

Paddle Scoot - Bill Of Materials / Feasibility

SYSTEM COMPATIBILITY															
THE 2 X SEALED LEAD ACID BATTERIES AND WATER PROOF SWITCH NEEDS TO BE HOUSED IN A WATER PROOF CONTAINER AS PADDLE SCOOT IS INSTALLED ON KAYAKS.															
BILL OF MATERIALS (BOM)															
BOM Level	0	1	2	3	Components	Part #	Part Name	Revision	Quantity	Unit of Measure	Procurement Type	Reference Design	Total Price (AUD)	Part Price (AUD)	BOM Notes
0	*				Attachment	1	Grunt 25mm x 2m luggage strap	A	1	packet	OTS	https://www.bunnings.com.au/grunt-luggage-strap	\$7.98	\$3.99	2 straps in package
0	*				Attachment	2	Pipe insulation 38mm	A	1	metre	OTS	https://www.bunnings.com.au/pipe-insulation	\$4.93	\$1.64	30cm required.
0	*				Attachment	3	Zip ties	A	1	packet	OTS	https://www.bunnings.com.au/zip-ties	\$2.76	\$0.30	2 required.
0	*				Attachment	4	Downpipe round clip	A	1	each	OTS	https://www.bunnings.com.au/downpipe-round-clip	\$2.05	\$2.05	
0	*				Propulsion	5	2.2 Amp Hour 12 Volt Sealed Lead Acid Battery	A	2	each	OTS	http://www.jaycar.com.au/2-2-amp-hour-12-volt-sealed-lead-acid-battery	\$47.90	\$47.90	To drive bilge pump
0	*				Propulsion	6	12 Volt Lead Acid Battery Charger	A	1	each	OTS	http://www.jaycar.com.au/12-volt-lead-acid-battery-charger	\$29.95	\$29.95	
0	*				Propulsion	7	3A fuse holder	A	1	each	OTS	http://www.jaycar.com.au/3a-fuse-holder	\$1.75	\$1.75	
0	*				Propulsion	8	3A fuse	A	1	each	OTS	http://www.jaycar.com.au/3a-fuse	\$1.25	\$1.25	
0	*				Propulsion	9	Marine 12V 350GPH Submersible Pump	A	2	each	OTS	http://www.ebay.com.au/itm/12v-350gph-submersible-pump	\$59.98	\$59.98	
0	*				Propulsion	10	M7 x 30mm Bolt	A	1	packet	OTS	http://www.bunnings.com.au/m7-x-30mm-bolt	\$5.00	\$0.30	For propeller shaft
0	*				Propulsion	11	M7 Nylon Lock Nuts	A	1	packet	OTS	http://www.ebay.com.au/itm/m7-nylon-lock-nuts	\$5.00	\$0.30	For tip of propeller
1	*				Controls	12	On/Off Marine Switch	A	1	each	OTS	http://www.jaycar.com.au/on-off-marine-switch	\$12.95	\$12.95	
1	*				Controls	13	Water resistant case	A	1	each	OTS	http://www.bunnings.com.au/water-resistant-case	\$9.98	\$9.98	
													\$161.53	\$142.39	
FEASIBILITY															
#	Component	Part	Voltage (V)	Current (I)	Power (Watts ; I * V)	Width (mm)	Length (mm)	Height (mm)	Rectangular (volume)	Round + Connectors	Weight (grams)	Comment			
1	Propulsion	Water pump	12	1.8	21.6	56		110		0	410	External. Not housed within case.			
2	Propulsion	12V 2.2Ahr sealed	12	2.2	26.4	178		34	66	1000	400432	940			
3	Propulsion	Water resistant case				188		47	113		998468	250			
					4.8						598036	1600			
					FEASIBLE : surplus power						FEASIBLE : surplus FEASIBLE : less than 3KG				
	Controls	Motor Controller (drive : 4.8 – 46V, 2A) - see Water pump above											External. Not housed within case.		
4	Controls	Motor Controller	7.4	0.036	0.27	53		47	10	32000	56910	29			
5	Controls	DragonBoard 410c	7.4	2	14.8	85		54	15	32000	100850	50	Estimated weight		
6	Controls	Ultrasonic Sensor	5	0.015	0.08	20		15	10		3000	30	Estimated weight. External. Not housed within case.		
7	Controls	Breadboard x 2				100		80	40		320000				
8	Controls	Water Temperature	5	0.0015	0.01	10		950	10		0	40	External. Not housed within case.		
9	Controls	7.4V Lipo 2200mAh	7.4	2.2	16.28	103		34	15	32000	84530	130			
10	Controls	Water resistant case				188		47	113		998468	250			
					1.13						433178	529			
					FEASIBLE : surplus power						FEASIBLE : surplus FEASIBLE : less than 3KG				
11	Monitor	Waveshare 5inch	5	2	10	121		90	15	32000	259350	31			
12	Monitor	USB external rec	5	4	20	70		150	10	32000	201000	300	Estimated weight		
13	Monitor	Water resistant case				188		47	113		998468	250			
					10						538118	581			
					FEASIBLE : surplus power						FEASIBLE : surplus FEASIBLE : less than 3KG				
													2710 Total Component weight (grams) only. Does not include Frame, wiring		