



SO YOU WANT TO OWN A PASSENGER CAR
VALUABLE INFORMATION FOR POTENTIAL CAR BUYERS

Based in part on an original document by Larry Haines 1987 and
“Private Car Ownership” by Stan Garner 2005

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INTRODUCTION

The American Association of Private Railroad Car Owners (AAPRCO) makes this booklet available to provide information and data you should know and consider in order to purchase, own and operate a privately owned railroad passenger car. It is intended for the future car owner who will operate his car in conjunction with Amtrak. Be aware that the Private Varnish (PV) ownership landscape is changing all the time and you must undertake substantial research before venturing into the world of PV ownership. The venture into car ownership may feel a little daunting, but for those who have the “Time, Talent and Treasure” to pursue the “dream,” it can be very rewarding. To be blunt, the involvement with a private car entails a significant financial obligation, so prospective owners should have the financial wherewithal to afford the privilege. Also, be aware that, in spite of your dreams to the contrary, this should be a labor of love as very few are able to actually run a car as a money making business enterprise.

WHY PRIVATE CARS ARE CALLED PRIVATE VARNISH (PV)

First, we will address a common question – why do we use the term “private varnish?” In the late 1800’s, before the automobile, the well-to-do acquired or rented a private railroad car to travel around the country. Cars of that vintage were made of wood, which required continual exterior maintenance. The coating of choice was a high gloss varnish that made the cars stand out. The public would see these shiny cars and know that they were passenger cars. Those that were not for public use were “Private”. Hence, the term Private Varnish or PV for short.

GETTING STARTED

JOIN AAPRCO - DO YOUR RESEARCH

AAPRCO was organized in 1977 by private car owners to establish a nationwide network of information and fellowship and to represent the private car owners as a unified body to work with Amtrak. AAPRCO provides many benefits for its members including a car insurance program, car maintenance data, car safety guides, *Private Varnish* magazine, regional meetings and national conventions. For more than a quarter century, many PV’s have traveled to these conventions, often as Special trains. To join a “Special,” owners bring their cars to a central location where they are combined into a train of up to twenty-five restored private cars for travel over various routes with chartered Amtrak or VIA engines. For many, participation in these Specials gives the first real introduction to the world of private railroad cars and the potential for making use of a car that has been preserved and maintained for the enjoyment of its owners and friends. Potential car owners are encouraged to join AAPRCO as associate members to gain a better insight to private car ownership. Membership information is on the AAPRCO website, www.aaprc.com.

UNDERSTAND FEDERAL REGULATIONS

The Federal Railroad Administration (FRA), under Title 49, Part 200 series of the Code of Federal Regulations (CFR), regulates passenger cars. While the FRA has exempted private cars from most of these regulations, some confusing conditions apply. Consult with an expert to make certain that your car is in compliance. Particular attention should be given to 49 CFR Part 221 (marker lights), 49 CFR Part 223 (glazing), 49 CFR Part 238 (passenger equipment safety

standards) and 49 CFR Part 239 (passenger train emergency preparedness). The CFRs are available on the Internet at <http://www.gpoaccess.gov/cfr/index.html>.

DO YOU HAVE THE THREE “T’S” (TIME, TALENT, AND TREASURE)?

A very important first step is to evaluate your financial capability to own a “PV.” Few cars are owned by people who can just write a check for their car and for the improvements, they need or want to make. If you do not fit in that category, and most people do not, then look for a car with “potential” and then spend months or years of sweat equity making it into your own private car. Some cars are owned individually and some are joint ventures. The individual must have the financial capacity or the time and required skills to do a lot of the work himself. Joint venture members can help financially and can include various skills, but decisions can become complicated with many owners.

MUST HAVE AN UNDERSTANDING AND SUPPORTIVE SPOUSE

For most people time is a very valuable commodity. Owning a PV takes time during the restoration phase as well as during the operating phase. For married people with a family, a tolerant and understanding spouse is necessary. Not only will the project divert financial resources, but also there will be many, many days under, around and in the car before a wheel is ever turned for that first trip.

WHERE IS HOME FOR A POTENTIAL RAILCAR? SOME THINGS TO CONSIDER

YOU NEED A RAIL SIDING

Storage is one of the most important aspects of owning a private railroad passenger car. At a minimum, a temporary storage facility should be located and available before you purchase a car. Possible storage sites are Amtrak depots and yards, freight railroad facilities, private sidings, and museum and tourist railroad properties. Private car parks such as those found in St. Louis, Missouri; N. Philadelphia, Pennsylvania; and Orange Park, Florida, near Jacksonville are available to private car owners. Experiences by many current car owners indicate that the industrial/private siding is the most desirable place to park your car. Storage fees at private car parks can start at a minimum of \$500 per month and go higher depending upon location and support services provided. Security and utilities are two of the most important support services. Both help to safeguard your investment from vandals and protect the car from weather damage (e.g., freezing water pipes, etc.) The availability of utilities at your storage site will also permit the performance of maintenance and repairs. Utilities include a source of electrical power (preferably 480v-3 phase -while 240v was the old standard, it has largely been superseded) and water. Compressed air and telephone service would be a plus, as would 24-hour guard service. When you arrange for a storage location, be sure to perform adequate due diligence regarding whether or not the location will remain viable. Railroads may abandon sidings and remove track if there is not enough traffic to warrant the maintenance.

ACCESS TO THE HIGH IRON

Generally, your storage location will not be immediately adjacent to the Class One railroads on which Amtrak operates. That means you will have to have a switch crew transport your car to a location where it the switch crew can place it on the Amtrak train - or to a location where

Amtrak can pick up. The local railroads will have their own restrictions and requirements, which may be more restrictive than Amtrak requirements. It is a good idea to have clearance diagrams on board (Amtrak Form is available on the AAPRCO Web Site, www.aaprcoco.com) and be sure that the car meets all clearance restrictions between the storage location and the railroad. The most important factors are the clearance above third rails and below the overhead wires in electrified areas. If it has been a long time since the car has moved, the local railroad will require an air test and perhaps a mechanical inspection before it will even schedule a pickup. Amtrak requires an air test and mechanical inspection on an annual basis. You should also investigate the cost in moving your car from the storage siding to the Amtrak train or depot.

AMTRAK INTERCHANGE - WHERE AMTRAK WILL PICK UP AND DROP OFF

Amtrak will pick up and drop off cars only at a limited number of locations, typically the train's terminal points and intermediate stations with 30 minutes or more dwell time. Before you decide on a location to store your car, check with Amtrak and map out your access plan to its trains. Each time, before Amtrak will pick up a car, a QMP (Qualified Mechanical Person) must perform and /or observe certain testing requirements. The Amtrak train crew will require certain paper work before it will couple up to the car.

HOW DO YOU GET IT HOME?

In most cases, only cars that have completed the Amtrak Certification process will be allowed on Amtrak trains. The only alternative is to have the car moved in freight service where the car will be treated as a freight car. A freight service move has additional implications that AAPRCO members can discuss with you in more detail, but they generally include rough handling in trains and in yards, and the lack of security of the car and its contents.

THE FUN PARTS OF OWNING A PV

This subject could fill this entire booklet, so one paragraph will not do it justice. We suggest that you go online to www.aaprcoco.com and review "The Private Car Experience – Experience A Little Magic" section. To reach this section, scroll over "Travel on a PV" at the top of the website and then click on "The Experience." After reading this section, imagine riding in a restored and updated railcar at the end of an Amtrak train with people looking and admiring what you have accomplished. This is the sense of pride and freedom that can come with PV ownership.

MAKE A TRIP ON SOMEONE ELSE'S PV BEFORE YOU DECIDE TO BUY.

Before you jump into the water by purchasing a private railcar, it is very important to actually experience some of what is involved by taking a trip on one. There are excursions, offered by many PV owners that may be available. These are often advertised on the AAPRCO website, www.aaprcoco.com, and in *Private Varnish*. Another opportunity is to attend the annual AAPRCO convention and ride on the Special train. A number of car owners make passage available to associate members of AAPRCO. This is a fantastic way to see many different types of cars, to get to know other owners and the AAPRCO members, and to ask lots of question about how they became owners.

