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Calculating Parasitic Load

WATT Keeps You Trucking

House Cleaning

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This Webinar is being Recorded

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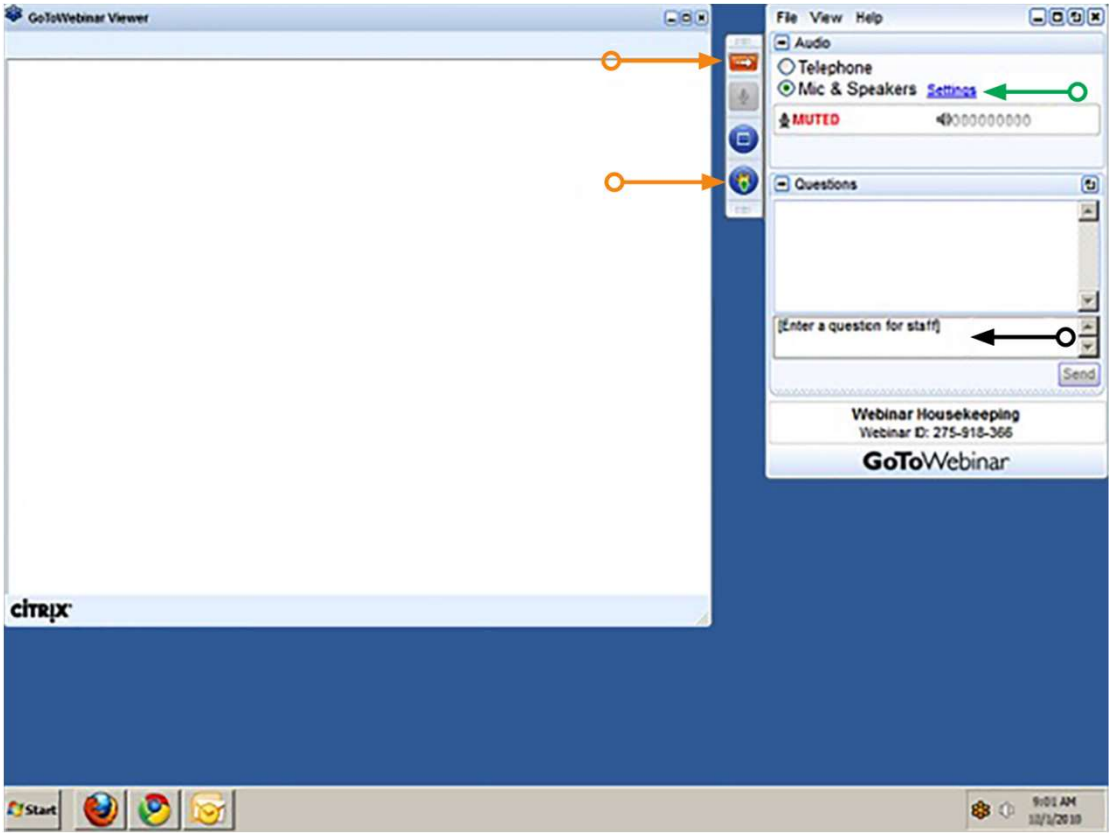

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About the Presenter

Larry Rambeaux | National Truck & Fleet Sales Representative

Larry has over 20 years' experience working with heavy duty fleets. He is an outstanding trainer and uses his extensive experience to help his customers make the best choices for their electrical needs.

He has been awarded the prestigious Recognized Associate Award from the Technology & Maintenance Council. Larry's knowledge of electrical systems enables him to help his customers identify and remedy a fleets' electrical issues.

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What is Parasitic Load

A key-off parasitic electrical load is defined as:

Any current which is drawn from the vehicle battery/pack by an electrical or electronic device, while the engine or ignition switch is off. The electrical or electronic device may be actively on or may even draw power when not active or switched off.

