



## 6300 Series Owner/Operator Manual

### AC PANELBOARD

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When 120 VAC is connected to Power Center via commercial power or AC generator, the 120 VAC circuits are protected by the breakers contained in the AC PANELBOARD.

120 VAC circuits may be turned off by flipping breaker to indicate “OFF.” The circuits may be turned on or reset by flipping breaker to indicate “ON.”

### 12 V DC FROM POWER CONVERTER SECTION

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When 120 VAC is connected to the Power Center via commercial power or AC generator, and the circuit breaker controlling the POWER CONVERTER Section is “ON”, the POWER CONVERTER Section will convert the 120 VAC to 12 VDC and is instantly switched—via the Automatic Relay—into the 12 VDC RV circuits to operate the 12 volt lights and motors. A cooling fan will come on when certain temperatures are reached in the lower section. Equipment limited to operation from 12 volt battery power only—including 12 volt TVs, radios, stereos, unfiltered fluorescent lights—must be connected to the fused battery circuits of DC DISTRIBUTION PANEL or RV battery line.

DO NOT connect equipment requiring more than 3 amps to terminal “B”.  
AUTOMATIC-RESET THERMAL BREAKER

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A protective Thermal Breaker will “break” the 120 VAC power to POWER CONVERTER Section of Power Center if POWER CONVERTER becomes overheated—by operation above its maximum limit for an extended period of time or obstruction of ventilation to unit.

POWER CONVERTER Section will instantly switch 12-volt light and motors to battery.

In either case, the Thermal Breaker will reset itself after a period of time, and the lights and motors will again resume operation from POWER CONVERTER Section—only to shortly again “break”. When this occurs, take immediate steps to correct cause of overheating. A portion of RV 12-volt load—lights or motors or both—should be turned off to reduce total load. Also, inspect POWER CONVERTER Section to make certain ventilation is not obstructed.

## 12 V DC FROM STORAGE BATTERY

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When 120 VAC is NOT connected to Power Center via commercial power or RV generator, the POWER CONVERTER section—via its Automatic Relay—will switch RV battery into the circuit for power to operate 12 volt lights and motors.

When 120 VAC is again available, connect it to Power Center. The POWER CONVERTER Section—through its Automatic Relay—will be brought back into circuit.

When operating RV 12-volt equipment from RV battery, it is recommended that the amount of equipment in use be reduced—to conserve battery.

Gradual dimming of lights and slowing of motors indicates low battery voltage. If 12 volt equipment will not operate from RV battery, check wiring between 12 volt DC DISTRIBUTION PANEL in Power Center and battery. If this line is fused and fuse is “blown,” inspect for overload or “short”. DO NOT install oversize fuse. Make certain battery is fully charged—see No. 5 below.

### The DC DISTRIBUTION PANEL

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The DC DISTRIBUTION PANEL is located behind hinged door of Power Center. This panel contains circuits with replaceable fuses for protection of RV 12-volt light and motor lines.

If any line is loaded beyond the capacity of its fuse, the fuse will “blow”. A portion of the 12-volt load on the line—lights and/or motors—must be turned off to reduce total load on the line below the capacity of the fuse.

Replace fuse with same size fuse. DO NOT install larger fuse than indicated. If this reduction of load on the line does not stop the “blowing” of the replaceable fuses, there may be a “short” along the 12-volt line or at a nonfused 12-volt motor on the line. Check the RV 12-volt line and equipment on the line. Locate the “short” and take the necessary steps to repair it.

### IMPORTANT

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If 12 volt lights and motors will NOT operate as indicated above, check to make certain 120 VAC power is properly attached to RV. Also, make certain the AC breakers in the AC PANELBOARD indicate “ON”.

## 5. BATTERY CHARGING SECTION

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Units with Option C contain an automatic, solid-state Battery Charging Section. When 120 VAC power is connected to Power Center, the Charging Section will automatically “sense” the condition of RV battery. If it is below “full charge,” the Charging Section will start charging the battery.

If RV battery has been drawn down quite low, it will be charged at a relatively high amperage rate. If battery has not been severely drained, it will be charged at lower amperage rate. The rate of charge will decline as the battery reaches “full charge”. After battery reaches “full charge”, the Charging Section will drop back to “maintenance” level. It will not resume active charging until battery again falls below “full charge”. If your storage battery cannot be charged as described above, it is possible the battery is defective—see “Battery Maintenance” below.

## STORAGE BATTERY MAINTENANCE

**WARNING**—Before inspecting or servicing storage battery, read and follow battery manufacturer’s cautions and directions.

Your RV storage battery must be properly maintained so it can perform its functions as described in 3 & 5. The following suggestions—plus those of battery manufacturer—will help your storage battery:

The battery must be in good condition with water at proper level when first installed in RV.

When 120 VAC is connected to Power Center, check battery once a week.

As battery ages, it will usually need water added more often.

If 120 VAC is not connected to Power Center, it should be reconnected to Power Center once a month for 8-12 hours to “recharge” battery.

If you store battery outside of RV, a battery charge should be connected to it a least once a month to recharge battery.

Do not allow battery to remain in discharge condition—it will become sulfated and not accept a proper “charge”.

Some situations which may indicate need for battery replacement are:

The loss of more water in one cell than others.

Continuous loss of water in all cells—perhaps accompanied by overheating of battery, gassing and extreme bubbling.

A marked difference in the specific gravity reading between one cell and others.

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## PARALLAX POWER COMPONENTS L.L.C. WARRANTY STATEMENT

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Parallax Power Components L.L.C. warrants its products to be free from defects in material or workmanship under normal use and service and limits the remedies to repair or replacement.

This warranty extends for two years from the date of purchase and is valid only to the original owner and within the continental limits of the United States and Canada.

If a problem should occur with your Parallax Power Components L.L.C. converter within the first twenty-four months after purchase, please contact a dealer that handles warranty on your brand of RV. No user serviceable parts inside.

Parallax Power Components L.L.C.  
112 E. Union St.  
Goodland In 47948  
Telephone: 1-800-443-4859  
Parallax Power Components L.L.C.

Series 6300 A

POWER CENTER

OWNER'S OPERATION/WARRANTY MANUAL

MODELS 6325, 6332, 6336, 6345, and 6350 contains these standard features:

AC PANELBOARD—120 volts AC 30 amp—for AC branch circuit distribution and protection within the Recreational Vehicle (RV).

POWER CONVERTER—Provides 12 volt DC –up to load limit—to operate 12 volt lights and motors in RV when connected to 120 volt AC power source.

6325—designed for 25 amps maximum continuous load

6332—designed for 32 amps maximum continuous load

6336—designed for 36 amps maximum continuous load

6345—designed for 45 amps maximum continuous load

6350—designed for 50 amps maximum continuous load

Features Automatic Relay to switch between the converter and RV battery for 12 volt DC power  
for RV.

Battery Charging Section—Option C. Units with Option C contain an automatic, solid-state

battery charging section.

DC DISTRIBUTION PANEL—Contains fused circuits for distributions of 12 volt DC within the RV.

The AC PANELBOARD and 12-volt DC DISTRIBUTION PANEL are found behind the hinged door of the Power Center.

Power Centers are suitable for vertical wall mounting and are to be wired per directions furnished with Power Center. For proper operation, owner must not obstruct ventilation openings in front panel of Power Center.

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DO NOT DESTROY THIS GUIDE—For future reference, record

Date of RV Purchase \_\_\_\_\_ Series No. \_\_\_\_\_

Model No. \_\_\_\_\_ Option Code \_\_\_\_\_

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3200/6300 Series  
Testing Converter 12V  
Internal Transfer Relay(s)

Disconnect shore power.

Battery must be connected.

Set volt meter to read 12 V DC.

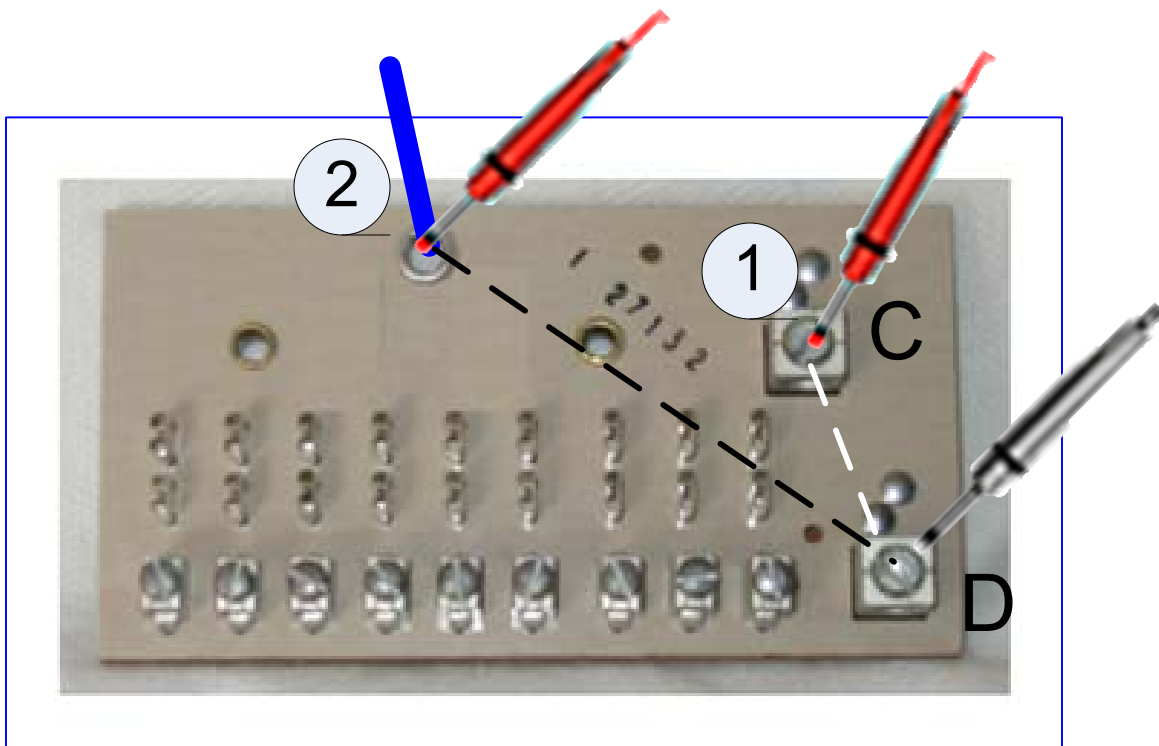
Refer to the DC fuse block reference photo below for test points.

