

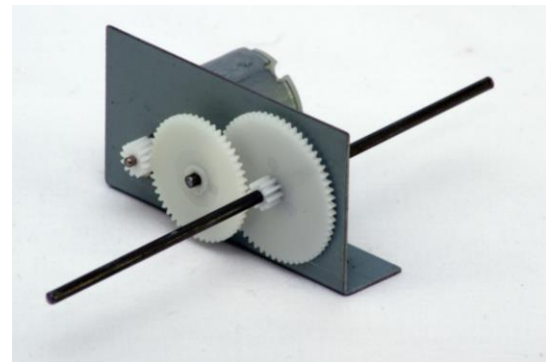


## *BASIC GEARBOX & MOTOR KIT* (Code: GBASIC)

### DESCRIPTION

The *BASIC GEARBOX and MOTOR KIT* is a very versatile and easy to assemble gearbox. The unit is compact and comparatively strong, and can be used in a many applications – anywhere where rotary motion is required. For example, it can be used in isolation (i.e. to drive or steer a model vehicle), it can have a gear fitted (to interface with other mechanisms), or it can drive a pulley and belt assembly.

The gearbox can be used to drive a wheel or pulley through a single shaft, or the gearbox can be configured to drive two wheels through a longer double-sided configuration. This provides two possible configurations of the gearbox, and these are detailed below.



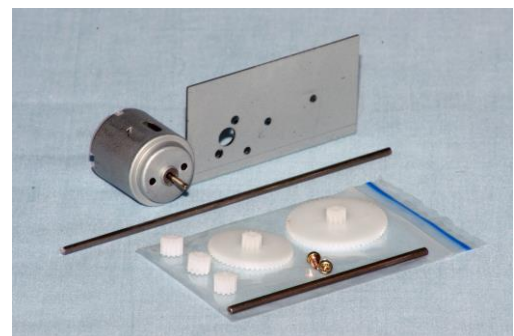
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<b>LEVEL:</b>	Introductory
<b>SKILL DEVELOPMENT:</b>	<ul style="list-style-type: none"><li>• Manufacturing</li><li>• Mechanical</li></ul>



### WHAT'S IN THE KIT?

- All the mechanical components and the motor required to make one of the 2 gearbox ratios
- A detailed teaching unit with a complete parts list and assembly diagram for each of the possible gear ratios



### WHAT ELSE IS NEEDED?

The following items are required and are available from Scorpio Technology, but need to be ordered separately:

- Small block of wood – minimum 25mm thick
- Depending on the application chosen, the following items may be required: additional gears, pulleys and belts, wheels, hook-up wire and additional steel rods



## **TOOLS REQUIRED**

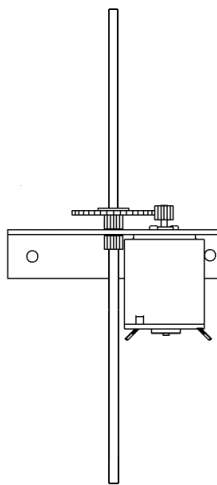
The following tools are required. Several are available from Scorpio Technology, and can be ordered separately if required:

REQUIRED TOOLS	ORDERING CODE
Assorted hand tools (depending on materials used)	-
Hammer	HAMMERC/HAMMERCL
Mini Bolt Cutters	BOLTCUTM
File	-

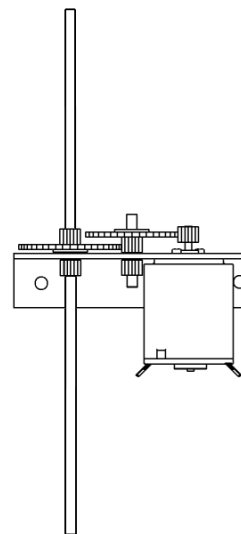
## **ABOUT THE PROJECT**

The gearbox can be used in many applications. Defining that project will allow the designer to determine which of the gear speeds will be used, as this defines the length and orientation of the drive shaft. The single gear configuration is used for a range of relatively slow speeds and the two gear configuration is suitable for faster speeds.

These are the available configurations – one must be selected (*shaft length may vary from those illustrated below*):



**SINGLE GEAR**  
(High ratio = low speed)



**DOUBLE REDUCTION**  
(Low ratio = high speed)

