the ISO has no rating equivalent to DOT 5 fluid and does not differentiate between DOT 3 and DOT 4 fluids. Even though the agency has decided not to allow use of the ISO symbol, a manufacturer may use the ISO symbol as a supplement to the required textual words.

4. Brake System Warning Indicators

In the SNPRMs (Notices 4 and 5), NHTSA proposed to require (S5.5.2) brake system malfunction indicators to be activated by either an automatic brake indicator check function or a manual check function. While FMVSS No. 105 currently requires brake indicator lamps to be activated automatically when the vehicle is started, in Europe the check function often requires manual action, such as pressing a button or applying the parking brake.

Advocates and CAS opposed the use of a manual check function to check brake system integrity in lieu of an automatic check function. Advocates argued that the existing requirement for all operating systems to be automatically monitored for the driver when turning the ignition key has been "one of the great advances in American automobile regulation" and disagrees that the need for safety will be met by this approach.

After reviewing the available information, NHTSA has decided to permit the manual check function in the final rule, as an alternative to the automatic check function. The agency believes that requiring an automatic check function is not necessary to ensure safety. Moreover, the agency has granted several petitions for inconsequential noncompliance from manufacturers that did not provide an automatic check function. These decisions to grant the petitions are consistent with the agency's current belief that allowing use of a manual brake warning indicator, which is consistent with international harmonization, will not have any corresponding detriment to safety.

BMW recommended that NHTSA modify S5.5.3 which specifies the duration during which an indicator is activated. BMW claimed that some ABS warning indicators can only be detected after a certain minimum wheel speed is achieved. Accordingly, it requested that the antilock failure indicator only be required to activate when a road speed of 10 km/h is achieved.

While NHTSA agrees with BMW that the wheel must be rotating to properly check a wheel sensor, the agency believes that it is important for the check function to be able to be performed while the vehicle is stationary. Given the current state of technology, NHTSA believes that the ABS malfunction warning system can be designed to remember if there had been an ABS sensor failure the last time the vehicle's speed was over the threshold, even after the ignition has been turned off. Accordingly, BMW's request is denied.

VW recommended decreasing the minimum lettering height for the brake warning indicator letters to 2 mm (5/64inch), claiming that the proposed 3.2 mm (1/8-inch) height is larger than necessary.

NHTSA has decided to retain the minimum letter height, based on its concern that some drivers, especially elderly drivers, would not be able to distinguish letters under 3.2 mm. The agency further notes that the 1/8'' dimension is the same as the dimension currently specified in FMVSS No 105.

Kelsey-Hayes commented that, if a separate indicator is used for ABS failure, rear-only ABS equipped vehicles should use a failure indicator specifying "Rear Anti-lock."

NHTSA believes that it would be inappropriate to require the words "Rear Anti-Lock" to distinguish a rear wheel ABS from a four wheel ABS. The indicator's purpose is to inform the operator that there is a malfunction with the vehicle's ABS. The driver should be aware, through the owner's manual and/ or information provided at the time of the vehicle's purchase, whether it is equipped with a four-wheel or rear-only ABS. However, even though the agency will not require this information, adding the word "rear" to the ABS failure warning is not prohibited under the standard.

Kelsey-Hayes stated that both red service brake failure warning indicators "Brake" and yellow "ABS" malfunction indicators should be activated simultaneously in the case of a service brake failure in cars equipped with separate lights.

NHTSA disagrees with Kelsey-Hayes' recommendation for simultaneous activation of both lights in case of a service brake failure, unless the service brake failure is one that also disables or impairs the operation of the ABS. The two lights signal different types of failures, with different consequences. There can be failures that affect both systems, in which case both indicators would activate. However, automatically activating the ABS indicator in case of any service brake failure would be misleading, and therefore inappropriate.

E. General Test Conditions

1. Ambient Temperature

In S6.1.1 of the 1991 SNPRM, NHTSA proposed that for all tests specified in S7, the ambient temperature be between 0°C (32°F) and 40°C (104°F).

Bendix commented that NHTSA should permit the low adhesion tests to be conducted at temperatures less than 32°F because the ambient temperature provision requires testers either to wet the test surface or artificially make ice.

NHTSA notes that the issue of low temperature testing is moot since Bendix's comment was made with respect to the ABS performance test in proposed S7.3, which the agency has decided not to adopt in today's final rule. Even if this test had been adopted, NHTSA notes that it would be unnecessary to use ice to represent a low PFC. The agency further notes that no other commenter suggested the need to use ice for any test.

2. Road Test Surface

In the 1991 SNPRM. NHTSA proposed that the primary stopping distance tests be performed on a test surface with a PFC of 0.9. This road test surface specification differed from FMVSS No. 105, the NPRM, and the 1987 SNPRM, all of which specified a skid number of 81 to define the road test surface. In response to comments to Notice 4, NHTSA decided to propose a PFC for the test surface. The agency noted that PFC is a more relevant surface adhesion measurement for the non-locked wheel tests required by FMVSS No. 135, since the maximum deceleration attained in a non-locked wheel stop is directly related to PFC, but not skid number.

Fiat, Toyota, and GRRF stated that ECE R13 specifies that the test surface should be "a road surface affording good adhesion." VW requested that the standard provide the option of specifying either a skid number or a PFC.

NHTSA, after reviewing its test data and other available information, continues to believe that a PFC of 0.9 is an appropriate, objective value for the test surface. ECE R13's specification that the road surface should afford "good adhesion" is unreasonably subjective and therefore inappropriate for an FMVSS. Such an imprecise test condition would lead to unreasonable variability, thereby causing test results that varied based on the road surface and not the vehicle's actual braking ability. Similarly, it would be inappropriate to allow the optional use of skid numbers, which would result in unnecessary variability, since the same