



CDE 2/2/04

IT IS HEREBY UNDERSTOOD THAT DOODEN INDUSTRIES OWNS ALL COPYRIGHTS AND RIGHTS OF REPRODUCTION TO THE DRAWINGS AND DESIGNS OF THE VEHICLE COMPONENT, AND THAT THE PURCHASER ACQUIRES NO RIGHTS OF DESIGN WHATSOEVER, NO RIGHTS OF REPRODUCTION ARE VESTED IN THE PURCHASER IN THE DESIGN OF THE VEHICLE.

26RBR-1**CONVERTER CALCULATIONS FOR 26' REAR BATH REAR SIDE DOOR**

MAGNETEK MODEL 7345 45 AMP CONVERTER

<u>12V ITEMS AVAILABLE ON CIRCUITS</u>	<u>RATINGS</u>	<u>AMPS</u>
LITECO OAK READING LIGHT	6 X .69A	4.14
THIN-LITE 30 WATT FLUORESCENT LIGHT	7 X 2.5A	17.50
PROGRESSIVE DYNAMICS SINGLE BULB LIGHT	4 X 1.44A	5.76
SHURFLO WHISPER KING WATER PUMP	5.5A	5.50
CONVERTER BATTERY CHARGE FUNCTION	3.0A	3.00
VENTLINE BATHROOM FAN	1.5A	1.50
ATWOOD G6A-8E WATER HEATER	1.0A	1.00
SUBURBAN SF-30F FURNACE	6.5A	6.50
NORCOLD N641 REFRIGERATOR	1.2A	1.20
CCI LPG ALARM	0.1A	0.10
BRAUND 12V TV OUTLET W/BOOSTER	2 X 3.43A	6.86
ITC STEPWELL LIGHT	0.42A	0.42
BARGMAN EXTERIOR LIGHT	2 X 0.94A	1.88
TRUSTY "BORN FREE" LIGHTED ENTRY HANDLE	0.42A	0.42
FAN-TASTIC FAN 3 SPEED MODEL 6000RBTA	3.0A	3.00
12V DC OUTLET (OPTIONAL)	3.33A	3.33
JENSEN STOVE HOOD & MONITOR PANEL	4.6A	4.60
ITC SHOWER LIGHT	2 X .833A	1.67

TOTAL AMPS

68.38

CONVERTER CALCULATION FORMULA

1ST 20A @ 100% =	20.00
2ND 20A @ 50% =	10.00
OVER 40A @ 25% =	7.10

TOTAL = 37.10



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26RBR-2

FIRM: DODGEN INDUSTRIES

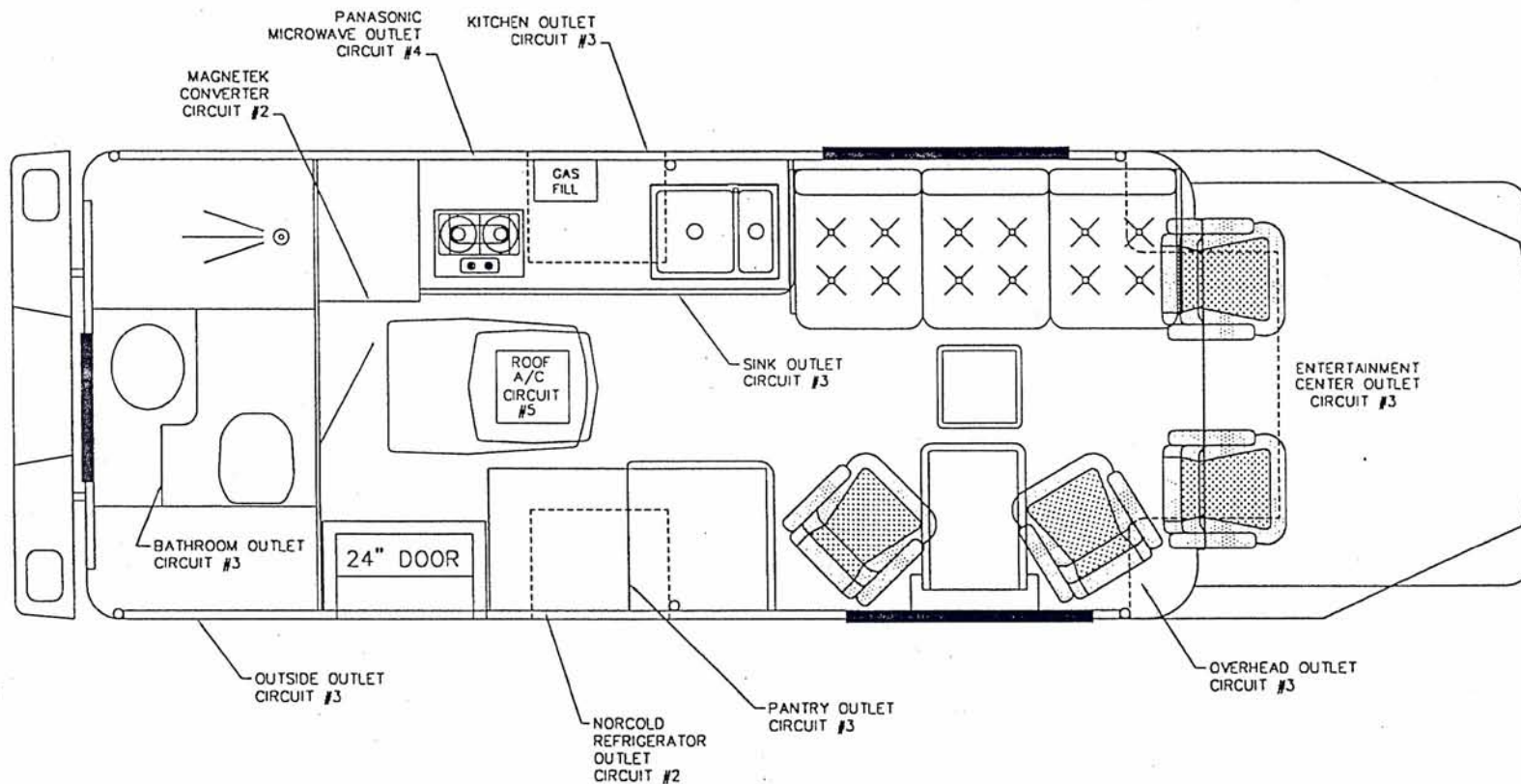
BORN FREE MOTORCOACH

12V DC HOUSE BATTERY CIRCUITS

DATE: 3/19/01

CSK 3/21/2001

26' REAR BATH (REAR SIDE DOOR) 120 V / 60 HZ AC



REFERENCE BF-1 FOR
CIRCUIT NUMBERS AND DETAILS

ALL WIRE IS 12-2 TYPE NM-B WITH
GROUND 600 VOLT UL-E18679

ALL OUTLETS ARE WIRECON TYPE WDR

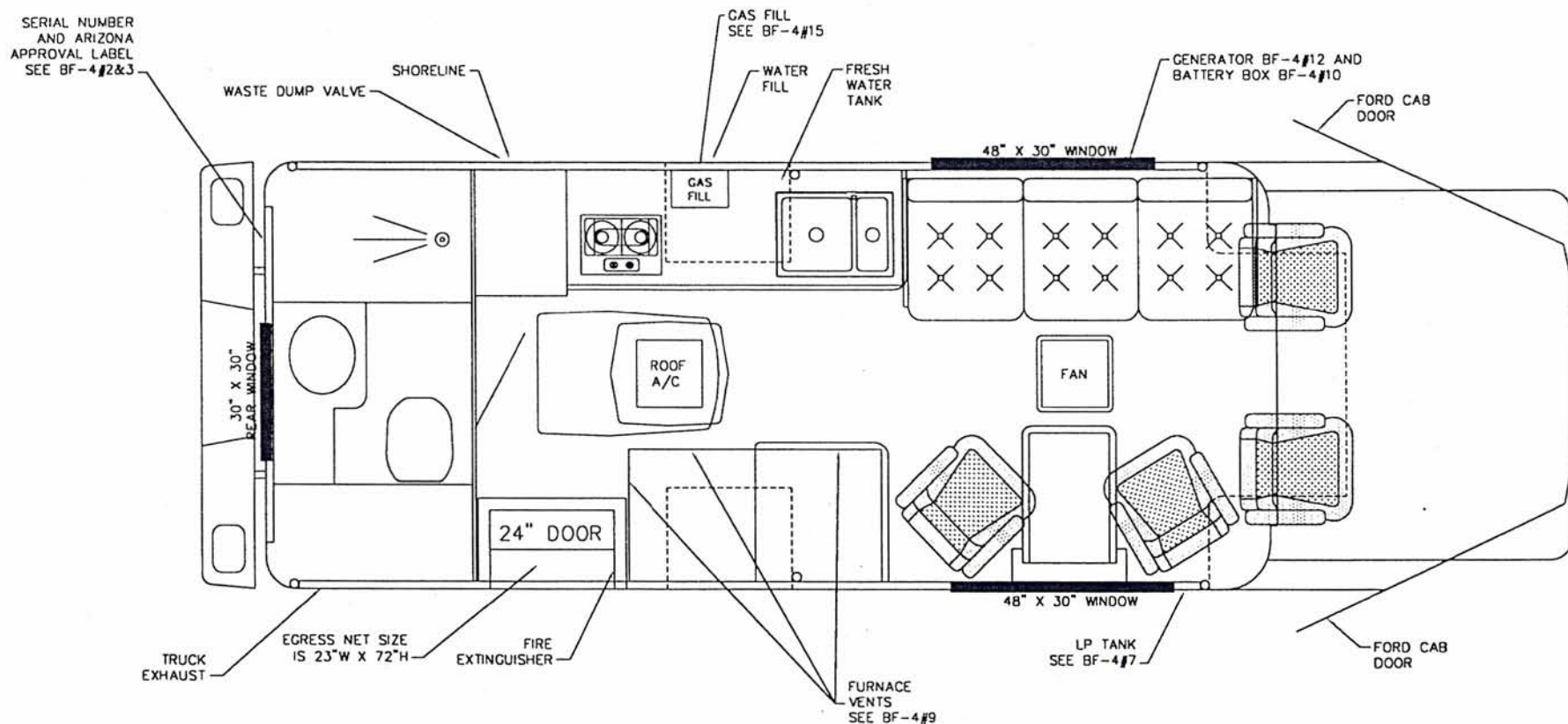
ALL 120V ITEMS ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

26RBR-3

FIRM: DOOGEN INDUSTRIES
BORN FREE MOTORCOACH
120 VOLT 60 HZ AC
DATE: 3/19/01
ANT 3/19/01

IT IS HEREBY UNDERSTOOD THAT DOOGEN INDUSTRIES
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REPRODUCTION ARE VESTED IN THE PURCHASER IN THE
DESIGN OF THE VEHICLE.

26' REAR BATH (REAR SIDE DOOR) MODEL OVERVIEW



26RBR-4

FIRM: DODGEN INDUSTRIES

BORN FREE MOTORCOACH

MODEL OVERVIEW

DATE: 3/19/01

ART 3/19/01

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LP Gas Systems

A. LP Tank

Your coach uses liquid petroleum (LP) gas as a fuel for all the appliances which require heat, such as the water heater, furnace, range, oven, and absorption-type refrigerator. LP gas is economical and effective for these purposes; when proper precautions are taken, it is a safe form of energy.

B. LP Gas Detector

A standard feature in all Born Free Motorcoaches is the LP Gas Detector. It is designed to quickly detect leakage in any LP gas piping and appliance system. The device does not prevent leaks. A beeper will sound if there is a leak. We encourage you to test the device before and after a trip is undertaken.

The LP Gas system should be checked for leaks at frequent intervals. An oily substance having a pungent odor is mixed with LP Gas so that if there is a leak, you will be able to smell it.

The best method of finding a leak is to use a soap solution made from ordinary dishwashing detergent and water. This solution can be applied with a small paintbrush to gas lines and connections. Bubbles will appear at any place where gas is leaking out of the system. Most leaks occur at fittings and can be corrected usually by tightening the fitting. Where tightening fails to stop the leak, the fitting must be replaced.

WARNING: *No flammable material should ever be used to check for leaks in an LP Gas system.*

Occasionally, water may find its way into an LP Gas system and if this water freezes, the operation of the system may fail. The addition of anhydrous methanol to the LP gas system will usually eliminate this problem. The anhydrous methanol absorbs the water and it then passes out of the system as the gas is used. If possible, find a service station that adds methanol to their propane during the winter months.

Most of the gas appliances in your Born Free Motorcoach have electronic pilot lights, which will engage to light the fuel upon demand. These appliances all have a device built in that will shut the flow of gas off to the burner if the burner is not ignited.

C. Maintenance of LP Gas Systems

LP Gas systems normally operate for periods of time with a minimum of maintenance. However, a few tips on maintenance will be useful. One of the worst enemies of LP Gas systems is the spider. Spiders are attracted to tunnels and holes. They frequently spin webs across and through the orifices of gas-fired appliances. These webs restrict the airflow and produce a weak yellow flame that typically deposits carbon. If a yellow flame is detected, all

parts of the burner should be wiped clean and orifices should be blown clear with compressed air.

If spider webs are not present and the flame is still too yellow and filled with carbon, the air adjustment of the burner should be adjusted until a blue flame is maximized.

D. Furnace

The furnace in your Born Free Motorcoach is an LP Gas burning model, which will distribute heat throughout the coach; it is controlled by a wall thermostat. The furnace is equipped with electronic ignition. To start the furnace, simply position the thermostat to the desired temperature, making sure the LP Gas valve is open at the tank. When not in use, remember to position the wall thermostat to the "off" position.

We recommend inspecting the main burner periodically to assure that the furnace burner is functioning at maximum efficiency. If the flame has become yellow, you should remove the burner and clean it with a wire brush and blow it clean with compressed air. Reinstall the burner and ensure that the burner is burning with a hard blue flame, with well-defined burner ports. Refer to the furnace manual for proper removal of the burner assembly. It is not recommended that the furnace be used when the vehicle is in motion.

E. Water Heater

Before you can light the water heater, it must be filled with water. With the water pump switch on, open a hot water faucet. The water pump will push water into the water heater tank, and the air displaced will escape from the open hot water faucet. A steady flow of water from the open hot water faucet will indicate the tank is full and the faucet may be shut off. The best time to fill the water heater is when you are filling the fresh water tank, otherwise you will take six gallons of water from your supply tank and your supply tank will not be full.

To light your water heater:

- (1) Turn on the gas supply at the LP Gas tank.
- (2) Push the water heater ignition switch in the coach to the "on" position. Listen for a clicking sound – this indicates that the heater is trying to light. You will hear the burner when it lights. If it fails to light, shut the switch off and repeat the procedure until it lights. Water temperature is factory adjusted and cannot be changed. The water heater will cycle on and off to maintain the proper temperature.

To maintain your water heater:

- (1) Turn the LP Gas valve "off" before draining.
- (2) Open the drain valve and open the lever on the pressure relief valve on the outside of the heater. Air adjustment for the burner can be adjusted by moving the air sleeve to increase or decrease air. Yellowish, smoky flame will indicate that the burner needs

more air. If adjustment does not reduce yellow flame, the problem is likely due to an obstruction in the pipe. This is a favorite place for spiders to spin a web, impeding air to the burner. Simply clear the obstruction from the tube and repeat the lighting procedure.

F. Refrigerator

Your Born Free Motorcoach is equipped with an LP Gas and 120-Volt AC refrigerator. The refrigerator should be started a few hours before leaving on any trip or outing. Pre-chill all food and beverages in your house refrigerator before placing them in your coach refrigerator. This will hasten the time that it takes to get the refrigerator cool, and will not raise the temperature by placing too great a load on it suddenly. An inexpensive refrigerator thermometer can be purchased at most hardware stores and will prove very valuable in monitoring the temperature of the refrigerator.

The refrigerator must be level to operate efficiently as the gases and fluids within the cooling unit depend on gravity for circulation. While traveling down the highway, regular movement of the motorcoach allows the gases and fluids to circulate properly. We advise you to carry a few short pieces of 2x4 or 2x6 lumber to elevate the coach to attain proper leveling.

Pilot flame blow out is not unusual when subjected to strong, gusty winds from other vehicles. Do not obstruct the outside vent by covering it or placing any kind of material inside the vent door. For proper operation, air must be drawn in through the side vent, allowed to pass over the cooling unit, and then drawn upward through the roof vent. Any blockage of this "chimney action" will impair the operation of the refrigerator.

For maintenance and warranty work, refer to the manufacturer's manual.

To Defrost The Freezer Compartment Of Your Refrigerator:

- (1) Turn the refrigerator "off."
- (2) Allow the frost to melt. (Inserting ice trays filled with hot water will hasten this process.)
- (3) Do not attempt to chip the frost away from any part of the cooling unit. Damage to the cooling unit may result.
- (4) Clean the entire refrigerator with a mild detergent and water, dry with a soft towel, and allow the unit to air dry before re-starting the refrigerator.
- (5) We advise you to follow this cleaning procedure following any trip.

G. Range & Oven

To operate, simply turn on the LP Gas at the tank. Turn on the gas control to the desired burner and light the burner with a match or igniter.

If you are using an LP Gas range for the first time, you will notice flame height is appreciably lower than the natural gas range in your home. LP Gas contains more BTU per unit than

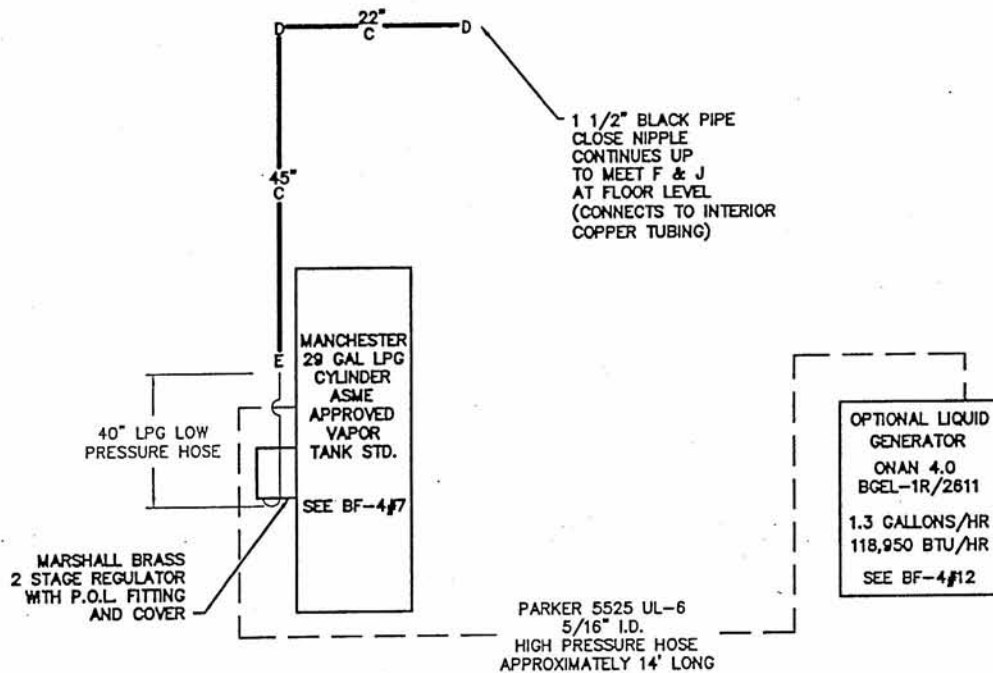
natural gas and a lower flame will cook as quickly and contain as much heat as the larger natural gas flame.

The flame should always be a blue color without any yellow tips. If yellow starts to form on the tips, it will smoke or soot the bottoms of your cookware. This condition can be remedied by adjusting the sleeve shutter to each individual burner to allow for the proper air mixture.

