltage on IMS Circuit





Note:

PowerNet Test must be completed for all warranty repairs of the PowerNet system





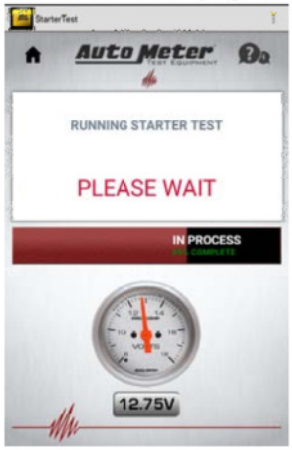
The test will start off retesting the starting battery pack, then will continue to page 28

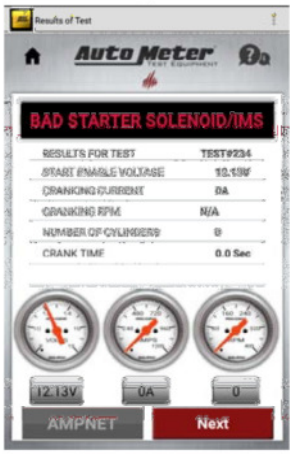
Continue to page 31

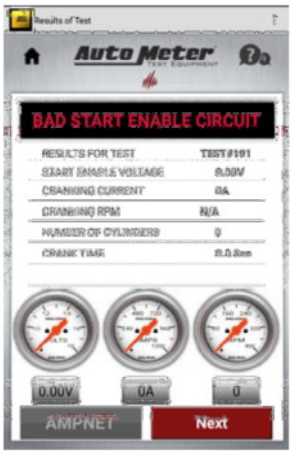
After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

PowerNet Test (Start Enable Circuit Test)

Continued from page 30







Note:
Depending on the outcome of the test. Either the starter is faulty or the start enable circuit is faulty.

If there is voltage on the circuit, the starter is faulty.

If there is no voltage on the circuit, the circuit will need to have further diagnosis to find root cause.



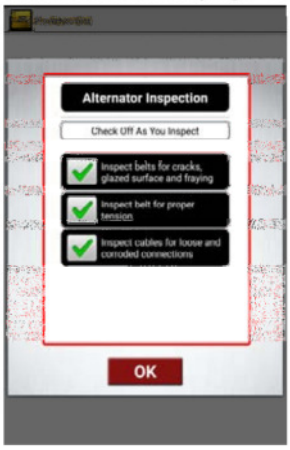


After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

The test will start off retesting the starting battery pack, then will continue to page 28

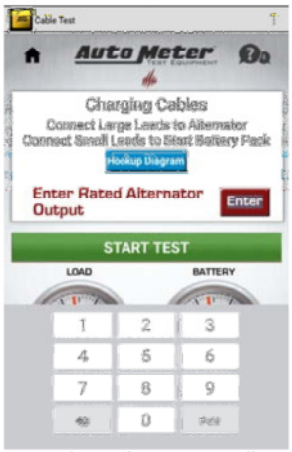
PowerNet Test (Alternator Cable Test)

Continued from page 29









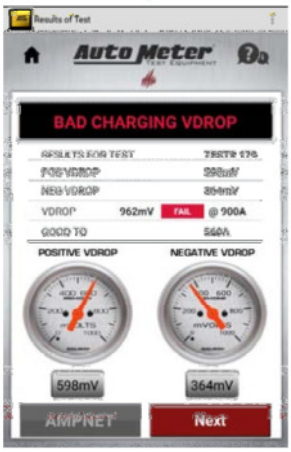
Select "Start Test"

To enter the alternator rating.
Select
Enter
Select **done** when done entering rating.



Note:
If the incorrect rating has been entered, re-select alternator rating box to change the alternator rating.



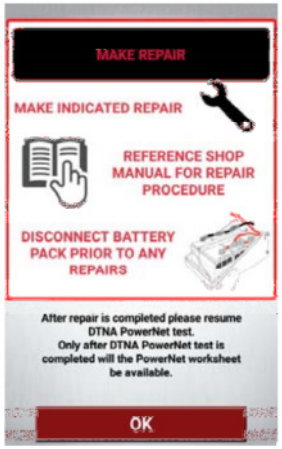


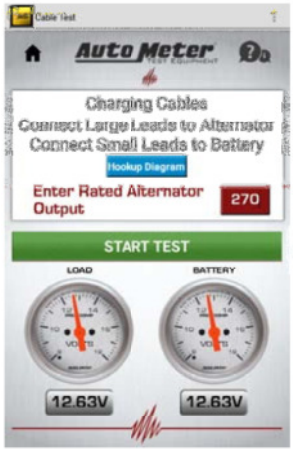
Continue to page 34

Continue to page 33

PowerNet Test (Alternator Cable Test)

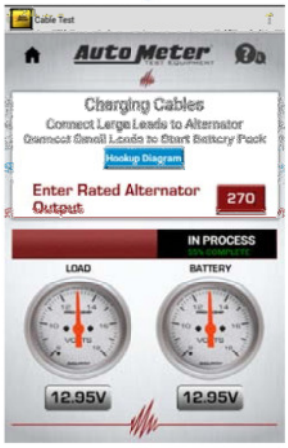
Continued from page 32

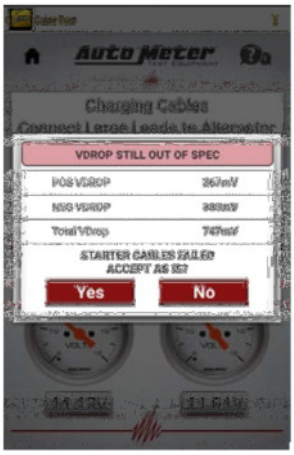




No

After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

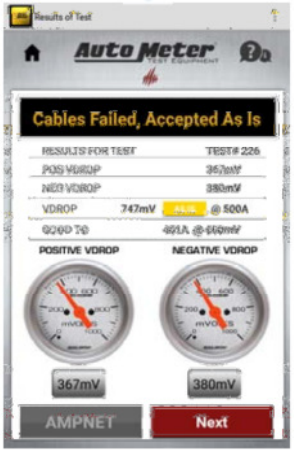




Note:
After the Voltage Drop test has failed 2 times. There is an option to accept the voltage drop "As Is". If yes is selected, the test continues to next test.

Yes





Continue to page 34

PowerNet Test (Damaged Alternator Test)



Continued from page 32 or 33

"Alternator damaged and cannot be tested" prompt

By selecting this prompt you acknowledge that the alternator is physically damaged and unable to test. There will be no alternator test performed. The test result of "Damaged alternator" will be captured on the test data.

Leave the box unchecked if the alternator is not damaged.



If **"Alternator damaged and cannot be tested"** is selected a verification prompt will pop-up.

No



If **"Alternator damaged and cannot be tested"** is **NOT** selected. Continue to page 35

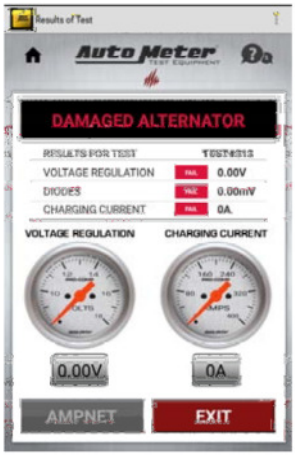
Yes





Select the alternator type





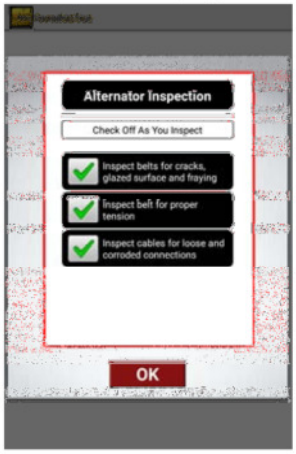


After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

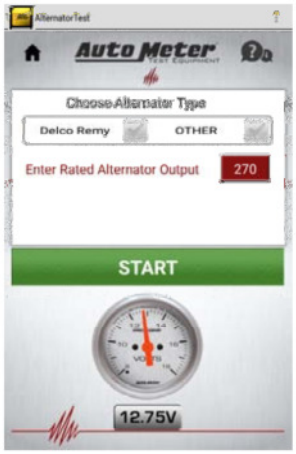
The test will start off retesting the starting battery pack, then will continue at page 35

PowerNet Test (Alternator Test)

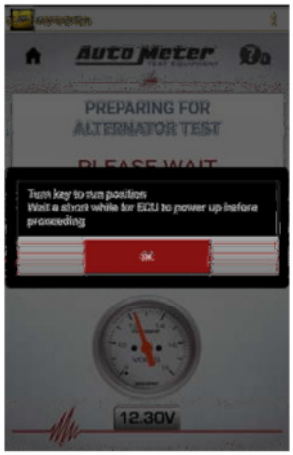
Continued from page 33 or 34





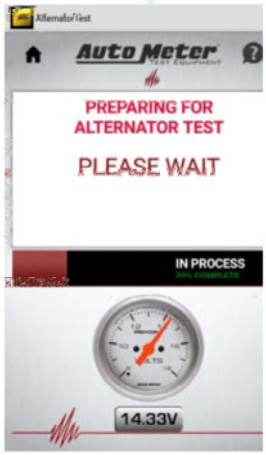


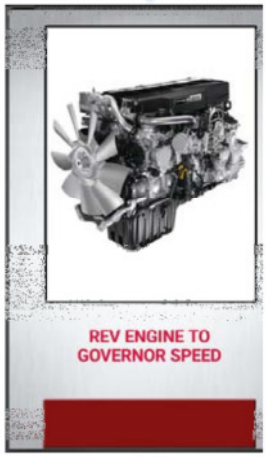












Continue to page 36

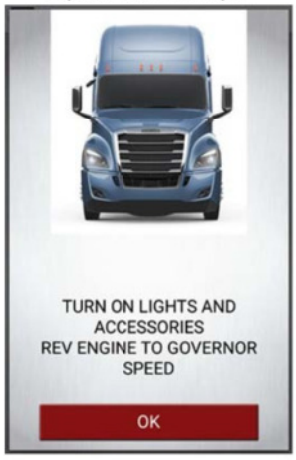
PowerNet Test (Alternator Test)

