

## Hole Cutting Comparison Cost Data:

	Evergreen Holecutting System II	Brand L
Cost of cutter or hole saw	\$20.54	\$8.79
Average number of holes per cutter	75	12
Average cutting time (seconds)	17.5	32
Cost per hole (Based on \$36/hour)	\$0.45	\$1.05
Savings per year (100 holes/month)	<u>\$720.00</u>	-

### Method of Calculation:

Cost of Hole =  $\frac{\$ \text{Cost of cutter}}{\text{Holes per cutter}} + \text{Hole cutting time} \times \frac{\$36/\text{hour}^*}{3,600 \text{ sec./hr.}}$

\*Rate based on \$36 per hour.

## Additional Features:



The arbor accessory is used to drive the System II holecutter and pilot drill when used without the speed reducer. It is intended to be chucked into any ordinary drill motor or drill press.



This option illustrates a method of enlarging an existing hole. Two System II cutters are used, the smaller cutter acting as a pilot to guide the larger cutter.



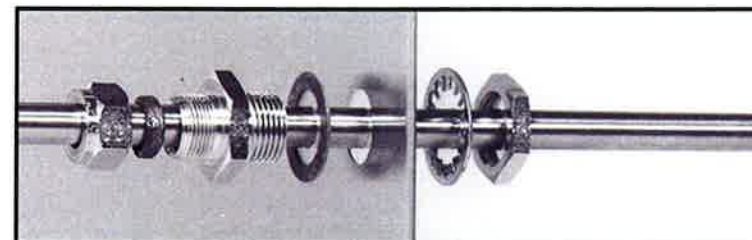
The arbor extensions are used to extend the reach of the System II holecutters. Extensions can be used with the arbor or with the speed reducer.

# Introducing EVERGREEN Holecutting System II

## The Better Way To Drill Holes In Stainless Steel



Also ask about our “Evergreen Quik-Seals” and “Compression Seals” to seal penetrations in stainless steel for kitchen hoods and ductwork fabrication, and many other applications. Our Evergreen “Quik-Patch” offers a solution to unwanted or previously drilled holes.



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# A Tough Tool For Tough Cutting Jobs

*Hole cutting performance never before attained with lightweight, hand-held power tools.*

## The Problem

**Stainless Steel is difficult to drill** because of its hardness, toughness, and work-hardening properties. As a cutting edge shears away a chip, it causes the material at the cutting interface to work-harden, creating a work-affected zone that makes penetration by subsequent cutting edges more difficult. Rapid heat build-up and further hardening will follow if the cutter cannot penetrate this work-hardened surface. This is characteristic of ordinary hole saws and is why they fail after just a few cuts.

## The Solution

**The Evergreen Holecutting System II** solves these and other problems. It was specifically designed for stainless steel but works equally well when called upon to cut other materials up to 3/16" thick including carbon steels, copper, aluminum, and brass as well as many plastics.

