6-IN-1 DIY EDUCATIONAL SOLAR ROBOT KIT

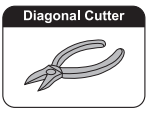
Thank you for purchasing this Merlin Product. Please read the instruction manual carefully before using the product.

The documentation provided will allow you to fully enjoy all the features this unit has to offer.

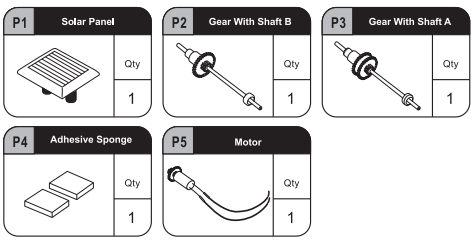
Please save this manual for future reference.

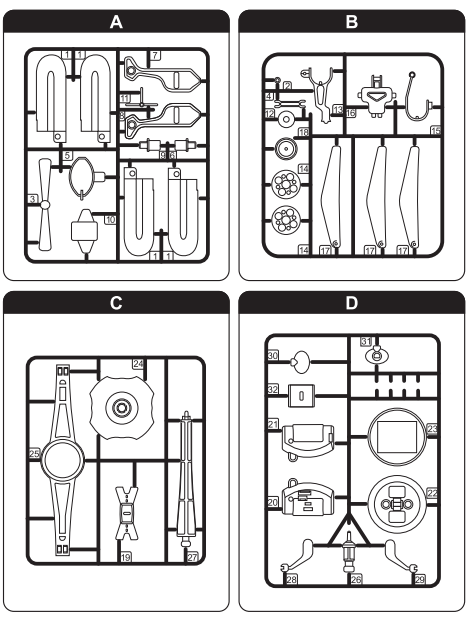
The following items are enclosed in the box. Please note that this product contains small plastic items that can easy be swallowed by children. Adult supervision is recommended when having children assemble this product.

Tool You May Need:



Mechanical Parts List:





Instructions:

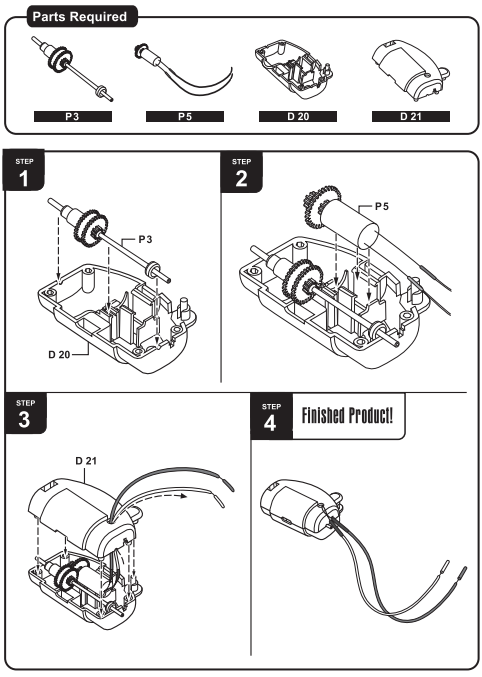
For the assembly of all the different toys in this product two items need to be assembled first. The Gearbox and the Solar Module.

Hint: Use a small side cutter to remove the individual pieces from the main plastic assembly. Also remember to cut off the burr to make a smoother edge.

1. Gearbox:
The gearbox drives the different toys. There are two different types of gearboxes, A and B. Ensure you have the correct gearbox for the toy you want to construct.

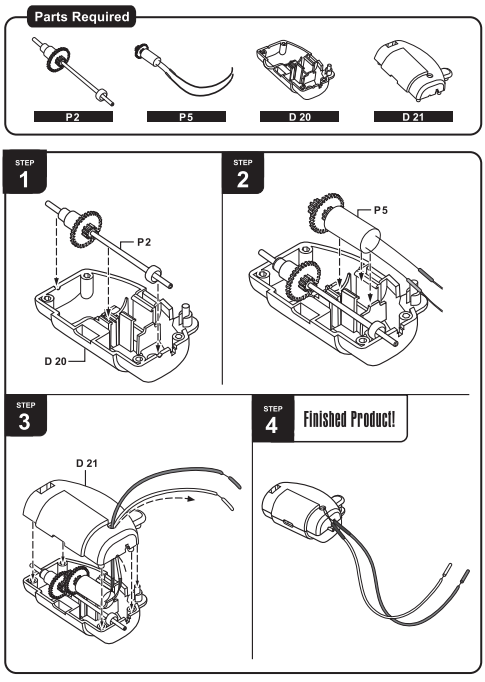
Gearbox A:

a) Start by fitting the main gear axel(P3) into plastic part D20 as in step 1.
b) In step 2 fit the motor(P5) in its slot. Be careful to not put the motor in skew it can damage the plastic parts.
c) Close the gearbox by fitting the cover (D21). Carefully put the wires through the space provided.
d) The finished gearbox should look like the one in step 4.



