Components in your Quadrabotz
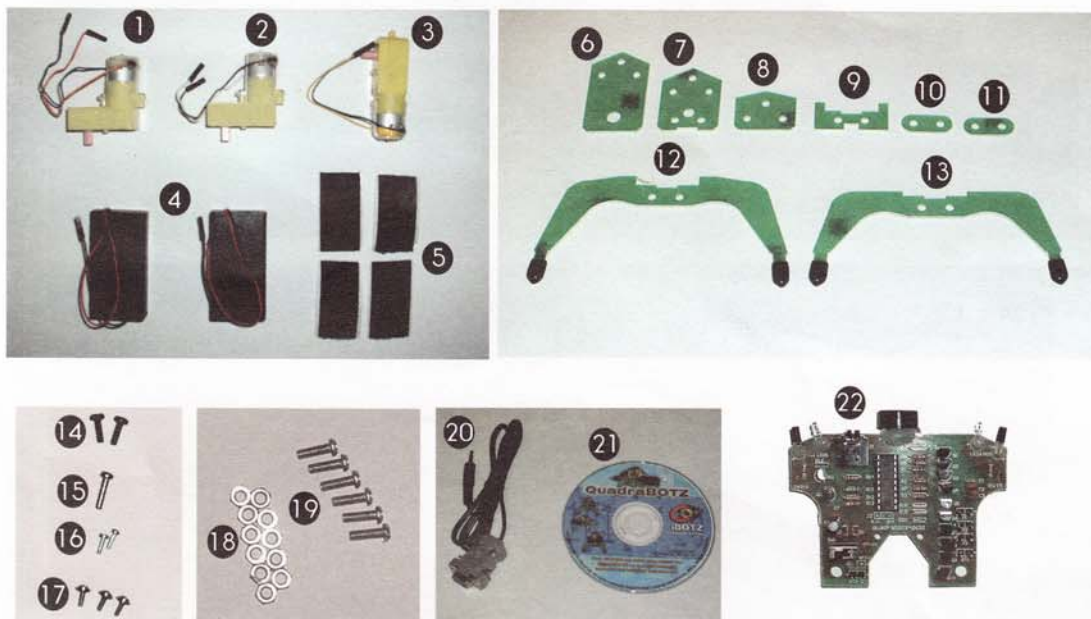
Checklist of all the components you should have in your kit.

1 = Rear Motor (Blue & Orange Wires)
2 = Front Motor (Brown & White Wires)
3 = Middle Motor (Yellow & Purple Wires)
4 = Battery Holders (x2)
5 = Velcro strips (2 x hook and 2 x loop)
6 = Rear chassis plate
7 = Front chassis plate

8 = Striker plate
9 = Middle buffer
10 = Washer
11 = Washer
12 = Front Legs
13 = Rear Legs
14 = 2 pcs (3.2x8PB)

15 = 1 pc (M3x11)
16 = 2 pcs (battery cover screws)
17 = 3 pcs (3x6PWB)
18 = 12 pcs M4 nuts
19 = 6 pcs (M4x12)
20 = PC Serial cable
21 = CD ROM

22 = PCB Motherboard

NOTES
Washers 10 & 11 are identical
Front & Rear Legs are also identical

Assembly of your Quadrabotz

The Quadrabotz has been designed so that the student can stamp their personality on it.
The assembly method we use below is only one of many different configurations you can
use to make a robot using the motors and connections you have in this kit. Using the powerful
PIC chip on board and the versatile software programme, the sky really is the limit. We hope that
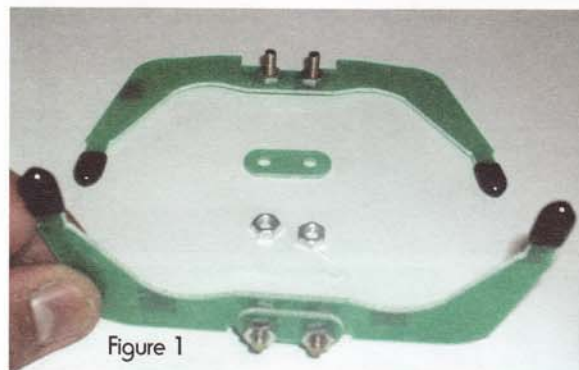you challenge yourself to produce innovative robots using this kit.

Figure 1

STEP 1
Gather together front & rear legs (12 & 13) with
4 off screws (19) and 8 off nuts (18).

Through the holes on each of the legs feed one
of the screws (19) and the affix a nut over them
and tighten. Next, fix the washer (10) over the screw
and nut. Finally, screw one more nut on either side
over the washer board (10) an either side. Do the
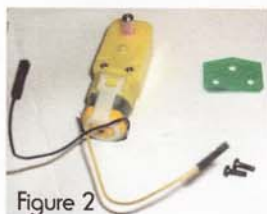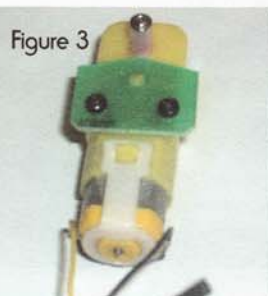same for front and rear legs.

