



Mike & Kelly's TrailManor 2720 User Manual

For out-of-town service contact either:

<Add your Local Dealer Name and Phone Number>

Or

TrailManor factory at 865-426-7426 (M-F)

The Author would like to acknowledge the work of Ed Felker in creating a series of checklists for TrailManor operation and making them available to the author and the entire TrailManor community through the TrailManor Owners forum (<http://www.trailmanorowners.com/forum/>). His work was the basis for the first version of this manual.

The Author would also like to thank the library moderator, Bill (aka Bill Jeffrey), for his help in reviewing, editing, and correcting this manual.

Please PM me (MikeD), if you have any addition, corrections, or disagreements.

Disclaimer

My goal in producing this document was to create a single manual that I conveniently could turn to for questions on the operation of my TrailManor. The following material has been assembled by starting with Ed Felker's checklists and then adding documentation from various manuals supplied with my TrailManor 2720 plus the suggestions, ideas, and recommendations from numerous TrailManor Owners from the TrailManor Owners website (<http://www.trailmanorowners.com/>).

For convenience, I have included transcripts of and pictures from manuals supplied with my TrailManor to document the various subsystems within my TM. The copyright for this material remains with the individual vendors. The intent of this manual is to gather such material together for use by the people who have purchased a TrailManor and own the various vendor subsystems.

The information contained in this manual does not represent the opinions or position of the various vendors mentioned in this manual (including TrailManor). The author, Ed Felker, and the various vendors do not warrant in any way the accuracy of the information contained within. In addition, the author and the various vendors assume no liability for following any of the instructions or recommendations contained in this manual.

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Pre-Season Maintenance Checklist

These are the kind of things that we should do before the start of a travel season (yearly)!!!

Axle & Brakes

Brake Adjustment Procedure – Electric Brakes

Make certain brakes are adjusted, and synchronized with brake controller

Brakes should be adjusted:

1. after the first 200 miles of operation, when the brakes and drums have “seated”,
2. at 3,000 mile intervals, and
3. as use and performance requires.

Whenever the brakes are adjusted, you should “re-synchronize” the brake controller with the trailer brakes!!

The brake adjustment procedure for electric brakes is:

- Jack up the trailer using the hydraulic jack under the frame near the wheel and secure using the trailers stabilizing jack stands.
- Remove the cover from the adjusting slot on the bottom of the brake backing plate.
- With a screwdriver or standard adjusting tool, rotate the star-wheel of the adjuster assembly upwards to expand the brake shoes. Adjust the brake shoes out until the pressure of the linings against the drum makes the wheel very difficult to turn.
- Rotate the star-wheel in the opposite direction until the wheel turns freely with a slight lining drag.
- Replace the adjusting hole cover and lower the wheel to the ground
- Repeat for the opposite wheel.

Lubrication of Hub & Drum Bearings

Lubricate each wheel axle

TrailManors use a couple of different hub types – typically either Dexter’s EZ-Lube or Reliable’s Sure Lube. In either case you need to use lithium based grease with a NLGI-2 formulation (has something to do with viscosity?). NLGI-2 stands for National Lubricating Grease Institute formulation 2.

Sure Lube Hubs

Our TrailManor uses the Reliable Sure Lube Hubs. Reliable suggests that grease should be added every 3 months, 1000 miles, or as use requires. You can add 1.5 to 2 oz. or 5-7 oz. to fully replace all of the grease.

The lubrication procedure is:

- Attach the grease gun to the Zerk fitting
- Pump grease into the fitting while rotating the wheel. The old displaced grease will begin to flow back out the rear of the axle spindle through a small hole. You will need to clean this up.
- When new, clean grease is observed, remove the grease gun, and wipe off any excess.
 - Filling both bearings will probably empty a standard sized grease gun cartridge.

- **EZ-Lube Hubs**

The lubrication procedure is similar to that described for the Sure Lube hubs. There is no need to jack up the wheel. Start by removing the black soft-rubber disk from the center of the hub, to expose the Zerk fitting. When new grease is pumped into the fitting, the old grease comes out all around the Zerk fitting, and piles up in the sheet metal grease cap. Be sure to clean it out, either by removing the grease cap, or by swabbing it out of the grease cap with a Q-tip. Don't use your finger – the edge of the grease cap is sharp!

Brake & Axle Maintenance Schedule

□ **Maintenance schedule**

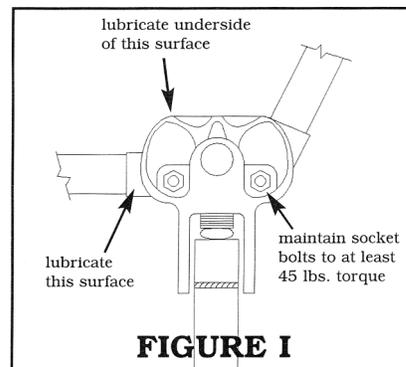
Item	Test/Procedure	Weekly	3 Moths or 3000 Miles	6 Months or 6000 Miles	12 Months or 12000 Miles	Refer to Page in TM Manual
Brakes	Test Operational	At Every Use				
Brake Adjustment	Adjust to proper operating clearance		●			9
Brake Magnets	Inspect for wear and Current Draw			●		10, 13
Brake Linings	Inspect for Wear or Contamination				●	11
Brake Controller	Check for correct Amperage & Modulation			●		7
Trailer Brake Wiring	Inspect wiring for Bare Spots, Fraying, etc.				●	13
Breakaway System	Check Battery charge and Switch Operation	At Every Use				
Hub/Drum	Inspect for abnormal Wear or Scoring				●	16
Wheel Bearings & Cups	Inspect for Corrosion or Wear. Clean and Repack.				●	17, 18
Seals	Inspect for leakage. Replace if removed				●	19, 20
Springs	Inspect for Breakage, Wear, Loss of Arch.				●	23, 24
Suspension Parts	Inspect for bending, Loose fasteners, wear			●		23
Hangers	Inspect Welds				●	
Wheel Nuts & Bolts	Tighten to "Specified" Torque values		●			25
Wheels	Inspect for Cracks, Dents, or Distortions			●		25
Tire Inflation Pressure	Inflate Tires to Mfgs Specs	●				26
Tire Condition	Inspect for Cuts, Wear, Bulging, etc.		●			26

Battery

- ❑ Check battery water levels, and fill with distilled water if the water level is low.

Equal-i-zer Hitch Maintenance

- ❑ **Lubricate the top surface of the arm socket and bottom surface of hitch head with axle or bearing grease.** Keep this area clean and lubricated. Some wear is normal as sockets “seat in”. Excessive wear in this area may indicate overload or inadequate lubrication.
- ❑ Lubrication between the L bracket and the spring arm is optional. Lubrication of this area will not diminish the sway control capabilities of the hitch, but will quiet the hitch when turning.
- ❑ **Maintain socket bolts tight to at least 45-lbs torque.**
- ❑ **Check that the 3/4” bolts holding the hitch to the tongue bar are tightened to a maximum of 200 ft-lbs.**
- ❑ Keep the hitch clean and free of dirt. Paint as needed to prevent rust.
- ❑ **Keep the hitch ball clean, replace if showing wear. Clean and cover with clean grease.**



Note: the maintenance procedure for most other weight distributing hitches is similar to the above.

Exterior

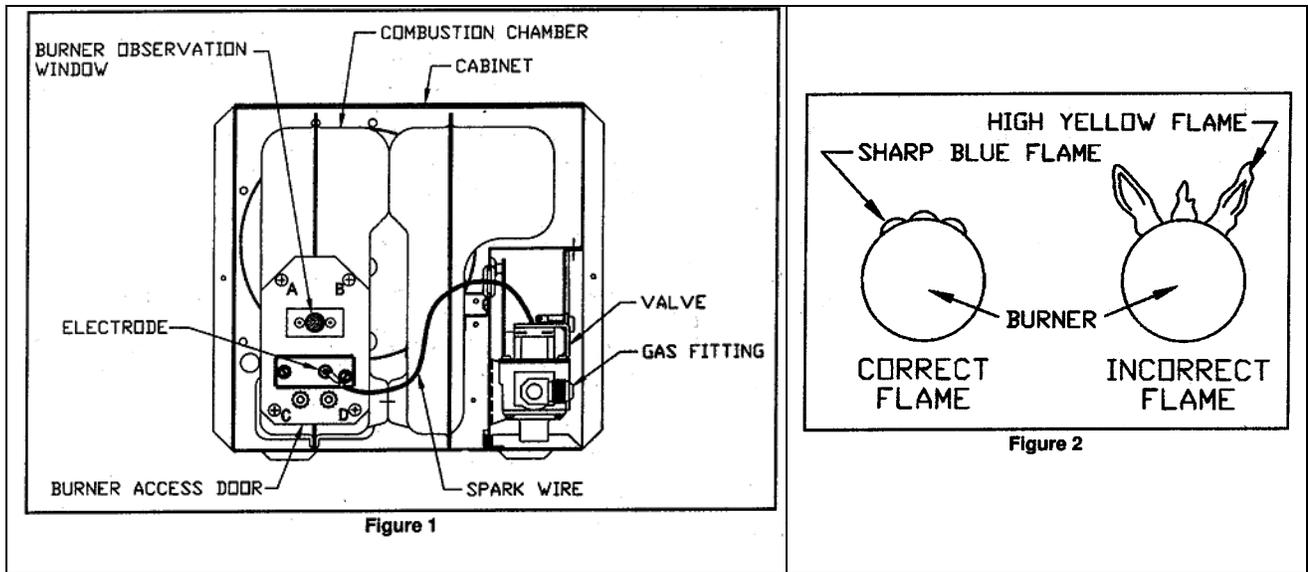
- ❑ Wash and wax the shells.

Fresh Water Supply

- ❑ Purchase new water filter for the year
- ❑ If fresh water has a taste, clean fresh water system with bleach solution (see Appliance Operation section)

Furnace

- ❑ Inspect the furnace monthly during the heating season (and before the first trip of the year) for presence of obstructions or soot. If soot is observed on the vent, then immediately shut the furnace down and have it serviced.
- ❑ Observe the main burner flame to assure that it is burning with a hard blue flame with well-defined burner ports (see **Figure 2**). If the flame appears yellow or the burner has a lazy flame, shut the furnace down. It is possible that the furnace needs cleaning or replacement. To inspect and clean the burner:
 - Remove the 4 screws (Figure 1 – A, B, C, D) which secure the burner access door to the combustion chamber



- If excessive rust & corrosion are present on the burner surface, the burner must be thoroughly cleaned or replaced. The burner may be cleaned using a steel brush and blown clean using high compression air.

NOTE: To observe flame, cabinet must be removed. Operation of the burner can then be observed through the viewing window on the front of the chamber (See Figure 1).

- Keep the furnace clean. More frequent cleaning may be required due to excessive lint from carpeting. It is imperative that control compartments, burners, and circulating air passageways be kept clean.

Hi-Power 3,000 Acme Jack

- Once a year, the power-head should be removed and a liberal amount of grease (preferably a grease with a high melting point) applied directly to the coupling on which the drive pin rests. **DO NOT POUR OIL** onto the top of the jack post.
 - If the power-head is removed, then it **MUST** be synchronized with the jack-post. Here is the procedure:
 - Use the crank to fully retract the post.
 - Crank the jack-post 3 turns in the opposite direction.
 - Ground the power-head to the jack-post or trailer frame.
 - Toggle switch down as if lowering the trailer or retracting the post. Continue to hold the switch until the motor stops running (as if jack-post is retracted all the way).
 - Install power-head and tighten (3) screws.
- Once a year, the housing cover should be removed and the gears inspected for proper operation. Remove 4 screws and tap around the housing to free the cover – **DO NOT** insert a screwdriver blade – this may damage mating surfaces. Before replacing the cover, clean the mating surfaces. **If lubrication is needed, use Mobilith 460 grease or equivalent.**

Note: the OEM jack provided with the TrailManor, should also be lubricated yearly. Remove the top cap, and liberally grease the gear on the end of the crank handle.

LP system

Leaks

- ❑ Since the trailer is subjected to road vibrations, connections and fittings can develop leaks. Use a bubble solution of soapy water to check for leaks on connections and fittings. When tightening connections (not the bottles), use two wrenches with opposing torque to prevent twisting of the copper tubing.

Rusting of Tanks

- ❑ The outside of the tanks should be kept from rusting by a periodic coat of white paint.

Propane Detector

- ❑ Use one of the flame lighting sticks (without a flame) to place some propane next to the detector – **it should go off!!! If it does not, have it serviced or replaced!!**

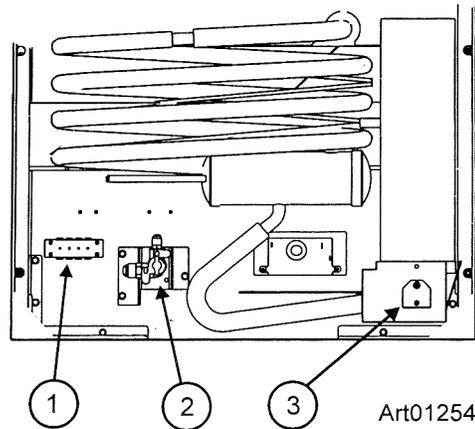
Refrigerator

Check Gas Flame Appearance

- ❑ Examine the appearance of the gas flame
- ❑ Turn the thermostat to the 5 position
- ❑ Open the lower intake vent

WARNING: wear gloves; the burner box can be HOT!!

- ❑ Open the burner box (item 3 in the figure) and look at the gas flame
- ❑ The flame should be a:
 - darker blue color on the inside of the flame and a lighter blue color on the outside of the flame
 - constant shape without flickering
- ❑ Have the refrigerator serviced if the flame is:
 - Yellow
 - Flickering or changing shape
- ❑ Close the burner box door

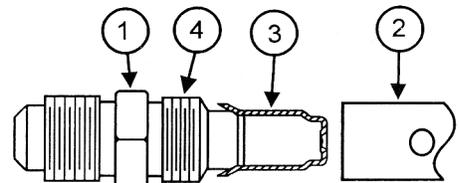


Remove and clean the burner orifice

- ❑ Close the valve at the gas tank
- ❑ Close the manual shutoff valve of the refrigerator
- ❑ Turn the selector switch to the OFF position
- ❑ Open the lower intake vent

WARNING: wear gloves, the burner box can be HOT!!

- ❑ Remove the burner box by removing 1 screw
- ❑ Remove the flare nut from the orifice assembly (item 1 in the figure).
- ❑ Remove the orifice assembly from the burner (item 2 in the figure).
 - **WARNING:** Do not try to remove the orifice (item 3) from the orifice adapter (item 4) when cleaning. Removal will damage the orifice. Do not clean the orifice with a pin or other objects.
- ❑ Clean the orifice assembly with air pressure and alcohol only.
- ❑ Using a wrench, assemble the orifice to the burner.