- TMC RP140A

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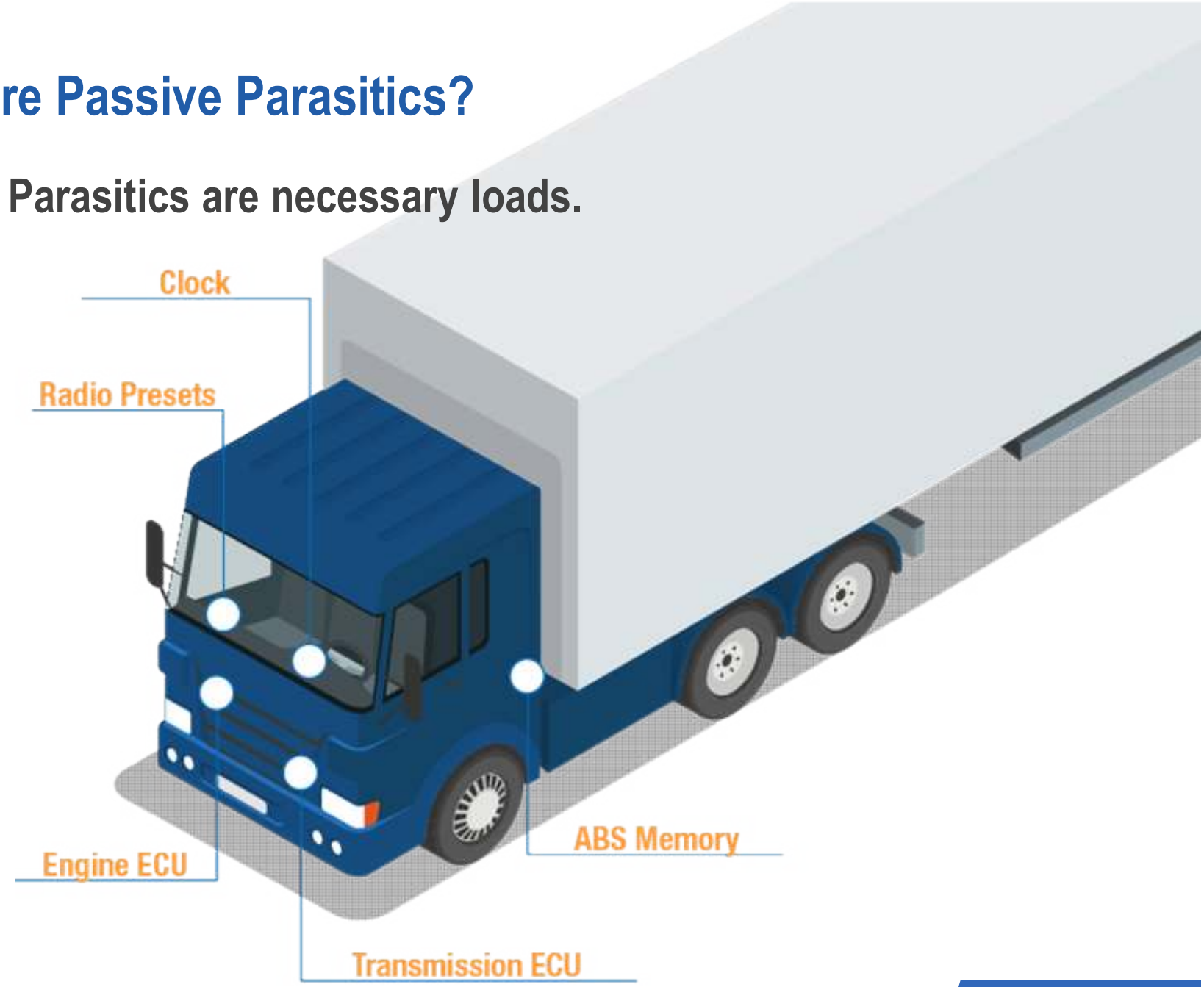
What are Passive Parasitics?

Passive Parasitics are necessary loads.



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What are Active Parasitics

Active Parasitics are nonessential loads that are staying on.

