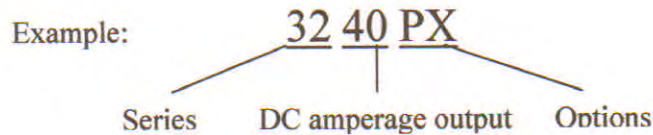




Replacing a MagneTek or Parallax 3200 Series System.

3200 Series Linear converter/chargers were manufactured with several different options available and **option codes** after the model number were used to identify these different configurations.



3200 Series

Model	Wt.	W	H	D
3215	9¼	5½	4¼	10
3220	15	7¼	6	12
3230	17	7¼	6	13%
3240	18	7¼	6	13%

Options

Code	Description
C	6 Amp Battery Charger
B	6-3 12-Volt Fuse Block
P	12-Volt Pigtail
T	6-1 12-Volt Fuse Block
X	36" 120-Volt Cord Set

3200 Series Deck Mount Converters

Model Number	12 VDC Output Rating	120 VAC Input Rating	Converter Switching	Battery Charger	Listing
3215	15 Amp	2.3 Amp	Manual	Not Available	UL
3220	20 Amp	3.5 Amp	Automatic	Optional	UL/CSA
3230	30 Amp	5.0 Amp	Automatic	Optional	UL/CSA
3240	40 Amp	7.0 Amp	Automatic	Optional	UL/CSA

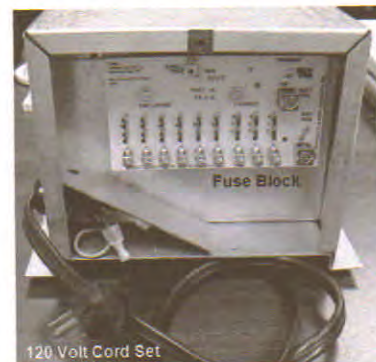
Later production units (out to the end of production) reduced available options to basically two, option P and option X.

The two questions that need to be answered about a 3200 series converter/charger requiring replacement are:

1. Does it have the internal Fuse Block? Option B or T
2. Does it have the 120-Volt Cord Set? Option X

The recommended replacement for any 3200 Series converter/charger is a Parallax Power Supply 7400 series deck mount converter/charger.

<http://www.parallaxpower.com/7400/7400productbrochure.pdf>



Choose an appropriate DC amperage output comparable to the original 3200 series DC output amperage. Installing a 7400 series with a higher DC amperage output is acceptable, but be aware that this may also require upgrading the battery bank wiring and the battery over-current protection fuse or breaker to prevent nuisance battery breaker tripping. Upgrading the battery wiring and battery over-current protection is recommended when increasing the DC amperage

capacity of the new converter and would be required to safely carry the additional amperage the battery may require during battery recharging. For #8 AWG minimum with a 90 degree Celsius insulation rating a 50-55-ampere maximum battery breaker or fuse is appropriate. **Note- Parallax Power does not recommend installing a model 7465 if the RV is equipped with 30 ampere AC input service due to the 30 ampere AC maximum input current limitation.**

DC Wiring

If the 3200 series converter/charger **has** an internal DC Fuse Block (option B or T), You will also need to install an FB series external DC Fuse Panel (see photo to right). The FB series Fuse Panel is required because a 7400 series does not contain an internal DC Fuse Panel. It is not safe to mount the 3200 series internal Fuse Block in any location external of the original mounting location in the 3200 series.



FB Series Fuse Panel

A “typical connection diagram” for 12-volt DC system interconnections utilizing a 7400 series and an FB series Fuse Panel is included as part of the document referenced by the link below.

Use the “typical connection diagram” to move circuit connections from the old 3200 series Fuse Block to the new FB series DC Fuse Panel.

http://www.parallaxpower.com/Dist_Panl/FB%20Series.pdf

If the 3200 series converter/charger **did not** have the internal Fuse Panel proceed as follows:

1. The 3200 series wiring has a blue “converter output” and a red “charger output” (or red “battery” connection for models 3215/3215UL). Connect any wiring that was connected to these red and blue leads **together** and connect them to the positive DC output terminal on the 7400 series.
2. Any wiring connected to the white DC negative lead of the 3200 series will be connected to the DC negative output terminal of the new 7400 series converter/charger.
3. Remove the AC bonding conductor from the 3200 series bonding conductor lug and connect it to the 7400 series bonding conductor lug on the side of the 7400 series unit.

