

Team Name	TEAM DRUTHA					
University/College	COLLEGE OF ENGINEERING, ADOOR					
Competition Code	FFS - 2018					
Year	2018					
Car #	HASTEN					
Cost Summary Basics						
Area Totals		Materials	Processes	Fasteners	Tooling	Total
	Brake System	₹ 17,731.14	₹ 4,609.32	₹ 192.93	₹ -	₹ 22,162.71
	Engine & Drivetrain	₹ 117,570.37	₹ 7,055.26	₹ 1,823.96	₹ 21.67	₹ 85,722.42
	Frame & Body	₹ 60,418.41	₹ 21,914.54	₹ 496.83	₹ 606.66	₹ 83,436.44
	Instruments & Wiring	₹ 5,035.55	₹ 1,670.40	₹ -	₹ -	₹ 6,705.95
	Miscellaneous, Fit & Finish	₹ 27,804.79	₹ 4,461.28	₹ 551.64	₹ -	₹ 32,817.71
	Steering System	₹ 606.92	₹ 2,581.58	₹ 24.09	₹ 433.33	₹ 3,645.92
	Suspension & Shocks	₹ 16,322.94	₹ 13,393.58	₹ 745.90	₹ 370.08	₹ 30,832.50
	Wheels & Tires	₹ 62,187.40	₹ 8,896.28	₹ 1,304.00	₹ -	₹ 72,387.68
	Total Vehicle	₹ 307,677.52	₹ 64,582.24	₹ 5,139.35	₹ 1,431.74	₹ 337,711.33

Team Name	TEAM DRUTHA											Total Vehicle Cost	337711.33
University/Collge	COLLEGE OF ENGINEERING, ADOOR												
Competition Code	FFS - 2018		for engine on										
Year	2018		The cost of assemblies on this chart should not include the cost of the parts in the assembly but only the materials, processes, fasteners and tooling in the assembly level.										
Car #	HASTEN												
Line Num.	Area of Commodity	Asm	Component	Description	Unit Cost	Quantity	Material Cost	Process Cost	Fastener Cost	Tooling Cost	Total Cost		
1	Brake System		Brake Discs	Yamaha Ray Disc Rotor	1,205.07	3	215	990.07			3615.21		
2	Brake System	Brake Discs	Disks		0.00						0.00		
3	Brake System	Brake Discs	Keys		0.00						0.00		
4	Brake System		Brake Fluid	Liquimoly, 500ml	666.00	2	666				1332.00		
5	Brake System	Brake Fluid	Brake Fluid		0.00						0.00		
6	Brake System		Brake Line		0.00						0.00		
7	Brake System	Brake Line	Brake Line - Flexible	Flexible Brake Line	1,425.35	2	1035	351.35	39		2850.70		
8	Brake System	Brake Line	Brake Line - Rigid	Hard Brake line	433.49	1	43.14	351.35	39		433.49		
9	Brake System		Brake Master Cylinder	Bybre master cylinder	1,115.51	3	1030	73.13	12.38		3346.53		
10	Brake System	Brake Master	Brake Master Cylinder		0.00						0.00		
11	Brake System		Proportioning Valve		0.00						0.00		
12	Brake System	Proportioning	Proportioning Valve		0.00						0.00		
13	Brake System		Balance Bar		0.00						0.00		
14	Brake System	Balance Bar	Balance Bar		0.00						0.00		
15	Brake System		Brake Pads	Iron/Steel rotor	269.13	6	261	8.13			1614.78		
16	Brake System	Brake Pads	Brake Pads		0.00						0.00		
17	Brake System		Calipers	Wilwood PS -1	2,990.00	3	2995	105.63	12.93		8970.00		
	Brake System		Area Total				17731.14	4609.32	192.93	0.00	22162.71		
1	Engine & Drivetrain		Engine	KTM Duke 390CC, 44BHP	50,700.00	1	50700	268.13	190.62		50700.00		
2	Engine & Drivetrain		Exhaust Manifold	Exhaust flange and exhaust header	566.97	1	204.75	334.75	5.8	21.67	566.97		
3	Engine & Drivetrain		Muffler	Stainless steel, Exhaust inner and outer	511.97	1	143.65	244.4	123.92		511.97		
4	Engine & Drivetrain		Intake Manifold		-						0.00		
5	Engine & Drivetrain		Restrictor	Air restrictor	465.56	1	109.5	356.06			456.56		
