

For your records, please record the date of purchase and your Razertip dealer information below. Should your Razaire 530 ever require service you can contact your dealer or send the product directly to Razertip Industries (address on page 5).

Z530 Serial # _____ Purchase Date _____

Dealer Name _____

Address _____

Phone# _____ Email _____

Warranty Information

The Razaire 530 impeller (fan) is warranted to be free of defects for a period of five years from the original date of purchase. All other parts on the Power Unit carry a 10 year warranty. This warranty provides for repair or replacement, at the manufacturer's option, of any defective components. This warranty is limited to the actual cost of repairs and will not cover shipping costs or any consequential damages resulting from failure of the unit or its components to perform as stated. All warranty work must be done by the manufacturer or an agent authorized by the manufacturer. The manufacturer will not cover the costs of repairs done elsewhere. This warranty will be voided if unit has been tampered with or altered or if repaired by unauthorized persons or companies. To receive in or out-of-warranty servicing, return the complete unit to your dealer or send it directly (prepaid) to Razertip Industries. Should your Razaire 530 require servicing, our average repair turn around time is only one day. Some jurisdictions do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from jurisdiction to jurisdiction.

Technical Data

Model: Razaire 530 Modular Dust Management Power Unit

Electrical ratings: 120VAC, 60Hz, 0.67A, 100 Watts

Size: 11"x11"x6" (278mm x 278mm x 152mm) **Weight:** 7.25 lb. / 3.3kg.

Fan: variable-speed high performance impeller type fan, 530CFM free-air, 400CFM@0.4" static pressure.

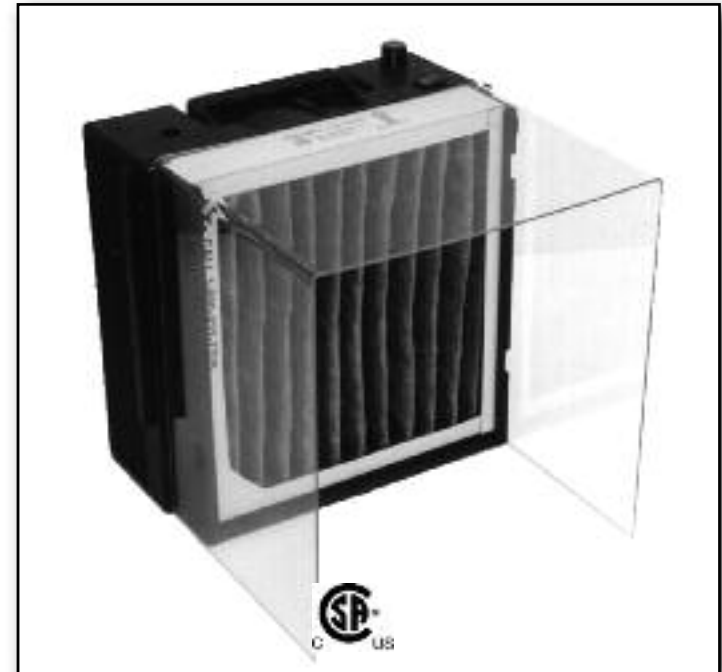
Safety Certification: CSA C-US (North America) File LR95555-5

Housing: Structurally foamed flame retardant ABS plastic, certified CSA A000 flameproof.

Filter: (standard) 10.5"x9.75"x2", pleated filter rated 30% efficient w/ 1 micron particle. Other filter types are available.

Razaire™ 530

"Enter a Whole New Age of Dust Control"



The Razaire 530 is the most advanced portable dust collector ever made. It's modular design gives you versatility never before offered. Please take a few moments to read through this booklet. It will help you get the best performance from your Razaire 530 and its available accessories.

Warnings

Shock Hazard: Do not open the cabinet. No user serviceable parts inside. Use only under the supervision of an adult. Keep the Razaire 530 well away from water or sources of moisture. Operate the unit only with a proper filter in place. Use only on a sound, level surface. Never remove any guards or grills. They are put in place for your safety. The Razaire 530 is intended to trap most visible airborne particles in a small workshop environment and is not intended for industrial use. Not for use with mists, liquids, or water vapors. Persons suffering from allergies or sensitivities to certain types of dust or other particles should still use supplementary lung protection such as a dust mask or respirator. Any technical questions concerning this product can be directed to Razertip Industries Inc.

