

Our Solar



WE PURCHASED OUR 1978 AVION MODEL 28M IN JULY OF 2015. IT HAD 3 PREVIOUS OWNERS WHO HAD ALL TAKEN VERY GOOD CARE OF IT AND IT WAS FULLY LOADED WITH OPTIONS AND HAD BEEN CARED FOR BY CAYO REPAIR ALMOST EXCLUSIVELY FOR MOST OF ITS LIFE. WE BOUGHT IT TO FULL TIME IN WHILE WE MOVED TO TEXAS AND FOR TRAVELING AS MUCH AS WE COULD FIT INTO OUR LIVES WHILE WE CONTINUED TO WORK FULL TIME AND FOR FUTURE TRAVELS ONCE WE HAD MORE FLEXIBILITY.

SOLAR HAD ALWAYS BEEN IN OUR PLANS TO ALLOW US FREEDOM TO STAY IN BEAUTIFUL REMOTE PLACES AND NOT BE TETHERED TO RV PARKS. I LIVED IN AND REMODELED THE INTERIOR TO SUIT OUR NEEDS FOR 10 MONTHS PRIOR TO BOTH OF US LIVING IN IT, AND WENT THROUGH ALL THE SYSTEMS TO GIVE US A RELIABLE , COMFORTABLE HOME AND 2 YEARS LATER WE STILL ENJOY AND APPRECIATE OUR 40

YEAR OLD HOME ON WHEELS. WE HAVE BEEN 14,000 MILES SO FAR AND ENJOYED SOME AMAZING TIMES AND LIVED COMFORTABLY.

I JUST COMPLETED OUR SOLAR SYSTEM A MONTH AGO AND HAVE BEEN DESIGNING IT AND INSTALLING PARTS SINCE OUR REMODEL BEGAN 2 1/2 YEARS AGO.

OUR GOALS WERE TO BE ABLE TO LIVE COMFORTABLY FOR A WEEK WHILE USING POWER SPARINGLY. I RESPECT PEOPLE WHO HAVE CREATED SYSTEMS WITH PANELS ON EVERY INCH OF THEIR ROOF AND OVER THE WINDOWS WHILE CARRYING THOUSANDS OF AMP HOURS OF VERY EXPENSIVE BATTERIES, BUT THAT IS NOT WHAT WE WANTED OR NEEDED. WE LOVE THE LOOK OF OUR AVION TOO MUCH TO COVER IT AND OUR BOON DOCKING INTEREST WAS MORE IN LINE WITH CAMPING. I READ A LOT ABOUT OTHER PEOPLE'S EXPERIENCES WITH THEIR SYSTEM AND AS WITH MOST INTERNET CONTENT, I BECAME VERY CONFUSED. THE ANGRY AND DISGUSTED VOICE THAT STARTED ME DOWN THE PATH TO OUR CURRENT SETUP WAS HANDY BOB.

A LOT OF HIS CONTENT AND EXPERIENCES DATE BACK TO 2010 AND AS A RESULT OF THAT FACT A LOT OF CURRENT BLOGGERS DISCOUNT HIS RELEVANCE. WHILE SOME OF HIS MANUFACTURER AND EQUIPMENT RECOMMENDATIONS MAY SEEM DATED, EVERYTHING HE ENCOURAGES YOU TO DO WHILE SELECTING EQUIPMENT AND METHOD OF INSTALLATION STILL WORKS, AND WORKS WELL. LITHIUM BATTERIES ARE A GAME CHANGER BUT ONLY IF YOU CAN AFFORD THEM. OUR LEVEL OF COMPLEXITY FIT NICELY INTO ALL HIS RECOMMENDATIONS.