Another way, which would be the quickest and least expensive option, would be a short excursion by a railroad museum that operates a historic business car. Despite the slow speed of such an excursion, you would get the "feel" of what it would be like.

HOW WILL YOU USE YOUR NEW RAILCAR?

ON AMTRAK

A private car can be used for business travel and entertainment, family travel, charter operations, short line or tourist excursions, stationary display or a combination of the above. To operate on Amtrak and freight railroads, the private car must conform to current Federal and carrier regulations. The Federal Railroad Administration (FRA), Amtrak, VIA, the Association of American Railroads (AAR), the American Public Transportation Association (APTA), and to some extent, the local freight railroad promulgate these regulations. The exterior dimensions of the car may restrict it from operation over some routes.

Amtrak is the only practical means of travel for the private railroad car on Class 1 railroad mainlines. Freight railroads do not permit a private car to be occupied while in transit due to potential liabilities and the slack action of the train. You should dismiss any thoughts of owning a private car and roving about the countryside on branch lines. Only on very rare occasions do private cars travel occupied on freight only railroads.

ON VIA IN CANADA

VIA is currently evaluating their position on handling private cars on their trains in Canada. They have strict safety standards for the height of handrails on open platform cars and will no longer allow PV's behind the Park series cars on cross-country trains. While not impossible, these two restrictions make travel in Canada less attractive than it was a few years ago. However, if a trip does work out, the scenery is fantastic. Expect considerably higher costs than comparable Amtrak costs. The tariffs for Amtrak and VIA are available on the AAPRCO web site, www.aaprc.com.

LOCAL OR EXCURSION RAILROAD AND STATIONARY DISPLAYS

Short line and tourist railroads have their own regulations. More restrictive FRA regulations on car glazing and safety components may also apply than if operated on Amtrak service. This can be a much less expensive option to operate your car but you are restricted to that railroad. Contact the short line or tourist railroad directly if you want to operate your car on their line. Stationary displays have no regulations except for local building and zoning codes.

TYPES OF RAILROAD CARS

There are three basic types of cars that can be operated in Amtrak service.



HEAVYWEIGHT STEEL CARS

These were built by Pullman, ACF and CC&F between 1910 and 1931. Most railroad business cars are of this type. They are solidly built, ride well and can be structurally refurbished using standard welding and fabrication methods. For the most part, these cars have six wheel trucks. It should be obvious that with more wheels there are more parts to maintain. In addition, finding parts gets more difficult as time goes by.

LIGHTWEIGHT CARS



Lightweight Sleeper Lounge

These cars were built by Pullman, ACF and CC&F between 1935 and 1956. They are generally of carbon steel construction with smooth sides or with fluted stainless steel siding. There are also lightweight cars of all or partial aluminum construction. Smooth side cars can be structurally refurbished using standard welding and fabrication methods. Cars with stainless steel siding over carbon steel frames are subject to severe corrosion because water gets between the stainless steel and the carbon steel side sheets and generally

require some rebuilding before they are fit to be run. These cars generally have four-wheel trucks.

STAINLESS STEEL CARS

There are two styles: all stainless steel cars built by Budd and carbon/stainless steel cars built by Pullman and ACF.

Built by Budd between 1935 and 1956, these cars are of all stainless steel construction. While they are not as susceptible to electrolytic corrosion as carbon/stainless steel cars, many experience fatigue problems that require specialized repair techniques best left to a qualified shop (generally no welding is permissible on structural members)



Budd Stainless steel coach

Built by Pullman and ACF between 1937 and 1956, these cars are built with carbon steel frames and structures with stainless steel sides, ends and roofs. They are very susceptible to electrolytic corrosion caused by moisture under the stainless skin requiring extensive disassembly, structural refurbishment using standard welding and fabrication methods, and then reapplication of stainless steel sides, ends and roofs.

INTERIOR CONFIGURATIONS

The layout of the car is what separates the use of the cars.

BUSINESS CAR

Business cars were originally intended for use by railroad officials. They usually have an observation room with open platform, staterooms, bathroom with shower, dining room, kitchen and crew quarters. A business car sleeps 5 to 8 plus a crew of two. Interiors are frequently paneled in mahogany, oak or other hardwoods and comfortably furnished. Some heavyweight business cars do not meet dimensional clearance requirements for operation on the Northeast Corridor. These requirements can be researched in the Members Only section of the AAPRCO Website, www.aaprc.com, under Car Operations.

SLEEPING CAR

A sleeping car can be all bedrooms or bedrooms and roomettes, or a combination including open sections. Many have been modified with dining rooms and/or lounges. Some have had vestibules turned into open platforms. A sleeping car typically sleeps 15 - 21. The interior is usually painted steel or aluminum although some have had wood paneling added. Former Amtrak owned cars frequently have carpeting on the walls. Bedrooms sleep two, roomettes sleep one.

SLEEPER/LOUNGE

A sleeper/Lounge usually has five or six bedrooms, a small kitchen/buffet and a lounge. The car sleeps 10 - 12. The interior is usually painted steel or aluminum although some have had wood paneling added. Former Amtrak owned cars frequently have carpeting on the walls.

LOUNGE

This car has a large, comfortable lounge area with full bar. There is seating for 20 - 40 depending on the car. It usually has a crew room and sometimes a shower. The lounge car is typically used in conjunction with sleeping cars. Full lounges usually do not have open vestibules.

DINING CAR

A full service dining car is typically half kitchen and half dining room seating 36 (4 x 2 seating) or 48 (4 x 4 seating.) Some have been modified as combination diner/lounge cars. The dining car is typically used in conjunction with sleeping cars. Diners usually do not have open vestibules, so they must travel with other cars to have access. Originally, food service cars did not have a restroom.

DOME CAR

Introduced in the 1950's, dome cars provide an upper lounge/dining area with a glass dome that provides a glorious view of the countryside. The lower levels can be lounges, coaches, diner/lounges or sleeper/lounges. Designed for use in the west, they do not meet dimensional clearance requirements for operation on Amtrak between Boston and Washington, DC. Dome cars originally intended as diners or lounges do not have vestibules.

COACHES

A coach consists entirely of coach seats and is used for high-density seating and carriage of passengers. These cars may be made of any of the preceding types of construction and were often combined with baggage, lounge, and dinette areas.

BAGGAGE/EXPRESS CARS

A few baggage/express cars have been modified as Bar/Lounge/Dance cars. They are ideal for large party groups traveling on day trips or on longer trips with sleeping or business cars. These cars usually do not have vestibules.

SO YOU WANT TO BE A PRIVATE CAR OWNER

There are two ways to get into the private railcar world: purchase a car that is already Amtrak approved and start to use it right away, or purchase a car that needs to be brought up to Amtrak standards and refurbish it. The cost difference depends on the type and quality of car you buy, what you have to do to it, and how much work you do yourself. Regardless of which way you go, Rule No. 1 is, "Hire a qualified inspector to go over the car with a fine tooth comb before you buy it." This inspection won't find every problem, but it will give you a heads up if there are any obvious problems.

You should accompany this inspector if possible in order to review the car for your own satisfaction. AAPRCO can help you locate a car inspector in your area. Be sure you feel comfortable with the inspector, as AAPRCO cannot accept any responsibility for the recommendations of an individual inspector.

SOME OF THE ITEMS WHICH SHOULD BE INSPECTED AND REVIEWED

Running gear - trucks, wheels, springs, pedestal liners, draft gear, air lines, bearings, brake system. (See information below about a 40-year inspection.)

Mechanical systems – water (including plumbing), heat, air conditioner.

Electrical systems - generators, batteries, Head End Power (H.E.P.), lights, electrical locker, marker lights.

Exterior – stainless steel fluting and rust behind this fluting, paint, windows, doors, roof, grab irons, side sills, etc.

Interior - light fixtures, toilets, seats, hardware, signs of water leaks, etc.

Underbody - center sill, frame, flooring, and all drains including kitchen, toilet, and shower drains, etc.

Couplers and draft gear – couplers must be interlocking type.