Continued from page 35



When testing higher current alternators, there might be this prompt

Optional Prompt



If required, there will be a prompt to
on headlights and accessory.
Turn on Headlights, HVAC blower to
and any other higher currant access

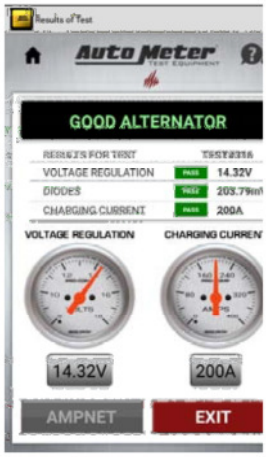


Yes

If the alternator has a remote sense circuit.
Select Yes

No





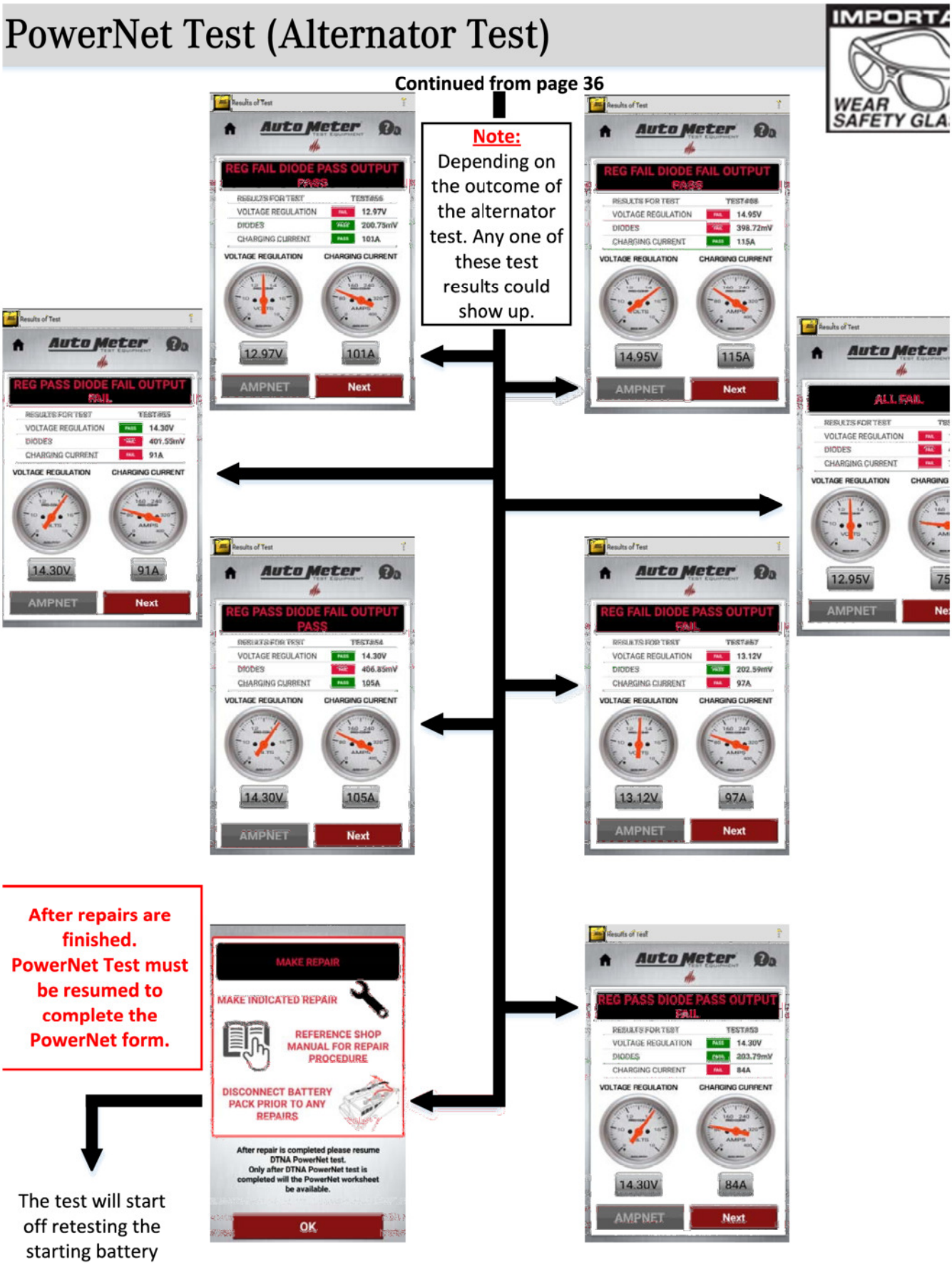
Continue to page 38

Continue to page 37 for alternator failure modes

Continue to page 39

PowerNet Test (Alternator Test)

Continued from page 36

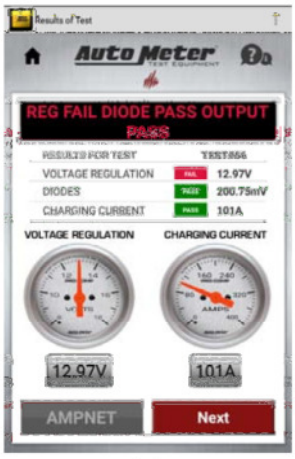


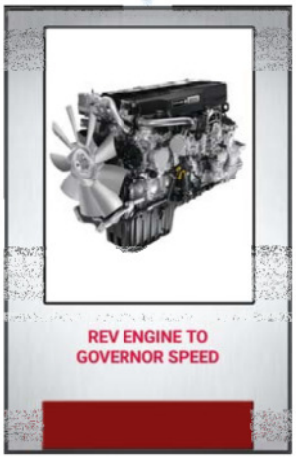
PowerNet Test (Alternator Remote Sense Test)

Continued from page 64

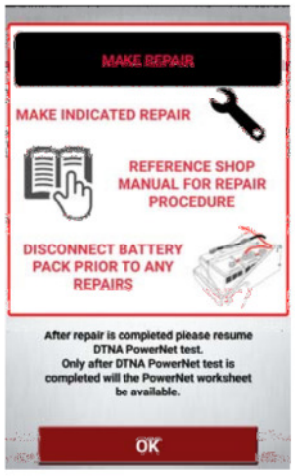


Diagnose the alternator remote sense circuit for this type of failure.









After repairs are finished. PowerNet Test must be resumed to complete the PowerNet form.

The test will start off retesting the starting battery pack, then will continue at page 35

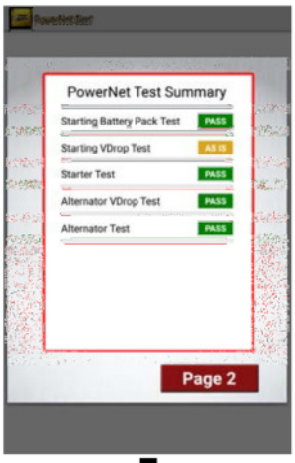
PowerNet Test (Completion of Testing)

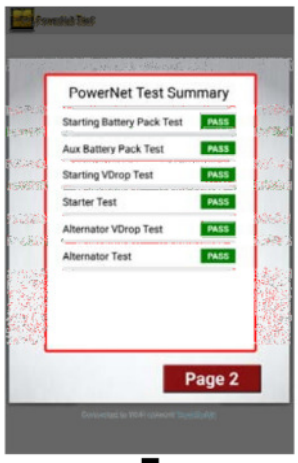
Continued from page 36



Continued from page 36

If equipped with auxiliary battery pack, there will be a prompt to reconnect the auxiliary battery pack

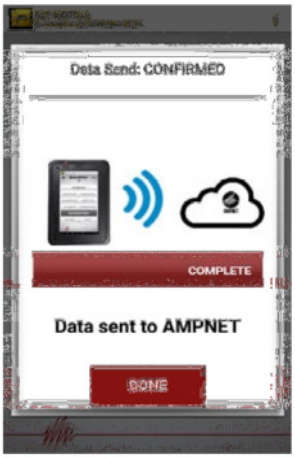




If the starter and/or alternator cables failed, but the user selected to accept the cables As Is. The results will be captured in the summary.



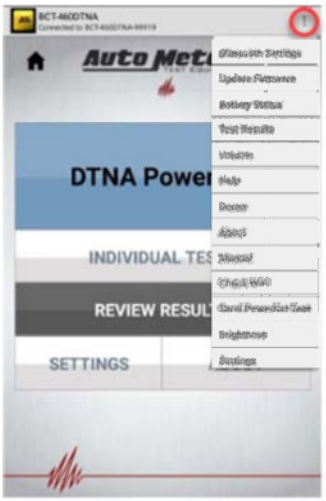
Select all that appl
In this section the user can enter any notes, as needed



This prompt confirms that the PowerNet test is completed and all test results are sent to AmpNet. After this step you will be able to access the PowerNet form on the AmpNet website.

Link to AmpNet website.
dtna.autometer.com

Control Module (CM) and Load Module (LM) Pairing



Click on the options menus (3 dots) and select “Bluetooth Settings”



If there is a Bluetooth symbol next to the options menu, the CM and LM are not paired



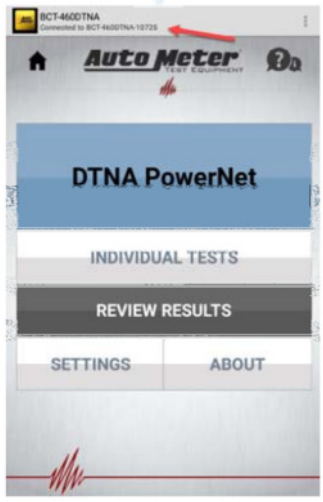
Make sure the Load Module (LM) is turned on before scanning for devices start.



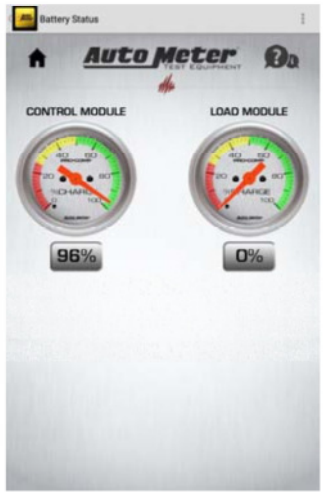
After the scan is completed. Select the BVA-460-XXXXX and click on “Pair” to pair the CM and LM. The XXXXX represent the serial number of the tool that the CM is pairing with.