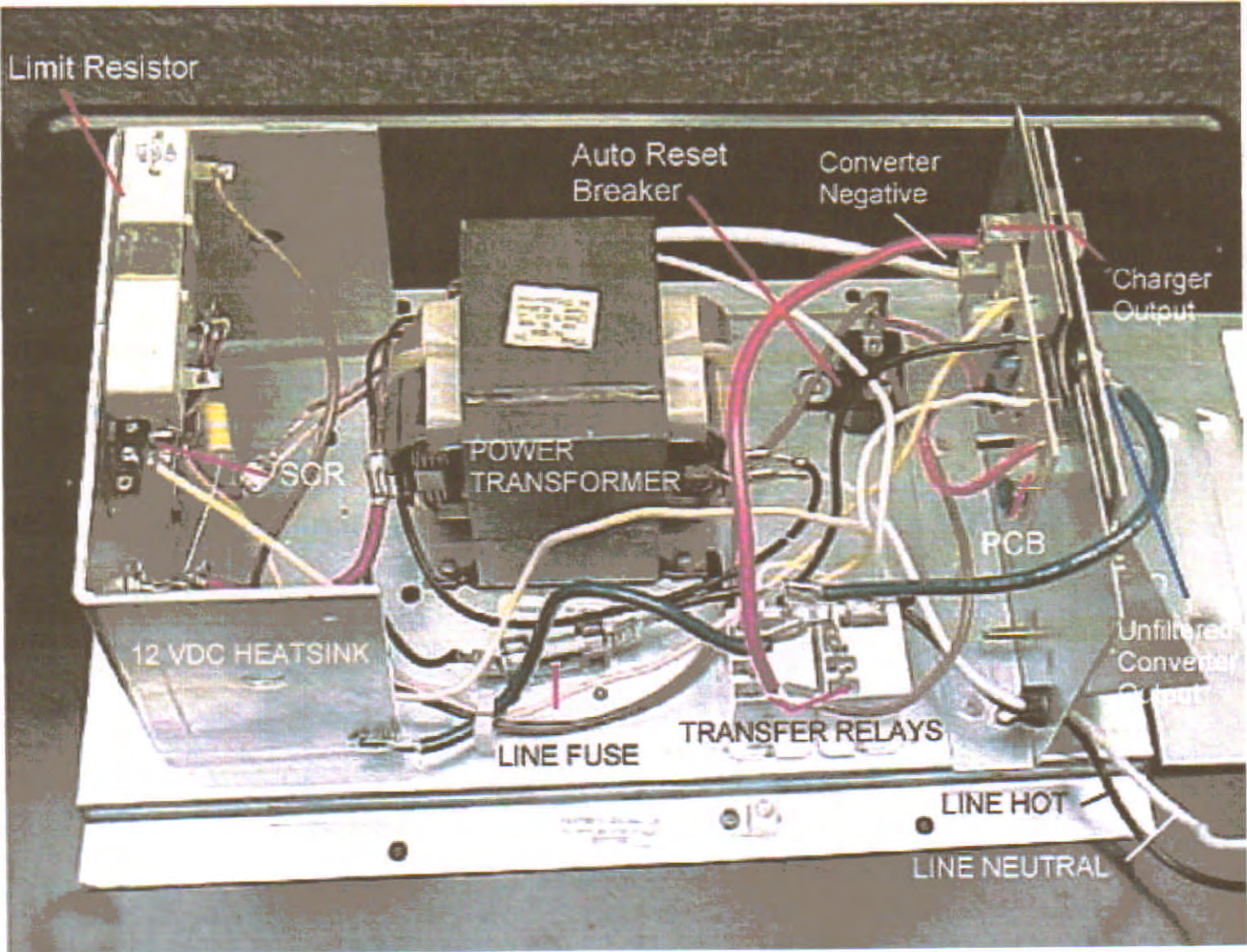
AC Wiring

The 7400 series converter has a 120 volt Cord Set and requires a 15 ampere 120VAC supply circuit for the cord set to plug in to.

