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The Iron Horse Wild West Elegance

Decision Time! Planning Your Conversion

Converting The GMC/TMC RTS

Fuel Efficiency Considerations For Detroit Diesel Engines

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On The Cover
"Iron Horse"
1984 Model 10 Eagle
Owned and Converted by
Jimmy and Sadie Clay

Publisher's Note

Gary Hall

BCM Has Gone Wrapless

It all started with an innocent call from my older sister who lives in New Hampshire where I was born, raised, and lived for the best 22 years of my life. One day recently while on the phone with her, I asked her how the magazine was looking. She said that my younger brother said the magazine is beautiful but would look better with a photo of a bus on the cover and that she agreed. I was taken aback for a few seconds and then asked her what magazine they were talking about because there is a bus or several buses on the cover of every issue of every BCM.

I told her to send me a photo of the magazine she was talking about and sure enough it was a BCM and there really was no bus on the cover. They were right. Then I explained that they were not looking at the cover of the magazine, but the Wrap on the magazine and told her that the Wrap serves two purposes. It protects the magazine during shipping and allows our readers to cut out the Subscription Form to fill out and send in to renew their subscription or to give to potential subscribers.

I started to think about this and realized she had a good point. I calculated the additional cost of the Wrap and I discovered it amounts to 23% of the cost of printing the magazine plus the additional cost of mailing the magazine with the extra weight of the Wrap. With that information and knowing that the majority of our readers only re-subscribe once every three years, we decided there was not only a fairly significant financial savings if we discontinued the Wrap, but also the magazine would get a face-lift at the same time. Also because we use a Polywrap on all Standard Class mail deliveries and regular envelopes for First Class deliveries, there is really no need for a Wrap.

After deciding to stop Wrapping the magazine, we decided to also remove the Forum Bus Chat as some folks were concerned that we were taking up valuable space with a duplication of something they had already read on the Forum. So from now on, there will be no Bus Chat in the Printed Edition of the magazine, but it will be included in the Bonus Content in the E-Magazine and the Online Edition. Not only that, but there will no longer be a two page limit to the Bus Chat that was required for the Wrap, so the entire thread can now be included. If you enjoyed reading the Forum threads, and you currently only receive the Print Edition, you can simply go to our website and add the E-Mag or the Online Edition of the magazine for as little as $5.00 per year. Be sure to choose the Email Edition or ONLINE Edition Add-On option on the Subscription page in the Store.

So from this issue on, your magazine will arrive Wrapless so you don't have to worry about tearing the Wrap off like most people do anyway and feeling guilty about killing all of those extra trees. Plus your neighbors will also be jealous when they see the beautiful magazine you receive each month.

In This Issue

Publisher's Note 2
Index of Advertisers 3
Decision Time! Planning Your Conversion by Sandy Koos.... 4
Bus Bits – Overhead Drilling Made Easier by Fred Hobe..... 7
Converting the GMC/TMC RTS by The Wayward Wulf 8
Iron Horse - Wild West Elegance by Bruce Fay 12
Bay Floor Shoreline/Water Access Port by Jack Conrad... 19
Fuel Efficiency Considerations by Clarke Echols 20
Inverter For Powering a Fridge by Sean Welsh 24
Service Directory 26
Sterling Classifieds 26
Classifieds 30
Rally News 30

Digital Edition Bonus Content!

Iron Horse - Wild West Elegance - Bonus Photos 33
Bus Chat - Drinking Water Solutions 42

Index of Advertisers

All American Urethane 11
Ardemco 31
Atlantic Custom Coach 23
Autex 7
Balance Masters 10
B & B Coachworks 21
Byler Rivet Supply 6
Custom Instrument Panel 9
Engine Heat Protection 21
Engine Power Source 15
Fastening Systems International 22
Global Industrial Automatics 7
Hitching Post 20
Mobile RV Glass 13
RV LED Bulbs ..... 11 & 32
St. Cloud Estates 19
Sure Marine Service 5
WiFi Ranger 8
Wrico International 23

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Decision Time!

Planning Your Conversion

By Sandy Koos

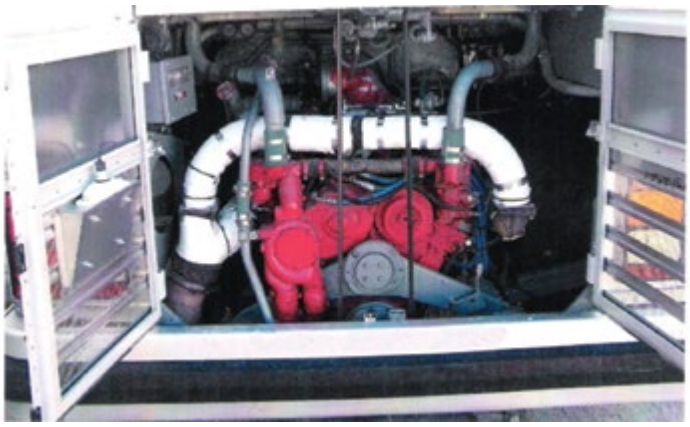
Our bus before and after. Before the conversion work began, a lot of decisions had to be made and plans laid out.

Okay, so you weighed an RV against a conversion. Conversion won. You checked out MCI's, Dinas, Eagles, all the others. You've considered age, length, and the all mighty engine. This will be the foundation of your choice. And, at last you have found your dream bus. So now you jump right in and start tearing apart and rebuilding, right? Wrong! First set a budget. How much can you spend on this project, because everything you change from original is more money? How much time can you put into this? Every tweak takes time.

Engine first. The engine is, after all, the component that will take you on your adventures. Do you keep the original engine? Rebuild it? Replace it with something bigger? Things to consider: Do you want to be first up the hill? Do you amble along or are you always in a "hurry up and get there" mode? Do you go straight from Point A to Point B, or just take a leisurely trip? Your engine is the determining factor in how you "get down the road". Remember, if your decision is more horsepower, i.e. bigger engine, you have to know whether your coach frame and running gear will handle the added torque or will it have to be modified.

The floor plan is step number two because that determines where your windows are going to be, where your holding tanks are going to be, and where other critical components will be placed in your lower bays. Center aisle back to the bedroom? Side aisle? Shower on one side, potty on the other? Both on the same side? Your kitchen layout has to be considered in this decision. ALL plumbing for the entire coach has to come back to one place – your holding tanks. How your pipes need to run, from the kitchen through the bath to the holding tanks, might depend on where the bulkheads in the frame are located. These things have to be considered before you decide which bay will be reserved for your tanks. How big of a fresh tank? Grey? Black? Hmmmm? How much time will you spend boondocking or how much time do you spend in an RV park?

If you picked an older bus, do you raise the roof or not? Are you 5'9" or 6'4"? Will tall people have to duck going under the air conditioner? Upgrade to more modern head and tail lights? Replace the front cap? The back cap? Keep the original roof line? Do you want a back up camera? That means cutting a hole somewhere and running wire from the back up to the dash.



We chose to rebuild the engine to original condition to help ensure our bus always had the power to take us where we want to go and the reliability to always get us home.

We raised the roof and installed new front and back caps to make room for insulation, air ducts, .

We ran our wires in plastic conduit and included extra "wires to nowhere" in case an existing wire broke.

Twelve volt? Twenty four volt? Twelve volt means replacing ALL the wiring and maybe redoing your alternator. Twenty four volt means shopping around for the right lighting fixtures.

Fiberglass or blown in insulation? Regular insulation is cheaper and easier to install. Blown in adds strength to the frame. Blown in is not easy. It takes time and a lot of elbow grease unless you have it done professionally, which is another added cost.

Propane, or all electric? All electric means a bigger generator and, perhaps, more house batteries. True, the batteries charge as you travel, but how much time do you spend thundering down the road as opposed to parked in one primitive spot? An electric refrigerator is less expensive than a propane/electric model. But with all electric you can't cook or heat water without starting the generator. Room on the roof for solar panels? Going with propane means you have to have a place to store your tanks. A safe place you can get at easily because you have to keep refilling it. You have to find fill stations along your route that you can get into with your tow vehicle attached. Bite the bullet and pay the added expense of the bigger generator in one lump sum or have the money trickle out with each fill of your propane tanks?

What kind of wood to use? Dark woods have an expensive look. But, you have a small area. Will it make the walls close in on you? Lighter woods make the area look bigger and brighter, but will they show the scratches and dings easier than the dark? Which woods are easier to work with and/or are more durable?

Table or booth? A booth would give you storage room under the seats and, maybe, an extra bed. But a table and chairs take up much less room and have a more open look. You will have storage space under the bed, of course, but will it be enough? Do you have kids? Take the grandkids? How often would you need an extra bed?

Flooring? Carpets absorb sound, create a little insulation and feel warm and fuzzy on bare feet. But you are basically

Generator is installed in an enclosure with remote radiator and exhaust release to better control noise and heat.

Rolls of fiberglass panel ordered for reskinning the sides of our bus after the roof raise. This also facilitates installing RV style slider windows.

We chose spray foam insulation.

living in a tube. How long will it take to wear a traffic pattern into the nap? Spend a lot of time in the woods, and the beach? Will you be tracking in leaves and twigs, or sand? Ceramic tile definitely has an expensive look, but will the grout crack when the chassis torques going down the road? Laminate flooring is easy to keep clean, but how durable is it? Will the same sand that might get ingrained in the carpet scratch the laminate? Which material is the easiest to repair/replace if there is damage?

Most of the older buses have stainless steel on the bottom of the exterior. Keep it? It has a classy look, but requires some TLC to stay bright and shining. Go with the existing upper exterior? Or take it all off and reskin the entire exterior? A lot of tricky work to make it look right and a big added expense.

Then there is the exterior paint job. One color? A design? A mural on the back?

Do you keep the original windows? Take them out and replace with standard RV windows?

With the advent of flat screen TV's, the question of where to put it has become much easier and most RV'ers now go with satellite TV which requires a clear view of the sky. Where do you put your dish? If you spend most of your time parked in open areas the roof mount is fine. But if you spend a lot of time camping in forested areas then a dish on a tripod sitting beside your RV might be a better answer.

Our decisions: We rebuilt the original 8V71, raised the roof, went with blown in insulation, changed from 24V to 12V for the coach. We are all electric (120V) with carpet in the bedroom and laminate everyplace else. We went with a table, not a booth. Included are a few pictures of our decisions.

With the insulation completed, the interior is ready for the building work to start. Notice the outlines on the floor. This is an important part of the planning phase. It is a lot easier to move something when it is just a mark on the floor.

With the right planning in the beginning, it all fits when you are done.

