

**DINOSAUR ELECTRONICS**

# Norcold/Servel Exerciser Instruction Book

First Edition



# Introduction

The Norcold / Servel Exerciser is a hand held unit designed to help the RV Technician diagnose problems with Norcold and servel refrigerators. It allows the technician to operate the refrigerator from the outside panel without having to go back and forth inside the RV or the need to have another person to help operate the refrigerator while diagnosing it.

The Norcold / Servel Exerciser is compatible with both power supply and interface boards. Just leave the board hooked up in the refrigerator, plug in the exerciser into the appropriate place on the board and you have full control over the refrigerator from the outside making it easier to diagnose a problem.

This exerciser has a 1 year warranty.

For further information on Dinosaur Products, visit our website at [www.dinsaurelectronics.com](http://www.dinsaurelectronics.com)

## **Dinosaur Electronics**

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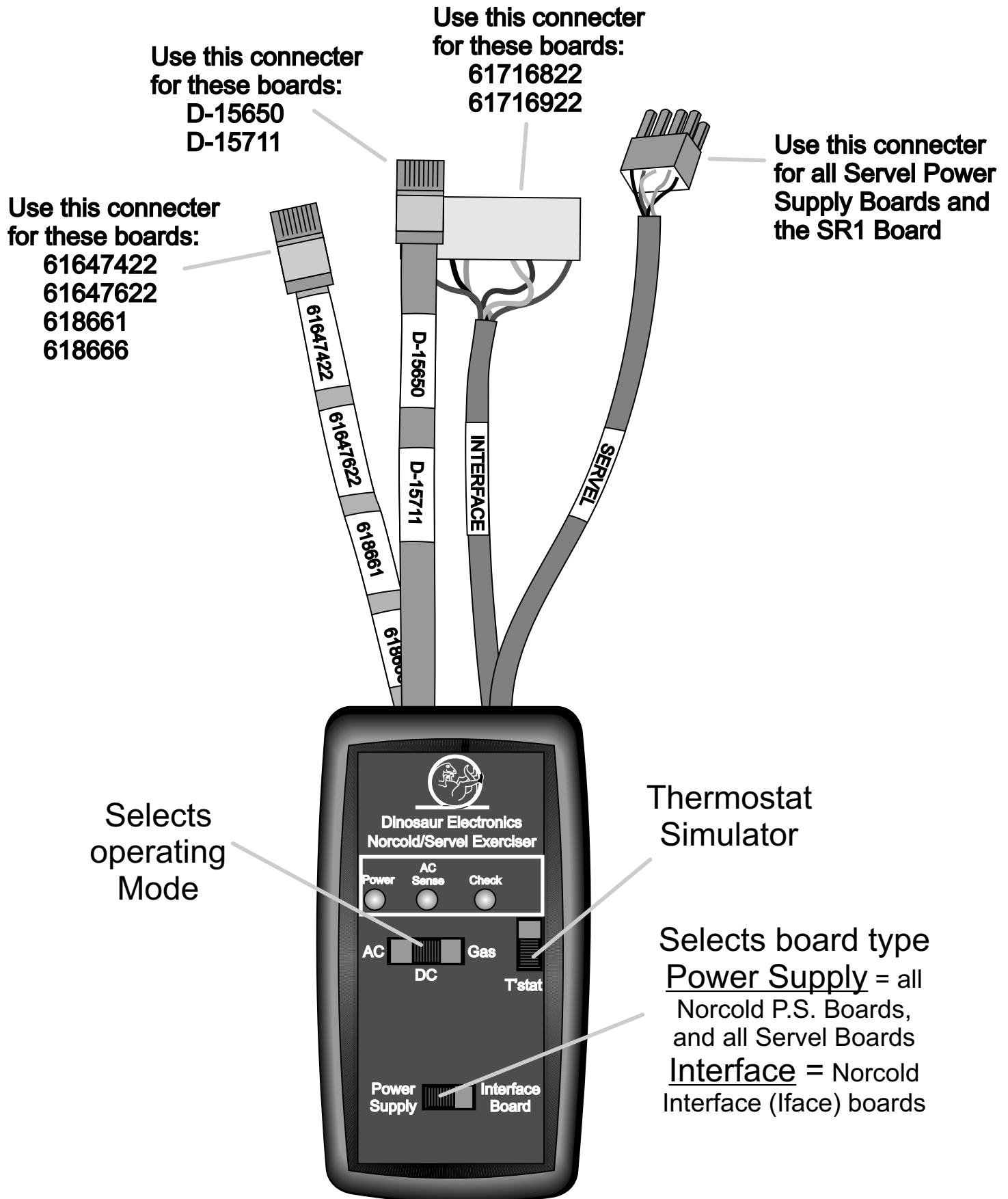
Fax (541) 994-2796

Mon.- Fri.

8:00 am - 5:00 pm PST

# Norcold/Serrel Exerciser

Functions like an eyebrow and thermostat to allow testing of the refrigerator from the outside access panel.



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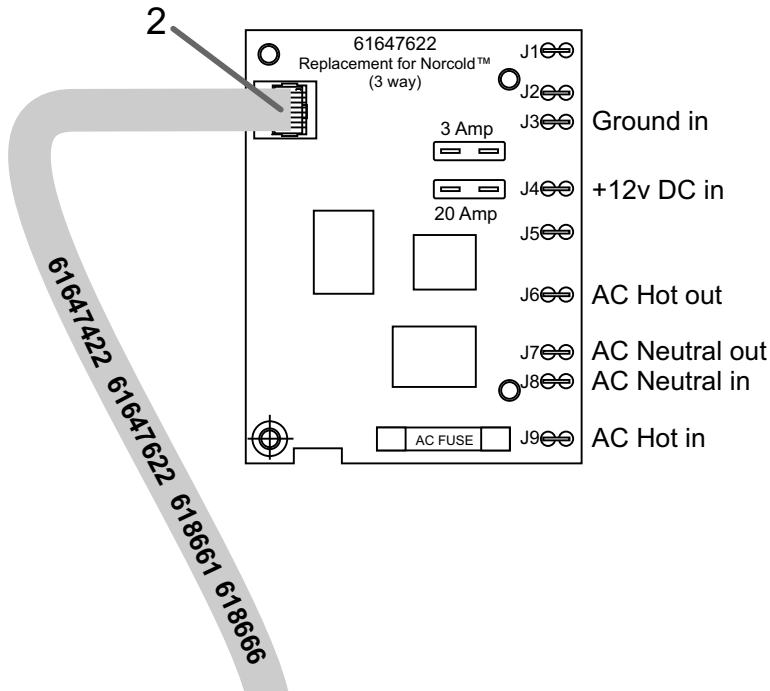
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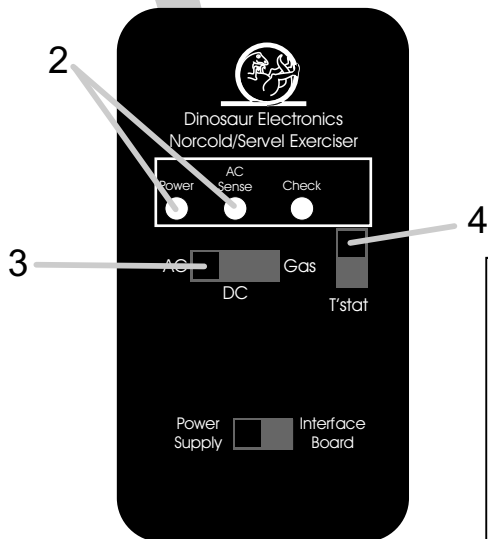
# Norcold Power Supply Boards

