BACHARACH®
The Measurable Difference

DRAFT GAUGE

Instruction 0013-9009
Rev. 5 - May 2010

WARRANTY

Bacharach, Inc. warrants to Buyer that at the time of delivery this Product will be free from defects in material and manufacture and will conform substantially to Bacharach Inc.'s applicable specifications. Bacharach's liability and Buyer's remedy under this warranty are limited to the repair or replacement, at Bacharach's option, of this Product or parts thereof returned to Seller at the factory of manufacture and shown to Bacharach Inc.'s reasonable satisfaction to have been defective; provided that written notice of the defect shall have been given by Buyer to Bacharach Inc. within one (1) year after the date of delivery of this Product by Bacharach, Inc. For full details concerning this warranty, contact Bacharach Inc.

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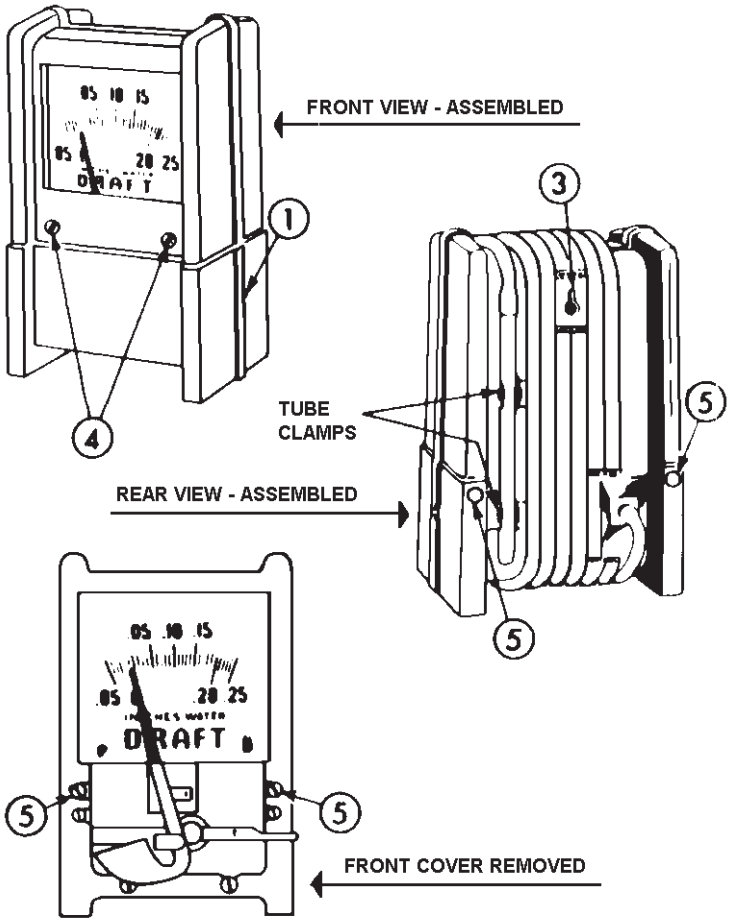


Figure 1. Draft Gauge

Mounting the Instrument

For portable use stand the gauge on a reasonably level surface convenient to the location for checking draft. Gauge may also be hung in an upright position using Ë(Slotted Recess) to receive a nail or screw head. For permanent installation remove Ì (Screws) and front cover, fasten to panel with two number 8 screws thru Í(Mounting Holes), replace front cover and Ì (Screws). Never locate gauge where temperature exceeds 110° F.

Connections

For portable use connect the gauge to a furnace with the 9 foot length of rubber tubing and metal draft tube provided. For permanent installation, make connection from panel to draft measuring point with copper tubing or pipe, solid tubing (no fittings) is preferred. At the end of the tubing provide a small tee with a short piece of rubber tubing as shown in Figure 3. Connecting lines over 50 feet in length is not recommended. Use as few bends as possible, and keep the connecting line to a minimum length. The following tubing sizes are recommended:

Up to 10 foot length	1/4 inch ID tubing
Up to 25 foot length	3/8 inch ID tubing
Up to 50 foot length	1/2 inch ID tubing

Zero Adjusting

When checking for zero, hold the draft tube near gauge or if permanently connected, break connecting line at panel. Zero is adjusted by moving É(Adjusting Tab) until the pointer is in line with the scales zero. For portable use, check zero each time the gauge is set up for use. For permanent installations (always disconnect the hose from the gauge before making the zero check) check zero at one or two week intervals.

Parts List for the Draft Gauge

0013-0014	Scale +.05 <0> –.25" H_2O
0013-0015	Scale +.05 <0> –1.0" H_2O
0013-0016	Scale +1 <0> –25mm H_2O
0013-0017	Scale +1 <0> –5mm H_2O
0013-0159	Scale +1 <0> –15mm H_2O
0013-0056	Leaf Spring Assembly for +.05" <0> –.25" or +1 <0> –5mm H_2O Range
0013-0057	Leaf Spring Assembly for +.05" <0> –1.0" or +1 <0> –25mm H_2O Range
0013-0058	Leaf Spring Assembly for +1" <0> –15" H_2O Range
0013-0006	Window
0013-0024	Screw
0013-0025	Screw
0013-0029	Pointer Assy
0013-0033	Calibrating Arm
0013-0034	Slide Stud
0013-0036	Washer
0013-0046	Draft Tube
0013-0047	Tubing
0013-0049	Cradle & Zero Adjuster
0013-0050	Diaphragm Cover
0013-0055	Diaphragm Assy
0013-0060	Back Cover
0013-0128	Front Cover
0013-0134	Front Cover Assy
0001-0627	Screws
0001-1636	Screws
0001-1974	Screws
0001-2486	Screw
0001-5107	Screw
0001-5110	Screw
0002-2160	Screws
0002-2986	Lock Nuts
0002-2990	Hex Nut
0002-3735	Speed Nuts
0002-4708	Washer
0005-4703	Pointer Stops

