



TruckMaster

Duct Cleaner for Use With Truck Mount Carpet Vacuums

OPERATING INSTRUCTIONS MANUAL

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Part #: FG0100

MM0146
TruckMaster Manual
Updated 07/18/12

Air-Care is a Division of D.P.L. Enterprises, Inc.
3868 E. Post Road, Las Vegas, NV 89120 (702) 454-5515, Fax (702) 454-5225
Website: www.air-care.com, E-mail: Info@Air-Care.com

Inspect all of the packing material for small parts before discarding packaging material. Report all damage to Air-Care immediately. Any attempt at repairing suspected damages may void warranty.

Check that all parts are present

Air-Care TruckMaster Duct Cleaner

Main Control Case

16 Gauge Grounded Power Cord

Vacuum Hose, 1 ½" x 35 feet with 12" Pancake Flex-E-Bristle Brush, 1500 Watt Motor and Power Cord

Handheld Remote Control Transmitter -

Instruction (This Document)

Safety Precautions

Always use safe and common sense precautions when working with Air-Care equipment. Do not block walkways with equipment, and remove delicate and breakable articles from the immediate work area. The following are precautions that should be reviewed by all persons who will be involved in the cleaning activity.

Other than replacing the brush motor on the end of the vacuum hose, there are no user serviceable components in Air-Care TruckMaster. Only trained technicians should attempt to make internal repairs on this equipment.

Always unplug the power cord before removing the covers or working on the wiring.

Inspect AC power plug to be sure the ground pin is in place.

Never connect power to Air-Care equipment unless all covers and safety shields are in place. Mechanical and electrical parts could activate and cause injury.

Never allow anyone but a properly trained technician to use the equipment or cleaning products.

All Air-Care equipment is designed for US standard 115 volt, 60 Hz AC. The Air-Care TruckMaster is optionally available in 220/240 Volt, 50/60 Hz Power. Always check the specifications on the equipment before connecting electrical power to Air-Care Equipment.

If you have questions about the safe use of any Air-Care product, call 702-454-5515

Equipment specifications and part numbers are subject to change without notice.



