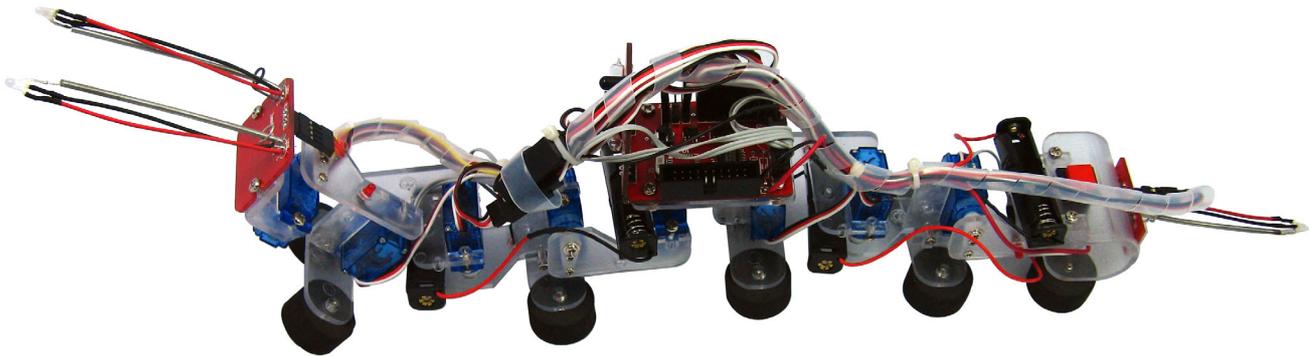# BOT130 CATERPILLAR BOT

Caterpillar Bot:

Thank you for purchasing this exciting PICAXE based caterpillar bot. We are sure it will bring you some fun! This amazing bot wriggles along just like a caterpillar using 8 servos. It has three LED/switch antenna to detect obstacles and can even self right if it detects it has fallen over via its two tilt switches. An optional infra-red control mode is also available (requires TV remote part TVR010, not included).

The illustrated assembly manual and a video are on the enclosed CD. Please read the assembly instructions fully before you start the construction.

Power Supply

The caterpillar requires 4xAAA (LR03) batteries (not included).
We recommend rechargeable NiCd cells, but the kit will also function with alkaline cells.

PICAXE-28X1 chip and Download Cable

The PICAXE-28X1 chip is not preprogrammed with the caterpillar program. This is because after assembly you need to download and run the calibration program to find each servo's exact central position, copy these values into the main program, and then download and run the calibrated main program. Both programs can be found on the CD. The programs are open source and fully commented so that you may modify them as you desire.

To carry out the download and calibration you require either the AXE026 serial or AXE027 USB PICAXE download cables. These are not included in the kit so must be purchased separately.

For further details on using the PICAXE system please refer to the PICAXE manuals.

Infra-Red Remote control

If you wish to control the caterpillar via infra-red you require a 'universal' TV style remote capable of supporting the Sony TV protocol. PICAXE part TVR010 is highly recommended (purchase separately).

To switch to full remote control mode press the vertical bar '|' button on the TVR010 remote. Press it again to return to autonomous mode. Note that in the default autonomous mode the caterpillar still responds to the infra-red signals but also 'explores' by itself! In autonomous mode it may be necessary to hold the remote key down for a few seconds until the caterpillar responds, as it only checks for an infra-red signal between steps.

Use the arrow keys to move the caterpillar in a certain direction. Use the cross 'x' and '+' keys to perform a recovery roll if the caterpillar accidentally falls over.

Also required (not included within kit):

- 4 x AAA (LR03) cells (NiCd rechargeable cells are recommended)
- PICAXE programming cable, either the AXE027 USB cable or AXE026 serial cable
- (Optional) TVR010 tv style remote control