Structural integrity – including the center and side sills, collision posts and coupler mounting arrangement. Also, check window and roof leaks and resultant damage.

General - overall appearance, modifications, wreck damage, water damage, etc.

The above is only a general outline. The car inspector will go into more detail in his report. A word of caution is in order here. A future car owner should request references and background information on the inspector and the person selling the car. The inspector's judgments and

statements will influence your opinion about the car, the car's price and its worth. As with any field of business, opportunists can be encountered. Check those references and "Make haste slowly."

PURCHASING AN APPROVED CAR

A recently approved car has been subjected to several inspections by Amtrak inspectors using the latest criteria and has the benefit of having been operated in Amtrak service. This doesn't mean that there are no problems that need correcting; it just means the car is a known entity and any problems should be relatively easy to identify and correct.

A car which has been in service for nine or ten years was probably refurbished to an earlier standard and may have hidden problems that will need immediate correction. These problems can be significant and expensive to correct.

You should certainly request and receive all the inspection reports for any car you may intend to acquire. If there are no written reports, it is not an approved car. Documentation is critical. The cost of an approved car can be \$200,000 to \$500,000 and up, way up.

PURCHASING A CAR FOR REFURBISHMENT

If you purchase a car with the intention of refurbishing it, you will need to decide how and where you will refurbish it. There are three ways to refurbish a car: (1) do it yourself with the assistance of skilled and qualified craftsmen; or, (2) hire a qualified car shop to do it for you; or, (3) a combination of the two.

Doing it yourself means finding a suitable place to do the work, doing a lot of research and design, acquiring a good set of specialized tools, and being prepared to spend a lot of time and money. When you start out, the rules seem simple and straightforward. As refurbishment progresses, you learn that the rules aren't as clear as they first seemed. In-process inspections may reveal additional items that need to be corrected, including issues that you believed were OK at the start of the process. Just as you put one appliance back on the car, it has to be removed again to correct something else. The process seems endless and takes far longer than expected. The end result is a car where you have the satisfaction of knowing about the many details of how all systems function and where it meets your own high standards. However, be aware that the design and material standards used for passenger cars are of very heavy-duty construction, and often exceed what is typically used in home or building construction. Amtrak requires special low smoke fire-resistant wiring for HEP systems, for example. Railroad parts are often very heavy, and may be difficult to handle. It is likely that what you can purchase from the local building supply store may not be adequate for service on your rail car. The trucks will typically require disassembly, specialized welding and heat treatment. While doing it yourself is possible, it is not a task to be taken on lightly by a novice.

Having a qualified shop do the work will cost more, but if you are not equipped to do the work yourself, it's the only way to go. It does require you to spend a good deal of time at the shop, usually some distance from where you reside. It is extremely important that you understand what is going to be done and what the result is going to be. The shop can usually get the job done faster than doing the work yourself. Faster is relative: a typical refurbishment will require from one to five years, depending on circumstances. In any case, always get a written agreement with a shop before any payment is made or any work is started. Have a clearly

written scope of work and acceptance criteria. Have some way of identifying any material you are paying for prior to its installation onto the car. In addition, have a clearly written Bill of Sale when initially purchasing a car. The rebuild of a car generally takes far longer than intended, and you don't want to have your purchased materials overlooked if a shop changes ownership in the meantime.

Rule No. 2: "Just when you think you've solved the last major problem, another reveals itself." Ballpark costs to purchase a car suitable for refurbishment are Sleeper \$25,000; Dome \$85,000 plus. H.E.P., 40 Year Truck Rebuild, etc. are extra.

Cost to refurbish a car yourself - \$150,000 - \$500,000, plus, plus, plus. There are a handful of cars that have \$1.5 - \$2.5 million invested in them.

A fellow car owner offers the following insight. "Car owners need good, sound project management skills in any contract work. Rebuilding a railroad car is like building a house from scratch, and the people who do it successfully--with success measured as timely; within budget; AND with quality work; which gets approved 1st time around--need to manage their contractors extremely well." This applies whether you are do the work yourself or have a shop do it for you. It is equally important to realize that any changes made in design or scope of work once the project has started will likely increase both time and cost.

He also recommends you start to develop an extensive contact directory of Amtrak personnel, railroad personnel, contractors, and parts and service providers in all areas of the country at the very beginning of the thought process. This list will grow and grow as you work on the car, then place it in operation. From experience, such a directory becomes an invaluable resource, especially when you have a problem on the road and need help fast.

WHERE TO LOOK FOR A RAILCAR

With the advent of the Internet, you can actually do a lot of research on-line. There may be ads in *Private Varnish* and in other trade publications. In addition, there are a number of brokers able to assist you. They charge a fee and can make the search much faster and more effective.

KNOW WHAT YOU ARE BUYING

PERSONAL OBSERVATION AND INSPECTION BY A QUALIFIED INSPECTOR

Most new car owners do not have a detailed knowledge about what is involved unless they have been part of a group that has previously owned a car. Therefore, it is important to retain an expert to look over any potential purchase to provide an opinion as to the state of a candidate car.

Get a Written Report

A qualified person who you may retain should provide you with a written report on his observations and opinion about the suitability of a car for your intended usage. Of course the highest level of judgment will be required if you intend to update the car to run on Amtrak. This person is entitled to a fee for his services and downstream he will become a lifelong source of knowledge and ideas as you proceed with your project.

Get copies of all past inspection reports that are available.

If the car that you may be looking at had been through part or all of the process of gaining Amtrak certification, you should make every effort to obtain a copy of all past inspection reports and other interaction with the Amtrak Mechanical Department. These past documents become part of the inspection process each year and must be referenced repeatedly.

Understand the current status of a potential car

You need to know the current status of a car with regard to the Amtrak certification process. What is the brake system on the car? What is the latest Annual inspection date, 40 year inspection date, post 40 year inspection date and where does it stand in the air brake COT & S time frame? Are there any outstanding deficiencies that have been noted in past inspections? Are there any outstanding financial obligations to shops, Amtrak or any freight railroad for past running repairs on the car?

Does the car already have an 800,000 number and UMLER tag?

Every car must be identifiable within the Amtrak ARROW computer system, which uses the 800,000 number. If the car does not already have an 800,000 number, you must request that Amtrak assign one. Ordinarily, Amtrak will not assign such a number until the car has passed inspection and is ready to roll on Amtrak. Likewise, every car needs to have electronic tags attached to the car so that as it moves around the rail system “readers” that scan each train will know what car is passing by. AAPRCO can assist you in arranging for the entry of data into the UMLER/EMIS (Universal Mechanic Language Equipment Roster) system that must have current data such as physical attributes as well as inspection data about the car.

TAKE LOTS OF PICTURES (BEFORE YOU START THE WORK)

There are too many things to remember about the details and systems associated with any given car. Document, document, document. Weeks or years later, you will wonder what some item looked like before or during the restoration process. If you can, make a video of before, during and after, it will not only help you remember things, but it will be a source of pride in your accomplishments.

RESOURCES FROM AAPRCO:

Sign up for AAPRCO Information Board e-mails

AAPRCO has a notification system where any addition to the Information Board is automatically e-mailed to members who ask to be added to the list. In this way, you will be kept current of happenings that affect private railcars.

Network with AAPRCO members

Networking is the #1 source of information. Go to AAPRCO conventions, meet car owners, ask questions, etc, and call members in your area as listed in the Charter guide or the Membership Directory.

Sign up for Members Only Web Pages

When you are a member of AAPRCO, there is a location on the main public website where you can request access to the Members Only site. Do it! In the member’s only section, there is a

wealth of information that will not only help you but will cover things you must know and comply with.

Car Operation Mechanical reports

There is information under these reports and they can be called up with many past technical papers and real world comments. Further, from this location you can access information regarding, "Conditions for Movement of Privately Owner Railroad Cars on Amtrak." See "Amtrak Tariff."

Get Back Issues of *Private Varnish Magazine*.

