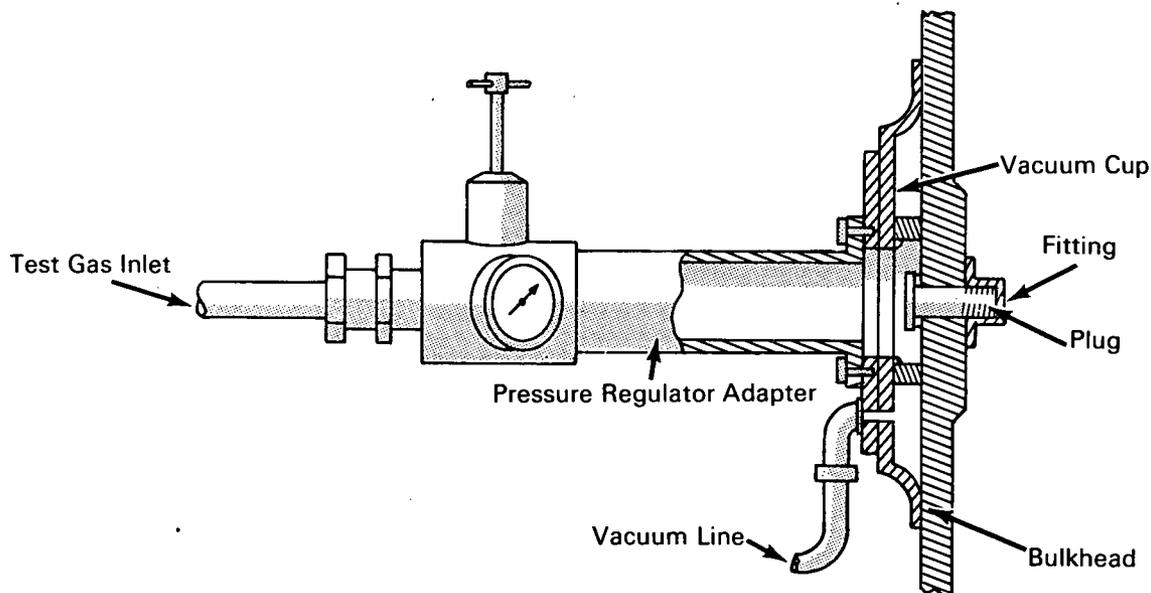


NASA TECH BRIEF



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Portable Fixture Facilitates Pressure Testing of Instrumentation Fittings



The problem:

To devise a portable fixture that will facilitate pressure testing to detect possible leaks in instrumentation fittings mounted in the bulkhead of a large tank.

The solution:

A fixture incorporating a vacuum cup which seals a pressure regulator adapter around one side of the fitting to be pressure tested.

How it's done:

The vacuum cup of the fixture is held against the tank bulkhead at the position of the plugged fitting, and a vacuum is drawn. Test gas is slowly introduced through the pressure regulator adapter until the pressure reaches 15 psig. Leakage is detected with a gas sniffer at the opposite side of the bulkhead or by the bubbling of a leak-check fluid previously applied at the junction of the fitting with that side of the bulkhead.

Notes:

1. Use of this device eliminates the need to have a completely closed vessel to test for leaks.
2. This device would have application wherever the possibility of leaks in a flat surface is present.
3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
Marshall Space Flight Center
Huntsville, Alabama 35812
Reference: B67-10121

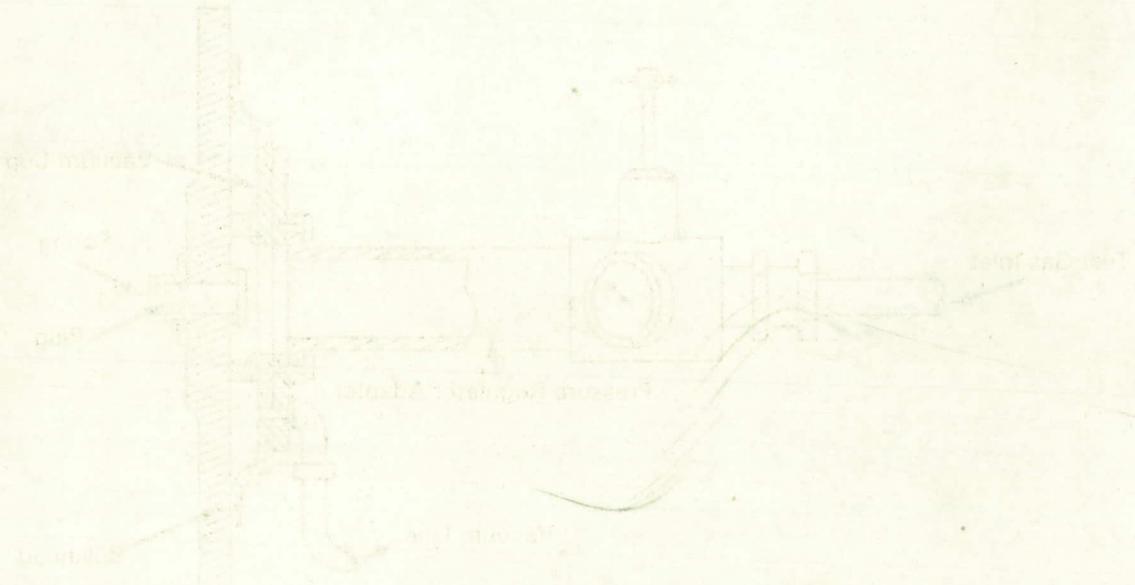
Patent status:

No patent action is contemplated by NASA.

Source: George A. Olson
of The Boeing Company
under contract to
Marshall Space Flight Center
(M-FS-2032)
Category 03

MASA TECH BRIEF

Portable Pressure Tester: Pressure Testing of Instrumentation Fittings



Notes:
1. The device is designed to test instrumentation fittings under pressure. It is portable and easy to use.
2. The pressure gauge is used to measure the pressure applied to the fittings.
3. The venting cap and plug are used to seal the device during testing.
4. The test gas inlet is used to supply the gas to the fittings.
5. The mounting base provides a stable platform for the device.
6. The flexible hose allows for easy connection to the fittings.
7. The device is made of stainless steel for durability.
8. The pressure gauge is a standard 0-100 psi gauge.
9. The venting tube is made of copper for good thermal conductivity.
10. The plug is made of brass for a tight seal.

The problem of testing instrumentation fittings under pressure is a common one. Many of the fittings used in instrumentation are made of materials that are difficult to test. The portable pressure tester described here provides a simple and effective means of testing these fittings. The device is easy to use and can be used in a wide variety of situations. It is a valuable addition to any instrumentation laboratory.