



Atwood Mobile Products LLC

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Literature number 31970

*hydro flame*TM

AF Series Furnaces

Models

AFSAD12111, AFSAD12121

AFSD12111, AFSD12121

AFSD16111, AFSD16121

AFSD20111, AFSD20121

Technical Installation Manual

Effective 1/2014

English, Français (et Canada)

This instruction manual is for use by an authorized service technician to install an Atwood – *hydro flame*TM furnace. Should you require further information, contact your dealer or nearest Atwood Mobile Products LLC Service Center.

This furnace design has been certified for installation in recreation vehicles as a MSP Category III furnace. Follow this installation instruction to insure safe operation of the furnace. Failure to install furnace according to this installation instruction nullifies the furnace warranty.

TO THE INSTALLER: LEAVE THIS MANUAL WITH THE APPLIANCE.

TO THE CONSUMER: RETAIN THIS MANUAL FOR FUTURE REFERENCE.

SAFETY ALERT SYMBOLS

Safety Symbols alerting you to potential personal safety hazards obey all safety messages following these symbols



WARNING

Avoid possible injury or death



CAUTION

Avoid possible injury and/or property damage



**WARNING
FIRE OR EXPLOSION**

If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

FOR YOUR SAFETY

WHAT TO DO IF YOU SMELL GAS:

- Extinguish any open flame.
- Evacuate all persons from the vehicle.
- Shut off the gas supply at the gas container or source.
- Do not touch any electrical switch, or use any phone or radio in the vehicle.
- Do not start the vehicle's engine or electric generator.
- Contact the nearest gas supplier or qualified service technician for repairs.
- If you cannot reach a gas supplier or qualified service technician, contact the nearest fire department.
- Do not turn on the gas supply until the gas leak(s) has been repaired.

A qualified Service Technician Service Center or gas supplier must perform installation and service.



FOR YOUR SAFETY

Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.



WARNING

Be sure the furnace and all ignition systems are "off" during any type of refueling and while vehicle is in motion or being towed.



WARNING

Avoid possible injury or death

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Refer to the installation instructions and/or owner's manual provided with this appliance. A qualified installer, service agency or the gas supplier must perform installation and service.



CRITICAL INSTALLATION WARNINGS

- DO NOT install furnace on material that restricts return air, like carpet or any soft material such as vinyl.
- DO NOT install furnace where clearance to combustibles cannot be maintained.
- DO NOT modify furnace in any way.
- DO NOT alter furnace for a positive grounding system.
- DO NOT hi pot furnace unless electronic ignition system (circuit board) has been disconnected.
- DO NOT use battery charger to supply power to DC model furnace even when testing.
- DO NOT use 120-volt AC current with DC models.
- DO NOT use furnace cabinet area as a storage compartment.
- DO NOT vent furnace with venting system serving another appliance.
- DO NOT vent furnace to an outside enclosed porch area.
- DO NOT use for temporary heating of buildings or structures under construction.
- Protect building materials from degrading from flue gas exhaust.
- Protect furnace electrical components from water.
- Compartment must be closed when operating unit.
- Should the gas supply fail to shut off during operation or overheating occurs, shut the gas valve off to the furnace before shutting off electrical supply.
- DO NOT use this furnace if any part has been under water.



**CAUTION
PERSONAL INJURY**

All sheet metal edges are sharp care should be taken when handling or brushing up against them.

⚠ WARNING
CARBON MONOXIDE POISONING

Properly seal vent assembly to prevent carbon monoxide from entering coach.

- DO NOT draw combustion air from living area.
- DO NOT vent exhaust air into the living area or an enclosed porch.

⚠ WARNING

Installation of this appliance must be made in accordance with the written instructions provided in this manual. No agent, representative or employee of Atwood or other person has the authority to change, modify or waive and provision of the instructions contained in this manual.

⚠ WARNING
CARBON MONOXIDE POISONING

- Furnace must be installed and vented to these instructions.
- Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Improper installation location may cause furnace to produce negative pressure, affecting combustion air or venting of other appliances.

⚠ WARNING
CARBON MONOXIDE POISONING

- Properly seal door to prevent carbon monoxide from entering coach.
- Properly adjust draft cap to prevent carbon monoxide from entering coach.

SPECIFICATIONS

MODEL Table 1

Models #	AFSD12	AFSD16	AFSD20	AFSAD12
Type of Gas	LP/Propane	LP/Propane	LP/Propane	LP/Propane
BTU Input	12,000	16,000	18,000	12,000
BTU Output	9,120	12,160	13,680	9,120
Duct Static Pressure	0.10"WC	0.10"WC	0.10"WC	N/A
12 Volt Amperage (AMPS)	3.4	3.4	4.8	2.4
Power Supply (Volt DC)	12	12	12	12
Watts	41	41	56	34
Minimum Return Air	35 in ²	35 in ²	35 in ²	35 in ²

- (WC = WATER COLUMN)
- (N/A = NOT APPLICABLE)

DUCTING CONFIGURATION Table 2

Model	AFSD12	AFSD16	AFSD20	AFSAD12
Side Ducting	2 Ducts	2 Ducts	2 Ducts	N/A
Rear with Side Ducting	1 or 2 Ducts	1 or 2 Ducts	1 or 2 Ducts	N/A
Rear Only no Side Ducts	Front	Front	Front	Front

DIMENSION Table 3

All Models	Width	Height	Depth	Weight
Casing	12"	7"	20"	Furnace 23 lbs Boxed 25 lbs
Small Vent	4-11/16"	6-5/16"	1-3/64"	
Small Door	14-7/8"	9-7/8"	3/4"	
Interior Grill	12-1/2"	8-1/2"	1"	
Trim Ring	14"	10-1/4"	1/8"	

MINIMUM CLEARANCE TO COMBUSTIBLES: Table 4

Floorboards, walls & similar combustible building materials must be provided the full length and width of the unit.

	Top	Sides	Rear	Bottom (to screw heads)	Blower (side opening)
Standard gas line	1/2"	1/2"	1/2"	0"	16 sq. in.
Extended gas line	5/8"	1/2"	1/2"	0"	16 sq. in.