If the 3200 Series **does not** have the 120-volt Cord Set (option X) and was “hardwired” to the AC breaker panel for the 120 VAC supply, have the technician or electrician install a 120VAC receptacle and outlet box appropriately rated for the amperage rating of the “Romex” or supply wiring it will be connected to. The AC circuit breaker amperage rating protecting the supply wiring must also be appropriate for the amperage rating of the supply wiring used.

Date of Publication 07/27/2006 Rev A

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Limit Resistor

Auto Reset
Breaker

Converter
Negative

Charger
Output

SOR

POWER
TRANSFORMER

PCB

Unfiltered
Converter
Output

12 VDC HEATSINK

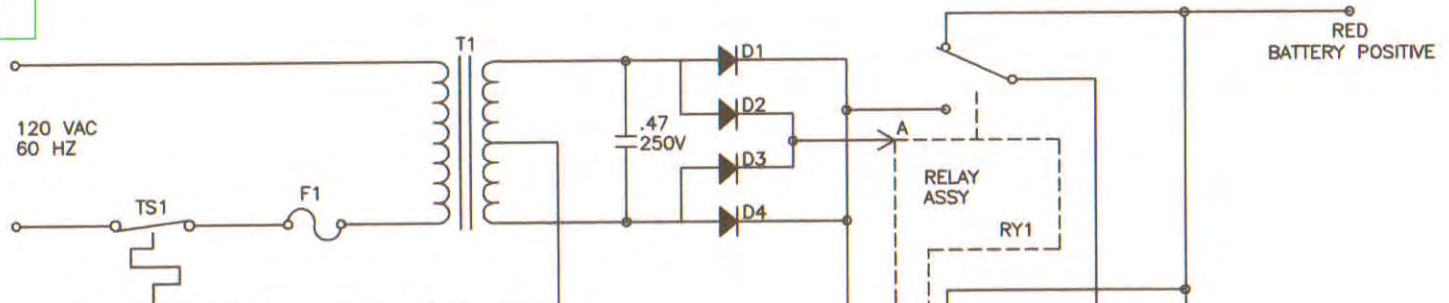
LINE FUSE

TRANSFER RELAYS

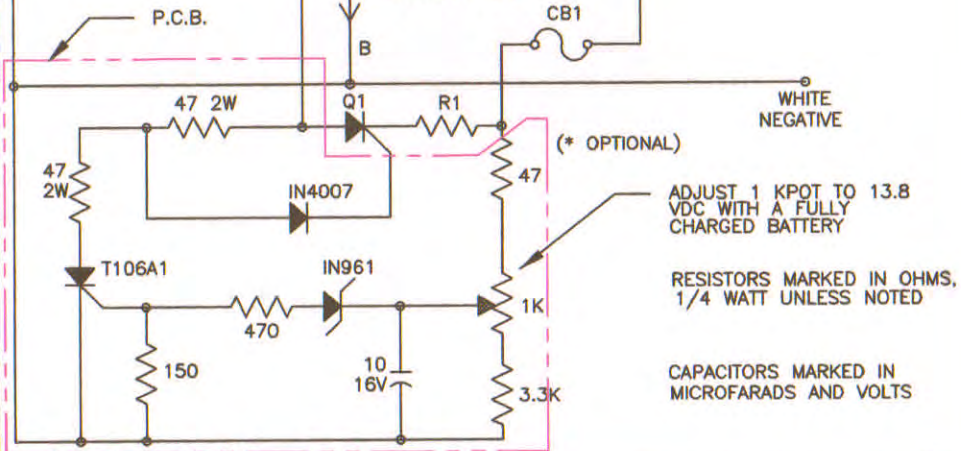
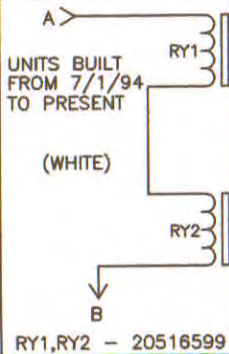
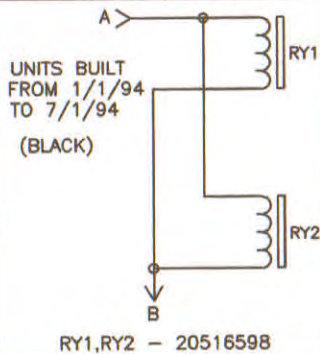
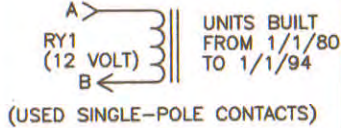
LINE HOT