Useful Accessories & Procedures

- ✓ **Versatility.** The Razaire 530 is very versatile. It is capable of trapping particles from almost any material from wood dust to ground rock particles. The ability to add extra filter stages can make it even more versatile and efficient. In addition you can attach a 4" hose to the intake, or even add a lap tray or a tool hanger. An extra filter frame can be used to help you make your own custom-made attachments, too!
- ✓ **Speed Settings.** For best results, highest filter efficiency, longest filter life, and lowest noise levels, always use the *lowest* speed setting that will do the job.
- ✓ **Filter cleaning** The filter can be cleaned and re-used many times before it needs to be replaced. Removing and cleaning filters is quick and easy, so be sure to clean your filter often for best results and longest filter life. Clean the filter by tapping it out, dusty side down, over a garbage can or outside. To reduce the amount of dust that escapes while cleaning the filter you can place it inside a plastic grocery bag before tapping it out. That way the dust will stay in the plastic bag. As a general rule, you will want to replace the filter when you see signs of dust on the back-side of the filter media.
- ✓ **Extra filter stages.** Adding a second filter stage not only improves the efficiency of the Razaire 530, but you can use your filters up to 4 times longer before replacing them. Simply purchase an extra filter frame (Item# ZH1002), attach it to the front of the unit and slip in another standard filter. Any dust that happens to get through the first filter will be trapped by the second one. Most times you will only need to clean the front filter, and you will only need to replace it when the rear (second) filter starts to show dust passing through, or when the cardboard frame on the front filter starts to deteriorate. You don't need to replace the front filter when dust starts showing through on the back of the filter media because you have another filter behind it. When the front filter is no longer functional, or when the second filter is showing dust on the rear of it, you would then buy a new filter and use it as the second stage (closest to the fan), moving the old second filter to the front and discarding the old front filter.
- ✓ **Break-down hood.** The acrylic front hood is supplied with your Razaire 530. It not only helps direct dust in towards the filter more efficiently, it reduces the possibility of dust being drawn into the exhaust stream. Best results will be obtained if you work as close as possible to the mouth of the hood. As you get further away from the mouth of the hood, the degree of suction drops off rapidly. If you must work without a hood, you should install an exhaust deflector (available separately).
- ✓ **Improving efficiency.** Most carvers are primarily concerned about trapping smaller particles (the ones that would otherwise end up in your lungs or covering everything in your shop with a fine layer of dust). Larger particles can fall on the counter top or floor and are easily swept or vacuumed up later. To achieve maximum efficiency, try whenever possible to "direct" your dust stream into (or towards) the filter. This is achieved by the way you hold your work in front of the unit. Larger cutters are especially known for throwing a dust stream. Best results will be obtained if this stream is directed into the filter, or at least across the mouth of the intake hood where the Razaire 530 can at least draw in the finest particles.
- ✓ **Light up your life.** The Razaire 530 features a built-in lamp holder that accepts most standard swing-arm lamps (available at department stores) and certain swing-arm magnifier lamps. Be sure to use this feature! You'll find that attaching a lamp will provide excellent light exactly where you need it most, making it much easier to see what you are doing. It will also encourage you to stay close to the intake hood when carving.

Accessories

You can add anything from a lamp to a hose adapter, extra filter stages, a lap-tray, or even your own custom-designed hoods and accessories. The Razaire 530 can be configured to meet almost any dust collecting need in the small workshop.



With optional swing-arm lamp.

Add a standard swing-arm lamp or small magnifier (available at most hardware or department stores) to give you a bright light source right where you need it most.



With #ZA375 Exhaust Air Deflector

The #ZA375 Exhaust air deflector slides over the left "T" rail and is useful for changing the air discharge from side exhaust to rear exhaust. Very helpful in classroom situations or when using the Razaire 530 near power tools like sanders or saws where the exhaust stream would blow over or near the tool. Also recommended when using the Razaire 530 without an intake hood.



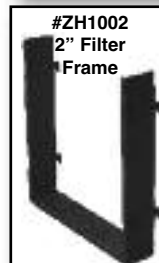
Razaire 530 with #ZA400 4" Inlet Hose Adapter

The 4" hose adapter #ZA400 snaps on and off in seconds and allows you to attach a 4" hose (not included) to the intake of the Razaire 530. The hose can then be connected to many accessories including a small cyclone separator, lap tray, shop tool dust port, or custom pickup of your own design. The Razaire 530 develops an impressive amount of suction through the 4" hose adapter- it's like having a variable-suction vacuum cleaner (at low speeds it works great for cleaning up the dust on your workbench without sucking up bits).



