

# **OWNERS MANUAL**

**A GUIDE TO TRAILERING IN YOUR 1967 AIRSTREAM**



THIS MANUAL COMPILED SPECIFICALLY FOR AIRSTREAM TRAILER SERIAL NO.

**AIRSTREAM INC.**

JACKSON CENTER, OHIO  
SANTA FE SPRINGS, CALIF.

PRICE OF THIS MANUAL IS \$5.00

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When you took delivery on your new Airstream, the dealer explained to you the operation of all of the appliances and systems in your trailer, and gave you some tips on getting more fun out of travel trailering. This Manual will serve two purposes: It has tips on travel trailering drawn from the experiences of tens of thousands of people like you . . . who have taken their Airstreams into every corner of the earth. In addition, it contains operating and maintenance instructions which you will want to refer to from time to time to supplement the instructions your dealer gave you.

Should you trade or sell your trailer, be sure to pass this Manual along to the new owner; when you've read it through, you will know how valuable it can be in getting better acquainted with the Airstream.

When you bought your Airstream you not only received the finest travel trailer ever built, you entered a new way of life . . . a way of life filled with new friends and adventures to come. Those who travel the byways of the world in their Airstreams are called Caravanners and they never say "Goodbye," they simply say, "We will be seeing you on the road."

## Forward



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## FACTORY SERVICE

Airstream's policy has always been to provide the highest degree of service for Airstream owners. To this end, Airstream originated the lifetime warranty in the travel trailer industry.

A Registration Card for your Airstream Lifetime Warranty is attached to this manual. **Upon your taking delivery, the dealer should complete this card, sign it in the designated place and mail it to the factory for proper registration of your warranty.** The facsimile copy is for you to read so that you will understand the exact coverage of the warranty. As soon as the postcard is received, the permanent registered warranty for your trailer will be sent to you, and it should be attached to the front inside cover of this manual.

**Please note that your warranty will not be in effect until it is registered, and that Airstream Factory Authorized Certified Service Centers are not authorized to provide service under the Lifetime Warranty unless it can be produced at the time the service is performed.**

If and when the occasion arises that you require service on your trailer, we suggest that you first contact your dealer. If the service is minor, or simply involves an adjustment, he will perform the service. Should you require service on one of the appliances, we suggest you contact one of the service and repair depots from the lists provided for each appliance. These depots will provide service under their respective warranties.

For major service under your Airstream Warranty, Airstream Trailers, Inc., has established a nationwide network of Factory Authorized Certified Service Centers, staffed with factory-trained service specialists. For prompt service simply present your Airstream Lifetime Warranty to any of the Factory Authorized Certified Service Centers listed on the following pages.

Of course each Airsteam plant maintains a very complete service department to take care of your major service needs. But in order to service customers most expeditiously it is necessary that these service departments be operated on a scheduled appointment basis.

Please communicate with either the Service Managers when you intend to visit the factory, and request an appointment for service. It is beneficial also to advise the Service Managers when you are unable to meet the appointment date.

**Service Manager Airstream, Inc.**  
Jackson Center, Ohio, 45334  
(513) 596-6129

**Service Manager Airstream, Inc.**  
12804 E. Firestone Blvd.  
Santa Fe Springs, Calif. 90670  
(213) 868-3748

#### ARKANSAS

**Fred & Jack Trailer Sales**  
6600 Asher Avenue  
Little Rock, Arkansas

#### ARIZONA

**Robert Crist & Company**  
1665 East Main Street  
Mesa, Arizona 85201  
**Tucson Land Yacht**  
1320 East Benson Highway  
Tucson, Arizona 85714

#### CALIFORNIA

**Boyer Trailer Sales**  
6668 Long Beach Boulevard  
North Long Beach, California 90805  
**Caravan Trailer Sales**  
730 Fletcher Parkway  
El Cajon, California 92020  
**Caswell Trailer Sales**  
950 West Foothill Boulevard  
Claremont, California 91711

**Coastline Trailer Sales**  
303 North Ventura Avenue  
Ventura, California 93001  
**El Camino Trailer Sales**  
2090 El Camino Real  
Mountain View, California 94040  
**Mitchell Motor & Trailer Sales**  
5690 Redwood Highway, North  
Santa Rosa, California 95404  
**Valley Trailer Sales**  
2446 Rio Linda Boulevard  
North Sacramento, California 94815

#### COLORADO

**Chisman Trailer Sales**  
2500 East Boulder Street  
Colorado Springs, Colorado 80909  
**Denver Trailer Sales**  
1746 South Broadway  
Denver, Colorado 80210

#### CONNECTICUT

**Wepawaug Trailers, Inc.**  
655 Bridgeport Avenue  
Milford, Connecticut 06463

#### DELAWARE

**Richard Rice, Inc.**  
601 South Dual Highway  
Seaford, Delaware 19973

#### FLORIDA

**Amos Hudson, Inc.**  
7400 U.S. Highway 1, South  
Lake Worth (Hypoluxo),  
Florida 33460  
**Indian River Trailer Sales**  
R.D. #1, Box 370 (US 1)  
Cocoa, Florida 32922  
**Jerry's Trailer Sales & Service**  
2710 North West 36th Street  
Miami, Florida 33142  
**C. J. Stoll, Inc.**  
5985 - 34th Street  
North U.S. 19, South  
St. Petersburg, Florida 33714

#### GEORGIA

**J-B Sales**  
U.S. Highway 129S  
P.O. Box 717  
Fitzgerald, Georgia

#### ILLINOIS

**Robert Crist & Company**  
9100 South Stony Island Avenue  
Chicago, Illinois 60617  
**Hunter Motors, Inc.**  
415 North Illinois Avenue  
Carbondale, Illinois 62901  
**Mann's Mobile Homes**  
R.R. #1, North Normal, U.S. 51  
Normal, Illinois 61761  
**Ray's Travel Trailer Sales, Inc.**  
7135 - 49 West Irving Park Road  
Chicago, Illinois 60634

#### INDIANA

**Bert's Trailer Sales, Inc.**  
R.R. #3, Box 17 (East U.S. 20)  
Michigan City, Indiana 46361  
**Draper's Auto Trailer Sales, Inc.**  
912 State Road 67 East  
Anderson, Indiana 46012  
**Eberhart Mobile Home Park & Sales**  
541 East Hendricks  
Shelbyville, Indiana 46176  
**U.S. 24 Trailer Sales**  
U.S. Route 24, 1 mile East of  
Roanoke  
Roanoke, Indiana 46783

#### IOWA

**Bill Brown Trailer Sales**  
3700 - 3708 East 14th Street  
Des Moines, Iowa 50313

#### KENTUCKY

**Murphy Sales Company**  
Winchester Road (US 60 W)  
Mt. Sterling, Kentucky 40353

#### LOUISIANA

**Barrow's Inc.**  
4630 Veterans Highway  
Metairie, Louisiana 70001

#### MAINE

**Files & O'Keefe of Maine, Inc.**  
P.O. Box 879 - Forest Avenue, Ext.  
Portland, Maine 04103

#### MASSACHUSETTS

**Mosher Travel Trailer Center, Inc.**  
Blue Jay 4 Corners  
Sutton, Massachusetts  
**Suburban Trailer Sales**  
909 Ashburnham Street  
Fitchburg, Massachusetts 01420

#### MICHIGAN

**Benson Mobile Home Sales**  
U.S. 31, North  
Traverse City, Michigan 49684  
**Bob Frank Trailer Sales, Inc.**  
1416 West Columbia  
Battle Creek, Michigan 49015  
**Frontier Camping Post**  
11111 S. Telegraph at Goddard  
Taylor, Michigan 48180  
**Kolbe Trailer Sales**  
5785 East Eight Mile Road  
Warren (Detroit), Michigan 48091  
**Mid-State Trailer Sales**  
1616 North Saginaw Road  
Midland, Michigan 48642  
**Northwood Trailer Sales**  
G-6369 North Dort Highway  
Mt. Morris, Michigan 48458  
**Warnor Trailer Sales, Inc.**  
3098 West Huron Street  
Pontiac, Michigan 48054

**MINNESOTA**

**Phil Dunning Trailer Sales, Inc.**  
3050 Coon Rapids Boulevard  
Coon Rapids, Minnesota 55433  
**Hart Trailer Sales**  
Highway 71  
Long Prairie, Minnesota 56347  
**Pioneer Trailer Sales**  
Highway 218, South  
Austin, Minnesota 55912

**MISSISSIPPI**

**Friendly Sales Corp.**  
P.O. Box 1, Highway 90 East  
Pascagoula, Mississippi 39567

**MISSOURI**

**Kansas City Trailer Sales, Inc.**  
14815 South 71 Highway  
Grandview, Missouri 64030

**NEBRASKA**

**A. C. Nelsen Company**  
2112 Harney Street  
Omaha, Nebraska 68102

**NEVADA**

**"95" Trailer Sales**  
4339 Tonopah Highway  
Las Vegas, Nevada 89106

**NEW JERSEY**

**South Jersey Travel Trailer Center**  
Route 47  
Franklinville, New Jersey 08322

**NEW YORK**

**Eastern Travel Trailers, Inc.**  
204 East Vestal Parkway  
Vestal, New York 13850  
**Maroone Family Travel Center, Inc.**  
2550 Walden Avenue  
Exit 25, East of N.Y. Thruway  
Buffalo, New York 14225  
**Niblack Trailer Sales**  
691 McLean Avenue  
Yonkers, New York 10704  
**O'Malley Enterprises, Inc.**  
P.O. Box 116  
Traffic Circle, Rts. 9 and 7  
Latham, New York 12110

**NORTH CAROLINA**

**College Park**  
North Church Street Ext. ✓  
US 301 and 301A North  
Rocky Mount, North Carolina 27803  
**Faires, Inc.**  
P.O. 5205 - Routes 29 and 49  
Charlotte, North Carolina 28206  
**Out of Doors Mart**  
3686 Reynolda Road—Route 67  
North ✓  
Winston-Salem, North Carolina  
27106

**OHIO**

**Louisville Trailer Sales**  
1001 West Main Street  
Louisville, Ohio 44641  
**Marine Mart Trailer Sales**  
8750 Harrisburg Pike  
16 miles S.W. Columbus on US 62  
Harrisburg, Ohio 43126  
**Murphy Sales Company**  
11526 Chester Road  
175 at Howard Johnson  
Cincinnati, Ohio 45216  
**Richland Travel Trailers**  
302 Ashland Road  
Mansfield, Ohio 44905  
**Frank B. Ricketts Mobile Homes  
Trailer Sales**  
Box 583  
Clark Street and Maple Road  
Cambridge, Ohio 43725  
**Sommer's Mobile Home Sales, Inc.**  
U.S. 57 at Turnpike  
1800 Lorain Boulevard  
Elyria, Ohio 44038

**OKLAHOMA**

**Brassfield Mobilhomes**  
7207 N.W. 39th Expressway  
Bethany, Oklahoma 73008  
**Jack Thurman**  
11311 East Admiral Place  
Tulsa, Oklahoma 74116

**OREGON**

**Cascade-Pacific Trailer Sales**  
1876 Highway 99 North  
Eugene, Oregon 97402  
**Spencer Mobile Homes**  
9341 S.E. 82nd Avenue  
Portland, Oregon 97222

**PENNSYLVANIA**

**Turner Airstream Sales** ✓  
412 Lincoln Highway, West  
Jeannette, Pennsylvania 15644

**SOUTH CAROLINA**

**Dixie Lee Drive Inn & Trailer Sales**  
Highways U.S. 1 and 78  
5 miles N. of Augusta, Ga.  
Bath, South Carolina 29816  
**Skyway Mobile Homes**  
Box 262  
U.S. 25 & 276, 4 miles N. of  
Greenville  
Travelers Rest, South Carolina  
29690

**SOUTH DAKOTA**

**Capital City Trailer Sales**  
801 North Euclid Avenue  
Pierre, South Dakota 57501

**TENNESSEE**

**Cullum & Maxey Sales & Servicenter**  
160 McGavock Pike  
Donelson (Nashville), Tennessee  
37214  
**Travel Trailer & Camper Division**  
Tennessee Valley Finance Corp.  
529 Henley Street  
Knoxville, Tennessee 37902

**TEXAS**

**Abbott Trailer Sales** ✓  
408 Avenue Q  
Lubbock, Texas 79401  
**Fuel City Trailer Sales**  
Highway 77, South  
P.O. Box 1051  
Sinton, Texas 78387  
**L & H Trailer Sales**  
611 North Fisk Avenue  
Post Office Box 752  
Brownwood, Texas 76801  
**Land Yacht Trailer Sales**  
4616 Titanic Avenue  
El Paso, Texas 79904  
**Sportsman Trailer Sales**  
5795 Port Arthur Road  
Beaumont, Texas  
**Sportsman Trailer Sales**  
7935 Gulf Freeway, Exit 12  
Houston, Texas 77017  
**Stahmann Sales Company**  
3336 Austin Highway  
San Antonio, Texas 78239

**CERTIFIED SERVICE CENTERS**

**Wallace Land Yacht Sales & Service**  
2005 Mangum  
Houston, Texas 77018

**UTAH**

**Intermountain Trailer Company**  
3776 Wall Avenue  
P.O. Box 1503  
Ogden, Utah 84401

**VIRGINIA**

**Travel Trailers of Virginia**  
P.O. Box 807  
2211 South Main Street  
Harrisonburg, Virginia 22801  
**Tony Welborn's Travel Trailers**  
1110 South Military Highway  
Norfolk, Virginia 23519

**WASHINGTON**

**Birch Bay Trailer Park & Sales**  
Route 1, Box 106  
Blaine, Washington 98230  
**Central Trailer Exchange**  
14433 Pacific Highway, South  
Seattle, Washington 98168  
**Tveten Motor Company** ✓  
45th and Pacific Avenues  
Tacoma, Washington 98408

**WISCONSIN**

**Appleton Homes, Inc.**  
4110 West Wisconsin Avenue  
Route 41 & Route 10  
Appleton, Wisconsin  
**Northside Trailer Sales**  
N56 W13180 W. Silver Spring Rd.  
1 mi. W. of Hwy. 100 on Silver  
Spring Rd.  
Menomonee Falls, Wisconsin 53051  
**Swee Trailer Sales**  
US 51 and US 2  
Hurley, Wisconsin 54534  
**Trailerama of Sparta**  
West Wisconsin Avenue  
Highway 16  
Sparta, Wisconsin 54656

**CANADA**

**Dyke's Caravans**  
St. Luc (Rts. 7 and 9B)  
C/O St. Jean, Quebec, Canada  
**Propane Engineering Service Center**  
2301 Centre Street North  
Calgary, Alberta, Canada



## WALLY BYAM CARAVANS & CARAVAN CLUBS

You are now an Airstream owner. The magic doors to fun, friendship and adventure are wide open to you . . . and the rich rewards are endless. You are now eligible to take part in all Wally Byam Caravans and Airstream Rallies. There are four rallies held annually: one in the North West, South West, North East, and South East, and folks look forward to them with eager anticipation.

As an Airstream owner, you are also eligible to make an application for membership into the Wally Byam Caravan Club International, the largest and most influential travel trailer club in the world. There are WBCC units throughout the United States, 5 in Canada, and one in Mexico. All operate autonomously, electing their own officers and setting their own dues. All new members are required to join through a local unit. (Legislation was adopted in 1962 stating that members-at-large would no longer be accepted.) At the time your application is made, International dues are paid along with Unit dues. At present, International dues are \$3.00 per year per trailer. Unit dues average from \$1.00 to \$5.00.

Some units get together for monthly Rallies while some have weekly Dutch-treat dinners in addition to their regular Rallies. In areas where weather does not permit year-round Rallies, the dinner meetings are very popular. They give members a wonderful opportunity to keep in touch and to plan Rallies for the more seasonable times of the year. International, Regional, and Unit Officers are elected annually.

If you are interested in joining the Wally Byam Caravan Club International, get in touch with the secretary in your area. The name of each secretary is listed in the Headquarters Office (822 Niles Street, Bakersfield, California) and your letter will be forwarded.

The first Wally Byam Caravan was in 1951. Since then there have

been 47 Caravans to most parts of the world. The annual Caravans to Canada and Mexico have become so popular that in recent years we have conducted two Caravans each year to these neighboring countries.

Traveling with a Wally Byam Caravan teaches you how to travel in a foreign country as well as how to get the most enjoyment out of your Airstream. You travel with both old and new Airstream owners; sharing experiences, learning from one another and enjoying a new kind of fellowship. On the Caravans and in the Club, you will make life-long friends, friends who become closer and dearer to you than many you have known all your life. As Wally used to say: "You will never be alone or lonely."

Traveling with the Caravan offers many advantages; the security of group travel, recognition, and unusual opportunities to see special places and meet special people. Many of these opportunities, which would never be possible for individuals, are routine for the Caravan. The blue beret, the badge of Airstream ownership and identification for a Wally Byam Caravanner and Club member, is an open sesame to excitement and adventure.

Several months before a Caravan rolls, it is announced in the Caravanner and the Blue Beret, the club's official monthly publication, A registration coupon is printed for your convenience, and everyone who registers receives a detailed bulletin telling about that particular Caravan, what to bring along, and how to prepare for it. When going to Mexico and Central America, such matters as insurance, tourist cards and other details connected with border crossings are all handled for you by the Headquarters Office. When you go on a high adventure Caravan such as one to Europe, Africa or around the world, all details are also taken care of for you. About all you have to do is get your passport and take your shots. Those are two items we cannot do for you – or we would.



## WALLY BYAM CARAVANS & CARAVAN CLUBS

On every Wally Byam Caravan, the route is carefully planned and arrangements are made for parking, entertainment, tours, etc., long before the Caravan ever leaves. A day-by-day itinerary is planned and a copy indicating the mail stops is given to all Caravanners in advance.

Although Airstream provides a Caravan team consisting of a leader, recreation director, scout, and service representative, the Caravan is actually run by committees made up of the Caravan members themselves. The Wally Byam Caravans are a family affair. Everyone participates and becomes a part of the great Airstream family. Each is an unforgettable experience.

Only Wally Byam Caravanners and WBCC members are entitled to the official Caravan numbers, and to be listed in the annual directory. Club members receive their number from the Headquarters Office. The Caravanners who are not Club members receive their numbers at the rendezvous point before the Caravan leaves.

The annual directory lists all WBCC members and Wally Byam Caravanners including names of those who have parking space available at home for fellow Airstream owners. It's really wonderful to be able to pull into the yard of a friend (even if you have never met) rather than have to hunt for a trailer park. The directory also lists a schedule of all major rallies for the year, all WBCC Amateur Radio Club (hams) and a list of Wally Byam Caravans.

Since 1958 there have been annual WBCC International Rallies held toward the end of June and the first week of July every year. Wally's birthday was July 4, and the first Rally was in the form of a huge birthday party for him, patterned after the international Rallies in Europe which he loved to attend. Until 1956, when the first Wally Byam Caravan attended the rally in Perpignon, France, Wally and Stella had been the only Americans present. Everyone had such a

good time at this first big get-together held in the beautiful Ozarks that the club decided to make it an annual affair. Since then International Rallies have grown tremendously in size and scope. The 1965 International Rally at Laramie, Wyoming, brought together more than 2592 Airstreams and some 8500 happy people. The site of the International Rally for the summer is announced in an early fall issue of the CARAVANNER and the BLUE BERET.

In all our Caravan and Club activities, the program is planned for all ages – from babies in arm to those in their nineties – but you would never guess that anyone was in the 90-year bracket.

Within the WBCC are square dance clubs, past presidents clubs, Citizen Band radio clubs, the ARCs (hams), special study groups, hiking and bird-watching groups, avid fishermen and boating enthusiasts.

Along with the fun, our Airstream owners recognize the need for better legislation regarding travel trailers; more overnight parking places, more sanitary stations for emptying waste-holding tanks, etc. They're also quite alert to bills adverse to travel trailers. In this field, the WBCCI has a strong National Legislative Committee, and we are justly proud of their accomplishments.

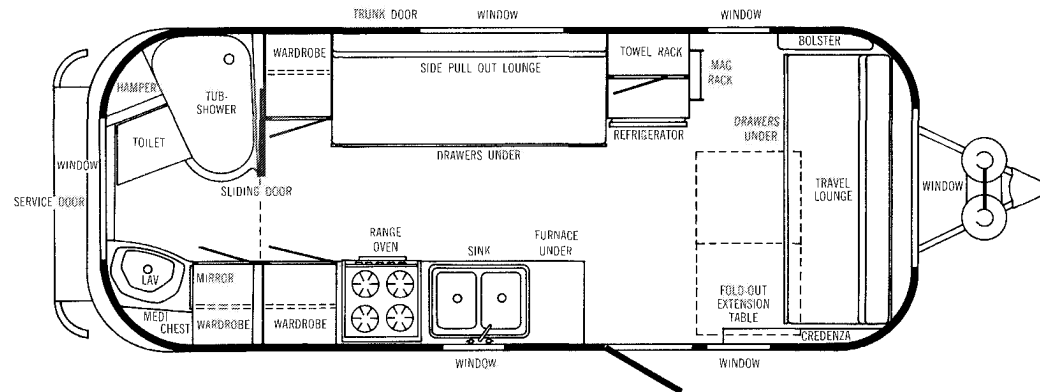
**When you bought your Airstream, you not only bought the prestige travel trailer in America, but truly a whole new way of life. Enjoy it! Many new friends are waiting to be found . . . new adventures are waiting to be discovered. We are happy to welcome you into our Airstream family.**





## FLOOR PLAN

MODEL: 1967 SAFARI DOUBLE, 22 FT.

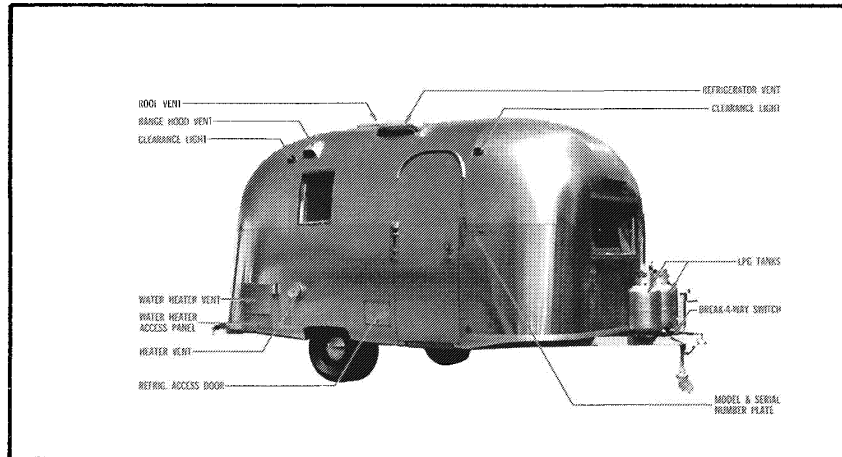


**SPECIFICATIONS SUBJECT TO CHANGE.** If and when new materials and production techniques are developed which can improve the quality of its product, Airstream, Inc., reserves the right to make changes in the specifications printed herein.

