

व्यावसायिक परीक्षण रिपोर्ट
COMMERCIAL TEST REPORT (VARIANT)

संख्या/ No.: COMB-252/2782/2022

माह/Month: February, 2022

THIS TEST REPORT VALID UP TO : 28th February, 2029



**PREET- 949 T
SELF PROPELLED COMBINE HARVESTER
(TRACK TYPE)**



सत्यमेव जयते

भारत सरकार

Government of India

कृषि एवं किसान कल्याण मंत्रालय

Ministry of Agriculture and Farmers Welfare

कृषि एवं किसान कल्याण विभाग

Department of Agriculture and Farmers Welfare

उत्तरी क्षेत्र कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

Northern Region Farm Machinery Training and Testing Institute

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11. SELECTED PERFORMANCE AND OTHER CHARACTERISTICS

11.1 Acceptance Criteria Performance as per IS: 15806-2018, OM No. 13-31/2020-M&T (I&P) dated 28th October 2021

S. No	Characteristics	Category (Evaluative/Non evaluative)	Requirement (R)/ Declaration (D)	Tolerance	Observed	Remarks
1	2	3	4	5	6	7
I.	Prime mover performance					
a)	Max. power (absolute) Average max. Power observed during 2 hrs. Max. Power test in natural ambient condition, kW	Evaluative	56.0 (D)	±5%	57.8	Conforms
b)	Max. power observed during test after adjusting the no load engine speed as per recommendation of the manufacturer for field work, kW	Evaluative	56.0 (D)	±5% of declared value	57.8	Conforms
c)	Power at rated engine speed, kW (under natural ambient condition)	Non evaluative	56.0 (D)	±5% of declared value	57.3	Conforms
d)	Specific fuel consumption corresponding to average maximum power under 2h maximum power test, g/kWh.	Evaluative	235 (D)	+5% (max)	244.4	Conforms
e)	Max. smoke density at 80% load between the speed at max. power & 55% of speed at max. or 1000 rpm whichever is higher	Evaluative	As per central motor vehicles (CMV) rules (R)	Nil	2.5	Conforms
f)	Max. crank shaft torque, (Nm) observed during the test after no load engine speed is adjusted as per manufacturer's recommendation for field work	Evaluative	275 (D)	±8% of declared value	276.2	Conforms

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1	2	3	4	5	6	7
	g) Back up torque, % (Natural ambient)	Evaluative	7 % min. (R)	Nil	11.37	Conforms
	h) Max. operating temperature, °C i) Engine oil ii) Coolant	Evaluative	i) 130 (D) ii) 110 (D)	Should not exceed the declared value	i) 101.6 ii) 87.5	Conforms
	i) Lubrication oil consumption, g/kWh	Evaluative	Not exceeding 1 % of SFC at maximum power (high ambient) (R)	Nil	0.625	Conforms

V. Noise measurement

	a) Max. ambient noise emitted by combine at by-standers position, dB(A)	Evaluative	88 dB(A) as per CMVR (R)	Nil	84.4	Conforms
	b) Max. noise at operator's ear level, dB(A)	Evaluative	98 dB(A) as per CMVR (R)	Nil	97.6	Conforms

X. Safety requirement

	a) Guards against all moving parts	Evaluative	Belt and chain drives, pulleys hydraulic pipes around operators work place	--	Provided	Conforms
	b) Lighting arrangement	Evaluative	As per CMVR	-	Not applicable	--
	c) Grain tank cover	Evaluative	Essential	-	Provided	Conforms
	d) Spark arrester in engine's exhaust in case naturally aspirated engine	Evaluative	Essential		Turbo charger provided in exhaust system	Not applicable
	e) Stone trap before concave bars	Evaluative	Essential	-	Provided	Conforms
	f) Rear view mirror	Evaluative	Essential	-	Provided	Conforms
	g) Fire extinguisher	Evaluative	Essential	-	Provided	Conforms