Art 00956

- ❑ Assemble the flare nut to the orifice assembly
 - Tighten the flare nut by hand
 - Hold the orifice assembly securely and, using a wrench, tighten the flare nut ¼ revolution only
- ❑ Examine all of the connections for gas leaks

Trailer Interior & Body Maintenance

Item	Maintenance Procedure
Cushions	Frequently vacuum or lightly brush to remove dust and grime. Spot clean using the foam only from a water-based cleaning agent, such as a mild detergent. Apply the foam with a soft, circular motion, and vacuum when dry. Pretest an area for colorfastness before proceeding.
Drapes	Drapes should be dry-cleaned (to avoid shrinkage) as needed before the season starts.
Exterior, Interior, Seals	Clean with mild abrasive detergent, such as Soft Scrub with bleach (or Scrubbing Bubbles). You may also spray the seals with lubricant, such as silicone if they appear to cause excessive drag during opening or closing.

Water heater

- ❑ Check the main burner – making sure that it is burning with a blue or blue/orange color and well-defined pattern. If the flame is yellow in color or has an erratic pattern, sooting can occur. Call to have the unit serviced. The flame can be checked from the outside access port.
- ❑ Check for obstructions in the burner box (spider webs, etc.)
- ❑ Check the screen in the door to see that no foreign matter has accumulated

Anode Rod

- ❑ Replace the anode rod at the beginning of each year.

Wheels & Tires

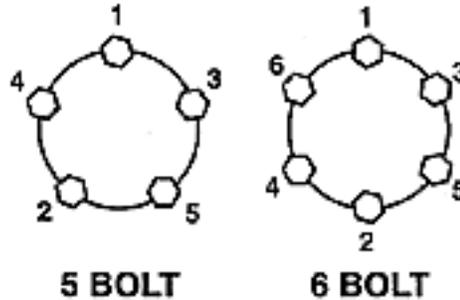
- ❑ Check that wheel lugs are torqued correctly and in proper sequence (at least 90 ft-lbs).

Wheel Torque Requirements

- ❑ **Check Wheel hub Torque**

It is extremely important to apply and maintain proper torque on the lug nuts that hold the wheels on the trailer axle. The lug nuts are torqued up in sequence and in three stages. For 14" inch wheels, it is recommended that the three stages be:

Wheel Size	1 st Stage	2 nd Stage	3 rd Stage
14"	20-25	50-60	90-120



I torque the nuts to 90 ft-lbs.

- Start all nuts by hand to prevent cross threading.
- Tighten bolts or nuts in the sequence shown for the appropriate bolt pattern
- Tighten the nuts in stages to the amounts specified above.
- Wheel nuts/bolts should be torqued before first road use and after each wheel removal. Check and re-torque after the first 10 miles, 25 miles, and again at 50 miles. Check according to the maintenance schedule afterwards.

Review Tire Condition

- Check tire air pressure (50 lbs for the 2720)
- Check tire condition (inspect for cuts, excessive wear)
- Spray rubber preservative on the sidewalls.
- Make sure that there is air in the spare tire.
- Replace tires at least every five years (Michelin recommendation) or seven years (Good Sam recommendation) - sooner if excessive wear. The tire DATE CODE is usually found on the inside of the sidewall within an oval. The code is usually 3 to 4 letters. The first denote the week of the year that the tire was manufactured, while the end digits denote the year. For example a code of 2803 would denote that the tire was manufactured during the 28th week on 2003.

Taking A Trip

Here are the steps involved in taking a trip,

Before Every Trip

These are the kind of things that we should do before each trip.

General To Do's

- Fill propane
- Food
- Pre-cool the refrigerator using AC power before leaving. Turn fridge to battery before closing, even if still running from shore power.
- Ensure that heavy items are distributed over the axles or toward the front area. Lighter items stored in wardrobes and cabinets. Note: Load-equalizing hitch may increase load at the trailer axle.

Axle & Brakes

- Make certain brake controller/brakes are adjusted, synchronized and functioning properly.

Battery

- Check battery water levels, and fill with distilled water if the water level is low.
- Check that the battery is fully charged

Bed Tracks

- Ensure that the nuts are securely tightened onto the bolts that insert into the bed tracks.

Furnace

- Inspect furnace for presence of soot on vent. If found, do not operate – have furnace serviced. (See pre-season checklist.)

LP System - Checking for Leaks

- Since the trailer is subjected to road vibrations, connections and fittings can develop leaks. Use a bubble solution of soapy water to check for leaks on connections and fittings. When tightening connections (not the bottles), use two wrenches with opposing torque to prevent twisting of the copper tubing.

Refrigerator

- Cool down the refrigerator using AC (trailer plugged to shore power)
- Before closing the trailer, switch the fridge from AC to DC (battery) and turn the trailer refrigerator fan on (the switch on the "info" panel under the sink). Leave the trailer connected to shore power until ready to leave - the trailer converter will power the fridge and not drain the trailer battery.

Wheels & Tires

- Check wheel lugs before each trip (torque to 90 ft-lbs)
- Check tire air pressure – 50 psi for the 2004 2720
- Check tire condition (inspect for cuts, excessive wear)
- Make sure that there is air in the spare tire.

Towing

Hitch

- Check hitch. Is it showing wear? Is it properly lubricated???
- Clean tow ball and reapply clean grease
- Maintain socket bolts tight to at least 45-lbs torque.**
- Between trips, clean tow bar & cables.

Towing Preparation

- Mount external towing mirrors.
- Inspect the tow bar & trailer for loose bolts & worn parts
- Turn propane off
- Check the wheels and tires, including lug nut torque and air pressure

Towing Hookup

- Hook up on flat smooth surface.
- Lower hitch receiver onto the tow vehicle ball
 - Connect and lock coupler & ball
 - Use the coupler lock to lock the coupler into place
- Raise the hitch using the tongue jack to take weight off the tow vehicle
 - Attach equalizing bars
 - Attach safety chains.
 - Cross cables & wrap around tow bar legs to keep from dragging.
 - Check security of hitch, coupler, & other equipment.
 - Attach electrical cable and check
 - Check lights on both vehicles – brake, back-up and turn signals, brake controller normal
 - Connect the emergency breakaway lanyard
- Raise the tongue jack fully (for travel), so that the hitch weight is fully carried by the tow vehicle
- Check brakes
- Check all items securely fastened.
- LAST CHECK** -- trailer jack, tongue support, and **all four stabilizers are raised & locked.**
- Remove wheel chocks & stow.
- Check side and rear view mirrors for good visibility.

Other considerations

- Each time you stop, check TM & TV; tow bar, base plate, cables, tires. Make sure TM wheels are not hot to touch. If they are, you have a brake or bearing problem.
- Each day before you depart, check lights.
- Make sure you have a **second key** for TM & TV.
- Never allow yourself to be interrupted while hooking up.

Pulling Out

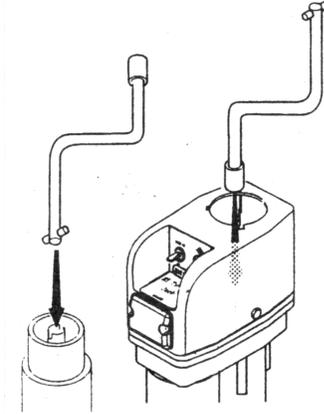
- Ensure TM jackstands are raised and locked.
- Throw out last of trash.
- Take one last look at hitch & lights.
- Take one last look around site. Did you forget anything? Is it clean?
- Pull out of site slowly, checking for obstructions!!!

Daily hitch maintenance when towing

- ❑ Drop of oil at trunnion contact areas with ball mount.
- ❑ Clean ball & coupler sockets and coat ball with grease
- ❑ Check spring bar chains and U-bolts for wear.
- ❑ Check that all bolts are properly tightened and hitch pin and clip are securely in place.
- ❑ Check electrical hookups, all lights work, and safety chairs are connected properly.

Manual Operation of HI-Power 3,000 Jack

- ❑ If an electrical failure should ever occur, the emergency handle may be inserted into the jack post and the jack can be raised or lowered manually (Access can be obtained by twisting the level cap off).



WARNING Crank Handle

Do not use toggle switch
with crank handle in place.
Breaking this rule will cause serious
injury.

- If the power-head is removed, the crank can still be used to raise/lower the jack. CAUTION: If the power-head is removed, it must be re-synchronized with the jack position.

Trailer Setup at Site

Disconnect Weight Distribution Bars

- ❑ Use tongue jack to raise trailer and tow vehicle to reduce load on bars
- ❑ Use bar tool to slide bars off of holder
- ❑ Remove bars and store in back of TV

Level Trailer Side-to-Side

- ❑ Level side-to-side with Lynx Blocks or boards, or whatever leveling device you use.
 - Half bubble = one 1X4 Whole bubble = one Lynx Leveler block or about 1 board.
- ❑ Back the trailer up a little (about a foot), and place what ever was needed to level on the ground in front of the TM low side wheel.
- ❑ Pull the TM back to where it was the first time (with wheel on block).
- ❑ Chock opposite wheel (in all cases, **chock the wheel(s) before disconnecting the trailer from the TV**)

Disconnect Trailer

- ❑ Trailer: CHOCK
- ❑ TV to TM electrical connection: DISCONNECT
- ❑ Emergency breakaway lanyard: RELEASE
- ❑ Safety chains: DISCONNECT
- ❑ Hitch: DISCONNECT

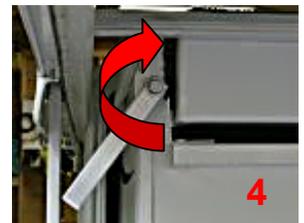
Level Trailer Front-to-Back

- ❑ Front-to-back: LEVEL using tongue jack (wood block under tongue jack wheel)
- ❑ Lower all four corner stabilizers (plastic pad under each foot), and crank down until just snug.
- ❑ Check level again – double check level over refrigerator after setting up.



Open Front Shell

- ❑ **1** Unhook the two front top-latches (white) located on each side near the front corners (both sides)
- ❑ **2** Release the two front shell black latch-pins (midway on each side). Shell will spring upward a few inches.
- ❑ **3** Pull open the front shell. Firmly grip the bottom front edge of the shell at a point near the center. Pull gently outward -- don't lift. Don't pull or exert pressure on the front window cover!
- ❑ **4** Swing the front shell corner latches UP (one square aluminum tube on each side). Align pin with hole in bar and insert. Repeat each side. (Bars are located on each side near the bottom of the raised roof)
- ❑ Extend the front bed. The bed support braces will swing into position as you pull bed forward. Alternatively, pull the beds into place and latch from the inside of the trailer.



Open Rear Shell

- ❑ **5** Unhook the rear top-latches (white) located on rear corner of each side.
- ❑ **6** Release the two, rear shell black shell latch-pins (midway on each side). Shell will spring upward a few inches.



- ❑ **8** Pull open the rear shell. Firmly grip the bottom edge of the shell at a point near the center. Pull gently outward -- don't lift. Don't pull or exert pressure on the rear window cover!

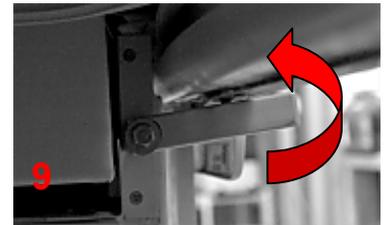
- ❑ **9** Swing the rear shell corner latches UP (one square aluminum tube on each side), align and insert pin into a hole in matching bar.

- ❑ Pull the rear bed out to the extended position. Bed support braces will swing into position.



Configure Door

- ❑ Lower steps
- ❑ Unlatch the upper door and lock to side of trailer
- ❑ Set-up lower door
 - Unlatch the lower door from the left (when facing the door) door jamb. Swing out the left door jamb, and pull the lower door out behind it.
 - Push the left door jamb into place, making sure that the pin at the top of the jamb engages the clip in the wall.
 - Secure the insulated door jamb flap
 - Push the lower door into place, again making sure that the pin at the top of the jamb engages the clip in the wall.
- ❑ Unlatch the upper door
- ❑ Align and lock together the two door sections using the rotating door tab (white rectangular plastic).
- ❑ Check that door opens and closes properly. A little flexing between the upper and lower doors is normal as you open and close the doors, but they should not come apart.



Exterior – Hook Up

- ❑ Shore Power
 - If you have shore power, then check voltage & configuration (using power testers).
 - Turn off main shore power circuit breaker at the outlet on the post.
 - Connect shore power cable using our surge suppressor.
 - Turn on main shore power circuit breaker.
- ❑ Connect to sewer line, if available.
 - Drain gray water tank if any water remained from last dump.
 - Do not leave the GRAY valve open. Wait until the toilet becomes close to full. Then dump the toilet, followed by the gray water tank. The gray water will rinse the hose. If the gray water holding tank becomes full before you need to dump the toilet, you can always drain some of the gray water at that time, and then close the valve.
 - Dumping the gray water tank while close to full also helps ensure that stuff (e.g., food particles, etc.) is cleaned out of the gray holding tank.
- ❑ Connect to city water using the white hose and pressure regulator, plus water filter if needed.

- Turn on the water, and taste it. If a “water hose” taste is encountered, then let the water run for a few minutes before connecting to the “City Water” connector on the TM.
- ❑ Cable TV & telephone: **Connect**, if available
- ❑ Open the LP Tanks.
- ❑ Lower and stake the awning as desired.

Interior

- ❑ Pull open the front beds and insert the front bed pins (each side of sliding bed tray).
 - CAUTION: Do not climb on beds until pins are inserted in locked position
- ❑ Lower and secure the insulated side flaps.
- ❑ Raise wardrobe
 - Ensure adequate bathroom wall clearance by pressing right ankle slightly against lowered bathroom wall
 - Grip the wardrobe handle with right hand & raise the wardrobe
 - Put your left hand between the top of the wardrobe and ceiling to prevent ceiling damage
 - Slide the wardrobe to its final position on the counter (prevent it from sliding on counter top).
- ❑ Raise Bathroom
 - Carefully raise the hinged bathroom corner door and slide towards outer wall.
 - **Latch** the upper and lower parts of the door together
 - Raise the remaining bathroom walls while holding them together
 - Once vertical, swing the wall open and latch the side wall to the front wall in two places (lower section of wall and bathroom door header)
- ❑ **Insert the rear red bed pin into hole in bathroom wall**
- ❑ Reselect refrigerator power from 12VDC (if used during travel) to propane or AC if available
- ❑ Turn the refrigerator DC fan off (if on during travel)
- ❑ Mount the hanging cabinet (note: trailer must be level and all four stabilizer jacks down)
- ❑ Set the heat as required
- ❑ Turn on the water pump (**only if not connected to city water!!!! – otherwise you can damage it**)
- ❑ Turn the water heater on once it is filled (water flushed through hot water faucets)
- ❑ Open and set the roof vents as needed
- ❑ Charge the toilet (1 bottle of Aqua-Kem + use shower faucet to fill until first flush)
- ❑ Television: position & connect

Tear-Down at Site

Dump Sewer

If connected to sewer on site

- Open outside black water sewer valve (**LARGE black pipe**)
- PULL the inside toilet dump valve. This dumps the black water.
- Close toilet dump valve, clean toilet and fill with water.
- Open toilet dump valve again, wait for dump, and then close
- Close outside black water valve.
- Open outside gray water valve (**small black pipe**) and dump gray water – cleaning hose
- Wrap up hose and put away.

If dumping at dump station on way out

- Ensure that the outside black and gray water valves are closed.
- PULL the inside toilet dump valve.
- See Dump Station Procedures on page 23.

Notes:

If camping at a site that offers a sewer hookup you should keep the black and gray water valves closed until you need to dump either one. This allows you to keep the tanks cleaner by dumping with “a swoosh”, and allows you to use the gray water to rinse the “black water, etc” from the hose.

