



Intro to RV Life

**Spend More Time on the Road and Less Time Parked
in your Driveway!**



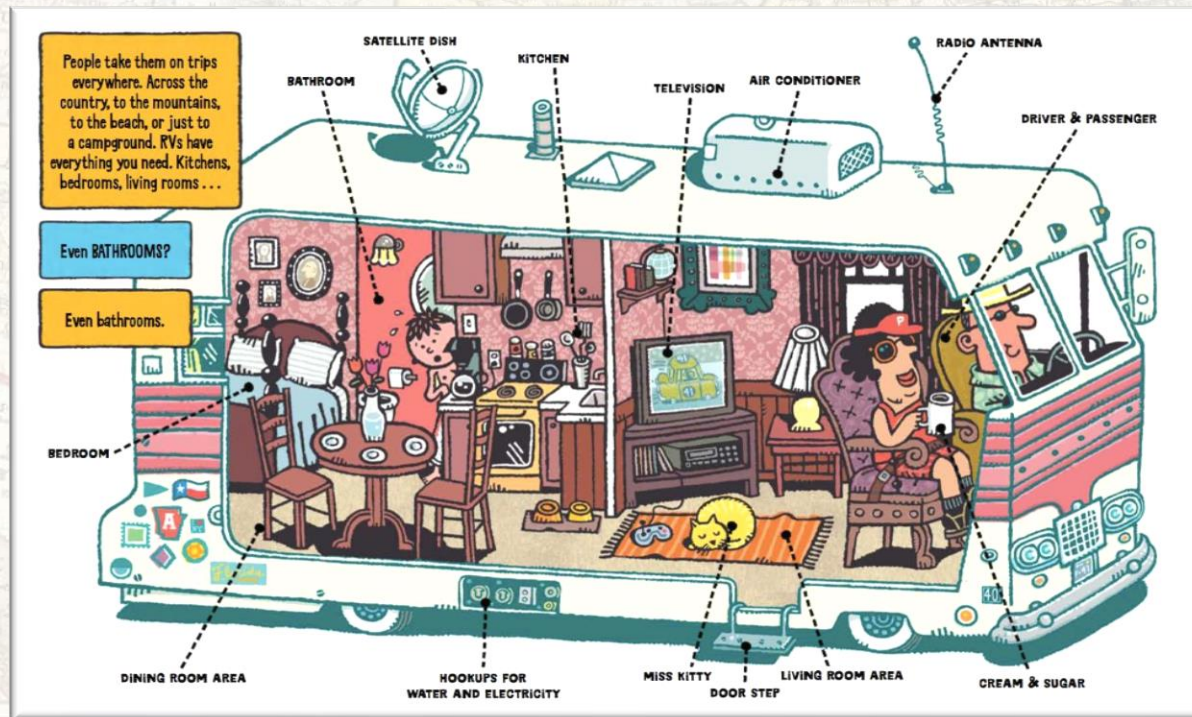
**-Ron Godbey
-Anita DeAngelo**



Intro to the RV Life

Session 2

RV Systems



Session 1 Recap

- Is Owning an RV Right for you?
- What Type of RVer are You?
- What Type of Camper are You?
- Types of RVs



Class A



Class C



Class B



5th Wheel



Travel Trailer



Toy Hauler



Pop Ups



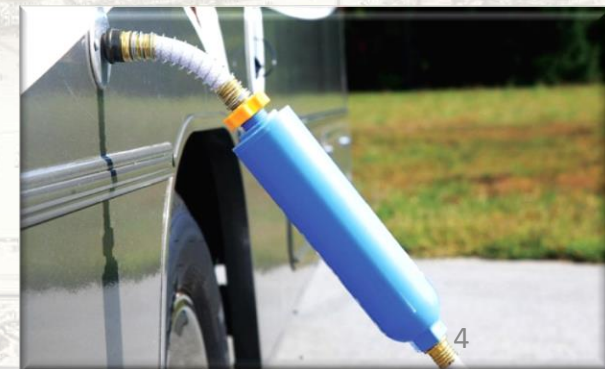
Mini Trailer





➤ City Water Hook-ups

- Connect to water supply at RV Park
 - Use a potable hose only
 - Will not need water pump
 - When using city water, fresh water holding tank is bypassed
 - Use a water regulator! (45-50 psi max)
- Fresh Water Holding Tank
 - Water pump must be used
- Filtration
 - If the RV does not have a “whole house” filter, use a standalone filter
 - Always bring bottled water too





➤ **RVs have 3 types of holding tanks:**

- Fresh Water: Potable=drinking water
- Gray Water: “Used” water (sinks & shower)
- Black Water: “Waste” (toilet)