- Spacing of 1/4" to ducting within 3 feet of furnace must be provided unless UL listed wire bound vinyl ducts are used. All ducting material must be rated for continuous use at minimum of 200 °F.
- Clearances are specifically for plywood or similar building materials surrounding the furnace (i.e. Furnace should not be located under furniture or in a closet space where clothing or other material could be located).
- Furnace efficiency rating is a thermal rating determined under continuous operating conditions, independent of any installation. Efficiency rate is given at 76% minimum; actual efficiency rating may be higher.
- Return air is supplied through openings or around the furnace. All return air passages must be kept clear for furnace to function properly. Refer to Minimum clearance to floorboards, walls & similar combustible building material in Table 4.
- The total unobstructed return air opening size must not be less than specified in specification Table 1. Failure to meet minimum return air requirements nullifies furnace warranty.
- To install without adding the 16 sq. in. cutout on the blower side supply the right side of unit (blower side) with 2" clearance full length of the unit.

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INSTALLATION AND SAFETY CODES

USA and Canada – follow all applicable state and local codes – in the absence of local codes or regulations, refer to current standards of:

- Recreation Vehicles ANSI A119.2/NFPA 501C
- National Fuel Gas Code ANSI Z223.1 and/or CAN/CGA B149

Installation Codes

- This furnace must be installed in accordance with the manufacturer's instructions and the Manufactured Home Construction and Safety Standard, Title 24 CFR, part 3280, or when such standard is not applicable, the Standard for Manufactured Home Installations. (Manufactured Home Sites, Communities and Set-Ups), ANSI A255.1 and/or CAN/CSA-Z240 MH Series M92 Canadian Standard for Mobile Homes."
- ANSI A 255.1 and/or CAN/CSA-Z240.6.2 MH Series, Mobile Homes
- Ground National Electrical Code ANSI/NFPA 70 and/or CSA C22.1, Part 1
- Park Trailers ANSI 119.5

GENERAL FURNACE LOCATION AND INSTALLATIONS

- All models can be installed in either a horizontal or vertical mounting position. Horizontal must have the gas line positioned on top, vertical position must have the vent located at floor level and gas line on the right side.
- Always install furnace through an exterior wall.
- DO NOT install furnace near tilt-out rooms, slide-outs, doors or other projection that could obstruct furnace exhaust.
- Locate furnace near midpoint of coach for single furnace applications.
- Installation must provide accessibility if any repairs are necessary to the furnace. Failure to meet this requirement will create additional labor costs that will be the responsibility of the installer.
- DO NOT install vent in areas where projection or door openings come within 6" of vent opening.
- DO NOT install furnace in an area where wires, pipes or other objects will interfere with installation or operation of furnace.
- DO NOT install furnace on material that restricts return air, such as directly on carpet, or soft material (like vinyl). If you must install furnace on carpet or soft material, install furnace on cleats, or on a wood or metal panel extending the full width and depth of furnace plus minimum clearance to combustibles.
- DO NOT use petroleum or citrus type cleaner on plastic parts, as damage may occur.
- CAUTION: Due to the differences in vinyl siding materials this appliance should not be installed without first consulting with the manufacturer of siding.
- A gas-fired furnace for installation in a residential garage must be installed so the burner(s) and the ignition source are located not less than 18 in (457mm) above the floor and the furnace must be located or protected to avoid physical damage by vehicles.

SIDEWALL CUTOUT

* Door exterior wall thickness 0" to 2-1/2".

* Small vent exterior wall thickness 7/8" to 2-1/2".

WALL CUTOUTS Table 5

	A	B	C	D
Exterior Cutout Small Vent	1 3/4"	2 1/8"	20"	3-1/2" Dia.
Exterior Cutout Standard Door	12-1/8"	7-1/8"	20"	
Interior Grill (cabinet cutout)	7-1/4"	11-0"		
Interior Grill Trim Ring (cabinet cutout)	12-1/2"	8-3/4"		

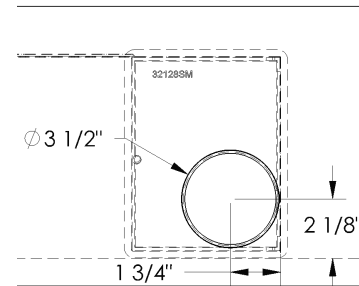
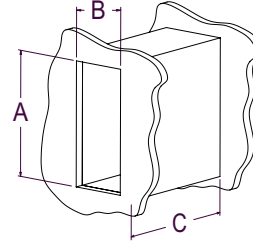
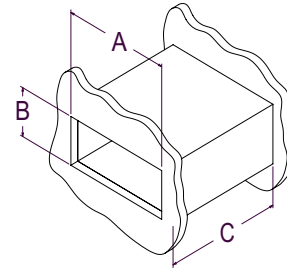


Figure 1

DO NOT oversize hole – over sizing can result in water leakage. Zero clearance around air intake cutout for best sealing condition.

FURNACE INSTALLATION

- The furnace should always be installed level (front to back, side to side) to prevent water intrusion into the interior.
- Set aside venting and outer door parts for installing on the outside of coach.
- NOTE to assure sufficient return air to circulating blower maintain specified clearances see Table 4.
- Units can be installed with or without the interior grill. If grill is not used a minimum of 35 sq. in. of free return must be provided.
- If units are installed using the small outside vent system access to the inside of the coach must be provided directly in front of the unit to remove for service suggested opening size 12-1/2" wide by 8-3/8" height.
- Remove knockouts from furnace and install two duct adapters for side discharge by inserting back flange over casing and inserting tab into square notch, then twist adapter 90°.
- Insert furnace into cabinet opening and secure with two screws through casing legs to floor. Units are secured also by door or vent systems through the coach sidewall.
- Attach flexible ducting over duct adapters and secure. All flex ducting requires rating of 200°F.
- Run ducting to locations keeping bends and excess ducting to a minimum and secure to registers.
- Connect wiring to furnace. See wiring connection section.
- Connect gas line to top or rear of furnace. See gas connection Figure 6.

1. Cut the required exterior wall opening for your venting system see Figure 1.
2. Configure furnace for ducting option to be used refer to duct configurations Table 2.
3. Install furnace into opening and attach ducting to adapters.
4. Make gas and electrical connections, which are located on the top of the unit.
5. See door or vent installation below on how to complete the installation.

