व्यावसायिक परीक्षण रिपोर्ट (प्रारंभिक) संख्या/No. : T-1654/2185/2022

COMMERCIAL TEST REPORT (Initial) माह/Month : June, 2022

[ONLINE TESTING]

यह परीक्षण रिपोर्ट 30/06/2025 तक वैध है/ THIS TEST REPORT IS VALID UPTO 30/06/2025)



ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR



भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय (कृषि एवं किसान कल्याण विभाग)

GOVERNMENT OF INDIA MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(DEPARTMENT OF AGRICULTURE & FARMERS WELFARE) केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान

ट्रैक्टर नगर, बुदनी (म.प्र.) 466 445

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE TRACTOR NAGAR, BUDNI (M.P.) 466 445

(An ISO 9001 : 2015 Certified Institute)

E-mail: fmti-mp@nic.in Web site: http://www.fmttibudni.gov.in Telephone: 07564-299003

Page 1 of 47

T-1654/2185/2022 ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

Manufacturer : M/s. Escorts Limited,

Plot No. 2 & 3, Sector - 13

FARIDABAD - 121 007, Haryana

Test requested by (Applicant) : M/s. Escorts Limited,

Knowledge Management Centre,

15/5, Mathura Road,

Faridabad -121 003, Haryana

Selected for test by : The testing authority
Place of running-in : At Testing Institute

Duration of said running-in, (h):

- Engine : 20 - Transmission : 30

Method of Selection : The test sample was selected randomly out

of five tractors from the production line by the representative of testing authority through

online mode.

Details o random se	f tractors made available for election			
Sr. No.	Chassis serial Number			
1	T053567871EK			
2	T053567872EK			
3	T053567873EK			
4	T052567874EK			
5	T052567875EK			

1. SPECIFICATIONS

1.1 Tractor:

Make : Escorts limited

Model : 434 E7

Brand name, if any : POWERTRAC

Type : Rear wheel drive, Standard agricultural

tractor.

Month & year of manufacture : 08/21

Chassis number : T053567875EK

Country of origin : India

1.2 Engine:

Manufacturer's address : M/s. Escorts Limited,

Plot No. 2 & 3, Sector – 13 FARIDABAD – 121 007, Haryana

Make : Escorts Limited Model : E3.234A.3A

Type : Four stroke, naturally aspirated, liquid cooled,

direct injection, diesel engine.

Serial number : E3637114 Country of origin : India

T-1654/2185/2022	ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)
	THIS TEST REPORT IS VALID UPTO: 30/06/2025

18. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

On the basis of test conducted the performance results have been summarized as evaluative (mandatory) / Non-evaluative (Non-mandatory) parameters applicable for Qualifying Minimum Performance criteria as per Clause-4 (Table-1) of **IS: 12207-2019** for acceptance of the tractor for the purpose of subsidies/NABARD financing are summarized as under:

S. No.	Characteristic	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	Values declared by the applicant/ (D) Requirement (R)	As observed	Whether meets the require- ments (Yes/No)
1	2	3	4	5	6	7
18.1.1	PTO Performance:					
a)	Maximum power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: ±5% for PTO power and or engine power >26 kW. ±10% for PTO power and or engine ≤ 26 kW.	23.3 (D)	24.0	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	23.3 (D)	24.0	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% max.	255 (D)	245	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	\pm 8%	134 (D)	144.3	Yes
e)	Back-up torque, percent	Evaluative	12 percent	12 (D) 12 (R)	26.0	Yes
f)	Maximum operating to	emperature, (^o C):			
	1) Engine oil	Evaluative	The declared value should not exceed the max. value specified by the oil company and the observed value under high ambient condition should not exceed the declaration.	125 (D)	102	Yes
	2) Coolant	Evaluative	The declared value should not exceed the boiling temperature of coolant under the pressurized or otherwise and the observed value under high ambient condition should not exceed the declaration.	118 (D)	99	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. Power under High ambient conditions.	2.47 Maximum (R)	0.57	Yes
h)	Smoke level, m ⁻¹	Evaluative	Maximum light absorption coefficient of 3.25 per meter or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR).	3.25 per meter Maximum (R)	0.08	Yes
18.1.2	Drawbar performand	ce:				ı
a)	Max. drawbar pull with ballasted corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass of tractor with ballast.	15.0 (D) 14.55 Minimum (R)	16.86	Yes