Components

-2 - 6 VOLT US BATTERY 208 AMP HOUR BATTERIES. \$300. WE PURCHASED OUR TRAILER FROM A COUPLE IN MICHIGAN AND IMMEDIATELY TOOK OFF ON A 1200 MILE TREK BACK TO OUR HOME IN HILTON HEAD, SC. WE SPENT 2 NIGHTS IN A STATE PARK IN MICHIGAN AND REALIZED THE 2 BATTERIES IN THE A FRAME MOUNTED BOX WERE TOAST. I LEARNED RIGHT OFF ABOUT HOW TO USE THE HAND

CRANKING OPTION ON OUR ELECTRIC JACK. WE DECIDED TO WAIT TO PURCHASE NEW BATTERIES AS OUR NEXT STOP WAS AN AVION RALLY IN ELKHART, INDIANA WHICH AS EVERYONE KNOWS IS A RV MECCA. I WANTED TO GET CROWN BATTERIES ON HANDY BOBS RECOMMENDATION AND WAS TOLD BY A GOLF CART DEALER WE TALKED TO THAT HE HAD THEM. WHEN WE GOT THERE IT TURNS OUT HE DID NOT HAVE THE SIZE WE WANTED, BUT THE US BATTERY MODEL WAS "JUST AS GOOD". I DON'T THINK THAT IS TRUE, BUT WE PURCHASED TWO OF THE US BATTERY MODELS HE DID HAVE AND THEY HAVE BEEN WORKING WELL FOR US FOR 2 1/2 YEARS.

- NOCO GENIUS G15000 BATTERY CHARGER. \$150. THE CHARGE WIZARD IN OUR 40 YEAR OLD CONVERTER WAS PROBABLY THE CAUSE OF MANY DEAD BATTERIES OVER ITS LIFETIME AND SO I DISCONNECTED IT AND USED THE NOCO CHARGER TO MAINTAIN THE BATTERIES UNTIL OUR SYSTEM WAS UP AND RUNNING. IT WAS SLOW BECAUSE IT WOULD ONLY PUT OUT ABOUT 1.5 AMPS AS IT REACHED 14.8 VOLTS BUT IT DID A COMPETENT JOB AND SEEMS TO HAVE KEPT OUR BATTERIES IN GOOD SHAPE UNTIL OUR MORNINGSTAR CHARGE CONTROLLER TOOK OVER.

- BOGART ENGINEERING TM 2025 RV BATTERY MONITOR AND SHUNT. \$200. ANOTHER HANDY BOB RECOMMENDATION, AND THE BEGINNING OF MY UNDERSTANDING OF BATTERY CHARGING/DISCHARGING. JUST READING THROUGH THE MANUAL AND ENTERING THE VALUES NECESSARY TO MAKE IT WORK RIGHT TAUGHT ME A LOT.

- MORNINGSTAR 300 WATT PURE SINE INVERTER. \$250. RELATIVELY EXPENSIVE FOR ITS STATED OUTPUT BUT IT DELIVERS TWICE THAT COMFORTABLY FOR AN EXTENDED PERIOD OF TIME AND DOES SO WITH NO FAN AND SUPER LOW PARASITIC LOAD. ANOTHER KEY BENEFIT IS THE MAXIMUM OPERATING VOLTAGE OF 15.5 VOLTS. MANY LOWER QUALITY INVERTERS WILL CUT OUT BELOW THE TEMPERATURE COMPENSATED VOLTAGE NECESSARY TO

FULLY CHARGE A LEAD ACID BATTERY. AS STATED EARLIER, WE ARE NOT LOOKING TO MICROWAVE OR BLOW DRY WHILE WE BOONDOCK. WE DO WANT TO CHARGE PHONES AND COMPUTERS, WATCH A MOVIE, USE OUR LITTLE CROCKPOT AND ALL OF OUR OTHER NECESSARY FUNCTIONS ARE HANDLED BY 12 VOLT DC POWER. THE AVOIDANCE OF TECHNOLOGY

IS ONE OF OUR GOALS WHILE BOONDOCKING AND THE PURE SINE HAS BEEN WORKING QUIETLY AND EFFICIENTLY FOR US GOING ON 2 YEARS.