Apply meter probes to the test points indicated per steps 1 and 2 .

1. Measure battery voltage from terminals C. to terminal D.

2. Measure voltage from blue converter positive to terminal D.

3. Voltage measured at step 1 and at step 2 should be the same. If not, a problem with the internal transfer relay(s) is indicated.





[www.parallaxpower.com](http://www.parallaxpower.com)

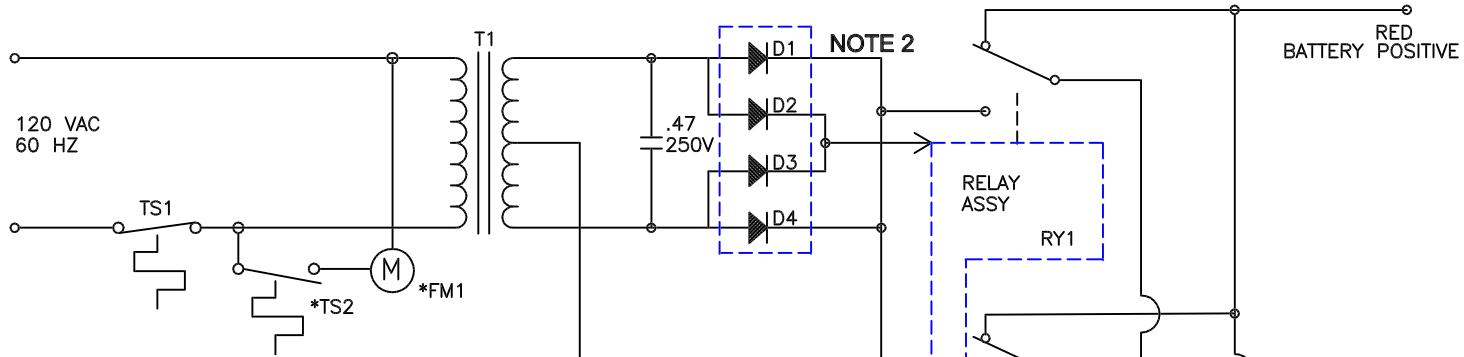
## 6300/3200 Series Charging Circuit Service Information

- 1) DC circuit breaker and limit resistor should have continuity.  
Limit resistor .3 ohm 50 watt Pt # 16506709  
Limit resistor .3 ohm 30 watt Pt# 16506517  
Limit resistor .15 ohm 50 watt Pt# 16506718  
Circuit breaker Pt # 1-AB15Q
- 2) If above ok, proceed to next tests
- 3) Jumper yellow wire to aluminum heatsink.
- 4) If voltage at "C" rises charger PCB is defective.  
Pt # 090-6300-001-44 (7 Wire Q Board)  
Pt # 91500022 (5 Wire "CC" option Board)  
Note\*\* 91500022 5 wire "CC" phase control board is obsolete.  
May use 7 wire Q board, but do not use fan control wiring.  
Pt # 090-3200-001-44 (4 Wire Board)
- 5) If voltage at "C" does not rise, SCR is defective.  
Pt # 1-18526667  
Pt # 1-18526725 (35 amp 220 volt SCR "CC" option)

Contact the following RV parts distributor concerning parts availability or converter system replacement options.

Master-Techs Inc.  
1-800-848-0558

DWG. NO.  
6300 SCH



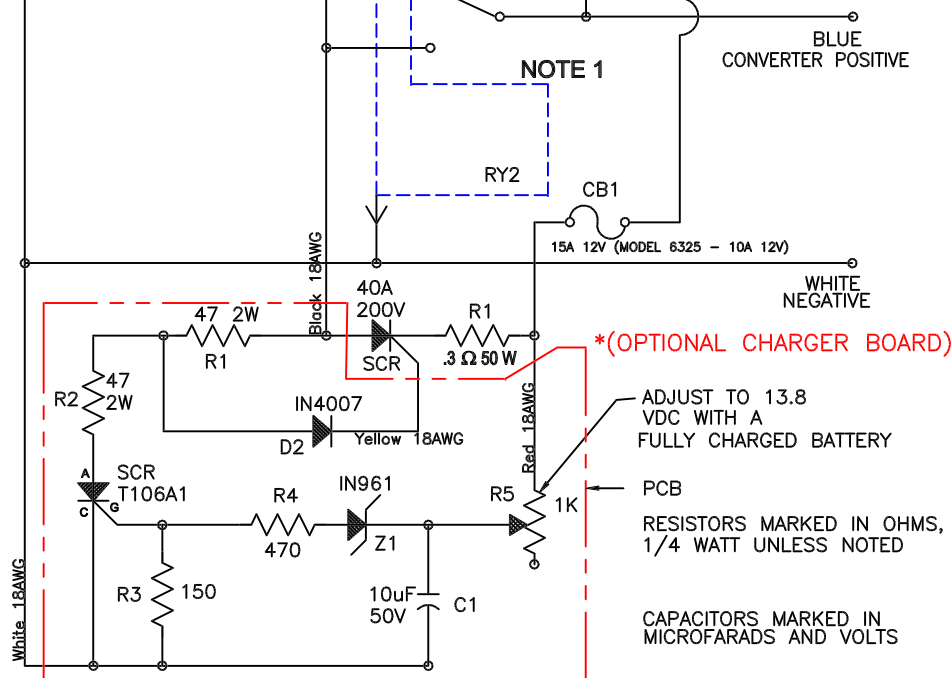
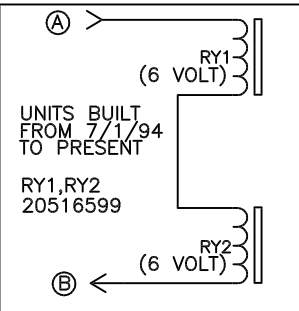
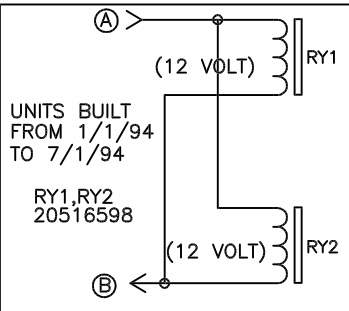
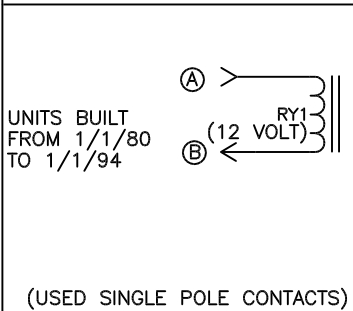
NOTES:

\* NOT USED IN MODEL 6325

1. SEE CHART BELOW.

2. D1,D4 USED ON MODELS 6325 AND 6325.

3. MODELS 6350,6345,6336 MAY USE D1 THROUGH D4 RATED 25 AMP OR USE D1 AND D4 ONLY RATED 50 AMP.



REV.	CHANGE	DATE
A	RELEASED	1/25/94
B	REVISED RMA	12/20/94
C	REVISED WRW	7/26/01

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES:

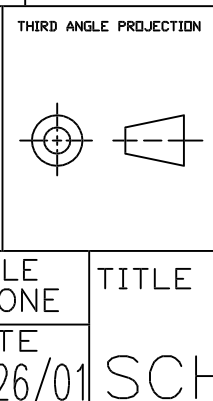
TOLERANCES  
 X/X=#1/64 .XX=#.01  
 .XXX=#.005 <math>\angle</math>=#0° 30'

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DWN BY *R. Barnes*

CHK BY

APVD BY



MATERIAL  
NONE

FINISH  
NONE

SCALE  
NONE

DATE  
7/26/01

TITLE  
6300  
SCHEMATIC

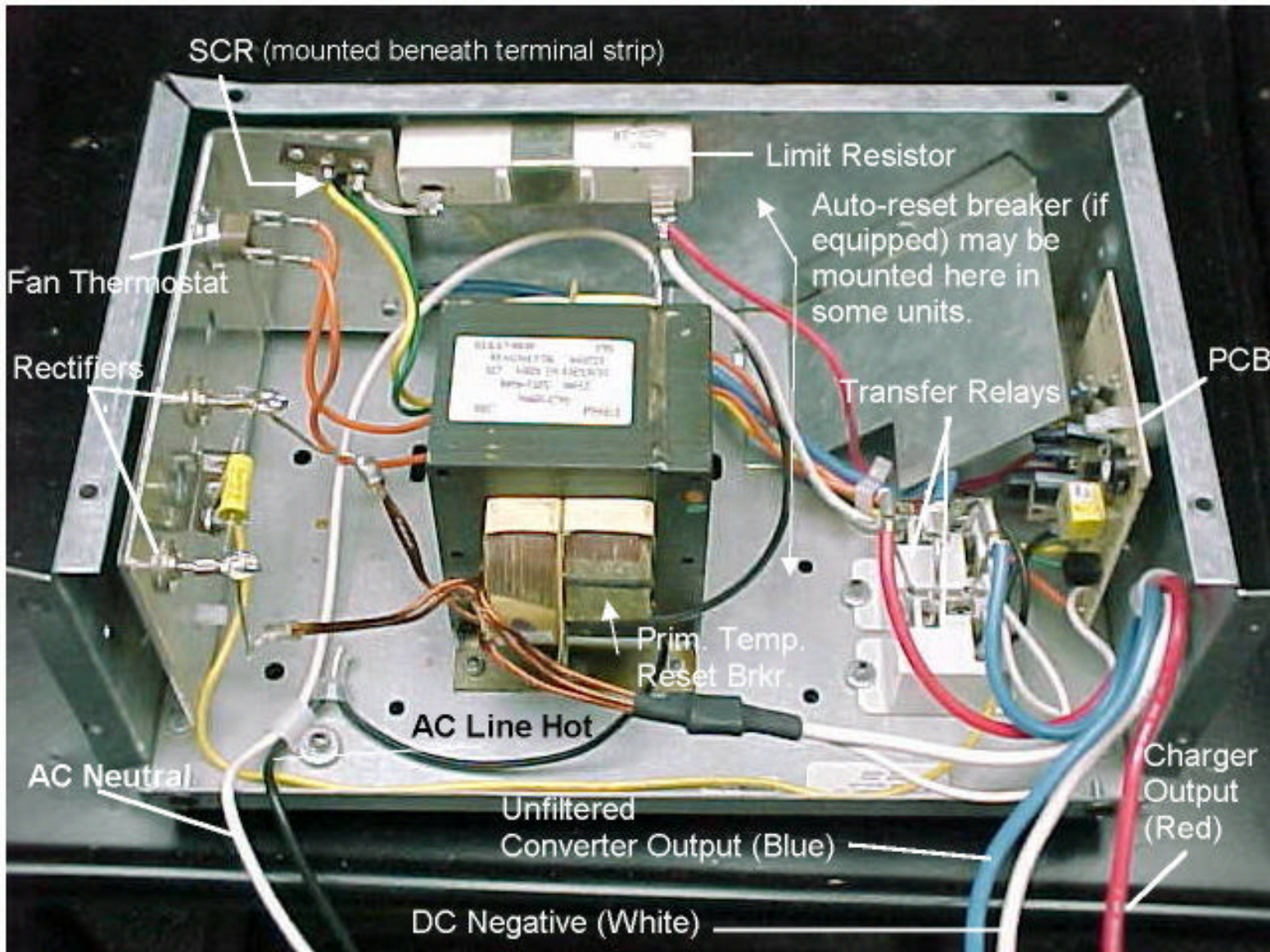
PARALLAX  
POWER  
COMPONENTS L.L.C.

