

At the end of 1937, the first generator fitted with a gear box and Capable of 32V 750W output was produced. This was fitted with a 4 Bladed, folded and riveted galvanized metal propeller.

Due to the greater output available and superior performance of the Generator and particularly the head assembly, this model sold in Increasing numbers.

For many years one of these units, installed in 1937, on a tower on Top of PARSONS AND ROBERTSONS (now M.S. McLEOD) in Pulteney Street, was An eye catching advertisement, with coloured lights up the tower and In the blade tips.

The last 12V 300W generator was manufactured in 1971, large numbers Being supplied during the war years 1939 - 1945 to the Army.

In 1941, a 110V wind generator was made, but these were produced in Very limited numbers due to the costs involved in the large bank of Batteries required.

In March 1950, the first wind generator designed for 48V D.C. function For the PMG Department was made and installed at Truro. This was the Forerunner of many such units to power telephone repeater stations Throughout Australia.

In 1950, as a result of a survey of overseas trends by L.B. Dunn, a Completer redesign of the wind plant was instituted. The major change Being the replacement of the previous fixed 4 bladed propeller with A 3 bladed feathering (variable pitch) type. The action was accomplished By the combined force of wind pressure against the blades and the Centrifugal action of bob weights fitted to the base of each blade.

These moved a plunger (or sliding governor) against the tension of a Central spring, which could be adjusted to alter the speed at which the Blades would alter their pitch and so regulate the governor speed.

Initially a neoprene washer was used in the central sliding governor To hydraulically slow down the governing action and this was later Superseded by twin hydraulic pistons. All mechanism was protected by A large aluminum hub cap and the previous riveting method of blade Construction was replaced by spot welding.

The off set tail system previously used as a means of regulating Generator speed and output having been replaced by the variable pitch Propeller system meant a redesign of the rotating head assembly, the Tail being a fixed unit.

The single Slipring used to transmit current from the generator, as Fitted to the previous design head assembly (frame being earth-negative return) was replaced with 3 rings, so that an automatic voltage regulator could be incorporated in conjunction with the reverse blocking rectifier.

Various designs of regulator were used and with the advent of electronic

(solid state) components, a quite sophisticated and reliable form of control evolved.

The two models of generator were made in a variety of voltages, ranging from 12 to 100V and available either as negative or positive earth systems. Again, the PMG Department were supplied with numbers of these, and considerable numbers were exported, as far afield as Antarctica, Africa, the Near East and Britain.

Besides being used as a prime source of power on farms and station properties they have been used for communications power systems, lighthouses and shipping channel lighting.

Towards the end of 1967, the last of the 32V 750W geared generators was produced, the demand for those having been replaced by the series MODEL L (1000W) and MODEL M (1500W).

The last MODEL L was produced in 1975 and the MODEL M went out of production in early 1970.

In mid 1965, the first Brushless wind driven generator was produced, the MODEL LM head being slightly modified because of increased generator size and still using the variable pitch propeller.

The output of the new design was lifted to 2 kw, available in a range of voltages and since the generator produced an A.C. current, rectified by a full wave silicon diode assembly, the necessity for a reverse current blocker was removed.

Various minor improvements have been made in the ensuing years, but the Brushless unit remains substantially the same as when first produced in 1965.

A research programme, in conjunction with Flinders University, is currently under way, with a view to increasing the output above the present 2 kw. One aspect receiving particular attention is propeller design. Results to date indicate that the present unit is capable with some modification, of producing 4-5 kw. 100V.

Considerable numbers of 110V wind driven sets have been sent to America and Canada, where people are becoming increasingly ecology and resources minded.