



263 SHOEMAKER RD. POTTSTOWN, PA 19464  
1-800-345-1178 INTERNATIONAL: 610-323-2200  
FAX: 610-323-6268  
WWW.EASTWOOD.COM

Instruction Manual Part #10113ZQ - Rev. 1/05

# Metal Blackening System For Iron and Steel Parts

Part #10113Z



## Operating Instructions

## Introduction

Thank you for purchasing Eastwood's Metal Blackening System. Now you can blacken iron and steel parts at home quickly, safely, and economically with no special equipment. You no longer have to send them out for refinishing or leave them unfinished. Easy to prepare, the Metal Blackening System uses a mild acid solution which is odorless, non-caustic, and which does not produce fumes.

Metal blackened steel and iron parts such as nuts, bolts and brackets are commonly used by the automotive industry for the manufacturing of cars. Over time it is not unusual for some of these components to fade and corrode. The Eastwood Metal Blackening System allows you to quickly and economically restore metal blackened parts. This is not a paint. This is a metal blackening system which will duplicate the OEM finish of your automotive components.



**NOTE:** This process will not work on stainless steel or non-ferrous metals such as Brass, Aluminum and Pot Metal.

## Contents

Your Metal Blackening System contains the following:

- #43090 One pair of Safety Goggles
- #10049F One pair of Safety Gloves
- #10049G One 56 oz. Process Containers
- #10113B One pint of Metal Blackener Concentrate
- #10300Z One 12 oz. net wt. aerosol can of Diamond Clear® Satin Finish for Bare Metal

## Important Safety Instructions

### NOTE:

*Read and understand ALL safety and operating instructions before use. The Eastwood Metal Blackening System is entirely safe when used correctly.*

**NOT FOR USE BY CHILDREN!**

### IMPORTANT SAFETY NOTICE

Please read all label information on included solutions and follow directions carefully. All first aid information must be read and understood before you begin.

- *Extreme care should be taken not to allow the liquid to come in contact with skin, eyes, or clothing.*
- *Safety Goggles are included with your Metal Blackening System. They must be worn at all times while setting up and using your kit.*
- *Keep all blackening solution out of reach of children and pets. Keep blackening solution in a sealed plastic containers (not the included process bottle) when not in use.*
- *DO NOT store solutions in any type of metal container.*
- *DO NOT allow solutions to contact any other chemicals or cleaning materials, etc.*
- *DO NOT smoke, eat, or drink while using the system.*
- *DO NOT use the Metal Blackening System while under the influence of a controlled substance.*
- *Always set up your Metal Blackening System in an area close to a cold water source. If running water is not available, several buckets of fresh water will do.*

# ■ Preparing Objects For Blackening

As with any restoration process, the final finish is going to be only as good as the preparation. The actual blackening process is only one step in a series of steps.

## 1. **DISASSEMBLE IRON OR STEEL OBJECT TO BE BLACKENED**

This ensures complete coverage of all surfaces.

*NOTE: This process will not work on stainless steel or non-ferrous metals such as Brass, Aluminum and Pot Metal.*

## 2. **REMOVE ALL GREASE, OIL, PAINT, RUST OR OLD PLATING PRIOR TO BLACKENING**

The Metal Blackening System works best on bare iron or steel.

A. **Remove dirt, grease, and oil** using a heavy duty degreaser such as Eastwood's Metal Wash (#10120) or PRE Painting Prep Aerosol (#10041Z), or quart (#10194ZP).

B. **Remove paint** by abrasive blasting or other mechanical means. Eastwood DeKote (#10408Z, 10410, or 10411) can also be used.

C. **Remove rust** by abrasive blasting or other mechanical means. Oxisolv (pint #16025Z, gallon #16027ZP, spray #16026Z, or gel #16028ZP) is another excellent method for rust removal and provides added corrosion protection.

D. **Remove old plating** by the use of abrasives or in many cases by soaking the part in muriatic acid (diluted per label directions) commonly available at most hardware and building supply stores. Please follow all precautions carefully.

**TECH TIP:** *Although wire brushing will usually clean the parts sufficiently, for best results, we recommend bead blasting all parts to be blackened. This ensures that all scale, paint, oxides, pre-existing blackening, etc. will be completely removed.*



**Shown:**  
PRE Painting Prep Aerosol (10041Z)  
Metal Wash (10120)



# ■ Preparing Objects For Blackening

## 3. **WEAR RUBBER OR VINYL GLOVES TO PROTECT SKIN FROM CONTACT WITH BLACKENING SOLUTION**

Parts such as washers and nuts can be hung on a wire such as **Safety Wire (#43045)** or coat hangers. Rinse part with tap or distilled water and blacken right away.

## 4. **BLACKEN THE PREPARED PART IMMEDIATELY**

Parts that are cleaned well are subject to rapid corrosion. This is called "flash rusting." For this reason, it is very important that the parts are blackened as soon as possible after preparation.

# ■ Setting Up The Metal Blackening System

## **BLACKENING SOLUTION**

Pour contents of the Blackening Concentrate into the 2 quart process container. Add fresh, distilled water for longest solution life, or warm tap water until the level of the solution is two inches below the top of the container. Secure lid and agitate solution to assure even mixing. *Note: For best results solution should be at 75°F.*

# Using The Metal Blackening System

## 1. PART MUST BE THOROUGHLY CLEANED AND DEGREASED BEFORE METAL BLACKENING.

Follow all preparation instructions (page 4). Then blacken and seal the part right away to prevent flash rusting.

## 2. IMMEDIATELY IMMERGE THE PARTS IN THE BLACKENING SOLUTION.

Blacken the part immediately after cleaning by immersing the part in the Blackening Solution until it has a uniform black/gray finish. This will take typically 20-60 seconds depending on size of part and temperature of blackening solution. Some parts may take several minutes to fully blacken. Continually “swirl” or move the part to obtain uniform blackening.

**NOTE:** Do not immerse the part longer than it takes to achieve a uniform gray/black coating. Excessive blackening will only rub off the finished piece. Agitate parts to assure solution contact with all surfaces.

**TECH TIP:** True Blackened color will be achieved when sealant dries.

## 3. RINSE THE PART

After blackening, rinse the part in clean tap water for 10-20 seconds, and dry. Lightly wipe dried surface with a clean soft cloth.

## 4. SEAL THE PART IMMEDIATELY

Spray a few light coats of 10300Z Diamond Clear Satin for Bare Metal Surfaces, and set aside to dry for 1 hour to overnight.

**TECH TIP:** Blackened parts were usually processed with an “oiled” finish. This finish only provided temporary corrosion protection. If an oiled finish is preferred, topcoat the dried blackened surface with Black Heavy-Duty Anti Rust (available in 13.5 oz. aerosol #16031Z or quarts #16032ZP).

The result is an attractive and protective black coating which is non dimensional, just like many original finishes on hardware, brake parts, and much more. This finish matches many factory auto parts and will restore your parts to original condition.

# Storing The System

Store blackening solution in a tightly capped plastic container (not the supplied process container) inside a plastic bag. Sit bagged solution in a containment bowl. The solutions should be stored at room temperature and out of reach of children and pets. Do not let solutions freeze. Make sure that you have removed all parts from the solution containers before storing.

Components of this system are also sold separately. If you have any questions about the use of this product, please contact the Eastwood Technical Services Department at 1-800-CAR-TEC1 (1-800-227-8321).

**TECH TIP:** Large parts can be blackened by putting Blackening Solution in a large clean plastic container and Sealant can be brushed on heavily with a foam-type paint brush. Be sure to return Solution and Sealer back to their properly labeled containers.

# Troubleshooting

Problem	Possible Cause: Corrective Action
<i>Excessive Rub Off</i>	<ul style="list-style-type: none"><li>Excessive immersion time in the blackener: Decrease immersion time.</li><li>Dirt, oil, grease, old coating, plating, or chemical residue on part: re-prep part, and blacken again.</li></ul>
<i>Unblackened Spots or Areas With Non-adherent Black or Coating Thin and Blotchy</i>	<ul style="list-style-type: none"><li>Any dirt, oil, grease, old coating, plating, or chemical residue remaining on the surface will cause a problem: re-prep part.</li><li>Inadequate rinsing prior to blackening: Longer time in rinse water.</li><li>Parts are nested together or against container walls: Reduce load size, increase agitation.</li><li>Immersion time too short: Increase immersion time.</li><li>Make sure Blackening Solution is at least 75°F.</li></ul>
<i>Scratch Marks on Parts</i>	<ul style="list-style-type: none"><li>Agitation too vigorous: Reduce agitation, stop agitation for final 25% of blackening time.</li><li>Method of handling inappropriate for the parts: Use wire for handling parts, wear gloves.</li></ul>
<i>Blackening Reaction Too Slow</i>	<ul style="list-style-type: none"><li>Make sure Blackening Solution is at least 75°F.</li><li>Fill sink with hot water. Let container of solution sit in water to raise temperature.</li><li>Part is not iron or steel.</li></ul>

## Other Suggested Products



### **Abrasive Blasting Equipment and Supplies**

*Abrasive blasting is a part of thoroughly prepping plated metal parts for blackening. Eastwood has a wide selection of Abrasive equipment and supplies to meet any budget.*

### **Eastwood DeKote™ – The Environmentally-Friendly Paint Stripper**

*Removes the tough finishes used on aircraft and industrial equipment. Penetrates and lifts old paint in 30 minutes - 3 hours. Brush on and let it work. Scrape off old paint, then rinse with water.*



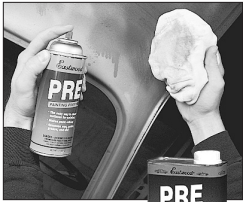
**#16025Z Oxisolv, Pint**

**#16026Z Oxisolv, 20 oz. Spray**

**#16027ZP Oxisolv, Gallon**

**#16028ZP Oxisolv Gel, Gallon**

*This specially formulated Rust Remover is a powerful, rust-fighting liquid created to meet the needs of auto restorers. It reaches even inaccessible areas, quickly dissolving iron oxide completely and leaving a zinc phosphate coating. Rust Remover can be sprayed, brushed, or used as a parts dip. It is non-toxic, non-flammable and reusable. This is not a primer.*



**#10041Z PRE Painting Prep Aerosol**

**#10194ZP PRE Painting Prep Quart**

*This specially formulated painting prep aerosol removes dirt, wax, polish, grease, silicone, buffing compound, even road tar—ensuring a clean surface. Very easy to use: just spray it on and wipe it off. Works better than lacquer thinner, which can leave a thin residue on the surface and possibly interfere with paint adhesion.*



**#10120 Metal Wash**

*Designed to promote topcoat adhesion on bare metal and protects in one step without using harsh or flammable solvents.*

**#43098 Nitrile Gloves**

*Protect skin from contact with Blackening Solution, Sealant, or other harsh chemicals.*

**#10113BZ Replacement Metal Black Concentrate**

*Replaces spent solution*

**#10113ZA Replacement Sealer for Metal Blackening System**  
*Improves corrosion resistance*

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**www.eastwood.com**

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