

GE-894

Pro'sKit®

Probbie II

micro:bit 二代

二代寶比機器人-Micro bit



Assembly & Instruction Manual

組裝說明手冊

請妥善保存本說明書，以供日後查閱。
Keep the manual for future reference.

目錄

CONTENTS

產品介紹 Product Introduction.....	1
自備工具 Tools You May Need	1
零件清單 Mechanical Parts List	1
塑膠模型零件 Plastic Parts	3
塑膠模型零件 Tip: Cut Off The Burrs Before Assembly	3
身體組裝 Body Module Assembly	4
足部、頭部、手臂組裝 Feet, Head, & Arms Assembly	18
電池安裝 Battery Installation.....	26
所需設備 Devices You May Need	27
Micro: bit 安裝方式 How To Install Micro: bit.....	27
線上下載程式 Funways to downlod on line.....	28
注意事項 Warning	29
簡易故障排除 Trouble Shooting	30
打扮你的寶比 Decoration	31

二代寶比機器人-Micor:bit

Probbie II Micro:bit kit

產品介紹 Product Introduction

寶比二代聯手BBC Micro:bit 創造出無限可能! 寶比二代延續寶比一代靈活的身體、360度旋轉的身體、紅外線感應等, 更採用 Micro:bit 控制板作為核心控制, 只要透過Javascript Blocks或是Python程式編程, 不須再另外下載其它編程軟/硬體, 就能擁有一隻聰明、可愛的專屬機器人! 玩中學、學中做就是這麼簡單!
利用BBC Micro:bit 編程, 發揮你的創意, 激盪你的腦力, 與寶比二代一起迸發無窮潛力!

Probbie II met BBC Micro:bit. The excellent features of Micro:bit have been comprehensively exploded into this Robot, and made all the possibilities to Probbie II - your coolest and cleverest robot friend ever.

Probbie II is a construction robot, designed of 6 legs and a rotation-free body, possessing all necessary electronics, including motor, IR sensor, buzzer to make it active and interactive for fun. It is ideal to combine with Micro:bit, using your creation and imagination to make it code and program easily by Javascript Blocks Editor or Python Editor on your computer, laptop or smartphone. No need to download more coding software and driver at all. Thanks to this pocket programmable board, coding and programming becomes simple, accessible and interesting for children to learn and practice.

With the main features of BBC Micro:bit below, Probbie II sparkles huge potential and brings you all the fantasy and excitement.



警告

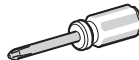
Warning

1. 本玩具內含小物件, 請勿讓三歲以下孩童取得, 以免放入口中造成窒息。
Choking hazard - Small parts. Not for children under 3 years.
2. 兒童使用剪切工具時, 請家長指導使用方式, 並請在家長監督下使用, 以免發生意外。
Adult supervision is recommended when children use scissors.
3. 為避免嬰兒或兒童產生窒息的危險, 請於拆卸後立即將塑膠袋銷毀或遠離嬰兒及兒童。
To avoid danger of suffocation, keep the plastic bag away from babies and children.

自備工具如右 Tools You May Need



斜口鉗
Diagonal Cutter



#1 十字起子
#1 Screwdriver(Philips)
9SD-202B 或 89102B



AAA電池4顆
Battery(AAA) x 4
建議使用鹼性電池(出貨不含)
Alkaline batteries are recommended
(not included)

零件清單 Mechanical Parts List

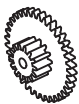


部分產品含有銳利邊角, 組裝時請特別注意
Product contains functional edges and sharp points.

P1 小齒輪(白色) Pinion Gear (White)	
數量 QTY	
	2

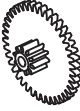
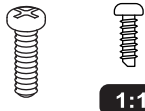
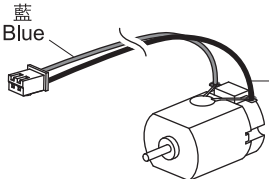
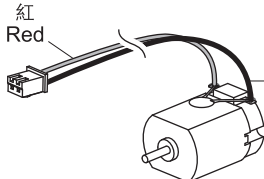
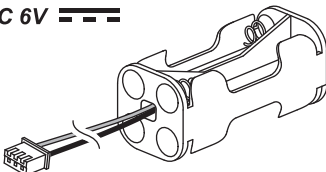
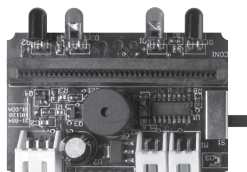
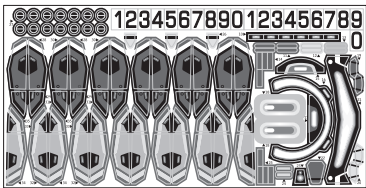
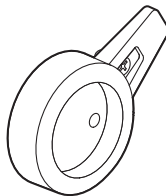
P2 齒輪(灰色) Gear 32/10T (Gray)	
數量 QTY	
	1

P3 齒輪(藍色) Gear 32T (Blue)	
數量 QTY	
	1

P4 齒輪(綠色) Gear 36/14T (Green)	
數量 QTY	
	1

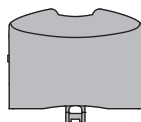
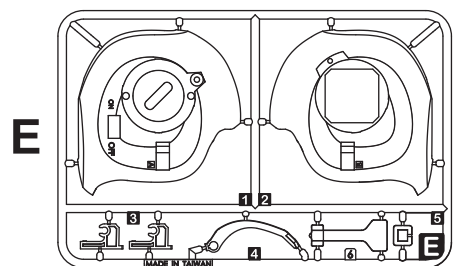
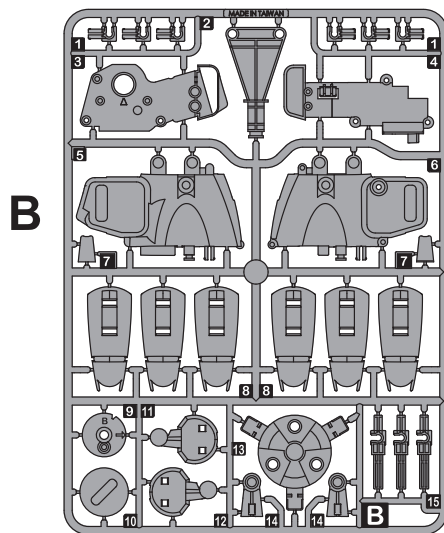
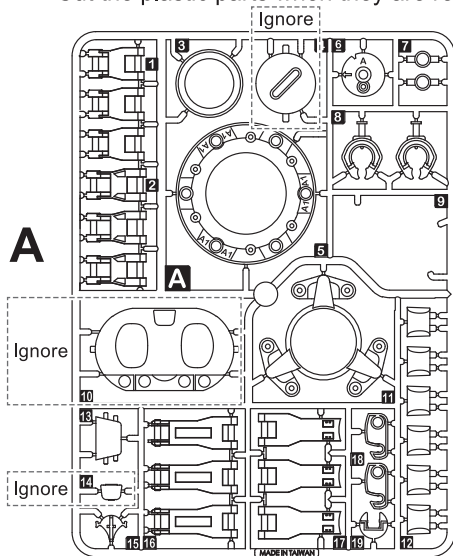
P5 齒輪(白色) Gear 36/14T (White)	
數量 QTY	
	2

P6 齒輪(橘色) Gear 36T (Orange)	
數量 QTY	
	1

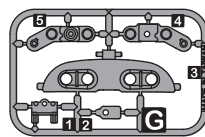
P7 齒輪(粉紅色) Gear 40/10T (Pink)		數量 QTY 1
P8 出力齒輪(橘色) Gear 10T (Orange)		數量 QTY 2
P9 自攻螺絲 Tapping Screw		數量 QTY 19
P10 華司螺絲 Tapping Screw		數量 QTY 4
P11 圓軸(短) Shaft (Short)		數量 QTY 3
P12 圓軸(長) Shaft (Long)		數量 QTY 2
P13 馬達端子組 Motor With Connector		數量 QTY 1
P14 馬達端子組 Motor With Connector		數量 QTY 1
P15 電池座 Battery Holder With Connector		數量 QTY 1
P16 電路板 PC Board		數量 QTY 1
P17 裝飾貼紙 Sticker		數量 QTY 1
P18 電池盒蓋(含螺絲) Battery Holder Cover with Screw		數量 QTY 1

塑膠模型零件 Plastic Parts

! 請依照組裝步驟將所需的零件剪下，事先全數剪下會在組裝時造成混淆
Cut the plastic parts when they are required. Do not cut them in advance.



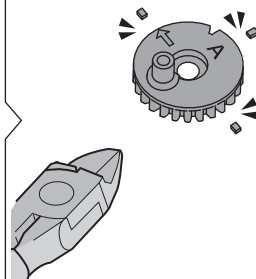
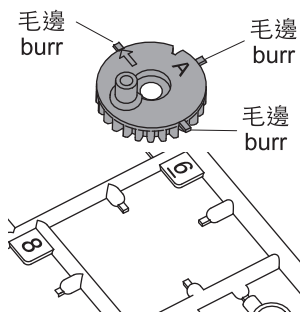
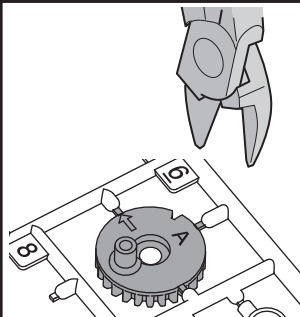
F



G

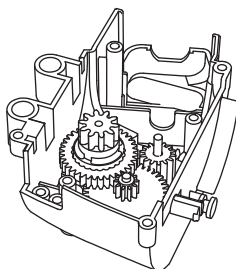
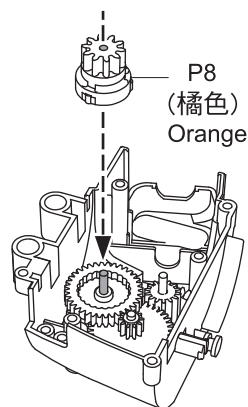
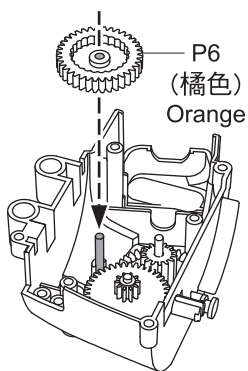
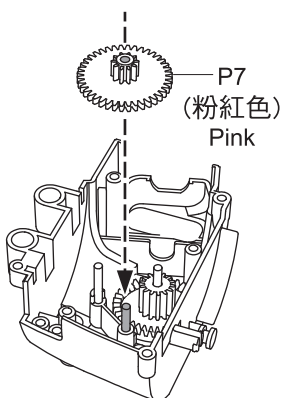
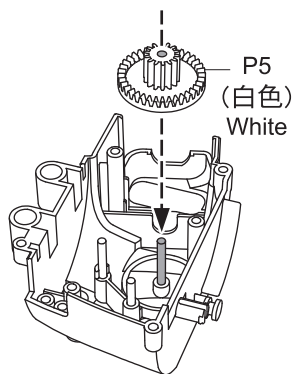
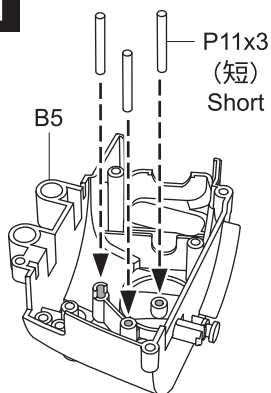


小技巧提醒:零件剪下時請將毛邊剪切乾淨，以免組裝後造成運作不良
Tip: cut off the burrs before assembly

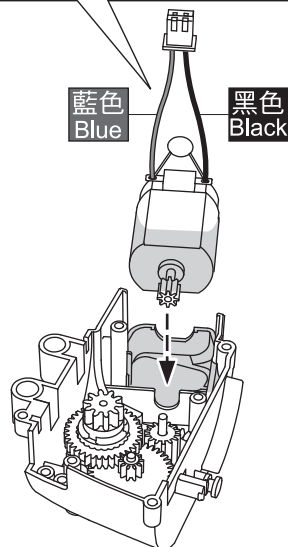
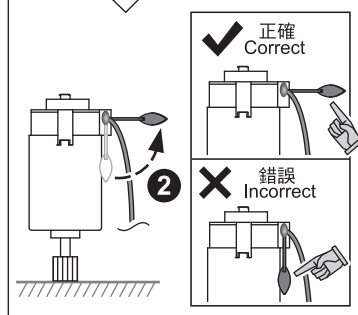
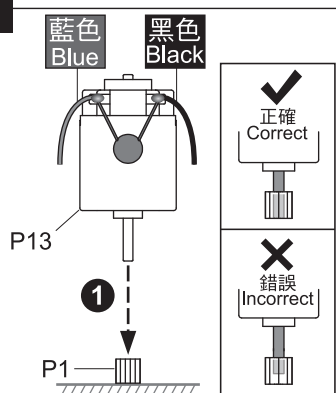