LINE NEUTRAL

DWG. NO.
00000015



REF.	DESCRIPTION	PART #
TS1	THERMAL PROTECTOR	09527072
F1	10 AMP SLO-BLO	09506140
T1	TRANSFORMER	8956
D1,D4	MR5040,50A 1000V	18506803
D2,D3	IN4007,6A 1000V	18506647
*Q1	SCR S 1025R	18526667
*R1	.3 Ω 30 WATT	16506517
*CB1	10A 12VDC	20506573
RY1,RY2	SEE BELOW	
*P.C.B.	CHARGER BOARD	91500049



REV.	CHANGE	DATE
A	RELEASED	1/25/94
B	REVISED RMA	12/16/94

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

TOLERANCES
 X/X==1/64 .XX==.01
 .XXX=.005 <math>=0^{\circ} 30'

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DWN BY *R. Barnes*
 CHK BY
 APVD BY

THIRD ANGLE PROJECTION

MATERIAL
NONE

FINISH
NONE



SCALE N.T.S.

DATE 1/25/94

TITLE 3240C SCHEMATIC

SIZE A

DRAWING NO. 00000015

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.

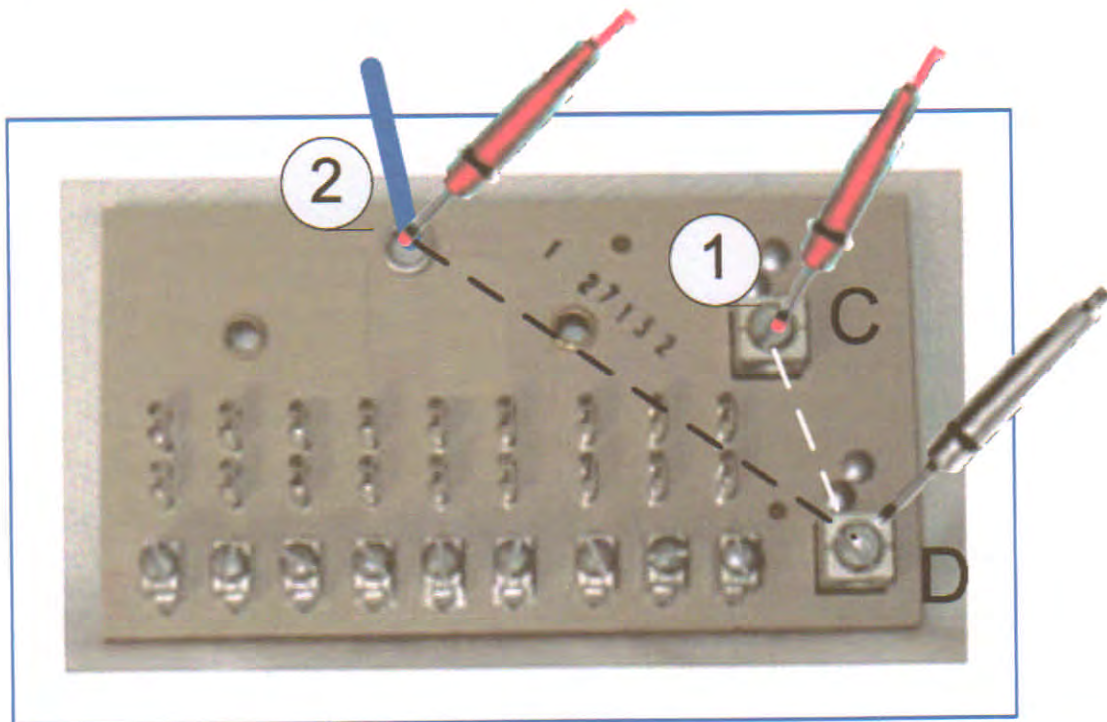
Refer to the DC fuse block reference photo below for test points.

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

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



112 E. Union St. Goodland, In. 47948

Linear Series Troubleshooting Flowchart 3200/6300 Battery Overcharging

Verify system components if troubleshooting a 6300 series linear converter per AppNotes_DCFusePanels.

Step 1.
Measure DC voltage across blue (positive) to white (negative) at DC fuse panel or DC output leads. Voltage should measure 12.0 - 14.1volts DC.