Dual Latches

Gasket for Watertight seal

Remote Control stored for transport

Cooling fan

Air Filter

Pressure Release

Fold away handle

Power ON Light

Remote Storage with Velcro

AC Power Receptacle

Fuse compartment with Spare

Secondary Brush FWD/REV switch

Remote IR Dual Sensor

Secondary Brush RUN switch

Brush Power Connector

Main Power Switch

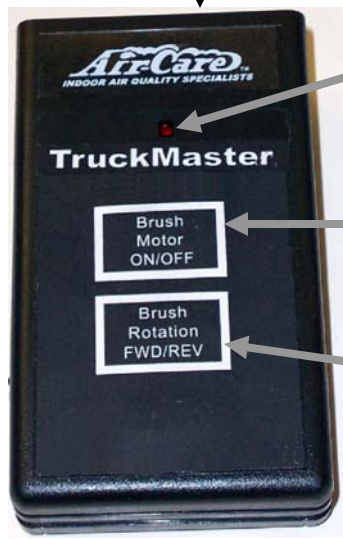
Infrared Window

Clip for Pocket or Belt

9 Volt Battery Compartment

Velcro to secure Remote in Case

Battery Compartment Cover



Red LED Indicator

Brush Motor RUN and STOP Button

Brush Motor ON/OFF

Brush Motor Forward and Reverse Button

Brush Rotation FWD/REV

12" Flex-E-Bristle Brush for 4"-12" Ducts is Standard on 1.5" hose

Truck Mount Solution Hose connection

CE1816A Connection to TruckMaster Vacuum Hose



Truck Mount Vacuum Hose Connection

1500 Watt Brushless Outrunner Motor

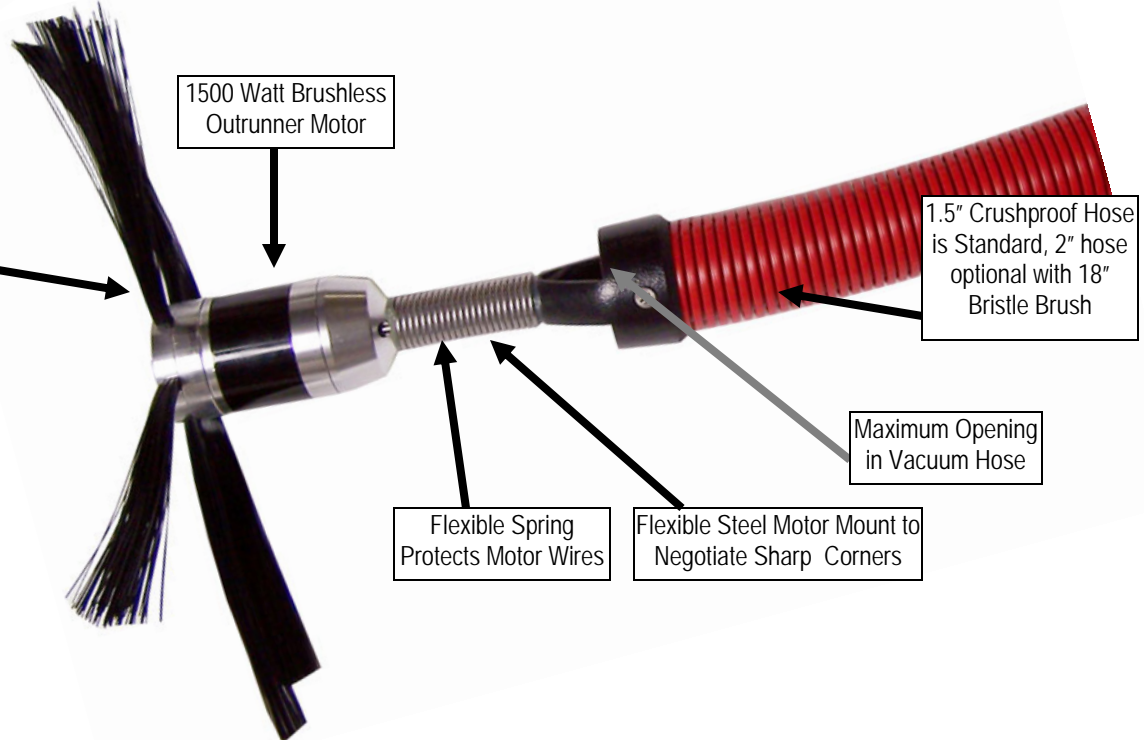
Bristles are replaceable

1.5" Crushproof Hose is Standard, 2" hose optional with 18" Bristle Brush

Maximum Opening in Vacuum Hose

Flexible Spring Protects Motor Wires

Flexible Steel Motor Mount to Negotiate Sharp Corners



Duct Cleaning with the Air-Care TruckMaster

The Air-Care TruckMaster has a unique dual function. The motorized brush on the end of the vacuum hose assembly agitates the dust and debris in the air duct, while the Truck Mount Vacuum functions as the debris collector. This method of cleaning only requires that the supply and return grills be removed and the air system is turned off. Caution, some air systems may automatically cycle in the OFF position on the Thermostat, so it is best to also shut off the main power breaker to the furnace while cleaning.



Cleaning Ceiling Ducts

Before applying power, be sure that all 3 Switches on the Control Box are in the OFF (0) position. After connecting the Air-Care TruckMaster power cord to the Power Inlet, wait 20 seconds before attempting to turn on the Brush. Connect the 1 ½" X 35' hose assembly (or the optional 2" X 35' hose assembly) to your Vacuum Source Hose. The electrical cord from the hose will plug in to the TruckMaster control box. Unless your truck vacuum has provision for "Dry Dust", you should install the "Dust Damper" between the Truck vacuum hose and the TruckMaster Hose and attach the solution hose to the trucks solution hose. This wets the dust so it will not damage the vacuum blower wheel.

The Remote uses an Infrared Light beam similar to a Television Remote. The operator must be in sight of the DuctMaster Control Panel where the Remote Receiver is located for it to operate. The operator can be across the room or up on a ladder and the remote will function as long as there are no obstructions between the operator and the sensor on the TruckMaster Panel. The remote will NOT work between rooms.