身體組裝 Body Module Assembly

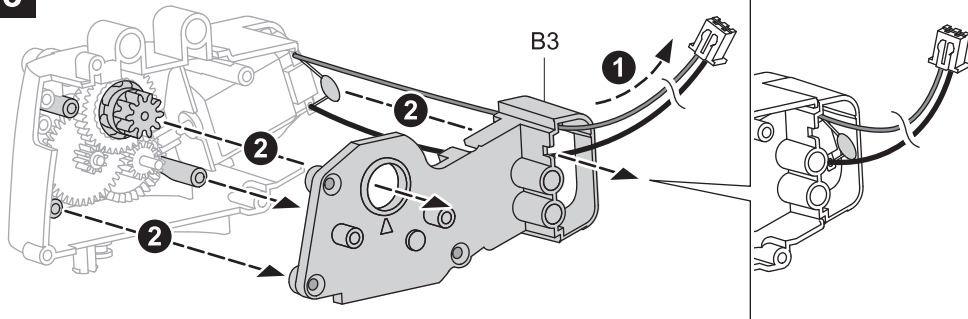
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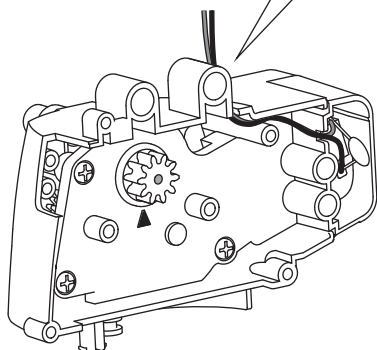
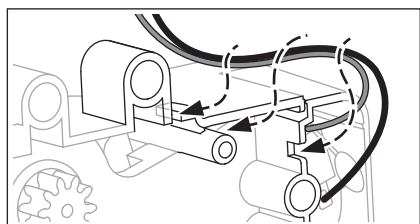
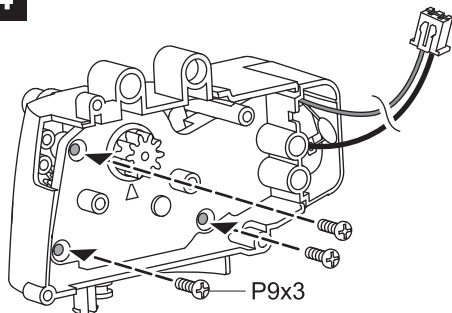
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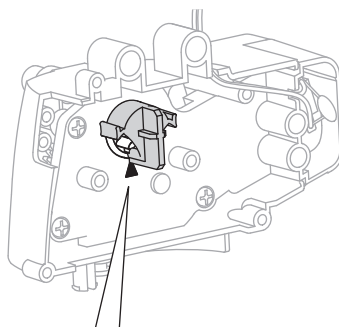
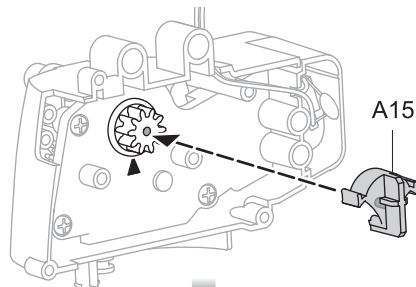
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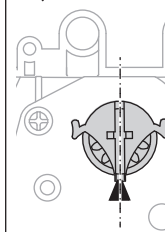
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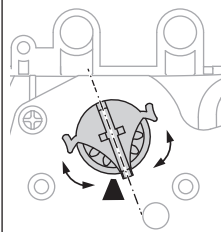
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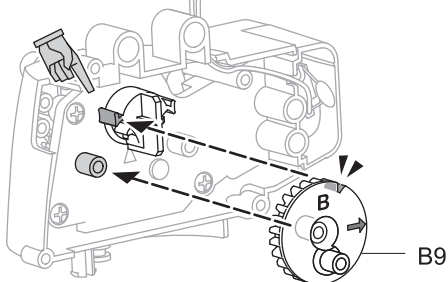
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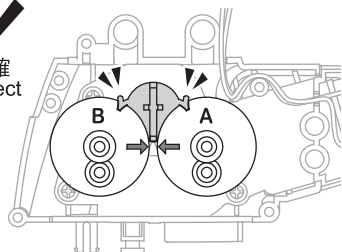
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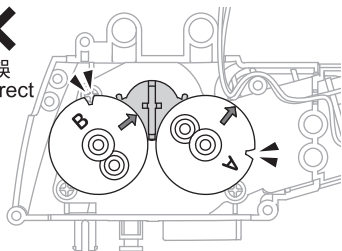
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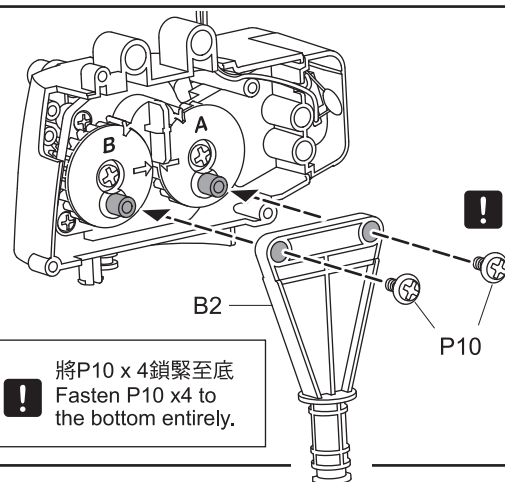
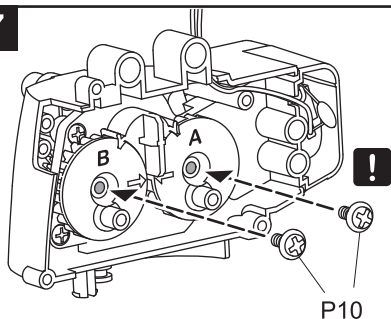
✓
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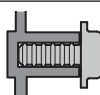
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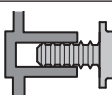
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✓
正確
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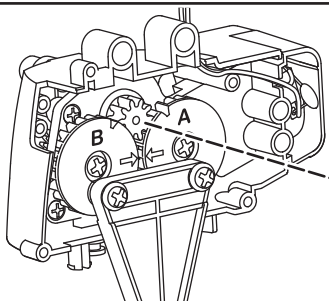


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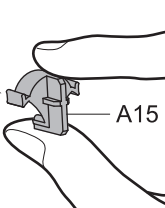


將P10 x 4鎖緊至底
Fasten P10 x4 to
the bottom entirely.

8



✗ 移除
REMOVE

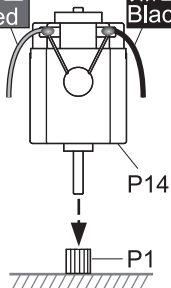


注意：A15為輔助工具，請在上述步驟
完成後取下

Important : Remove assistance tool-
A15 after steps above are finished.

9

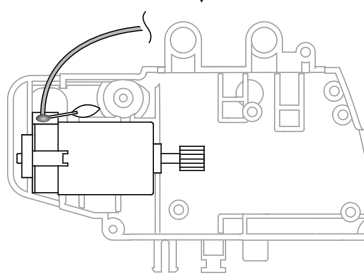
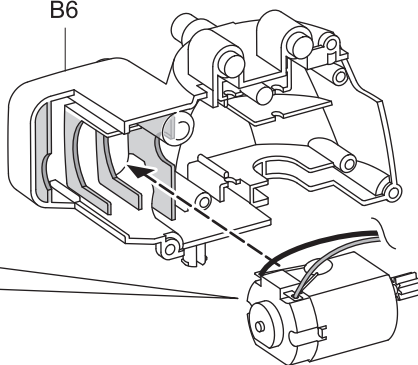
紅色 Red 黑色 Black



✓ 正確 Correct

✗ 錯誤 Incorrect

B6



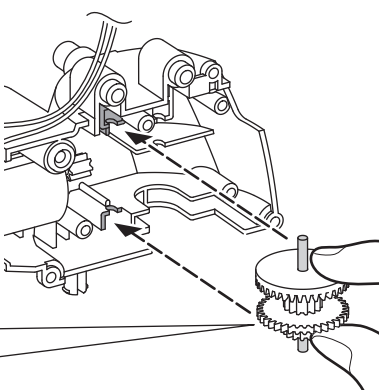
側視圖 Side View

10

P12 (長) Long

P5 (白色) White

P4 (綠色) Green



11

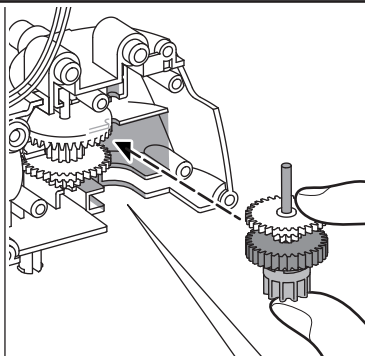
P12 (長) Long

P2 (灰色) Gray

✗ 錯誤 Incorrect

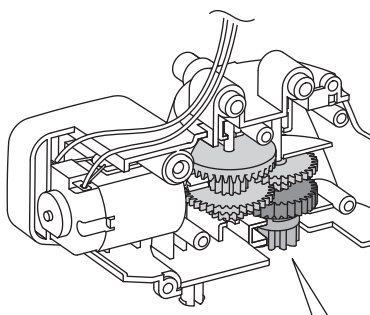
P3 (藍色) Blue

P8 (橘色) Orange



✓ 正確 Correct

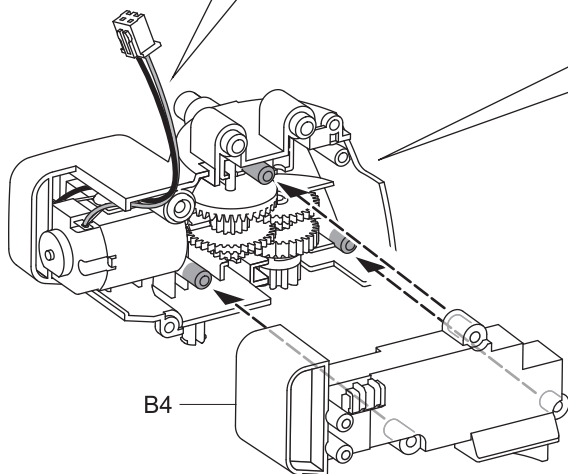
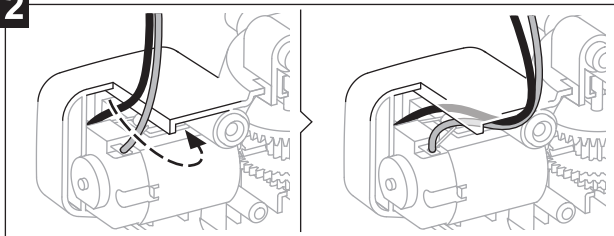
✗ 錯誤 Incorrect



