

Formula Student Italy 2019

Cost report

Changelogs

Main causes :

Testing

Scrutineering in FSN



System	Assembly	Sub_assembly	Assembly_no	Part	m/b	Qty	Cost	Cost comment	Part_no
EN	Intake System	EN_A0300							
EN	Intake System		EN_A0300	Assembly processes	b	1			P_EN_A0300
	Material	Safety wire		Safety wire for Coupling sleeve		1	0,30 €	2 (nbr wire) * 0,3 (lenght) * 0,05 (€/m)	
	Process	Safety wire, Install		For coupling sleeve		1	0,41 €	2 (nbr wire) * 0,205	
EN	Intake System			Air manifold	EN_A	1			EN_03001
EN	Intake System		EN_A0300	Flat-bottomed	m	1			EN_03002
EN	Intake System		EN_A0300	Tubing collector	b	1			EN_03003
EN	Intake System		EN_A0300	Coupling sleeve	b	2			EN_03004
EN	Intake System		EN_A0300	Left frame mounting tube	m	1			EN_03005
EN	Intake System		EN_A0300	Right frame mounting tube	m	1			EN_03006
EN	Intake System		EN_A0300	Engine mounting tube	m	2			EN_03007
EN	Intake System		EN_A0300	Mounting plate	m	2			EN_03008

System	Assembly	Sub_assembly	Assembly_no	Part	m/b	Qty	Cost	Cost comment	Part_no
EN	Throttle Body	EN_A0400							
EN	Throttle Body		EN_A0400	Assembly processes	b	1			P_EN_A0400
	Material	Other: Sealing paper		Sealing btw air restrictor convergent		1	0,25 €	3600 (mm²) * 70,63 (€/m²)	
	Process	Programming		For sealing paper air restrictor		1	0,61 €	0.61 €/program (Operator - Fixed cost)	
		Other: Laser cut setup, install and							
	Process	remove		Laser cut preparing		1	0,01 €	2.37 €/m² * 3600 mm²	
	Process	Laser Cut		Laser cut sealing paper		1	0,11 €	3.62E-4 €/mm * 300 mm	
	Process	Other: Metrology		Sealing paper		1	0,41 €	0.41 €/part (Operator - Fixed cost)	
EN	Throttle Body		EN_A0400	Inferior plate	m	1			EN_04001
EN	Throttle Body		EN_A0400	Front stop plate	m	1			EN_04002
EN	Throttle Body		EN_A0400	Rear stop plate	m	1			EN_04003
EN	Throttle Body		EN_A0400	Medium plate	m	1			EN_04004
EN	Throttle Body		EN_A0400	Superior plate	m	1			EN_04005
EN	Throttle Body		EN_A0400	Air filter	b	1			EN_04006
EN	Throttle Body		EN_A0400	Convergent	b	1			EN_04007
EN	Throttle Body		EN_A0400	Air restrictor	b	1			EN_04008

System	Assembly	Sub_assembly	Assembly_no	Part	m/b	Qty	Cost	Cost comment	Part_no
EN	Drivetrain Ass EN_A0700								
EN	Drivetrain Assembly		EN_A0400	Assembly processes	b	1			P_EN_A0700
	Fastener	Other: Boot clamp, ligarex strap with k		REMOVED		1	3,60 €	4 x 0,90€ = 3,60€	
	Process	Install Tie wrap (zip tie, Cable clamp)					0,50 €	0,10 € * 5 (nbr tie wrap)	
	Fastener	Tie wrap		Large			1,00 €	0,20 € * 5 (nbr tie wrap)	
EN	Drivetrain Assembly		EN_A0700	Differential	b	1			EN_07001
EN	Drivetrain Assembly		EN_A0700	Eccentric left	m	1			EN_07002
EN	Drivetrain Assembly		EN_A0700	Eccentric right	m	1			EN_07003
EN	Drivetrain Assembly		EN_A0700	Eccentric carrier left	m	1			EN_07004
EN	Drivetrain Assembly		EN_A0700	Eccentric carrier right	m	1			EN_07005
EN	Drivetrain Assembly		EN_A0700	Ball bearing left	b	1			EN_07006
EN	Drivetrain Assembly		EN_A0700	Ball bearing right	b	1			EN_07007
EN	Drivetrain Assembly		EN_A0700	Needle roller bearing	b	2			EN_07008
EN	Drivetrain Assembly		EN_A0700	Chain	b	1			EN_07009
EN	Drivetrain Assembly		EN_A0700	Front sprocket	b	1			EN_07010
EN	Drivetrain Assembly		EN_A0700	Rear sprocket	b	1			EN_07011
EN	Drivetrain Assembly		EN_A0700	Rear sprocket adaptator	m	1			EN_07012
EN	Drivetrain Assembly		EN_A0700	Chainshield	m	1			EN_07013
	Materials	Paint		To paint chainshield		1	1,48 €	1640 (cm²) * 0,0009 (€/cm²)	
	Process	Painting, aerosol apply		Cleaning + painting		1	17,05 €	1640 (cm²) * 0,0104 (€/cm²)	
EN	Drivetrain Assembly		EN_A0700	Driveshaft left	b	1			EN_07014
EN	Drivetrain Assembly		EN_A0700	Driveshaft right	b	1			EN_07015
EN	Drivetrain Assembly		EN_A0700	Tripod	b	4			EN_07016
EN	Drivetrain Assembly		EN_A0700	Inner tripod housing	b	2			EN_07017
EN	Drivetrain Assembly		EN_A0700	Outer tripod housing	b	2			EN_07018
EN	Drivetrain Assembly		EN_A0700	Tripod housing nut	b	2			EN_07019
EN	Drivetrain Assembly		EN_A0700	Axle boots	b	4			EN_07020

System	Assembly	Sub_assembly	Assembly_no	Part	m/b	Qty	Cost	Cost comment	Part_no
ST	Steering Shaft	ST_A0200							
EN	Steering Shaft		ST_A0200	Assembly processes	b	1			P_ST_A0200
	Materials	Foam		340 mm lenght, tube		1			
	Materials	Tape		2m of lenght		1			
	Process	Cutting		Manually, foam		1			
	Process	Assemble by hand		For foam around column		1			
	Process	Assemble by hand		For the tape around foam		1			
ST	Steering Shaft		ST_A0200	Quick Release Shaft	b	1			ST_02001
ST	Steering Shaft		ST_A0200	Steering Shaft Pivot	m	1			ST_02002
ST	Steering Shaft		ST_A0200	Steering U-joint	b	1			ST_02003
ST	Steering Shaft		ST_A0200	Steering column	m	1			ST_02004
ST	Steering Shaft		ST_A0200	Spline coupler	b	1			ST_02005
ST	Steering Shaft		ST_A0200	Bearing, Ball, Radial	b	2			ST_02006
ST	Steering Shaft		ST_A0200	U-joint boot	b	1			ST_02007

System	Assembly	Sub_assembly	Assembly_no	Part	m/b	Qty	Cost	Cost comment	Part_no
ST	Steering Rack	ST_A0300							
EN	Steering Rack		ST_A0300	Assembly processes	b	1			P_ST_A0300
ST	Steering Rack			Steering Rack	ST_A0	1			ST_03001
	Materials	Threadlock, medium				2			
	Process	Untighten bolts (Ratchet, Wrench,...)		2 times, each side rack		1			
	Process	Threadlock application		2 times, for each side		1			
	Process	Fastener install		8 times, for washers		1			
	Process	Tighten bolts (Ratchet, Wrench,...)		2 times, for each side		1			
	Fastener	Other: Washer, rubber		Size M10, stop for rack		2			
	Fastener	Other: Washer, steel stainless		Size M14, stop for rack		6			
ST	Steering Rack		ST_A0300	Half moon	m	4			ST_03002
ST	Steering Rack		ST_A0300	Steering Rack protection	m	1			ST_03003