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SURFACE VEHICLE INFORMATION REPORT

SAE J1825

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Shelf Storage of Hydraulic Brake Components

1. ***Scope***—This SAE Information Report is the listing of recommendations for shelf storage for hydraulic brake components. Included in brake components are wheel cylinders, master cylinders, combination valves, and disc brake caliper assemblies. This document is not a specification. This document embodies the analyses and experiences of many users and manufacturers. Where specific manufacturers' recommendations are made, those recommendations shall supersede the recommendations of this document. This document lists the successful procedures and practices associated with brake components based on long experience of a wide cross section of manufacturers and users. The practices are expected to be applied to all brake components where SAE standards are applicable.

1.1 **Background**—Hydraulic brake components in storage are not filled with brake fluid and are subject to environmental conditions from which they are protected after vehicle installation and when filled with fluid. All polymeric materials such as rubber and plastic parts undergo degradation in physical properties when stored over an extended period of time in an incompatible environment. Metal parts are also subject to corrosion and physical damage due to adverse storage environment. Detrimental changes can be minimized by controlling this storage environment.

2. ***References***—There are no referenced publications specified herein.

3. ***Storage Conditions***

3.1 **Cleanliness**—It is imperative that the brake component assembly be kept clean. Even foreign materials that do not affect the brake component assembly can be detrimental to the brake system. The bores and sealing surfaces are particularly sensitive to foreign material contaminants.

3.2 **Ozone and Oxidation Protection**—Ozone is an especially active form of oxygen that causes rapid deterioration of rubber, plastic, and metal products. Ozone is present in the natural form, but it can be generated by such equipment as electric motors, high-intensity lamps, and voltage discharge apparatuses. The storage area should be remote from ozone-producing equipment.

3.3 **Temperature**—Care should be taken to avoid exposing brake components to storage temperatures above 40 °C (104 °F) because the higher temperature increases the aging deterioration of the rubber and plastic parts. Cold temperatures do not impart any performance change.

3.4 **Humidity**—Metal brake components should not be stored in high humidity areas since they are susceptible to corrosion. This corrosion can be internal, causing damage to the part. In some plastic parts, humidity will cause changes in physical properties.

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3.5 **Light—**Brake component parts should be protected from direct exposure to sunlight and high-intensity artificial light due to the damaging effects of ultraviolet rays.

3.6 **Cleaning Solutions—**Certain cleaning solutions contain materials that attack metal, plastic, and rubber parts. Care should be taken to avoid contact of brake components with these types of materials.

3.7 **Oils, Solvents, and Special Fluids—**Oils, solvents, and other fluids can cause the rubber and plastic to deteriorate. Polymeric parts should be protected against contact with solutions containing petroleum, petroleum distillates, or solvents and similar types of fluid.

3.8 **Salts—**The presence of salts can cause corrosion of metal components and degradation of rubber parts. The salts are available in household, fertilizer, or natural forms. Brake component assemblies should be protected from all forms of salt.

3.9 **Packaging—**Brake components that are intended for ocean shipment or for long-term shelf storage (for example, service parts) should be protectively packaged to prevent the previously mentioned environmental contamination.

4. Notes

4.1 **Marginal Indicia—**The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE HYDRAULIC BRAKE COMPONENTS STANDARDS COMMITTEE