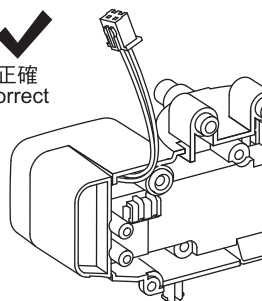
P5 (白) White
P4 (綠) Green

P2 (灰) Gray
P3 (藍) Blue
P8 (橘) Orange

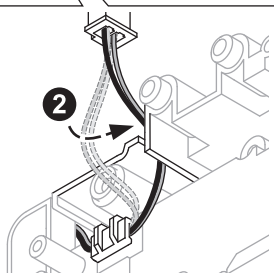
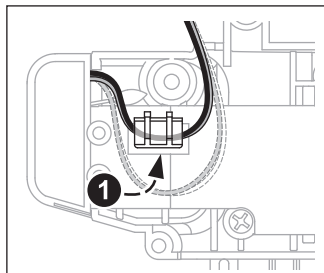
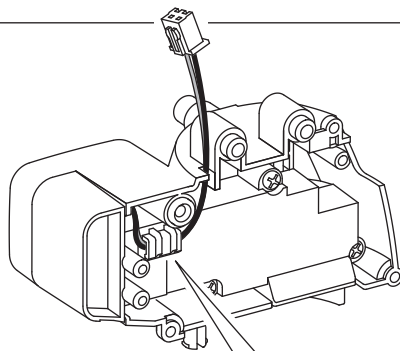
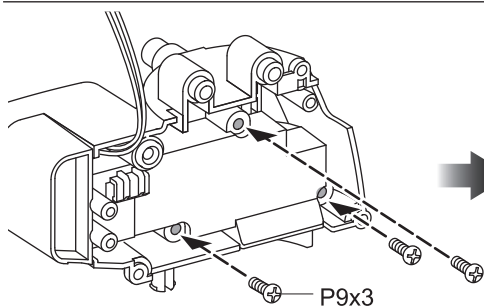
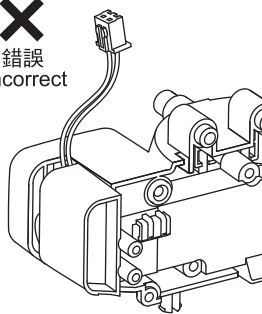
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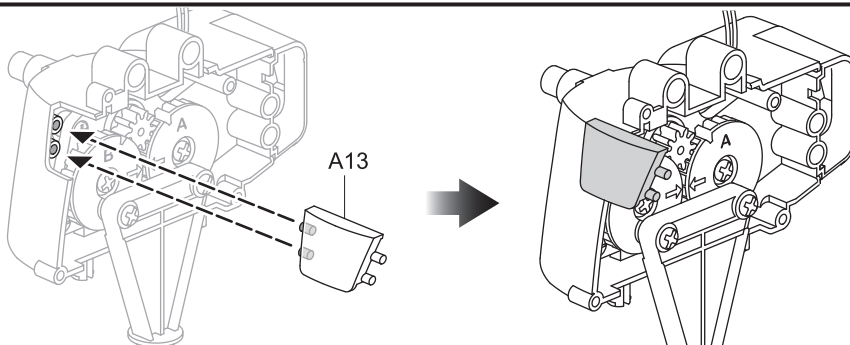
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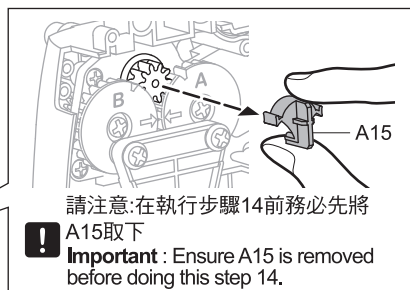
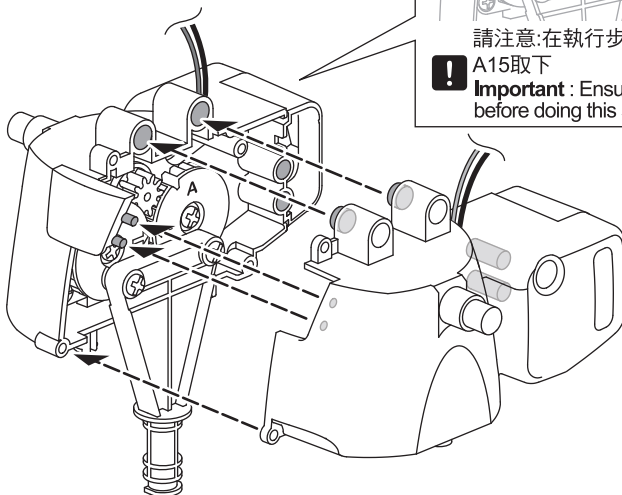
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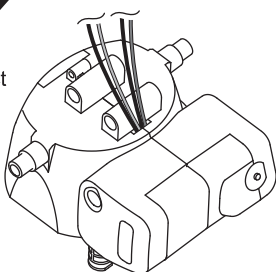
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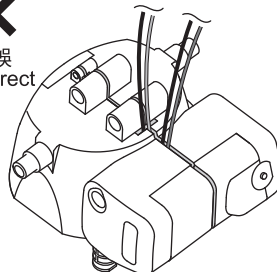
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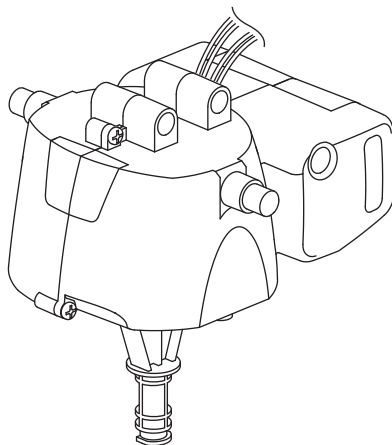
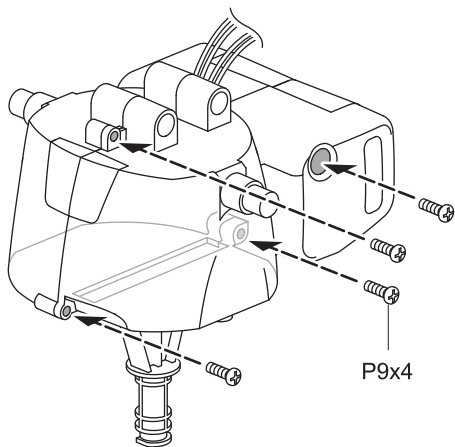
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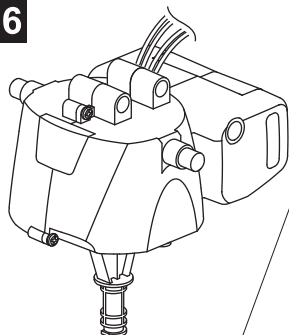
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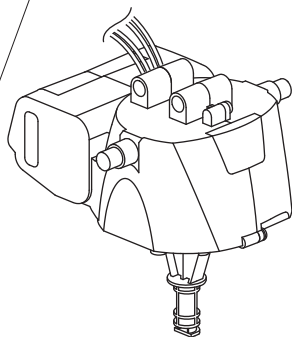
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16



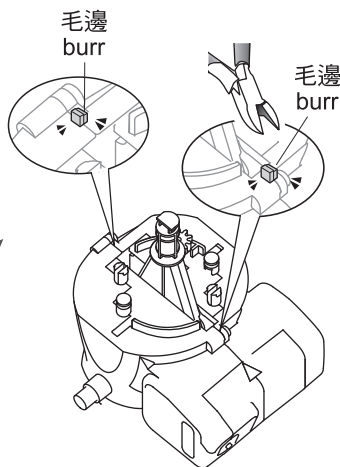
右視圖
Right View



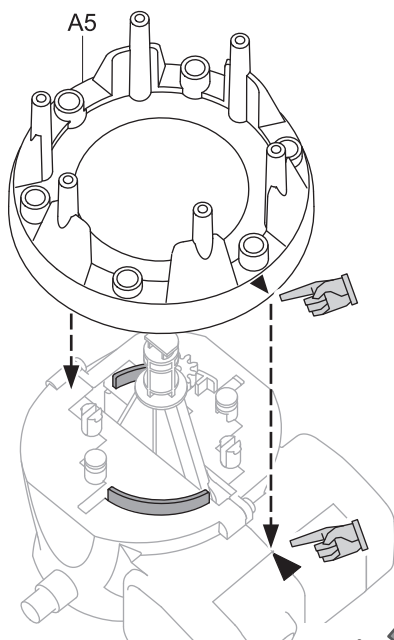
左視圖
Left View



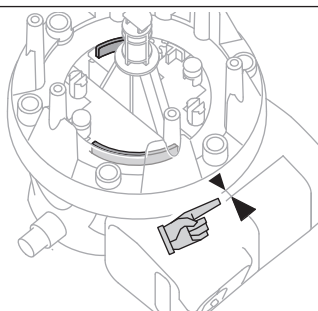
! 前請將毛邊剪乾淨
Cut off the burrs before assembly.



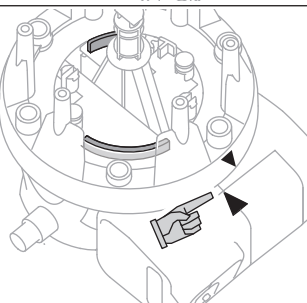
17



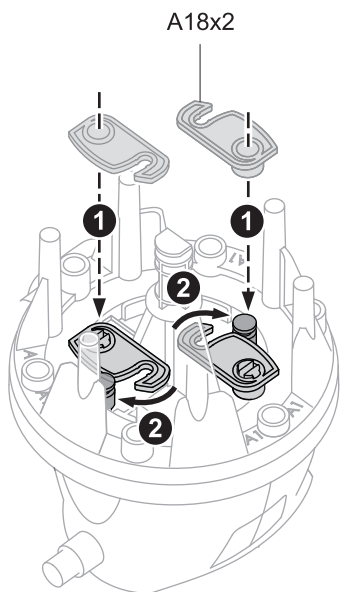
✓
正確
Correct



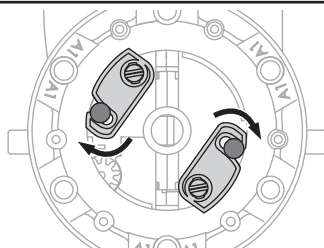
✗
錯誤
Incorrect



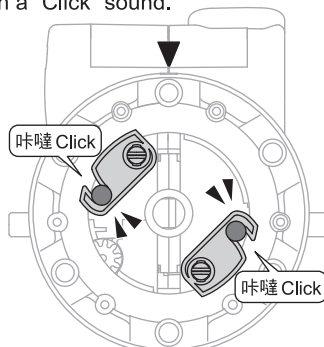
18



180°

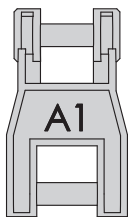


! 請確認A18扣住時有發出“咔嚓”聲
Make sure A18 is snapped on
with a “Click” sound.



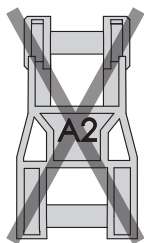
俯視圖 Top View

19

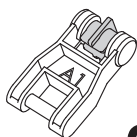
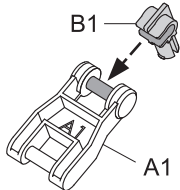
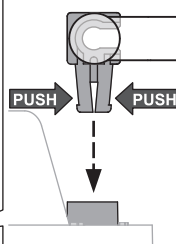
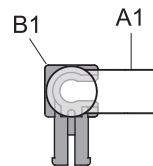


比例

Scale 1:1



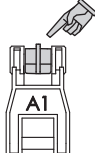
❗ 請勿將A1與A2混淆
Don't mix up A1 & A2.



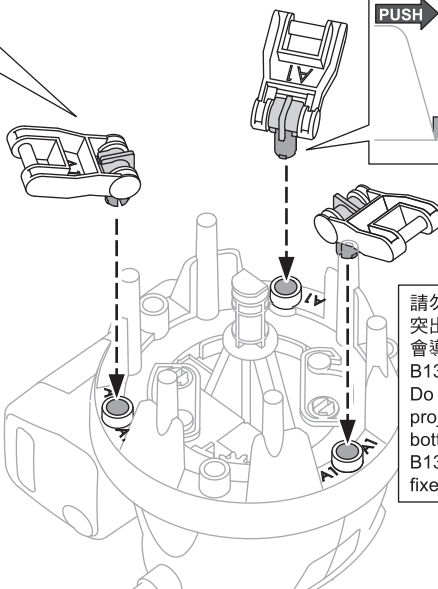
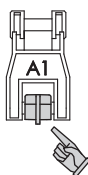
x3



正確
Correct



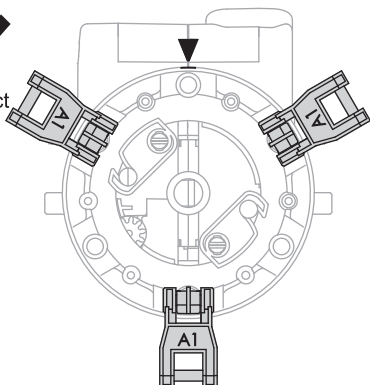
錯誤
Incorrect



請勿將尾部微微
突出的卡樁修平
會導致無法固定
B13底座。
Do not trim the
projection of the
bottom side; or
B13 may not be
fixed properly



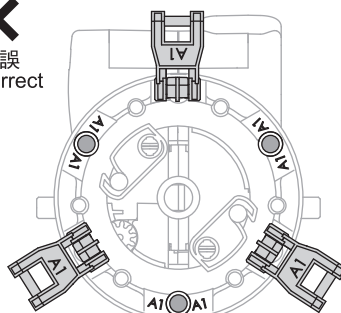
正確
Correct



俯視圖 Top View

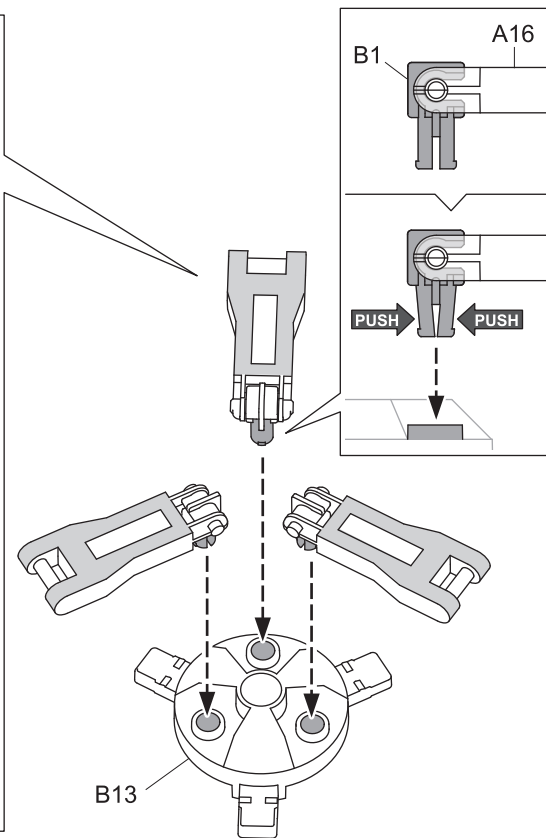
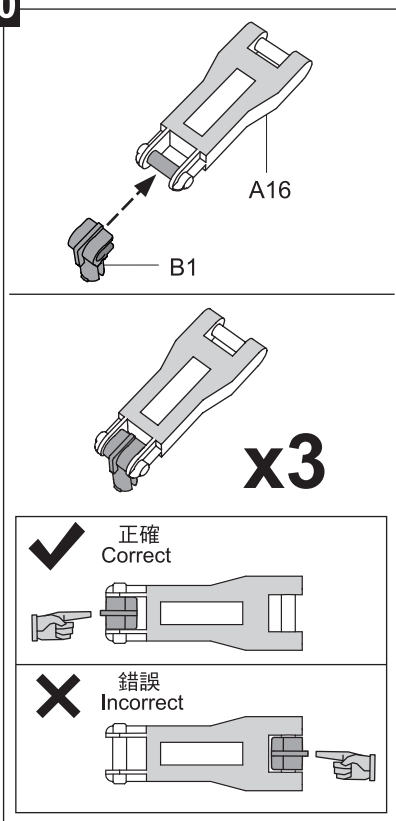


錯誤
Incorrect

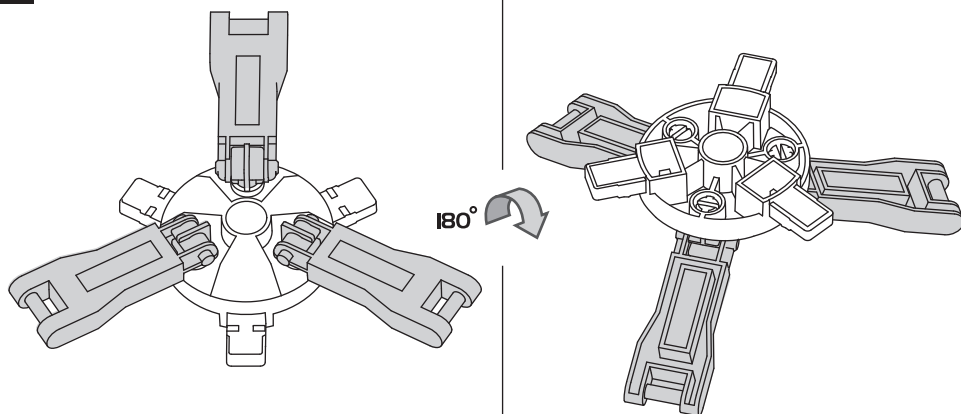


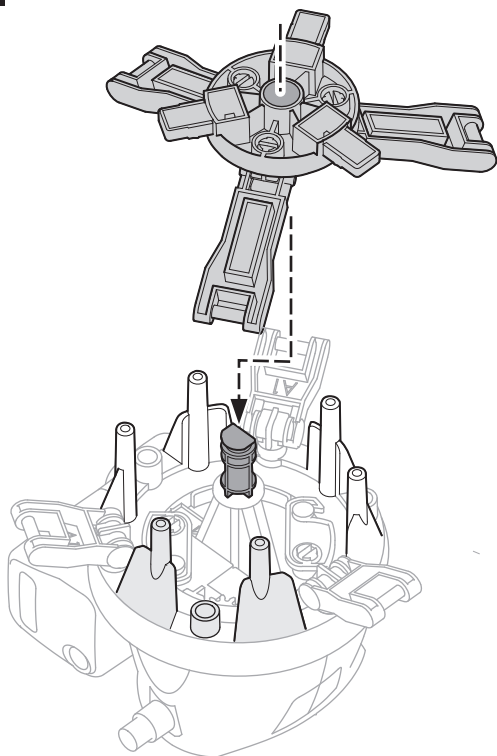
俯視圖 Top View

20

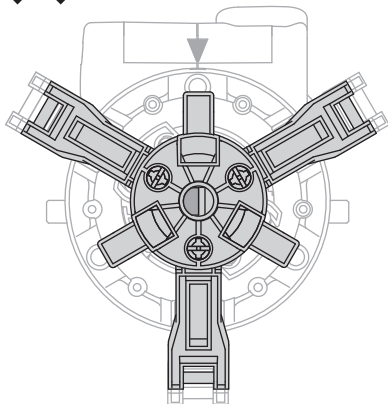


21

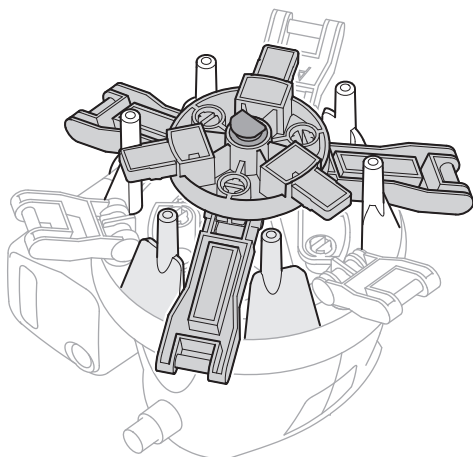




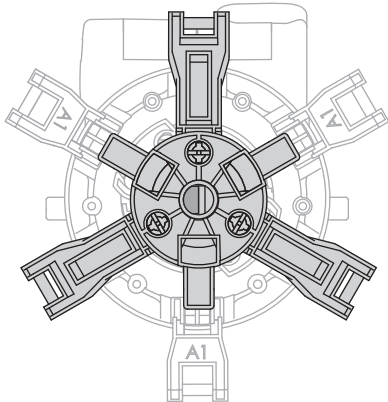
錯誤
Incorrect



俯視圖 Top View

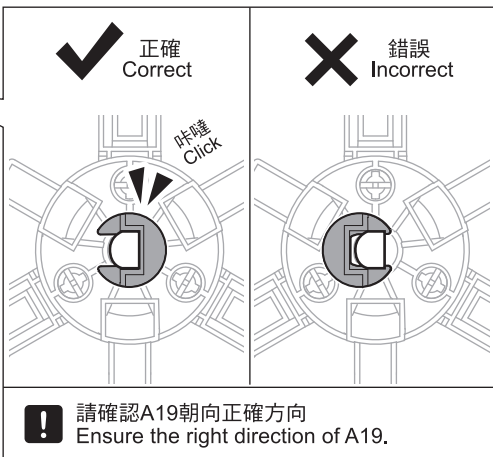
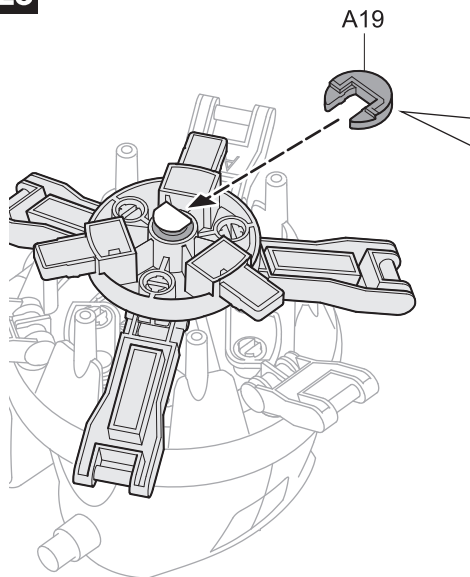


正確
Correct

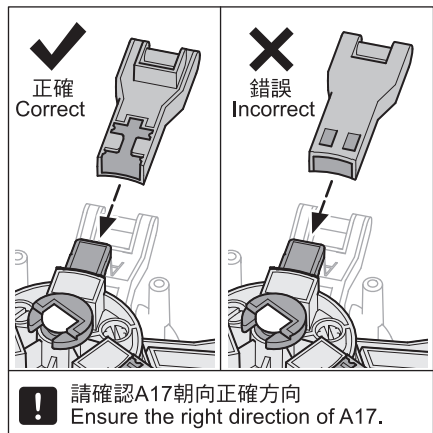
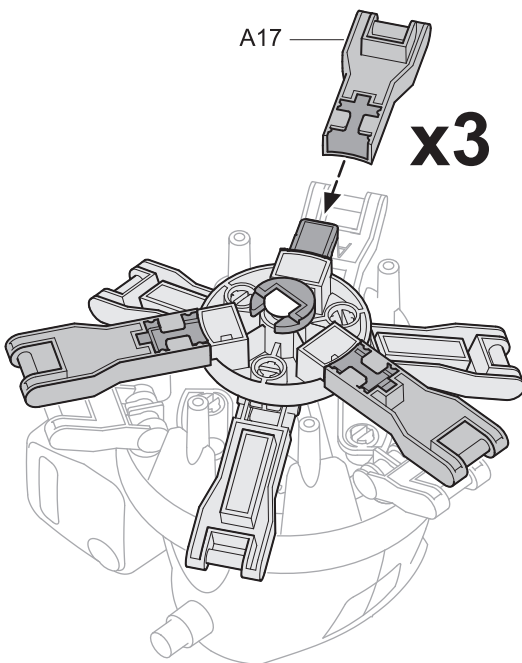


俯視圖 Top View

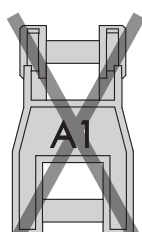
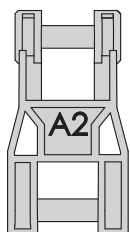
23



24

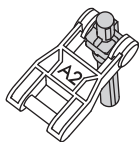
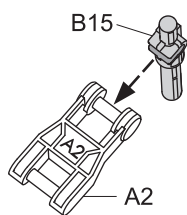


25

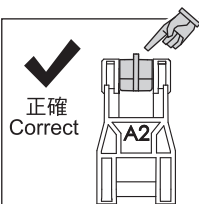


比例
Scale 1:1

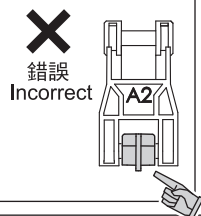
! 請勿將A1與A2混淆
Don't mix up A2 & A1.