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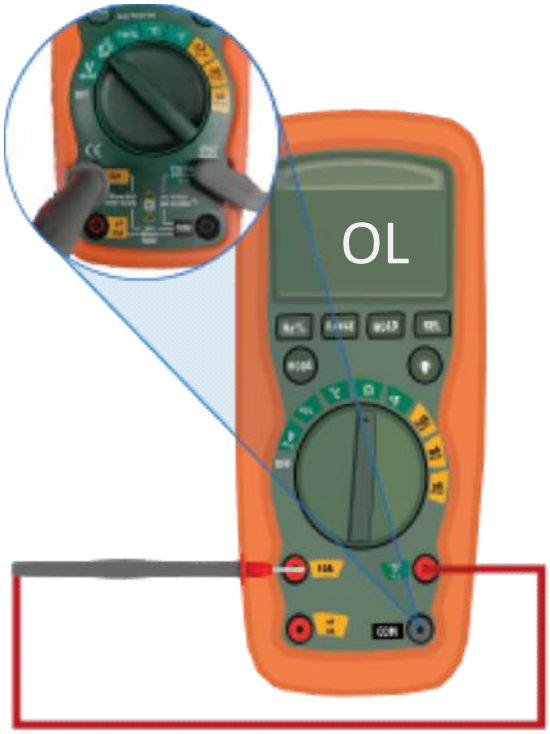
How to Measure Parasitic Loads

Pre-Check Multimeters

Test Fuses (10 amp)



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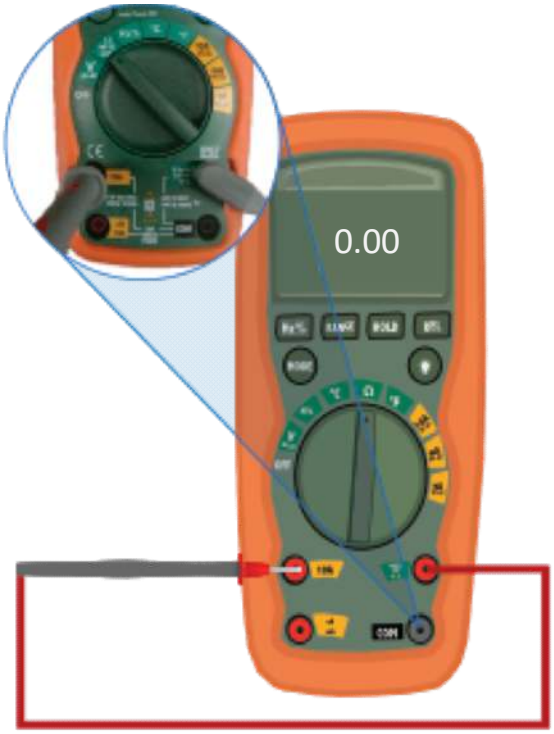

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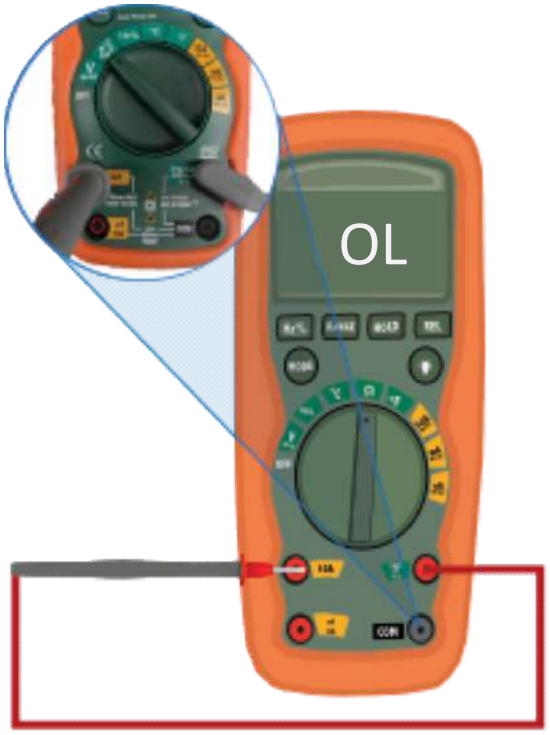
How to Measure Parasitic Loads

Pre-Check Multimeters

Test Fuses (400 milliamp)



