



PS MANUAL

ALTERNATOR TEST BENCH

1.0 Model **TB-1900A-7.5**

2.0 Description

Heavy Duty Alternator Test Bench 7.5 Kw



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DATE: 08/08/13

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3.0 Features

- The Test Bench has Four major sections:

1. **Main Unit Control and Instrument Panel:**

Contain the digital meter displays; drive motor overload warning, machine power on warning light and main power switch, battery voltage Selector Bridge, battery supply warning light, drive and alternator pulley diameter selector switches and field warning light.

2. **Transverse Side:**

Mounting for the alternator being tested. Simple design allows the alternator to be quickly mounted and aligned with the machine spindle pulley. Feed screw allows easy and accurate belt tensioning using one hand.

3. **Platform Connection Panel:**

Alternator electrical connections, field type and metering selection. Drive motor jog control allow accurate alignment of drive pulleys.

4. **Operator Control Panel:**

Placed in front of the main unit the Operator Control Panel has the drive motor speed and load control used during the actual testing procedure. Being distant from the alternator being tested ensures maximum safety for the operator in event of mishap.

- **Battery Isolation Solenoid Switch:** Main Battery is isolated by heavy duty solenoids which are activated by a single rocker switch mounted on the front consol.
- **Battery Isolation Light:** Indicates battery supply is connected and ready for testing.
- **Construction:** The rigid, ergonomically designed, free standing Test Bench frame, is constructed to allow perfect alignment and rigidity of the starters with reduced vibration while under test.
- **Battery Voltage Selector Switch:** The Three main voltages are 12Volt, 24Volt and "OTHER". by configuring batteries on "OTHER" to suit 6Volt or 32Volt allows testing of these units.
- **Alternator Load Bank:** Housed in fabricated free standing steel cabinet, control panel consists of three rotary switches to adjust the load required: Switches A, B & C with 18 selectable load positions 5 to 300 Amps at 24 Volts & 10 to 150 Volts at 12 Volts.

Switch A 6 positions, 10 Amp increments @ 24Volts 60 Amps at 24Volts
 6 positions, 5 Amp increments @ 12Volts 30 Amps at 12Volts

Switch B 6 positions, 20 Amp increments @ 24Volts 120 Amps at 24Volts
 6 positions, 10 Amp increments @ 12Volts 60 Amps at 12 Volts

Switch C 6 positions, 20 Amp increments @ 24Volts 120 Amps at 24Volts
 6 positions, 10 Amp increments @ 12Volts 60 Amps at 12 Volts



The above combination gives the operator a fully switchable, heavy-duty load bank of up to 300 Amps at 24 Volts with 18 different increments. The Load Bank is fan cooled for continuous use & operates from its own 24 Volt DC supply.

4.0 Physical and Dimensional Properties

- Each unit weighs approximately 450.0Kg – in Crate 492.0Kg
- Width 1080 mm – in Crate 1270mm
- Depth 1010 mm – in Crate 1280mm
- Height 1940 mm – in Crate 2160mm

5.0 Performance

- Digital Volt Meter: 0-200 Volts DC, 3½ Digit display. Accuracy 0.25% ± 1 count. Size: 96mm x 48mm. Two terminals are provided for connecting the Volt meter test leads.
- Digital Ammeter: 0-500 Amps DC, 3½ Digit display. Accuracy 0.25%FS± 1 count. Size: 96mm x 48mm. Ammeter is used to indicate current being delivered by the starter under test.
- Digital Tachometer: 0-20,000 RPM Forward and Reverse, 3½ Digit display. Accuracy± 10 RPM. Size: 96mm x 48mm. By simply setting gear ratio switches, the automatic calculation circuit gives direct starter motor speed.
- Digital Field Amp Meter: 0-20 Amps, 3-1/2 digit display. 0.25% FS + 1 count. Size: 96mm x 48mm. The 0-20 Amp meter can be used for “A” Circuit Neg. and “B” Circuit Pos. testing & is switched via a rocker switch on the Platform Control Panel. Two terminals are provided for connection to test leads when using the Field Amp Meter as it can also be used for testing current draw on most automotive components e.g.: ignition coils, wiper motors, solenoids etc.
- Digital AC Ripple Volt Meter: 0-20 Volts, AC 3-1/2 digit display. Accuracy; 0.25% FS +/- 1 count. Size: 96mm x 48mm. Designed for testing Star Points and super imposed AC Ripple Voltage of Diodes. Operation is from two Volt terminals on the front of the slide control panel.
- Alternator Output: AC Current 20 Amps
- Flexible Drive Pulley **Supplied** as standard: Double “A” section at 120 mm diameter. K 10 Section Polly vee 90mm diameter

Optional belt sections available upon request

M	Section drive belts	10mm
A	Section drive belts	12mm
B	Section drive belts	16mm

- Test Leads: A full set of leads for alternator Amps, field Amps, Volts, and AC ripple Volts, are supplied with Test Bench. Test leads are fitted with appropriate terminals & clips to make all test connections easy for the operator.



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- Platform Connection Panel: Ergonomically designed for easy operation with short run connections to alternator & panel

Starter Gears Manufactured from high quality high carbon steel. Four gears are supplied as standard to cover the majority of applications, 33 Tooth, 36 Tooth, 39 Tooth, 59 Tooth, other custom gears to suit individual requirements available on request

6.0 Uses

- Suitable for Automotive, Marine, Defence, Councils, TAFE

7.0 Documentation

- Bar Code Number: **9346080001096**
- Product Specification Manual - PS 85
- Work Instruction Manual - WI 85
- Product Costing Manual - PC 85