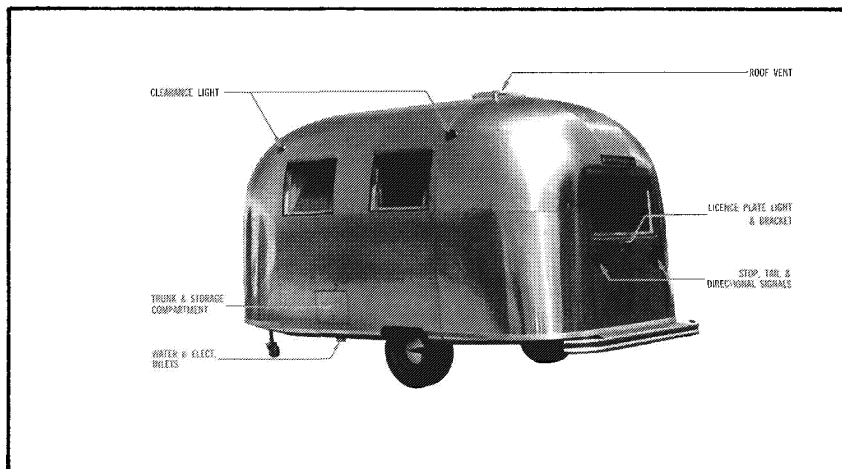
Overall length .....	22' 11"
Overall width .....	96"
Overall height .....	106"
Weight .....	3420 lbs.
Hitch weight .....	398 lbs.
Brakes .....	1 set, Kelsey-Hayes Electric
Wheels .....	2, 15" drop center
Tires .....	2, 7:00 x 15, 8-ply nylon, tubeless
Brake Control .....	12-volt, Kelsey-Hayes
Hitch ball .....	2" marvel

## specifications

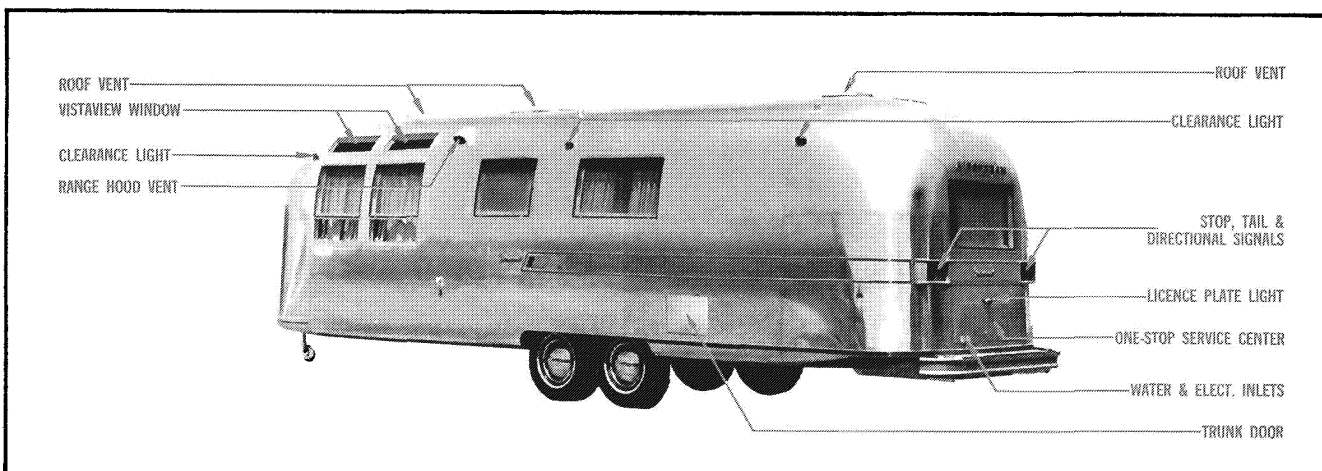
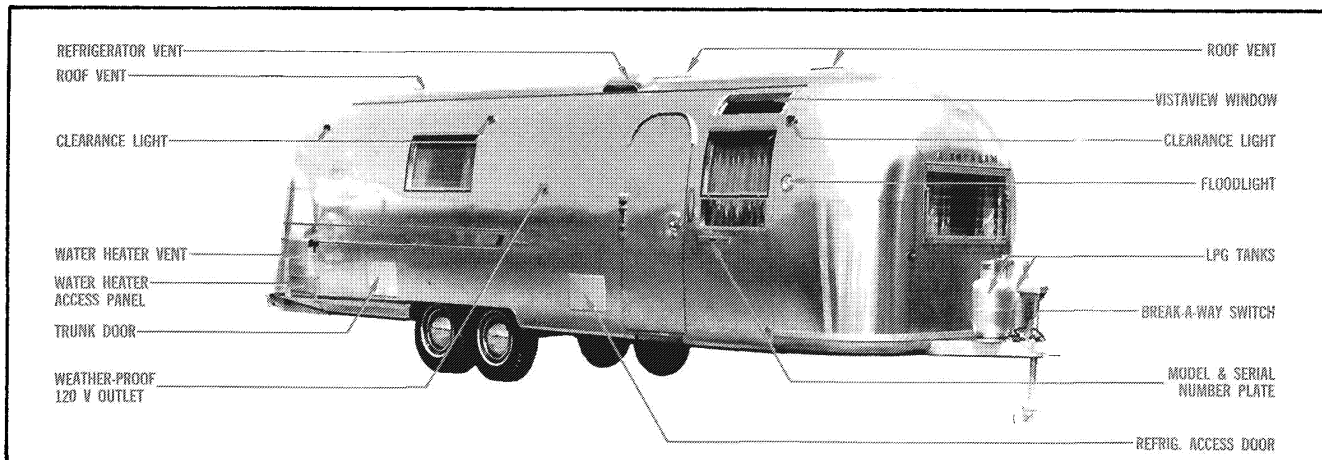
## exterior details



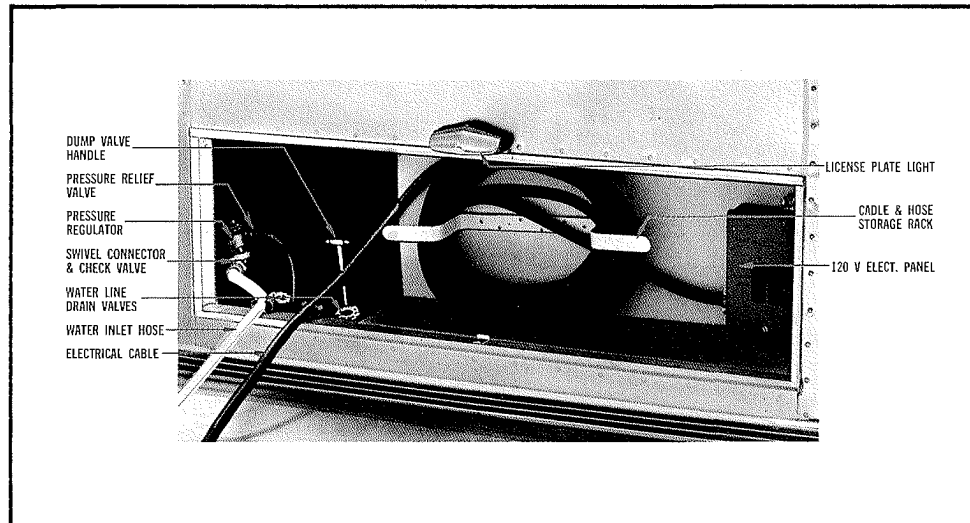
The first thing you should do in order to get the most carefree fun from your Airstream is to get to know it thoroughly. Photographs at right show a 30 foot International model. Photographs at left show a 17 foot model. Regardless of the particular model or size of your Airstream, most of the details shown in the photographs apply.



## exterior details



This photograph shows the "One-Stop Service Center" (20 through 30 foot models). This feature gives quick access for "hook-up" and service of most of the self-contained utilities in your trailer. Details of the utility systems are discussed in chapters 4 through 7.



There are as many accessories and appliances for your Airstream and tow car as there are for any home. Your Airstream dealer will be able to help you select those accessories you will need, depending on where you wish to travel and for how long.

**OUTFITTING YOUR TRAILER.** Outfitting your Airstream, that is converting the bare vehicle you bought from the dealer into a comfortable home, is very similar to outfitting any home or apartment. Your Airstream is completely furnished, but there are many little personal touches you will want to add. Since your Airstream will be subject to the vibrations and bumps of the road, anything that is attached should be done so firmly. A small hand drill should be used to drill holes in the aluminum inner walls and one-half inch No. 8 sheet metal screws, with flat binder heads, used to attach such things as hooks for clothing, book shelves, extra towel racks, those little accessories you "can't do without." Note: Always check polarity light after drilling through skin to make certain you have not drilled into a wire and caused a short.

#### **EQUIPMENT YOU SHOULD CARRY**

1. A first aid kit
2. A tool box with an assortment of small hand tools such as screw drivers, pliers, wrenches, etc.
3. A tow rope:  $\frac{3}{4}$ " to 1" nylon is sufficient – at least 35 feet is recommended
4. A lug wrench to fit your trailer wheel lugs
5. A hydraulic jack for your trailer axle
6. A set of stabilizing jacks
7. A spare tire for your trailer
8. A fire extinguisher
9. Plastic buckets for carrying water (at least two)
10. Wheel blocks – these should be 4 blocks of wood, approximately 7" square and 4" thick, slanted at one end to fit against the tire, to block the wheels when parked

11. A hundred feet of  $\frac{5}{8}$ " water hose – (A "Y" connection is useful when you travel with others since it permits two trailers to be hooked together on one faucet)
12. (1) short (4 foot) and 1 long (10 foot) sewer hose and a coupler
13. A 75-foot 3-wire electric cord with a 30-amp capacity, with grounding-type 3-prong plug and receptacle to match cord on Airstream
14. A small spirit level (two will be helpful)
15. A flashlight
16. A short handle shovel (the Army surplus G.I. type is satisfactory)
17. A pick or pry bar
18. An axe
19. A five gallon gasoline can
20. A large funnel
21. A folding chair for each person
22. Cleaning equipment: broom, dust pan, mop, bucket, mop, sponges, etc.
23. Road emergency flares
24. Spare cartridge-type 40-amp fuses

#### **ACCESSORIES FOR TRAILER AND CAR**

**RADIO AND TELEVISION.** Since the aircraft-type aluminum construction of your Airstream makes an almost perfect radio "shield" you will need outside antennas for good reception of either radio or television.

Your new Airstream is wired for an exterior television antenna. To install the antenna it is recommended that you go to your Airstream dealer since it must be structurally mounted to the outside skin. The lead wires will be found curled inside the wall of the trailer on the road side of the front window. The exterior antenna should be mounted to the side of the window so that the leads can be con-

## CHAPTER I

### equipping car & trailer for road

#### equip. list

#### accessories

nected at that point. The other end of the leads will be found hanging behind the electrical panel over the refrigerator. This has been located in the most convenient spot for TV viewing in your particular model. A very good folding type TV antenna is available through the Wally Byam store or your dealer. This antenna is specially designed for the Airstream trailer.

A police-type telescoping whip radio antenna is recommended particularly for 12-volt transistor AM-FM radio use. This should be installed on the front of your trailer on the door side next to the front window on a swivel ball mount.

**AIR CONDITIONING.** The Airstream Bay Breeze air conditioner is specially designed to keep your trailer cool and comfortable in the hottest weather. Since the Bay Breeze requires certain modifications in your trailer, it should only be installed by one of the many Airstream dealers who are equipped for this type of service or at one of the Airstream factories.

**MIRRORS.** A truck or trailer type rear view mirror is required by law in most states. This is to allow you to see out past the trailer. Several good makes are available from your dealer. A right-side rear view mirror is also highly recommended.

**TRANSMISSION COOLER.** If your car has an automatic transmission and you intend to travel through mountainous country, you may wish to have a transmission oil radiator such as the Hayden Trans-Cooler installed to help your engine and transmission to run cooler and prevent possible damage. This is available through your Airstream dealer and is heartily recommended if you plan much driving in mountainous or in hot climates or if your car is air conditioned. In addition to the above, you will find many other accessories to make your trailering more enjoyable, available at Wally Byam Stores and your dealer. As you travel you will develop your outfit to suit your particular needs.

## CHAPTER 2

### towing tips

**LOADING YOUR AIRSTREAM.** When you took delivery of your Airstream, you received a trailer that was the result of millions of miles of road testing and towing in every clime and terrain. The center of gravity and weight placed on your car's hitch has been precisely calculated to provide the easiest possible towing. You can maintain this easy-towing by following two basic rules.

**1. Keep your trailer as light as possible.**

**2. Distribute the weight as evenly as possible.**

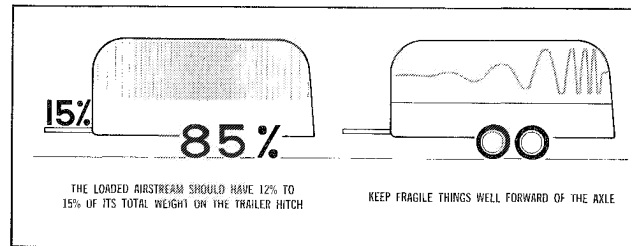
The amount of baggage and personal gear that you take is determined by how you like to travel and where you will be traveling. However, every item that you take along is one more thing that you will have to stow before going on the road and will add just that much more weight which your car must pull. Regardless of what weight of personal belongings you take with you, always make certain that you maintain the perfect balance that has been built-in your Airstream. **The loaded Airstream should have 12% to 15% of its total weight on the trailer hitch.**

A hitch that is too light can cause the front end to float and the trailer to weave at higher speeds. When it is too heavy it may prove too much for your car.

Your Airstream is designed with storage space arranged in such a way that if ordinary things are put in ordinary places the weight will come out about right. If you are carrying heavier items, place them near, or just forward of, the wheels. Stow everything as low as possible to maintain your low center of gravity. **Keep fragile things well forward of the axle as the front of the trailer is stabilized by the hitch, while the back will tend to bounce more.**

Secure loose items left out in the open to prevent them from sliding around while you are towing. Stack loose material such as chairs on the floor. Lash down smaller objects that are not put into a cabinet. Place heavy loose items such as canned goods in drawers near the floor.

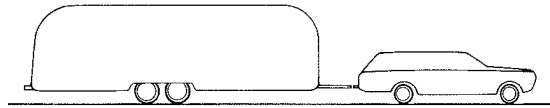
Never carry pierced containers of liquid in the refrigerator; always make certain that all containers are tightly sealed. Liquids such as milk and juices should always be transferred to plastic containers with tight fitting caps. If you must carry paper cartons, place a sheet of heavy cardboard between the carton and wire shelf to prevent the wires from wearing through the carton.



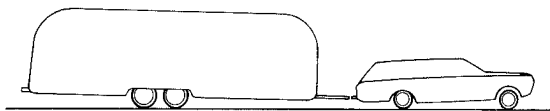
The extra care that you take while you are loading your trailer will pay off in reduced strain on your car's engine and springs. This may not be too important on super highways, but a few hundred miles of rutty country road will prove the wisdom of loading your trailer properly. As you become a more experienced trailer traveler, you will undoubtedly pick up tricks such as using aircraft shock cord to lash down radios and other objects that you don't want to put in cabinets; placing hooks in strategic places so that the shock cord can be quickly attached. When packing your cupboards remember that a partially empty cupboard will permit the contents to move about and become damaged; it is better to have one full roof locker and one empty one than two which are half-filled.

loading

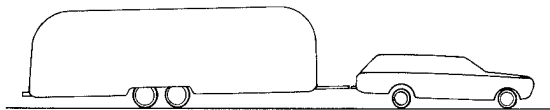
PROPER HITCH INSTALLATION



TRAILER LEVEL — CAR LEVEL

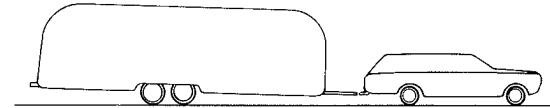


TRAILER HITCH LOW — CAR REAR LOW  
HOOKUP IMPROPER, NEED MORE TENSION ON LOAD EQUALIZING BARS

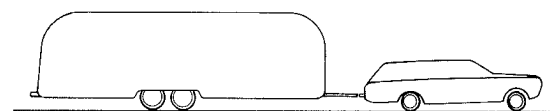


TRAILER HITCH HIGH — CAR REAR HIGH  
HOOKUP IMPROPER, TOO MUCH TENSION ON LOAD EQUALIZING BARS

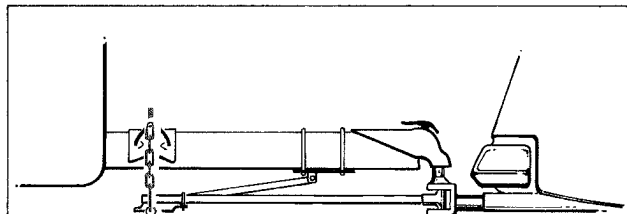
IMPROPER HITCH INSTALLATION



TRAILER HITCH LOW — CAR LEVEL  
HITCH BALL TOO LOW



TRAILER LEVEL — CAR REAR LOW  
HITCH BALL TOO HIGH



CAM ON SWAY CONTROL IN PROPER POSITION  
WITH CAR & TRAILER IN STRAIGHT LINE.



**HITCHING UP.** Hitching your Airstream to your car is something that will become almost second nature to you. You will develop your own technique with practice but there are a few tips, learned from experience, which will help you. The first thing to do is to jack up the trailer hitch until there is clearance for the hitch ball to slide under. Raise the locking lever on the hitch. The car now should be backed, straight back, to the hitch connection. This can be made easier by placing a strip of tape on the rear window of your car and another on the front window of your trailer. By sighting over these two strips of tape you will be able to line up the hitch with the hitch ball closely enough to make the hook-up by yourself. Of course, the job is much easier if you have the help of another person and use prearranged hand signals.

When you have lined up the ball under the hitch, screw the trailer jack down until the trailer coupler fully engages the ball. Drop the locking lever and place the safety pin in the hole to prevent the lever from being accidentally lifted.

If you have a leveling type hitch on your car, jack up the trailer to the full height of the jack before pulling up the leveling bars. A little practice with your hitch will teach you how far to pull up the leveling bars to get the car and trailer level. Always do this on level ground. **See illustration at left.**

Plug in the electrical connector. Check running, directional and stop lights. Should there be any need to check out wiring on your electrical connector, refer to Chapter 5 for wiring diagram.

Attach breakaway brake cable to car. Attach safety chain to car. Note: In many states it is illegal to attach the safety chain to the hitch in front of the ball and for good reason. If there ever is an accident, the most logical failure would be at the ball. Always attach the safety chain to your car's frame or to the hitch at some other point.

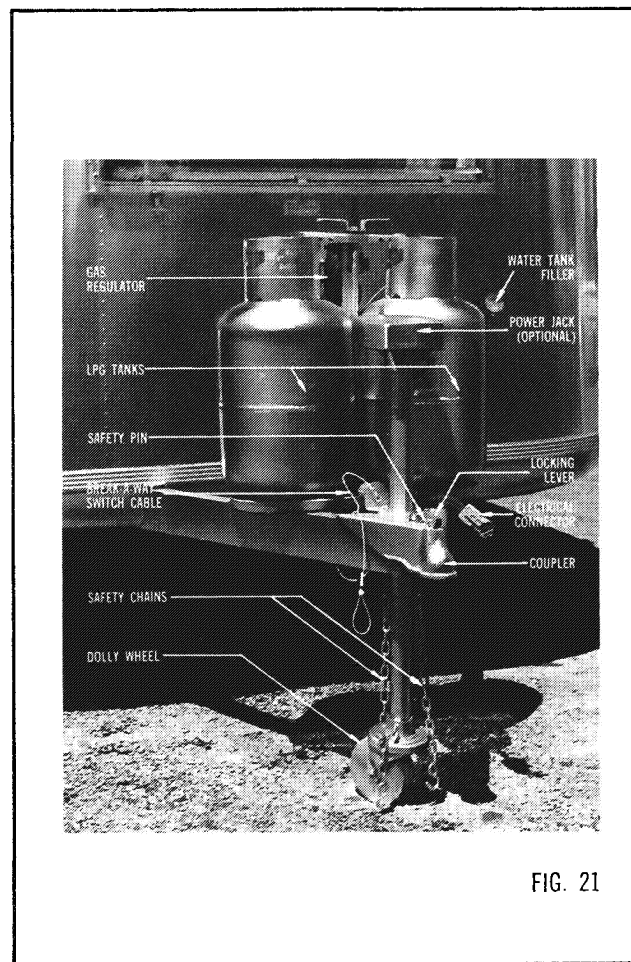


FIG. 21

hitching up

## 2

Retract the hitch jack to its full height for maximum ground clearance. Remove the dolly wheel or jack pad and stow it in your car's trunk or some other safe place. Never tow your trailer with the jack down and the dolly wheel on. The dolly wheel is not designed to be left on the jack and may fall off and become lost during travel.

Move the car ahead slowly and test the trailer brakes. Have someone verify the operation of your trailer's running and stop lights.

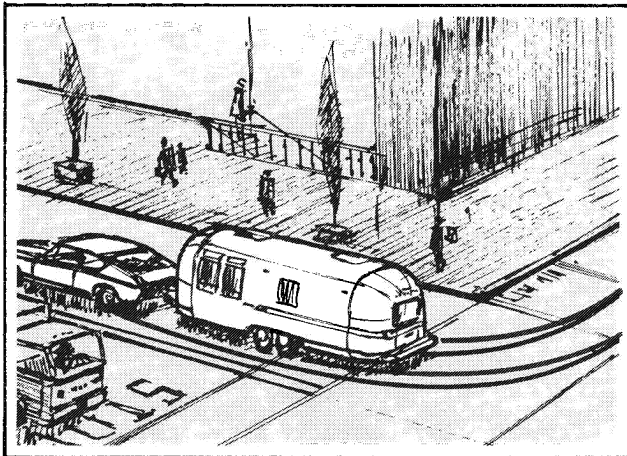
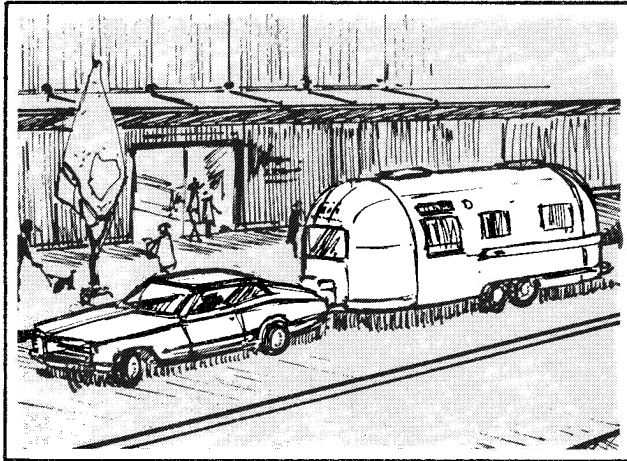
### CHECK LIST

Before you start out, always make it a practice to go through the following check-list:

1. Disconnect and stow the electrical hook-up cord.
2. Disconnect the stow sewer hook-up hose.
3. Disconnect and stow water hook-up hose.
4. Turn off gas line shut-off valve (under top of range), and oven shut-off valve (26-30 ft. models).
5. Remove and stow leveling jacks and wheel chocks.
6. Check hitch to make certain it is properly attached by cranking down the hitch jack until the rear bumper of the car is raised about 6 inches above normal.
7. Raise jack to full height, remove and stow dolly wheel.
8. Close windows and vents, lock door (See paragraph at end of this chapter regarding "Securing the Main Door").
9. Pull up the step.
10. Check clearance, tail and stop lights.

Experienced trailer travelers make it a habit to move their rig ahead about 50 feet, stop, get out and walk back and check the ground where the trailer has been standing. This practice can save you countless dollars and annoyances from lost tools and other gear.

check list



**TOWING SKILLS.** There are six specific driving skills the trailer-towing driver must master:

1. Getting Underway
2. Turning Corners and Rounding Road Curves
3. Overtaking and Passing
4. Being Overtaken and Passed
5. Slowing and Stopping
6. Backing

These skills should be practiced out of traffic, and it is a good idea to have someone along with you to watch the right side of the car and trailer while you are learning these skills.

**1. Getting Under Way.** Start the car slowly; after having checked the traffic and signaling, you are going to pull into the traffic lane, Accelerate slowly and evenly. Check mirrors frequently to observe the traffic behind you and the action of the trailer and then move carefully into the proper traffic lane.

**2. Turning Corners and Rounding Road Curves.** This is where you will encounter one of the first basic differences with a trailer. The trailer wheels will not follow the path of your car's wheels. The trailer will make a closer turn than the car. This is what is called trailer "off-track".

In order to compensate for off-track when making turns, pull the car out further than you would normally at the intersection. In case of a right turn, pull the car deep into the intersection so that the trailer clears the curb or any parked vehicles along the curb.

A good way to practice this is by lining out a corner in a large supermarket lot on a Sunday, if it is permissible. The next step is to move to an intersection with very light traffic.

towing skills

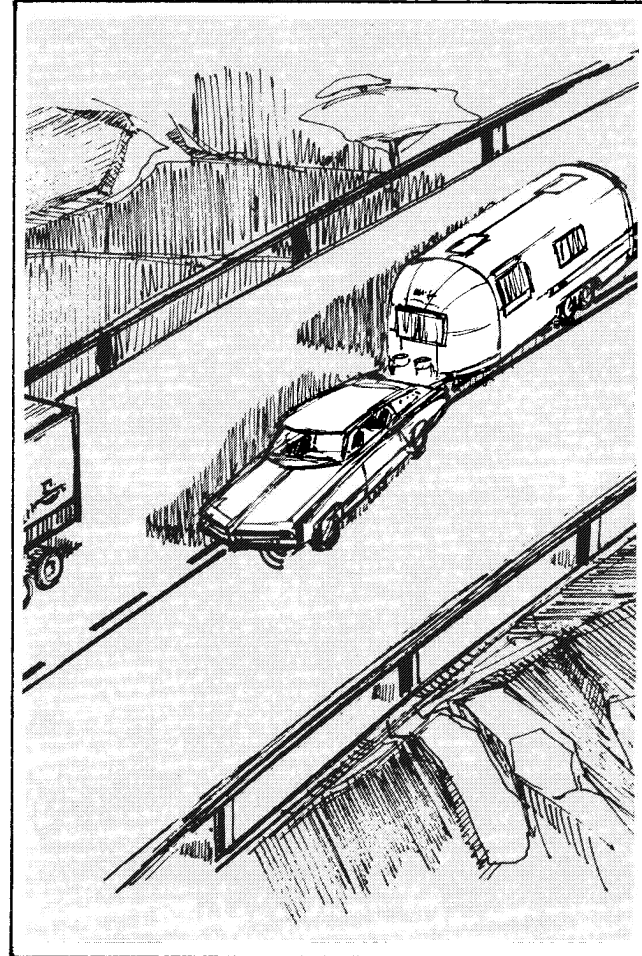
Making a left turn requires the same technique, with a wide swing into the new lane of traffic in order to keep the trailer from edging into the opposing lane.

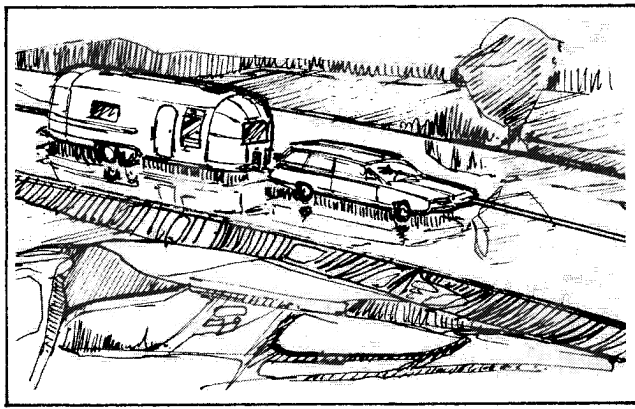
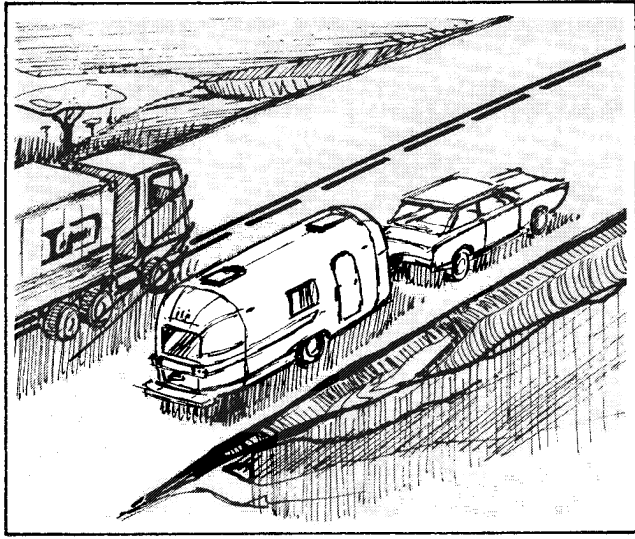
On sharply curving roads, keep well toward the center of your lane, away from the pavement edge. This procedure allows the trailer to clear the edge of the pavement with enough room so the wheels won't drop off onto the shoulder. Cutting it too close can cause dangerous trailer sway. Care must be taken, also, not to overcrowd or cross the center line, and all turns should be taken at low speed. Take a tip from professional drivers when rounding turns; instead of staying at full speed and then putting on the brakes, slow down well in advance of the turn, enter it at reduced speed, then accelerate smoothly as you come out again onto the straight-away.

