



Alaska Department of Transportation & Public Facilities **Vehicle Scale Installation Rules**



Introduction

- The Division of Measurement Standards & Commercial Vehicle Enforcement (DMS/CVE) is responsible for the inspection and testing of all commercial weighing and measuring devices used in commerce. DMS approval gives businesses and consumers a certain level of confidence that trade is being conducted with equity for both the buyer and the seller.
- High capacity vehicle scales have specific requirements for design, installation and calibration in order to be approved for commercial use.
- Installing vehicle scales in Alaska introduces some unique challenges brought on by seasonal ground movement and the fact that many scales are needed off the road system.
- New rules and requirements are being implemented in 2015 in order to increase the confidence in scale accuracy and to cut inspection costs for scale owners.



Categories

- **Temporary Installations:** Scales installed for projects lasting less than 6 months; must meet all normal requirements but will not require hard surface approaches.
- **Permanent Installations:** Scales installed longer than 6 months in the same location are considered permanent; must meet all normal requirements plus hard surface material (concrete/asphalt) must be installed at both ends of the scale; 10ft long x width of scale; level and in the same plane as the scale deck.
- **Off-Road Installations:** Permanent or temporary scales installed in locations that are not accessible (or easily accessible) to the large test trucks used by scale service companies or state inspectors. Provisions are made to lower the cost of inspecting or servicing these installations.
- **On-Road Installations:** Those locations that are accessible to test trucks; this would include all roads accessible from Anchorage, Fairbanks or Juneau plus communities serviced by the Alaska Marine Highway System in Southeast Alaska when feasible.



Special Requirements for Off-Road Installations

- Off-Road vehicle scales present us with a unique challenge to successful scale installation and calibration in that, the national guideline for scale testing requires test weights equaling 12.5% of the scale capacity be the minimum for testing. The 15,000lbs. of test weight necessary for normal testing would be extremely costly to transport for off-road scales and in response, Alaska Statute has a provision which allows a reduction of this minimum requirement.
- Beginning May 1, 2015, it will be required that device owners using off-road vehicle scales furnish and maintain on-site, 4000lbs of NIST Class F cast iron test weights in denominations of 500lb and/or 1000lb. Test weights shall have a recognized calibration certificate on file which is dated no more than two years from date of “Notice to Proceed” for State contracts or two years from use for other commercial installations. Note: the required minimum for final-weigh asphalt hopper scales is 2000lbs.



Special Requirements for Off-Road Installations

- The new requirement meets two objectives.
- Primarily, the test weights will allow a higher degree of accuracy when service companies perform initial calibration and state inspectors perform accuracy tests; additionally, the contractor or project engineers will be able to spot-check the scales during use, to monitor scale performance.
- Secondly, device owners will save the considerable airfreight costs incurred when shipping test weights to and from the urban hubs during construction projects or when performing routine maintenance.
- DMS maintains **2000 pounds** of calibrated test weights for use in testing hopper scales. **(An additional 2000 pounds will be required provided by contractors for vehicle scale testing)** The following communities are considered off-road but will be exempt from this requirement when supplying an additional 2000 pounds of test weight for device certification testing.
- **Dutch Harbor- Dillingham- King Salmon- Bethel- Nome/Teller - Yakutat.** Coordinate with DMS for access to test weights.



Test Weights

- **1000lb test weight**
- 4 weights = 1 pallet
- 4 weights = 30x30x20"H
- NIST Class F cast iron
- Calibrate every two years
- Heavily rusted or damaged weights may delay scale test
- Contact DMS for instructions on care and calibration





Test Weights

- **500lb weight**
- 8 weights = 2 pallets
- 8 weights = 50x25x17"H
- NIST Class F cast iron
- Calibrate every two years
- Heavily rusted or damaged weights may delay scale test
- Contact DMS for instructions on care and calibration





Test Weights

- Grab Chains
- Recommend these be built to OSHA specs.





Test Weights

- It is recommended to purchase quality American-made test weights that will meet the requirements of NIST HB-105-1. When purchasing weights you will have the option of adding a calibration certificate from the manufacturer. We will accept this certificate if it is generated by a recognized metrology lab. Contact DMS for advice.
- Possible manufacturers include but are not limited to:
 - Troemner Precision Weights
 - Fairbanks Scale Company
 - Rice Lake Weighing Systems
 - Mettler-Toledo Scale Company
- A list of all known scale service companies working in the state is available by contacting DMS. These service companies are a possible resource to purchase, service and submit your weights for calibration.



General Installation Requirements

- Scale systems brought into the state must have an NTEP Certificate of Conformance. **Do not** bring non-NTEP approved scale equipment into the state without contacting DMS for prior approval.
- Scales must be installed to manufacturers instructions and meet the requirements of NIST HB44. Common sense requirements include placing scales on a level, heavily compacted surface which provides good drainage away from the deck and has long ramps for truck access. Use of concrete footings is always the preferred method of setting scales but DMS will allow heavy wood beams for portable scales.
- Scale system should be complete including scale house, computers and printers prior to inspection.
- Lightning strikes take out at least one scale each year. Take provisions to ground for lightning.



Reference and Contact Information

Division of Measurement Standards & Commercial Vehicle Enforcement

907-365-1210 ; request the Scale Section

<http://dot.alaska.gov/mscve/index.cfm?go=mscve.wm>

National Institute of Standards & Technology HB- 44

<http://www.nist.gov/pml/wmd/pubs/hb44-14.cfm>