

(यह परीक्षण रिपोर्ट 30/09/2025 तक वैध है। / THIS TEST REPORT IS VALID UP TO : 30/09/2025)



MAHINDRA YUVO 415 DI TRACTOR



सत्यमेव जयते

भारत सरकार

कृषि एवं किसान कल्याण मंत्रालय
कृषि, सहकारिता एवं किसान कल्याण विभाग
मशीनीकरण एवं प्रौद्योगिकी प्रभाग

GOVERNMENT OF INDIA

MINISTRY OF AGRICULTURE AND FARMERS WELFARE

(Department of Agriculture, Cooperation & Farmers Welfare, Mechanization & Technology Division)

केन्द्रीय कृषि मशीनरी प्रशिक्षण एवं परीक्षण संस्थान
ट्रैक्टर नगर, बुदनी (म.प्र.) ४६६ ४४५

CENTRAL FARM MACHINERY TRAINING & TESTING INSTITUTE
(An ISO : 9001 - 2015 Certified Institute)

Tractor Nagar, Budni (M.P.) 466 445

E-mail fnti-mp@nic.in

Website : <http://www.fmttibudni.gov.in>

Telephone : 07564 - 234729, 234743

1. SPECIFICATIONS

1.1 Tractor:

Make : Mahindra
 Model : YUVO 415 DI
 Brand name : None
 Variants, if any : Yes

Sr. No.	Variant model	Variant features
i)	Mahindra YUVO 575 DI	30.2 kW PTO Power

Type : Four wheeled, Rear wheel driven, General purpose, Unit Construction, Standard Agricultural Tractor
 Month & Year of manufacture : F K
 Chassis number : MBNSFAVAEKNF02977
 Country of origin : India

1.2 Engine:

Make : Mahindra
 Model : MM2730N3AD
 Type : Four stroke, naturally aspirated, liquid cooled, direct injection, diesel engine
 Serial number : NKF5FAE0005
 Year of manufacture : Not available
 Country of origin : India

Engine speed (rpm), (Manufacturer's recommended production settings):

- Maximum speed at no load : 2200 to 2400
 - Low idle speed : 750 to 850
 - Speed at maximum torque : 1300 to 1500

Rated speed, (rpm):

- For PTO use : 2000
 - For drawbar use : 2000

1.3 Cylinder & Cylinder Head:

Number : Four
 Disposition : Vertical, inline
 Bore/stroke, (mm) : 88.9/110
 Capacity as specified by the applicant, (cc) : 2730
 Compression ratio : 19.8 (±1):1
 Type of cylinder head : Monoblock
 Type of cylinder liners : Wet, replaceable
 Type of combustion chamber : Re-entrant bowl, cavity on piston head
 Arrangement of valves : Overhead, inline

Valve clearance (cold / Hot):

- Inlet valve, (mm) : 0.40 / 0.30
 - Exhaust valve, (mm) : 0.50 / 0.40

1.4 Fuel System:

Type of fuel feed system : Gravity and force feed

1.4.1 Fuel tank:

Capacity, (l) : 61.7
 Location : Above clutch housing
 Provision for draining of sediments/ water : Provided
 Material of fuel tank : Plastic

