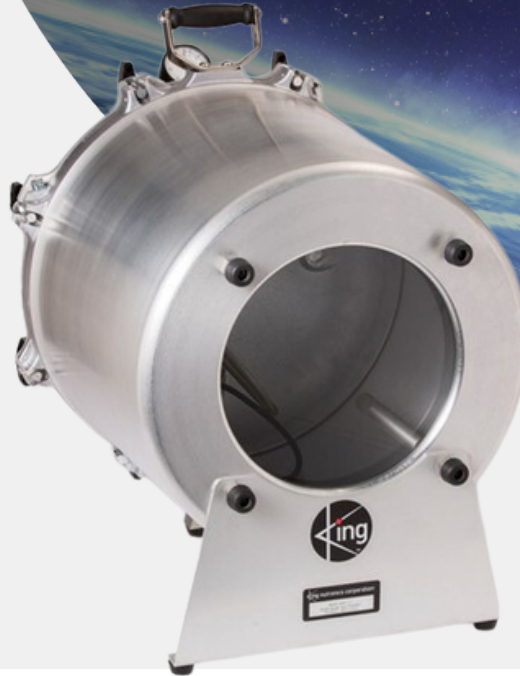


The Model 3681 Depth Gauge Test Chamber is used to simulate the operating conditions necessary for accurate testing of depth gauges used in various military and commercial applications. Constructed of heavy-gauge aluminum, this hermetically sealed chamber incorporates a mounting fixture compatible with Type 1156 depth gauges in compliance with MIL-G-18067C specifications.

A large acrylic window in the test chamber end permits convenient observation of the unit under test, and an electrical feed-through enables electrical connections inside the chamber. The chamber also incorporates a pneumatic feed-through that can be used for supplying pressure to the unit under test.

Safety features include an interlock that prevents the door from being opened when the chamber is pressurized and a relief valve that automatically vents excess pressure.

Depth Gauge Test Chamber



Model 3681 Depth Gauge Test Chamber

- **Pressure Rating:**
 - Operating Pressure Range 50-micron vacuum to 15 PSIG (30 PSIA)
 - Pressure Relief Setting 20 PSIG, ± 1 PSIG
- **Door Design:**
 - O-ring seal with safety interlocks
- **Test Chamber Fixturing:**
 - Depth gauge mounting fixture accepts Type 1156 depth gauges in compliance with MIL-G-18067C
- **Test Chamber Safety Relief Valve:**
 - Chamber pressure relief valve is factory set to a cracking pressure of 20 PSIG, ± 1 PSIG. Do not exceed 35L/min flow rate into test chamber
- **Pressure/Vacuum Input Connections:**
 - Input to Chamber - Quick disconnect, industrial type, male.
 - Input to Test Item Supply Hose - JIC 37°, 1/4". male. Hose connection: SAE flareless swivel
- **Electrical Feed-Through:**
 - 2-wire, 18 gauge. US 3-prong plug x MS3106-12S-3S circular connector.
- **Chamber Dimensions and Weight:**
 - L20" x H22" x D16", weight 50 lbs., 10" viewing window

Model 3681 Depth Gauge Test Chamber Operation

Use of this equipment is described in NAVAIR Instrument Calibration Procedure 17-20MP-45. Most current version is available through GIDEP, (Government-Industry Data Exchange Program). Access to this database is through www.gidep.org.

Warning: Do not use a pressure source with a flow rate greater than 35L/min. Do not pressurize chamber above 15 PSIG.

1. Position chamber vertically and remove door, Fig 1, Item 1.
2. Secure depth gauge between mounting pins and tie down rods, Fig 1, Item 2, with dial facing toward window.
3. Connect test hose Fig 1, Item 3, to depth gauge.
4. Make electrical connection to the depth gauge, as required, using the circular connector Fig 1, Item 4.
5. Install chamber door, noting orientation of lid alignment arrow, Fig 1, Item 6. Ensure that lid sealing o-ring Fig 1, Item 5 is installed and lightly lubricated with vacuum grease.
6. Tighten the door clamping knobs securely, Fig 1, Item 7. Tighten knobs two at a time and opposite from one another to ensure lid is evenly tightened.
7. Tip chamber to its horizontal operating position.
8. Follow the NAVAIR Instrument Calibration Procedure No. 17-20MP-45 for further connections and procedures for calibrating depth gauges.

NOTE: Orientation of lid is important and should only be installed with the Pressure/Vacuum Gauge at the top, opposite cover handle, using the alignment arrow, Fig 1, Item 6.



Fig 1. Test Chamber Connections and Features

- | | |
|--|---|
| 1. Chamber in vertical position w/door removed | 7. Clamping knob |
| 2. Mounting pin and tie down rod | 8. Chamber pressure/ vacuum gauge |
| 3. Test hose | 9. Electric cord |
| 4. Circular Connector | 10. Depth gauge pressure input connection |
| 5. Lid sealing o-ring | 11. Chamber pressure/ vacuum input quick disconnect |
| 6. Lid alignment indicator | 12. Pressure relief valve |

Maintenance and Replacement Parts

	Fig & Index No.	Part No.	Description	Units Per Assembly
Remove and test pressure relief valve every 12 months.	2-1	3681-1-1	Test Chamber Assembly	1
Pressure relief valve should be set to 20 PSIG \pm 1 PSIG. If the chamber does not hold vacuum or pressure check for leaks at door seal, door fittings and window seal.	-2	3681-1-17	Rubber foot w/screw	4
	-3	3460-150-15	Pressure relief valve	1
	-4	3681-1-9	Power cord w/o circular connector	1
	-5	3737-41-21	Adapter fitting	1
	-6	3681-19-1	Pressure feed through adapter	1
	-7	3681-10-1	Pressure manifold w/quick disconnect	1
	-8	3681-1-37	Compound pressure gauge	1
Replace seals and tighten fittings as needed.	-9	3681-1-39	Lid seal, not shown	1
	-10	3681-1-15	Rubber foot, w/screw	4
	-11	3681-5-1	Acrylic window w/gasket	1
	-12	3681-1-29	Test pressure supply hose	1
	-13	3681-7-1	Tie down rod	4



Fig 2. Depth Gauge Test Chamber Illustrated Parts List