Once the CM LM are paired unit will show under “Paire Devices” on t screen.



There will be message at t top of the ma screen showi the CM is Pai with the LM



Another wa verify that th and LM ar paired. Go i the “Batte Status” scr under the op menu. If the Module (LM showing 0% CM and LM not paire

Setting up AmpNet Account



DAIMLER TRUCKS NORTH AMERICA
AFTERMARKET

No.: 18 TL-5
May 30, 2018

TO: Service Locations

FROM: Aftermarket Service Diagnostics & Tools

SUBJECT: BCT-460DTNAK PowerNet Assessment Tool

GENERAL INFORMATION

In an effort to reduce the complexity of PowerNet diagnostic, the Special Tools Group has developed an electronic PowerNet assessment tool. This tool is for the diagnostics of the starter, alternator, batteries and heavy electrical cables. The tool provides a completed PowerNet assessment worksheet, after all tests have been completed. The form is uploaded to a website called AmpNet, which is managed by the supporting tool location. AmpNet login is required to access the test results from the BCT-460DTNA tool. See below for AmpNet login set up procedure.

To get the completed PowerNet form, the tool must be properly used and the PowerNet test must be completed. The test must be resumed after a failed component is identified and repaired/replaced to receive the completed PowerNet Form. The completed form must be submitted with the warranty claim, with the test results of a failed component. For the submitting dealer not to receive a charge back claim, for any "No Defect Found" component.

The test must be resumed after a failed component is identified and repaired/replaced to receive the completed PowerNet Form.

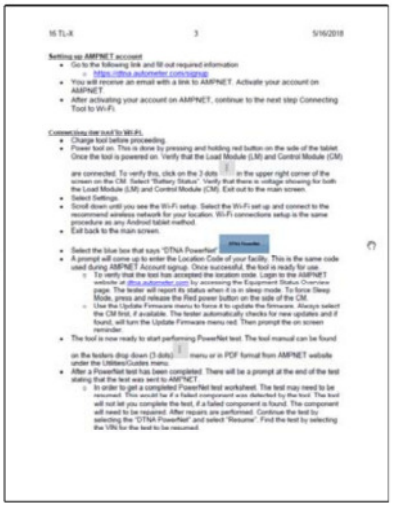
In order to have the latest work procedures, make sure to check and update the firmware before using the BCT-460DTNA

BENEFITS OF THE BCT-460DTNA POWERNET ASSESSMENT:

- Single person operations.
- AMPNET data download capability.
  - Tester to complete PowerNet test form and send form to AMPNET. For supporting location to have the ability to download. Test are always available, and never get deleted.
  - Ability to remotely update the tool's firmware via the Wi-Fi network.
- Perform PowerNet Test.
  - Tests MUST BE resumed after a failed component is identified and repaired/replaced to complete the PowerNet Form.
- Battery Testing.
  - Ability to test individual batteries.
  - Ability to test battery pack.

-2-

Refer to BCT-460DTNA PowerNet Assessment Tool letter for link and instructions.



16 TL-X 3 5/16/2018

Setting up AMPNET account

- Go to the following link and fill out required information
  - https://dtna.autometer.com/signup
- You will receive an email with a link to AMPNET. Activate your account on AMPNET.
- After activating your account on AMPNET, continue to the next step Connecting Tool to Wi-Fi.

Connecting the tool to Wi-Fi

- Charge tool before proceeding.
- Power tool on. This is done by pressing and holding red button on the side of the tablet. Once the tool is powered on. Verify that the Load Module (LM) and Control Module (CM) are connected. To verify this, click on the 3 dots in the upper right corner of the screen on the CM. Select "Battery Status". Verify that there is voltage showing for both the Load Module (LM) and Control Module (CM). Exit out to the main screen.
- Select Settings.
- Scroll down until you see the Wi-Fi setup. Select the Wi-Fi set up and connect to the recommend wireless network for your location. Wi-Fi connections setup is the same procedure as any Android tablet method.
- Exit back to the main screen.
- Select the blue box that says "DTNA PowerNet"
- A prompt will come up to enter the Location Code of your facility. This is the same code used during AMPNET Account signup. Once successful, the tool is ready for use.
  - To verify that the tool has accepted the location code. Logon to the AMPNET website at dtna.autometer.com by accessing the Equipment Status Overview page. The tester will report its status when it is in sleep mode. To force Sleep Mode, press and release the Red power button on the side of the CM.
  - Use the Update Firmware menu to force it to update the firmware. Always select the CM first, if available. The tester automatically checks for new updates and if found, will turn the Update Firmware menu red. Then prompt the on screen reminder.
- The tool is now ready to start performing PowerNet test. The tool manual can be found on the testers drop down (3 dots) menu or in PDF format from AMPNET website under the Utilities/Guides menu.
- After a PowerNet test has been completed. There will be a prompt at the end of the test stating that the test was sent to AMPNET.
  - In order to get a completed PowerNet test worksheet. The test may need to be resumed. This would be if a failed component was detected by the tool. The tool will not let you complete the test, if a failed component is found. The component will need to be repaired. After repairs are performed. Continue the test by selecting the "DTNA PowerNet" and select "Resume". Find the test by selecting the VIN for the test to be resumed.

Refer to page 3 of the t letter for the BCT-460DTNAK PowerNe Assessment Tool.

Refer to section title **"Setting up AmpNe Account"**

Click on the link to sig up for AmpNet accou https:// dtna.autometer.com signup



Not a Freightliner Dealer

Click here to be taken to the nor dealer sign up page.

Refer to page 2 for sign up page

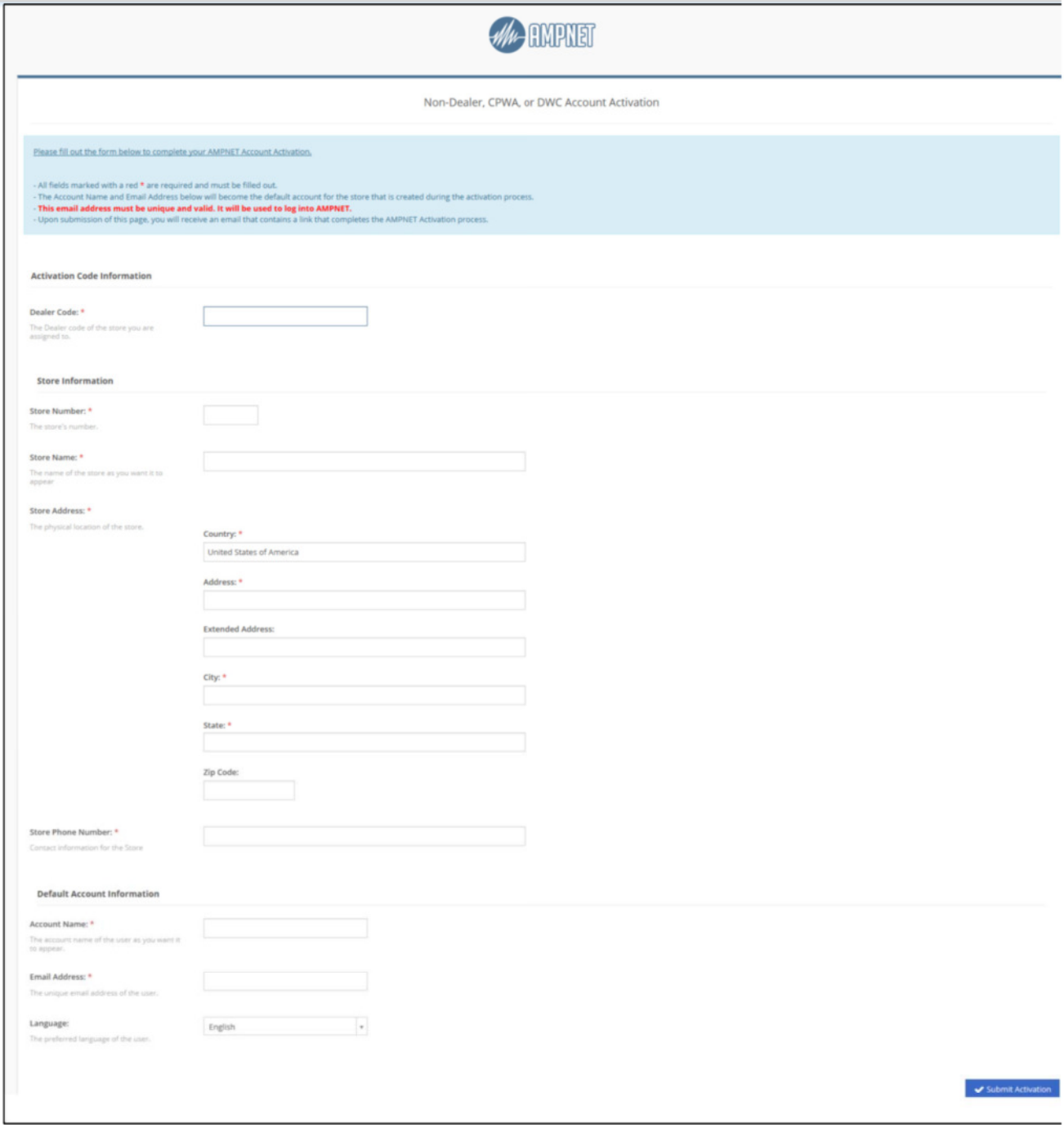
Freightliner Dealer
Fill out this section

Location Code – This is the dealer/location code the tool will be registered for.
Account Name - This is the name for the account that is being set up, use dealer/location name.
Email Address – This is the email address of who is responsible for the account.