Refer to your range manual for warranty service and any other adjustments required.

WARNING: The range is not a substitute for your furnace and should never be used to heat the motorcoach.

BELOW FLOOR LP GAS SYSTEM



TOTAL LENGTH OF BLACK PIPE= 67"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

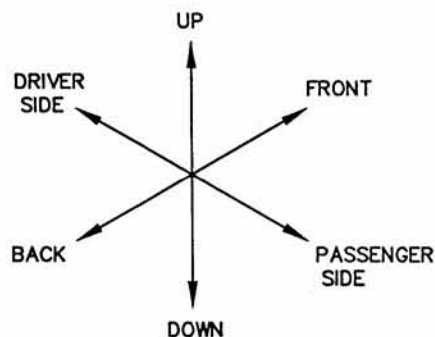
DATE		PROJECT NAME		SCALE		DRAWN BY	
11/24/03		22' RD		DODGEN/BORNFREE			
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50648				FILE BELOW FLOOR LP GAS SYSTEM			
5				22RD-5			

ABOVE FLOOR LP GAS SYSTEM

TOTAL BTU/HR INPUT FOR THIS DRAWING= 53,300

TOTAL LENGTH OF 1/4" COPPER= 107"

TOTAL LENGTH OF 3/8" COPPER= 93"



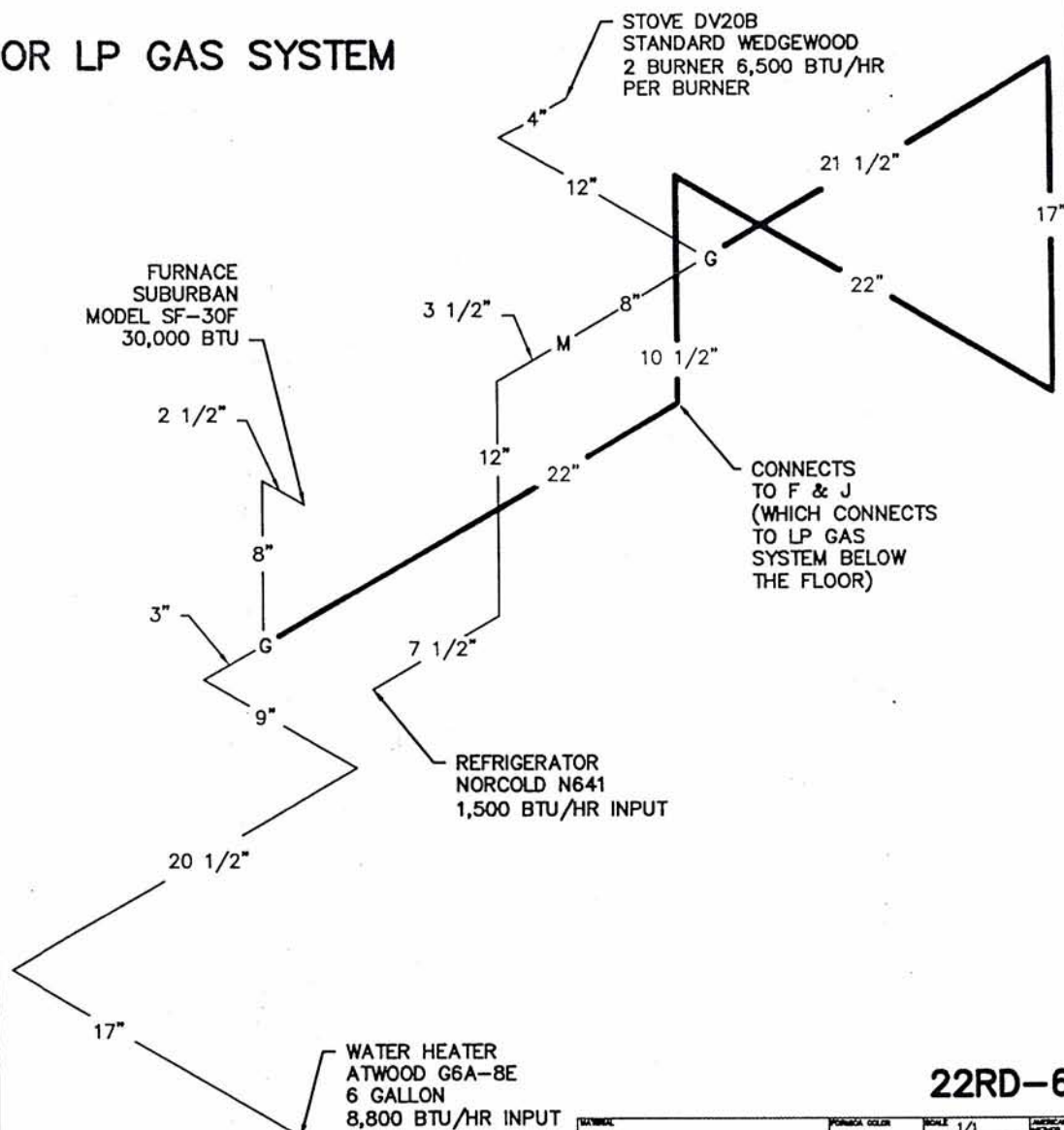
ALL PIECES ARE LISTED MATERIALS APPROVED FOR USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1/4" ID COPPER TUBING

3/8" ID COPPER TUBING

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER
- M- 3/8" MFL X 3/8" MFL COUPLING



22RD-6

DATE		PROJECT		SCALE		DRAWN BY	
11/24/03		22' RD		1/1		DODGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50648				TITLE ABOVE FLOOR LP GAS SYSTEM			
REV 1				REV 22RD-6			

ABOVE FLOOR LP GAS SYSTEM FOR REFRIGERATOR & FURNACE

TOTAL BTU/HR INPUT FOR THIS DRAWING= 31,500
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 10 1/4"
TOTAL LENGTH OF 3/8" COPPER= 54"



CONNECTS
TO F & J
(WHICH CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR

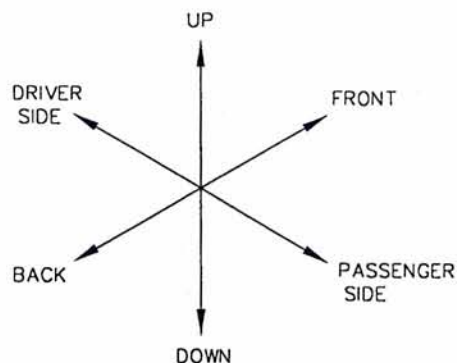
FURNACE
SUBURBAN
MODEL SF-30F
30,000 BTU/HR INPUT

REFRIGERATOR
NORCOLD N641
1,500 BTU/HR INPUT

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

	1/4" ID COPPER TUBING
	3/8" ID COPPER TUBING
A- 3/8" MFL BRASS ELBOW	
B- 1/2" FPT X 1/2" MFL BRASS ELBOW	
C- 1/2" BLACK PIPE SCHEDULE 40	
D- 1/2" BLACK PIPE 90° ELBOW	
E- 1/2" BLACK PIPE TEE	
F- 1/2" BLACK PIPE COUPLING	
G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE	
H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW	
J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE	
K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE	
L- 1/2" MFL X 3/8" MFL REDUCER	



24RB-6

DATE		FORMICA COLOR		SCALE	1/1	AMERICAN SHEET
TREATMENT		DESIGN WORK		24' RS	DESIGNED FROM	
DATE	AAT	DATE	DATE	1/22/01	MODEL	DODGEN/BORN FREE
DODGEN INDUSTRIES AND BORN FREE MOTORCOACHES HWY 160N., P.O. BOX 39 HUMBOLDT, IA 50548				TITLE		COPPER TUBING FOR REFRIGERATOR & FURNACE
NUMBER				1	24RB-6	KEY

ABOVE FLOOR LP GAS SYSTEM FOR STOVE & WATER HEATER

TOTAL BTU/HR INPUT FOR THIS DRAWING= 21,800
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 226 1/4"
TOTAL LENGTH OF 3/8" COPPER= 46 3/4"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1/4" ID COPPER TUBING

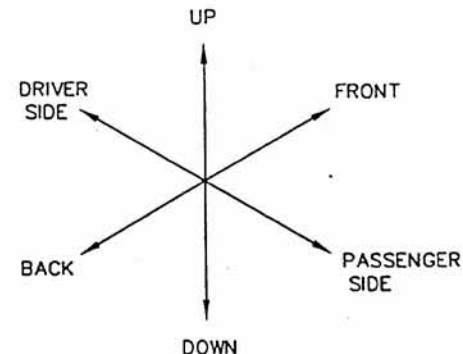
3/8" ID COPPER TUBING

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

WATER HEATER
ATWOOD G6A-8E
6 GALLON
8,800 BTU/HR INPUT

STOVE DA21B
STANDARD WEDGEWOOD
2 BURNER 6,500 BTU/HR
PER BURNER

CONNECTS
TO B (WHICH
CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR)

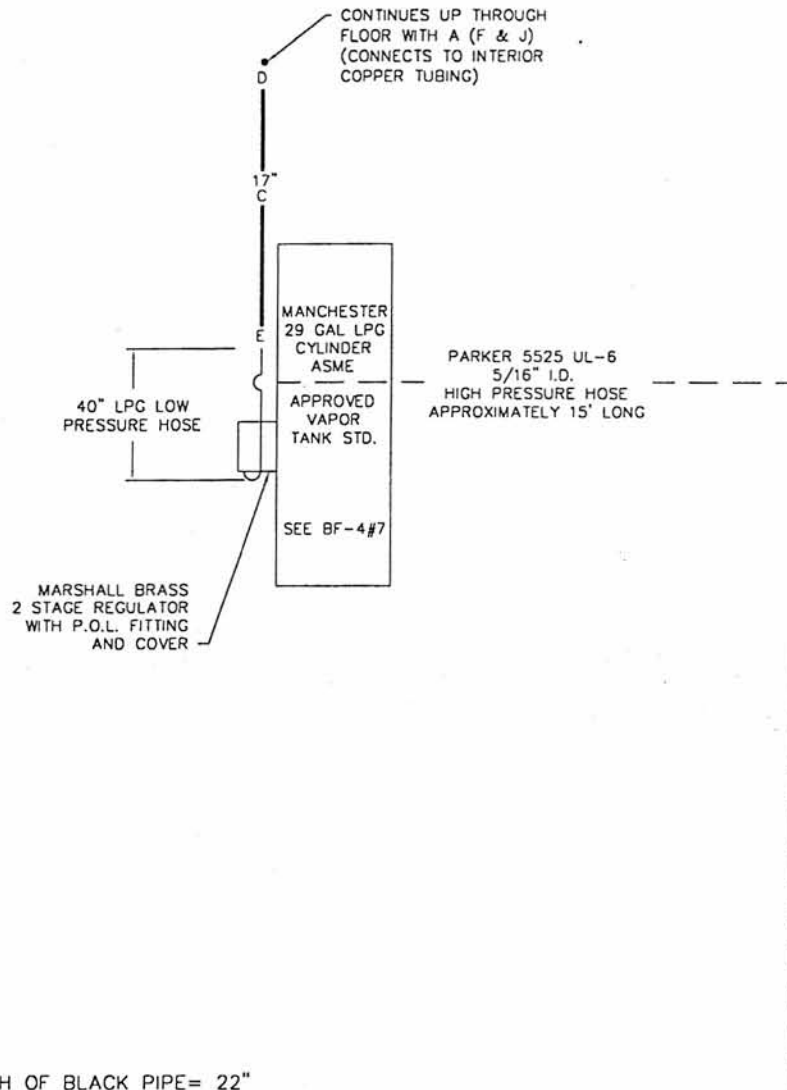


24RB-7

C CHANGED 3/8" SECTION TO BELOW FLOOR		CDX	10/22/01
B CORRECTED CONNECTION TO BELOW FLOOR		AAT	16 FEB 01
A ADDED BRASS TEE		AAT	06 FEB 01
REV DESCRIPTION		DRW	REQD DATE
FORMER COLOR		SCALE	1/1
DESIGN USER		24' RB	DOUGEN/BORNFREE
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		COPPER TUBING FOR STOVE & WATER HEATER	
DATE AAT 1/22/01		SHEET 3	
TITLE 24RB-7		REV C	

BELOW FLOOR LP GAS SYSTEM

26RSB-5



TOTAL LENGTH OF BLACK PIPE = 22"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

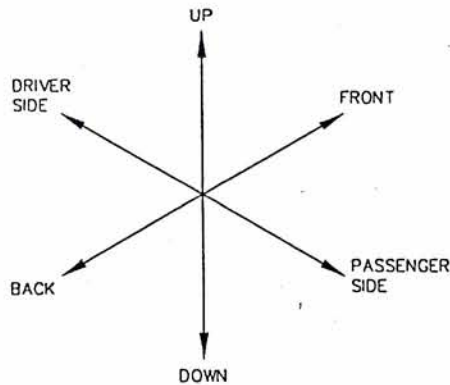
LEGEND

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

OPTIONAL LIQUID
GENERATOR
ONAN 4.0
BGEL-1R/2611
1.3 GALLONS/HR
118,950 BTU/HR
SEE BF-4#12

A CHANGED PRESSURE HOSE DISTANCE		AAT	27 FEB 01
REV DESCRIPTION		DRW	REQ DATE
MATERIAL		FORMICA COLOR	SCALE
TREATMENT		DESIGN VIEWS	DESIGNED FROM
DATE	BY	DATE	BY
AAT	JAN	1/5/01	DOOGEN/BORNFREE
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		BELOW FLOOR LP GAS SYSTEM	
NUMBER 5		26RSB-5	
		REV A	

ABOVE FLOOR LP GAS SYSTEM



TOTAL BTU/HR INPUT FOR THIS DRAWING= 53,300

TOTAL LENGTH OF 1/4" COPPER= 330 1/2"
TOTAL LENGTH OF 3/8" COPPER= 63"

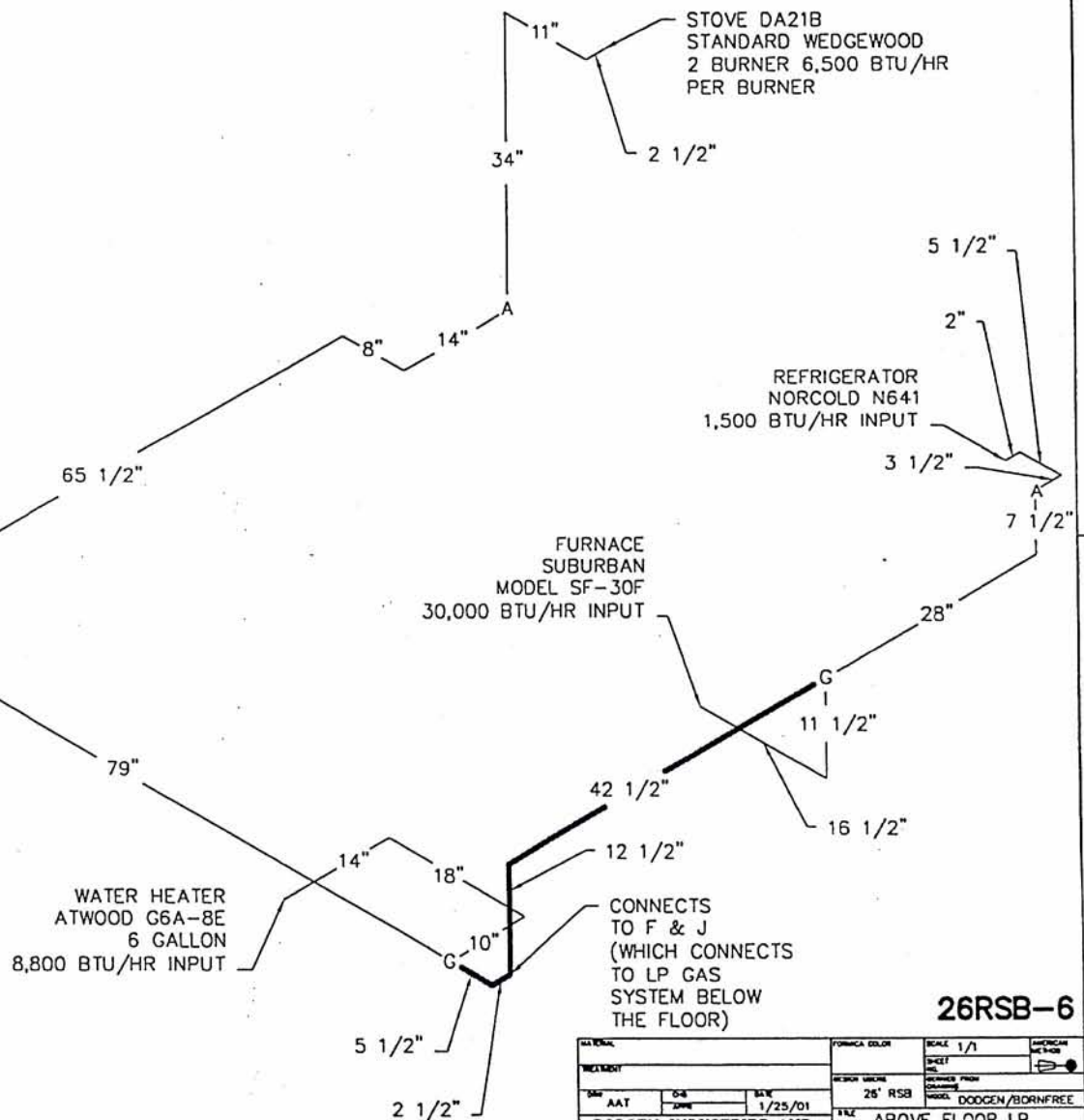
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LEGEND

1/4" ID COPPER TUBING

3/8" ID COPPER TUBING

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER



26RSB-6

DATE		FORMICA COLOR	SCALE 1/1	AMERICAN
REVISION		SHEET	NO.	1
DATE	BY	DATE	BY	DATE
1/25/01		1/25/01		1/25/01
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		DODGEN/BORNFREE		
TITLE		ABOVE FLOOR LP GAS SYSTEM		
PLANS	4	26RSB-6	REV	

BELOW FLOOR LP GAS SYSTEM

26RBF-5

MARSHALL BRASS
2 STAGE REGULATOR
WITH P.O.L. FITTING
AND COVER

MANCHESTER
29 GAL LPG
CYLINDER
ASME
APPROVED
VAPOR
TANK STD.