INTERIOR GRILL INSTALLATION

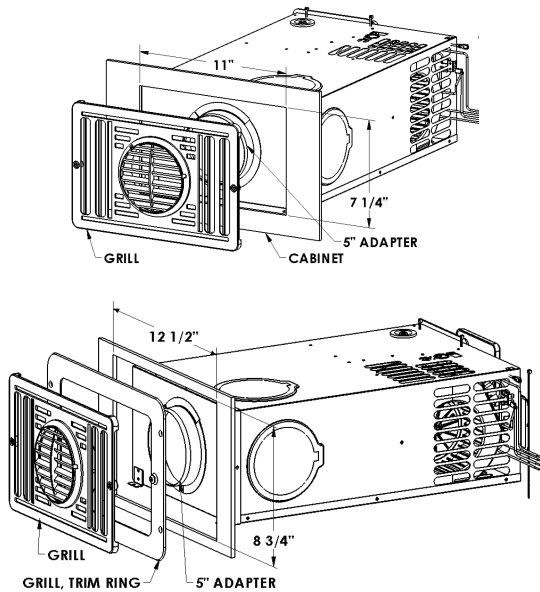


Figure 2

- To install grill cut an 11" x 7.25" hole into the cabinet for a non-removable furnace installation.
- To install grill as an access to remove furnace cut a 12-1/2" x 8-3/4" hole into the cabinet from the floor up you must also purchase a trim ring for this installation.
- Interior grill supplies return air and heated air necessary for AFSA models and must be used. All other AFS models this is an option.
- Discharge air from the round center louver can be direct 360° by tuning louver.

1. Locate furnace and cut opening in outside wall as shown in figure 1.
2. To install grill for front discharge remove the knockout from the rear of the casing and attached the 5" duct adapter.
3. Fasten 5" ducting to the adapter and to the back of the interior grill and secure with screws or wire ties.
4. On installation with 1" or less space between furnace and cabinet face grill can be inserting into the adapter ring to complete the connection.
5. Secure grill to cabinet by fastening with two screws through mounting holes or if optional trim ring secure first with four screws to the cabinet then the grill to the trim ring.
6. Vertical installation cutout and space see Table 5 for dimensions.

SMALL VENT INSTALLATION

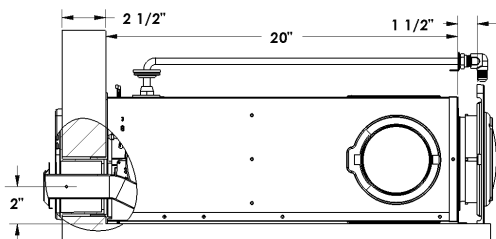


Figure 3

- To prevent moisture from entering inside of coach, apply RTV type sealant to the back of the bezel flange of the vent part.
- Vents designed to allow water drainage when installed correctly.
- Vents are design to allow for different wall thickness up to a maximum of 1-1/2"

1. Locate were the vent hole cutout is to be placed see figure 1.
2. Cut a 3-1/2" diameter hole through sidewall of coach.
3. Remove vent extension from furnace.
4. Insert furnace from inside of coach, lining up hole in wall.
5. Apply sealant to back flange of part.
6. Vent assembly must maintain minimum overlap of 1-1/4" on exhaust tube and 1/2" minimum on air extension tube.
7. Secure vent extension to coach sidewall with two screws through holes provide. Do not remove excess caulking at this time.
8. Insert vent cap assembly over vent extension so the edge of the vent cap cuts into the caulking and visually inspect vent to make sure it is completely sealed, secure with two vents with two screws and remove excess caulking.

STANDARD DOOR INSTALLATION

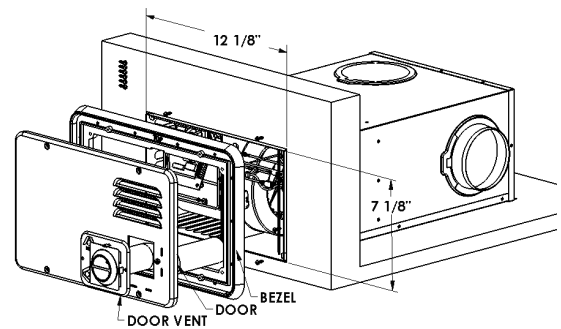


Figure 4

- All surfaces contacting the outside sidewall must be watertight and sealed with a RTV sealant.
- Vents are designed to allow water drainage when installed correctly.
- Screws for fasting of plastic parts are provided.

1. Locate unit were the door cutout is to be placed.
2. Cut a hole through sidewall of coach see figure 1
3. Apply sealant to the back of the mounting flange 1/4" thick minimum.
4. Insert mounting flange into casing and secure with four screws in the corners of the mounting flange.
5. Secure the mounting flange to the coach sidewall with 14 screws.
6. Place door into mounting flange and secure with four screws provide.
7. Insert vent assembly through door aligning tubes slide tube together and secure vent to door with two screws. These tubes must have 1-1/4" minimum overlap.
8. Remove excess caulking from around mounting flange.
9. Secure furnace to the cabinet floor with two (2) screws, through legs at the rear of the unit.

DUCTING OPTIONS

REQUIRED MINIMUM DISCHARGE

Models	Required Discharge Area
AFSDA	FRONT GRILL ONLY
AFSD	24 in ²

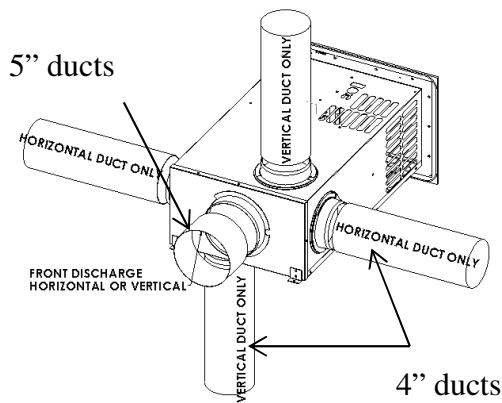


Figure 5

- Proper duct installation is critical to operation of furnace. When installing ducts, use materials rated for continuous use at 200°F.
- See minimum clearance to floorboards, walls & similar combustible building materials.
- Each 4-inch duct opening provides 12 in² of discharge area. Minimum for this furnace is 24 in². If closeable registers or a 2" duct is used unit must be provide with a front grill system.
- Ducting in dead air space with no return air, such as holding tank areas, does not count toward achieving minimum discharge requirements.
- Adjust ducting installation to obtain air rise of 100°F-130°F for optimum performance.