Regrets? Hardly any! If we did it again, we would get a 102" wide coach and turbo the engine. Other than that, we are very, very happy with what we did.

While these are just a few of the questions that need to be answered, it's not as mind numbing as it may seem. There are plenty of resources that can help you make an informed decision. Magazines, web sites, how-to books, and DVD's are available. And, one of the best sources of information is the guy who has had his conversion for years. What things is he pleased with? What things would he have done differently?

I guess the most important thing is, have a good idea of what you want your conversion to end up being, and when in doubt, ask questions. Someone, somewhere who has "been there, done that", will have the answer. Good Luck!

Sandy is a retired accountant who loves United States history and writing about her travels. Bob is a retired truck driver and did 90% of their bus conversion himself. They live in Happy Trails RV Resort in Surprise, Arizona. Contact them at carokoinc@msn.com.

Bus Bits

Overhead Drilling Made Easier

By Fred Hobe

When you have to install about 400 screws in your ceiling to hold the plywood up, it becomes a real job when you have a raised roof. At the end of the day, your arms are killing you. In my experience, it is a lot easier to pull up with my arm than it is to hold the drill overhead and push. I can drill all day and not hurt. The pictures demonstrate how to make a board that will fit the thumb indent on the drill. I tape a piece of foam rubber on the bottom where your hand pulls up on the board.

Position Drill Against Notch

Guide with one hand on drill, feed the drill by pulling up from bottom

Converting the GMC/TMC RTS

By The Wayward Wulf

1979 GMC RTS bus conversion by Wulf Ward

My RTS conversion goes back to the very beginning. In 1994, I was still doing some additional work on my Eagle, but I had already bought a 1979 RTS to convert too. Bill Lowman, of *How to convert Buses Into Motor Homes* fame, talked me into buying the Eagle as my first conversion project. But my love was always with the good looking RTS. It looked a lot like the GMC motor home I always wanted, but I could never justify paying their high price for that relatively small RV.

I think many converters choose a bus as a cheaper alternative to buying a motorhome, and a city bus as a cheaper alternative to the more expensive intercity buses. Prior to starting my own conversion, I owned a Fleetwood LTD. It was a 1985 model and at that time it was the top of their line of motorhomes.

It all started with test driving a new Holiday Rambler pusher motorhome. After that I started looking for a newer pusher motorhome to buy, but because of my beautiful LTD, there was nothing I liked and what I liked I could not afford. I know now, after spending close to a million dollars on five conversions and places to do the work, that it would have been a lot cheaper to buy a top of the line pusher motorhome, or a new finished conversion.

Converting a city bus is a special challenge, because you have to do two conversions in one. First the bus will need to be converted for highway use and then into a motorhome. A bus that is designed to spend its life mostly doing 30 MPH in stop-and-go city traffic is not a good bus for highway use without making extensive modifications. The main modification will be to make it capable of traveling at highway speed. Most can only get up to 55 MPH and that is well below the maximum legal speed limit in most states. Even that speed will come at the cost of decreased fuel efficiency due to running the engine at near maximum RPM. It used to be relatively easy to change out the low city rear-end for the taller RTS/suburban gears. I changed mine to the 4:10. It was only $400 off the shelf, including new bearings, but now those tall gears are difficult to find and a lot more expensive. My RTS had a fairly tall gear. I don't know the number, but I think it was something like 15% lower than the 4:10, maybe it was a 4:68. Anyhow it will get the bus up to around 70 MPH at 2,100 RPM.

The taller the gears, the lesser the power. The RTS is a heavy bus for only a 3-speed transmission. But I never felt that I needed more gears in my RTS, because the gear spacing was perfect for all conditions. I replaced my 8V71 with a 6V92 that was putting out 350 hp after installing larger injectors, a 100% by-pass blower and a larger turbo. Nevertheless, if I had to do it again, I would have stayed with the lower gear that I had in my bus. 70 MPH was fast enough for me most of the time, and it would have supplied plenty of power from my original 8V71. In addition, it is relatively easy to find a used gear set in that ratio.

The wedge brakes in the RTS were something I never felt safe with. They will stop the bus smoother than cam brakes, but it does not have the safety of spring brakes. Only the little emergency brake has a spring brake backing it up. If your engine dies or you lose air pressure from a leak, there are no additional spring brakes to stop the bus. The little spring brake on the drive shaft is more like a parking brake. It will do little to stop the bus at highway speed or on a steep downhill.

Those are the basic mechanicals to be addressed when thinking about buying an RTS. There are other city buses, like GMC, Flxible, AM General, New Flyer and Neoplan. Not all share the shortcomings of the RTS. Some have T-drive engines and additional gearing, braking may be different too. All of them

can be converted into a motorhome with about the same amount of work, but only the RTS has the look that makes it the most desirable city bus to convert. It has my vote too.

The next thing is the modification to the exterior. The first concern most people would bring up is bay storage. To me it really was no issue at all. My LTD had little storage, and the GMC motorhome had none whatsoever. It will take some work under the bus, but adding storage is relatively easy. I moved my air tanks to the middle of the bus between the frame rails and I ended up with 2 compartments on each side in that 5' modular. One bay is empty, and that will get you a compartment through the complete 8' of the lower bus 5' modular. As I remember, the compartment will be about 20" tall. Each bulkhead has a 1.5" lip on each side, and it is easy to bridge over to build a deck for the storage compartments.

I found enough room under the bus for my waste water tanks. The fresh water tank I installed between the fender wells under my queen size bed. I ended up with a 65-gallon black water tank that handled the toilet and the shower. It is important to minimize plumbing into the black water tank. My toilet sits right over that tank and is piped straight down. The 35-gallon gray water tank is just for the kitchen wastewater. My gray water tank is located next to my fuel tank. It is tall and skinny and reaches from the curbside kitchen to the dump side of the bus. It is sitting about 6" higher than the black water tank and ideal for back flushing that tank.

While I am talking about the kitchen, I want to add that all the buses I have converted had a curbside kitchen. The bus will usually lean toward the curb, and it will keep things on the counter. Being a sailboat person, I know all about things not staying in place. All counters and table surfaces on buses I have converted have ½" spill rail moldings.

The fuel tank is sitting about in the middle of the 5' module and it can be moved over to one side to make more room for a larger tank. The fuel filler will have to be moved too, but that is pretty easy, because of the fiberglass side panels. I did not move mine, but if I would do it, I would just cut the original door out with about 2" extra around it. Then lay that complete piece on top where the new opening has to go, mark it, and cut it out. Then I would fiberglass the door and the piece I cut out into the original door opening. I like to use fiber reinforced glass resin that comes in long and short strand fibers, because it is faster to work with on small areas than using glass fiber cloth.

The next thing to change is the two-piece front door. R&M Fiberglass does sell a perfect door, but when I converted my RTS that door was not available. I made my own door by joining the two halves together. When you pull out the weather seal around the door, there will be a 3/8" opening in the frame. I used 3/8" plywood and cut it into small 3" wide strips. Before I removed the door, I closed it tight and measured the opening between the doors halves. After adding the extra for the weather stripping recess, I cut the 3/8" strips to that size. It is a very tight fit, and the door can be moved in place with the two sides attached in that way, but it is a 2-man job.

After making sure that the door fits, I fiberglassed the plywood in place. I used a stainless steel hinge and an RV type lock. The door ended up being a hair too thick and I had to modify the lock for a better fit. I later bought a door from R&M, but I was too happy with my own door, so I never installed the R&M door on my bus. I kept the door for a while to show other RTS converters that door, but after a while I sold it.

Some will want to keep the side door, but I closed mine off. It is the last thing you can do, after you move everything large into the bus, because it is a lot wider than the small front door. It sits within a 5' modular and can be closed off very easy. Again R&M makes the panels, but I wanted to do something different. I used a regular one-piece window for the top and extended the center belt-panel over the opening. I welded in some square tubing to connect both sides, but it was not

Building a cargo bay

10KW diesel generator

sturdy enough. It had too much movement, and the seams kept cracking. I finally cut the area back open and welded a 3/8" piece of flat steel into place to cover the whole opening and fiberglassed over the steel.

I installed my 10 KW Wrico diesel generator in that area, and I built a big lift up door on the bottom. I used big air springs to hold it open, and I also used air springs on my luggage doors. Not only will they hold the doors open, but they hold them closed too. I used a standard side panel I had left over to make that door. It will not completely close off the opening, and I had to make up a small filler panel to make it fit. When you add luggage compartments, it is easiest to use the same doors like those used on the battery and radio compartments, they are still easy to find used. You will have the panels you replaced left over. They can be used to make other things, like that lift up door and the small filler panel.

I had plenty of open space around the generator I had installed where the rear door was, but it was not enough cooling, so I had to install a large 12V fan into the door that starts up whenever the generator is running, to remove the hot air. It worked out really well.

That's about it on the outside. The inside is also different from most buses. The main problems are the tall fender wells and the curved walls. This can be a negative when putting in seating where the fender wells are located and putting cabinets up on to the curved walls. A big plus though is the tall 80" ceiling height.

I feel there are only three places in a bus you have to be able to stand up - the kitchen, shower, and bathroom. Every other place you will be sitting down, especially while the bus is moving. I installed a sub floor over the front room floor. It brought the floor up about four inches and made it easier to install my two magic bed sofas over the wheel wells.

In the bedroom, I built the queen size bed sideways to go over the wheel wells with a wraparound shelf to be used like a nightstand. I had room to install a 100 gallon fresh water tank under the bed between the wheel wells. I have used the sideway bed in only the RTS and my Dina. It utilized space very well, but only in the Dina that is a full 102" wide bus is there enough room on the foot of the bed to walk around. With the standard 80" bed, it is 22".

Sparkly clean 6V92T

The next big difference over most other buses, intercity or city buses alike, is the round shape of the RTS bus. If you are converting a 102" wide bus, like I did, it is only 102" wide in the middle. At the floor level, it is only 96" wide. I did not want to cope with the extra work in building my own lower cabinets especially the drawer boxes. I used standard 24" wide lower cabinets that came out to be 3" away from the walls on top. My cabinets are between 2 dividing walls, and only the top 3" opening is visible. These extra 3" work out really well, because it gives an extra 3" to add to the wall cabinets. Standard wall cabinets over a standard 24" deep counter are 12" deep. Because of the round walls, only the lower cabinet shelf has any kind of usable space. If you are using 2-shelf cabinet, the upper shelf is useless. Because of the round upper wall, I built the upper cabinet boxes myself, and I was able to add a very welcome 3 extra inches, making both shelves wide enough.

