



Owner's
Manual
(Part #2789)



NOTE: Carefully read entire instructions thoroughly before attempting to install and utilize this part.



arctic FRIDGE / FREEZER

- FEATURES**
- › DIGITAL CONTROL PANEL
 - › ADJUSTABLE TEMPERATURE CONTROL
 - › RECESSED PANEL FOR A STREAMLINED DESIGN
 - › ADJUSTABLE POWER CONTROL
 - › POWER INPUT PANEL
 - › AC/DC POWER CONNECTION
 - › 3-STAGE BATTERY PRESERVATION SWITCH
 - › FUSE SLOT
 - › NO HEAT RADIATION
 - › LOW POWER DRAW
 - › SUPER BRIGHT INTERNAL LED LIGHT
 - › LARGE STORAGE CAPACITY
 - › INTERNAL REMOVABLE STORAGE BASKET
 - › SEPARATE DAIRY SECTION
 - › ALUMINUM LINED INTERIOR
 - › DANFOSS COMPRESSOR
 - › ELECTRONICALLY CONTROLLED
 - › FAST COOL CAPABLE

CHARACTERISTICS

1. Latest ultra-efficient German technology compressor.
2. Can run on 12V DC and 120V AC.
3. Can set temperature from an ice cold -22°F and up to 50°F.
4. Perfect for tropical climate, can even refrigerate in blistering hot temperatures.
5. Digital temperature pre-setting and LCD display.
6. 3-stage automatic power cut off to protect the battery.
7. Anti-vibration design for harsh conditions.
8. High level of insulation, 55MM polyurethane foam.
10. CFC-free R134a refrigerant.
11. Suitable for solar power supply operation.
12. Ideal for overland adventures, camping, motorhomes, trailers, and marine use.





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Parts list:

Arctic fridge/freezer
AC adapter w/female lighter socket
12v power cable
Removable basket w/ divider

Product Safety

- Always connect fridge/freezer to the correct input voltage and correct polarity.
- Protect fridge/freezer from rain, moisture and the elements.
- Do NOT immerse in water.
- Do NOT store flammable liquids or gases in or near your fridge freezer.
- Do NOT use sharp, corrosive or abrasive cleaners to clean or defrost your fridge/freezer.
- Do NOT place any electrical devices inside fridge/freezer.
- Do NOT fill your fridge/freezer with ice or fluid.
- Do NOT use fridge/freezer if it has been immersed in water.
- Do NOT use fridge/freezer if there are signs of damage to the power cord or main unit.
- When using the fridge/freezer in a vehicle or boat, make sure the power supply circuit is properly fused and can meet the electrical power demands.
- Do NOT touch the internal metal shell of the fridge/freezer with wet hands/skin.
- Do NOT place your fridge/freezer near flames or other heat sources (fires, direct sunlight, heaters, etc.)
- Do NOT remove or modify any electrical components.
- Disconnect your fridge/freezer from power supply before cleaning or maintenance.
- Children should be supervised to ensure they do not play on/in, or with the fridge/freezer.
- Always keep fridge/freezer in an upright position. Avoid tilting beyond 30°
- Keep lid open when storing fridge/freezer.
- Do NOT use lid or lid latch to move or lift the fridge/freezer.
- Never handle power plugs, leads or switches with wet hands or while standing on wet surfaces.
- Never place hot food or drink in the fridge/freezer.



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General installation

- A minimum clearance of 4" must be maintained on all sides of the fridge freezer.
- Fridge freezer must be securely attached to its mounting location to prevent unwanted movement.
- Never operate near flammable vapors, liquids, or objects.
- Ideal location for the fridge/freezer is on a flat surface.
- The carry handles can be used as a tie down point or you can use the integrated tie down points on the insulated cover.
- If using a 12 volt accessory socket, follow the wire size guide to determine the thickness of wire needed for your length of wire being used. If hardwiring fridge/freezer, use wiring size chart and install a 15 Amp inline fuse into the circuit. See 12 volt wiring requirements.
- **NOTE:** Some vehicles may have an accessory outlet at rear of vehicle, many times these DO NOT have adequate size wiring to power fridge and may trigger an error code1, if this happens you must upgrade the wiring. Use a minimum of 10 gauge wire and wire auxiliary socket directly to battery.