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

b) Max drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN) c) Maximum drawbar power with standard ballast, (kW). Evaluative Standard ballast, (kW). Minimum 80 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO performance in case of light weight tractors having total static mass > 1500 kg Minimum 75 % of the engine power as referred in SI No. i) a) of PTO performance in case of light weight tractors having total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of PTO performance in case of light weight tractors having total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor withing 4150 minimum value as pecified by oil company 18.13. Power lift and hydraulic pump performance: 19.2 (R) (IN) (R) (IN) (R) (R) (R) (IN) (R) (R) (R) (R) (R) (R) (R) (R) (R) (R
ballast corresponding to 15 percent wheel slip. (kN) c) Maximum drawbar power with standard ballast, (kW). Evaluative Evaluative Evaluative as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having s1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. d) Maximum transmission oil temperature, (°C) Evaluative Evaluative The declared value should not exceed the maximum value specified by oil company 18.1.3 Power lift and hydraulic pump performance: a) Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% 14.05 (D) 14.76 Yes With the 2) standard frame Evaluative Tolerance of ± 10% 10.13 (D) 5.65 (R) Minimum b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm)
corresponding to 15 percent wheel slip, (kN) c) Maximum drawbar power with standard ballast, (kW). Evaluative Evaluative as referred in SI No. i) a) of PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 (R) Minimu
15 percent wheel slip, (kN) Minimum Mini
slip, (kN) Slip, (kN)
Maximum drawbar power with standard ballast, (kW). Evaluative Ev
Standard ballast, (kW). PTO performance in case of tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft.
tractors having total static mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. The declared value should not exceed the maximum value specified by oil company 18.1.3 Power lift and hydraulic pump performance: 18.1.3 Power lift and hydraulic pump performance: Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% 14.05 (D) 14.76 Yes With the 2) standard frame Evaluative Should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) The observed value should 50 (D) Maximum 75 No minutes interval for a total duration of 30 Minutes, (mm)
mass > 1500 kg Minimum 75 % of PTO power as referred in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. Maximum transmission oil temperature, (°C) Evaluative Evaluative Evaluative Evaluative The declared value should not exceed the maximum value specified by oil company 125 (D) 88 Yes
Maximum transmission oil temperature, (°C) Evaluative Evaluative Tolerance of ±10% Maximum lifting capacity throughout the range of lift, (kN): At hitch points Evaluative Evaluative Tolerance of ±20 kg/PTO kW and it should frame Evaluative Non provided with a PTO shaft.
in SI No. i) a) of PTO performance in case of light weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. Maximum transmission oil temperature, (°C) Evaluative Evaluative Evaluative transmission oil temperature, (°C) Evaluative transmission oil texeced the maximum value specified by oil company 125 (D) 88 Yes Yes The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. Positive transmission oil trans
weight tractors having ≤1500 kg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. The declared value should not exceed the maximum value specified by oil company 18.1.3 Power lift and hydraulic pump performance: a) Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% With the 2) standard frame Evaluative Should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Minutes, (mm)
Reg total static mass of tractor Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. Maximum transmission oil temperature, (°C)
Minimum 75 % of the engine power as referred in SI No. i) a) of engine performance in case of tractors which do not have a PTO shaft. Maximum transmission oil temperature, (°C) Evaluative Evaluative mode a PTO shaft.
Description of the point of application of the force after each 5 minutes, interval for a total duration of 30 Minutes, (mm) Maximum Posterior (most) A total case of tractors which do not have a PTO shaft.
a) of engine performance in case of tractors which do not have a PTO shaft. The declared value should not exceed the maximum value specified by oil company 18.1.3 Power lift and hydraulic pump performance: Maximum lifting capacity throughout the range of lift, (kN): 1
d) Maximum transmission oil temperature, (°C) Evaluative Evaluative a PTO shaft. The declared value should not exceed the maximum value specified by oil company 18.1.3 Power lift and hydraulic pump performance: a) Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% With the 2) standard frame Evaluative Evaluative Should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Maximum Topi In the observed value should not exceed 50 mm The observed value should not exceed 50 mm Non Evaluative In the observed value should not exceed 50 mm Non Evaluative In the observed value should not exceed 50 mm Non Evaluative In the observed value should not exceed 50 mm Non Evaluative In the observed value should not exceed 50 mm Non Evaluative In the observed value should not exceed 50 mm
Maximum transmission oil temperature, (°C) Evaluative The declared value should not exceed the maximum value specified by oil company 125 (D) 88 Yes
transmission oil temperature, (°C)
temperature, (°C) temperature,
18.1.3 Power lift and hydraulic pump performance: a) Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% 14.05 (D) 14.76 Yes With the 2) standard frame Evaluative should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Naximum specified by oil company Value specified by oil company Value specified by oil company 14.05 (D) 14.76 Yes The lift capacity should at least be 24 kg/PTO kW and it should at least be
The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. Should be 21.5 kg/engine kW where the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Maximum lifting capacity throughout the range of lift, (kN): Tolerance of ± 10%
A) Maximum lifting capacity throughout the range of lift, (kN): 1) At hitch points Evaluative Tolerance of ± 10% 14.05 (D) 14.76 Yes With the
1) At hitch points Evaluative Tolerance of ± 10% 14.05 (D) 14.76 Yes With the 2) standard frame Evaluative frame By Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The observed value should should not exceed 50 mm The observed value should not exceed 50 mm
With the 2) standard frame Evaluative frame Evaluative should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The lift capacity should at least be 24 kg/PTO kW and it should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. The observed value should not exceed 50 mm The observed value should not exceed 50 mm
With the standard frame Evaluative Should be 21.5 kg/engine kW where the tractor is not provided with a PTO shaft. 10.13 (D) 5.65 (R) Minimum 5.65 (R) Minimum 5.65 (R) Minimum 5.65 (R) Minimum 7.5 No The observed value should duration of 30 Minutes, (mm) Minimum 7.5 No No Evaluative The observed value should not exceed 50 mm 7.5 No No The observed value should not exceed 50 mm The observed value should not exceed
frame where the tractor is not provided with a PTO shaft. b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) where the tractor is not provided with a PTO shaft. The observed value should not exceed 50 mm The observed value should not exceed 50 mm 75
b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Maximum Minimum Where the tractor is not minimum Minimum The observed value should not exceed 50 mm The observed value should not exceed 50 mm Non Evaluative interval for a total duration of 30 Minutes, (mm)
b) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Maximum drop in the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Maximum drop in the height of the point of application of the force after each 5 minutes are provided with a PTO shaft. The observed value should not exceed 50 mm
the height of the point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) The observed value should not exceed 50 mm The observed value should not exceed 50 mm To observed value should not exceed 50 mm To observed value should not exceed 50 mm To observed value should not exceed 50 mm
point of application of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Non Evaluative The observed value should not exceed 50 mm The observed value should not exceed 50 mm No Maximum 75
of the force after each 5 minutes interval for a total duration of 30 Minutes, (mm) Non Evaluative Non Evaluative Interval for a total duration of 30 Minutes, (mm) Non Evaluative Interval value should not exceed 50 mm The observed value should not exceed 50 mm No Maximum 75
interval for a total duration of 30 Minutes, (mm)
duration of 30 Minutes, (mm)
Minutes, (mm)
18.1.4 Brake performance at 25 kmph:
a) Maximum stopping distance at a force, equal to or less than 600 N on brake pedal with road
ballast, (m):
1) Cold brake Evaluative 10 10 (R) 7.96 Yes
2) Hot brake Evaluative 10 10 (R) 8.09 Yes
b) Maximum force exerted on the
brake pedal to Evaluative 600 600 R) 249 Yes
achieve a Evaluative 600 Maximum to 266
deceleration of 2.5
m/s ² , (N)
c) Whether parking
brake is effective at a force of 600 N Evaluative Yes / No Yes Yes Yes
at a force of 600 N Evaluative Yes / No Yes Yes Yes Yes
400 N at hand
lever