SEE BF-4#7

PARKER 5525 UL-6
5/16" I.D.
HIGH PRESSURE HOSE
APPROXIMATELY 15' LONG

40" LPG LOW
PRESSURE HOSE

1-1/2" BLACK PIPE
CLOSE NIPPLE
CONTINUES UP
TO MEET F & J
AT FLOOR LEVEL
(CONNECTS TO COPPER
TUBING FOR REFRIGERATOR
AND FURNACE)

1-1/2" BLACK PIPE
CLOSE NIPPLE
CONTINUES UP
TO MEET B
AT FLOOR LEVEL
(CONNECTS TO COPPER
TUBING FOR STOVE
AND WATER HEATER)

OPTIONAL LIQUID
GENERATOR
ONAN 4.0
BGEL-1R/2611
1.3 GALLONS/HR
118,950 BTU/HR
SEE BF-4#12

TOTAL LENGTH OF BLACK PIPE= 106"

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USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
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- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

DRAWN BY		CHECKED BY		SCALE		APPROVED BY	
DATE		DATE		SHEET NO.		SHEET TOTAL	
2/15/01		2/15/01		26' RBF		DODGEN/BORN FREE	
DODGEN INDUSTRIES AND BORN FREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548				TITLE BELOW FLOOR LP GAS SYSTEM			
PROJECT NO. 26RBF-5				REV			

ABOVE FLOOR LP GAS SYSTEM FOR REFRIGERATOR & FURNACE

TOTAL BTU/HR INPUT FOR THIS DRAWING= 31,500
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 10 1/4"
TOTAL LENGTH OF 3/8" COPPER= 50 1/2"

CONNECTS
TO F & J
(WHICH CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR)

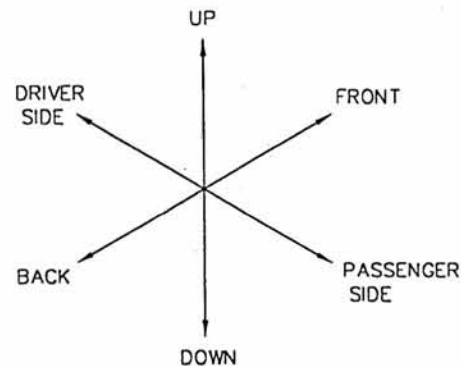
REFRIGERATOR
NORCOLD N641
1,500 BTU/HR INPUT

FURNACE
SUBURBAN
MODEL SF-30F
30,000 BTU/HR INPUT

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1/4" ID COPPER TUBING	
3/8" ID COPPER TUBING	
A-	3/8" MFL BRASS ELBOW
B-	1/2" FPT X 1/2" MFL BRASS ELBOW
C-	1/2" BLACK PIPE SCHEDULE 40
D-	1/2" BLACK PIPE 90° ELBOW
E-	1/2" BLACK PIPE TEE
F-	1/2" BLACK PIPE COUPLING
G-	1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
H-	1/2" FLARE X 3/8" FLARE BRASS ELBOW
J-	1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
K-	1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
L-	1/2" MFL X 3/8" MFL REDUCER



26RBF-6

DATE		FORMICA COLOR		SCALE	1/1	AMERICAN METER
PROJECT		REVISION		SHEET	1	
DATE		DATE		26' RBF		
AAT		JPM		2/6/01		
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548						
COPPER TUBING FOR REFRIGERATOR & FURNACE				DODGEN/BORNFREE		
3/4 26RBF-6				REV		

ABOVE FLOOR LP GAS SYSTEM FOR STOVE & WATER HEATER

TOTAL BTU/HR INPUT FOR THIS DRAWING= 21,800
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 241"
TOTAL LENGTH OF 3/8" COPPER= 29"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1/4" ID COPPER TUBING

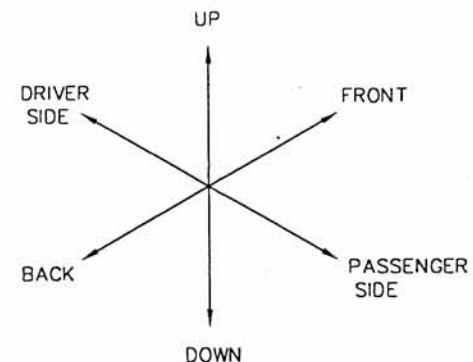
3/8" ID COPPER TUBING

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

WATER HEATER
ATWOOD G6A-8E
6 GALLON
8,800 BTU/HR INPUT

STOVE DA21B
STANDARD WEDGEWOOD
2 BURNER 6,500 BTU/HR
PER BURNER

CONNECTS
TO B (WHICH
CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR)

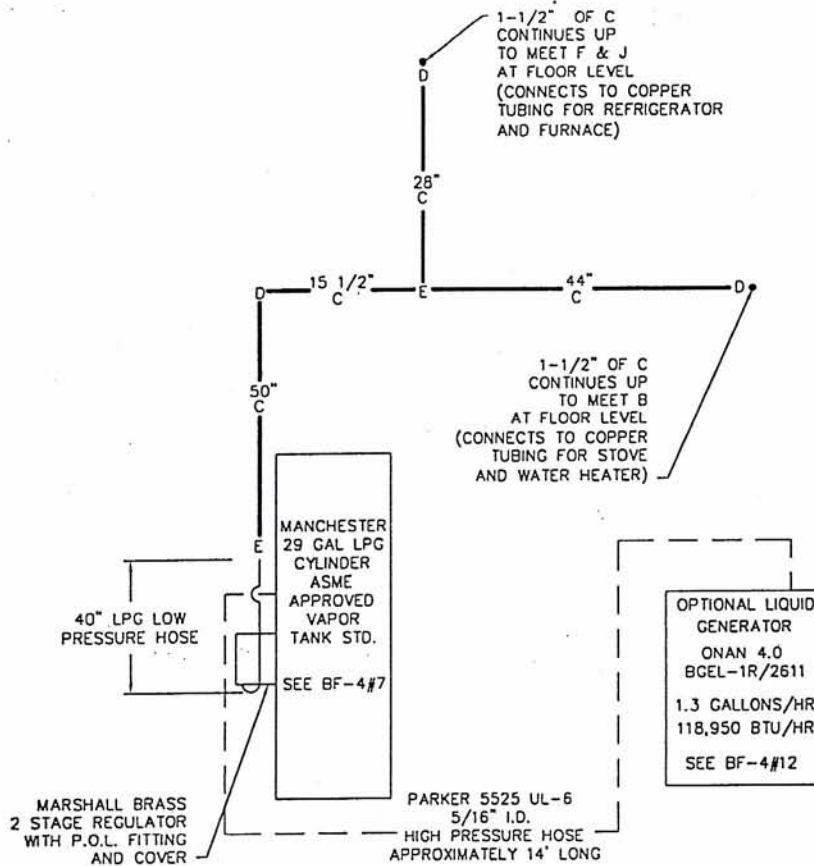


26RBF-7

GENERAL		FORMICA COLOR	SCALE 1/1	AMERICAN METHOD
TREATMENT		DESIGN USER	DESIGNER FROM	DESIGNER
SAP	AAT	DATE	2/19/01	MODEL
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		COPPER TUBING FOR STOVE & WATER HEATER		REV
NUMBER 4		26RBF-7		REV

BELOW FLOOR LP GAS SYSTEM

26RBR-5



TOTAL LENGTH OF BLACK PIPE= 139"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER

TREATMENT		FORMICA COLOR		SCALE	AMERICAN METHOD
DATE	DATE	DATE	DATE	DATE	DATE
3/19/01	3/19/01	3/19/01	3/19/01	3/19/01	3/19/01
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 160N., P.O. BOX 39 HUMBOLDT, IA 50548		26' RBR		DODGEN/BORNFREE	
TITLE		26RBR-5		REF	

ABOVE FLOOR LP GAS SYSTEM FOR REFRIGERATOR & FURNACE

TOTAL BTU/HR INPUT FOR THIS DRAWING= 31,500
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 10 1/4"
TOTAL LENGTH OF 3/8" COPPER= 50 1/2"

CONNECTS
TO F & J
(WHICH CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR)

FURNACE
SUBURBAN
MODEL SF-30F
30,000 BTU/HR INPUT

REFRIGERATOR
NORCOLD N641
1,500 BTU/HR INPUT

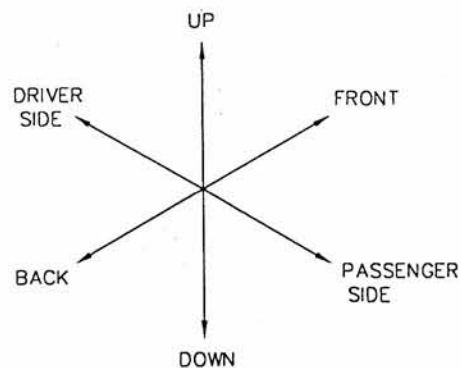
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1/4" ID COPPER TUBING

3/8" ID COPPER TUBING

- A- 3/8" MFL BRASS ELBOW
- B- 1/2" FPT X 1/2" MFL BRASS ELBOW
- C- 1/2" BLACK PIPE SCHEDULE 40
- D- 1/2" BLACK PIPE 90° ELBOW
- E- 1/2" BLACK PIPE TEE
- F- 1/2" BLACK PIPE COUPLING
- G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
- H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
- J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
- K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
- L- 1/2" MFL X 3/8" MFL REDUCER



26RBR-6

MATERIAL		FORMICA COLOR	SCALE 1/1	AMERICAN LINE INCH
TREATMENT		DESIGN LINE	SHEET NO.	
DATE AAT	DATE JONE	DATE 2/8/01	DERIVED FROM DODGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548			COPPER TUBING FOR REFRIGERATOR & FURNACE	
NUMBER 3/4 26RBR-6			REV	

ABOVE FLOOR LP GAS SYSTEM FOR STOVE & WATER HEATER

TOTAL BTU/HR INPUT FOR THIS DRAWING= 21,800
TOTAL BTU/HR INPUT FOR THIS SYSTEM= 53,300

TOTAL LENGTH OF 1/4" COPPER= 241"
TOTAL LENGTH OF 3/8" COPPER= 58 1/2"

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

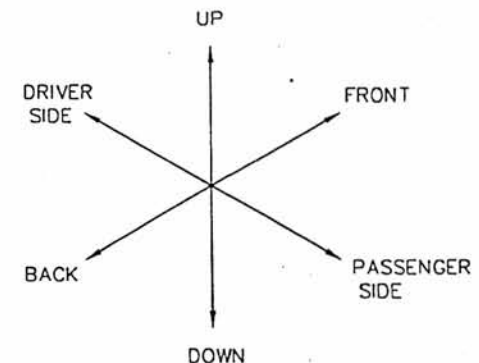
LEGEND

1/4" ID COPPER TUBING
3/8" ID COPPER TUBING
A- 3/8" MFL BRASS ELBOW
B- 1/2" FPT X 1/2" MFL BRASS ELBOW
C- 1/2" BLACK PIPE SCHEDULE 40
D- 1/2" BLACK PIPE 90° ELBOW
E- 1/2" BLACK PIPE TEE
F- 1/2" BLACK PIPE COUPLING
G- 1/2" MFL X 3/8" MFL X 3/8" MFL BRASS TEE
H- 1/2" FLARE X 3/8" FLARE BRASS ELBOW
J- 1/2" MPT X 1/2" MFL X 1/2" MFL BRASS TEE
K- 1/2" MFL X 1/2" MFL X 3/8" MFL BRASS TEE
L- 1/2" MFL X 3/8" MFL REDUCER

WATER HEATER
ATWOOD G6A-8E
6 GALLON
8,800 BTU/HR INPUT

STOVE DA21B
STANDARD WEDGEWOOD
2 BURNER 6,500 BTU/HR
PER BURNER

CONNECTS
TO B (WHICH
CONNECTS
TO LP GAS
SYSTEM BELOW
THE FLOOR)



26RBR-7

DATE: 3/19/01		FORM: 26 RBR		SCALE: 1/1	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		COPPER TUBING FOR STOVE & WATER HEATER		REV: 4	
HUMBOLDT, IA 50548		DODGEN/BORNFREE		REV: 4	

Plumbing

A. Fresh Water System

Fresh water can be supplied from two sources: a water tank located inside the motorcoach, or, from a campground water source connected to the water intake through a garden hose.

The fresh water tank system is equipped with a demand pump that controls water pressure by use of a switch built into the pump. When a faucet is opened, pressure in the line drops, causing the pump to start. When the faucet is closed, pressure builds up quickly and the pressure switch shuts off the pump. The manual switch, located on the range vent, is used to cut off the electrical power to the demand pump. The pump operates on 12-volt power.

NOTE: It is good practice to turn off the pump switch when leaving the coach for a period of time, when retiring for the night and when driving down the road. If the pump cycles on and off occasionally, shut the pump off and check the system for leaks.

B. Fresh Water Tank

The fresh water tank filler is located outside the coach on the driver's side. Using a garden hose, allow the water to run into the tank at a moderately slow speed. This will allow the air to escape and the tank will fill much easier. After the tank is full, allow the air to purge for about 3-4 minutes. You may be able to get several more gallons in the tank. Reminder – remember to fill the water heater when filling the fresh water tank. See the instructions for doing so listed under “Water Heater.”

C. City Water Connection

When parked in a campground that has hookup facilities for “city water”, a connection has been provided on the outside of the coach. To use, connect a water hose to this fitting and turn off the demand pump. The city water pressure will provide adequate movement. The city water connection will by-pass the fresh water system and will not fill the fresh water tank.

NOTE: Some water systems have very high water pressure; to guard against damage to pressure-limiting components, do not run faucets wide open.

D. Toilet

To operate, step on the small (right) pedal and hold until a desired amount of water, above the normal refill level, enters the bowl. Step on the large pedal to flush. Release both pedals slowly. On some models, an optional hand sprayer is included. To use, simply depress the thumb lever while stepping on the flush pedal.

To clean the toilet, use a non-abrasive cleaner. Do not use highly concentrated or acid content cleaners or abrasive powders. These may damage the seals or plastic parts of the toilet.

NOTE: We highly recommend you use an RV type toilet paper. These types of toilet paper break down and are easily discharged.

E. Drain Systems

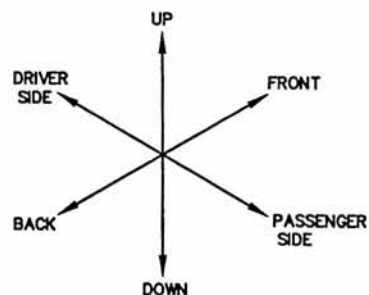
To provide complete self-containment and to comply with requirement of good sanitation practices, your Born Free Motorcoach is equipped with a dual tank drain system. The sanitary holding tank (black water tank) receives waste from the toilet. The second tank (gray water tank) collects wastewater from the sinks and shower.

The two tanks share a common outlet for connecting the regular 3" sewer hose for emptying, but each has its own slide valve so they can be evacuated separately. This connection, along with two slide valves, is located on the driver's side, near the center or at the rear of the coach.

F. Holding Tank Evacuation

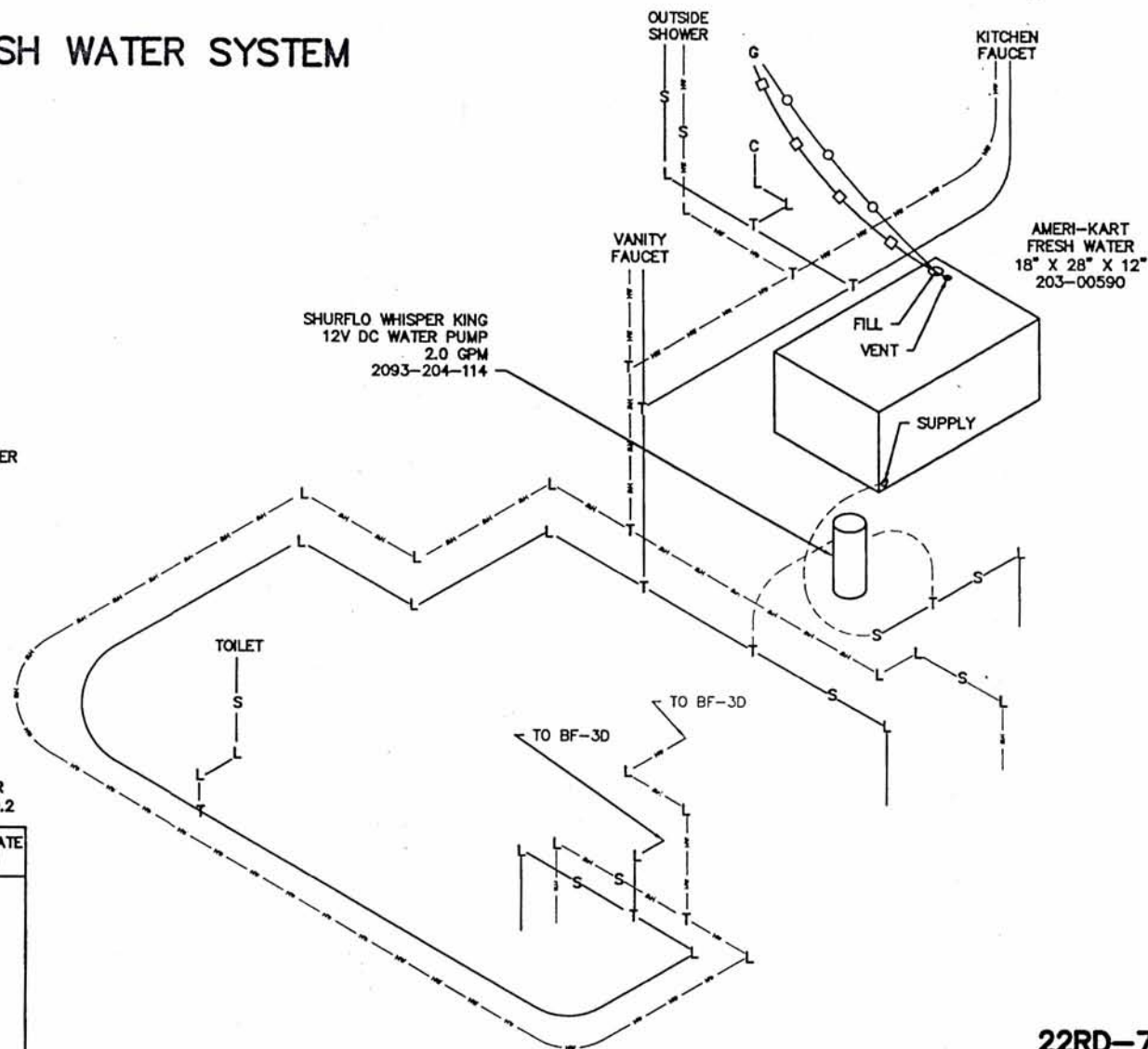
The holding tank should be evacuated only at an authorized sanitary disposal station or sewer hookup at a campground. Position your Born Free Motorcoach at the sanitation station so the sewer connection is located near the drain opening. Remove the cap on the drain opening and install the sewer hose to the connection. Place the open end of the sewer hose in the disposal drain, and hold it in position during the entire evacuation process. Each tank should be drained separately, dumping the black water waste tank first. Do not open both valves at one time; opening each valve separately will eliminate the risk of the contents of either tank running into the other. Pull the slide valve handle all the way out so the contents will run out in a quick flushing manner. When the tank is empty, close the valve and run clear water through the toilet into the tank for rinsing. The best method of rinsing either tank is to close the slide valve and fill either tank through the toilet or one of the sinks with fresh water. Again, open the slide valve to allow the rinse water to evacuate. Close slide valve and re-engage retaining clips. Evacuate the gray water waste tank in the same manner. Disconnect the sewer hose, rinse, and replace the sewer hose in its carrier.