Cable Thickness		12V Max Cable Length	
[mm2]	AWG	[m]	[ft.]
6	10	6	20
10	8	10	33

Pre-operation

1. Before using your Arctic fridge/freezer for the first time, clean entire fridge/freezer inside and out with a damp cloth.
2. To use AC adapter, plug AC adapter into AC outlet. Plug the lighter socket from the fridge/freezer power cord into the AC adapter.
3. If connecting to a 12 volt outlet. Make sure circuit is in good condition and has the correct capacity to power the fridge/freezer. 15 AMP or higher rating on socket is recommended using a minimum of 10 awg wire. See 12 volt wiring requirements. Inadequate wiring may trigger an error code 1.

NOTE: Smittybilt recommends a dedicated wiring circuit to be installed to power the fridge/freezer. This circuit should be as short as possible and use at least 10 gauge wires and a minimum socket rating of at least 15 amps. An auxiliary battery system is recommended to prevent discharge of the main starting battery.

4. If connecting to 120V AC off a portable generator, it must be equipped with an automatic voltage regulator and the power supplied by the generator must be a pure sine wave AC voltage.
5. If connecting to a 12V output from your generator, a battery must be installed between the generator and the fridge/freezer.

CAUTION – Some generators will not produce output power that is compatible with the fridge/freezer. This is common for conventional style generators. Inverter generators like the Smittybilt EPS generator will have the pure sine wave output that is compatible with the Arctic



Owner's
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(Part #2789)



12 Volt wiring requirements

To ensure the best performance of your Arctic Freezer Fridge, it is important that your vehicles wiring system is capable of carrying the required power demands of the freezer fridge. The accessory wiring system in many vehicles is not adequate enough for meet the power demands. Many vehicles will only use 20 gauge wires to the accessory plug.

Smittybilt recommends a dedicated fused (15 amp minimum) wiring circuit to be installed to power the freezer fridge. The wiring circuit should be connected directly to the main or auxiliary battery. An isolated auxiliary battery system is recommended.

For wire runs of up to 18', a wire size of a minimum of 10 gauge is required, 8 gauge is recommended. For wire runs up to 33', a minimum of 8 gauge wire is required, 6 gauge recommended.

Failure to provide adequate circuit wiring may trigger a low voltage error code #1.

fridge/freezer against excessive/full discharge. When set to LOW, the battery monitor will allow the fridge/freezer to use more of the batteries energy.

Battery monitor mode	12V CUT-OUT	12V CUT-IN
LOW	10.2V	11.2V
MED	10.7V	11.7V
HIGH	11.7V	12.7V

The battery monitor will shut off the fridge/freezer as soon as the supply voltage falls below the set level. This will show an error code#1. The fridge/freezer will restart after 2 minutes once the cut-in voltage is reached. Cut-out is the input voltage in which the fridge/freezer will turn off at. Cut-in is the input voltage in which the fridge/freezer will turn on at.

If your fridge/freezer is connected to the starting battery of your vehicle, then it is recommended to have the battery monitor set to HIGH. If your fridge/freezer is connected to an auxiliary/secondary battery, then it is recommended to have the battery monitor set to LOW.

If your fridge/freezer is connected to AC power, then it is recommended to have the battery monitor set to LOW.

It is recommended to charge the battery once the battery monitor has been triggered.

The plug on the DC power cable has a removable adaptor collar. With the collar in place, this plug will fit into a conventional 12v lighter socket. Remove the adapter by turning collar 1/8th of a turn counter clockwise and pull off if utilizing a 2 pole power socket. Commonly referred to as a Hella/BMW socket.



