

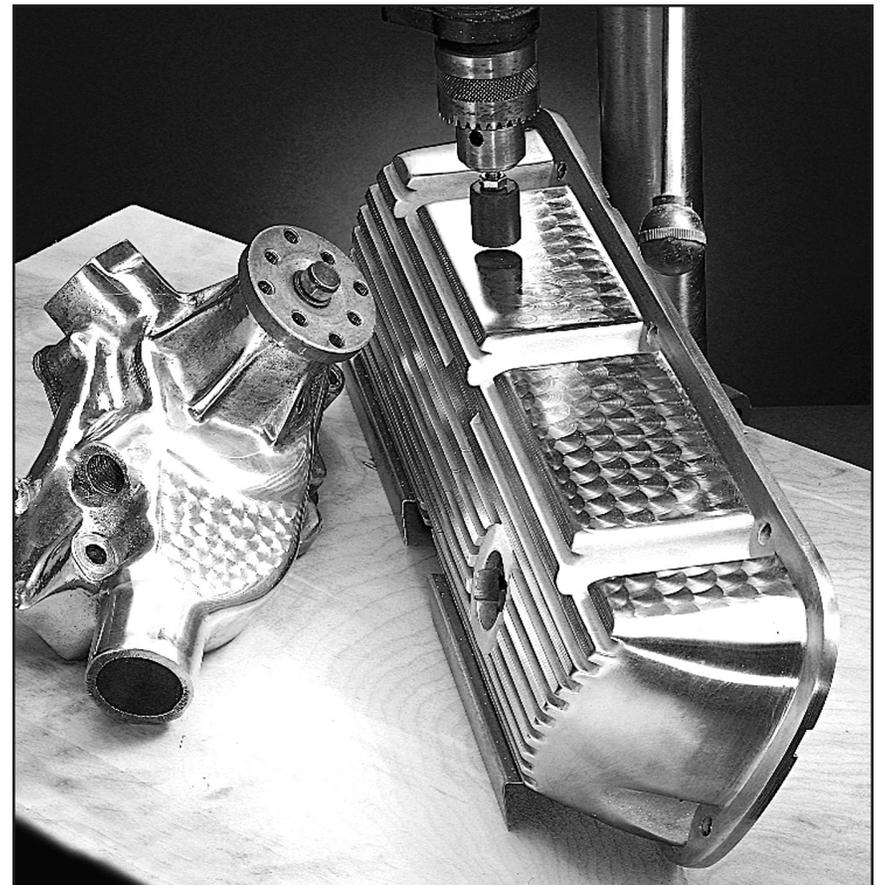


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Instruction Sheet: #13117Q - Rev. 5/05

Eastwood Engine Turning (Damascening) Instructions

Part #13117 and #13118



INTRODUCTION

Engine turning (or damascening) has long been recognized as a hallmark of fine quality metalwork and engineering. With Eastwood's Engine Turning Kit and your drill press, you can create a wide variety of custom designs on almost any metal surface. This kit includes special solid abrasive cylinders with abrasive impregnated throughout a rubber bonding material.

CONTENTS

- #13117 **Engine Turning Kit, 1" Diameter**
Two – 1" Diameter solid abrasive rolls with threaded inserts
One – 1/4" Diameter Threaded Mandrel
Instructions

- #13118 **Engine Turning Kit, 1/2" Diameter**
Two – 1/2" Diameter solid abrasive sticks (6" long)
Instructions

Other Suggested Products

- #10200Z **Eastwood DiamondClear™ for Bare Metal, Aerosol**
- #10189Z **Eastwood DiamondClear™ for Bare Metal, Pint**
Long lasting, tough protection for polished metal surfaces
Available in Aerosol and sprayable Pints

- #13106 **Stainless Steel and Steel Buffing Kit**
- #13104 **Aluminum and Brass Buffing Kit**
All the supplies you need to bring a like-new shine
to metal pieces before damascening

- #13079 **Expander Wheel**
- #13159 **Trizact™ Belt Set (Set of 5)**
Excellent for removing surface irregularities

- #10198 **HotCoat Powder Coating System**
Use our Gloss Clear (#10093) for superior protection or
our translucent colors for a custom look.

