JOHN DEERE, 5055E V3 TRACTOR – Commercial (Variant)

T-830/1339/2012 COMMERCIAL TEST REPORT (Variant)

Month: May, 2012

JOHN DEERE, 5055E V3 TRACTOR

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
(DEPARTMENT OF AGRICULTURE & CO-OPERATION)

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6. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

6.1 On the basis of test conducted the performance results have been summarized as evaluative (mandatory) and non – evaluative (not mandatory) parameters applicable for qualifying Minimum Performance Criteria as per clause-4 table-1 of Indian Standard 12207: 2008 for acceptance of tractor for the purpose of subsidies/NABARD financing for the applicable features for this tractor model.

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Characteristic</th>
<th>Category (Evaluative / Non Evaluative)</th>
<th>Requirements as per IS: 12207-2008</th>
<th>Values declared by the applicant/ requirement</th>
<th>As observed</th>
<th>Whether Variant model meets the requirements (Yes/No.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Base model</td>
<td>Variant Model</td>
<td>Base model</td>
</tr>
<tr>
<td>1</td>
<td>PTO Performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.1.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a)</td>
<td>Max. power under 2 h test, (kW ) (Natural ambient condition)</td>
<td>Evaluative</td>
<td>Declared value to be achieved with a tolerance of: -5 / +10% for PTO power &gt;35hp. –7.5/+10% for PTO power ≤ 35 hp</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5 a</th>
<th>5 b</th>
<th>6 a</th>
<th>6 b</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>b) Power at rated engine speed, (kW)</td>
<td>Non Evaluative</td>
<td>-do-</td>
<td>36.4 (D)</td>
<td>36.4 (D)</td>
<td>35.6</td>
<td>35.9</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) Specific fuel consumption corresponding to maximum power, (g/kWh)</td>
<td>Non Evaluative</td>
<td>± 5%</td>
<td>280 (D )</td>
<td>280</td>
<td>300</td>
<td>285</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) Maximum equivalent crankshaft torque, (Nm)</td>
<td>Non Evaluative</td>
<td>± 8%</td>
<td>203 (D)</td>
<td>203 (D)</td>
<td>172.8</td>
<td>200.2</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e) Back-up torque, percent</td>
<td>Non Evaluative</td>
<td>7 percent, min.</td>
<td>10 (D)</td>
<td>10 (D)</td>
<td>22.3</td>
<td>38.5</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f) Smoke level</td>
<td>Evaluative</td>
<td>Maximum light absorption coefficient of 3.25 per metre or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)</td>
<td>3.25 per metre (R)</td>
<td>0.30</td>
<td>0.35</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

6.1.2 Labeling of tractors (Provision of labeling plate):

1) Make Evaluative Should conform to the requirements of CMVR along-with declared value of PTO HP John Deere John Deere Yes
2) Model Evaluative 5055E V2 5055E V3 Yes
3) Year of manufacture Evaluative BJ-A(September, 2010) BL-B(November, 2010) Yes
4) Engine serial number Evaluative PY3029H007 148 PY3029H00 7148 Yes
5) Chassis number Evaluative 1PY5055EJA A000002 1PY5055EC BA006413 Yes
6) Declaration of PTO power, kW Evaluative 36.4 36.4 Yes

6.2 Salient Observations:

6.2.1 Laboratory tests:

6.2.1.1 PTO Performance:

i) The backup torque is 38.5%.

ii) The maximum power was observed as 36.9 kW against the declaration of 36.4 kW, which meet the requirement of IS: 12207-2008 with regard to tolerance.

iii) The specific fuel consumption corresponding to maximum power was measured as 284 g/kWh against the declaration of 280 g/kWh, which meets the requirement of IS:12207-2008 with regard to tolerance.

6.2.1.2 Three Point Linkage:

i) Diameter of hole for upper and lower hitch point meets the requirements of Cat-II. Whereas, the width of ball of upper hitch points meets the requirement of Cat-II and the width of ball of lower hitch points meets the requirement of Cat-I. This should be looked into for necessary corrective action.
### 6.2.1.3 Linkage Drawbar:

Some of the parameters conform to Cat I and some of them conform to Cat. II. Keeping in view the spirit of standardization, necessary improvements may be incorporated.

### 6.2.1.4 Operator’s seat:

1. Width of seat does not meet the requirement of IS: 2343-1988. This should be looked into for necessary corrective action.
2. Longitudinal distance from seat index point to the center of differential lock pedal.

### 6.2.1.5 Symbols of operator’s controls and other displays:

All controls are identifiable with the symbols as per IS: 6283 (Part 1&2)-1998 except the symbol for the color zones for the engine revolution gauge, oil lubricant, type & frequency & cautionary notice has not been provided. This needs to be looked into for necessary corrective action.

### 6.2.1.6 Location and operation of operator’s control:

1. The working clearance around the position lever to draft control gear selector lever was observed as 40 mm against the minimum requirement of 70 mm as per IS: 12239 (Part 2)-1996. This should be looked into for necessary corrective action.

### 6.3 Maintenance / Service problems:

No noticeable maintenance and service problems was observed during the test.

### 6.4 Recommendation with regard to safety on tractor:

The following requirements, inter alia, may be considered for incorporation on the tractor as per relevant Indian Standards:

1. Provision for spark arresting device in exhaust system.
2. The working clearance around position control lever does not meet the requirement of IS: 12239 (part-2)-1999.
3. Provision of front towing hook
4. "Minimum cautionary notice" as per clause 11.2 of IS:12239 (part-2)-1999

### 6.5 Adequacy of Literature:

**6.5.1** The following literatures were supplied with the test tractor for reference during the test.

- **a)** Operator’s manual (For 5055E, 5055E V2, 5055E V3, 5055E Creeper & 5055E 4WD model tractor models).
- **b)** Technical manual (For 5055 E, 5055E V2, 5055E V3, 5055E Creeper, 5055E 4 WD etc. tractor models).
- **c)** Parts Catalogue (For 5055 E, 5055E V2 & 5055E V3 tractor models).
6.5.2 The supplied literature was found adequate. However, these literatures should be brought out in national as well as other regional languages of India for guidance of users.

The results of the tests carried out on variant model “John Deere 5055E V3” have been compared with those on base model “John Deere 5055E V2” and found within the limit, as specified in Indian Standard:12207-2008.

TESTING AUTHORITY:

[Signatures]

J.J.R. Narware
Senior Agricultural Engineer

V.N. Kale
Director

Test Report compiled by Shri. Chanchlesh Singh Raghuvanshi, Senior Technical Assistant