Owner's Manual
(Part #2789)



Adapter installed for lighter socket

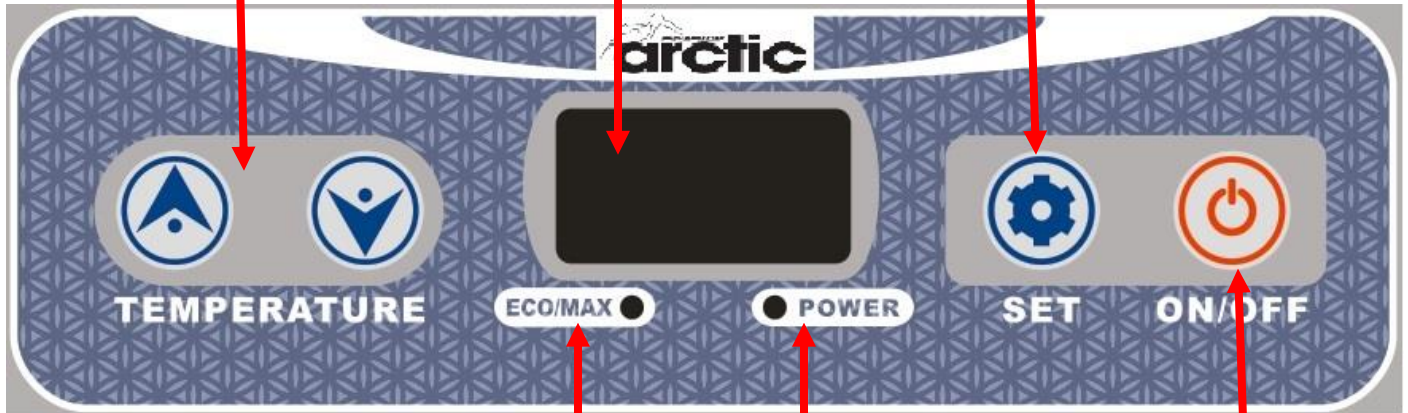


Adapter removed for Hella power socket.

