

Remanufactured **Aluminum Wheels and** Headlamps **Presentation by the Parts Committee** August 2004



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What does remanufacturing mean?

To what extent are remanufacturers repairing wheels?

Structural



Cosmetic





Types of Damage Observed on Aluminum Wheels:

- Cracks

- Flange fractures

- Dents

- Surface imperfections

- Missing pieces



Repair Methods Observed on Aluminum Wheels

- TIG Welding
- Brazing
- Epoxy
- Lathe
- Sanding, buffing and polishing
- Refinish only



Aluminum Wheel Repair:

 Are there published standards for the repair of aluminum wheels?

- If so, where can they be found?

- Have adequate performance testing requirements been established and if so, who validates the process additionally, is there any any testing being done?



Aluminum Wheel Repair Questions:

- How do remanufacturing companies account for differences in alloy content from wheel to repair rod?

- How, when and to what extent are critical areas such as tire bead flange locations performance tested to prove that they replicate the structural integrity requirements post repair?



Some Definitions:

Fusion – a union by or as if by melting: as a : a merging of diverse, distinct, or separate elements into a unified whole

Brazing - to solder with a nonferrous alloy having a lower melting point than the metals being joined

Adhesive - to glue or to cement

Remanufactured Headlamps

- What are the issues?
- Are they the equivalent of new OEM or Aftermarket lamps?
- Are they being "Measured" against the same standards?
- How do you as the repairer or insurer know?



What does remanufacturing mean?

Repairs currently being observed on composite headlamps

Structural

Cosmetic







Types of Damage Observed on Composite Headlamps:

- Cracks in housing
- Scratches on Class A surface (polycarbonate lens cover)
- Broken mounting areas
- Other surface imperfections
 Missing pieces on both housing and mounting tabs



Repair Methods Observed on Composite Headlamps

Adhesives
Plastic welding
Epoxy
Sanding, buffing and polishing



Remanufactured Composite Headlamp Assemblies:

- Do current repair methodologies take into account photometric and other requirements for FMVSS 108?

- Are there publicly available repair standards and if so, where can they be found?

- What post repair testing is completed to validate FMVSS 108 compliance?



Remanufactured Composite Headlamp Assemblies:

- When scratches are removed from the lamp forward facing surface, how much UV and scratch protection is removed and how does the removal impact premature clouding of the lens in the future?

- Are the mounting locations for headlamp adjusters tested to ride height after modification for repair?



FMVSS 108 Compliance Factors

(b) After the outdoor exposure test, the haze and loss of surface luster of plastic materials (other than those incorporating reflex reflectors) used for outer lenses shall not be greater than 30 percent haze as measured by ASTM D 1003-92, Haze and Luminous Transmittance of Transparent Plastic;



FMVSS 108 Compliance Factors

 (g) All outdoor exposure tests shall be 3 years in duration, whether the material is exposed or protected.
 Accelerated weathering procedures are not permitted.

Potential Next Steps

 Adoption/creation of a set of "Best Practices" regarding the use of remanufactured aluminum wheels and headlamps

 Recognition that an industry standard should be considered for wheel and lighting

remanufacturers

To ensure these products are of the highest degree of quality, structural integrity,safety including cosmetics



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Thank You For Your Participation!



God Bless Our Troops and God Bless America