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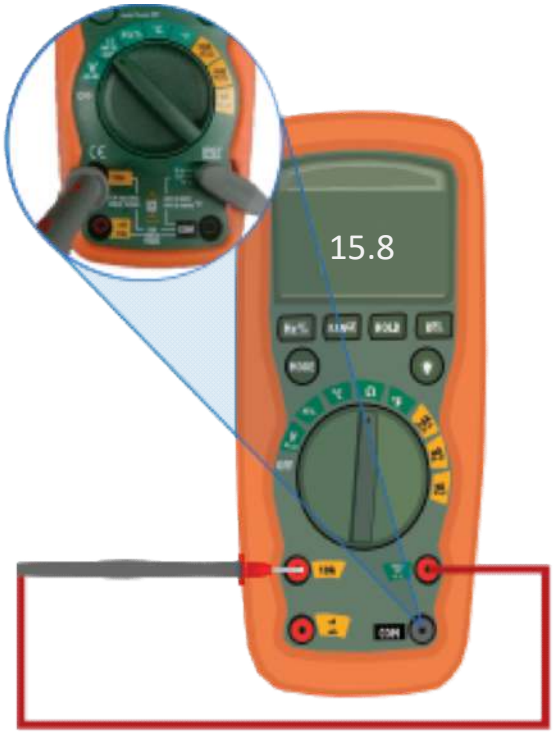

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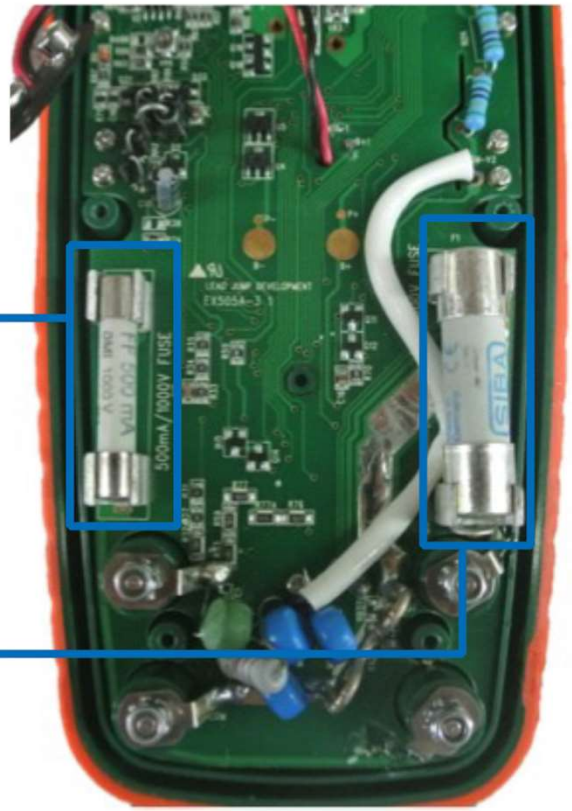
How to Measure a Parasitic Load

Pre-Check Multimeters

Replacing Fuses

.400 mA Fuse

10A Fuse

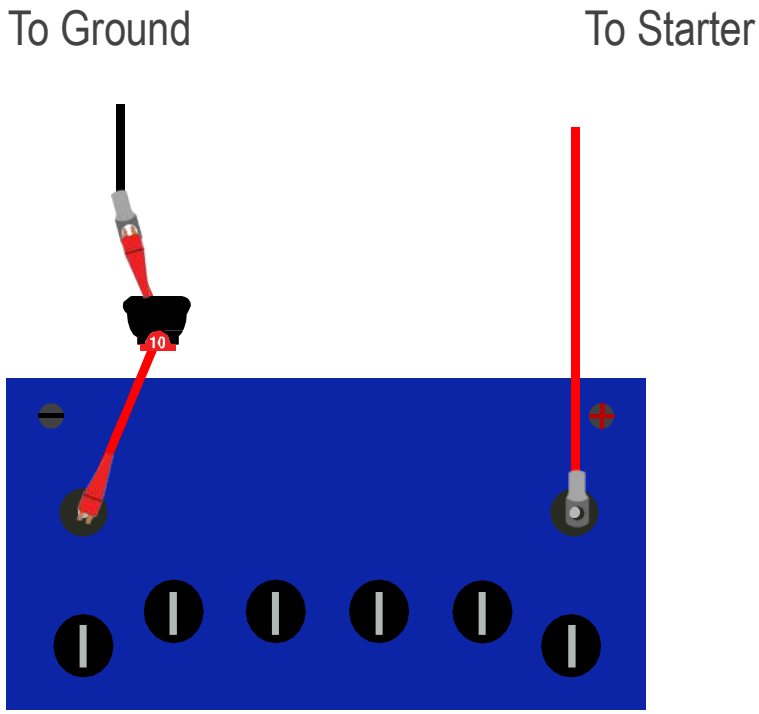


How to Measure a Parasitic Load

Using In-Line Ammeter

Pretesting with a 10 amp fuse

Remove the ground at the battery and place a 10 amp fuse assembly in series. If the fuse blows the current level is over 10 amps. DO NOT place your meter in this circuit, it will blow the internal meter fuse.