1.4.2 Water separator : Not provided

14. SUMMARY OF OBSERVATIONS, COMMENTS & RECOMMENDATIONS

- 14.1** On the basis of tests conducted the performance results have been summarized as evaluative (mandatory) and non-evaluation (not-mandatory) parameter 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) / Require- ments (R)	As observed	Whether meets the require- ments (Yes/No)
1	2	3	4	5	6	7
14.1.1	PTO Performance :					
a)	Max. power under 2 h test, (kW) (Natural ambient condition)	Evaluative	Declared value to be achieved with a tolerance of: ± 5 per cent for PTO Power & or engine power > 26 kW ± 10 per cent for PTO Power & or engine ≤ 26 kW	26.10 (D)	26.4	Yes
b)	Power at rated engine speed, (kW)	Non Evaluative	-do-	26.10 (D)	26.4	Yes
c)	Specific fuel consumption corresponding to maximum power, (g/kWh)	Evaluative	+ 10% Max.	239 (D)	233	Yes
d)	Maximum equivalent crankshaft torque, (Nm)	Non Evaluative	$\pm 8\%$	162 (D)	155.9	Yes
e)	Back-up torque, percent	Evaluative	12 percent, min.	27 (D) 12 (R) Minimum	23.6	Yes
f)	Maximum operating temperature($^{\circ}$ 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.	130 (D)	93	Yes
	2) Coolant (liquid)	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.	110 (D)	96	Yes
g)	Engine oil consumption, (g/kWh)	Evaluative	Not exceeding 1% of SFC at max. power under High ambient conditions	2.38 (R) Maximum	0.30	Yes
h)	Smoke level, (m^{-1})	Evaluative	Maximum light absorption coefficient of 3.25 per metre or equivalent BOSCH No. 5.2 or 75 Hatridge value (As per CMVR)	3.25 (R) Maximum	0.11	Yes

1	2	3	4	5	6	7
14.1.2	Drawbar performance:					
a)	Maximum drawbar pull with ballast corresponding to 15 percent wheel slip, (kN)	Non Evaluative	Minimum 70% of static mass with ballast	14.91 (D) 15.48 (R)	19.38	Yes
b)	Maximum drawbar pull with standard ballast corresponding to 15 percent wheel slip, (kN)	Evaluative	Minimum 70% of static mass of tractor without/ standard ballast	13.13 (D) 13.52 (R) Minimum	15.48	Yes
c)	Maximum drawbar power without ballast, or with standard ballast as the case may be, kW	Evaluative	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 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.	20.88 (D) 21.12 (R) Minimum	22.6	Yes
d)	Maximum transmission oil temperature (°C)	Evaluative	The declared value should not exceed the maximum value specified by oil company	120 (D)	81	Yes
14.1.3	Power lift and hydraulic pump performance :					
a)	Maximum lifting capacity throughout the range of lift, (kN):					
1)	At hitch points	Evaluative	±10 percent	14.70 (D)	17.27	No
2)	With the standard frame	Evaluative	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	11.77 (D) 6.21 (R) Minimum	11.14	Yes
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 minute, (mm)	Non Evaluative	The observed value should not exceed 50 mm	50 (D) 50 (R) Maximum	05	Yes

1	2	3	4	5	6	7
14.1.4	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)	8.24	Yes
	2) Hot brake	Evaluative	10	10 (R)	8.48	Yes
b)	Maximum force exerted on the brake pedal to achieve a deceleration of 2.5 m/s ² (N)	Evaluative	600	600 (R)	173 to 248	Yes
c)	Whether parking brake is effective at a force of 600 N at foot pedal(s) or 400 N at hand lever, N	Evaluative	Yes / No	Yes	Yes	Yes
14.1.5	Noise measurement :					
a)	Maximum ambient noise emitted by the tractor dB(A)	Evaluative	As per CMVR	88 (R)	80	Yes
b)	Maximum noise at operator's ear level dB(A)	Evaluative	As per CMVR	96 (R)	92	Yes
14.1.6	Amplitude of mechanical vibrations at :					
	1) Left foot rest	Non Evaluative	100 microns (max)	100 Maximum (R)	132	No
	2) Right foot rest				126	No
	3) Seat (with operator)				35	Yes
	4) Steering wheel				144	No
14.1.7	Haulage requirements :					
a)	Gross mass of the trailers, (tones):					
	- Two wheel	Non	To be declared by the manufacturer	5.0	5.0	Yes
	- Four wheel	Evaluative		6.0	6.0	Yes
b)	Distance travelled / litre of fuel consumption, (km/l):					
	- Two wheel	Non	To be declared by the manufacturer	4 to 5	7.00 to 7.01	No
	- Four wheel	Evaluative		4 to 5	6.34 to 6.62	No
c)	Fuel consumption (ml/km/tonne):					
	- Two wheel	Non Evaluative	To be declared by the manufacturer	25 to 30	28.53 to 28.58	Yes
	- Four wheel			25 to 30	25.18 to 26.27	Yes
14.1.8	Wetland cultivation :					
	1) Clutch assembly	Evaluative	The identified assemblies should essentially meet the requirement of IS: 11082. No water ingress in the identified assembly given in column-2. If tractor does not meet the requirements of wetland cultivation, it may be recommended for dry land operation only.	There should be no ingress of water and / or mud	No ingress of water and / or mud was observe during the ICT test vide Test report No. T-985/1509/2015, October 2015.	Not applicable
	2) Brake housings	-do-				
	3) Front axle hubs	-do-				
	4) Engine Oil	-do-				
	5) Transmission Oil	-do-				