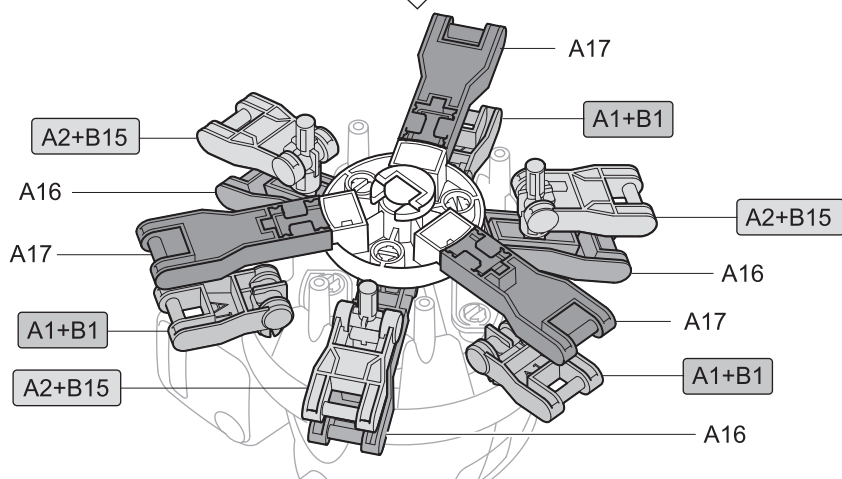
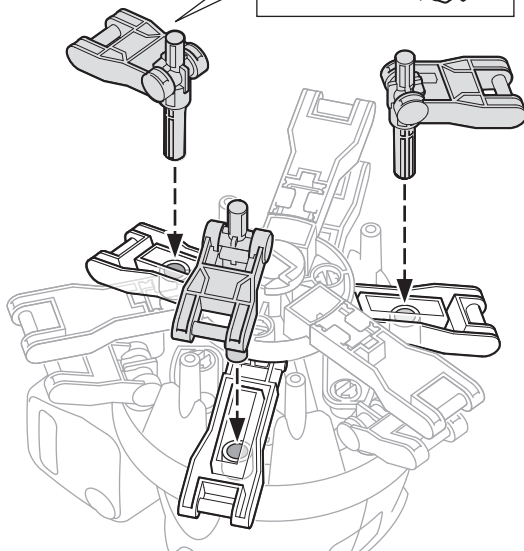
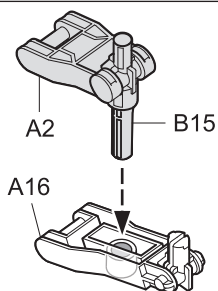
x3



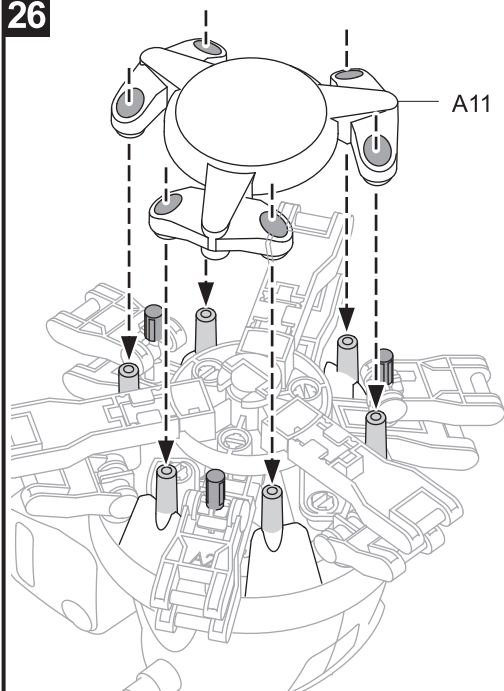
正確
Correct



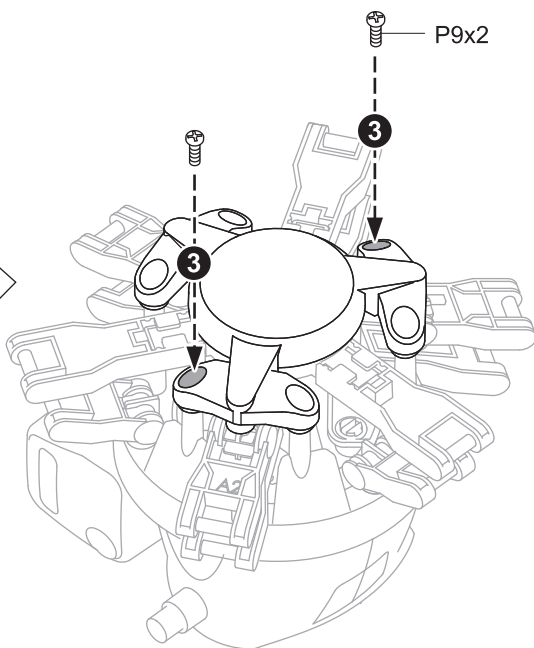
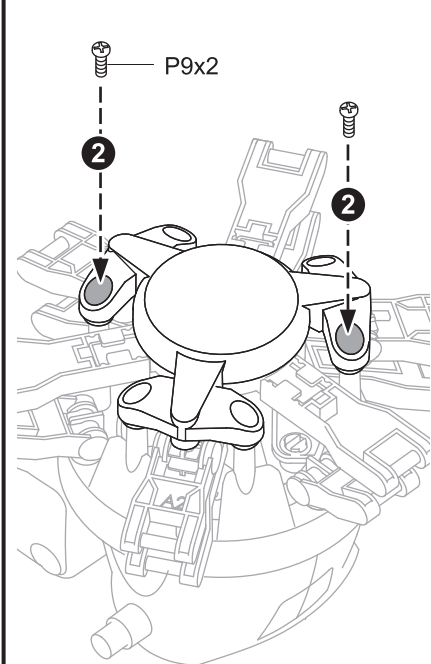
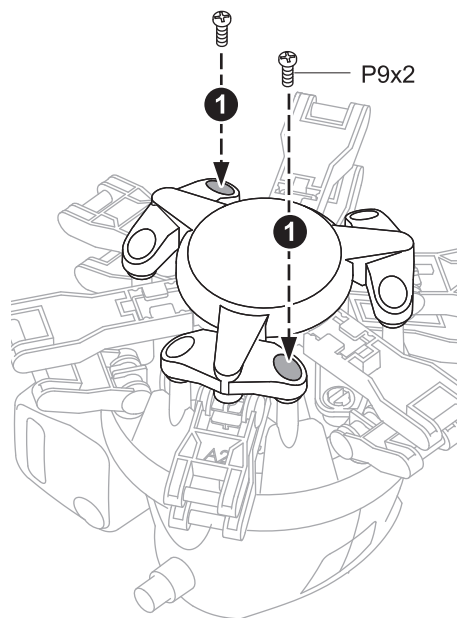
錯誤
Incorrect



26

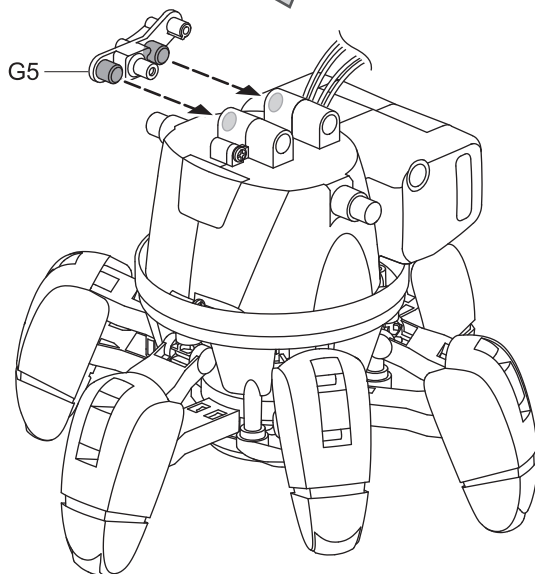
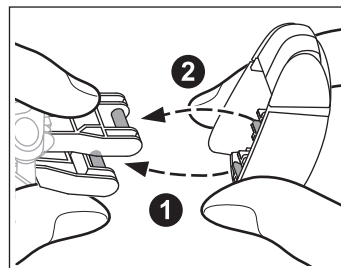
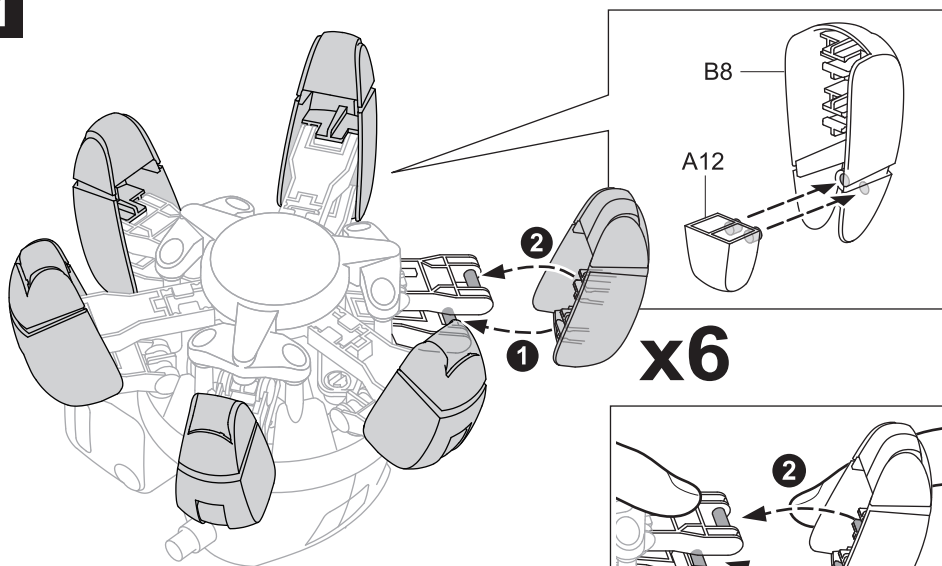


27

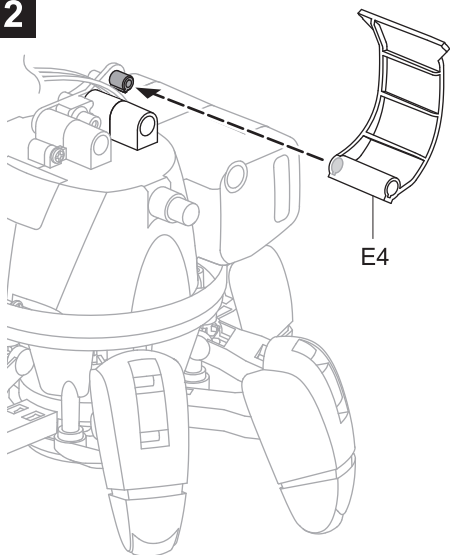


足部、頭部、手臂組裝 Feet, Head, & Arms Assembly

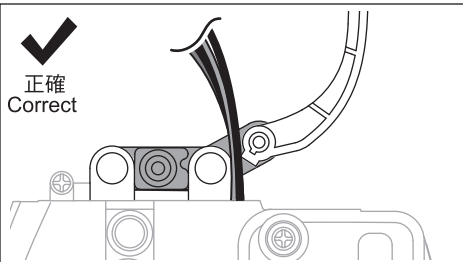
1



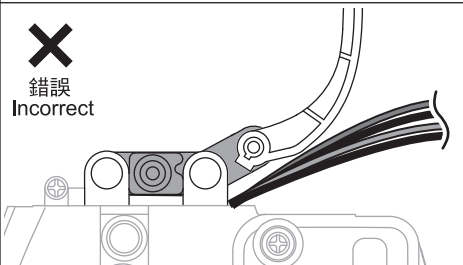
2



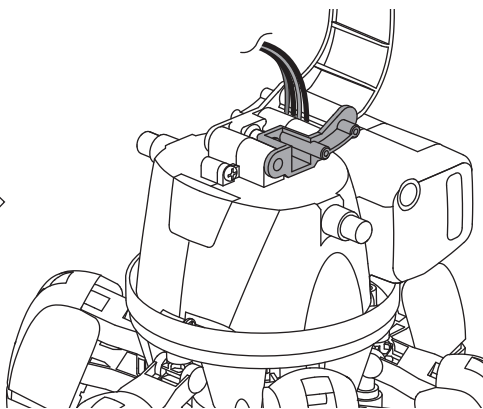
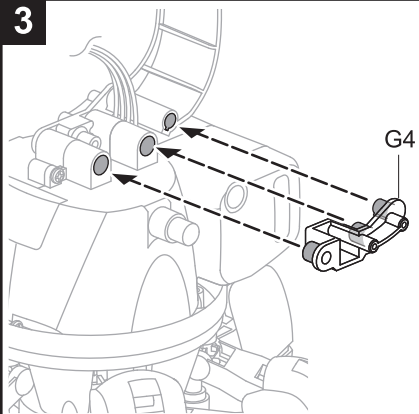
✓
正確
Correct