#ZA440 Lap Tray
(12.5"x 16.5"x 2"deep)

The Lap Tray #ZA440 connects to the Razaire 530 using the 4" hose adapter (above). It can be used resting on your lap, or it can stand up beside a sander or other device to help capture dust right at the source. Removeable grate prevents larger items from being sucked into the intake. It can also be mounted under a workbench and pulled out like a drawer when needed. Use with 4" flexible vent hose (not supplied - available from most hardware stores).



#ZH1002 2" Filter Frame

An extra 2" filter frame #ZH1002 allows you to add a second (or third or fourth) filter stage to the Razaire 530, making it more efficient and increasing filter life. Extra filter frames snap on and off easily with no tools required.



#ZA325 Tool Hanger

The #ZA325 Motor tool hanger slides over either "T" rail and allows you to hang a flexible-shaft rotary tool from the Razaire 530. It's lightweight, convenient, and attaches and removes instantly - without any tools.

FILTERS

- 30% Standard-Efficiency Filter (#ZF20)*
- 60% High-Efficiency Filter (#ZF26)
- 80% Super-Efficiency Filter (#ZF28)
- 30% Carbon-Impregnated Filter (#ZF24)

*Supplied with Razaire 530

Fundamentals of Dust Collectors

We offer the following information to those who want a better understanding of how our tools work, along with some of the limitations that physics places on their design. Understanding how your dust collector works will allow you to get the most from it.

At its most basic, a dust collector is nothing more than a filter in front of a fan. That seems simple enough, but there are several key things that will make some units perform better than others.

The fan. A good fan is critical for proper operation. One of the ways fans are rated is called a "CFM" rating. "CFM" stands for "cubic feet per minute", and it tells how many cubic feet of air the fan can move through in one minute. The fan in the Razaire 530 is rated at 530CFM. But CFM ratings only tell part of the story. The other factor that has to be considered is a measurement called "static pressure". Static pressure is measured in inches/water gauge (abbreviated HG). It is a measurement of how much negative pressure (suction) would be required to draw water up a fixed-diameter tube. One inch of static pressure would be the amount of suction required to lift water one inch up into the tube. CFM ratings on fans are given at zero inches static pressure (or free-air). When you restrict air intake to the fan in any way (for example by placing a filter in front of it), you increase the static pressure. When the filter starts loading up with dust there is more static pressure. It is when the static pressure gets higher that a fan will either show its quality or let you down. As an example, a table-top dust collector that has been available for many years uses 3 fans with a total free-air rating of 720CFM, while the Razaire 530 is rated at 530CFM. While 720CFM sounds better on the surface, let's look at what happens when static pressure is introduced. Fan manufacturers publish performance curves for each of their fans. The following information is taken from manufacturer's published performance curves. At .02"HG (approximately the amount of static pressure from a clean

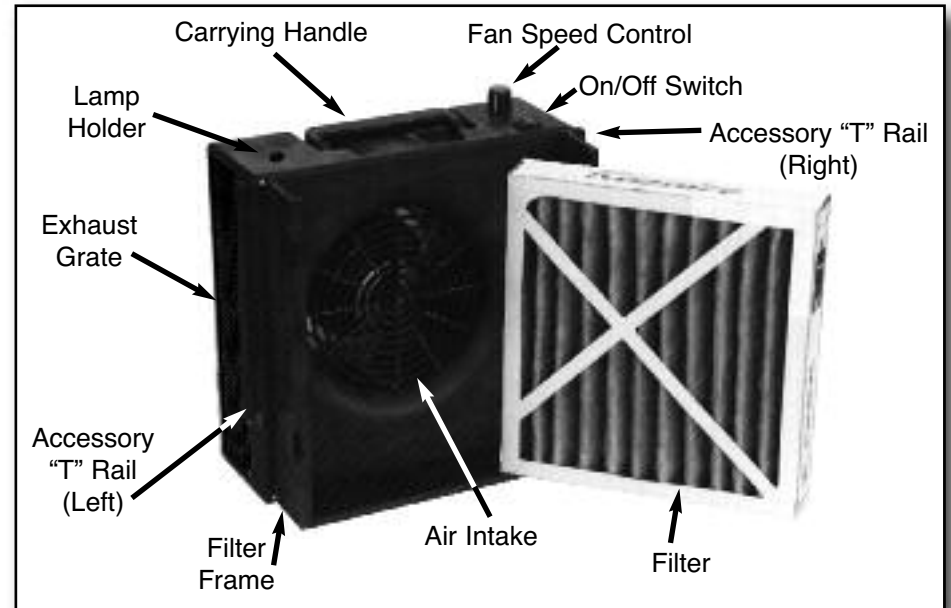
filter) the 3-fan unit moves around 570CFM, while the Razaire 530 is around 500CFM. At 0.4"HG, the 3-fan unit has dropped to around 80CFM while the Razaire 530 is still moving around 400CFM. At 0.8"HG the 3-fan unit stops moving air altogether, while the Razaire 530 is still moving around 275CFM. In fact the Razaire 530 continues to move air at static pressures as high as 1.5"HG, developing suction unrivalled by any other portable dust collector. Other considerations in choosing a fan are size, power requirements, noise level, and durability. Home-built units and most others use either surplus fans (which are often near the end of their useful life), or computer grade fans that have a very limited lifespan for dust collecting applications. The Razaire 530 uses an industrial grade, German built backward-curved impeller for unsurpassed suction and an exceptionally long, dependable life.