**3. Overtaking and Passing.** Remember that when you pass another vehicle, you will require longer than usual to accelerate and that you must allow for the length of the trailer when returning to your lane. On freeways and expressways, try to pick the lane in which you want to travel and stay in it.

**4. Being Overtaken and Passed.** When a large bus or truck overtakes your rig, you will note, despite the best hitch, a reaction from the trailer as the larger vehicle rushes by. The displaced air will tend to push the rear of the trailer quickly to the right and will affect the front of the trailer the same way. Ever so slightly, steer your car to the left into the rush of air. Do not apply brakes, or you may make things worse. Accelerating **slightly** may also help.

Frequently you will note that because of your slower speed cars will be lining up behind you on a two-lane road. It is both courteous



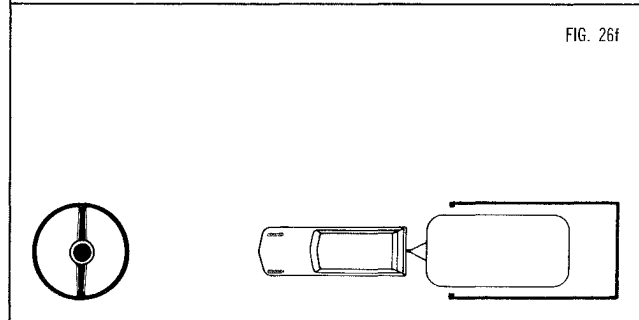
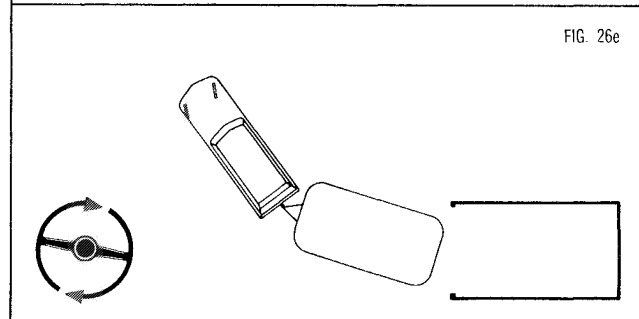
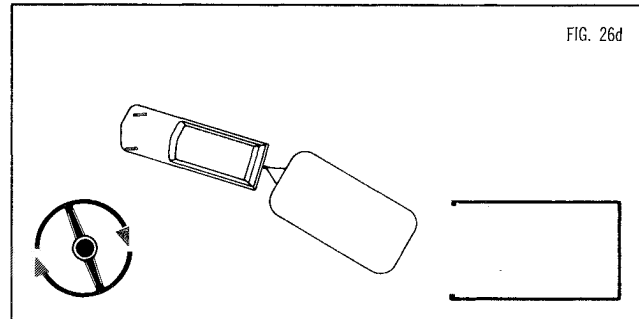
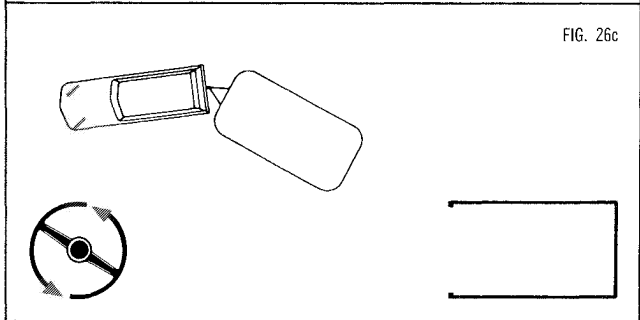
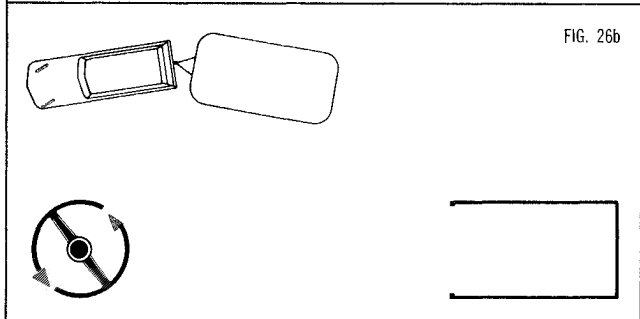
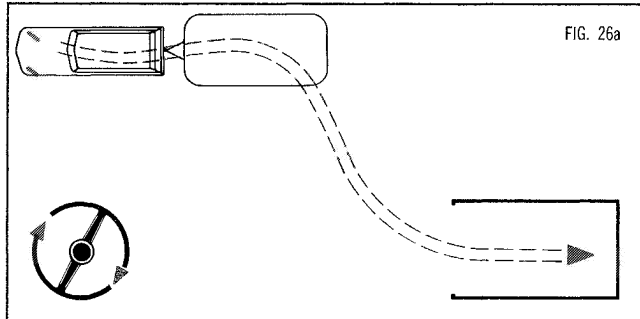


and sensible to signal, pull onto the shoulder, and let them pass. It reduces passing hazards, saves tempers, and allows time to check your whole rig.

**5. Slowing and Stopping.** When stopping on dry and normal pavement, applying your Airstream brakes simultaneously with your car's brakes will stop your entire rig in approximately the same distance that your car's brakes will stop your car alone. When stopping on a hill or slight grade, if leaving the car in gear is not sufficient to keep the outfit at a standstill safely, chock the wheels of your Airstream. Do not use the break-away switch as a parking brake since it will burn out the brake magnet and discharge the trailer battery if left on for a sustained period.

When you are stopping on slippery pavement, never use engine drag to help you slow down because the drag on the rear wheels may cause skidding and jackknifing. When stopping on slippery pavement, using your trailer brakes slightly in advance of your car's brakes will prevent any tendency to skid and jackknife. When driving on icy roads take it slowly and if it feels that the car is skidding, gently apply the trailer brakes to keep the trailer and the car in a straight line. Chains do not do any good on trailers.

Make certain that your brake resistor is properly adjusted so that your trailer brakes operate smoothly and in timing with your car brakes. See the directions included with the brake kit for proper adjustment of the resistor.



**6. Backing Your Airstream.** Backing your Airstream is really quite simple. The important thing to remember is to do everything slowly and to correct immediately if the trailer starts turning in the wrong direction.

Concentrate on the rear of your trailer. The first thing to do is to aim it in the direction in which you wish to back.

Grasp the steering wheel of your car at the bottom and while backing as slowly as possible turn the wheel in the direction you want the rear of your trailer to go. (See figure 24-a).

Watch, either in your side rear view mirror or by sticking your head out the window, until the rear of your trailer is pointing in the right direction. Next, while backing slowly, turn the steering wheel slowly in the opposite direction. Your car is now following the trailer in an arc (figure 24-b).

If the trailer starts to jackknife or is not turning quickly enough, slowly correct the direction with the steering wheel or stop completely, pull forward a few feet and start again. When you want to change directions while backing turn your front wheels more sharply (figure 24-c).

As soon as the rear of the trailer has turned in the right direction slowly turn the steering wheel in the opposite direction (figure 24-d) and follow the rear of your trailer around the new arc (figure 24-e).

To go straight back pull the trailer forward until car and trailer are in a straight line. Put the car in reverse and back slowly making small corrections with the steering wheel as necessary to keep in a straight line (figure 24-f). If the trailer gets out of line, stop, move forward a few feet and start over again.

A few hours practice in a large parking lot or on a deserted road will make you an expert in backing your Airstream.

**GENERAL TOWING TIPS.** You will substantially increase your gas mileage if you can avoid unnecessary starting and stopping. Before you come to stop signals, slow down and time it so that you will not have to stop completely.

The key to towing any trailer is to do it smoothly. Starting and stopping slowly and smoothly saves gas, wear on your car and prevents damage to the items stowed in your trailer. Your Airstream is designed to be towed at any legal speed that is safe for your car alone and you will find that your Airstream tows and follows your car so effortlessly you may soon forget it is behind you. Never permit yourself to do this. When you are towing the trailer you should always maintain an interval with the car in front of you of at least a car and trailer length for every 10 miles per hour of speed. This gives you ample time to stop in the event of an emergency. Refer to page 30 for state regulations in regards to trailer towing speeds.

When going up a long grade, shift into a lower gear well in advance of when your engine labors. When going down a hill (in dry weather) use a lower gear, or a lower range if you have an automatic transmission, so that the compression of the car engine will help slow your whole rig.

One of the hardest things on any trailer is a sharp dip or depression in the highway such as you may encounter on cross streets where gutters continue through the intersection. This straight up-and-down thrust can very easily damage any item left loose in your trailer. Take dips and depressions slowly and easily and be certain that the trailer as well as the car has passed them before resuming normal speed. If the rear end of the trailer drags bottom, it will not do any damage if you are traveling slowly.

# 2

## overheating

## main door

**OVERHEATING.** To prevent overheating when driving in the mountains never let your car labor. Shift to a lower gear, or range if you have an automatic transmission, before it becomes absolutely necessary. Your car's ability to pull without becoming overheated depends on the engine, the cooling system, the transmission, the weight of your trailer when loaded, and the type of terrain over which you are traveling. A little practice will teach you your car's limits and it will pay you in time and money to stay within those limits to prevent heat damage to the engine and transmission. Whenever possible, try to anticipate a potential overheating condition and correct it before it gets out of hand. One tip is to turn off your air conditioner if your car is so equipped. Do this even though you may get uncomfortable. The air conditioner requires considerable power and is a major factor in overheating your car engine.

Another tip when climbing a steep grade is to turn on your heater as high as possible until the crisis is over. This can get rather uncomfortable but in many cases it means the difference between going over the top of the grade and pulling off to the side to cool off. You will be surprised at how much this will help keep your engine from overheating.

If you ever do overheat, pull off to the side and keep your engine running at a fast idle. Never turn your engine off if the red indicator light is on. Keep it running until the light goes out and stays out for at least five minutes. If you plan to do much mountain driving where overheating is possible it is suggested that you have a temperature gage installed in addition to the indicator light. With a gage installed you can see when the engine starts to get hot; whereas with the indicator light you do not know it until it is already hot.

momentum carry the tow car and trailer through. Do not depend too much on the drive wheels. Stay in the rut of the car ahead, if possible, and keep your car in the highest possible gear. The easiest way to get a stuck outfit out of the sand or mud is by towing it out. Carry a length of rope or chain to attach to a passing car or truck for this purpose.

If you tow long distances over unimproved roads, the stones and gravel picked up by your tires and thrown back can dent and scratch the beautiful aluminum finish of your Airstream. To prevent this, experienced trailer travelers use masking tape to secure heavy sheets of paper or plastic onto the lower front of their trailers.

**Get into the habit of regularly checking the lug nuts on your tires and the tire pressure.** Traveling over bumpy, rough roads can loosen lug nuts and if the wheel should come off it could cause severe damage to your Airstream. Experienced trailer travelers always check the condition of their tires, the tightness of the lug nuts and the tire pressure before "hitting the road".

### SECURING THE MAIN DOOR

It is very important that the main door of your trailer be completely closed during towing. If it is not properly secured, the constant vibration of travel can cause it to fly open and possibly break.

To lock your door for towing, turn the deadbolt clockwise as far as it will go; the knob will be in line with the punched mark on the surface of the deadbolt plate. **CAUTION:** The door latch also acts as a deadbolt when it is locked. DO NOT slam the door with either the door latch locked or the deadbolt in the locked position.



As a convenience to you, we have included this Pre-Trip Check List to help ease those worries about your home and make the driving portion of your trip more relaxing.

#### Buttoning Up The House

- Leave an extra key with your neighbor.
- Store valuables and important papers in a safe place. (Your bank will do this for a small fee.)
- Discontinue newspaper, milk and other deliveries.
- Ask the Post Office to hold all your mail for you.
- Arrange with your telephone company for temporary discontinuance or "Vacation Service".
- Arrange for the necessary care for your pets.
- See that your lawn, garden and house plants will be properly cared for.
- Lock all windows and doors securely. Keep shades open for a "lived-in" look.
- Cover all food to keep out mice and insects.
- Eliminate all fire hazards. Place matches in a tin box or glass jar. Store oil, gasoline and other inflammables properly. Destroy newspapers, magazines and oily rags.
- Notify police.

#### Last Minute Items

- Pay your automobile insurance to fully cover you and your family throughout the trip.
- Avoid carrying large amounts of cash. Use travelers checks and your Credit Cards.
- Confirm reservations if you have definite overnight stops scheduled.
- Have sunglasses for everyone, especially drivers.
- Pack cameras and film for your post-tour showings.

- Make a check list of clothing and toilet articles for each member of the family.

#### Motoring Essentials

- Display car and trailer registration properly. Carry drivers license. In Canada, you will need a non-resident liability insurance card. Obtain special auto insurance before traveling in Mexico.
- Carry an extra set of ignition and trunk keys in a separate pocket . . . or in your wallet.
- Keep an operating flashlight with fresh batteries in the glove compartment.
- Pack the trunk so that you can reach the tools and spare tire without completely unpacking.

**Save room for yourselves.** Avoid packing luggage in the passenger area. **Small Children and Long Trips.** The back seat (or cargo deck in a station wagon) can be made into a combination playroom and sleeping area, complete with leveled crib, mattress or playpen with light blankets and pillows. Include games or coloring books for older children and a kit to carry oil, powder, diapers, if with an infant. **Sharp and Hard Articles.** Keep such items where they will not be thrown about in case of a sudden stop. **Wash-and-Wear Traveling Clothes.** Wash out, hang up and they're ready for another day of traveling next morning. **Traveling With Pets.** Carry his dish, water, food, leash and certification papers. **First-Aid Kits.** Include a complete first-aid kit. Car sickness preventatives are a good idea also. **Rest Frequently On Long Trips.** Avoid making your vacation trip a mileage marathon. Make each day's drive relaxing with frequent stops and limited distances.

Trailer traveling through our United States requires a knowledge of many state regulations. Here through the cooperation of Trailer Life Magazine, North Hollywood, California is a brief summary of three of these regulations. (1) **Maximum Speed Limit** of vehicles towing a trailer. (2) Permissibility of making **Overnight Stops** on highways or roadside rest area. (3) Permissibility of keeping **DOGS** overnight in State or County parks.

**ALABAMA**

MSL: 70 mph days, 60 mph nights on open highway.  
OS: Parking off highway is permitted.  
DOG: Not allowed.

**ALASKA**

MSL: 50 mph.  
OS: Permitted off highway.  
DOG: Permitted in state parks at night.

**ARIZONA**

MSL: As posted.  
OS: Permitted at roadside rest areas unless otherwise posted.  
DOG: Permitted if leashed in state and county parks.

**ARKANSAS**

MSL: 50 mph  
OS: Permitted off highway unless posted.  
DOG: Permitted if leashed in state and county parks.

**CALIFORNIA**

MSL: 50 mph.  
OS: Not permitted.  
DOG: Not permitted in state park system. Permitted in most county parks, and county-run state parks if leashed.

**COLORADO**

MSL: 60 mph open highway, 40 mph open mountain highway.  
OS: Permitted off highway.  
DOG: Permitted if leashed in state and county parks.

**CONNECTICUT**

MSL: 60 mph, 70 mph on interstate or limited access highways.  
OS: Generally not permitted.  
DOG: Permitted if leashed in state and county parks, one pet per campsite. Not permitted on beaches at any time.

**DELAWARE**

MSL: 50 mph.  
OS: Permitted off highway.  
DOG: Not allowed.

**DISTRICT OF COLUMBIA**

MSL: 25 mph or as posted.  
OS: Permitted off highway.

**FLORIDA**

MSL: On turnpikes, 70 mph. On interstate highways, 65 mph days, 60 mph nights. Other highways, 50 mph days, 45 mph nights

**GEORGIA**

MSL: 60 mph days, 50 mph nights.  
OS: Permitted at roadside park or rest area if not posted otherwise.  
DOG: Not permitted.

**HAWAII**

MSL: Set by local ordinance.  
OS: Permitted off highway.

**IDAHO**

MSL: 60 mph, 55 mph nights.  
OS: Permitted in roadside parks or rest areas unless posted otherwise.  
DOG: Permitted in state and county parks if leashed.

**ILLINOIS**

MSL: 55 mph. Pickups over 8000 lbs. towing trailer, 50 mph.  
OS: Not permitted.  
DOG: Permitted in state parks if leashed.

**INDIANA**

MSL: 65 mph.  
OS: Not permitted.  
DOG: Permitted if licensed and attended.

**IOWA**

MSL: Trailer under 4500 lbs., 55 mph. Trailer over 4500 lbs., 40 mph.  
OS: Permitted off highways.  
DOG: Permitted on 6 foot leash.

**KANSAS**

MSL: On turnpike, 80 mph. In interstate highway, 75 mph days, 70 mph nights. Other highways, 70 mph days, 60 mph nights.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**KENTUCKY**

MSL: 60 mph days, 50 mph nights.  
OS: Permitted off highway.  
DOG: Permitted in state and county parks if leashed.

**LOUISIANA**

MSL: 45 mph.  
OS: Permitted off highway.  
DOG: Permitted in state parks if leashed.

**MAINE**

MSL: 45 mph.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**MARYLAND**

MSL: 50 mph.  
OS: Permitted off highway.  
DOG: Permitted in state forests, but not state parks.

**MASSACHUSETTS**

MSL: Divided highways, 50 mph. Other highways, 40 mph.  
OS: Determined by local regulations.  
DOG: Permitted on 10 foot leash. Not allowed on beaches.

**MICHIGAN**

MSL: 50 mph.  
OS: No information available.  
DOG: Permitted if leashed.

**MINNESOTA**

MSL: 65 mph days, 55 nights.  
OS: Permitted off highway.  
DOG: Permitted on 6 foot leash.

**MISSISSIPPI**

MSL: 50 mph or as posted.  
OS: Permitted off highway.  
DOG: No information available.

**MISSOURI**

MSL: On Federal divided highways, 70 mph.  
Other highways 65 mph days, 60 mph nights.  
Cities, towns and villages 55 mph unless  
otherwise posted.  
OS: Permitted off highway.  
DOG: Regulations vary, inquire at each park.

**MONTANA**

MSL: 50 mph.  
OS: Permitted as posted.  
DOG: Permitted if leashed.

**NEBRASKA**

MSL: Less than 23 foot trailer, same as autos.  
23 foot and over, 50 mph.  
OS: Permitted off highway.  
DOG: Permitted in state parks if leashed.  
Check at county parks.

**NEVADA**

MSL: "Reasonable and proper", or as posted.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**NEW HAMPSHIRE**

MSL: 45 mph.  
OS: Permitted off highway.  
DOG: Permitted in state parks.

**NEW JERSEY**

MSL: 50 mph.  
OS: Permitted.  
DOG: Permitted in state and county parks.

**NEW MEXICO**

MSL: 60 - 70 mph days, 50 mph nights.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**NEW YORK**

MSL: 50 mph.  
OS: Not permitted.  
DOG: Permitted if leashed and proof of  
rabies inoculation.

**NORTH CAROLINA**

MSL: 45 mph.  
OS: Permitted off highway.  
DOG: Permitted in state parks on  
6 foot leash.

**NORTH DAKOTA**

MSL: 60 mph days, 50 mph nights.  
OS: Permitted off highway.  
DOG: Permitted on leash.

**OHIO**

MSL: 60 mph days, 50 mph nights.  
OS: Not Permitted.  
DOG: Not Permitted.

**OKLAHOMA**

MSL: Passenger car/trailer 50 mph.  
Pickup/trailer 65 mph days, 55 mph nights.  
1000 lb. load, 50 mph.  
OS: Permitted unless posted otherwise.  
DOG: Permitted if leashed.

**OREGON**

MSL: 55 mph. If not posted,  
"reasonable and prudent".  
OS: Permitted at roadside rest areas.  
DOG: Permitted if leashed.

**PENNSYLVANIA**

MSL: 50 mph.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**RHODE ISLAND**

MSL: 35 mph.  
OS: Permitted off highway.  
DOG: Permitted.

**SOUTH CAROLINA**

MSL: 55 mph.  
OS: Permitted off highway.  
DOG: Check at each park.

**SOUTH DAKOTA**

MSL: 70 mph days, 60 mph nights.  
OS: Permitted off highway.  
DOG: Check at parks.

**TENNESSEE**

MSL: Interstate highways, 65 mph.  
Other highways 50 mph or as posted.  
OS: Permitted at roadside parks or  
rest areas.  
DOG: Permitted in state parks if leashed.

**TEXAS**

MSL: 60 mph days, 55 mph nights.  
OS: Permitted off highways.  
DOG: Permitted if leashed.

**UTAH**

MSL: As posted.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**VERMONT**

MSL: 50 mph or as posted.  
OS: Permitted off highway.  
DOG: Permitted in state parks on 7 foot leash  
if there is no beach.

**VIRGINIA**

MSL: Interstate or four lane divided highways,  
50 mph. Other highways, 45 mph.  
OS: Permitted off highway.  
DOG: Permitted if leashed.

**WASHINGTON**

MSL: Days, 60 mph in 70 mph zone,  
50 mph in 60 mph zone. Nights use  
posted truck speed.  
OS: Permitted off open highways only,  
not at roadside rest areas.  
DOG: Permitted if leashed.

# 2

## state laws

### WEST VIRGINIA

MSL: 55 mph.

OS: Permitted off highway.

DOG: Permitted if leashed.

### WISCONSIN

MSL: 65 mph days, 55 mph nights.

OS: Not permitted.

DOG: Permitted at state parks if leashed.

Check at county parks.

### WYOMING

MSL: Four lane divided highway, 70 mph.

Other highways, 65 mph.

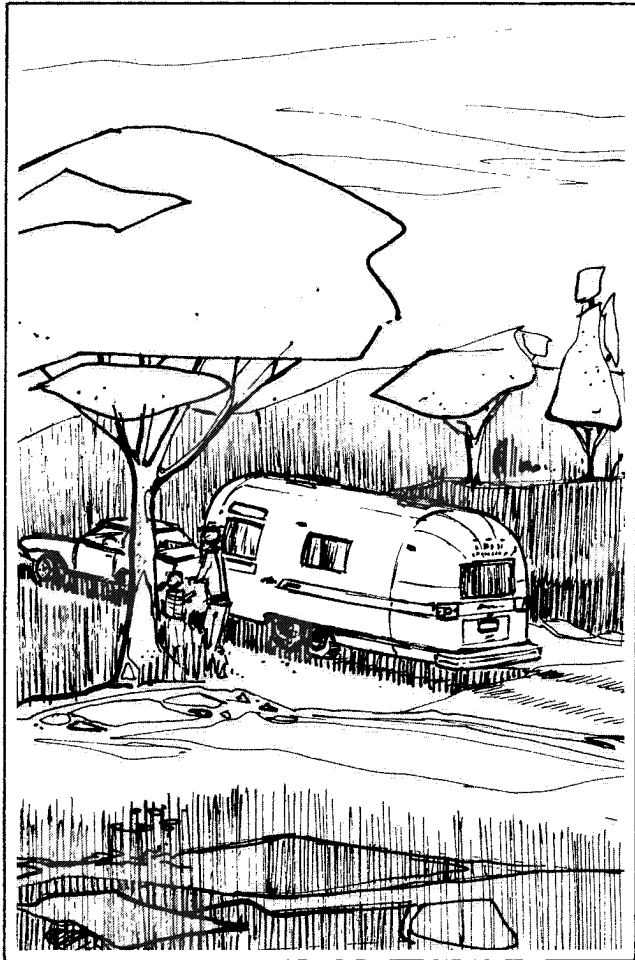
OS: Not permitted.

DOG: Permitted in state parks if leashed.

NOTES







**STOPPING FOR THE NIGHT.** When you bought your Airstream you freed yourself from the tyranny of the timetable and the necessity of making reservations wherever you go. There is no end to the number and variety of interesting and convenient places where you can park your Airstream overnight, or for several days. Your Airstream is built to be safely parked on practically any spot that is relatively level and where the ground is firm. You have everything with you, self-contained, that you could ask for. Airstream owners have parked virtually every place imaginable from filling stations to farm lands, in driveways, etc. In time you will develop a knack for spotting wonderful little roadside locations by turning off the main highway and exploring. See page 30 for state laws.

The North American continent is generously dotted with thousands of modern, private trailer parks that have special facilities for trailers. These generally offer considerable privacy and easy utility hook-up facilities for electricity, water and sewage . . . all at modest rates. You will find many Federal, State and Civic trailer parks that are clean, inexpensive and are located in beautifully wooded areas with convenient access to utilities.

On overnight or weekend trips, chances are you will not use up the capacity of your sewage holding tank, deplete your water supply or run down the battery which supplies your 12-volt current. On a longer trip, when you have stayed where sewer connections and utility hook-ups are not available, it will be necessary for you to stop from time to time to dispose of the waste in your holding tank and replenish your water supply. Many gas stations (chain and individually owned) have installed sanitary dumping stations for just this purpose. Booklets are available which list these dumping stations.

Many trailer travelers who prefer to make their overnight stops "off the beaten path" make it a practice to stop at trailer parks

## CHAPTER 3

### overnight stop extended stay

stopping  
for the night

every few days to replenish their water supply and dump the waste from their holding tank.

In stopping for the night, unless the car is needed for transportation, it is not necessary to unhitch. The trailer should be somewhere near level for comfort, and as level as possible for good gas refrigeration during a longer stay.

Try to pick as level a parking spot as possible. Stabilizing jacks or blocks probably won't be required for an overnight stay; putting the jack pad on the hitch jack and running the hitch jack down to take the weight off the car's springs should provide enough stability. If you must park on a slope, park down-hill; it is easier to level and stabilize the Airstream this way.

All you need to do to enjoy the self-contained luxury of your Airstream is to:

1. Light the water heater, refrigerator and furnace pilots if required. (See chapter 8).
2. Turn on the gas supply at the range (and oven if separate) and light the stove and oven pilots.
3. In the 17' Caravel – throw both switches in the trunk compartment to the "Battery Power" position.

Before moving on, be sure to check your campsite, both for cleanliness and to be sure you haven't left anything behind; turn off the gas supply petcock to the range and oven, make sure everything is properly stowed, use your Hitching Up check list (chapter 2), and you are ready for travel adventure.