If your gray water tank fills before you need to dump the black water, you might consider dumping a portion of the gray water and letting it fill again before leaving the campsite. In this way, you can flush more water through your sewer hose after dumping the black water and leaving.

When dumping the toilet, ensure that it is full. If it is not, then fill it with water from the showerhead.

Interior

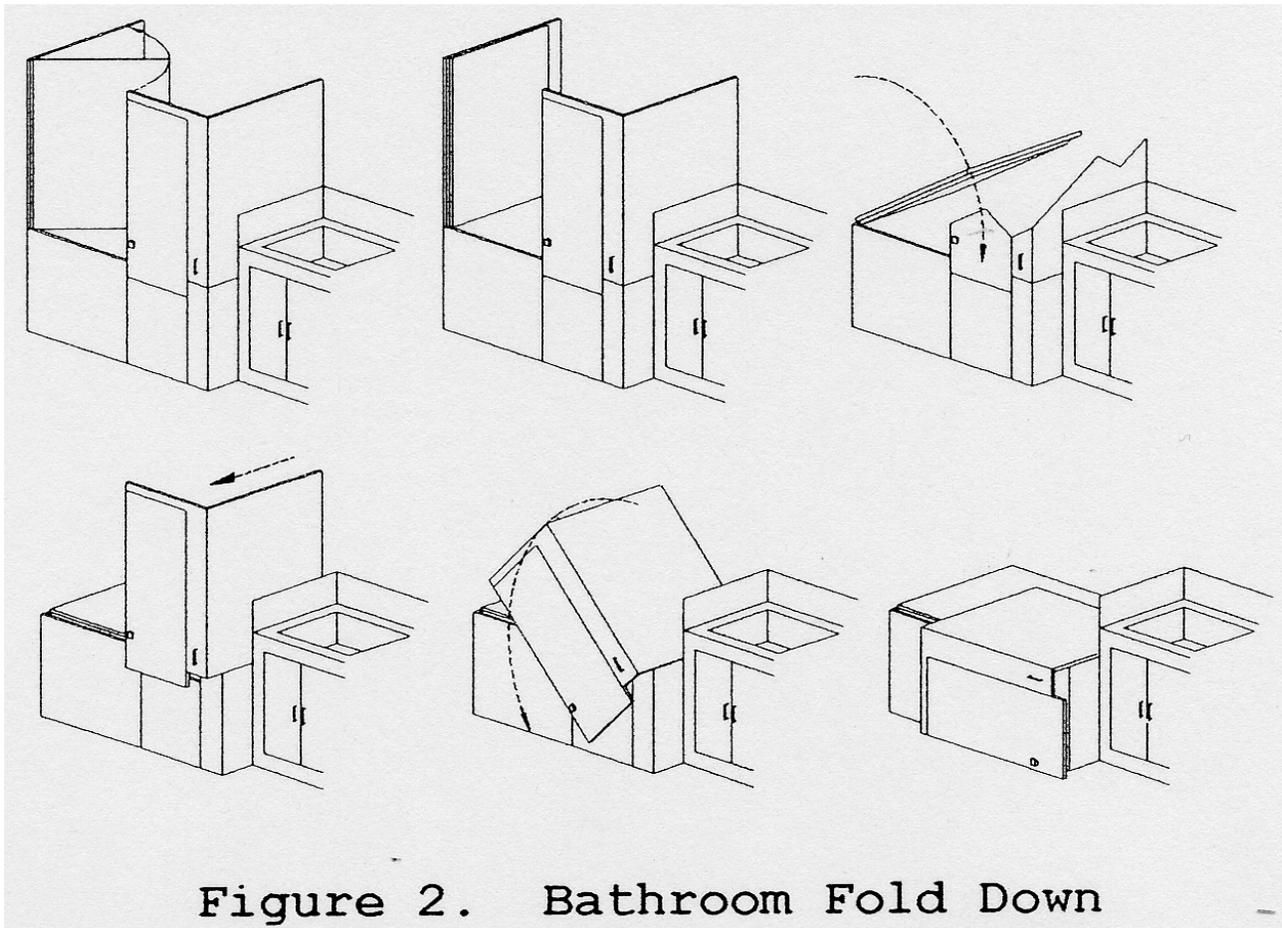
Clean up interior

- Stow away all loose items (kitchen gear, coffee maker, TV, etc.)
- Close all cabinet doors and drawers
- Close and lock all windows, then open all drapes and tie back
- Position refrigerator safety rails (if needed) and take the batteries out of the small interior refrigerator fan.
- All gear should be stored below the bed line

Shutdown Trailer

- Interior lights: OFF and allowed to **COOL!!**
 - **The ceiling lights must be off and cooled before lowering the ceiling** to avoid scorching and burning of interior and possibility of fire!!
- Porch light: OFF
- Night lights: UNPLUGGED & stowed
- Refrigerator
 - Set to OFF if not in use during travel
 - Set to DC, and fridge fan on, if fridge in use during travel
- Water heater: OFF; tank DRAINED
- Stove: OFF
- Heater and/or A/C: OFF

- Water pump: OFF
- Close overhead vents
- Dismantle Bathroom
 - Stow the shower curtain on rear bed
 - Retract the rear red bed pin
 - Fold rear bathroom wall
 - Unhook the two clips holding the walls together
 - Swing outer wall back to rear wall
 - Holding firmly together, slowly swing them downward
 - Front bathroom wall (towards kitchen sink):
 - Unhook bathroom door sections
 - PULL the front wall/door inward a few inches & swing downward



- Stow the wardrobe
 - Place your left hand between the wardrobe & ceiling
 - Tip the wardrobe slightly backward with your right hand, grasp base with right hand, and slide cabinet fully over the center isle
 - Lower the wardrobe a bit and then reach up with your right hand and grip the handle located on top
 - Press your right ankle against the lowered bathroom wall to ensure adequate clearance while lowering wardrobe

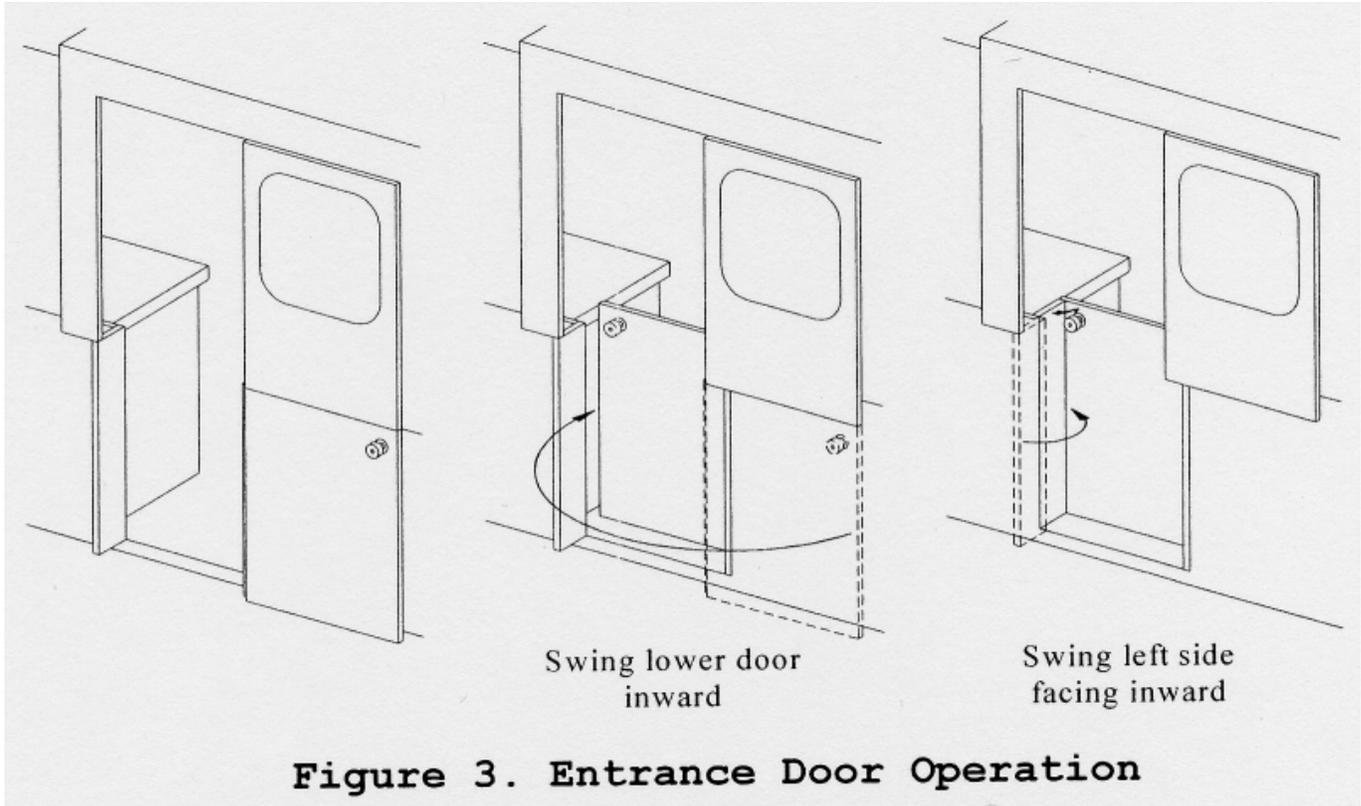
- Lower the wardrobe onto its side on the floor – make sure carpet is between vinyl floor and wardrobe
- ❑ Dismantle front
 - Raise and secure the insulated flaps – make sure to separate Velcro by running your hand between the strips, rather than pulling apart.
 - Place insulated strip over sink between front and rear walls
 - Fold up dining table
 - Lay seat cushions flat
 - Retract both front bed pins
- ❑ Dismount and store the hanging cabinet. Place on floor and protect by padding with pillows and blankets from bed.
- ❑ Distribute weight inside for optimal towing.
 - Keep weight distributed forward. Heavy items at rear will induce sway while towing.
- ❑ Double check for folding clearance

Exterior – Trailer Shutdown and Check

- ❑ LP Tanks: OFF
- ❑ Front & rear rock guards: LOCKED
- ❑ Tongue, hitch ball & hitch: LUBED
- ❑ Outside items (chairs, grill, carpet, flag, etc.): STOWED
- ❑ Awning: RETRACT; handle & center span stored under bed
- ❑ Wheel lugs: TIGHTENED to 90 ft-lbs
- ❑ Tires (plus spare): CHECKED; inflated to 50 psi
- ❑ Stabilizer jacks: UP & LUBED
- ❑ Ensure that external plumbing valves are closed and that the sewer line is capped
- ❑ Disconnect from shore facilities
 - City water hose & regulator: DISCONNECT & STOW
 - **AC cord: DISCONNECT & STOW**
 - **Cable TV & telephone line if used: DISCONNECT & STOW**
 - **AC surge protector: DISCONNECT & STOW**
- ❑ **TV antenna: DOWN; Booster: OFF**
- ❑ Towing mirrors: **INSTALLED**

Store Door

- Fold the steps
- Door: SWING WIDE OPEN and attach to the door catch found on the side of the TM body
- Door tab: ROTATE and separate door halves
- Lower door: GRIP by knobs and PULL to release the door jamb pin from the spring clip
- Lower door: SWING into indented travel position in doorway
- Insulated flap: RELEASE and FOLD onto door jamb
- Door jamb: PULL to release the door jamb pin
- Left door jamb: SWING INWARD to travel position and use eye hook to latch it to the lower section of door.



Lower Rear Shell

- SLIDE in the rear bed
- Release both shell corner latches (one square aluminum tube on each side) by swinging fully downward
- Push rear roof forward into lowered position
- Beginning with the door side, place your foot into the stirrup and push downward. Do this with enough force to cause side lock-pin to catch in the black roof latch
- Repeat the same procedure with the opposite side
- Attach the roof to the chassis with the white latches (one on both sides) and insert locking pins.
- Sweep dirt & water off of rear shell roof. Stand on hitch to reach front portion of shell
- Wipe down seal at front of rear shell. Helps keep from marking front ceiling.

Lower Front Shell

- Slide the front bed inward to the travel position
- Release both shell corner latches (one square aluminum tube on each side) by swinging fully downward

- Push front roof rearward into lowered position
- Beginning with the door side, place your foot into the stirrup and push downward. Do this with enough force to cause side lock-pin to catch in the black roof latch
- Repeat the same procedure with the opposite side
- Attach the roof to the chassis with the white latches (one on both sides) and insert locking pins
- Close and latch upper door into the travel position

Connect Tow Vehicle

- Hitch TM to TV: See section on towing.
- Pull and stow the wheel chocks
- Move TM forward off side-to-side levelers and stow the levelers (if the levelers have been used)
- Connect hitch & weight distribution arms
- Connect the emergency breakaway lanyard
- Connect both safety chains – remember, they need to be crossed underneath the hitch.
- Connect car-to-trailer electrical connection
 - o Check brake, turn, backup, and running lights
- Take one last walk around.
- Test the trailer brakes as you pull away

Sewer Dump at Dumping Station

If you need to dump at a dumping station as you leave, then you should have already opened the inside toilet drain valve before closing the TrailManor, and left the sewer hose out. Here is the procedure at the dump station.

- Ensure sewer line connected and supported to drain flat or downhill.
- Open black water valve (large black pipe), wait until black water drains, then close
- Open the gray water valve (small black pipe). The gray water is used to rinse sewer line.
- Close the gray water valve
- Disconnect the sewer hose and cap the sewer line.
- Use the dump station hose to rinse the hose and clean up the area as necessary.
- Store the sewer hose in the rear bumper (or alternatively, use a large trash bag, seal the bag and store in the TV)
 - o Perhaps I need to install a front bumper sewer line holder – see RV Outlet stock number 22-0082.

Dumping at a dump station, rather than your campsite, doesn't give you the option of cleaning and flushing the toilet with clean water. If you do want to clean it out, then perhaps a blue sewer tote can be used at home. You can run some water or water with chemicals through the toilet, and then dump in a home toilet.

Post-Trip Activities

Once we get home, there are some things that should be done as part of "trip wrap-up". Many are common sense clean-up tasks. The other tasks, such as draining the water, should keep the trailer systems fresh for the next trip. If you can plug the trailer into AC power at home to keep the refrigerator running, these do not need to be done immediately upon return, but probably within a day or two.

Clean-up Tasks

- Wash and replace bed linens & towels
- Pull dirty clothes out of closet
- Empty the refrigerator, clean it, turn it off, and leave door partially open (use dish towel to prop door open).

- ❑ Vacuum carpet/wash rugs
- ❑ Restock basics (TP, food staples, etc.)
 - Example food staples are: coffee, olive oil, equal, dish soap, Windex, etc.
- ❑ Etc....

Post Trip Trailer Maintenance

- ❑ Make sure the water heater's electric switch is OFF
- ❑ Drain the water system (fresh water tank, hot & cold water system including the heater)
- ❑ Check battery water levels
- ❑ Check propane levels and refill, if necessary
- ❑ Wipe off the hitch ball, grease it, and cover it.
- ❑ Wipe off the spring bar stubs and Equal-i-zer hitch bar plates, re-grease and cover
- ❑ Dump black & gray tanks if they need it.
- ❑ Rinse toilet if it needs it, and pour the next charge of deodorant into the toilet.
- ❑ Clean bug & tar from shell
 - RV Bug & Tar remover ok
 - After using, restore the wax/sealant by using a "quick detailing" sprays from *Mothers*, *Meguiars*, *Sonus*, etc.