Also, the cabinets being 3" away from the wall, you can run the water lines very easily behind them. Those round walls are only an issue on the kitchen wall. In my shower, I used tile, built the wall to fit the round bus walls, and did the same in the large closet and bathroom.

I removed my floor to be able to work better under the bus. I sandblasted, and epoxy coated all metal under the bus including the low grade stainless steel. Also, my original floor was soft in places, and I needed to install a new floor. Each module is 60" x 96" and standard 48"x 96" plywood will not fit. I am sure custom plywood sizes are available, but I did not want to waste the time to look for it or pay a much higher price. No Internet in 1994 to look for things and not much of any kind of help like we have it now. I framed the module out with angle iron to make standard plywood fit. I also glued and stapled two layers of bubble foil insulation under the new plywood before I laid it back down.

The RTS has very curved walls

Those are the main differences in converting the RTS. I only want to add something about the ride and the handling. Many call the RTS the sports car of buses, and I must say the same. Some people will point out that the GM 4106 was called the sports car of buses first. But in my opinion it doesn't have the RTS's sporty good looks. The RTS rides hard and handles well. I kept the RTS long after all my other conversions were completed, including the Dina I have now. It was only after my extended trip to the Florida Keys in the Dina, that I sold the RTS. Gave it away is more like it, because I sold it for about 15% of what I had in it. The RTS and I had a love affair from the very beginning. It was always a compromise that I was willing to live with, because it was a beautiful bus. Like a trophy wife that can't do much else except look beautiful.

The Wayward Wulf is a frequent contributor to Bus Conversion Magazine. Wulf can be contacted at wulf@MenAtWorkSCS.com or go to his website at MenAtWorkSCS.com.

IRON HORSE - WILD WEST ELEGANCE

By Bruce Fay

I had the opportunity to meet Jimmy and Sadie Clay at the Arcadia Bus Rally 2014 in Arcadia, Florida between Christmas (2013) and New Year's. [See the February 2014 issue for an extensive article on this rally.] There were almost 100 converted buses there, but one that stood out for me was their Iron Horse, a 1984 Model 10 Eagle with a 12 inch roof raise. With its deep red upper body paint and anodized aluminum lower panels the profile was quite striking. The name "Iron Horse" was on the side done in gold and black western type. The bus was open to visitors for much of the rally, and one peek inside the entrance door told me that this conversion was going to be very unique. They were gracious in allowing me to photograph their bus and interview them at length about how it came to be the Iron Horse.

Getting the Converted Bus Bug

I am always curious how people come to own and convert a bus. Jimmy and Sadie were in Myrtle Beach, North Carolina and saw a converted bus. They looked at it out of curiosity, but it wasn't very nice, and they did not give it any more thought at the time. Around the same time Sadie's brother and sister-in-law, Ronnie & Diann Mewbourn, were looking for a motorhome. They found one that Diann really liked, and then Ronnie came home with a Model 01 Eagle bus. Jimmy and Sadie helped Ronnie and Diann convert it and then the four of them took it to Alaska. Sadie told me that it was a very nice conversion and that the trip to Alaska convinced them that they also wanted to do a bus conversion.

The Iron Horse was not the Clay's first bus conversion, but it is the first one they have finished. In 1999, they bought a GMC PD4106 with a bad engine. They did a little work on that bus, but the project was delayed by the bad engine. In 2000, they bought a 1994 Triple E Class A motorhome to use while converting the 4106. Jimmy ultimately decided not to finish the 4106 because of the engine and bought a 1964 MCI MC-5A to convert. By 2003, he had converted it up to the point where they were going to start on "the pretty stuff" when a Model 10 Eagle seated coach became available in north Alabama. They had looked at that same Eagle before buying the MCI, but it was out of their price range at the time. The Eagle's engine was blown, but the bus was in good shape, so they bought it. They sold the partially converted MC-5 quickly via the Internet. Jimmy bought a used DD 6V92 engine from a truck salvage company and by January 2004 had it installed and running. They test drove it 15 miles to a local truck stop for breakfast. It ran well, so they decided to keep it and started gutting the interior in preparation for raising the roof 12 inches and converting the interior.

Creating Headroom

Jimmy told me that raising the roof was one of the easiest parts of the project, consistent with what I have heard and read about converting Eagles. Jimmy borrowed two transmission jacks from the Ford dealership, one for the front and one for the rear. He built four guides for each side and secured them. He

As an aside, Ronnie did not plan to sell the Model 01 conversion, but someone asked about it; he put a price on it; they accepted it, and it was gone. He bought an Eagle Model 07 to replace it, number 42 of the 45 that were ever made, and had it at the Arcadia Rally. They've done a nice job with it, and I hope to see it in a future issue of BCM.

then used a Sawzall to cut all of the vertical members including the steel around the windows and above the windshield. Sadie measured the spaces and cut 12-inch long pieces of square steel tubing using a chop saw. Jimmy welded them in place. They had a large, enclosed garage for their tools and work tables, but all of the conversion work was done under a 16-foot wide by 40-foot long "car port"; under a roof but open on the sides.

The interior ceiling is six inches below the roof providing six inches of additional headroom over the stock bus and creating lots of room for concealed electrical wiring and air-conditioning ducts. All of the house electrical wiring runs through a chase in the center of the ceiling and then branches out and runs across to the walls and down to where it is needed. The chase is covered with panels that are easily removed for maintenance, but is not obvious in the finished interior.

Building the Interior

Jimmy and Sadie wanted to get it right the first time, so they designed the interior on paper, measured carefully, and mocked up the interior using cardboard and quarter inch plywood before committing to more permanent and expensive construction. However, following the advice of other converters (or perhaps their own instincts) they did not wait until they were done to use the bus. Their first camping trip in the bus was planned as a 3-day weekend with a few loose interior furnishings. Even with lawn furniture, and rain for five of the eight days, they shared what they were doing with interested onlookers, and it was a very satisfying outing. They returned home more excited than ever about finishing the conversion.

I asked them "why a train car?" They said it was what they had wanted to do from the beginning. They "liked the Old Wild West and thought it would be something elegant for two old people to travel in." (Their words, not mine.) They had been collecting train hardware for a while and picked up RV parts at surplus and salvage outlets in Elkhart, Indiana and McKinney's RV in Red Bay, Alabama (a major seller of Tiffin surplus parts).

They built and finished the interior from the rear to front to avoid damaging work that was already done. To date they have not had to tear out and redo anything. I asked what their greatest challenge was in creating the interior, and Jimmy was quick to say that it was cutting wood to fit the curved spaces created by raising the roof. He admitted that it took them some extra wood to get the fit they wanted, but seeing the interior, it was worth the extra effort. The attention to detail in this coach is amazing.

The interior layout is actually fairly standard, but you are unaware of that when visiting. The bedroom is in the rear and features a mural on the rear wall. The mural gives the appearance that you are standing on the rear platform of the last car of a train that is traveling through the old west. Carpeting is a deep red color and is offset with gold colored accents in keeping with the Victorian sense of décor that was prevalent in the late 19th century.

Jimmy and Sadie in the parlor (view looking rearward)

The parlor (view looking forward)

The parlor ceiling

The galley

The bathroom comes next and then the galley mid coach. This area features a white grained marble floor. The cabinets, shelving, hardware, and fixtures look "old" and are period appropriate as much as possible. No hand pumps for the water, however; the plumbing is modern, albeit mostly out of sight.

The "living room" is designed like the parlor of a private train car. It is not completely open to the driving compartment, which is a bit more difficult to make look like the cab of a locomotive. The parlor has a "tin" ceiling, three comfortable chairs, and a table. There is shelving in one corner, and a "faux" bookcase with leather bound books in another. But one of Sadie's favorite interior features is the antique "fainting sofa." It has an authentic appearance but includes concealed storage space underneath. Jimmy and Sadie have even gone so far as to create authentic looking certificates and posters in which the names and initials have something to do with their family. While the interior just looks neat to the casual visitor every detail is intentional and has meaning to them; even their clothing reflects the "style" of the period.

One of the interesting things they did was to use old suitcases, boxes, and trunks that had a period appearance to "decorate" the interior. But no bus conversion has the room for such decorations, so all of these containers are used for storage. They even have a real safe that looks like it might have actually come from a 19th century train car. It's firmly bolted to the chassis just behind the driver's seat and serves as a file and storage cabinet. The interior of the Iron Horse is not just for show; it is a fully functional and efficient living space. Although the coach is designed to sleep two, it will accommodate six adults for dinner.

Bedroom rear wall mural
(The three panels are cabinet doors with storage behind.)

Bathroom Vanity

Bathroom Storage

The Systems

The Iron Horse has a 120V AC electric hot water heater and two roof mounted 15,000 BTU air conditioner/heat pumps. A small electric fireplace also provides heat and ambiance in the front Pullman Parlor. But it is not an "all electric" conversion. It uses propane for space heating (RV furnace) and cooking (two burner cooktop). The furnace is controlled by a Duo Therm controller.

To support its electrical needs when not plugged in it has a 10 KW Onan Quiet Diesel generator. It has two 12V DC Group 31 gel cell house batteries with a converter/charger but does not have an inverter or solar panels. While there are a few RV downlights in the ceiling, much of the lighting is provided by brass lamps and wall fixtures that match the theme of the interior.

One of the neater features of the conversion is the leveling system. It's a 4-point manual system designed and built by Jimmy using off the shelf parts from Tractor Supply Company and other sources. It's controlled by four levers to the left of the driver's seat that look like they could have been removed from an old locomotive.

Does the Iron Horse have a train whistle? Do you even need to ask? It was a birthday present for Sadie in 2007.

BCM

April 2014

1984 Model 10 Eagle
“Iron Horse”

Specifications

Chassis:
Manufacturer: Eagle Bus Company
Model: 10
Year: 1984
Vehicle Weight: 34,500 pounds
Overall Length: 40'
Overall Width: 96"
Overall Height: 13'
Outside Color: Anodized Aluminum bays/lower siding and "Lohle Red" aircraft paint above.

Conversion:
Type: RV
Converted By: Self converted - Jimmy & Sadie Clay
Interior Theme: 1890's "Wild Wild West" Pullman train car

Special Features:
Hydraulic leveling jacks, designed by Jimmy.
A genuine antique safe - used for storage.