## The ABC's of a System That Works:

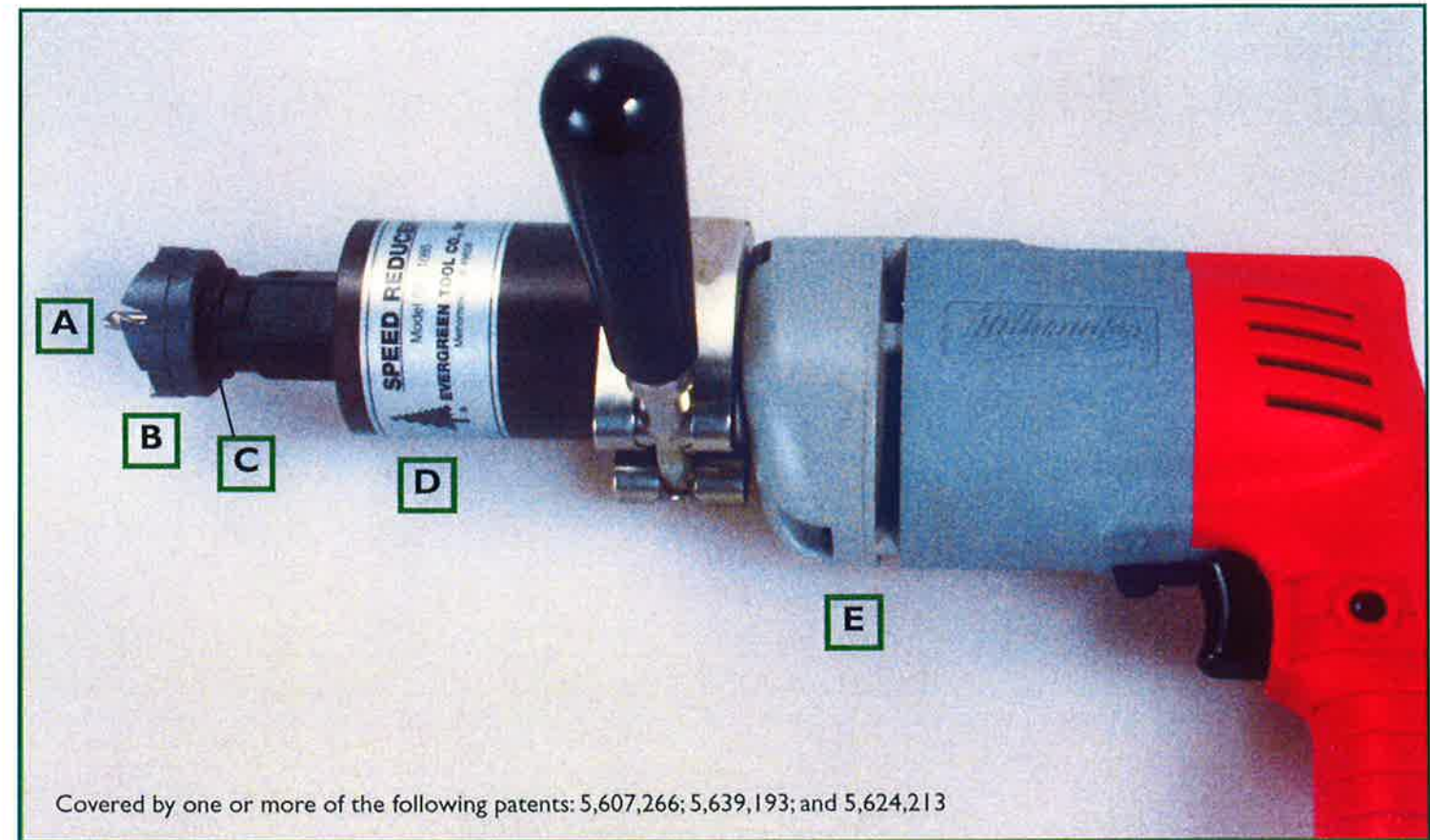
### A - The Pilot

The pilot drill is optimized for cutting stainless steel. It has an aggressive edge geometry with a thin-webbed 135° split-point design. This greatly improves the ease of starting and drilling. Also, the 3/16" pilot drill has a bit on each end – turn it around and it's new again.

### B - The Cutter

In any hand-held tool, the applied cutting force is limited by the user's strength. The Evergreen System II cutters concentrate that force on three cutting teeth. This produces a higher cutting pressure per tooth than the many teeth in a conventional hole saw. Also, the cutting teeth have an aggressive rake angle, high back clearance and minimal curf (width) to be able to cut underneath the work-hardened surface to softer material.

The depth of the cut is limited by the raker teeth to provide smooth cutting and prevent stalling. The cutter body is also tapered inside and out to minimize friction and heat build-up.



Covered by one or more of the following patents: 5,607,266; 5,639,193; and 5,624,213



The complete **Evergreen Holecutting System II** kit includes a Milwaukee® Hole Shooter 1/2" variable speed drill motor, cutters, speed reducer assembly, pilot drills, arbor, hex key, sturdy cases, and all associated washers, extensions, tools and parts necessary for many hole cutting situations.

## Important Features:

- **Optimal cutting speed, tooth geometry and pilot drill design.**
- **Remarkable improvement in tool life and cutting efficiency.**
- **The best tool available for effective and economical hole cutting.**

## Applications Include:

- **Restaurant exhaust hood installations, sinks, food and drink preparation surfaces.**
- **Heating, ventilation and air conditioning.**
- **Electrical contractors.**
- **Commercial building contractors.**
- **Metal fabrication.**
- **Manufacturing.**
- **Aerospace.**

## C - Special Threads and Loosening Washer

The output adapter and cutters feature a special 4-start thread. These threads provide greater torque transmission through the thread and make the cutter removal much easier and faster, especially with the aid of the loosening washer. One tug on the loosening washer with a 1 inch wrench breaks the cutter loose for quick removal.

## D - The Speed Reducer

Stainless steel requires a low cutting speed of about 60 surface feet per minute (SFPM), roughly half that of low carbon steel, to minimize friction and heat build-up. The System II coaxial speed reducer is a planetary gear set that provides a 4:1 gear reduction for the cutter and no reduction for the pilot drill.

Although an ordinary variable speed drill can rotate slowly, there is not sufficient torque at low speeds to drive a holecutter. A 1-850 RPM drill motor with the System II speed reducer will produce an optimal speed of 0-250 RPM for the holecutting with four times the torque. This torque is sufficient to drive even the larger cutters. This reduction in speed results in smooth, controllable power greatly improving the cutting performance and tool life.

## E - The Drill Motor

The drill motor supplied with the Evergreen Holecutting System II is a 1/2" variable speed, reversing, 0-850 RPM, Milwaukee® Holeshooter, catalog no.0299-20. The drill motor has a 1/2"-24UNF thread on the chuck spindle and a 1.540" diameter boss just behind the drill chuck. These specifications are important to readily attach the System II speed reducer to the drill motor and to ensure the proper operating speed of the cutter.

Other drill motors may be used if they meet these specifications.