Leveling the Trailer

There are two procedures for leveling. The first uses blocks or levelers under the wheels, and only uses the stabilizer jacks to “stabilize” the floor load. The second procedure only works for the newer model TMs and uses the “scissors jacks” to actually level the trailer. Newer TrailManors can use either method. Regardless of method, be sure at least one wheel is chocked before disconnecting the TM from the TV. Always level before opening up the TM.

Using leveling blocks & stabilizing with the “stabilizer” jacks (We PREFER this)

Pick up a pack of *Lynx Levelers* and a couple pressure-treated 1X4s about 2' long. Back into the site, place a torpedo level across the tongue of the TM on a flat spot behind the coupler hitch. Level side-to-side first -- half bubble = one 1X4; whole bubble = one Lynx Leveler block. Back the trailer up a little (about a foot), and place what ever was needed to level on the ground in front of the TM low side wheel. Pull the TM back to where it was the first time (with wheel on block). Check level again and it should be level.

Chock the other TM wheel, unhook from the TV, and place level on a frame rail by the propane tank, and check level fore to aft. Use the tongue jack to level (be sure a pressure block is under tongue jack foot). Lower all four corner stabilizers (pressure-treated block under foot), and crank down until just snug. Check level again. As an added level confidence, check level inside on a kitchen cabinet after setting up.

Summary

- Level side-to-side using Lynx Blocks on the low wheel**
- Chock opposite wheel**
- Disconnect tow vehicle**
- Use the tongue jack to level front-to-back**

Using “scissors” jacks

Place a block under the tongue jack post, and level front-to-back using the tongue jack. After level is established front-to-back, check side-to-side level. Place blocks under all four scissors jacks. Crank down the jack on the LOWEST corner until that side indicates level. Check and readjust side-to-side level. Crank down the HIGH SIDE jack until it bears weight. Repeat for other two scissors jacks. With all scissors jacks bearing weight, readjust side-to-side level. Recheck front-to-back level, and adjust as necessary. With all jacks supporting TM weight recheck level on both axis (front-to-back, and side-to-side).

Summary

- Chock both wheels**
- Disconnect from tow vehicle**
- Level front-to-back with the tongue jack**
- Level side-to-side with the “scissors” jack**

Hints

1. Anytime you adjust ANY jack, you need to recheck level on both axes.
2. Level initially after you take the TM home. Get it good and level and then install bubble levels at the corners to help in all future leveling. Makes it much easier than using a torpedo level.
3. TrailManor provides a tool to manually crank the jacks up and down ---- it's a real pain to use in the field. To make this job easier and faster, purchase a cheap battery operated drill, and a ¼" Allen wrench. Chuck the long portion of the Allen wrench into the drill, and insert the short end into

the jack's crank opening. You can then use the drill to raise and lower the jacks.

4. **Why is leveling so important?** Leveling is extremely important to the operation of the refrigerator. The fridge is very prone to degraded operation if it is not level. Our refrigerator is designed to operate within $\pm 3^\circ$ side-to-side and $\pm 6^\circ$ front-to-back. Operating outside of these limits can cause damage to the cooling system or reduced efficiency.

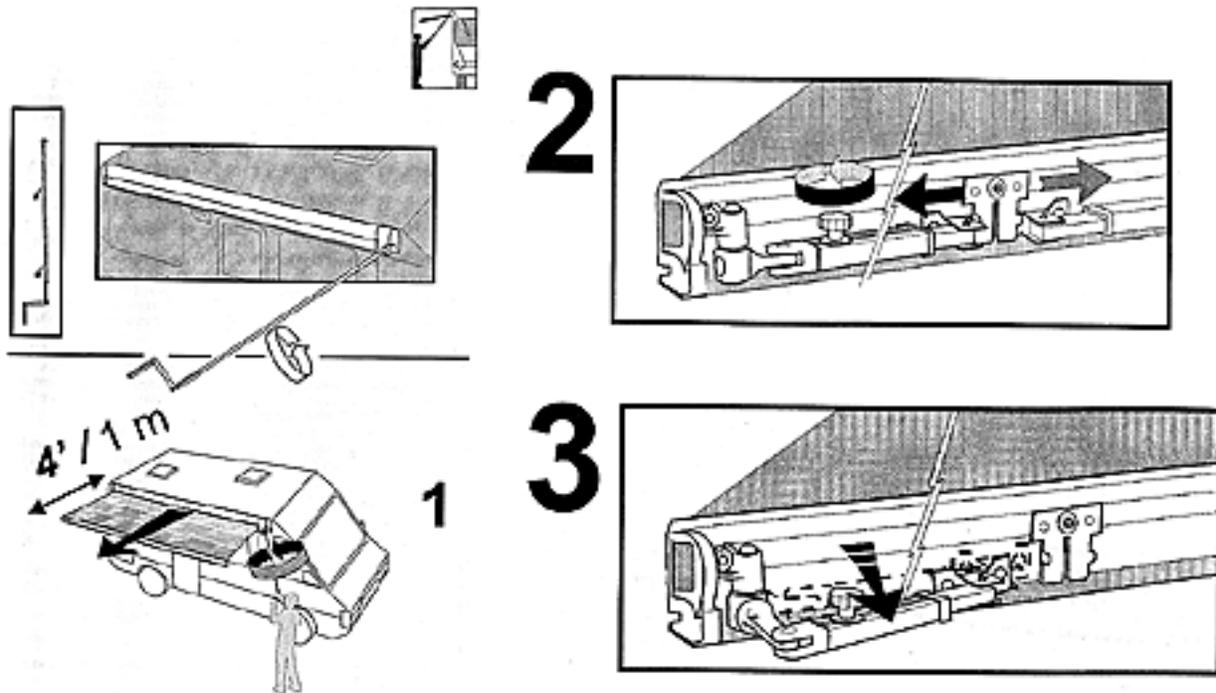
Appliance Operation

Awning

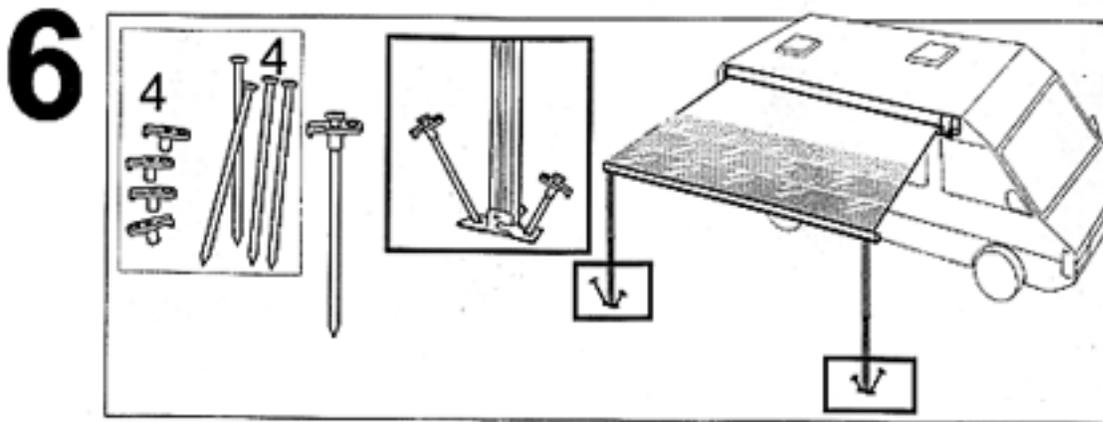
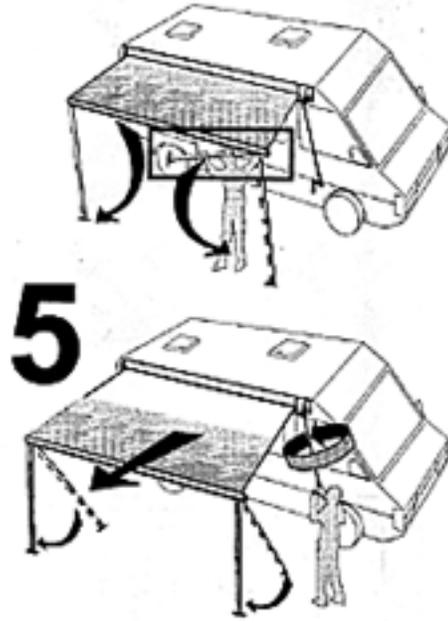
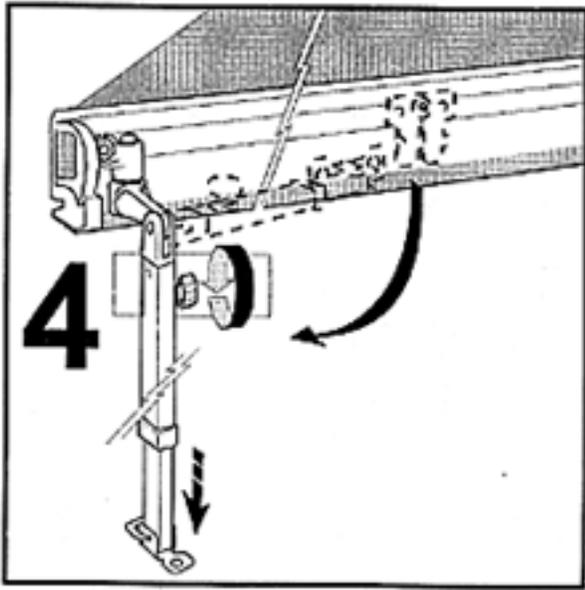
Here are the instructions for opening and closing the awning.

Opening

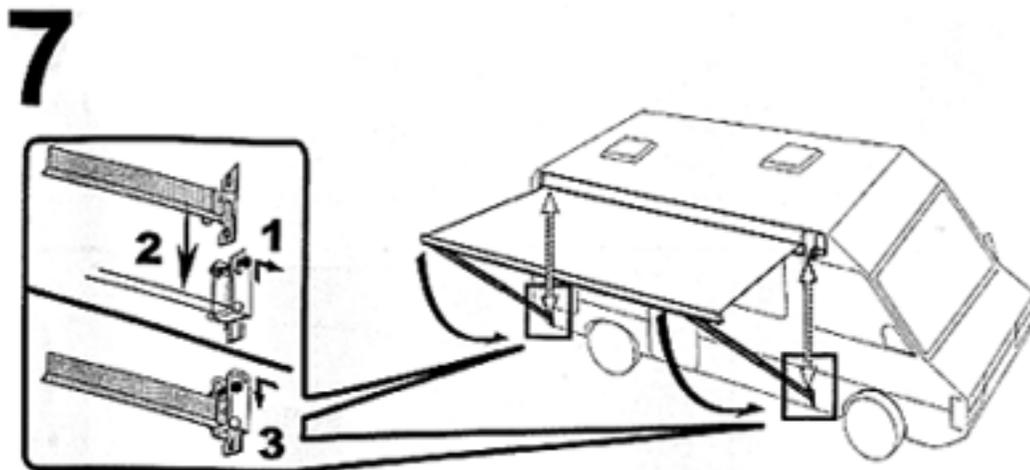
- ❑ **Figure 1** – Place the provided crank handle into the loop of the awning. Turn the crank handle to extend the awning open about 4 feet. The awning will support itself, but we recommend that the legs be positioned to the ground after extending 4 feet to reduce any stress on the vehicle wall.



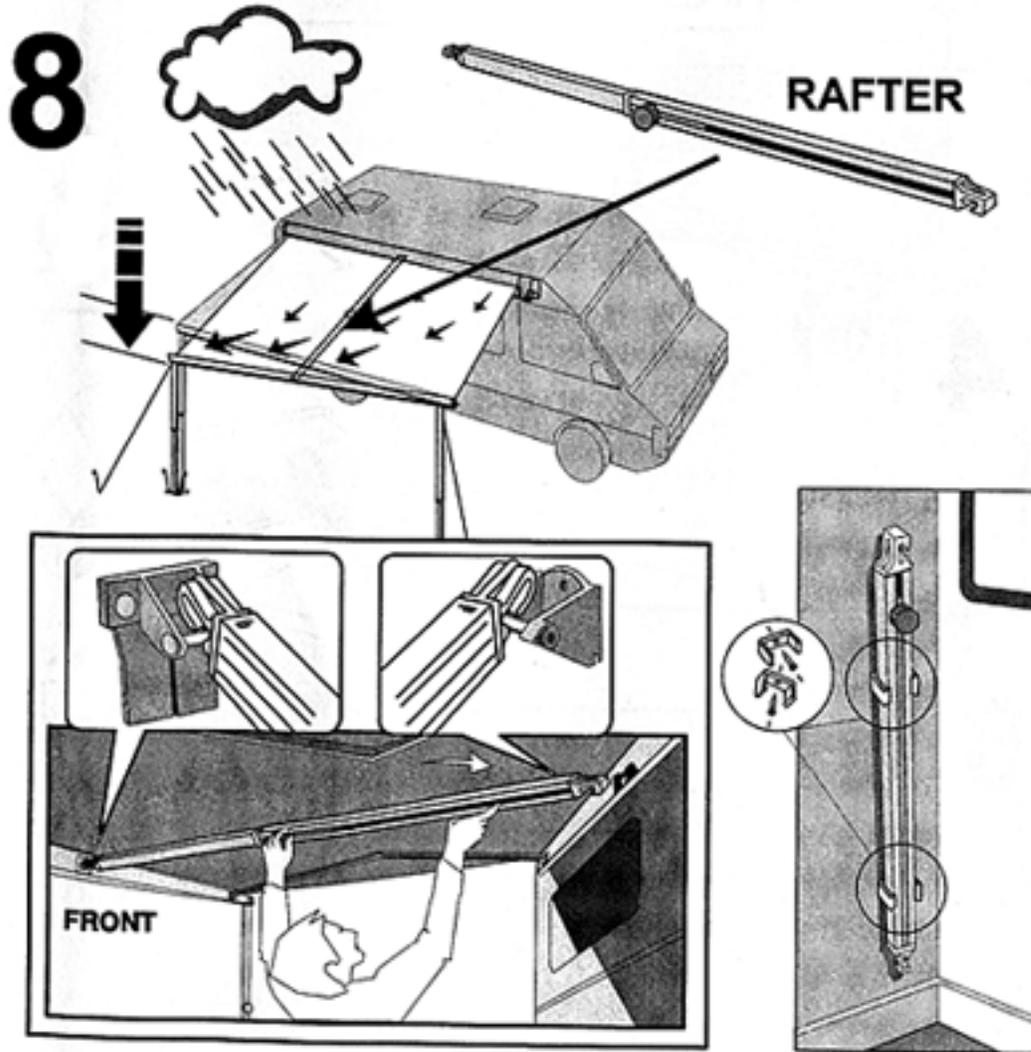
- ❑ **Figure 2** – IMPORTANT – The leg connection can possibly break if the leg is forced out in the wrong direction. To position support legs properly: unscrew the RED knob on the leg to loosen the leg.
- ❑ **Figure 3** – Take the leg near its hinge joint and pull straight out. This action pulls the joint out, allowing the leg to pivot to the ground properly and also frees the “foot” of the leg from behind the red holding bracket.
- ❑ **Figure 4** – With the joint completely pulled out (and the foot no longer behind the holding bracket), swing the leg down to the ground, set the leg height, and tighten the red knob.
- ❑ **Figure 5** – Extend the awning the rest of the way out. If you extend the awning completely to the end and the fabric becomes loose, crank the awning back in a turn to tighten up the fabric. NOTE: The lateral arms under the fabric are designed to have a bend in them and never straighten completely.
- ❑ **Figure 6** – Stakes are provided to hold the legs down in light winds. It is possible that they may not hold in moderate winds; therefore, we strongly recommend that you use a tie-down kit or similar kit designed to hold the awning down. For strong winds or storms, close the awning. (Strong winds can damage the awning and possibly result in damage to the vehicle).