Note! Several directories of trailer parks are available, check your dealer for his recommendations. These include:

- a. Woodall's Mobile Home and Travel Trailer Park Directory

(Woodall Publishing Co., 740 N. Rush St., Chicago 6, Illinois) \$2.00

- b. Travel Trailer Park Guide (Mobile Home Manufacturers Association, 20 N. Wacker Drive, Chicago 6, Illinois) \$1.00
- c. California Mobilehome Park Directory (Western Mobilehome Association, 5768 Pico Blvd., Los Angeles 19, Calif.) \$1.00
- d. Florida Trailerite Handbook (Trailer News Publishing Co., Coral Gables, Florida) \$.60

**PREPARING FOR AN EXTENDED STAY.** Making a long trip in your Airstream is not very different from making a week-end excursion. Since everything you need is right at hand you are at home wherever you go. When packing for an extended trip take everything you need, but only what you need. Follow the tips in Chapter 1 on stowing your belongings.

When you plan to stay in the same place for several days, weeks or months, you will want your trailer to be as level and as steady as possible.

**LEVELING.** For comfort and for good refrigeration, it is very important to have your trailer as level as possible. To aid in getting it level, use small spirit levels located as follows:

Two on the hitch – mounted at right angles to each other.  
Or . . . two placed at right angles to each other, on the trailer floor.

**First**, level side-to-side by running the wheels on the low side up a small ramp consisting of a wedge about 3 feet long, tapered from 1" on one end to 4" or 5" on the other end – we do not recommend a hole in which to place a tire for leveling.

**Second**, get the front and rear at the same level by disconnecting the hitch, putting the jack pad under the jack and adjusting the screw up or down until you are level. Block the wheels to keep the trailer from rolling. Use stabilizing jacks at all four corners

to eliminate the natural spring action of the axles and give you a stable floor.

**Note:** When using stabilizing jacks never put a great deal of pressure on them when they are placed on the rear bumper of the trailer. Whenever the trailer must be lifted with a jack, as when changing a tire or leveling on very rough terrain, always place the jack under the main frame member which is located 15" inboard from the outside edge of the trailer and 4" to the rear of the wheel well. Lifting the trailer by the bumper may cause "canning" of the roof or back end sheets.

Hook up to the water by attaching a 5/8" water hose to the city water service.

Plug the electrical cable, located in the same compartment, into the city power service. Be sure you have the wire grounded and have the proper polarity. (See chapter 5).

Hook your waste drain hose into the sewer disposal facility and attach to the drain outlet in your trailer by removing the drain cap, pushing hose on and twisting until it feels secure. Open holding tank dump valve; drain and flush tank; close valve.

Turn on the gas petcock under the top of the stove; light the range and oven pilots. Light the water heater, refrigerator, and furnace pilots.

See the appropriate chapters for details on operation of the appliances and systems.

There are four complete utilities systems built into your Airstream: Gas, Electricity; Water and Sewage. The next 4 chapters of this Manual are devoted to instructions for operation and maintenance of the utility systems in your Airstream. If you require specialized service, contact your Airstream dealer; the nearest Airstream factory or one of the factory service depots listed under the warranty on the individual appliance.

## CHAPTER 4

### L.P.G. system

The LPG system schematic in your Airstream is illustrated on one of the following pages. We suggest that you cross out the schematics which do not apply to your Airstream to insure future reference to the proper schematic.

Your Airstream is equipped with two bottles for LPG (Liquid Petroleum Gas). LPG burns with a clean blue flame and produces much more heat than natural gas. There are two basic types of LPG in common usage: Butane and Propane. Butane is widely used where temperatures are normally above freezing the year around and Propane is used where sub-freezing temperatures are common, since Butane freezes at 32°F as compared to -40°F for Propane. All of the orifices in your Airstream LPG appliances are of the universal type which will burn either fuel.

How long a full bottle of gas will last is of course dependent on usage. In cold weather when you are using the furnace extensively; large amounts of hot water; and are doing extensive cooking, you will naturally use more than you will in warm weather and when you do limited cooking. On the average, with normal cooking and other appliance use, you can probably count on three weeks service from each full 28 lb. bottle or two weeks from each 20 lb. bottle.

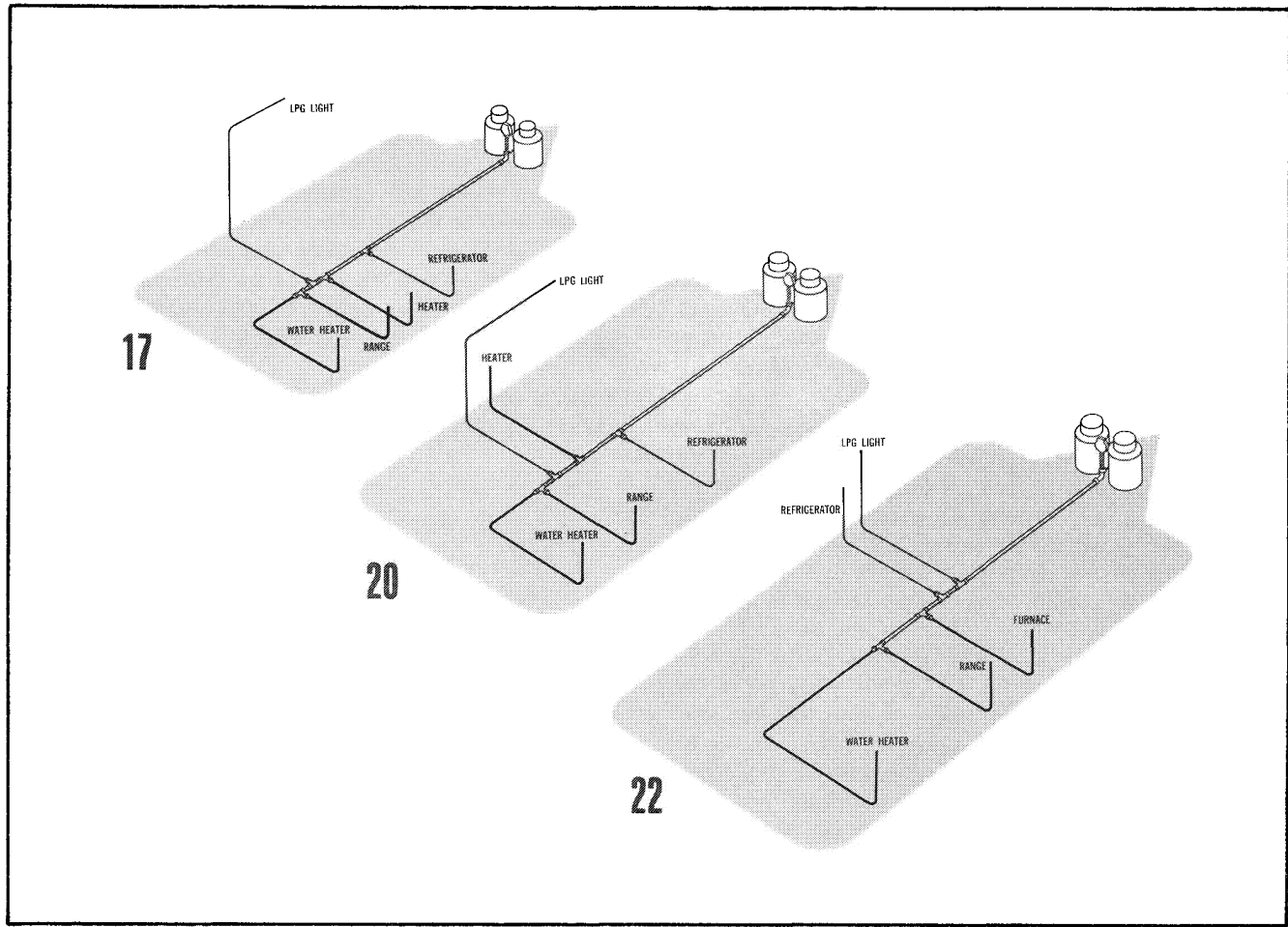
International models are equipped with an Automatic Gas Regulator. Both tanks are connected to this regulator and are turned on. Gas is drawn from only one bottle at a time and when the bottle being used is depleted the regulator automatically switches to the full tank. An indicator on the regulator points toward the tank being used to give you a visual reminder when one tank is empty. The empty tank can be removed for refilling without disturbing the tank being used. Simply close the tank valve, disconnect it, have it filled and reconnect. When the tank being used is emptied, the automatic gas regulator will automatically switch over, provided

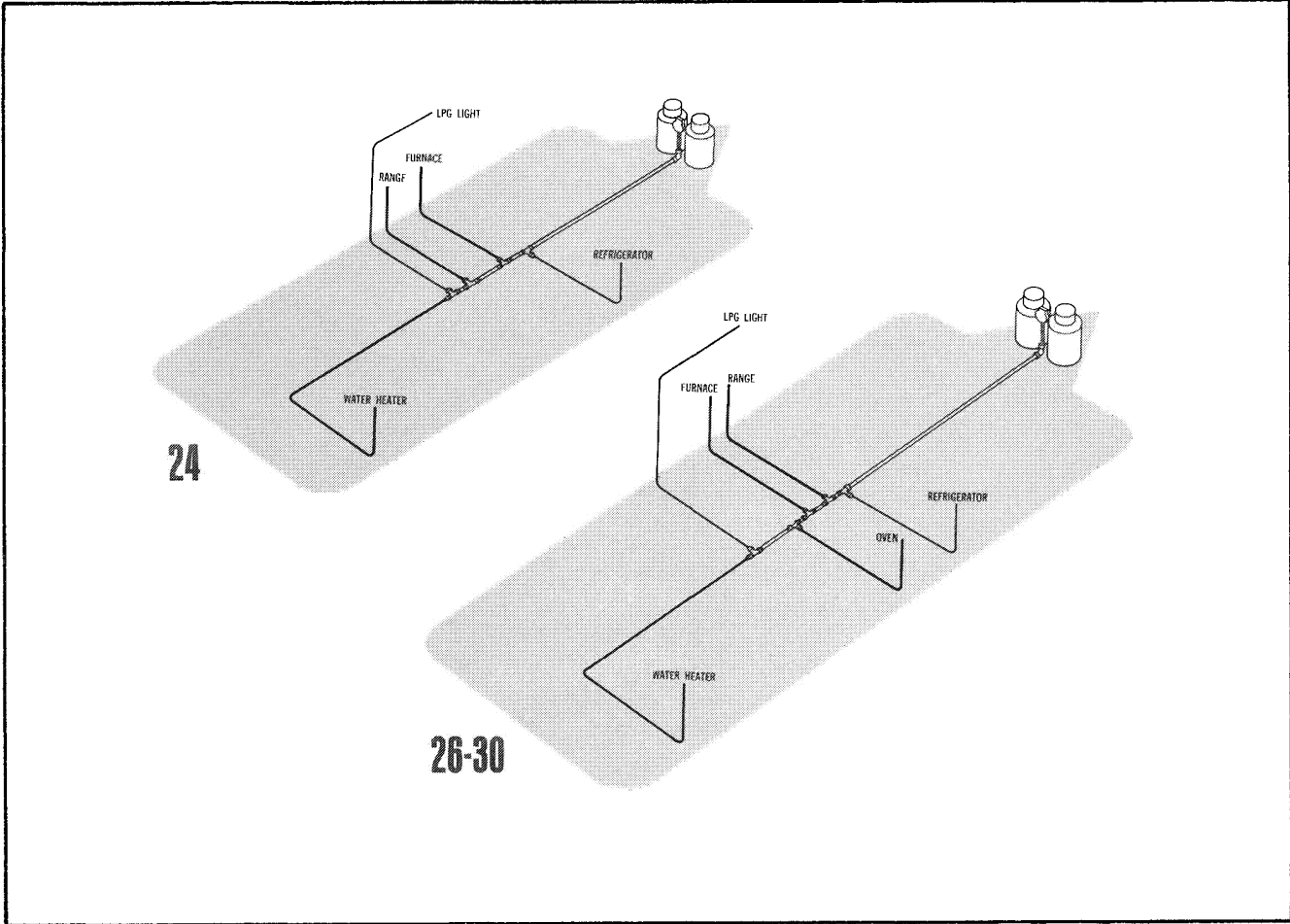
the other tank valve is also open.

To remove the gas bottle, disconnect the tubing nut with a wrench and loosen the large wing nut which holds the bottle in place. The tubing nut has a left hand thread so be sure to always turn it clockwise to loosen and counter-clockwise to tighten. When replacing bottles, connect and tighten bottles before clamping them in place. If you have allowed both bottles to run out, air may have gotten into the lines. In this event the air must be forced out through the lines by the gas pressure before you will be able to light your pilots. Hold a match to the pilot of the appliance closest to the tanks until it lights. Then move to the next closest, etc. For operation of the appliances, refer to Chapter 8.

**NOTE: In some states it is illegal to leave gas bottles turned on while towing a trailer.**

L.P.G. system diagrams





L.P.G. system diagrams





## CHAPTER 5

### electrical system

#### **ELECTRICAL SYSTEM – 12 VOLT AND 120 VOLT**

Your Airstream is equipped with the latest development in trailer electrical systems . . . the exclusive Airstream UNI-VOLT Mark II system. The lights and appliances including the fan and water pump operate from the self-contained battery power when you are without outside hook-up to 120 volt power.

The UNI-VOLT system is made possible through the use of new 12-volt marine light bulbs that give the same light you would expect from regular household bulbs, and (in 20-foot through 30 foot models) a special high-capacity combination 12-volt DC power supply and battery charger with all solid-state circuitry (17 foot Caravel has 12 Volt AC and 19 volt AC power supply but no charger). Additional 120-volt AC convenience outlets are provided for operation of appliances such as TV, toaster, etc., when hooked up to city power.

The battery in your Airstream is warranted for 24 months. For service or replacement, go to any service station or dealer who sells and services this brand.

As you drive, the battery in your trailer is under constant charge by your car's generator. In 20 foot through 30 foot models: When hooked up to 120 volt city current, the univolt system automatically charges your battery. The speed of this charge (which cuts off automatically when battery is fully charged) depends on how much 12 volt power is being used for lights and appliances. The battery, your car's wiring, and your Airstream's wiring are protected by a series of fuses, and by automatic circuit breakers which trip when a short or current surge occurs. The low voltage panel, battery and univolt are located in the storage compartment on the roadside of the trailer.

When you are operating your trailer on 120-volt city current, the wiring is protected by circuit breakers located in the panel box in

the one stop service center (in 17 foot models, the panel box is located in the rear roadside wardrobe). In the event of failure of a 120-volt circuit, check the circuit breaker first. If the breaker continues to trip after you have reset it several times, your circuit may be overloaded with appliances, or there may be a short in the circuit. If lessening the load on the circuit does not solve the problem, consult an electrician. In models with factory-installed air conditioning, a separate 120-volt circuit with separate circuit breaker is provided to avoid possible overloading of the appliance circuits.

**LIGHTS.** The ceiling light fixtures are operated by 4 position switches located in the fixtures. Starting from the off position and turning clockwise, the switch turns on first one bulb, then three bulbs, then four bulbs, then off. Naturally, when operating on the battery, you wish to conserve power so you will want to use only one bulb in the ceiling fixtures whenever possible. The cone lights have individual 4 position switches for each light fixture, which allows you to select any one of three different light levels.

#### **20 THROUGH 30 FOOT MODELS TO OPERATE SELF-CONTAINED.**

All that is necessary to operate the UNI-VOLT system on battery power is to disconnect the power supply cable from the city power receptacle. All 120-volt convenience outlets and the air conditioner, if you have this optional accessory, will now be inoperable.

**TO OPERATE WITH CITY POWER.** To operate the UNI-VOLT system in your Airstream from 120-volt AC city power, pull the power supply cable out of the storage compartment and plug in to city power. **MAKE CERTAIN THAT THE TRAILER PARK SERVICE IS 120-VOLT, NOT 220-VOLT.**

It is necessary to ground the service coming into your Airstream to prevent a possible shock to anyone touching your trailer, and as long as you are hooked into electrical service that accepts the three-prong grounded plug, you should not have a problem with polarity or grounding. However, in older parks and many other locations you will not be able to tie into three wire grounded service. In this event, follow the procedure outlined later in this section.

#### **17 FOOT MODEL**

**TO OPERATE SELF-CONTAINED.** All that is necessary to operate the UNI-VOLT system on battery power is to:

1. Throw both switches in the trunk compartment to the "Battery Power" position.
2. Store power supply cable in the storage compartment.

**All 120-volt convenience outlets will now be inoperable.**

#### **TO OPERATE WITH CITY POWER.**

To operate the UNI-VOLT system in your 17 ft. Airstream trailer from 120-volt AC city power, the procedure to follow is:

1. **MAKE CERTAIN THAT THE TRAILER PARK SERVICE IS 120-VOLT NOT 220-VOLT.**
2. Throw switches in the trunk compartment to the "City Power" position.
3. Pull power supply cable out of the storage compartment and plug into city power.
4. It is necessary to ground the service coming into your Airstream to prevent a possible shock to anyone touching your trailer and as long as you are hooked into electrical service that accepts the three-prong grounded plug, you should not have a problem

with polarity or grounding. However, in older parks and many other locations you will not be able to tie into three wire grounded service. In this event follow the procedure outlined below.

#### **WHEN THREE WIRE GROUNDED SERVICE IS NOT AVAILABLE.**

- a. Attach the three-prong plug on your trailer power supply cable to a two-prong adapter. The third conductor line from the adapter has a ground lug. This is your ground line.
- b. Clamp ground line to junction box or other ground such as a water pipe, then insert two-prong plug into the receptacle.
- c. After cord has been connected check the polarity indicator light (see note below). If the polarity indicator light is on, pull out the plug, turn it over, and reinsert. The light will now be out, the polarity will be correct and your Airstream electrical system will be grounded.

An excellent additional ground is obtained through the front jack if an aluminum or steel jack pad is used. Do not block the jack pad with wood because this will eliminate this grounding feature.

**POLARITY INDICATOR LIGHT.** In 17 foot models the polarity indicator light is located on top of the 120-volt service panel. In all other models, the indicator light is located in the door frame of the One-Stop Service Center.

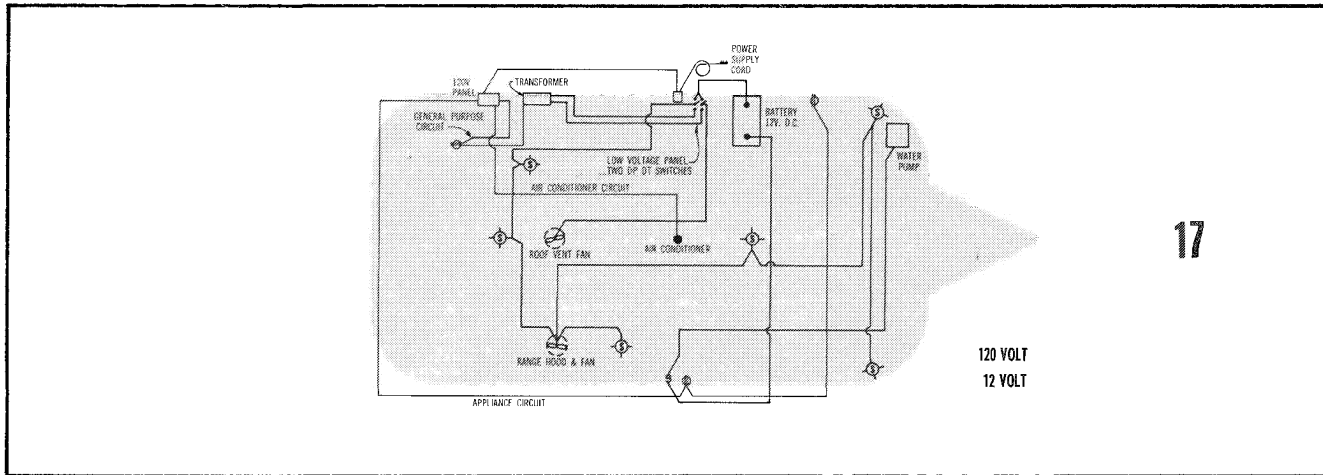
**UNI-VOLT OPERATING AND SERVICE INSTRUCTIONS (20 ft. through 30 ft. models).** Operating from a 120 volt line input, the UNI-VOLT will provide substantial current for lighting and appliances while maintaining your 12-volt battery at a full charge condition.

The UNI-VOLT incorporates a unique voltage-sensing section in the charger circuit that automatically controls charging current. When the battery is fully charged, shut-off is complete; it is impossible to overcharge. Because of its ability to operate over a wide range of input voltages, and because charger shutoff is 100%, no adjustments or controls are required, and none are provided. All circuitry in the UNI-VOLT is protected from damage by internal automatic resetting circuit breakers.

The electrical diagram for your particular model Airstream is illustrated on one of the following pages. We suggest that you cross out the diagrams which do not apply to your Airstream to insure future reference to the proper diagram.

**TROUBLESHOOTING.** As with any mechanical or electrical system, malfunctions may occur in your UNI-VOLT system from time to time. Following is a checklist of likely causes of some of the most common troubles.

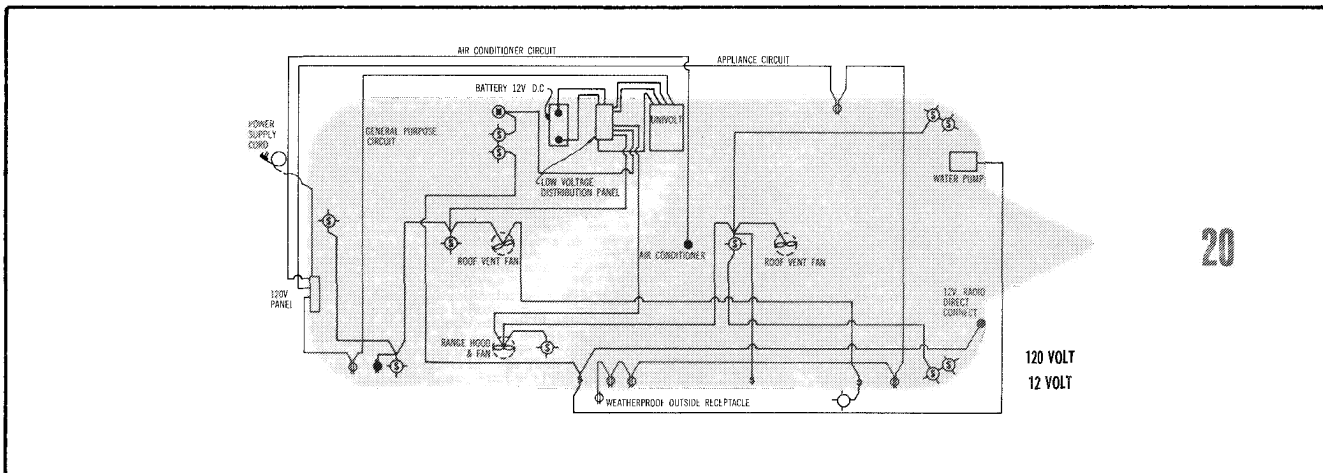
SYMPTOM	POSSIBLE CAUSE	REMEDY
No 12 volt power (Lights, appliances do not work)	1. Input line and/or battery not connected	1. Make necessary connections.
Blown fuse	2. Low Voltage Panel Fuse blown	2. See next 4 items.
	3. Overloaded circuit (over 40 amperes)	3. Turn off switches to reduce load to 40 amperes or less and replace fuse.
	4. Electrical short	4. Check for defective wiring, lamps, or motors, and repair. Replace fuse.
	5. Shorted battery	5. Replace battery and fuse.
	6. Battery terminals not properly connected to UNI-VOLT (+) and (-) terminals	6. Make proper connections; positive battery terminal to UNI-VOLT (+), and negative battery terminal to UNI-VOLT (-). Replace fuse.
	UNI-VOLT Automatic Circuit Breaker clicks on and off	7. Incorrect input line voltage (such as 230 volts or 25 cycle power)
Dim lights or sluggish fan motor	8. Shorted battery	8. Replace battery.
	9. 25 or 50 cycle power (some foreign countries)	9. Use 60 cycle power.
UNI-VOLT will not charge battery	10. Discharged battery (when operating without 120 volt line)	10. Charge battery.
	11. Input line not connected	11. Connect input line.
	12. Battery not connected	12. Connect battery to UNI-VOLT.
	13. Bad battery	13. Replace battery.
Specific gravity of battery is too high (over 1.275)	14. Too many lights and appliances in use	14. Reduce electrical load.
	15. Battery is low on water	15. Add distilled water to battery.