Gearbox B:

a) Start by fitting the main gear axel(P2) into plastic part (D20) as in step 1.
b) In step 2 fit the motor(P5) in its slot. Be careful to not put the motor in skew it can damage the plastic parts.
c) Close the gearbox by fitting the cover (D21). Carefully put the wires through the space provided.
d) The finished gearbox should look like the one in step 4.

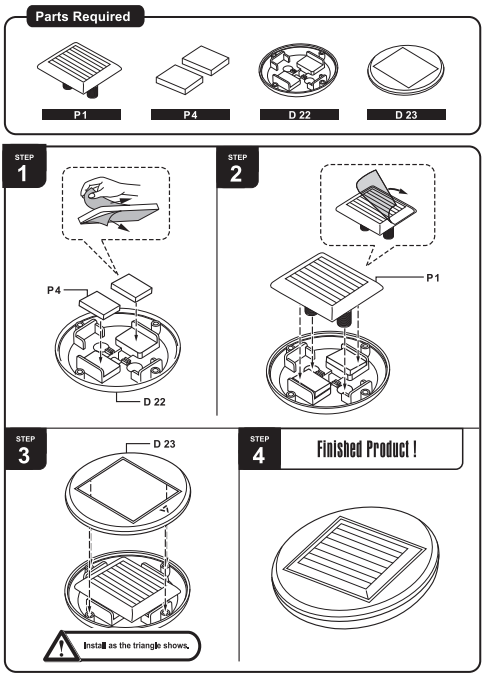


2) Solar Module:

The Solar module provides power to the gearbox and makes the toy come alive.

a) Place the adhesive pads (P4) on plastic module D22 (Step 1) and then place the solar cell (P1) onto it (step 2). Be careful not to bend the terminals. Remove the protective film that covers the solar cell.

b) The final step in the assembling the solar module is place the protective cover onto the module (step 3) to have the completed solar module which should look like step 4.

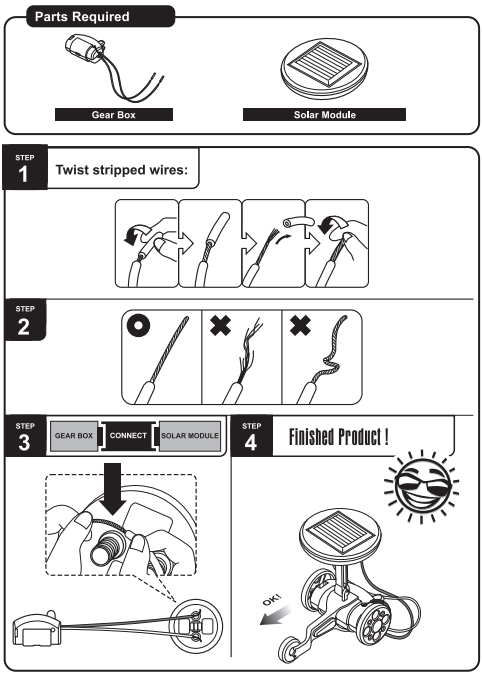


3) How the Solar and Gearbox Modules work together:

Now that the Gearbox and Solar Modules are completed we can put them together and start making some of the toys.

a) The first step is removing the ends off the wires from the solar module. The wires are already partially stripped but left in place for safety. While holding the wire and the stripped piece twist the stripped piece and gently pull it off. It should come off easily. Remove both pieces of stripped ends.

b) Bend over the spring terminal on the solar module and insert the wires (remember to observe the correct colors) through them to protrude out the other side. Release the spring terminal gently. The wires from the gearbox should be securely in place to form a good connection. If they are loose repeat the process until they are firmly in place. Ensure that the wires don't touch as this will cause a short circuit and the motor will not turn.