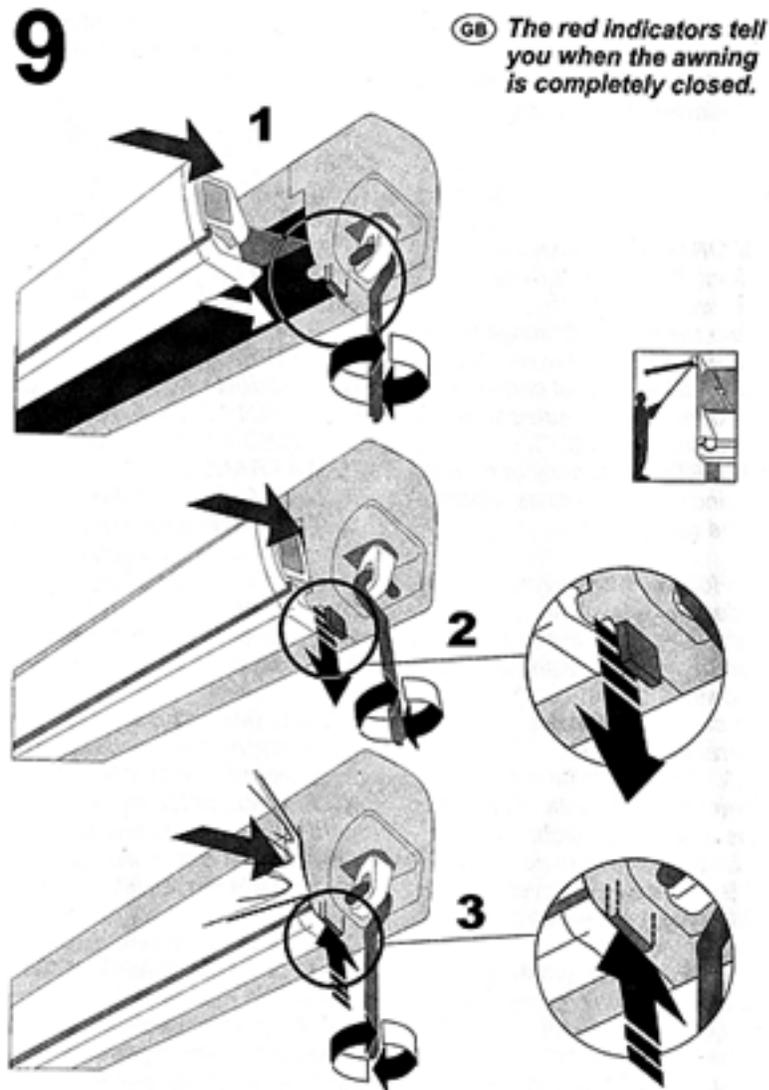
□ Figure 7 – The support legs can also be fitted to the wall brackets.



- **Figure 8** – We remind you that the awning is designed to shelter you from sun and light to moderate rains. We recommend that you close the awning in case of strong winds or heavy rains. Water pooling on the fabric from heavy rains can stretch the fabric and cause the awning not to close properly. For light or moderate rains, lower one side of the awning, so that water can flow off of the fabric and use the tension rafter.



- **Figure 9** – Make sure the awning closes properly. The red indicators tell you when the awning is completely closed. If the awning fabric is wet when the awning is closed, take the first opportunity to open the awning again and dry the fabric. Mold or mildew may otherwise result.



Bathroom Exhaust Fan

The bathroom 12-volt exhaust fan is mounted beneath the bathtub. The fan switch is located on the bathroom sink cabinet.

Furnace

The furnace is equipped with an ignition device that automatically lights the burner. To operate the furnace set the thermostat (just below the kitchen sink) from the OFF position to the desired temperature. Make sure to turn the furnace off before closing the trailer.

Note: On some TrailManor models, the thermostat has a separate ON-OFF switch on the bottom of the thermostat.

Fresh Water System

Sanitizing Fresh Water System

The fresh water system should be sanitized after long periods of nonuse and after any suspected contamination. You can use a commercial solution designed for RV use, or prepare your own. Here is the procedure using your own preparation.

- Prepare a bleach solution using one gallon of water to ¼ cup of household bleach (5% sodium hypochlorite).
- Empty the fresh water tank, and pour one gallon of solution into the tank for every 15 gallons of tank capacity.
 - Most TMs have a 20 gallon tank, so they need 1 ⅓ gallons of solution.
 - Our 40-gallon tank needs 2 ⅔ gallons of solution.
- Complete filling the tank with fresh water
- Open faucets to release air
- Turn on water pump until water flows from the faucets
- Turn off the pump and close the faucets
- Allow to stand for 3 hours
- Drain and flush system with fresh, potable water

- If a taste or odor of chlorine remains, then
 - Prepare a solution of one quart of vinegar to 5 gallons of water and allow this solution to agitate in the fresh water tank (by vehicle motion) for several days, if possible.
 - Drain fresh water tank and again flush with potable water

Operating the Water Pump

When using the onboard water supply, the water pump must be activated. The switch is located on the cabinet below the kitchen sink. This will maintain water pressure while using water from the fresh water tank.

Ensure that the water pump is OFF when connected to city water. If not, you can damage the water pump.

LP gas tanks

Changing Bottles

Both gas bottles should be turned on. The lever on the front of the regulator indicates which is the “active” bottle. When the indicated bottle is empty, the regulator automatically begins drawing fuel from the other bottle, and the indicator on the top of the regulator pops up a red flag to indicate the bottle is empty. You should then flip the lever over to the other bottle. The first depleted bottle can then be turned off, uncoupled, and refilled without disturbing the RV gas supply. After refilling, it should be remounted and turned back on.

Checking for Leaks

Since the trailer is subjected to road vibrations, connections and fittings can develop leaks. Use a bubble solution of soapy water to check for leaks on connections and fittings. When tightening connections (not at the bottles), use two wrenches with opposing torque to prevent twisting of the copper tubing.

Main Valves

The main valve on the LP gas container should be **hand tightened only**, using caution not to over-tighten. The valve is designed to close satisfactorily with only a reasonable amount of tightening. Continued over tightening will eventually damage the valve and require replacement.

A safety check valve is built into the tank to prevent a sudden release of large quantities of gas. **The gas valve should be turned on slowly to avoid activating the safety valve.** If gas flow to the trailer is less than normal, it may be necessary to turn off the gas bottle valves, turn off all gas appliances, and then turn on the gas valve slowly.

Gas Tank and Valve Covers

If you travel on wet roads and in freezing weather, be sure that the LP gas regulator is protected from the road spray. If water enters the vent of the regulator, it may freeze the pressure-controlling diaphragm in the open position, so that container pressure is applied to the appliances, a hazardous condition.

Refrigerator

The refrigerator is a 3-way design that can use LP gas, 120-volt AC, or 12-volt DC electricity for power. The control panel is located on the front of the refrigerator and is shown below. In general, the three modes are used as follows:

- **120-volt AC** – This is the preferred mode of operation both for pre-cooling the refrigerator before leaving from home, and when camped at a site with electrical hookups. It takes about 6-12 hours for the refrigerator to reach the desired temperature on 120-volt AC
- **LP gas** – Use this mode when at a campsite without electrical hookups.
- **12-volt DC** – This is only used when traveling from one site to another - for example, when leaving home (with a pre-cooled refrigerator) and traveling to a campsite. The tow vehicle supplies the power to the refrigerator (otherwise it would very quickly drain the TM battery). In order to ensure that heat is exhausted properly, the refrigerator fan must be on.

During operation the refrigerator temperature will vary as the outside temperature varies. Within the refrigerator box, the lower portion will get colder than the upper portion. Using the small battery powered fan will help keep the refrigerator box temperature more uniform.

LP Gas Operation

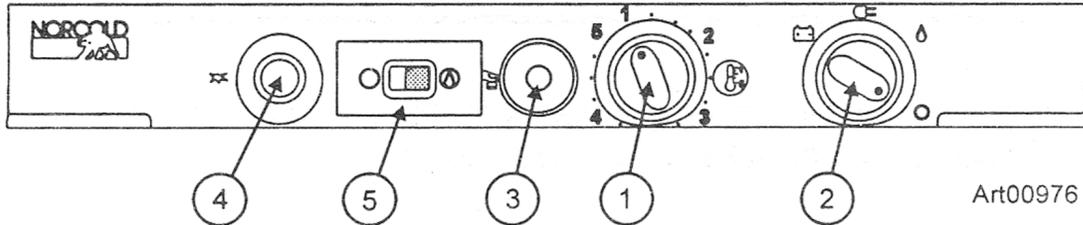
- Open the valve at the gas storage tanks (if not already open)
- Turn the Thermostat to the “5” position
- Turn the Selector switch to the propane gas position (picture of the flame)
- Push and hold in the gas safety valve and then push in the piezo lighter several times in rapid succession, for about 5 seconds.

WARNING: Do not hold the gas safety valve for more than 30 seconds. If there is not flame in this time, then wait at least 5 minutes before you try to light the refrigerator again.

- When a flame is present and the flame meter moves into the green area, release the safety valve.
 - If the flame meter does not move into the green area, wait 5 minutes and repeat the above again.
- Turn the thermostat to the desired temperature setting

Ignition and Start Up

Controls:



Art00976

Thermostat	1
Selector switch	2
Gas safety valve	3
Piezo lighter	4
Flame meter	5

120-volt AC Operation

- Make sure that the trailer is plugged into shore power
- Turn the selector switch to the AC position
- Turn the thermostat to the desired temperature setting

12-volt DC Operation

- Turn the selector switch to the DC position
- Turn the thermostat to the desired temperature setting
- Turn the refrigerator fan on (located to the left of the refrigerator below the kitchen sink)

Notes

- o For 12-volt operation to work properly the trailer battery should be fully charged and the trailer connected to the running Tow Vehicle.
- o When stopping along the way, you may want to unplug the Tow Vehicle to ensure that the tow vehicle battery is not discharged (unnecessary if the TV has a battery isolator). **Remember to plug back in and test before leaving.**

Turning Off

- Turn the selector to the OFF position (picture of the O)
- Turn off the refrigerator fan, if on

Refrigerator Fan

- The fan is essential for removing excess heat from the refrigerator when operating on 12-volts when the trailer is closed.
- The fan can also be used to improve the refrigerator performance during very hot weather, even when the trailer is set-up.

Stove & Oven

Note that the front burner of the three gets the hottest.

Top Burners

- Push knob inwards and turn to the “on” position
- Hold lighter near the burner, until the burner lights

Oven

- Push oven control knob inward and rotate counterclockwise to “pilot on” (or about 150 degrees – Dave @ Dinuba)
- Light the oven pilot, located at the back of the oven under the burner cover
- Turn the oven control to the desired position

- To extinguish the oven pilot, push the control inward and turn clockwise to OFF.

Toilet

Initial Flush Charge

- Use the bathtub hand shower to add water to the toilet, until it flushes (about 3 gallons)
- Add 1 bottle of Thetford Aqua-Kem

To Dump – Trailer Open

- Attach discharge hose to the outside outlet and the sewer
- Open the black water tank valve (large black pipe - handle in back)
- From inside the trailer, open the termination valve on the bottom of the toilet
- You may want to rinse the toilet.
 - o Close the termination valve after it has drained
 - o Re-fill the toilet from the shower head – fill until indicator indicates full (about 6 gallons)
 - o Open the termination valve to empty the toilet again.
- Close the termination valve
- From outside, close the black water valve
- Open the gray water valve to empty the gray water tank and flush out the discharge hose
- Close the gray water valve
- Disconnect the sewer hose and clean with water, if available.

To Dump – Trailer Closed

- Close the gray and black water outside valves
- Open the toilet termination valve, before closing the trailer.
- Upon reaching the dump station
 - o Attach discharge hose to the outside outlet and the sewer
 - o Open the black water tank valve (black handle in back)
 - o Close the black water valve after it has emptied
 - o Open the gray water valve to empty the gray water tank and flush out the discharge hose
 - o Close the gray water valve
 - o Disconnect the sewer hose and clean with water, if available.

Water Heater

Before lighting the water heater, make certain that it is filled with water, and that air is purged from the water heater by opening all faucets until water flows steady from each (particularly the hot water faucets). The water heater can be easily damaged if operated without water.

Operation using Propane

1. Hot water tank - FILL
2. Turn on propane (gas) supply.
3. Turn switch to ON; note amber light illuminates.
4. Observe burner light off (amber light extinguishes)

NOTE: If burner does not light on first try, the system automatically attempt two more tries for ignition before lockout. If lockout occurs before main burner lights, turn switch OFF for 5 seconds before turning switch to ON position.

Operation Using Electric Heating Element

1. Hot water tank - FILL
2. AC electrical power - ON
3. Switch used for propane heating: Ensure - OFF
4. Go OUTSIDE trailer to switch electric heating element ON
5. Water heater access panel - REMOVE
6. Cotter pin-guarded ON / OFF switch - LOCATE
7. Cotter pin - REMOVE (Use needle-nosed pliers)
8. Switch: Press to - ON

NOTE: It is easy to misplace/drop the cotter pin when removed. Handle with care, and keep in a secure location.

Operation Using Both

You can operate using both propane and electric. You will realize a faster recovery time on the hot water using both; just remember to turn them both off when you close up.

Turning water Heater Off

1. Turn switch to OFF
2. Insert cotter pin (if electric element was in use)
3. Propane supply OFF
4. Drain water heater if desired

Trip Packing

This section covers what to pack and where to pack it.

Tool / Set-up Item Packing (Tow Vehicle versus TM)

This list is not meant to include normal interior TrailManor items, such as clothes, bedding, etc. It covers all mechanical items needed to set up the TM, and (hopefully) repair common problems with the Tow Vehicle or TrailManor.