17

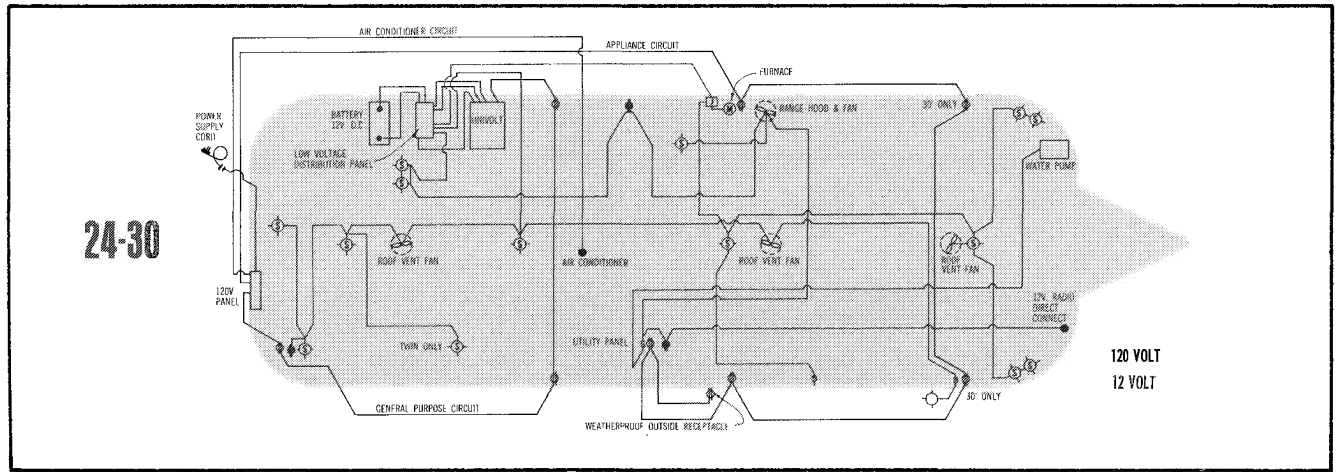
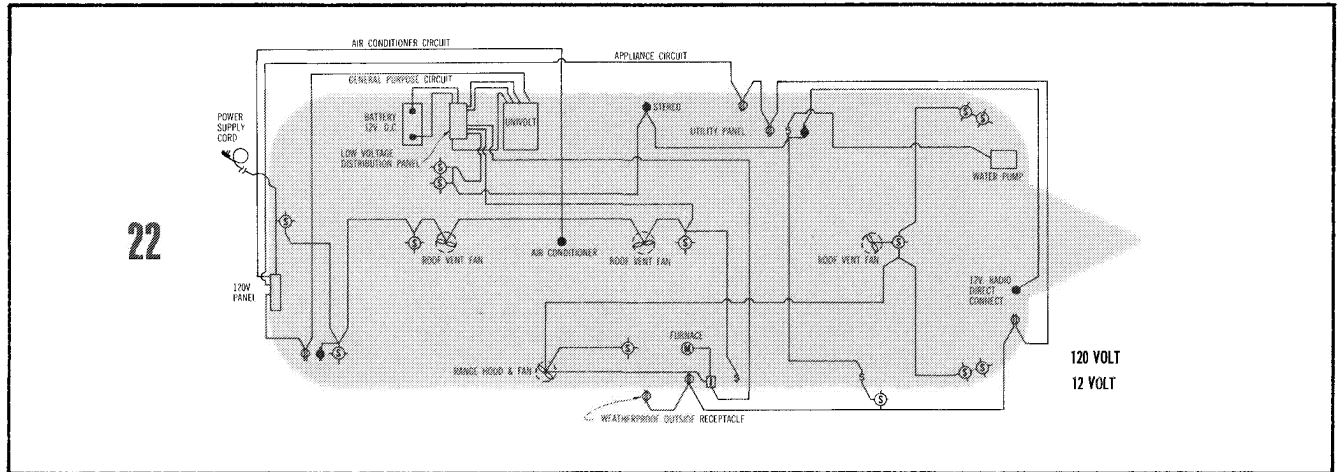
120 VOLT  
12 VOLT

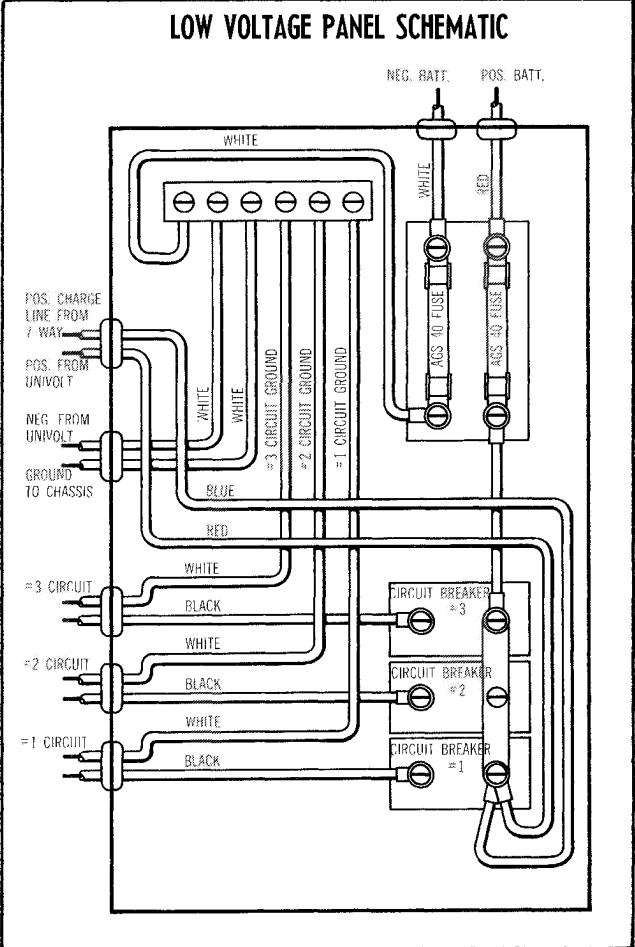
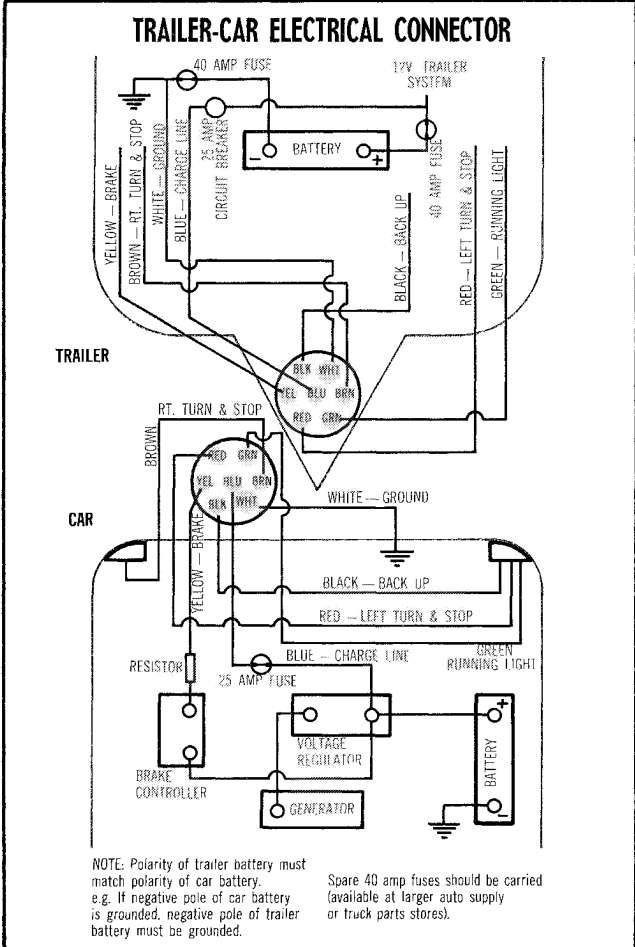
electrical  
diagram



20

120 VOLT  
12 VOLT





elect. car  
connector

low volt  
panel

### FUSES & CIRCUIT BREAKERS

CIRCUIT	LOCATION	RATING
120 volt AC service main	120 volt panel	30 amp C.B. (man. resetting)
120 volt trailer circuits	120 volt panel	20 amp C.B. (man. resetting)
Air conditioner	120 volt panel	15 amp C.B. (man. resetting)
12 volt main Fuses (2)	Lo voltage panel	40 amp
Low voltage circuits	Lo voltage panel	20 amp C.B. (auto. resetting)
Charge line from car	Front road side in Chassis	25 amp C.B. (auto resetting)

### LIGHT BULB REPLACEMENT CHART

LOCATION	CANDLEPOWER	LAMP NUMBER
Ceiling fixtures (4 lamps each)	21	1141F
Cone (bullet) lights	6-21	1176
Bathroom Auxiliary Light (2 lamps)	21	1141F
Stop & Turn signal (International)	32-4	1034
Stop & Turn signal (Land Yacht)	4	67
	32-4	1034
Back up lights	32	1073
License plate	6	89
Clearance and cluster	2	1889
Flood light	32-4	1034
Trunk compartment	21	1141

fuses

bulbs

motors

### MOTOR AMPERAGE

Water pump (17 foot model)	3.1 amps at 5 psi to 4.8 amps at 30 psi
Water pump (20 ft. thru 30 ft. model)	4.7 amps at 5 psi to 7.3 amps at 40 psi
Furnace blower and solenoid valve (22 ft. thru 30 ft.)	4.5 amps
Heat circulating fan on 17 ft.	2.0 amps
Range exhaust fan	2.0 amps
Ceiling fan	4.8 amps
Toilet exhaust fan	2.0 amps
Air conditioner	11.9 amps (55 amp starting load)



## CHAPTER 6

### water system

The water system in your Airstream trailer provides full service both when city water is available and when the trailer is operated completely self-contained.

When you are operating your water system from a city water service, connect a hose to the water inlet fitting located on the left side of the trailer inside the one stop service center. Since the system is completely automatic, nothing else needs to be done before you utilize the entire water system, except to turn the water pump "Off." In 22 foot through 30 foot models, this water pump switch is located on the panel over the refrigerator. On 17 and 20 foot models, it is located on the wall over the sink.

If the water system has previously been drained it will be necessary for you to force the air from the water heater before lighting the water heater. Open a hot water faucet and allow all of the air to be forced out of the water heater. The water heater capacity is 9 US gallons (6 gallons in the 17'). If you plan to remain for some time where city water is available, drain the water storage tank and refill with fresh water before departing. Your system has check valves in the water lines to protect the water tank and, therefore it will not fill while you are connected to city water, unless the crossover filler valve is opened. This crossover filler valve is located under the roadside arm rest (30 ft. "L" lounge models; located under front window shelf). It should always be kept closed unless the water tank is being filled from the city water source. To fill the water tank when the trailer is connected to city water, merely open this crossover valve and remove the filler cap from the water tank. Removal of the filler cap will prevent the water tank from being pressurized from the city water pressure, which could cause a potential failure in the tank.

If city water is not available, or will not be available at your destination, the Airstream self-contained water system may be used. The

lightweight polyethylene water tank stores 30 gallons of tasteless, odorless, clean fresh water for all your needs. The new Airstream pressure-demand water pump runs whenever a faucet is open and shuts off almost immediately when the faucet is closed; silently delivering 3 gallons per minute under constant pressure. To fill the water storage tank, remove the filler cap and fill the tank with a water hose or bucket, or through the city water crossover valve as described earlier. The tank may be filled until the water entry pipe is overflowing. Replace the cap . . . the water system is now ready for use. Remember, if you have been hooked up to city water your tank will not have been filled, unless the crossover valve has been opened, so be sure to fill it before leaving.

To give complete access to the pump and the water screen, pull out the lounge, remove the filler mattress and lift off the loose plywood cover on the left hand side of the lounge. **NOTE:** Before leaving your Airstream unattended for any length of time, it is advisable to turn off the water pump.

The water screen mentioned above should be cleaned periodically to prevent accumulation of dirt, sand, etc. The screen is located under the front lounge next to the pump. To remove it, disconnect the rubber hoses from both ends, separate the screen housing, and lift the screen out of the compartment.

Due to iron and lime deposits which are found in various parts of the country, it is advisable to clean the tank occasionally. Pour some bicarbonate of soda into the filler pipe with several gallons of water and allow to stand for several hours. Flush out by opening the drain valve and running cold water through the tank.

**WATER PURIFIER.** Among many fine accessories for your Airstream is the Everpure EN-1 water purifier at your galley sink.

The Everpure Water Purifier is designed to remove all dirt and

# 6

colloidal matter and to eliminate all tastes and odors of chlorine, phenol and similar products, delivering a sparkling, taste-free water ideal for drinking, cooking, coffee, tea, ice cubes, and carbonated water.

The purifier, by itself, is NOT guaranteed to remove tastes and odors of iron and sulphur, although in certain cases it does so. The best known method for removing sulphur tastes is chlorination of the water supply. This, of course, adds its own taste to the water, but the purifier will completely remove the chlorine after it has done its job. Superchlorination will also precipitate dissolved iron which the purifier will then remove.

The quality of the water never varies. At the end of the filter pack life the quality of the water is just as perfect as when it started. The flow rate is all that changes. As the filter pack is used, the minute pores slowly fill up and the flow rate gradually decreases. When the rate reaches a point where it is no longer convenient for use, it is time for replacing the filter pack. These are available from your dealer or Wally Byam store. Instructions for changing the pack are in each box. It is a good idea to order packs two at a time so that you will always have a spare on hand.

Your Airstream is equipped with a water pressure regulator which is located adjacent to the water inlet in the one-stop service center. This is an exclusive feature which protects the plumbing inside your Airstream from possible excessive pressures which may be encountered in some city water systems. The water pressure regulator insures that regardless of variation in the city water pressure, the water pressure at the faucets in your Airstream will always remain constant. If it should ever become necessary to adjust the

water pressure regulator there is a screw adjustment located on the dome. Turning this screw clockwise increases pressure, counter clockwise decreases pressure.

## WATER SYSTEM TROUBLE SHOOTING

### TROUBLE-PUMP DOES NOT PRIME

- a. Be sure there is water in the tank.
- b. Make certain battery power has not been exhausted.
- c. Make certain crossover filler valve is turned off and there is no air leak between the tank and the pump.
- d. Check valve assemblies to make certain no foreign matter is between the valve and valve seat causing loss of suction. This is done as follows:
  1. Remove four slotted head screws.
  2. Lift motor, drive, and diaphragm assembly off base.
  3. Lift valve assemblies from pockets and clean all foreign matter from valve and valve seat.
  4. Replace valve assemblies back in the same pockets, being sure rubber valve is in UP on INTAKE SIDE and DOWN on EXHAUST SIDE.
  5. Replace top assembly and bolt back together, being careful to tighten evenly.

### TROUBLE – PRESSURE DROPS AND PUMP KICKS ON PERIODICALLY WHEN WATER IS NOT BEING DRAWN.

- a. Check all connections and faucets for leaks. One drop of water per minute will cause pump to run every two hours.
- b. Same as d. above.

### TROUBLE – PUMP OPERATION IS ROUGH AND MAKES EXCESSIVE NOISE.

- a. After several months of operation, under certain conditions, the flow of the pump may become rough. If this happens the flow may be smoothed out again as follows: turn pump off,

Remove BOTH inlet and outlet hoses from pump, place rags or sponges under both ports and turn on pump. Let pump run until all water is expelled from pump.

### TROUBLE – EXCESSIVE BELT WEAR. (Not applicable to 17' Caravel)

- a. Adjust belt for proper tension. Belt has proper tension if it can be moved in and out on one side a total of  $\frac{1}{4}$ " at a point half way between pulleys. To adjust belt: loosen nuts on end of motor and slide motor up or down until desired tension is attained, then retighten nuts.

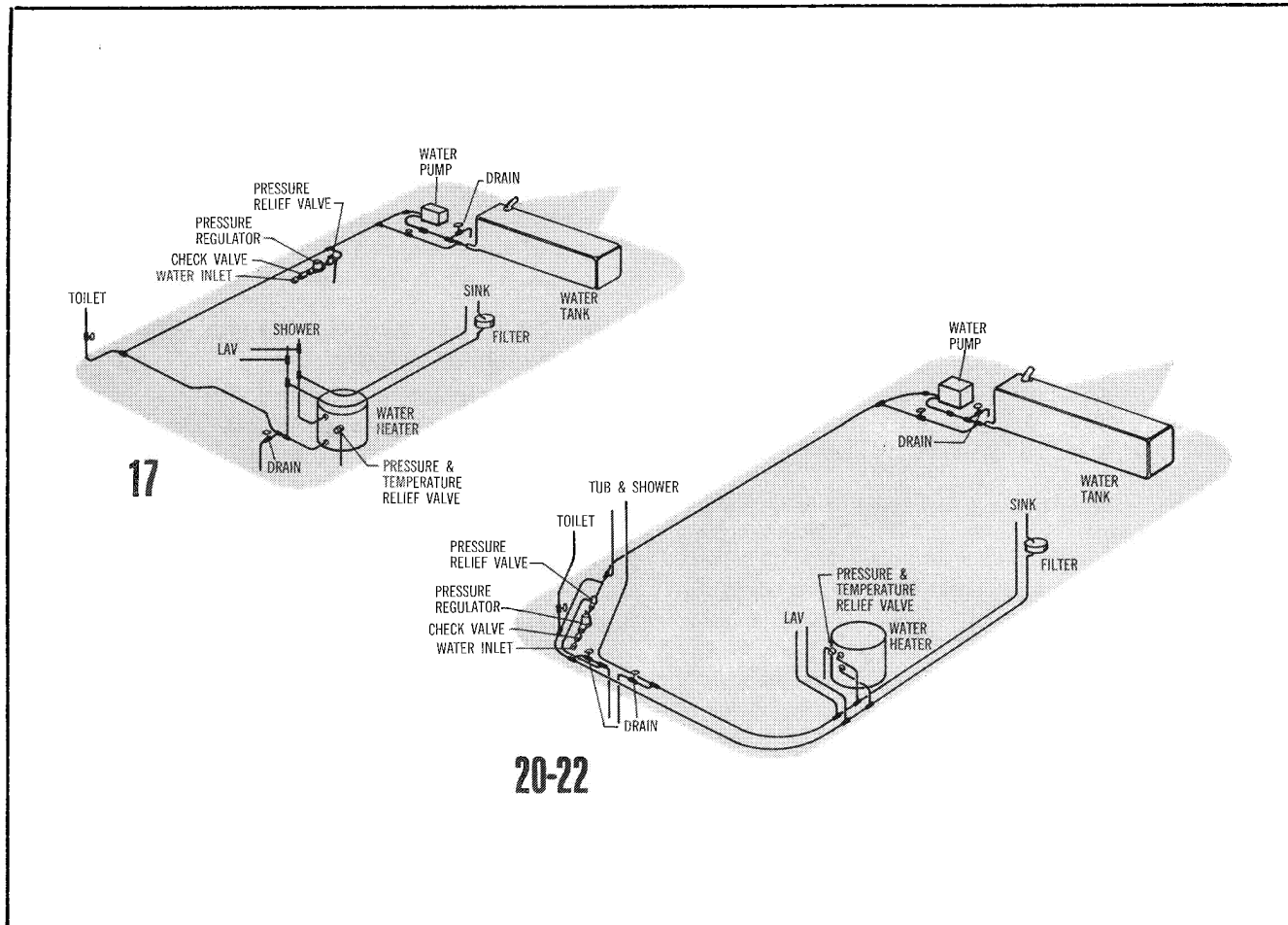
### TROUBLE – PUMP RUNS FREQUENTLY OR CONSTANTLY AND THERE IS NO LEAK IN THE PRESSURE SIDE.

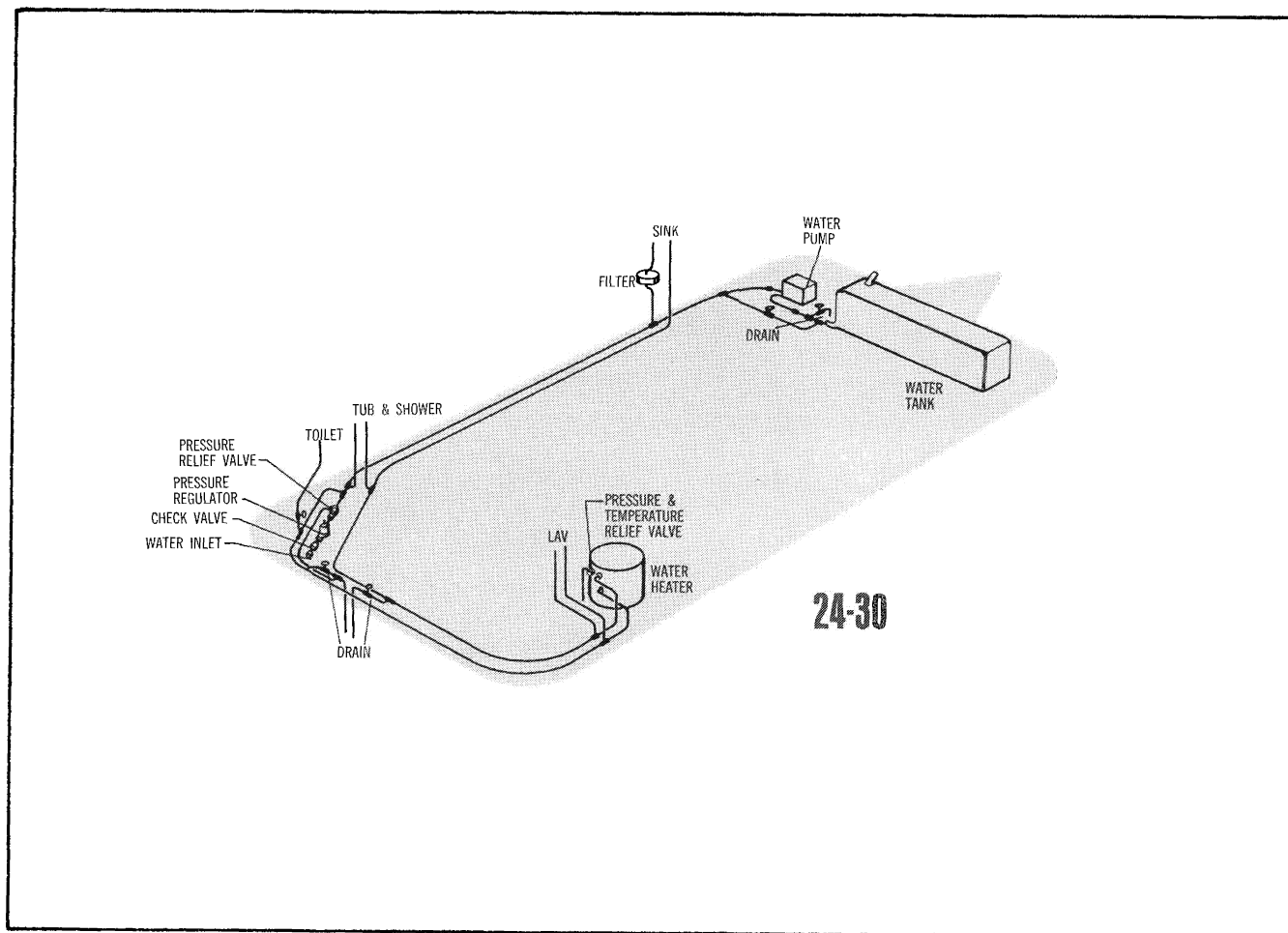
- a. Make sure crossover valve is turned off.
- b. Check for an air leak on the suction side of the pump (between the tank and the pump). This will not damage the pump but will run the battery down.

The water system schematic for your particular model Airstream is illustrated on one of the following pages. We suggest that you cross out the schematics which do not apply to your Airstream to insure future reference to the proper schematic.

troubleshooting

water system diagram





water system diagram

24-30



## CHAPTER 7

### drainage system

Your Airstream is equipped with a Drain, Waste and Vent system similar to the one in your home or apartment. It is also equipped with a waste holding tank for sewage which permits use of the toilet for several days away from disposal facilities. The waste water from the sink, the shower, bath and lavatory all drain through the same outlet as the waste tank so you will need to make only one connection when hooking up in a trailer park.

The waste holding tank is made of seamless molded plastic, completely free from corrosion problems, with a specially designed dump valve for trouble-free operation. The holding tank capacity is 16 gallons (12 gallons on 17ft model).

When the toilet will no longer drain, the tank is full and must be emptied . . . watch this closely because when the tank is full the sewage cannot be emptied from the toilet bowl. To empty tank, attach sewer hose by pressing the fitting on the outlet and rotating until it feels solid and secure. Attach the outlet end of the hose to the sewage outlet making certain that the hose is positioned so that it will drain completely. Pull the dump valve handle as far as it will go and wait until the tank is drained. Close the dump valve and refill the tank with 5-10 gallons of clean water and repeat the operation to insure that all paper and waste material has been flushed out. The sewer hose is stored in a compartment between the bumper and rear of trailer body. We recommend that you rinse out the sewer line before storing.

**If you are moving on, place a small amount of clean water in your tank with some commercial cleaner such as TST so that it will slosh around and clean the tank while you are driving.**

#### HOW TO USE THE SYSTEM WHEN CONNECTED TO A SEWER LINE.

##### 1. Use The Toilet On Automatic Flush.

The mechanism is designed to partially refill the bowl after each

use with clean, fresh water and is as sanitary as the toilet in your own home.

##### 2. Keep The Holding Tank Dump Valve Closed.

Empty the tank every few days or whenever it becomes almost full. The idea is to send a large volume of sewage through the tank and drain hose at one time. This practice sets up a swirling action and high currents which floats the toilet paper and other solids completely away.

##### 3. Avoid Accumulation Of Solids.

It is very poor practice to keep the tank valve open or partially open when connected to a sewer or gopher hole. It is not like a home toilet where a large volume of water is used at each flush. There is usually not enough liquids to float all of the solids in a single flush. In time this builds up into trouble. The end result can be a disagreeable cleaning job. Should this ever happen, the best method of cleaning the tank is to close the valve, fill the tank about half full of water, and then tow the trailer for a few miles. The turbulence and surging of the water will usually dissolve the solids into suspension and the tank can be drained. You can add a little soap or tank deodorizer, but nothing else. **(Do not add detergent)**

#### HOW TO USE THE SYSTEM WHEN PARKED WITHOUT A SEWER LINE CONNECTION.

##### 1. AUTOMATIC FLUSH.

When traveling and you anticipate finding a dumping station, or being connected to a sewer line every few days, you can use the toilet on automatic flush if you wish. It uses very little water. The holding tank will provide space for the requirements of two adults for two to four days, or longer.

As long as you are traveling in the United States or Canada you usually do not have to worry about your fresh water supply as it is readily available almost anywhere. Pressure or hand refill of your

fresh water water tank is seldom a problem. If you are traveling in areas where water is scarce, use the hand spray flush.

#### 2. "WATER SAVER" HAND SPRAY FLUSH.

The proper use of the hand spray makes it possible to flush the toilet with a very minimum of water; thus stretching your holding tank over a long period of time. This makes it possible to stay a week (or weeks) in faraway places or crowded areas where there are no sewer line connections.

**2a. How To Flush For Urine Only.** The least possible use of water is accomplished by very slightly spraying the inside of the bowl, making its surface wet with clean fresh water. After use, the prewet bowl is very easily sprayed clean with less overall water than starting with a dry bowl.

**2b. How To Flush For Urine And Feces.** Spray just enough water in the dry bowl to provide for flotation of paper and solids. After use, rinse down the sides with the hand spray and empty the bowl. Hold the slide valve open and spray and rinse the lower surface. Even if it appears clean, give it a once over quick rinse. Then let up on the pedal. The toilet is now ready for the next use.

**THE TOILET.** The toilet in your Airstream is a Thetford "Aqua-Magic", designed expressly for travel trailers. It is warranted for two years against defects in materials and workmanship.