The Filters. You can't use just any old filter. Furnace filters have terrible efficiency for collecting particles like wood dust. There are many different industrial filter media made, and we have tested most of them. Razaire standard filters are made from a 30% efficient filter media that offers a good balance of cost, efficiency, and cleanability. We make higher efficiency filters (60% and 80%) and, while they work very well, they are more expensive, load up quicker and don't clean out as well, so they would need to be replaced more often. Overall, the 30% filter is the best choice for everyday use.

Putting it all together. The biggest challenge is putting everything together to make it as small as possible. The Razaire 530 was introduced in 1997, and to this day it is the smallest, lightest, most powerful and versatile portable dust collector made. It's less than half the size and weight of its nearest rival, and it's designed and built to give decades of dependable service.

Basic Operation

The Razaire 530 is very easy to use. Simply place the Razaire 530 where you want to control dust and turn it on. Adjust the fan speed control for best performance. When the filter starts getting loaded up, simply remove it and tap it sharply (dirty side down) over a garbage can or inside a plastic bag. To get the most from your Razaire 530, there are a few things you will need to know.



About Dust Collecting

Many people think that the more "suction" a dust collector has, the better. This is not necessarily true. Ideally, you want the airborne dust to go into the dust collector and be trapped by the filter. The heavier dust can fall harmlessly onto the table or work surface to be swept up later. If all your dust (both heavier and lighter) gets sucked into the dust collector, you will be loading up the filter faster, meaning it will need cleaning more frequently and it will not last as long before replacement is necessary. Additionally, if you turn the fan up too high, it will actually suck some of the smaller particles right through the filter and blow them back into your work space. The proper speed setting is one that gives adequate suction to pull in all airborne dust, but low enough suction so the finest particles will be trapped by the filter. You will want to experiment to get just the right settings for your own needs, but a good starting point is to have the fan at the lowest speed setting that provides enough suction for your application. If your application requires high suction we recommend that you add a second filter stage or install a higher efficiency filter to reduce the likelihood of particles being sucked through the filter.

FAQ's (Frequently Asked Questions)

Q. Does the Razaire 530 require any maintenance or lubrication?

A. Other than cleaning or changing the filter and making sure the unit is kept clean (you can use compressed air), there is no special maintenance required. The motor uses permanently lubricated sealed bearings, and the fan blades will not allow any significant build-up.

Q. How long do the filters last?

A. That depends on how you use them and what type of particles you are trapping. If you are trapping wood dust and using modest fan speed settings, you can probably expect 12 to 20 cleanings of the filter before dust starts to show through to the back of the media. You can continue to use the filter if it is used as the front stage of two filter stages. Used in this way, most carvers find that they are only replacing one filter a year. Of course if you use the dust collector heavily and at high fan speed settings you will need to replace the filter more frequently. Because the filters are relatively inexpensive, your cost per hour of operation is still very low.

Q. Can I vacuum the filters or blow compressed air through them to clean them?

A. We recommend no. Vacuuming the filter media can cause the filter weave to open up, causing the filter to lose efficiency. Blowing air through is even worse. If you must vacuum the filter, be sure not to touch the media when doing so. Tapping is still the best way to clean the filter.