FRESH WATER SYSTEM



ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

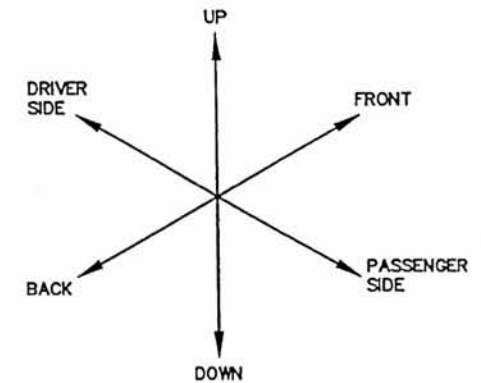
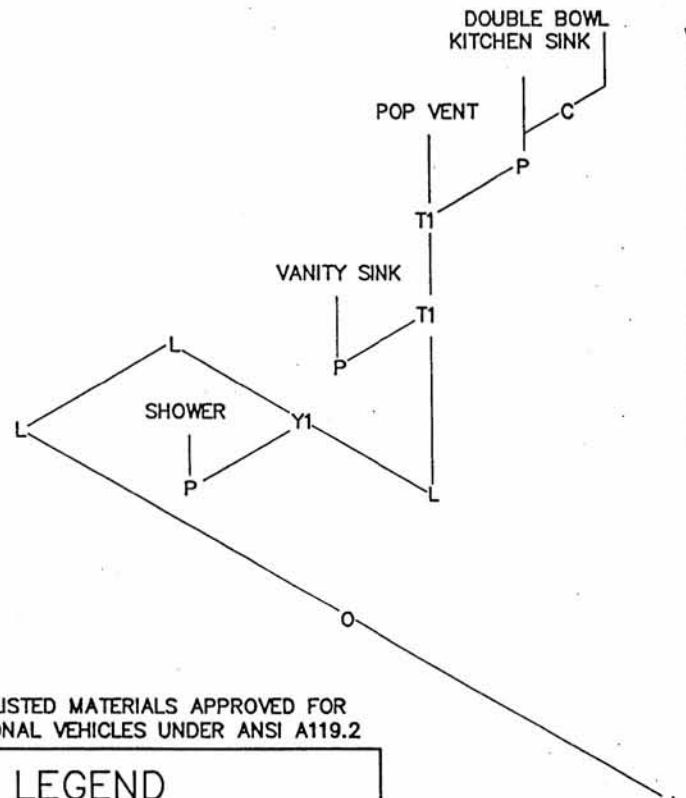
LEGEND	APPROXIMATE LENGTH
1/2" COLD POLY LINE	324"
1/2" HOT POLY LINE	295"
1 3/8" FILL HOSE WITH FLAT SPOTS	24"
BRAIDED 1/2" SHURFLO HOSE	73"
1/2" CLEAR VINYL HOSE	24"
D- DRAIN VALVE	
S- SHUT OFF VALVE	
C- CITY WATER FILL	
G- GRAVITY WATER FILL	
L- COPPER 90° ELBOW	
T- COPPER TEE	



22RD-7

DATE		FORNIA COLOR		SCALE	APPROVED
12/3/03		22' RD		DOUGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 60548		FRESH WATER SYSTEM		REV	

GRAY WATER SYSTEM



ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

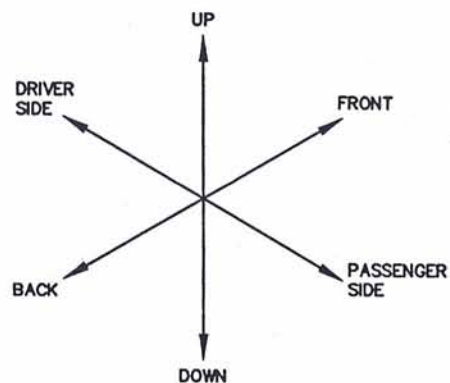
- 1 1/2" ABS PIPE
- 2" ABS PIPE
- C- ABS CONTINUOUS WASTE ASSEMBLY
- F- 1 1/2" 45° ABS ELBOW
- L- 1 1/2" 90° ABS LONG SWEEP ELBOW
- O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
- P- 1 1/2" ABS P-TRAP
- R- 2" TO 1 1/2" ABS REDUCER
- T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
- T4- 2" X 2" X 2" ABS SANITARY TEE
- V- 1 1/2" ROOF VENT CAP
- Y1- 1 1/2" ABS TEE-WYE
- Y2- 2" ABS TEE-WYE

AMERI-KART 29 GAL.
GRAY WATER TANK
19" X 32" X 13"
203-00508

22RD-8

MATERIAL		POMONA COLOR		NO. 1/1	AMERICAN
REVISION		22' RD		DODGEN/BORNFREE	
REV	CHK	DATE	11/21/03		
1	CGK	JPM	DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50648		
TITLE			GRAY WATER SYSTEM		
BLANK			4 22RD-8		

SEWAGE SYSTEM

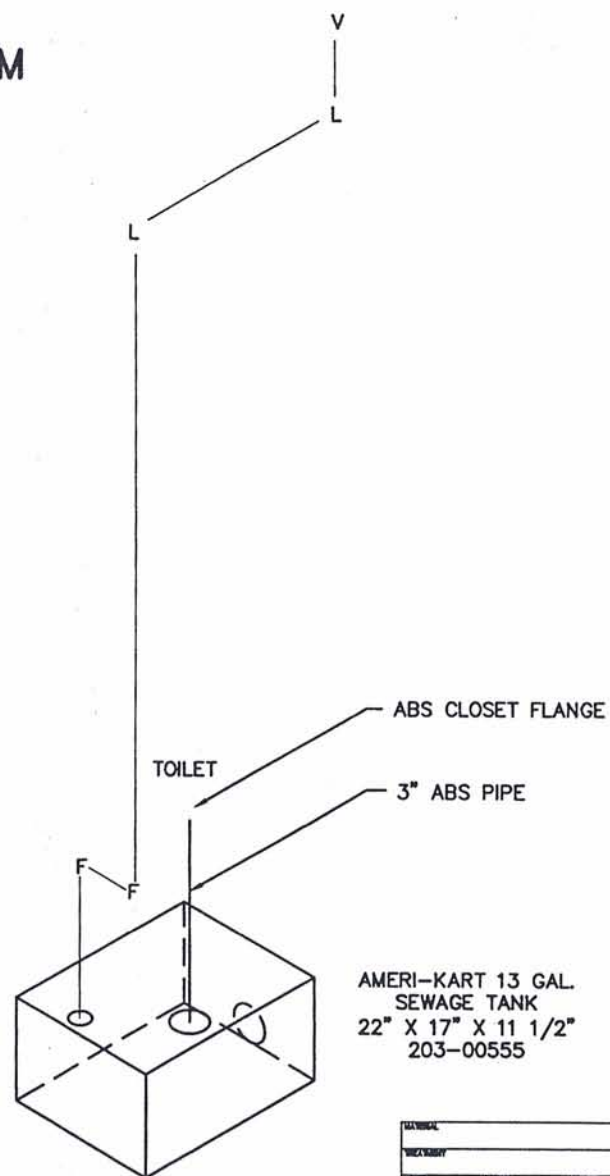


ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1 1/2" ABS PIPE
2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE

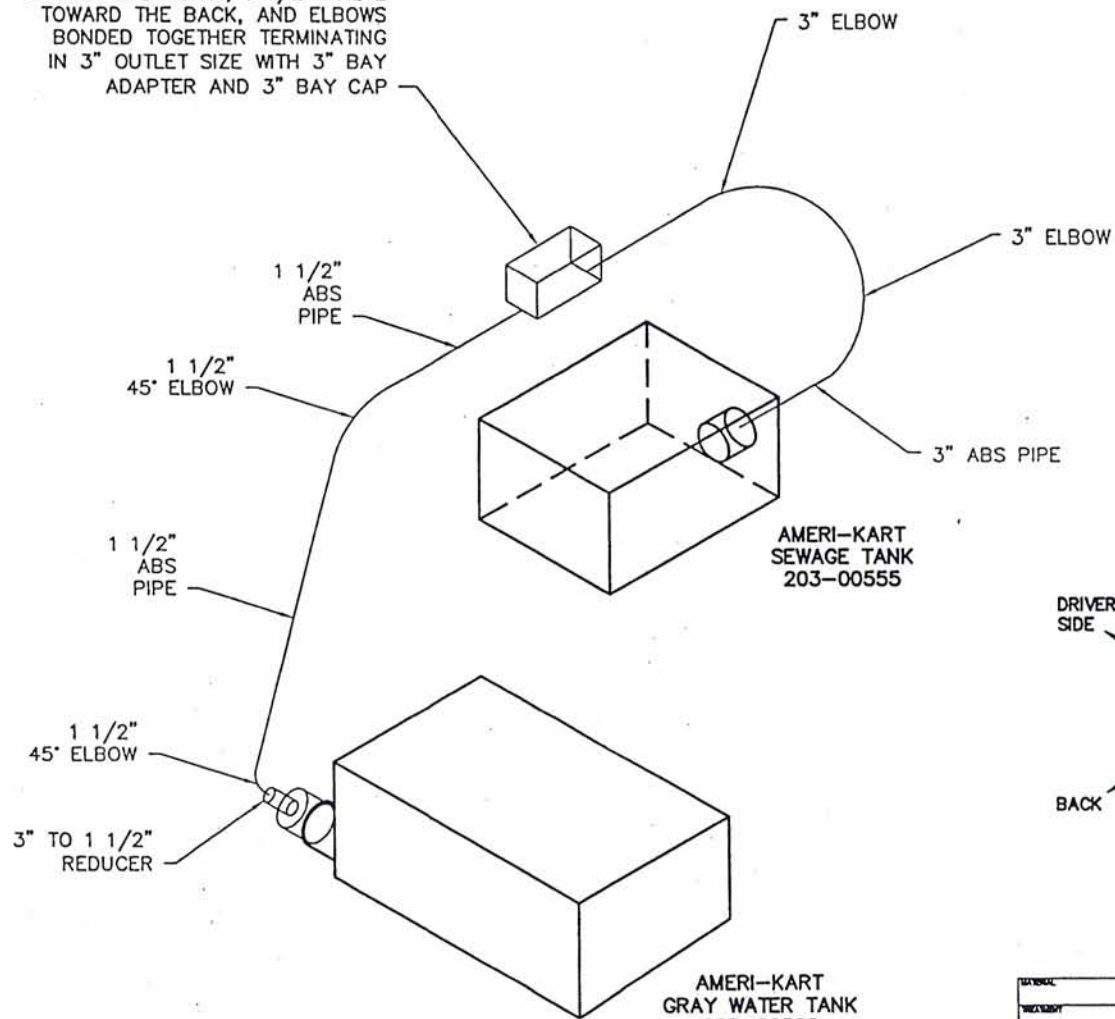


22RD-9

MATERIAL		PURCHASE ORDER		SCALE	1/1	APPROVED
REVISION		DATE		11/21/03	REV	
REV	CHK	APP	DATE	11/21/03	REV	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES				FILE		
HWY 169N., P.O. BOX 39				DODGEN/BORNFREE		
HUMBOLDT, IA 50548				SEWAGE SYSTEM		
4				22RD-9		REV

HOLDING TANK DUMP ASSEMBLY

DUMP VALVE ASSEMBLY (VALTERRA PRODUCTS)
ONE PIECE UNIT WITH 3" VALVE
TOWARD THE FRONT, 1 1/2" VALVE
TOWARD THE BACK, AND ELBOWS
BONDED TOGETHER TERMINATING
IN 3" OUTLET SIZE WITH 3" BAY
ADAPTER AND 3" BAY CAP

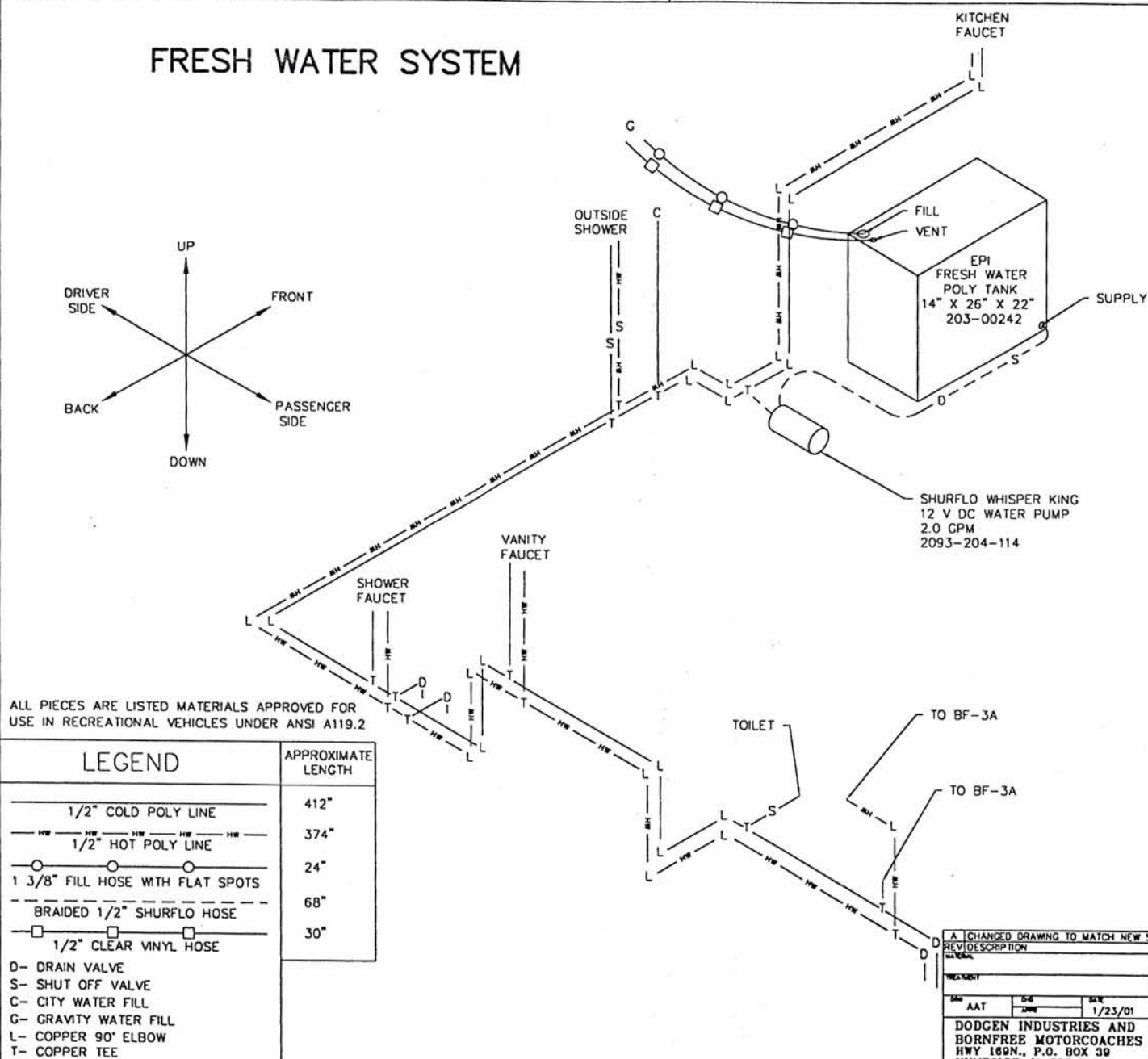


ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

22RD-10

MATERIAL			PAPER COLOR		SCALE	1/1	DRAWN BY DOUGEN/BORNFREE	
22" RD			22" RD		DATE	11/24/03		
DATE	CHK	DATE	DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50648					
4			HOLDING TANK DUMP ASSEMBLY					
22RD-10			REV					

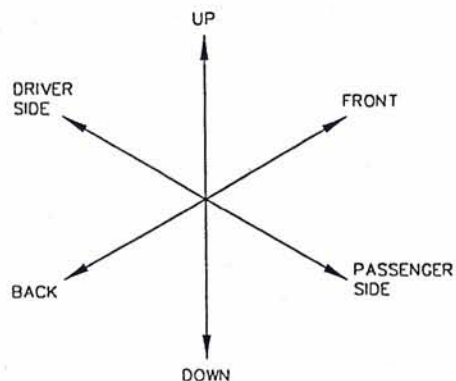
FRESH WATER SYSTEM



24RB-8

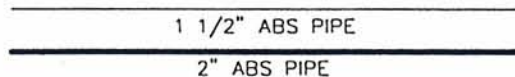
A CHANGED DRAWING TO MATCH NEW SHOWER		AAT	22 MAR 01
REVISED DESCRIPTION		DATE	REQ'D DATE
TREATMENT		FORMICA COLOR	SCALE
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		24' RB	REVISED FROM
HWY 169N., P.O. BOX 39		MODEL	DODGEN/BORNFREE
HUMBOLDT, IA 50548		SIZE	FRESH WATER SYSTEM
NUMBER 5		24RB-8	REV A

GRAY WATER SYSTEM

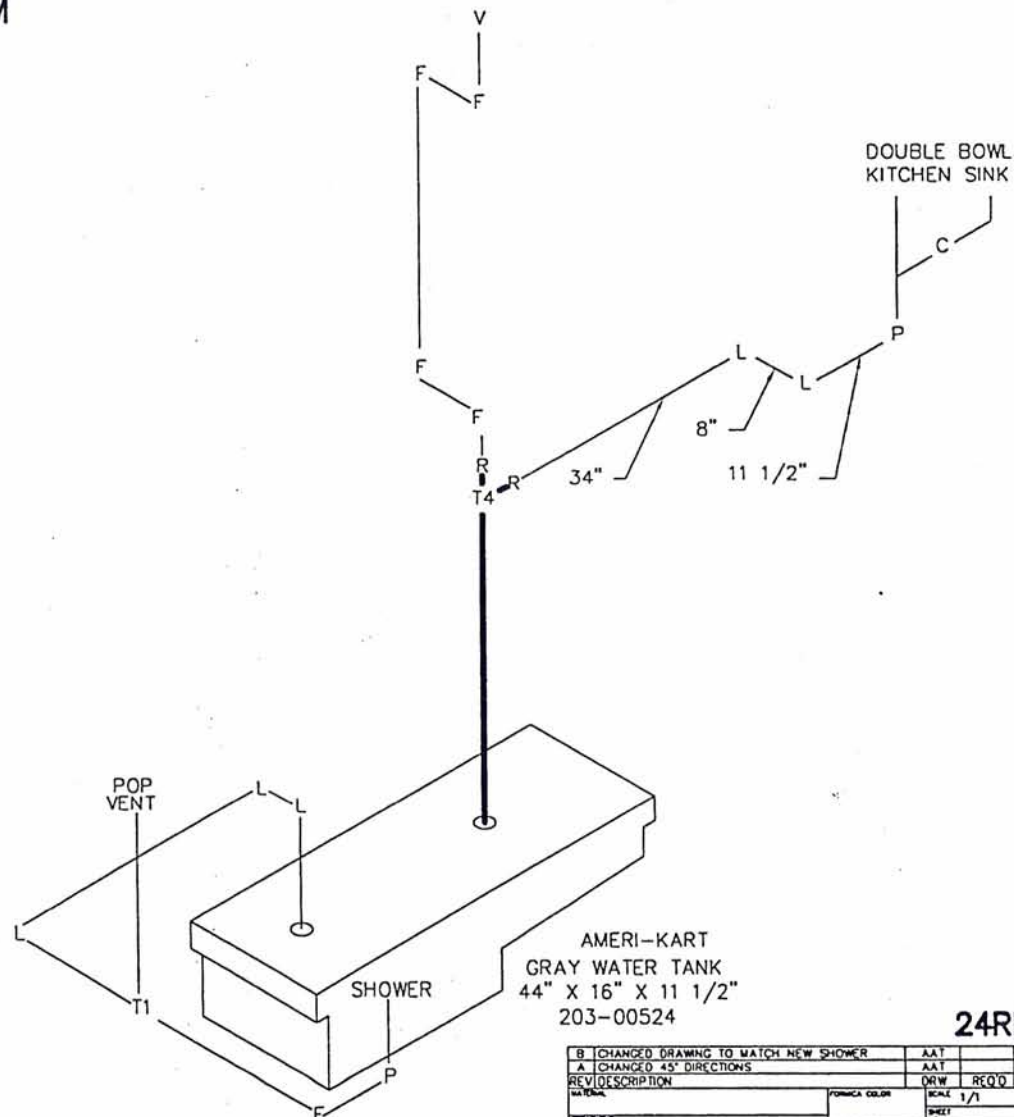


ALL PIECES ARE LISTED MATERIALS APPROVED FOR USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND



- C- ABS CONTINUOUS WASTE ASSEMBLY
- F- 1 1/2" 45° ABS ELBOW
- L- 1 1/2" 90° ABS LONG SWEEP ELBOW
- O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
- P- 1 1/2" ABS P-TRAP
- R- 2" TO 1 1/2" ABS REDUCER
- T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
- T4- 2" X 2" X 2" ABS SANITARY TEE
- V- 1 1/2" ROOF VENT CAP
- Y1- 1 1/2" ABS TEE-WYE
- Y2- 2" ABS TEE-WYE