Over the years, the association magazine, *Private Varnish*, has included many articles covering the history and process of bringing older cars up to Amtrak Standards. Additionally, *Private Varnish* has published technical articles that will be very helpful in your quest to own a PV. A general index of items covered in each issue is available at the Members Only website. Information on ordering back issues is also there.

ASSESS YOUR OWN CAPACITY WITH SKILLS NEEDED

Skills with people management, welding, electrical, mechanical, plumbing, and a can-do attitude are all essential. If you don't have the first, you may be lost because you will need a lot of help from knowledgeable people who have worked around railroad cars at least to guide you through the processes. Refurbishing a car can take years and learning about where to ask the right questions is essential. Then, maintaining a car once it is ready for the first trip can take many hours each month. In both cases, it involves either getting your hands dirty or hiring someone.

UNDERSTAND THE MANY SYSTEMS ON A CAR

Air & brakes, water, sewage, holding tanks, propane, power (480 volt H.E.P., 240, 120, 64 volts or maybe 32 volts), generators, fuel (diesel), air conditioning, emergency lighting, marker lights, etc., are all things you must know or learn about.

Each of the above listed systems operates like a small city utility rolling down the tracks. Each has a specific function that is usually interrelated with the others and must be maintained. Suffice it to say, the owner or at least one person in an ownership group must become an "expert" in all of these areas. The resource of the AAPRCO Members Only web site is a good place to begin to learn about them. Additionally, find a mentor who has been through it before and ask LOTS of questions.

SAFETY IS THE MAIN CONCERN

On the AAPRCO web site, www.aaprc.com, members section under "Running a Car" there is a section on "Safety." Here you will find information on two important safety topics: the first is the "Private Car Owner/Operator Safety Manuel" and the other is "Passenger Safety Rules". Both of these can be downloaded. It is important to refer to this information. The "Passenger Safety Rules" will help you in alerting your future riders of the need for diligence in and around railcars.

Glazing:

Generally, the glass on a car built after January 1, 1946 must be safety glass or polycarbonate plastic (“Lexan”). In the event you intend to offer public trips on your car, you will be required to have Federal Railroad Administration (FRA) approved glazing. This is expensive. Additionally, you must have at least two escape windows on each side of the car in case of emergency. Consult the FRA regulations in the Code of Federal Regulations, 49 CFR Part 223 for details.

Couplers:

Many of the cars now in use as private cars originally had Type E couplers. Because of the safety requirement for cars to remain together in case of an accident, it is now required that all cars be equipped with couplers that interlock vertically so they cannot slip apart. This will require a change-out of the old E couplers to newer Type H or Type F. Some cars were equipped with now hard to replace Type CS couplers. These had a smaller shank and coupler pocket into the carbody, which makes it difficult to install a newer replacement coupler. The interlocking shelf-type coupler now used on hazardous material freight cars is not suitable for passenger car use, as it does not clear the intercar buffer walkway.

WHAT IS H.E.P.? (ON TRAINS, IN YARDS & AT HOME SITE)

H.E.P. stands for Head End Power. Passenger cars originally were heated using steam supplied from a boiler in the locomotive using an underfloor pipeline. Electrical loads such as lighting, air conditioning and blowers were supplied DC voltage from massive undercar battery sets, kept charged by an axle-driven DC generator. In the early 1980's Amtrak converted its fleet to use 480 volt 3-phase AC electrical Head End Power generated on the locomotive for all heating, cooling and lighting loads, which has now become the standard for all passenger trains in the US. A similar, but not interchangeable system is used in Canada. A set of four trainline power cables are routed through each car, including a safety interlock circuit to verify that all trainlines are properly connected before power can be supplied. All cars must be converted to use the Amtrak HEP power system for use on Amtrak trains.

When you are in an Amtrak train, the electrical system that runs the length of the train can be connected to your car to provide 480-volt power to you. You must have at least the HEP trainlines pass through the length of your car and it only makes sense for you to take advantage of the system and use some of the power yourself. If you intend to run on trains that use Amtrak Superliners or Surfliners (high-level cars), you will need to carry two 33-inch extender cables to allow you to hook your car up to the higher receptacle location on the Superliner. There are very specific requirements for how you install the cables to pass this power through your car as well as how to tap into it as a source of energy. The disconnect/main breaker must be of a specific type and brand. Beyond this breaker, you install transformers to reduce the voltage to whatever you need on your car.

At many yards and stations where the car might be parked, ground power at 480 volts is available and is plugged into the car using the H.E.P. cords.

Backup generator with transfer switch and automatic controls

You will not always be in a train or connected to yard power and so it is almost essential that you install a backup generator. Whenever there is a power failure or you are disconnected from the H.E.P., you can have an automatic system that will start your own generator and then continue to power your car until H.E.P. comes back up. A transfer switch and controls that isolate the power from the generator from the H.E.P. system is essential.

220-volt yard power can be carefully used for temporary needs at home

Railcars were originally built to use batteries as backup along with an under car generator driven by the turning of the wheels as it rolls along. The cars would have been designed for 32 volt, 64 volt or 110 volt DC Lights and equipment. A very few used AC power. You should plan your new electrical system to accept 480 Volts from H.E.P. Before Amtrak went to 480 volt H.E.P., the common station and yard power was 220 volt AC 3 phase, used to run the axel-driven DC generator by use of a built-in AC motor to charge the car batteries and many private cars can still utilize this system, which is likewise still available in a very few older depots and facilities. However, this older standby system is obsolete and is being retired from wayside locations. In any case, a qualified electrician who understands the environment that the underside of a railcar is subjected to should plan the various transformers and electrical panels for distribution. 220-volt power is very common at industrial locations where you might be able to store your car. With careful planning, you could plug in this power to your on board panel so that you could have lighting and minimal heat on the car while in storage.

GENERATOR & CONTROLS (SPECIAL TRANSFER SWITCH REQUIRED).

As noted above, the cars can receive power from the H.E.P. system pass-through trainline cables at 480 volts. To use this HEP power, a specific high capacity circuit breaker must be used to connect your car's electrical system to the HEP supply. Once past this circuit breaker, it is up to the individual car electrical system to make changes in voltage to be usable for the power needs of the car. If an engine-driven generator is installed, it must use diesel fuel - gasoline is prohibited. The generator and its associated fuel tank must be securely mounted to the underside of the car, and be well shielded from undercar debris damage. Specially muffled and soundproof-enclosed generator sets are available for private car use - you and your passengers don't want to listen to an engine all night long when parked at a siding. When in Amtrak train service, the generator must be interlocked to prevent it from backfeeding into a de-energized HEP trainline, to prevent injury to maintenance personnel.

WHAT IS AN AMTRAK "CERTIFIED CAR" AND WHAT IS REQUIRED?

The Amtrak Mechanical Department has several Standard Maintenance Procedures (SMPs) which identify in detail its equipment requirements for the operation of private cars on Amtrak trains. Amtrak SMP 28603 specifically addresses private car requirements. Other SMPs cover the criteria for establishing a private car's maximum operating speed, and for repair and overhaul of the truck components. It is important to note that any private car inspection must be performed by an Amtrak authorized Inspector, at the car owner's expense. Amtrak must be contacted to arrange for assignment of an Inspector.

For a car to be Amtrak "Certified", prior to any initial movement on an Amtrak train, the car must be fully equipped with Amtrak Head End Power (HEP) electrical trainlines, a main air reservoir trainline, and the Amtrak Door Control/Communication pass-through trainline. The car must undergo a physical dimensional examination using the Amtrak "PC-5" form and a mechanical examination, and Amtrak will issued a unique Amtrak 800000 series identification number. Amtrak will assign a clearance code for the car designating its permitted routings.

Each car must undergo a twelve (12) month "PC-1" Annual Inspection commencing from the last inspection date, prior to any operation in an Amtrak train. Upon reaching 40 years from the original date of car manufacture, a car must undergo a comprehensive "PC-2" mechanical inspection, including truck disassembly. Every 10 years following the PC-2 inspection (sooner on high mileage cars), the car must undergo a "PC-2A" detailed inspection.