## 61647422, 61647622, 618661, 618666

### AC test



1. Make sure AC is available to the refrigerator.
2. Plug correct Exerciser cable into the board.  
(Power and AC Sense lights should come on)
3. Select AC mode.
4. Turn on Thermostat switch.  
(AC relay should actuate and element should get hot)



### **Troubleshooting:**

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J3 & J4
2. Check 3 Amp 12v fuse.

If Check light comes on instead of AC Sense light,

1. Verify that AC is available between J8 & J9
2. Replace AC fuse (they can be bad but still look good)
3. Replace board if 1 and 2 don't solve the problem.

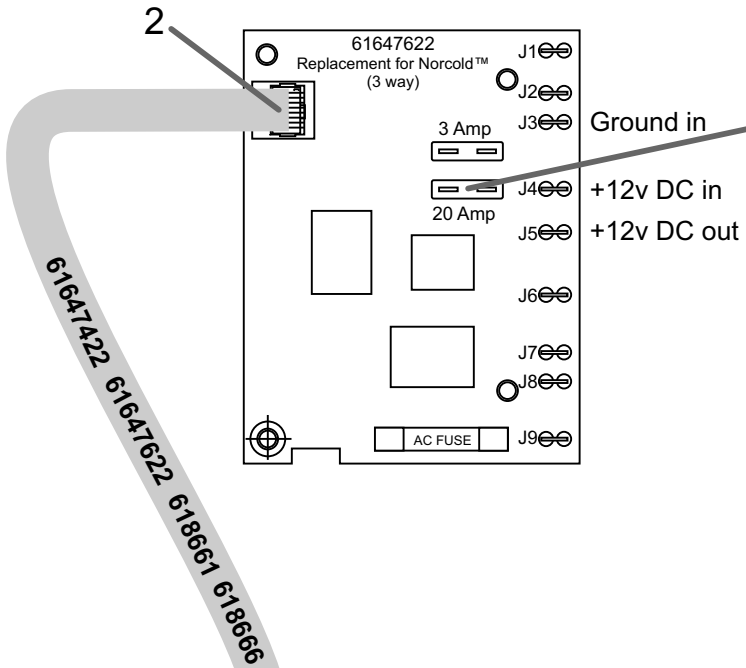
If AC light comes on, but element doesn't get hot,

1. Turn off power, disconnect element, and measure its resistance (should be 35-60 ohms)
2. Replace board if 1 is ok.

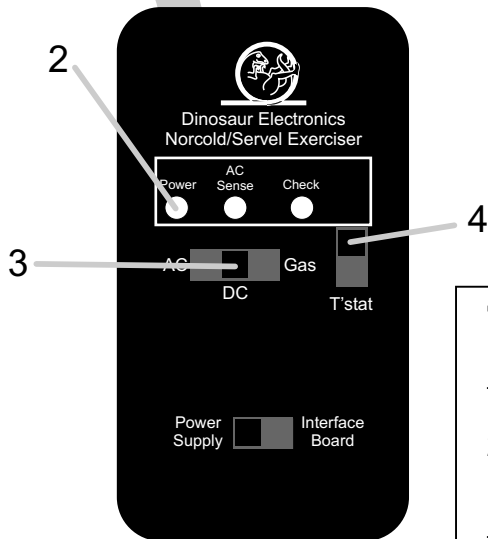
# Norcold Power Supply Boards

61647622, 618666

## DC test



1. Make sure 20 Amp DC fuse is installed.
2. Plug correct cable into the board. (Power light should come on)
3. Select DC mode.
4. Turn on Thermostat switch. (DC relay should actuate and element should get hot)



### **Troubleshooting:**

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J3 & J4
2. Check 3 Amp 12v fuse.

If DC is available on J5, but element does not get hot,

1. Check wires to DC element.
2. Replace element.

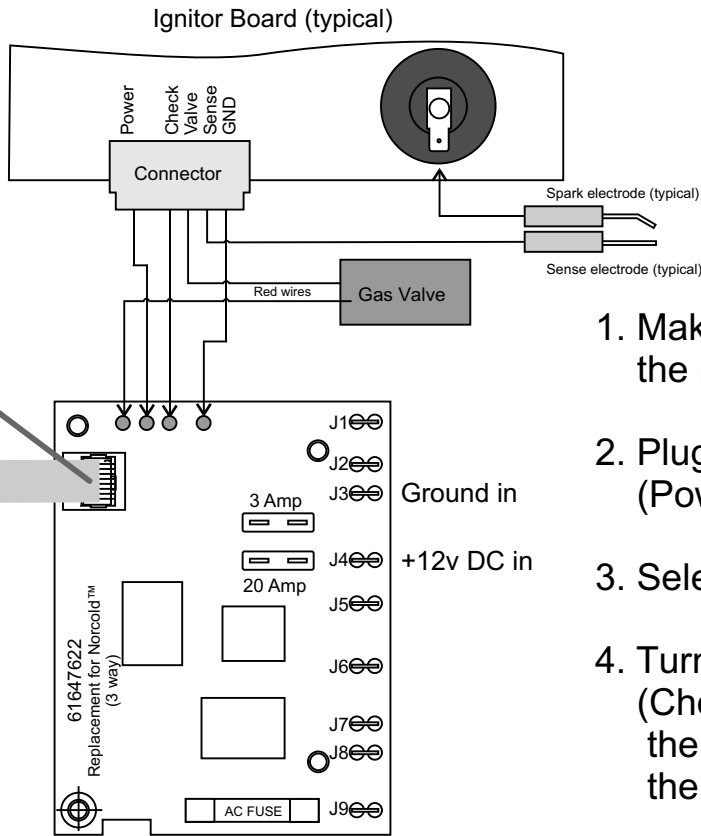
If no DC is available on J5,

2. Replace 20 Amp DC fuse (they can be bad but still look good)
3. Replace board if that doesn't solve the problem.

# Norcold Power Supply Boards

## 61647422, 61647622, 618661, 618666

### Gas test



1. Make sure propane is available to the refrigerator.
2. Plug the appropriate cable into the board. (Power light should come on)
3. Select Gas mode.
4. Turn on Thermostat switch. (Check light should come on briefly, then the ignitor module should open the gas valve and light the burner)

