

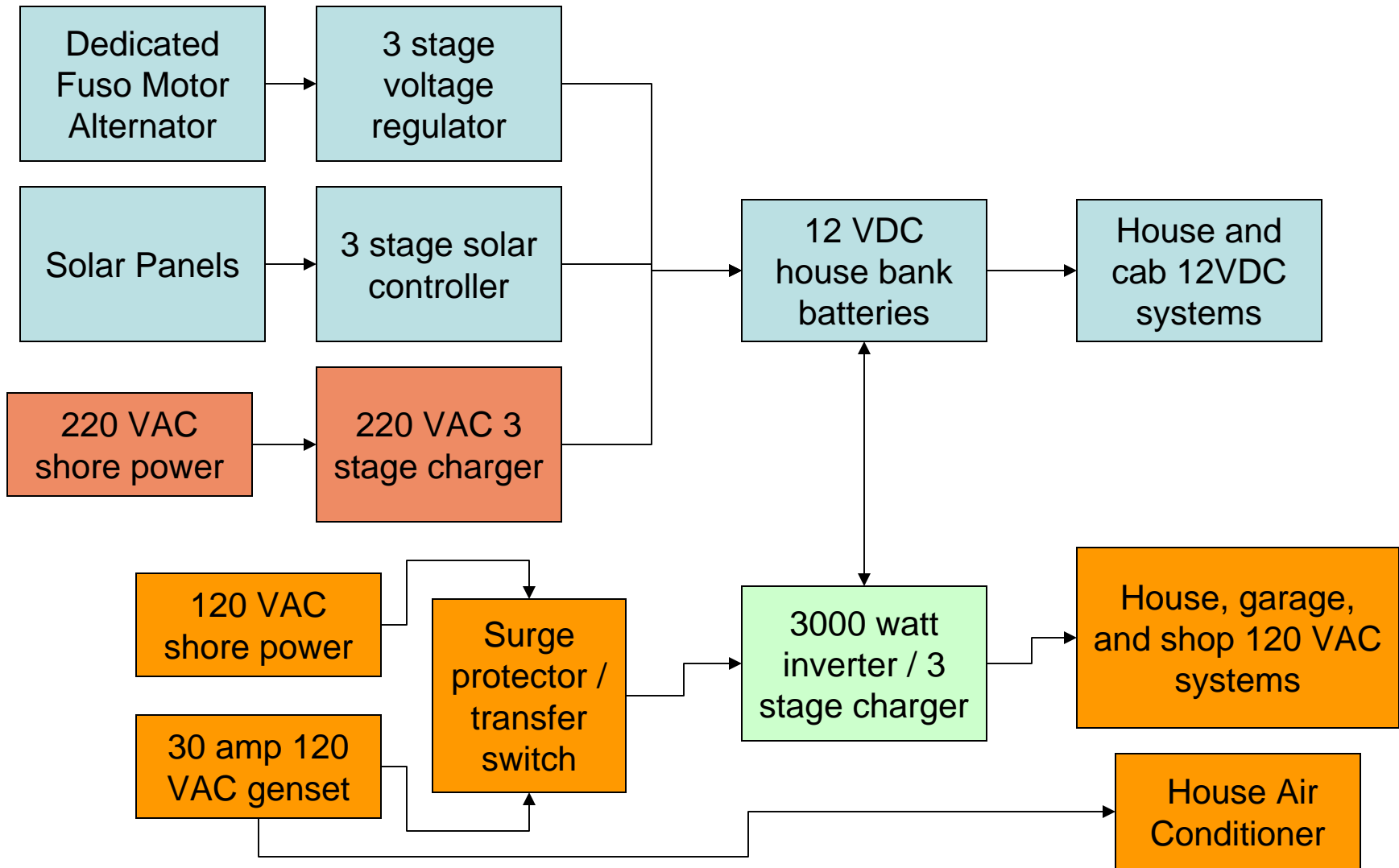
# Hackney Fuso Basecamp Expedition Vehicle

