

NAVSEA  
STANDARD ITEM

FY-11

ITEM NO: 009-14  
DATE: 24 JUL 2009  
CATEGORY: II

1. SCOPE:

1.1 Title: Gages and Thermometers; repair and certify calibration

2. REFERENCES:

2.1 NAVSEA OD 45845, Metrology Requirements List

2.2 ISO 17025, General Requirements for the Competence of Testing and Calibration Laboratories, First Edition

2.3 ANSI/NCSL Z540-3, Requirements for the Calibration of Measuring and Test Equipment

2.4 NAVSEA 04-04734, Naval and Marine Corps Calibration Laboratory Audit/Certification Manual

2.5 NAVAIR 17-35TR-8, Technical Requirements for Calibration Labels and Tags

2.6 Calibration Requirements List (CRL) for Shipboard Installed Instrumentation

3. REQUIREMENTS:

3.1 Prior to the installation of gages and thermometers, ensure they are in calibration and have greater than two-thirds of their calibration life remains.

3.1.1 If new gages or thermometers require calibration, proceed to 3.7.

3.2 Disconnect and remove each gage and thermometer.

3.2.1 Remove sealed gages as a complete unit.

3.3 Clear gage lines from instrument side of root connection of obstructions by blowing clean, dry air through the lines.

3.4 Disassemble and clean equipment to remove loose paint and foreign matter.

3.4.1 Do not disassemble sealed gage unit.

3.5 Repair the gages and thermometers to manufacturer's specifications.

3.5.1 Remove existing and install new components in place of those found to be missing or defective.

3.5.2 Free-up and adjust moving parts.

3.5.3 Restore unit cases to original finish.

3.6 Assemble equipment.

3.7 Calibrate and adjust each gage and thermometer, including associated accessories, to the manufacturer's specifications, using appropriate calibration procedures and test equipment in accordance with 2.1.

3.7.1 Calibration laboratories shall be accredited to either 2.2 or 2.3 by a Commercial Accreditation Activity, or certified by a Navy Certification Activity to 2.4 and the scope of accreditation must cover the appropriate measurement parameters and ranges of the calibrations performed.

3.7.2 In the absence of manufacturer's specifications, tolerances shall be in accordance with Section 1 of 2.1.

3.7.3 Affix a calibration label to the face of each meter, denoting the name and location of the calibration facility, the NAVSEA Lab Code if assigned, the date of calibration, and date of next calibration. Department of the Navy standards, calibration activities, and TAMS custodians shall use calibration labels and tags in accordance with 2.5.

3.7.4 The calibration interval assigned for shipboard installed instrumentation shall be in accordance with 2.6. All other instrumentation shall have a calibration interval assigned in accordance with 2.1.

3.8 Install and connect each unit. Install new seals, gaskets, and fasteners.

3.8.1 Fasteners shall conform to ASTM A 449, Type I, zinc coated for bolts; ASTM A 563, zinc coated for nuts; or selected and identified in accordance with SAEJ 2280.

3.8.1.1 Fasteners requiring a permeability factor of 2.0 or less shall conform to Grade 304 CRES.

3.9 Ensure correct indication of each gage and thermometer during operational test of equipment.

3.10 Submit one legible copy, in electronic media, of the calibration data to the SUPERVISOR within 5 working days of the calibration.

3.10.1 Provide the following data for each gage or thermometer calibrated:

Manufacturer of gage or thermometer  
Model  
Serial Number, if assigned  
Tolerance  
As found condition  
Procedure used  
Final calibration results  
Calibration interval  
Calibration due date  
Location of installed gage or thermometer

4. NOTES:

4.1 The SUPERVISOR will supply the contractor with a copy of the CRL provided by the Ship's Chief Engineer.

4.2 The SUPERVISOR will provide a copy of the calibration data to the Ship's Force Calibration Coordinator for the purpose of updating the ship's RECALL list.

4.3 Contact NAVSEA 04RM3 for information on commercial accreditation in accordance with 2.2 and 2.3 by NAVSEA approved commercial Accrediting Bodies (AB).

4.4 Contact one of the following Navy Certification Activities for certification requirements in accordance with 2.4:

Mid-Atlantic Regional Maintenance Center  
Laboratory Certification Branch (Code 222)  
Phone: (757) 443-3872 Ext 2553  
FAX: (757) 443-3666

Southwest Regional Maintenance Center  
Laboratory Certification Branch (Code 222)  
Phone: (619) 556-2662 or (619) 726-5838  
FAX: (619) 556-1359

4.5 This item does not apply to Oxygen gages.