### **Troubleshooting:**

#### If no lights come on,

1. Make sure 12 volts DC is available between J3 & J4
2. Check 3 Amp 12v fuse.

#### If no Check light, and ignitor does not spark ,

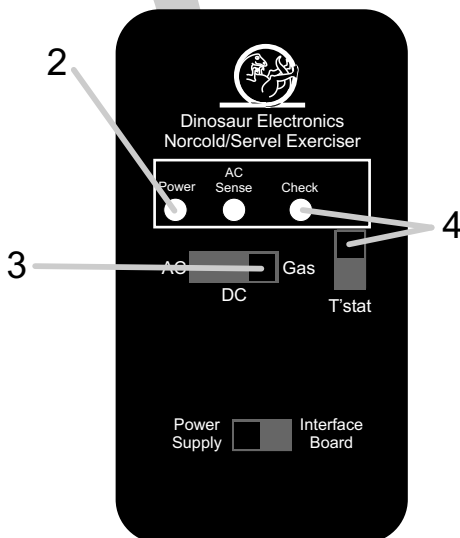
1. Check connection to ignitor module.
2. Check for power at ignitor module. (If 12v present, replace ignitor module.)
3. If no power at module, replace power supply board.

#### If Check light comes on, but no spark, no valve,

1. Replace ignitor module.

#### If ignitor module sparks, but valve does not open,

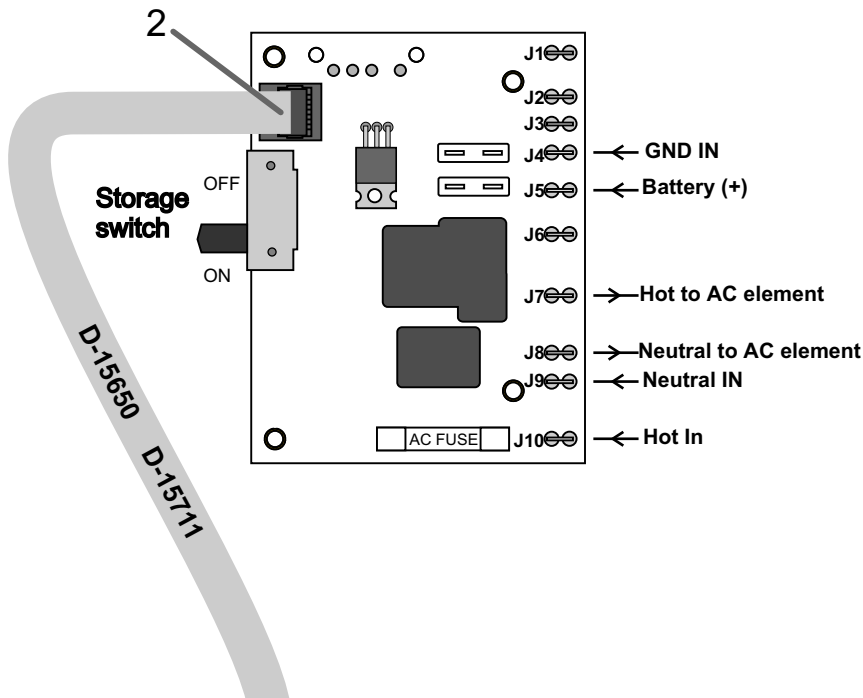
1. Check wires to gas valve.
2. Check gas valve coil. (Should be about 30-80 ohms)
3. Replace ignitor module if 1 and 2 are ok.



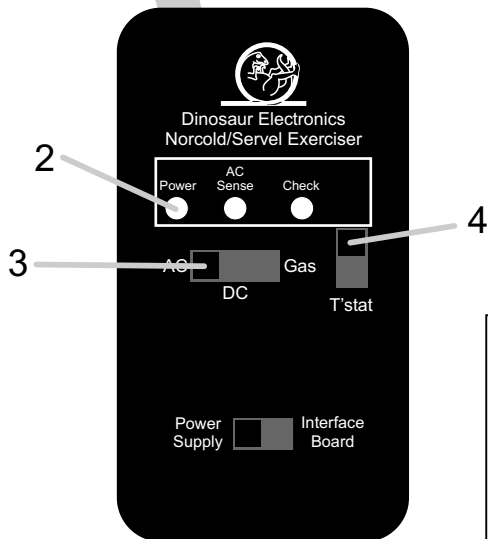
# Norcold Power Supply Boards

## D-15650, D-15711

### AC test



1. Make sure AC is available to the refrigerator.
2. Make sure the storage switch is on.
3. Plug correct Exerciser cable into the board.  
(Power light should come on)
4. Select AC mode.
5. Turn on Thermostat switch.  
(AC relay should actuate and element should get hot)



### Troubleshooting:

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J4 & J5 with J5 positive.
2. Make sure Storage switch is on.
3. Check 3 Amp 12v fuse.
4. If 1, 2 and 3 are ok, replace board.