➤ **Some RVs have 2 Gray Water Tanks**

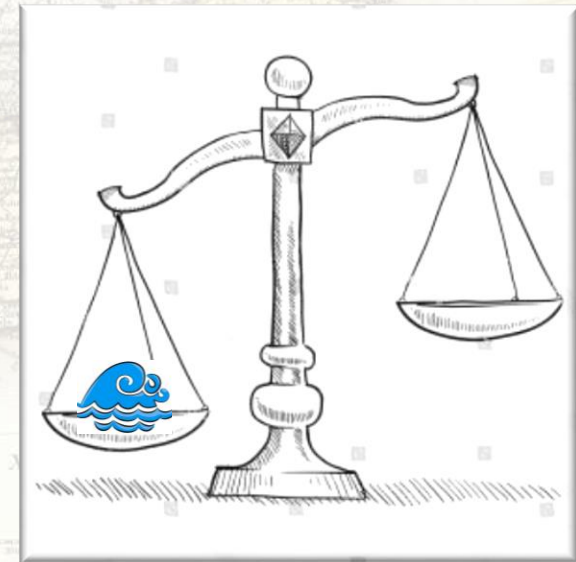
➤ **All types of water are dumped out through the sewer connection**





➤ Dry Camping or Boondocking

- Uses water stored in fresh water holding tank
- Uses water pump for water flow
- Remember: **1 gallon** of water weighs **8.34 pounds**
 - Has a profound affect on gas mileage
 - Must be taken in to account in calculating towing capacity and gross vehicle weight





➤ Cold weather travel options

- Some RV are equipped with cold weather systems
 - Heated tanks and lines prevent freezing and damage
 - Forced hot air from furnace into basement compartments
- If not equipped you still have options
 - Heated water hose
 - Heating coils added on to holding tanks
 - Portable heating unit to locate in water center





When Traveling:

➤ Never be empty

- Always have a little water in the Fresh tank “just in case”
- Always have a little water in the Black tank to prevent “pyramiding”

➤ Never be full

- Too much weight





Septic



➤ **It's a dirty job, but somebody's gotta do it!**

➤ **“Gray” Water**

- From sinks & shower
- To Gray Water Holding Tank

➤ **“Black” Water**

- From: toilet only
- To Black Water Holding Tank
- Only RV Toilet paper in the toilet

➤ **Dumped from Sewer connection**





Septic



➤ Use Protection

- Gloves
- Safety Glasses



➤ Connect Sewer Hose to Dump Valve

- Then to sewer

➤ Dump Black Water 1st

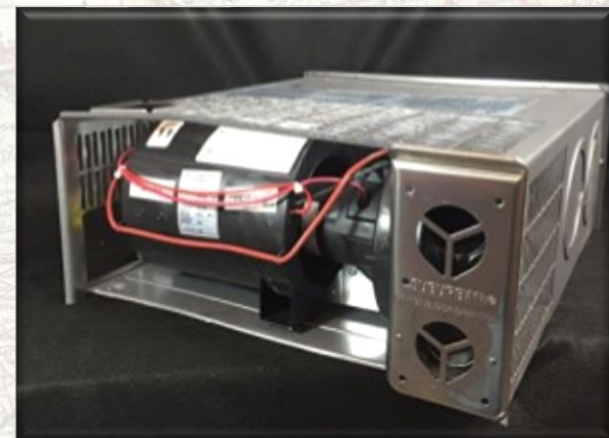
➤ Then Gray Water to flush out Sewer hose

➤ Some RVs have a separate water connection to flush system



🔥 Heat 🔥

- RV Furnace usually uses LP Gas
- Controlled by thermostat
 - Usually controls heat & A/C



- Forced hot air through floor ducts
- Use Dauber Screens on the exterior to prevent insect infestation





Air Conditioning



- **Most have Roof mounted A/C units**
- **A/C draws a lot of power**
 - Use only when connected to campground 30/50 amp service
 - Generator
 - Will trip your home circuit breaker
- **Larger RVs may have more than 1 unit**
- **Most often cold air flows through ceiling ducts**



Electrical

➤ RVs have 3 types of electrical power

- 12-volt chassis: starter, automotive lights



- 12-volt house: RV interior lights, appliance circuit boards



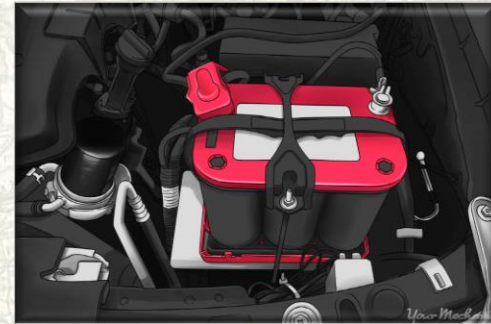
- 120-volt house: Wall outlets, microwave, TV and other appliances



