

# Preliminary - For Review Only

NAVSEA  
STANDARD ITEM

FY-06

ITEM NO: 009-14  
DATE: 30 AUG 2002  
CATEGORY: II

1. SCOPE:

1.1 Title: Gages and Thermometers; repair and calibrate

2. REFERENCES:

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

2.2 ANSI/NCSL Z540-1, General Requirements for Calibration Laboratories and Measuring and Test Equipment

2.3 OD 45845, Metrology Requirements List

3. REQUIREMENTS:

3.1 Disconnect and remove each gage and thermometer.

3.1.1 Remove sealed gages as a complete unit.

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

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

3.3.1 Do not disassemble sealed gage unit.

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

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

3.4.2 Free-up and adjust moving parts.

3.4.3 Restore unit cases to original finish.

3.5 Reassemble equipment.

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3.6 Calibrate and adjust each gage and thermometer to the manufacturer's specifications, using appropriate calibration procedures and test equipment.

3.6.1 Calibration laboratories shall be accredited to either 2.1 or 2.2 by a commercial Navy Accreditation Activity or certified by a Navy Certification Activity to 2.2 for the specific measurement area required.

3.6.2 In the absence of manufacturer's specifications, tolerances shall be in accordance with 2.3.

3.6.3 Affix a calibration label denoting the name and location of the calibration facility, the date of calibration, and due date of next calibration in accordance with 2.3 and the following, to the face of each unit.

3.6.3.1 The calibration interval shall be as designated on the Calibration Requirements List (CRL).

3.7 Reinstall and reconnect each unit. Install new seals, gaskets, and fasteners.

3.7.1 Fasteners shall conform to ASTM A449, Type I, zinc coated for bolts; ASTM A563, zinc coated for nuts; or selected and identified in accordance with SAEJ 2280.

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

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

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

3.9.1 For each gage or thermometer calibrated, provide the following data:

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

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### 4. NOTES:

4.1 The SUPERVISOR will provide a copy of the CRL (also known as the Measure Format 310 Document) from the 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 one of the following commercial accreditation organizations for visit arrangements (to ISO 17025 or ANSI/NCSL Z540-1) and payment requirements.

The American Association of Laboratory Accreditors  
The National Voluntary Laboratory Accreditation Program

4.4 Contact one of the following Navy Certification Activities for visit arrangements (to ANSI/NCSL Z540-1) and payment requirements:

FTSCLANT  
POC Jim Waller  
(757) 485-6242  
FAX (757) 485-6279

FTSCPAC  
POC Ken Wampler  
(619) 556-2661  
FAX (619) 556-6706

4.5 This item does not apply to oxygen gages.