Vulcan Stove Fan Manual

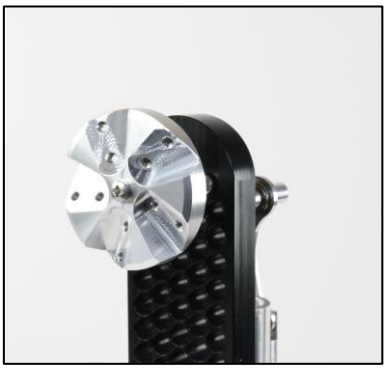
WARNING: DO NOT OIL YOUR FAN

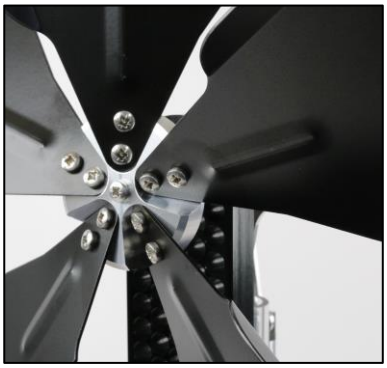
The stove fan is designed to not need regular oiling. Oil applied to the ball bearings or piston WILL have a detrimental effect on your engine and will void the warranty. It is a precision piece of engineering. In order to retain its efficiency it must be kept clean and dust free. Keep away from any **frying/sauce pans** that are being used on the stove, as this has been known to splatter oil onto the stove fan and stop it from working.

Handling your fan

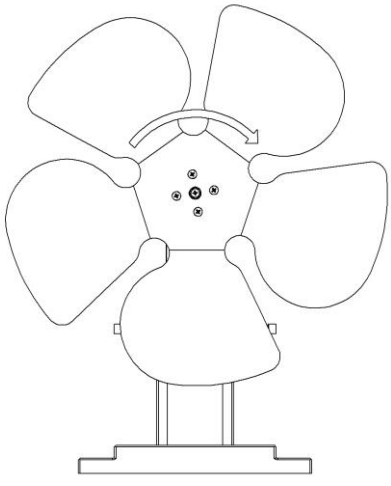
The fan will be very hot while in operation and will take time to cool down once removed from the stove. If removing from the stove place on something that can withstand the heat. Your stove fan can be picked up by the blades when idle. This is particularly useful if the stove fan is still hot.

Fitting the fan blade





Take the main unit and place on a flat surface (First picture above). Fit hub onto axle and secure with 1 long screw (as shown in second picture above). Tighten screw to medium hand tightness with screwdriver. Fit each fan blade 'petal' one by one (third picture above). Using two screws for each 'petal'. PUT BOTH SCREWS in loosely before tightening both to medium hand tightness.



Using your fan

Once your stove is up to temperature, place the Stove Fan on the stove. Wait until the base has heated (this should take only a few minutes) and then gently spin the fan clockwise, with enough force to allow the blades to rotate a few times. The fan will start to rotate slowly at first but will gain momentum. The higher the temperature of the stove, the faster the fan will operate. In ideal conditions the stove fan will run on a surface temperature as low 150 C (300F). 175C (350F) or higher and the stove fan should be easy to start. When measuring stove temperatures place a stove thermometer next to the fan on top of the stove surface. Flue temperatures and sides of the stove are likely to be different temperatures. That's not always obvious!

Not working?

If the stove fan is not working check the connecting rods (see page 2). This is a fairly common cause of not running. You may also want to check your stove temperature. Every stove owner thinks they have a super hot stove. In truth stove temperatures vary. The stove fan runs on most stoves but there are stoves that run at lower temperatures.