Note:

More than 1 account can be set per location. Repeat this step for each account that is required to be set up

AmpNet Non Dealer Sign-Up

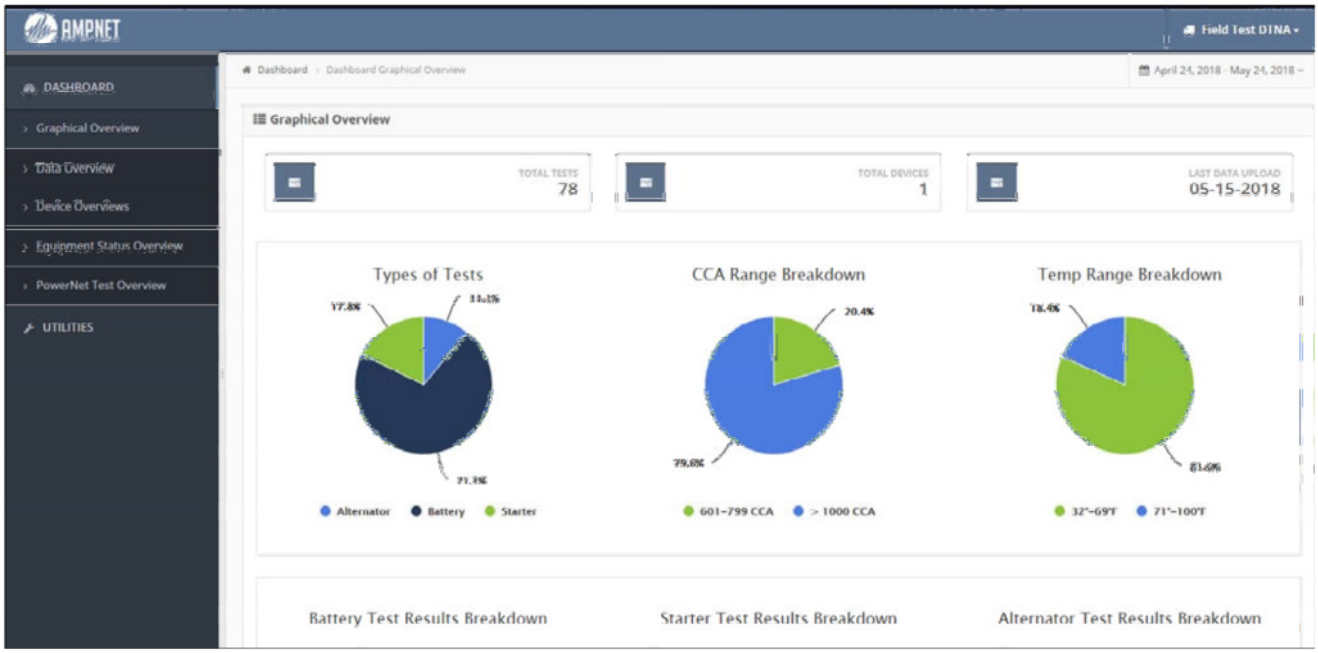


Fill out all required fields. An email will be sent to the email address that is entered under “Email Address”. Refer to that email to finish the sign up process.

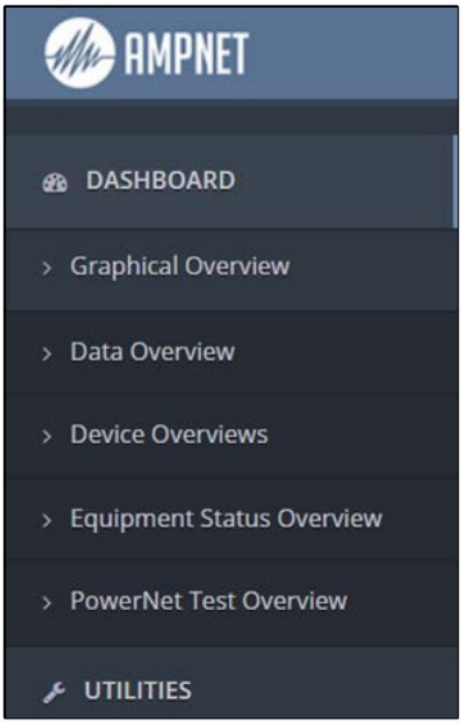
Note:
The email will contain the “location code” required to register the tool.

AmpNet Graphical Overview

Login to AmpNet to gain access
to the BCT-460DTNA tester data



Graphical Overview



Main Page – Shows quick graphs and an overview of tests performed, of all the testers at the location the tester is at.

Data Overview – All the individual test are in the Data Overvie Test can be downloaded and printed from this section.

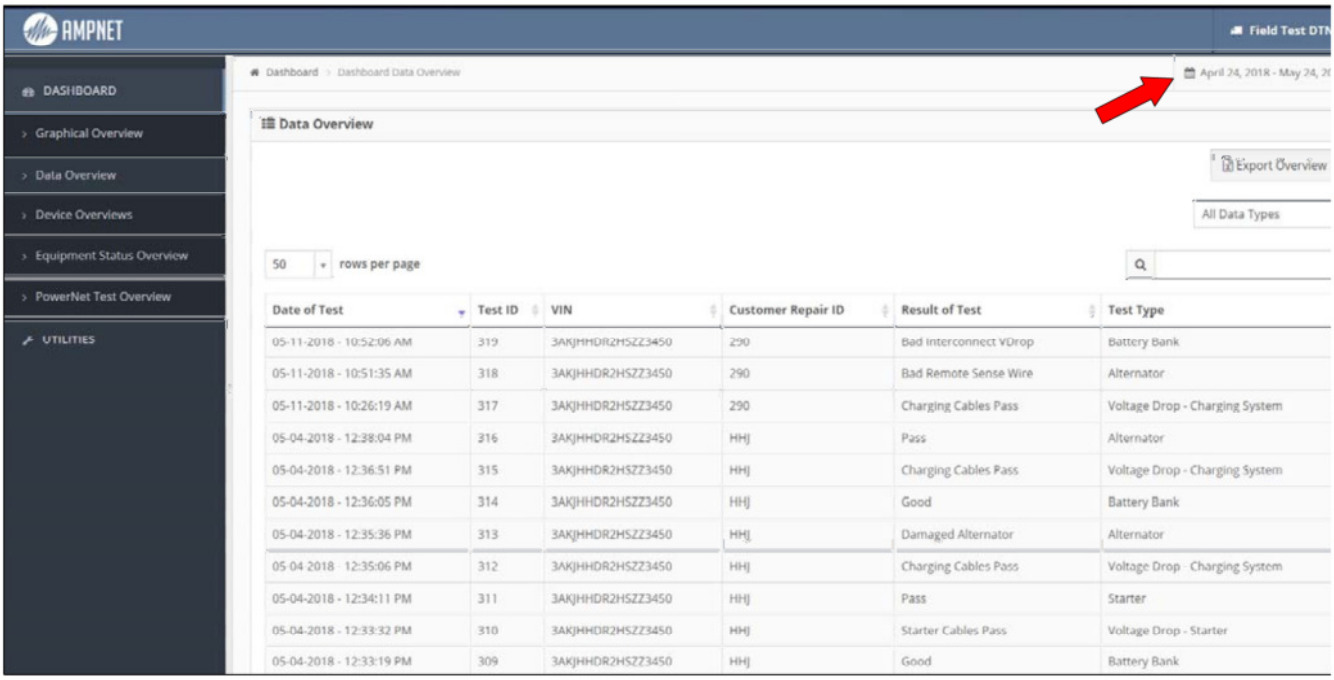
Device Overview – This section shows all the individual tests performed by each tool.

Equipment Status Overview – This section shows all the device information and location.

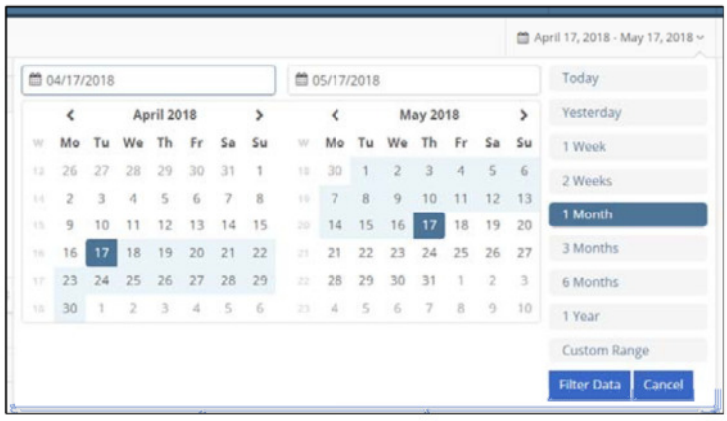
PowerNet Test Overview – This section is where the PowerNet forms are located, and downloaded from.

Utilities – this section is where to find manuals, how-to video's other documentation for the BCT-460DTNA tool.

AmpNet Data Overview

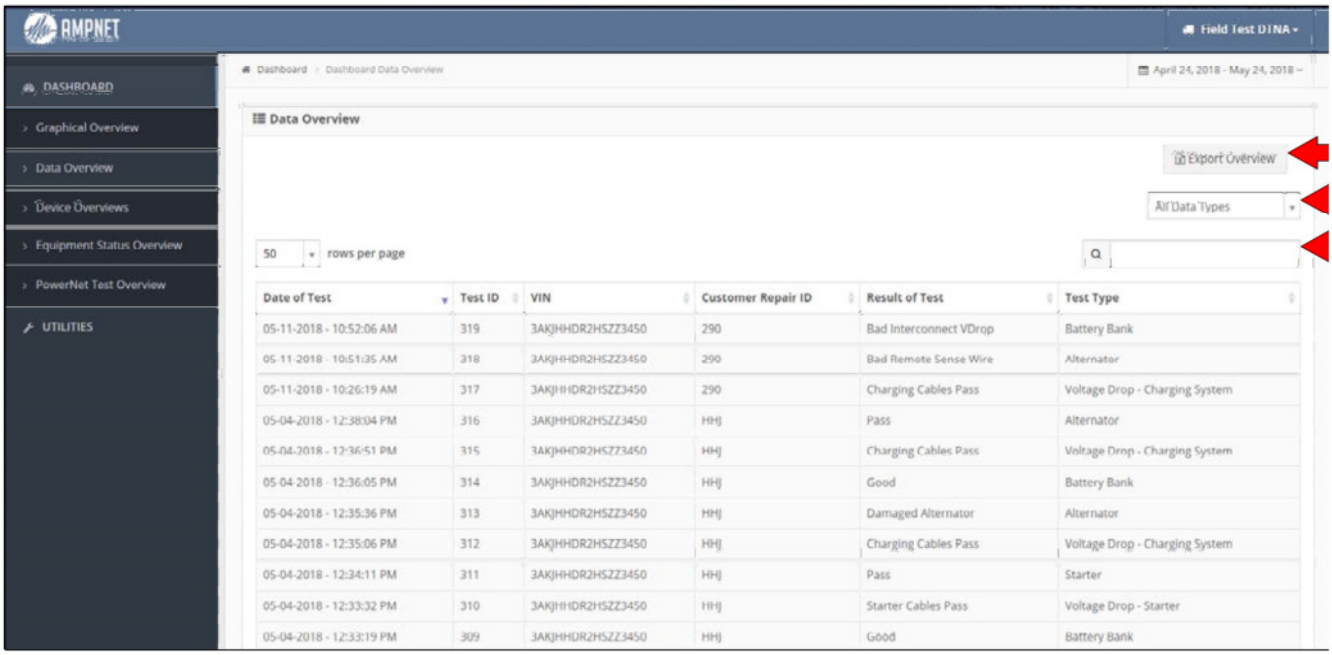


Data Overview



To filter dates, select the date range in the upper right corner. Select what date range you want to filter on.

