

Electrical Systems



Electrical Systems

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Power Converter

Your Coach House **PLATINUM** is equipped with a power converter that supplies the motorhome with 110 volts AC (Alternating Current) and 12 volts DC (Direct Current). The source of power can be from the:

- 1) Auxiliary "House" 12 volt batteries
- 2) 110 volt external power cord (Shore Power)
- 3) Generator

Power Converter Location:

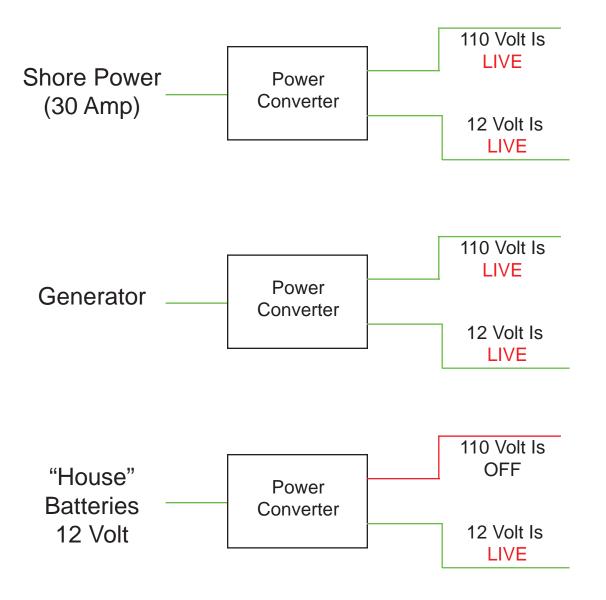
MODEL #	Location
221 XL	Under Rear Dinette Seat
232 XL	Driver's Side Under Closet
240 (Rear Bed)	Under the Pantry
240 (Twin Bed)	Passenger Side Under Twin Bed
241 XL (Rear Bed)	Under the Pantry
241 XL (Twin Bed)	Passenger Side Under Twin Bed
261 XL	Passenger's Side Under Dry Storage Cabinet
261 XL (Twin Bed)	Driver's Side Under Twin Bed
271 XL	Driver's Side Under Twin Bed
272 XL	Driver's Side (In the Bedroom under Drawers)







The converter is equipped with an automatic switchover relay to prevent both the generator and the external power cord from being connected to the converter at the same time. When either the external power cord or the generator is being used, both the 110 volt AC system and the 12 volt DC system will be activated inside the motorhome. When neither of these is connected, the 12 volt auxiliary batteries will activate only the 12 volt DC system.





Progressive Dynamics Power Converter

Instruction Manual



Insert Progressive Dynamics Manual Here



Circuit Breaker & Fuses

The location of the power converter can be found by looking for a black plastic box approximately 6" high x 12" wide. Location of the converter for your model is listed on page 3-3.

The door can be opened with a "push" touch and the circuit breakers and fuses can be located. The 110 volt AC breakers are located on the right with the first breaker on the left being the MAIN POWER, and the remaining breakers for the circuits as labeled on the door. The 12 volt DC fuses are the automotive push in type links and are located on the left side. The top two breakers are for system use, and do not feed the motorhome. The 12 volt DC circuits are labeled on the door.

There is an auxiliary 12 volt fuse panel located above the driver's side seat in a compartment behind a smoked plexiglass door.

Diagrams of the Fuse Panels for your model are located on the next two pages.

CAUTION

Whenever working on the electical sysem, the system or circuit being worked on should be deactivated by disconnecting the power and/or throwing the main circuit breaker and safe proceedures should be followed to prevent electrical shock. Any modifications made to the system should only be done by a professional to assure compliance with the codes and to assure safe installation practices.