Powertrain:
Engine: Detroit Diesel 6V92T
Transmission: Allison HT-740 Automatic
Power Steering: Yes
Suspension: Torsalastic
Brakes: Air
Wheels: Aluminum

Body Modifications:
Raised Roof: 12"
Updated Front Cap: Yes
Updated Rear Cap: Yes
Slide Outs: None
Windows: Steel Framed RV Slider

Electrical:
Power: 12VDC, 120VAC
House Batteries: 2-Group 31,+ 12V Gel Cell batteries in parallel
Converter/Charger: Yes
Inverter: None
Generator: Onan 10KW Quiet Diesel with exhaust routed up through roof
Shore power: 50A

Kitchen:
Stove: 2-burner propane cooktop
Oven: Microwave/Convection
Sink: Double Basin

HVAC:
Heat: Propane RV furnace
Heat/Cool: (2) Roof A/C & Heat Pump
Vents: (2) Kitchen & Bath

Plumbing:
Pipe Material: CPVC
Tank Material: Plastic fresh, stainless waste tanks
Water Heater: 10 Gal. Electric

Tank Capacities:
Fuel: 146 Gallons
Propane: (2) 20 Gallon portable tanks
Fresh Water: 65 Gallons
Waste Water (Black): 40 Gallons
Waste Water (Grey): 40 Gallons

The Iron Horse as an Attraction

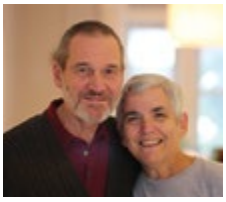
Although Jimmy and Sadie lived in a very rural corner of Alabama, their bus project was very visible from the highway that ran in front of their home. As the project progressed more and more people stopped to see what they were doing. As Sadie told me, "folks didn't see that kind of thing much in those parts." They even had a gospel singing group stop once. When she realized they were going to continue having visitors she started a guest book. She's on her second one now and keeps it by the front door. I signed it, along with everyone else who toured the Iron Horse at the Arcadia Rally. She said she still sends an occasional post card to some of the folks who have signed it over the years.

Jimmy and Sadie Now

Although Jimmy and Sadie had owned two buses and a motorhome before buying the Eagle, the Eagle was the first conversion project they actually finished. When they started the Eagle conversion Jimmy was an auto mechanic at a local Ford dealership in northeast Alabama and Sadie was a R.N. In 2005, they bought 16 acres of land in west central Tennessee just seven miles from their home in Alabama. They built a small log cabin style home, a large bus barn/shop, and put in three 50A full hookup sites. The cabin also features an Old Wild West décor. They named the cabin the "Eagle's Nest Stage Coach Inn" and much of what is not bolted down is interchangeable between the cabin and the bus.

When Jimmy retired in 2005 after 30 years, the Clays started traveling approximately six months of the year even though the bus conversion was not finished. They have primarily traveled to Florida, Texas, Arizona, and California during October through May. They like to do volunteer work when on the road, especially camp hosting, program activities, and maintenance in Florida and Texas state parks. Their favorite parks are Big Lagoon SP in Perdido Key (Pensacola, FL area) and Wekiwa Springs SP in Apopka (north of Orlando, FL). They have returned to both parks every year for the last eight years where they stay for up to two months in exchange for their campsite and 10 hours of work per week (each). They have learned the surrounding communities well and enjoy helping first time campers with information about the local area and its attractions. (Their daughter is the director of the Perdido Key Chamber of Commerce Visitor Center.) They have also developed a circle of volunteer friends who are doing the same thing at the same or nearby parks. They are friendly, helpful, welcoming people, and I have no doubt they are very good at this work. Their favorite way to say goodbye is "Happy trails to you until we meet again."

You can reach Jimmy and Sadie by e-mail at SadieClay@aol.com and JClay4106@aol.com.



Dr. Bruce Fay is a retired educational assessment and evaluation consultant and a former electrical engineer, photographer, and teacher. Linda is a retired CPA & corporate controller. They live in SE. Michigan, and started traveling North America in their 1990 Prevost H3-40 coach conversion in June 2013. Their website and blog are at http://www.omnibus-mi.us. They can be reached at us@omnibus-mi.us.

Bay Floor Shoreline/Water Access Port

By Jack Conrad

When we got ready to install an opening in the baggage compartment floor for the shoreline and water hose, we wanted an opening that could be adequately sealed to prevent water and "critters" from entering. After looking at several commercial options, we decided to make one of our own design. We started by purchasing some holding tank drain components. The first one is the flange that has a square end that bolts to a gate valve using the quarter inch holes in each corner. The other end is the same as a piece of three-inch plastic pipe. It is called a three-inch male slip x flange. The second fitting has a three-inch female slip on one end and bayonet lugs (for the cap to attach to) on the other. We also bought two caps.

The first step was to determine the location for the opening. We checked the underside of the baggage floor to insure that the opening would not interfere with any framing members. A 3-1/2" hole was drilled through the floor for the fitting. The three-inch male slip x flange fitting was installed from the underside of the floor after putting a heavy bead of silicone caulk on the flange. This was attached to the floor using four, 1/4" x 1" stainless steel bolts and self-locking nuts.

After installing the flange from the underside, the three-inch female slip x bayonet lug fitting was installed from the top. Before installing this fitting, the bottom edge was cut to match the contour of the bay floor, and an additional bead of silicone caulk was applied. The fitting was then installed using ABS cement.

Attach the cap to the bayonet lugs, and you have a sealed opening. For use with shoreline and/or water hose, simply take the other cap and cut an opening from the edge, large enough to accommodate the cord or hose.

When camping, insert the cord or hose through the opening and install the cap with the cutout. This helps prevent "critters" from entering the baggage compartment. When ready to hit the road, install the regular cap.

Jack & Paula Conrad founded and hosted the Arcadia Rally for its first ten years. They now travel most of the year in their MCI MC-8 and kayaking every chance they get. The Orange Blossom Special II is their second bus, and Jack has worked on numerous conversions for other people.

One For The Road

This unique conversion was spotted in Rochester, NH and submitted by BCM Readers Cal & Connie Stiles.

It may not be a bus conversion, but close enough,

It is ... wait for it ... a ... ***Bug Conversion!***

Fuel Efficiency Considerations For Detroit Diesel Engines

By Clarke Echols

Sometimes bus nuts ask questions along the line of, "If I have a ??? engine, what kind of fuel efficiency can I expect?" This is a complicated question that is not easily answered without a lot of information about various factors in the vehicle being considered. I will address some of these factors and explain how they relate to fuel efficiency. The information I present is based on my experience in interpreting the fuel consumption curves for Detroit Diesel products. The principles also apply to other manufacturers' engines, but the specifics vary both with the product and specific model designs.

Fuel consumption versus engine speed curves for Detroit Diesel engines equipped with DDEC electronic controls are readily available. But the same information for 6V71 and 8V71 MUI (manual unit injector) models is limited. Specifications that are available for 71-series models indicate a fuel consumption of about 0.39 pounds of fuel per horsepower hour with a size 65 injector at 2100 RPM. In comparison, the fuel consumption for a 320-HP Series 50 engine at the same speed is 0.34 pounds per hp-hr; i.e., an 8V71 burns about 15% more fuel than a DDEC-equipped Series 50 under similar conditions.

However, keep in mind that the 6V71 or 8V71 also is usually air aspirated (no turbo charger) and fuel consumption numbers will vary radically from the stated values at high altitudes, such as on Colorado mountain passes where air density is dramatically lower than at sea level, although the governor may play a role in limiting over fueling at any given throttle setting. By packing more air into the cylinder, a turbo charger substantially reduces the effect of altitude on engine performance. The DDEC computer also compensates by injecting less fuel when pressure is lower due to altitude. While the presence or absence of turbo charging or electronic controls can dramatically affect fuel consumption, especially at high altitudes, the general principles explained in this analysis still apply.

Engine Fuel Consumption

Diesel engines consume a roughly constant amount of intake air per revolution regardless of RPM and power demanded by the load. They do not have a throttle butterfly in the air stream like you find on the intake of a gasoline engine. The amount of power delivered on any given cycle is directly related to the amount of fuel injected into the hot air at the top of the compression cycle.

When the fuel is sprayed into the chamber by the atomizing injector at the top of the compression cycle, it immediately catches fire and begins burning. The engine is most efficient when the fuel is completely burned just as the piston reaches the bottom of the power stroke. If the engine is turning slower than the optimum speed, the fuel is spent before the piston gets to the bottom, forcing it to coast for the rest of the cycle, and if turning faster, the piston gets to the bottom and the exhaust valves open while the fuel is still burning. Either of those two latter conditions causes the engine to burn more fuel because you are not getting the work that is available in the burning fuel during the entire and only the entire duration of the power stroke. Anything more or less than this is wasted energy or wasted opportunity to get energy because to get the power you need, you will increase the

amount of fuel being injected by pushing down further on the throttle pedal.

The amount of fuel consumed by the engine is measured in pounds of fuel per brake horsepower-hour. In other words, fuel consumption is directly related to power out of the engine, regardless of vehicle speed. Fuel used per hour is tied to horsepower required to drive the load. The fuel consumption curve is dish-shaped, with the minimum (most efficient operation) fuel usage in the range of about 1500-1600 RPM. When you operate outside of that speed range, fuel consumption increases whether you reduce or increase the RPMs. At 2100 RPM, it is about 10% higher than at 1600, and at 1200 RPM, it is about 10-13% higher at the same delivered horsepower.

Horsepower Required

The amount of horsepower required to drive a coach consists of:

- Power required to run the engine, transmission, air compressor, alternator, radiator fan, etc.
- Power required to overcome rolling resistance.
- Power required to punch a hole through the air (aerodynamic drag).

As a rule of thumb, the first item consumes about 30-45 horsepower. The second varies with the type of road surface (smooth pavement takes less power than chip seal or rough pavement, and gravel roads take even more). Again, plan for about 40-50 HP for a 35,000 pound coach at 70 MPG on a typical interstate highway. Between the two, you've shot about 75-85 HP. The third factor depends on the frontal cross sectional area of your bus and the aerodynamic streamlining. It also is dramatically affected by road speed combined with wind speed and direction.

For a typical coach traveling at 60 MPG, the air drag is somewhat less than rolling resistance – about 35-40 horsepower. Given these base figures, you're looking at about 110 -120 HP. At 1500-1600 RPM for a Series 50 engine, you use 0.3 pounds of fuel per hour per horsepower, so 0.3 x 120 = 36 pounds. Assuming 7 pounds per gallon, that's roughly 5 gallons to travel 60 miles, or 12 miles per gallon. Kick the speed up to 70 (at the same engine RPM), and you'll be burning closer to 7 or 7.5 gallons per hour, or about 11 miles per gallon.