1	2	3	4	5	6	7
14.1.9	Safety features:					
a)	Guards against moving and hot parts	Evaluative	Belt drives, pulleys, silencer, hydraulics pipes(as per IS-12239 Part 2)	Meet the requirements	Yes	
b)	Lighting arrangement	Evaluative	As per CMVR	Meet the requirements	Yes	
c)	Seating requirements (Tractors having more than 1150 mm rear track width)	Non Evaluative	Should meet the requirements of IS: 12343 (As amended from time to time)	Meet the requirements	Yes	
d)	Technical requirements for PTO shaft	Evaluative	Should meet the requirements of IS: 4931 (As amended from time to time)	Meet the requirements	Yes	
e)	Dimensions of three point linkage	Non Evaluative	Should meet the requirements of IS: 4468 (Part-I) (As amended from time to time)	Meet the requirements	Yes	
f)	Specifications of linkage drawbar	Evaluative	Should meet the requirements of IS 12953 (As amended from time to time)	Meet the requirements	Yes	
g)	Specifications of Swinging drawbar (wherever fitted)	Evaluative	Should meet the requirements of IS 12362 (Part 3) (As amended from time to time)	Not fitted	Not applicable	
h)	1) Maximum travelling speed at rated engine speed in reverse gears, kmph	Evaluative	Should not exceed 20 Kmph	11.20 (Meet the requirements)	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 applicable	
14.1.10	Labelling of tractors (Provision of labelling plate):					
	1) Make	Evaluative	Should conform to the requirements of CMVR along-with declared value of PTO in kW and year of manufacture in numerical MM YY Digit 01-12 in box No.1 for MM will represent the month and next two digit in the box No.2 for YY will represent the year of manufacturing	Mahindra	Yes	
	2) Model	Evaluative		Yuvo 415 DI	Yes	
	3) Month & Year of manufacture	Evaluative		FK	No	
	4) Engine number	Evaluative		MBNSFAVAEKNF02977	Yes	
	5) Chassis number	Evaluative		NKF5FAE0005	Yes	
	6) Declaration of PTO power, kW (hp)	Evaluative		26.1(35.0)	Yes	
	7) Specific fuel consumption (g/kWh)	Evaluative		239	Yes	

T- 1477/2004/2020	MAHINDRA YUVO 415 DI TRACTOR - Commercial (1st Batch Test)
	THIS TEST REPORT IS VALID UPTO: 30/09/2025