<u>Main Fuse Panel</u> (Ford Models)



Ford

(No Inverter)

30	System Use	110	Volt \$	Syst	em E	Breal	kers
30	System Use	30	20	20	15	20	15
0	Blank	Amp	I. I.		Amp		Amp
30	Sofa		i l				
10	Water Pump	ĢĽ	/e	ţs	er	9L	t)
20	Lights and Fans	Power	Microwave	Outlets	Water Heater	Conditione	Volt)
10	Spare Circuit to Tower Control Panel	P	õ	no	He	litio	(12 '
15	Furnace	Main	lici	•	ter	nc	
10	т.v.	Ĕ	2		Nat	ŭ	Box
20	Accessories and Tank Heaters				-	Air	
10	Air Conditioner Circuit Board						Converter
3	L.P. Common						ž
5	L.P. Tank Solenoid						Ö
0	Blank						-

(With Xantrex Inverter)

30	System Use	110 Volt System Breakers
30	<u>System Use</u>	30 20 20 15 20 15
0	Blank	Amp Amp Amp Amp
30	Sofa	
10	Water Pump	
20	Lights and Fans	Power Blank nverter Heater itioner 2 Volt)
10	Spare Circuit to Tower Control Panel	n Power Blank Inverter r Heater nditioner (12 Volt)
15	Furnace	Main Ir Vater Cond Sox (1
10	T.V.	Main Powe Blanl Inverte Water Heate Air Conditione er Box (12 Volt
20	Accessories and Tank Heaters	
10	Air Conditioner Circuit Board	Ai Converter
3	L.P. Common	2 2
5	L.P. Tank Solenoid	ů
0	Blank	



Main Fuse Panel Mercedes Benz Chassis



30	System Use	110	Volt S	Syst	em E	Breal	kers	
30	System Use	30	20	20	15	20	15	
0	Blank	Amp	20 Amp	20 Amp		20 Amp	15 Amp	
30	Sofa		¦					
10	Water Pump	5	ē	S	Q	٦.	t)	
20	Lights and Fans	M	vav	tlet	Jse	one	Volt)	
10	Water Heater	Main Power	Microwave	Outlets	Not Used	Conditioner	2	
15	Furnace	ain	licı	Ŭ	N	ond	Σ Σ	
10	т.v.	Š	2			ပိ	Box (12	
20	Accessories and Tank Heaters					Air		
10	Air Conditioner Circuit Board						erte	
3	L.P. Common						Converter	
0	Blank						S	
0	Blank						-	

<u>Auxiliary Fuse Panel</u> (Above Driver's Seat)

<u>Circuit</u>	<u>Amp</u>	Device
1		Empty
2	5A	12v Power Supply
3	1A	T.V. Antenna Rotor
4	5A	Satellite
5	5A	Hot Water Solenoid (Ford Only)
6	10A	CO and LP Detectors



<u>Multi-Battery Isolator</u> <u>Sure Power Manual</u>

Ford

All Coach House FORD Chassis models have a Sure Power Battery Isolator installed which "shields" the engine battery from the house batteries when the engine is running and the alternator is charging the electrical system. The alternator will charge the engine battery first to make sure the engine systems are fully charged. When the engine battery is fully charged, the Battery Isolator will allow the alternator to charge the 'house' batteries when the engine is running.



Mercedes Benz Sprinter Models have a factory installed battery seperator. Please refer to the Mercedes Benz Manual for information about the charging systems on the Sprinter Chassis.



Insert 2 Sided Sure Power Manual Here (Debbie Print)



Generators



All FORD E-450 Chassis models are equipped with a:

e.

Cummine Onen

4.0 kW ONAN (Gasoline) Microquiet Generator

Ford Chassis Generators feed directly from your fuel tank. No special fuel fill is needed to power your generator.

Safety Note:

Cummins Generators will not operate if your gasoline fuel tank is less than 1/4 tank full. This feature will ensure that your vehicle has sufficient reserve fuel available for other uses.



Mercedes Benz Chassis models are equipped with a:

Dummins Onan

2

3.6 kW ONAN LPG (Propane) Microquiet Generator

Your LP Gas Tank should only be filled by a qualified Propane Salesperson. Injury or death could occur if safety precautions are not followed.

The instruction manual supplied with the generator should be carefully reviewed. Care should be taken not to exceed the capacity of the generator to prevent any possible damage to the generator unit.