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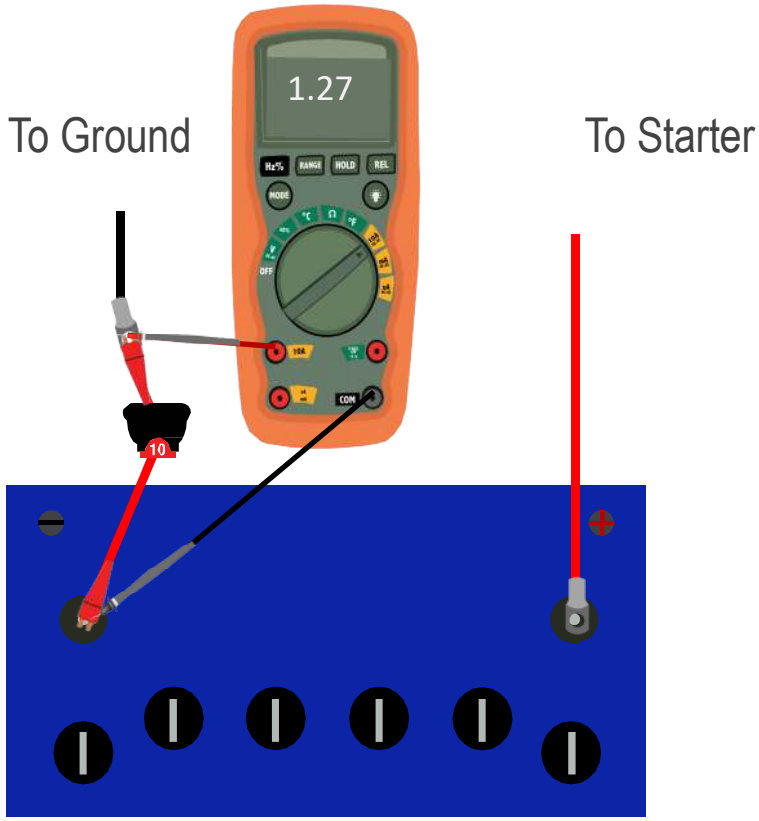
How to Measure a Parasitic Load

Using In-Line Ammeter

Pretesting with a 10 amp fuse

Move the red lead to the 10 amp connector hole and turn the rotary switch to amp “DC”. Place the red lead on the terminal of the cable and place the black lead on the battery post.



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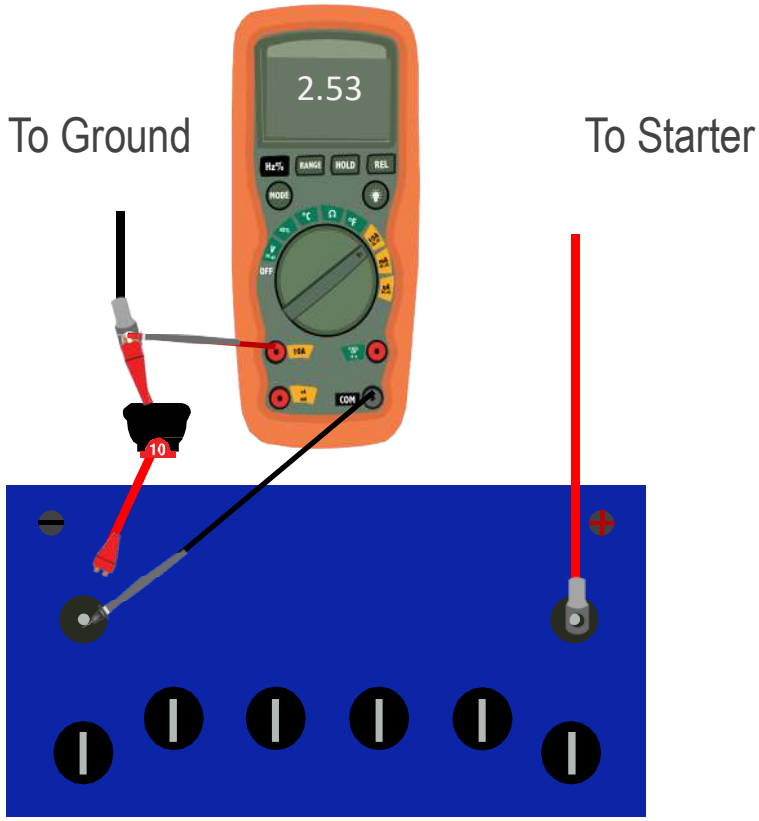
How to Measure a Parasitic Load

Using In-Line Ammeter

In this example, 2.53 amps flow from the battery to the light, then through the light to the read lead. The current then flows through the meter, then back to the battery through the black lead.