- MORNINGSTAR TRI STAR 45 MPPT CHARGE CONTROLLER. \$450. BOUGHT WITH THE INTENTION OF USING A SINGLE LARGE GRID TIE PANEL TO MINIMIZE CABLING, JUNCTIONS AND ROOF REAL ESTATE. ALTHOUGH I HAD 2 YEARS TO CONTEMPLATE CHANGING MY MIND, IN THE END I WENT WITH THE ORIGINAL PLAN AND THE ORIGINAL PANEL I DECIDED ON 2 YEARS PRIOR. THE CHARGING PARAMETER CHOICES AVAILABLE WITH THIS CHARGE CONTROLLER ARE WELL THOUGHT OUT AND ONE OF THEM FIT US BATTERY'S CHARGING RECOMMENDATIONS PERFECTLY. WE ARE USING #6 AND AS YOU CAN SEE YOU CAN COMPLETELY CUSTOMIZE IT AS WELL. IT REACTS

Electrical Specifications

• Continuous Power Rating	300 Watts @ 25°C
• Peak Power Rating (10 minutes)	600 Watts @ 25°C
• DC Input Voltage	10.0V – 15.5V
• Waveform	Pure sine wave
• AC Output Voltage (RMS)*	220V or 115V +/- 10%
• AC Output Frequency*	50 or 60 Hz +/- 0.1%
• Peak Efficiency	92%
• Total Harmonic Distortion (THD)	< 4%
• Self Consumption	
Inverter On (no load)	450mA
Inverter Off	25mA
Stand-by	55mA
• Low Voltage Disconnect (LVD)	11.5 V or 10.5 V**
• Low Voltage Reconnect	12.6 V or 11.6 V**
• LVD Warning Threshold (buzzer)	11.8 V or 10.8 V**
• LVD Delay Period	4 minutes
• High Voltage Disconnect	15.5 V
• High Voltage Reconnect	14.5 V
• Standby On Threshold	~ 8 Watts
• Standby Off Threshold	~ 8 Watts
• High Temperature Disconnect	95°C (heatsink)
• High Temperature Reconnect	80°C (heatsink)

Settings Switches 4 - 5 - 6	Battery Type	Absorp. Stage (Volts)	Float Stage (Volts)	Equalize Stage (Volts)	Equalize Interval (Days)
off-off-off	1 - Gel	14.00	13.70		
off-off-on	2 - Sealed*	14.15	13.70	14.40	28
off-on-off	3 - Sealed*	14.30	13.70	14.60	28
off-on-on	4 - AGM/Flooded	14.40	13.70	15.10	28
on-off-off	5 - Flooded	14.60	13.50	15.30	28
on-off-on	6 - Flooded	14.70	13.50	15.40	28
on-on-off	7 - L-16	15.40	13.40	16.00	14
on-on-on	8 - Custom	Custom	Custom	Custom	Custom

SUPER QUICKLY AND SEEMS TO MAINTAIN A VERY HIGH LEVEL OF EFFICIENCY WHICH IS EXACTLY WHAT THEIR LITERATURE AND HANDY BOB SAID IT WOULD DO. I HAVE BEEN BLOWN AWAY BY FOLLOWING WHAT IT IS DOING TO MAINTAIN MY BATTERIES WHILE WATCHING IT VIA MY BATTERY MONITOR FOR THE FIRST REAL OUTING WE JUST TOOK OVER A 2 WEEK PERIOD WITH ALL KINDS OF INTERESTING CONDITIONS INCLUDING TEMPERATURE COMPENSATING ALL THE WAY DOWN TO 23 DEGREES, OVERNIGHTING WITH THE FURNACE RUNNING AT LEAST 50% OF THE TIME FOR OUR FIRST WALMART PARKING LOT INDOCTRINATION AND CHOOSING TO EQUALIZE WHILE WE DROVE THROUGH THE NEW MEXICO DESERT. CAN'T SAY ENOUGH POSITIVE THINGS ABOUT THIS PIECE OF GEAR ESPECIALLY WHEN YOU CONSIDER IT SAT THERE WAITING TO GO TO WORK FOR 2 YEARS BEHIND MY COUCH.