6	Engine & Drivetrain		Air Filter	Air filter restricts debris entry	3,291.93	1	3120	73.13	98.8		3291.93		
7	Engine & Drivetrain		Turbo/Supercharger		-						0.00		
8	Engine & Drivetrain		Carburetor / Throttle Body		-						0.00		
9	Engine & Drivetrain		Engine Mounts		-						0.00		
10	Engine & Drivetrain		Fuel Injectors	Fuel injector, KTM Duke 390	5,364.58	1	5200.45	73.13	91		5364.58		
11	Engine & Drivetrain		Fuel Tank	3 litre fuel tank	2,573.78	1	458.25	2096.25	19.28		2573.78		
12	Engine & Drivetrain		Fuel Pump		-						0.00		
13	Engine & Drivetrain		Fuel Pressure Regulator		-						0.00		
14	Engine & Drivetrain		Fuel Filter	Fuel filter and lines restricting debris entry	795.60	1	520	130	145.6		795.60		
15	Engine & Drivetrain	Fuel Filter	Filter		-						0.00		
16	Engine & Drivetrain	Fuel Filter	Filter Mount		-						0.00		
17	Engine & Drivetrain	Fuel Filter	Fittings		-						0.00		
18	Engine & Drivetrain		Fuel Lines / Rails		306.10	1	30.5	130	145.6		306.10		
19	Engine & Drivetrain		Fuel Vent / Check Valve		-						0.00		
20	Engine & Drivetrain		Radiator	Heat exchanger, Air to liquid	175.71	1	84.53		91.18		175.71		
21	Engine & Drivetrain		Coolant		30.15	1	30.15				30.15		
22	Engine & Drivetrain		Overflow Bottles		-						0.00		
23	Engine & Drivetrain		Coolant Lines	Flexible coolant lines	30.15	1	30.15				30.15		
24	Engine & Drivetrain		Radiator Fans		-						0.00		
25	Engine & Drivetrain		Hose Clamps		49.40	2					98.80		
26	Engine & Drivetrain		Oil Cooler		84.53	1					84.53		
27	Engine & Drivetrain		Chain / Belt		3,054.35	1	3054.35				3054.35		
28	Engine & Drivetrain		Ignition Coil / Wires		-						0.00		
29	Engine & Drivetrain		Axles		905.34	1	214.91	690.43			905.34		
30	Engine & Drivetrain		Differential Mounts		-						0.00		
31	Engine & Drivetrain		Sprocket / Pulleys		1,185.63	2	376.34	712.01	97.28		2371.26		
32	Engine & Drivetrain		Differential		-						0.00		
33	Engine & Drivetrain	Differential	Differential Bearings	6906-2RS bearing	916.50	1	916.5				916.50		
34	Engine & Drivetrain	Differential	Differential Internals		-						0.00		
35	Engine & Drivetrain	Differential	Differential End Cap - LH		-						0.00		
36	Engine & Drivetrain	Differential	Differential End Cap - RH		-						0.00		
37	Engine & Drivetrain	Differential	Differential Housing		-						0.00		
38	Engine & Drivetrain		CV Joints / U Joints	Cover joint	13,488.14	4	13000	308.74	179.4		13488.14		
39	Engine & Drivetrain		Shields		-						0.00		
40	Engine & Drivetrain		Engine and Diff Oil		-						0.00		
41	Engine & Drivetrain	Power Train	Spool		5,170.67	1	1539.12	3631.55			5170.67		
	Engine & Drivetrain		Area Total				117570.37	7055.26	1823.96	21.67	85722.42		
1	Frame & Body		Pedals	Brake pedals for braking and accelration pedal for acceleration	320.86	4	43.88	212.55	31.93	32.5	1283.44		
2	Frame & Body		Shifter	Gear shifter	2,203.74	1	2015.81	156	31.93		2203.74		
3	Frame & Body		Thottle Controls		-						0.00		
4	Frame & Body		Frame	Complete frame including roll hoops and engine mounts	19,410.28	1	3451.19	15504.09		455	19410.28		
5	Frame & Body		Body	Stainless steel and glass fibre	59,005.60	1	53950	4998	57.6		59005.60		
6	Frame & Body		Floor Pan	Floor covering	1,186.64	1	731.64	195	260		1186.64		