Items inside the TV (Tow Vehicle)

Loose Items in TV

- Cell phone & charger
- 2 walkie-talkie's with charger or extra batteries as needed.
- GPS
- Copy of my TrailManor Manual
- Maps as needed.
- Red medical bag (all necessary drugs, emergency medical kits, etc.)
- Extra set of trailer keys
- Bag with one nights change of clothing (emergency, if trailer not available, or just wanting to stay at a hotel one night)
- TV/DVD player

Tool Box (carried in TV for any trip – with or without trailer)

- Screwdrivers, hammer, wrenches, flashlight
- Other tools

Repair Bag (our brown canvas bag) – mostly for tire repair (carried in TV for any trip – with or without trailer)

- Bungee cords
- Board (to help if stuck and also as platform for jack)
- Foldable camping shovel
- Booster cables
- Duct tape
- Electrical tape
- Waterproof matches
- Tires
 - Lug wrenches (foldable)
 - Work gloves
 - Bottle jack
 - Tire pressure gauge
 - "Fix-A-Flat" canister for flat tires (for both large TV tires and smaller trailer tires)
- Emergency reflectors & flares

Items carried loose in car for every trip

- 12-volt air compressor for tires
- Propane hoses to connect barbeque/lantern to propane bottle

Trailer set-up toolbox

- 8" carpenters level
- Hitch

- Hitch locks (ball lock, hitch lock, receiver lock)
 - Hitch lubricant
- Rags
- Work gloves
- Flashlight

Trailer leveling box (big plastic tub)

- 2 x 6" boards (or plastic pads) to place under jack stands and front trailer jack
- Wheel chocks
- Emergency shell hold-down strap (in case of latch breaking)

Trailer items (loose in car)

- Lynx Levelers to level unit from side-to-side
- 12-volt cordless drill with Allen wrench for cranking the jacks!
- Large garbage bag for sewer hose, if dumping with trailer closed.

Items in the Rear "Trunk" of the Trailer (2720)

- Water
 - Water hose – 25' & 4' white for potable water
 - Water pressure regulator
 - 90° elbow
 - Water filter (Hydro-Life)
 - Pliers
- Electricity
 - 30 amp power cable for trailer
 - Adapters
 - 30A/F -> 50A/M
 - 30A/F -> 15A/M
 - 15A/M -> 30A/M
 - Circuit tester (30 Amp to 15 Amp) – shorts, opens reverse circuit, over voltage, etc....
- Sewer
 - **Sewer pipe wrench**
 - Extra sewer hose connectors
 - Sewer hose fittings for sewer at campground
 - Sewer hoses
 - Garden hose to clean-up at dump site
 - Latex gloves
 - Anti-bacterial soap
- WD-40
- RTV silicone sealant
- Silicone spray
- Misc Cables
 - Coax cable for television
 - Telephone

Items carried in Trailer Interior

- Spare fuses, light bulbs
 - Note: the lamps in the front, interior, and outside “porch light” all take different bulbs!
- Spare batteries
- Butane lighter sticks
- Flashlight
- Awning
 - Stakes for awning
 - Ropes for awning (if needed)
 - Awning crank
- Can opener
- Plastic bags for garbage
- “Over-the-door” towel rack
- Chemicals and toilet paper for the toilet
- Bathroom shelves and accessories
- Baskets for counter
- If dry camping, then optionally carry the blue tote and water carrier
- Barbeque

Mike & Kelly's Trip Inventory

This is the checklist that we use before a trip to ensure that we have everything we want to take. It helps to review this at the beginning of the season as we repack the trailer for a new year. We've divided everything into one of three categories:

- ✓ Stored in trailer (replenished as needed – check at end of each trip)
- ☐ Items packed for each trip, but not stored in trailer between trips
- Optional items (carried in car or trailer if included)
- Always carried in car

These lists do not include tools, and other mechanical items needed to set-up and possibly repair the tow vehicle or trailer. These items are covered in the previous section (Tool / Set-up Item Packing (Tow Vehicle versus TM))

Kitchen Pantry

- ✓ Garlic powder
- ✓ Pepper
- ✓ Sweetener
- ☐ Cereal
- ☐ Wine, beer
- ☐ Mustard
- ☐ Soup
- ☐ Juices
- ☐ Coffee & coffee measure
- ☐ Crackers (Stoned Wheat Thins (low sodium), Carr's Crackers....)
- ☐ Olive oil
 - Pam
 - Salad dressing
 - Spaghetti sauce
 - Barbecue sauce

Kitchen Perishables

- ✓ Ice
- ☐ Bread
- ☐ Tomatoes
- ☐ Potatoes
- ☐ Onions
- ☐ Tuna cans
- ☐ Chicken cans
- ☐ Milk
- ☐ Meat
- ☐ Margarine

Kitchen Hardware

- ✓ Dish towels
- ✓ Paper towels
- ✓ Aluminum foil

- ✓ Saran wrap
- ✓ Measuring spoons
- ✓ Gas lighter(s)
- ✓ Small baggies
- ✓ Coffee pot
- ✓ Coffee filters
- ✓ Measuring cups
- ✓ Wax paper

Clothing

- ✓ Umbrellas
- ✓ Pajamas & robes
- ✓ Sandals
- ✓ Sweatshirts
- ✓ Slippers
- ☐ Activity clothes (hiking boots, etc.)
- ☐ Socks
- ☐ Underwear
- ☐ Shoes
 - Hats
 - Jackets/cool weather clothes
 - Swimwear & shorts/warm weather clothes
 - Ponchos/slickers for wet weather

Bathroom Items

- ✓ Linens
- ✓ Bath towels
- ✓ Wash cloths
- ✓ Hand towels
- ✓ Large **garbage/dirty** clothes bags
- ✓ Clothes line, clips or other drying
- ✓ RV toilet paper
- ✓ Thetford Aqua-Kem
- ✓ Cotton balls
- ✓ Kleenex
- Detergent

Cleaning Supplies

- ✓ Glass cleaner (Glass Plus)
- ✓ Broom & dust pan
- ✓ Soap
- ✓ Sponges
- ✓ Rags
- Detergent
- Cleanser (No-bleach)

Personal Items

- Medicine – our RED travel bag (stored in the car)
- Sun block
- Bug spray
- Personal medications
- Books, magazines

Electronics

- ✓ Batteries (D, C, AA & AAA)
- Music & Movie CDs/DVDs
- Digital cameras and set-up (camera bags)
- Battery charger
- Walkie-talkie radios with charges or extra batteries

Bedroom

- ✓ Bed linens
- ✓ Sheets
- ✓ Pillow cases
- ✓ Pillows
- Sleeping bags

Travel Items

- Car GPS, programmed with route!!!!
- Road atlas
- Ice chest
- Drinks / water bottle
- Snacks
- Cell phone and charging adapter for car

Safety/Vehicle

- ✓ Spare tire, trailer -- proper inflation

Misc.

- ✓ Trash can
- ✓ Fan
- ✓ Lawn chairs
- ✓ Outside door mat
- ✓ Citronella candles
- Barbeque
- Cards for camping discounts
- Copy of registration, proof of insurance
- LP gas bottles for grill
- Extra keys

TrailManor Tips

The products listed below are those that TrailManor owners have used, found to be effective, and have recommended to others.

- ❑ **Cleaning the Outside Surfaces.** *Scrubbing Bubbles* works well. Spray it on, let stand a few minutes, wipe off. Does a good job on black streaks as well. Other products to also consider: *Purple Power* (automotive stores), *Kaboom* (Dollar General Store), *Greased Lightning* (Wal-Mart), *Soft Scrub* (careful, because any kind of cleaner with bleach can take the color out of other material).
- ❑ **Waxing the Outside.** *Protect All* (Camping World or Wal-Mart) works well. Spray on, buff dry. Excellent shine lasts through several washings, also prevents dirt buildup.
- ❑ **Recirculating Toilet.** This device has probably prompted more posts on the TrailManor Owners Forum than any other subject. The number one item for questions by new and prospective buyers. Use **only** *Thetford Aqua Chem* liquid (Add *Potty Toddy Tabs* from Camping World -- 1 tablet per charge, if odor excessive). Using the combination of chemical and tablet should eliminate odors. Keeping the number of times that "solids" are involved will also help (use the campground facility for that). Also upgrade the pump fuse from 5 amps to 8 amps. Some TM owners who are sensitive to the chemical smell that might be associated with the *Campa Chem & Potty Toddy* mix suggest using *Odorlos* from Camping World (say no smell or formaldehyde).
- ❑ **Cleaning the Curtains.** Dry cleaning recommended. Alternatively, use *Tuff Stuff* (avail at Wal-Mart and automotive stores) upholstery cleaner. Spray curtains while hanging. Let dry & vacuum. They'll look new and no shrinking.
- ❑ **Beds.** Don't waste time with sheets & blankets. Buy a bed bag with sheets that Velcro inside (Coleman makes one big enough for two - *Sierra Madre* queen size bag for about \$60 or a *Travasak*). If you buy sleeping bags, buy the kind that zip all the way open. Zip them open, and store them on the bed like a comforter. Saves time rolling them to store. When you use them, zip into them like normal.
- ❑ **Inside Cleaning.** *Greased Lightning* works well on cleaning the top as well as the underside of the flaps. Spray on, let soak, wipe off. Spray the flaps now and then with *Protect All* (cleans and repels dirt).
- ❑ **Gray Water tank.** When hooked up at a site, it's a good idea NOT to keep the gray water valve open. By allowing the tank to fill and empty periodically, you can use the gray water to flush the sewer hose after black water dumps. Additionally, by keeping the valve closed, you'll eliminate sewer gases and smells from coming up through the drains into the TM.
- ❑ **TM Tool & Repair Kit.** (Thanks to Bill & dennisu)
 - A couple sizes of straight and Phillips screwdrivers, some pliers, wrenches, a small hammer. Just make up what you would use at home.
 - Square-drive screwdrivers or square drive bits. Once you have the TM jacked up, you can't get the wheel off until you remove the fender skirt. And like many parts of the TM, the fender skirts are attached with square-drive screws.
 - Socket set. Wal-Mart has a nice inexpensive socket set with both English and metric sockets, for less than \$10. It is in a green canvas zip-up case, and carries nicely.
 - Spare fuses. Make sure you have spare 12-volt fuses for every fuse you can identify. Most are the automotive flat-blade ATC-type fuses - get some rated at 10 amps, 15 amps, and 20 amps. The 12-volt main fuse is unique - a 30-amp glass tubular (cartridge) fuse. Until you

can replace that fuse holder with an automotive type, be sure you have a couple spare fuses for this location.

- 12-volt test light is handy. A multimeter or Digital Volt Meter (DVM) is even better.
- Spare bulbs for the interior and exterior lights.
- A 10-foot length of #10 insulated wire, along with an assortment of crimp terminals, and a crimp tool.
- Wire cutter/stripper.
- Wire nuts, assorted sizes.
- A dozen nylon cable ties, various lengths.
- Two or three sizes of stainless-steel worm-type hose clamps.
- Duct tape.
- Box-cutter type of retractable knife.
- 12-volt air compressor and 20' cord adapter. Extension cord allows you to plug into the TV lighter plug and reach without having to unhook from the TV or open the TM to access the 12V lighter plug.
- Misc incidentals: Latex gloves. Baby wipes. A small can of 3-in-1 oil for the spring bars and a toothpaste-size tube of white grease to lube the hitch ball. A cordless drill (and charger) and 1/4" Allen wrench to crank the scissors jacks.
- Finally, **always carry the TM Owner's Manual, your checklists, and tool kit in the TV, not the TM.** Makes access a whole lot easier when you are on the road.

Storing and/or Winterizing Your TM

Storing

The following items are useful when you will be storing your TM for any extended period of time, not just for the winter.

- Drain and flush all holding tanks, fresh water, and hot water tanks.
- Drain all water lines, using the low-point drain lines.
Note: If storing for the winter, follow the *winterizing* steps below
- Close the LP tank valve(s). If your LP tanks don't already have a cover consider purchasing at least a vinyl LP tank cover.
- Disconnect electric shore power to TM.
- Disconnect the battery. The radio and propane detector continue to draw power while the unit is closed.
- Visually check your TM for anything that might need to be repaired. Make sure you also check the roof.
- Defrost and clean the refrigerator. Place open boxes of baking soda or crumpled newspapers in the compartments to eliminate odors during storage. Prop the refrigerator door open.
- Remove all perishable items from the interior. Include in this any items that are susceptible to freezing, if storing during the winter months.
- Cover all external outlets, such as furnace outlet, to prevent critter entry.
- Thoroughly wash the interior and the exterior of your TM. You might also consider waxing the outside.
- Close all windows; leave the roof vent(s) open *ever so slightly* for air circulation during storage.
- Sprinkle Comet or "Green Light" ant killer around anything touching the ground
- Make sure that the various opening are plugged to prevent wasps or spiders building nests
- Add "Bounce" dryer sheets to the interior to keep it fresh smelling.

Winterizing Your TM

Note: *The TM factory states that the TM requires no special tools or materials to prepare it for storage in freezing conditions. Simple draining of the water system, as described in the Owner's Manual, is sufficient. In fact, this is one of the main selling points of a TM.*

- Drain the toilet
- Drain the fresh water tank
- Drain the gray water holding tank
- Drain the hot water tank
 - This will drain itself when the rest of the water system is drained via the outside low-point drains
 - Or use the outside access to remove drain plug
- Open low-point drain lines under TM:
 - Open the hot and cold faucets (including external shower)
 - Uncap the low-point drain lines; let water drain completely
 - After the water has drained, turn on the water pump and operate until all the water has expelled, and then turn off the pump.
 - Recap drain lines
 - Close the hot and cold faucets
- USE RV Non-Toxic Antifreeze ONLY**
 - Pour a small amount of antifreeze down each drain to ensure that the sink traps have antifreeze in them.
 - Pour a small amount of antifreeze in the toilet bowl also. Note: **Don't** flush it into the holding tank.

- Outdoor shower -- remove and store the shower head, and drain as much water as possible from the hose
- Disconnect and move the battery to a warmer location unless it will be kept on a charger throughout the winter. Freezing temperatures may damage the battery if the charge is low.
- Tire Care
 - If you do not plan on moving your TrailManor during winter, then raise it on jack stands, reduce the air pressure and cover the tires if you they will exposed to the sun.
 - If you do plan on moving the TrailManor, then you should over inflate the tires by 25% and move the trailer every 3 months during storage.

If you would like more information, please see the following article:

www.goodyear.com/rv/tirecare/maintenance.html

Warning! Excessive snow loads can damage the roof of the TM. If you suspect snow is coming, you should place the trailer under shelter, or close the unit and allow access to the roof for snow clearing. One foot of dry snow (or 1-inch of ice) should be ok. If the snow is excessively wet or heavy, or the snow accumulation approaches 2 feet, you **NEED TO REMOVE THE SNOW FROM THE ROOF!!!!**

CAUTION! Do not attempt to close the trailer with snow accumulation on the roof!!! One inch of dry snow adds 40-60 lbs. to the weight of the top. The added weight could cause the top to fall suddenly while being closed!!

De-winterizing the Water System

Note: If you winterized the system with pink antifreeze, it must be well flushed before first use.