When using the Remote, BOTH Switches on the control box for the brush MUST BE OFF (0)! These switches can be used to manually START/STOP or control FWD/REV directions of the brush if the Handheld Remote Transmitter is lost or has a dead battery. When these switches are ON (1), it deactivates the Remote.

Once the technician inserts the brush into the duct, use the Remote's ON/OFF Button to start the brush and gently work the vacuum hose and brush into the duct. STOP the brush before removing it from the duct.

When the technician cannot push the vacuum hose in any farther, press the FWD/REV button on remote to "reverse" the brush rotation to allow it to go deeper into the ducts. Repeat this process for each supply and return duct. Pull the hose partially out of the duct with the motor running, but stop it before removing the brush from the duct.

Where you have long ducts, such as main trunk lines without access doors, you must make "cut-ins", to access the entire length of the duct.

After cleaning each duct, each opening should then be decontaminated by fogging them with our EPA registered Envirocon sanitizer, Soot Set sealer and Liquid Odor Kill deodorizer.



Cleaning Floor Ducts

Brush Motor Replacement Kit

Updated Coaxial Spring Mount



This new version of the Brush Motor and Mount retains all the advantages of the original and includes some improvements to reliability, durability, and Debris Collection.

This motor and Hose mount will replace all previous motors and mounts.

KEEP THE NEW MOTOR FULLY ASSEMBLED!

First remove the OLD motor and mount from your hose:

1. Remove the screws holding the metal collar on the end of the hose and save the screws and nuts to mount the new motor and mount.
2. Cut the 3 wires for the motor leaving enough cord to crimp (or solder) the wires to the new motor wires. All 3 wires will need to be the same length for this new Motor Connection.
3. You will no longer need any of the parts in the original motor assembly unless you are returning it to Air-Care with an RMA for warranty evaluation.

Installing the NEW motor assembly.

1. Be sure you have all the parts for the installation.
 - a. Your original Screws, 10-32 x 5/8" long machine screws,
 - b. 10-32 Hex Nuts with built in Lock Washers.
2. Remove the outer insulation from the black power cord in the hose to expose the 3 insulated motor wires about 2 inches long.
3. Strip the insulation off of all 3 wires about 1/2" back from the ends.
4. Slide the black Shrink Tubing over the cable. It will be slid over the new connections after the wires are connected.
5. Slide the 3 pieces of shrink tubing over each of the motor wires. The connections can be made by Crimping the new connectors or soldering them. If you are planning to solder the connections, be sure the blue shrink tubing is far enough away from the heated ends to prevent it from shrinking prematurely.
6. The wires may be different colors from the Motor than the ones from the hose cable. The order is not important, the brush will operate with any combination of wires, but it may turn in the opposite direction in some cases, but will still reverse as before.
7. Each of the 3 wires from the hose can now be inserted into the Crimp connectors on the new motor. Try to twist the wires tight enough so that all of the strands go into the silver

8. Slide the Blue shrink tubing over the metal connector; Heat the tubing to shrink it in place. A hair dryer, heat gun or even a cigarette lighter can be used. Be careful to not burn yourself, the plastic hose or heat the other shrink tubing at this time.
9. Connect the other 2 wires following the same procedure.
10. When all 3 wires are connected and insulated, slide the black shrink tubing over them and as far towards the motor as possible. Heat this shrink tubing to shrink it on to the wires.
11. Next, slip the Nylon Loop Strap over the wires. This will hold the wires in place and minimize strain on the connections. The Loop Strap will be held in place with one of the 10-32 x 5/8" screws used to hold the black nozzle on the hose.
12. Insert the screws into the mounting holes in the Nozzle and thread the screws into the original holes in the hose if possible. If this is difficult, you may need to drill new holes in the hose using the 2 holes in the Black Nozzle as a guide. Use a 3/16" diameter drill.
13. When the screws are in place, place the loop strap hole over one of the screws and install one of the nuts then tighten the screw with a screwdriver. It may be necessary to use a screw driver to thread the screws through the loop strap.
14. If your hose has a metal stiffener, install its loop over the other screw, install the nut and tighten it. If there is no stiffener, just install the nut and tighten the screws.
15. Your repair and upgrade is now complete and ready to test. If you have any questions, please call Air-Care Tech Support, 800-322-9919.



Specifications

Specification	Description
Size	11" W x 10" D x 7" H
Weight	7.5 Pounds
Power requirements:	115 Volt AC, 60Hz, 5 AMPS (Optional: 220/240 Volt, 50/60 Hz, 3 AMPS)
Power Cord	16 gauge, 3 wired grounded to Computer type Receptacle
Hose Attachments	Hose, 1 ½" X 35' TruckMaster Brush and Motor Assembly. Includes: 12" Pancake Brush, .021" BLK Level Bristles Power Brush RPM is 2,000 max. with 1500watt Motor and Power Connector Dust Damper for use with Truckmount carpet machines connects between Truck Vacuum hose and TruckMaster vacuum hose.
Operating Environment	25 to 125 Deg F (-4 to 50Deg C)
Case	Durable Poly case with dual latches and waterproof lid
Operating Controls, TruckMaster	ON/OFF main power with Red LED power indicator Wireless Handheld IR Remote Control with 2 Activating Buttons to Start/Stop and change direction of brush rotation. Secondary Brush On/Off and Brush Fwd/Rev switches on panel

Parts List

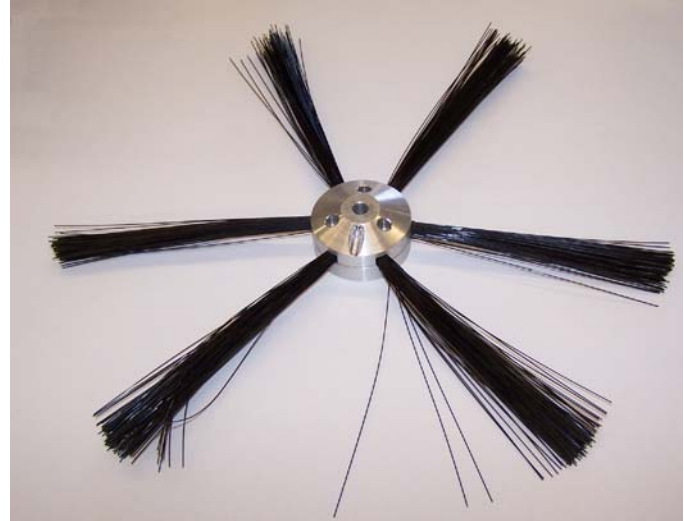
Description	Part Number	Notes
TruckMaster Duct Cleaning system	FG0100	Power & Control Box, 1.5" x35 ft Hose, 12" brush 1500 watt Motor, Dust Damper, AC cord and Bag
TruckMaster Power and Control Box	SATM0019	Power Cord NOT included
Remote Transmitter, hand held, 2 button, Belt/Pocket clip	SATM0014	9 Volt Battery Included
Battery for remote (9 Volt)	COM0018	Standard 9 Volt Battery
Brush, Motor, Vacuum hose Assembly 1.5"	FG0074	Includes 12" Pancake Brush
Brush, Motor, Vacuum hose Assembly 2.0"	FG0075	Includes 18" brush
Replacement Brush Motor Kit, 1500 Watt w/ Instructions	SADM0054	
Replacement Flex-E-Bristle Brush with Pancake Hub, 12"	SAO0307	.021" Diameter Nylon, Black, Level
Replacement Flex-E-Bristle Brush with Hub 18"	SATM0013	.032" Diameter Nylon, Black, Level
Bristles, set of 3 bundles, 12" x .021" Dia Level	SAO0310	1 Replacement
Bristles, 1 hank, 18" x .032" Dia Level	BA0003	Enough for 5 replacements
Power Cord, 15 ft, 18 ga x 3 wire grounded	EC0012	Standard Computer type end
Coil N Carry	FG0102	
Dust Damper, 2.0"	FG0051	
Fuse, 10 Amp, 5mm x 20mm	EC0038	TruckMaster has 1 SPARE fuse in holder

Pancake Brush P/N SAO0307

12" Bristle Replacement Instructions

Updated: 9/10/12

The configuration of the 12" brush (0.021 Dia Bristles) for the TruckMaster and DuctMaster 1.5" vacuum hose and Motor has been changed to a Shorter, "Pancake" hub that allows it to negotiate sharp turns in smaller air ducts than the previous type hub. This 12" Brush directly replaces the original 12" Brush asm.



