

02516

Frequently Asked Questions for the 3M Headlight Restoration Kit (PN 02516)

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Frequently Asked Questions for the Headlight Restoration System

How long will a refinished lens remain clear?

This will be dependant on many factors that vary greatly including; environment, altitude, lens material, lens design, surface coating, indoor or outdoor storage, and exposure to harsh car wash chemicals. We've seen headlights begin to oxidize as early as 10 months up to 2 or more years depending on the environment. This is a difficult question to answer accurately.

Does a refinished lens yellow sooner than an OEM or new aftermarket replacement lens?

Yes, the refinished lenses will likely yellow sooner than an equivalent OEM or aftermarket lens. However, in order to restore clarity to the lens, the degraded UV coating must be removed. The UV resistance will vary on refinished lenses based on environment, lens composition, and many other factors. Therefore it is difficult to estimate how much sooner a lens will yellow when compared to an OEM or aftermarket replacement lens.

Does 3M offer a UV coating with the kit?

No, we have found coatings can have several limitations and negative effects on the headlight lenses. In many cases the coating does not bond well to the lens and begins peeling or chipping off after a only few months. The coatings can haze the lens or mask the final clarity of the lens. Many of the coating will actually degrade under UV faster than the polycarbonate lens material itself.

How long will this process take?

On an average it will take about 15-20 minutes per headlight. Headlights that are larger or that are harder to sand will require more time and can take from 30-40 minutes per lens. Smaller lenses may only take about 10 minutes per lens. The first sanding step that removes the yellowing will normally be the most time consuming step.

Can a headlight lens be refinished more than once?

Yes, a lens can be refinished several times using the 3M Refinishing System. Most lenses are made of polycarbonate material that is 1/8" to a 1/4" thick. We are only removing a small fraction, less than 1/32" in most cases, from the overall lens thickness.

What plastic are the headlights made of?

Most lenses are made of polycarbonate material, some are polyacrylic. Both can be restored with this process. Do not use this system on glass or glass lenses.

Do I have to worry about the 500 grit abrasive being too aggressive during the first sanding

step? No, the plastic headlights are thick and much more forgiving than clear coat paint. As with any sanding procedure, keep the DA sander moving so excessive heat is not generated in one area on the surface of the lens. Excessive heat can result in smearing which will require more sanding and can be difficult to remove. It is important to sand with the first step until the entire degraded layer is completely removed.

Can customers use coarser grade abrasives like P320 or P400?

Yes, however they must step out the headlight in a normal abrasive sequence like: P320 > P500 > P800 > P1000.....etc. The customer must order the coarser grades separately from the kit. There are some headlight lenses that have a very hard surface layer that is tough to sand efficiently with 500 grit abrasive. It is more time efficient on these lenses to start with either 320 or 400 grit abrasives.

Do the headlights have a coating on them?

Yes, many of them have a thin UV coating or a thermal cap layer. It's important to remove the yellowed or oxidized UV coating or surface layer during the P500 sanding step. If this degraded layer is not removed, the overall results will be limited.

Why do the headlight lenses become hazed, yellowed, or pitted?

Hazing, yellowing, and pitting is the result of several factors including sunlight/UV exposure, impact with sand and road debris, climate/environmental conditions, as well as age, composition, and design of the headlight lens. The yellowing you see is either a degraded surface of polycarbonate or a degraded UV coating or thermal cap layer. In any case, it needs to be removed to restore clarity to the lens.

Will the 3M Headlight Restoration System work on all Headlight Lens defects?

No. Damage or defects on the backside of the lens or moisture inside the headlight assembly can not be repaired with the Headlight Restoration Kit. Yellowing and defects on the outside surface of the headlight lens can be refurbished. Do not use on glass headlights.

Can I use this system on glass?

No, do not use this system on glass. It's extremely difficult to get sand scratches out of glass.

Are 3M Perfect-It Rubbing Compound and 3M Perfect-It Machine Polish body shop safe/silicone-free?

Yes, these products and the entire Hookit (New as of 2/2010) Headlight kit is body shop safe and contains no silicones. The Hookit II (original) kit contains Plastic Polish which does contain silicone and should not be used in a paint booth environment.