AMERI-KART
GRAY WATER TANK
44" X 16" X 11 1/2"
203-00524

24RB-9

B CHANGED DRAWING TO MATCH NEW SHOWER		AAT	22 MAR 01
A CHANGED 45° DIRECTIONS		AAT	23 FEB 01
REV	DESCRIPTION	DATE	REQD DATE
1	CHANGED 45° DIRECTIONS	22 MAR 01	
TREATMENT		SCALE	1/1
DATE	BY	DATE	BY
AAT	JPM	1/23/01	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		SCALE	24' RB
HWY 169N., P.O. BOX 39		MODEL	DODGEN/BORNFREE
HUMBOLDT, IA 50548		SYSTEM	GRAY WATER SYSTEM
NUMBER 4		24RB-9	REV B

CUSTOMER NOTE:

WASTE WATER FROM THE
BATHROOM VANITY SINK GOES
INTO THE SEWAGE SYSTEM

SEWAGE SYSTEM

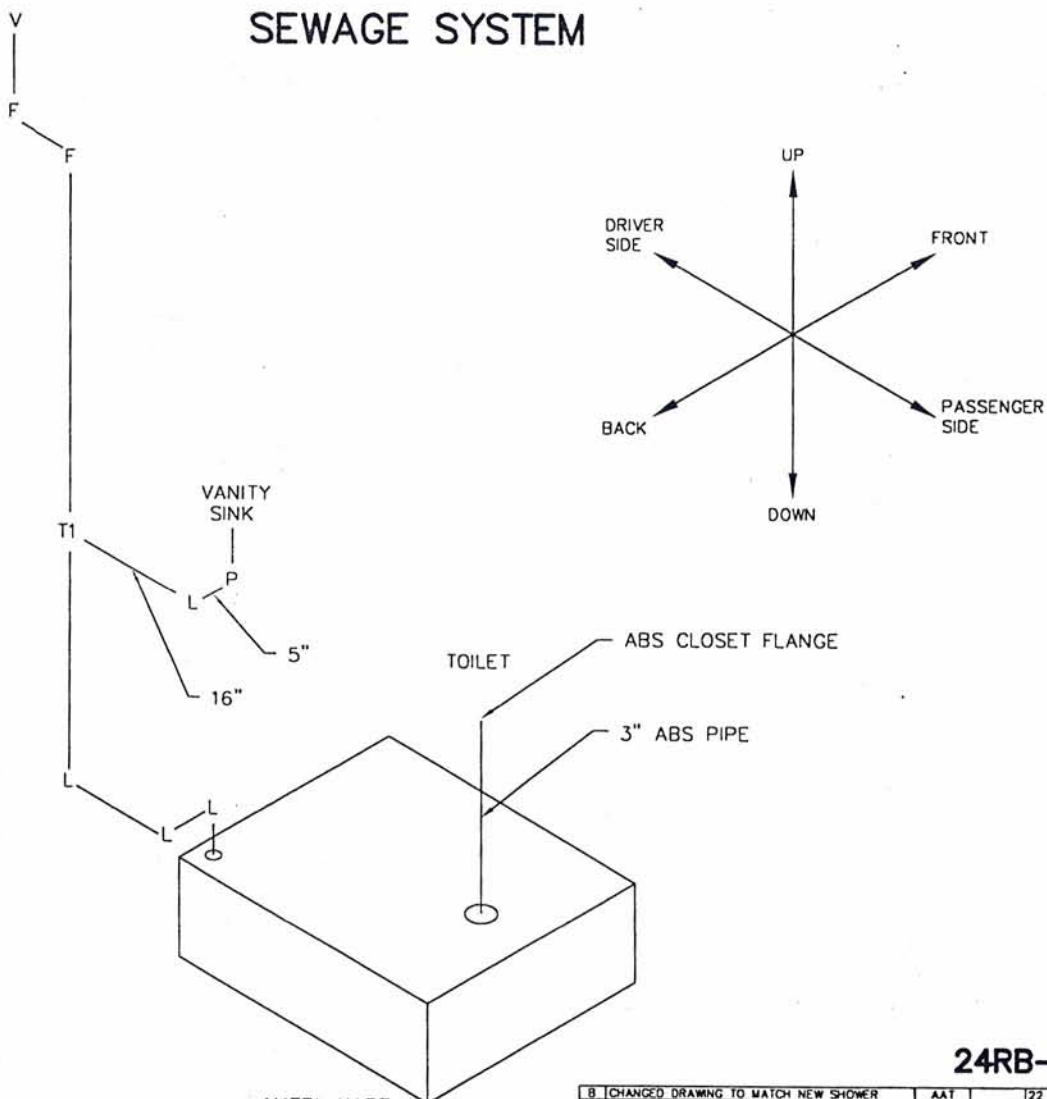
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1 1/2" ABS PIPE

2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE



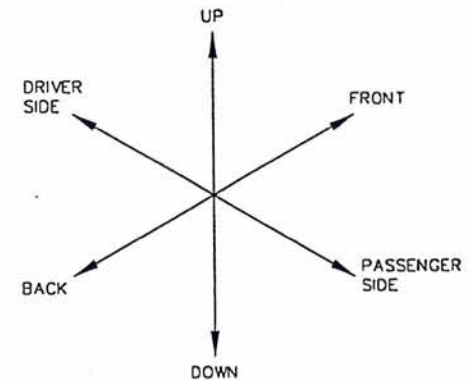
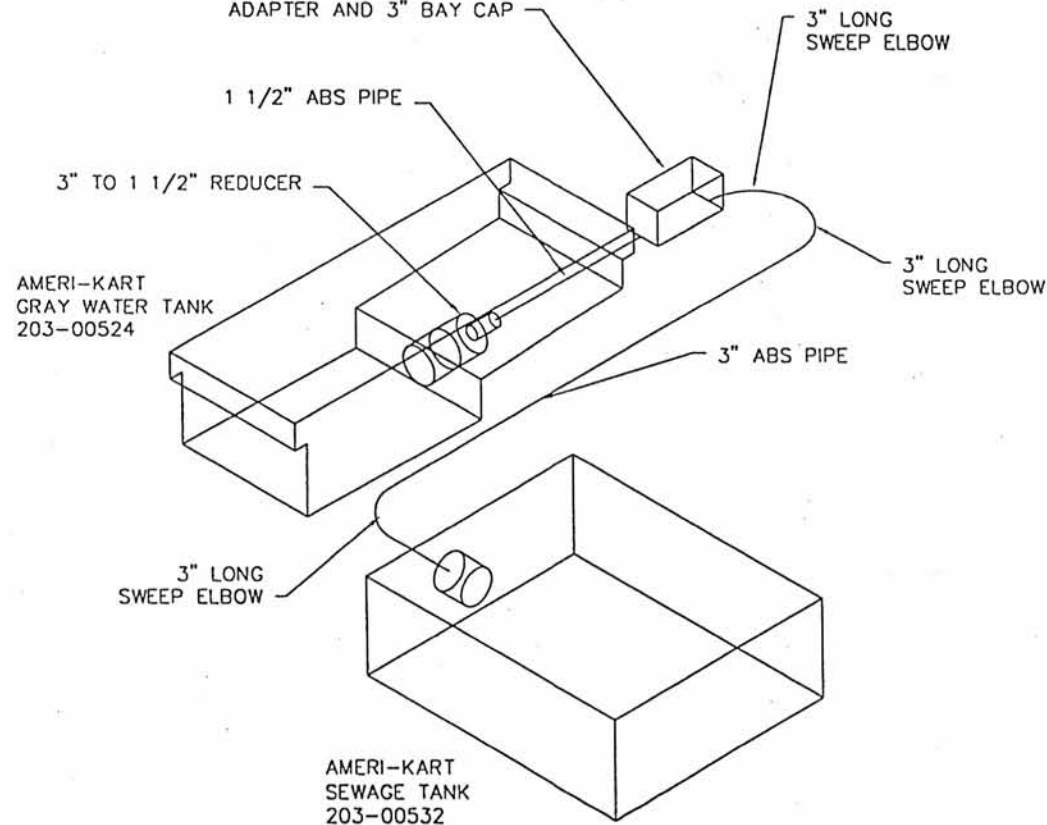
AMERI-KART
SEWAGE TANK
32" X 27" X 11"
203-00532

24RB-10

B CHANGED DRAWING TO MATCH NEW SHOWER		AAT	22 MAR 01
A CHANGED 45° DIRECTIONS		AAT	23 FEB 01
REV DESCRIPTION		DRW	REV DATE
REVISION		SCALE	1/1
TREATMENT		DESIGN FROM	AMERICAN
DESIGN		24' RB	DOUGEN/BORNFREE
DATE		1/23/01	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		SEWAGE SYSTEM	
NUMBER		4	24RB-10
		REV B	

HOLDING TANK DUMP ASSEMBLY

DUMP VALVE ASSEMBLY (VALTERRA PRODUCTS)
ONE PIECE UNIT WITH 1 1/2" VALVE
TOWARD THE BACK, 3" VALVE
TOWARD THE FRONT, AND ELBOWS
BONDED TOGETHER TERMINATING
IN 3" OUTLET SIZE WITH 3" BAY
ADAPTER AND 3" BAY CAP



24RB-11

A CHANGED ELBOW DESCRIPTION		AAT	02 FEB 01
REV DESCRIPTION		DRW	REQ'D DATE
MATERIAL		SCALE	1/1
TREATMENT		FORMICA COLOR	AMERICAN
AAT		24" RB	WORK
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		DOUGEN/BORNFREE	
HOLDING TANK DUMP ASSEMBLY		REV A	
HUMBOLDT, IA 50548		24RB-11	

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

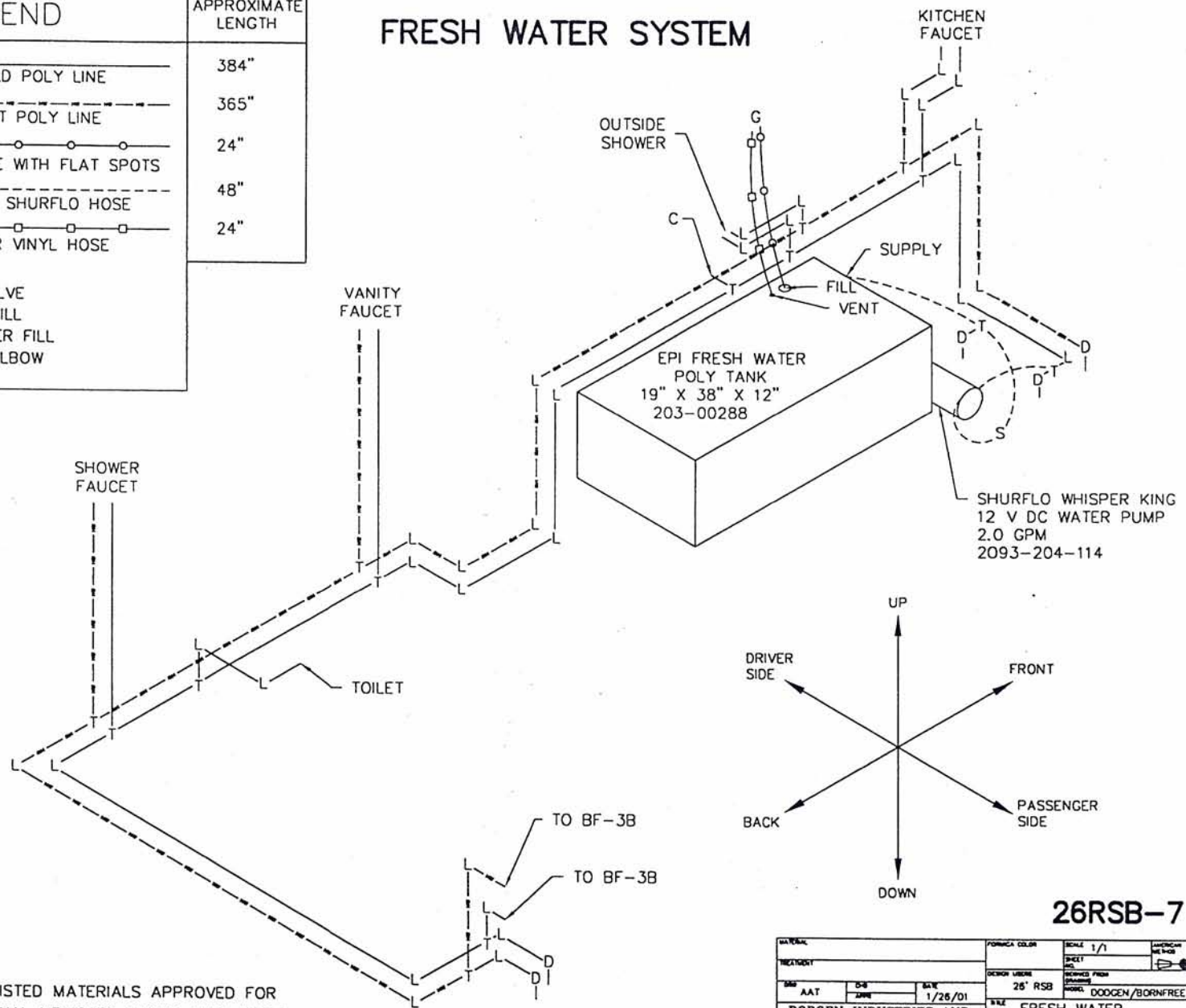
LEGEND

APPROXIMATE
LENGTH

1/2" COLD POLY LINE	384"
1/2" HOT POLY LINE	365"
1 3/8" FILL HOSE WITH FLAT SPOTS	24"
BRAIDED 1/2" SHURFLO HOSE	48"
1/2" CLEAR VINYL HOSE	24"

D- DRAIN VALVE
S- SHUT OFF VALVE
C- CITY WATER FILL
G- GRAVITY WATER FILL
L- COPPER 90° ELBOW
T- COPPER TEE

FRESH WATER SYSTEM

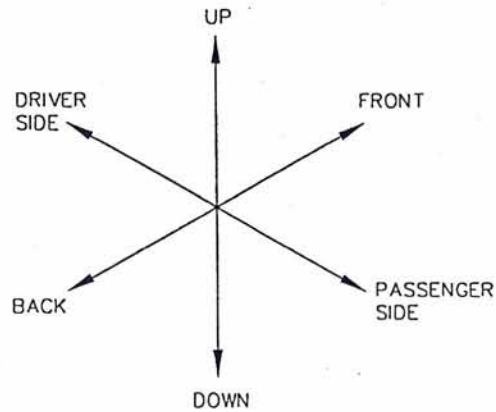


ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

26RSB-7

DATE: 1/28/01		FORM: 26 RSB		SCALE: 1/1		SHEET: 1/1	
DRAWN BY: AAT		CHECKED BY: JUNE		DESIGN: 26 RSB		DRAWING FROM: DODGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548				FRESH WATER SYSTEM			
NUMBER: 4				26 RSB-7		REV	

GRAY WATER SYSTEM



ALL PIECES ARE LISTED MATERIALS APPROVED FOR USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

- 1 1/2" ABS PIPE
2" ABS PIPE
- C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE

CONTINUES TO MEET THE SEWAGE SYSTEM AND SEWAGE VENT

SHOWER

P

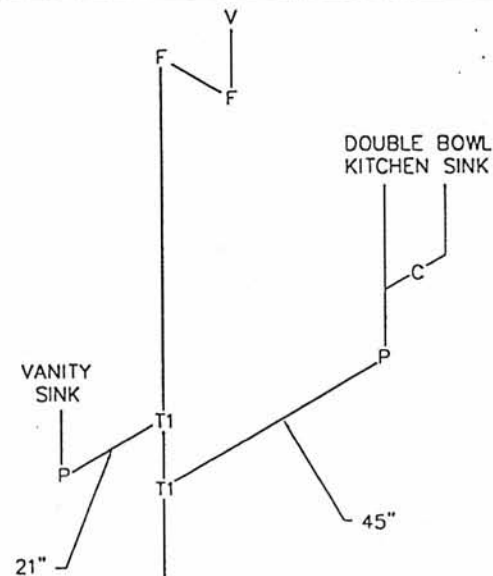
L

Y1

7"

6"

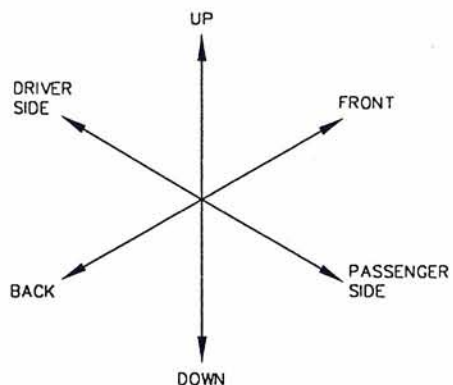
AMERI-KART
GRAY WATER TANK
32" X 27" X 11"
203-00532



26RSB-8

A CHANGED 45° DIRECTIONS AND		AAT	26 FEB 01
A2 ADDED SHOWER TO DRAWING		AAT	26 FEB 01
REVISED DESCRIPTION		CHW	REQD DATE
REVISION		FORMICA COLOR	SCALE
DATE		26' RSB	APPROVED FROM
AAT		1/29/01	MODEL
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		GRAY WATER SYSTEM	
HWY 169N., P.O. BOX 39		NUMBER 6 26RSB-8	
HUMBOLDT, IA 50548		REV A	

SEWAGE SYSTEM



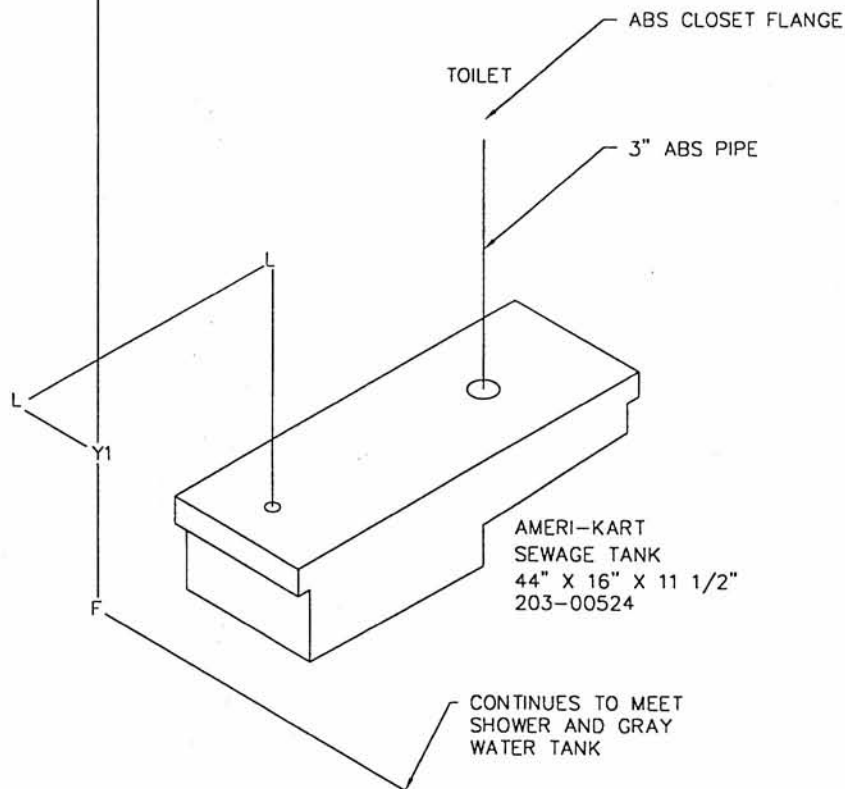
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1 1/2" ABS PIPE

2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE

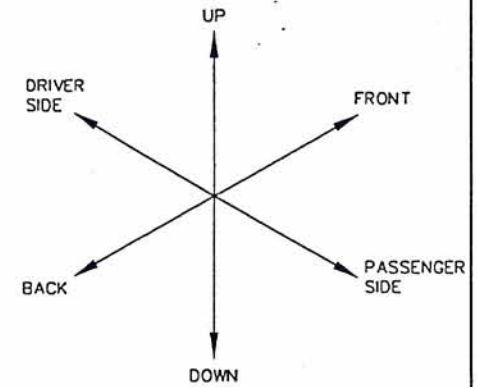


26RSB-9

A	CHANGED 45° DIRECTIONS AND	AAT		26 FEB 01
A2	OMITTED SHOWER AND GRAY WATER TANK	AAT		26 FEB 01
REV	DESCRIPTION	ORW	REQ'D	DATE
REVISION		SCALE	1/1	
DATE		DESIGN	26' RSB	
AAT	DATE	1/29/01		
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		FILE	SEWAGE SYSTEM	
NUMBER	4	26RSB-9		REV A

HOLDING TANK DUMP ASSEMBLY

DUMP VALVE ASSEMBLY (VALTERRA PRODUCTS)
ONE PIECE UNIT WITH 3" VALVE
TOWARD THE BACK, 1 1/2" VALVE
TOWARD THE FRONT, AND ELBOWS
BONDED TOGETHER TERMINATING
IN 3" OUTLET SIZE WITH 3" BAY
ADAPTER AND 3" BAY CAP



AMERI-KART
SEWAGE TANK
203-00524

3" ABS PIPE

1 1/2" ABS PIPE

1 1/2" LONG
SWEEP ELBOW

1 1/2" ABS PIPE

1 1/2" LONG
SWEEP ELBOW

1 1/2" ABS PIPE

1 1/2" LONG
SWEEP ELBOW

3" TO 1 1/2" REDUCER

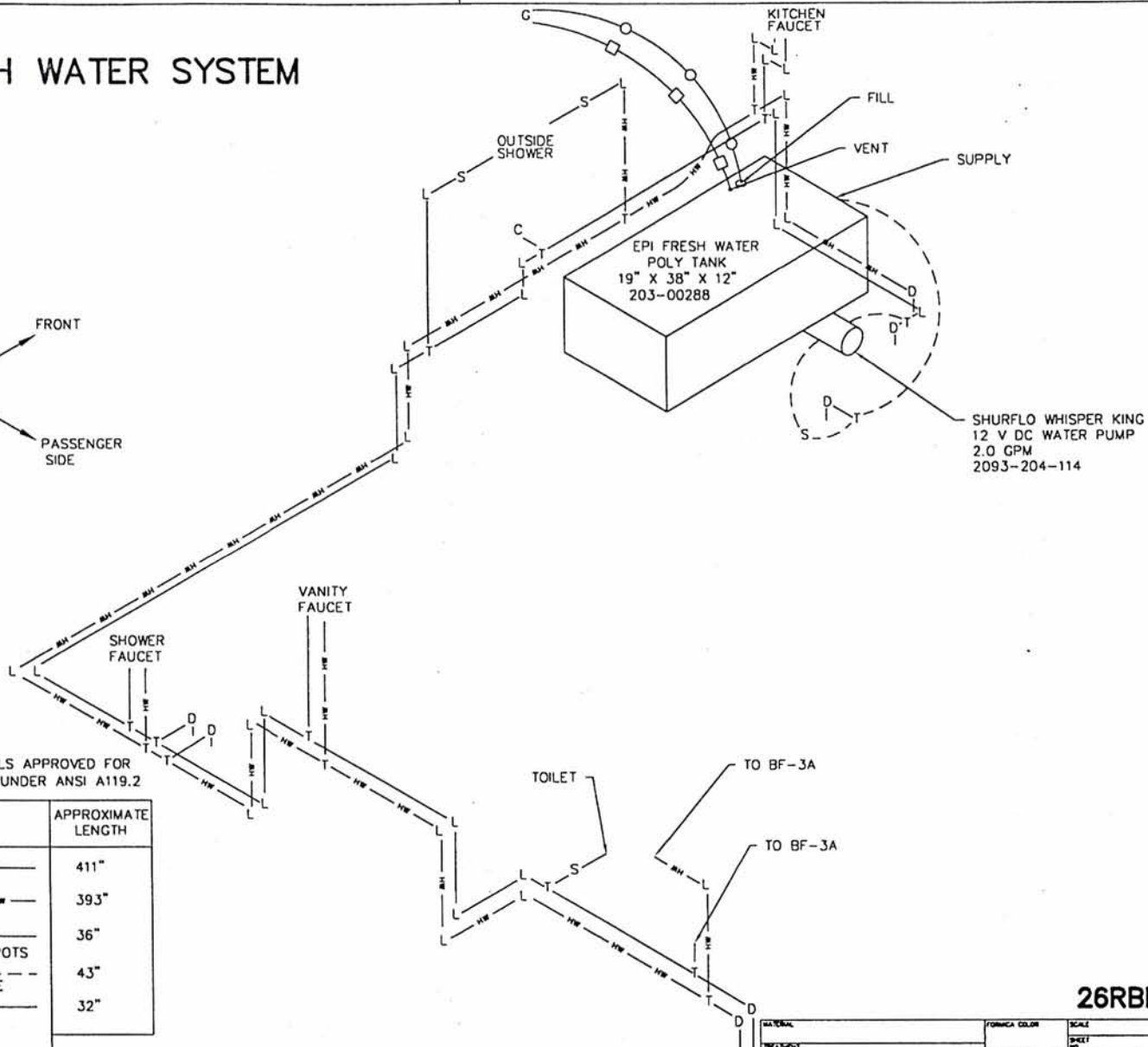
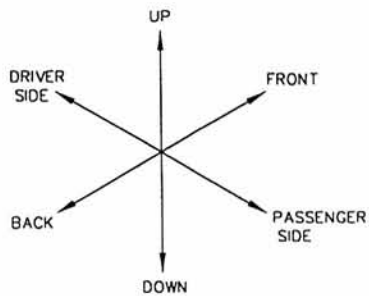
AMERI-KART
GRAY WATER TANK
203-00532

ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2






26RSB-10

A. CHANGED ELBOW DESCRIPTION		AAT	02 FEB 01
REV. DESCRIPTION		DRW	REQ'D DATE
MATERIAL		SCALE	1/1
TREATMENT		FORMICA COLOR	AMERICAN
DATE		DESIGN USES	26' RSB
AAT		DESIGNED FROM	DOUGEN/BORNFREE
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		NAME	HOLDING TANK DUMP ASSEMBLY
		NUMBER	26RSB-10
		REV	A


FRESH WATER SYSTEM



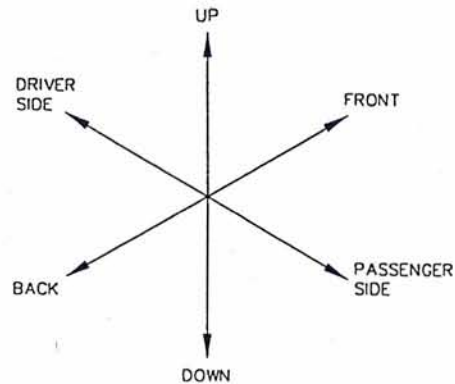
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND	APPROXIMATE LENGTH
 1/2" COLD POLY LINE	411"
 1/2" HOT POLY LINE	393"
 1 3/8" FILL HOSE WITH FLAT SPOTS	36"
 BRAIDED 1/2" SHURFLO HOSE	43"
 1/2" CLEAR VINYL HOSE	32"
D- DRAIN VALVE S- SHUT OFF VALVE C- CITY WATER FILL G- GRAVITY WATER FILL L- COPPER 90° ELBOW T- COPPER TEE	

26RBF-8

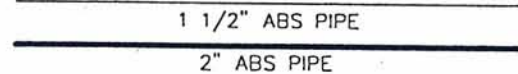
MATERIAL		FORMULA COLOR		SCALE	AMERICAN SILVER
TREATMENT		DESIGN NUMBER		SHEET	
DATE	AAT	Q-B TAPES	DATE	26" RBF	DOODEN/BORNFREE
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY. 169N., P.O. BOX 39 HUMBOLDT, IA 50548			FRESH WATER SYSTEM		
NUMBER		5		26RBF-8	REV

GRAY WATER SYSTEM

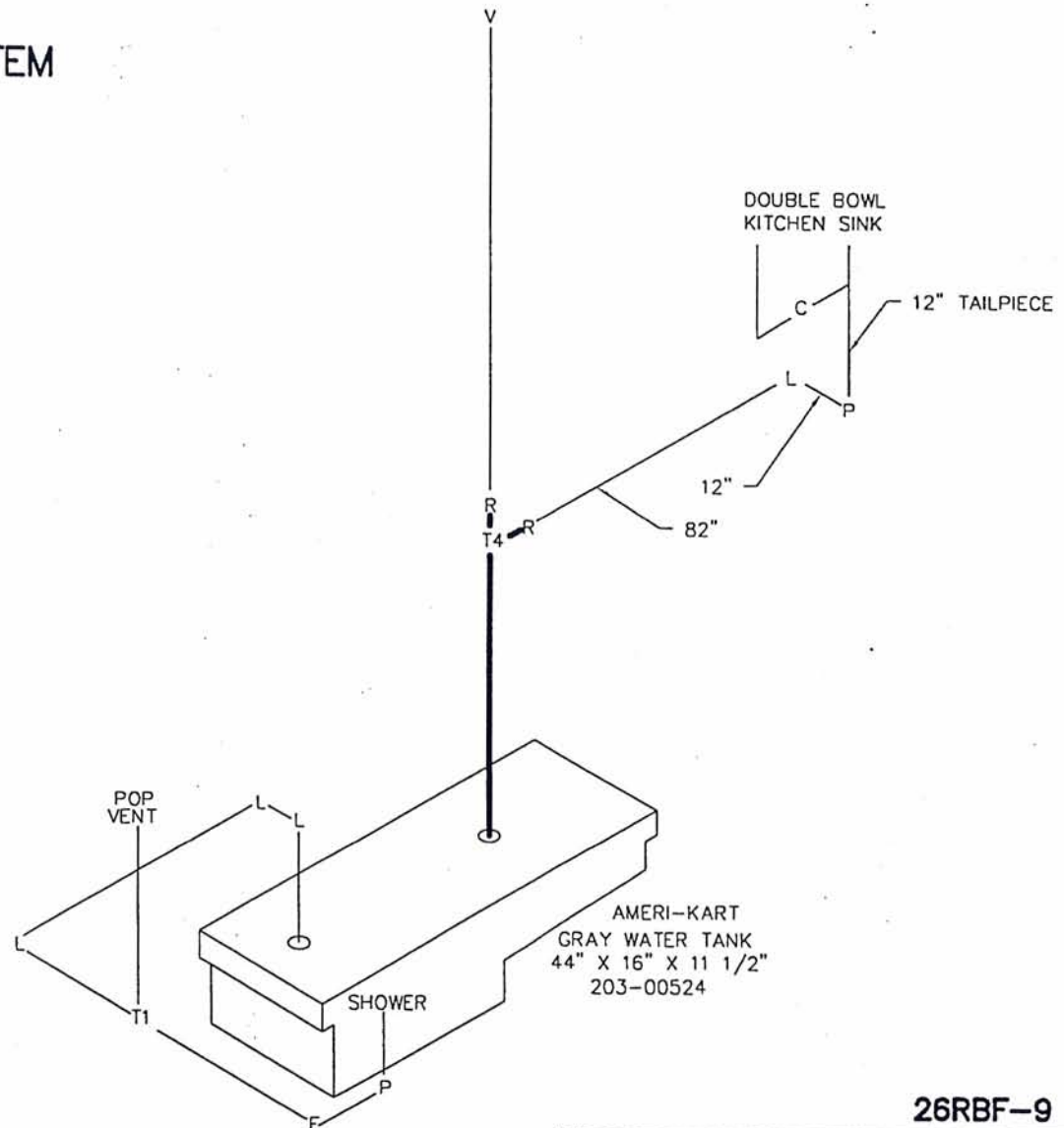


ALL PIECES ARE LISTED MATERIALS APPROVED FOR USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND



- C- ABS CONTINUOUS WASTE ASSEMBLY
- F- 1 1/2" 45° ABS ELBOW
- L- 1 1/2" 90° ABS LONG SWEEP ELBOW
- O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
- P- 1 1/2" ABS P-TRAP
- R- 2" TO 1 1/2" ABS REDUCER
- T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
- T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
- T4- 2" X 2" X 2" ABS SANITARY TEE
- V- 1 1/2" ROOF VENT CAP
- Y1- 1 1/2" ABS TEE-WYE
- Y2- 2" ABS TEE-WYE



26RBF-9

MATERIAL			FORMICA COLOR	SCALE 1/1	AMERICAN PIPE
TREATMENT				SHAW	
DATE	DESIGNED BY	DATE	DESIGNED FROM	MODEL	DOUGEN/BORNFREE
COX	JOHN	3/22/01	26" RBF		
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548			GRAY WATER SYSTEM		
			NUMBER 4	26RBF-9	REV

CUSTOMER NOTE:

WASTE WATER FROM THE
BATHROOM VANITY SINK GOES
INTO THE SEWAGE SYSTEM

SEWAGE SYSTEM

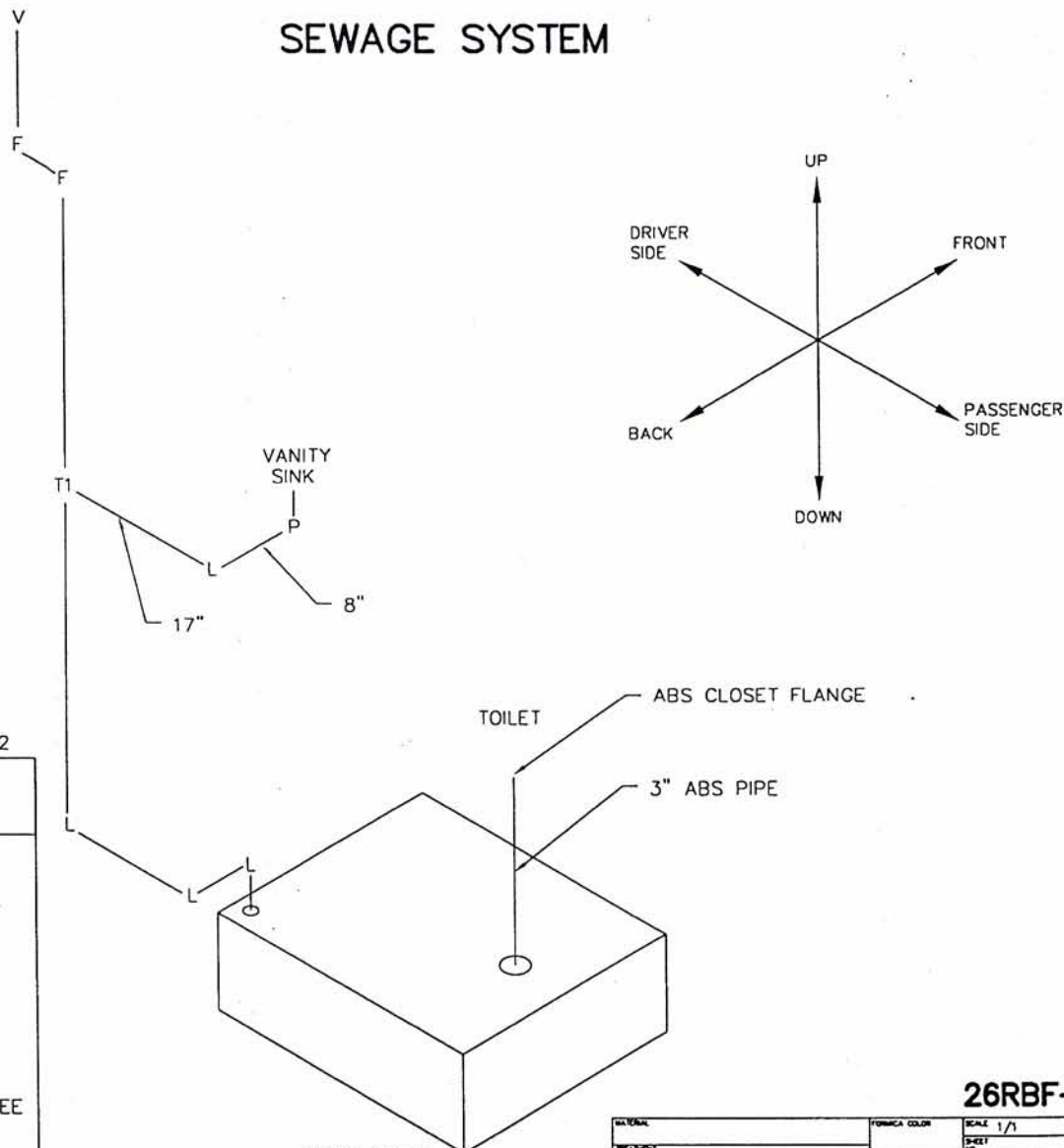
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1 1/2" ABS PIPE

2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE

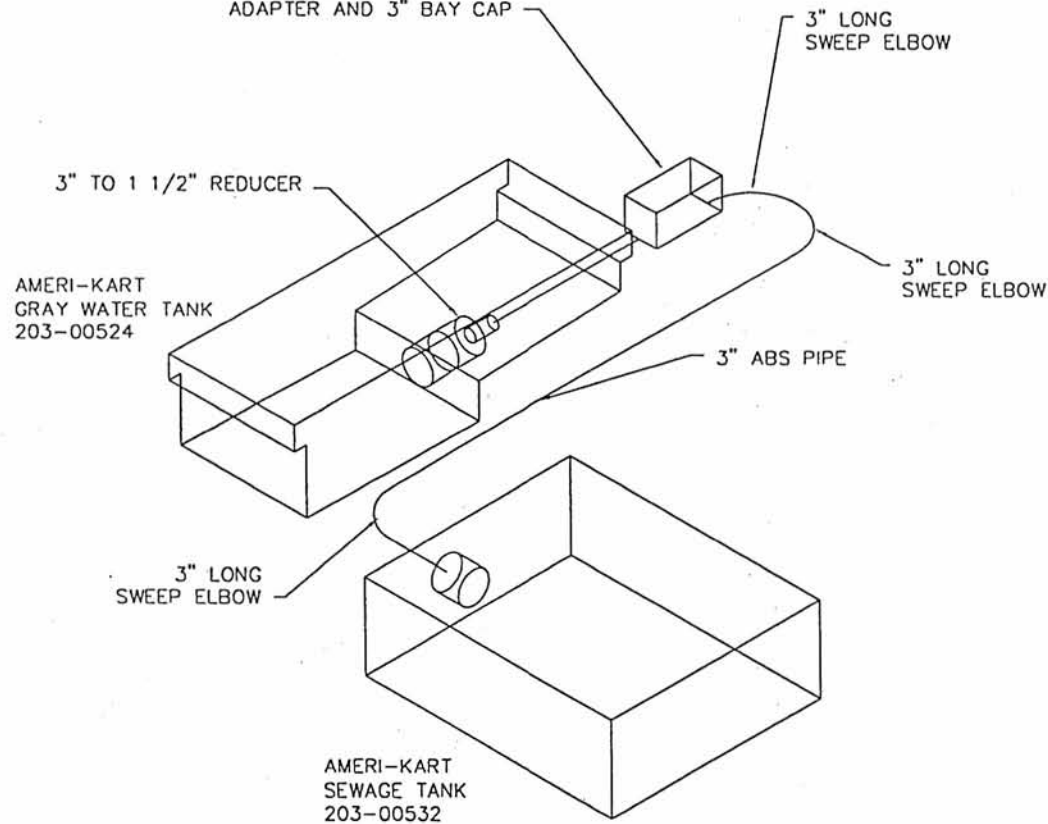


AMERI-KART
SEWAGE TANK
32" X 27" X 11"
203-00532

DATE: 3/22/01			FORMICA COLOR	SCALE 1/1	AMERICAN MEASURES
DESIGN: 25" RBF			DESIGN: 25" RBF	SHEET NO.	REV
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548			MODEL: DODGEN/BORNFREE		
TITLE: SEWAGE SYSTEM			REV		
NUMBER: 4			26RBF-10		