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How to Measure a Parasitic Load

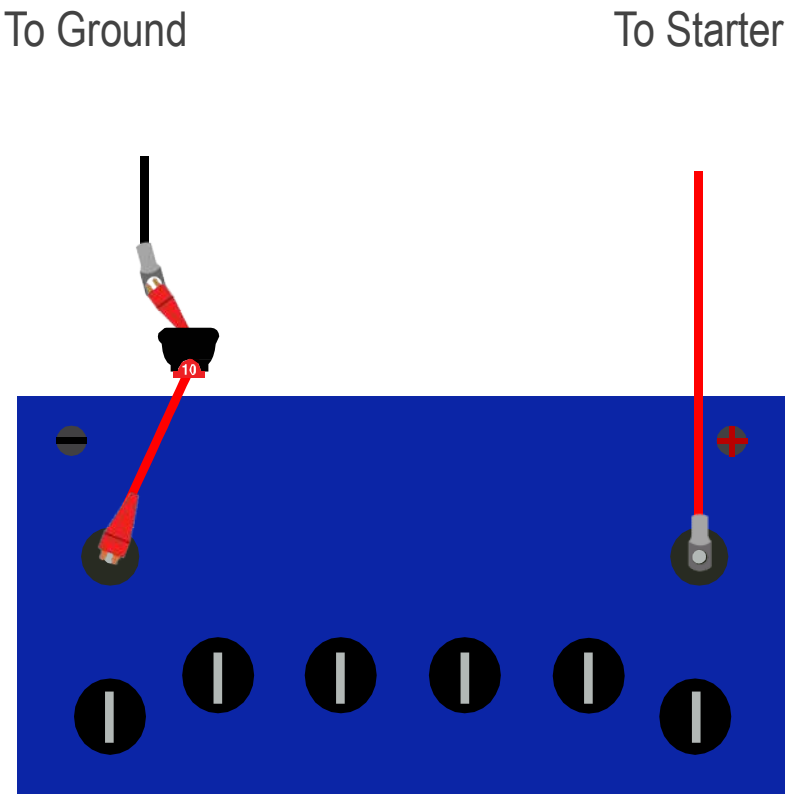
Using In-Line Ammeter

Pretesting with a .400 amp fuse

If the ammeter reads 0 to .40, you may have the range set too high. To protect the meter from surges insert the fuse assembly between the cable connection and the batter ground.

Move the red lead to the 400 mA connector hole and turn the rotary dial to “mA”. Remove the test fuse and read the display.

Remember the meter is reading milliamps. A 25 on this scale means 25mA, which equals .025 amps.