112 E. UNION ST.  
GOODLAND, IN 47948

SIZE  
A

DRAWING NO.  
6300 SCH





SCR (mounted beneath terminal strip)

Limit Resistor

Auto-reset breaker (if equipped) may be mounted here in some units.

Fan Thermostat

Rectifiers

PCB

Transfer Relays

Prim. Temp. Reset Brkr.

AC Line Hot

Charger Output (Red)

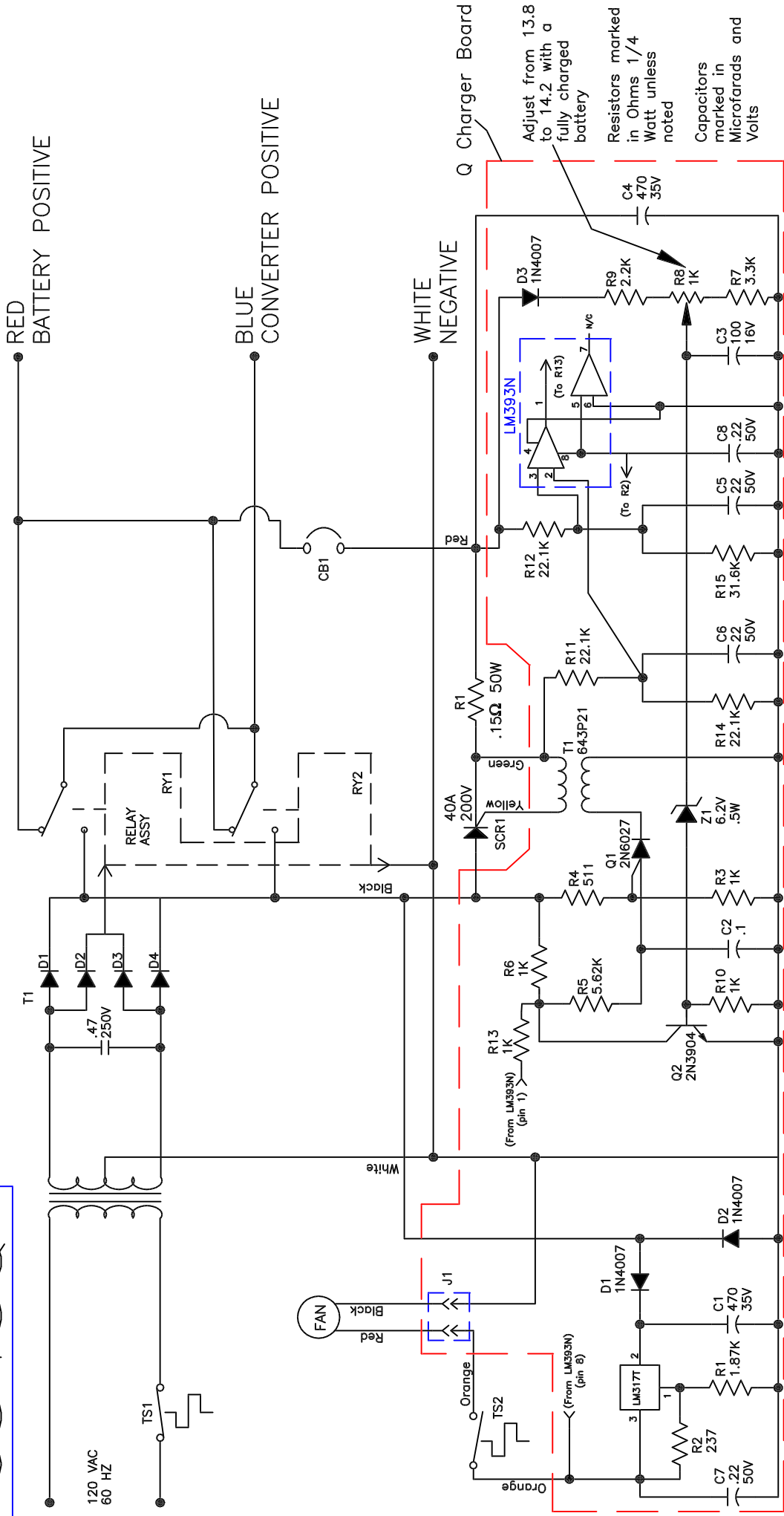
AC Neutral

Unfiltered Converter Output (Blue)

DC Negative (White)

DWG. NO.

6345Q



REV. A

RELEASED

CHANGE

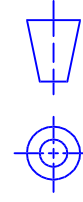
DATE

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES  
 X/XX = 1/64  
 .XXX = .005  
 .XX = .01  
 .X = .0030

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THIRD ANGLE PROJECTION



MATERIAL

NONE

FINISH

NONE



ACAD FILENAME: 6345Q

SCALE N.T.S.

DATE 7/31/01

TITLE 6345Q

SIZE DRAWING NO.

SCHEMATIC A

6345Q



112 E. Union St. Goodland, In. 47948

October 04, 2002

**Application Notes:** Proper identification of Parallax Power Components PowerCenter system components.

**Problem:** Mismatching of DC Distribution Fuse Panels and lower section converter units due to improper servicing will lead to 12 volt system problems primarily indicated by:

1. Battery “overcharging” or “not charging at all”.
2. 15 - 20 VDC measured on the 12 VDC system. Lamp brightness may be high or lamps may fail prematurely.

**Remedy:**

1. Verify model number as listed on the model label. Location: Inside upper door on left side of door panel.
2. Verify the number and color of the leads wired to the DC Distribution Fuse Panel. Location: Upper section right side.
3. If you have 3 leads, 1 ea. colored red, white, and blue, you have a 6300 Series linear lower section.
4. If you have only 2 leads, 1 ea. colored blue and white, you have a 7300 Series Electronic Switchmode lower section.
5. Verify that the model label, and the lower section are correct for the model series referenced on the model label.
6. Verify that the powercenter has the correct DC distribution fuse panel per service letter: AppNotes\_DC FusePanels.pdf

If you have additional questions please call 1-800-443-4859 for RV Technical Service.

Marty Redd  
Parallax Power Components L.L.C.

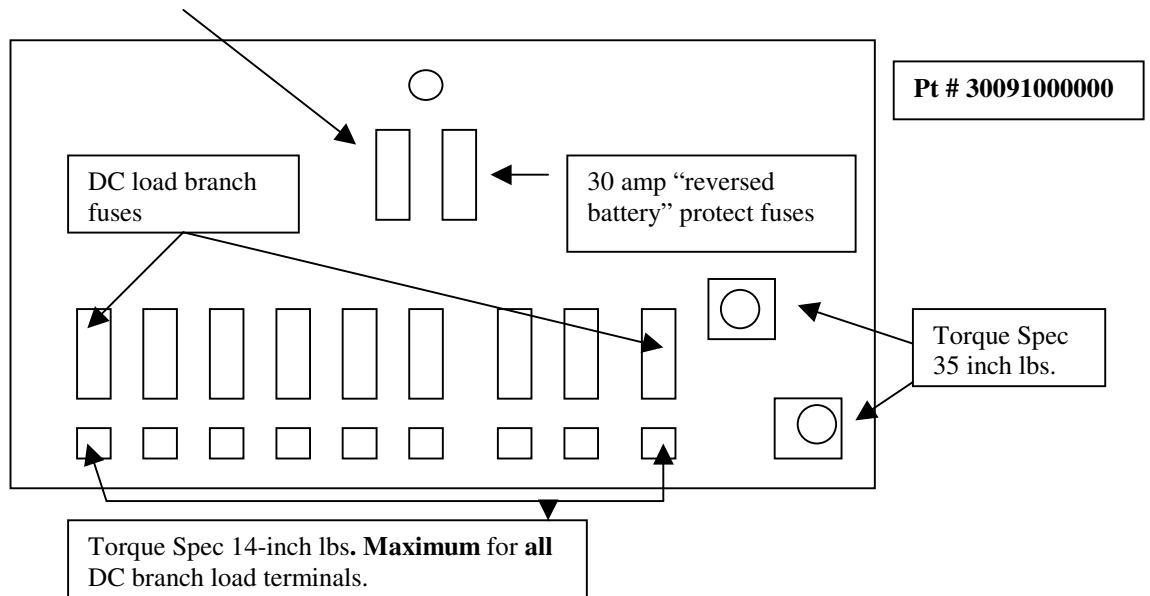
**Application Notes: DC Distribution Fuse Panels**

**Do not exceed torque specs on the DC Distribution Fuse Panel!**

Damage to terminals or load wiring may be the result of improper torque.