Figure 2

Figure 3

STEP 2
Collect together Middle Motor (2) and Striker plate (8).
You will also need 2 x screws (14). Finally 1 x screw (17).
See Figure 1.

From the diagram in Figure 2, place the Striker plate (8)
together with screws in position as shown.

STEP 3

Connect screws (19) and nuts (18) into the Middle Buffer plate as shown opposite.
Although picture shows only one nut connected, you should connect both!
Also, make sure that they are NOT both tightened fully yet. Later in step 11 you will
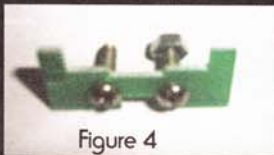then make them tighter.

If you now look down at Figure 5, you will see both nuts in fully assembled
position.

Figure 4

STEP 4

Attach the Front Chassis plate to the front of the Middle Buffer Plate
as shown in figure 4.

Once you have completed this task, you then need to place
both nuts on the the screws BUT do not screw in tightly this time.

If you quickly glance down to figure 8 below, you will see these nuts
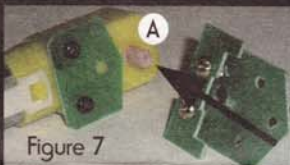attached.

Figure 5

Figure 6

STEP 5

You now need to attach the middle motor to the chassis plate you have
constructed above. You will now see the reason for leaving the last two
nuts relatively loose! The new chassis assembly must now slide over the
motor shaft receptacle (A) in the direction shown in figure 7.

Figure 7

Looking at figure 8, you can see how this assembly should appear when viewing from
the top. Next secure the boards by tightening screws and nuts as shown in figure 9.

Finally secure assembly by affixing screw (17) into the motor shaft. Please note that if you
trouble fitting this chassis assembly over the motor shaft, then make sure that the
nuts on both sides have their sides parallel to the shaft. Also, the screw (17) does
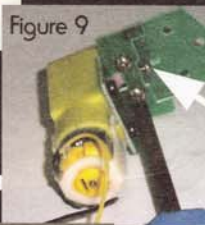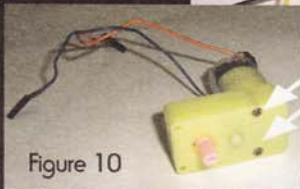not have to be screwed fully into the shaft just yet.

Figure 8   Figure 9

B

STEP 6

Remove screws from Rear Motors (shown by arrows in figure 10)

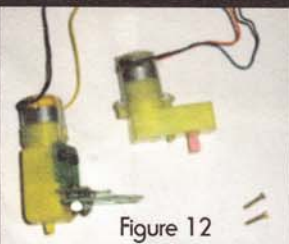See figure 11 showing screws to remove once more.

Figure 10

Figure 11

STEP 7

Collect the previously assembled Middle Motor and Rear Motor. (figure 12). The plate on the
middle motor must now be fixed to the rear motor using the screws you removed earlier in
step 6. The plate should align with fixtures on rear motor.

Figure 12

This picture shows both motors now joined together
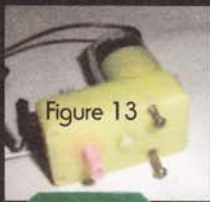using screws from rear motor

Figure 13

STEP 8
Remove screws from front motor (see figure 13) as shown and find the rear chassis plate (6), which will fit onto bottom of motor as shown in figure 14.

STEP 9
Now join both motor assemblies together as shown in figure 15. Please refer also to figure 16 which shows the alignment from the bottom.
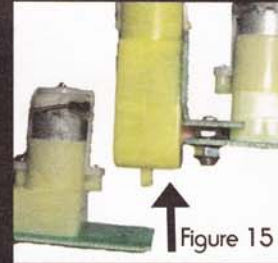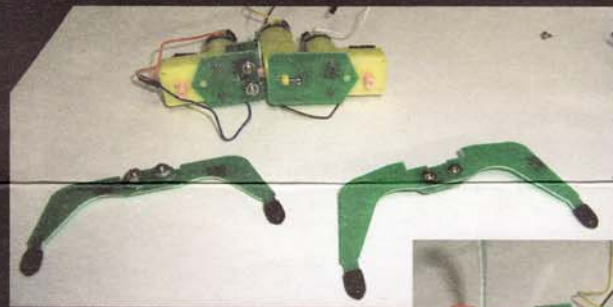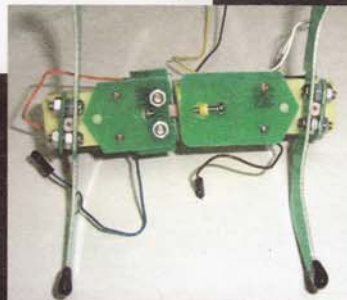

Figure 14

Figure 15

Figure 16

STEP 10
The middle and rear plates are now held together by a screw (19) - as seen above.