T-1654/2185/2022 ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC)
TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS	VALID LIPTO:	30/06/2025
THIS ILST KEFOKT K	J VALID OF I O.	30/00/2023

1		2	3	4	5	6	7
18.1.5	Nois	e measurement:	_		-	-	
a)	Maximum ambient noise						
,		ed by the tractor,	Evaluative	As per CMVR	88 (R)	82	Yes
b)	Maxi	,					
5)	operator's ear level, dB(A)		Evaluative	As per CMVR	96 (R)	94	Yes
18.1.6		litude of mechanical	vibrations at	<u> </u>			
101110	1)	Left foot rest				207	No
	2)	Right foot rest				213	No
	3)	Seat (with driver seated)	Non Evaluative	100 microns (max.)	100 (R)	131	No
	4)	Steering wheel				196	No
18.1.7	Air c	leaner:					
		mum air cleaner oil over, (%)	Evaluative	0.25 (Max.)	0.25 (Max.)	0.10	Yes
18.1.8	Haul	age requirements:	-	, ,	,		
a)		s mass of the trailers,		T		_	
	Two wheel		Non Evaluative	As specified by the	5.0 (D)	5.0	Yes
	Four wheel		Non Evaluative	manufacturer	6.0 (D)	6.0	Yes
b)	Distance travelled / liter of fuel consumption, (km/l):						
	Two wheel		Non Evaluative	As specified by the	5.0 to 7.0 (D)	6.47	Yes
	Four wheel		Non Evaluative	manufacturer	5.0 to 7.0 (D)	6.04 to 6.08	Yes
c)		consumption, (ml/kn					
	Two wheel		Non Evaluative	As specified by the	30 to 37 (D)	30.95	Yes
	Four wheel		Non Evaluative	manufacturer	30 to 37 (D)	27.40 to 27.60	No
18.1.9	Wetland cultivation :			T		_	
		ng for the following mblies:	Evaluative	The identified assemblies should			
	1)	Clutch assembly	-do-	essentially meet the requirement of IS:	There		
	2)	Brake housings	-do-	11082. No water	should be	No ingress	
	3)	Front axle hubs	-do-	ingress in the identified assembly	no ingress of water	of water	
	4) 5)	Engine Oil Transmission Oil	-do- -do-	given in column-2. If	of water and/or mud	and/or mud was	Yes
	ŕ		-40-	tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only.	(R)	observed	
18.1.10		ty features :	T =	I B #			
a)		ds against moving not parts	Evaluative	Belt drives, pulleys, silencer, hydraulic pipes (As per IS 12239 (Part2)	Meets the	requirement	Yes
b)	Light	ing arrangement	Evaluative	As per CMVR	Meets the	requirement	Yes

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

1		2	3	4	5 6	7
c)	width	tors having more 1150 mm rear track)	Non Evaluative	Should meet the requirements of IS: 12343 (As amended from time to time)	Meets the requirement	Yes
d)			Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meets the requirement	Yes
е)		ensions of three t linkage	Non Evaluative	Should meet the requirements of IS: 4468 (Part-I) (As amended from time to time)	Does not meet the requirement	No
f)		cifications of ge drawbar	Evaluative	Should meet the requirements of IS: 12953 (As amended from time to time)	Meets the requirement	Yes
g)		ging drawbar erever fitted)	Evaluative	Should meet the requirement of IS: 12362 (Part 3) (As amended from time to time)	Not provided	Not appli- cable
h)	1)	Maximum travelling speed at rated engine speed in reverse gears, Kmph	Evaluative	Should not exceed 20 Kmph	10.89 (Meets the requirement)	Yes
	2)	Audible warning signal on tractor	Evaluative	As soon as the travelling speed in reverse gear reaches to 20 kmph, an audible warning signal on tractor shall be activated. The safety aspects about the operation of shuttle technology shall be brought in operation and manufacturer /dealer shall ensure the training on this aspect to operator before the delivery of tractor.	Not fitted	Not appli- cable
18.1.11	Lab	elling of tractors (P	rovision of			
	1)	Make	Evaluative	Should conform to the	Escorts Limited	Yes
	2)	Model	Evaluative	requirements of CMVR along with maximum	434 E7 (Brand Name - POWERTRAC)	Yes
	3)	Month & Year of manufacture	Evaluative	PTO Power in kW and year of manufacture in numerical form. MM YY	08/21	Yes
	4)	Engine number	Evaluative		E3637114	Yes
	5)	Chassis number	Evaluative	Digit 01 – 12 in box No.1	T053567875EK	Yes
	6)	Maximum PTO power, (kW)	Evaluative	for MM will represent the months and next two digits in box No.2 for YY will represent the year of Manufacturing.	23.3	Yes

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

1	2	3	4	5	6	7			
18.1.12	Discard limit for:					•			
(a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by the manufacturer	95.3	95.017 to 95.055	Yes			
(b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative	and supported by the printed literature	0.5	0.123 to 0.168	Yes			
(c)	Piston diameter at skirt, (mm)	Non Evaluative		When the ring groove clearance exceeds discard limit	94.887 to 94.899	Yes			
d)	Ring end gap (mm):								
	 Top comp. ring. 		To be specified	3.0	0.45 to 0.55	Yes			
	- 2 nd comp. ring.		by the	3.0	1.10	Yes			
	- Oil ring.	Evaluative	manufacturer and supported by the printed literature	3.0	0.45 to 0.65	Yes			
(e)	Ring groove clearance (mm):								
	- Top comp. ring.		To be specified	0.50	Tappered				
	- 2 nd comp. ring.	Evaluative	by the manufacturer and supported	0.50	0.063 to 0.073	Yes			
	- Oil ring.		by the printed literature	0.50	0.040 to 0.044	Yes			
(f)	Clearance of main bear	rings (mm):		•	•	•			
,,	- Diametrical clearance	Evaluative	To be specified by the manufacturer	0.40	0.068 to 0.106	Yes			
	- Crankshaft end float	Evaluative	and supported by the printed literature	0.75	0.31	Yes			
(g)	Clearance of big end be			1	1				
	- Diametrical	Evaluative	-do-	0.40	0.060 to 0.080	Yes			
(h)	- Axial Clearance between	Evaluative	-do-	0.75	0.35	Yes			
	king pin and bush, (mm)	Non Evaluative	-do-	0.40	0.063 to 0.257	Yes			
(i)	Clearance between centre pin and bush, (mm)	Non Evaluative	-do-	0.40	0.158 to 0.293	Yes			
18.1.13	Literature (Submission					,			
(a)	Operator manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes			
(b)	Parts Catalogue	Evaluative	Provided / Not Provided	Provided	Provided	Yes			
(c)	Workshop/ Service manual	Evaluative	Provided / Not Provided	Provided	Provided	Yes			

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

1	2	3	4	5	6	7
18.1.14	Fitment of Roll Ov	er Protective	Structures (ROPS):			
	For tractor having more than 1150 mm rear track width		ROPS should meet the requirement of IS:1182 or OECD code or equivalent International Standard	Not	fitted	Not applic- able
18.1.15	Standard Accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Prov	vided	Yes
18.1.16	Accessories (optional)	Non Evaluative	Ballast weight, if fitted, should meet the requirement of CMVR	Prov	vided	Yes

18.2	CATEGOR' 2019):	Y OF BREAKD	OWNS / DEFECTS (As per claus	e 5.0 of IS:1	2207-
S. No.	Category of break- downs	Category (Evaluative / Non Evaluative)	Requirements as per IS: 12207-2019	As observed	Whether meets the Require- ments (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 breakdow ns	Evaluative	In no case, the total number of breakdowns should exceed five, that is, (2 major + 3 minor) or (1 major + 4 minor) or 5 minor breakdowns.	None	Yes

18.3 Conformity with following IS:

- i) Guide lines for declaration of power and specific fuel consumption and labeling : Conforms of agricultural tractors (First revision) [IS10273: 1987 (Reaffirmed in January, 2019)]
- ii) Agricultural tractors Rear mounted power take-off Types 1, 2 and 3 (third : Conforms revision) [IS:4931-1995 (Reaffirmed in January, 2019)]
- iii) Agricultural wheeled tractors Rear mounted three-point linkage: Part 1 : Does not Categories 1, 2, 3 & 4 (fourth revision) [IS 4468(Part-I):1997/ISO 730-1:1994 conform (Reaffirmed in 2017)]
- iv) Drawbar for agricultural tractors Link type [IS 12953:1990 (Reaffirmed : Conforms October, 2017)]
- v) Agricultural tractors Operator's seat technical requirement [IS 12343 –1998 : Conforms (First revision) (Reaffirmed in January, 2019)]
- vi) Guide for safety & comfort of operator of agricultural tractors: Part 1 General : Does not requirements (first revision): [IS 12239 (PT-1)-2018 /ISO 4254-1:2018] conform
- vii) Tractors and machinery for agriculture and forestry Technical means for : Does not ensuring safety Part 2: Tractors (first revision) (IS 12239 (PT-2)-1999) conform (Reaffirmed in January, 2019)]
- viii) Guide lines for location and operation of operator controls on agricultural : Does not tractors and machinery (first revision) IS: 8133- 1983 (Reaffirmed in January, 2019)]
 - ix) Tractors and machinery for agriculture and forestry, powered lawn and garden : Conforms equipment Symbols for operator controls and other displays Part 2 Symbols for agricultural tractors and machinery [IS:6283 (Part-1)- 2006 and IS: 6283 (Part-2)- 2007 (Reaffirmed in January, 2019)]
- x) Agricultural Tractors and Machinery Lighting device for travel on public roads : Conforms (IS: 14683-1999) (Reaffirmed in January, 2019)]

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

18.4 Salient Observations:

18.4.1 Laboratory tests:

18.4.1.1 Hydraulic performance test:

The maximum Cumulative drop in height of lift during load maintenance test was observed was **75 mm** which does not meet the requirement of maximum **50 mm** as per IS-**12207-2019**. This should be looked into for necessary corrective action.

18.4.1.2 Mechanical Vibration:

The amplitude of mechanical vibration on various assemblies / components marked as (*) in Chapter – 10 of this test report is on higher side. This calls for dampening down of vibrations especially on left foot rest and steering control wheel to improve the operational comfort and service life of components.

18.4.1.3 Operator's work place:

Operator's work place meets the requirements of IS: 12239 (Part-I) 2018, **except the following:**

- i) Vertical retainer has not been provided on inner side of clutch pedal.
- ii) Width of foot step has been measured as 150 mm against the requirement of 200 mm.
- iii) Height of footstep from ground level has been measured as 575 mm against the maximum requirement of 550 mm.
- iv) Spark arresting device has not been provided in the exhaust system.

Above parameters does not meet the requirement of IS: 12239 (Part-I) 2018. This should be looked into for necessary corrective action at production level.

18.4.1.4 PTO master shield:

PTO master shield has not been provided on tractor. This should be looked into for necessary corrective action.

18.4.1.5 Three point linkage:

The lateral distance from lower hitch point to centre line of tractor was observed 363 mm against the requirement of 435 mm, which does not meet the requirement of IS: 4468 -1997 (Part-1). This should be looked into for necessary corrective action.

18.4.1.6 Wheel Rims:

- i) The tractor is fitted with rim size of "W11".
- ii) Rule 95 A (2) of CMVR, 1989 read in conjunction with IS: 13154- 2015 provides for "The Agricultural Tractor manufacturer shall select ONLY THAT RIM SIZE AS RECOMMENDED BY THE TYRE MANUFACTURER." In this case, the rim size RECOMMENDED by IS: 13154-2015 and by ITTAC manual is "W12". An immediate corrective action is required to be taken even in stand point of view with compliance to CMVR, 1989.

18.4.1.7 Specification of Tractor:

The applicant has declared that the coolant water ratio as 97:3 vide specification sheet. Whereas, the same has been recommended as 1:3 vide Operator's Manual. This should be looked into for necessary corrective action.

18.5 Maintenance / Service Problems:

No noticeable maintenance or service problem was observed during the test.

18.6 Haulage Test

Specific fuel consumption with four wheel trailer was observed as 27.40 to 27.60 ml/km/ton against the declaration of 30 to 37 ml/km/ton. This should be looked into for corrective action.

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

18.7 Recommendation with regard to safety on tractor:

The following requirements, inter alia, may be considered for incorporation on the tractor:

- The working clearance between position and draft control lever should be provided as per IS: 12239 (Part-2) – 1999.
- The working clearance between position control lever and RHS fender should be provided as per IS: 12239 (Part-2) – 1999.
- Provision of safety against accidental start of engine should be provided as per the requirement of IS: 8133 – 1983.

18.8 Adequacy of Literature supplied with machine:

- 18.8.1 The following literatures were supplied with the test tractor for reference during the test: -
 - a) Operator's Manual for Escorts 434 E7 (Brandname: POWERTRAC) and POWERTRAC 439 tractor models.
 - Part's Catalogue for Escorts 434 E7 (Brandname: POWERTRAC) tractor.
 - c) Service Manual for Escorts 434 E7 (Brandname: POWERTRAC) tractor.
- 18.8.2 The operator manual may be brought out for the guidance of users and service personnel as per IS:8132-1999 incorporating, inter alia, the following:
 - Safe hitch height while using four wheel trailer.