- PANASONIC N315 SOLAR PANEL. \$500 W/ SHIPPING. OPERATING AT 58 VOLTS THIS TECHNOLOGICAL MARVEL ALLOWED ME TO MAINTAIN UNDER 2% LINE LOSS USING 30 FEET OF TINNED MARINE GRADE 2 CONDUCTOR 12 GAUGE CABLE AND SEE AS MUCH AS 12 AMPS AT 15 VOLTS GOING TO MY BATTERIES LAYING FLAT, OFF AXIS IN DECEMBER. YOU REALLY HAVE TO READ ALL OF THE

TECHNOLOGY THAT IS GOING ON IN THESE PANELS TO APPRECIATE THEM BUT THE THINGS THAT STOOD OUT TO ME WERE THE INCREDIBLY LOW HEAT COEFFICIENT, THE EFFICIENCY, 4 DIODES AND THE LAYERING THEY USE TO ACHIEVE THE AMAZING LOW ANGLE SUN EFFICIENCY.

ELECTRICAL SPECIFICATIONS

Model	VBHN320KA01	VBHN315KA01	VBHN310KA01
Rated Power (Pmax) ¹	320W	315W	310W
Maximum Power Voltage (Vpm)	58.7V	58.4V	58.1V
Maximum Power Current (Ipm)	5.46A	5.40A	5.34A
Open Circuit Voltage (Voc)	70.5V	70.2V	69.9V
Short Circuit Current (Isc)	5.89A	5.83A	5.78A
Temperature Coefficient (Pmax)	-0.258%/°C	-0.258%/°C	-0.258%/°C
Temperature Coefficient (Voc)	-0.16V/°C	-0.16V/°C	-0.16V/°C
Temperature Coefficient (Isc)	3.21mA/°C	3.21mA/°C	3.21mA/°C
NOCT	44.0°C	44.0°C	44.0°C
CEC PTC Rating	301.7	296.9	292.1
Cell Efficiency	21.6%	21.2%	20.9%
Module Efficiency	19.1%	18.8%	18.5%
Watts per Ft. ²	17.8W	17.5W	17.2W
Maximum System Voltage	600V	600V	600V
Series Fuse Rating	15A	15A	15A
Warranted Tolerance [-/+]	+10%/-0%*	+10%/-0%*	+10%/-0%*

BASICALLY IF IT IS LIGHT OUT YOU ARE GAINING SOME FORM OF CHARGE.

- ALUMINUM FROM ONLINE METALS, CABLE, CIRCUIT BREAKERS. \$200. I MADE MY OWN MOUNTING BRACKETS OUT OF 3/16" AIRCRAFT GRADE ALUMINUM, 50' OF MARINE GRADE TINNED 2 CONDUCTOR 12 GAUGE CABLE, PRE MADE BATTERY CABLES, AND 3 CIRCUIT BREAKERS.

- SO WE HAVE \$2000 INTO OUR CURRENT SETUP WHICH ALLOWS US TO CHARGE AND MAINTAIN WHILE BEING AT THE RV PARK FOR AN UNLIMITED TIME AND TO COMFORTABLY EXIST FOR AS LONG AS WE WANT TO BOONDOCK AS LONG AS WE MAINTAIN A REASONABLE AMOUNT OF ECONOMY WITH OUR ELECTRIC USE AND BASE SOME OF OUR DECISIONS ON THE WEATHER REPORT.