If AC Element does not get hot,

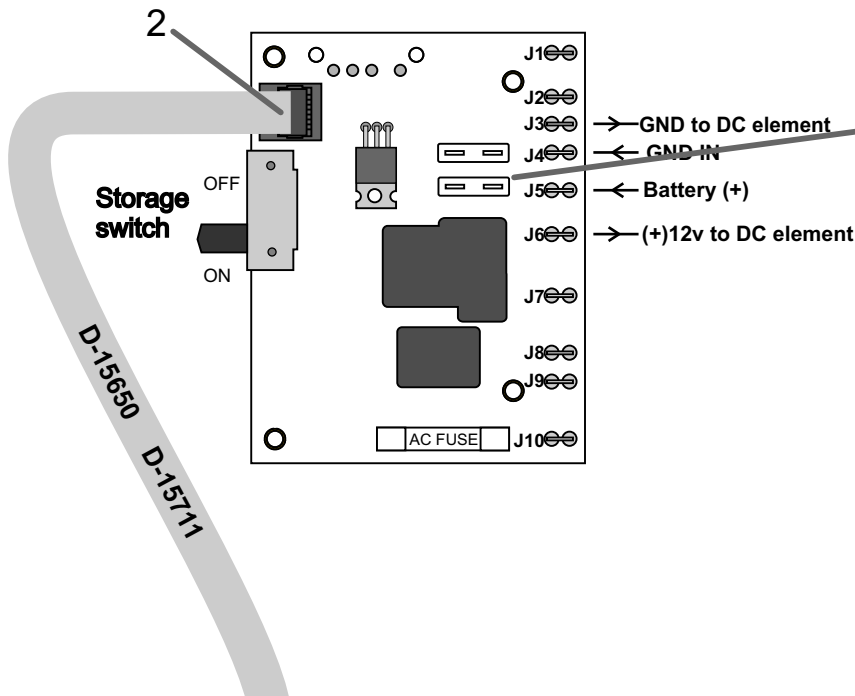
1. Verify that AC is available between J9 & J10
2. Replace AC fuse (they can be bad but still look good)
3. Turn off power, disconnect element, and measure its resistance (should be 35-60 ohms)
2. Replace board if 1, 2 and 3 are ok.



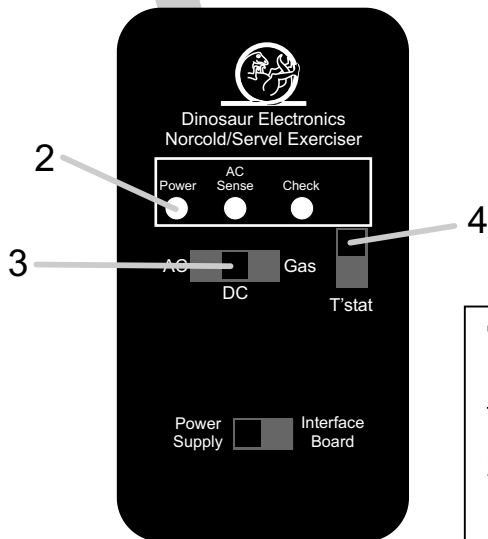
# Norcold Power Supply Boards

## D-15650

### DC test



1. Make sure 20 Amp DC fuse is installed.
2. Make sure the storage switch is on.
3. Plug correct cable into the board. (Power light should come on)
4. Select DC mode.
5. Turn on Thermostat switch. (DC relay should actuate and element should get hot)



### **Troubleshooting:**

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J4 & J5
2. Check 3 Amp 12v fuse.

If DC is available on J6, but element does not get hot,

1. Check wires to DC element.
2. Replace element.

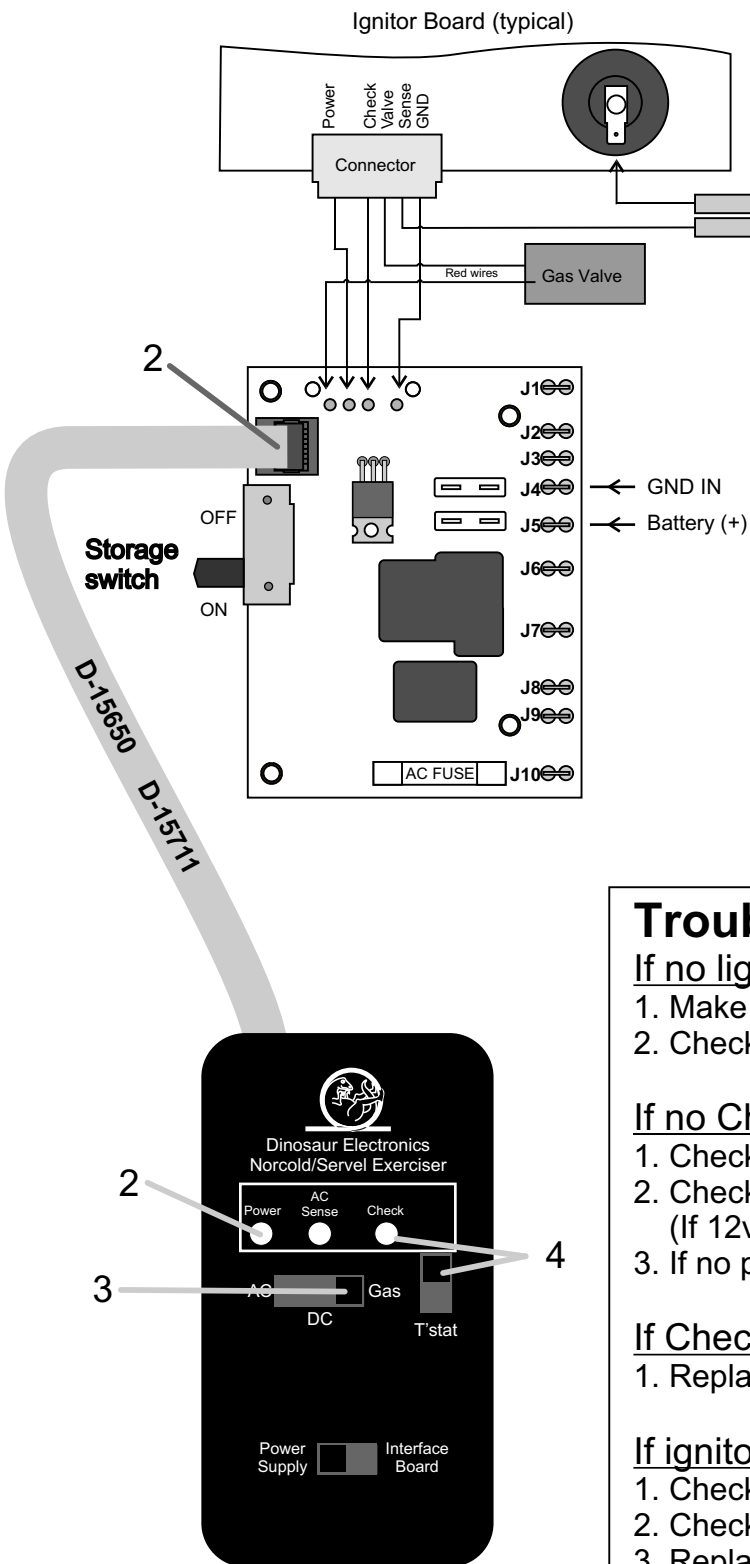
If no DC is available on J6,

2. Replace 20 Amp DC fuse  
(they can be bad but still look good)
3. Replace board if that doesn't solve the problem.

# Norcold Power Supply Boards

## D-15650 D-15711

### Gas test



1. Make sure propane is available to the refrigerator.
2. Make sure the storage switch is on.
3. Plug the appropriate cable into the board. (Power light should come on)
4. Select Gas mode.
5. Turn on Thermostat switch. (Check light should come on briefly, then the ignitor module should open the gas valve and light the burner)

### **Troubleshooting:**

#### If no lights come on,

1. Make sure 12 volts DC is available between J4 & J5
2. Check 3 Amp 12v fuse.

#### If no Check light, and ignitor does not spark ,

1. Check connection to ignitor module.
2. Check for power at ignitor module. (If 12v present, replace ignitor module.)
3. If no power at module, replace power supply board.