AmpNet Data Overview

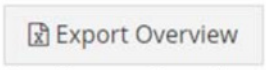


Data Overview

Note:

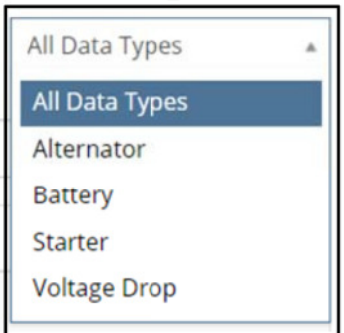
The same menus can be used on each section of AmpNet

1



Select Export Overview to download data to an Excel Form. This form can edited for customers copy of tests performed.

2



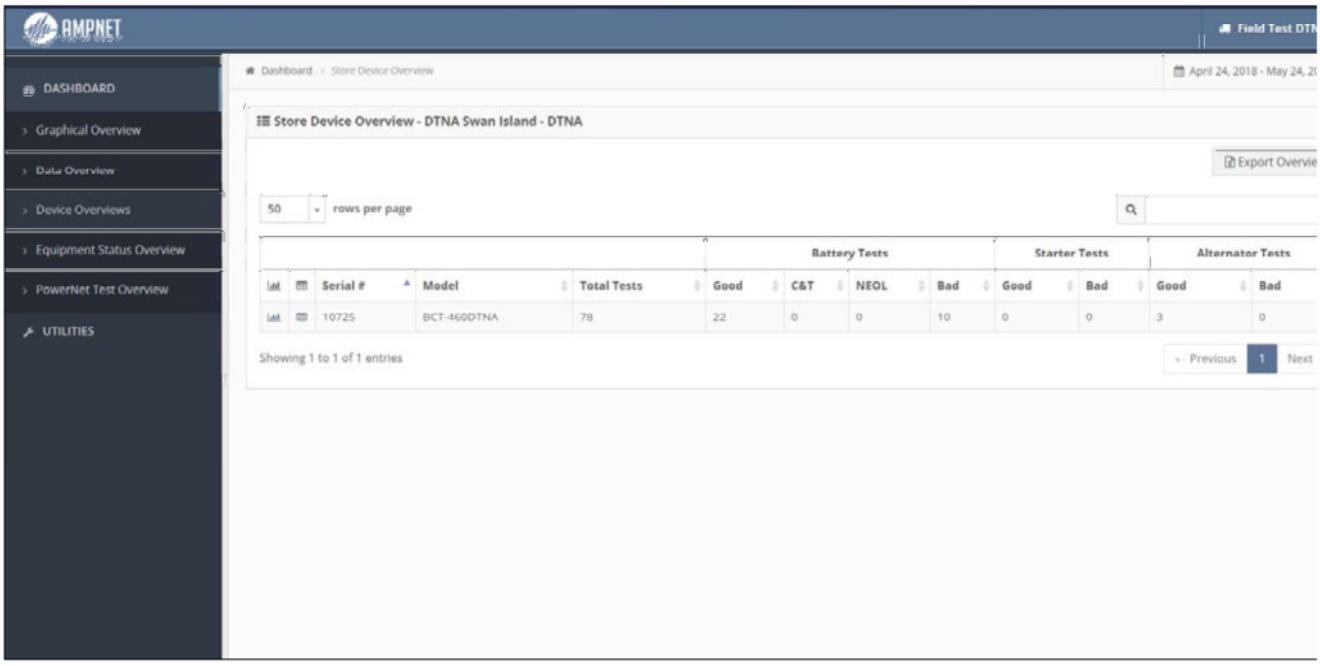
To filter data, select the drop down and select the type of data that is wanted for download.

3



To search for a particular serial numbe of data point. Use the search bar.

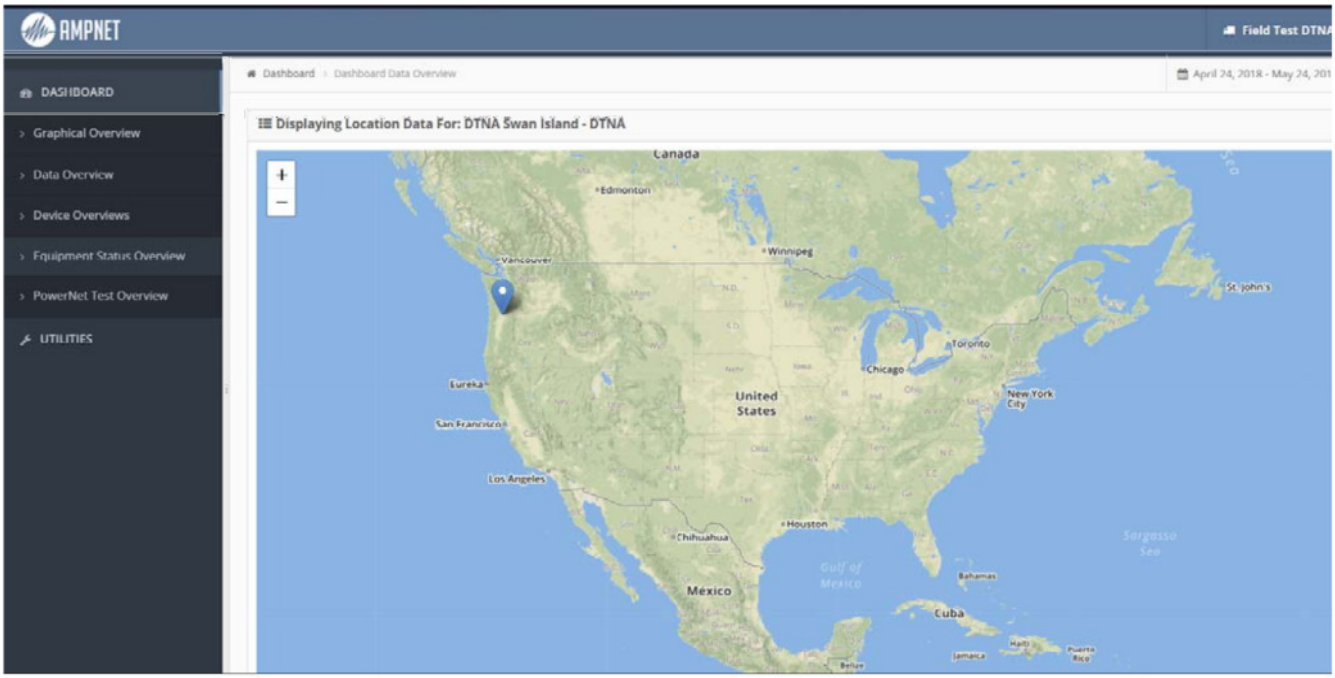
AmpNet Device Overview



Device Overview

Note:
In this section, all the testers that are registered at the location will show up. Device overview gives the number of individual tests performed by tool serial number

AmpNet Equipment Status Overview

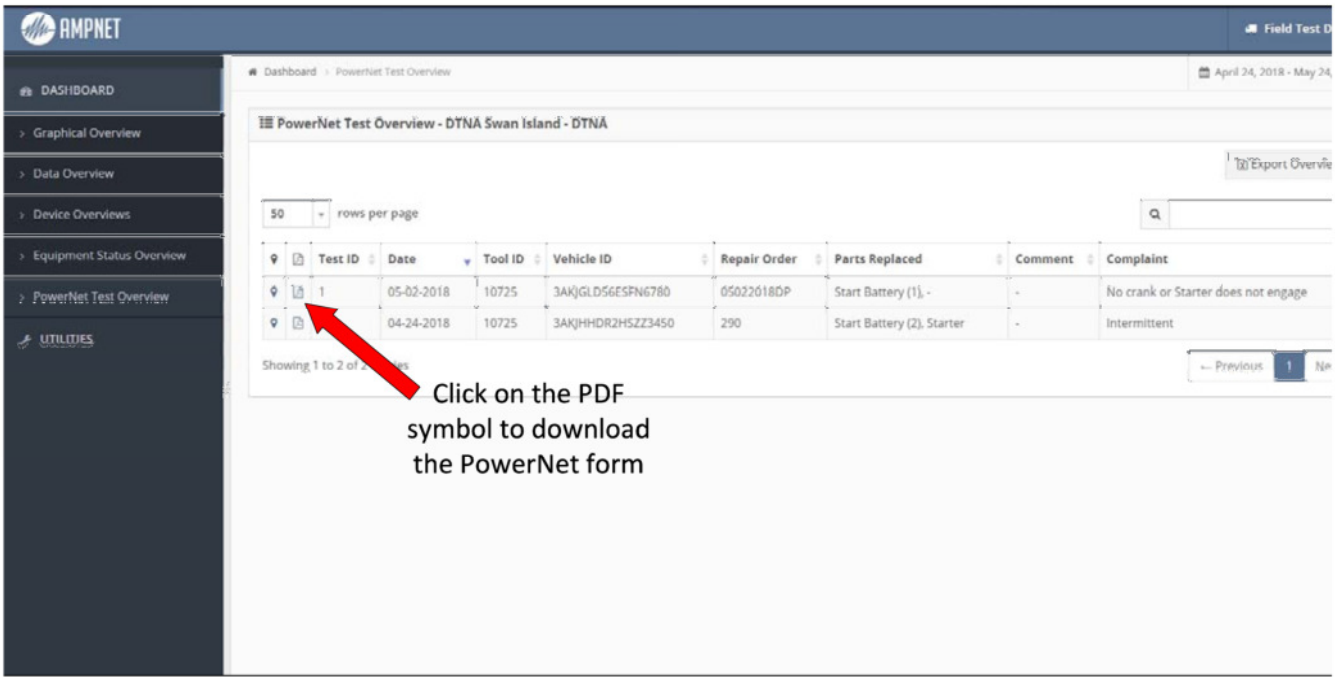


Equipment Status Overview

Equipment Status overview gives the location of where the tool is. When the tool is connected to Wi-Fi is will give the location of the tool.