Installation

I COMPLETELY REWORKED THE COUCH AREA IN THE FRONT OF THE TRAILER AND WHILE DOING SO, CREATED A PANEL WITH 3' LONG

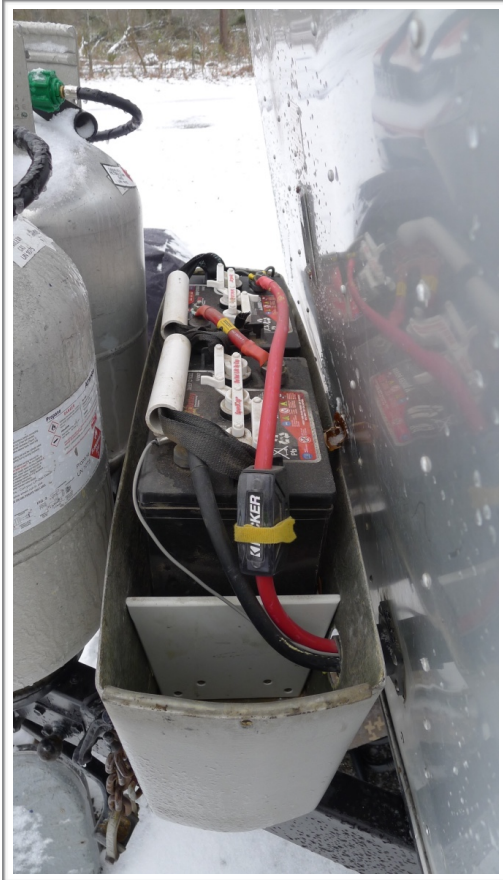
HEAVY GAUGE BATTERY CABLES TIED FROM OUR BATTERY BOX TO TWO POSTS. I ADDED A CIRCUIT BREAKER INLINE AND AS CLOSE AS I COULD TO THE BATTERY THAT IS PROPERLY SIZED FOR OUR INVERTER. THESE POSTS ALLOWED ME TO ISOLATE ALL THE

NEGATIVE CONNECTIONS AND PUT THEM ON ONE SIDE OF THE SHUNT AND ATTACH THE OTHER END TO THE NEGATIVE OF OUR BATTERIES. I MADE THE NECESSARY CONNECTIONS FOR THE TRIMETRIC

BATTERY MONITOR AND RAN IT AND THE POWER FEED FROM THE INVERTER THROUGH THE CONDUIT, AND UP THE SIDE OF THE TRAILER THRU THE LOCKERS TO THE WALL OF OUR PANTRY WHERE I PUT THE MONITOR AND A SINGLE OUTLET AND A REMOTE ON/OFF TOGGLE SWITCH FOR THE

INVERTER. THE 12 VOLT FEED TO THE CONVERTER CAME DOWN THE CENTERLINE OF THE FRAME, IN THE BELLY PAN SO I CUTOUT A ROUND ACCESS HATCH WITH A MARINE STYLE COVER TO GIVE ME ACCESS TO THAT WIRING. I RAN THE