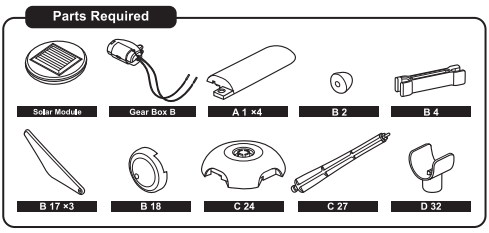
Different Toy Assembly Instructions:

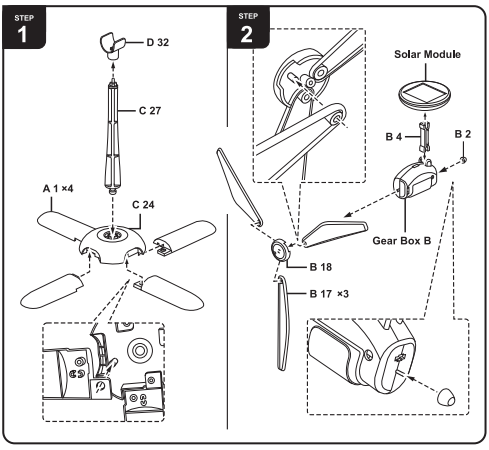
1.Solar Windmill.

a) Start by collecting all the parts needed for the Solar Windmill as shown in the requirements list. Assemble the base of the windmill by attaching the feet (A1) to base (C24) as shown in step 1.

b) Now place the main mast(C27) and holding bracket(D32) in place.

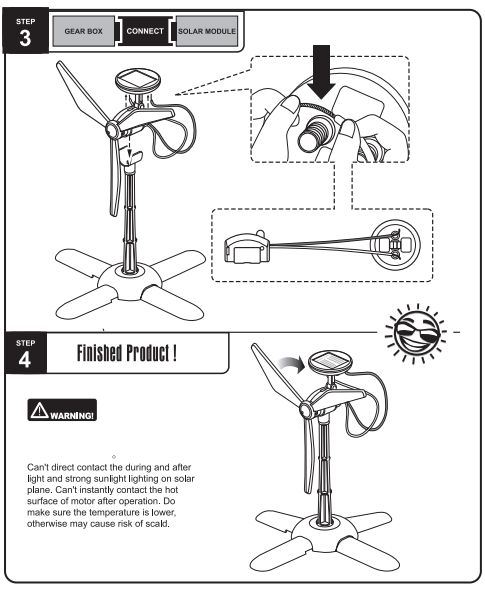
c) In step 2 take the gearbox B and attached the solar module by using bracket(B4). Then the windmill blades can be attached.





d) Place the gearbox and windmill assembly on the tower. The wires can now be connected from the gearbox to the solar module. Ensure the polarity is connected as in step 3.

e) This completes the Solar Windmill.

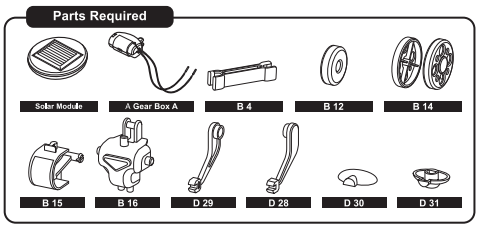


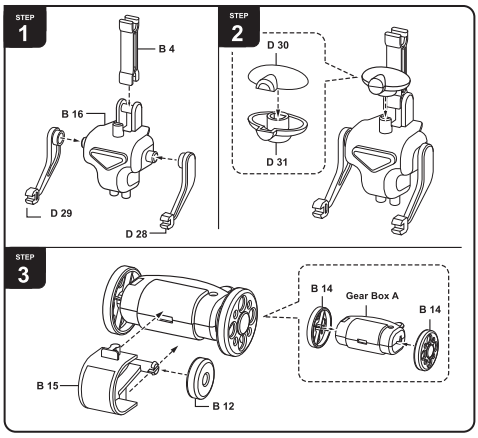
2.Solar Robot

a) Start by collecting all the parts needed for the Solar Robot as shown in the requirements list. We will start with the body of the robot. Connect (D28) and (D29) to the body (B16). Now connect the mounting bracket for the solar module (B4).

