



Technical THE BRITISH MOTOR CORPORATION (AUSTRALIA) PTY. LIMITED Bulletin

Gen2/67

Exp. -

F.O. -

P.S. -

16.3.67

Sighted by:

FOR THE ATTENTION OF SERVICE AND PARTS MANAGERS

POWER UNIT - HOT RUN

In the constant endeavour to improve the quality of our products, we have developed a means of comprehensively checking power units before they are assembled into vehicles. In brief, this recently installed system, takes the complete Power Unit (Engine and Transmission Assembly) from the production line to a special checking station. Here an extensive series of tests and adjustments are carried out whilst the power unit is run for a full thirty minutes under its own power and at normal operating temperature. This test sequence has been aptly named the "Hot Run".

Since the first Hot Run was installed in 1965, progressive development of the testing equipment, test sequencing and testing methods, has enabled all transverse power units to be tested. This has resulted in a significant improvement in performance and reliability of vehicles as produced from the Factory.

The F.J. Series engines are tested in this way and future planning allows for all Commercial Vehicles to be Hot Run tested.

A brief description of the test area and the tests carried out will assist in understanding the layout and versatility of these stations.

The general layout of each station consists of a central engine stand, an instrument console positioned in front of the power unit and an overhead conveyor to transport the power units to and from the station.

The instrument console includes an 8" oscilloscope for scanning the oscillating pattern of the ignition system and allowing correction to specification.

To complete the survey of mechanical functions of the power units, a panel of instruments is conveniently positioned within easy access of the operator. These consist of the following :-

<u>Section I:</u>	<u>Refer Fig.</u>	<u>Instrument</u>	<u>Check</u>
	A	Cam Dwell Meter	Cam Dwell
	A	Voltmeter	Generator Output
	B	Ammeter	" "

Page 1 of 3

<u>Refer Fig.</u>	<u>Instrument</u>	<u>Check</u>
B	Ammeter	Starter Draw
C	Tachometer	Engine Idle.
E	Vacuum Gauge	Mixture Setting.
F	Pressure Gauge	Oil Pressure. Cooling System Pressure.
G	Temperature Gauge	Water temperature.
	Timing Light	Ignition timing.
D	Advance Meter	Total advance.
	Ultra Violet Lamp	Oil & Water leaks.
	Feeler Gauge	Valve clearance.
	Torque Wrench	Cylinder head & rocker studs.

Section II :

Non Instrument Check

Visual	Oil & water levels. Loose nuts & screws etc.
Audio	Foreign noises (engine gearbox etc.)
Physical	Selection of gears. Fan belt tension.

A rectification area is located near the station to carry out adjustments to the power unit found necessary during tests. Rectification of such conditions as oil leaks, low oil pressure, noisy gears etc. are examples of the type of work effected in this area.

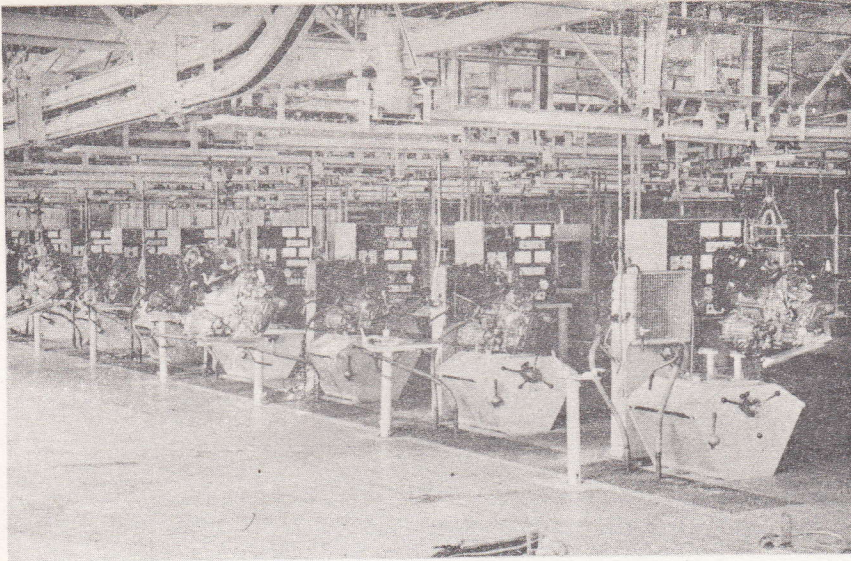
In brief, the hot run can test, without load, the following conditions :-

