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) :  

GOVERNMENT OF INDIA  
CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE  
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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:**

<table>
<thead>
<tr>
<th>Adjustment operations</th>
<th>Final injection pump shaft speed (rpm)</th>
<th>Discharge Qty. cc/100 strokes or qm/100 strokes</th>
<th>Metering tolerable difference in strokes</th>
<th>Control rod travel in (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>At rated speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At idling speed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>At full cut off</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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/cm²) :
   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 :
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 :
   - Output 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 :
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:

<table>
<thead>
<tr>
<th>Cylinder bore dia(mm)</th>
<th>Initial settings</th>
<th>Discard limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cylinder bore taperness and ovality(mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston dia at skirt</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston to cylinder clearance at the skirt(mm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Piston rings end gap(mm):</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Top compression ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 2nd compression ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- 3rd compression ring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Oil rings</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Initial settings

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

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Signature of Applicant 
Name & Designation 
Address: 
Telephone No. 
FAX No. 

Date:  
Hari/ format combine primover july 2003
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)
Maximum speed at no load: 
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) :
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 :
Type 1 :

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: