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## **Testing Class III L Vehicle Scales with AZSM**

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Several jurisdictions have asked (1) how to verify compliance with NIST Handbook 44, 2.20. Scales, paragraph S.2.1.3.1. during the routine examination of a vehicle scale and (2) how to ensure that the automatic zero-setting mechanism (AZSM) does not affect the accuracy of the scale test.

As of January 1, 2001, any new Class III L device installed with AZSM must have a sealable means for disabling the AZSM during testing of the device. Appropriately, most W&M officials are reluctant to break a seal and go into the program (calibration) mode of the indicator to check the programmable settings for AZSM. An inspector could check the owner's manual for the information, but the owner's manual is often not available at the time of inspection. As an alternative, the inspector can rely on the NTEP Certificate of Conformance without verifying compliance with S.2.1.3. in the field test. Most Class III/III L general-purpose indicators with NTEP Certificates have a sealable configuration parameter for selecting an AZSM range of 3 d, 1 d, 0.6 d, or 0.0 d. In some cases there is option of selecting "OFF" for the AZSM function. The selection of 0.0 d is the same as disabling the AZSM.

To ensure that the AZSM does not affect the results of the accuracy test, many jurisdictions have taken a different, but effective, approach to achieve this objective. After verifying that the indicator is at zero, the weights and measures official walks onto the scale platform carrying two 50-pound test weights, places the weights on the platform, and walks off. A load of 100 lb is beyond the AZSM range for a vehicle scale with a 10-lb or 20-lb division. The indication of 100 lb becomes a new reference point, rather than zero, for the increasing load, shift, and decreasing load tests. For a vehicle scale, it is reasonable to use the 100-lb reference point for the testing the return to zero. OWM agrees with the jurisdictions that are using this approach that this is the fastest, easiest, and least risky method for effectively disabling AZSM for test purposes.

This procedure is also valid for livestock and railway track scales; however, railway track scales usually need a load in excess of 300 lb to obtain an indication that is beyond the range of AZSM. Railway track scales are not as great a concern because someone qualified to access the configuration parameters and disable AZSM is typically on-site when a railway track scale is being evaluated.