- Fresh water tank: ADD 1 to 2 capfuls BLEACH
- Fresh water tank: FILL to $\frac{3}{4}$ full
- Shake unit well to mix bleach & water.
- TrailManor unit: OPEN
- Water pump: ON
- Water taps: OPEN one at a time until water runs clear. (Don't forget showers inside & out)
- Let sit overnight
- Water pump: OFF
- City water: CONNECT
- Taps: FLUSH all for at least 5 minutes each
- Fresh water tank: DRAIN, & REFILL with fresh water, add 1 capful bleach
- Taps: FLUSH second time
- Water sources: CLOSED
- Drains: OPEN and drain system (open taps to break siphon)

Weights and Specifications Workbook

TrailManor

Length
Dry Weight (unloaded) - UVW
Tongue Wt (empty)
Max Load (trailer)
GVWR (trailer only – not on the tongue)

Max tongue weight (15% of GVWR)

Note: tongue weight should be 10% - 15% of total trailer weight

Tow Vehicle

Wheel Base =
Car width & length =

Weight-carrying hitch limit: (for example, 5,000-lb with 600-lb tongue weight)

Curb wt (approx, full gas, driver)

Max trailer weight
Max tongue wt (without WDH & sway control)
Max load (people, baggage, tongue weight)

GAWR Front
GAWR Rear

GVWR (max permissible fully loaded vehicle -
people, baggage, tongue weight)

GCWR (maximum allowable weight of tow vehicle
+ trailer + total load in both)

Towing Calculation

When a tow vehicle manufacture determines a tow rating, it is based upon the empty vehicle. It does not include cargo, passengers, after market accessories or any additional weight placed in the vehicle. Any weight added to the vehicle reduces the tow rating by that amount.

Max trailer weight
Estimate of cargo weight
Passengers and driver (4 people @ 175 ea.)
Actual tow rating

Now let's look at the trailer:

- Trailer UVW
- Factory options (extra battery, awning, -- guess)
- Dealer installed options
- Cargo in the trailer (guess)
- Water 40 gallons x 8.3 lbs/gallon
- LP gas 10 gallons x 4.23 lbs/gallon
- Gross Trailer Weight (GTW)**
- Tow Rating (from previous)**
- Minus GTW**
- Weight reserve***

Wheelbase-to-Length Ratio for Trailers

The relative wheelbases of the tow vehicle and the trailer have a huge impact on the stability of the combination (in addition to the rear overhang of the tow vehicle). I found the following information in "How To Tow Safely – A Complete Towing Guide" by JD Gallant. This information is consistent with other information that I found on the WEB.

A good towing length for a travel trailer coach begins at 20 feet or less for 110 inches of tow vehicle wheelbase. For each additional foot of trailer length, the formula adds 4 inches to the tow vehicle wheelbase. This relationship between trailer length and tow vehicle wheelbase were derived from accident reports and consumer input regarding handling characteristics for trailer coaches, and are based upon trailers 8' wide and 9' tall. The following table shows this relationship for various trailer lengths.

Towing Vehicle Wheelbase as a Function of Trailer Length for trailers 8' wide and 9' tall			
Trailer Length (Feet)	TV Wheelbase (inches)	Trailer Length (Feet)	TV Wheelbase (inches)
15' to 19'	100" to 110"	26'	134"
20'	110"	27'	138"
21'	114"	28'	142"
22'	118"	29'	146"
23'	122"	30'	150"
24'	126"	31'	154"
25'	130"	32'	158"

Example - Tahoe/TrailManor 2720 Wheelbase Calculation

Our 2001 Chevy Tahoe has a wheelbase of 116", so from the above table we can tow a trailer up to about 21.5' long. The 2720 TrailManor is 20' long, so we should be just fine. In addition, since the Trailer Manor is only about 5'4" tall, we should have an even greater margin of safety.

Appendices

Many users have other brands of weight distributing hitches, such as Reese or Drawtite. The set-up procedures for these hitches is very similar to those described below for the Equal-i-zer.

Equal-i-zer WDH Installation and Setup

There is some question about how to perform the initial set-up with our Tahoe which has an “automatic leveling system” included with the Autoride feature. Page 2-35 of the car manual suggests letting the shocks inflate to level the vehicle before adjusting the hitch. The Equal-i-zer manual recommends letting the shocks deflate before adjusting the hitch. I have sent e-mail to Lindon to try and resolve this conflict.

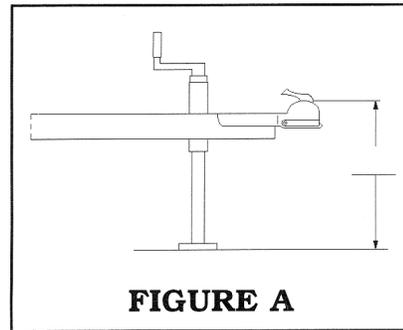
Here is the procedure needed to install and adjust the Equal-i-zer hitch.

Determine the Tow Vehicle Reference Heights

- Find reference points on front and rear fenders
- Measure and record height from pavement to reference points
- Record the front fender height _____
- Record the rear fender height _____

Determine the trailer hitch height

- On a flat surface, line up the tow vehicle and the trailer, uncoupled in straight-ahead position.
- Use the trailer tongue jack to parallel the trailer to the ground (both ends of the trailer are at an equal distance from the ground)
- Measure and record the number of inches from the parking surface to the inside top of the trailer coupler (see Figure A)
- Trailer Hitch Height _____



Determine the “Adjusted” hitch height

In order for the Equal-i-zer hitch to operate properly, the trailer must ride “level” when coupled to the tow vehicle. The “adjusted hitch height” will be higher than the hitch height determined above, this allows for tow vehicle squat when coupled to the trailer.

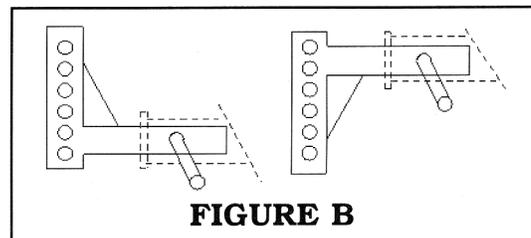
For vehicles with:

- Stiff suspension, add 1/8” to the hitch height for each 100 pounds of tongue weight
- Average suspension, add 3/16” to the hitch height for each 100 pounds of tongue weight
- Light suspension, add 1/4” to the hitch height for each 100 pounds of tongue weight

Adjusted Hitch height _____

Install the hitch shank

Insert the hitch shank into the tow vehicle receiver and pin it in place. To obtain proper ball height, the hitch shank may need to be inverted (See Figure B). If used inverted, check for adequate ground clearance. If needed, hitch shanks with greater height and range are available.



❑ **Install the hitch head (see Figure C)**

- Place spacer rivet with 5 spacer washers into the 1/2" hole located at the inside top of the hitch head channel.

Note: the spacer washers are to angle the hitch head 4° to 6° downward (see figures below). If the tow vehicle receiver is not level (0°) more or less washers will need to be used to compensate for the uneven receiver.

- Position the hitch head on the hitch shank.
- Slide the hitch head up or down to the nearest bolt hole, matching the top of the hitch ball to the adjusted hitch height found above ("the adjusted hitch height").
- Insert the 3/4" x 4" bolts through 3/4" flat washer hole in the hitch head channel and shank. Install 3/4" flat washer, lock washer and nut. **DO NOT TIGHTEN 3/4" BOLTS AT THIS TIME.**

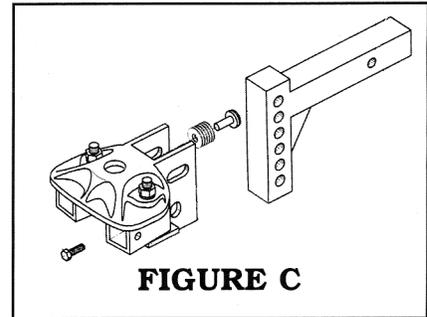
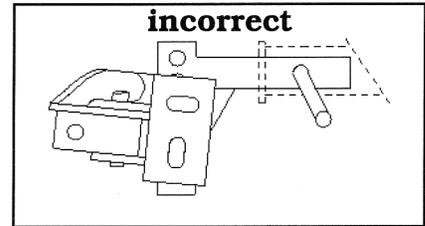
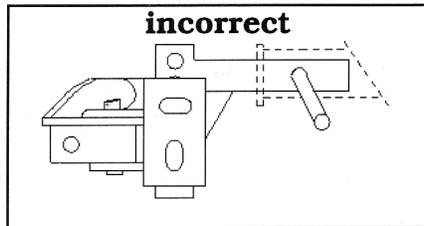
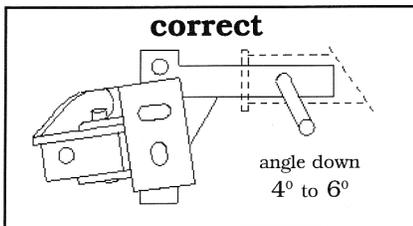


FIGURE C



- Hand-tighten angle set screw located at bottom of hitch head channel until gap in spacer rivet and washers are removed (see Figure C).
- **HAND TIGHTEN 3/4" BOLTS AT THIS TIME.**

❑ **Install Link Plates on the Trailer Frame**

- Measure and mark 32" from the center of the ball coupler back along the A frame (27" to 32" is acceptable). See Figure D.
- Insert a 1/2" x 4" bolt through the single hole in the outside link plate. Start the 1/2" nut into the bolt.
- Hang the assembly over the A frame with the 1/2" bolt at the 32" mark.
- Insert a 2nd 1/2" x 4" bolt through the hole in the outside link plate that is nearest the bottom of the trailer frame.
- Alternatively, tighten the 1/2" nuts evenly so that the outside link plate and inside link plate have even contact with the frame before tightening the nuts on the bolts.

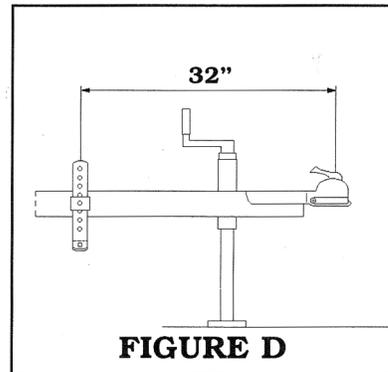


FIGURE D

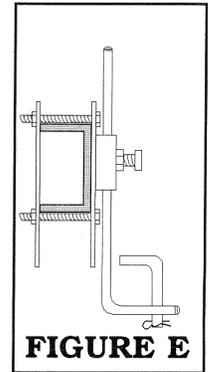


FIGURE E

❑ **Install L Brackets**

- Raising or lowering the L bracket adjusts the amount of leveling or load transfer.
- Start the 5/8" square head set screw into the threaded nut on the outside link plate.
- Insert the L bracket up through the rectangular tube of the outside link plate. Seat the setscrew starts the 5th hole from the top.

Note: The set screw does not go through the holes in the L bracket, rather the beveled end of the set screw starts into the hole and then pins the bracket to the back side of the rectangular tubing.

❑ **Install the Spring Arms**

- Insert the notched end of the spring arm into the arm socket on the hitch head
- Using the 3/8" pin and small clip, pin the arms into place.
- Rotate arms to the side (away from the center-toward tow vehicle bumper)

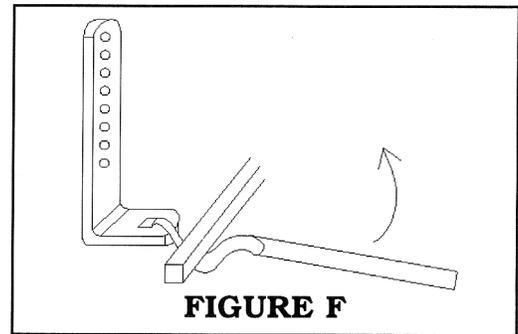
❑ **Couple trailer hitch Ball**

- Back the tow vehicle up
- Lower trailer coupler onto hitch ball and close coupler latch (and lock)
- Using the tongue jack, raise the front of the trailer and rear of the tow vehicle 5-8".

Note: A block of wood may be used under the trailer jack to allow it to raise the trailer higher.

❑ **Attach Spring Arms to Trailer Brackets (See Figure F)**

- Rotate arms inward towards the trailer frame
- Lift the arms into the L brackets
- If brackets are too high to receive arm:
 - Using the tongue jack, raise the front of the trailer and rear of the tow vehicle higher.
 - Use the snap-up lever to lift the spring arm onto the L bracket (See Figure F)



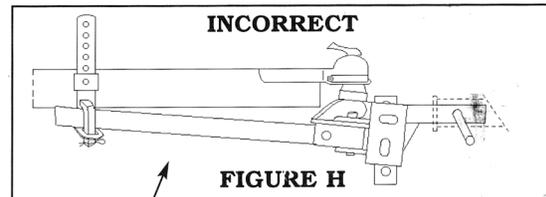
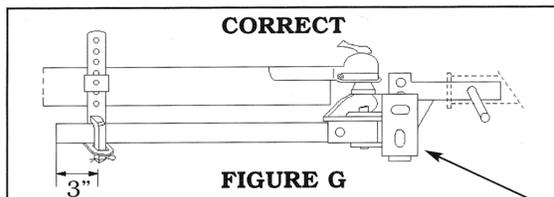
NOTE: If a high-rise hitch ball is used, the lower the L bracket 1 hole for every inch of hitch ball.

- Secure the arm into place with the L pin and clip
- Retract the trailer tongue jack, so that the hitch is carrying the full trailer tongue weight.

❑ **Adjust L Bracket and Head Angle, if necessary**

- Vehicle should settle evenly, within about 1/2". Re-measure front and rear fender reference points.
 - If front has settled much more than the rear, lower the L bracket.
 - If rear has settled much more than front, raise L bracket.

CAUTION: Before changing the L bracket height, remove the spring arms from L bracket.



To correct problem: unhook hitch, add more spacer washers, lower L brackets. See section 6.

NOTE: It is more important for your trailer and tow vehicle to be level, than for the spring arms to be level. With some vehicle combinations, the spring arms will angle up towards the "L-brackets" on the frame of the trailer. It is acceptable to have your arms "angled up."

- If springs are not approximately horizontal when even settling has been achieved (see Figures G & H), it will be necessary to change the hitch head angle by adding or subtracting spacer washers between the hitch and the shank. L brackets may require readjusting after hitch head angle has been changed.

CAUTION: Before attempting to adjust head angle, unhook the trailer from the hitch.

The pictures above show the proper angle of the hitch after the arms are attached to the trailer.