TESTING AUTHORITY:

C.V. CHIMOTE TEST ENGINEER	E Munumundet
P. K. PANDEY DIRECTOR	UZn-msy

Draft test report compiled by: Partha Lodh, Senior Technical Assistant

19. APPLICANT'S COMMENTS

Para No.	Our Reference	Applicant's comments
19.1 18.4.1.6 (i) & (ii)	Your comment for fitment of recommended rim size according to IS: 13154-2015/ITTAC manual is well taken. We will try to take necessary actions in our design to eliminate this gap.	
19.2	1.8 & 18.4.1.7	The coolant water ratio is mentioned as 97:3. We request you to please correct the same in specification as 1:3. The same is mentioned in submitted manual.

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

ANNEXURE-I

BRIEF SPECIFICATION OF MATCHING IMPLEMENTS AS DECLARED BY APPLICANT

S. No.	Parameters	Disc Plough	Rotavator	
1	Make	Field King	Mahindra	
2	Туре	Mounted	Mounted	
3	No. of Discs / Blades	Two	36 in 7 flanges	
4	Type of Discs / Blades	Plain concave	Hatchet	
5	Size of Discs / Blades, (mm)	625	265 x 85 x 8	
6	Spacing of Discs /Flanges, (mm)	560	325	
7	Lower hitch point span, (mm)	785	785	
8	Mast height, (mm)	520	595	
9	Overall Dimensions, (mm):			
	Length	1910	970	
	Width	690	1690	
	Height	1180	1105	
10	Gross Mass, (kg)	295	450	
11	Working width (cm)	2 x 30	150	

ANNEXURE-II

BRIEF SPECIFICATION OF MATCHING CAGE WHEEL AS DECLARED BY APPLICANT

S. No.	Items	Specification	
1	Type	Full cage wheel	
2	Outer dia. (mm)	1250	
3	Width (mm)	1015	
4	No. & Type of Lugs	32, straight lugs made of MS angle section welded	
		to angle iron frame & angular type	
5	Size of angle section, (mm)	40 x 40 x 5	
6	Length of lug, (mm)	510	
7	Spacing of lug, (mm)	230	
8	Weight of each cage wheel, (kg)	140	

ANNEXURE-III

BRIEF SPECIFICATION OF TRAILER DECLARED AS MATCHING TRAILER BY APPLICANT

S. No.	Item	Trailer	Trailer
1.	Type of trailer	Semi - Trailer	Semi – Trailer
2.	Number of axles	Single	Double
3.	Un laden Weight of Trailer, kg	1670	2800
4.	Fully laden Weight of Trailer,	4000	5500
	Tons (Kg)		
5.	Overall dimensions of Trailer, (mm):		
	Overall Width	1870	2140
	Overall Length	4180	5785
	Overall Height	2175	2110
	Wheel Base	Not applicable	2835
	Wheel Track	1600	1740 (Front) & 1765 (Rear)
6.	Dimension of fitted Platform, (mm):		
	Length	3040	4225
	Width	1830	2135
	Height from ground	1190	1305
9.	Brakes of Trailer	Not Provided	Not Provided

ESCORTS LIMITED, 434 E7 (BRAND NAME- POWERTRAC) TRACTOR- COMMERCIAL (Initial)

THIS TEST REPORT IS VALID UPTO: 30/06/2025

ANNEXURE-IV

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS:	HOURS		
1.	Running-in	50.0		
2.	PTO performance test	11.9		
3.	Power lift and hydraulic pump performance test	1.5		
4.	Drawbar performance test	16.8		
5.	Turning ability	0.3		
6.	Location of centre of gravity	0.2		
7.	Operator's field of vision			
8.	Brake test	1.5		
9.	Air cleaner oil pull over test	3.5		
10.	Noise measurement	1.5		
11.	Mechanical vibration test	0.7		
12.	Nominal speed test	0.8		
B.	FIELD TEST:			
1.	Disc ploughing	11.6		
2.	Rotavation	10.8		
3.	Puddling (including 5.0 hours water proof test)	15.2		
C.	HAULAGE TEST:	4.9		
D.	Miscellaneous test and other run hours including idle run,	13.7		
	transportation, trials and preparation for test			
	TOTAL:	144.9		