## Electrical System Overview

# Electrical System Overview

- 120 VAC / 60 HZ standard
- 12 VDC standard
- Four house batteries – 840 amp hours
- 30 amp, single phase diesel generator
- 3,000 watt inverter
- Dedicated Fuso chassis motor 135 amp alternator for house batteries
- Four solar panels – 19 amps total output

# System Block Diagram



# Fuso Chassis Balmar Alternator



Dedicated Balmar alternator and 3 stage voltage regulator

# Solar Panels and Controller



Solar panels and combiner



Solar controller / 3 stage charger

# 220 VAC Charger



Installation



Operation

# Surge Protector / Transfer Switch



2/6/2008

[www.hackneys.com/mitsu](http://www.hackneys.com/mitsu)

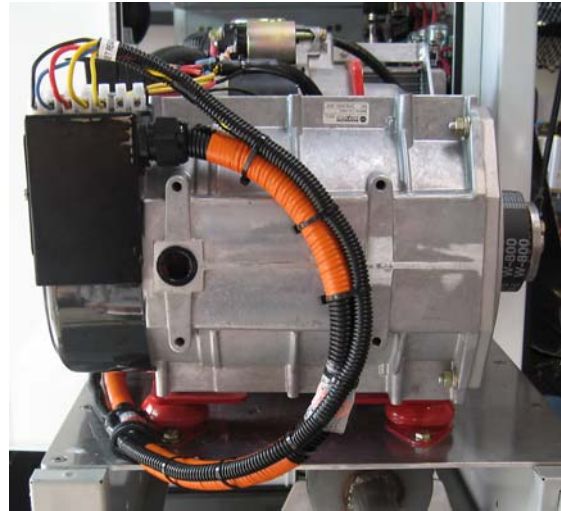
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# Diesel 30 amp Genset