Temperature controls

LED display

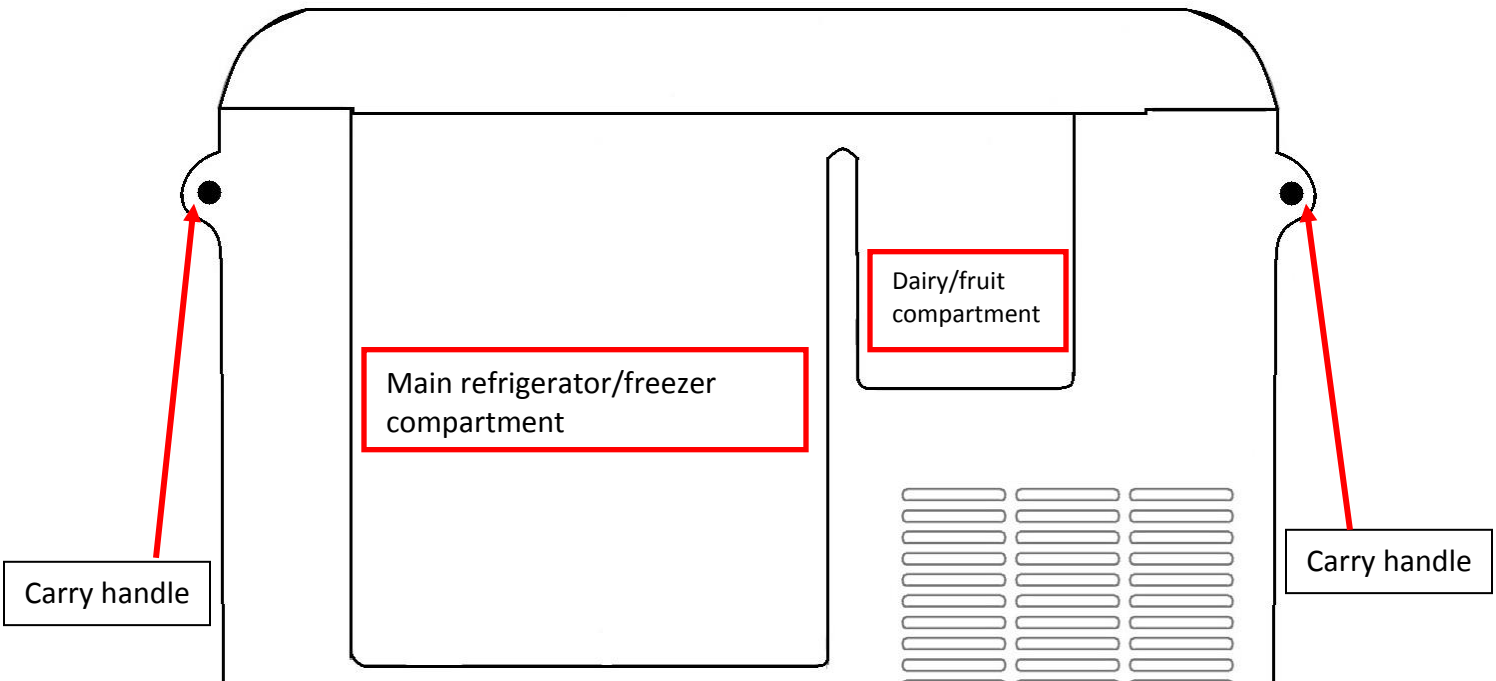
Set button



ECO/MAX mode LED

Power LED

ON/OFF button



The dairy/fruit compartment is designed to maintain a slightly warmer temperature than the main compartment. This is an ideal spot for items that do not require freezing temperatures or that require warmer temperatures.



Owner's
Manual
(Part #2789)



Battery monitor voltage table.

15 AMP fuse socket. Use only a 15 amp standard blade style fuse.

DC input socket

Battery monitor switch



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OPERATING INSTRUCTIONS

TURNING REFRIGERATOR ON OR OFF

Press and hold for 2-3 seconds to turn unit ON or OFF.

TARGETING CABINET TEMPERATURE

Press up or down once to display target cabinet temperature.

CHANGING TARGET CABINET TEMPERATURE

Press up or down repeatedly to change target cabinet temperature.

TO CHANGE DISPLAY BETWEEN °C AND °F

Press SET button once for °F or twice for °C.

TO CHANGE BATTERY PROTECTION VOLTAGE

Adjust voltage cut OFF/ON switch on rear power panel: MED-HIGH-LOW

CHANGING POWER MODES

Press SET button till display reads ECO for economy mode.

The ECO/MAX indicator will turn GREEN.

Press SET button till display reads "HH" for maximum cooling/fast cool.

The ECO/MAX indicator will turn RED.

** Display will flash when adjusting settings. After 5-6 seconds of inactivity, display will stop flashing and will return to displaying current cabinet temperature.*

POWER LED

Displays GREEN when compressor is running.

Displays RED when target temperature is reached.

ATTENTION/CAUTION

- Avoid placing fridge/freezer in direct sunshine.
- Keep a minimum of a 4" clearance around the refrigerator.
- Do not obstruct the vents to the fridge/freezer's compressor.
- Do not use a battery charger in place of a battery.
- Do not use sharp objects to clean or defrost the fridge/freezer.
- Disconnect the fridge/freezer from the battery before using a high-speed battery charger.
- Always apply the correct voltage to the fridge/freezer with correct polarity.
- Do not use abrasive or chemical cleaners to clean fridge/freezer.
- Clean the appliance inside and out with a clean, damp cloth. If it is dirty, use sodium bicarbonate (baking soda) dissolved in lukewarm water to clean the unit. Never clean the unit under running water or in dishwasher.

Press and release buttons, DO NOT press and hold buttons except the power button.

- When screen is idle, it will display the current cabinet temperature.

Note: Compressor start up is delayed 3 minutes from the time you plug in and power on fridge/freezer.