Electrical

➤ 12-volt power

- 12-volt chassis: starter, automotive lights
 - Drawn from engine battery
- 12-volt house: RV interior lights, appliance circuit boards
 - Drawn from RV house battery
 - May have 1-4 batteries
 - Deep cycle batteries
 - Provide more capacity than auto batteries
 - Multiple batteries must be matched in power output & age
 - Two 6-volt **must** be wired in series
 - Two 12-volt **must** be wired in parallel
 - May have an emergency connection to chassis battery



Electrical

➤ **30 amp vs 50 amp service**

- 30 amp

- 3 Prong Plug
- One 120-volt power input (“Leg”)
- Smaller RVs: Trailers, Class C, Class B
- Less power capacity

- 50 amp

- 4 Prong Plug
- Two 120-volt legs (NOT 220-volt)
- Larger RVs: Class A, Class C
- More power capacity



Electrical

➤ 30 amp service

- One 120-volt leg
- Can run A/C and some appliances
- Cannot run everything at the same time

30 Amp Power

30 amps x 120 volts = 3,600 watts



Electrical

➤ 50 amp service

- Two 120-volt legs
- More than **3 x** the power as 30 Amp Service!
- Can run A/C and most appliances
- Still may not be able to run everything at same time

50 Amp Power

50 amps per hot leg
(2 legs of 50 amps ea.) x 120 volts = 12,000 watts



Electrical

➤ Solar

- Rooftop mount
- Good for Boondocking
- Will charge house batteries



Electrical

➤ Converter

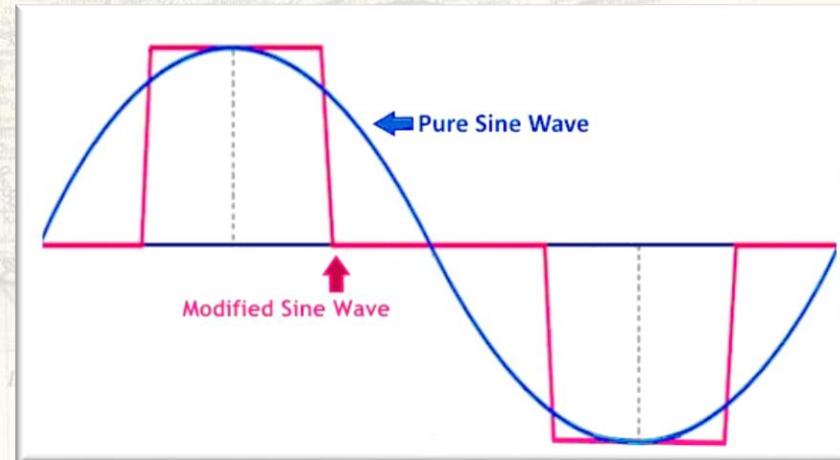
- Standard equipment
- Converts 120-volt power to 12-volt
- Charges house batteries
- Often located near/behind fuse panel



Electrical

➤ Inverter

- Converts 12-volt power to 120-volt
- Optional; may be located anywhere
- Will run some appliances off the house battery; but drains them FAST
- Beware of cheap inverters
 - Modified sine wave
 - NG for fine electronics
 - Appliance circuit boards
- Pure sine wave
 - Most like house current
 - More expensive!



Electrical

➤ Power Pedestals

- RV Parks have power hookups
- May have fluctuating power
- Power surges can blow appliances sensitive electronics and circuit boards
- Power drops can damage these items over time



Electrical

➤ Two types of Protection

- Surge protector: shuts off power to RV if it senses fluctuations (less expensive: \$75 - \$400)
- Power conditioners adjusts power fluctuations to maintain steady flow (more expensive: \$500 - \$700)



LP Gas

➤ LP DOT Tank (BBQ type)

- Used on 5th Wheel or Travel trailers
- Removable for refills
- May have more than one
- 12 Year life; then will need to be replaced
- 20-30 lb size



➤ ASCME Tank (permanent install) Installed on the chassis of the RV

- Used on Class A; Class C or Class B
- No replacement date
- 40 -60 lb size



LP Gas

➤ Periodically check

- Regulators
- Fittings
- Gas lines

➤ Debate about on/off while traveling

- Some states require LP to be shut off while traveling
- Many RVers insist there is no danger in leaving gas on while traveling
- Can run refrigerator while traveling if on
- You decide!