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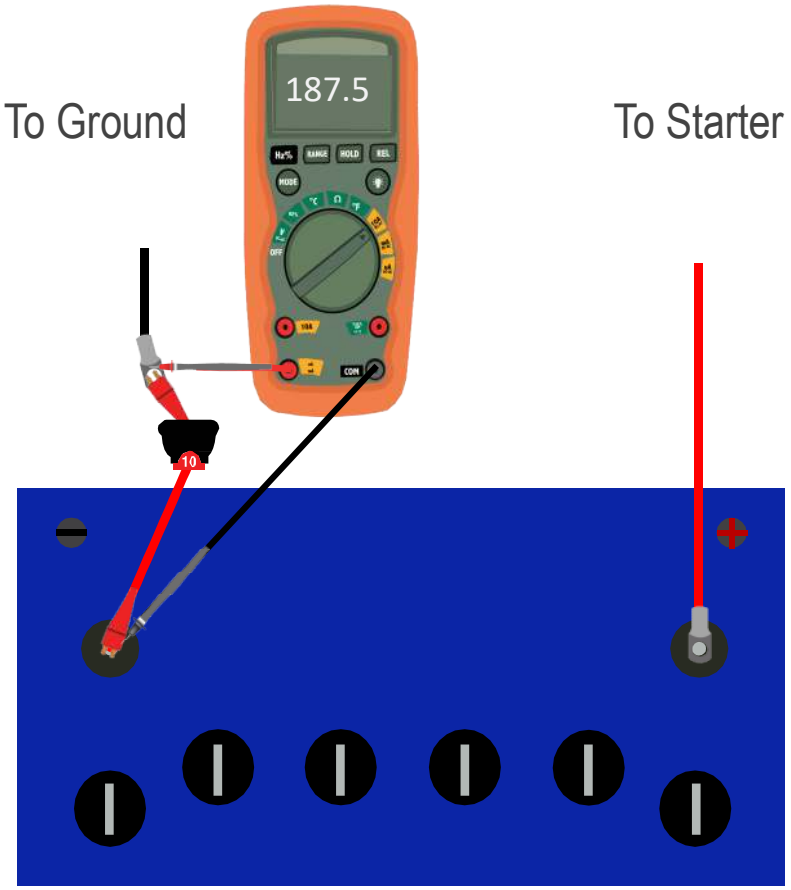
How to Measure a Parasitic Load

Using In-Line Ammeter

- 1 mA= .001 Amps
- 400 mA= .4 Amps



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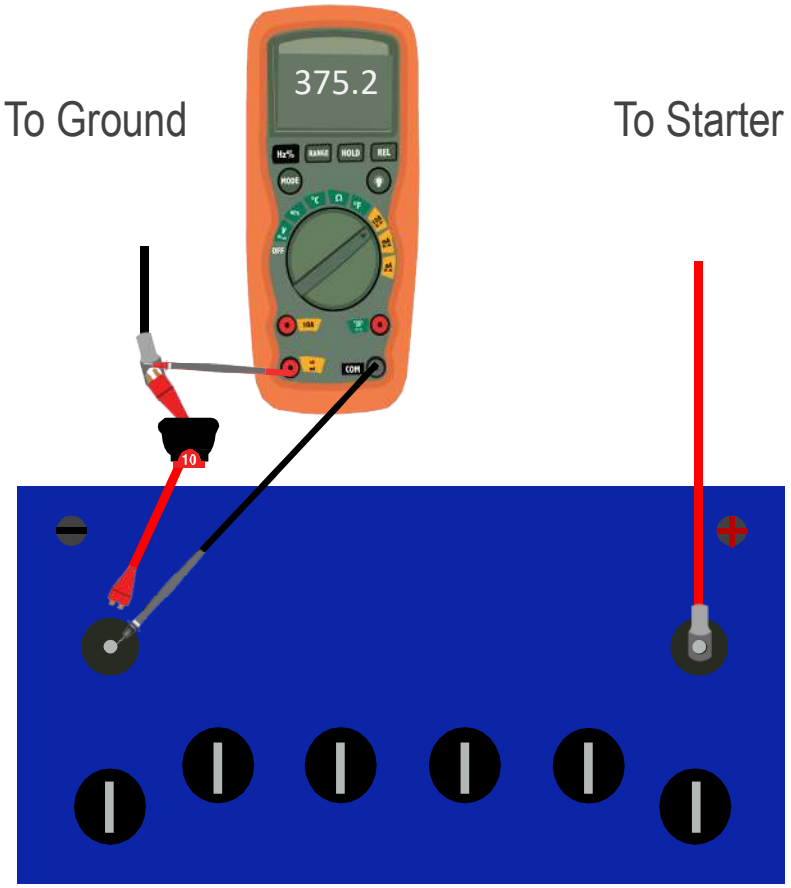
How to Measure a Parasitic Load

Using In-Line Ammeter

This is a very small amount of current. Be sure to use care when the meter is in this range. DO NOT open the tractor's door or turn on any loads that exceeds .4 amps because is will blow the 400mA fuse.