The 2" Vacuum Hose and motor still use the 18" brush with 0.032" dia Bristles in the traditional, longer hub.

This 12" Brush will work on the 2" hose. While the 18" Brush will fit on the 1.5" hose, there are some situations where the 18" brush may not start properly (Due to the brush being held HIGHER by the 2" hose, so the thicker bristles are easier for the motor to turn it).

Description	P/N	Quantity
Hub, Pancake-Style, Top	SAO0287	1
Hub, Pancake-Style Cover (Bottom)	SAO0288	1
Screws, 6-32 x 3/8" L Flat Head Phillips SS	NBS0045	3
Set Screw, 8-32 x 1/2"	NBS0152	1
Bristle bundle, 12" Long, 0.021" dia, Level	SAO0306	.03 Hank (.3 to .4 oz)
Bristle Replacement set (3 Bundles)	SAO0310	3
Bristles, Master Hank	CB0001	1 Hank
Shrink Tubing, 1/4"	SHOP0011	1.4 Inch (0.12 Ft)
Rubber Band (#19)	COM0328	1
Allen Key (Wrench) 5/64" L Shape		Not Included
Instructions to Change Bristles	COM0327	1

The new Pancake Brush hub bristles are replaceable, but the process is different and the replacement bristles are pre-assembled into 3 bundles that are retained with 1/4" shrink tubing that is bent to match the shape of the grooves in the Pancake Hub.

Each of these bundles should weigh between 0.3 ounces and 0.4 ounces and contain between 115 and 124 individual bristles that are 0.021" diameter by 12 inches long. The Bristles will be slipped into a piece of 1/4" heat-shrink Tubing (Before it is heated) P/N SHOP0011.

Installing Bristles into the Pancake Brush (SAO0307)

1. Be sure all parts are available to assemble the 12" pancake brush. See List at top.

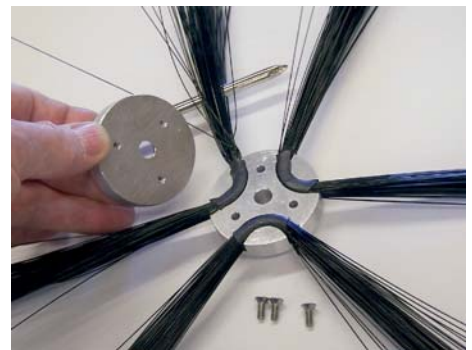


2. Layout the Pancake Brush Hub "TOP" piece with the 3 deep grooves facing up.

3. Install the pre-formed bundle of bristles (SAO0306) into one of the grooves as shown. It must be centered with the Shrink Tubing NOT extending out of the groove.



4. Install the Second and third bundles of bristles and push them deep into the groove. None of the bristles can be allowed to be out of the groove when the assembly is complete.

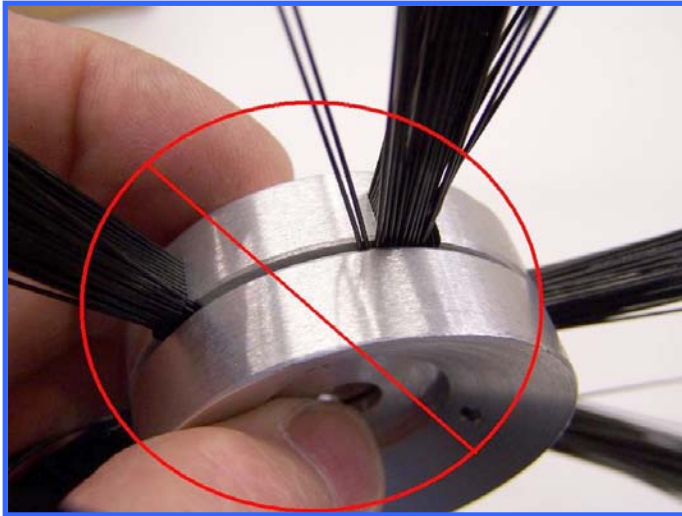
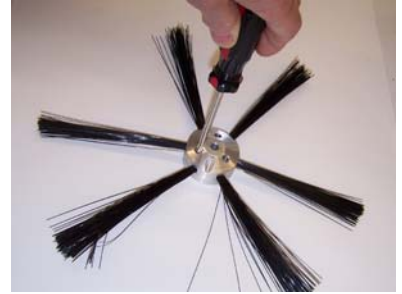


