

व्यावसायिक परीक्षण रिपोर्ट (अपूर्ण)
INCOMPLETE COMMERCIAL TEST REPORT
(Variaint Test)

संख्या / No. : T-843/1353/2012
माह / Month : August, 2012

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**FORCE MOTORS LTD,
BALWAN 500 DLX TRACTOR**



सत्यमेव जयते

भारत सरकार
कृषि मंत्रालय
(कृषि एवं सहकारिता विभाग)



**GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE
(DEPARTMENT OF AGRICULTURE & CO-OPERATION)**
केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५

**CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE
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**FORCE MOTORS LTD , BALWAN 500 DLX TRACTOR –
Incomplete - Commercial (Variant)****3. ESSENTIAL TESTS****3.1. SPECIFICATIONS**

	<u>Base Model</u>	<u>Variant Model</u>
3.1.1 Tractor:		
Make	: Bajaj Tempo	M/s Force Motors Ltd.
Model	: Tempo Balwan 500 (BASE OX-45)	Balwan 500 DLX
Type	: Four wheeled, Rear-wheel driven, General Purpose, Agricultural Tractor	
Year of manufacture	: 2003	2011
Chassis number	: T06004538G03	T 06008360 H 11
Country of Origin	: INDIA	INDIA
3.1.2 Engine:		
Make	: Bajaj Tempo	Force Motors Ltd.
Model	: TD 2600 F	TD 2600 F (36)
Type	: Four stroke, naturally aspirated, water cooled, direct injection, diesel engine.	
Serial number	: D08004591	D08008557
Engine speed (Manufacturer's recommended production setting)(rpm) :		
- Maximum speed at no load	: 2400 to 2500	2400 to 2500
- Low idle speed	: 700 to 750	700 to 750
- Speed at maximum torque	: 1300 to 1500	1300 to 1500
Rated speed, (rpm):		
- For PTO use	: 2200	2200
- For drawbar use	: 2200	2200
3.1.3 Cylinder & Cylinder Head:		
Number	: Four	Four
Disposition	: Vertical, inline	Vertical, inline
Bore/stroke, (mm)	: 90.9/100	90.9/100
Capacity as specified by the applicant, (cc)	: 2596	2596
Compression ratio, (apa)	: 18.3 : 1 to 18.8:1	18.3 : 1 to 18.8:1
Type of cylinder head	: Mono block	Mono block
Type of cylinder liners	: Dry, replaceable	Dry, replaceable
Type of combustion chamber	: Direct injection, open cavity on piston crown	
Arrangement of valves	: Overhead, inline	Overhead, inline
Valve clearance (cold/hot):		
- Inlet valve, (mm)	: 0.10 / 0.15	0.10 / 0.15
- Exhaust valve, (mm)	: 0.30 / 0.35	0.30 / 0.35

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5. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

- 5.1 The problem of governor hunting was not rectified. So, the firm has submitted requested vide letter No. FORCE/RMK/1518 dated 10.07.2012 for withdrawal of the said test sample from the test. The applicant's request for withdrawal of above referred tractor from the test was accepted by the competent authority.

TESTING AUTHORITY:

C. V. CHIMOTE
TEST ENGINEER

P.K.VERMA
SENIOR AGRICULTURAL ENGINEER

V.N. KALE
DIRECTOR

Test Report compiled by: **Shri Pramod Yadav**, Senior Technical Assistant.

6. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
6.1	Para 3.1.13.2 (IX)	We confirm that the minimum dimension of lower hitch point clearance will be maintained during series production of the tractor.
6.2	Para 3.1.20.1 (ii) & (iii)	We have noted the requirements and care will be taken to maintain height requirement mentioned in IS 12343: 1998 in series of the production of the tractor.
6.3	Para 3.1.20.2	We have noted the requirement of engine revolution gauge with colour zone for implementation in series production.

ANNEXURE-I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS	HOURS
1.	Running-in	13.9
2.	PTO Performance Test	1.3
B.	Miscellaneous test and other run hours, including idle run transportation, trial and preparation for test.	1.2
	TOTAL	16.4