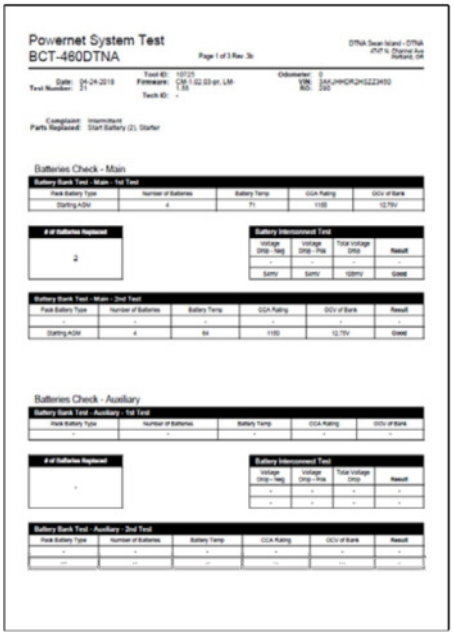
Note:
Equipment overview also gives the current firmware level the tool is at.

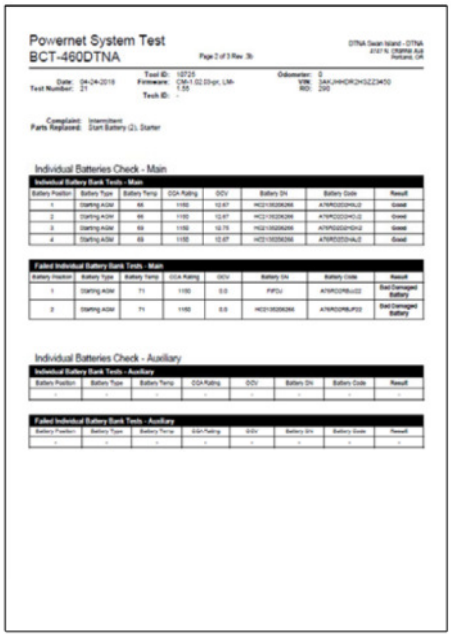
AmpNet PowerNet Test Overview

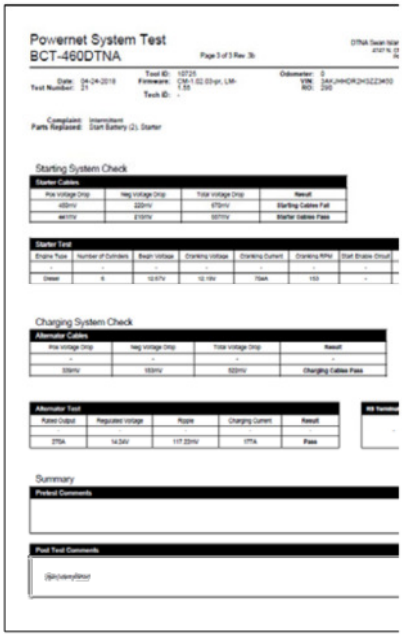


PowerNet Test Overview

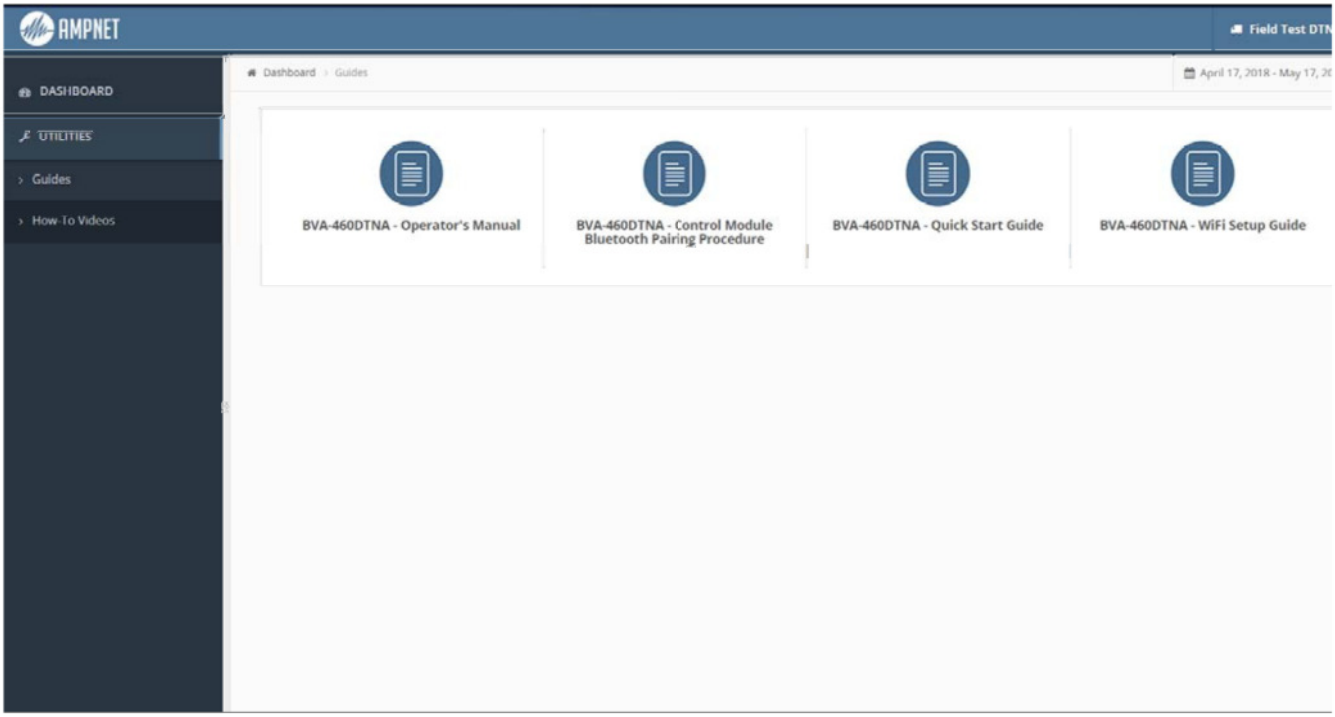
PowerNet Test Overview is where to download the PowerNet test form.







AmpNet Utilities



Utilities

Utilities section is where to find guides and how-to videos

Signing into AmpNet



- Step 1: Set up an AmpNet account
- Step 2: Sign into the AmpNet account



AmpNet Account Set up
Click on the link to sign up for a AmpNet account.
https://dtna.autometer.com/signup

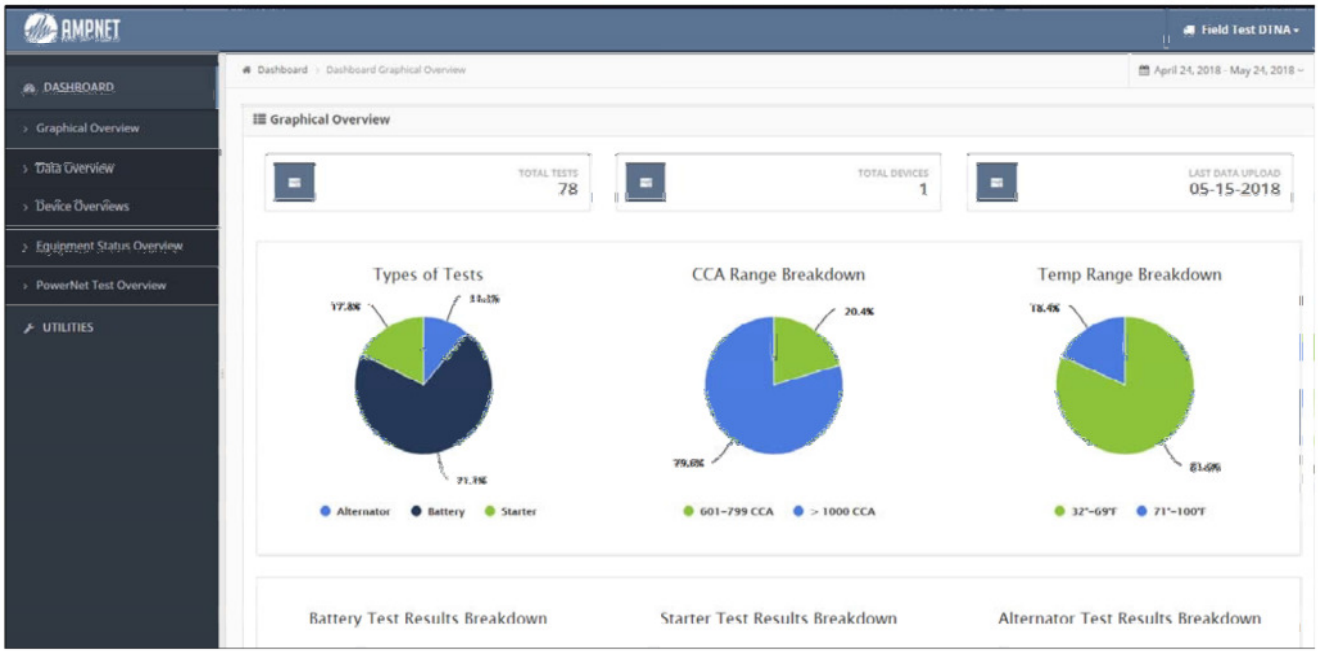
Note:
Refer to BCT-460DTNA PowerNet Assessment Tool letter for links and instructions.

