

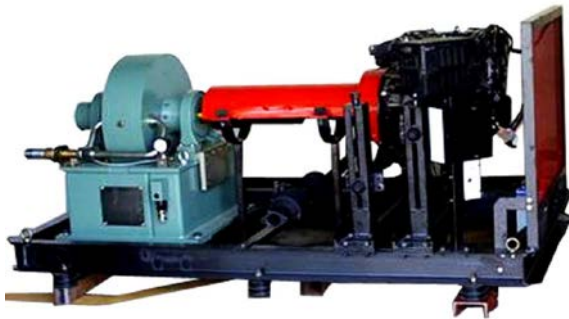
MT505C AUTOMOTIVE ENGINE TEST BED, Computer Control



Test bed with water brake absorber with optional equipment



Computer with instrument box



Test bed with water cooled eddy current absorber



Airbox, fuel tank
Thermostatic tank and optional fuel flow measuring device



Test bed with air cooled eddy current absorber



Cooling tank

MT 505C AUTOMOTIVE ENGINE TEST BED

Communication Port: COM6 Tested by: Date:

GENERAL
DISPLAY
DATA SHEET
GRAPH

Specific Gravity (g/L): 0.84 Engine Type: TOYOTA 4AFE Heating Value(kJ/kg): 41140
 Atmospheric Pressure (kPa): 101.0 Fuel Type: Gasoline

Speed r/min	Torque N.m	Fuel consumption		Air flow rate		Temperature(°C)		Power kW	Brk efficiency %	Volumetric Efficiency %				
		gph kg/h	lph l/h	gph kg/h	lph l/h	Engine Inlet	Engine Water Outlet							
5000	15.4	3.04	2.19	201.4	27.25	11.92	30	45	41	490	8.1	0.98	3.79	35.51
4442	20.3	2.78	2	212.52	22.62	12.94	32	49	42	520	8.76	0.94	39.23	39.72
4000	28.3	2.72	1.96	225.3	21.47	12.81	34	52	43	570	12.03	0.99	12.96	42.57
3571	37.8	2.67	1.92	240.8	20.5	12.51	36	54	43	620	14.23	0.89	15.54	45.90
3153	43.1	2.45	1.76	250.75	19.43	11.1	38	55	43	660	16.23	0.85	17.68	49.9
2580	53.3	2.36	1.70	277.38	18.5	12.76	38	56	42	695	14.4	0.83	17.64	51.68

Engine Model: TOYOTA 4AFE
 Displacement(l): 1.498
 Fuel Type: Gasoline
 Heating Value(kJ/kg): 41140
 Specific Gravity(g/L): 0.84
 Atmospheric Pressure(kPa): 101.0

END DATA CLEAR ALL DATA ALL DATA STOP

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GENERAL DESCRIPTION

The equipment is for testing an automotive engine with computer control.

The equipment is intended for testing automotive engine.

The engine rests on four supports on one end of the test bed. The supports can be adjusted in three directions to accommodate different size engine. The dynamometer with speed and torque sensors rests on another end of the test bed. The engine is connected to the dynamometer by a double universal joint with a safety guard. Cooling of the engine and the dynamometer is by a cooling tower to minimize test room temperature rise. A flexible stainless steel hose is provided for exhaust pipe connection.

A fuel tank with fuel flow and air flow measuring instruments are on a stand next to the engine.

Data display, analysis, and control are by a touch screen computer.

TYPICAL TESTS

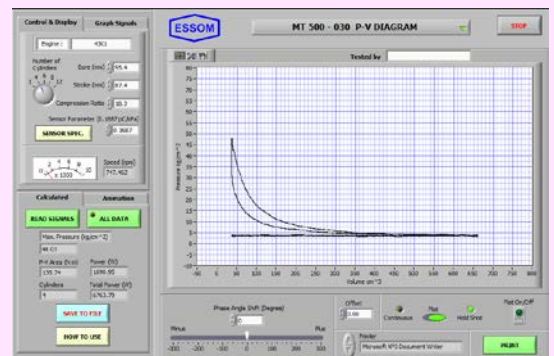
- Torque vs engine speed at various throttle setting.
- Engine brake horsepower and efficiency vs speed
- Specific fuel consumption
- Air/fuel ratio
- Volumetric efficiency

TECHNICAL DATA

- Dynamometer :
 - Type : Water brake absorber.
 - Maximum torque : At 4000 rpm. over 900 Nm.
 - Maximum speed : 7000 rpm.
- Engine : Good used engine
 - Gasoline : 1500cc or larger, fuel injection system with O₂ sensor and catalytic converter.
- Cooling system
 - Type : Cooling tower with circulating pumps.
 - Capacity : Depending on engine size.
- Sensors with digital display : Dynamometer torque and speed.
 - : Fuel flow rate.
 - : Air flow rate.
 - : Temperatures for engine cooling water inlet and outlet, absorber water outlet, exhaust gas, and ambient air.
- Safety features : Low oil pressure warning lamp, battery charging lamp, pump operation lamp, over temperatures for engine and dynamometer, and propeller shaft guard.
- Other accessories : Battery, alternator, starter, fuel tank and barometer.
- Computer control : Engine throttle and dynamometer load.
- Computer interface unit, and software for data display, analysis, and control by touch screen computer.
- Power supply : 380 V, 3 Ph, 50 Hz. Other power supply is available on request.

OPTIONAL EQUIPMENT

- P-V diagram set for selected diesel engine.
- P-V diagram set for gasoline engine.
- Air cooled eddy current absorber instead of water brake absorber.
- Water cooled eddy current absorber instead of water brake absorber.
- Thermostatic tank for engine operating temperature control.
- Good used diesel engine instead of gasoline engine.



Test Bed :

Net (unpacked) shipping dimensions WxLxH : 130 x 400 x 225 cm.
Net weight : Approx. 750 kg.

Cooling Tower :

Net (unpacked) shipping dimension WxLxH Maximum upto : 270 x 196 x 223 cm
Net weight : Approx 225 kg