#### If Check light comes on, but no spark, no valve,

1. Replace ignitor module.

#### If ignitor module sparks, but valve does not open,

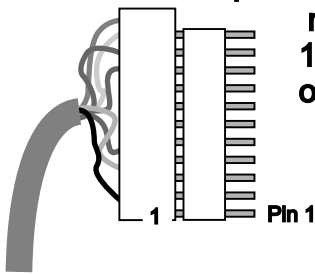
1. Check wires to gas valve.
2. Check gas valve coil. (Should be about 30-80 ohms)
3. Replace ignitor module if 1 and 2 are ok.

# Norcold Interface Boards

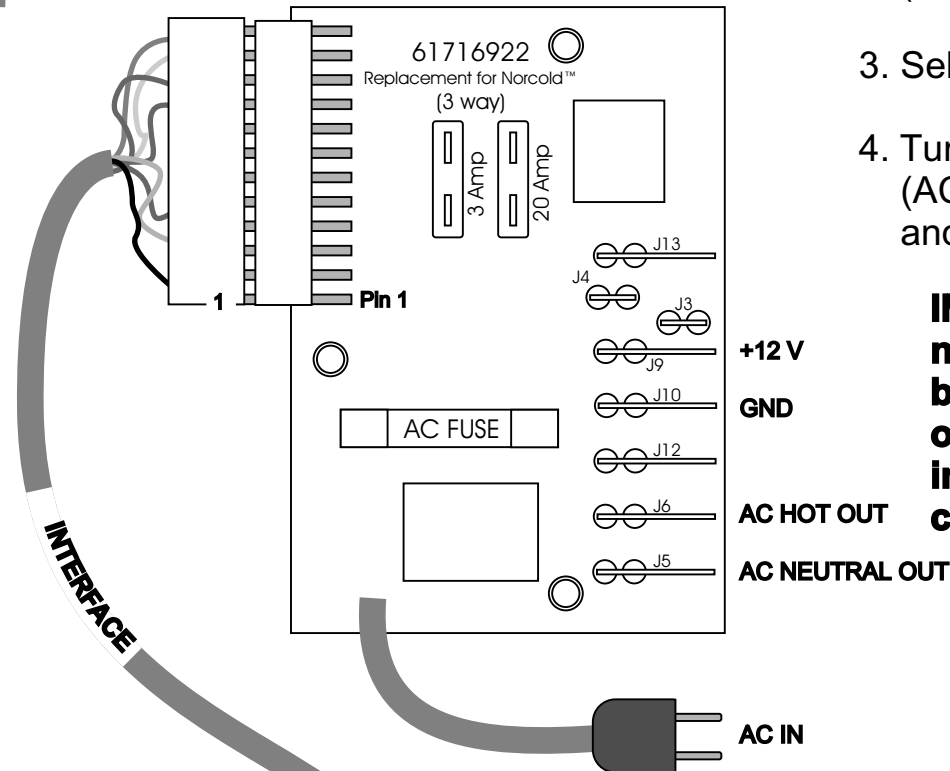
61716822 61716922 ONLY

## AC test

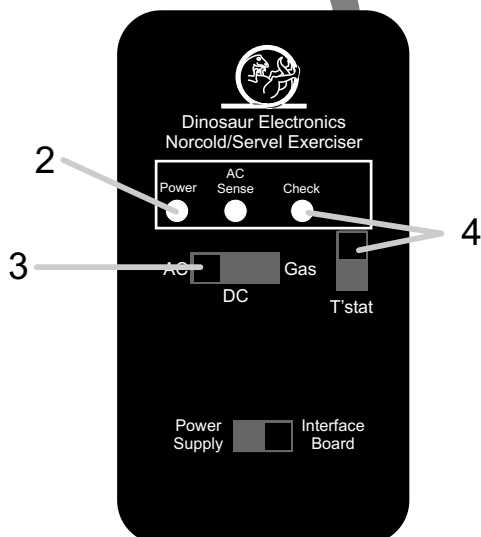
Please Note! The 61716822 has an eleven pin connector. You must make sure that pin 1 aligns with pin 1 on the connector.



1. Make sure AC is available to the refrigerator.
2. Plug the Exerciser interface cable onto the board.  
(Power light should come on)
3. Select AC mode.
4. Turn on Thermostat switch.  
(AC relay should actuate and element should get hot)



**IMPORTANT! You must not hook any interface board other than the 61716822 or the 61716922. All other interface boards are not compatible with this Exerciser.**



### **Troubleshooting:**

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J9 & J10
2. Check 3 Amp 12v fuse.
3. If 1 and 2 are ok, replace board.