AmpNet Account Link
Click on the link to go to AmpNet login page.
dtna.autometer.com

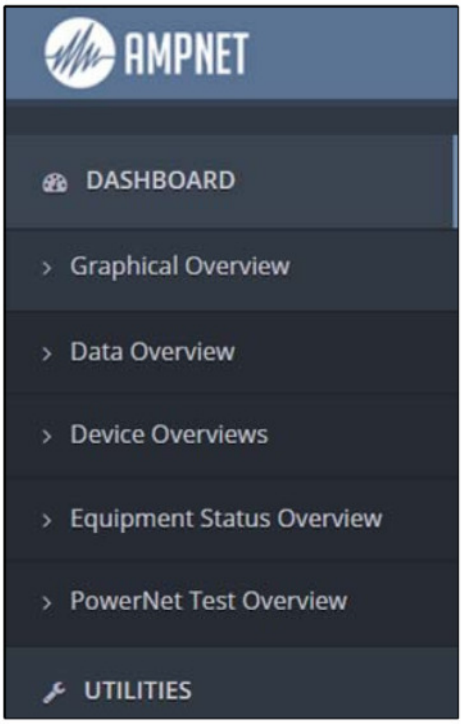
Once logged in go to page 2

Where to Find PowerNet Tests

Login to AmpNet to gain access
to the BCT-460DTNA tester data



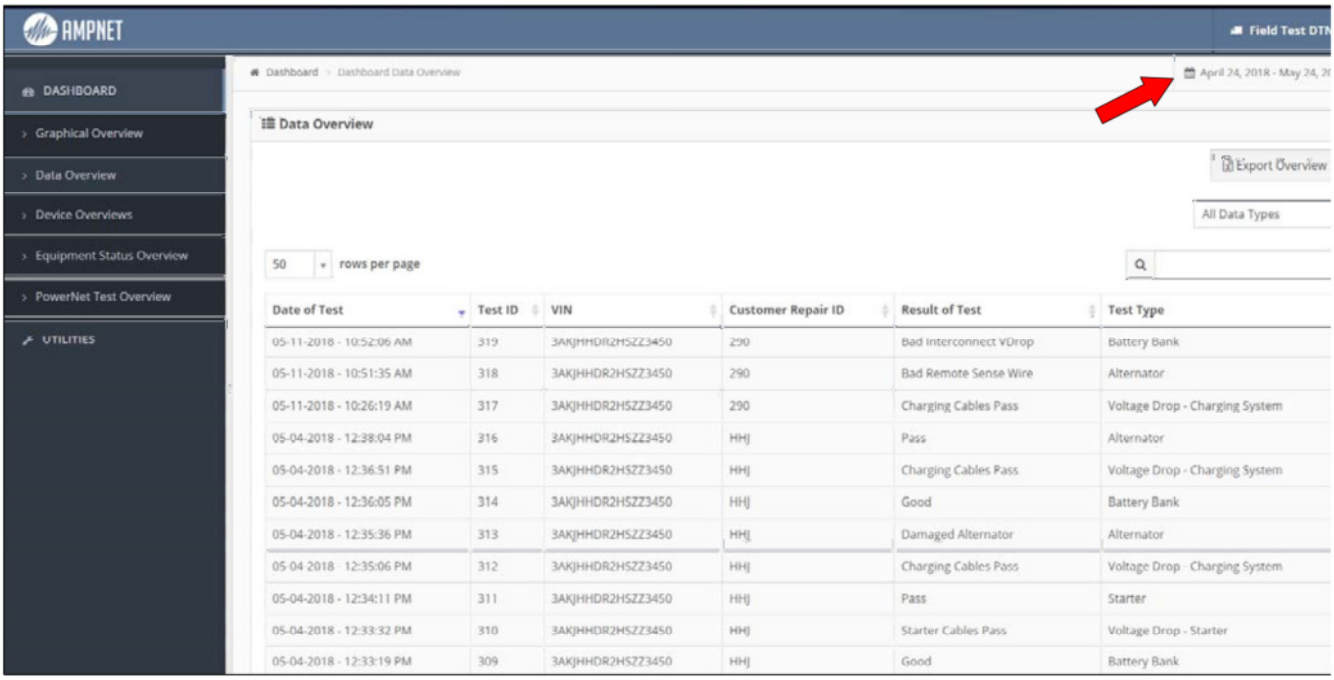
Graphical Overview



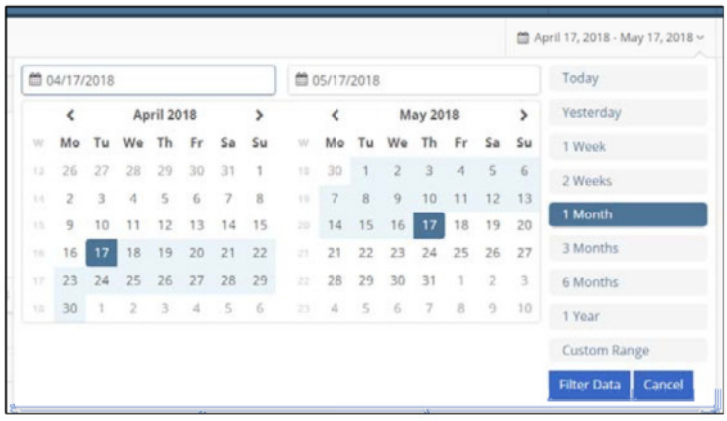
Note:
On the left side of AmpNet start page, click on the PowerNet Test Overview.

PowerNet Test Overview – This section is where the PowerNet forms are located, and downloaded from.

AmpNet Date Filtering

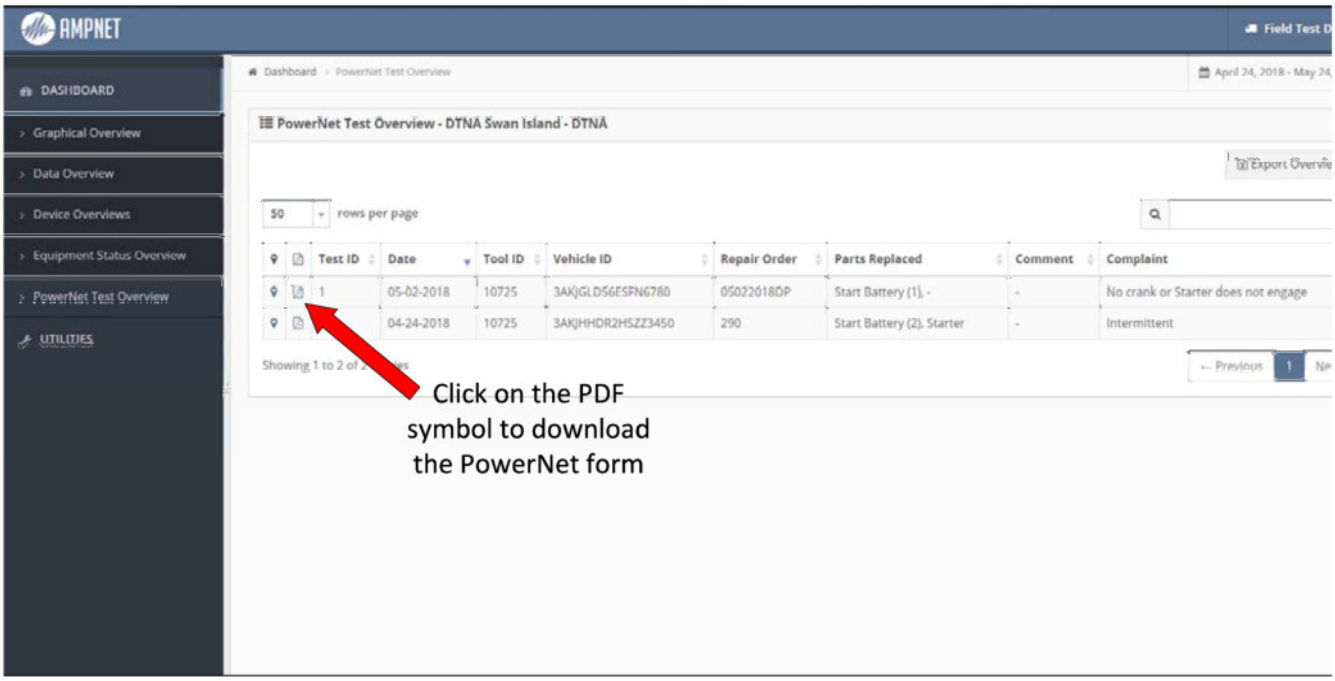


Data Overview



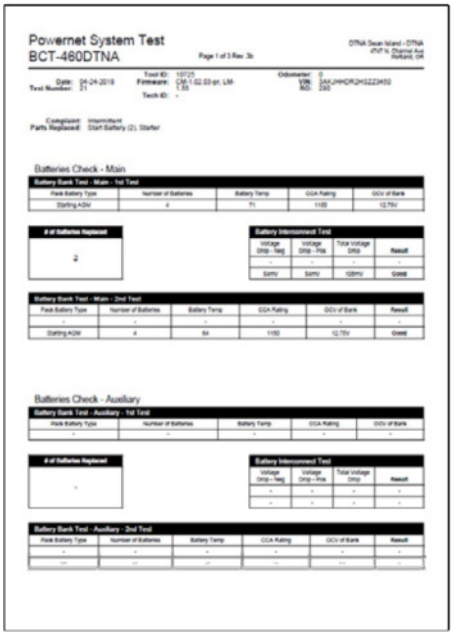
To filter dates, select the date range in the upper right corner. Select what date range you want to filter on.