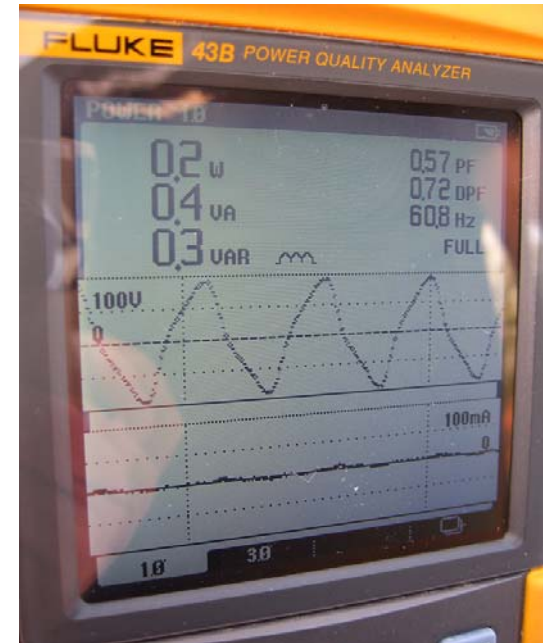


1 cylinder diesel

Burns ~1/10 gallon per hour

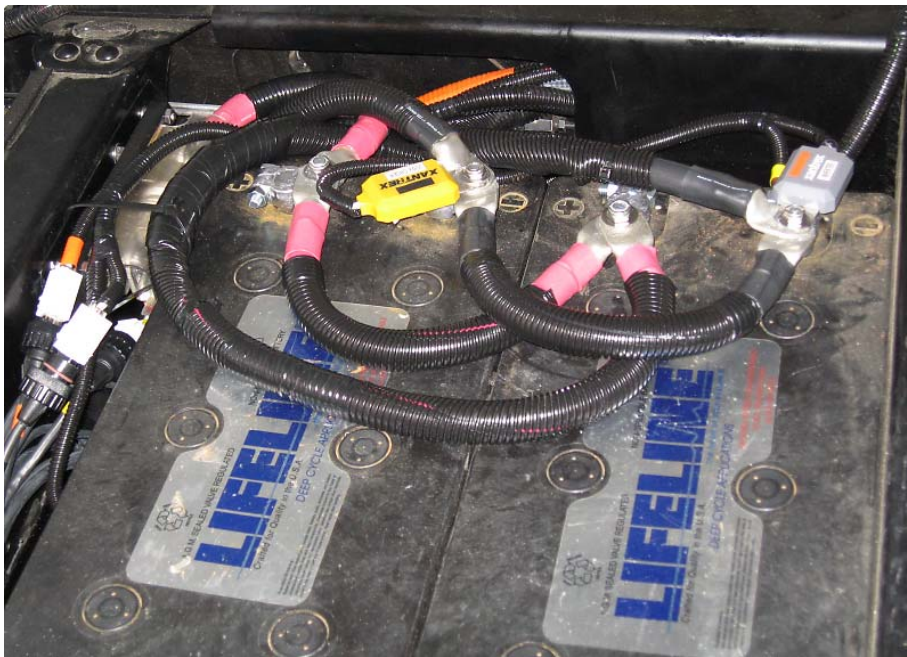


Voltage regulated head end

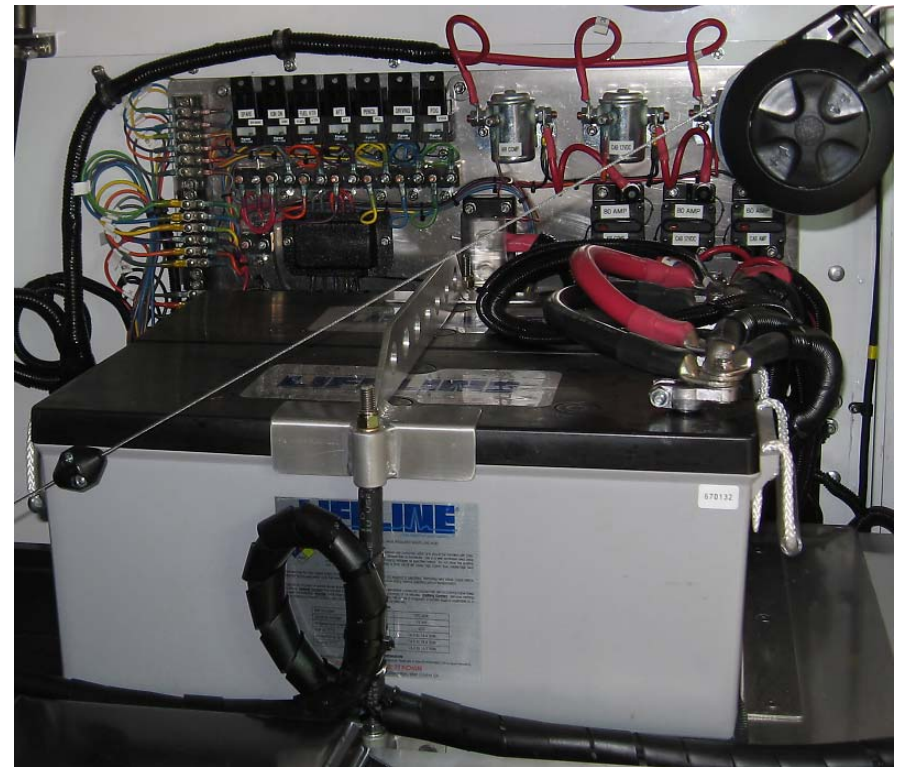


Genset output wave form

# House Batteries



Aft house batteries

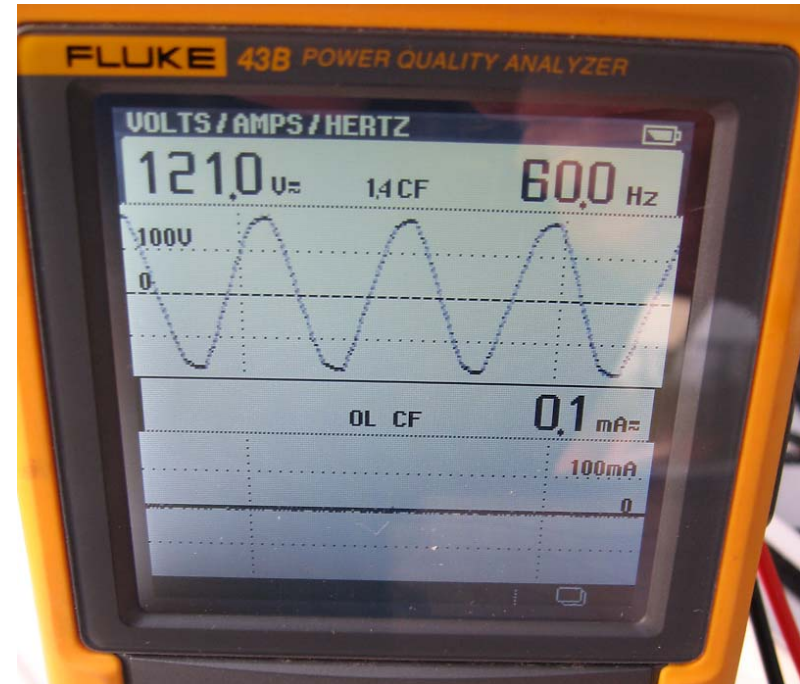


Forward house batteries

# 3,000 Watt Inverter



3,000 watt inverter / 3 stage charger



Inverter output waveform

# Isolation Transformer



Provides bridged or isolated connection between an AC input and output. Can operate 120 to 120, 220 to 220, 120 to 220 or 220 to 120, all single phase.

# Shore and Guest Power



Shore and Guest AC power Input / Outlet connections. Top: shore power, Bottom: guest power. Input and/or output can be 120 or 220 VAC.



Shore and Guest AC power Input / Outlet connections with adapter cables. Left: guest power, Right: shore power. Input and/or output can be 120 or 220 VAC.