If your engine speed is 1600 RPM at 60 MPG, it'll be close to 1900 at 70, and your consumption per hour will be closer to 8 gallons per hour, or about 10 MPG. Thus, between engine efficiency loss at non optimum RPM and additional air drag, going from 60 MPG to 70 can drop your fuel economy by close to 20%! That's a LOT, and that is why it is important to select the

rear end ratio and tire size to run the engine in the 1500-1600 RPM range at your typical cruising speed when possible.

How Transmission Ratios Affect Efficiency

The Allison B-500 transmission (6-speed World Series) gear ratios are arranged such that if you select tire size and drive axle ring-and-pinion ratio to cruise at about 70 MPG in 6th gear at an engine speed of 1600 RPM, you will be running close to 60 in 5th gear at the same engine speed, and close to 45 in 4th (direct). 3rd gear puts you in the mid-30s, and you have a very nice combination for most driving. In addition, at 2100 RPM in 4th gear, the top speed is close to 58 MPG, giving you an excellent engine speed range for climbing mountains.

Greyhound Bus Lines locks out 6th gear in their MC-12s (similar to MC-9s), giving their drivers a top speed just over 70 in 5th gear. In the process, they give up about one mile per gallon due to high engine speed compared with what they'd be running if they enabled sixth gear and used a vehicle speed limit in the computer software for sixth gear in the Allison. These effects, combined with high idle time on their engines, reduce their fuel efficiency to closer to 8-9 miles per gallon or less if they make a lot of time consuming stops.

The 4-speed Allison HT-740/748 series, with a drive axle ratio of 3.3-3.5 yields a top speed in the 69-74 MPG range with tires sized in the 480-515 revolutions per mile range with the engine running 2100 RPM at maximum governed speed. Using larger tires (11R24.5) at 483 revs/mile and a 3.55 drive axle ratio, an optimized engine speed of 1650 RPM produces a tire speed of 465 RPM, for a ground speed of 57-58 MPG. Top speed for this configuration at 2100 RPM is just over 73 MPG, meaning that if you run the engine that hard, you will likely run less than 10 mpg, whereas the B-500 could yield closer to 11 or possibly 12 mpg in comparable conditions. However, in 3rd gear, the speed range is about 40-50 MPG with engine speeds between 1600 and 2050 RPM, making it a good hill climber too. Be aware, though, that if you use this transmission, you won't likely see 10-13 miles per gallon at 70 MPG because you cannot develop enough transmission output shaft speed to get the engine RPMs down to an efficient range at interstate highway speeds.

How Driving Style Affects Mileage

You've seen trucks going down the highway spewing black smoke out of the stacks because the driver has pushed down on the throttle to give the engine more fuel than it can convert into horsepower. When the engine is already delivering its maximum horsepower, giving it more fuel will not provide more power. If you increase the injector size to deliver more fuel, you won't get more power if the engine cannot deliver the power contained in the fuel being consumed (actually the fuel contains energy, which is power exerted over time). The engine is already burning all the fuel it can, given the amount of air coming into the intake manifold, and giving it more fuel only creates smoke (unburned carbon) which means you are wasting energy.

Thus, if you floorboard the throttle or otherwise try to get the engine to produce beyond its capabilities, it will simply voice its objections by blowing carbon up the stack or out

the exhaust pipe at the side of your bus. That wasted energy is also fewer miles per gallon. Modern computer controlled engines have software that recognizes the engine's inherent limitations, and therefore limits the amount of fuel provided to the injectors to prevent smoking. That is one of the big reasons why most electronic engines produce higher miles per gallon figures than mechanically injected engines.

Conclusions:

From this simplified discussion of general fuel efficiency considerations, it should be rather obvious that you cannot simply ask the question, "If I use engine X and transmission Y in my bus, what kind of fuel consumption can I expect? " Even though overdrive transmissions can yield big returns in terms of fuel savings, depending on your use, you may not save money in the long run. If you put $10,000 into the transmission to improve mileage by 3 miles per gallon, you'll have to put over 150,000 miles on your rig to get your money back. That is assuming a fuel cost of $4.00 per gallon and that you were getting 8 MPG on the non-overdrive transmission. If the fuel is cheaper, you'll have to drive it even more miles to recover your investment. If you put the same money into an investment at 7% interest, you can drive over 2,000 miles per month, average, before you reach the point where the interest won't pay your extra fuel costs without the overdrive gearbox. So unless you do a LOT of driving, getting caught up in modest fuel savings is not very worthwhile in terms of financial paybacks.

Observations about Detailitis and the Paralysis of Analysis

Engineers are trained to watch details. Many engineers have very analytic personalities, and have to have "all the facts" before they can make a decision. One of my engineering professors said, "Engineering is the ART OF KNOWING HOW to avoid difficult issues." After 30 years of engineering experience, I have observed that those are very wise words. My analysis above covers the subject, but avoids the extreme difficulty of examining every detailed factor in the complex equations that govern fuel efficiency and consumption. By using sensible approximations, we were able to cut to the chase and determine feasibility without getting bogged down in details that would have little effect on the actual outcome.

Clarke Echols is a professionally published writer with a background in engineering and small business ownership. He is also an experienced bus nut. To learn more about Clarke and his writing services go to his website at: www.ClarkeEchols.com or email him at clarke@verinet.net

Inverter For Powering a Fridge?

By Sean Welsh

Reader Bruce asks: *We will have a household type refrigerator in our bus, and are planning for a Magnum MS4024 inverter. The fridge requires 1155 watts to start up and 130 watts to run. Would it be better to have a smaller inverter just for the fridge, or just keep the Magnum on all the time?*

That's a great question. By "better" here I am assuming you mean, "Will it use less energy?" The answer is that it depends on many factors, including what model of small inverter you get, how often the fridge actually runs, how much time you will be using the MS4024, and whether you would actually turn the MS4024 off completely, or put it in "search" mode when not using it.

For most people, the short answer is that it will likely be better to leave the MS4024 on full-time and use it to run the refrigerator, rather than getting a smaller separate inverter. To illustrate, let's look at some of the math. For the purpose of this example, let's assume you would get a small true sine wave inverter with just enough surge capacity to handle the start-up requirements of your refrigerator, something like the Samlex SK700.

When the refrigerator is running, drawing 130 watts, and nothing else is using the inverter, both the Samlex and the Magnum will draw very nearly the same power. At this power level, they would each draw about 155 watts. The Magnum is probably more efficient at starting the unit, but that's negligible since it is such a small percentage of overall run time.

When the fridge compressor is off, the MS4024's no-load draw is 25 watts, and the SK700 only draws 15. So if the fridge runs for, say, 12 hours out of every 24 (50% duty cycle), using the smaller inverter to run the fridge would save you 120 watt-hours per day – the 10 watts difference in idle current times 12 hours. However, there's more to it than that.

Let's say you would use your large inverter for 6 hours a day, not counting the fridge. That would include making your morning coffee, microwaving something for breakfast or dinner, and perhaps watching a movie or some TV in the evening. For about three of those hours, the fridge will be off, but the smaller inverter will still be using those 15 watts of power – that is power which would not be used if the fridge was connected to the larger inverter instead. Those 45 watt-hours would immediately erase 38% of your savings from using the smaller inverter, down to 75 watt-hours per day.

The higher the duty cycle or longer you use the main inverter, the worse the numbers get. At a 75% duty cycle with eight hours of inverter use, savings would be just 30 watt-hours. Moreover, inverter efficiency drops off sharply below about 200 watts. So while the small inverter is using 155 watts to run the 130-watt fridge, if the large inverter is also running only a small load such as the TV at another 130 watts, it will also be using 155 watts, for a combined total of 310 watts. If all 260 watts were combined onto the larger inverter, it will likely draw less than 300 watts to power both loads. That's another 10 watts, for however long you're watching TV, which can easily put the whole concept of a separate smaller inverter into the red.

To put these numbers in perspective, 120 watt-hours, which is really the most you could hope to save daily, is just 5 amp-hours from your 24-volt bank. The charger on your MS4024 will replenish that amount of power into your bank in less than three minutes; a 50DN alternator in half that time. 30 watt-hours is 1.25 amp-hours, replenished in just 45 seconds.

If you are boondocking and running your generator every few days to recharge your batteries, you'd be looking at adding a minute or two per day to your generator run time, if such a setup saves you anything at all. Only you can decide if that makes it worth the trouble and expense of adding a whole second sine-wave inverter.

I should note here that the make and model of refrigerator also makes more of a difference than duty cycle alone would suggest. Refrigerators with simple mechanical controls can often work with inverters in "search" mode, where the inverter uses less current when the compressor is off. The difference in search-mode draw between these inverters is a mere 4 watts, further narrowing any improvement that might be made.

If you are still in the planning stages, you should also think seriously about the practicality of shutting down your main inverter every day. We never turn ours off; whenever we do, we have to reprogram the microwave, coffee maker, and A/V equipment, as well as restart our file server and Internet router. We're very energy conscious, and even still we find it is not worth the few amp-hours per day that we would save.

Sean Welsh is a professional writer with an engineering background. He has written numerous articles that have been published in BCM and assisted many bus nuts with their electrical problems. He and his wife Louise have travelled in their bus conversion "Odyssey" for several years. Now they have changed gears a bit, and though they do still own Odyssey, most of their time now is spent on their 52' trawler class boat named "Vector"

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1962 GMC PD 4106, 35'

DD 8V71N with V730 auto trans, 140 gallon fuel capacity, Onan 7.0 KW gas generator with 20 gallon gas tank, air throttle, King cruise control, Jake brake, Shepard power steering, Coach Services air leveling system, electric wipers, dry engine air filter, RMC fiberglass caps on front and rear of bus, RMC head light update kit, RMC fiberglass tailgate. LED taillights, rear camera, aluminum wheels, Peninsula double pane RV windows with screens, air ride drivers seat, light oak cabinets, roof air, bath with shower, Norcold refrigerator, four burner stove with oven, tile counter tops, microwave oven, 20 gallon propane tank, 100 gallon fresh water, 100 gallon combined black/ gray water tank with electric waste valve, five AGM start batteries, two AGM house batteries with 50 amp smart converter. Bus runs good, 25,000 miles on rebuilt transmission. Located in Northern California.

Priced to Sell
$23,995
Call Ernie
707-738-6566
ewerskine@gmail.com

1989 Eagle 15

This is a 40 passenger coach with a new 2007 Cummings ISM 410 and 500 Allison. The current mileage is 78,000+. General mechanical description: disk brakes on front wheels and conventional on rear, new air conditioning unit, new condenser, and blower motors, second auxiliary rear coach air conditioner, backup camera, LED coach lights inside and out, 2 solar panels on roof for in house electrical 110 volts, New paint in 2010, new Michelin tires 80% +, Jake brake, baggage bins remodeled with new floor and ceilings, All new windows, roof sealed 2011, New Eagle symbols on sides, electric mirrors. General Interior: new dashboard, new switches and controls, driver and passenger window shades, interior carpeted ceiling, passenger seats reupholstered and with new foam, passenger window drapes, head rest seat covers, 5 new flat screen monitors, sound system for coach, hand and driver mikes, refrigerator in bar area, rear kitchen, bathroom, new wood floor in lounge area, new Pergo floor in main coach seating area.