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Clip-On Ammeter

Clip Around Wire/Cable Being Measured

- Jaws Must Close Completely
- Must Zero Out Each Time
- Observe Arrow to Direction of Current Flow

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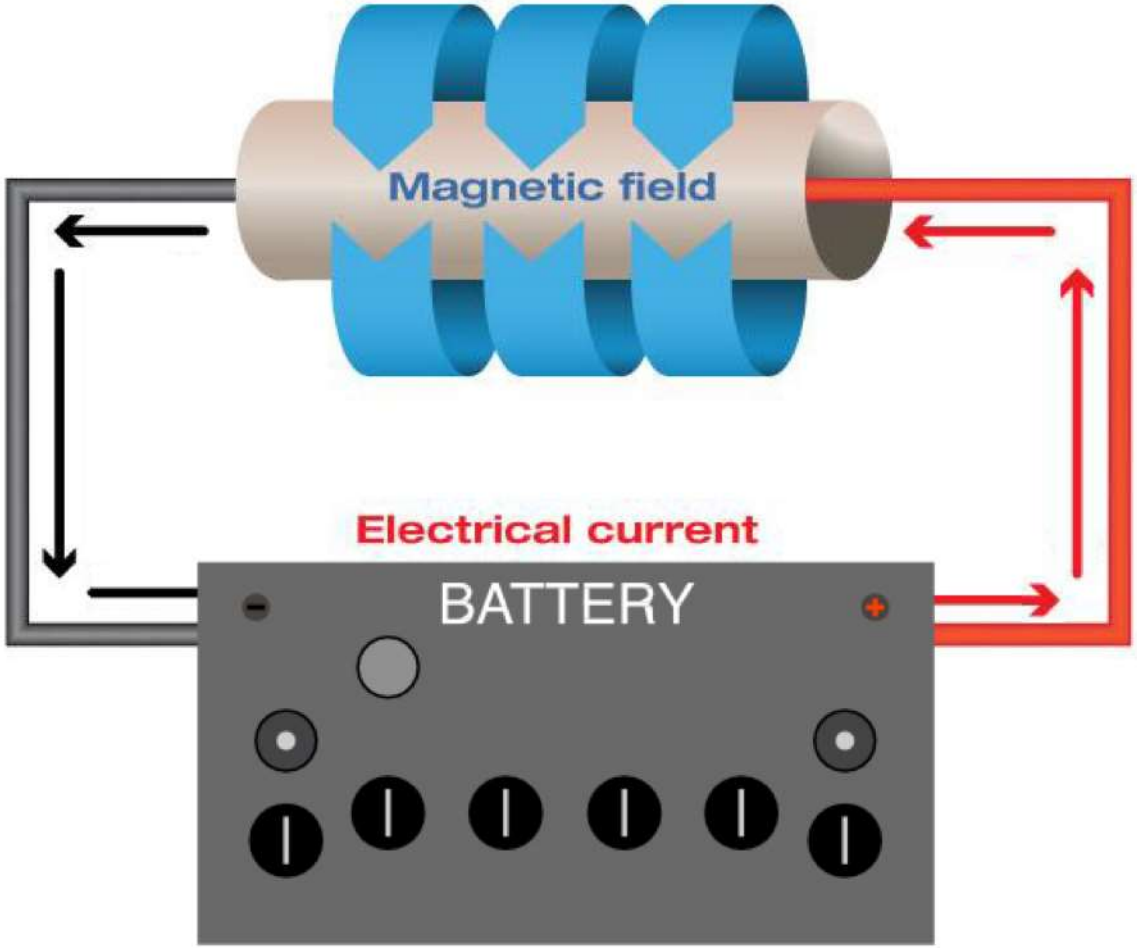
Magnetic Flux



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How to Calculate Loads

Amp Hours

- 1 amp X 1 hour = 1 amp hour
- 10 amps X 5 hours = 50 amp hours
- Easy to diagnose

A typical group 31 battery is approximately 100 amp hours.
Multiply this by the number of batteries.

Most trucks have 4 batteries so 400 amp hours total.

How to Calculate a Parasitic Load

Amp Hours

- 1 amp X 1 hour = 1 amp hour
- 2 amps X 8 hours =16 amp hours
- Not as easy to see

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How to Calculate a Parasitic Load

Amp Hours

- .122 amp X 1 hour = .122 amp hour
- .122 amps X 24 hours = 2.928 amp hours
- 2.928 amps X 7 days = 20.496 amp hours weekly
- 2.928 X 31 = 90.768 amp hours monthly
- Over time the batteries drain

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Questions & Answers

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Thank you!

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