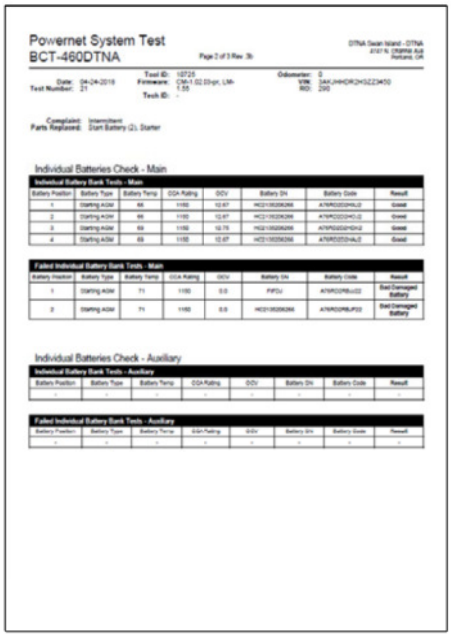
AmpNet PowerNet Test Overview

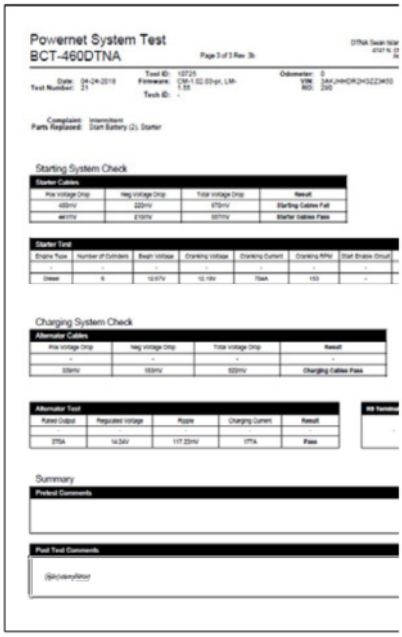


PowerNet Test Overview

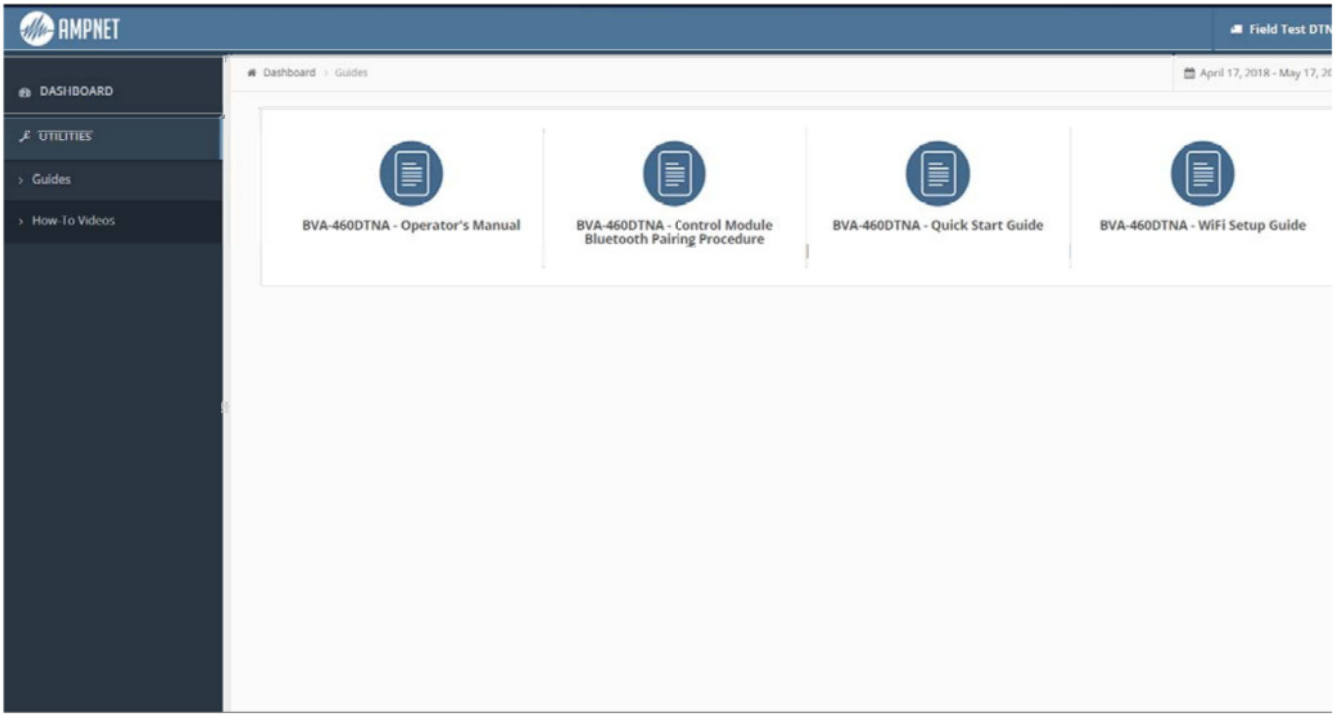
PowerNet Test Overview is where to download the PowerNet test form.







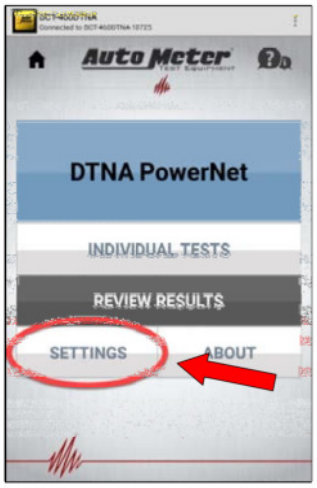
AmpNet Utilities



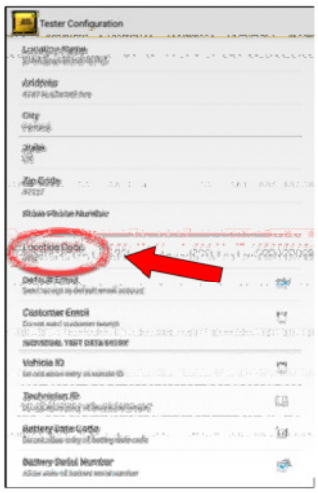
Utilities

Utilities section is where to find guides and how-to videos

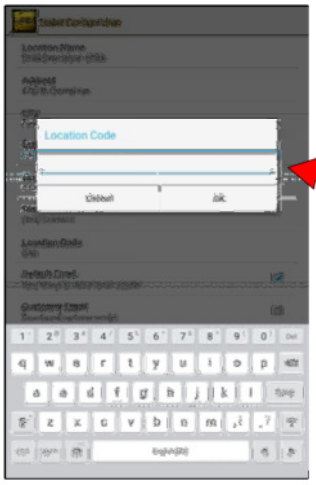
Changing Location Code in the BCT-460DTNA



Select “Settings” from the main screen



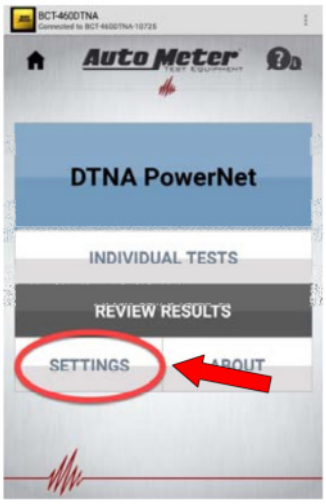
Select “Location Code” from the settings screen.



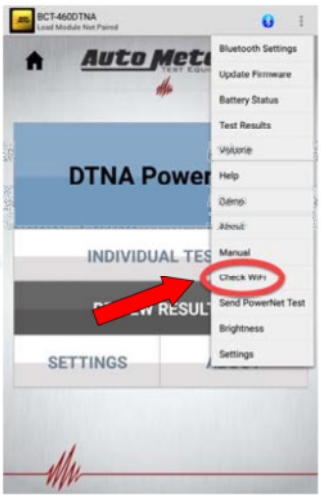
Delete the location code.
Enter new location code.

Note:
Non dealer must enter the location code received form the AmpNet setup email, for non dealers.

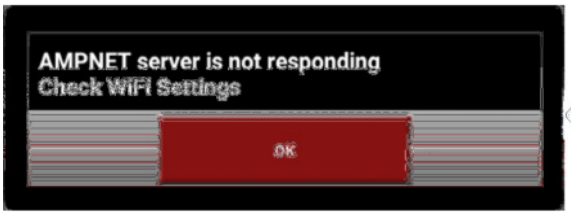
Wi-Fi Set Up



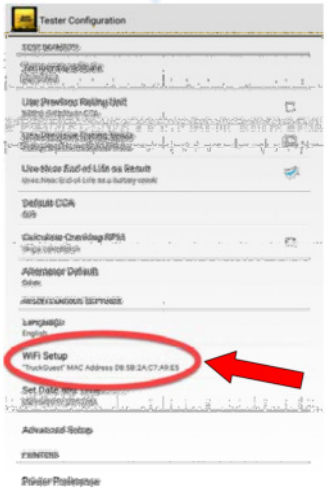
Select “Settings” from the main screen



To verify that BCT-460DTN/ connected to selected Wi- network. Selec Options menu select “Check \



If Wi-Fi is **not** connect this message will show up.



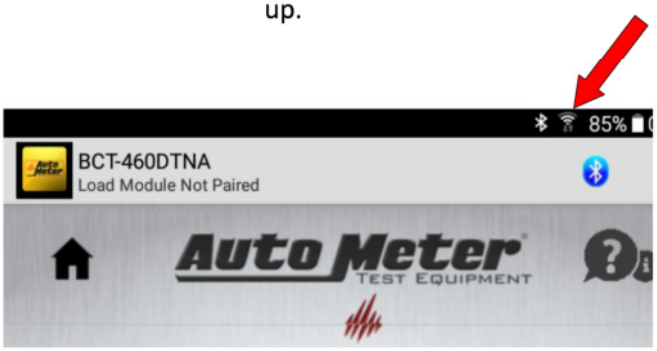
Select “WiFi Setup” from the settings screen



If Wi-Fi is connected, this message will show up.



Make sure the Wi-Fi is turned on. Select the correct Wi-Fi network to connect to.



If there is a Wi-Fi symbol in the upper task bar, the u is connected to Wi-Fi