1	2	3	4	5	6	7
14.1.11	Discard limit for:					
a)	Cylinder bore diameter, (mm)	Evaluative	To be specified by manufacturer	89.13	88.894 to 88.922	Yes
b)	Clearance between piston & cylinder liner at skirt, (mm)	Non Evaluative	-do-	0.20	0.111 to 0.114	Yes
c)	Piston diameter, (mm)	Non Evaluative	-do-	88.15	88.799 to 88.808	Yes
d)	Ring end gap (mm):					
	- Top comp. ring.	Evaluative	To be specified by Manufacturer	2.50	0.35 to 0.40	Yes
	- 2 nd comp. ring.			2.50	0.60 to 0.65	Yes
	- Oil ring.			2.00	0.40 to 0.45	Yes
e)	Ring groove clearance (mm):					
	- Top comp. ring.	Evaluative	To be specified by Manufacturer	--	--Tapered --	--
	- 2 nd comp. ring.			0.30	0.066 to 0.085	Yes
	- Oil ring.			0.25	0.038 to 0.045	Yes
f)	Diametrical clearance of main bearings,(mm):					
	- Diametrical	Evaluative	To be specified by Manufacturer	0.20	0.066 to 0.090	Yes
g)	Clearance of big end bearings, (mm):					
	- Diametrical	Evaluative	To be specified by Manufacturer	0.20	0.046 to 0.095	Yes
	- Axial			075	0.15	Yes
h)	Crankshaft end float, (mm)	Evaluative	To be specified by Manufacturer	0.60	0.15	Yes
i)	Clearance between king pin and bush, (mm)	Non Evaluative	To be specified by Manufacturer	0.30	0.062 to 0.093	Yes
j)	Clearance between center pin and bush, (mm)	Non Evaluative	To be specified by Manufacturer	0.30	0.277 to 0.419	No
14.1.12	Literature (Submission to test agency):					
a)	Operator manual	Evaluative	Literature should meet the requirement of Indian Standard : 8132	Provided	Provided	Yes
b)	Parts Catalogue			Provided	Provided	Yes
c)	Service manual			Provided	Provided	Yes
d)	Fitment of Roll Over Protective Structure (ROPS): for tractors having more than 1150 mm rear track width	Evaluative	ROPS should meet the requirement of IS:11821 or OECD code or equivalent International Standard	Provided	Not Fitted	Not applicable
e)	Standard accessories	Evaluative	Trailer hitch, front tow hook, linkage drawbar should be provided with tractor	Provided	Provided	Yes
f)	Optional Accessories	Non Evaluative	Ballast weights if fitted should meet the requirement of CMVR.	Provided	Provided	Yes

14.2	Category of breakdowns / defects (as per clause 5.0 of IS:12207-2019):				
1	Critical breakdown	Evaluative	There is no 'critical breakdown' during the course of testing.	None	Yes
2	Major breakdowns	Evaluative	There are not more than 1 major breakdowns and neither of them is of repetitive nature.	None	Yes
3	Minor breakdowns	Evaluative	There are not more than 3 minor defects during the test and the frequency of each is not be more than two.	None	Yes
4	Total breakdowns	Evaluative	In no case, the total number of breakdowns should exceed four that is, (1 major + 3 minor) or 4 minor breakdowns.	None	Yes

14.3 Salient Observations:

14.3.1 Laboratory tests:

14.3.1.1 PTO Performance Test:

- i) The maximum PTO power was recorded as **26.2 kW & 26.4 kW** in case of previous & present sample respectively against the declaration of **26.1 kW**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- ii) The specific fuel consumption corresponding to maximum power was recorded as **238 g/kWh & 233 g/kWh** in case of previous & present sample respectively against the declaration of **239 g/kWh**, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- iii) The backup torque was observed as **26.6% & 23.6 %** in case of previous & present sample respectively, which meets the requirement of IS: 12207-2019 with regard to tolerance limit.
- iv) The drop in maximum PTO power was observed as **7.6 %** between natural and high ambient condition, which is considered on higher side. This should be looked into for necessary corrective action.

14.3.1.2 Drawbar performance test:

- i) The maximum drawbar pull without ballast/with standard ballast corresponding to 15% wheel slip was recorded as **18.12 kN & 15.48 kN** in case of previous & present sample respectively. The pull recorded in case of present sample is **17.1 %** lower than the previous sample.
- ii) The maximum drawbar power was recorded as **25.1 kW & 22.6 kW** in case of previous & present sample respectively. The maximum drawbar power recorded in case of present sample is **11.1 %** lower than the previous sample.
- iii) The maximum drawbar pull with ballast condition corresponding to 15% wheel slip was recorded as **26.13 kN & 19.38 kN** in case of previous & present sample respectively. The pull recorded in case of present sample is **34.8 %** lower than the previous sample.