Insert Cummins Generator Manual Here



Auxiliary "House" Batteries



Auxiliary batteries are mounted on a slide-out tray next to the entry door for easy access.





Your Ford Chassis may have two (2) or three (3) batteries depending on how it was originally equipped at the factory.



Mercedes-Benz

Auxiliary batteries are located under the hood on the driver's side of the engine compartment.



Standard 1 Battery (100 Amp Hours)



Optional 2 Batteries (242 Amp Hours)

Auxiliary Battery Configurations





FORD Chassis

Interstate Deep Cycle Group 27 Model DCM0090

2 Standard 1 Extra (Optional)

3 Total



Mercedes Benz Chassis

Mercedes-Benz

Factory Installed Battery (Standard)

Interstate Group CG2 6 Volt (Optional)

2 Batteries Wired in Series

Rated 242 Amp Hours

Rated 100 Amp Hours

The auxiliary batteries are charged either by:

- 1) The alternator of the motor home while driving
- 2) The power converter when external 120 Volt AC power is connected
- 3) The Generator

Care should be taken to prevent the auxiliary batteries from being totally discharged by making sure that all of the lights, fans, and appliances are turned off when the motor home is not in use. Whenever the motor home is not used for a period of time, the 120 Volt power cord should be plugged in once a month for 8 to 12 hours to bring up the charge on the auxiliary batteries. The master 12 Volt electrical switch (found to the right immediately upon entering the main motor home door) must be ON for the converter charger to charge the auxiliary batteries. Refer to the power center instruction sheet for further information. A totally discharged battery will not normally recharge as quickly, or in the same manner as a low battery. Professional help should be used when attempting to charge a totally discharged battery.

The engine battery of the motor home is not charged from the power converter. The engine battery should be periodically checked and maintained. Refer to the Chassis Owners Manual for recommended engine battery maintenance.





DCM0090 VALVE-REGULATED LEAD-ACID BATTERY FOR DEEP-CYCLE APPLICATIONS

FEATURES

- Robust plate for extended cycle life.
- Computer-generated grid design optimized for high-power density.
- Low-calcium grid alloy for reduced gas emissions and ease of recycling.
- Flame-arresting, one-way pressurerelief vent for safety and long life.
- UL-recognized component.
- Multicell design for economy of installation and maintenance.
- Case and cover available in standard polypropylene.
- Thermally welded case-to-cover bond to eliminate leakage.
- · Removable handles.
- Can be used in any orientation. Upright, side or end mounting recommended.

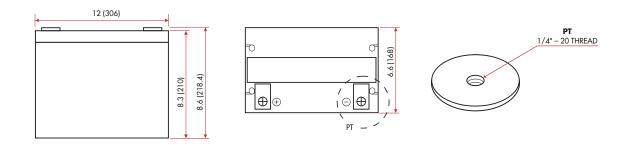
- Absorbent Glass Mat (AGM) technology for efficient gas recombination of up to 99% and freedom from electrolyte maintenance.
- Not restricted for air transport complies with IATA/ICAO Special Provision A67.
- Not restricted for surface transport classified as nonhazardous material as related to DOT-CFR Title 49 parts 171-189.
- Not restricted for water transport classified as nonhazardous material per IMDG Amendment 27.
- Longest cycle life available.
- Manufactured by an ISO9001 certified facility.

12 Volts – 90 Ampere-Hour Capacity @ 20-Hour Rate							
Ampere-Hour Capa	city to 1.75 Volts per 10.5 Volts per	Cell @ 77°F (25°C) 12 Volt Battery					
Approximate Discharge in Hours	20	(10 (5	1			
Amp-Hour Capacity	92	84	67	46			
Interstate Battery System of America, Inc. 12770 Merit Drive, Suite 1000 Dallas, TX 75251 Customer Service: 1-888-772-3600 Printed in the U.S.A. Rev. 12/06 MB 128782 © 2006 Interstate Battery System of America, Inc.	es.com						



DCM0090





*All dimensions in inches and (millimeters). All dimensions are for reference only. Contact an Interstate representative for complete dimensional information. **DCM0090 – Specifications** Cells Max. Discharge **Short Circuit** Ohms Imped. Voltage Per Unit Weight Electrolyte Per Unit Current Current 60 Hz Absorbed H_2SO_4 SG = 1.30 60.2 lbs. 1350 Amps 6 12 450 Amps $8 \text{ m}\Omega$ 27.3 kg @ 0.1 sec.

Capacity	90 Ah @ 20 hr. rate to 1.75 volts per cell @ 77°F (25°C)
Operating Temperature Range (with temperature compensation)	Discharge: -40°F (-40°C) to +160°F (71°C) Charge: -10°F (-23°C) to +140°F (60°C)
Recommended Operating Temperature Range	+74°F (23°C) to +80°F (27°C)
Equalization and Cycle Service Charging and Current Limits	≤ 36 A, 14.5 V – 14.9 V
Self Discharge	Interstate batteries may be stored for up to six months at 77°F (25°C), and then a freshening charge is required. For higher temperatures, the time interval will be shorter.
Terminal	Insert, threaded female, 1/4" – 20 (hardware included)

Constant	Constant Current Discharge Ratings – Amperes @ 77°F (25°C)												
End Point				Opera	ating Time	to End P	oint Volta	ge (in hou	rs)	L	_		
Volts/Cell		5 min	10 min	15 min	30 min	1 hr	2 hr	3 hr	4 hr	5 hr	8 hr	10 hr	20 hr
9.60V	А	309.3	225.7	158.8	96.1	50.2	29.3	21.5	16.7	13.8	9.7	8.8	4.7
9.000	W	3284.6	2480.4	1687	1020.8	581	338.6	249.1	194	159.7	112.9	102	54.9
10.20V	А	272.5	205.7	142.1	91.1	47.2	27.9	20.9	16.3	13.5	9.5	8.5	4.6
10.200	W	3025.5	2283.1	1577.5	1011.6	545.9	323.5	242.4	188.9	125.5	110.4	99.5	53.5
10.50V	А	262.5	195.6	133.8	88.6	46	27.3	20.4	16.1	13.4	9.4	8.4	4.6
10.000	W	2977	2218.7	1516.5	1004.9	528.4	316	236.6	185.6	154.7	109.5	97.8	52.8
10.80V	А	252.5	185.6	125.4	86.1	44.3	26.6	19.9	15.8	13	9.2	8.4	4.5
10.000	W	2938.5	2160.2	1459.7	1002.4	514.1	309.3	231.6	182.2	152.2	107	97	52.6
11.10V	А	242.4	175.6	117	83.6	42.6	25.9	19.2	15.3	12.7	8.9	7.9	4.3
11.100	W	2885	2089.2	1392.8	994.8	507.5	308.5	229.1	181.4	151.3	106.2	94.5	51

HCoach House Motor Homes

80 Amp Breaker

Your Coach House **PLATINUM** has an electrical system circuit breaker to prevent damage to your electrical system. The 80 Amp breaker will 'trip' if an overload situation occurs. Push in the red button to reset the breaker.

80 Amp Breaker Locations

Model #	Location
221 XL	Under the Dinette Seat (Front)
232 XL	Front Edge of the Galley (Lower Cabinet)
240/241 XL	Bottom of the Driver's Seat Base
261 XL	Under the Dinette Seat (Front)
261 XL (Twin Bed)	Side of Galley Cabinet as you enter motorhome (on left)
271 XL	Behind the Lounge Chair (On the Galley Cabinet)
272 XL	Behind the Lounge Chair (On the Galley Cabinet)



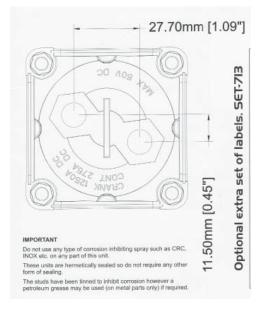


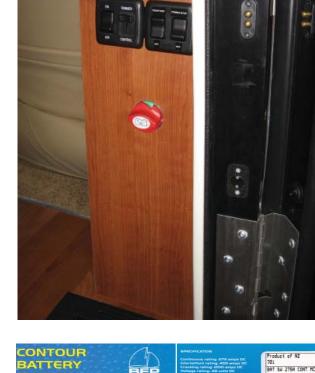
Battery Switch

The battery switch is located at the exterior side door, on the cabinet behind the passenger's seat. Auxiliary batteries are being used when the switch is in the on position. Always turn the battery switch to the off position when the motor home is not being used, to prevent the auxiliary batteries from being drained.

NOTE: Auxiliary batteries will NOT charge from engine alternator or converter with battery switch in the "OFF" position.











Maintenance of Batteries

Batteries have a "life" which is determined by the number of charging/discharging "cycles". When your system is not in use, proper care should be taken to extend the battery life by following simple proceedures:

Short Term Storage:

- 1) Turn off the Interior Battery Switch (located inside the Motorhome Entry Door to the right).
- 2) Ensure that all current drains have been eliminated. (Turn off all appliances)

Long Term Storage:

- 1) Turn off the Interior Battery Switch (located inside the Motorhome Entry Door to the right).
- 2) Disconnect the "House" Batteries by removing the Main "Positive" (red) cable(s).



Note: Do not disconnect the short red cables between your batteries. Only disconnect the "long" red cable(s) which feed your motorhome.

 Connect a Battery Maintenance Device (Charging System) to your "House" Battery Bank. Chargers and Maintenance Devices are readily available at Auto Parts Stores, RV Dealers, or your local Hardware Store.

Engine Battery Maintenance:

Please refer to your Chassis Owner's Manual to correctly maintain your engine battery.



Insert Battery Maintenance Manual in See Through Pocket Here



GFCI Receptacles

A GFCI receptacle is different from conventional receptacles. In the event of a ground fault, a GFCI will trip and quickly stop the flow of electricity to prevent serious injury. All Coach House **PLATINUM** models have GFCI receptacles in the galley and the bathroom. See the GFCI manual for more information.



Step 1: Plug a lamp into the GFCI.

Step 2: Turn on the lamp.

Step 3: Push the TEST button on the GFCI. The GFCI should trip, stopping the flow of electricity to the lamp. Note that the RESET button will pop-out.



If the lamp DOESN'T turn off when the TEST button is pushed, the GFCI is not working properly and should be replaced immediately.

If the lamp DOES turn off when the TEST button is pushed, the GFCI is working properly and should be tested monthly. To restore power, press the RESET button.



If the power is not restored when the RESET button is pushed, the GFCI is not working properly and should be replaced immediately.

For more information on GFCIs and how to test monthly, go to www.tools.passandseymour.com/gfci or to participate in an interactive

GFCI demo online, go to

www.electrical-safety.org

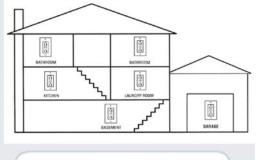
What is a GFCI Outlet?

A Ground Fault Circuit Interrupter (GFCI) Outlet protects you from serious injury due to electrical shock from:

- Hazardous leakage levels from appliances and tools
- Exposure to moisture while operating electrical equipment
- Frayed or damaged electrical wiring

Where are your GFCIs located?

GFCI protection is required per the *National Electrical Code*® (NEC) for outlets servicing bathrooms, kitchen countertops, unfinished basements, garages, utility sinks, and outdoor locations.

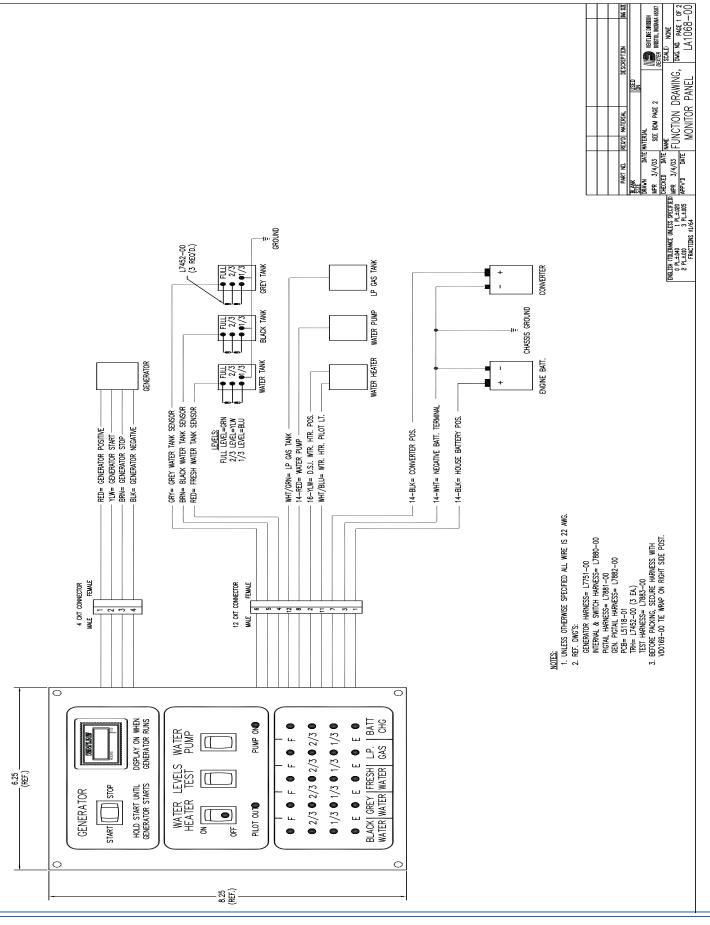




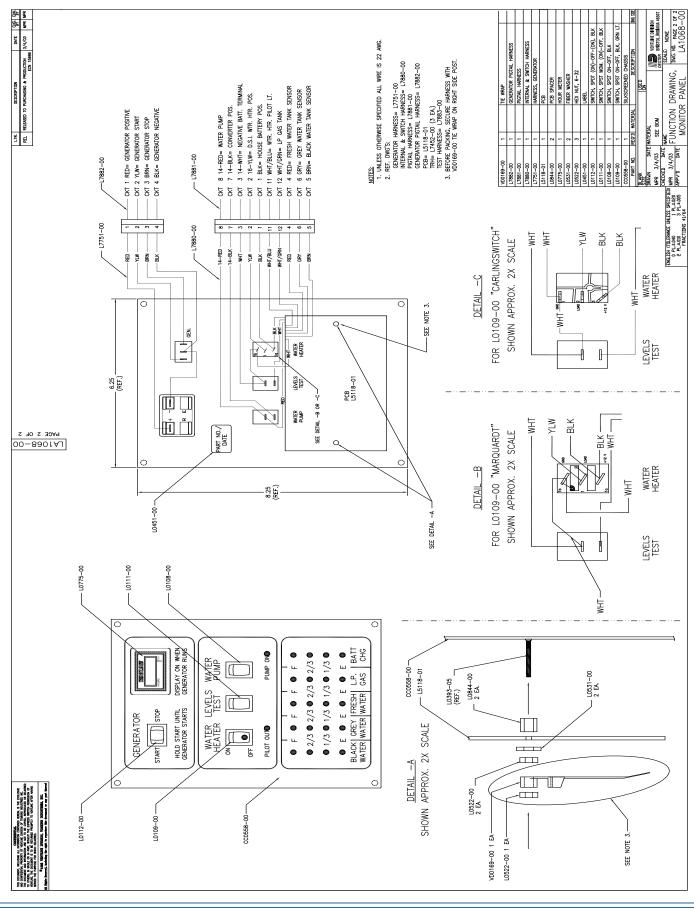


Main Control Panel Wiring Diagrams