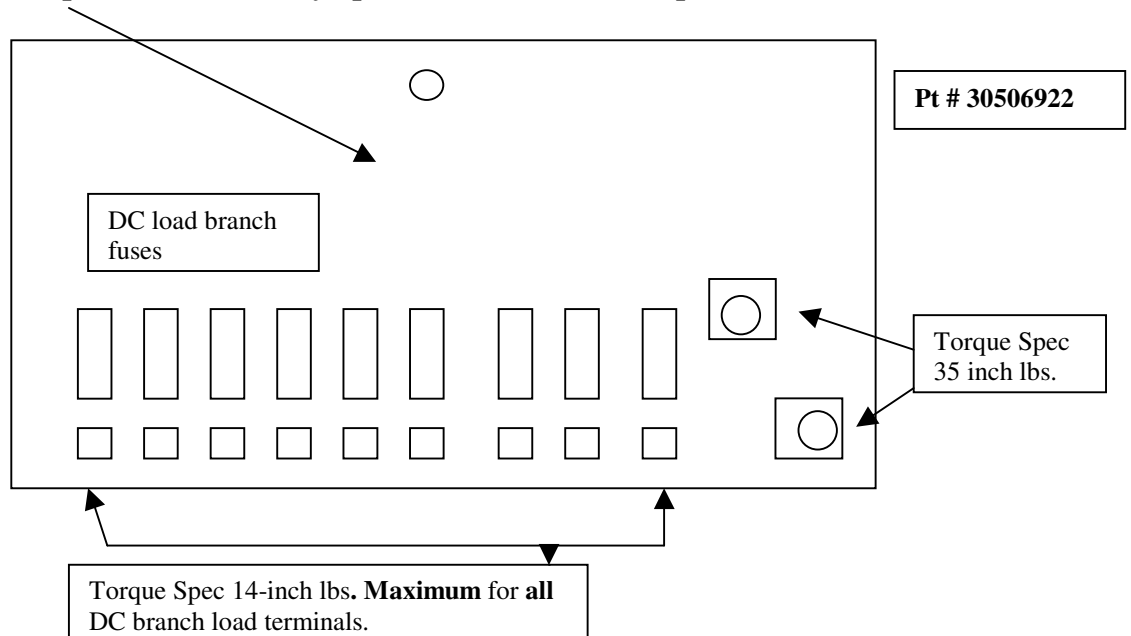
**This panel must only be used with 7300 Series Electronic Power Converters!**

**Note position of (2) 30-amp “reversed battery” protection fuses.**



**This panel must only be used with the 3200/6300 Series Linear Converters!**

**Note: No 30-amp “reversed battery” protection fuses on this panel.**



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Parallax

Product 2/30

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**.3 OHM 50 WATT RESISTOR**

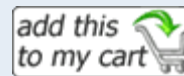
**.3**



[larger image](#)

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Add to Cart:



**OHM 50 WATT RESISTOR**  
**\$7.61**

- Manufactured by: Parallax
- Model: BR-1-16506709
- Shipping Weight: 1lbs
- 413 Units in Stock

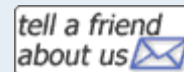
[Product Description](#)

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### Product Description

A resistor is an electrical component which provides some resistance to the flow of electricity. This resistance determines how much current will flow for a given voltage applied across the resistor. The result of resistance is the production of heat. Incandescent light bulbs are specialized resistors, which gets so hot that they glow, produce light. Resistance is measured in ohms.

**Used for 6300 CC option or Q series converters only.**



This product was added to our catalog on Monday 02 February, 2009.

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Parallax 110VDC DPDT Relay



Parallax 6300 Series 140°F Fan  
Thermostat

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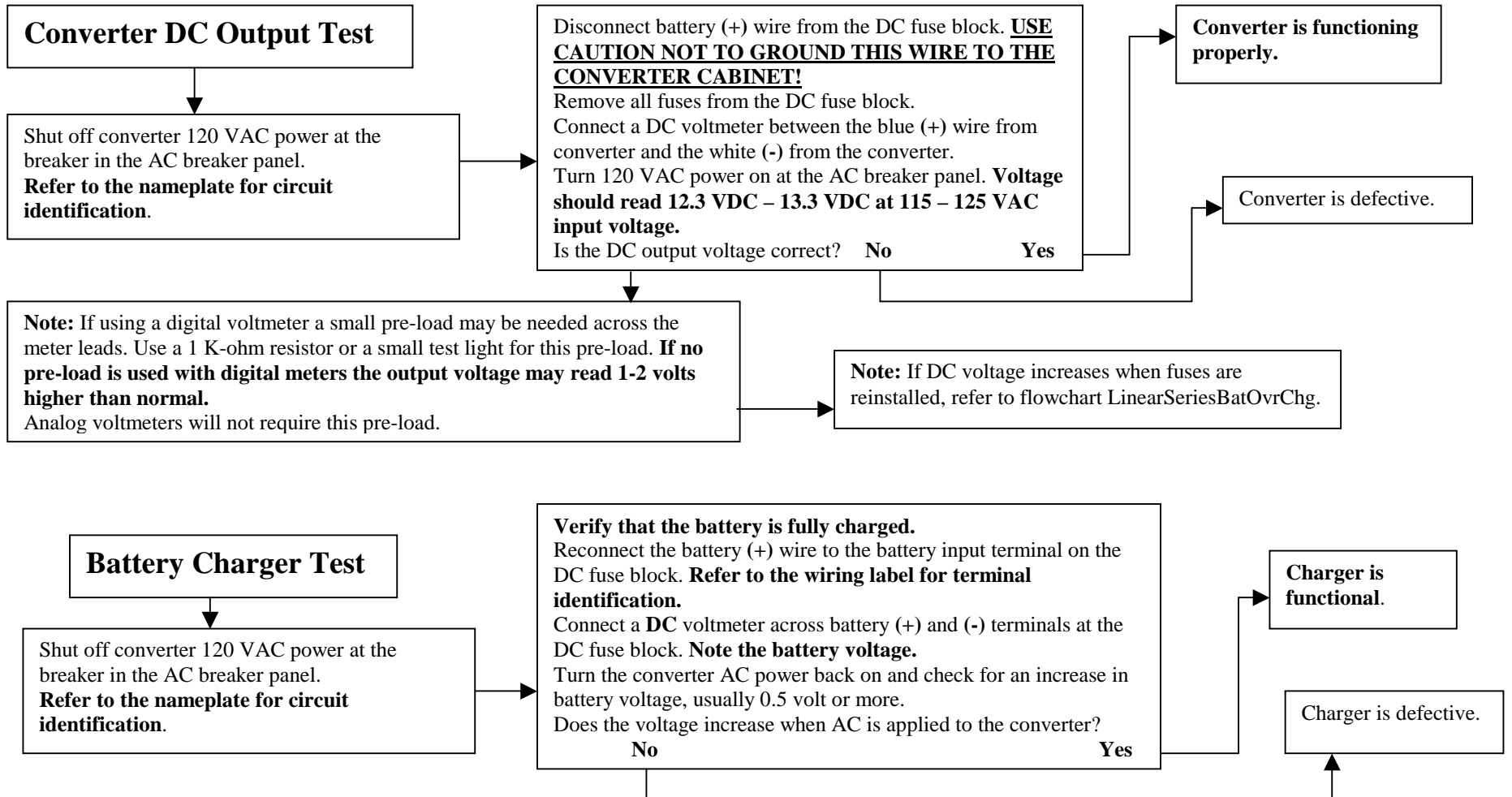
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**GREAT LAKES  
POP UP CLUB**