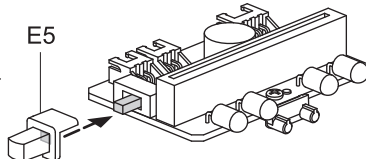
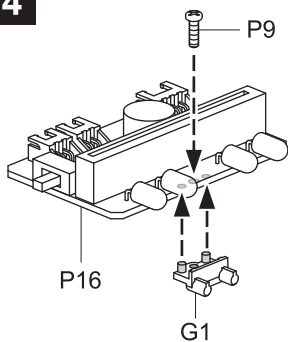
✗
錯誤
Incorrect



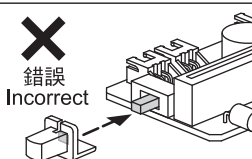
3



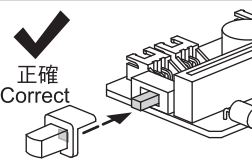
4



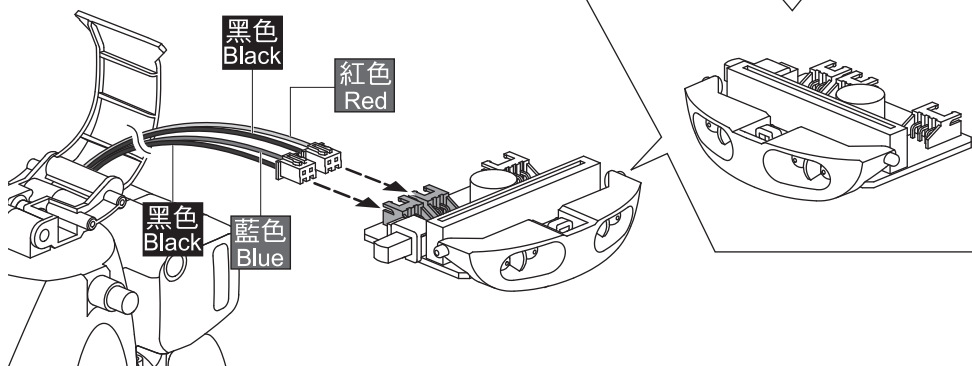
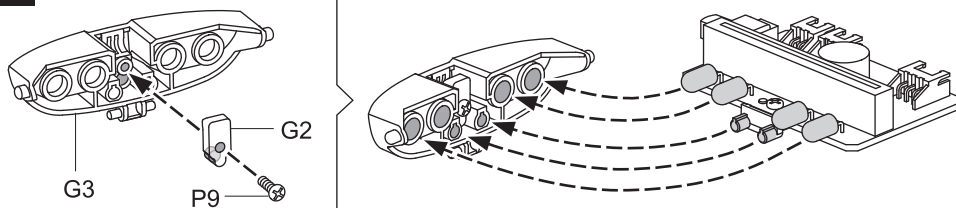
✗
錯誤
Incorrect



✓
正確
Correct

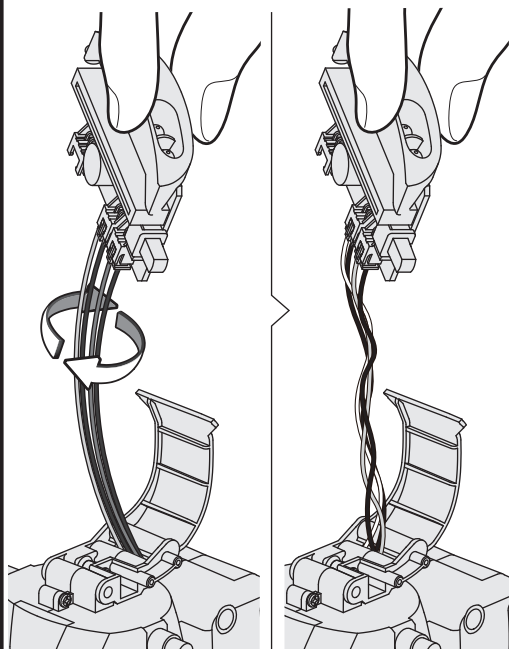


5

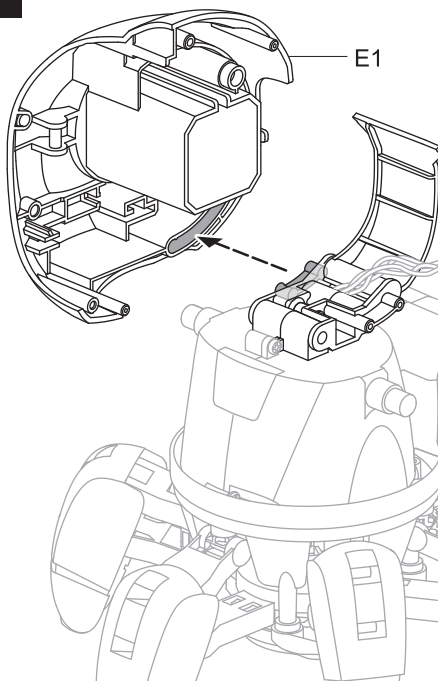


6

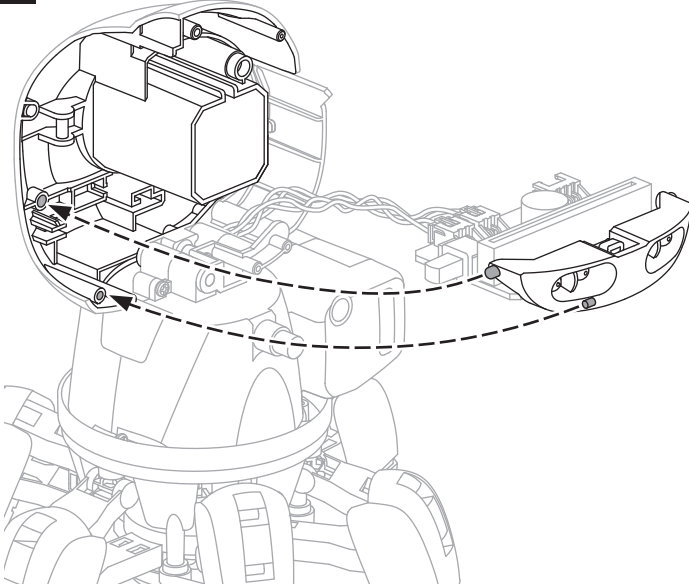
! 請如圖示將線繞轉三圈
The wire must make three turns as illustration.



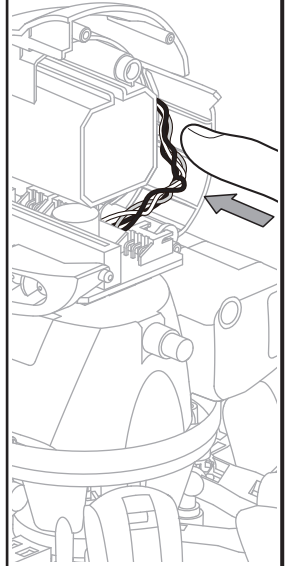
7



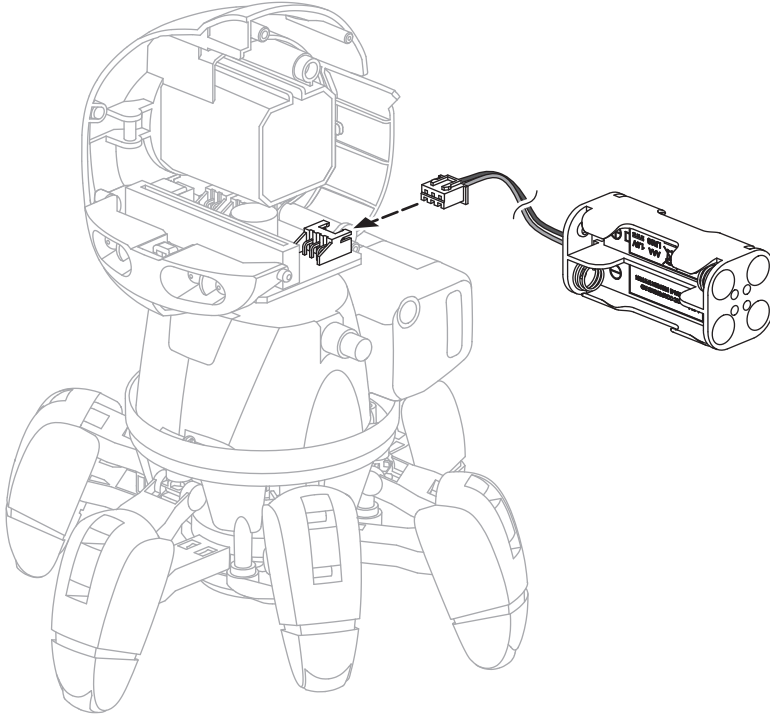
8



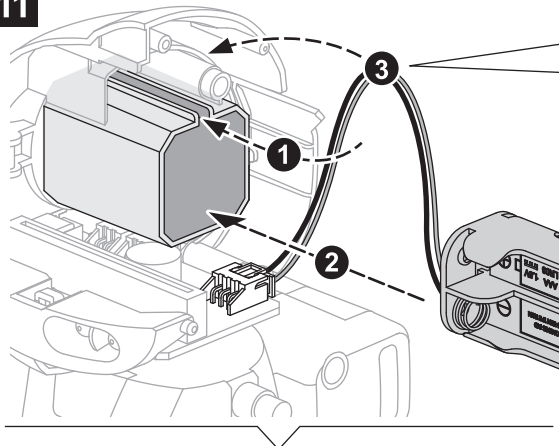
9



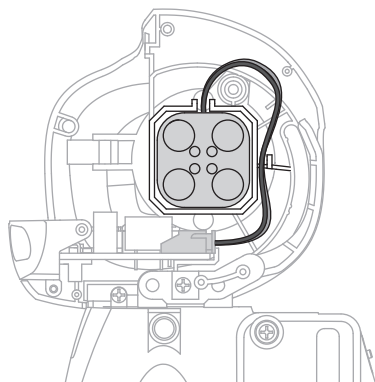
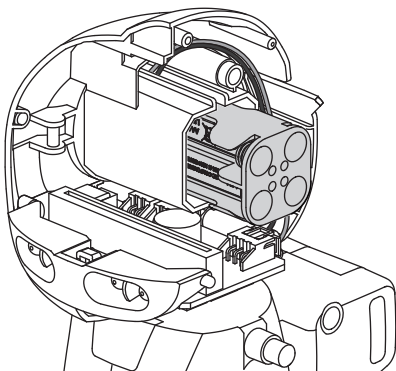
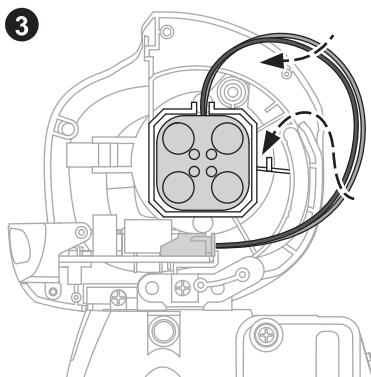
10