Can I use this system to remove scratches from newer headlight lenses?

Yes, this system will remove scratches from newer lenses. However, in order to have consistent clarity across the lens, the entire surface will need to be sanded, removing the UV resistant coating. This does compromise the UV resistance of the headlight lens as a refinished lens will likely yellow sooner than the original lens. This information must be considered when removing scratches from an otherwise new condition lens.

How do I know when I am done with the first sanding step (P500 grit)?

This is the most important step, if the defects/yellowing are not completely removed in this step, it will show in the final appearance of the headlight lens. Before moving to the next sanding step (800 grit), the lens should have a white, evenly sanded surface that appears to look “frosted”. If any portion of the lens looks clear or glossy, continue sanding with the 500 grit before moving to the next sanding step (800 grit).

When should I change to a new abrasive disc?

When the abrasive disc is no longer removing material or making dust it is time to change to a new disc. Also, if the disc becomes loaded, clogged with residual, or ripped it is time to change to a new disc. Sanding with a disc that is no longer working will generate excessive heat on the headlight lens and can cause smearing on the surface of the lens that can be difficult to remove.

How much water is needed with the Trizact abrasive discs?

A mist of water from a spray bottle on the lens surface and on the abrasive disc should be sufficient. If the surface becomes dry while sanding, apply a mist of water to the lens surface and/or the abrasive disc.

Does extra sanding with the Trizact P3000 abrasive disc improve lens clarity?

Yes, extra sanding using both the Trizact P1000 and P3000 grit abrasive discs will further refine sand scratches. This reduces the depth of the sand scratches and makes the polishing step faster which in turn will improve the final clarity of the lens.

How much Rubbing Compound is needed on each lens?

Apply and add Rubbing Compound in dime-sized amounts as needed to the purple compounding pad until the lens clarity has reached the desired level. This will minimize the amount of sling which reduces waste and clean-up. The amount of Rubbing Compound needed to complete each lens will vary from one lens to the next.

How much Machine Polish is needed on each lens?

Apply and add Machine Polish in dime-sized amounts as needed to the black foam pad until the lens clarity has reached the desired level. This will minimize the amount of sling which reduces waste and clean-up. You will use less Machine Polish per lens compared to the amount of Rubbing Compound per lens.

What should I do if I see sand scratches remaining in the lens when I am finished with the Machine Polish step?

Return to the Trizact P3000 sanding step and repeat the process from there. It is necessary to return to the Trizact P3000 step to remove any sand scratches that were not removed the first time through the process.

What can I do to maintain the lens clarity over time?

Periodically repeat the Rubbing Compound and/or Machine Polish steps of the process to maintain lens clarity. The frequency needed for this will vary significantly depending on many factors including UV exposure level and the specific headlight lens.

Can I refinish taillights using this system?

Yes, this system will work very well for this application. Taillight lenses don't typically see the abuse of headlight lenses. You can start with the Trizact P3000 grit for most taillight lenses. If there are deeper scratches or heavy oxidation, you can start with coarser grades if needed.

What is the proper psi required to run the 3M Random Orbit Sander and 3M Buffer that comes with the kit?

Both tools are designed to operate at 90 psi at the tool.

What size air compressor is needed to supply air to these tools?

90 psi is needed at the tool. The specific size of the air compressor needed depends upon several factors. Generally, an air compressor that can deliver 22-24 CFM @ 90 psi is needed for continuous operation of these tools. This typically will be a compressor of 7.5 HP or larger. A smaller compressor will work but will likely have interrupted or limited/reduced supply of compressed air to the tool. Performance of the air compressor will vary with tank size, actual CFM output from the compressor, HP of the motor, number of tools being used at one time, and other conditions.

Can Nitrogen be used to operate these tools?

Yes, nitrogen can be used but it will need to be regulated down from very high pressure to 90 psi. Nitrogen is very dry, adding oil to the tools as recommended (3-5 drops per shift, at the end of the shift) is necessary when using Nitrogen.

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