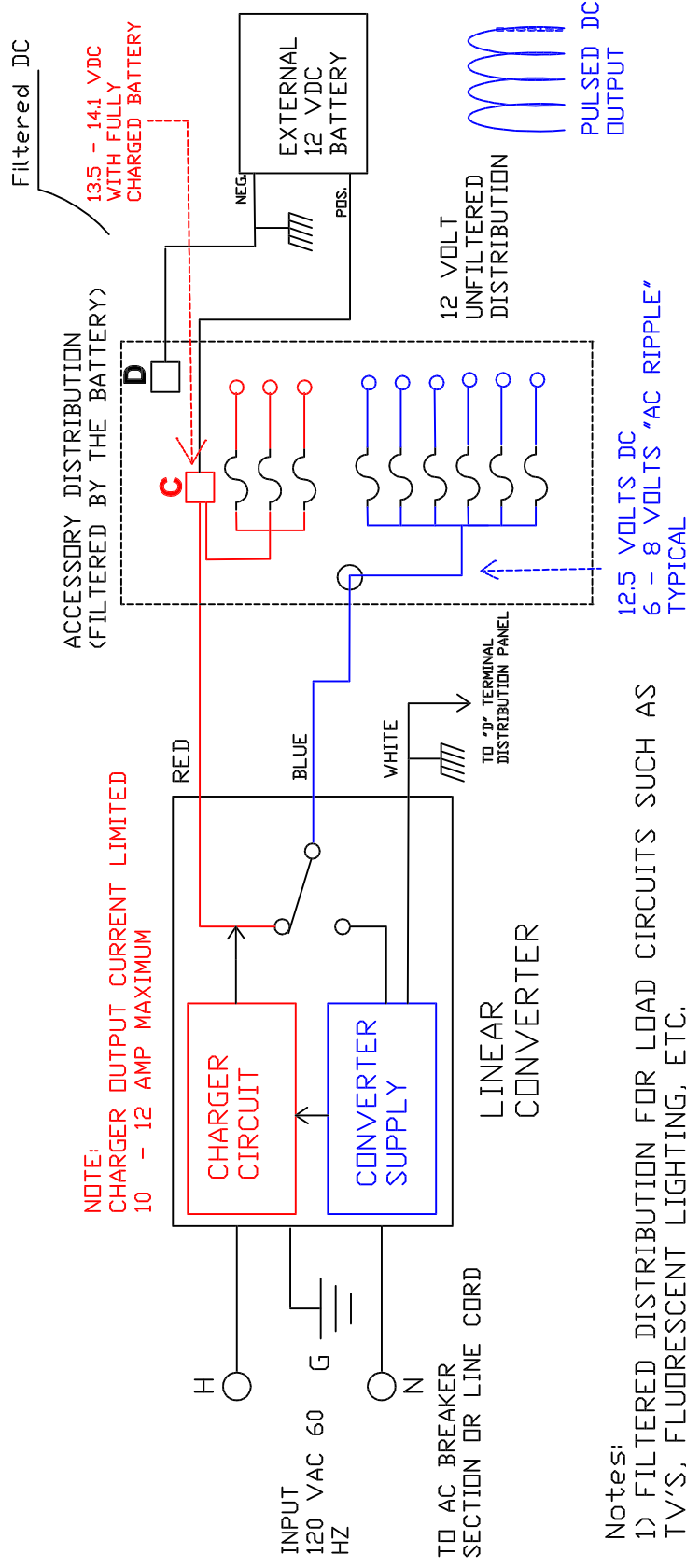


## Linear Series Troubleshooting Flowchart Model Series 3200 and 6300





# 3200/6300 Q SERIES BLOCK DIAGRAM



- Notes:
- 1) FILTERED DISTRIBUTION FOR LOAD CIRCUITS SUCH AS TV'S, FLUORESCENT LIGHTING, ETC.
  - 2) UNFILTERED DISTRIBUTION FOR LOAD CIRCUITS SUCH AS INCANDESCENT LIGHTING, MOTORS, ETC.

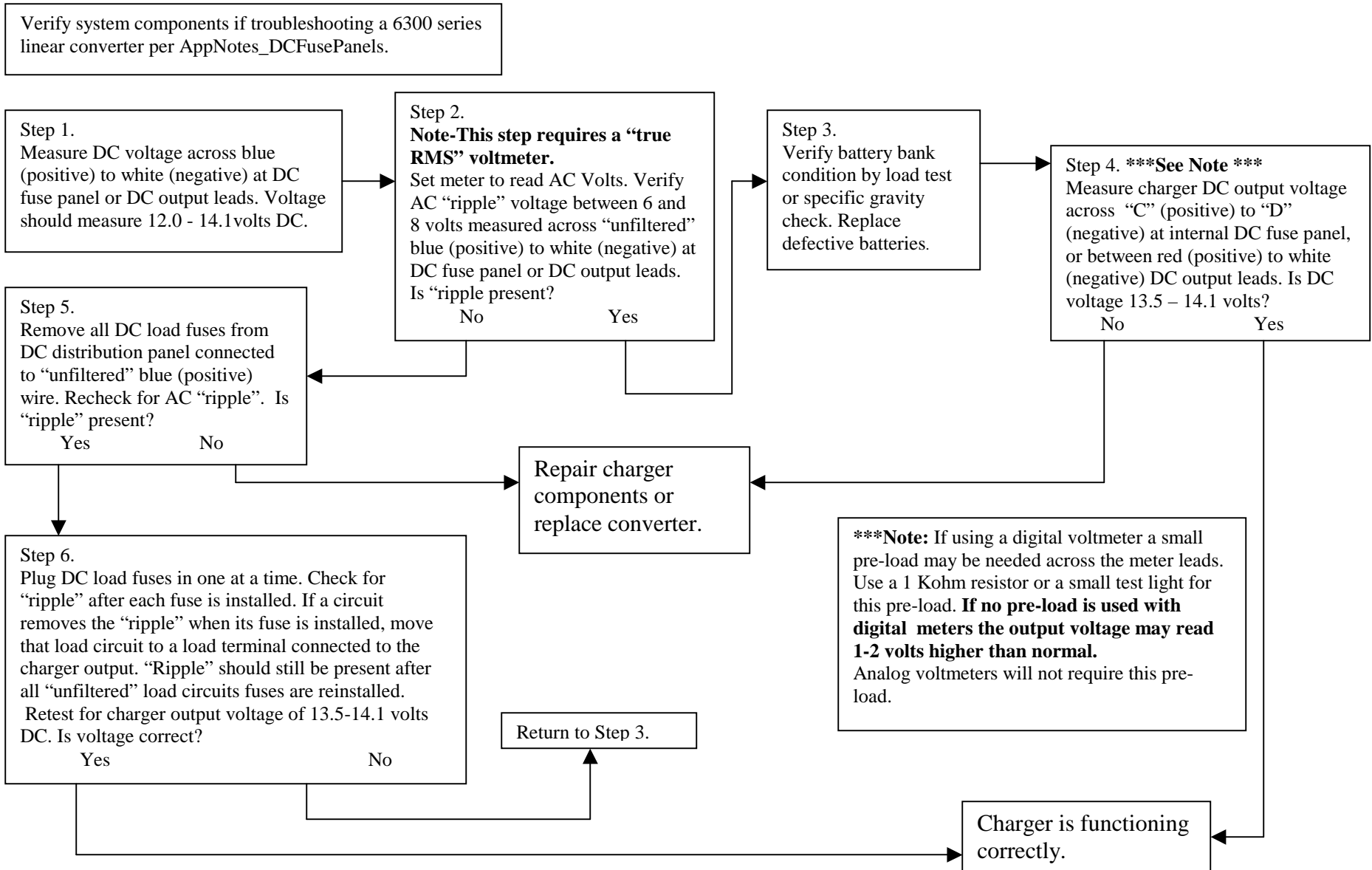




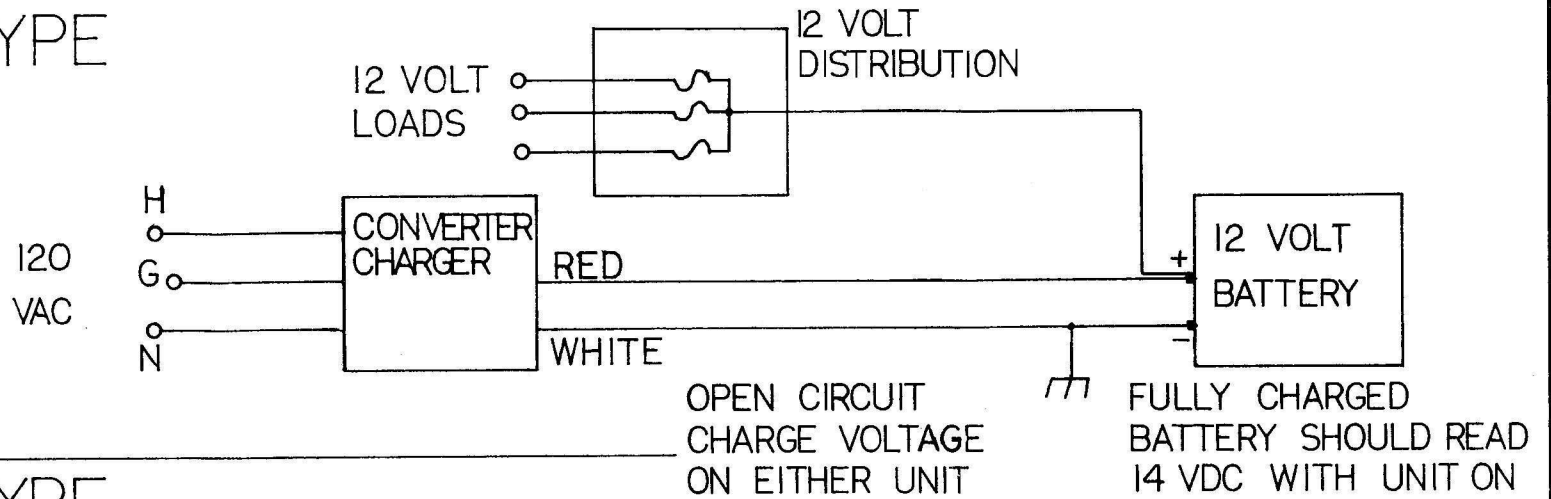


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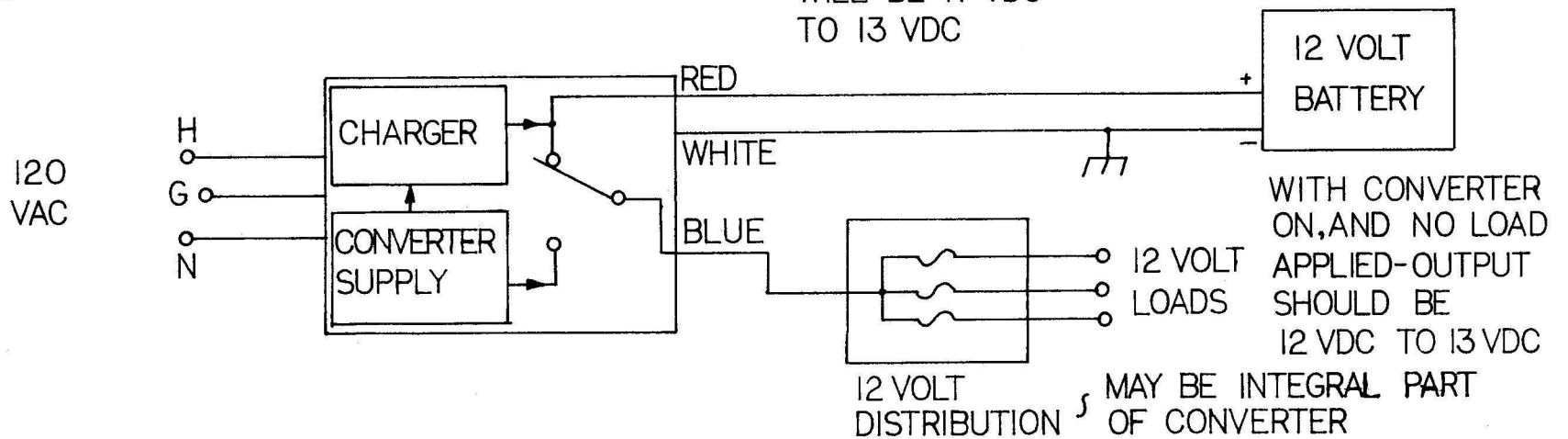
## Linear Series Troubleshooting Flowchart 3200/6300 Battery Overcharging