HOLDING TANK DUMP ASSEMBLY

DUMP VALVE ASSEMBLY (VALTERRA PRODUCTS)
ONE PIECE UNIT WITH 1 1/2" VALVE
TOWARD THE BACK, 3" VALVE
TOWARD THE FRONT, AND ELBOWS
BONDED TOGETHER TERMINATING
IN 3" OUTLET SIZE WITH 3" BAY
ADAPTER AND 3" BAY CAP

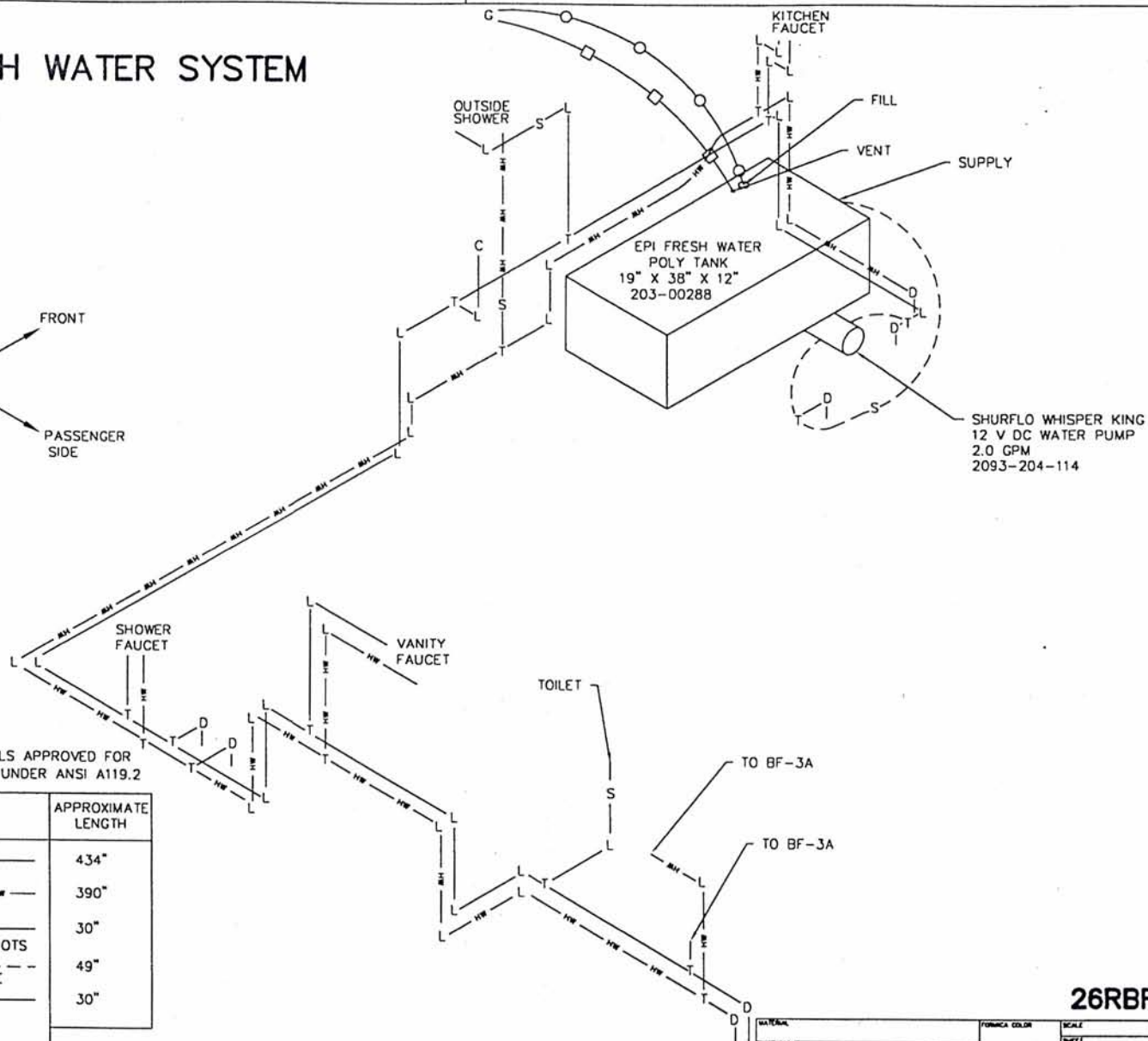
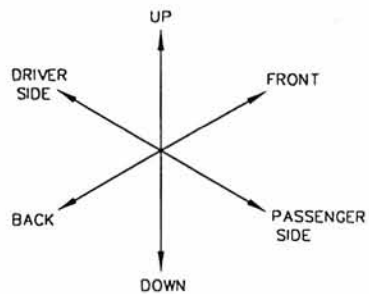


ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2






26RBF-11

MATERIAL		FORMICA COLOR	SCALE 1/1	AMERICAN MFG. CO.
REVISION		26 RBF	SHEET NO.	
DATE CCK	DATE 2/19/01	DESIGNED FROM ORIGINAL	MODEL DODGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		TITLE HOLDING TANK DUMP ASSEMBLY		
NUMBER 4		26RBF-11		REV


FRESH WATER SYSTEM



ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND		APPROXIMATE LENGTH
 1/2" COLD POLY LINE		434"
 1/2" HOT POLY LINE		390"
 3/8" FILL HOSE WITH FLAT SPOTS		30"
 BRAIDED 1/2" SHURFLO HOSE		49"
 1/2" CLEAR VINYL HOSE		30"
D- DRAIN VALVE S- SHUT OFF VALVE C- CITY WATER FILL G- GRAVITY WATER FILL L- COPPER 90° ELBOW T- COPPER TEE		

26RBR-8

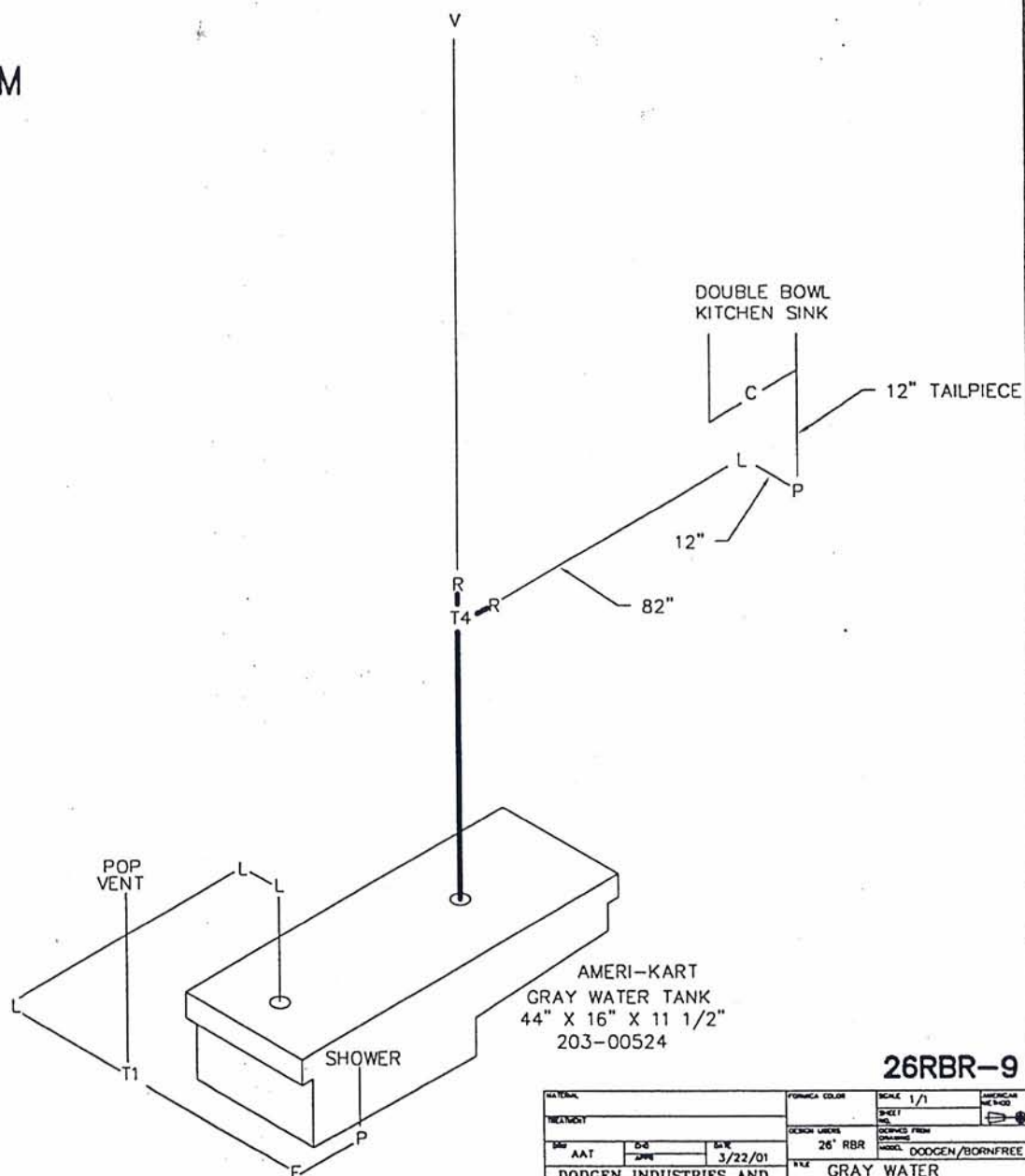
WATER		FORMICA COLOR		SCALE	AMERICAN HE MFG
THERMOSTAT				WELL	
DOD		DESIGN VEHICLE		DO DIMES FROM	
AAT	D-B TAPING	DATE 3/21/01	26' RSR	DODGEN/BORNFREED	
DODGEN INDUSTRIES AND BORN BORNEAL MOTORCOACHES HWY. 158N., P.O. BOX 39 HUMBOLDT, IA 50548			SIZE	FRESH WATER SYSTEM	
			NUMBER 3	26BR-8	REV

A diagram with a central point from which six arrows radiate outwards. The arrows are labeled as follows: 'UP' at the top, 'DOWN' at the bottom, 'FRONT' at the top-right, 'BACK' at the bottom-left, 'DRIVER SIDE' at the top-left, and 'PASSENGER SIDE' at the bottom-right.

LEGEND

2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2 ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE



AMERI-KART
GRAY WATER TANK
44" X 16" X 11 1/2"
203-00524

26RBR-9

NAME		FORMICA COLOR		SEAL	1/1	AMERICAN HE-WOOD
TREATMENT				SHEET	1	
DATE	AAT	DWG	DATE	DESIGN LINES	26' RBR	DOODEN/BORNFREE
		2/20/01	3/22/01			
DODGEN INDUSTRIES AND MOTORCOACHES HUMBOLDT, P.O. BOX 39 HUMBOLDT, IA 50548				GRAY WATER SYSTEM		
NUMBER		4		26RBR-9		REV

CUSTOMER NOTE:

WASTE WATER FROM THE
BATHROOM VANITY SINK GOES
INTO THE SEWAGE SYSTEM

SEWAGE SYSTEM

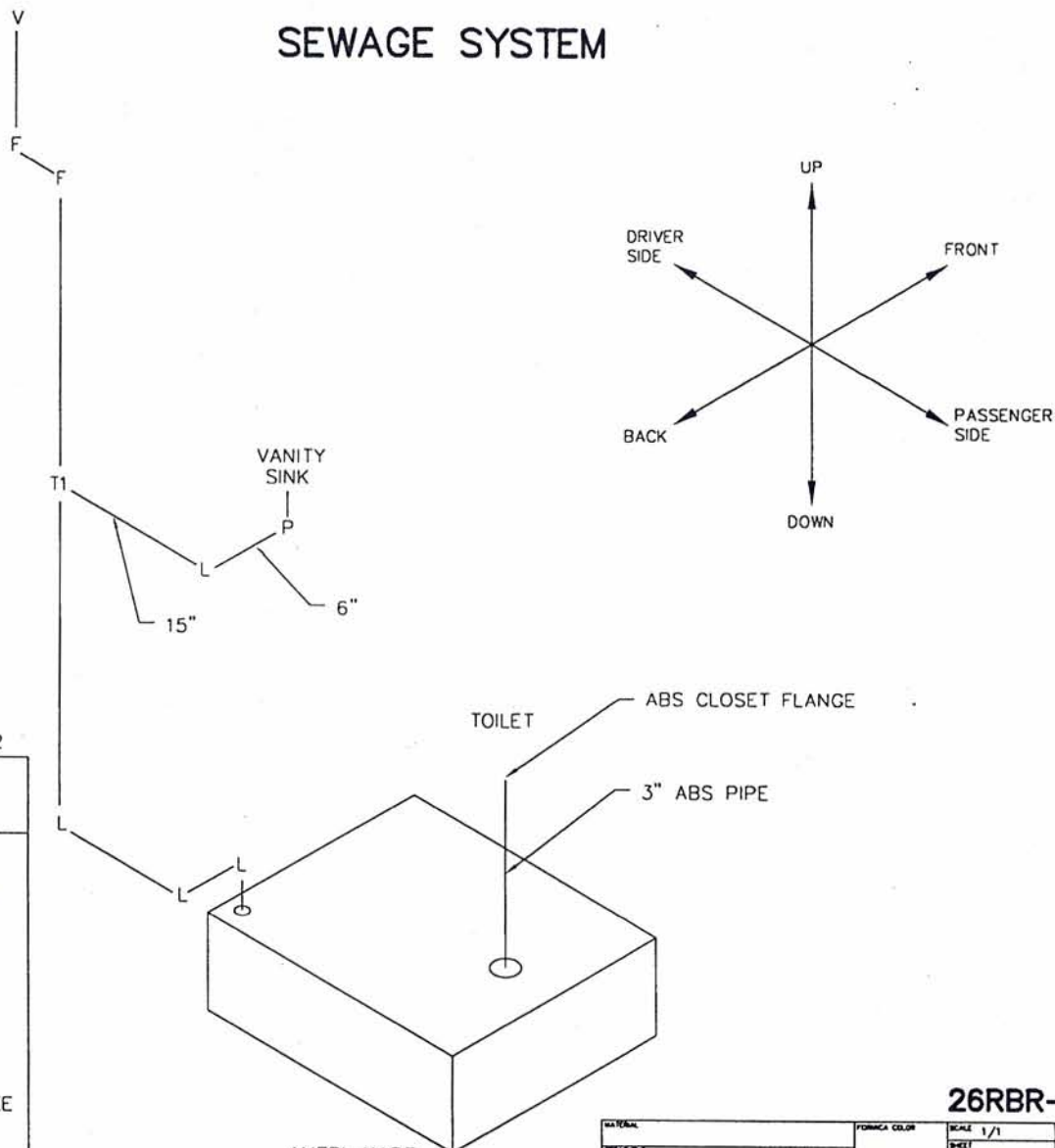
ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

LEGEND

1 1/2" ABS PIPE

2" ABS PIPE

C- ABS CONTINUOUS WASTE ASSEMBLY
F- 1 1/2" 45° ABS ELBOW
L- 1 1/2" 90° ABS LONG SWEEP ELBOW
O- 1 1/2" ABS TEE-WYE W/CLEAN OUT PLUG
P- 1 1/2" ABS P-TRAP
R- 2" TO 1 1/2" ABS REDUCER
T1- 1 1/2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T2- 2" X 1 1/2" X 1 1/2" ABS SANITARY TEE
T3- 2" X 2" X 1 1/2" ABS SANITARY TEE
T4- 2" X 2" X 2" ABS SANITARY TEE
V- 1 1/2" ROOF VENT CAP
Y1- 1 1/2" ABS TEE-WYE
Y2- 2" ABS TEE-WYE



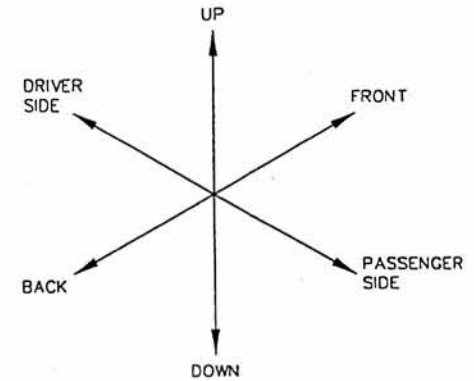
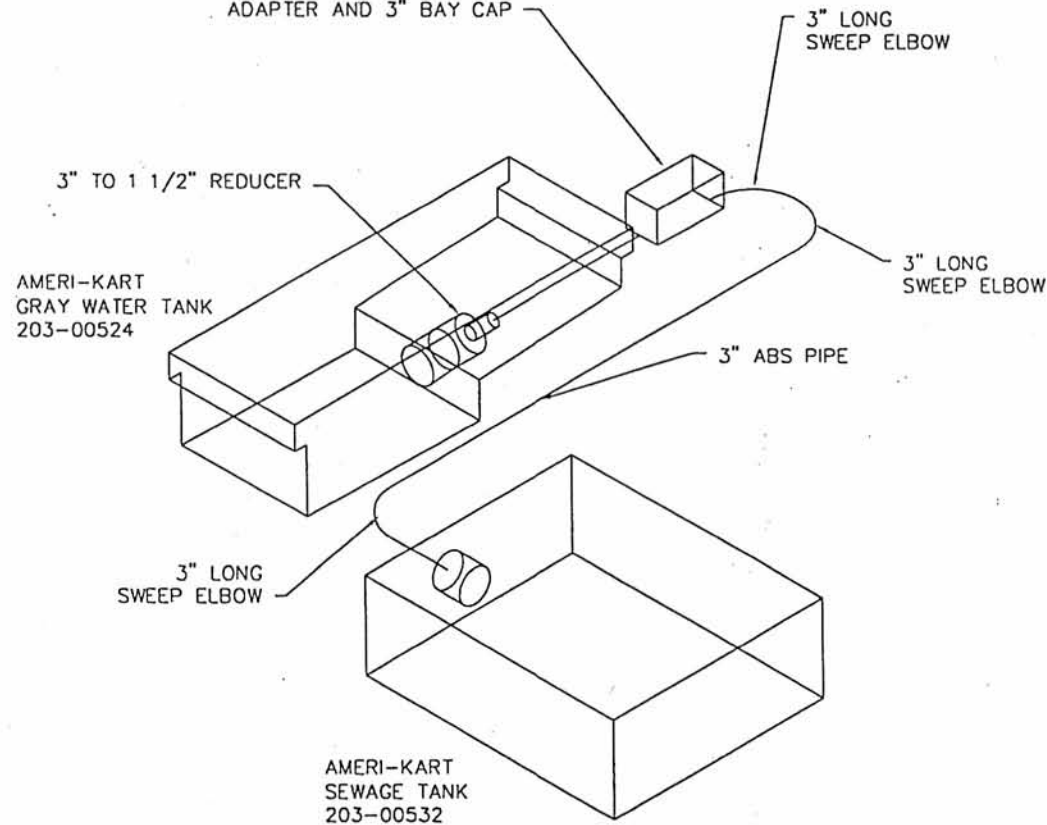
AMERI-KART
SEWAGE TANK
32" X 27" X 11"
203-00532

26RBR-10

DATE: _____		FORMICA COLOR: _____	SCALE: 1/1	AMERICAN METHOD
TREATMENT: _____		DESIGN NUMBER: _____	SHEET NO. _____	
DATE: AAT _____	DATE: 3/22/01	DESIGNED FROM: 26' RBR		
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		MODEL: DODGEN/BORNFREE		
		TITLE: SEWAGE SYSTEM		
		NUMBER: 4 26RBR-10		

HOLDING TANK DUMP ASSEMBLY

DUMP VALVE ASSEMBLY (VALTERRA PRODUCTS)
ONE PIECE UNIT WITH 1 1/2" VALVE
TOWARD THE BACK, 3" VALVE
TOWARD THE FRONT, AND ELBOWS
BONDED TOGETHER TERMINATING
IN 3" OUTLET SIZE WITH 3" BAY
ADAPTER AND 3" BAY CAP



ALL PIECES ARE LISTED MATERIALS APPROVED FOR
USE IN RECREATIONAL VEHICLES UNDER ANSI A119.2

26RBR-11

MATERIAL		FORMICA COLOR	SCALE 1/1	AMERICAN AND SHIP
TREATMENT		26" RBR	SHEET 1/1	
DATE COK	DATE 3/19/01	DESIGNED FROM DODGEN	DODGEN/BORNFREE	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES HWY 169N., P.O. BOX 39 HUMBOLDT, IA 50548		HOLDING TANK DUMP ASSEMBLY		
REVISION 4		26RBR-11		REV

H. Parking In A Campground With Hookups

When parked at a campsite with sewer hookup facilities, connect the drain hose and open the gray holding tank drain valve. This will allow complete water drainage during your stay and your holding tank will remain empty. The drain valve on the black tank should remain closed during your stay. If you leave the valve open, liquids will run out and leave solids behind. The proper method is to leave the slide valve closed allowing wastes to accumulate. If this is done, the evacuation procedure will allow the quick flush principle to carry all wastes out the drain at the same time.

Seasonal Protection

Each year, more travelers discover winter camping. With your new Born Free Motorcoach, you don't have to wait – you are ready now. The coach is built with adequate insulation, ventilation, and construction principles that can keep you warm all winter long. If the unit is being heated with the furnace, the only precaution necessary to prevent freezing is to add RV antifreeze to the holding tanks and sink drains.

NOTE: Do not use automotive-type antifreeze. This ethylene glycol-type antifreeze is poisonous and is not approved for potable water systems.

A. Winterizing

For this entire process, two gallons of RV antifreeze will be sufficient.

- Turn the by-pass valve on in back of the water heater.
- Go to the outside of the motorcoach, open the water heater door and remove the nylon plug. Lift the stem of the pressure relief valve to help it drain.
- Locate the fresh water tank and follow the white outlet hose until you come to a wing nut drain valve. Turn the wing nut counter clockwise until it stops. Turning this valve will drain the fresh water tank.
- After the fresh water tank is drained, turn the wing nut drain valve clockwise until it is tight.
- Follow the white hose from the wing nut drain valve to the water pump. There will be a threaded end on this hose connected to the water pump. Remove this threaded nut from the water pump and install winterizing hose in its place.
- Place open end of winterizing hose into a gallon of RV antifreeze.
- Turn on the water pump and then turn on the bathroom vanity faucet, tub faucet, showerhead, toilet, toilet spray hose, and kitchen faucet until both hot and cold flow pink with RV antifreeze. Do not winterize all items at the same time. Do one item and then move on to the next.
- Pour RV antifreeze down the sink and tub drains to fill the p-traps.
- Turn off water pump.
- Remove winterizing hose from the water pump and re-install the water hose from the fresh water tank to the water pump.
- Dump the black and gray tanks and your winterizing should be complete.

Along with protecting the water and drain systems, we advise you to follow these simple suggestions for proper winter storage:

- Remove all bedding and clothing to prevent mildewing
- Remove all goods and clean cupboards.
- Affix newspapers to inside windows with masking tape. This protects carpets, curtains, and cushions from ultraviolet damage.
- Clean the refrigerator thoroughly and place an open package of baking soda inside, leaving the door open.
- Clean all appliances and stove vents.
- Turn LP tank valve to "off."
- Turn battery disconnect switch to the "off" position.

B. Summer De-Winterizing

Perform the following procedure to de-winterize your motorcoach:

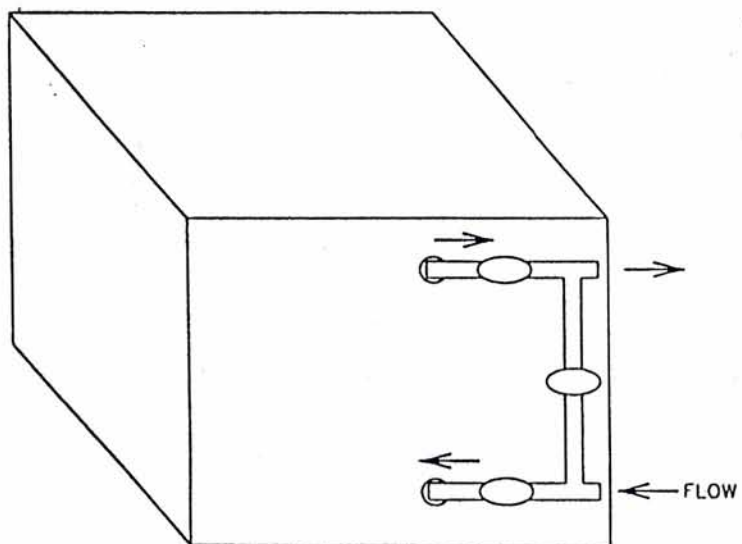
- Fill your fresh water tank with clean water.
- Turn on the water pump.
- Turn on all faucets, the toilet, and hoses until they flow clear with water.
- Only after all of the faucets flow clear with water can you open the by-pass valves on the rear of the water heater and fill the water heater.
- After the water heater is full of fresh water, your de-winterizing is complete.

C. Instructions For Disinfection Of Potable Water Systems On Recreational Vehicles

As approved by the U.S. Public Health Service:

To assure complete disinfection of your potable water system, it is recommended that the following procedures be followed on a new system, one that has not been used for a period of time, or one that may have become contaminated. This procedure is also recommended before long periods of storage, such as over winter.

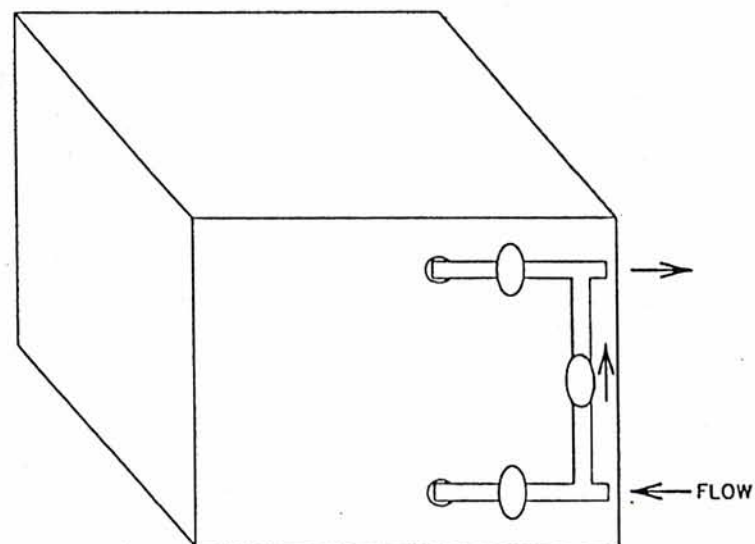
- Prepare a chlorine solution using one gallon of water and cup of household bleach (sodium hypochlorite solution). With the tank empty, pour chlorine solution into the tank. Use one gallon of solution for each 15 gallons of tank capacity. This procedure will result in a residual chlorine concentration of 50 ppm in the water system. If a 100 ppm concentration is required, as discussed in Item #3, use cup of household bleach with one gallon of water to prepare the chlorine solution.
- Complete filling of tank with potable water. Open each faucet and run the water until a distinct odor of chlorine can be detected in the water discharged. Do not forget the hot water taps.
- Allow the system to stand for at least four hours when disinfecting the 50 ppm residual chlorine. If a shorter time period is desired, then a 100 ppm chlorine concentration should be permitted to stand in the system for at least one hour.
- Drain and flush with potable water.



HORIZONTAL:

Valve in useable position

(SUMMER)



VERTICAL:

Valve in by-pass position

(WINTER)

DATE		FORMULA CODE		SCALE	1/1
REVISION		DESIGN CODE		2-REV	
DATE	5-28-89	BY		DESIGNED BY	
DODGEN INDUSTRIES AND BORNFREE MOTORCOACHES		VALVE		WATER HEATER BY-PASS	
11414 169N., P.O. BOX 39		REVISION		REV	
HUMBOLDT, IA 50548		1			

ATTENTION BORN FREE OWNER

- Proper front-end alignment is a critical element in keeping your new Born Free Motorcoach handling properly and getting the maximum tire life.

Alignment will change as the vehicle breaks in. The individual tire pressure you choose for your ride; the air pressure in the air bag suspension that you choose (if you have this option); the truck springs as they soften with use; the load (equipment, accessories, personal belongings, etc.) that you decide to add; and the location in the vehicle of this weight, can all have an effect on the alignment.

It is important for you to outfit and prepare your vehicle the way you intend to use it, and then have the front-end alignment checked. Try and choose a reputable alignment shop that has experience in larger vehicles and specifically the Ford Twin I Beam Axle Design. Dodgen Industries, Inc. / Born Free Motorcoach is under no obligation to pay for this alignment, because each customer will outfit their vehicle uniquely.

When you have your unit outfitted, and you are ready to have the alignment checked, our Customer Service Department will be happy to discuss, with you, any questions you may have.

Please call our Customer Service Manager at 1-800-247-1835 if you need assistance.

- Motorcoach owners many times look for possible ways to improve the mileage and power performance of their vehicles. One alternative many people consider is dual engine exhaust systems.

We do not recommend that you convert your truck to dual exhaust. The wires, fuel hoses, generator fuel line, electrical isolator, and optional hydraulic jack pump and reservoir are positioned when we finish the construction of your unit so that they are shielded, or far enough away from, the single exhaust system and catalytic converter to withstand the higher temperatures of today's vehicle engine. Adding dual exhaust would put these components in an unsafe distance to the added exhaust pipe. Installing dual exhaust may negatively impact your warranty on many of the components listed above; therefore, we do not recommend that you do this.

If you have any questions about this, please feel free to contact our Customer Service Department.

- Every Born Free Motorcoach has an on-board water pump system. Unlike a city water system to your home, you have the ability to shut off your system with a switch (which is located in the range hood face above the cook top).

RV's have numerous plastic fittings and lines, which make up the water system. We recommend that you always shut off your pump when the vehicle is in motion. If a fitting or line should break, due to the stress of some of America's poorer roads, you may not hear the pump running above the engine or radio sounds; and if a leak should occur, you could experience water damage in your coach. We feel this has only a slight risk of happening, but we want you to be aware of it.

Another good idea is to **shut off your pump when you leave your vehicle for any length of time**. Small drips can occur, just like in your home plumbing around faucets and drains. If the pump is left on, it will continue to feed a drop or leak in your absence. When you are in the vehicle, you will hear the pump run for a second or two, which will be the telltale sign that there is a leak. Periodic inspections of the drain p-traps and the faucet connections are recommended to avoid problems. **Remember** – plumbing fittings may loosen or break under certain road conditions, which makes following these guidelines critical.

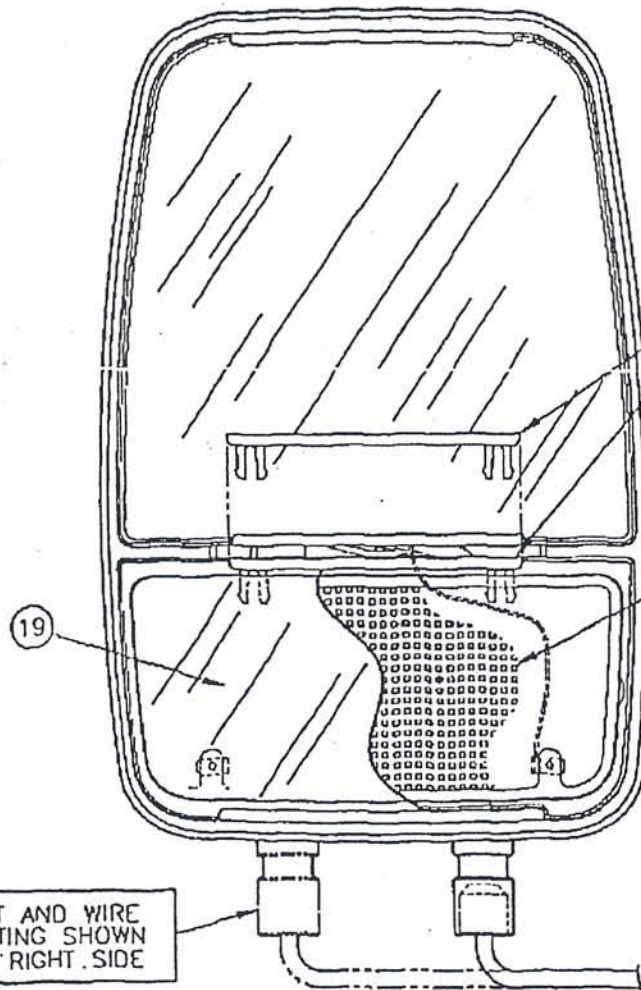
Born Free Motorcoach always tries to use the very best products manufactured in our motorcoach construction, and we feel our plumbing system is superior to other brands. But, we also want you, the owner, to be aware of the trouble areas that can occur, and to take precautions to avoid trouble.

Please feel free to contact the Born Free Motorcoach Customer Service Department if you have concerns or questions.

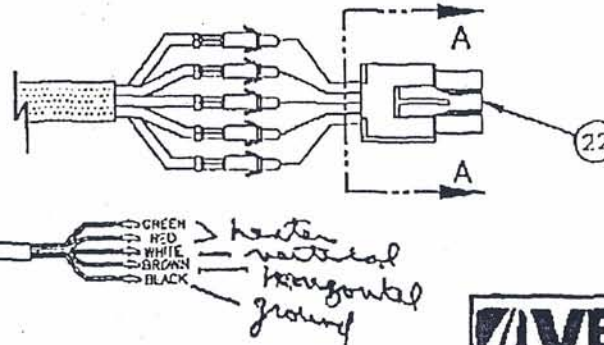
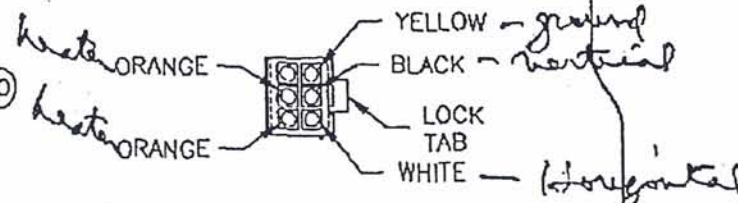


LEFT HAND SIDE SHOWN
RIGHT HAND SIDE OPPOSITE

UNCONTROLLED COPY



21 - CLIP MUST BE SNAPPED INTO POSITION AFTER THE CONVEX GLASS AND HEATING ELEMENT ARE ASSEMBLED



POST AND WIRE ROUTING SHOWN FOR RIGHT SIDE

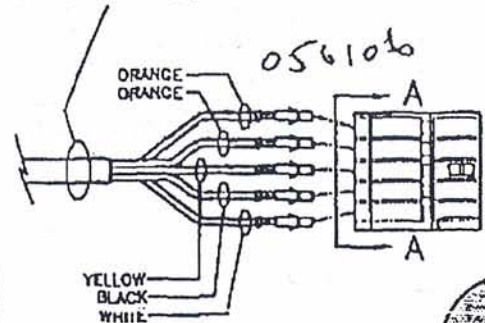
H

CONVEX GLASS/HEATING ELEMENT SUB-ASSEMBLY

VELVAC NEW BRUN, NJ 03161		DRAWN BY: J.S.	
		DATE: 04-19-99	
MODEL 2020 MIRROR ASSEMBLY CLASS "A" REMOTE/HEATED/LIGHTED HEAD FORD SUPER DUTY VERSION			
PROPRIETARY		SCALE:	
THIS CONCEPT & DESIGN IS THE PROPERTY OF VELVAC, INC. AND SHALL NOT BE REPRODUCED, COPIED, DISCLOSED, USED FOR RE-MANUFACTURE OR PRODUCTION FROM SOURCES OTHER THAN VELVAC INC. WITHOUT WRITTEN PERMISSION FROM VELVAC INC.		* DRAWING NO. PAGE 16 OF 22 7145210	

REVISIONS
SEE PAGE 1 OF 22

WIRE FROM MIRROR HEAD



RING TERMINAL GROUNDED ON VEHICLE DOOR USING ONE OF THE CAP SCREWS BENEATH THE SWITCH PLATE.

WIRES FROM SWITCH PLATE

CONNECTIONS INSIDE LH SWITCH PLATE
REMOTE/HEATED ASSEMBLIES

ORANGE - HTG ELEM.
YELLOW - GROUND
BLACK - VERTICAL
WHITE - HORIZONTAL

YELLOW
BLACK
WHITE

12VDC POWER WIRE

DOOR TO DOOR WIRE

FIVE AMP FUSE

+12VDC

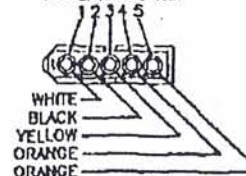
ITEMS
NOT INCLUDED
WITH ASSEMBLY

01 PROJ. #1339
8-23-95 JWB
REVISION LEVEL

713658, 713694, 713676

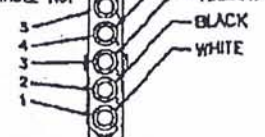
VIEW B-B

RECEPTACLE NO.



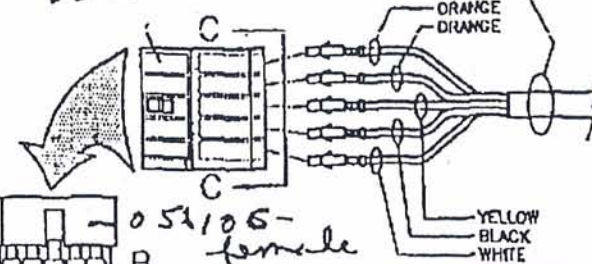
VIEW C-C

RECEPTACLE NO.



WIRE FROM MIRROR HEAD

056105 - male



CONNECTION INSIDE
RH COVER PLATE
REMOTE/HEATED
ASSEMBLIES

YELLOW
BLACK
WHITE

ORANGE
ORANGE

RING TERMINAL GROUNDED ON VEHICLE DOOR USING ONE OF THE CAP SCREWS BENEATH THE COVER PLATE.

RH GROUND WIRE

VELVAC
NEW BORN, WY 83151

SCALE: FULL

CAD DIRECTOR

DRAWN BY: JWB

DATE: 8-18-95

INSTALL

PLOT SCALE:

CLASS-C MIRROR WIRING
TERMINATIONS FOR
RMT/HTD ASSEMBLY

DRAWING NUMBER:

7475242