Bus has been meticulously maintained with regular inspections from certified mechanic and California Highway Patrol. All inspections are current with Highway Patrol, State and Federal requirements. CA number and DOT numbers also. All regular and special mechanical maintenance records available.

This Eagle has been a labor of care and love. It is ideal for commercial use or for conversion to motorhome. This is a must see! One of a kind! Beautiful Restoration.

Priced to sell: $49,000 - Call Ken: 619-972-0629

Bus Barn With Benefits

This house was built for two people with a large bus conversion motorhome. The house itself is about 900 sq. ft.

The bedroom is an upstairs loft with its own fireplace, and French doors leading out to the balcony deck. It has a full bath with toilet, two sinks, extra-large shower, large upright washer and dryer, a large clothes closet with shoe rack.

The Living room has a high beam celling, large fireplace, and three large bay windows. Under the loft is the kitchen equipped with a gas stove, microwave, large two-door refrigerator, and adjacent dining room with a window box seat. Also downstairs is a ½ bath, pantry, and a door going out to the motorhome. There is a spacious office/den with beautiful cabinets and its own stone fireplace and its own door onto the front porch where the hot tub is.

The bus barn part of the house has a 12'x45' parking slab for the motorhome with all the hookups - water, sewer, TV, phone, 220V 50A power, and hookup to large propane tank. Adjacent to the bus barn there is a 2nd parking space with full hookups for a second motorhome. There is a water well and a 12'x24' work shop with large air compressor, standby generator that can run the whole place. On 1/3 of an acre of land located in Magnolia, TX (North of Houston in the Woodlands). You can read more about the home and see more photos in the article about it in the November 2012 issue of BCM.

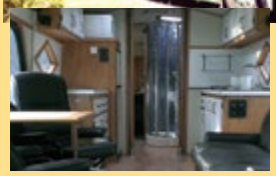
Asking price $175,000
Call Tuck or Sharon at 281-252-5439

1985 Neoplan Bus

6V92 Turbo Detroit Diesel (blown head gasket), Allison Transmission, 4-speed automatic, Webasto 80,000 BTU Sutrac A/C with baseboard heat, double shafted compressor for A/C, 1 shaft runs off Detroit, 1 shaft while parked; to run off new 7½ hp Baldore motor A/C, spare tire, mounted 1200, electric 11 gal water heater with jacket for instant hot water, 165 gal fuel tank, 1 large 11½ x 8" x 8" high complete bus manual, 1 large 11½ x 8" x 8" manual sutrac A/C, 1 large 11½ x 8" x 8" complete parts book. Bus is about 75% complete, all new brakes & hoses, new Flex Steel cab chairs, all-ride door. Bus located in New River, AZ. Outlaw Outfitters.

$20,000
Call JC Bryan
480-773-9753

1970 GM 4108



318HP 8V71, 20,000 miles on motor, automatic transmission, Air lift tag axle, Jake brake, complete custom, runs great, Bus was featured in August 2004 issue of BCM .

$28,000
In Waterford, NY
518-383-1007
jmacy104@aol.com

1965 MCI-5A 8V71

1965 MCI-5A 35' 8V71, 4-speed std tranny, power steering, hydraulic leveling system – never used. Inverter/ Converter/Charger – used only 3-4 times, side-by-side refer 12V & propane with ice maker used 3-4 times, propane water heater used 3-4 times, two new 8D batteries - purchased last year, new air filter to blower connectors, 7KW Onan diesel genset with in-cabin remote, heated power rear mirrors, foil bubble insulation and 1" blue Dow board insulation, 100 gal. fresh, 97 gal. grey, 45 gal. black, shower, RV toilet, maple cabinets, dinette, sofa. Engine blower problems (must be repaired before drivable)

$5,000
In Murrieta, CA
530-925-5103

1958 GMC PD-4104 Bus Conversion

Purchased in 1984 with a rebuilt engine and driven less than 18,000 Miles.

Located in Carson City, NV

- Detroit Diesel 671, w/New Head Gasket
- Replaced Wiring
- Air Brakes & Power Steering
- Good Tires
- No Dents In Body
- Good Paint & Chrome
- Onan 7.5 KW Generator (runs both A/C)
- Two Roof Air Conditioners
- Furnace Ducted Throughout Coach
- 77-Gallon Fresh Water Tank (under bed)
- Separate Black/Gray Waste Tanks, 75-Gal. Each
- New Shurflo Water Pump
- 2" High Density Blown-In Insulation
- Converted RV Tinted Windows
- Custom Window Treatments Including Shadow Boxes With Indirect Lighting
- Bathroom With Sink & Medicine Chest
- Large Rear Bedroom
- Side-Closet with Mirrored Sliding Doors
- Full Neo-Angle Glass Shower
- Lead Glass Frosted Pocket Door To Bedroom
- Lead Glass Bi-Fold Door To Bathroom
- Kitchen Cabinets - Euro Design, Mahogany w/ Black Glass & Mirrored Black Glass Back Splash
- Curved Counter Top w/ Storage
- All Built In Cabinetry is Mahogany
- Full Size Cast Iron Kitchen Sink
- Magic Chef Oven/4-Burner Cooktop (New)
- New Microwave
- New Norcold 6.3 cu. ft. Refrigerator

$35,000
Call Lloyd or Doreen
(775) 882-6225

1984 MC-9 2000 Conversion

Bus Conversion, MC-9 recreational vehicle. 1984 40-footer, 8V71, 5-speed, built in 2000, new tires, many appliances, non-smoker. $39,900 OBO and trades.

Call Lenny
386-679-8480
845-246-5331

1966 GM with 2003 Conversion

A 2003 conversion. 6V92 Turbo, V730 automatic transmission. Onan 7.5kw quiet pack generator and all the amenities. This coach is ready to go down the road. Contact me for a list of features and pictures.

Call Cary McCart
530-367-4726
paper1@sebastiancorp.net

Detroit Diesel 8V71 Engine with Allison HT740 Transmission

Both in excellent condition. Currently in MC-9 bus. 28,661 miles on engine rebuild. Rebuild included new air compressor, head, pistons, sleeves, rings, main bearings, oil cooler, timing gears, fuel pump, blower drive coupling, oil pump, thermostats and all applicable small parts. Blower was overhauled. All invoices available for review. Bus has had routine maintenance, been very well cared for and is stored inside a building. Reason for selling; replacing with 8V92. Bus can be test driven through July prior to swap depending on weather in Bemidji, Minnesota. Available approximately beginning of August 2014.

Reduced Price!

$9,995 O.B.O.
218-759-9713

1969 Eagle Model 07 Conversion

Beautiful 102" Wide Model 07 with new 455 HP engine by Detroit Diesel with only 2,200 miles. New tires, all new batteries including house, generator, engine. New Aqua Hot system, Wrico 15 KW generator. 3 Roof A/C Units, Big Foot hydraulic jacks. All amenities. So many new things upgraded it is ready to hit the road. Pictures upon request. Located in CA, $85,000

Call Les
760-608-1520

Classifieds

1975 MCI 8 w/8" roof-raise

Raised roof eight inches. New end-caps, front and back. Replaced 6V92 Turbo engine rebuilt (will run). Automatic transmission, Allison four speed, Alcoa aluminum wheels, three AC units; low profile Carrier Air V (brand new, not installed, still in boxes). Replaced aluminum siding with 16 gauge galvanized. New radiators. Texas. $20,000 OBO.

Call Pat at
832-434-8747

Information Wanted '53 – '60 PD 4104s

I am searching for all the surviving PD 4104s in the world. From 1953-1960 5,065 coaches were made. Where are they now? Yes, some were scrapped. Does anyone have those serial numbers? I am tracking the coaches by serial number and location; city and state. I am looking for any and all information on these coaches: whether a scrapped RV or other conversion or still a bus. I can account for 300 so far. List will be posted online.

Jon Usle
jusle@aol.com or
760-272-4081

Generator/Inverter Plus Others

Slightly Used Components
Onan 7.5KW Quiet Diesel Genset, 460 hrs. $4800.
Trace 1500W Inverter/Charger with Remote Control $350.
10-Gallon Gas/Electric Water Heater $250.
Gas Furnace $250.
Two Low Profile A/C with Controls $500.
Or Everything For $5500. Located in West Tennessee.

Call Don at
731-608-2841

MC-9 8V71

Allison transmission, raised roof, holding tanks, shower, toilet, counter, sink, three roof ACs refrigerator, stove top, Six RV Peninsula windows, webasto heating system, 15 KW generator, 4000W inverter. Too old and broke to finish. $22,500.

Call Jim 843-420-1076

Rear End for Sale

On MCI or Eagle, 3.72 Ratio new bearings, new gears $1,000 plus shipping. SC.

Call Jim
843-420-1076
or 843-396-9909

1966 GMC 4107

We have a 1966 GMC 4107 coach, we are parting out. Lots of good parts, panels, doors, windows, etc.

Call Carl at
520-604-2158

Prevost 8V71

$4,700

Five-speed automatic. Almost new seat covers, also four more good running Prevosts.

Please Call Chuck
757-672-4543
or 757-480-3381

Rally News

Southeast Bus Nuts (SEBN) Rallies:

Spring Rally: Oak Plantation Campground, John's Island, SC (Charleston) April 24-27, 2014

Halloween Rally: Twin Oaks Bluegrass Park, Hoboken, GA (near Waycross)
Nov. 6-8, 2014

Contact Mike Heron for more information: mikeheron@bellsouth.net

Are you organizing a Bus Rally? Know about one? Please send the info to Editor@BusConversions.com. After the rally, send us your rally stories and photos too!

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Up to 200 words and three photos. $50 for one month, $120 for three months

STERLING CLASSIFIED ADS: Extra Large (1/2 page) Up to 300 words and four photos. $75 per month or $180 for three months.

Sterling Classified Ads are for Bus or RV sales only and must be prepaid. No refunds for early withdrawal. All ads and cancellations must be received by the 15th, two months prior to publication.

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MOVE THAT BUS!