# FLOAT TYPE



# LINEAR TYPE



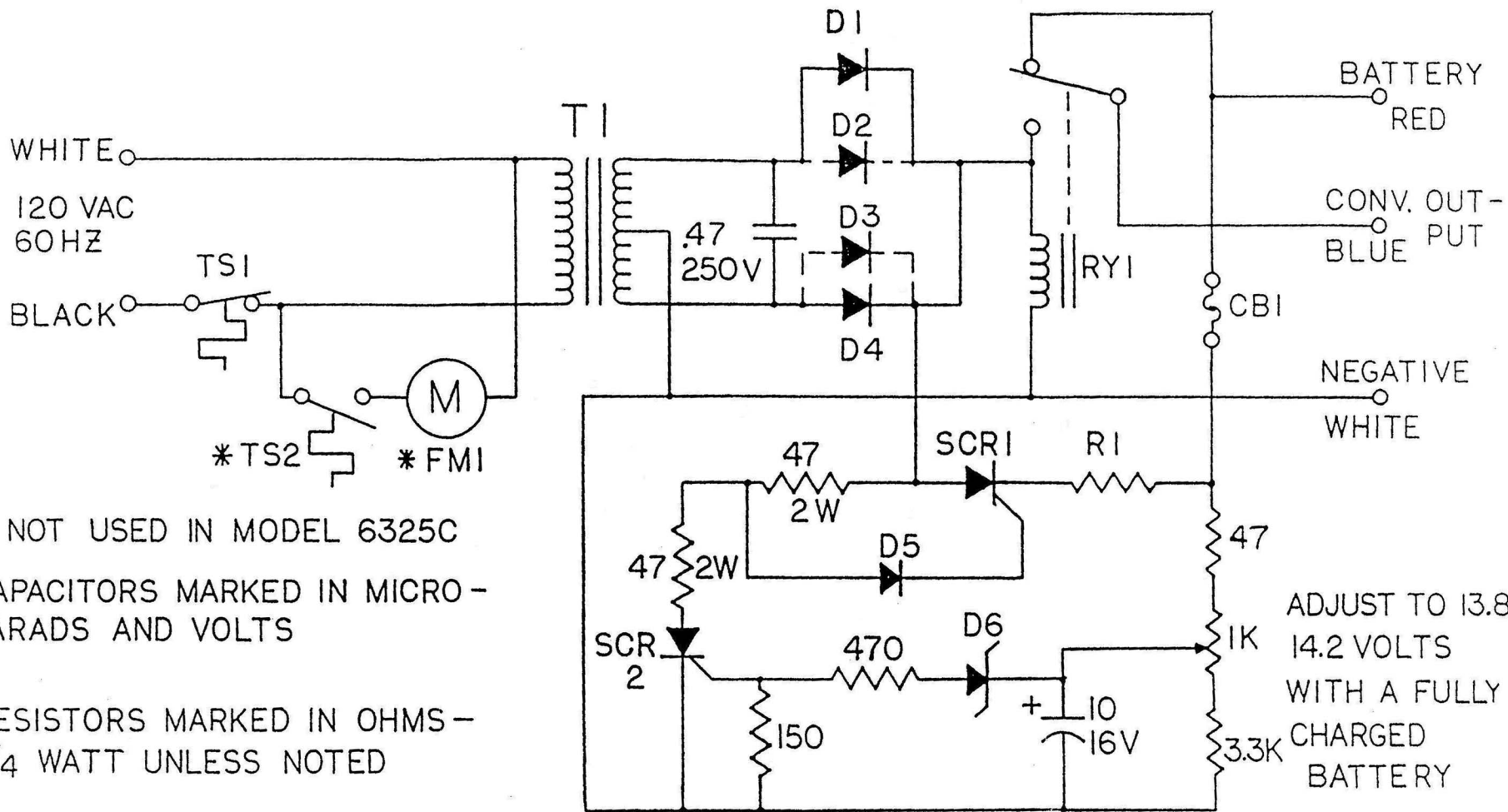
SIMULATE FULLY CHARGED BATTERY ON EITHER UNIT WITH A 50 OHM, 10W RESISTOR IN PARALLEL WITH A 50,000 MFD CAPACITOR CONNECTED TO THE CHARGER OUTPUT

## POWER CONVERTERS -

SCALE:	APPROVED BY	DRAWN BY K.MANN
DATE: 9-1-87		

## TYPICAL CONNECTIONS

MAGNETEK, B-W DIVISION	DRAWING NUMBER 2-87
------------------------	------------------------



\* NOT USED IN MODEL 6325C  
CAPACITORS MARKED IN MICRO-  
FARADS AND VOLTS

RESISTORS MARKED IN OHMS -  
1/4 WATT UNLESS NOTED

D1, D4 USED ON MODELS 6325 C,  
6332 C

MODEL 6350C, 6345C, 6345ULC, 6336C  
MAY USE D1 THRU D4 RATED 25 AMP  
OR USE D1 AND D4 ONLY RATED 50 AMP

## MAGNETEK B-W DIVISION

SCALE:

APPROVED BY

DRAWN BY

DATE: 3-10-88

K. MANN

CONVERTER MODELS 6350c, 6345c,

6345ULc, 6336c, 6332c, 6325c

DRAWING NUMBER

4-88

# Repairing the Magnatek Power Converter

Note: This unit was in my Sierra 30 foot trailer

When spring came and I prepared to get my RV all un-winterized and ready to take out, I discovered that my trailer battery was nearly dead. Since it was new from just the year before, I thought I wasn't getting very good mileage on batteries but I thought I would do some other checking before indicting the battery as defective. First, doing some various voltage checks, I found that I had good 12 volts DC to my interior lights and to the voltage monitor on the control panel. Hmmm.... that's odd. That voltage was coming from the power converter 12 volt supply (although not from the converter's battery charging section).

Checking the cigarette lighter socket, it only showed 5 volts and I determined that this was coming directly from the battery which was, by then, in a near discharged condition. Although the trailer had been plugged in all winter, the battery had not received any charge since the battery charge feature in the power converter had failed in my Magnatek Power Converter, and I didn't know when that had happened. The battery was OK, the Magnatek higher current 12 volt section was OK but the battery charger section of the converter was not OK.

Checking at the Magnatek panel in the bathroom, I found no voltage between point C (which was the positive side from the battery) and point D (which was the negative side from the battery). Now I knew where I had to concentrate my attention. NOTE: Points C and D are actually labeled as such on the unit.

At this point I spent several hours combing the Internet in search of a schematic for the Magnatek converter..... totally without success. I read jillions of messages from RVers, several asking for the same thing I sought. I wanted any kind of information, particularly a schematic, for this unit. I even contacted some of these people to ask if they had been successful in the search. Nope.....nada.....nothing..... no such luck.

I found a telephone number for the factory which built the unit and even tried to call for info. Human help was available for warranty work but my unit was several years out of warranty. I was out of luck.

I needed that schematic and since it was unavailable, it looked like I would have to generate one myself. If you've ever tried to do this it is akin to somewhere between trying to write down a cake recipe from only having the completed cake in front of you and unscrambling an egg. Not much fun, especially if the parts have non-standard markings or no markings at all..... like my converter.

I was ultimately successful and the schematic I have included is close enough, if not an exact rendering, of what is found in the Magnatek power converter. I hope it helps others as it helped me. Now, with schematic in hand, I returned to the project of repairing my converter.



*PIC #1: The circuit schematic is actually in two parts. The first part, shown above, is the main power supply part of the converter. Thanks to a reader named Baldy in California, you'll be able to see the pictures better than they originally were displayed. Baldy took my original pictures, which were upside down and sideways, and corrected them for me. Thanks Baldy..*



PIC #2: The schematic above is the battery charger part of the power converter. It will charge the RV battery but then automatically taper down to a trickle charge so as not to destroy your expensive battery.



PIC #3: I included this picture but I'm not absolutely sure of its total accuracy. I drew this out several times and I think this was the final version. Don't hold me to it, however, and if there is a discrepancy between the schematic and the underside of the PC board, you should believe the schematic first.

**UPDATE NOTE: Since publishing this original article someone sent me the actual schematics on a Magnatek RV power supply. [Click here to go to copies of those two new pages.](#)**

CAUTION: When you decide to work on your power converter, **be sure you unplug your trailer's power cable from the 117 volt AC mains.** Once that is done you can remove the screws holding the panel/cover onto the converter. This will expose the transformer, diodes, solenoid, fan and battery charge board. This solenoid is energized whenever the trailer is plugged into external AC power and it allows the converter to send charging voltage to the trailer battery. Magnatek chose to use a solenoid to activate a switch to perform this function rather than use a relay. Why? I don't know.

The following are steps required to remove all connections so you can pull the whole power converter out to work on it:

1. Remove the 4 hex-head screws which hold the front board.
2. Remove the 2 hex-head screws holding the other board.
3. Remove the 12 volt wiring to the 12 v. distribution board – the white and red wires have screws, the blue (12v) wire is attached with a screw and nut.
4. Open the cover to the 117v AC circuit breakers.

**(You did disconnect the 117v AC didn't you?)**

5. Remove the white wire which goes to the left side vertical screw strip.
6. Remove the black wire coming from the far right-hand circuit breaker.
7. Carefully feed the 2 AC and 3 DC wires from the top box so they are inside the bottom power supply box. Now you can remove the power converter pieces.
8. With the power converter box on the workbench, remove 2 hex-head screws holding the nylon posts

which are holding the battery charger circuit board.

9. NOTE: With the power converter box on the workbench, the top cover can be removed with 4 hex-head screws. This allows full access to the inside components.

The next step is to remove the board containing several electronic parts including resistors, silicon controlled rectifier, zener diode and a capacitor. This board, on my unit, stood vertically and was attached to the right-hand wall of the supply. NOTE: Do NOT attempt to pop the board off the nylon posts where it is mounted. It will not come off and attempting to pop it loose will result in a cracked board, which is made of rather fragile phenolic material. Breaking that board can separate traces on the printed circuit board and you will have additional problems. The board can be removed but only after the whole box, holding the supply, is removed. (A word to the wise..... I hope..... ask me how I know this..... No..... never mind.)