FLEXIBLE DUCTING SYSTEMS

When designing flexible duct systems:

- Follow ducting configuration show in Table 2.
 - Avoid sharp bends or crushed ducts.
 - Stretch all ducts and run them directly to outlets, keeping quantity and angles of bends to a minimum.
1. Remove knockout plate from desired outlets. If both 4" outlets are not being used leave in place, if removed a cover plate can be purchased.
 2. Attach a duct adapter on opening by inserting flange over casing hole, locking the tab into casing slot and turning adapter 90°.
 3. Attach and secure four-inch flexible duct to adapter(s).
 4. Run duct(s) to desired location within RV, secure to register(s).

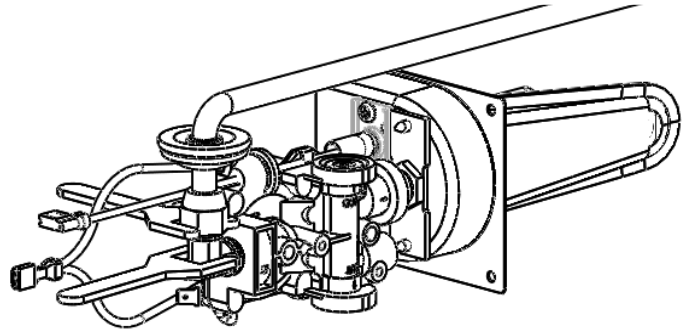


Figure 6

1. Connect gas line to the fitting located on top right side of furnace or if is supplied with an extended manifold at the rear of the furnace.
 2. Be sure all male pipe threads, other than flare fittings, are treated with a sealing compound resistant to the action of propane (LP) gas. DO NOT put sealing compound on flare fittings.
 3. Use two wrenches to hold brass fitting and flare nut when tightening gas lines. DO NOT twist valve assembly.
- A 1/8" N.P.T. plug is accessible for test gauge connection on gas valve assembly for pressure testing.
 - A 3/8" flared fitting connection provided at gas control valve inlet for gas supply connection to furnace. The gas supply line of the furnace must be of adequate size to provide 11" W.C. gas pressure. This pressure to be maintained under maximum flow conditions with all gas appliances in operation.
 - If local codes allow the use of a flexible gas appliance connector, always use a new listed connector. Do not use a connector, which has previously serviced another gas appliance.

ELECTRICAL CONNECTIONS

<p>⚠ WARNING INJURY OR PROPERTY DAMAGE</p>
<ul style="list-style-type: none"> • Label all wires before disconnecting for servicing. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing. • Disconnect electrical power before servicing.

<p>⚠ CAUTION PROPERTY DAMAGE</p>
<p>This connection is for low-voltage battery or direct current only. Do not connect to 120 or 240 volts AC.</p>

<p>⚠ WARNING FIRE OR EXPLOSION</p>
<p>Never check for leaks with an open flame. Turn on the gas and apply soapy water to all joints to see if bubbles are formed.</p>

PROPANE GAS CONNECTION

Propane Gas Pressure Test

The furnace and any individual shut-off valve must be disconnected from gas supply piping system during and pressure testing of system at test pressures of more than 1/2" PSI.

Before furnace is, connected piping systems are to be tested to be leak free. The test must maintain air pressure of a least 6" of mercury or 3 PSI for at least 10 minutes.

The entire piping system is to be maintained for a pressure of 10" to 13" W.C. when all appliances are in operation. Test gas connections for leakage with soapy water or a leak test solution.

POWER SUPPLY

Atwood Mobile Products LLC highly recommends the use of an electronic (solid-state) converter with clean power output. This will assure extended life of the electronic controls and motor beyond typical linear converter applications.

Conductor Sizing Table 6
– Maximum 10% Voltage Drop – (12 VDC)
Current draw (AMPS)

AMPS	3	4	5	6	7	8	9	10	15
Gage	Max. Length of SAE conductor (in feet) from source to device								
18	57	43	34	29	25	21	19	17	11
16	87	65	52	43	37	33	29	26	17

- This furnace designed for negative ground 12 volts DC only. DO NOT attempt to alter furnace for a positive ground system or connect the furnace directly to 120 volts, AC. Damage to furnace components will occur and warranty will be voided.

- Use a minimum of 18 GA wire to minimize voltage drop. Furnace must be installed so electrical components are protected from water. To make electrical connections see wiring diagrams.
- For best furnace performance when power supply is from a converter equipped with a charging port, wire converter to furnace parallel with battery. This provides consistent voltage to furnace, increasing component life, filtering power surges and AC spikes.
- All units are supplied with a power switch which when turned off during servicing will remove power through furnace wiring. Switch must be in the ON position for furnace to operate.

- Route wiring to the furnace.
- Connect red wire to positive +12VDC of power supply.
- Connect black wire to ground of power supply.
- Connect Thermostat +12 VDC blue wire to power supply using 22-18 GA stranded wire.
- Connect Thermostat blue wire to the thermostat lead using minimum 22-18 GA stranded wire.
- All wiring shall be installed so the electrical components are protected from water.

THERMOSTAT INSTALLATION

- Thermostats not supplied. Purchase a thermostat rated for 12 VDC or 24 VAC, Minimum 1 AMP rating see Atwood parts list for thermostat numbers.
- Be sure all electrical power to the furnace is disconnected.
- The thermostats are very sensitive, HANDLE WITH CARE AT ALL TIMES.
- Pick a dry area where air circulation is good.
- Do not install the thermostat where there are unusual heating conditions: such as direct sunlight, heat producing appliances (television, radio, wall lamp, etc.) or a furnace or air conditioner output registers.
- Locate thermostat 48" to 54" above main living area floor on an INTERIOR wall when possible
- EXTERIOR wall location must have a 3/4" spacer between thermostat and exterior wall.
- Follow manufacture's installation instructions provided with thermostat.

