

# 2010 TECHNOLOGY COMPONENTS

## CONTENTS:

A range of electronic and mechanical components to enable your students to design a really diverse range of projects.

### COMPONENTS - TECHNOLOGY & ELECTRONICS

#### GENERAL NOTES:

- All gears, pulleys, wheels, are designed to be a press fit onto a shaft (as specified below)
- 1.9mm dia hole size are press fit on to the 2.0mm electric motor shaft
- 2.4mm dia hole size are press fit on the 2.5mm dia. Steel rod.

#### PLASTIC WHEELS

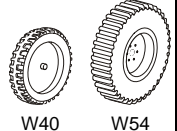
##### WHEELS WITH CHROME HUB

Code	Diameter	Hole	Price each (pack) *
SW30	30mm	2.4 mm	\$0.16 (\$6.40)
SW38	38mm	2.4 mm	\$0.19 (\$7.80)
SW52	52mm	2.4 mm	\$0.25 (\$9.90)



##### WHEELS - ONLY WHILE STOCKS LAST

Code	Diameter	Hole	Tyre	Price each(pack)
SW40	40mm	2.4 mm	Plastic	\$0.20 (\$7.80)
SW54	54mm	3.0 mm	Rubber	\$0.25 (\$9.90)



\* Sold in packs of 40 – price per pack

W54 has a 3.1mm diameter through hole

\* Sold in packs of 40 – price per pack  
2.4mm hole to suit 2.5mm axle

##### 35mm WHEELS WITH RUBBER TYRES

Code	Colour	Hole	Price each (pack) *
SW35	White	2.4 mm	\$0.24 (\$9.60)
SW35C	Chrome	3.1 mm	\$0.28 (\$10.60)



\* Sold in packs of 40 – price per pack

2.4mm hole to suit 2.5mm axle

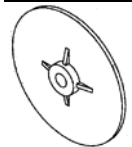
3.1mm hole to fit the Front wheel Pin

##### WHEELS WITH LOW ROLLING RESISTANCE

Code	Diameter	Hole	Thickness	Price each(pack) *
SS70D	70mm	2.4 mm	2.0mm	\$2.80 (\$28.00)

\* Sold in packs of 10 – price per pack

There are 3 other wheels of this size, with different holes sizes (for bearings or different shaft sizes – refer our SOLAR CHALLENGE CATALOGUE

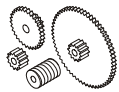


#### GEAR NOTES:

- Available GEARS differ between the various "Packs" – i.e. not all gears are available in all packs
- 2.6mm dia hole size GEARS are free spinning, on the 2.5mm dia. Steel rod. These are yellow to distinguish them from (white) "press fit" gears
- Most Spur gears have 10 Teeth as the second (smaller) gear. However, some have a different option – for clarity all spur gears have both the larger and smaller listed.

#### ALL OF THE GEARS ARE 0.5 MODULE GEARS

##### SGEAR 130 (Qty. 130)



##### A pack of 130 gears.

The worm gear has a 1.9 mm dia hole to press fit on the electric motor shaft.

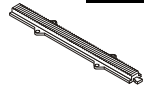
All gears, except the worm gear, have a "press fit" (2.4 mm dia) hole, to press fit on the 2.5 mm dia rod.

Price for a pack: \$28.16

Qty	Teeth	Dia	Type
10	30	16	Spur gear
10	40	21	Spur gear
10	50	26	Spur gear
10	60	31	Spur gear
60	12	7	Pinion gear
10	20	11.3	Crown gear
10	36	19.3	Crown gear
10		6	Worm gear
130			TOTAL

##### GEAR RACK

Code: **SGEAR RACK**



##### (0.5 MODULE)

This GEAR RACK meshes with the 0.5 Module gears listed. It is 100.6 mm long and can be interlocked to make a longer rack.  
Supplied in multiples of 5 - ea. \$1.85

##### PULLEY

Code	Inner dia.	Outer dia	Price ea (10)
SPU5.5	1.9mm *	5.5 mm	\$0.85 (\$8.50)
SPU30	2.4mm	30mm	\$1.05 (\$10.50)
SPU50	2.4mm	50mm	\$1.27 (\$12.70)

Plastic pulley: - supplied in multiples of 10  
\* can be drilled to 2.4 mm dia to suit the 2.5 mm rod.

##### BELT O-RING

Code	Inner dia.	Cross section	Price ea
SORING	45.5 mm	1.5mm	1- 19 \$0.25 20+ \$0.22

This O Ring can be used as a belt drive on the pulleys

##### AERO PROPELLERS

**SP-74**



**SP-151**



Code	Type & diameter	Hole size	Price each (Pack of 5)
	Aero – 74 mm dia.	1.9mm	\$0.70 (\$3.50 pack)
	Aero – 151mm dia	1.9mm	\$0.75 (\$3.85 pack)

\*\* Please specify which type and quantity you require.

##### SGEAR 50 (Qty 50)

Individual gears are available in bags of 50 gears. \*\*

##### GEARS 1.9 mm hole

Worm Gear	Pinion 8 T
Pinion 10 T	Pinion 12 T

##### GEARS 2.4 mm hole

Spur 30/10 T	Pinion 12 T
Spur 40/10 T	Crown Gear 20 T
Spur 50/10 T	Crown Gear 36 T
Spur 60/10 T	

Price for a pack of 50 gears \$15.95

##### SGEAR 10 (Qty. 10)

Individual gears are available in bags of 10 gears. \*\*

##### GEARS 1.9 mm hole

Worm Gear	Pinion 8 T
Pinion 10 T	Pinion 12 T

##### GEARS 2.4 mm hole

Pinion 12 T	
Spur 30/10 T	Spur 40/10 T
Spur 50/10 T	Spur 50/14 T
Spur 60/10 T	Spur 60/12 T

##### GEARS 2.6 mm hole

Spur 50/10 T	Spur 50/14 T
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Price for a pack of 10 \$6.50

Have you looked at our SOLAR CHALLENGE CATALOGUE?? There may be items there, that could suit your requirements ....

##### DRILL BITS - High Speed Steel drill bits



Code	Drill size	Price
SDB1.9	1.9 mm drill bit	\$4.95 (pack of 5)
SDB2.3	2.3 mm drill bit	\$4.95 (pack of 5)
SDB2.6	2.6 mm drill bit	\$4.95 (pack of 5)
SDB2.9	2.9 mm drill bit	\$5.85 (pack of 5)
SDB3.5	3.5 mm drill bit	\$5.85 (pack of 5)
SDB3.9	3.9 mm drill bit	\$5.85 (pack of 5)

Supplied in packs of 5

##### BOAT PROPELLERS

**SSPROP2**

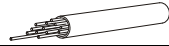


**SSPROP3**



Code	Type & diameter	Hole size	Price each (Pack of 10)
	2 blade - 28 mm	2.4 mm	\$0.95 (\$9.50)
	3 blade - 25 mm	2.4 mm	\$0.95 (\$9.50)

## STEEL ROD AND GUIDE TUBES



Code	Item/s	Quantity	Price (per pack)
SSTR	Bright. steel rod - 2.5 mm dia x 500 mm long	20 Rods	\$8.10
SSGUID	PVC Guide tube - 2.7 mm inner dia x 500 mm long	20 Tubes	\$15.10
SSGT	Bright. steel rod - 2.5 mm dia x 500 mm long PVC Guide tube - 2.7 mm inner dia x 500 mm long	5 of each (5 Rods + 5 Tubes)	\$10.50
SSSTR	Bright. steel rod - 3.0 mm dia. x 500 mm long	20 Rods	\$13.50

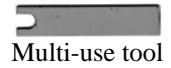
## FASTENERS – Bolts, Nuts & washers

Item	Price	Item	Price	Item	Price	Item	Price
M3x 8mm Bolt	\$3.75	M3x 12mm Bolt	\$4.95	M3x 16mm Bolt	\$5.23	M3x 20mm Bolt	\$5.50
M3 Hex nut	\$1.75	M3x Nyloc nut	\$3.85	Washers	\$1.10	Multi-use tool #1	\$3.00

All of these come in packs of **100** items, except for the Multi-use tool, which is sold in packs of **10**

#1 The Multi-use tool can be used as a Gear pusher or it can be used as a Spanner.

Note: M3 nut is 5.0mm across flats, the Nyloc nut is 5.5mm across flats, the Multi-use tool is 6.0mm across flats



Multi-use tool

## ALLIGATOR CLIPS (for testing)

### ALLIGATOR CLIP & WIRE

Pack of 12 Alligator clips with 250mm wire – 6 colours.  
Price: TBA



### ALLIGATOR CLIP

Pack of 10 Alligator clips.  
Price TBA

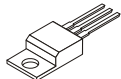


## COMPONENTS - ELECTRONICS

### STIP122 NPN

### STIP127 PNP

### POWER TRANSISTOR



Darlington transistor. 65 Watt, Vce 100V, Ic 5A, TO-220 case.

Sold in multiples of 5.

Price ea. 5 – 20 \$1.35;  
25 – 50 \$1.25; 55 – 100 \$1.20;  
100+ \$1.15.

### STRIMP1 - TRIMPOT 1K

### STRIMP50 - TRIMPOT 50K

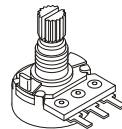
### STRIMP100 - TRIMPOT 100K



Variable resistor. Vertical adjustment enclosed covering. Lead spacing 2.5 mm (0.1").

Sold in multiples of 5. Price ea.  
5 – 20 \$0.69; 25 – 50 \$0.57;  
55 – 100 \$0.54; 100+ \$0.51.

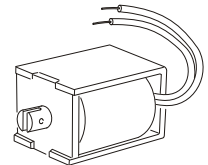
### SPT25 - 25K LINEAR POTENTIOMETER (16mm)



Variable resistor can be mounted on a printed circuit board or connected to your circuit using flying leads. In the Forklift, this potentiometer is used to provide rotational position feedback.

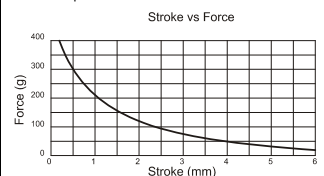
Price ea. 1 – 4 \$1.35;  
5 – 19 \$1.25; 20+ \$1.10.

### SSOL - SOLENOID 6V (PULL TYPE)



Can be used to operate a lock, gate, etc. Intermittent operation with 50% duty cycle and max. ON time 55 seconds. Power consumption 3.2 Watts at 6 Volts. Force versus stroke shown below

Price \$4.73 each



### SBULB - BULB HOLDER



Light bulb holder for screw mounting bulb.

QTY.	PRICE EACH	TOTAL COST
Bag of 20	\$0.33.	\$6.60
Bag of 100	\$0.308	\$30.80

### SLIGBULB

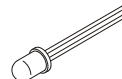
### - LIGHT BULB - 2.5 VOLT



Torch light bulb with a screw mounting.

QTY.	PRICE EACH	TOTAL COST
Tray of 25	\$0.404.	\$10.10
Box of 50	\$0.35.	\$17.50

### LED 5.0mm DIAMETER

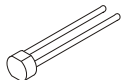


High intensity light emitting diode.

Colour	MCD	PRICE ea.
SLEDW White	14,000	\$0.85
SLEDG Green	5,000	\$0.75
SLEDR Red	3,000	\$0.55
SLEDY Yellow	3,000	\$0.55

Sold in multiples of 10.

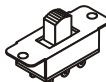
### LDR - LIGHT DEPENDANT RESISTOR (4mm diameter)



Light Dependant Resistor with 10MΩ dark resistance, 400Ω light resistance. Sold in multiples of 5.

Price ea. 5 – 20 \$0.92;  
25 – 50 \$0.88; 55 – 100 \$0.83;  
100+ \$0.79.

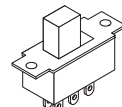
### SSSWL - SLIDE SWITCH (LARGE)



This switch is DPDT with centre off position. M3 mounting holes.

Sold in multiples of 10.  
Price ea.: 10 – 20 \$0.90;  
25 – 50 \$0.86; 55 – 100 \$0.82; 100+ \$0.80.

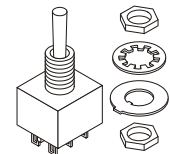
### SSW - SLIDE SWITCH (SMALL)



This switch is DPDT. Supplied with two M2 screws.

Sold in multiples of 10.  
Price ea.: 10 – 20 \$0.72,  
25 – 50 \$0.69; 55 – 100 \$0.67; 100+ \$0.64.

### SSW2W - TWO WAY SWITCH (TOGGLE)

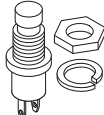


DPDT (Double Pole Double Throw). "ON-OFF-ON" switch can also be used as "ON-OFF" switch. 6 terminals: 2 "in" and 4 "out". Can be used as a forward/reverse switch on an electric vehicle.

Supplied in multiples of 5.

Price ea.: 5 – 20 \$1.46;  
25 – 50 \$1.43; 55 – 100 \$1.40;  
100+ \$1.37.

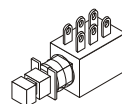
### PU-BUT MOM - PUSH BUTTON SWITCH



Momentary "on" switch with washer and nut.

Sold in multiples of 5.  
Price ea.: 5 – 20 \$0.77;  
25 – 50 \$0.71; 55 – 100 \$0.66;  
100+ \$0.62

### SPBUT SW - PUSH BUTTON SWITCH - NON LOCK



DPDT push button switch without locking position

Sold in multiples of 5.

Price ea.: 5 – 20 \$0.72;  
25 – 50 \$0.69; 55 – 100 \$0.67;  
100+ \$0.64.

