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AGRICULTURE MACHINERY CENTRE

MINISTRY OF AGRICULTURE AND FORESTS
 PARO: BHUTAN



Test Result Sheet/AMC No: 2016002

Date: 01.04.2016

Type of Machine:- **Power Tiller** Model: **Yanmar, YZC-D** Manufacturer: **Yanmar Co. Limited**

1. Specification:

a. Structure:

Overall Length (mm)	Overall Width (mm)	Overall Height (mm)
2165	866	1176

b. Engine: 4-strokes, Diesel, Single Cylinder, Direct Injection, Rated Engine Speed: 2400 rpm, and Maximum Power: 11.0 hp

c. Transmission: Mechanical, 3 Forwards and 1 Reverse Gears, Main Disk Clutch and Steering Clutch, Nominal Speed at Highest Gear: 9 km/h

d. Tyre: Pneumatic Size:- 6 – 12 Tread:- 700

e. Implements:

1. Plow: Matsuyama MR – 83
2. Rotary: Standard model of YZC-D
3. Trailer: Wangchuk Agro Engineering Make

2. Test Results:

2.1 Safety Device:-

Remarks: Safety requirements are complied.

2.2 Maximum Output Engine Power at 2250 masl:- (Standard: ≤30% power reduction)

Particular	Rated rpm	Manufacturer Max Rated Power (hp)	Max Output Engine Power (hp)	Engine Power Reduction (%)
Mean	2400	11	8.08±0.45	24.78 ±4.7

Atmospheric Condition: Temperature: 25 °C, Relative Humidity; 45 %, Pressure: 773 hpa

2.3 Operation Test

2.3.1 Field Efficiency:-

Implements used	Gear position	Field capacity (acre/day) (Mean Value)	Fuel Consumption (L/ day) (Mean Value)
Plough	2	0.96±0.14	4.64±0.65
Rotary	3	3.17±1.26	13.89±5.63

Note: One day is expressed for 7 working hours

2.3.2 Vibration Level:- (Standard:< 15 m/sec²)

Test Points	Mean Value (m/sec ²) at different Throttle Positions			
	Low	Middle	High	Remarks

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Right Handle	4.57±0.14	4.77±0.36	6.18±0.36	Operation at laboratory
Left Handle	4.13±0.72	5.4±0.46	6.27±0.21	
Mean Value (m/sec ²) at Normal Operation				
Right Handle		9.47±1.16		Rotary operation at field
Left Handle		11.03±1.41		

2.3.3 Sound Level: (Standard: <100dB(A))

Operation (Field)	Mean Value, Noise Level (dB(A)), Positions	
	Left	Right
Rotavating	87.66±2.08	87.66±2.08

2.3.4 Service Brake Value: (Standard: <5 m stopping distance)

Parameters	With load (Mean Value)	Without load (Mean Value)
Stopping distance (m)	1.77±0.02	1.62±0.15
Travelling speed (km/h)	9.00±3.96	9.38±4.20

2.3.5 Parking Brake Value (Standard: No wheel movement at 18% slope)

Parking Brake Lever	Wheel movement observation	
	Facing Upward	Facing Downward
Engaged	No movement	No movement

2.3.6 Handling Remarks: The machine was operated in smooth normal condition without hindrance.

2.3.7 Water Proofing Remarks:

Items	Observations
Infiltration of water in axle case	No water observed in axle case
Infiltration of water in auxiliary transmission case	No water observed in auxiliary transmission case

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