

**GOVERNMENT OF INDIA
CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE
MIN. OF AGRI., (DEPTT. OF AGRI. AND CO-OPN.)
TRACTOR NAGAR.P.O., BUDNI(M.P) 466 445
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BRIEF TECHNICAL SPECIFICATION OF THE PRIMEOVER(ENGINE)

1.0 GENERAL:

1.1 Name of manufacturer :

Address of manufacturer :
Telephone Number(s) :
FAX Number(s) :

1.2 Country of origin :

2. Brief Technical Specification of engine:

2.1 Make :

2.2 Model :

2.3 Type :

2.4 Serial No. :

2.5 Location :

2.6 Method of mounting :

3. Engine speed (Manufacturer's recommended setting):

3.1 Maximum at no load speed i.e high idling speed (rpm) :

3.2 Low idling speed (rpm) :

3.3 Rated speed (rpm) :

3.4 Speed at maximum torque (rpm) :

3.5 Speed recommended for field work(mm) :

3.6 Speed at maximum power (rpm) :

3.7 Maximum power, kW(Ps) :

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- 4. Cylinders:**
- 4.1 Number :
- 4.2 Disposition :
- 4.3 Bore/Stroke (mm) :
- 4.4 Capacity (cu. cm) :
- 4.5 Compression ratio :
- 4.6 Arrangement of valves :
- 4.7 Type of cylinder liners :
- 4.8 Valve clearance (mm)(hot/cold):
- Inlet :
- Exhaust :
- 5. Fuel System: (For Diesel Engines):**
- 5.1 Type of fuel system :
- 5.2 Make, model and type of fuel feed pump :
- 5.3 Type, make and model of fuel filters :
- 5.4 No. of fuel filters :
- 5.5 Capacity of fuel tank(l) :
- 5.6 Location of fuel tank :
- 5.7 Provision of draining for sediment/water from fuel tank :
- 5.8 Type, make and model of injection pump. :
- 5.8.1 Serial No. of fuel injection pump :
- 5.8.2 Diesel fuel injection pump setting:**

Adjustment operations	Final injection pump shaft speed (rpm)	Discharge		Control rod travel in (mm)
		Qty. cc/ 100 strokes or qm/ 100 strokes	Metering tolerable difference in strokes	
At rated speed				
At idling speed				
At full cut off				

5.9	Fuel injectors	:
5.9.1	Make	:
5.9.2	Model	:
5.9.3	Type	:
5.9.4	Manufacturer's production pressure setting, MPa(kg/cm ²)	:
5.9.5	Firing order	:
5.9.6	Injection timing (degree)	:
	For Gasoline Engines Only:	
5.10	Type, make and model of ignition coil and distributor	:
5.11	Type, make and model of carburettor	:
5.11.1	Size of fuel jets	:
5.11.2	Ignition timing	:
5.11.3	Spark plugs:	
	- Make	:
	- Model	:
	- Gap setting	:
6.	Governor:	
6.1	Make	:
6.2	Model	:
6.3	Type	:
6.4	Range of engine speed (rpm)	:
6.4	Rated engine speed (rpm)	:
7.	Pre-Cleaner:	
7.1	Make	:
7.2	Type	:
7.3	Location	:

8. Air-Cleaner:

- 8.1 Make :
- 8.2 Type :
- 8.3 Number :
- 8.4 Oil capacity in case of oil bath type (l) :
- 8.5 Suction pressure at intake manifold, kPa (mm of Hg) :
- 8.6 Location :
- 8.7 Recommended grade of oil :
- 8.8 Oil change period/dry filter element change period (h) :

9. Lubrication System:

- 9.1 Type :
- 9.2 Type of oil pump :
- 9.3 No. & type of oil filters :
- 9.4 Capacity of lub oil sump (l) :
- 9.5 Total capacity of lub oil (l)
- 9.6 Relief valve pressure setting, kPa (kgf/cm²) :
- 9.7 Minimum permissible pressure, kPa (kgf/cm²) :
- 9.8 Recommended lubricating oil :
- 9.9 Oil change period(h) :
- 9.10 Method of oil cooling :

10 Cooling System:

- 10.1 Type :
- 10.2 Details of pump :
- 10.3 Details of fan :
- 10.4 Means of temperature control :

: 5 :

- 10.5 Total coolant capacity (l) :
- 10.6 Radiator cap pressure, kPa :
(kgf/cm²)
- 10.7 Bare radiator capacity (l) :
- 10.8 Maximum coolant temp.(°C) :
- 10.9 Type of radiator grill
- 11. Starting System:**
- 11.1 Type :
- 11.2 Aids for cold starting :
- 11.3 Any other device provided for :
easy starting
- 12 Electrical System:**
- 12.1 Generator:**
 - Make :
 - Model :
 - Serial No.
 - Type :
 - Out put rating :
 - Method of drive
- 12.2 Battery:**
 - Make & model :
 - Type :
 - Capacity and rating :
 - No. of batteries :
 - Location :
- 12.3 Starter:**
 - Make :
 - Model :
 - Type :
 - Serial No. :
 - Capacity :

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12.4 Voltage Regulator:

- Make :
- Type :
- Capacity & settings :

12.5 Horn:

- Make :
- Type :
- Location :

13. Exhaust:

- Type of silencer :
- Position of silencer outlet
- Provision for spark arresting device.