7	Frame & Body		Clutch	Clutch pedal for gear shifting	346.74	1	94.25	211.25	19.58	21.66	346.74		
8	Frame & Body		Aerodynamic Wing (if used)		-						0.00		
9	Frame & Body		Shifter Cable / Linkage	a linkage is provided for gear shifting	770.00		720	50			0.00		
10	Frame & Body		Mounts	For connecting all components to the frame	36.25	86	1234.26	459.12			3117.50		
	Frame & Body		Area Total				60418.41	21914.54	496.83	606.66	83436.44		
1	Electrical		Tachometer		-						0.00		
2	Electrical		ECM / Engine Electronics		-						0.00		
3	Electrical		Wire Harness / Connectors		-						0.00		
4	Electrical		Oil Pressure Gage / Light		-						0.00		
5	Electrical		Dash Panel		-						0.00		
6	Electrical		Kill Switch	Engine ON/OFF	1,711.72	3	1430	281.72			5135.16		
7	Electrical		Fuses		-						0.00		
8	Electrical		Water Temperature Gage		-						0.00		
9	Electrical		Brake Light Bulb	Indicator light during braking	979.78		910	69.78			0.00		
10	Electrical		Solenoids		-						0.00		
11	Electrical		Indicator Lights		-						0.00		
12	Electrical		Battery	Power supply to the engine	1,473.55	1	680.55	793			1473.55		
13	Electrical		Relays		-						0.00		
14	Electrical		Starter Button	Engine start	97.24	1	65	32.24			97.24		
	Instruments & Wiring		Area Total				5035.55	1670.40	0.00	0.00	6705.95		
1	Miscellaneous, Fit & Finish		Seats	Driver seat	19,331.66	1	16900	2418	13.66		19331.66		
2	Miscellaneous, Fit & Finish		On-Board Fire Suppression Sys.		-						0.00		
3	Miscellaneous, Fit & Finish		Safety Harness	Driver harness and safety precautions	3,763.61	1	2925	300.63	537.98		3763.61		
4	Miscellaneous, Fit & Finish		Paint - Frame	Metallic black, spray paint	2,756.00	1	2756				2756.00		
5	Miscellaneous, Fit & Finish		Paint - Body	Black and red, spray paint	3,178.50	1	3178.5				3178.50		
6	Miscellaneous, Fit & Finish		Brake Light Housing		-						0.00		
7	Miscellaneous, Fit & Finish		Fire Wall	60x110sqcm area, driver's protection	1,637.58	1	613.83	1023.75			1637.58		
8	Miscellaneous, Fit & Finish		Mirrors (See 3.4.3.2)		-						0.00		
9	Miscellaneous, Fit & Finish		Safety Shields		-						0.00		
10	Miscellaneous, Fit & Finish		Headrest / Restraints	Driver's comfort	2,150.36	1	1431.46	718.9			2150.36		
11	Miscellaneous, Fit & Finish		Impact attenuator	Protection and safety	3,779.75	1	3779.75				3779.75		
12	Miscellaneous, Fit & Finish		Fasteners	Bolts and Nuts	66.10	97	3412				6412.97		
	Miscellaneous, Fit & Finish		Area Total				27804.79	4461.28	551.64	0.00	32817.71		
1	Steering System		Steering Rack & Pinion	Wheel control	2,069.10	1	270.55	1798.55			2069.10		
2	Steering System		Tie Rods		-						0.00		
3	Steering System		Steering Column & Shaft		372.83	1	58.5	311.03	3.3		372.83		
4	Steering System		Steering Wheel		634.18	1	122.85	78		433.33	634.18		
5	Steering System		Steering Wheel Quick Release	Quick release mechanism	569.81	1	155.02	394	20.79		569.81		
6	Steering System		Steering Rod Ends & Clevis		91.33		66.24	12.19	12.9		0.00		
	Steering System		Area Total				606.92	2581.58	24.09	433.33	3645.92		
1	Suspension		Dampers		714.08	1	650		64.08		714.08		

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