It is now that you must use your electronic trouble-shooting skills to determine which component or components might be causing your problems. That is rather difficult for me to tell you what might be causing your converter to fail but, hopefully, this information and the schematic provided will allow you to find it.

My problem turned out to be the large rectangular resistor mounted with a pop rivet to the back panel of the box. The value was obscured on mine but an ohmmeter check showed the value to be more than a megohm which was much, much too high. I would guess that its true value should have been less than an ohm but at a high power rating, perhaps 50 – 100 watts. It was here that I had to do some guessing. Since this resistor is located in the line providing charging current to the trailer battery, my guess is that its function is to drop the load a bit when first connected to a battery which is totally discharged. A fully discharged battery would place a tremendous temporary current load on the power supply components and this resistor helps to protect things during that initial surge.

After the repair was complete, I did some checking on the converter to see just how much current was provided to a battery for charging and to see whether the higher current stayed up at the high level or if it tapered off to a trickle charge as this type of circuit should do. With a 0-3 amp meter in series with the battery charging line, and using no extra resistance in the line (the big white rectangular resistor was shorted to make zero ohms or thereabouts), I placed the charging circuit across a pair of 6 volt/7.7 AHr lead-acid batteries which I had on hand. The ammeter started at just above 2 amps charging, then tapered down to around 1.25 amps.

Then I tried it across a 12v/7 AHr lead-acid battery which was already charged. The current started at just below an amp and within a minute, dropped to about 200 milliamperes or .2 amps. I say "about" because the ammeter constantly wiggled the equivalence of .1 amp. I suspected that this might be caused by the noticeable AC ripple in the DC line. After all, there is no filtering on the rectified DC coming off the full-wave rectifier.

I located a 2 ohm, 50 watt resistor in my junk-box to replace the defective one which had originally caused my problem. Placing the charger wires across another charged 12v/7 AHr battery it started the charge current at less than an amp. It also tapered down, within a couple of minutes, to about .2amps..... a shaky .2 amps. The resistor did not even run warm but it had very little current through it.

I finally found a .25 ohm/5 watt resistor and placed it in the place of the original defective white rectangular unit pop riveted to the back wall of the converter. I feared that the power rating on this resistor might be too low but I have used this one for several months and it is holding up well.

I reassembled my converter by going in reverse with the steps taken earlier to disassemble the unit. Everything went back together as easily as it had come apart and I was a happy camper (so to speak). I hope, if you are having problems as I was, that you can use some of this information and have as much

success as I did.

One additional piece of information – the fan which you hear while the trailer is plugged into an external 117 v AC source, is actually running on 117 v AC rather than 12v DC and is thermostatically controlled. A temperature sensor is attached to the aluminum heat sink which holds the power diodes. When they are doing their job and supplying 12 volt power to your trailer (not particularly to the battery) those diodes will run hot and make the heat sink also quite hot. The sensor turns on the fan which blows across the heat sink as well as our now familiar power resistor. If you don't hear the fan then the power converter is not having to do much work and the fan gets to rest.

One other benefit on my converter is, I was able to clean up all the dust and "grunge" around the fan and it has become much quieter. I still hear it but nothing like it was previously.

Just as a final encouragement for you to try to repair your own converter, when I looked up the replacement converter in a trailer accessories catalog, the replacement unit was between \$200 and \$300. That was enough inducement for me to attempt my own repairs.

Jim Pickett – K5LAD

Written June 29, 2002 ---- Updated 07/23/09

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## Updated Additional Information

I received an email from Pete Sweeny with the following information and I thought it was very worthwhile to add here:

Good evening,

I found your article most helpful. I recognized the resistor as what is commonly called an ignition resistor or ballast resistor. They were used in many Chrysler products before electronic ignition systems came into use. I found that a Sorenson brand part number GCR7 will work, it is available at Advanced Auto parts for \$3.88. It has no potting material around the resistance wire thus it will run cooler as well as a raised place where the unit fastens to the cabinet, this will also allow for better air flow.

Thanks Pete

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I received another email from Tom Holley in Canada. He writes:

After learning it was the same resistor as in the old Dodges, the same ones that we ALWAYS had a spare of in the glove compartment, I checked that first. I jumpered it with my ammeter when I had the battery out and all the lights in my camper would work. They have not done that since I bought it used! No wonder my battery would not charge while plugged in! I then removed it and ohmed it... open circuit. The new one cost me \$8.99 at the Canadian Tire store part # 18-4506 ( for us Canadians )

I just wanted to thank you for saving me the cost of a converter!

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*Also I had found some other information which I've shared with several others who have have written me. I've copied this same part of a message to their answers several times, so it might be best just to reproduce it here for anyone else. The person had asked me about replacing the fan and I sent him back the following information:*

Hi Dennis --

I replaced my fan with a 117v AC muffin fan which was about 4" square, as I recall. These fans should be available in electronics supply stores, hamfests, or even computer stores. The one I used was from the surplus market somewhere and was one I had kicking around. If you go this route, be sure you get a 117v AC unit as a lot of the fans you'll find surplus are 12 volt DC. The Magnatek fan only runs when you're plugged into city electrical mains.

As far as other parts for the unit --- "official Magnatek parts" I once had a catalog I got from an RV store. I tried to find it today but, alas, no luck. I dug back through some older messages and will copy what I sent to another RVer about this book:

Sounds like you found a pretty good deal and I think that might be wise. I might recommend that you find a book (actually a catalog) called "2004 RV Parts & Accessories." It's an 8 1/2 x 11 inch book that's just over 3/4" thick. I got mine from one of the RV dealers in Tulsa and it was a freebie. I don't know if you've got some of those around you but it might be worth a call to a dealer or two. It's one of those books which is published for "the world" but has this dealer's name, logo, address, and phone numbers on the cover. They say that many of the items in the catalog are stocked but if you find something which they don't have, they can order it for you..... kinda like the old Sears and Roebuck catalogs. In this catalog I found, not only brand new items (including power converters) but also some (note SOME) parts to repair existing equipment. For instance, on page 116 I'm seeing replacement parts for Magnetek Converters like: door latches, limit resistors, the PC board, fan motor, and relay. The prices are surprisingly economical.

Perhaps if you can locate a store with one of these books you could find a direct replacement for your fan. The truth is, the muffin fan I put into my unit is a LOT quieter than the old original fan.

69272 hits since October 12, 2002

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*I received another email from Mark Tabbert who wrote:*

I have a friend who needs help with his converter and I think I found the right place. He insists that it is the fan or lack there of that is causing his converter to overheat. It does not trip the thermal breaker but the fan never comes on either he says. I was wondering if you could me



with the testing required to check the fan and the switch or heat sensor that controls when it is on and off?

Thank you in advance,

Mark

*My answer to him might be helpful to others who have had the same problems and question:*

Hi Mark --

I'm certainly no expert on Magnatek converters..... I'm just someone who was desperate because mine was broken and I couldn't find any information on the Internet about it. Necessity is the mother of invention, at least it was for me..

.....If I were testing my converter to see if the temperature switch was working, I'd set it up on the bench and blow a heat gun (or my wife's hair dryer) on it. If the converter was plugged in to 110 volts AC and the fan didn't come on (with that heat on it), I'd know that either the fan was defective or the temperature sensor was bad. Actually when I store my trailer at home, I keep it hooked to the AC mains all the time. When I go inside on these really hot days, my fan is usually running. Not because the converter is generating lots of 12 volt DC power, but because the excessive temperature closes the temperature sensor switch in my trailer. If the fan doesn't come on when you blow hot air on it, **disconnect it from the AC mains** and try the heat source again. Once it has been heated up, measure across the temp sensor switch with a continuity meter - or a VOM (Volt Ohm meter) set to low ohms. You should see either a short across the switch meaning that it has closed or at least a low resistance (only a few ohms at most). If that test fails, the sensor is bad and must be replaced (try an automotive supply store). If the switch closes with heat, then it's good and the problem is probably a fan which needs to be replaced.

The fan is a 110v AC fan and not a 12v DC fan like they sell at computer stores. Don't put a 12v DC fan in there --- it would run REALLY FAST but not for very long before you would let all the smoke out of it. **Be sure any testing you do with that meter and any replacement of any of the parts is done AFTER TURNING OFF THE POWER - the 110 v AC!!!!!!**

BTW - If you must replace the temperature sensor, they'll want to know what temperature it should close (be sure you get NO or normally open). You might look on the switch itself and see if you can find a stamped number for the temperature for it. If not, like I said, my switch is closing in a closed trailer on a hot day which is probably around 110-120 degrees so I'd start somewhere around there.

I hope this has been some help for you and your friend. Good luck and 73, Jim - K5LAD

BTW - Yes, he needs that fan or it WILL overheat..... badly overheat. He will need to get this

fixed.

-----

*Then I quickly added another message:*

BTW Mark --

I saw something just as I sent you the previous answer. If you must replace the thermal sensor switch, don't use the term you used in your message here. The switch in the converter is NOT a "thermal breaker" but is a thermal sensor switch. The difference is, a thermal breaker is NC or normally closed and when it reaches a defined temperature, it OPENS and breaks the circuit. The switch in the Magnetek converter is a NO or normally open switch and it closes when the designed temperature is reached -- when the converter is running and gets plenty hot and the fan is to start up to cool things back down.

Again, I hope this helps.

Jim - K5LAD

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I received, yet another email from a reader who was having a problem with his Magnetek converter. It didn't seem to be providing the 12 volt DC power to the inside lights, motors, etc. when the battery was removed. This is the answer I sent him and, perhaps it might help someone else with the same or a similar problem. (Sept. 20, 2007)

Hi Rodney --

It's no bother and I'm glad to help you if I can but I'm no rocket scientist on these units. I just happened to have a need to fix my own unit and couldn't find any info on the Internet so I had to do what I did.

