



## METHANOL HYDROMETER KIT #3072

### Kit Includes:

- Instruction Sheet with methanol temperature specific gravity correction chart.
- 500-ml polymethylpentene hydrometer jar.
- Laboratory grade stainless steel 25 - 125 degree F thermometer with beaker clip.
- Precision .760 - .830 range specific gravity hydrometer with 0.0005 divisions.

**CAUTION:** *The hydrometer is made of glass and is very fragile! Treat with care!*

This kit, when utilized properly, can help determine the suitability of methanol (methyl alcohol) race fuel. The specific gravity of methanol race fuel should be .7954 at 60 degrees F. Methanol is hygroscopic (absorbs water), and as the fuel absorbs moisture from its surroundings the specific gravity of the fuel will increase (higher specific gravity). As this increase occurs there is a change in the fuel's combustion properties that will result in a decrease in the power potential of the fuel. Just how much of an increase in specific gravity is too much is often up for debate; many top crew chiefs won't use fuel that isn't exactly on specific gravity. Consult with your fuel supplier for further information about this.

It is important to note that verifying the specific gravity of the fuel will not necessarily prove that the fuel has not been "doctored" with some other additive. It is best to buy your fuel from a reliable source, and store it in tightly sealed containers, in a cool, dry place.

### DIRECTIONS:

1. Fill the hydrometer jar 3/4 full with the fuel specimen to be tested. Place the jar on a level surface to conduct the test. Do not attempt to hold the jar in your hands to conduct the test, as inaccurate results will likely occur.
2. Insert the thermometer probe into the fuel sample. There is a beaker clip with the thermometer to properly hold the thermometer in place during the temperature measurement process. Caution! Do not immerse the gauge portion of the thermometer in the fuel. Allow the thermometer to stay in the fuel until the temperature reading stabilizes. Once the temperature reading has stabilized, record the temperature for future reference and remove the thermometer from the hydrometer jar.
3. Carefully remove the hydrometer from its container and insert it into the hydrometer jar. The hydrometer should float freely within the jar. If the hydrometer falls to the bottom of the jar and does not float there is probably not an adequate amount of fuel in the jar. If this occurs, add additional fuel and start the entire procedure over again.
4. Allow the hydrometer adequate time to stabilize (stop bouncing up and down). Once the hydrometer is basically motionless look through the side of the jar to the scale on the stem of the hydrometer. The specific gravity should be read at the top of the fluid. The hydrometer included with this kit can be read to

four (4) decimal places, such as 0.7954. Take careful readings to assure best accuracy. Please note that as you read down the stem of the hydrometer the reading get higher. Once you are satisfied you have an accurate reading, record it with the fuel temperature from step #2.

5. Refer to the Methanol Specific Gravity Temperature Correction table below. Locate the temperature of your fuel sample on the chart. The specific gravity listed for that temperature should match the specific gravity of your fuel sample. If there is any difference, you may wish to repeat the testing procedure to confirm the results.

6. Remove the hydrometer, dry with a soft cloth or paper towel and return it to its proper storage container. Empty the hydrometer jar contents back into your fuel supply and dry the jar with a soft cloth or paper towel.

### **METHANOL SPECIFIC GRAVITY TEMPERATURE CORRECTION TABLE**

Temperature:	Specific Gravity:	Temperature:	Specific Gravity:
40	.8058	70	.7901
41	.8053	71	.7896
42	.8048	72	.7891
43	.8043	73	.7886
44	.8037	74	.7881
45	.8032	75	.7875
46	.8027	76	.7870
47	.8022	77	.7865
48	.8016	78	.7860
49	.8011	79	.7854
50	.8006	80	.7849
51	.8001	81	.7844
52	.7996	82	.7839
53	.7990	83	.7834
54	.7985	84	.7828
55	.7980	85	.7823
56	.7975	86	.7818
57	.7969	87	.7813
58	.7964	88	.7807
59	.7959	89	.7802
60	.7954	90	.7797
61	.7949	91	.7792
62	.7943	92	.7787
63	.7938	93	.7781
64	.7933	94	.7776
65	.7928	95	.7771
66	.7922	96	.7766
67	.7917	97	.7760
68	.7912	98	.7755
69	.7907	99	.7750
		100	.7745

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