

METHOD FOR REFURBISHING LAMP SURFACES

BACKGROUND ART

1. Field of the Invention

The invention relates generally to the refurbishing of lamp surfaces. More particularly, the invention relates to a method for removing surface wear and scratches in the lamp surface to return the lamp surface as near as possible to its original optical quality.

2. Description of the Related Art

When a motor vehicle is in an accident and a lamp is damaged, it is often times replaced. Lamps are very expensive parts to insure and replace. In many situations, the lamp is not broken; it is scratched severely enough to warrant the replacement thereof. The scratches affect the aesthetic quality of the lamp, as well as its performance. Scratches divert light from the direction in which the lamp is designed to emit light, reducing the performance of the lamp. In addition, some scratches in the lamp surface may misdirect enough light as to cause a distraction to those peripheral to the lamp.

U.S. patent application Ser. No. 10/804,435 published on Sep. 22, 2005 discloses a method for refurbishing a headlamp surface. This method includes multiple steps of grinding the headlamp surface in a constant movement and oscillating motion using a machine designed specifically this purpose. In addition, there is a constant supply of water that is poured over the headlamp surface as the headlamp surface is being refurbished. The water is used to remove debris from the headlamp surface and to cool the headlamp surface as it is being sanded. This method causes two problems. First, the water transmits the debris from the headlamp surface onto the vehicle creating an opportunity for the portion of the motor vehicle below the headlamp to be damaged by subsequently wiping down of the motor vehicle after the sanding is completed. Second, the water required to remove the debris and cool the headlamp surface spills onto the floor creating an adverse work environment. This method creates a messy environment that may increase the probability of workplace injuries due to a wet floor. Third, this method requires the use of a dedicated sanding device that cannot be used for any other purpose. And finally, this method of undesirable because it refurbishes the headlamp surface while the headlamp is still mounted to the motor vehicle. Grinding a headlamp surface while the headlamp is still mounted in the motor vehicle may cause damage to the motor vehicle. In particular, mistakes made by the operator of the method may accidentally grind the motor vehicle should the operator miscalculate forces being applied to the headlamp surface. Slipping while grinding is also a high probability given the amount of water on the floor directly below the headlamp assembly.

SUMMARY OF THE INVENTION

A method for refurbishing a surface of a lamp having surface damage includes the steps of removing the lamp from the motor vehicle. An original clear coat finish is removed from the surface of the lamp. The surface of the lamp is evened. Swirls and scratches are grinded out of the surface. The surface is then buffed and cleaned. A replacement clear coat material is sprayed over the surface of the lamp. The replacement clear coat material is then cured.

BRIEF DESCRIPTION OF THE DRAWINGS

Advantages of the invention will be readily appreciated as the same becomes better understood by reference to the following detailed description when considered in connection with the accompanying drawings, wherein:

FIG. 1 is a cross-sectional side view, partially cut away, of a damaged lamp surface;

FIG. 2 is a cross-sectional side view, partially cut away, of a refurbished lamp surface;

FIG. 3 is a cross-sectional side view, partially cut away, of a coated refurbished surface;

FIG. 4 is a logic chart of an overall process incorporating the inventive method;

FIG. 5 is a logic chart of the grinding process of the inventive method; and

FIG. 6 is a logic chart of the cleaning process of the inventive method.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIG. 1, a cross-sectional view, partially cut away, of a lamp surface **10** is shown to have an original clear coat surface **12**. For purposes of this discussion, the reference to "original" means the clear coat surface at the time that damage occurs. It should be appreciated by those skilled in the art that a lamp surface **10** may be refurbished more than once in which case clear coat surfaces intermediate in time may be referred to as the original clear coat surface **12** for purposes of this discussion. The lamp surface **10** includes damage **14**. The damage **14** is a scratch that extends through the original clear coat surface **12** and into the lamp surface **10**. The damage **14** may be any type of damage that does not extend through the entire depth of the lamp surface **10**.

Referring to FIG. 4, the inventive method designed to remove the damage **14** from the lamp surface **10** is generally indicated at **16**. The inventive method **16** is a method for refurbishing the lamp surface **10** of a lamp that has the surface damage **14**. The method begins at **18** with the removal of the lamp from the motor vehicle at **18**. Once removed, the housing and tabs thereof are checked for damage at **20**. The housing is checked for damage because the lamp is going to be placed into a jig for subsequent refurbishing. If the lamp housing is damaged, the jig may further damage the housing rendering refurbishing process unnecessary. Once it has been determined that the lamp housing is intact, the lamp surface **10** is cleaned at **22**. The original clear coat surface **12** of the lamp surface **10** is cleaned using a steaming process that steams the clear coat surface **12** using a solution with a primary ingredient of sodium laureth sulphate and a secondary ingredient of ammonium lauryl sulphate.

Once cleaned, the clear coat surface **12** and any exposed lamp surface **10** are dried of the solvent using high pressure air that is blown over the clear coat surface **12** and the lamp surface **10**.

The original clear coat surface **12** is then removed at **24**. Referring to FIG. 5, a more detailed view of the removal of the original clear coat surface **24** is generally shown at **26**. The removal of the original clear coat finish **12** starts with a step of grinding the clear coat finish with a course grit sandpaper at **28**. In the preferred embodiment, the range of grit for the step of grinding the original clear coat finish is in the range of 320 and 240 grit. If the damage **14** is severe, the courser grit sandpaper, e.g., 240 grit sandpaper, can be used. If the damage **14** is minimal, the lower grade of course