5. Place the Bottom of the Pancake Hub over the bristles in the Grooves of the top of the Hub, and turn it over so the 3 screws can be installed.



6. Line up the screw into one of the holes, and screw it in a short way – DO NOT TIGHTEN ANY SCREWS until ALL 3 SCREWS are in place.

7. This is the time to slowly tighten each of the 3 screws to be SNUG. At this point, be sure that there are no bristles outside of the grooves. If a bristle is between the Top and Bottom of the Hub, it must be pushed back into the groove before final tightening.



INCORRECT



CORRECT

8. Tighten all 3 screws to be secure. Inspect the brush one more time, and it is ready to install on the TruckMaster or DuctMaster 1.5" Vacuum Hose with Motor.

Air-Care TruckMaster Troubleshooting Guide

Symptom	Possible Causes	Suggested Action
Remote does not operate Brush	<ol style="list-style-type: none"> 1. Be sure Handheld Remote is pointed at the Remote Receiver sensor in the center of the control panel. 2. Check that the Red indicator on the Handheld remote flashes (Once) when any button is pressed 	<p>Locate the DuctMaster so the remote has an unobstructed view of the center of the panel.</p> <p>If the red LED does not flash, replace the battery.</p>
Brush & hose cannot be inserted far enough into duct.	<ol style="list-style-type: none"> 1. Duct is too small for hose (Less than 2" wide opening). 2. Duct makes two 90 turns in less than 12 inches. 	<ul style="list-style-type: none"> ▪ Be sure you are using the 1 ½" X 35' Hose, Brush and Motor Assembly <p>Try to access the duct from another opening.</p>
Brush Motor does not turn.	<ol style="list-style-type: none"> 1. The Brush Switch on the Panel was "ON" when the power cord was plugged in 2. Electronic Torque control shut down brush motor power. 3. There was a power loss in the building or a power surge. 4. Motor Connectors have come loose. 	<p>Be sure the Brush Switch on the Panel is OFF.</p> <p>Turn OFF power switch for 30 seconds, and then turn on – wait 20 seconds before attempting to run motor.</p> <p>Be sure the Brush Switch on the Panel is OFF. Try using remote again.</p> <p>Be sure Brush Power Cable is fully inserted into the Panel Connector</p>
There are holes in the red vacuum hose.	<ol style="list-style-type: none"> 1. The "crush proof" hose is very durable, but if it is pulled excessively hard, it can separate at the grooves. 	<p>Call Air-Care for an RMA for a quote to have the vacuum hose repaired or replaced.</p>
		<p>Call Air-Care 800-322-9919 or 702-454-5515 info@air-care.com</p>