OPERATING INSTRUCTIONS



**WARNING
FIRE OR EXPLOSION**

Do not operate furnace while vehicle is in motion or being towed.

- During initial firing of this furnace, a burn-off of excess oils remaining from manufacturing process may cause smoking or fumes for 5-10 minutes.
- NOTE: if furnace should lock out, the blower will go off in 90 seconds and remain off until unit is reset by reactivating the thermostat.

Stop! Read Users Information Manual supplied with furnace.

1. Turn the manual valve (if so equipped) or the valve at the outside LP tank to the "OFF" position. Do NOT force. NOTE: This furnace is equipped with a valve shut-off switch with switch in "OFF" position. Gas will not flow to burner nor will the furnace operate. Turn switch to "ON" position.
2. Set thermostat above room temperature to begin blower operation. A slight delay will occur before the blower comes on. Allow blower to run for 1 minute for combustion chamber purge cycle. If blower does not come on or stops before ignition cycle, go to shut down and contact your dealer or a local recreational vehicle service agency.
3. After 1 minute, move thermostat lever below room temperature. Blower will remain on. Wait approximately 2 minutes for blower to go off.
4. Open manual shut-off valve (if so equipped) or the valve at the outside LP tank. Correct operation characteristics depend on the valve being

5. positioned fully open. Never attempt to operate with a valve partially closed.
6. Set thermostat lever to desired setting. If set above room temperature, blower will come on.
7. Allow 30 seconds for main burner to light after blower comes on. This furnace is equipped with an ignition device that automatically lights the burner. DO NOT try to light the burner by hand.
8. If burner does not light, repeat Steps 1 through six.
9. If after three (3) attempts with no ignition, go to shut down and contact your dealer or a local recreational vehicle service agency. Do not continue to cycle furnace through thermostat in an attempt to get ignition.

TO SHUT DOWN

1. Set the thermostat to lowest setting, then move lever to "OFF" position.
2. Turn manual shut off valve (if so equipped) to the "OFF" position. Do not force.

SYSTEM CHECKS

PROPANE GAS PRESSURE TEST

The furnace and any individual shut-off valve must be disconnected from gas supply piping system during any pressure testing of system at test pressures of more than 1/2" PSI.

Before furnace is connected, piping systems must be tested to be leak free. The test must maintain air pressure of a least 6" of mercury or 3" PSI for at least 10 minutes.

The entire piping system must be maintained within a range of 10 to 14" WC when all appliances are in operation. Test gas connections for leakage with a leak test solution.

AIR FLOW CHECK

Appliances are tested to a temperature rise as specified on the Rating Plate. After installation of the furnace and duct system is completed, adjustments must be made to obtain a temperature rise as specified on the Rating Plate.

The following table can be used as reference to maintain maximum operation of the appliance when setting temperature rise is not possible. Air flow should be measured at each registers opening and the readings added together and should be between the minimum and maximum of BTU appliance you are checking in the table below.

Readings above the maximum should be check for ducting restrictions or blocked openings. If ducting is clear you can install more ducting.

12,000	16,000	20,000
1750-1650*	1750-1650*	1800-1900*

*FPM= feet per minute reading

Ignition control diagnostic codes

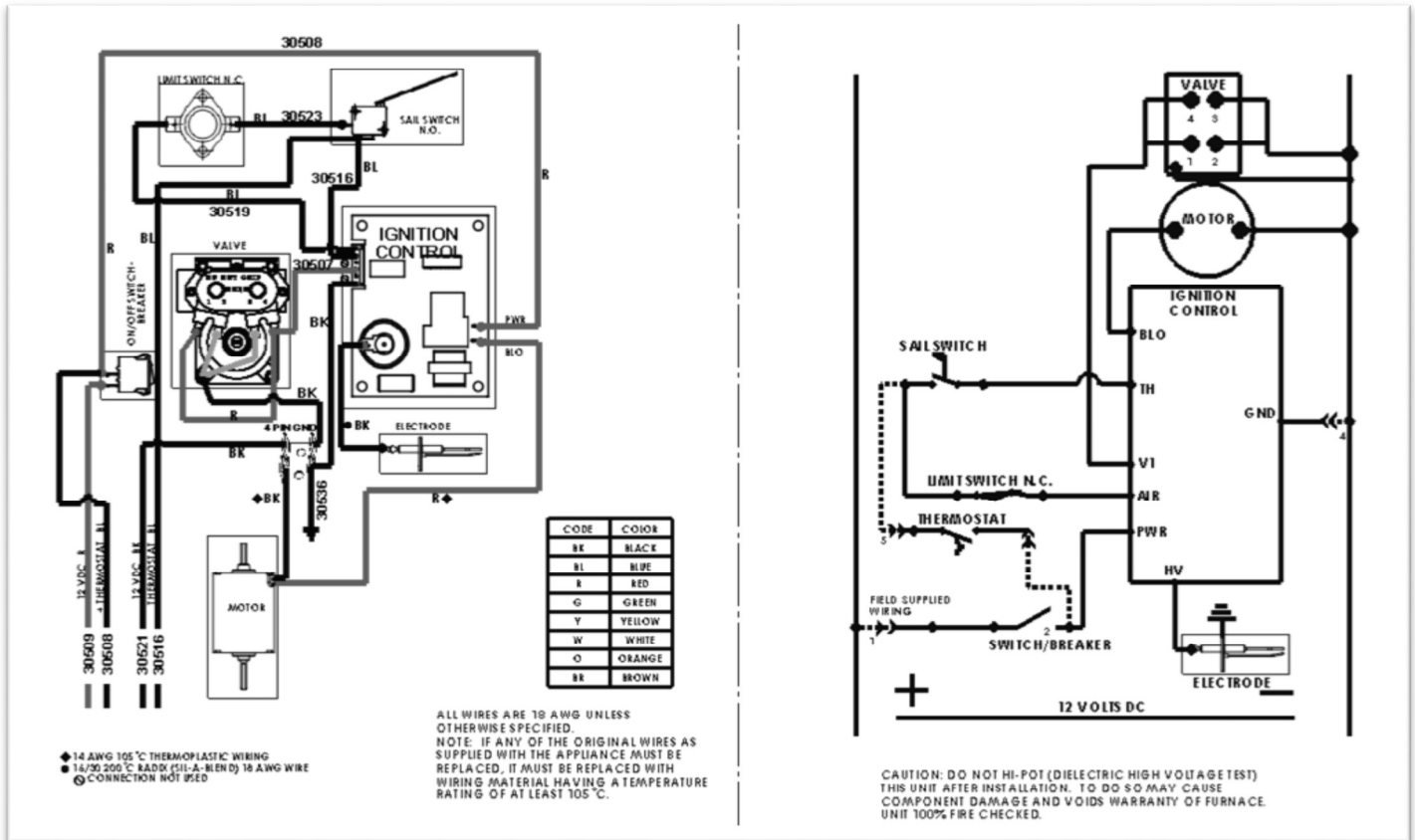
The following charts give the diagnostic codes given by the ignition control when faults are present.

- A soft lockout is a timed condition that will make additional attempts to correct the problem. A hard lookout requires resetting of the thermostat or turning the power switch off, then back on.

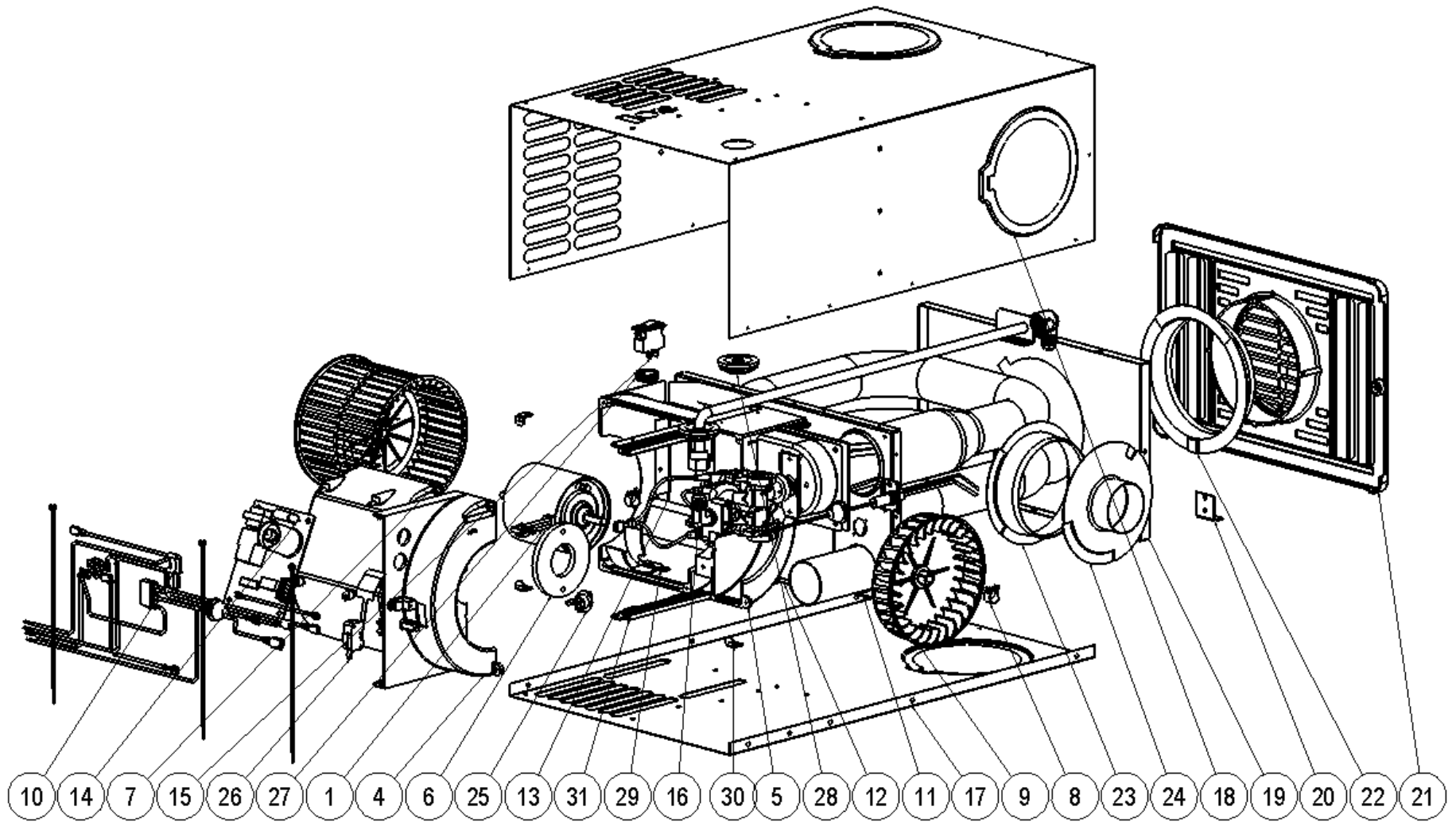
Standard 3 tries for Ignition Controls

DIAGNOSTICS CHART		
FAULT	LED INDICATION	LOCKOUT
Internal Circuit Board Failure	Steady On, No Flashing	Hard
Limit Switch/Airflow Problems	1-Flash With 3-Second Pause	Soft
Flame Sense Fault	2-Flashes With 3-Second Pause	Hard
Ignition Lockout Fault	3-Flashes With 3-Second Pause	Soft (after 1 hr)

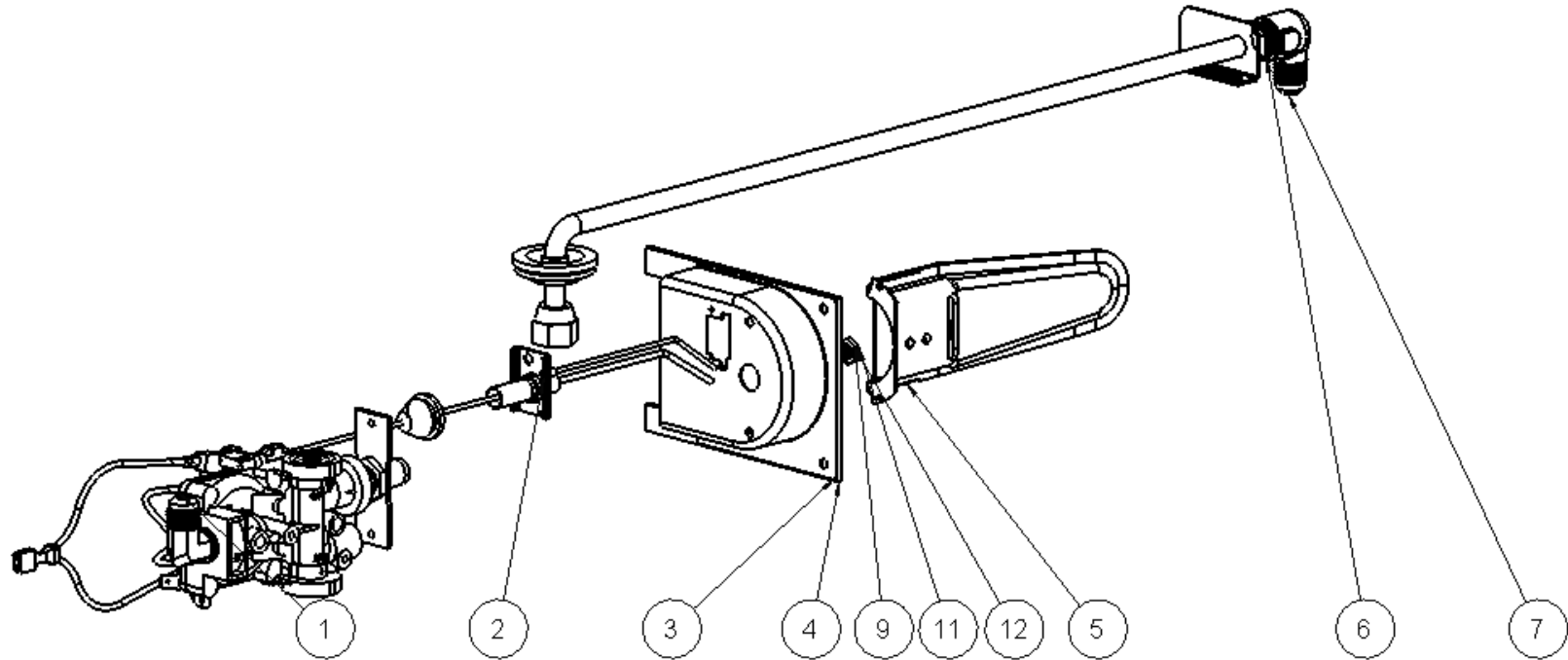
AFS WIRING AND LADDER DIAGRAM



PART DRAWINGS & PART LISTS

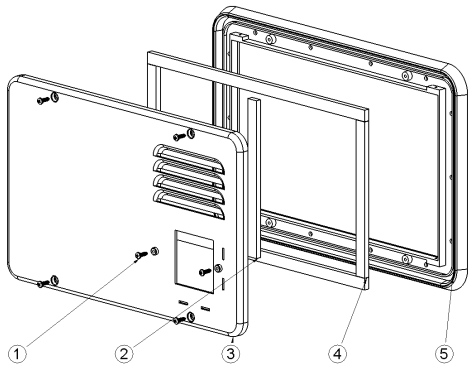


ITEM NO.	PART NO.	Description	AFSAD12	AFSD12	AFSD16	AFSD20
1	30600	MOTOR SA 12	1	-	-	-
2	30601	MOTOR, S12-16	-	1	1	-
3	30606	MOTOR S20	-	-	-	1
4	30744	BLOWER COVER SMALL	1	1	1	1
5	30745	BLOWER HOUSING-S	1	1	1	1
6	31903	MOTOR GASKET, SML	1	1	1	1
7	32166	WHEEL, BLOWER PLASTIC S	1	1	1	1
8	33327	CLAMP, SPRING (RED)	2	2	2	2
9	37107	WHEEL, COMBUSTION 85/89 PLASTIC	1	1	1	1
10	35060	WIRING HARNESS ASSEMBLY DC	1	1	1	1
11	31990	HEAT EXCHANGER WALL ASSY S	1	1	1	1
12	32125	AIR DEFLECTOR S	1	1	1	1
13	32121	BLOWER DEFLECTOR SML	1	1	1	1
14	30575	BOARD, DSI DC 12V	1	1	1	1
15	34007	CIRCUIT BREAKER/ON-OFF SWITCH 5AMP	1	1	1	1
16	35022	VALVE ASSEMBLY S12	1	1	-	-
16	35023	VALVE ASSEMBLY SM16	-	-	1	-
16	35024	VALVE ASSEMBLY S20	-	-	-	1
17	32162	CASING BOTTOM, S	1	1	1	1
18	32146	CASING TOP-SIDES S	1	1	1	1
19	32116	CASING BACK, S	1	1	1	1
20	32159	BRACKET, CASING LEG	2	2	2	2
21	31852	GRILL, FRONT ASM	1	1	1	1
22	30332	ADAPTER, DUCT 5 IN	1	1	1	1
23	31474	ADAPTER, DUCT 4 IN	1	1	1	1
24	36688	ADAPTER, DUCT, 2 INCH	1	1	1	1
25	31932	SWITCH, LIMIT 36TXV11, L190 TOD	1	1	1	1
26	31933	SWITCH, SAIL SA D4	1	1	1	1
27	31980	SNAP BUSHING 2850N	1	1	1	1
28	32126	GAS LINE GROMMET SML - 1.250"	1	1	1	1
29	31962	GASKET, MOTOR STRIP-S	2	2	2	2
30	31487	BRACKET, CORNER	4	4	4	4
31	30742	SLIDE BRACKET	2	2	2	2