Email your ad and photos to Ads@BusConversions.com. Or mail your completed ad and photos to Bus Conversion Magazine, Attn: Classified Ads. 9852 Katella Ave Ste 361, Anaheim, CA 92804. You can also call us at 657-221-0432

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BUY DIRECT & SAVE! *Hundreds of Sizes to Choose From*

New Systems
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Heavy duty rotomolded construction.
One piece, non-corrosive high density polyethylene

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B-302	200	60 x 36 x 24	750^{00}	N/A
B-392	170	67 x 24 x 24	655^{00}	N/A
B-300	135	76 x 28 x 16	635^{00}	N/A
B-407	135	78 x 33 x 13$^{1}/_{2}$	635^{00}	492^{00}
B-356	130	60 x 30 x 18	610^{00}	N/A
B-328	115	40 x 28 x 26	545^{00}	492^{00}
B-298	110	76 x 24 x 15	510^{00}	492^{00}
B-391	110	95 x 33 x 9	510^{00}	492^{00}
B-433	110	48 x 24$^{1}/_{2}$ x 24	510^{00}	N/A
B-427	105	39 x 26 x 26	510^{00}	492^{00}
66W	100	67 x 22 x 16	451^{00}	408^{00}
B-354	95	47 x 33 x 16	510^{00}	492^{00}
B-387	92	72 x 33 x 10	485^{00}	408^{00}
61W	75	54 x 22 x 16	465^{00}	330^{00}

Model AX308BN
Holding Tank Monitor Panel
Water Pump Switch
Size: 3.87" x 4.62"

$59^{00}

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Model AX309BN
Fresh Water Monitor Panel
Water Pump Switch
Size: 3.87" x 4.62"

$59^{00}

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JRV, The Monitor System innovator now offers a single tank monitor system for everyone...RV's, Travel Trailers, Tent Trailers, Boats and Slide in Campers

- LED Electronic Graphics
- Lexan overlays in your choice of colors: white, brown or black.
- Custom colors and silk screening available
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Traveler China Toilets

Dometic Sealand

All the comforts of home
Traveler china toilets provide all the comforts of home in a gravity discharge toilet for RV and bus applications. Designed to mount over a 4-bolt 3" closet flange in top of holding tank. Water connection is 1/2" MPT.

- **Freshwater operation**
China bowl is rinsed with fresh water from onboard demand system. Integral anti-syphon vacuum breaker protects potable water supply.

500Plus Series

- **Easy to clean** Durable china resists stains and scratching
- **Proven reliability an easy maintenance**

PRODUCT NO.	MODEL NO.	COLOR	SALE PRICE
651001	**510 Plus**	**White or Bone**	**$279^{50}**

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Satisfaction Guaranteed or your money back - **Free Shipping** on LED orders over $100.00 (USA Only)

I recently placed an order for HP-G409C G4 LED bulbs. The order arrived here with me quickly and was all OK. I installed the bulbs on my bus and have been amazed by the performance! Before, I was pulling about .7 of a kilowatt with all my interior lights on; now, the current draw doesn't even register on the power consumption meter. They are installed in interior puck lights. I'm glad that they're dimmable because I think I'm going to have to buy a couple of dimmer switches for the smaller rooms on my bus. These LED lights have met my needs perfectly. Thank you for good products and good service. ~ Bruce Henderson NC USA

Here are a few types of bulbs and products we have available to help you with your bus conversion:


Single Contact 1141/1156


Double Contact


T10- Wedge


Wedge Base T-15

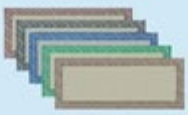

G4 PinBase


T5 - T8 Tubes


Motion Lights


Light Fixtures


Powerd WiFi Booster


Outdoor Mats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LED's draw less power which saves your batteries.

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All of our series of bulbs are rated to last 40-60,000+ hours.

LED Bulbs produce more light than the bulbs they replace and draw about 1/10th of the power of a standard bulb.

Whether you are an expert or a novice, we can help you. Call us today!


BCM
April 2014
Digital Edition Bonus Content
Exclusively Available In The BCM eMag & Online Editions
HORSE

Engineer's Cabin

The "Cab"

Actual "period authentic" safe, used for storage

View from entrance

Passenger seat area

Parlor

The Parlor - Designed to look like 19th century luxury rail car

Modern RV slider windows stylized to look as nearly period authentic as possible

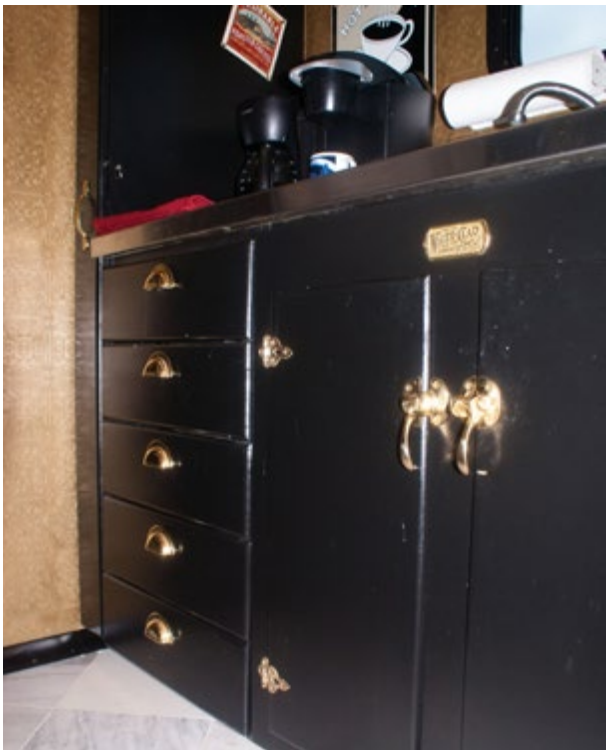
Wide angle forward facing view of Parlor

Galley

Kitchen, street side, facing rear.

Kitchen, steetside, facing rearward, fridge in foreground

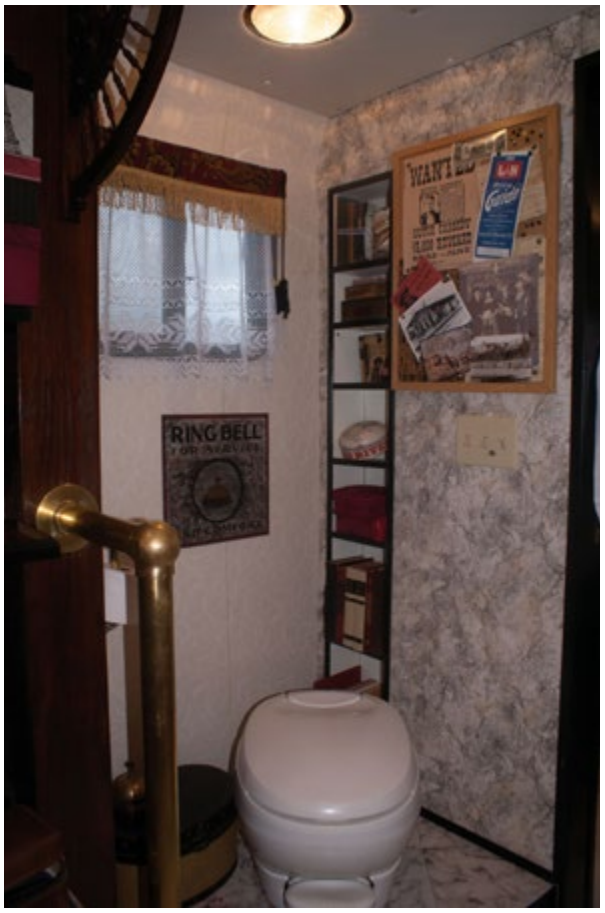
Roll-out pantry storage



Period authentic storage in the kitchen

Bathroom

Bathroom storage



Water closet, vintage surroundings, modern RV commode

Doorway from bathroom into rear parlor

Stateroom

Stateroom, curb side looking rearward

Stateroom, street side looking rearward

Cargo & Utility Bays

Cargo bay is kept organized and tidy using plastic storage boxes

10KW diesel generator

Utility & tool storage bay, showing water heater

Small hardware is organized and stored using jars attached to the ceiling of the cargo bay.

Removable propane tanks provide increased mobility when a quick fill is needed

Cargo & Utility Bays

Nice and neat, right down to the wire

Utililty bay

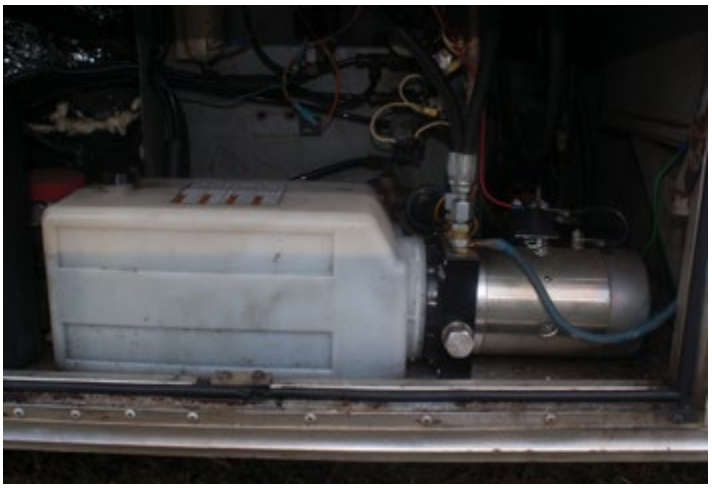
Waste water dump, fresh water connection , & 50A shorepower cord.

Hydraulic Leveling System

Control levers located next to the driver seat

One of the neater features of the conversion is the leveling system. It's a 4-point manual system designed and built by Jimmy using off the shelf parts from Tractor Supply Company and other sources. It's controlled by four levers to the left of the driver's seat that look like they could have been removed from an old locomotive.

One of the four hydraulic cylinders used to level Iron Horse



Hydraulic pump & fluid reservoir

Drinking Water Solutions

Bus Chat is a special feature excerpted from one of the many thousands of discussions that take place on the BCM Online Discussion Forum/BBS. This month's topic is a discussion on how the forum members provide for good tasting drinking water on-board their bus.

Post by: Tikvah

I'm interested in how to handle fresh water. Most of us have large fresh water tanks and that water is used for showers, washing, flushing, etc. I use one of those whole house water filters between my fresh water tank and my faucets, but it only "filters" the water, it doesn't kill bacteria. What about drinking water? What about water for your coffee pot?

Currently, we buy lots of bottled water for drinking and we also have almost a dozen gallon size water bottles that we use for coffee or washing fruits and vegetables. We fill the gallon jugs wherever we feel comfortable with the water supply. But these are very inconvenient and take up valuable storage space.