Glossary & Acronyms

1. ACGIH—American Conference of Government Industrial Hygienists
2. ASHRAE—American Society of Heating, Refrigerating, and Air Conditioning Engineers
3. Air Handler/ AHU—The Furnace or air conditioner that heats, cools and moves the air.
4. Antimicrobial—Agent that kills Bacteria, Molds and viruses. See “Sanitizer
5. Arrestance – An ASHRAE standard procedure to measure air filter efficiency (52.1)
6. Bioaerosols— Molds and bacteria that are found floating in the air.
7. Biological Contaminants— Bacterial, Mold/Fungus, viruses and their waste, byproducts and decomposition materials that can be inhaled and cause many types of health effects.
8. Building Related Illness—Diagnosable illness whose symptoms can be identified and whose cause can be directly attributed to airborne building pollutants (e.g., Legionnaire’s disease, and hypersensitivity Pneumonitis).
9. CFM—Cubic Feet per Minute, a measure of how much air is flowing in an air system.
10. CO—Carbon Monoxide, an odorless, toxic gas produced during combustion.
11. CO₂—Carbon Dioxide an odorless, non-toxic gas produced during combustion and exhaled by people.
12. Ceiling Plenum – The area above a suspended ceiling that may be used as a return path to the Air Handler.
13. Conditioned Air – The air that has been filtered, heated or cooled by the air handler.
14. Dampers – Flaps or valves in the air duct that control the amount of airflow in the duct.
15. Diffusers & Grilles & Registers – The covers at the end of supply and return ducts that control the amount and direction of the air-conditioned air entering or leaving a room.
16. Electrostatic Filter – A High Efficiency (95% Arrestance) Air filter that generate static electricity from the air movement through the air handler and captures dust from the air while the clean air move freely through it.
17. EPA—Environmental Protection Agency
18. Duct – A metal, plastic or fiberglass tube that transports air to and from the Air Handler. They can be round, square or rectangular.
19. Duct Board – Compressed fiberglass material used to make air ducts, particularly in the southern U.S.
20. Fiberglass Filter – A disposable, very low efficiency filter (approx. 10% arrestance).
21. Flex duct – Plastic fabric duct with a spiral wire support. It is used extensively in the Western U.S.
22. HEPA—High Efficiency Particulate Air
23. HVAC—Heating, ventilation and air-conditioning
24. IAQ—Indoor Air Quality
25. MSDS—Material Safety Data Sheet
26. Make-up Air – Fresh “outside” air that is brought into a Commercial building.
27. NADCA-National Air Duct Cleaners Association
28. NAFA – National Air Filter Association
29. NIOSH—National Institute for Occupational Safety and Health
30. Negative building pressure – A condition that allows air to flow into a building when a door is opened.
31. NSC -- Nevada Safety Counsel
32. NSF International – An independent testing laboratory for Air filters
33. OSHA—Occupational Safety and Health Administration
34. Positive building Pressure – A condition when air will come out of a building when a door is opened.
35. Re-entrainment – The flow of dust and debris removed from an air system back into the same building
36. Return/Return Duct
37. Sanitizer – A material designed to kill mold, bacteria, and viruses.
38. Sick Building Syndrome – A group of symptoms such as headache and watery eyes that disappear after the sufferer leaves the building for a few hours.
39. Supply/ Supply Duct—The opening and related ductwork that delivers conditioned air to a room.
40. VAV—Variable air volume system – A system that varies the amount of flow of air to regulate temperature.
41. VOC’s—See “Volatile Organic Compounds”
42. Volatile Organic Compounds (VOC’s)—Chemicals that release gasses into the air such as solvents.



LIMITED WARRANTY

TRUCKMASTER

Air-Care warrants this product to be free from defects in materials and workmanship to the original purchaser for a period of Two (2) years from the date of purchase. Components listed below are excluded from this Two year period and are covered for periods described below:

Circuit Board & Remote	1 Year
Speed Controller	1 Year
Hose & Motor Assembly	90 Days
Brush Assembly	No Warranty

Warranty covers both parts and labor (labor is to be performed at Air-Care's facility located at 3868 E. Post Road; Las Vegas, Nevada).

Warranty is extended to the original purchaser and is **not** transferrable.

This warranty does not extend to any damage to a product caused by or attributable to freight damage, abuse, misuse, improper or abnormal usage. Warranty is also void if the product has been modified or altered in any way.

The purchaser is responsible for the cost of shipping the equipment to Air-Care's facility for evaluation. If found to be defective and covered by the terms of this warranty, Air-Care will pay FedEx ground shipping charges on the repaired or replaced item back to the purchaser's location. Any additional expedited service charges for quicker shipping shall be born by the purchaser. If the product or component is not found to be a warranty issue, the purchaser will be responsible for return shipping charges.

Air-Care is not responsible or liable for indirect, special, or consequential damages arising out of or in connection with the use of performance of the product; damages with respect to any economic loss, loss of property, loss of revenues or profits, loss of use, or other incidental or consequential damages of whatsoever nature.

The warranty extended hereunder is in lieu of any and all other warranties, and any implied warranties of any type.

This warranty gives you specific rights. These rights and others vary from state to state.

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