Q. What do the various filter efficiency ratings mean?

A. Ratings are nominal and are meant for comparative purposes. A 30% efficient filter will capture approximately 30% of all 1 micron particles (baby powder is around 4 microns) when used in accordance with the manufacturer's guidelines. A 60% filter is twice as efficient as the 30% filter with a 1 micron particle. As particle size increases, the efficiency increases drastically. A 30% filter is over 99% efficient with a 4 micron particle. There are other factors affecting filter efficiency such as the particle type (some particles are "slipperier" than others) and fan speed or air flow, as well as the velocity that the air strikes the filter with.

Q. Why doesn't the Razaire 530 come with a higher efficiency filters?

A. Higher efficiency filters (like the 60% #ZF26 & 80% #ZF28) load up much more quickly, and when they do they restrict airflow more because of their smaller weave. They also don't clean out as well and will therefore require more frequent replacement. Coupled with their higher cost, they are not the best choice for most everyday applications.

Q. Why would I ever choose a higher efficiency filter?

A. For most users we recommend that you try the standard filter (or filters) and determine if they will meet your needs. Only if you feel that they are not efficient enough would you change to a higher efficiency filter. The only exception to this is if you will be working with "harder-to-trap" particles like soapstone or eggshell, in which case it is recommended to use an 80% filter (#ZF28) for stage 2 and a standard 30% filter (ZF20) for the first stage.

Q. Does the suction drop much when I add more filter stages?

A. Technically, the suction does drop, but the Razaire 530 has such a powerful fan that the drop is negligible.

Q. Why don't you make a larger hood for the front of the unit?

A. The amount of suction drops off very rapidly as the size of the hood opening is increased. A large hood on a unit the size of the Razaire 530 would greatly reduce the suction and would require that you work very close to, or even inside, the hood. Keep in mind that you can always fashion your own custom-shaped hood by starting with an extra filter frame and attaching your custom hood to the front of it. This way even your custom-made accessories can be quickly, easily, and securely attached, and easily removed.

Q. Can I get a filter that would filter out fumes from paint or solvent? How about smoke from woodburning?

A. The short answer is no. While we do make a carbon-layered filter (#ZF24), it will not eliminate fumes from paints, solvents, or smoke. The ZF24, used as a second stage filter, will reduce the smell of smoke for those who do woodburning in front of the Razaire 530, but it will not eliminate it. The problem is that there is too much air moving too quickly through the carbon layer of the filter for the carbon to clean the air. In order to have the right effect, the carbon layer would have to be very large (we estimate around 12 lbs of carbon would be required) to allow the air to spend enough time in the carbon to clean it properly.

4 Still have questions? Give us a call or drop us a line. We're here for you!

Troubleshooting Guide

If the guide below doesn't solve your problem, contact your dealer or Razertip before returning your Razaire 530 for service.

Symptom	Diagnosis	Suggested Solution
1. Scraping or ticking noise coming from fan.	A. Pressure placed on the housing (something may be leaning or resting on the unit), or the unit is resting on its back while running.	Be sure that nothing is placing pressure on the housing. Unit should only be used in an upright position, or if supported by both "T" rails. Never rest the unit on its back.
	B. Foreign object has gone behind the exhaust grate.	Check inside the exhaust grate and remove anything that may be inside.
	C. Internal damage due to impact or stress on cabinet.	Return for servicing (10 year cabinet & electronics warranty will cover this problem; even if caused by dropping or other impact).
2. Fan hub on back side of cabinet gets hot.	A. In warm locations, or where air movement is restricted at the back of the cabinet the hub may get quite warm. Some heat is normal at the hub, especially at lower speed settings.	Operate the unit in an area where air can circulate behind the unit. A higher fan speed will also help reduce heat at the hub.
3. Unit shuts down; fan hub is very hot.	A. If the fan motor gets too hot it will automatically shut down (thermal protection). It will reset and will run again once it has cooled off.	Allow the unit to cool for 20-30 minutes. See 2A above. If problem persists, return for servicing.
	B. Foreign object between inlet guard and fan, or outside pressure is causing the fan to rub against inlet guard.	See 1A and 1B above.
4. Unit won't run at all; makes a humming noise when power is switched "on".	A. Something is preventing the fan from turning.	If you cannot see why the fan will not turn, return the unit for servicing.
5. Unit won't run at all; does not make any noise when power is switched "on".	A. No power to unit.	Check that electrical outlet has power. Check all power bars and extension cords.
	B. Internal defect.	Return for servicing.

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More Questions? Don't hesitate to contact us - that's what we're here for!