Documentation

Every car approved for operation by the Amtrak Mechanical Department must have a set of documentation on file with Amtrak and on board the car. These documents are provided by the various inspectors, who are approved by Amtrak and are paid for by the car owner. The owner also pays the cost of transportation to and from the inspection point.

Documents include:

PC-1 Private Car Annual Inspection Report signed by an Amtrak approved PC-1 or PC-2 inspector.

PC-1A Private Car Data.

PC-2 Private Car 40-Year or Older Inspection Report signed by an Amtrak approved PC-2 inspector.

PC-2A Private Car Follow-Up Inspection Report, signed by an Amtrak approved inspector.

PC-3 Route/ Mileage Log with a list of all trips run, with which carrier and total mileage.

PC-4 Shop Report with complete record of mechanical and electrical repairs, refurbishment, modifications, engineering drawings and photographs documenting the refurbishment process.

PC-5 Private Car Clearance Form for use by the Amtrak Clearance Bureau (Dimensional Clearance).

An approved car should have all of these documents in a folder on board the car. The Amtrak Mechanical Department's designated Manager of Private Car Standards should be contacted to verify the status of the car prior to finalizing the purchase. If the car owner cannot or will not provide this documentation, FIND ANOTHER CAR TO BUY or treat it as a non-approved car and price accordingly.

A car you are refurbishing will have to have these documents generated and submitted to the Amtrak Mechanical Department as part of the approval process. Obtain and keep on file any reports of prior work. Provide the Amtrak Mechanical Department with follow up reports anytime changes or modifications are made after initial approval has been given. PC-1, PC-3, PC-4 and PC-5 reports are submitted annually or as required.

INSURANCE - LIABILITY AND PROPERTY

Amtrak requires car owners to maintain an insurance policy complying with its minimum requirements and naming Amtrak as additional insured. There are currently two primary sources for these policies. One is AAPRCO affiliated, the other is RPCA (Rail Passenger Car Alliance) affiliated. The choice is yours, but there are distinct differences in the policies. Generally, the AAPRCO policy is not a "claims made" policy, and there are no aggregate limits on recovery. You should talk to your insurance agent about the differences, which most operators find to be critical.

The Liability policy is to provide protection for the car owner and payment to others who may have a claim for some act or omission on the part of the entity owning the car. The policy must name Amtrak as an additional insured and will pay even if there is some fault on the part of Amtrak.

The Property policy is to cover the repair or replacement of the actual railcar itself in the case of damage to the car. Again, Amtrak must be named as an additional insured on the policy and, even if they cause some damage to the car, they will expect your insurance to cover the loss.

OWNERSHIP ENTITY - INDIVIDUAL OR IN PARTNERSHIP

Every car owner should take steps to limit his personal liability that may be caused by owning a private car. Accidents lurk around every corner, and this is why you buy insurance for your automobile and home. A private car is no different. You should strongly consider maintaining adequate insurance coverage at all times.

You may also consider structuring the ownership of a PV so as to limit your liability. This is the whole purpose of forming a corporation in any potential risk situation.

For example, some PV owners limit liability through a Limited Partnership, with the car owner (preferably a corporation itself) being the General Partner and you being the Limited Partner. In this manner, your personal liability may be limited to the amount you have invested in the partnership.

There may be other forms or methods of limiting liability. Before taking ownership of a PV, talk to a knowledgeable lawyer in your jurisdiction about potential ownership methods that best suit your needs and meet applicable legal requirements.

NEED WRITTEN AGREEMENT WITH BUY-SELL AGREEMENT

Any time you spend more than a nominal sum for a new toy, you will want to have a written agreement setting forth the terms and conditions of your ownership of the car and the duties and warranties of the seller. As was mentioned earlier in this booklet, you must protect yourself against all kinds of hazards, including those caused by unscrupulous sellers and their agents. Contact a knowledgeable lawyer in your jurisdiction about structuring a buy-sell agreement in the way that best suit your needs and legal requirements.

AIR BRAKE SYSTEMS AND TESTING OF AIR COMPONENTS

The air brakes on a private car consists of an air brake control valve system, operating tread brakes (a brake shoe applies against the wheel) and/or disc brakes (a brake pad applies against a brake disc inboard of the wheel). The car will also have a mechanical handbrake system, which uses a lever or wheel at one end of the car to apply the brakes using a linkage assembly. The brake system on the car must be maintained under specific FRA regulations.

There are two basic "families" of control valve systems, one type generally used on passenger cars and the other generally used on freight cars. While both operate on the same principles, the passenger type (26C and older D22 systems) have a graduated release feature. The freight type (ABDW) only operates in direct release, and does not have a graduated release feature. The Amtrak standard is for use of the graduated release feature. A private car equipped with an ABDW or other brake system, which operates solely in direct release will only be operated in Amtrak trains subject to various Amtrak operating restrictions. This includes minimum train consist requirements, and a maximum number of cars operating in direct release in a train consist, as required by FRA regulations. Amtrak is phasing out use of the obsolete UC brake system on private cars.

Airbrake control valves require periodic Cleaning, Oiling, Testing, and the date of said maintenance Stenciled on the car (COT&S). The time between each COT&S is mandated by the FRA and will vary depending on the brake valve type. Current COT&S intervals for different valves in Amtrak service are as follows: Type D-22, 36 months; Type 26-C, 48 months; and Type ABDW, 72 months. For cars operating on freight railroads the FRA intervals are: Type UC – 15 months; Type D-22 – 24 months and Type 26C is 36 months. A single Car Air Test must be conducted on the car, using a calibrated testing valve, whenever a control valve was removed from the car, such as during the COT&S. It is recommended that you only use currently approved passenger braking systems, and this is something that your inspector can advise you about.

For each COT&S event, the brake valves and other components that are related to the air and brake system (such as water raising systems) need to be sent to a shop for inspection, lubricating and testing. Allow time for shipping and installation in advance of the actual visit from an approved inspector. These parts are heavy and between the shipping charges and shop work you can be looking at cost of close to \$2,000 at each interval. If you can obtain a copy of *Private Varnish* issues 33 and 34, there is a good review of what is involved in the COT&S process.

COSTS OF OPERATION ONCE CERTIFIED

Costs for storage, Insurance, security, power, switching, annual inspections, (COT & S), (periodically) wheel maintenance & replacement, general upkeep, fuel for generator, air hoses, etc., can be substantial.

Before you even turn a wheel with your newly approved car, you must be prepared for fixed costs for the above items on an ongoing basis. You should estimate between \$10,000 and \$20,000 per year for storage and upkeep. If you add in a \$20,000 to \$30,000 paint job every ten to fifteen years, you may understand why this hobby is not for the faint- hearted.

40-YEAR INSPECTION

According to railroad rules, freight carriers are not required to interchange cars over 40 years old. Most potential PV's are older than this limit. Amtrak, as our hauling railroad, has set standards for these older cars that must be met before they will consider even connecting to a car. These standards deal with many aspects of stability of a car. In particular, the trucks must be completely disassembled, inspected for wear and then reassembled. Frequently, all new pins and bushings and in some cases new springs are required to correct excessive wear. The carbody structure must also undergo an extensive inspection for cracking and corrosion damage, and be repaired as necessary. This process is expensive and very time consuming and a designated Amtrak approved inspector must observe each phase.

Additionally, as part of the process you will likely need to add cabling for H.E.P. (pass through and tapping for your use on the car), communication systems (Door Control/Communications Line) and possibly locomotive push-pull control Multiple Unit (MU) connections. This whole process can run well in excess of \$100,000 per car. It also requires heavy equipment to lift the car to remove the trucks and experienced hands to overhaul any under car systems while working there. The freight railroads generally accept cars for carriage that meet Amtrak standards, but some may impose additional requirements. In particular, some freight carriers

are requiring the use of modern sealed axle roller bearings with rotating end caps in lieu of older bearing designs with fixed bolt-on covers. Amtrak has a specification for H.E.P. conversion. While the requirement for the Communications Line is still in the official Standard Maintenance Procedure (SMP), check to see if it can be waived now that radios are the communication system of choice. Again, your car inspector can explain the requirements

10-YEAR TRUCK ROLL OUT

After the first 40-year inspection, every ten years or at certain mileage intervals, the trucks must be rolled out to inspect the trucks and certain other enumerated items in Amtrak's specifications. This is usually accomplished in connection with an annual inspection. (See comments on replacement of under car air hoses, below.)

