

## Starter Generator Test Bench

### About

The Following Test Bench is for Testing Parameters of Starter Generator of Advanced Light Helicopter (ALH).

**The Test bench has following four tests :-**

- 1) Generator Mode Load and no Load Test.
- 2) Starter Mode Load Test.
- 3) Vibration Measurement Test.
- 4) Concentricity And Bar to Bar Difference Measurement Test.

### **Test Bench Description:**

This test will have a Combination of AC Motor of 5000 RPM rigidly Coupled with the Dual Output Gear Box having Ratio of 1:3 to give maximum speed of 15000 RPM at output .The output is to accommodate the shaft of 6KW Starter Generator With Suitable Clamping On the Common Flange.

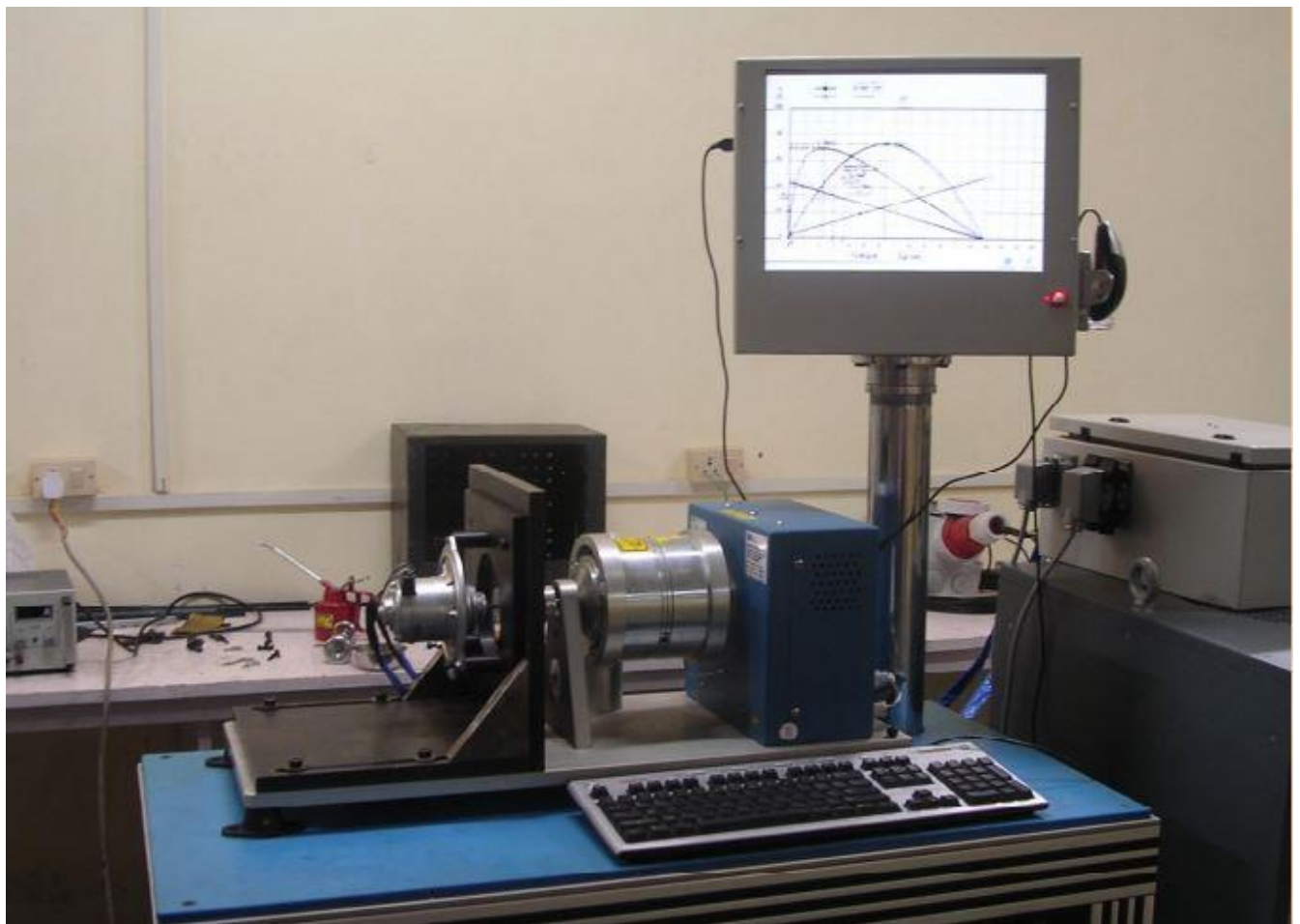
Resistive Load Bank with good Cooling Facility provides load to the Starter Generator in steps of 0,50,100,150 and 200 Amp with additional loads of 300A , 375A and 450 Amp .Load is selected from the control panel through selectable switches.

