



Date : 4/25/11

Federal Communications Commission  
Equipment Approval Services  
P.O. Box 358315  
Pittsburgh, PA 15251-5315  
USA

Dear Sirs,

We have completed the compliance testing for the Gatekeeper Systems W-9460 assembly. We are now making the final marking design for the plastic injection molding tooling which will apply the necessary labeling to the product. We will be permanently molding the FCC ID: W3Z-W9460 and IC ID: 6817C-W9460 to the outer surface of the product as shown on Figure 1 below.

This product is a security wheel which is placed on shopping carts. The wheel is exposed to many extreme environmental conditions. We are unable to affix an externally applied label to the product due to the extreme environmental exposure. The product is exposed to high pressure water spray, solvents, de-icing chemicals, mud, ice, and water. This exposure makes it impossible to guarantee that a label will stay affixed to the product. Therefore, we must mold any labeling required into the plastic surface.

The wheel is also exposed to extreme physical abuse. It must remain sealed and cannot fracture when exposed to high impact, high side load, freezing in ice, vibration, and thermal cycling. We must carefully control the warpage of the enclosure during injection molding such that it remains within a strict flatness tolerance. Likewise, we must carefully control the molding temperatures such that the raw material is not over heated which would make the final product too brittle to withstand the physical abuse.

The shape of the surface of the product has been engineered to provide maximum strength for the loads it will experience. The surface is corrugated as shown on Figure 1 below. There are only a few areas with enough flat surface to accommodate the following label:

*“(3) All other devices shall bear the following statement in a conspicuous location on the device:*

*This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.”*

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In order to fit the text onto an available and visible flat surface, we must make the font size very small, as shown in Figure 2. The small font size required will pose several technical issues for this product. First, this is an injection molded part made from Nylon PA66 with 15% Glass Fiber. It is not a pure resin part which can accommodate fine surface detail, such as ABS. The PA66 with 15% Glass Fiber does not have the same ability to flow into fine details in the molding tool like ABS. In order to try and get the PA66 with 15% Glass Fiber to flow into the fine details required for the label, we will have to greatly increase the molding temperature. This will cause the material to become too brittle and fail our side impact requirement, side loading requirement and other physical abuse tests. Likewise, the higher temperature will cause issues with maintaining the flatness specification for the part. This will result in a warpage which will cause water leakage and failure when exposed to the extreme environmental conditions.

Additionally, the small features required for the label will be broken apart by the injection molding of the abrasive PA66 with 15% Glass Fiber. The tooling will degrade quickly and the label will not be legible.

Therefore, we will comply with the following section:

*“(5) When the device is so small or for such use that it is not practicable to place the statement specified under paragraph (a) of this section on it, the information required by this paragraph shall be placed in a prominent location in the instruction manual or pamphlet supplied to the user or, alternatively, shall be placed on the container in which the device is marketed. However, the FCC identifier or the unique identifier, as appropriate, must be displayed on the device.”*

As shown in Figure 1, the FCC identifier will be prominently displayed on the product. We are able to mold the larger text size required and the surface area occupied by the text will not cause any structural degradation. We have been able to successfully mold text of this size, but not smaller. The Model number and FCC ID are therefore acceptable for the production method, whereas the full disclaimer text poses a problem.