LIFE OF AIR HOSES

Air hoses are used to connect both the brake line and a main reservoir system for air on a passenger car, from car to car, and between components under the car. AAR and FRA have specific time frames when these hoses must be replaced. The hoses between cars must be replaced every eight years because they are exposed to the sun which deteriorates them. Hoses that are under the car that connect to each truck for braking and to the end brackets where the hoses between the cars attach must be replaced every ten years, generally in connection with the ten year truck roll out.

PAINTING - HISTORICAL OR NEW LIVERY (PAINT SCHEME)

You will need to decide how you want your car to look. Will you restore it to its original livery (paint scheme) or will you change it to another color of your choosing? Part of the fun for some PV owners is to research the heritage of the original car. This can take many hours of time on line and at museum libraries, but it is worth it.

Realize that painting is just the covering over the skin of the car. There will be weeks of preparation and skin repair before you ever spray the first coat of paint. You may gulp at the cost of paint in excess of \$300 per gallon, but the preparation work may exceed the actual cost of the paint several times over. Do your research and ask other car owners what type and brand of paint they have used. You will find that there is no consensus. Environmental requirements could affect the choice.

Part of your research should include reading the four issue series on "Painting Railroad Passenger Equipment" in *Private Varnish* issues 79, 80, 81, and 84.

RESTORATION

INTERIOR FIX-UP AND PAINTING

When you first look inside an old railcar that has been in use or storage for a number of years, it will seem like a daunting task to ever make it livable again. Task one is to just clean out all the accumulated junk and do a good cleaning of all surfaces. During this task, keep an eye out for any documentation or labels on equipment that might help you find an original manufacturer or parts that you might need.

If the car originally was a “wood interior” such as an old business car with mahogany, walnut or oak paneling, make every effort to preserve what you can. If it was a painted steel interior, be prepared to do a lot of cleaning and sanding and then hire a good painter to re-spray the whole thing to bring it back to life in your own color scheme. This in itself will be a huge task.

Over the years, some cars were decorated with carpet or vinyl wall covering on the corridor walls. The carpet probably has absorbed many different odors. You will have to decide whether to clean in place or remove and change the wall treatment.

RENEW PLUMBING, AS REQUIRED

When we talk of plumbing here, we are only talking of water and sewer, not the air system for the brakes.

Water for the car is supplied from large tanks under the car which can be refilled at various stations as you travel across the country. Once the tanks are filled and the special fill handle is closed, the tank will become pressurized with air (from the brake line or a supplemental compressor) and then the water is forced up and throughout the car. A few older business cars use gravity feed of water from overhead tanks. Chances are great that if the car has sat idle through a winter period the pipes may have frozen and burst. The process of locating these leaks, usually in a floor trench or under the car, will take some effort. However, it will make you understand why it is so important to drain the system and blow out any remaining water in the system before each winter season, if you are in a cold area.

Generally, once the integrity of the piping can be confirmed, gaskets, packings, etc. will need to be renewed to make for an operational system into the future.

There may very well have been a chilled water distribution system to deliver cold water to each sleeping area. It is strongly suggested to abandon that function as well as to develop the approach to carry separate water for drinking. While the water tanks need to be chlorinated periodically to provide a sanitary source, until you have made stops at several water fill stations, the water, although potable, will likely be stale and is better used just for flushing, showering and dish washing, etc.

Be aware that water is a valuable commodity on a trip and that water conservation and some sort of a hot water recirculation system will make future trips more enjoyable. Again, use the AAPRCO web site, www.aaprc.com, and past articles in *Private Varnish* as a resource.

In the past, all used water just flushed down onto the tracks. Now, while gray water from sinks, showers, and the kitchen can still be disposed of that way, all toilet flushing must go to some sort of holding tank or an on-board digestion system such as sold by Microphor. To get the effluent from the toilets to a holding tank will take major planning to get the slope of the drain pipes from the farthest source to work out. While it is not normal practice in residential construction, generally 2 inch drain lines can work, but plan for strategic cleanouts in case there is a stoppage. Because of the need for direct downhill flow, plan your sewerage system even before you start putting in the conduits for H.E.P. and the new 27 pin and M.U. systems.

RENEW ELECTRICAL, AS REQUIRED

A railcar is just a small rolling residence. Between lighting, fans, call systems, etc. there are many circuits that need to be considered. At the outset, make every effort to obtain a copy of the wiring diagram for the car or the class of car from some source. If the car was built by Pullman, there is a good chance that the Illinois Railway Museum at Union, Illinois, may have this and many other drawings and documents on file from the Pullman archives. For a fee, which is well worth it, they can look up and copy a great deal of technical information used in the construction of their cars. GET IT!

Since many cars originally ran on DC power supplied by a Spicer Drive connected to the wheels, you will have to develop a new game plan for power on your car. Cars came in 32 volt, 64 volt and 110 volt DC versions. If it was originally a 110 volt car, you are in luck because the internal wiring should be good for power distribution within the car. For lower voltage cars, you have the option of using a step down transformer to the original voltage or rewiring the car. Speak with other car owners who have been through this before. Don't just pull out the old wiring until you have a plan because the old wire may just become your pull wire for new circuitry. Always plan to use stranded wire and top rate connectors as the motion of the car can cause problems downstream.

Assuming your car will be equipped with a tap from the 480-volt H.E.P. system (full pass through system now required by Amtrak); you will need a step down transformer to reduce the voltage to 220/110 for electrical needs in the car. Consult the article in *Private Varnish* Issue 85 to more fully understand the various options involved. Also, seek good technical advice from someone with good electrical skills. Realize that the railroad environment is not ordinary household wiring.

ADD A KITCHEN IF CONVERTING FROM A SLEEPER OR OTHER CAR THAT DID NOT HAVE ONE

The plan for most private car owners is to have a car that is essentially self-contained. If you are looking at a car that was originally a sleeper, this will generally involve the removal of some of the sleeping accommodations and the building of a new food preparation and eating area. Since this is an individual decision, it would be well to seek out other car owners who have been through this process before with a similar car layout. With PV's, it is often expedient to talk to those that have gone before and learn from their mistakes or successes.

STRUCTURAL CONSIDERATIONS (LOOK FOR RUST IN CRITICAL AREAS)

All cars being considered as candidates to be converted into a PV have already served a long life and traveled many miles. The environment where they ran can mean a higher likelihood of structural problems such as rust. For example, cars that run in northern climates where they endured harsh winters may be rusty because they were exposed to salt used to melt ice and snow. Rust is the result of oxidation on exposed metal and is more likely to form between layers such as the frame to the skin or at the underside of the car body. If it looks like a rust bucket, it may take more to bring it back to life than it is worth.

Stainless steel cars do not rust, but the material is very sensitive to developing structural cracking over time (termed fatigue cracking), or when exposed to excessive heat, especially where underfloor brackets have been attached to the side sills or center sill by arc welding. Repairs performed under the guidance of a structural engineer familiar with stainless steel railway cars may be required.

Electrolysis is the process of corrosion brought on by the passage of electrical current through the touching of dissimilar metals, generally in connection with moisture. The most likely places it is encountered on a rail car will be between stainless steel and regular steel or between aluminum and steel. In either case, it will become a huge headache, and consultation with a competent metallurgist is suggested before embarking on rebuilding a car with these characteristics.

Collision posts are found at both ends of railcars, and as the name implies, are intended to help protect passengers in the car in case of a collision between two trains. The posts are often enclosed in the skin at the end of a car in a location where moisture may have collected and caused corrosion to deteriorate the structural integrity of the posts. As part of any Amtrak inspection, you may be required to expose this area and, if problems are found, to do substantial repairs including providing an updated analysis by a structural engineer familiar with railroads.

There are many repairs to most cars that will be revealed by the pre-purchase inspection previously recommended. These may include side sill repairs, and other structural members.