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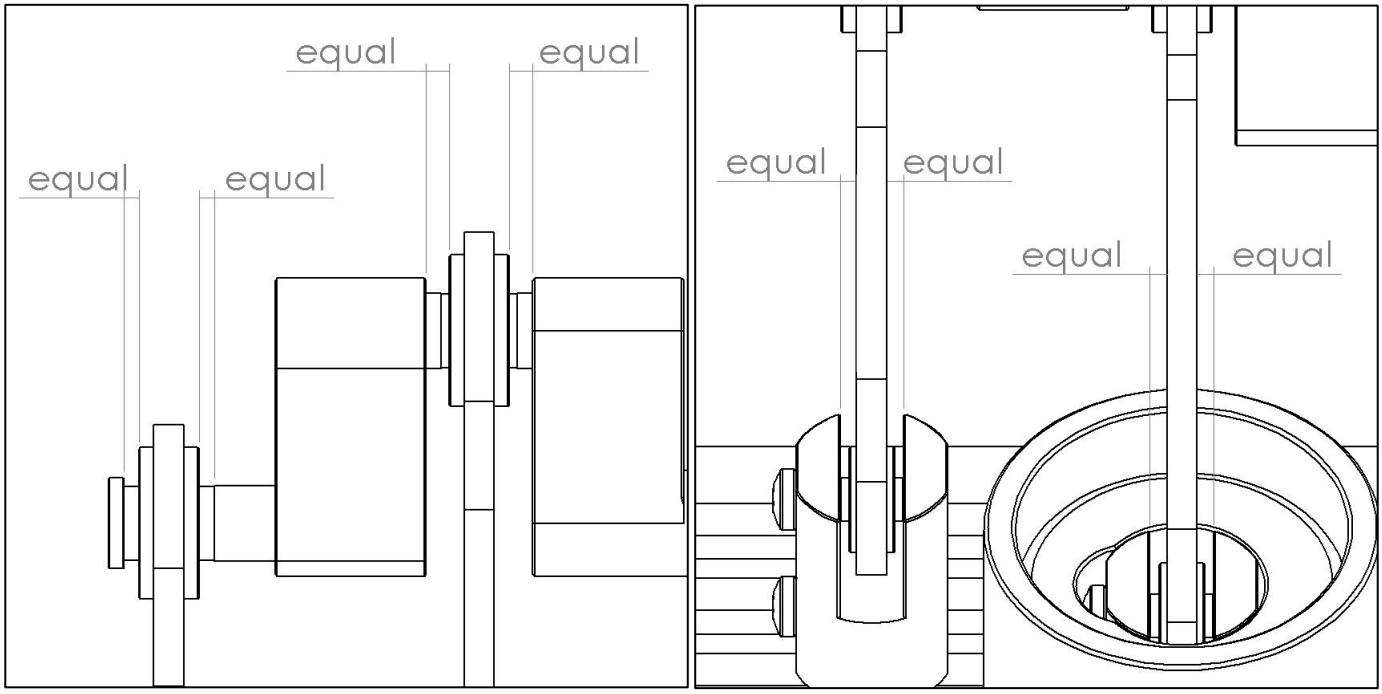

Fine Tuning by adjusting the connecting rods

Your Stove Fan has been factory-set and tested to run at over 400rpm at 450°C. If you find that your Stove Fan does not run as expected you can adjust the positions of the connecting rods. Optimum positioning for each connecting rod end is central, as shown in the diagrams, but you might find that your engine runs better with a slight bias to one side or the other. When adjusting, do not move the connecting rod ends so far that they become jammed on their shafts or wedged against the cranks, and do not undo any screws on the cranks, these are factory-set to the correct positions. The con-rod can be knocked/moved in transit so it is important to check this when using for the first time.

What does it do?

The Vulcan stove fan is a Stirling engine powered fan that quietly and efficiently circulates warm air from your wood stove, coal stove or other heat source, through your home or workshop dramatically increasing the effectiveness of your heating appliance and improving your comfort level. No longer will you have to stoke your stove to blazing hot temperatures only to end up with a VERY hot area in the direct proximity of your stove and mildly warm air across the room. The Vulcan stove fan helps to uniformly circulate the air, leaving you a cosy, comfortable atmosphere to enjoy while reducing the amount of fuel your appliance consumes. In addition, the Vulcan costs you absolutely nothing to operate!

How does it work?

The Vulcan stove fan does not require any electricity whatsoever! No batteries. No mains electricity. The Vulcan is self-powered just from the heat of the stove. It utilizes a small, quiet Stirling cycle power plant built into the fan. The Stirling cycle power plant obtains its power from rapidly heating and cooling the same volume of air. When the air is heated, it expands, pushing a piston upward; when the same volume of air is rapidly cooled, it contracts, pulling the same piston downward, providing power. The same volume of air is heated and cooled very rapidly converting the heat energy to mechanical energy used to turn the fan blade.

The Vulcan's fan speed increases relative to the temperature increase of its heat source. So, the hotter your stove, the faster the Vulcan will run and the higher the volume of air circulated. The Vulcan stove fan uses the latest and best technology, including borosilicate glass cylinder, graphite piston and ultra-low friction demagnetised bearings.