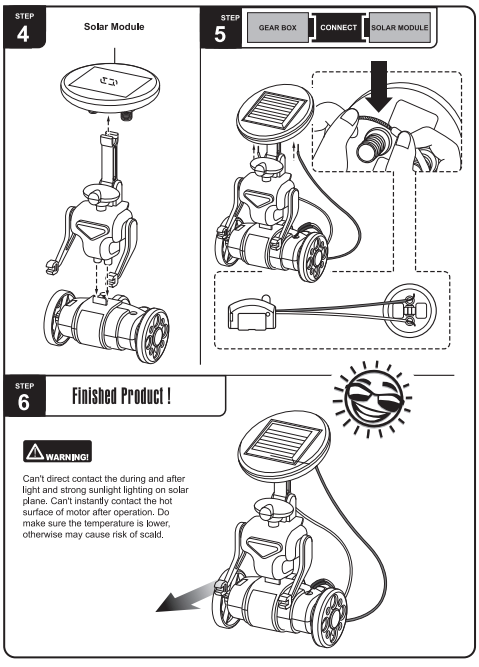
b) In step two we assemble the head using (D30) and (D31). Once the head is made it can be mounted on the body(step 2).

c) Using the gearbox A connect the wheels (B14) and support brackets B12 and B15(Step 3).



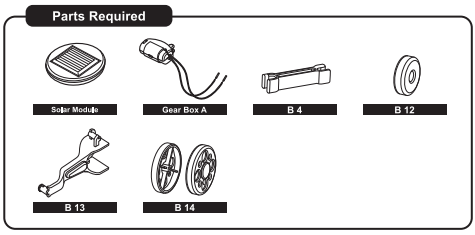


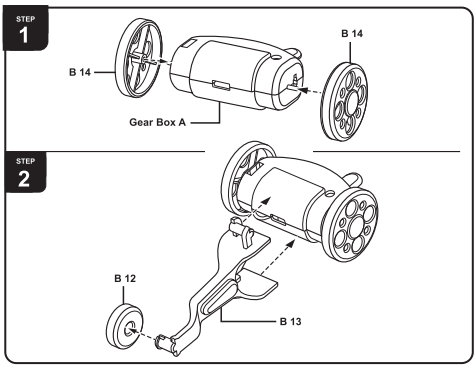
d) Now we can do the final assembly of the robot. Attach the body to the wheel assembly and then place the solar module on top (step 4).
e) Finally connect the wires from the gearbox to the Solar module as shown in step 5.



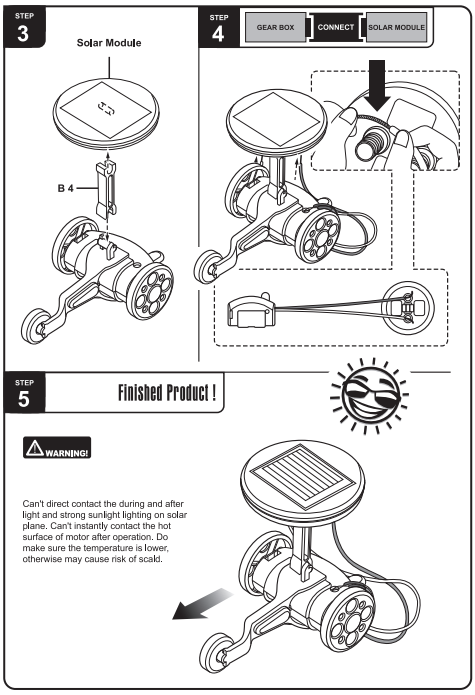
3.Solar Wheeler

a) Start by collecting all the parts needed for the Solar Wheeler as shown in the requirements list. Take the gearbox A and connect the wheels (B14) then add the support brackets B13 and the front wheel (B12) as shown in Step 2.



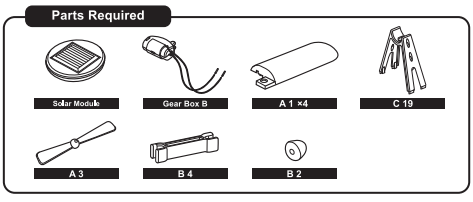


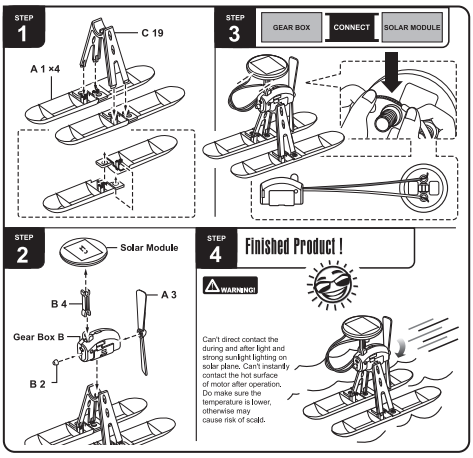
b) Next place the mounting bracket(B4) on the wheeler followed by the solar module (step 3). The final step is to connect the wires from the gearbox to the solar module (Step 4).
c) The completed Solar Wheeler should look like the one in step 5.