From the above (i), (ii) & (iii), it indicates that the overall drawbar performance of the tractor was found deteriorated and calls for introduction of stringent quality control measures at production level.

14.3.1.3 Hydraulic performance test:

- i) Maximum lifting capacity throughout the range of lift at hitch point was recorded as **17.27 kN** against the declaration of **14.70 kN** respectively, which does not meet the evaluative requirement of IS: 12207-2019 with regard to tolerance. This should be looked into for necessary corrective action.
- ii) The lifting capacity at hitch point was observed as **89.4 %** of total mass of standard ballasted tractor & should be reviewed keeping in view the safety aspect during operation.

- iii) The moment about rear axle with standard frame was calculated as **16.32 kN-m**. Whereas, the moment about front axle was calculated as **14.95 kN-m** under standard ballasted condition. The moment about rear axle with standard frame is on higher side as compared to the moment about front axle. Therefore, it is recommended that the lifting capacity of the hydraulic system may be reduced suitably or ballast mass recommendation may be reviewed to avoid the front lifting of the tractor.

14.3.1.4 Mechanical Vibration:

The amplitude of mechanical vibration on various assemblies marked as (*) in Chapter – 8 of this test report is on higher side. This calls for dampening down of vibrations especially on foot rest (LHS & RHS) and steering wheel to improve the operational comfort and service life of components.

14.3.1.5 Specifications of three point linkage:

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

14.3.1.6 Component/assembly inspection:

The clearance between centre pin & bushes was crossed discard limit only after **118.4** hours of operation. This calls for improvement of quality of the components and necessary corrective action.

14.3.1.7 Labelling plate:

The month & year of manufacture embossed on the labelling plate as 'FK' and does not meet the evaluative requirement as per IS: 12207-2019. As per IS: 12207-2019, for instantaneous identification of the product it should be in numerical form on the labeling plate. This should be looked into for necessary corrective action.

14.3.1.8 Variation in specifications as compared to previously tested tractor:

- i) The differential lock was provided on previously tested tractor. Whereas, the same is not provided on present test sample selected for batch testing.
- ii) The standard ballast was not provided on previously tested tractor. Whereas, present tractor was provided with standard ballast during batch test.
- iii) The oil capacity of transmission system was recorded as 37.5 liters in case of previously tested tractor. Whereas, the same is recorded only as 28.9 liters in case of present tractor during batch testing.
- iv) The overall dimensions such as length, height (with exhaust pipe) & ground clearance was measured as 3380 mm, 2500 mm & 295 mm respectively in case of previously tested tractor. Whereas, the same is measured as 3680 mm, 2150 mm & 345 mm respectively in case of present tractor during batch testing.
- v) The recommended ballast for different test by manufacture in case of previously tested tractor during initial commercial test & in case of present tractor during batch testing are summarized below:-

During Initial Commercial Test					During Batch Test				
Particulars		As used during drawbar test	As used during field test		As used during Haulage test	As used during drawbar test	As used during field test		As used during Haulage test
			Dry land	Puddling			Dry land	Puddling	
Front	C.I. weight	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
	Water	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Rear	C.I. weight	532	152	Full cage wheels fitted	152	74	74	Full cage wheels fitted	74
	Water	300	Nil		Nil	200	Nil		Nil

The recommended ballast for drawbar test, field test (Dry land) & haulage test in case of present sample is **67 %**, **51.3 %** & **51.3 %** lower than the previous sample respectively.

From the above (i), (ii), (iii), (iv) & (v), it indicates that the specifications/construction of the said tractor model have been altered by the manufacturer during regular production and does not confirm to the specifications certified during the Initial Commercial test. All of the above should be looked into for necessary corrective action.

