Technical Disclosure Commons

Defensive Publications Series

September 2020

Single Piece Shade Shoe

Follow this and additional works at: https://www.tdcommons.org/dpubs_series

Recommended Citation

"Single Piece Shade Shoe", Technical Disclosure Commons, (September 01, 2020)
https://www.tdcommons.org/dpubs_series/3573

This work is licensed under a Creative Commons Attribution 4.0 License.
This Article is brought to you for free and open access by Technical Disclosure Commons. It has been accepted for inclusion in Defensive Publications Series by an authorized administrator of Technical Disclosure Commons.
1. Title of the Invention: Single Piece Shade Shoe

2. Background of the Invention: To improve the overall manufacturing process.

2-1. Identification and Explanation of the Prior Arts
Note:
- Please identify the closest prior art(s) to the invention.
- Please attach a copy of the identified prior art.

2-2. Explanation of Drawbacks of the Prior Arts and the Object of the Invention
Object of invention: The object of this invention is to reduce the overall assembly time and number of components.

3. Features of the Invention (Structures for Solving the Drawbacks of the Prior Arts)
Note:
This corresponds to “Claim” in the patent application.
“Claim” is the most important matter and defines scope of protection in the patent application.

The new shade shoe is a single piece design. The shoe is overmolded onto either a metal cable or resin belt to create a single piece. The overmolded portion also includes ribbing structures that prevent oil from pooling or becoming trapped if a metal cable is being used.

4. Effects (advantages) of the Invention

Including the sunshade drive shoe and shade bar attachment in the cable overmold reduces the overall number of individual components as well as the time needed to assemble. If a metal cable drive system is used an oiling process is required after the shoe overmolding. The ribbing structures on the new shade shoe allow for oil to drain out of the shoe.
Explanation of the Invention

5. Concrete Embodiments of the Invention

Note:
- Please **attach drawings** related to embodiments and explain embodiments using the drawings.
- Please write **clearly** the detailed structure of the invention and the operation thereof so as to **enable the skilled person of this art to embody (make) the invention**.
- Please write the **best embodiment** (best mode).
- Please write embodiments **as many as possible**.
- You do not have to explain the structure which is not related to the invention at all.
The previous design incorporated ribbing structures in both the fore/aft and cross-car directions. This created small pockets that could allow oil from the cable oiling process to pool and potentially tarnish the shade material during operation in vehicle. Cross-section of 3D part shows how the ribbing structures on this part create small pockets.

There is no longer a need for an additional cleaning/degreasing process after the cable oiling process. The lack of needing an additional cleaning process will reduce the overall manufacturing cost of the sunroof. The oiling process is performed by placing batches of drive cables into a container of oil. The new ribbing structure allows any excess oil to drain off the shade shoe portion of the drive cable after being removed from said container of oil.