4.Solar Airboat

a) Start by collecting all the parts needed for the Solar Airboat as shown in the requirements list. First assemble the floating platform by connecting (A1) pieces together and adding the mounting point (C19). These pieces are shown in step 1.
b) Next take the gearbox B and attach the propeller (A3). Next connect the mounting bracket (B4) and (B2) to the assembly. Finally clip the Solar Module to complete the Solar Airboat (step 2).
c) The final step is to connect the wires from the gearbox to the solar module (Step 3).

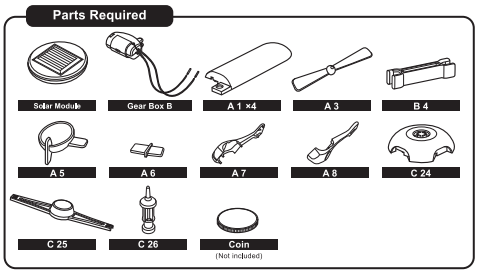


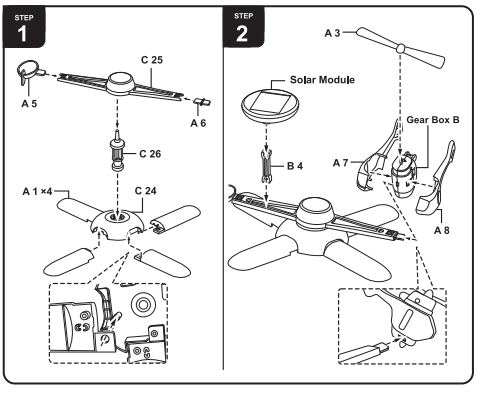


5.Solar Helicopter

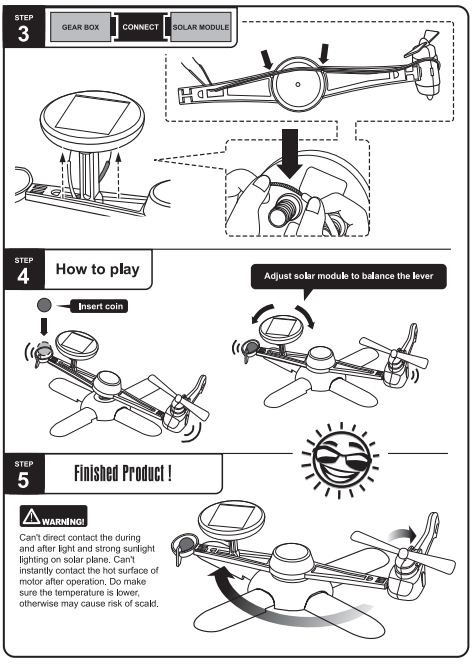
a) Start by collecting all the parts needed for the Solar Helicopter as shown in the requirements list. First take the base(C24) and connect the feed(A1) to it. Now insert the mast (C26) and turning arm (C25). Add counter balance holder (A5) and fitting (A6) as displayed in step 1.
b) Take Gearbox B and clip the housings (A7 and A8) to it and add the propeller (A3) to this assembly. This assembly can

now be clipped to the turning arm. Next attach mounting bracket (B4) and clip the solar module onto it as shown in step 2.



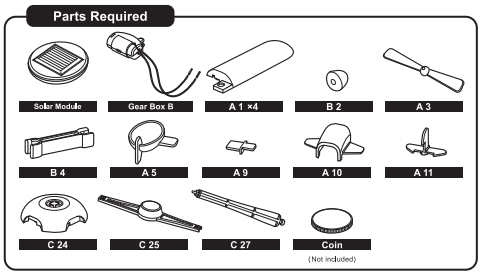


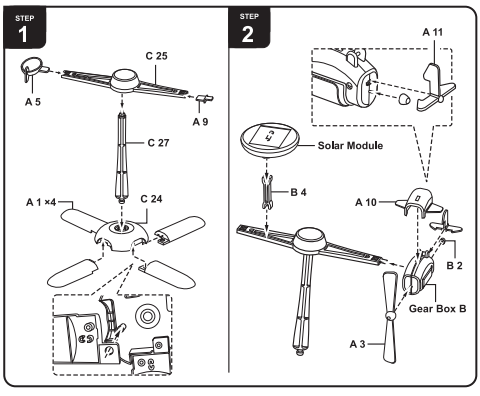
c) The last step of assembly is connecting the wires from the gearbox to the solar module. Carefully feed the wires under the turning arm so they stay out of sight (step 3).
d) The Solar Helicopter is now complete. To use it place a coin (not included) in the counter balance holder and twist the solar module for best balance (step 4).
e) The finished Helicopter can now be placed in a well-lit up area and should start turning.