A.C. Drive ABB make is also provided for this Test with Control signals From control panel.

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## Starter Mode Load Test-

- In Starter Mode Load Test the S/G is Provided DC Power Supply of 30V, 500 Amp (California Power Supply) so as to operate it as a DC Motor.
- The S/G is mounted form the Shaft side with the Magtrol Hysteresis Dynamometer.
- With the help of control knob Placed on Control Panel(DSP6001 Processor) We can apply the required Mechanical Load i.e. Torque as required.
- Meters for monitoring the Starting Voltage and Current are fitted on Control Panel.



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## Specifications

<b>Input Power</b>	3 Phase, 415 Volt, 50 Hz.
<b>Drive Power</b>	90 KW.
<b>Torque</b>	40 Nm Constant
<b>Speed Range</b>	0- 15000 RPM
<b>Load Bank (Resistive)</b>	25 A (2 in no.), 50 A(4 in no.), 100 A(2 in no.)
<b>Measurement and Monitoring</b>	
<b>Speed</b>	0-15000 RPM
<b>Torque</b>	0-45 Nm.
<b>Energy Current (I ex)</b>	0-10 Ampere
<b>Energy Voltage (V ex)</b>	0-50 VDC
<b>Balance Voltage (Ved)</b>	0-2 VDC
<b>Generator Current (I g)</b>	0-500 Ampere
<b>Generator Voltage (V g)</b>	0-50 VDC
<b>Temperature (Input and Output Air)</b>	0-100 degree C
<b>Frame Temperature of S/G</b>	0-200 degree C