The "Aqua-Magic" employs a completely new principle: a sliding self-cleaning positive seal blade, which replaces the conventional clapper valve. Odors cannot escape from the holding tank into the interior of the trailer. No metal parts come in contact with the sewage; no mechanical adjustments are necessary; there are no cavities or clearance chambers to become fouled. The unit uses less than two quarts of water for automatic flush.

#### DIRECTIONS FOR AUTOMATIC FLUSH AND REFILL.

1. Step on foot pedal. This opens slide valve and drops waste into holding tank.
2. Hold pedal down until water begins to swirl. This fills rim storage and rinses the bowl.
3. Release foot pedal. This closes slide valve blade and stops usage of fresh water. Bowl refills automatically.

#### DIRECTIONS FOR "WATER SAVER" HAND SPRAY FLUSH

1. Hold hand spray in ready position over bowl.
2. Depress thumb button. This prepares for the blast of water used to clean the bowl.
3. Step on foot pedal. This dumps the contents of the bowl. It also sends fresh water through the hand spray.
4. Spray bowl clean.
5. Release foot pedal. This shuts off all flushing water flow.

**NOTE:** If the thumb button is released before the foot pedal is released, water will automatically begin to flow through the rim of the bowl. No water can enter the rim of the bowl as long as the thumb button is depressed.

**USING A "GOPHER HOLE."** When you are parking in areas where it is permissible to do so, you may dig a "gopher hole" to dispose of the contents of your waste holding tank.

**Dig a "gopher hole" as follows:** Dig a hole 18-20 inches in diameter and 40 inches deep, keeping the dirt you dig out in a large carton or box under your trailer. After the hole is dug, back your trailer up so that the toilet drain hose will drop straight down into the hole and so that the hole will not be where anyone could step into it by mistake. It is strongly recommended that you use an Airstream "gopher hole" cover . . . a plate which will cover the hole

toilet

gopher hole



completely and that you can seal by piling some dirt around the edges (the hole in the plate will be just large enough to take the sealing ring you usually use to seal your sewer hose where it enters the trailer park sewage system). Drain your holding tank the night before you leave; the ground will absorb most of the contents overnight and it will be much easier to fill in just prior to departure next morning.

Beware that rain surface runoff water does not drain into your gopher hole and cause overflow. Mound some dirt around the hole to avert this.

**THINGS NOT TO PUT INTO THE TOILET AND TANK.**

**FACIAL AND OTHER SIMILAR TISSUES.** Unlike toilet paper, nearly all facial tissues are impregnated and treated to give them wet strength. This quality makes it almost impossible to dissolve them in the tank. Most toilet papers dissolve after a period of time, especially if agitated by traveling.

**DETERGENTS AND BLEACHES.** It is a fairly common practice to use detergents and bleaches as a deodorizer, but this can only harm the operation of the tank by removing lubricating oils and greases. It is far better to use a trailer sewage tank deodorizer which you can obtain from the Wally Byam store or your dealer.

**ANTIFREEZE, AMMONIAS, ALCOHOLS AND ACETONES.** Such liquids as those above and solutions which contain these chemicals may cause damage to your tank, valve parts, tank fittings or drain hose. For protection against freezing, refer to chapter 11 on winterizing your trailer.

**DISHWATER AND WASHWATER.** Nearly all kitchens and laundry soaps contain detergents which attack the lubricants, and should not be dumped into the tank. Some state and federal parks prohibit draining

sink and bath water onto the ground, although it is often done in the wilderness.

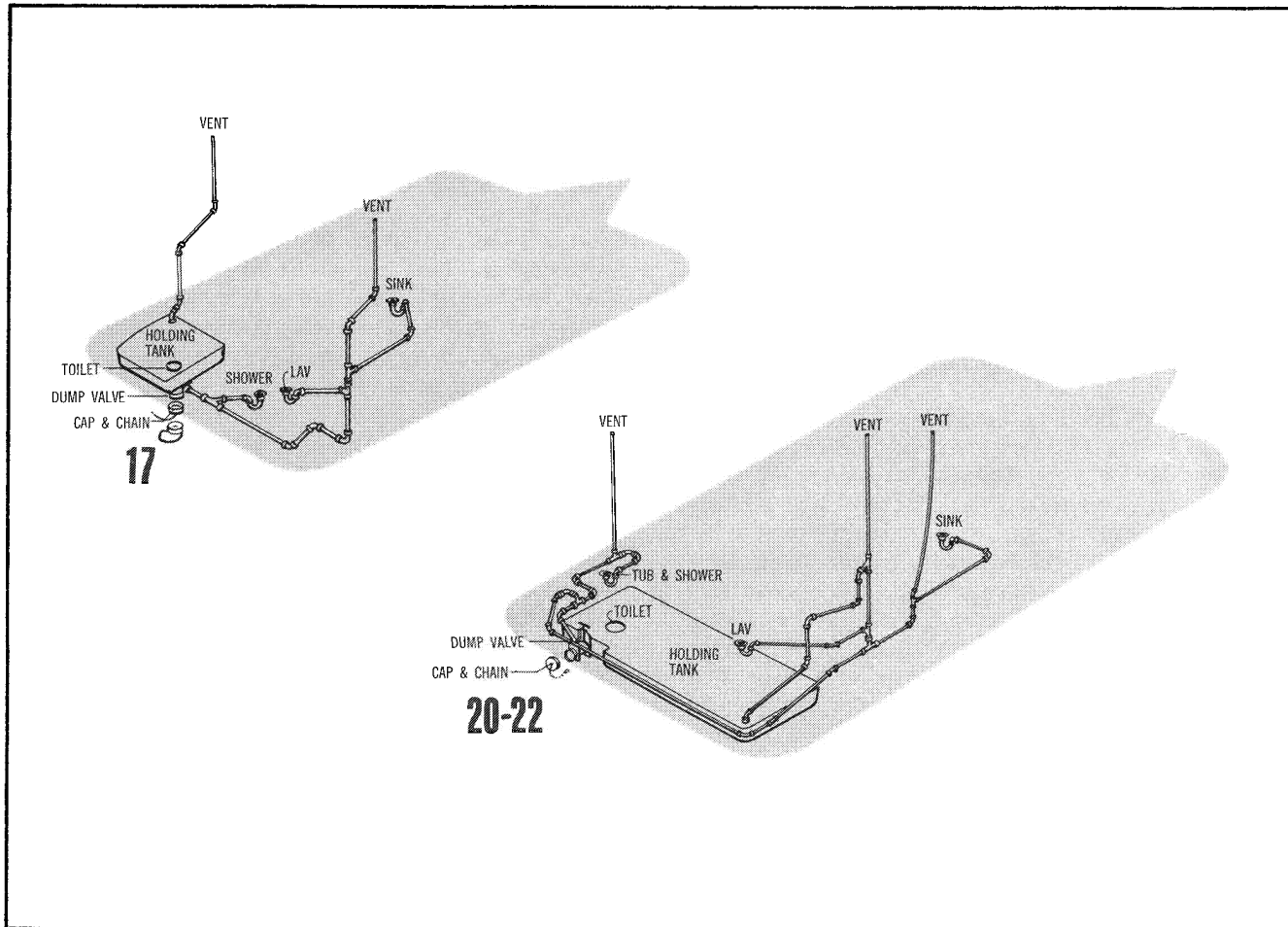
Although we do not recommend the following practice for reasons stated above, in an emergency, you may empty waste water from the sink and lavatory into your waste holding tank instead of allowing it to drain onto the ground.

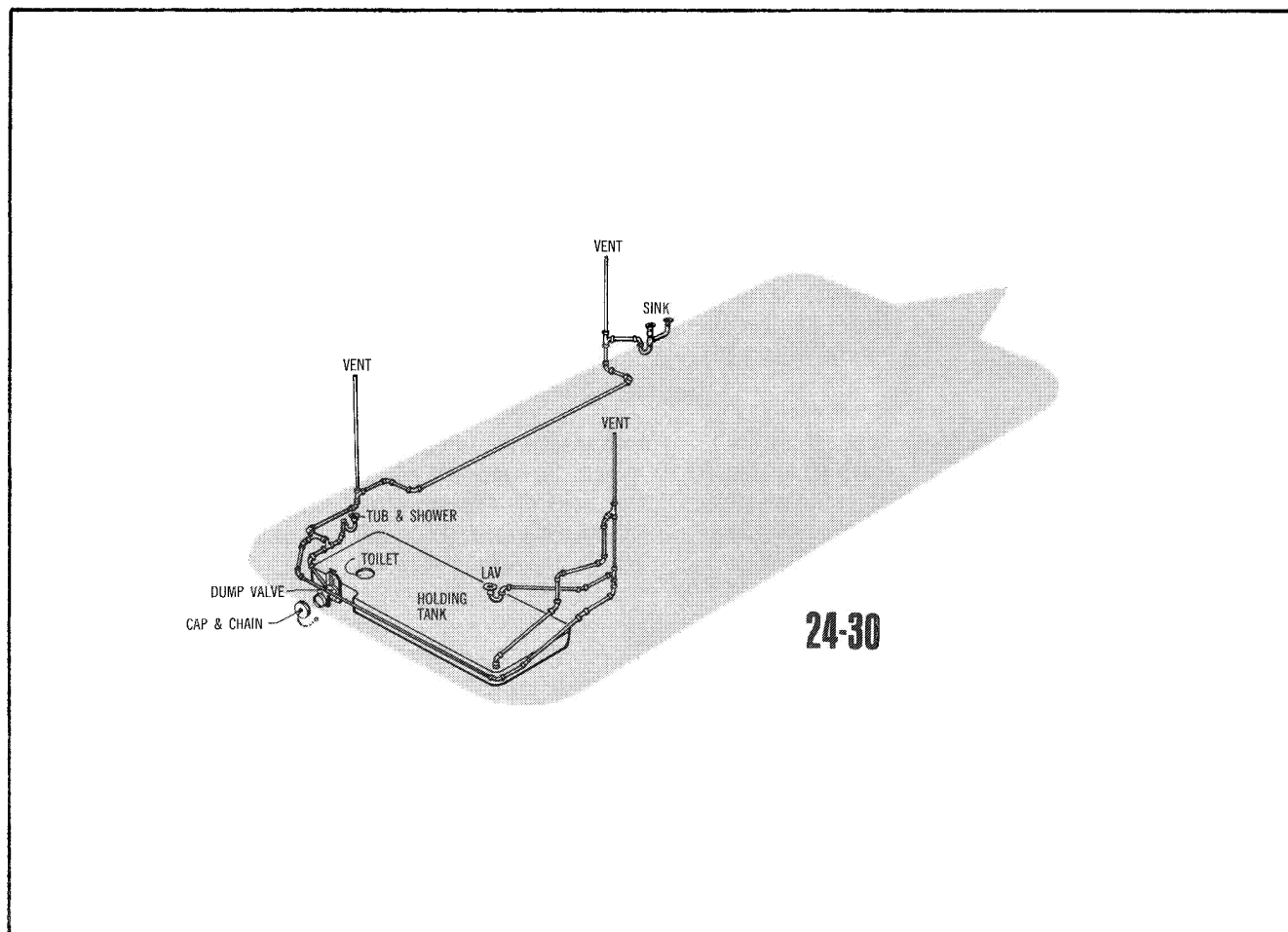
To empty waste water into the waste holding tank, open the dump valve while keeping the sewage line drain cap on. Waste water will automatically back up into the tank. **Note:** Water conservation must be practiced as holding tank will fill rapidly. After you have been draining waste water into the holding tank and wish to drain the holding tank, place a bucket under drain outlet, **close the tank dump valve** and remove the drain outlet cover. cap. This will drain the section of pipe between the cap and the valve and any adjacent drainage lines that might have filled with waste water. Next, drain the holding tank following the instructions at the beginning of this chapter. While holding tank is draining we recommend you flush all drain lines by running water into the tub/shower, lavatory and sink.

The drainage system schematic for your particular model Airstream is illustrated on one of the following pages. We suggest that you cross out the schematics which do not apply to your Airstream to insure future reference to the proper schematic.

7

drainage  
system  
diagram





drainage  
system  
diagrams

24-30



# CHAPTER 8

## appliances

This chapter will review the operation of the various appliances furnished with your Airstream. Appliances which are an integral part of a system (such as the toilet is part of the drainage system) are discussed in chapters on that particular system. Following are instructions on the operation of the furnaces in Airstream trailers. We suggest that you cross out instructions that do not apply to your particular model to insure future reference to the proper instructions.

**THE FURNACE (22 ft. through 30 ft. models).** The furnace in your Airstream is a Suburban Model No. NT-22A sealed combustion system furnace approved by the American Gas Association, for safety and performance, for installation in travel trailers. This furnace utilizes a sealed combustion system with a patented dual blower. One blower circulates room air while the other furnishes outside air for combustion. The combustion air blower then forces the flue

furnace  
22-30

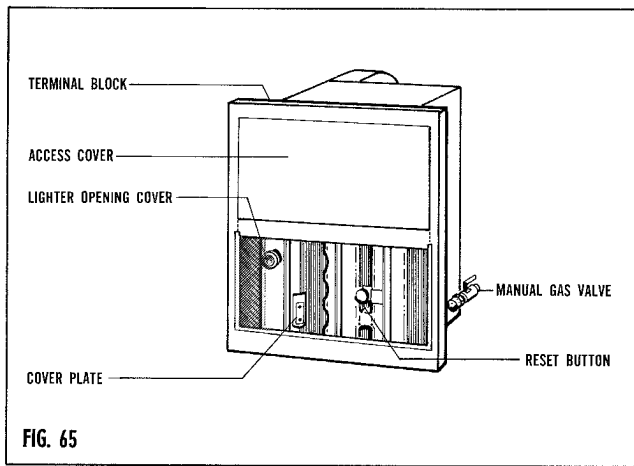


FIG. 65

products to the outside for maximum safety and heating efficiency. The furnace input rating is 22,500 BTU.

The unit incorporates an advanced design for circulating the warm air. All trailer models have registers located at both ends of the trailer. These are heat registers; their function is to circulate warm air. The register which serves the living room area has adjustable louvers. Return cold air for the furnace is drawn through openings in galley cabinet toe kick.

**OPERATION.** To light the heater, turn the manual gas valve to the "On" position and set the thermostat to the "Off" position (See figure 65). Raise the front access panel, unscrew the lighter opening cover, and insert a burning match through the opening so the flame is near the pilot. Press the reset button and hold. On the initial lighting, the pilot may not light immediately due to air in the gas line. If such is the case, it may be necessary to hold the reset button in for a minute or more before the pilot lights. When the pilot is burning, continue to hold the reset button in for approximately 30 seconds. The pilot should then continue to burn when the reset button is released. Replace the lighter opening cover and turn the thermostat up. The heater is now ready for use.

**ADJUSTMENT OF MAIN BURNER.** The heater should be set in operation by advancing the thermostat, and should be allowed to run for at least 10 minutes, or until it reaches near-maximum operating temperature. If the flame burns yellow or "lifts" off the burner port, the primary air may need adjustment. The air shutter should be adjusted to the point where a slight trace of yellow remains in the tip of the flame. This is the proper adjustment. Final observation

should be made with the cover in place, at which time the yellow tips should have disappeared. **CAUTION:** It should be remembered that the lighter opening cover and the primary air adjustment cover plate must be in place for proper operation of the furnace.

Since the heater was tested at the factory before shipment, it may be found that the primary air is already in proper adjustment. **NEVERTHELESS, IT IS RECOMMENDED THAT THE ADJUSTMENT PROCEDURE OUTLINED BELOW BE CARRIED OUT.** The burner adjustments may vary from one location to another due to difference in elevation as well as difference in characteristics of fuel gases.

To adjust primary air, remove the front access panel and take out the screws that retain the rectangular cover plate (see figure 65). Inside the opening, created by removing the cover plate, is a threaded rod with the visible end slotted. This rod controls the position of the main burner primary air shutter. With a screwdriver, turn the rod counterclockwise for less primary air or clockwise for more primary air. In isolated cases it may be found that a difference in pressure between the air in the room and the air outside the trailer will cause a strong draft through the heater when the lighter opening cover is removed, resulting in a difficult lighting operation. When this condition exists the pressure may be equalized by opening a window or door as near as possible to the heater. The desired result may not be obtained unless the door or window is on the same wall as the heater. After the pilot has been lit and the lighter opening cover replaced, this difference in pressure will not affect the operation of the heater.

**SEQUENCE OF NORMAL OPERATION.** When the thermostat calls for heat, the blower is energized immediately. As the blower reaches approximately 75% of full speed, a microswitch will engage, opening

the solenoid valve, and thus turning on the main burner. If within a period of approximately two minutes after the main burner is lit, the thermostat is turned back, both the motor and solenoid valve are de-energized. However, if the heater is allowed to operate longer than the period of approximately two minutes, a slight snap can be heard from within the casing. This snap is caused by the fan switch as it changes its position. After this occurs, if the thermostat is turned back (or when the thermostat is satisfied), the solenoid valve will close, the flame on the main burner will go out, but the blower will continue to run. The purpose of this is to remove most of the remaining heat from the heater as well as force the combustion gases from the heat exchanger. The blower will continue to run for a short time and will then shut off. It is perfectly normal for the blower to continue in operation for a time after the burner is off. To turn off the heater, turn the thermostat to its "off" setting and turn the manual gas valve to its "Off position.

The furnace fan can be used to circulate air during hot weather simply by turning the thermostat up to a setting higher than the temperature in the trailer. However, be sure you always turn the thermostat to the "off" setting whenever the heater is not in use. Otherwise during cool evenings the fan might turn on and run your battery down.

**REMOVING MOISTURE.** When humidity is high inside your trailer, turn on the trailer exhaust fan in the roof vent or open a roof vent if you do not have a fan and open a window slightly to get cross ventilation. This will not affect the operation of the furnace.

**TROUBLESHOOTING.** If the heater does not perform normally, the following list of some of the most probable causes and their corrections will be helpful.

If cool air is constantly discharged while the blower is in operation, it is obvious that the main burner is not on. This condition is caused by one or any combination of the following:

1. Pilot outage. 2. Defective microswitch. 3. Defective limit control.
4. Defective fan switch. 5. Loose connection in terminal block. 6. Defective solenoid valve. 7. Low supply voltage. 8. Out of fuel.

**PILOT OUTAGE.** Pilot outage is the most common cause of failure. If it is found that the pilot will not stay lit unless the reset button is depressed, a series of checks may be performed to quickly determine the cause.

The trouble is most likely in the thermocouple. First, check to see that the end of the thermocouple lead is screwed firmly into the safety pilot valve and the joint is clean. If this is not the cause, the burner assembly should be removed. A visual inspection of the thermocouple may show that it is defective. If the copper sheath of the lead is broken or if the thermocouple tip shows signs of being bent or ruptured, it should be replaced with a new part. The new part must be of the same part number as the old one, or it may not fit or function properly. Replacement parts are available through any Certified Service Center.

Sometimes a safety pilot system will hold part of the time but will drop out during operation of the heater. This is commonly caused by either a weak pilot, a weak thermocouple, or a weak power unit in the safety valve. A simple but very effective check can be made

to detect such a condition. Light the pilot and allow it to burn for two or three minutes; then blow it out. Using a watch with a second hand, measure the time required for the safety pilot valve to drop out. (This drop out is evidenced by a clicking sound from the safety pilot valve). The time should not be less than 30 seconds. If it is we recommend that a service representative be consulted.

In the case of low pilot flame, where the thermal element is not bathed in flame, the pilot may be too low. This is caused by either a partially stopped-up pilot orifice or pilot line, or possibly a partially blocked passage in the safety pilot valve.

A common cause of pilot failure, especially on LP gas, is in the failure or freeze-up of the pressure regulator located on the gas bottles. If only enough gas to supply a pilot flame is being drawn through a regulator, it could and sometimes does allow higher pressures to build up. This may be for only a short period of time and for that reason it is often hard to detect. This condition is evidenced by a blue flame which is blowing hard. If such is suspected, it is recommended that the regulator be checked and adjusted. If the pilot should fail during operation, the cause could be that either the controls compartment cover or the base of the blower assembly is not properly secured. This condition is evidenced by a "floating" main burner flame and sometimes by a strong undesirable odor from the heater.

**DEFECTIVE MICROSWITCH.** The microswitch operates in response to the current of air generated by the blower. Hence, if for any reason the air from the blower is not sufficient, the microswitch will not operate. This may be caused by dirt accumulation in the blower

wheels or by damage or dislocation of the cabinet insulation so as to block passage of air. If the switch is activated by the air but still fails to operate, it should be replaced.

**DEFECTIVE LIMIT CONTROL.** The purpose of the limit control is to turn off the gas to the main burner if for any reason the heater becomes excessively hot. Improper operation of the heater due to the limit control does not always indicate a defective control. If the circulating air is blocked or only partially so, the limit control will function and cause the main burner to cycle. Cycling on the limit is not always undesirable – if it happens only occasionally. This is a good indication of safe operation and will sometimes happen on a cold day. If cycling happens too often or for an extended period, it indicates insufficient movement of air through the system. Check to be sure that the front louvers are not closed. If cycling persists, it may be necessary to clear the heat ducts. If for any reason the limit control is found to be defective, there is no recommended method of repairing it. Because of its importance for safety reasons it should be replaced with a new one. **CAUTION: NEVER BYPASS THE LIMIT CONTROL EVEN FOR TEMPORARY OPERATION.**

**LOOSE CONNECTION IN TERMINAL BLOCK.** If the heater does not function as described under "Sequence of Normal Operation," a likely source of trouble is in a loose electrical connection. All wiring is furnished with a pressure-type terminal. The ends which engage with the terminal block are of the friction type and must be pressed securely into the opening of the block. In most cases the trouble is quickly located and corrected.



**POWER SUPPLY.** The furnace operates from a 12 volt DC power supply. On self-containment as the battery voltage drops, the blower circulation will decrease until the microswitch in the blower finally "drops out." This condition prevents the furnace from operating until the rated battery voltage is restored.

**THE FURNACE (20 ft. models only).** The furnace in your Airstream is a Duo-Therm Model 61603AT sealed combustion system furnace. The furnace is thermostatically controlled, and has automatic safety controls. It is designed to circulate just the amount of heat you want throughout your trailer by means of natural convection. Since it is a sealed system unit, fumes and gases cannot pass from the furnace to the room air. The furnace input rating is 16,000 BTU/hr. The following information will help you to obtain the best performance, with maximum economy, from your furnace.

furnace  
20

#### **LIGHTING THE FURNACE**

1. Be sure all gas valves are turned on.
2. **Rotate** gas control to "PILOT." Press in on the dial and light the pilot.
3. Adjust the thermostat dial to desired position.
4. After pilot starts burning, rotate dial to "ON."
5. If pilot goes out, wait 5 minutes and repeat the lighting procedure. If the pilot goes out repeatedly, it may need adjusting; see paragraph on "Pilot Burner."
6. For complete shutdown, push in and turn the gas control dial to "OFF."

The settings on the thermostat are reasonably accurate, but you will find with experience that it is best to adjust to comfort level rather than to any prescribed temperature setting.

**REMOVING MOISTURE.** When humidity is high inside your trailer, turn on the trailer exhaust fan in the roof vent and open a window slightly to get a cross ventilation. If you do not have a roof fan, open the roof vents and a window. This will not affect the operation of the furnace. **CAUTION:** The flue gases from the furnace are vented outside your trailer through a vent in the outside wall immediately behind the furnace. Do not place clothing or other flammable material on the vent assembly. Check occasionally to see that it is not clogged with leaves, etc.

**THE THERMOSTAT.** The thermostat automatically controls the temperature in your trailer. The thermometer and thermostat settings are reasonably accurate; however, it is best to adjust the thermostat to comfort level rather than to any prescribed temperature setting.

**BLOWER ASSEMBLY.** A blower assembly is available as an extra cost option. This blower greatly improves air circulation in extremely cold weather and is recommended if you use your trailer much in winter weather. Your dealer can install the blower in a few minutes.

**SAFETY PILOT VALVE.** This valve provides 100% shut-off of gas to the main burner and pilot if the pilot flame should go out. To light the furnace when the pilot flame is out follow the procedure outlined under "Lighting the Furnace," step number 5.

**MAIN GAS CONTROL VALVE.** This valve allows gas to flow to the main burner when the thermostat "calls for heat" and stops the flow of gas when the thermostat is "satisfied." All working parts of this valve are permanently sealed and lubricated so that the valve operates silently at all times.

**PILOT BURNER.** The pilot burner provides a continuous flame for lighting the main burner and heating the thermocouple to provide the voltage needed to hold the safety pilot valve open. The pilot flame can be adjusted for larger or smaller flame. To adjust; remove the screw cap to reach the pilot adjusting screw. Turn the adjusting screw in (clockwise) to decrease the size of the flame, and counter-clockwise to increase it. The pilot flame should completely envelop the tip of the thermocouple (approximately  $\frac{3}{8}$ ""). If the pilot flame is set too low, the thermocouple will close the gas valve.

**THE FURNACE (17 Ft. Model Only).** The furnace in your Airstream is a Hydro Flame Model RC-9 sealed combustion system which heats by both radiation and circulation. It is thermostatically controlled and has automatic safety controls; the fully automatic valve requires no electricity.

The Hydro Flame furnace uses outside air for combustion, and vents exhaust gases outside your trailer; but by virtue of the unique Hydro Vent cap, it is very stable under even severe wind conditions. Your furnace is unconditionally guaranteed by the manufacturer for one year against defects in workmanship and materials; the aluminumized steel combustion chamber is guaranteed against burn-out for five years. The furnace input rating is 9,000 BTU/hr.

**OPERATION.** Follow the manufacturer's lighting instructions printed on the inside of the swing-out front door of the furnace. Be sure the gas valve area is kept clean; a fouled valve can result in difficult lighting and faulty operation. **CAUTION:** The flue gases from the furnace are vented outside your trailer through a vent in the outside wall. Do not place clothing or other flammable material on the vent assembly. Check occasionally to see that it is not clogged with leaves, etc.