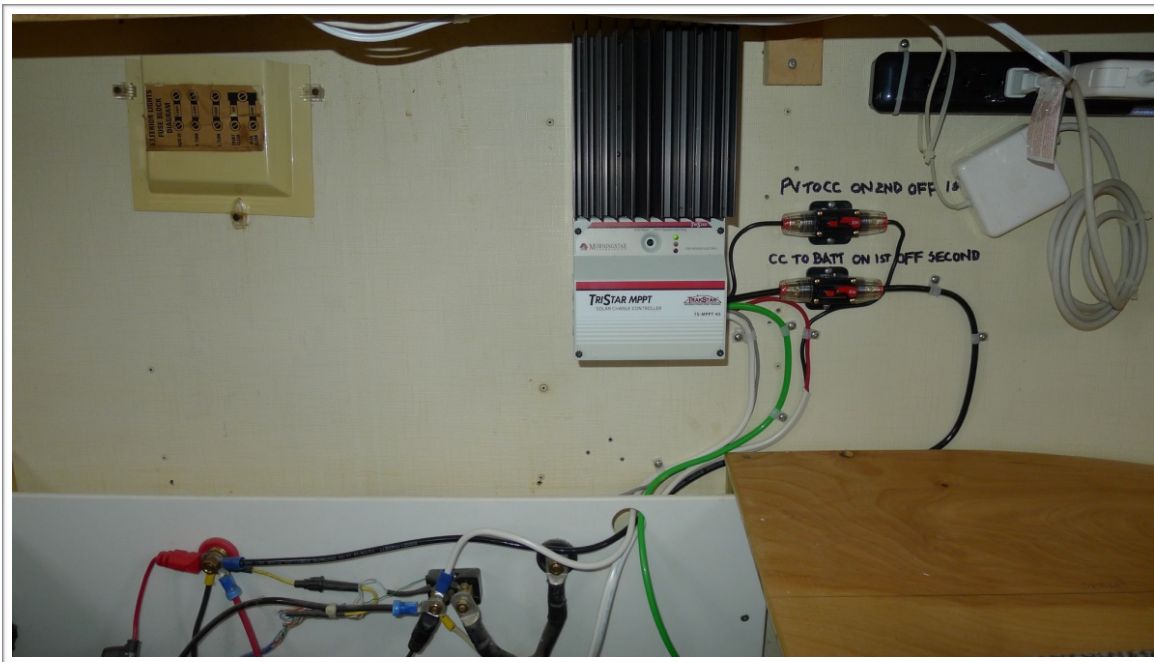




FRAME GROUND AND POSITIVE CONNECTION THRU A JUNCTION BOX AND CONNECTED IT TO MY NEW REMOTE POSTS TO KEEP THE SHUNT WORKING PROPERLY. I BUILT THE COUCH FRAME AROUND THESE CONNECTIONS WHICH ALLOWED ME EASY ACCESS TO EVERYTHING AND THE ABILITY TO WIRE IN THE CHARGE CONTROLLER LATER.



ALL OF THIS TOOK PLACE LEADING UP TO US TAKING OFF ON OUR FULL TIME LIFESTYLE AND LIFE GOT IN THE WAY FOR A WHILE BUT I DUG OUT THE CHARGE CONTROLLER AND STARTED BACK IN ON IT FALL OF 2017. I MOUNTED THE CHARGE CONTROLLER AS CLOSE TO THE BATTERY CONNECTIONS AS POSSIBLE AND USED STRANDED COPPER WIRE APPROPRIATE TO OUR VOLTAGE AND AMPERAGE. THERE WERE WARNINGS ABOUT THE HEAT THAT WOULD BE PUT OFF BY THE CHARGE CONTROLLER IN MORNINGSTARS INSTALLATION INSTRUCTIONS WHICH AS OF THIS POINT I HAVE NOT FELT THEM EVEN BE WARM TO THE TOUCH WHEN IT WAS PASSING ALMOST 12 AMPS TO THE BATTERY, SO I WILL MONITOR THIS AND CREATE VENTING ABOVE IF I FEEL IT IS NECESSARY BUT I BELIEVE WE ARE DEALING WITH WELL LESS THAN ITS MAXIMUM POWER HANDLING SO I DON'T ANTICIPATE IT BEING A PROBLEM.



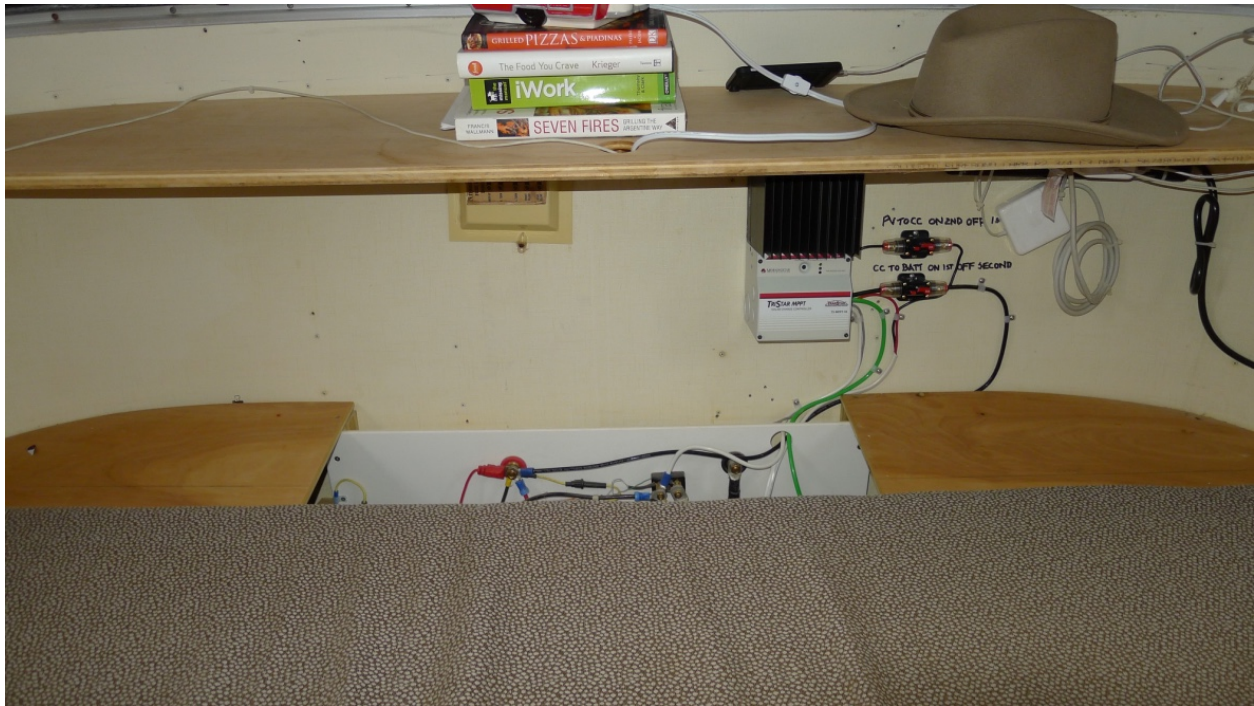
I ALSO CHOSE TO RUN THE CHARGE CONTROLLER GROUND OUT TO A POINT ON THE FRAME THAT WAS IN THE LOCKER ABOUT 4 FEET OUTBOARD OF THE MAINFRAME GROUND THAT SERVICED THE CONVERTER AND MOST ALL OF THE OTHER POWER WITHIN THE TRAILER. I COULDN'T

