TIME LINE

The first variable venturi carburetter was the brainchild of George Herbert Skinner. He was born in 1872 and was known by his second name - Herbert. By 1900 Herbert, who at that time was employed in his father's shoe business - the well-known Lilley & Skinner Company, had three provisional patents covering his forward-thinking ideas about carburetion.

1905 - Mr. George H. Skinner took out a patent for a carburetter in which both the air and fuel passages varied in accordance with the requirements of the engine.

1908 - Skinner was granted another patent for a carburetter having a 'collapsible chamber' and a 'fuel needle valve', which was located in an adjustable block (i.e. a jet). Skinner's inventive genius had therefore devised the basic principles of the later 'constant vacuum' S.U carburetter.

1910 - The "S.U. Company Ltd" (S.U being a contraction of 'Skinners Union') was formed and sometime later moved onto premises at 154 Prince of Wales Road, Kentish Town, London.

1930-80's – SU Carburretor's were used in many British cars including Morris, Jaguar & Austins as well as on Rolls Royce Merlin engines fitted to Spitfires, Hurricanes, Lancasters and many other aircraft during the 2nd World War.

1970 -Mel Magnet re-worked automobile SU Carbs in his garage and sold them at his "Rivera TV" repair shop in Downey, CA.

1970 - Mel met John Ventriglia when John went to his TV store to buy a SU for his 1968 Shovel Chopper. Mel & John became partners and started Rivera Engineering.

1972 - Rivera Engineering's first SU customer was Bianchi Motors of San Francisco, CA.

1974 - "Search for King Carb" Shootout by Custom Chopper Magazine won by 1 3/4" SU against S & S, Mikuni, Posa & Weber.

1976 - Mel sells his 1960 Jag XK150 and flies to Birmingham, England to persuade the SU factory to sell him direct.

1978 - Dave Mackie's 1974 74" shovel fastest stock production HD w/ SU Carb sponsored by Mel Magnet & John Ventriglia.

1980 - Mel receives his first U.S. patent for his SU tickler pump which resolved a hard starting condition on the SU.

2022 – American Prime Mfg. Inc. proudly takes over the SU product line in the U.S.A. for Harley Davidson motorcycles.

BACKGROUND

For over 50 years, British SU carburetor in modified form has been championed the for American V Twin motorcycles. It provides smooth, even power and torque throughout the entire power band, with excellent cold-start characteristics, and drivability. Although originally intended for aircraft & automobile use, the SU carburetor has proven to be unmatched in performance when adapted for use on the American V-Twin such as Harley Davidson motorcycles. The SU gives added potential over the entire RPM range, where other carburetors fail to perform. In a one-and-only documented comparison of all aftermarket carburetors against this famous SU conversion, the SU easily dominated the field.

A comprehensive look at the Eliminator SU and its features will give some insight as to why the SU works so well with American V-Twins. A wide margin of superiority means you will realize more power, at the same time attain significantly improved mileage with this very popular carburetor conversion. Of the many beneficial features of the SU, the variable venturi is the most profound. Most carburetors are designed and operate with a fixed venturi. The venturi creates a low-pressure area at the main jet. This in turn pulls fuel through the jet, which atomizes as it is delivered into the airstream. The amount of air drawn through a fixed venturi is directly proportional to motor speed. As air velocity varies, so does the “low” pressure area, and its ability to extract and atomize gasoline in an efficient manner. To offset this deficiency in other carburetor designs, many compensating or multi-jet devices have been tried in a effort to minimize this negative aspect of the fixed venturi. The unsuccessful results are history. While some carburetor’ s such as the Amal, Dell’ Orto (single throat), Lectron and Mikuni are designed around the variable venturi design, the APM Eliminator II conversion is the most efficient manifestation of this principal. With the Eliminator II, fuel/air requirements of the motor dictate venturi size, which increases automatically as demand increases. The resulting constant velocity maintains a relatively stable low-pressure area over the main jet for maximum fuel extraction, and optimum fuel atomization. The result is superior throttle response at all RPM, better fuel economy, at the same time efficiency is improved meaning more horsepower and torque available to the rider.

The Eliminator SU carburetor has been designed to exploit the advantages gained by containing the main jet, and float chamber in a common concentric housing (the domed chamber), which results in a carburetor that is especially beneficial to the Harley V-Twin motor. This concentric float is not easily affected by inertial forces as the motorcycle lean while turning, while starting and stopping. The Eliminator II SU is an extremely consistent carburetor, and the concentric float adds to its predictability. Another outstanding feature of the Eliminator II is the sophisticated function/simple design of its fuel viscosity compensation device. Fuel/gasoline viscosity affects fuel/air mix. Fuel viscosity is directly related to ambient air temperature, and with the Eliminator II, a bi-metallic lever immersed in the contents of the float bowl. Even small variations in temperature adversely affect the mix in a standard carburetor. The Eliminator II compensates for minute changes in air temperature by moving the main jet, via the bi-metallic lever. This movement actually tunes the fuel/air mix in a very beneficial manner. For further consistency, the jet-needle is retained in the correct position by a spring. No other carburetor is endowed with the features, sophistication, consistency, predictability, and tunability of the Eliminator SU from APM®. The result is unequaled performance, economy, and reliability. The Eliminator has been and continues to be the only real state-of-the-art carburetor for your American V Twin motorcycle.