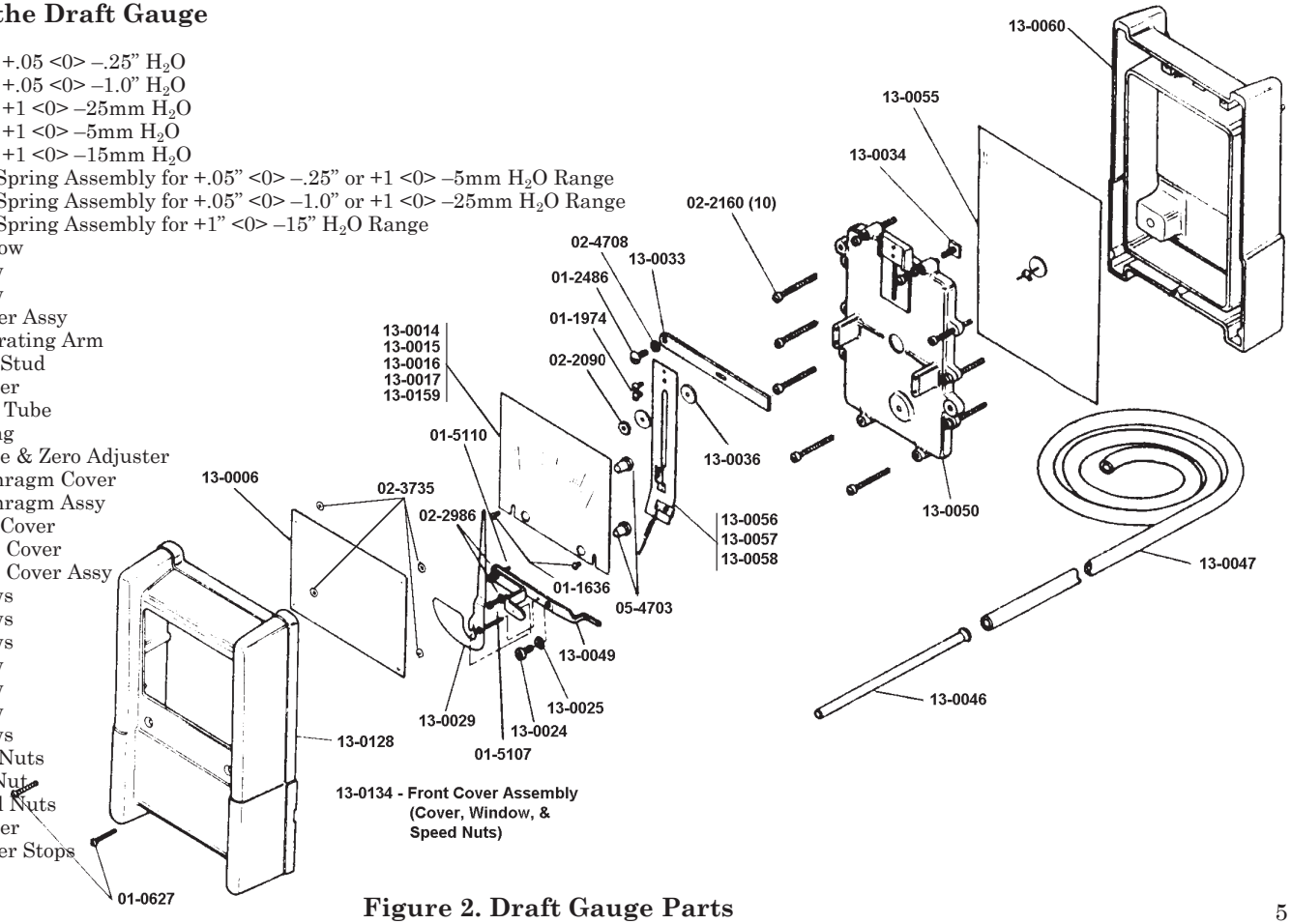


Figure 2. Draft Gauge Parts

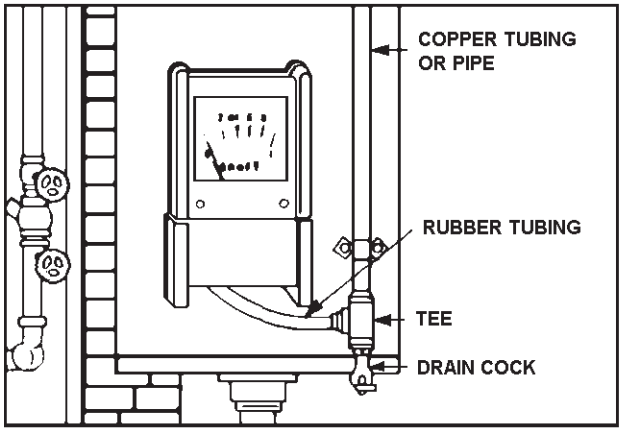
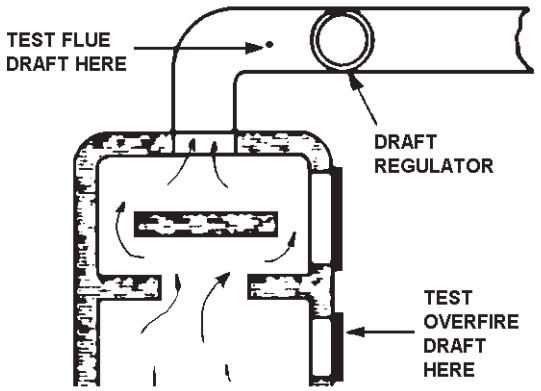


Figure 3. Mounting Draft Gauge

Locations for Checking Draft

Furnace manufacturer may require measurement of draft (a) in flue between regulator and furnace or (b) overfire between combustion space and heat exchanger (Figure 4). Locate sampling hole in flue 6" or more from draft regulator or damper toward furnace. Use awl with ¼ shank for forming draft hole in light sheet metal. Make overfire measurement through blot hole in door or through air louvers. If necessary, drill ¼ hole. In case of over sized hole or masonry setting, draft tube (replace with 1/8' pipe if necessary) should be inserted several inches beyond inside surface of flue pipe or furnace wall. For detailed instructions on check locations, see manufacturer's service or installation manual.

Figure 4. Draft Gauge Locations



Measuring Draft

Allow furnace to operate for several minutes, unwrap hose, place gauge on reasonably level surface, check zero, insert metal draft tube through draft hole. After about 30 seconds read draft from gauge scale.

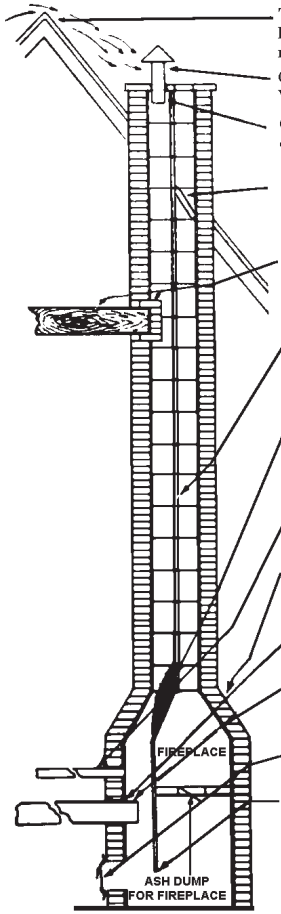
Correct Draft

Recommendations for draft required for good performance must be obtained from the heating equipment manufacturer's installation or service manual. Some common causes of poor draft are shown in "Common Chimney Troubles".

Maintenance

Do not oil this gauge. Protect the gauge from shock, vibration and exposure to excessively high temperatures.

COMMON CHIMNEY TROUBLES



TROUBLE	REMEDY
Top of Chimney lower than surrounding objects.	Extend chimney above all objects within 30 feet.
Chimney Cap or Ventilator.	Remove.
Coping restricts opening.	Make opening as large as inside of chimney.
Piece of broken Tile wedged in Chimney.	Break tile with a rod or weight on a string or wire.
Joist protruding into Chimney.	Change support for joist so that Chimney will be clear.
Leakage between loose jointed tiles.	Rebuild Chimney with a course of brick between flue tiles.
Debris accumulating in offset.	Break out with rod or weight, it may be necessary to open Chimney.
Heater or ventilator connection.	Remove.
Offset.	Change to straight or to long offset.
Loosly fitted Smoke Pipe.	Close leaks with cement.
Smoke Pipe extends into Chimney.	Make end flush with inside of Chimney.
Loosely fitted cleanout door.	Close leaks with cement.
Opening between flues.	Close openings permanently.
Chimney too small.	Rebuild.
Chimney too large.	Rebuild.
Chimney too short.	Extend.