CONVINCE MYSELF FROM READING MANY DIFFERENT SOURCES INCLUDING THE NEC, BUT I DECIDED IN THE END IT



WAS NOT THAT DIFFICULT AND IT ALLOWED ME TO ISOLATE THAT GROUND WHICH SEEMED SAFER. MORNINGSTAR INCLUDES A TEMPERATURE COMPENSATING LEAD WITH THE TRI STAR AND IF YOU NOTICE ON THE BATTERY BOX PICTURE IT IS CONNECTED AND DOING ITS THING ON THIS UNCHARACTERISTIC EAST TEXAS SNOW DAY THAT MANY OF THESE PICTURES WERE TAKEN DURING.

SO IN THE END ALL OF THIS IS CONTAINED WITHIN THE COUCH FRAMEWORK, IN CONDITIONED SPACE, AND IN EASY ACCESS FOR ME TO CUT THINGS OFF USING THE CIRCUIT BREAKERS, MONITOR THE THREE LEDS THAT GIVE YOU AN UNDERSTANDING OF WHAT THE CHARGE CONTROLLER IS DOING AND IN THE FUTURE TO HAVE SPACE TO ADD EITHER AGM'S OR LITHIUM SHOULD WE FEEL THE NEED. THEIR IS A COVER THAT GOES OVER THAT CUTOUT THAT ALSO HOLDS THE BASE OF THE REMOVED COUCH CUSHION IN PLACE, AND THE COUCH CUSHION BACK CAN ALSO CREATE A FULL SIZE ISH BED WHEN THE BASE IS SLID OUT



I CREATED MY OWN MOUNTING BRACKETS FOR THE SOLAR PANEL USING 3/16" X 1 1/4" ALUMINUM ANGLE AND TILT BARS OUT OF STRAIGHT 3/16" BAR STOCK. I PURCHASED THE ALUMINUM FROM ONLINE METALS AND THEY OFFER A NUMBER OF SIZES AND GRADES THAT GIVE YOU A LOT MORE OPTIONS THEN THE BOX STORES, I CHOSE 6061 STRUCTURAL GRADE. THE DIMENSIONS OF OUR PANEL ARE LARGE ENOUGH THAT I CONSIDERED STRUCTURAL GRADE TO BE WARRANTED BOTH FROM A DRIVING STANDPOINT AND THE NORTH WIND GUSTS WE