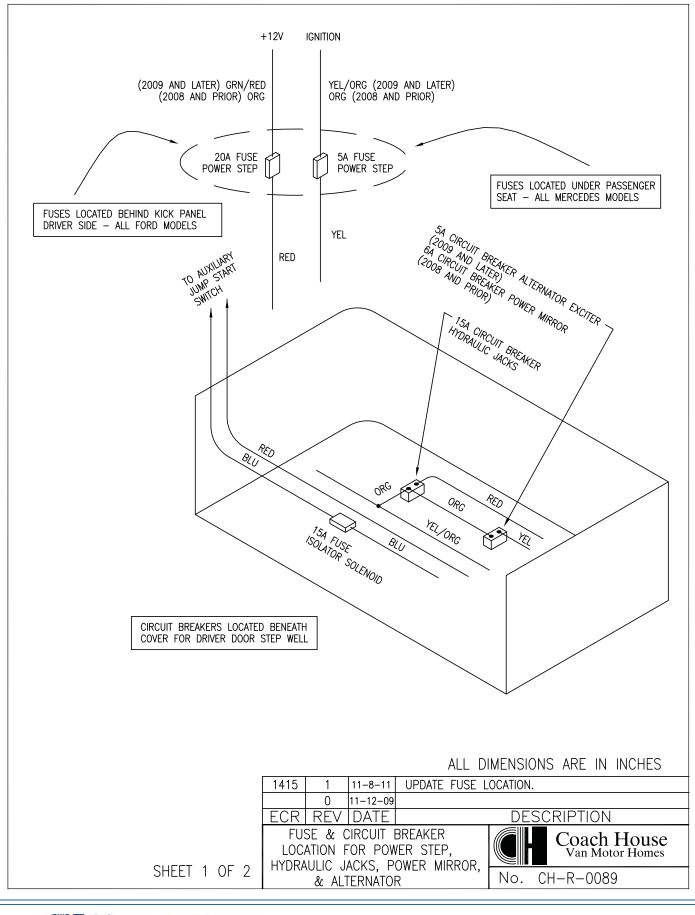




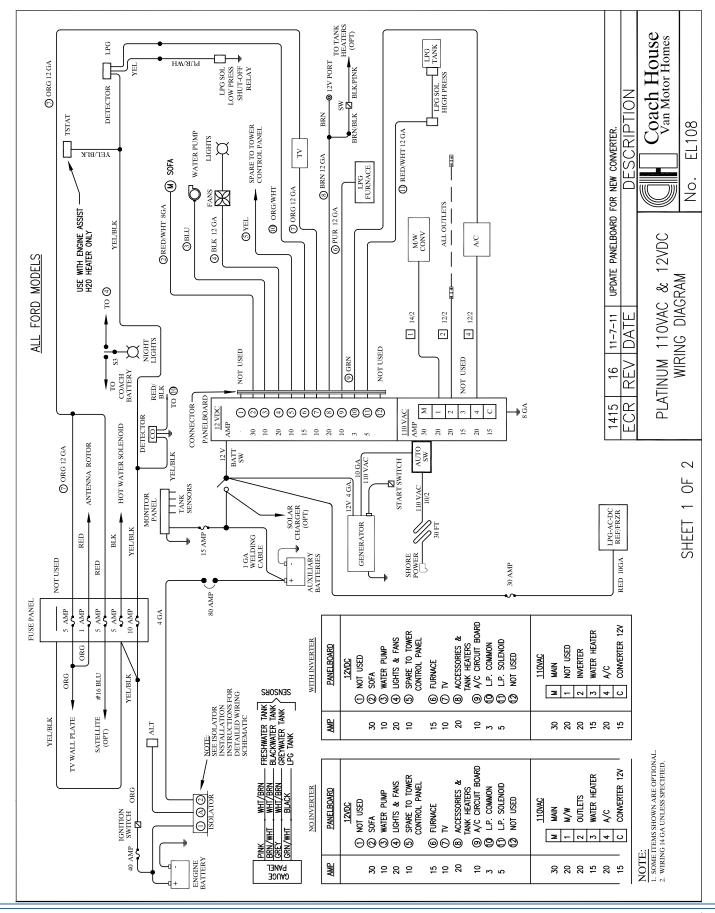
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