Temperature settings are suggestions and will vary depending on climate, contents and person preferences. 35°-39°F is recommended for refrigerating most items and helps prevent frosting when opened repeatedly. Refrigerator use is recommended to keep contents below 40°F. Freezer use is recommended to keep contents frozen and below 32°F for storage and -10°F for faster freezing of items



Owner's
Manual
(Part #2789)



Performance hints

- To maximize cooling and efficiency, always pre-cool your fridge/freezer before mobile use.
- Pre-cool items before loading fridge/freezer.
- Place the fridge/freezer in a well ventilated area.
- Avoid placing fridge/freezer in direct sunlight or near heat sources.
- Do not leave the lid open for longer than necessary.
- Minimize the frequency the fridge/freezer is opened.
- Avoid setting the target temperature excessively low.
- Defrost the fridge/freezer once ice starts to form in the interior.

Cleaning and Maintenance

- Please disconnect the power before cleaning the fridge/freezer, clean the appliance inside and out with a clean damp cloth every week. If it is dirty, use sodium bicarbonate (baking soda) dissolved in lukewarm water to clean the unit.
- Never use abrasive products, detergents or soap. After cleaning, wipe out interior with a clean damp cloth and dry carefully.
- Do not store product inside unit if the unit is not on.
- Do not store the unit if it is wet inside or without leaving the lid open.
- Never clean the unit under running water or in dish water. Do not use abrasive cleaning agents or hard objects during cleaning as these can damage the unit.
- Clean all vents with compressed air or vacuum cleaner.

Defrosting

Periodically ice may form on the inside of your fridge/freezer. This will reduce its capacity and cooling efficiency. Defrosting your fridge/freezer regularly will keep the fridge/freezer at peak operating condition.

1. Remove all contents and removable basket.
2. Disconnect fridge/freezer from power supply.
3. Open lid to allow interior compartment to warm up to ambient air temperature.
4. As ice melts, soak up water with a clean towel.
5. Once all ice has melted, clean interior.

CAUTION: DO NOT use hard, sharp or pointed objects to defrost the fridge/freezer or loosen items that have become frozen in place. Irreparable damage to cooling system can occur.



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Tech Data	SB
Overall capacity	52 QT/50L
Connection voltage North America	12V DC and 100-240V AC 50/60Hz
Rated current	
-12 VDC (35°F inside, 68°F outside)	Approximately 0.7AH/h
-100-240 VAC	6 amps
Average power consumption	40 Watts
Cooling capacity	-30°C TO 10°C(-22°F TO 50°F)
Weight	40.8 lbs.
External dimensions (HxWxD)	520mm x 335mm x 682mm 20.47" x 13.19" x 26.85"
Max operating angle	30°
Certification	GS,CE,E certified
Minimum cabinet clearance	4"
Battery protection	3 Stage low voltage protection
Coolant	R-134a (50g)