Step 2.
Note-This step requires a "true RMS" voltmeter.
Set meter to read AC Volts. Verify AC "ripple" voltage between 6 and 8 volts measured across "unfiltered" blue (positive) to white (negative) at DC fuse panel or DC output leads. Is "ripple" present?
No Yes

Step 3.
Verify battery bank condition by load test or specific gravity check. Replace defective batteries.

Step 4. *****See Note*****
Measure charger DC output voltage across "C" (positive) to "D" (negative) at internal DC fuse panel, or between red (positive) to white (negative) DC output leads. Is DC voltage 13.5 - 14.1 volts?
No Yes

Step 5.
Remove all DC load fuses from DC distribution panel connected to "unfiltered" blue (positive) wire. Recheck for AC "ripple". Is "ripple" present?
Yes No

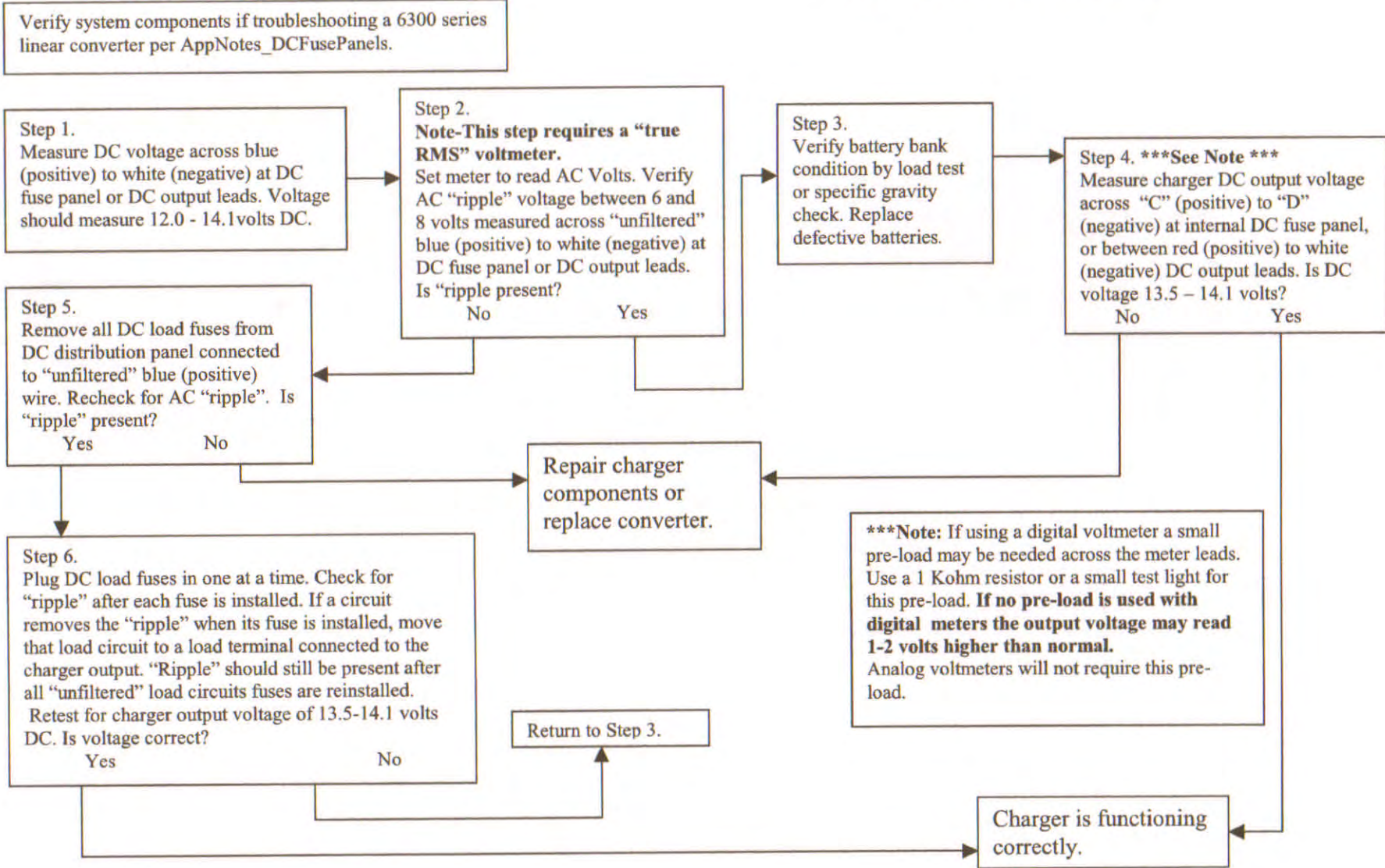
Repair charger components or replace converter.