REPORTING MARKS

In order to keep track of cars operating on the U.S. railroad system, every car is assigned a locator designation which consists of a four letter owner's designation and a six digit number. The reporting mark "PPCX" (Private Passenger Car 'X') is for the exclusive use of AAPRCO members. Use of this mark carries a financial responsibility for the car owner.

When a car moving in freight service requires some kind of maintenance done, the carrier will automatically bill the owner of the reporting mark connected to that car. In the case of the PPCX mark, the owner is AAPRCO. Each car owner using this mark must indemnify AAPRCO for any charges.

Amtrak will assign a six-digit number in the 800,000 series for any car that will be operated on Amtrak. This number when combined with the PPCX will be the locator for the specific passenger car. Amtrak keeps data on each car in their ARROW computer system so that they have current data on car data and inspections.

In addition, there is a national system called Universal Machine Language Equipment Register (UMLER). Once again, data is recorded in this system so that any railroad over which it operates can immediately know data about the car including, but not limited to:

- Car name & number
- Year built and by whom
- Date of last major truck rebuild (40 year requirements)
- COT&S date, Lube date
- Length
- Weight
- Height
- Brake type
- Coupler type
- Bearings
- Etc.

A WORD ABOUT ASBESTOS

Be aware that back when most of the potential private cars were built, asbestos was the insulating material of choice. Steam heat was likewise used until the advent of H.E.P., and the steam pipes below (and sometimes within) the car were covered with an asbestos wrap. It is important to address the safe removal of any of this material at the outset. Amtrak will not allow any work or inspections to be done at a terminal on a car with asbestos until after an outside contractor is called in to remove it. It is far better to deal with it in a less structured environment. State or federal agencies could request the removal of asbestos. Certain work practices can also reduce the risk of exposure during removal. Consider consulting a certified asbestos contractor before proceeding.

And on the subject of insulation, many older cars used horsehair for insulation between the walls, and this material will burn. So you should do no cutting with a torch until you know what is underneath and adjacent the parts you are cutting. Some newer cars have Styrofoam insulation. Again, be careful with torch.

INFORMATION FOR DISPOSING OF A CAR

Plan ahead. Don't just leave the plan to your heirs

SELL IT ON YOUR OWN SCHEDULE

Web sites, car brokers, notice in rail publications
Prepare information packet (Verbal, brochure, pictures, video, etc.)

GIVE IT TO YOUR KIDS

GIVE IT TO YOUR FRIENDS

GIVE IT TO A MUSEUM

There may be a tax deduction if the museum is a 501c3 organization. The museum may want you to provide the cost of setting up a display and/or provide a maintenance fund. The best thing to do is hire a lawyer who knows rail cars. The local Bar Association might be a place to start with this.

GETTING READY FOR A TRIP

GET ON PRIVATE CAR NOTICE LIST FROM AMTRAK.

Periodically Amtrak will e-mail a Private Car Notice to all car owners or those who have requested to be on the mailing list. It is helpful to receive any current information in this manner.

This information is also available on the AAPRCO Members Only website, www.aaprco.com under News/Views.

KEEP A PHONE LIST OF CONTACTS

In the process of acquiring, restoring and operating your rail car, you will talk to hundreds of people for advice and consent. Many will need to be contacted in the future, and having a contact list will be very helpful. Make notes on the list as you go. Keep a hard copy in addition to putting the numbers in your cell phone. Having a hard copy that you can scan quickly on the road is helpful.

NO RIDING ON FREIGHT TRAINS

Most freight railroads will not allow passengers to ride on a PV when it is being switched or moved in freight service. And generally, you will not want to ride on the back of a freight train in any event, because of the rough handling characteristics of such trains. Indeed, this is why everything is securely locked or bolted down when in freight service.

GET TO KNOW THE LOCAL TRAIN PEOPLE

Once you realize that you cannot move a 75 to 100 ton car without the help of a switch crew and an engine, it becomes obvious that getting along with the people who can help you is very important. The more preplanning and coordination that you can work out with your local railroad representative the better your life will be.

CALL AND GET ACQUAINTED WITH SPECIAL MOVEMENTS STAFF.

In order to get your car moved on Amtrak, you have to submit a Movement Request. It will benefit you as a new car owner to introduce yourself to the Special Movements staff as soon as you can and to ask what things you need to do to make their life easier and your moves more efficient. This way the staff will have a name attached to an 800,000 car number and hopefully a positive impression about you.

UNDERSTAND THAT YOU ARE THE GUEST OF THE RAILROADS

All private car owners should understand that we basically travel over track that is owned by the freight railroads even though we may be attached to an Amtrak train. Freight railroads would rather passengers were not on their property at all. A freight car never complains but whenever a passenger is delayed or injured, the railroad gets bad press. PV travel is only an option because the PV becomes part of an Amtrak train and benefits from the mandated-access established on Amtrak's behalf.

COMMON COURTESIES MAKE LIFE BETTER FOR YOU AND THE NEXT GUY

Safety is the most important aspect of your existence on the railroad. Know the rules, and make certain that you and your guests obey them. This includes such things as not drinking on the platform, and not offering alcohol to railroad employees. See the dos and don'ts contained in the Safety Brochures mentioned previously.

It is said that a smile, a "Please," and a "Thank You," will cut through a lot of red tape. If private car owners and their guests are courteous to the workers that PV owners need to deal with throughout the system, your trips will be much more pleasant. Additionally, one bad experience, where a service is demanded rather than requested will reflect not only on the person making the demand but on all other cars that come to a facility in the near future.

AMTRAK CHARGES

The actual charges levied by Amtrak are outlined in the document, "Conditions for Movement of Privately Owned Railroad Cars on Amtrak." The current charges at the time of this writing are \$2.10/mile to operate one car on one of its trains. There is a \$1,000.00 minimum charge for any total trip movement. A second car traveling on the same request form costs \$1.60/mile. The fee includes providing water for your tanks and ice.

Amtrak now charges an annual Activation Fee of \$250.00 per car. This fee is due and payable in the first part of each calendar year. A Move Request will not be processed unless you have in hand or have scheduled your car's PC-1 Annual Inspection.

A daily fee to lay over at an Amtrak controlled station (i.e., stay in Denver, Chicago, Los Angeles, Oakland, Seattle or Washington) is \$100.00 per day, depending on services. A premium will apply for other locations such as Boston and New Orleans. Car washing and sewage holding tank servicing are extra.

HOW DO I GET MY CAR ON A TRAIN?

You fill out a form, of course! Amtrak Form NRPC 2208 will detail the dates, trains, car(s) and destination(s) you wish to visit, and what services you require at your stopovers. You should review the article in *Private Varnish* issue 123, which explains the details needed to complete the form. When it is filled out, it may be mailed, faxed or e-mailed to Amtrak for review and (hopefully) approval. When approved, fees must be paid in full before the move commences. You can obtain a fill-in version of this form within the AAPRCO Members Only site under "Car Operations." Requests may be submitted up to one year in advance, but it will probably not be processed until a few days before the requested move.

Cars operating on the Northeast Corridor (Boston to Washington, DC) must have an A Clearance (the most restrictive) on file. Propane is not allowed on any car operating in and out of New York City (because of the tunnels in the city and under the Hudson River).

A number of the private cars running today were business cars with an open platform. For these cars, the desired position is "rearmost, platform rear" on any train. When there are several requests for a given train, the priority goes to the first move request submitted. When it comes to the annual AAPRCO Special, the Chairman of the event is given the option to be rearmost.

YOUR NEED A KNOWLEDGEABLE REPRESENTATIVE RIDING ON THE CAR

At the time you send in your Movement Request, you must designate a "Person in Charge of the Car." This person will need to coordinate with each train crew to agree on any schedule or safety items on the trip. While this may seem like an easy job, there is much to be aware of concerning the physical operation of the car and how it may relate to the train up ahead.

For example, having the extender cables ready, knowing about the water and sanitary systems for service at terminals, arranging for garbage disposal at appropriate places, requesting ice from the commissary, being aware of how the on-board generator system works and how it may be interrelated to the HEP (Head End Power) cut over, knowing where to get fuel if on a long trip, etc. are all things a Person in Charge must be able to handle. This knowledgeable representative may be the car owner if he is a hands-on person or it may be a paid or volunteer staff person. Just know that you have to plan ahead for a successful trip.