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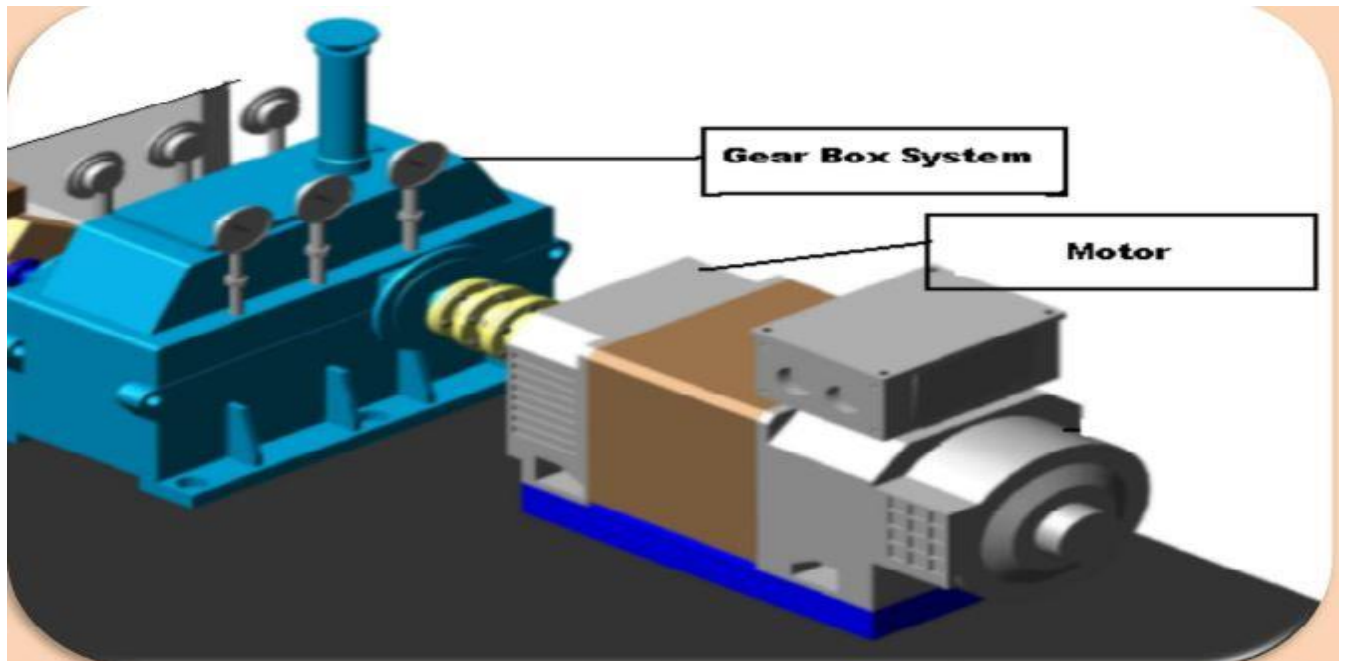
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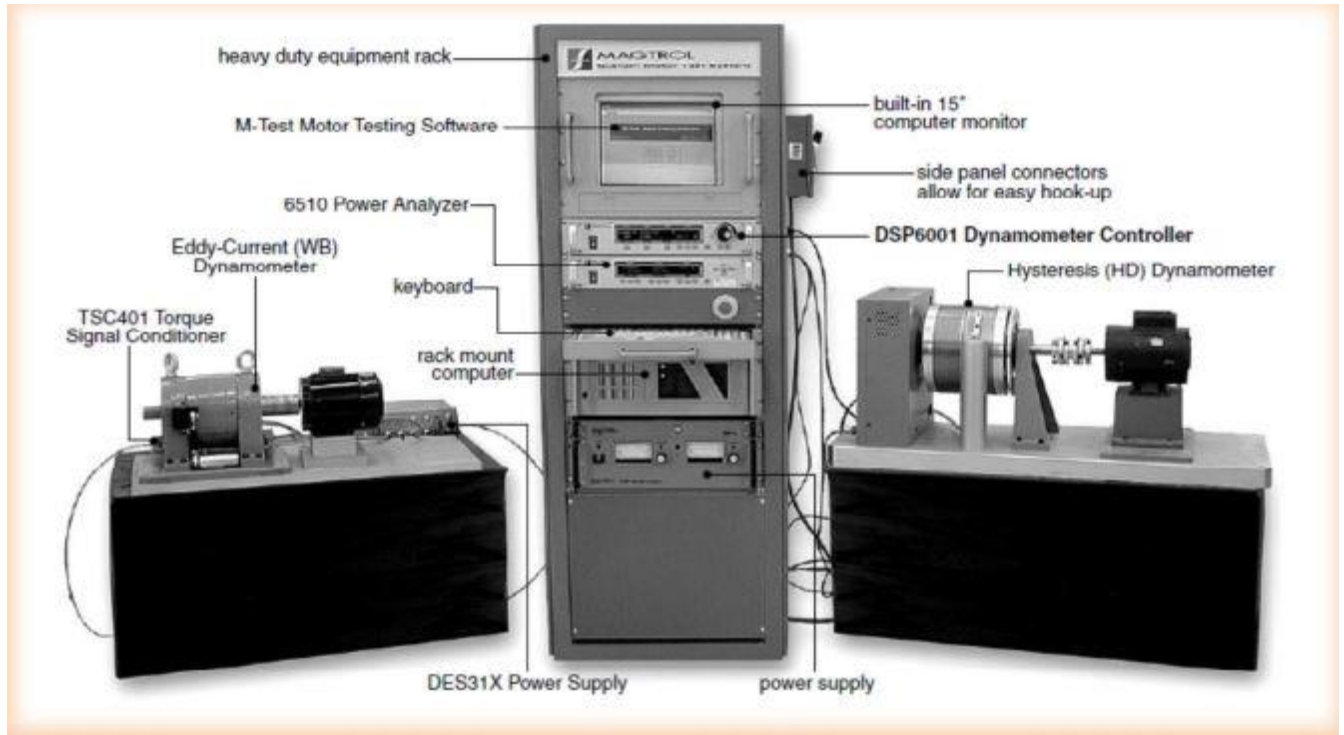
STARTER MODE PARAMETERS	
<b>Starting Current (I d) (Starter Mode)</b>	0-500 Ampere (Load Test)
<b>Starting Voltage (V d)(Starter Mode)</b>	0-30 VDC
<b>Starter Mode Torque</b>	0-20 Nm (1650 RPM to 6000 RPM)
<b>Micro Meter</b>	+50 micrometer to -50 micrometer
<b>Vibration Analyzer</b>	1-10000 Hz.
<b>Digital Tachometer</b>	1-25000 RPM
<b>Power Supply</b>	0-30 VDC , 500 Ampere
<b>Micro Ohm Resistance</b>	0-2 Ohm



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## Application

The Following Test Bench is for Testing Parameters of Starter Generator of Advanced Light Helicopter (ALH).



# NEOMETRIX

## Key features

- Generator Mode Load and no Load Test.
- Starter Mode Load Test.
- Vibration Measurement Test.
- Concentricity And Bar to Bar Difference Measurement Test.
- A.C. Drive ABB make is also provided for this Test with Control signals from control panel.