STEP 11
In this step, we will need to attach the front and rear legs. These are simply slid onto the pink gear shafts on each of the motors. Make sure that the bolts are facing to the outside. Once this is done, you can tighten the legs into place by either the screw or the bolt.
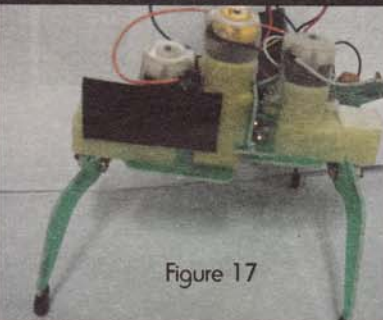

Assembled robot after step 11

STEP 12
We will now use the Velcro that is supplied with the robot as a method to fix the PCB to the motor and the battery packs also to the motors. Cut the Velcro into similar shapes as shown in figure 17 and stick also as shown. You will need to choose either the hook or loop section of the Velcro at this time. Once you have chosen and cut these into shape, you need must do the same but with the opposite part of the Velcro. Place also a small section of Velcro to the underside of the PCB so that is can attach to the motor section. See figure 18.

Velcro should be fixed to both sides of the rear motor and to both of the battery compartments.
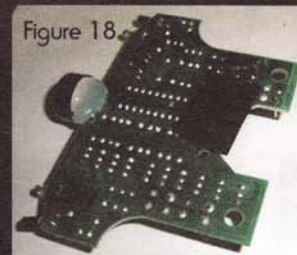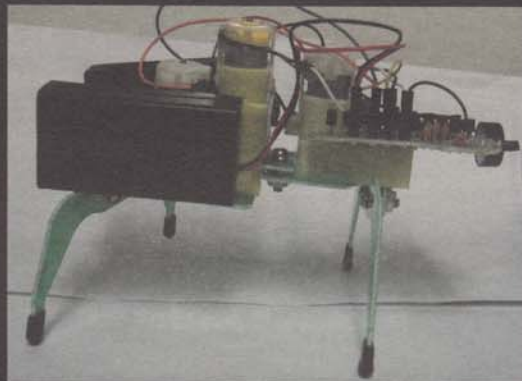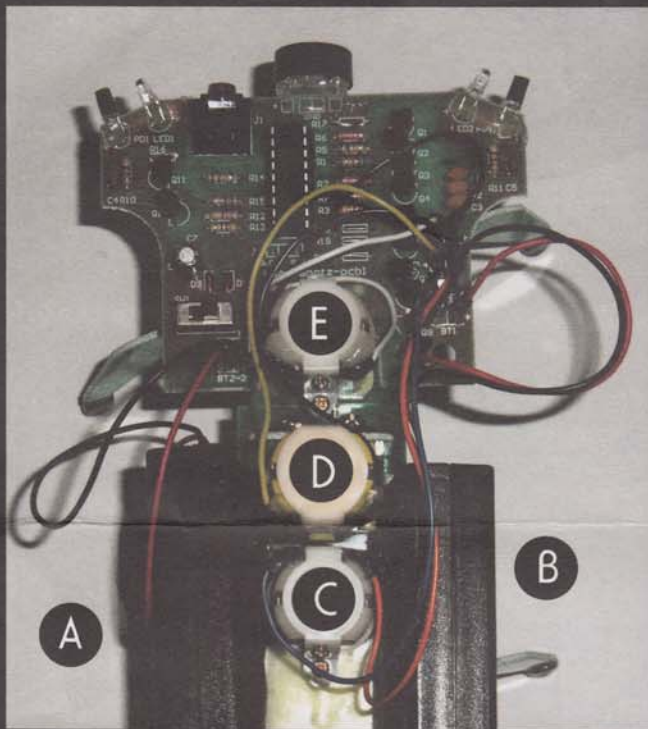

Figure 17

Figure 18

STEP 13
We are now almost done!

Affix the PCB and both battery packs as shown opposite with the Hook and Loop section of the Velcro provided.

Once you have done this, you next connect up the wires and we can start to use the robot.

STEP 14
This part needs your careful attention.

Incorrect wiring is the most common reason why build your own robots do not work. So, please pay careful attention to the instructions given below.

Wiring instructions

Right Hand Side Battery Pack (A)
Red Wire to BT2-2 +
Black Wire to BT2-2 -

Left Hand Battery Pack (B)
Red Wire to BT1 +
Black Wire to BT1 -

Rear Motor (C)
Orange wire to M3 -
Blue Wire to M3 +

Middle Motor (D)
Purple Wire to M2 -
Yellow Wire to M2 +

Front Motor (E)
White wire to M1 -
Brown Wire to M1 +

We hope that you have enjoyed building this robot, and you have learned from it. We offer may more robots in our range. Details of which are available on our websites bellow, or from our nearest dealer.

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