

# Spark-Ignition Tube

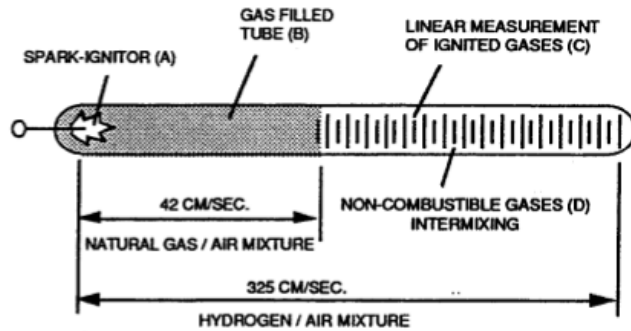


FIGURE 2-1: SPARK IGNITION TUBE

**Spark-Ignition Tube (B)** is a tubular test

apparatus (1/8 diameter) that determines and measures the "**Burn-Rate**" of different types of **Burnable Gases** intermixed with Ambient Air, as illustrated in Figure (2-1).

**Spark-Igniter (A)** causes and starts the **Burnable Gas-Mixture (B)** to undergo **Gas-Ignition** which, in turns, supports and allows **Gas Combustion** to take place ... forming and sustaining a **Gas-Flame**.

The expanding and moving **Gas-Flame** travels (away from spark-igniter) the linear length of the **gas filled tube (C)** and is "**detected**" and "**measured**" (length between spark-igniter and light-detector) in one second after gas-ignition. The Gas-Ignition Process, now, establishes the "**Burn-Rate**" of a **Burnable Gas-Mixture** in centimeters per second (cm/sec.), as illustrated in Figure (2-2).



FIGURE 2-2: HYDROGEN BURN RATE

Different types of "**Burnable**" **Gas-Mixtures** exposed to the **Gas-Ignition Process** were tested, measured, recorded and systematically arranged as to cm/sec. length, see vertical bar Graph (2-2) again.

The **Gas-Ignition Process** was performed several times to establish the "average" **Burn-Rate** of the **Fuel-Gases** which, in turn, establishes the length of the vertical bars.

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