*****Note:** If using a digital voltmeter a small pre-load may be needed across the meter leads. Use a 1 Kohm resistor or a small test light for this pre-load. **If no pre-load is used with digital meters the output voltage may read 1-2 volts higher than normal.** Analog voltmeters will not require this pre-load.

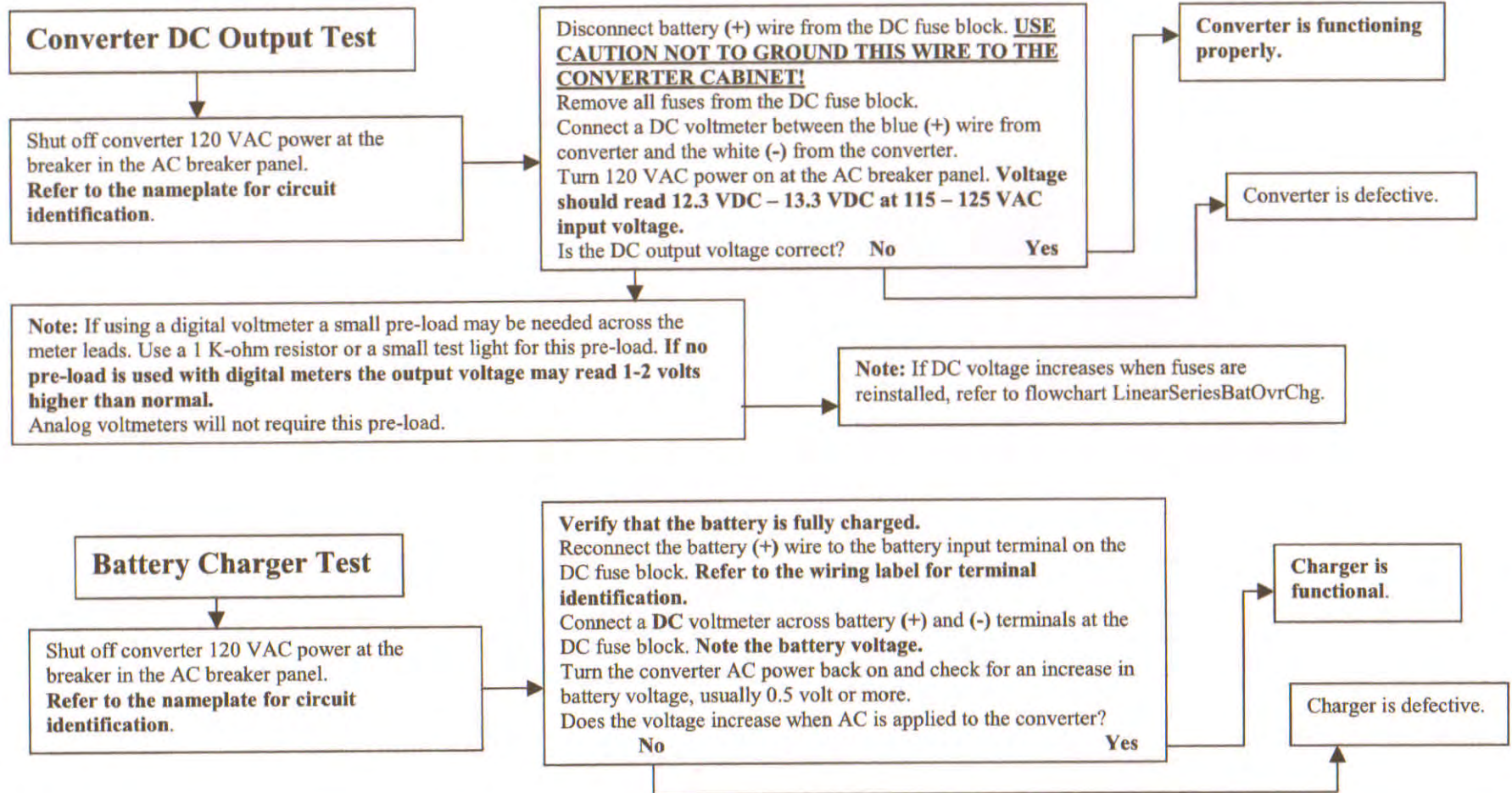
Step 6.
Plug DC load fuses in one at a time. Check for "ripple" after each fuse is installed. If a circuit removes the "ripple" when its fuse is installed, move that load circuit to a load terminal connected to the charger output. "Ripple" should still be present after all "unfiltered" load circuits fuses are reinstalled. Retest for charger output voltage of 13.5-14.1 volts DC. Is voltage correct?
Yes No