TERMINALS WHERE YOU CAN GET ACCESS TO LONG DISTANCE TRAINS

One of the concerns with operating a private car is access to the long distance trains. In most cases a switch engine and crew will be involved in coupling up to the train. If your car is delivered to an Amtrak terminal, say by a freight railroad, then the train will be made up by the yard crew. For a list of the locations where you will be able to join a train, research information contained in the Facility Guide section of the AAPRCO Members Only web site.

TERMINALS WHERE YOU CAN LAY OVER

Information about the various routes and cities is located on the AAPRCO website www.aaprc.com in the Members Only section under "Facilities Guide." Here you can check on services available – Watering, ice, garbage disposal & pumping. You can also see the "Amtrak Private Car Notices" which contain information about detours due to track work and other current information.

SCANNER: GET RADIO FREQUENCIES

It is often interesting and sometimes necessary to hear what is going on with the train by listening in on conversations between the dispatcher, the conductor, and the engineer. This is done by having a scanner which will search many radio channels and then amplify what is being said when it finds an active frequency.

The website, www.on-track-on-line.com/amtrak-freqs.shtml is a good source for the specific channels that are used on the various routes that you will be traveling on. From the web site you can select the trains you will be on and print out the list related to that train. AAPRCO provides its Amtrak Certified members with a book containing appropriate frequencies.

TWO WAY RADIO: MUST SIGN UP AND SEND IN FORM / EMERGENCY ONLY

Normal communication between the railroad personnel is by two-way radio. While it is normally illegal to transmit on the 100 (soon to be 200) railroad channels, it is recommended that each car have access to a radio that can broadcast in the event of an emergency or an appropriate need to communicate with the conductor. These radios cost several hundred dollars. You must sign up with Amtrak and pledge to only use the radio in an emergency. The FCC has begun the process of changing the frequencies and their bandwidth used by the railroads. Make certain any radio you buy will handle the new system requirements.

Instructions for the use of railroad frequencies are contained in the Member Only section under Amtrak Railroad Radio Use Form. The Form noted above includes the wording, "Non-railroad employees should transmit on railroad-assigned frequencies only when authorized to do so by the railroad, or in case of emergency." The on board representative should have a conference with the Conductor on each train and let him/her know that we have a radio. This sets up a procedure for "necessary communications" such as confirming a double spot, etc.

COMMUNICATION BETWEEN CARS ON AN AAPRCO TRAIN

When a group of private car owners travels together, such as on the annual convention Special trains, there is the need to be able to communicate between the various cars. AAPRCO has adopted the use of the "Friends Radio" system that can be obtained fairly inexpensively. By prearrangement, all cars are to have a unit set to a specific channel so that information can be shared. Be sure to coordinate with the Trainmaster or leader of the group to be able to hear and respond to information or direction that is being sent out.

NEED TWO 33-INCH H.E.P. EXTENDER CABLES TO RUN BEHIND A SUPERLINER

As mentioned previously, because of the difference in height between the HEP trainline receptacle location on a single level private car and the double level Superliner car, each car must carry two 33-inch extenders that are used by the electrical crew when connecting the H.E.P. It is important to keep track of these cables because they are very expensive and often may just be tossed on the ground when a car is disconnected from a train at its final destination. Part of your job, as a car owner, is to be vigilant, and protect your own property.

MAY NEED TO CARRY A “BACK-UP HOSE” FOR CONDUCTOR TO CONTROL BRAKES ON REVERSE MOVE

At some terminals where cars are to be added to the long distance trains, a car may need to be shoved some distance to be connected to the rear of a train waiting in the station. It is recommended to carry a back-up hose that is connected to the brake line by the mechanical crew in the yard and allows the conductor to “ride the point” during the shove and still have control of the braking system. This will only be required in specific situations so check with the yard crews that you see most of the time.

MORE THINGS TO CONSIDER BEFORE YOUR FIRST TRIP.

1. Leave home with a full fuel tank and know the hours of running available.
2. Carry extra parts: brake shoes, water hoses, glad hand hoses and gaskets.
3. Call ahead to each terminal to be sure that they know your car is inbound on the train.
4. The friendships and mutual aid available from AARPCO members will be very rewarding.

ANNUAL CONVENTIONS & SPECIAL TRAINS (THIS IS WHAT WE LIVE FOR)

By now you should have a better understanding that the first few months or years of private car ownership are taken up with a lot of work bringing a once operable hotel on wheels back to a new life. After all this work, it is time to begin to enjoy the operations phase of this adventure.

Of course, just traveling on your private car, at the end of an Amtrak train, is the reward that most car owners strive for. There is a certain sense of pride when other passengers walk to the rear of the train to see this extra car that obviously is not standard and looks like it has some history behind it. Little do they know what you have been through just to be ready for that first or subsequent travel experience.

One of the more pleasant opportunities will be to participate in travel on an AARPCO Convention Special Train. This Special usually contains twenty or more private cars all going to a three day convention of like-minded folks who have also experienced the effort that it takes to fulfill the dream of private car ownership and operation.

Let's start at the beginning. You learn about a future convention and know that all of the cars that intend to participate will rendezvous at a certain city or terminal point on a designated date. After you have had your annual inspection by an Amtrak approved QMP (Qualified Mechanical Person), you must arrange your individual travel from your storage location to a

place where you can join Amtrak for the journey to the rendezvous point. That means planning the route that you want to take and submitting a Private Car Movement Request.

For now, ignoring all the minor details of the cost of travel, arranging for food, etc., you get your approved PNR (Personal Number Reservation) for the trip and you are on your way to a wonderful adventure. This may require travel on several different trains and along the way you may join up with other private cars headed for the same starting point. You will immediately find that these other like-minded car owners have been through the same process you have been through. They will enjoy exchanging information about the history of their cars, the hurdles they have overcome in the refurbishing of the cars and, more importantly, the anticipation of seeing friends on the special train and at the Convention.

Upon hearing that you own a private railcar people will say, "I've never known anybody who has a private railcar." The appropriate reply is, "Oh, I have lots of friends that have them."

You finally arrive at the starting point of the Special Train. More than twenty PV's in one spot is quite an experience. Preplanning for the train will have the lineup of cars all set in anticipation of how they will need to be spotted at the Convention site. The switch crew will make up the train, get all of the power cables laced up between cars, and carry out a very thorough inspection and testing of the brakes for the entire train.

Early the next morning, with three or four chartered Amtrak engines on point, the train will pull out of the rail yard for this phase of the adventure. The route of the Special Train is planned to allow for most travel in the daylight hours, for layovers at strategic spots to service the train, and for passengers to visit cities along the way. Often, travel will be over rails that have not seen a passenger train for many years or, in some cases, are destined to be ripped up and abandoned. This is known as traveling on "Rare Miles," and many rail fans keep copious logs of these rare mile routes that they have ridden.

After traveling two to three days with overnight stops, the train arrives at the Convention location and generally will be divided up into several parallel strings of cars. During the convention, which is usually documented in issues of the magazine *Private Varnish*, social activities as well as technical sessions and business meetings will be available.

After the Convention is over, the train may continue back to its starting point or it may end at another Amtrak terminal location where the cars can disperse and return to their home locations. Always, a lot of fun is had by all and the anticipation of next year's Convention begins all over again, realizing that on a private car the journey is at least as much fun as the destination.

As noted above, a fun and interesting trip is what we live for – the ultimate reward for a substantial investment and a lot of hard work. It is well worth it.

NEXT VOLUMES

There is so much to say about the joys of owning and operating a private railcar. This volume is mainly about the purchase of a private railcar. If you have read this far and are still wondering if it is worth all the work – It is. We hope to go on to future volumes about operating a private railcar.

CREDITS:

Based on an original document by Larry Haynes, 1987 & various revisions.
Based on “Private Car Ownership” by Stan Garner, 2005 & various revisions.

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