



**H-1990, H-1990.4F
& H-1995
Instruction Manual**

TAG OPEN-CUP FLASH TESTER

Manufactured by:

Humboldt Mfg. Co.

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1. Introduction

For determination of flash points of liquids having a flash point up to 230°F (110°C) and cutback asphalts with flash points of less than 200°F (93°C). Includes Pyrex cup, base and liquid bath with overflow, pivoting ignition taper with pilot light and reference bead and thermometer holder. Choose electric, gas or alcohol burner; specify gas type. Order H-2610.9C thermometer, leveling device and draft shield separately. Meets ASTM D1310, D3143, AASHTO T79.

2. Unpacking Instructions

This unit is packed in two parts inside a single corrugated carton. Remove the base section from the carton and unpack the micro-foam around the base. Place the base on a firm level table and unpack the mechanical components wrapped in tissue paper. Clean all parts after unpacking and before assembly.

3. Assembly Instructions

- 3.1 Assemble the bath assembly to the burner as shown in assembly drawing.
- 3.2 Assemble the top and bottom burner assembly items to the burner bracket and connect to external gas source.
- 3.3 Assemble the thermometer holder per the drawing and install the test thermometer.

4. Operating Instructions

- 4.1 Fill bath with solutions as per method. Fill glass cup with sample level-to-level 1/8" edge of cup. Place cup with sample in bath. Excess bath liquid will run out of overflow.
- 4.2 Place the thermometer so that it is halfway between the center and edge of the cup, with the bottom of the bulb 1/4" from the inside bottom of the cup.
- 4.3 Light the flame taper and adjust the flame to 5/32" diameter, using the bead as a guide. Pass the flame taper over the top of the cup so that the flame is in a plane 1/8" over the top rim of the cup and across the center of the cup, using the swivel device provided.
- 4.4 Heat the bath liquid with gas or alcohol burner or electric heater, adjusting the heat so that the sample temperature increases at a rate of 2 plus or minus 0.5°F per minute. Pass the flame taper over the top of the sample at intervals 2°F until flash occurs. The pass should be in one direction only and should take about one second to pass over sample. The flash occurs when vapor on the surface of the sample ignites but does not continue to burn.

Repeat above three times, using a fresh sample each time and being sure that the fresh sample is at least 20°F below flash point, before starting.

CAUTION: Do not heat above 325°F. A pilot light is provided to reignite the flame taper, should it extinguished during the test. The above is only a brief introduction to the test method. Please refer to ASTM D1310 for complete details of procedure.

5. Safety and Hazard Warning

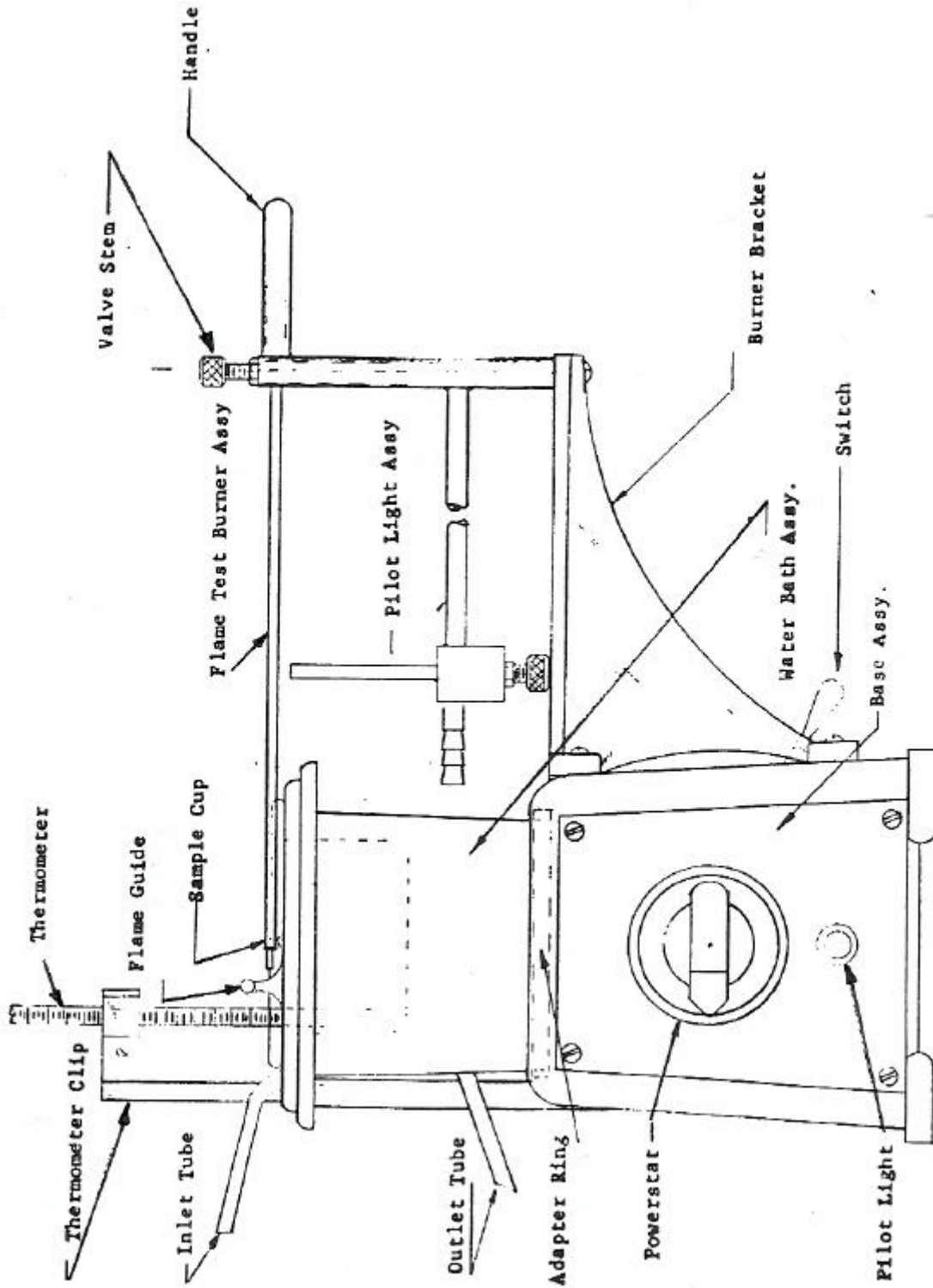
This equipment may involve hazardous material and operations. This manual does not purport to address all of the safety problems associated with the use of the equipment. It is the responsibility of whoever uses this equipment to consult and establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.

6. Warranty

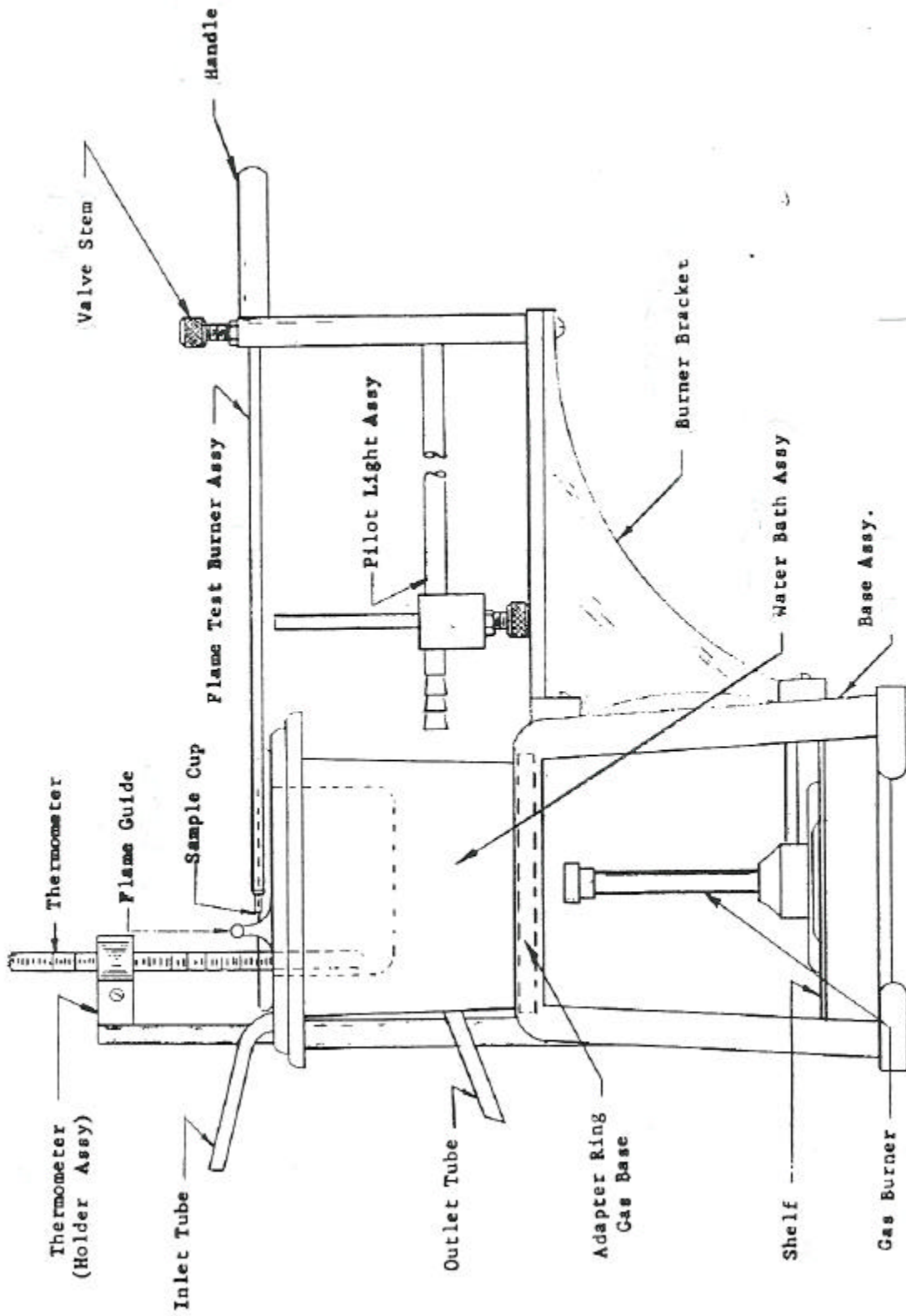
Humboldt Mfg. Co. warrants its products to be free from defects in material or workmanship. The exclusive remedy for this warranty is Humboldt Mfg. Co., factory replacement of any part or parts of such product, for the warranty of this product please refer to Humboldt Mfg. Co. catalog on Terms and Conditions of Sale. The purchaser is responsible for the transportation charges. Humboldt Mfg. Co. shall not be responsible under this warranty if the goods have been improperly maintained, installed, operated or the goods have been altered or modified so as to adversely affect the operation, use performance or durability or so as to change their intended use. The Humboldt Mfg. Co. liability under the warranty contained in this clause is limited to the repair or replacement of defective goods and making good, defective workmanship.

CAUTION: Keep hands, clothing and other objects away from moving parts when the machine is in operation.

7. Drawings



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