Return to Step 3.

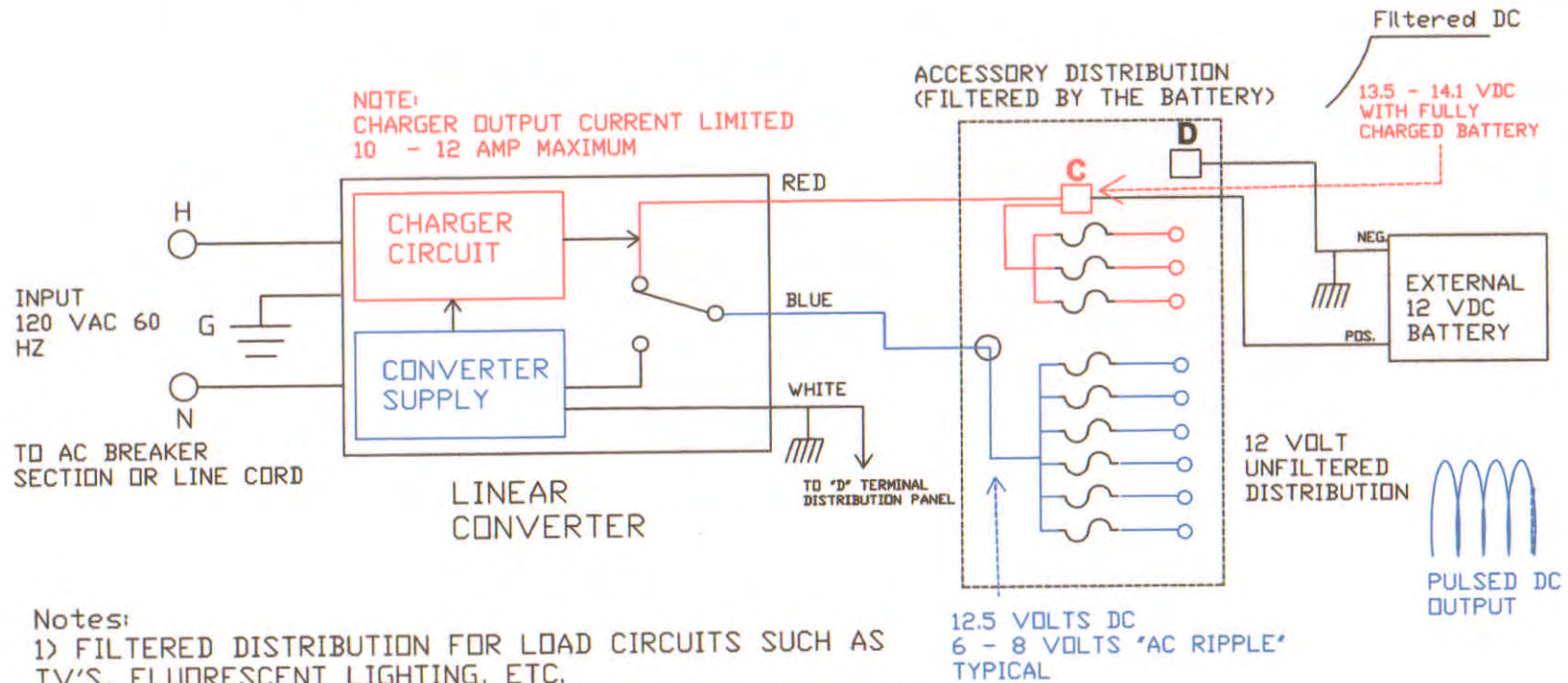
Charger is functioning correctly.



**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.