# 120 VAC Distribution



Patch bay



Breakers



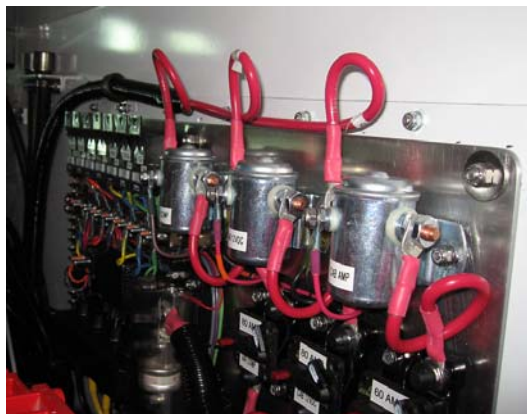
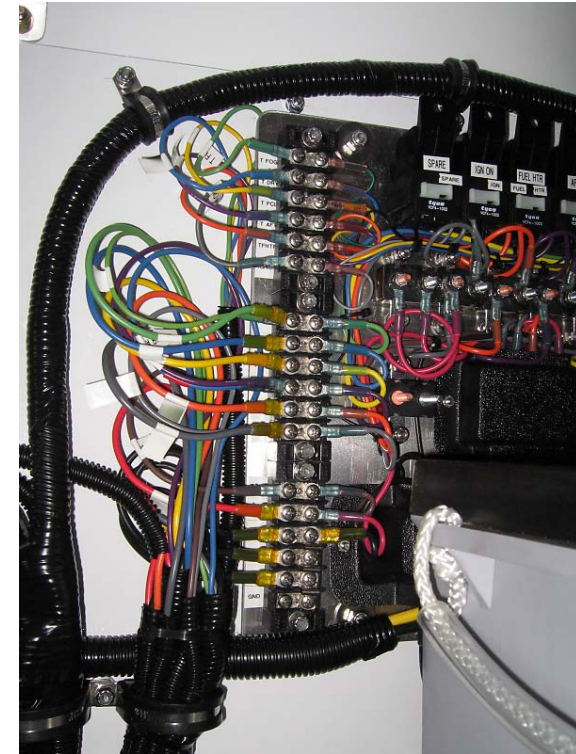
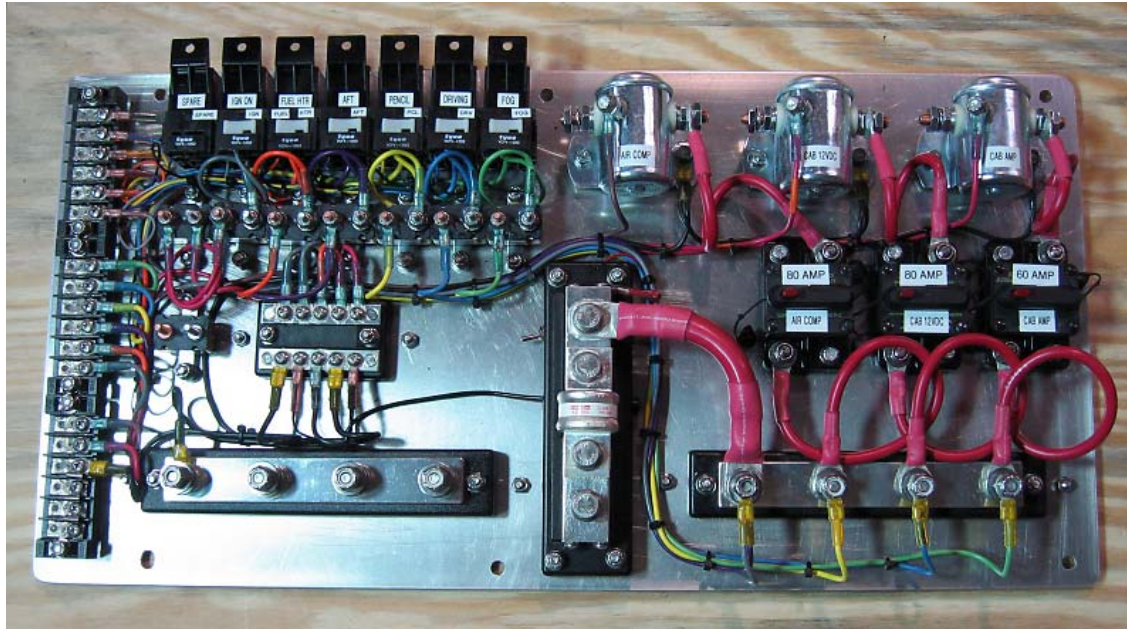
Volt/Amp/Hz Meter

# 12VDC / 120 VAC Distribution



House 12 VDC / 120 VAC distribution panel with volt / amp / Hz meters

# Chassis & Cab 12 VDC



12VDC Breakers and relays for fuel filter heater, air compressor, cab stereo amp, cab 12VDC, aux. reverse lights, fog lights (halogen), driving lights (HID) and pencil beams (HID)

# Garage & Shop 12 VDC / 120 VAC



Garage 120 VAC outlets & 12VDC fused outlets



Shop 120VAC outlets



Shop 12 VDC  
Systems fuse block



Shop 12VDC fused outlets

# Cab 12 VDC Distribution



Center console 12VDC fused outlets



Cab 12VDC fused outlets / distribution

# Systems Remote Control Panel



Top (L-R): Auto genset start, 220 VAC charger, Xantrex System, Skymate, panel lights

Bottom (L-R): LP tank level, Surge Guard, Blue Sky solar, Next Gen Genset, LP tank output solenoid, House LED courtesy lights