ENDURE IN TYLER PRETTY REGULARLY. THE NORMAL POSITION OF THE PANEL IS ALMOST TOUCHING IN THE FRONT AND CENTERED ON THE WIDTH OF THE ROOF AND JACKED UP 8" IN THE BACK TO ALLOW THE VENT HATCH TO BE ABLE TO RAISE AND SO THE SELF DRAINING CORNERS CAN HELP TO KEEP WATER AND DIRT FROM POOLING ON THE SURFACE OF THE PANEL. I BEDDED THE BASE PIECES OF ANGLE, RUNNING FRONT TO BACK IN 3M 5200 MARINE SEALANT AND USED 2-3/4" NUMBER 12 STAINLESS SHEET METAL SCREWS IN EACH THAT HIT THE STRUCTURAL RIBS AND WERE PRE DRILLED, FILLED WITH 5200, THEN SCREWED IN, AND COVERED WITH 5200. THE REST OF THE BRACKET IS PRETTY OBVIOUS FROM THE NEXT PICTURE AND SHOWS THE TILT BRACKETS. TYPICALLY IF WE WERE SETTING UP FOR ANY PERIOD OF TIME BOON DOCKING WE WOULD BE ORIENTED SO THE FRONT OF THE TRAILER IS FACING SOUTH AND I WOULD TILT THE



REAR OF THE PANEL UP TO MAXIMIZE THE SOLAR YIELD DURING THE LATE FALL/WINTER/EARLY SPRING TIMES WHEN THE SUN IS ON A MUCH LOWER TRAJECTORY. WHERE WE ARE PARKED NOW THE PANEL IS FACING NORTH SO I KEPT THE 8"

BRACKETS IN THE REAR, ADDED THE TILT BRACKETS TO THE FRONT, AND ADDED STAINLESS CABLE DIAGONALS TO KEEP THE 8" BARS FROM ROTATING DOWN AND PLACING THE PANEL IN THE SHADE OF THE AC. THIS TILTING DOUBLED OUR YIELD ON TWO CONSECUTIVE DAYS WHERE THE CONDITIONS WERE IDENTICAL AS FAR AS SUN AND TEMPERATURE.

LIKE I SAID EARLIER, I AM FINISHING THIS UP AND HAVE TAKEN SOME OF THESE PICTURES ON A DAY WITH SNOW AND ICE EVERYWHERE, INCLUDING OUR PANEL, TEMP'S IN THE 20'S, OVERCAST AND I AM STILL AVERAGING ABOUT 5 AMPS MID DAY, AND HAVE BEEN ABOVE 3 AMPS SINCE 9AM. THE WIND FROM THIS STORM WAS BLOWING DIRECTLY UP UNDERNEATH THAT PANEL ALL NIGHT AND INTO TODAY GUSTING AS MUCH AS 30-40 MPH AND IT HAS BEEN SITTING UP THERE LOOKING LIKE NOTHING MUCH IS GOING ON AND DOING ITS JOB.

I HAVE PURPOSELY NOT INCLUDED GAUGES OF THE WIRE USED OR THE AMPERAGES OF MY FUSES BECAUSE THEY WILL VARY DEPENDING ON THE EQUIPMENT YOU USE. I HIGHLY RECOMMEND USING COMPONENTS FROM REPUTABLE COMPANIES LIKE MORNINGSTAR, BOGART AND PANASONIC BECAUSE THEY GIVE YOU DETAILED INSTRUCTIONS AND RECOMMENDATIONS FOR FUSING AND TABLES TO FIGURE OUT ACCEPTABLE LINE LOSS FOR WIRING THAT YOU SHOULD FOLLOW. I WILL BE HAPPY TO ANSWER QUESTIONS ABOUT MY SYSTEM AND I DO NOT IN ANY WAY CONSIDER MYSELF A KNOWLEDGEABLE ENOUGH CONSULTANT TO TELL YOU WHAT TO DO AND I DON'T WANT TO ARGUE WITH ANYONE ABOUT WHAT I SHOULD HAVE DONE. I HAVE TRIED TO INCLUDE MY THINKING ON OUR SYSTEM TO HELP OTHER PEOPLE WHO WANT A RELATIVELY SIMPLE EFFECTIVE SYSTEM FOR BEING ABLE TO "CAMP" IN BEAUTIFUL REMOTE PLACES NOT TO BE ABLE TO LIVE LIKE YOU WOULD IN YOUR S&B HOUSE.