**TREATING MINOR MALFUNCTIONS.** Should the pilot light go out, there are certain checks you can perform before calling for professional help. First – make sure the pilot door closes tightly, leaving no air cracks. Tighten the thermocouple connection at the valve, being careful not to over-tighten, as this will mash the lead connection inside and make replacement of the unit necessary. If the pilot still continues to go out – loosen the gas line at the pilot. Remove the pilot orifice complete with brass fitting, and blow backward through the orifice to clear it. Before replacing, turn the gas valve pilot control knob to “PILOT” and push in to ascertain that the valve is functioning properly and allowing gas to come to the pilot. If no gas comes through, check the tank to be sure you have gas coming to the valve. Remove the pilot screw cover and turn the pilot adjusting screw out (counter-clockwise). If no gas comes through, the valve is faulty and must be replaced. If gas does come through, replace the cleaned orifice, making sure all gas fittings are tight. Follow lighting and relighting instructions.

**TO ADJUST THE PILOT.** Remove the cap over the pilot adjustment screw. With the pilot in operation, open the pilot cover door and observe the pilot flame while turning the adjusting screw located on the valve in (clockwise) until the pilot flame cuts off. Turn the adjusting screw out (counter-clockwise) one-half turn, and relight the pilot. The flame should be relatively small, although big enough to strike the thermocouple.

**REMOVING MOISTURE.** When humidity is high inside your trailer, turn on the trailer exhaust fan in the roof vent and open a window slightly to get cross ventilation. If you do not have a roof fan, open the roof vents and a window. This will not affect the operation of the furnace.

**THE THERMOSTAT.** The thermostat automatically controls the temperature in your trailer. The thermometer and thermostat settings are reasonably accurate; however, it is best to adjust the thermostat to comfort level rather than to any prescribed temperature setting.

**BLOWER ASSEMBLY.** A blower assembly is available as an extra cost option. This blower greatly improves air circulation in extremely cold weather and is recommended if you use your trailer much in winter weather. Your dealer can install the blower in a few minutes.

**SAFETY PILOT VALVE.** This valve provides 100% shut-off of gas if the pilot should go out. To relight the furnace when the pilot flame goes out, follow the procedure outlined under the operation section.

**MAIN GAS CONTROL VALVE.** This valve allows gas to flow to the main burner when the thermostat calls for heat, and stops the flow of gas when the trailer temperature reaches the thermostat setting. All working parts of this valve are permanently sealed and lubricated so that the valve operates silently at all times.

**THE REFRIGERATOR.** Your Airstream is equipped with an A.G.A. approved Dometic gas-electric refrigerator (gas only in the 17 ft. model). These are the finest refrigerators available for travel trailer use and will give you many years of faithful service. Whenever you park your trailer, care should be taken that it is level for best operation of this refrigerator. When parking try to avoid having a strong wind blowing directly against the vent outlet for most efficient operation. A spirit level has been provided with your

refrigerator

Dometic refrigerator to assist you in leveling your Airstream. The refrigeration system is air cooled. Therefore, it is of the utmost importance that air circulation between the refrigerator and outside wall is non-restricted.

Figure 72 is an illustration of the working parts of your refrigerator which will be referred to in the following operating instructions.

**LIGHTING THE BURNER.** The gas tap must always be fully opened whenever the refrigerator is in use. A partially opened tap effects no saving and may interfere with the operation of the unit.

To light — Remove kick plate on bottom front of refrigerator by pulling outward.

1. Turn gas lever "A" one-half turn clockwise to the open position. Push electric switch "F" down to "Off" position (except in 17 ft. Caravel). Turn thermostat knob "B" to a setting of 4.

2. Press red button "C" and after about 15 seconds (to allow sufficient gas to enter), rapidly twist lighter rod "D" clockwise. This will create a spark which will ignite the gas.

3. After the burner has been lighted, keep the button "C" depressed for an additional 15 seconds to allow the safety shut-off to become heated sufficiently to keep the valve open.

4. Release button "C" and check to make certain the burner remains lighted. If it should go out, repeat the above procedure and hold the button a few seconds longer.

Incorporated in the burner bracket is an automatic flame failure device which allows gas to pass only when the burner is lighted, keeping the thermocouple hot. Should the flame be blown out, the thermocouple will cool and the device will cut off the flow of gas to the burner.

**IMPORTANT:** Always make certain that electric switch "F" is off before operating the refrigerator on gas (all models except 17 ft.)

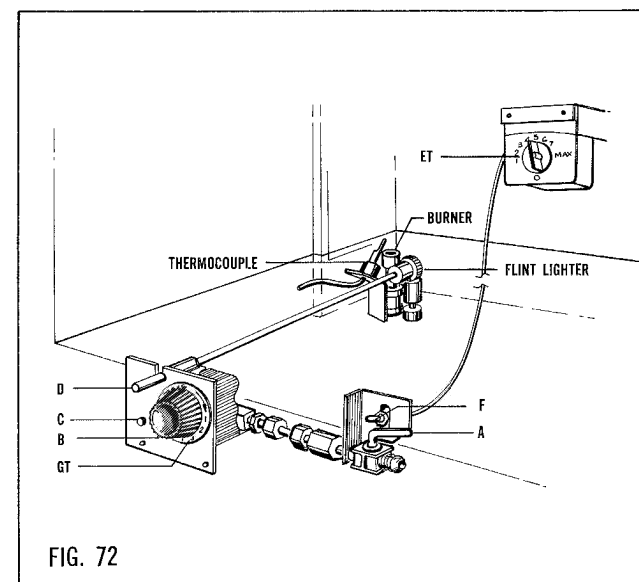
#### FOR ELECTRIC OPERATION (all models except 17 ft.)

1. Push Switch "F" up to the "ON" position and turn gas lever "A" counterclockwise to the "OFF" position.

2. Check to be sure the electrical cord is plugged into its 110-volt convenience outlet.

3. Turn the electric thermostat to a setting of 4. The refrigerator is now in operation.

**THE THERMOSTAT.** This refrigerator has automatic thermostatic control of the temperature in the food storage space. The gas thermostat (GT) controls the temperature during gas operation,



while the electrical thermostat (ET) controls the temperature during electric operation. Be sure to make the temperature setting on the correct thermostat.

As soon as the required cold temperature inside the cabinet is reached, the thermostat cuts the burner main flame to the by-pass flame sufficient to keep the safety valve open during gas operation. During electric operation the thermostat cycles the flow of electrical current to maintain the set temperature.

**DEFROSTING AND CLEANING.** Excessive formation of ice on the evaporator reduces refrigeration efficiency. It is, therefore, necessary to defrost the unit whenever ice has accumulated.

When defrosting is necessary, turn the thermostat (ET or GT) to warmest position and leave the door of the refrigerator open. See that the drip tray is in its position below the evaporator.

This is a good time to remove all food and clean the interior and all other plastic parts with warm water adding detergents. Never use abrasive or caustic cleaning powders, polishes, cleaning paste or any gasoline, turpentine and the like.

Use a damp cloth for cleaning and finish with a soft dry cloth. After the defrosting has been completed, turn the control knob to its normal position.

When the refrigerator is to be out of operation for some time, always leave the door slightly open or place a pie tin with some barbeque charcoal on the shelf.

#### **TROUBLE SHOOTING (GAS OPERATION)**

**TROUBLE:** Flame is noisy with buzzing sound

**Causes and Remedies. a.** Burner is getting too much air. Screw down

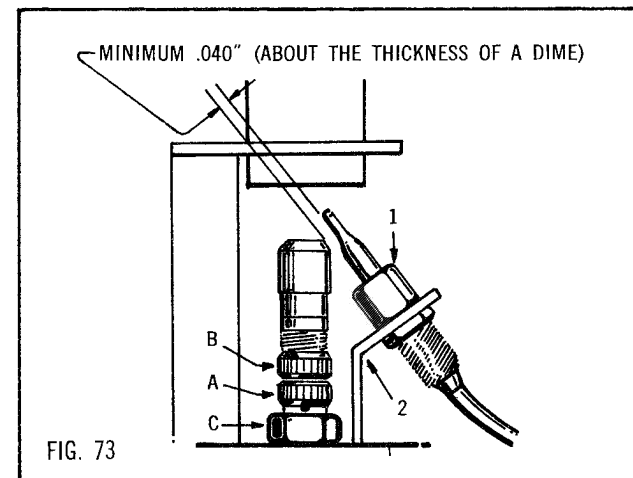
the lower ring "A" on the burner to partially cover the air holes at the base, until the noise stops (figure 73). Lock in position with the upper ring "B". Make certain that the flame remains blue. Blocking the air holes "C" completely will cause the flame to become yellow and to smoke.

**TROUBLE:** When lighting the gas flame it goes out as soon as the push button is released.

**Causes and Remedies. a.** The thermocouple tip may not be in the flame. The thermocouple should be at an approximately 45 angle to the burner (see figure 73).

**TROUBLE:** Flame goes out.

**Causes and Remedies. a.** Flame blow-outs can be caused by excessive wind. If there has been no wind to cause the flame to repeatedly go out, go to a Dometic Service Depot to have the thermocouple and safety valve checked.



**TROUBLE: Overfreezing**

**Causes and Remedies. a.** The thermostat sensitive tubing is incorrectly located in the pocket inside the ice making compartment. Push the tubing back as far as it will go.

**b.** The thermostat is out of adjustment. To adjust it turn the dial to "zero". If the flame does not go down to the "low" by-pass setting, follow this procedure (see figure 74).

1. Unscrew the large cap screw at the rear of the thermostat and remove the ball. Clean seat and ball and replace.

2. If procedure (1) does not correct the problem, remove the dial knob with the dial plate and turn the exposed set screw out (in counter clockwise direction) until the flame goes down to the by-pass (see figure 74).

**c.** If the flame keeps going out when the dial is turned to (0), remove and clean the by-pass screw which is located inside the gas connection on the left side of the thermostat.

**TROUBLE: Burner does not light**

**Causes and Remedies. a.** Remove and clean burner barrel.

**b.** Check gas supply.

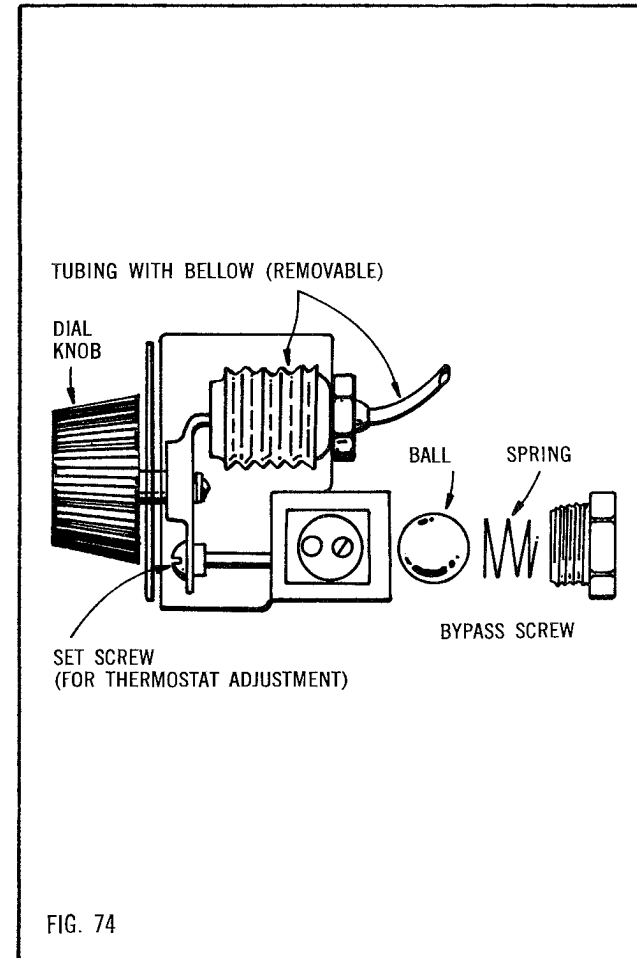
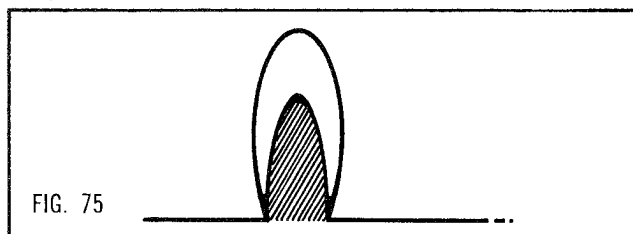


FIG. 74

**THE RANGE AND OVEN.** Your Airstream is equipped with a Magic Chef gas range and oven. Following are some hints on how to keep them operating at their best.

#### RANGE TOP

1. Your range is equipped with coaxial orifices for use with LP gas. The flame will be approximately  $\frac{1}{2}$  inch long.
2. Air shutters on top burners are to be adjusted so that each cone of the flame is separate and distinct and appears as illustrated in figure 75. Air shutters set too far open will cause flame to lift away from burner head and will be difficult to light. If air shutters are closed too much, the flame will look hazy and the distinct cones will be missing.
3. On all trailers except the 26, 28 and 30 foot models, adjust the top pilot so that the tip of the flame is just over the edge of the inner cone. The burners should light within 4 seconds. If lighting is difficult, refer to No. 2, above.
4. Never allow the top cover to be closed while the range is in operation, as this will extinguish the flame and permit the gas to escape into the trailer.



#### TROUBLE SHOOTING

##### TROUBLE: Flames "Lift Off" ports.

Cause: Too much air, gas, or both. Remedies: Decrease air, gas or both.

##### TROUBLE: Soot formations

Cause: Too much gas or not enough air. Remedies: Decrease gas or increase air.

##### TROUBLE: Burner noisy when extinguished

Cause: Too much air. Remedy: Readjust air shutter.

##### TROUBLE: Flame flashes back into air mixture chamber

Cause: Too much air in proportion to gas. Remedy: Slightly increase gas or decrease air.

##### TROUBLE: Orange Flame

Cause: Small fillings in new burners or dust in air. Remedy: If trouble persists, clean burners.

##### TROUBLE: Burner fails to light

Cause: Usually too much air. Remedy: Decrease air.

#### OVEN SECTION (Refer to figures 76a and 76b)

**IMPORTANT:** Your oven is equipped with a safety ignition that requires a minimum of 30 seconds to operate after turning oven control knob (F) on. The oven pilot may be slow in lighting due to air in gas lines.

The automatic oven burner pilot in your oven consists of a constant pilot and a heater pilot. The small constant pilot (A), which should be burning at all times when parked, ignites the heater pilot (B) adjacent to the oven burner (C).

**1. To adjust the constant pilot (A):** Open shut-off valve (D), open pilot valve (E), light constant pilot (A) with match and by adjusting pilot valve (E), reduce flame on constant pilot (A) until yellow tip disappears.

**2. To adjust the heater pilot (B):** Turn control knob (F) to 300 degree temperature setting. This will permit gas to flow through the heater pilot tube (G) to the heater pilot (B) where the gas is ignited by the constant pilot (A).

Remove control knob (F) and bezel (H) and open heater pilot gas

supply by turning green heater pilot adjusting screw (J) on front of control valve (K) until flame on heater pilot (B) yellows. Now close adjusting screw (J) until yellow tip disappears. Replace bezel and control knob.

**3. To adjust main burner:** Your oven is equipped with a coaxial orifice for use on LP gas. The main burner when adjusted to the proper rate will have a flame approximately  $\frac{3}{8}$  inch long. The air shutter (L) on the main burners should be adjusted so the cone of each flame is separate and distinct (see figure 75).

**IMPORTANT:** The thermostat on your range does not have a by-pass setting. It will cycle off and on at all temperature settings. No by-pass adjustment is necessary.

#### CLEANING INSTRUCTIONS AFTER RANGE IS IN USE

1. To assist in cleaning the area around the top burners, the main top has been hinged from the back so that it can be raised. On 20 ft. through 24 ft. models, care should be taken during the cleaning operation that you do not touch the hot pilot shield, and also when the cleaning operation is completed, be sure that the flash tubes are back in place.

2. If top burner heads are cleaned with any cleaning compound, care should be taken to see that all ports are opened up with a toothpick to assure proper operation. It is especially important that the lighter ports on the side of the burner head are kept clear (20 ft. through 24 ft. models-only).

3. Spill overs or spotting in oven or broiler are more easily removed when done promptly after they occur. Never wash porcelain when warm. Never use cleaning powder containing grit or acid. If oven bottom is removed for cleaning or servicing, be sure that oven bottom is locked in place when it is put back in the range. The front return flange on the oven bottom must hook under the side support angles to prevent warpage.

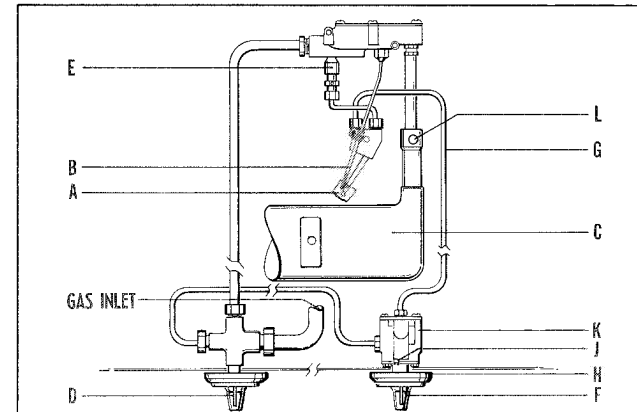


FIG. 76a  
OVEN CONTROLS  
AIR. MODELS 26, 28, 30 FT.

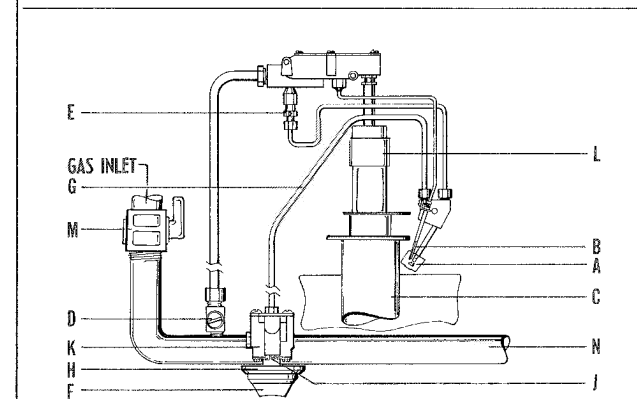


FIG. 76b  
OVEN CONTROLS  
AIR. MODELS 20, 22, 24 FT.



**NOTE:** On 20 ft. through 24 ft. models, the range gas line shut off valve (M) located under the top of the range at the left end of the manifold pipe (N) must be turned off when towing the trailer, when changing the gas tanks or if the gas supply is turned off for any reason. Be absolutely sure oven pilot light has been relighted as soon as range shut-off valve is turned on. On 26, 28 and 30 foot models, the oven gas shut-off valve is the left-hand knob on the face of the oven. It should be turned off when traveling, or when gas tanks are being changed. You need not turn on the shut-off valve and re-light the pilot unless you want to use the oven.

**THE WATER HEATER.** Your Airstream is equipped with a Bowen gas water heater which is built to give you long years of trouble-free performance. It has a 100% shut-off safety valve which shuts off the gas supply in the event of pilot flame being extinguished and is equipped with a Minneapolis-Honeywell regulator. It is lighted and serviced from outside through an access panel at the right rear of the trailer.

**PROCEDURE FOR LIGHTING OR RELIGHTING:**

1. Be sure the heater is filled with water and that all air has been vented from gas line.
2. Turn gas cock knob to "Off" position and temperature indicator to lowest temperature position.
3. Wait sufficient length of time to allow gas, which may have accumulated in burner compartment, to escape. (Approximately 5 minutes).
4. Turn gas cock knob to pilot.
5. Depress the knob, light the pilot burner, and hold the knob down for about 1 minute.
6. Turn the gas cock knob to ON.
7. Set the lever indicator for the desired water temperature.
8. To shut down the heater, turn gas cock knob to OFF position.

**PILOT FLAME ADJUSTMENT.** If the pilot flame does not have a small orange tip the pilot is not getting enough gas. The flame should be about  $\frac{1}{4}$  inch in vertical height when the water in the tank is cold and the burner is off; and a flame  $\frac{1}{4}$  to  $\frac{3}{8}$  inch in horizontal length when the tank is warm.

A large orange flame indicates excessive gas supply, which will result in short pilot life and early replacement. The pilot has been properly adjusted at the factory and should operate with a blue, orange tipped flame enveloping the pilot thermocouple. Removal of the pilot adjustment cap in lower right corner of control will reveal the pilot adjustment screw. Turning this screw clockwise reduces the flow of gas to the pilot (blue flame) and counter clockwise the gas supply is increased (orange flame). Always replace the "pilot adjustment cap" to prevent gas leakage.

**AIR SHUTTER ADJUSTMENT.** All fuels depend upon air (oxygen) to give them proper burning characteristics. A yellow, smoking flame indicates a lack of air and a noisy hard blue flames indicates an excess of air. The air shutter rotates around the main burner orifice holder and is held in place by a small shutter adjustment screw. Loosen the screw for adjustment. A good method of adjusting the air shutter is to rotate the shutter closed far enough for yellow tipping to occur on the main burner (not pilot) and then slowly open the air shutter until all signs of yellow tipping are gone. When proper adjustment has been obtained, tighten screw holding air shutter.

For services on Appliances not manufactured by Airstream refer to service locations lists furnished with your trailer. These lists were the most current lists available at the time your Airstream was manufactured but in time, these lists will become incomplete or obsolete and we suggest you contact your dealer for service locations on the specific appliance.

water heater



## CHAPTER 9

### hardware & running gear

**WINDOWS.** The curved and flat windows in your trailer are of tempered safety plate glass – the same type of glass used for the side and rear windows of automobiles. The tempering process makes the glass incredibly strong, and at the same time prevents it from injuring anyone if it should be broken. It can be shattered by a hard blow, but if this should happen, the glass tends to shatter into small, dull, harmless particles. No special care is required for these windows, and they may be cleaned with any good glass cleaner. The front window gravel guard is made of long lasting Butyrate. This material can be damaged by harsh abrasive cleaners and should be cleaned only with soap and water.

**OPERATING INSTRUCTIONS.** You will notice that all windows open outward. To open: rotate the latches on the lower sill counter-clockwise, and turn the operator counter-clockwise. To close: turn the operator clockwise, then turn the latches clockwise until the window is secured. The operator has built-in stops at both the full-open and full-closed positions. For maintenance and glass replacement instructions, see Chapter 10.

**DOOR CATCHES.** Roof locker, wardrobe and base cabinet doors are equipped with hidden catches. To open, just squeeze the catch; to close, just shut the door firmly – the catch will engage by itself.

**DRAWERS AND SHELVES.** All drawers and shelves in “flexible storage” areas are removable, allowing you greater flexibility in arranging the storage of your possessions to your own particular liking.

**SCREENS.** The door and window screens are made of plastic for longer wear and ease of maintenance. They can be easily cleaned with a damp cloth, and of course they cannot rust. However, while the screen material will not burn, contact with fire, such as a lighted cigarette, will cause it to melt at the point of such contact.

**THE MAIN DOOR.** It is very important that the main door of your trailer be completely closed during towing. If it is not properly secured, the constant vibration of travel can cause it to fly open and possibly break.

To lock your door for towing, turn the deadbolt clockwise as far as it will go; the knob will be in line with the punched mark on the surface of the deadbolt plate. **CAUTION:** The door latch also acts as a deadbolt when it is locked. DO NOT slam the door with either the door latch or the deadbolt in the locked position. Should you find it rather difficult to unlock the door lock, push in on the door to release the pressure on the door bolt, this will make it easier to unlock.

**THE DURA-TORQUE AXLE.** The new improved Dura-Torque axle in your Airstream has been referred to by experienced trailerites as “the greatest thing that has happened to trailers since they invented the wheel.” The Dura-Torque axle gives a much finer ride than the conventional axle and spring, and by elimination of the great number of parts, eliminates sources of maintenance problems. The Dura-Torque axle is designed to last the life of your trailer without service except to the wheel bearings.

axle

**WARNING!** Under no circumstances should any welding be done on or near the Dura-Torque axle (such as in mounting skids or welding in the area of the axle where the heat may be transferred to the axle). The heat generated by welding will destroy the rubber pads and cause failure of the axle.

**CHANGING FLAT TIRES.** One of the bonuses that result from having independent dura-torque suspension on tandem model Airstreams is the ease with which a flat tire may be changed. On a tandem trailer, to change one of the wheels it is necessary only to drive the remaining wheel on the same side up on a block about 6 inches thickness. The wheel with the flat tire will then clear the ground to a point where it is possible to remove it and replace it without the use of a jack. If a spare is not carried, it is quite possible to drive the unit for some distance on 3 wheels only.

On single axle trailers, place a jack under the main frame rail of the trailer as close as possible to the wheel location and jack up at that point. The main frame rail, is located 15 inches inboard from the outside edge of the trailer.

**THE KELSEY-HAYES ELECTRIC BRAKES.** The Kelsey-Hayes 2-shoe adjustable brakes on your Airstream are the finest electric brakes available on the market. They are operated by the 12-volt current from your car and should be hooked-up so that you have an integral system with your car brake.

The number one cause of trouble with trailer brakes is improper installation of the controls in the tow car. To prevent problems and insure satisfactory braking action it is necessary that you install a Kelsey-Hayes controller and a Kelsey-Hayes variable resistor in line with the brake controller in your car. Do not attempt to use any other brand.

**To adjust your Kelsey-Hayes brakes is quite simple. Follow this procedure:**

1. Remove the small rubber plug at the base of the backing plate on the brake drum.
2. Jack the wheel up so you can spin it by hand; tighten the brakes (using a brake adjusting tool or a screwdriver that has been bent to a 90 degree angle)) until the wheel is locked; then back off until you have a free spinning wheel (which will be approximately 15 notches).
3. Repeat this operation with all of the other wheels on your trailer.

**THE TIRES.** Your Airstream is equipped at the factory with Goodyear travel trailer tires. Your Airstream dealer cannot make adjustments on these tires — they can be made by any Goodyear dealer. When you are on the road, if you have any problems with your tires, check in the classified pages of the telephone directory for the nearest Goodyear dealer. The following rules will help you get top performance and maximum life from your tires.