1. The mechanical condition of the engine, gearbox and final drive.
2. Condition of the engine cooling and lubricating systems.
3. Generator charge rate and ignition system.
4. Presence of power unit water and oil leakage.
5. Condition of engine tune.

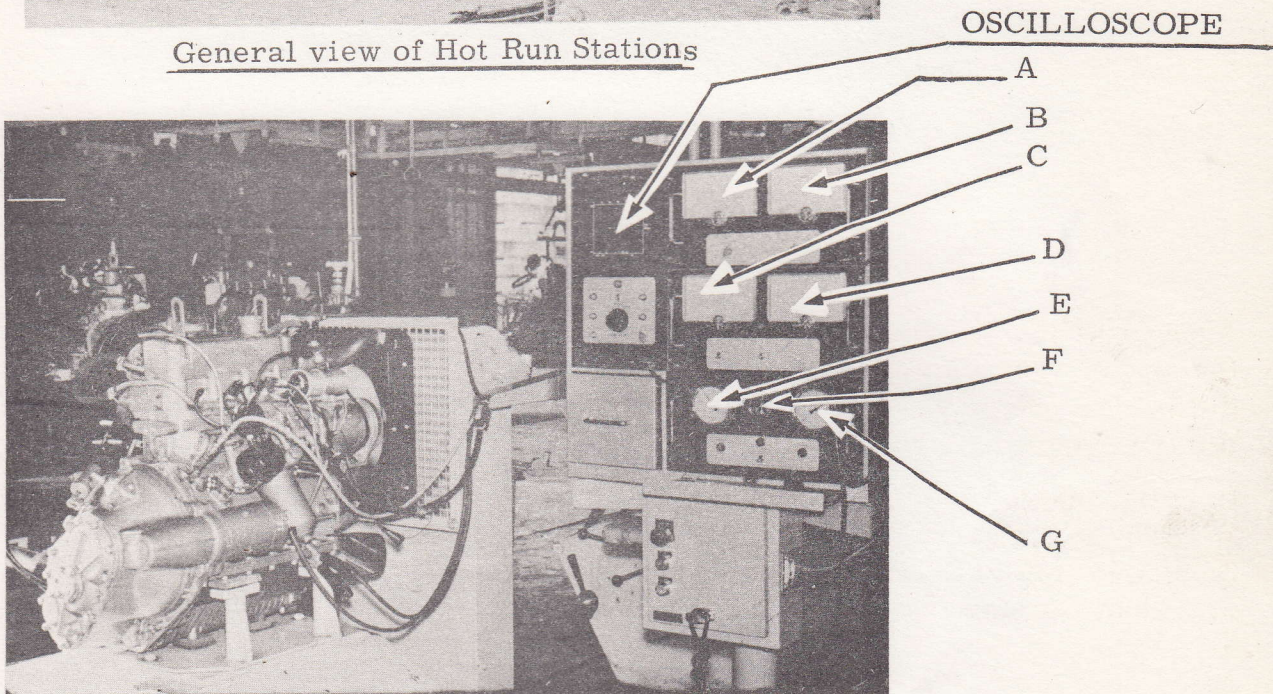
The final operation on completion of a unit that has passed all tests, is the application of a Decal sticker as shown, to the rocker cover.



NOTE: This test programme is significant to dealers, as it eliminates the need for further checking at the Pre-delivery Service, those items listed under Section I. Should some apparent maladjustment be evident, this of course must be attended to.



General view of Hot Run Stations



Single Station showing Power Unit in Position and
Instrument Console with Oscilloscope at top left of
panel.

SERVICE DIVISION

THE BRITISH MOTOR CORPORATION(AUSTRALIA) PTY. LIMITED

S/L