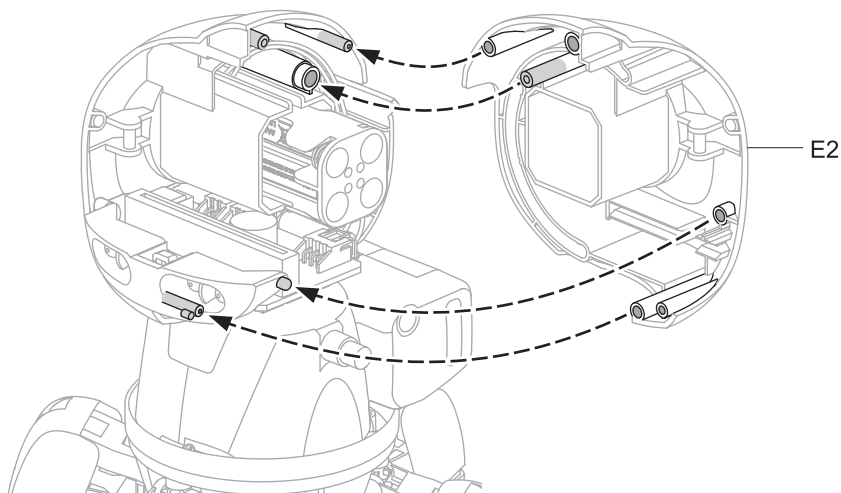
11



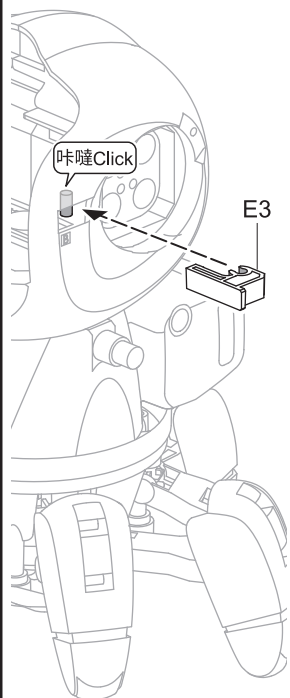
3



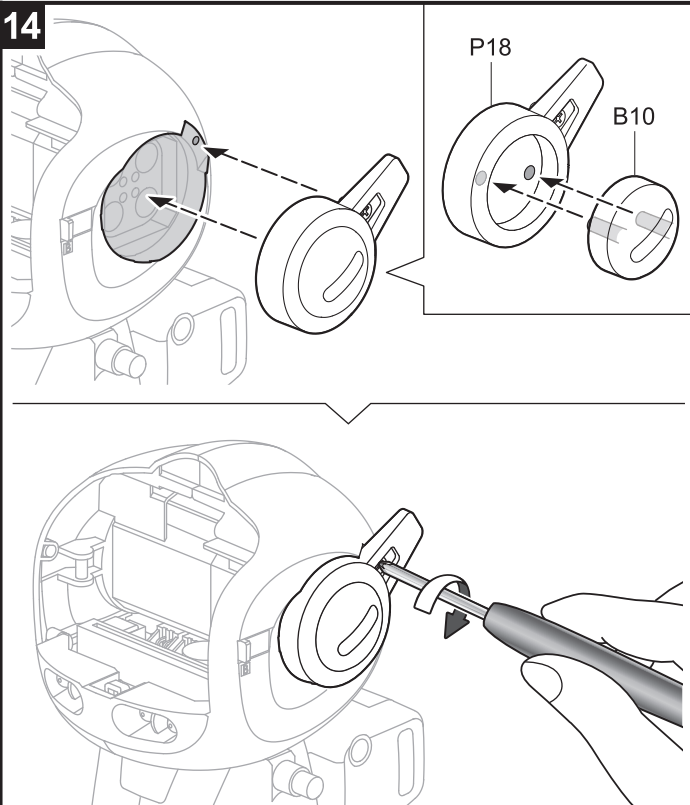
12



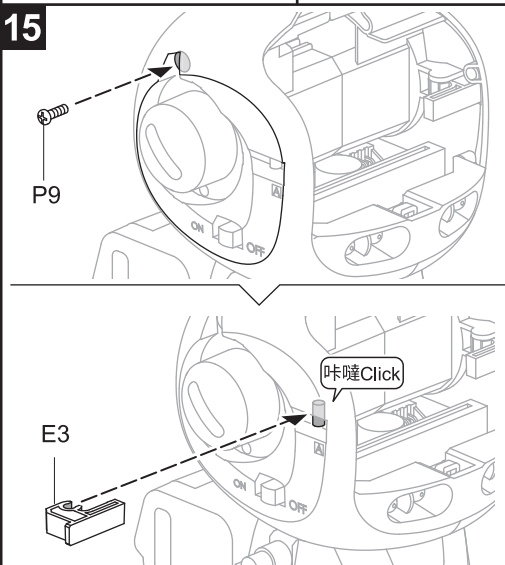
13



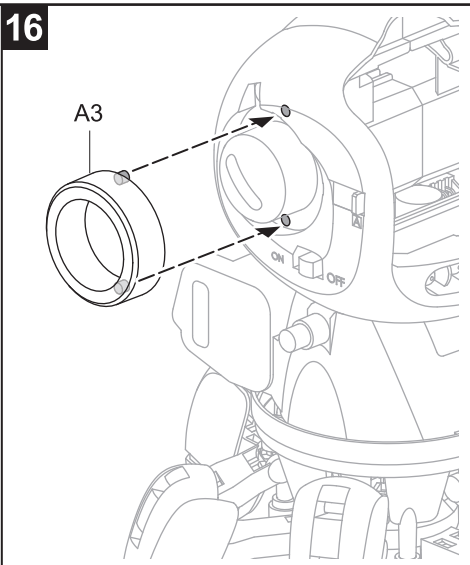
14



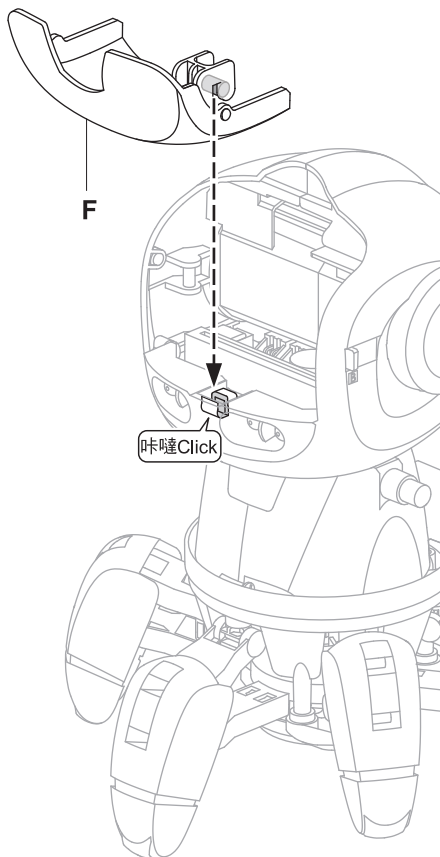
15



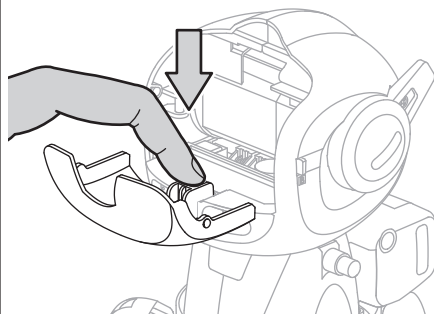
16



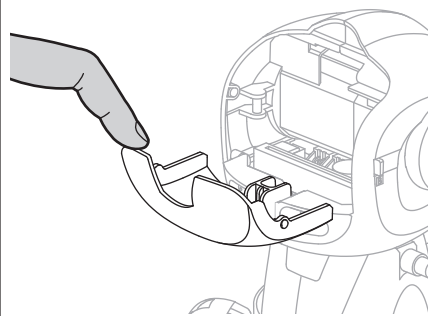
17



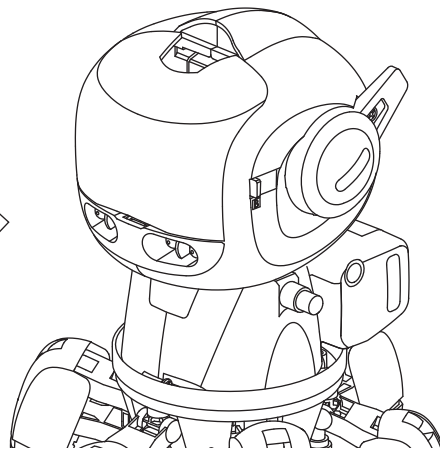
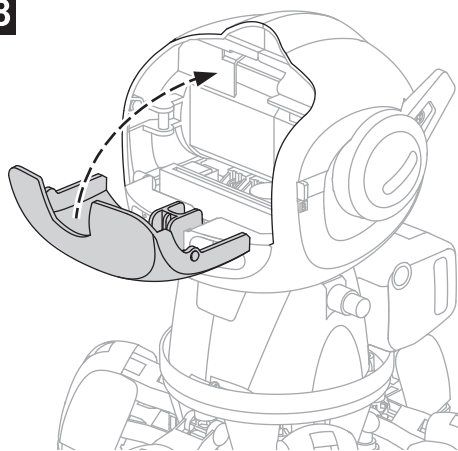
✓ 正確
Correct



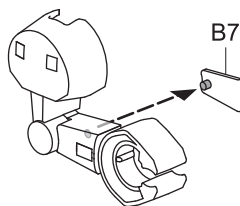
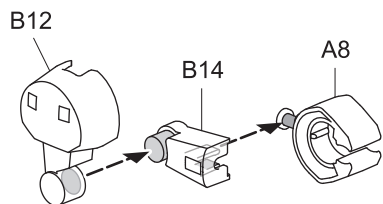
✗ 錯誤
Incorrect



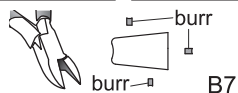
18



手臂 右 Arm R



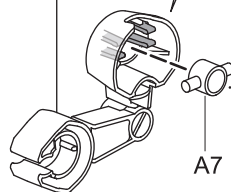
組裝前請將毛邊
剪切乾淨
Cut off the burrs
before assembly.



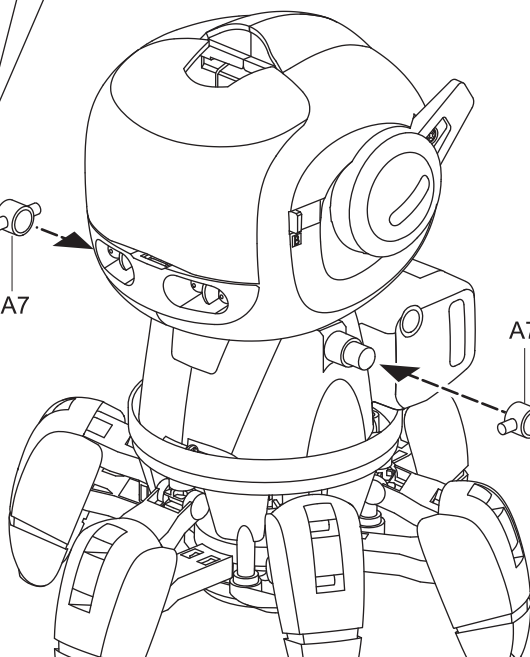
B7

手臂 右

Arm R



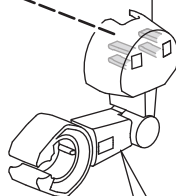
A7



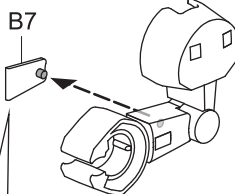
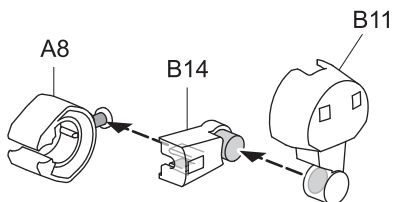
手臂 左

Arm L

A7



手臂 左 Arm L

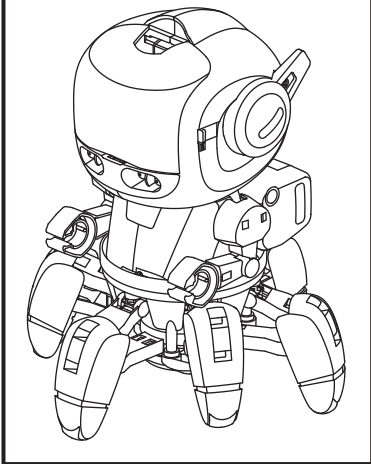


組裝前請將毛邊
剪切乾淨
Cut off the burrs
before assembly.