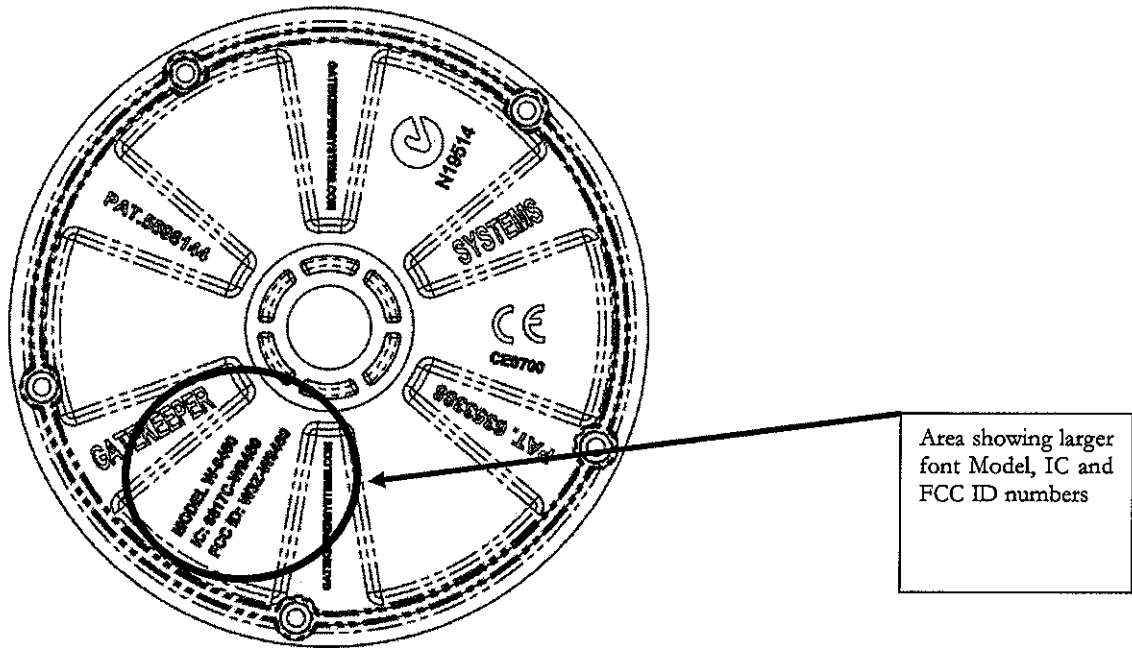


Figure 1. W-9460 with Model number, FCC ID and IC ID molded onto visible portion of wheel

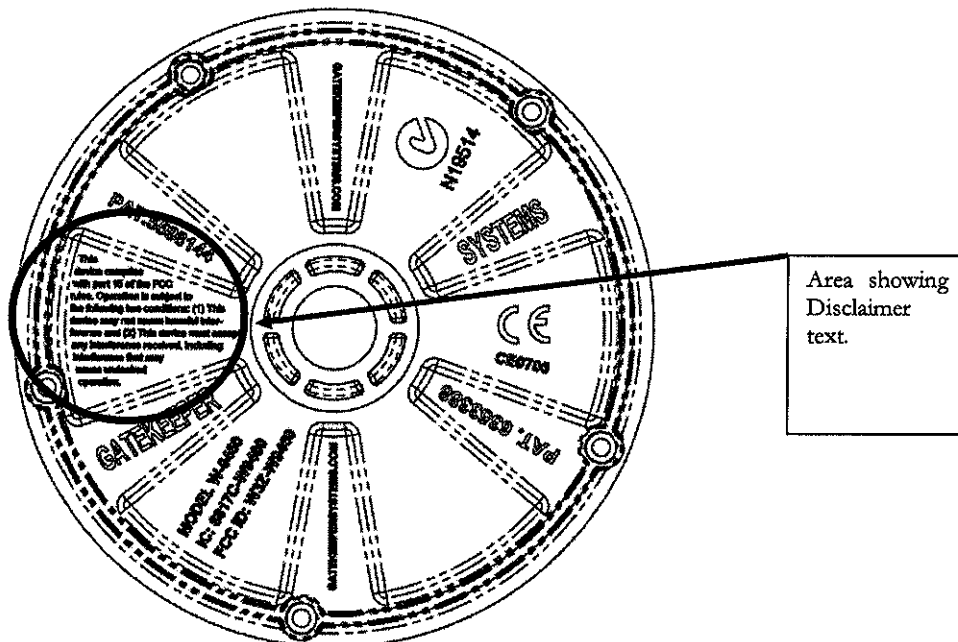
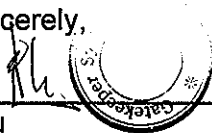


Figure 2. W-9460 with added disclaimer text. Text is too small to properly mold without affecting mechanical properties of the wheel.

April 26, 2011

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Fred Chiu', is written over a horizontal line. To the right of the signature is a circular stamp with a double-line border. The text 'Caterpillar' is visible within the stamp, oriented vertically.

Fred Chiu  
Manager – Global Sourcing