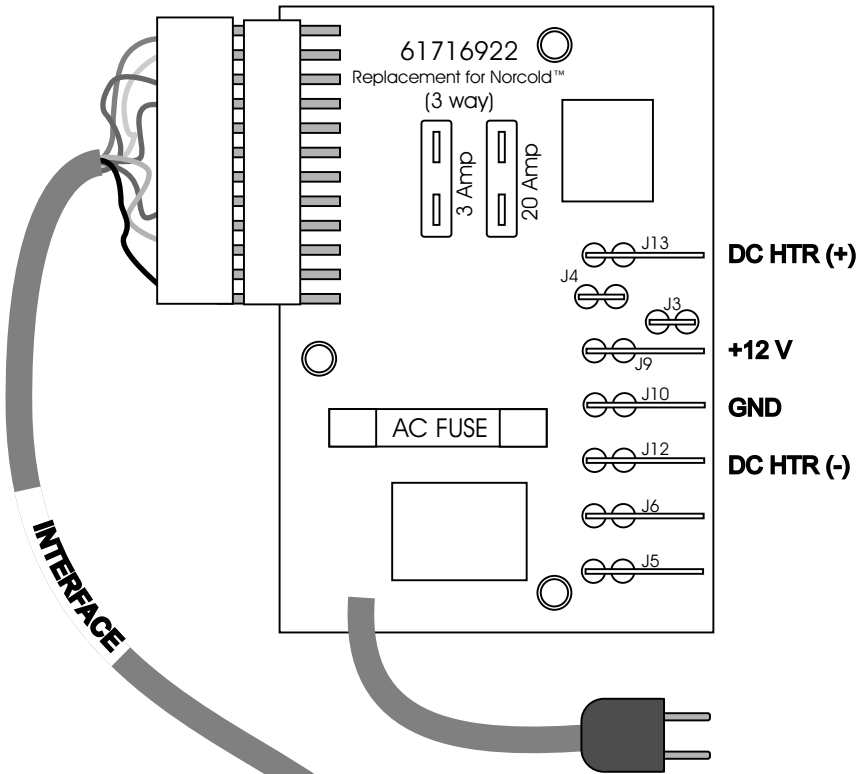
If AC Element does not get hot,

1. Verify that AC is available between J5 & J6
2. Replace AC fuse (they can be bad but still look good)
3. Turn off power, disconnect element, and measure its resistance (should be 35-60 ohms)
2. Replace board if 1, 2 and 3 are ok.

# Norcold Interface Boards

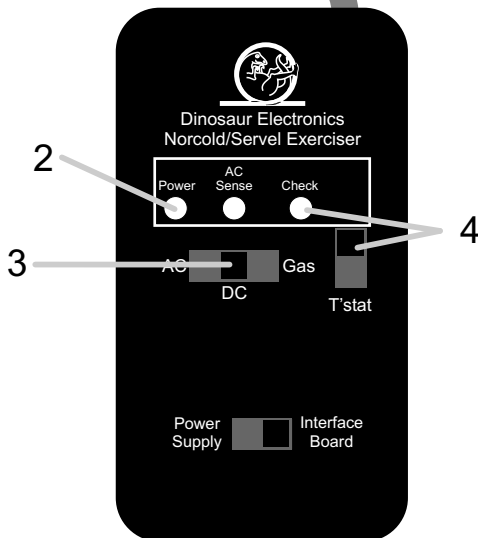
61716922 ONLY

## DC test



1. Make sure 20 Amp DC fuse is installed.
2. Plug the Exerciser interface cable onto the board. (Power light should come on)
3. Select DC mode.
4. Turn on Thermostat switch. (DC relay should actuate and element should get hot)

**IMPORTANT! You must not hook any interface board other than the 61716822 or the 61716922. All other interface boards are not compatible with this Exerciser.**



### Troubleshooting:

If no lights come on, and no relays click,

1. Make sure 12 volts DC is available between J9 & J10
2. Check 3 Amp 12v fuse.

If DC is available on J13, but element does not get hot,

1. Check wires to DC element.
2. Replace element.

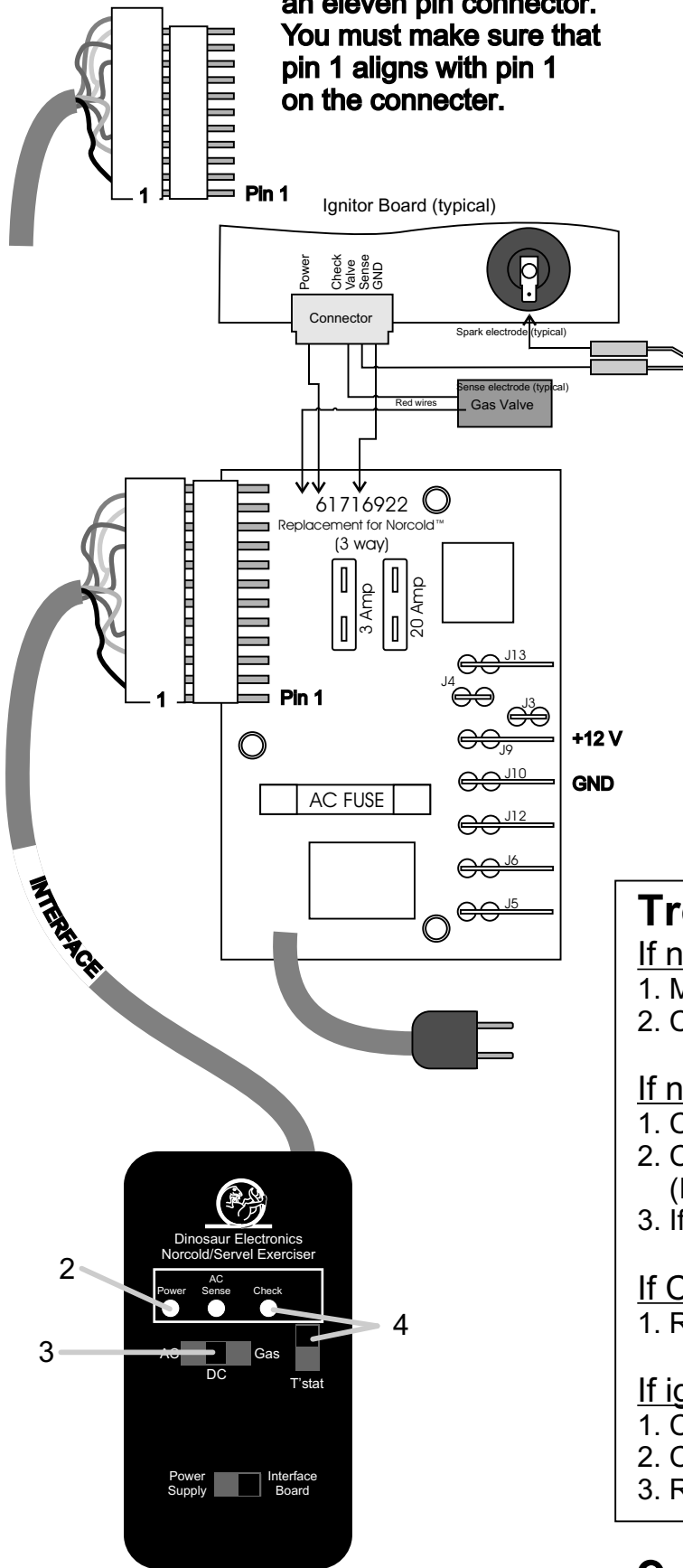
If no DC is available on J13,

2. Replace 20 Amp DC fuse (they can be bad but still look good)
3. Replace board if that doesn't solve the problem.

# Norcold Interface Boards

61716822 61716922 ONLY after the recall has been done!