INSTRUCTIONS

SAFETY WARNING

Always wear eye protection when working with a drill press and be sure those working around you or watching you are also wearing eye protection. To guard against cuts from sharp metal edges, we also recommend wearing heavy cotton or leather work gloves while handling the metal pieces on which you are working.

Preparation

The surface of the metal on which you are about to work should be as smooth, flat, and clean as possible. It is much easier and your results will be more consistent if you start with a flat piece of metal. If the final installation requires that the piece be curved, do the engine turning while the piece is flat, then gently bend it for final installation.

Abrasive Roll Setup

1/2" DIAMETER ABRASIVE CYLINDERS WITHOUT MANDREL KIT (#13118)

Cut the abrasive roll into 2" lengths. Insert one of the pieces directly in to the drill press chuck, leaving no more than 1" extending beyond the end of the chuck. If you leave more than 1" exposed, the roll will tend to "wipe" the surface and result in out-of-round spins.

1" DIAMETER ABRASIVE CYLINDERS WITH MANDREL KIT (#13117)

Screw the threaded end of the mandrel into the abrasive roll and tighten the jamb nut. Insert mandrel into drill press chuck.

Drill Press Speeds

The optimum rpm range is between 900 and 1400 rpm. Experiment with slower speeds first and increase only if results are unsatisfactory.

Lubricant

To get maximum life from the abrasive cylinders and avoid discoloration of the metal caused by excessive heat, use a mixture of 25 parts water to one part oil (motor oil or machine oil). Penetrating spray will also work (Kroil, #43381Z 16.5 oz., and #43380Z gallon). Oil after every spin or at least every other spin.

INSTRUCTIONS

Establish a “Spin Pattern”

“Spin Pattern” is the term used to describe the overlapping swirls resulting from engine turning. The variety and complexity of possible patterns is entirely up to your imagination. We recommend that you practice on some scrap pieces both to get the feel for engine turning and to decide what pattern you desire.

TIME CYCLE AND SPIN PRESSURE

Once you have decided on a pattern, it is important to note the amount of time the abrasive was applied to the metal and the amount of pressure used to achieve the desired effect. For consistent results, the abrasive should be applied to the metal for exactly the same amount of time with the same amount of pressure. Avoid applying too much pressure. This will cause the end of the abrasive roll to “mushroom” which will result in inconsistent circle sizes.

LEVEL PART ON TABLE OF DRILL PRESS

One of the most popular patterns can be achieved with a 50% overlap. Work from left to right and return to the left and overlap the next row 50% with the previous row. You may also wish to try alternating the direction of travel, overlapping from left to right then right to left and so on. After pattern has been completed, apply a clear coat to enhance abrasion resistance.

Helpful Tips For Damascening

- *Construct a work deck out of plywood, masonite, etc., and attach to the drill press table securely.*
- *Use a metal ruler as a guide fence while working.*
- ***DO NOT** scribe the metal surface in areas where you want to spin. **DO NOT** use permanent markers. This will drive the ink into the metal and create paint problems. Use adhesive tape or lead pencil to lay out guides.*
- *Parts such as dashboards and firewalls should be cut from pre-spun sheets which have square corners. It is much easier to keep spin patterns consistent on a piece which has squared edges.*
- *Dress the abrasive cylinder approximately every six spins using 220 grit sandpaper. This will remove particle build-up on the abrasive cylinders. Use light pressure when dressing the cylinders.*

www.eastwood.com

If you have any questions about the use of this product, please contact

The Eastwood Technical Service Department

1-800-CAR-TEC1 (1-800-227-8321)

To Place An Order, Please Call

1-800-345-1178



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