Appliances: Refrigerator

➤ RV Refrigerators are not like your Home fridge

- Uses a heat source: 120-volt; LP Gas; 12-Volt
- Will take 12 hours to cool down to operating temperature
- RV should be parked on level ground
 - If not fridge will be damaged over time
- Pack fridge after it has cooled down and let fridge cool down again
- Pack as full as possible
- Will stay cold 6-8 hours with power off
- While on the road, open door as little as possible



Appliances: Cooktop

- LP gas
- Turn on main LP tank
First to “charge” the line
then burners
- May have small oven
 - Usually not very good
 - May be hard to light



Appliances: Microwave

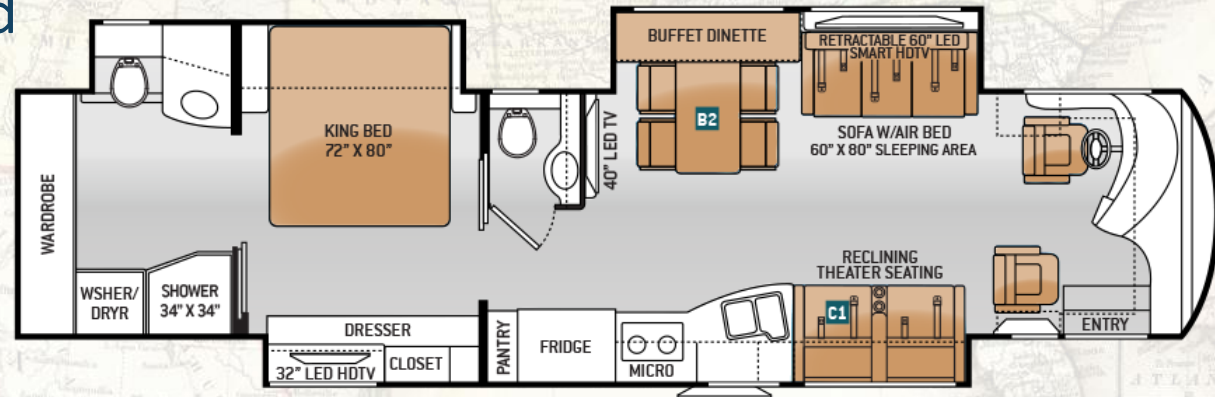
- Works just like your home microwave
 - 120-Volt
- Many are microwave/convection
- Unplug when not needed to avoid power drain



Slideouts

➤ Advantages

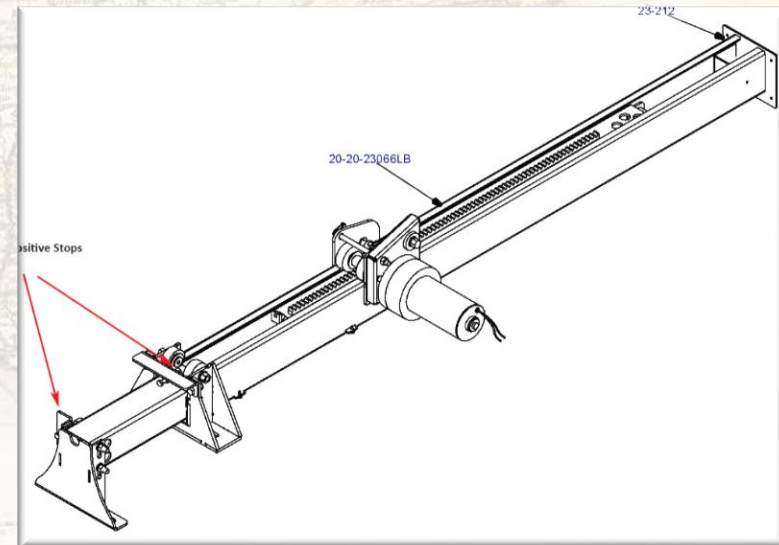
- Add living space to the RV
- RV layout can dramatically change with slideouts deployed



Slideouts

➤ Disadvantages

- Some floor plans are unusable unless slideouts are deployed
- Mechanical mechanisms wear and require maintenance



Slideouts

➤ Disadvantages

- Seals can wear and leak



Awnings

➤ Create Outdoor Living Space

➤ Manual Awning

- Less expensive
- Less that can break
- 2 person job (PITA)

➤ Electric Awnings

- More expensive
- Deploy with a push of a button



Leveling

➤ Leveling is important

- Comfort
- Appliances
 - RV refrigerator will be damaged
 - Oven heats unevenly
 - Microwave heats unevenly
 - Furnace heats unevenly



MAP OF THE
UNITED STATES
AND
TERRITORIES.



Leveling

➤ Leveling methods

- Jacks
- Blocks



MAP OF THE
UNITED STATES
AND
TERRITORIES.



Stabilizing

➤ Stabilizing jacks

- Not strong enough for leveling
- Only meant to lessen the “bouncy house syndrome”



Session 2 Recap

➤ Water 

➤ Septic 

➤ Heat 

➤ A/C 

➤ Electrical 

➤ LP Gas 

➤ Appliances 

➤ Slideouts 

➤ Leveling 



Next Week

➤ Session 3: RV Buying Guide