**Please Note! The 61716822 has an eleven pin connector. You must make sure that pin 1 aligns with pin 1 on the connector.**



## GAS TEST

1. Make sure propane is available to the refrigerator.
2. Plug the Exerciser interface cable onto the board. (Power light should come on)
3. Select Gas mode.
4. Turn on Thermostat switch. (Check light should come on briefly, then the ignitor module should open the gas valve and light the burner)

**IMPORTANT! You must not hook any interface board other than the 61716822 or the 61716922. All other interface boards are not compatible with this Exerciser.**

### Troubleshooting:

If no lights come on,

1. Make sure 12 volts DC is available between J9 & J10
2. Check 3 Amp 12v fuse.

If no Check light, and ignitor does not spark ,

1. Check connection to ignitor module.
2. Check for power at ignitor module. (If 12v present, replace ignitor module.)
3. If no power at module, replace lface supply board.

If Check light comes on, but no spark, no valve,

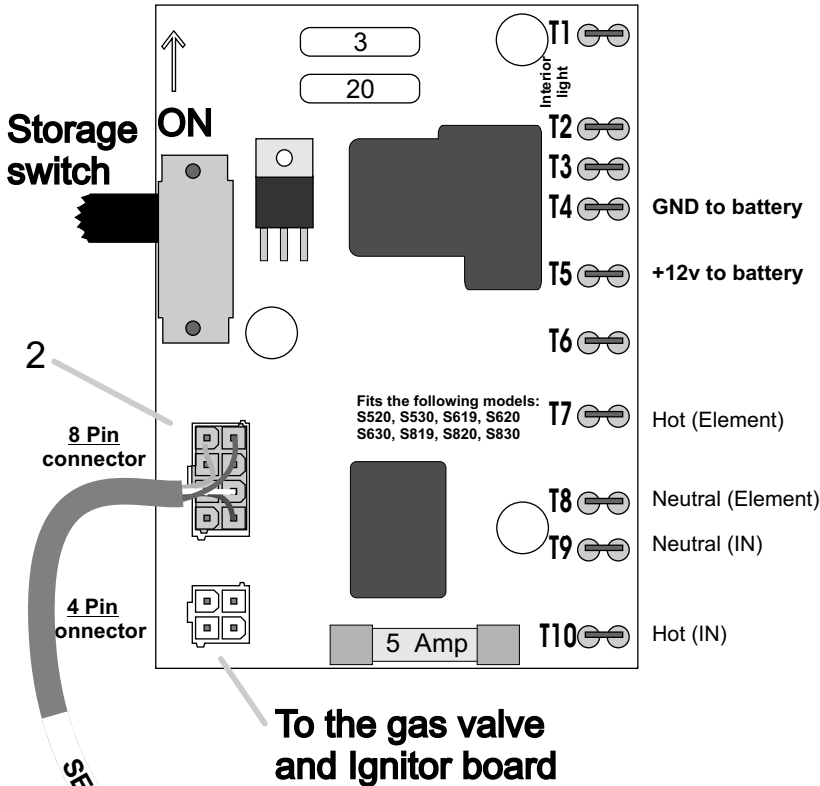
1. Replace ignitor module.

If ignitor module sparks, but valve does not open,

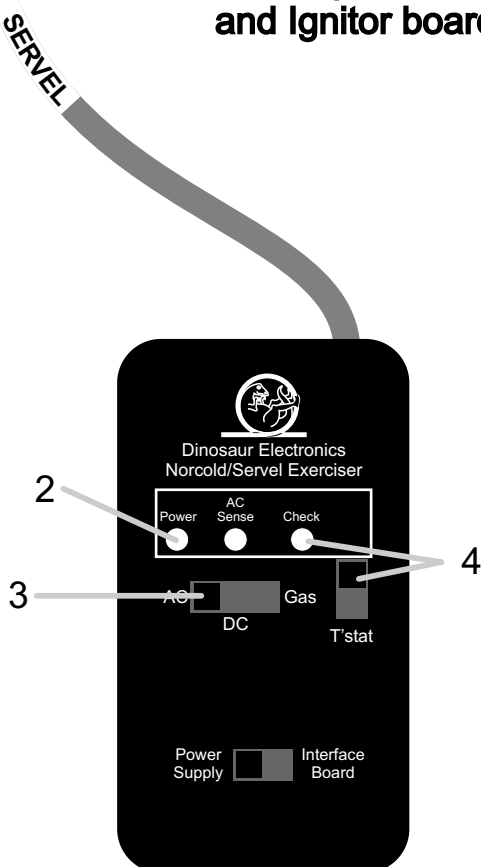
1. Check wires to gas valve.
2. Check gas valve coil. (Should be about 30-80 ohms)
3. Replace ignitor module if 1 and 2 are ok.

# Dometic/Servel Power Supply Boards

## AC test for all Servel Power Supply Boards and the SR1 Board.



1. Make sure AC is available to the refrigerator.
2. Make sure the storage switch is on (note: not all Servel boards have a storage switch).
3. Plug correct Exerciser cable into the board. (Power light should come on)
4. Select AC mode.
5. Turn on Thermostat switch. (AC relay should actuate and element should get hot)



### Troubleshooting:

If no lights come on, and no relays click,

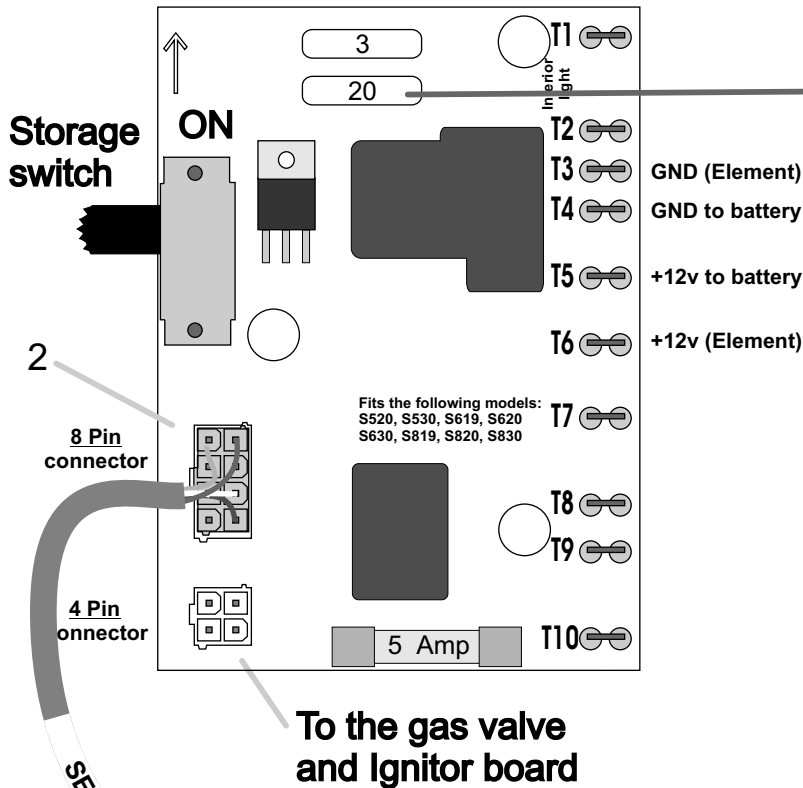
1. Make sure 12 volts DC is available between T4 & T5
2. Make sure Storage switch is on (up position).
3. Check 3 Amp 12v fuse.
4. If 1, 2 and 3 are ok, replace board.