14 Special Features, If any:

15 Overall Dimensions (Giving Sketch) :

- Length :
- Width :
- Height :

16 Total weight (with accessories) :

17. Servicing schedule :

18. Recommended list of oils used :

19. Initial settings and discard limits of following measurements:

	Initial settings	Discard limits
Cylinder bore dia(mm)	:	
Cylinder bore taperness and ovality(mm)	:	
Piston dia at skirt	:	
Piston to cylinder clearance at the skirt(mm)	:	
Piston rings end gap(mm):		
- Top compression ring	:	
- 2 nd compression ring	:	
- 3 rd compression ring	:	
- Oil rings	:	

: 7 :

	Initial settings	Discard limits
Piston ring groove clearance (mm)		
- Top compression ring	:	
- 2 nd compression ring	:	
- 3 rd compression ring	:	
- Oil rings	:	
Diametrical clearance of main bearings (mm)	:	
Crankshaft end float (mm)	:	
Clearance of big end bearings (mm):		
- Axial	:	
- Diametrical	:	
Clearance between valve guide and stem (mm)	:	
Spring index of valve springs (kgf/mm):		
Backlash between crown wheel & pinion	:	
Overall thickness of clutch plate (mm)	:	
Thickness of brake disc (mm)	:	

Signature of Applicant :

Name & Designation :

Address: :

Telephone No. :

FAX No. :

Date:

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BRIEF TECHNICAL SPECIFICATION OF PRIME MOVER(TRACTOR)

1.0 GENERAL:

1.1 Name of tractor manufacturer :

Address of manufacturer :

Telephone Number(s) :

FAX Number(s) :

1.2 Place of running-in of the tractor. :

1.3 Duration of running-in :

2.0 Brief Technical Specification of Tractor:

2.1 Agricultural Tractor:

Make :

Model :

Type :

Chassis Number :

Serial No. :

Maximum PTO power, kW (Ps) & rpm (declared value) :

Rated PTO power, kW (Ps) @ rpm (declared value) :

Whether tested in India earlier, if yes specify its test report Number with month & year of issue. :

Method of mounting :

2.2 Engine:

Make :

Model :

Type :

Serial No. :

Engine speed (rpm) (Manufacturer's recommended setting) :

: 2 :

Maximum speed at no load :
(rpm)
Low idle speed (rpm) :
Rated engine speed (rpm) :
Engine speed recommended :
for field work (rpm)

2.2.1 Cylinders:

Number(s) :
Disposition :
Bore/Stroke (mm) :
Capacity (cc) :

2.2.2. Fuel system:

Type of fuel system :
Make, type and model of fuel :
feed pump
Fuel tank capacity (l) :
Number and type of filters :

Fuel Injection pump:

Make :
Type and model :

Fuel Injector:

- Make :
- Type and model :
- Manufacturer's production :
pressure settings, MPa
(kgf/cm²)
- Injection timing (degree)

2.2.3 Governor:

Make :
Model :
Type :
Governed range of engine :
speed (rpm)
Rate of engine speed (rpm) :

2.2.4 Pre-cleaner:

Make :
Type :
Number :
Location :

2.2.5 Air-cleaner:

Make :
Type :
Number :
Location :
Oil capacity (l) :
Oil change period (h) :
Recommended grade of oil :

2.2.6 Exhaust:

Type of silencer :
Position of silencer outlet :
Provision of spark arresting device (if any) :

2.2.7 Lubricating system:

Type :
Type and drive of pump :
No. and type of oil filters :
Capacity of oil sump (l) :
Total lubricating oil capacity (l) :
Lubricating oil change period (h) :
Recommended grade of oil :
Method of oil cooling, if any :

2.2.8 Cooling system:

Type :
Details of pump :
Details of fan :
Means of temperature control :
Bare radiator capacity (l) :

: 4 :

Total coolant capacity (l) :
Radiator cap pressure, :
kPa(kg/cm²)
Any other device for cooling :
of engine during operation

2.2.9 Starting system:

Type :

2.2.9.1 Starter motor:

Make :
Model :
Capacity :

2.2.9.2 Generator:

Make :
Model :
Type :
Output rating :

2.2.9.3 Battery:

Make & model :
Number and type :
Capacity and rating :

2.2.9.4 Voltage regulator :

2.2.10 Horn:

Make :
Type1 :

2.2.11 Operator's seat:

Make :
Type :
Horizontal adjustment (mm) :
Vertical adjustment (mm) :

Signature of Applicant :

Name & Designation :

Address: :

Telephone No. :

FAX No. :

Date: