

Q- What is the purpose of the Snow Blower Impeller Kit™?

A- This kit reduces the existing "gap" between the snow blower's impeller blades and the impeller chamber wall. The smaller the gap, the greater your machine's operational efficiency and snow throwing capability will be, and the less likely that your machine will clog up with snow.

Q- Why would I want to install this?

A- If the existing "gap" on your machine is between 1/4" & 5/8" or greater, then your machine is losing a significant amount of efficiency and power in throwing snow. This loss in efficiency results in more clogging in your discharge chute, and less throwing distance. As with any impeller device (snow blower, water pump, etc.), simple physics proves that maximum efficiency is achieved when there is no gap between the impeller's blades and the impeller chamber's walls. Some newer, more powerful snow blowers might have a significant gap but still work fine, so the bottom line is this...*Are you happy with your snow blower's performance?* For any excellent explanation on this subject, watch [Ari P's. Excellent YouTube video](#) on our website (thanks for allowing us to share this Ari!)

Q- Why don't the manufacturers eliminate this gap from their machines?

A-The reason is that on machines with straight shaft mounted impellers (which most are) the impeller's bearing wears over time and this wear causes some degree of "wobble" in the impeller's rotation. If the metal impeller blade was made to fit "flush" against the metal cylinder walls with no gap, there would be no tolerance for "rotational wobble". They leave this gap to accommodate this "wobble" if/when it happens and avoid a situation where you have metal scraping on metal. That could cause significant damage to the impeller and the cylinder walls in which it rotates requiring very expensive repairs. Since this modification uses rubber paddles which wear down evenly as they come in contact with the cylinder walls, any possible future "wobble" in the impeller's rotation is negated without compromising the snow blower's operational integrity or efficiency at moving snow and slush.

Q- If I install your Snow Blower Impeller Kit™, will it eliminate all clogging?

A- Theoretically, yes, but the reality is that it depends on a number of things. Snow conditions, engine displacement, torque output, etc. For example, snow that has a water consistency of 40% or more (slush) can turn into ice in your snow blower's discharge chute and clog the chute regardless of your machine's output capability. This kit reduces the likelihood of that happening but nothing can prevent that completely.

Q- Does engine size really matter?

A- In most cases, Yes, however don't confuse engine size (whether rated in HP or CCs) with the ability to move snow efficiently. Sure, a 10HP or 305CC engine has more potential power than a 5HP or 271 CC engine, but the power output and ability to move snow is much more dependent on impeller revolutions and torque than just engine size. The faster your impeller spins and the larger your machine's "foot pounds of torque" performance specification is, the greater its' ability to power through snow of any consistency. Where the engine size is most important is in its' ability to handle an increasing "load" without stalling. It is a misconception that all 10HP or 305CC machines are the same, because they might have different torque ratings or revolutions per minute.

Here's an approximate conversion chart courtesy of [MovingSnow.com](#)

123 cc = 4 hp	305 cc = 13.5 to 14.5 Gross Torque = 9 to 10 hp
179 cc = 5 hp	342 cc = 15.5 to 16.5 Gross Torque = 11 to 12 hp
208 cc = 8 to 9 Gross Torque = 5.5 to 6 hp	357 cc = 14 hp
277 cc = 11 to 11.5 Gross Torque = 7 to 8 hp	420 cc = 15 hp

Q- What exactly is a Snow Blower Impeller Kit™?

A- This kit contains all of the materials necessary to modify ONE snow blower impeller blade.

Q- Where are the materials in the kit made?

A-Each Snow Blower Impeller Kit™ contains Top Quality, "Made in the USA" materials. See [Durometer Specs](#)

Q- What type of rubber paddles do you use?

A- Our paddles have oval mounting holes and are made of Styrene Butadiene Skirtboard Rubber (SBR) Shore-A rubber with a durometer of 65 ± 5, Temp Range: -20° F to +170° F and minimum tensile strength of 725 PSI (5 MPA).

Q- Why would I ever order a single-blade kit?

A- You might want a spare kit, or maybe you previously ordered a Three-Blade kit and later realized you really needed a Four-Blade kit.

Q- I need to modify all of my snow blower's impeller blades, do I need to buy a single blade kit for each of my machine's blades?

A- No, we offer a **Three, Four, Five and Six Blade** kits in both 1/4" thick and 3/8" thick rubber paddle configurations as well. Each of these contains all of the materials necessary to modify that number of impeller blades in your machine. For example, if your two-stage snow blower has three impeller blades, you can order either the Three-Blade kit, or the Four Blade kit and keep the extra set as a spare.

Q- Why do you offer kits with rubber paddles in both 1/4" and 3/8" thick configurations?

A- We offer these two configurations so you can choose which kit best fits your particular needs. Generally, the heavier, wetter and deeper the snow, the thicker the rubber paddle for greater performance.

Q- Can I install this kit on a snow blower with plastic impeller blades?

A- These kits are intended to be mounted on metal impeller blades however some people with plastic impeller blades have successfully mounted an impeller kit on their plastic impeller blades. Plastic is not as hard as metal and not all plastic impeller blades are the same thickness or made out of the same composite materials. Since plastic blades may be damaged during installation, we do not recommend it so you should check with the manufacturer of your snow blower before proceeding with the installation. It's your call! If the impeller blades did crack or break, you'd have to replace the entire impeller unit!

Q- How do I know whether your standard Snow Blower Impeller Kit™ will fit my impeller blades?

A- Each kit contains 1 3/8"W x 3 3/4"L metal straps and 2"W x 5"L rubber paddles. To determine if the standard kit will fit, **measure the flat part of the TOP surface of your impeller blade, before it curls up**. That determines the length of the metal strap and rubber paddle you will need. You can install these so that they wrap up on the curl as well, but we've found that the benefit is not worth the increase in difficulty you will have in modifying the kit to fit, and then installing it. Most of the work done in moving snow is done by the flat part of the impeller blade.

Q- If necessary, how do I modify the metal straps and/or rubber paddles to fit?

A- You can cut the metal straps with a hacksaw and you can easily trim the rubber paddles to fit with a sharp utility knife.

Q: If I can't, or don't want to do it myself, can you customize my kit for me?

A- **Yes**. Just measure the impeller blades as described previously and let us know what you want before you order. We will modify the kit to your specifications for your approval before shipping it out to you. A separate customization charge may apply.

Q- Should the rubber paddles in your Snow Blower Impeller Kit™ be mounted so they are pressing tightly against the impeller chamber wall?

A- **No, they should be installed so they are barely touching the impeller chamber wall**. Remember, ANY decrease in the gap between the impeller blades and the chamber wall will result in a significant improvement in operational efficiency and throwing distance! See [Critical Install Tips](#)

Q- Should I be concerned about the metal brace on the underside of the impeller blade?

A- Yes. In some instances, the position of the metal brace might interfere with the bolt holes and installation of the bolts w/lock-nuts used to secure the kit to the impeller blade. You need to make sure that there is room to screw on the lock nuts on the underside of the impeller blade, otherwise, you might be able to use a self-tapping screw included in the kit. **You need to have a minimum of 1/8" space between the underside brace and the lock nut in order to tighten the lock nut with a wrench.** If you don't, you will need to use a self-tapping screw in THAT particular spot.

Q- What about obstructions in the impeller chamber walls?

A-On some machines, there are round-headed carriage bolts that protrude into the impeller chamber wall. These bolt heads might interfere with the rubber paddles as they rotate by causing damage to the paddles. **It is very important to inspect your impeller chamber walls to see if this situation exists!** If it does, you can still install the kit but you have to leave a gap large enough so that the paddles will not come into contact with the protruding bolt heads. Remember, the idea of this kit is ideally to eliminate the gap, however ANY reduction of the gap WILL improve the efficiency and snow throwing capability of your machine! See [Critical Install Tips](#)

Q- What else should I consider when "fitting" my rubber paddles to my impeller blades?

A- You want to eliminate the existing gap as much as possible in all respects, so when you trim the rubber paddles for final fit, try to match the curvature of the impeller chamber walls' sides and top as much as possible. **NOTE: if the gap varies around the chamber wall, you MUST install the rubber to fit the spot where the gap is the smallest, otherwise, the rubber will fail!!** Also, don't install the rubber paddles with more than 5/8" of rubber overhanging the leading edge of the impeller blade because that seems to be the stress point for these paddles and they might break off under heavy load conditions (eg; heavy snow, slush, etc.) The most important thing is to make sure the rubber **barely** scrapes the side-wall of the impeller chamber wall if at all.