- ❑ **If Head Angle & L Bracket are Correct:**
 - Tighten angle set screw
 - Tighten 3/4" bolts to a maximum of 200 ft-lbs

Equipping your TrailManor

Equipping -- Must Haves

- ✓ Sewer hose (short & long pieces -- 10' & 20' pieces)
- ❑ Electrical extension cord (for inside trailer)
- ✓ Electrical adapters - A range of adapters to be able to plug your TM into whatever electrical service is available. A 30 amp male to 15 amps female is a good start for a TM.
- ❑ Garden hose (for clean up & sewer hose rinsing)
- ❑ Level or stick-on levels (stick-on on all 4 corners)
- ✓ Stabilizer blocks
- ❑ Rags
- ❑ Flashlight
- ✓ Matches (and/or butane grill lighter)
- ❑ Hitch lubricant – heavy oil & grease for daily lube of hitch components.
- ❑ Metal stakes and nylon rope
- ❑ Tools - Make sure you carry the basics, such as:

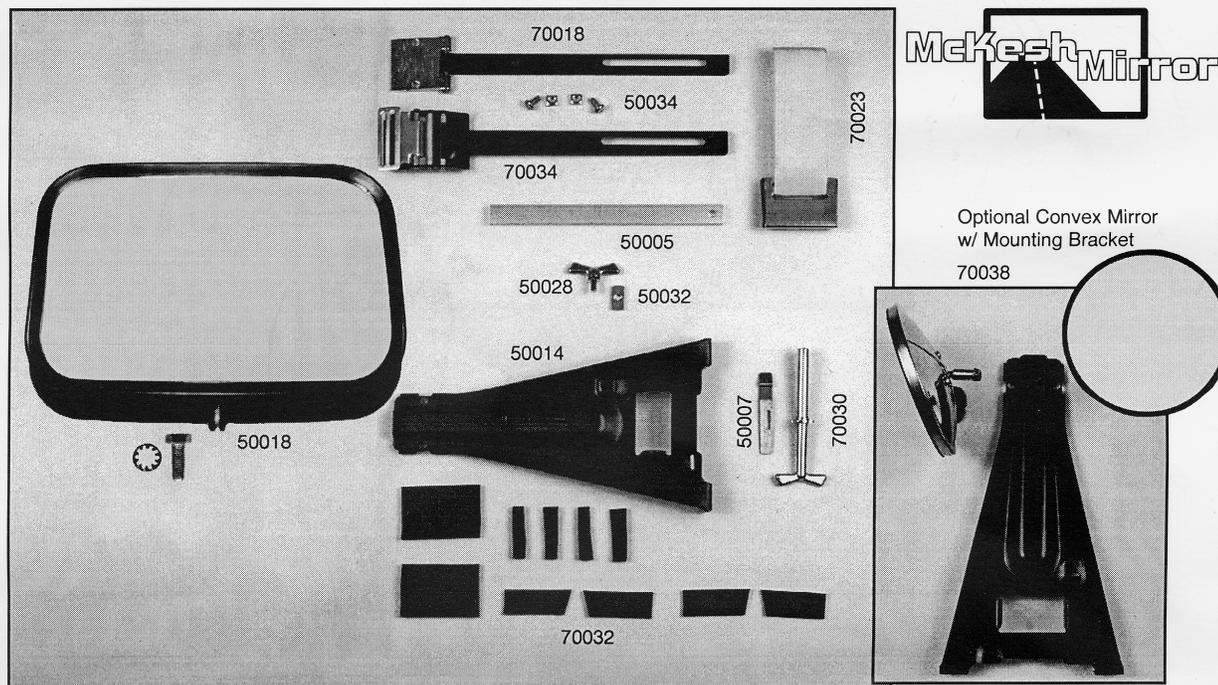
Gloves	Torpedo level
Channel locks	Trailer jack
Needle-nose pliers	Booster cables
Fuse puller	Tire Gauge
Hammer & mallet	12v air compressor
Electrical circuit tester	Square tipped screwdriver
Cheap rechargeable 3/8" drill	Socket Set
Basic wrenches, both box and open end	
Assortment of flat-head & Phillips screwdrivers	

Equipping -- Nice to Haves

- ❑ Folding shovel
- ❑ Axe
- ❑ Sewer hose support
- ❑ Regular extension cord - 12-gauge, 20-amp, 25-foot.
- ❑ Garden hose mending fittings
- ❑ Duct tape

- Electrician tape
- Bungee cords
- Another flashlight
- Trash can
- Lubricating oil - a can of WD-40 will do just fine.
- Broom and dust pan
- Ant spray and ant traps
- Swiss army knife
- Rope and/or string

Mc Kesh Mirror Set-up & removal



Optional Convex Mirror
w/ Mounting Bracket
70038

Parts List

PART NO.	NAME	PRICE
50005	Extension Arm	\$4.25
50007	Pawl	1.90
50014	Arm	18.95
50018	HR-1525 Mirror Head	18.95
50028	T-Screw	3.80
50032	T-Screw Nut	0.50
50034	Hardware Pack (pair)	0.35
70018	Upper Brace (complete)	11.90
70023	Nylon Strap with Door Hook	7.00
70030	Ratchet	12.95
70032	Rubber Padding (pair)	4.25
70034	Lower Brace (complete)	9.90
70038	Convex Mirror	12.95

This information can be found on the Hensley website at: <http://www.nosway.com/>

Mounting

- Open the door and lower the window completely.
- Extend the strap by pulling on the end of the door hook so that the tabs on the mirror arm (Part #50014) can be positioned into the window track while allowing the strap enough slack to be secure in the bottom lip of the door. **Position the arm as far forward on the door as possible and pull it away from the door so**

that the tabs will be positioned between the rubber seal and the glass when the window is raised.

On many vehicles where the curve in the glass is minimal, the arm may be angled closer to horizontal with the ground. Where there is more curvature in the glass, angle the arm up slightly, allowing the tabs to exceed the angle of the windows' curve. This will allow the window to be raised past the tabs without catching. When rolling up the windows the first time, do so slowly to make sure you have the clearance between the tabs and the window.

- ❑ Position the door brace diagonally down the door at a firm spot. Sometimes, pressing against the wall of the door can reveal "soft spots" where the door panel has no reinforcement behind it. Locating the brace at a firmer position will minimize potential movement caused by any "oil can" effects. The effect varies from vehicle to vehicle and may not be present with yours. Do not position the padded foot of the arm brace on trim or molding.
- ❑ Turn the ratchet to tighten the nylon strap. Hand tighten only – do not use tools. The rubber seal may bend down at both tab locations to allow the mirrors to have a tight fit. They will return to the original positions when you take the mirrors off again. The nylon strap may stretch when wet or new. Simply check and re-tighten. As the strap is tightened, pull the padded foot out away from the door periodically so that the pressure on the pad is horizontal (inward) against the door, and not vertical (up) against the door. Pressure from the strap pulling the padded foot up the door can cause the pad to move on the adhesive.

Removal

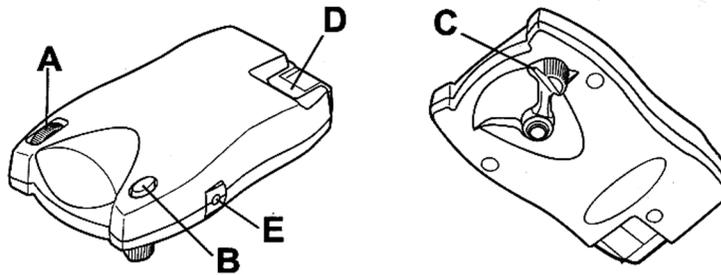
- ❑ Roll the window down and open the door. Press the pawl (Part #50007) to release the tension on the strap. After the initial set-up, the strap will be at the correct length for more convenient mounting thereafter.

Prodigy Brake Control Synchronization with Trailer Electronic Brakes

This is the procedure for adjusting the Prodigy brake controller to synchronize the TV brakes with the trailer brakes. This information can be found on the Tekonsha website at:

<http://www.tekonsha.com/index.html>. Brake synchronization should probably be re-tested at least yearly and **after the brakes have been adjusted** (see next section). The following figure shows the components of the brake controller.

Components of the Brake Control



- A. Power Knob
- B. Boost Button
- C. Manual Knob
- D. Connector (For Wiring Harness)
- E. Mounting Hole (1 per side)

Basic Adjustment Procedure

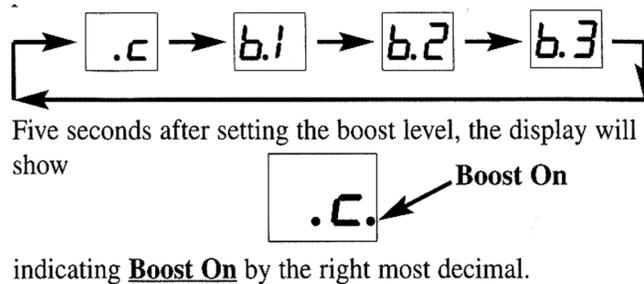
- ❑ Connect the trailer to the tow vehicle

- ❑ With the engine running, hold the manual brake knob full left and set the power knob to indicate 6.0 (this indicates that 6 volts is being applied to the brakes)
- ❑ Adjustment Procedure
 - Drive the tow vehicle on a dry and level paved surface at 25 mph and fully apply the manual brake knob
 - If the trailer brakes lock-up:
 - Turn the power down using the power knob
 - If the trailer braking was not sufficient:
 - Turn the power up using the power knob
 - Repeat the above adjustment procedure until the power has been set to a point just below wheel lockup or at a sufficient force as to achieve maximum braking power.
- ❑ Using the brake pedal, make a few low speed stops to check the power setting. Trailer braking is initiated and terminated by the stoplight switch. When the pedal is released, trailer braking will cease.

Boost Adjustment

The boost adjustment allows you to set a more aggressive setting for your trailer brakes and is available in three levels – [b.1], [b.2], and [b.3]. Each incremental boost setting increases the sensitivity of the Prodigy’s inertial sensor and thus enhances the participation of the trailer brakes during a braking event. Therefore, this should be adjusted if you feel that the trailer brakes are not being applied aggressively enough.

The first press of the boost button displays the current setting. Boost is advanced to the next level by continuing to press the boost button.



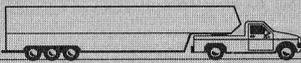
Here are the differences between each level of boost:

- ❑ **Boost Off [.c]** – during a braking event, the power starts out at zero and increases with deceleration
- ❑ **Boost Level 1 [b.1]** – during a braking event, the power automatically starts out at approximately 13% of the power setting and increases with deceleration
- ❑ **Boost Level 2 [b.2]** – during a braking event, the power automatically starts out at approximately 25% of the power setting and increases with deceleration
- ❑ **Boost Level 3 [b.3]** – during a braking event, the power automatically starts out at approximately 25% of the power setting and increases with deceleration (the rate of increase is greater than with [b.2])

Some cases where you might want to use the boost button are:

- ❑ You would like the trailer braking to “LEAD” the tow vehicle braking (help avoid jack-knifing and trailer sway)
- ❑ Towing a full vs. empty trailer
- ❑ Degraded brake performance (such as when the trailer brakes require a brake adjustment – see following section on “Wheel, Axle and Brake Maintenance”. This would be a temporary adjustment – It is important that the trailer brakes be adjusted as soon as possible after noticing this condition.

The following chart shows recommended “boost” settings based upon relative TV and Trailer weights.

Typical Boost Settings For Optimal Performance (with properly adjusted trailer brakes*)				
TRAILER WEIGHT compared to VEHICLE WEIGHT	.c	b.1	b.2	b.3
	BOOST "OFF" ↗ INCREASING BOOST LEVEL ↘			
 Trailer weighs LESS than Vehicle	X	X		
 Trailer weighs APPROXIMATELY SAME as Vehicle	X	X	X	
 Trailer weighs UP TO 25% MORE than Vehicle		X	X	X
 Trailer weighs UP TO 40% MORE than Vehicle			X	X
 Trailer weighs OVER 40% MORE than Vehicle	⚠ WARNING Do not exceed Gross Combined Weight Rating (GCWR)			X

* Increased Boost setting may be needed if trailer brakes are worn, see Appendix A or a dealer for brake adjustment or repair.

Notes:

- ❑ **Always warm the trailer's brakes before setting the power.** Warm trailer brakes tend to be more responsive than cold brakes. To warm the trailer brakes, drive a short distance (about ¼ mile) at 45 MPH with the manual lever engaged enough to cause trailer braking at a low level.
- ❑ **Warning.** The power should never be set high enough to cause trailer brakes to lock up. Skidding trailer wheels can cause loss of directional stability of the trailer and tow vehicle (sway).
- ❑ The power may need to be adjusted for different load weights and road conditions.
- ❑ Not all trailer brakes will lock up due to various conditions. **Inability to lock up the trailer brakes generally indicates the need for inspection to determine the cause (and adjustment, if necessary).**
- ❑ When the power is set correctly, you should feel unified braking between the trailer and tow vehicle.
- ❑ **Warning.** Boost settings will be cleared under abnormally low battery conditions. Check the boost settings after starting the vehicle.

2001 Tahoe, TrailManor 2720, Prodigy normal settings

This is definitely an "in progress" section, since we've only driven it back from the dealer, but to date it seems that a normal power level is 12.0 volts and the boost is a [b.1]. As I get more experience, I plan to update this section.

Troubleshooting the Brake Controller Problems

Troubleshooting Chart

Display	Situation	Probable Cause
	Flashes 2 times a second or a steady display.	Trailer is connected and Prodigy loses connection to battery ground.
	Flashes 2 times per second.	Prodigy "sees" an overload condition during operation.
	Flashes 2 times per second.	<ol style="list-style-type: none"> 1. Brake wire sees short during idle condition. 2. Use of some test lights or non-Tekonsha testers can cause this problem.
	The lower two bars flash	Prodigy is mounted at too low an angle.
	The upper two bars flash	Prodigy is mounted at too high an angle.
	Flashes for 15 seconds	<ol style="list-style-type: none"> 1. Trailer not connected to tow vehicle. 2. Trailer connected with open circuit on brake line. 3. Trailer connector disconnected or corroded. 4. Loss of trailer brake magnet ground.
	No display with manual or pedal activation.	<ol style="list-style-type: none"> 1. Loss of power to Prodigy. 2. Loss of ground to Prodigy.
	No display until activation	Prodigy is in power-saving mode due to no motion for fifteen minutes.
	No braking	Power control set to 0.
	Power interruption while brake pedal is depressed.	

TrailManor Improvement Projects

Electrical

- Replace plastic wire nuts with waterproof ones (breakaway switch junction, both brakes).
- Add Xantrex Link-10 battery monitor in 2" round opening to left of radio.
- Replace outdoor porch light with amber bulb.
- Replace ceiling bulbs with lower wattage.
- Install low drain florescent lights in place of 1 or 2 incandescent.
- Make 12-volt extension light that hangs under awning. Plugs into 12-volt receptacle.
- Add solar panels.

Livability

- Scotchguard furniture, curtains, carpeting.
- Add light mirror, mount with Velcro on outside of bathroom door.

Bathroom

- Mount Rubbermaid towel holders. Base screws to the wall. Towel holder slides over base. You can fold bathroom walls without the bases interfering.
- Add over the door towel hooks or bars.
- Trim shower curtain to length.
- Make hands-free showerhead holder. Use over the door hooks, dispenser, & shower holder.

Kitchen

- Glue Velcro to wall behind stove. Glue Velcro to back of multi-hook utensil hanger from Wal-Mart. Hang potholders, can opener, butane lighter, & other cooking utensils.
- Attach little rubber stops to the bottom of the hanging cabinet so that the cabinet stays in place when placed on the floor for travel.
- Build microwave stand with drawer to fill space next to stove.

Structure, Frame, and Body

- Caulk all seams underneath.
- Glue bubble level to tongue right in front of jack mount.

Plumbing

- Add heater to gray water holding tank --- if you want to do winter camping!!!

Upgrade LP tanks to ones with visual gauge.

- Reroute LP hose from regulator to the trailer body connector. On TrailManors with horizontally mounted tanks (i.e., front slide out models), this hose hangs down, and is lowest part of the trailer.

Appliances & Heater

- Add mud dauber screen kit to cover outside heater openings.
- If the furnace's cover constantly comes loose, drill holes larger and install nut, bolt, & lock washers.
- Add solar fan to refrigerator compartment. Fan avail from RV Parts Outlet by Valterra (Part No. 22-0157).
- Install an automatic safety switch in the power line to the electric water heater element, to prevent burnout

Safety

- Mount a small CO detector a few feet from smoke alarm.
- Add heatproof brace to center of stove grate so that it doesn't sag under a heavy pot.

General Exterior

- ❑ Install mud flaps on the tow vehicle. The amount of sand, salt, and road crud that appears on the front of the TM is incredible.