International Certification Approvals

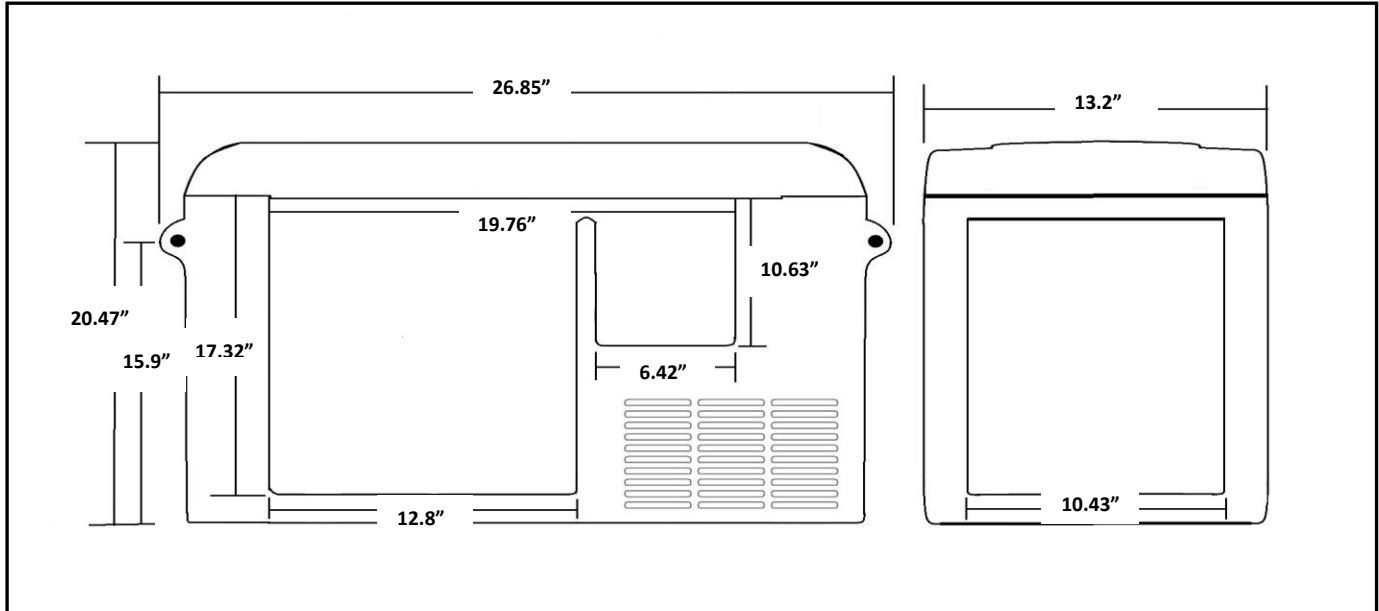




Owner's
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(Part #2789)



Interior and exterior dimensions.



Storage

For extended storage:

- Disconnect fridge/freezer from all power sources.
- Remove all items except storage basket.
- Thoroughly clean f/f and dry completely inside and out.
- Leave lid slightly open to allow for airflow.

Disposal

Your Arctic fridge/freezer contains hazardous components and must be disposed of properly. Contact your local waste management center or appliance recycling center for proper disposal.



Owner's
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(Part #2789)



1. TROUBLESHOOTING

THE UNIT IS NOT TURNING ON

- Check whether the unit has been turned on.
- Check the power supply. Try a different power source from a different vehicle or power socket.
- Check the plug and the socket connection.
- Check whether the fuse has been burned out or blown.

LOW REFRIGERATION PERFORMANCE

- Too much overall product inside unit.
- Too much warm product inside unit.
- Lid is unlatched or open.
- Lid seal is broken.
- Poor ventilation. Ensure at least 4" of space around all sides.
- Ambient temperature is too high.
- Temperature setting is too high.

SOUND OF RUNNING WATER COMING FROM INSIDE THE UNIT

- This is normal due to the flow of refrigerant in the unit.

UNUSUAL NOISE WHEN REFRIGERATOR IS WORKING

- The refrigerator is not placed on a level surface.

2. ERROR PROTECTION FUNCTION

LED display will illuminate error code [ER0, ER1, ER2, ER3, ER4, ER5 or ER9] and the compressor will stop working. Once the error is resolved, the refrigerator will restart after two minutes.

Error Code	Problems	Solution Method
ER0	Temperature sensor cutting out	Change the temperature sensor line
ER1	Battery protection cutting out	1. Change/charge the battery 2. Lower battery protection switch to lower setting
ER2	Fan overload cutting out	Clean fan or change the fan
ER3	Motor start error (the rotor is blocked or the differential pressure in refrigeration system is too high)	Disconnect power for 30 minutes then re-start
ER4	Compressor speed error protection.	Reduce load on refrigeration system, increase temperature setting. Change the main controller
ER5	Thermal cut-out (overload or internal temp too high)	Move refrigerator to a well ventilated place, allow compressor to cool, then re-start. Ensure all vents and internals are clean. Clean with compressed air.
ER6/9	Temperature sensor disconnection	1. Tighten the temperature sensor line 2. Change the temperature sensor line

For further troubleshooting or operation questions, please call Smittybilt directly at:
Toll Free: 888-717-5797
Phone: 310-762-9944