Q- Why are self-tapping screws included?

A- First and foremost, drilling a hole through the metal impeller blades can be very difficult, so the included instruction sheet explains that you can use them to make a pilot hole where the bolt will go first, then drill out the pilot hole for the bolt which is so much easier. You certainly don't have to do this but I've found it makes the job easier. Secondly, in those instances where the brace on the underside of the impeller blade is in the way of where you would drill a bolt hole, a self-tapper screwed down next to, but not in to, the underside brace works well as an emergency substitute to the bolt & nut for that one location. The instruction sheet explains the risk/benefit scenario between self-tappers and bolts and specifically counsels this as an emergency measure, and the use of bolts in the other hole(s) securing the kit to the impeller blade to insure the integrity and strength of the attachment. Hence, there are self-tappers included to meet either scenario. If you don't need them, don't use them!

Q- How much should I tighten the bolts?

A- The recommended maximum torque for them is 13 lb-ft., however the best way to install them is to make them as tight as possible without deforming the metal plate and the rubber paddles. The nylon-insert lock washers will secure them so there is no reason to over tighten them.

Q- Why do you use zinc-coated steel instead of stainless steel components?

A- The metal components included in these kits are zinc plated grade 5 steel which is used because, while slightly less corrosion resistant than stainless steel, zinc plated grade 5 steel is harder and more durable, and is the most common bolt found in automotive applications. Stainless steel is an alloy of low carbon steel and chromium. It is a common misconception that stainless steel is stronger than regular steel. In fact, due to the low carbon content, stainless steel cannot be hardened. Therefore when compared with regular steel it is slightly stronger than an un-hardened (grade 2) steel fastener but significantly weaker than hardened (grades 5 & 8 and alloy steel) steel fasteners. Stainless steel is more corrosion resistant than zinc-plated steel because the anti-corrosive properties are inherent to the metal, it will not lose this resistance if scratched during installation or use, while zinc-plated and galvanized steel are, to some degree, more susceptible to corrosion over time when the surface coating is scratched. In this application, it was decided that the difference in corrosion resistance was negligible over the typical useful life of a snow blower, and that the hardness and overall durability of zinc plated grade 5 steel was a superior choice for the hardware used in this kit.

Q- What is your Lifetime Moneyback Guarantee?

A- If you are ever dissatisfied with this product, you can return it for a full refund of your purchase price provided the kit is undamaged and unmodified! (not including shipping cost). To expedite processing, please provide us with the email address you use with PayPal.

Q- What if I damaged a rubber paddle(s) and need a replacement rubber paddle(s), not a whole kit?

A- First, try to determine exactly what caused the rubber paddle to fail if you can and let us know that when you contact us for a replacement(s). Please include any pictures of the damage and provide us as much detail as to the circumstances surrounding the event as you can. (eg; snow/weather conditions, etc.) If we determine that the cause of the damage **WAS** due to a defect in the rubber, we will replace the damaged rubber paddles at no cost to you. If we determine that the cause of the damage **WAS NOT** due to a defect in the rubber, you can purchase replacement 1/4" and 3/8" thick rubber paddles (no H/W) from us as replacements or spares.

Q. What "Proof Of Purchase" do I need for Warranty Service or the Lifetime Moneyback Guarantee ?

A- You will need to provide us with the original packing list that accompanied your order as "**Proof Of Purchase**" so **DO NOT LOSE IT!**

Q- Why should I buy from SnowBlowerImpellerKits.com?

A- We are the industry leader and stand behind our products 100% with a **Lifetime Moneyback Guarantee!** All components included in our Snow Blower Impeller Kits™ are made in the USA of the highest possible quality materials and are clearly specified in our listing, so you know exactly what you are buying. Simply put, **"We are not satisfied until you are satisfied"**.

Examples of kits customized to different lengths:

2 1/2" Kit



3" Kit



3 1/2" Kit