I've seen some reverse osmosis systems that do a great job of purifying water, so much so that it doesn't even taste like water, all the good stuff is gone with the bad. You could almost pump water from a lake or river and drink it after using the reverse osmosis. The downside is that these systems are VERY expensive.

A Brita type water filter is nice, but can it be trusted to clean the bacteria from my fresh water tank? My wife is very picky about water taste, so it became a subject of concern for me. I want a good, fresh, pure water supply that also tastes good.

In addition, I'm one of those people that think the day will come that water could become a very expensive resource. I would like to maintain easy access to good water. Ideas?

Post by: lostagain

Every four or five tank refills, I pour 1/2 cup of bleach into the tank first. I would think it kills whatever bad things might be in there. For coffee and drinking, we fill gallon jugs of water from the house. Then we buy drinking water while on the road, or refill the bottles at a convenient tap if we believe it is good water.

Post by: bobofthenorth

The frenchy-bus came with 2 separate systems - 100 gallons of fresh water and a completely separate 20 gallon drinking water tank that is also pressurized but only available on a separate tap at the kitchen sink. I thought it was a silly system when we bought the bus, but I have come around to thinking it is a really good idea.

20-gallons used exclusively for drinking means we can go a long time between refills. That allows us to pick and choose what we put in that tank which means we never have to worry about the quality of our drinking water.

When we traveled in Mexico we only bought 5-gallon bottles of purified water and put them into the drinking tank. Anywhere else in North America we test the water on the house system and never put anything in the drinking tank that we are the least bit concerned about.

Post by: Iceni John

Katadyn uses micro-porous ceramic filters that will remove almost all nasties from water. I've used their Pocket Filter for many years when traveling in far-flung places where potable water is rare. I've not yet come down with dysentery (or worse) from drinking local water that I've filtered with Katadyn.

Katadyn also makes a non-portable unit that could be used in a home or bus. There are other companies making similar filters, including one that even removes viruses. UV sterilization is another option.

I'm thinking about using several 2-1/2 gallon jugs of drinking water under the sink, with a simple Rocket-type hand pump to dispense it. If drinking water isn't available, I'll then filter my own from my two on-board tanks.

Post by: Red Rider

I added a single fixture 12V pump that I picked up at NAPA Auto. I mounted it under the sink next to a 5-gallon water bottle. That in conjunction with a high-rise faucet on the counter lets me enjoy good water with a known source for drinking.

Post by: TomC

I only fill the tank with chlorinated city water-never raw well water. My tank is 20 years old and doesn't have any growth inside. If I did have to use well water, I'd use some bleach in it. I also have a drinking water faucet with filter.

Post by: Melbo

We recently installed a pump (made by Flojet if I remember correctly) under the sink and it has a dispenser on the sink that uses a five-gallon plastic jug. We keep a crate with four one gallons in the bay for back up and just refill the bottle as necessary.

It is a 110V electric pump, so it runs off the same circuit as the refrigerator. You can get the five gallon jugs filled for about a dollar at lots of gas stations or convenience stores. We went to this system because we ended up with some "funky"

water that we drained and replaced and then added bleach to be sure it was going to clean the system up. So as previously mentioned by others we have separate drinking and washing water. Hard to tell what you are getting when you fill, and if you let it stay and it is bad, the bad seems to grow.

Post by: Jriddle

I installed a reverse osmosis system, and it has been a royal (edited). It uses entirely too much water from the tank. I was going to install a line back to the tank to recover the wasted water. I have had to rebuild the valve system trying to cut this water usage issue and now plan to put a pump and five-gallon jug under the sink as suggested here. Thanks for the simple solution.

Post by: gumpy

I use city water mostly, but have been known to put in well water. If you are generally using chlorinated city water, you won't have problems as long as you keep your tanks in the dark.

I use a 5-micron sediment filter on the shore line input that gets the big stuff before it gets to my tanks. I use a 1 micron (can't find the .5 micron) charcoal filter on my distribution side.

We use the tank water for everything, including drinking right out of the tap. I've never added bleach or any other thing to my fresh water tank, and have no intention of doing so.

We've had no issues in 10 years, and don't expect to have any in the next 10 or more. Bottled water is one of the biggest scams ever wrought on mankind. Generally, all it is is tap water and often not even very good tap water.

Post by: Harry6674

For drinking water, Watts sells a pitcher through Amazon with Halo Pure cartridges. These kill over 99% of bacteria. I worked for HaloSource Inc. that developed the Halo Pure technology. Google HaloSource for yourselves. I keep a couple of those pitchers full all the time.

Post by: lvmci

When cleaning and purifying with bleach, most people just fill and drain the tanks without moving the rig. However, if you drive a bit while your faucets are running there's a better chance of sloshing away the same material that has grown up the interior walls of your tanks.

Post by: Jriddle

I agree with gumpy on the scam on bottled water for the US. Here in the Dominican, however, the use of bottled water is pretty much mandatory. I'm planning to use five-gallon jugs of water of my choice under the sink, and I won't be as picky of the water in the big tank. Like you, we now drink out of the big tank but would feel better with a smaller source of drinking water.

Post by: bobofthenorth

We never buy bottled water north of the Rio Grande but I'd be pretty shy about drinking tap water south of the Rio Grande. The big advantage of having two tanks in the US and Canada is that we can pick and choose which water we put where.

While I agree that a bottled water is a huge scam; it is also true that some municipal water is crap. I grew up in Regina in the days when you got out of the shower feeling dirtier than when you went in. Some places have really good water - that's what we put in the drinking tank. It's just nice to have a choice.

Post by: Seangie

We are using two house canisters for filtering all the water that comes into our bus. All the tank water gets filtered twice (it's how I set it up). In addition, we have a dual filter system specifically for drinking water with its own tap right at the sink. I plan on putting a ceramic filter there at some point.

We are eight months in now and feel our water filtration has worked well to this point. We usually taste/smell the water at the campground before putting any in the tanks. We have never had any bad tasting water while in the bus. Check out ceramic filters. They are pretty darn amazing for drinking water. Google the Berkey water system. (It uses ceramic filters)

Post by: Boomer

We never drink water out of our holding tank, even though we add bleach about every third tank. We winter in the desert and the water is usually very bad (by our standards). Plus I don't trust RV park water. Instead, I installed a Flojet bottled water dispensing system utilizing 5-gallon purified water bottles. We carry two, so we never run out.

The Primo brand is available at all Lowes stores and some Walmarts, which you can usually get a bus into pretty easily. Drop off the empty one and pick up a full one for $6.99 equals piece of mind. 3-gallon bottles are also available. On the Eagle, the pump puts it right to the fridge; on the Silverside I have a dispensing fixture next to the galley faucet.

Post by: Dave5Cs

We carry two 5-gallon blue bottles and fill them at the health food store's filtering machines. We keep 1 in the bottom of the pantry I built in the bus. We found a battery operated pump that just fits on top. You push the button, and you have clean water.

Post by: belfert

We always drink bottled water when using the bus. The reason is because lots of arsenic contaminated water has been put through the entire water system. One place we go every year specifically tells people not to drink the water because of

arsenic. We can't realistically haul enough clean water from another source to avoid filling up with arsenic laced water.

Years ago we bought gallon jugs of drinking water, but we found that we weren't drinking enough water because it wasn't as convenient, so we started just buying bottled water in the individual bottles. Wasteful, yes, but better than heat related illness. I drink tap water at home.

Post by: Tikvah

I'm thinking I might purchase a second tank, maybe 20 gallons or so. Put a basic filter system on the inlet to the tank, maybe the same filter system I use now. Then, a charcoal filter system before the water enters the tank. Next, I'll run a line to a separate tap at the sink and use a ceramic filter just before that tap.

We will need to bottle some of the water and keep it in the fridge just to keep it cold. But the three filtering systems should give us adequate drinking water. I'll try to find a tank that has a bottom drain so I can do a good flush or bleach/flush occasionally. But so far, we have found reasonable water sources.

Post by: Nick Badame

Along with 1/4 cup of bleach every other tank fill, I use a commercial filtration system that I use on ice machines and fountain systems, Everpure MC filters. There's a little overkill; however, the larger unit doesn't restrict water flow like, the smaller home types. I replace the two MC cartridges every spring. It's a sub-micron filter down to 1/2 micron and prevents bacteria growth.

Post by: scanzel

That Everpure looks great but what can we expect to pay for it? It looks to be very expensive especially if I have to pay retail.

Post by: Nick Badame

Yes, on the high side retailing at $590 and replacement cartridges are $93.30 each. However, I just looked on the Internet and saw them as low as $320

Post by: scanzel

If one were to install something like the Everpure unit, where in the line would be the best location for it? Incoming water line from the shore connection, between the water tank and water pump, or before it gets to the hot water heater and faucets? With the small flow rate of these units how would this affect taking a shower? I am getting ready this spring to start my water and heating plumbing and would like to incorporate filtration but need some insight on the best location and units.

Post by: Nick Badame

You will have NO water restriction with this unit. It's the major reason I chose this one. I have my system installed in my water bay just after my pump. You can really install it wherever you like, either before the pump or after. This unit also has a built in bypass if you ever get to that point of clogging up the filters. There is also a gauge to show you the operating PSI. This will also let you know when the filters are starting to slow.

I also wanted to mention that they are the easiest filters to replace. Just a 1/4 turn and they are off!

Post by: TomC

I use the same make, but smaller single filter element that is available at Camping World. I change it once a year. It takes maybe as much as 2 minutes to change.

At the time of publication this was discussion was still in progress. To read more posts in this discussion topic, click **HERE**.

The BCM Online Discussion Forum/BBS is a very active online community with nearly 300,000 posts from bus nuts just like you. We invite you to come join the discussion, learning, sharing, and camaraderie at:

www.BusConversions.com/bbs/

Editor's Note:

The use of chlorine bleach to sanitize drinking water as described by some of the members is a common approach. Chlorine in the right quantity will kill many, but not all, microbial contaminants. But excessive chlorine can be harmful to humans and pets. Care should be taken in measuring the amount put into the water if it will be used in cooking or drinking.

The amount of standard unscented, **non-concentrated** chlorine bleach recommended by the EPA for emergency disinfection of drinking water is 1/8 teaspoon per gallon. That works out to 2 ounces for a 100-gallon water tank. Alternatively, you can use 1 ounce of 2% Iodine.

For more information from the EPA on disinfecting drinking water from potentially contaminated sources, visit: http://water.epa.gov/drink/emerprep/emergencydisinfection.cfm