If AC Element does not get hot,

1. Verify that AC is available between T9 & T10
2. Replace AC fuse (they can be bad but still look good)
3. Turn off power, disconnect element, and measure its resistance (should be 35-60 ohms)
2. Replace board if 1, 2 and 3 are ok.

# Dometic/Servel Power Supply Boards

## DC test for all Servel Power Supply Boards and the SR1 Board.



1. Make sure 20 Amp DC fuse is installed.
2. Make sure the storage switch is on (note: not all Servel boards have a storage switch).
3. Plug correct cable into the board. (Power light should come on)
4. Select DC mode.
5. Turn on Thermostat switch. (DC relay should actuate and element should get hot)

### Troubleshooting:

If no lights come on, and no relays click,

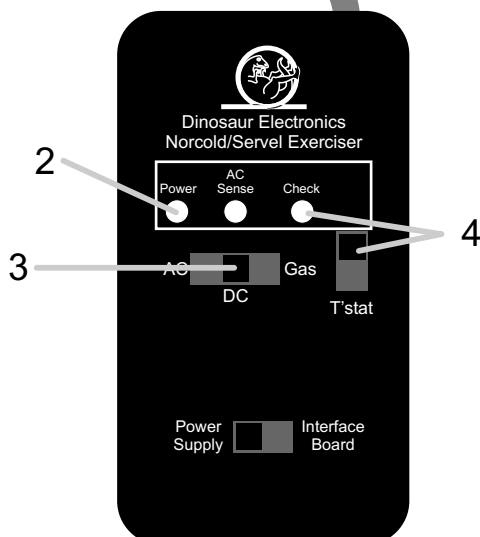
1. Make sure 12 volts DC is available between T4 & T5
2. Make sure storage switch is on.
3. Check 3 Amp 12v fuse.

If DC is available on T6, but element does not get hot,

1. Check wires to DC element.
2. Replace element.

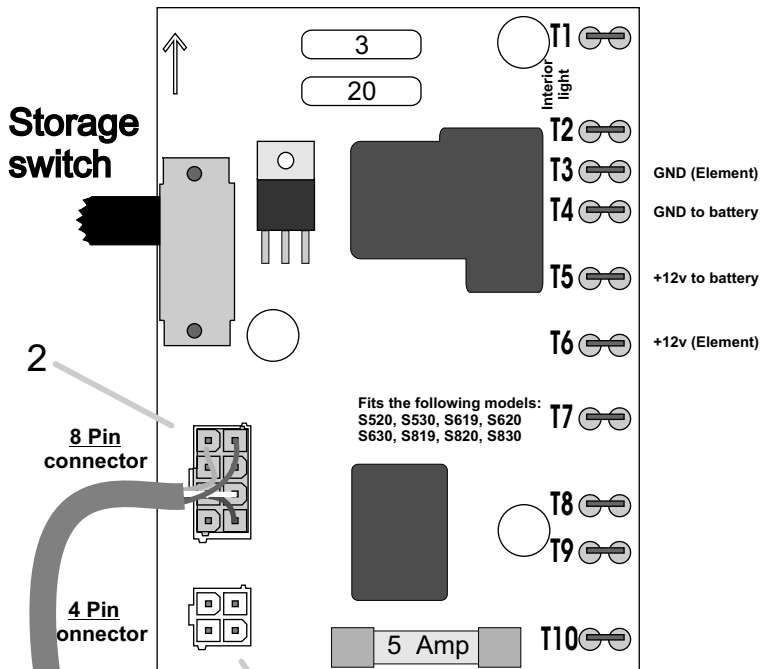
If no DC is available on T6,

2. Replace 20 Amp DC fuse (they can be bad but still look good)
3. Replace board if that doesn't solve the problem.



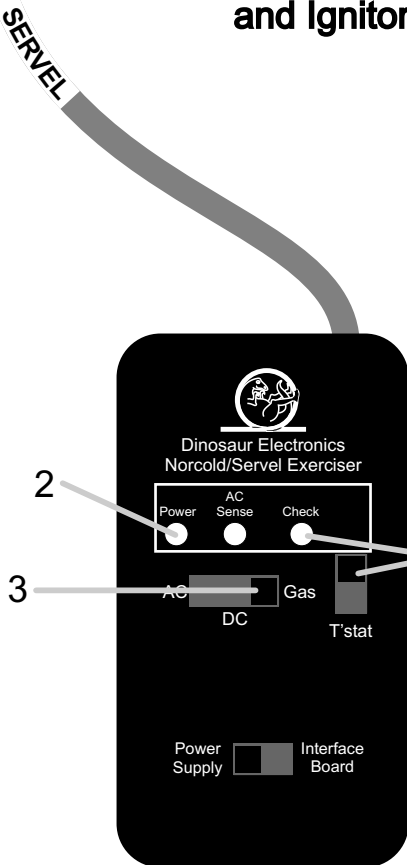
# Dometic/Serrel Power Supply Boards

## Gas test for all Serrel Power Supply Boards and the SR1 Board.



1. Make sure propane is available to the refrigerator.
2. Make sure the storage switch is on (note: not all Serrel boards have a storage switch).
3. Plug the appropriate cable into the board. (Power light should come on)
4. Select Gas mode.
5. Turn on Thermostat switch. (Check light should come on briefly, then the ignitor module should open the gas valve and light the burner)

To the gas valve and ignitor board



### Troubleshooting:

#### If no lights come on,

1. Make sure 12 volts DC is available between T4 & T5
2. Check 3 Amp 12v fuse.

#### If no Check light, and ignitor does not spark ,

1. Check connection to ignitor module.
2. Check for power at ignitor module. (If 12v present, replace ignitor module.)
3. If no power at module, replace power supply board.

#### If Check light comes on, but no spark, no valve,

1. Replace ignitor module.

#### If ignitor module sparks, but valve does not open,

1. Check wires to gas valve.
2. Check gas valve coil. (Should be about 30-80 ohms)
3. Replace ignitor module if 1 and 2 are ok.