14.4 Maintenance / Service Problems:

- i) The first change of transmission oil as recommended by applicant after 1300 hours and subsequently after every 1200 hours of operation. The recommendation of first oil change shall be reviewed as the same is technically incorrect.
- ii) First replacements of primary & secondary air filter have been recommended as after 900 & 2500 hours respectively. Subsequent replacements of primary & secondary air filter have been recommended as after 800 & 2400 hours respectively. The recommendation of first replacement of primary & secondary air filter shall be reviewed as the same is technically incorrect.

14.5 Recommendation with regard to safety on tractor:

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

- i) Differential lock should be provided.
- ii) There should be provision for spark arresting device in exhaust system.
- iii) The working clearance between the mudguard and position & draft control lever should be provided as per relevant standard.
- iv) Vertical retainness at both side of clutch pedal should be provided.

14.6 Adequacy of Literature supplied with machine:

14.6.1 The following literature was supplied with the tractor for reference during the test.

- i) Operator's manual for Mahindra YUVO 475 DI, YUVO 275 DI & YUVO 415 DI tractor models.
- ii) Spare part's catalogue for Mahindra YUVO 475 DI, YUVO 275 DI & YUVO 415 DI tractor models.
- iii) Service manual for Mahindra YUVO 475 DI, YUVO 275 DI & YUVO 415 DI tractor models.

14.6.2 The supplied literature was found inadequate as it does not cover the following information. Therefore, it is recommended that the relevant literature may be updated by incorporating the following information:

Information related to hydraulic performance of the tractor such as hydraulic pump discharge rate, hydraulic power & lifting Capacities etc. should be included in the technical specification of the tractor for the guidance of the user's.



15. CITIZEN CHARTER

Time frame for testing & evaluation as per citizen charter	Duration of Test	Whether the report released within time frame given in the citizen charter	Remark
10 Months	09 Months (November, 2019 to July, 2020)	Yes	Total four months taken by manufacturer for resolving the problems of hydraulic system.

TESTING AUTHORITY

**PRAMOD YADAV
 AGRICULTURAL ENGINEER**

**C.V. CHIMOTE
 TEST ENGINEER**

**J.J.R. NARWARE
 DIRECTOR**

The report compiled by: Shri Dev Vrat Kumar, Senior Technical Assistant.

16. APPLICANT'S COMMENTS

Para no.	Our reference	Applicant comments
16.1	14.1.10 (3) & 14.3.1.7	Will be provided with MMY in numerical form on regular production of the subject tractor model w.e.f. 01.09.2020. The cut off chassis numbers details are as follows:- Chassis No.MBNSFAVAELNF03234 Engine No.: NLF5FAE0001
16.2	14.3.1.2 (i),(ii) & (iii)	Various reasons for reduced Drawbar Pull and Power on present test sample will be studied at our end.
16.3	14.6.2	Institute comment for Hydraulic Power & Pump Flow will be studied and necessary parameters as per mandatory requirements will be incorporated.
16.4	14.6.3	Literatures are available in all regional languages of India.
16.5	14.3.1.6 & 14.3.1.8 (iii)	Observation will be studied, and necessary corrective action will be initiated.

T- 1477/2004/2020	MAHINDRA YUVO 415 DI TRACTOR - Commercial (1st Batch Test)
	THIS TEST REPORT IS VALID UPTO: 30/09/2025

ANNEXURE - I

TRACTOR RUN HOURS DURING TEST

A.	LABORATORY AND TRACK TESTS	HOURS
1.	Running-in	69.0
2.	PTO Performance Test	11.5
3.	Power lift and hydraulic pump performance test	3.5
4.	Drawbar performance test	18.1
5.	Brake test	2.0
6.	Noise measurement	1.5
7.	Mechanical vibration test	0.8
8.	Theoretical speed test	1.0
B.	HAULAGE TEST	5.1
C.	Miscellaneous test and other run hours including idle run, transportation, trials and preparation for test	5.9
TOTAL:		118.4