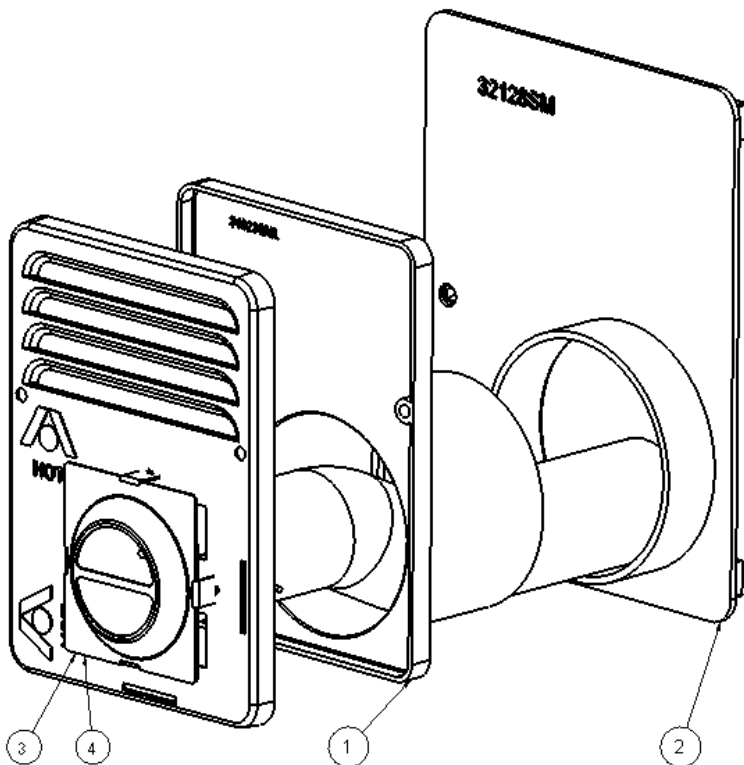
ITEM NO.	PART NO.	Description	35024 AFSD20	35023 AFSD16	35022 AFS (A) D12
1	38609	VALVE, STRAIGHT, 12 DC COIL ASM	1	1	1
2	32016	ELECTRODE, ASM SML AT1	1	1	1
3	30738	BURNER BOX SML	1	1	1
4	32616	BURNER BOX GASKET	1	1	1
5	36043	BURNER HEAD, COMPLETE LP	1	1	1
6	31946	MANIFOLD EXTENDED ASSEMBLY SML	1	1	1
7	32174	ELBOW, FEMALE, 3/8 X 3/8 BRASS	1	1	1
9	32179	ORIFICE, #60 .040" HOLE	-	-	1
11	31257	ORIFICE, #56, 0.0465" DIA HOLE	-	1	-
12	31265	ORIFICE, #1.25MM 0.0492" HOLE	1	-	-

BURNER ASSEMBLY



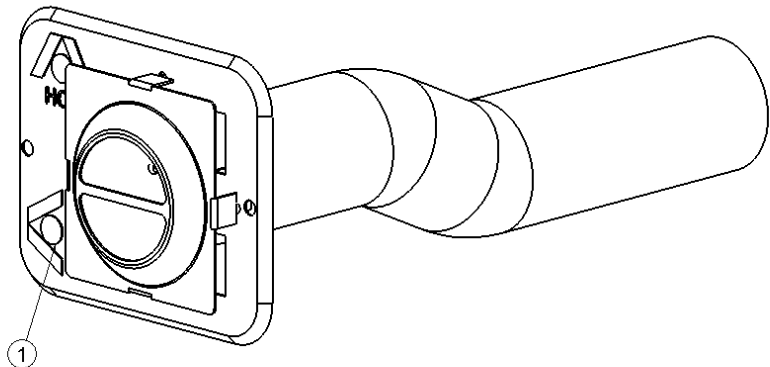
DOOR ASSEMBLIES/COLORS

PART NO.	ITEM NO.	Description	30664	30681	30683	30685	30686	30687	30676	30670	30671	31860	30672	30675	30680	30684	30682
35075	1	SCREW, 6-19 X 1/2, PAN HD PHIL	6	6	6	6	6	6	6	6	6	6	6	6	12	6	6
31085	2	FOAM TAPE, 1/4 ADCHEM 1/2 WIDE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31975	3	DOOR #44 BLACK S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31939	3	DOOR #34 ARCTIC WHITE S	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
31940	3	DOOR #32 SKY WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
31085	4	FOAM TAPE, 1/4 ADCHEM 1/2 WIDE	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
31969	5	BEZEL #44 BLACK S	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31968	5	BEZEL #34 ARCTIC WHITE S	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
31964	5	BEZEL #32 SKY WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
31942	8	DOOR #36 ALUMINUM S	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
31965	9	BEZEL #36 ALUMINUM S	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
31944	10	DOOR #43 GOSHEN GRAY S	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
31967	11	BEZEL #43 GOSHEN GRAY S	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
31947	12	DOOR #49 TAUPE S	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
31976	13	BEZEL #49 TAUPE S	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
31948	14	DOOR #50 TAN S	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
31977	15	BEZEL #50 TAN S	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-
31949	16	DOOR #51 CHAMPAGNE S	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
31978	17	BEZEL #51 CHAMPAGNE S	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-
31901	18	DOOR #2 PARCHMENT WHITE S	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
31957	19	BEZEL #2 PARCHMENT WHITE S	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
31914	20	DOOR #4 SNOW WHITE S	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
31958	21	BEZEL #4 SNOW WHITE S	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
31858	22	DOOR #11 BEIGE S	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
31859	23	BEZEL #11 BEIGE S	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-
31917	24	DOOR #22 STAR WHITE S	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
31959	25	BEZEL #22 STAR WHITE S	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
31924	26	DOOR #23 WHITE S	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
31960	27	BEZEL #23 WHITE S	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
31945	28	DOOR #47 OXFORD WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
31974	29	BEZEL #47 OXFORD WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-
31943	30	DOOR #40 POLAR WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
31966	31	BEZEL #40 POLAR WHITE S	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1



ITEM NO.	PART NO.	Description	32281	32283
			AFSD12	AFS (A) D12-16
1	31923	VENT PANEL EXTENSION SML	1	1
2	32128	VENT COVER PANEL SM	1	1
3	31951	LD VENT CAP ASM .688	1	-
4	31952	LD VENT CAP ASM .830	-	1

SMALL VENT ASSEMBLIES



ITEM NO.	PART NO.	Description	31934	31935	31937
1	35113	DOOR VENT CAP BASE SML	1	1	1
6	32188	EXHAUST RESTRICTOR 1.100	-	-	1
7	32184	EXHAUST RESTRICTOR .688	1	-	-
8	32185	EXHAUST RESTRICTOR .830	-	1	-

DOOR VENT ASSEMBLIES