If you're not real accustomed to looking at schematics, you might sit down with a friend who is more up on that, but study the ones showing the power supply parts and don't worry too much about the charging section. Maybe I should say study the bigger parts and don't worry about the smaller pieces in the unit.

When the converter is plugged into the AC from your home (or wherever) there's a relay which picks (pulls in) and supplies the 12 volts to rest of the trailer. If the battery is installed, that battery will be across that 12 volt line in parallel. If it's not there, the power goes from power components (transformer, diodes, etc.) THROUGH the relay marked RY1 in the better schematic prints, and on to the area with the battery, then on to the rest of the trailer. It will get to those connections up somewhere near where your big battery is stored. Again, even if the battery's not there, the voltage still goes on to the remainder of the trailer.

If I understand your problem correctly, you're not seeing 12 volts DC to the internal things in

the trailer which run on 12 volts (lights, heater motor, etc.) I'd check the relay first to make sure it's pulling in. You can do that without opening anything up just by standing by the converter inside the trailer and having someone plug your trailer into the AC. As soon as it sees the AC (there are no switches you need to throw) you should hear the relay snap in. It's not small and should be pretty noticeable. As I recall, it sounds like it could crack pecan shells.

If you're not hearing the relay, that's going to be your problem.

If you're hearing the relay, there are several places to look but it requires you to disconnect the converter from all the wiring and place it on the workbench for further checking.

**CAUTION: Be very sure you have unplugged your trailer from the AC mains before you ever try to disconnect anything and remove the converter.**

You'll need to see if the power supply is actually generating 12 volts. There a circuit breaker on the input (primary) side of the transformer but if your fan is running, that's not the problem.

If you cannot measure 12 to 14 volts at the input connection to the relay then the problem is either the transformer, a loose or broken wire, or one of the four diodes (marked D1-D4 in the schematic). An AC voltmeter can verify that you are seeing 12-15 volts AC out of the transformer secondary.

If all that checks out: relay pulling in, 12 volts DC to the input to the relay contact but no 12 volts DC out of the relay, the contacts are probably bad (dirty or burned up). Cleaning dirty contacts may get you back in business but burned contacts will general require replacement of the relay.

If you're getting 12 volts DC OUT of the relay side but nothing to the trailer, measure the voltage with a DC voltmeter at the battery terminals with the battery removed or disconnected.

If you're getting 12 volts DC there but no lights, etc., your problem is in the wiring from that point on to wherever they are connected and that may be anywhere, depending on your trailer's construction.

If, however, you got 12 volts DC out of the relay but nothing at the battery terminals, your problem is the wiring from the converter up to the battery. That's usually an easier one to locate since it will be a fairly large piece of cable.

I'm afraid that's about the best help I can give you in troubleshooting your problem, assuming that I've understood it correctly. If I misunderstood your problem, shoot it to me again and I'll try again.

Good luck on your "project." It's not much fun but it should give you a real feeling of satisfaction, once you've located and fixed the problem.

73, Jim - K5LAD

Here is yet another email from someone who ran across my web page and used the information available to repair his Magnetek converter. He went one step further and is sharing the additional information he found which should help others.

On 23 May 2008 at 18:34, Ken Avery wrote:

Hi Jim;

I recently had an issue with my Magnetek and found your article on the web. First, Thank you, article was very helpful. I also had a problem with charging and you article cut me to the chase right away. My resistor, however, still had numbers, after a couple web searches and e-mails, I arrived at the answer, numbers were, HEI PC50-.15 P10. Translation is as follows,

Huntington Electronic Inc., 50 watt, .15 ohms, +/- 10%. From manufacture, \$10.00 each, minimum 5 piece order, plus shipping.

Resolution; Newark Electronics, SKU: 28K6344, 50 watt, .15 ohm, +/-1%. \$4.83+shipping. Charging the battery like a charm.

Unit is on a Layton 24 foot fifth wheel, 35 amp Power Converter, Series 6300A, Model 6332 option QB.

Thanks once again Jim for posting you article on the web, hope this info can help someone else as well. Cheers and happy camping.

Ken Avery

Thanks Ken - Jim

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I received this note today with some helpful information attached:

Thank you for info and for circuit diagram even more. My resistor R1 had value on it. It is 0.3 Ohm 50 Watt. CB1 was my problem (Circuit breaker) and value is 12 Volt 10 Amps.

Bought in Napa Autoparts store. My unit was in Okanagan Camper and now is working okay. Original problem was battery not being charged. Everything else worked just fine.

AI

OK AI, Good to hear another success story. - Jim

---

Here's another from Chuck from February, 2009. He was able to find some additional part numbers and repair his converter:

Hi Jim,

Thought I'd send you an update and let you know how my repair went. I did basic troubleshooting with the unit still in the 5th wheel. As suspected, I had the ~12-13 volts on one side of the power resistor and nothing on the other side. Suspected it open. Jumpered it briefly with a wire and confirmed that everything not working was now working. At my age, LOL, laying on the floor too long hurts.

I removed the bottom unit per your instructions. A piece of cake, thank you. I removed the top metal plate and unsoldered one end of the resistor. Confirmed--open resistor. I couldn't find the part you recommended, but searched the auto part stores for a comparable ignition resistor that was readily available. I found a 1.6 ohm 10 watt ignition resistor made by NIEHOFF part # FF109. Used commonly in many Chrysler cars. Concerned about the ohmage, I found a .3 ohm 10 watt power resistor at a local electronics distributor. I soldered the 2 together in parallel and with my poor meter read about .4-.5 ohms. I figured the combined wattage to be about 20 watts. Installed them in the unit and all looked good. Checked the fan circuit and the thermister and all looked good. Re-installed in the 5th wheel and has been running for 3 days now with no problems. Current seems right and the resistors are barely warm and the batteries are now charged fully.

Once again, Thank you so much for your and everyones help. Saved me about \$250 . My cost for both resistors was about \$8. Thank you again.

Chuck

That's super, Chuck. Magnetek loses another handful of money due to users doing their own repairs. Thanks for writing. -- Jim

---

This is from John from January, 2009 on the same topic as above. He was able to find some additional part numbers and repair his converter:

Jim

Your article was very helpful. I was working on the Magnetek series 6300A m/n 6345 which is in my 95 Four Winds 5000 rv and found the same problem you described. Your directions sent me to the same resistor that failed on your unit. After a little research I found a direct replacement resistor from Master Techs, Inc. Their part number is 16506718 @ a cost of 10.00. The phone number is 800-848-0558. Thanks very much for taking the time to post your experience.

John

Hi John --

Thanks for writing and I'm glad the article helped you. I get messages weekly from folks who try to find

repair info for these converters (on the 'net) and there just doesn't seem to be much out there.

I prepared the original article several years ago when I couldn't find anything. I figured if I had the problem then others might also. I makes me happy that it's been useful for others. Hope you and yours have a very Happy New Year and get to spend many happy hours in your RV.

73, Jim - K5LAD

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## Wonderful news update: (June 5, 2009)

Thanks to a reader named Chad Helmer, he's informed me that the manufacturer now provides the information on the Magnetek converters which we've long needed. Perhaps they realized, from all the hits on this website, that there was a major need to help and serve their customers. For whatever reason, we're all the beneficiaries. The manufacturer, Parallax, has provided this information at:

<http://www.parallaxpower.com/linear.htm>

In addition, Chad discovered a website which advertises the actual resistor which is often the problem and needs replacement when the converter refuses to charge the battery. It's at:

[http://www.mccampingsupplies.com/index.php?main\\_page=product\\_info&products\\_id=14097&zenid=8d26b8cdc54a11824ad0f9a9e95a19fa](http://www.mccampingsupplies.com/index.php?main_page=product_info&products_id=14097&zenid=8d26b8cdc54a11824ad0f9a9e95a19fa)

The price, at this time, is \$7.61.

Thanks a **MILLION**, Chad. You've helped a lot of people.

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***Just a note:** If you have been working on your Magnetek power converter, hopefully after finding something helpful on these pages, and you discover some additional information which might help other readers and converter owners, please drop me a note with the information. If you don't mind, I'd like to add your info to this page to help others who come by later. It's like the old story about the note found beside a lonely water pump. It offered a bottle full of water for the passerby. It cautioned them not to drink that water but to prime the pump and wet the leather piston seal in the pump with the water in the bottle. It then cautioned the user to be sure to leave a bottle full of water for the next soul who came by with a thirst.*

*What Magnetek information I found seems to have helped numerous folks and what you've*

*found could help even more. Let's share. Thanks! - Jim - K5LAD*

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## More good information

(July 23, 2009)

Good information arrived from reader Garret Hansen in Canada. He found his resistor was also defective and his Magnetek power converter was not working. He wrote:

Thanks for the writeup. That was some very helpful information. I live in Canada and searched the part number on the Canadian Tire site left in the one post on your site but was unable to find it. I will let you know if I am able to source a replacement part locally in Alberta and you can post it to help others from Alberta find the part.

Thanks, Garret

Then he sent a follow-up message:

Hi,

I actually was able to find a supplier in Red Deer. Gord at <http://www.kohen.ca/> that ordered a



50 watt 0.15 Ohm resistor today for me and should be in in two days.

The link to Parallax was good in that it has some good pictures in it but when I emailed them about purchasing just the resistor it sounded like they wanted to sell me a replacement upgrade kit as you can see from the response I received below.

MagneTek that will likely not be available from anyone locally. You can try J & J Sales in Langly, B.C. at (604) 534-6336. If unavailable from J&J, I think your best option would be to install a 7345RU upgrade kit. Information is attached. J&J would also carry the upgrade kit.

Marty Redd

RV Technical Support and Training

## [Parallax Power Supply - A Division of Connecticut-Electric, Inc.](#)

It looks like the company is willing to sell a parts kit which includes several items. If that would fill the need for readers on this webpage, the order number is listed above and the ParallaxPower link is listed above. Garret only needed and wanted the resistor to complete his repair so he continued to search available sources.

.....the part number is *MC14730 made by Multicomp.*

. <http://www.newark.com/multicomp/mc14730/power-resistor/dp/28K6344> cost me \$5.66 CDN.

*Thanks Garret*

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Last Updated - 07/23/2009

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