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1	2	3	4	5	6	7
	h) Slip clutch at following drives – i) Cutting platform auger	Evaluative	Essential		Provided	Conforms
	ii) Undershot conveyor drive	Non evaluative	Essential	-	Not Provided	Does not conform
	iii) Grain & tailing elevator	Non evaluative	Essential		Not provided	Does not conform
	i) Anti slip surfaces at operator platform & ladder & proper gripping for the control levers.	Evaluative	Essential	-	Provided	Conforms
	j) Working clearance around the controls	Non evaluative	Essential 70mm, min	-	Provided	Conforms
	k) Labelling of control and gauges	Evaluative	Essential	-	Provided	Conforms

11.2 Acceptance Criteria in case of break down/ defects as per clause/para 4.2 of IS: 15806-2018.					
Sr. No.	Category of breakdowns	Category (Evaluative/ Non evaluative)	Requirements as per IS 15806:2018	As observed	Whether meets the requirements (Yes/No)
1.	Critical	Evaluative	No critical breakdown	None	Yes
2.	Major	Evaluative	Not more than two and neither of them should be repetitive in nature	None	Yes
3.	Minor	Evaluative	Not more than five and frequency of each should not be more than two	None	Yes
4.	Total breakdown	Evaluative	In no case total no of (major + minor) breakdowns exceed five	None	Yes

12. COMPARISON BETWEEN BASE MODEL AND VARIANT MODEL
(Based on Table 3 of IS 15806:2018,
OM No. 13-31/2020-M&T (I&P) dated 28th October 2021)

Sr. No	Features	Observation on Base Model	Observation on Variant Model	Remarks Changed/ No change
1	Change in Prime mover make and model beyond 10% but within 20% variation in power and engine speed	Make- Preet Model-AH 76 Power- 59.7 kW	Make- TATA Model- 497 TC 48 Power- 57.8 kW	Changed, which is permissible
2	Change in crop conveyance	Axial	Axial	No change
3	Increase or decrease in the size of header unit (Cutter bar)	2350 mm	2350 mm	No change
4	Change in header unit, crop feeder unit, threshing unit, cleaning unit, and/ or other unit/units to suit harvesting of any other crop such as maize, mustard and any other crop recommended by the manufacturer	Ref: Test Report No. Comb-186/2168/2018, June, 2018 issued by the institute	Same as in the Base Model	No Change
5	Addition of number of speed with add-on module and No. of speeds	One	Three	Changed, which is permissible
6	Type of gear box	Hydraulic oil flows from two variable discharge hydraulic pump to hydraulic motor for track drive through double planetary gear attachment. Hydraulic motors are controlled by individual control valve and hand lever.	Continuously variable transmission having combination of hydrostatic and mechanical drive. HST unit drives the drive sprocket shaft through gear box. Mechanical, sliding mesh, 3 speed range	Changed, which is permissible
7	Type of drive (2W/4W drive)	Not Applicable being track type.	Not Applicable being track type.	Do
8	Fitment of cabin	Ref: Test Report No. Comb-186/2168/2018, June, 2018 issued by the institute	Same as in the Base Model	No Change
9	Straw walker number and size			

13. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

13.1 The results of the tests carried out on variant model 'PREET 949 AF' have been compared with those of base model 'PREET-949 T' and found within the limit, as specified in **IS 15806:2018, OM No. 13-31/2020-M&T (I&P) dated 28th October 2021**



13.2 Literature supplied with the machine

The following literature was provided by the applicant during testing.

- i) Operator's manual
- ii) Service manual
- iii) Engine Service manual
- iv) Part's Catalogue
- v) Part's Catalogue of engine

The operator manual needs to be updated as per IS: 8132-1999.

TESTING AUTHORITY

SANJAY KUMAR AGRICULTURAL ENGINEER	
Dr. MUKESH JAIN DIRECTOR	 01.02.2022

Draft test report compiled by C.Veeranjaneyulu, Senior Technician.

14. APPLICANT'S COMMENTS

We will comply with during our regular production of the combine harvester.