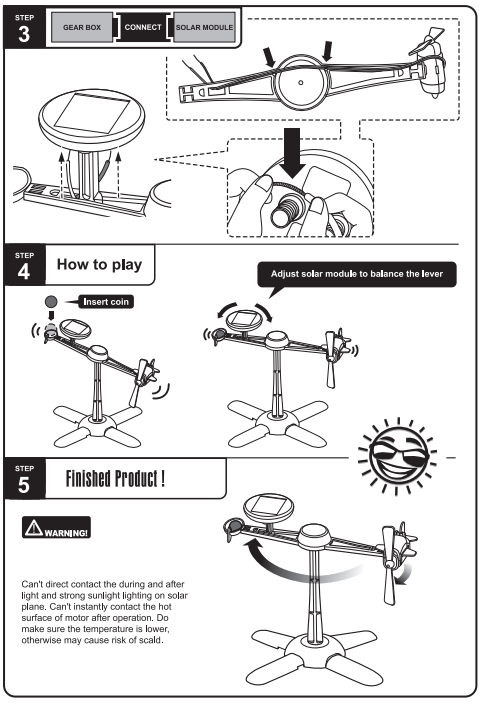
6.Solar Plane

a) Start by collecting all the parts needed for the Solar Plane as shown in the requirements list. Assemble the base of the plane by attaching the Feet (A1) to base (C24). Now place the main mast(C27) and turning arm (C25) in place. Then attach the counter balance (A5) and mounting point (A9) to the arm as shown in step 1.
b) Take the gearbox B and clip brackets (A10, A11 and B2) to it. Then push the propeller (A3) onto the gearbox. The plane can now carefully be attached turning arm. Clip mounting bracket (B4) to the other side of the turning arm and clip the solar module to it(step 2).





c) The last step of assembly is connecting the wires from the gearbox to the solar module. Carefully feed the wires under the turning arm so they stay out of sight (step 3).
d) The Solar Plane is now complete. To use it place a coin (not included) in the counter balance holder and twist the solar module for best balance (step 4).
e) The finished Plane can now be placed in a well-lit up area and should start turning.



Maintenance

1) This product contains small plastic pieces that can be swallowed by small children. Adult supervision is recommended when children are assembling this product.
2) Store all the items of the product in a safe place as it can be disassembled and made into a different toy at a later stage.
3) Retain these instructions for future use.
4) Clean the product with a damp cloth and a mild soap.
5) The motor in the gearbox can become warm. Be careful not to get scalded. If it gets too hot remove the toy out of sun and let it cool down.

FAQ

Q) The gearbox module does not turn.

A) Make sure there is enough sunlight for the Solar Module to provide power. Then ensure the wires are properly connected between the Solar Module and Gearbox Module.

Q) The gearbox does not make the toy work. What is wrong?

A) Check to see that the correct gearbox module (A or B) was used for this toy in question.

LIMITED WARRANTY

Merlin Products are covered by a limited one-year warranty policy. If the product suffers from a manufacturing defect, the customer will receive a replacement if claimed within 15 days of the purchase date. Otherwise, the product will be inspected for possible repair options. The product will either be repaired and returned free of charge, or replaced. All repair services past the one-year warranty period will be charged for any repairs that need to be made.

If the client is located outside the UAE, or is otherwise unable to personally deliver the defective product to our service center or retail outlets, he/she may send it via post at his/her own cost. The repaired/replaced product will then be returned to the client via courier mail at Merlin's cost, as long as the warranty period is still active.

Important: This limited warranty DOES NOT COVER normal wear and tear, accidents, damage during transit, misuse, abuse or neglect. Attempting to disassemble the unit will render the warranty null and void.

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Contact our support staff for troubleshooting and any other enquiries relating to your Merlin product by sending an email at **support@merlin-digital.com** and your issue will be resolved within 48 hours.

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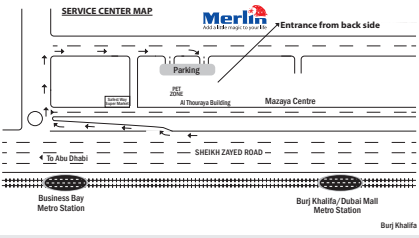

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