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(Part #2789)



Limited Warranty

Smittybilt Automotive Products, LLC (SAP) warrants to the original purchaser that (a) the compressor will be free of defects in material and workmanship for 3 years and (b) the electrical components and all other components (e.g., fan, wires, circuit board, etc.) will be free of defects in material and workmanship for a period of one (1) year from the original date of purchase. Warranty excludes parts such as fuses, connectors, plugs, etc. Warranty does not cover loss of fridge contents. This Warranty applies only to the original purchaser of the fridge/freezer. To obtain any warranty service, you must provide SAP with proof of purchase and date of purchase acceptable to SAP, such as a copy of your purchase receipt.

This warranty does not cover the removal or reinstallation of the fridge/freezer. SAP will, at its sole option, repair, replace or refund the purchase price of a defective fridge/freezer or component, provided you return the defective fridge/freezer or component during the warranty period, transportation charges prepaid, to SAP. Attach your name, address, telephone number, a brief description of the problem, and a copy of your receipt and original bill of sale bearing the SAP serial number and date of purchase.

This warranty does not apply (i) to finish, paint, decals or the wire rope; (ii) if the fridge/freezer has been damaged by accident, abuse, misuse, collision, overloading, modification, misapplication, improper installation, liquid damage or improper service; or (iii) any normally wearable part. This Warranty is void if any SAP serial number has been removed or defaced. Commercial or industrial use or application voids the Warranty. This Warranty is good only for fridge/freezers bought, sold and used in the United States unless otherwise specifically agreed in writing by SAP.

To assure product quality, Smittybilt reserves the right to change product design, material, specification and finishes without prior notice to customers. This limited warranty gives you specific legal rights and you may also have other rights, which may vary from state to state. Some states do not allow limitations on how long an implied warranty lasts, so the above limitations may not apply as to you. Also, some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitations or exclusions may not apply to you. Smittybilt reserves the right to discontinue product lines and substitute products, or provide other remedies than those listed in this limited warranty for those discontinued products.

Warning

Rollover and other types of vehicle accidents may result in serious injury or death to you, your passengers and others sharing the road. Smittybilt accessories are decorative and are not intended to reduce or avoid injury or damage in the event of an accident. The weight and location of Smittybilt accessories may affect your vehicles' handling, stability and performance, creating an increased risk of accident or rollover. Before installing any accessory, check state laws and assure that the accessory will not obscure any lights or interfere with proper operation on your vehicle's safety equipment. Consult your owner's manual and the Smittybilt instructions, or additional safety information. Smittybilt products, nor the warnings contained herein, are not a substitute for your safe driving. Don't drink and drive, always use seat belts and don't drive faster than conditions permit.

THE WARRANTY SET FORTH ABOVE IS THE ONLY WARRANTY. THERE ARE NO OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. ANY IMPLIED WARRANTY WHICH BY LAW MAY NOT BE EXCLUDED IS LIMITED IN DURATION TO ONE (1) YEAR FROM THE DATE OF ORIGINAL RETAIL PURCHASE OF THE PRODUCT. No SAP dealer, agent or employee is authorized to make any modification, extension or addition to this warranty. SAP SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, DOWN TIME OR LOSS OF USE) UNDER ANY LEGAL THEORY, EVEN IF SAP WAS ADVISED OF THE POSSIBILITY OF SUCH DAMAGES. Some states do not allow the exclusion of implied warranties or the exclusion or limitation of liability for incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitation or exclusion may not apply to you. This Warranty gives you specific legal rights. You may also have other rights that vary from state to state. SAP reserves the right to change product design without notice. In situations in which SAP has changed a product design, SAP shall have no obligation to upgrade or otherwise modify previously manufactured products. Warranty inquires and products returned for warranty service should be sent to:

SMITTYBILT AUTOMOTIVE PRODUCTS, LLC 400 W ARTESIA BLVD. COMPTON, CA 90220 1-888-717-5797

Please obtain RGA for warranty service before shipping fridge/freezer.