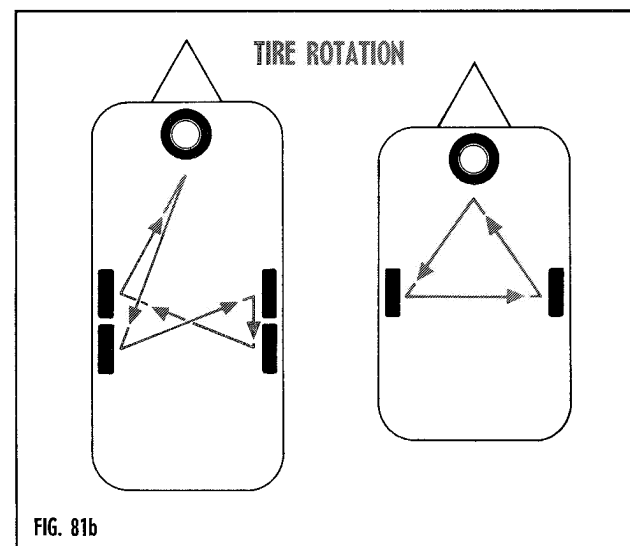
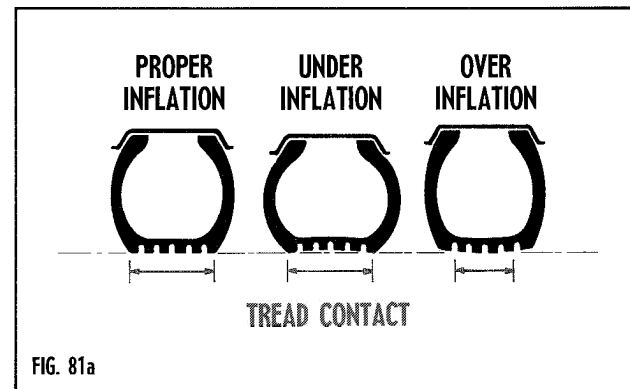
1. Always check air pressure in your tires before starting on a trip. Tires should be cool when checked. Be sure you maintain correct pressure when cool, but never “bleed” air out after you have been driving or when tires are hot. The tires are designed to compensate for the higher pressure that will be encountered as they are driven; “bleeding” air out could result in under-inflation when they have cooled. The proper pressure for tires supplied with your Airstream (7:00 x 15) is 45 psi; (the 7:75 x 15 tires used on the Caravels use 40 psi). Make sure valve cores and valve caps are tight to prevent loss of air.

NOTE: Your Airstream tires are rated up to 60 psi and can be inflated to this pressure when the trailer is heavily loaded; however, this will cause a rougher ride.

2. When parked between trips, maintain recommended air pressure in all tires at all times.

3. Whenever possible, park in shaded areas so that tires are not exposed to the direct rays of the sun.

4. If parking for extended periods of time, put your trailer on blocks so that tires do not touch the ground. If local parking regulations permit, and facilities are available, remove tires and store in dry, cool enclosure or if you wish you can cover the tires to keep rays of sun from deteriorating the rubber. This precaution is especially helpful to tire life in very sunny areas such as the desert region, Florida, etc.





# CHAPTER 10

## maintenance

maintenance  
guide

Your Airstream is without a doubt the finest engineered travel trailer ever to be mass-produced. Every design feature and component has been chosen with the thought in mind of giving you thousands of miles of trouble-free operation. By adhering to the following min-

imum maintenance schedule and the additional exterior and interior maintenance suggestions you will enjoy all of the pleasure you dream of from your trailer . . . and more.

### MAINTENANCE GUIDE

ITEM	Every 1,000 miles or 30 days	Every 5,000 miles or 90 days	Every 10,000 miles or 6 months	PROCEDURE
Battery	X			Check water level-fill with distilled water only.
Smoke Hood	X			Clean fan blades and wash filter.
Hitch Ball Latch	X			Lubricate with engine motor oil.
Hitch Jack	X			Lubricate with light household oil (put oil can spout up under handle and allow oil to run down post).
7-way Plug & Receptacle		X		Clean contacts and coat with "SPRA-KLEEN".
Window Operators	X			Lubricate with light household oil.
Window rubber/Door rubber		X		Clean with mild detergent & coat with "Slipicone".
LPG Hold Down Screw	X			Lubricate with light household oil.
Entrance Door Hinge	X			Lubricate with light household oil.
Roof Vent Elevator Screws	X			Lubricate with light household oil.
All Exterior Door Locks	X			Lubricate by shooting in dry graphite.
Strike pocket on Main Door	X			Coat with paraffin.
Wheel Bearings			X	Clean, repack, and adjust.
Brakes			X	Inspect and adjust.
Tires	X			Inspect for foreign objects. Check pressure (45 psi except the 17 ft. model which is 40 psi).
Tires		X		Cross-switch.
Water Pump		X		Check belt for wear and proper tension.
Wheel Lug Nuts		X		Check for tightness.
Retracting Step		X		Lubricate moving parts.

**SEASONAL CHECK-UPS.** Every fall and winter, and after any long storage, all of the gas appliances should be checked, cleaned and adjusted to insure safe and care-free operation. See chapters on “appliances” in this manual for maintenance procedures or have your Airstream dealer perform this “preventative maintenance” for you.

#### **EXTERIOR MAINTENANCE**

**ALUMINUM BODY.** Your Airstream has been protected by an acrylic lacquer finish applied at the factory. It will have on it an impervious film which should afford years of satisfactory service. As with any high quality finish, however, damage may occur if strong solvents or abrasive cleaners are used to remove road stains such as asphalt or insects. If use of solvents is necessary to remove these materials, the areas affected should be wiped with a good grade lacquer thinner and touched up with a spray can of clear acrylic lacquer (available at Wally Byam stores). If through the years the protective lacquer film is removed in extensive areas due to abrasion or highly corrosive atmospheres, a non-uniform appearance may result due to the differential oxidation of the underlying aluminum. Under these circumstances it is best to remove all lacquer with a good grade lacquer solvent and polish the entire trailer as described below.

To keep your Airstream looking like new, it is important to keep the aluminum surface clean. Oils, greases, dust and dirt can be removed by washing with any mild non-abrasive soap or detergent such as those found around the house or those recommended for washing automotive finishes. (Automatic dishwasher detergents generally are too strong and should not be used). Under no circumstances should you attempt to use any of the acid etch cleaners that are available on the market as trailer cleaners. These are very dangerous for an amateur to use and, unless carefully handled, can be harmful to both the user and the trailer.

Cleaning solutions are best applied with a large sponge, soft cotton cloth or with a soft-to-medium bristle brush for stubborn spots. Cleaning should be followed by rinsing with clear water, taking care to rinse all detergents from cracks, grooves and crevices. Best results will be obtained by drying the surface with a chamois or soft cloth to prevent spotting or streaking. Always be careful to clean your Airstream in the shade or on a cloudy day and when the aluminum skin is cool.

After cleaning and drying, a good grade of non-abrasive automotive paste or liquid wax will greatly increase the life of the finish, maintain a uniform overall appearance, protect the finish from minor scratches and abrasions, and make later cleaning and maintenance easier.

Wax coatings should normally be applied every three to six months. They are best applied by hand but a soft, light-pressure mechanical buffer can be used if great caution is taken. Even non-abrasive waxes may cause surface marks if heavily buffed with high-pressure mechanical buffing equipment. The life of the wax coating is dependent on the degree and severity of exposure and maintenance between waxings. To get the longest life from wax coatings, excess grime and soil should be washed as often as needed with clean, cool water and the surface dried with a damp chamois or cloth. A protective wax coating is particularly important in coastal localities where the finish is exposed to salt air, and in industrial areas where the finish is exposed to industrial waste fallout.

It is important to remove sap, seeds, gum, resin, etc., as soon as possible after they appear by washing and rewaxing. Sunlight and time will bake harden these materials so they may become ingrained into the actual finish of the aluminum, making them almost impossible to remove without heavy buffing.

If your trailer becomes exposed to unusually severe and corrosive atmospheric or service conditions, or has received improper or little



maintenance, the acrylic coating may be destroyed and the aluminum may oxidize. This oxidation appears either visibly, as a white powder in very small granules, or can be felt as a roughness on the surface. To clean your Airstream after oxidation has taken place, the following procedure is recommended:

1. Wash your trailer with a good detergent using moderately hot water. Remove all dirt, mud and as much of the road asphalt as possible. If asphalt remains on the trailer after washing, use a small amount of kerosene on a rag and wipe the spots individually, being careful not to scratch the aluminum.
2. Remove all traces of acrylic coating with a good grade lacquer solvent.
3. Use a ready made aluminum cleaning preparation such as those designed for use on aircraft. One that has been found to be satisfactory is Met-All, available in Wally Byam stores. Use a fairly large, soft cloth with some Met-All and rub lengthwise on the trailer or parallel with the grain of the aluminum (you will be able to determine the grain of the aluminum by looking closely at each panel). Do one complete sheet or section at a time.
4. Continue to rub the Met-All paste on the sheet after it has picked up a black color, which indicates that the coating of oxidized aluminum is being removed. Do not allow the rag to become caked or hard. Use either a clean rag or keep turning the rag as long as it is usable. When a cake of oxidized aluminum paste develops on your rag it is possible, with continued rubbing, to scratch the metal surface.
5. After completing the instructions under paragraph 4, use a soft, clean cloth that has been dusted with ordinary white wheat flour and buff off by hand the excess material that has been left on the sheet. (For extremely tough jobs, it may be necessary to do a complete job twice, except that the second time it is not neces-

sary to wash the trailer with detergent).

6. The use of a buffer is not recommended except in the hands of a thoroughly experienced person (if not expertly used, the buffer will leave a pattern on the aluminum surface).

Glass Wax (made by Johnson) has been found to be very useful in removing the last marks made in rubbing off the oxidized aluminum. After it is thoroughly clean, the entire surface should be re-waxed. Do not use Glass Wax if you plan to re-coat your Airstream with the clear acrylic lacquer.

**CHASSIS AND HARDWARE.** The entire chassis has been painted with a high quality black chassis paint and the visible portions have been painted with an aluminum lacquer. To keep your trailer looking new it is recommended that the exposed portions of the chassis, bumper, gas bottles, etc. be repainted periodically with aluminum lacquer. These parts can be brush painted if desired but a more professional appearance can be had by using a spray can (available through Wally Byam stores). It is also a good idea to repaint the vent covers for the galley exhaust fan, the refrigerator and the plumbing vents at the same time. If your trailer is equipped with air conditioning, the shroud over the air conditioner should also be painted.

Check the 7-way electrical connector for dirt and corrosion. Periodically, apply some "SPRA-KLEEN" to keep the contacts clean. When not using the trailer, it is a good idea to put a cover over the plug to keep out foreign matter.

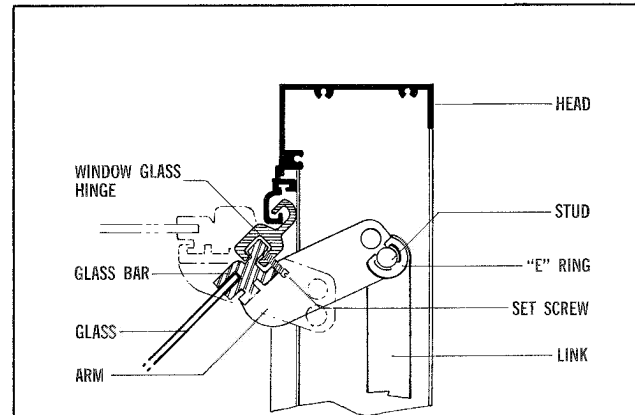


FIG. 86a

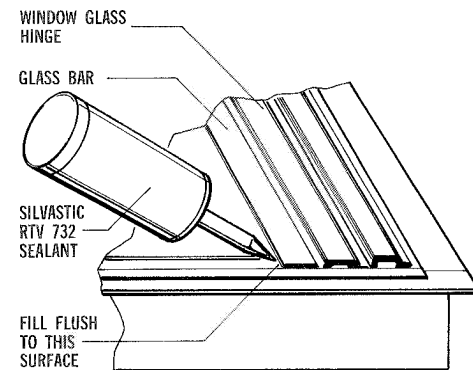


FIG. 86b

**WINDOW MAINTENANCE.** Window gaskets are of neoprene rubber and will give good service with minimum care. Clean the rubber with a damp cloth or mild detergent every 3 to 6 months. **DO NOT USE STRONG SOLVENTS** – they will damage the rubber. A coat of natural silicone lubricant rubber seal (slipicone) applied after the rubber has dried will keep it flexible. Spread the lubricant evenly with a brush or finger working it in to the surface. The slipicone is available through Wally Byam stores.

**REPLACEMENT.** Should the window glass become broken, replacement glass can be ordered by part number. The name and number of each window is stamped on the sill, approximately 10 inches from the righthand side as seen from inside the trailer. The replacement glass will have the glass bar, arm, and keepers already assembled.

**To remove the glass:**

1. Open the window about half-way.
2. Remove the "E" ring at the top of the window (see Fig. 86a).
3. Push the link to the side of the window until the stud is free from the arm.
4. Rotate the glass bar and arm to a horizontal position.
5. Loosen the set screws in the window glass hinge located at the top of the glass.
6. Apply pressure from the outside toward the trailer to unhook the glass support bar from the hinge.
7. Clean the seal and check for damage. Cuts in the seal may allow the window to leak; damaged seals should be replaced.

**To install new glass:**

1. Be sure the glass bar is centered in the window frame. The bar should extend about  $\frac{1}{8}$  inch beyond the glass on both sides.
2. Lubricate the rubber seal as described under Maintenance, making sure to lubricate the rubber under the head section with a brush.
3. Lubricate the hinge of the glass bar, using the same lubricant used on the rubber.
4. Reverse the removal procedure outlined above. **CAUTION:** do not force the glass closed; the hinge sections will be bent and the window will not function properly. When the hinge is hooked properly the glass will swing closed of its own weight.
5. Check the clearances between the sill, keeper, and latches.
6. Place the stud in the hole of the arm farthest from the glass.
7. After installation is complete, latch the window and fill the opening beside the glass and under the glass bar with RTV732 (Dow-Corning Silastic sealant) using a hand caulking gun. Fill until the sealant can be seen flush with the glass bar.
8. Do not open the window for at least 24 hours.

**INTERIOR MAINTENANCE.** The interior of your Airstream is designed to be as trouble and maintenance-free as is possible. Following these tips will help maintain the interior of your Airstream sparkling new:

**INTERIOR WALL FINISH.** The interior walls and roof locker doors are finished in vinyl.

Vinyl is best cleaned with a liberal application of suds from a mild household detergent such as Tide, with a small amount of bleach (Clorox, for example) added to the water. A damp bristle brush can be used for scrubbing to loosen and remove the soil. The surface should lastly be rinsed with clear water and wiped dry.

**Note:** use of kerosene, naphtha, carbon tetrachloride, lighter fluid, Energine, etc. should be avoided. They can cause damage to the vinyl. Abrasives should also be avoided, as they can wear off the print and unprotected surfaces and dull the lustre.

**INTERIOR WOODWORK.** The interior wood in your trailer is lacquered for greatest durability and beauty. A cloth moistened with plain water is the best cleaning agent. **DO NOT** use alcohol or any petroleum-base solvents; they will attack the lacquer and mar the finish.

**FLOORS.** Vinyl-asbestos floor tile should be cleaned with warm water and detergent, and coated with a good grade of clear wax such as Johnson's Paste or Vista wax. Self-polishing liquid waxes may be used, but they do not wear as well.

**DRAPES AND UPHOLSTERY.** When storing your trailer it is a good idea to protect the upholstery from fading rays of the sun by putting aluminum foil between the window and the screen. The upholstery fabrics are scotchgarded and therefore most dirt and stain can be easily removed with a damp cloth. If and when they become soiled, a good quality dry cleaning type upholstery cleaner can be used. The Land Yacht model drapes are hand washable in warm water. The International model drapes are dry cleanable by the "Stoddard Method" only.

**WORK SURFACES.** The work surfaces in your Airstream are of melamine laminate; they resist alcohol, fruit stains, scratches, acid, household alkali and heat up to 275°F. Waxing will help preserve the luster. Never use abrasive cleaners or use the surface for slicing or cutting. Protect from hot vessels.

**BASIN AND TUB.** The lavatory basin and tub in your Airstream are made of a special long-wearing, light weight, high strength material. When cleaning, use soap or detergent only – never use scouring powder. Wright's Silver Cream is an ideal cleaner for these parts.

#### **CLEANING PROCEDURES FOR STAINLESS STEEL SINKS.**

**GENERAL CLEANING.** For routine cleaning of stainless steel sinks, ordinary soap or detergent and water will usually do the work. To prevent water spots and streaks, rinse sink thoroughly with warm water and wipe dry with a soft, clean cloth. Stubborn spots or stains that resist soap and water usually can be removed with a paste made of water and a mild abrasive cleaner such as Bon Ami or Ajax. When applying these abrasive cleaners, be sure to rub in the direction of the polish lines on the steel to preserve the original finish.

**FINGERPRINTS.** Fingerprints are sometimes a problem on highly polished surfaces of stainless steel. They can be minimized by applying a cleaner which will leave a thin waxy film. An excellent cleaner for this purpose is the trade-marked product "Lac-O-Nu" (available through Wally Byam stores). To use this cleaner, simply wipe on and remove excess cleaner with a soft dry cloth. After using, subsequent fingerprints will usually disappear when wiped with a soft dry cloth or with a cloth containing a little of the cleaner. If the surface is especially dirty to start with, wash first with soap or detergent and water.

**SCALE AND HARD WATER FILMS.** Several types of films and scale can form on stainless steel from the use of hard water and strong detergents. They may be easy or difficult to remove, depending on the hardness of the water, type of detergent used, and length of time the film or scale has been permitted to build up. **Regular**

**cleaning at frequent intervals is the best prevention.**

Heat sterilization can be done to stainless steel by filling sink with water at a temperature of 170 to 180°F. This will not injure the metal.

Certain foods and seasoning contain table salt, which in time will cause stainless steel to pit. These include ketchup, mustard and mayonnaise. Although stainless steel containers may be used for the serving of such foods, where time of contact is relatively short, never use stainless steel containers for storing such foods. It is also advisable to wash deposits of these foods from stainless steel cutlery, pots and pans, before they stand too long.

**STORM WINDOWS.** Easy-stowing storm windows are available through Wally Byam stores. Although it is durable, the material will scratch if rubbed with a dry cloth. Clean only with a damp cloth. The material will not burn but contact with a lighted cigarette will melt it.



## CHAPTER II

### trailer storage winterizing

**TRAILER STORAGE.** When storing trailer for short or long periods during above freezing weather – use the same precautions as you would in your own home in regards to perishables, ventilation and rain protection. In addition, for prolonged storage periods, flush out all drain lines and holding tank. Also, drain water system to prevent water from becoming stale. (Including water heater and water storage tank). For draining water system, use applicable instructions in next section on winterizing your Airstream.

**WINTERIZING YOUR AIRSTREAM.** The main consideration in winterizing is to guard against freezing damage to the hot and cold water systems, the waste drain system (including the traps), the waste-holding tank, the water heater and the battery. To completely winterize your Airstream, follow this procedure:

1. Level the trailer from side to side and front to rear. Open all the faucets.
2. Turn the water pump switch to the “Off” position.
3. Open all drain valves. There are four: two are located in the One-Stop Service Center, one is at the water storage tank in the front of the trailer and one is the crossover filler valve. (In the 17-foot model there are only two valves. One is in the storage area under the lavatory, and one is at the water storage tank.)
4. While the water is draining from the system, open and close the toilet flushing valve. Depress hand spray thumb button and hold the spray head below rim of toilet to drain the hand spray line. There is great danger of damage from freezing if water remains in these lines and valves.



5. Lower the front of the trailer as far as the jack will allow and see if the water will continue to drain. Then crank the jack up as high as it will go and let any remaining water drain out.

6. After water has stopped running from the drain lines, apply air pressure to the drain lines with all drain valves and faucets still open. This will force any remaining water from the water heater and any water which may be trapped in low areas.

7. Pour about a cup of kerosene into the lavatory, sink, and tub drains to prevent freezing of water in the traps; **Do not use anti-freeze.**

8. Be sure to open the waste-holding tank drain valve and drain the tank thoroughly. (This is very important as the sewage in the tank, if frozen, could seriously damage the tank.)

9. Remove the lower portions of the water purifier, if your trailer is so equipped, and drain the purifier.

10. Disconnect the Inlet and Outlet connections of the water pump and turn the pump by hand until all water is expelled.

11. It is very important for optimum life of your battery to check it periodically and to keep it fully charged. This is especially true in winter months when the temperature may drop below freezing. The following points are important to consider to get the most out of your battery.

a. A fully charged battery will not freeze under any normal circumstances, therefore, it is imperative that you keep your battery charged during the winter. A safe level of charge is a spe-

cific gravity reading of 1.225. A fully charged battery has a specific gravity of 1.250 to 1.280.

b. A normal battery will discharge by itself in 30 to 45 days, therefore, it is necessary to periodically check the battery and charge it as necessary. We suggest checking the battery at least every 2 weeks in freezing weather.

c. When charging your battery, we recommend using the built in charger in your univolt system because it automatically controls the charging rate and the level of charge. If you remove your battery and have it charged by a service station, do not let them give it a "quick charge" since this can drastically shorten the life of your battery. (This also applies to your car battery).

d. If your trailer is equipped with a Batt-check, you can tell the approximate condition of your battery with it. However, if the trailer is plugged into 110 volt power, be sure that you either unplug the trailer or turn off the main circuit breaker before reading the Batt-check. Reading the Batt-check with the trailer plugged in will give a false indication of battery condition because of the built in univolt charger.

12. Remove any items (food, cosmetics, etc.) from trailer interior that might be damaged by freezing – or might do damage to trailer by breaking their containers while freezing.



## CHAPTER 12

### equipping new tow car

**YOUR CAR.** Since your Airstream is designed and built for easy towing, almost any car has enough power and weight to tow it under level, dry conditions. However, experience has proven that a heavier car is advisable for towing the larger units (26-foot and up) under difficult weather conditions and on hills. A heavier car will also help you maintain complete control on slippery downgrades.

**WEIGHT-TO-HORSEPOWER RATIO.** From the experience of thousands of trailer travelers, Airstream engineers have developed a "weight-to-horsepower" ratio to serve as a guide for matching tow cars to Airstreams. To obtain this ratio, add the weight of the trailer to the advertised weight of the automobile and divide by the advertised horsepower of the automobile.

Example: To determine the weight-to-horsepower ratio for a 250 horsepower Ford sedan weighing 3829 pounds and a 26-foot Airstream weighing 3950 pounds, the formula would read:

$$\frac{3950 + 3829}{250} = 31.12 \text{ pounds per horse power}$$

Experience has shown that the practical upper limit for most road conditions is 60 pounds per horsepower. Anything in the range of 30-40 pounds per horsepower is very adequately powered, with any lower ratio being a "hot rod".

Another guide for matching the tow car to your Airstream is to have the car and trailer weights nearly the same. Your Airstream will tow easier if it is not markedly heavier than the tow car. Of course, if your car is heavier than the Airstream so much the better.

The car transmission can be manual or automatic as you prefer. Automatic transmissions are recommended by the automobile manufacturers because they do a better job of controlling engine loads than the average driver can with a manual shift. An automatic transmission will prolong your car's engine life.

The hitch is an all-important item. In all cases be certain that a frame-mounted leveling type hitch is used. This type allows the hitch weight of the trailer to be evenly distributed over all four wheels of the car. It provides, in addition, a certain amount of anti-sway protection. Installation of the hitch is crucial and should be attempted only by a competent man who is thoroughly familiar with structural welding. Your dealer should either make the installation for you, or will supervise and inspect it. When installed, the top of the hitch ball should be approximately 21½" from the ground (20" for the Caravel) with the car level and not attached to the trailer. If this dimension is maintained, the car and trailer will be level. Make certain the attaching points for the safety chain and the breakaway switch are on the portion of the hitch that is welded to the car, and not on the removable ball mount.

Your hitch must be properly adjusted for safe towing, make certain that both car and trailer are level when they are hitched up. This is especially true for tandem axle trailers, because a low hitch on a tandem trailer causes most of the weight to be carried on the front wheels, which changes the center of support. This can be a very dangerous condition. It is also imperative for the anti-sway device to be properly adjusted. In the case of the cam type anti-sway device, the cams must be centered while the car and trailer are in a straight line. This is extremely important and should be periodically rechecked. See illustration in Chapter 2.

**THE ELECTRICAL CONNECTOR.** A seven-conductor auto cord wiring system is used to connect your Airstream to your car. Through a single, locking, polarized connector, your trailer battery will be charged, its brakes will be operated and the running and signal lights will be activated simultaneously with those on your car. See wiring diagram in Chapter 5.

**BRAKE CONTROLLER.** Your Airstream is equipped with Kelsey-Hayes two shoe adjustable brakes . . . the finest trailer brakes available. To insure proper operation, your car should be equipped with a genuine Kelsey-Hayes controller and resistor. Your Airstream dealer will either make the installation, or supervise and road test it for you. If you have any other controller already on your car, have it removed, and have the Kelsey-Hayes controller which came with your Airstream installed.

**ACCESSORIES FOR YOUR CAR.** A truck or trailer type rear view mirror is required by law in most states. This is to allow you to see out past the trailer. Several good makes are available from your dealer. A right-side rear view mirror is also highly recommended.

If your car has an automatic transmission and you intend to travel through mountainous country, you may wish to have a transmission oil radiator such as the Hayden Trans-Cooler installed to help your engine and transmission to run cooler and prevent possible damage. This is available through your Airstream dealer, and is heartily recommended if you plan much driving in mountainous or in hot climates or if your car is air conditioned. If you plan to buy a new car and intend to keep it for several years we strongly recom-

mend purchasing the trailer towing options offered by most car manufacturers. These options include such things as oversized generator, oversized radiator, heavy duty springs and shock absorbers, oversized fan, and other items depending on the make of car.

## SUPPLEMENT TO 1967 AIRSTREAM OWNERS MANUAL

MODELS AFFECTED	ITEM
20 ft. through 30 ft.	The Univolt (power supply and battery charger), which was located in the roadside storage compartment, is now located underneath the lavatory in the bathroom. The wiring in the Electrical Diagrams shown in Chapter 5 remains the same except for the location of the Univolt.



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