B7

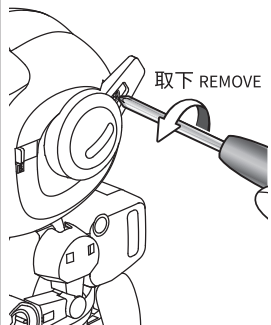
20 完成 Finish



電池安裝 Battery Installation

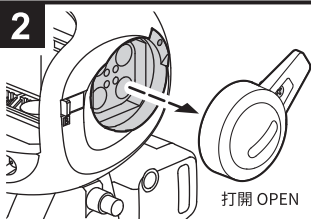
1 **!**

請於齒輪箱模組完全組裝完成後，再裝入電池。
Only insert batteries when the gear box module assembly is completely finished.



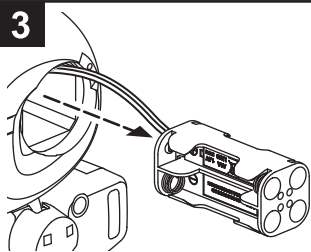
取下 REMOVE

2



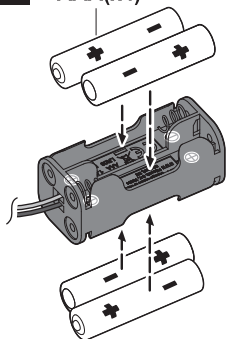
打開 OPEN

3



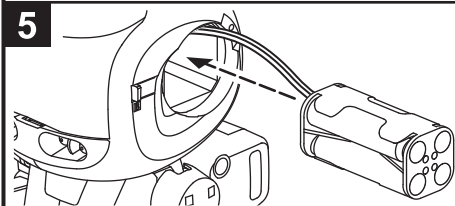
4

AAA(x4)

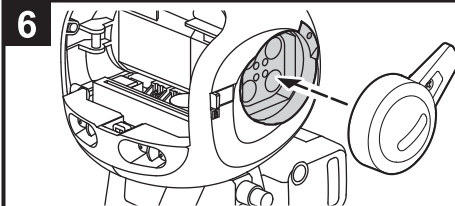


- 電池的拆卸與更換應由成人進行，或在成人監督下進行。
Removal and replacement of batteries should be carried out by adults or under adult supervision.
- 避免使電池槽內的接點或電池端子發生短路。
Avoid short circuiting the contacts in the battery compartment or the battery terminals.
- 請將已耗盡的電池自產品中取出，以避免漏液。
Remove exhausted batteries from the product to avoid leakage.
- 請勿混用舊電池與新電池，或混用不同種類的電池。
Do not mix used batteries and new batteries or batteries of different types.
- 請勿混用鹼性電池、一般電池（碳鋅電池）或可充電電池（鎳鎘電池）。
Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- 安裝電池時，請確認極性（正負極）方向正確。
Batteries are to be inserted with the correct polarity.
- 請勿嘗試為不可充電電池充電。
Do not attempt to recharge non-rechargeable batteries.
- 可充電電池僅可在成人監督下進行充電。
Rechargeable batteries are only to be charged under adult supervision.
- 可充電電池在充電前必須先從玩具中取出。
Rechargeable batteries are to be removed from the toy before being charged.
- 本玩具不得連接超過建議數量的電源供應器。
The toy is not to be connected to more than the recommended number of power supplies.

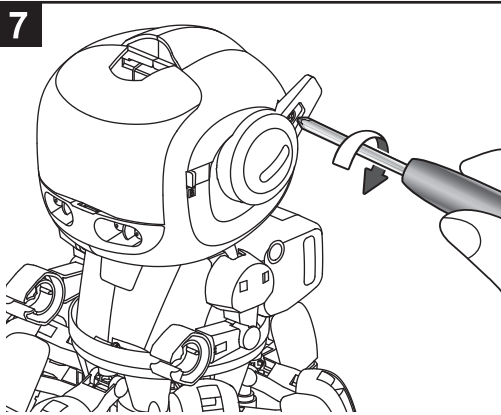
5



6



7



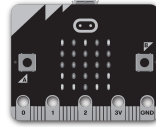
所需設備 Devices You May Need



電腦
Computer



智慧型手機
Smartphone



Micro:bit



Micro USB傳輸線
Micro USB Cable



請掃描左側QR Code依據您的設備
下載Micro: bit 程式安裝指南

We offer manuals online to guide you the way of
downloading pre-code funway programs to your
micro:bit. Please access the link by:

- (1) QR code
- (2) Searching "GE-894" on YouTube and click the
link listed below the video.

Windows OS

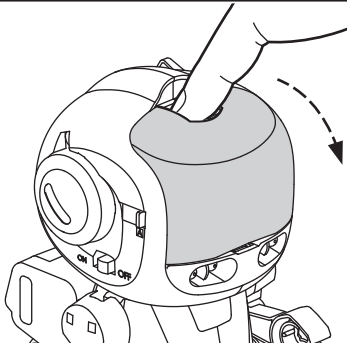
mac OS

Android™

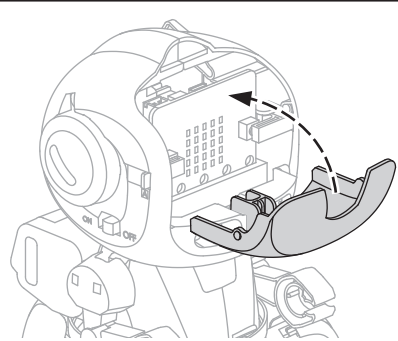
iOS

Micro: bit 安裝方式 How To Install Micro: bit

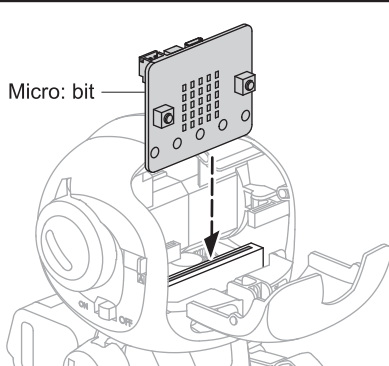
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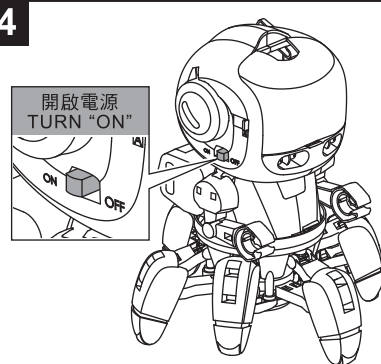
3



2



4



遊戲模式線上下載 Funways To Download On Line

我們提供超過 11 種遊玩方式，
掃描右方QR Code即可下載應用。
We provide more than 11
Funways on line.

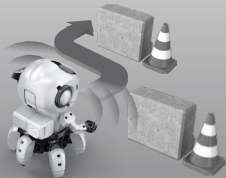
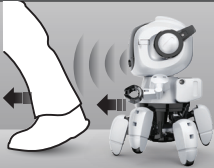
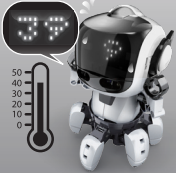
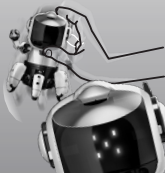
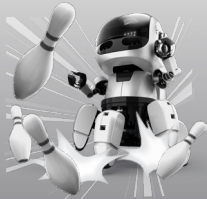


youtube
https://www.youtube.com/playlist?list=PLCDHXNSOfhXMKxmpg6L_v78E8OEebL712



遊戲程序 google drive
https://drive.google.com/drive/u/1/folders/1lISe_p622jvV76Puy070mx4H1phXxZ1A

! 每次只能記憶一種遊戲模式，每當下載新的模式到Micro:bit，前一個記錄在Micro:bit的遊戲模式將被覆蓋掉。
Whenever you download a new funway program onto micro:bit, it will overwrite the existing funway program.
Only the most recently downloaded program can be kept on micro:bit.

1. 探險家寶比 Explorer 	2. 小跟班寶比 Follow Me 	3. 唱跳寶比 Singing & Dancing 
4. 覓光寶比 Light Tracker 	5. 寶比溫度計 Thermometer 	6. 計算神腦寶比 Calculator 
7. 猜拳看誰贏 Rock-paper-scissors 	8. 擲骰子比大小 Dice 	9. 公告板寶比 Notice Board 
10. 羅盤寶比 Compass 	10. 寶比打保齡 Bowling 	

更多遊玩模式可再利用Micro:bit編程。發揮你的創意小宇宙，創造寶比的無限可能，只要將電腦中編輯完成後的程式下載到Micro:bit網站“MakeCode Editor”，就能讓寶比執行更多任務！

Example funway programs are editable on micor:bit website. Simply drag any of the downloaded programs from your computer to micro:bit website MakeCode Editor. You could extend and further edit them with your creativity !



注意事項 Warning



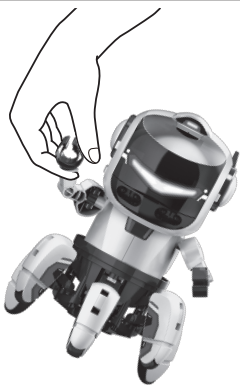
正確
Correct



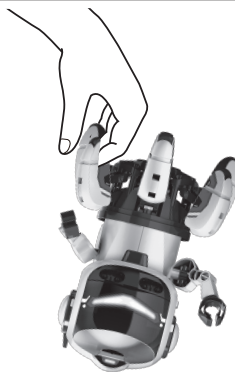
拿取時，請小心握住寶比的頭部位置。抓取錯誤的位置(如右圖)將可能導致故障
Be gentle when holding Tobbie by its head. Any improper motions
(as shown as below) might cause malfunction.



錯誤
Incorrect



錯誤
Incorrect



錯誤
Incorrect



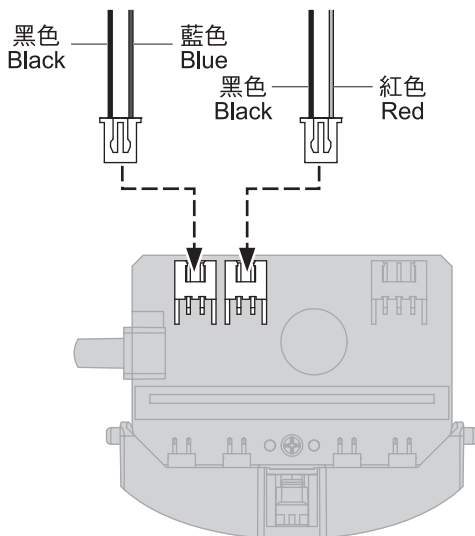
簡易故障排除 Trouble Shooting

1. 請確保電池安裝位置是否正確

Ensure batteries are placed in correct polarity (refer to page 21, step **10**).

2. 請確認線路安裝位置正確(見第20頁，步驟5，線路圖如下)

Ensure all wirings are correct (refer to page 20, step **5** wire configuration as below)



3. 當寶比處在紅外線感應的模式時(如探險家寶比、小跟班寶比)，請避免在陽光下或鹵素燈下與寶比遊戲，以免寶比在移動時方向錯誤。

When infrared sensors are used (ex: explorer or follow me funways), do not play the Probbie II under direct sunlight or halogen lamps. It may cause the robot to go wrong direction.

4. 當寶比前進時，齒輪機箱發出 ” 答答 ” 聲響，請依如下方式檢查

When Probbie II is moving forward but with abnormal sound “ Da Da Da”, please follow steps below.

(1) 請確認A19皆安裝正確(見第15頁，步驟23)

Refer to page 15, step **23**, check and ensure **A19** is installed correctly.

(2)請確認A15是否已取下(見第6頁，步驟8)

Refer to page 6, step **8**, check and ensure **A15** is removed.

(3)請確認所有螺絲皆如指示位置鎖緊(見第6頁，步驟 7)

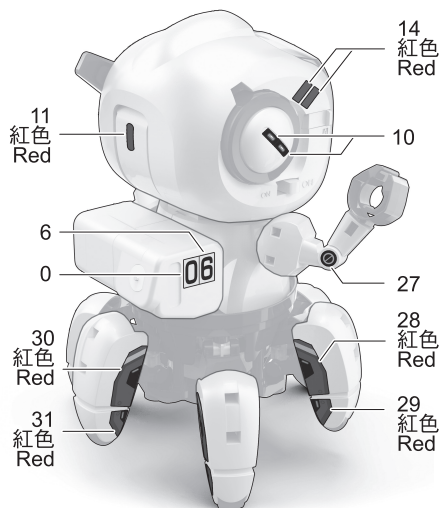
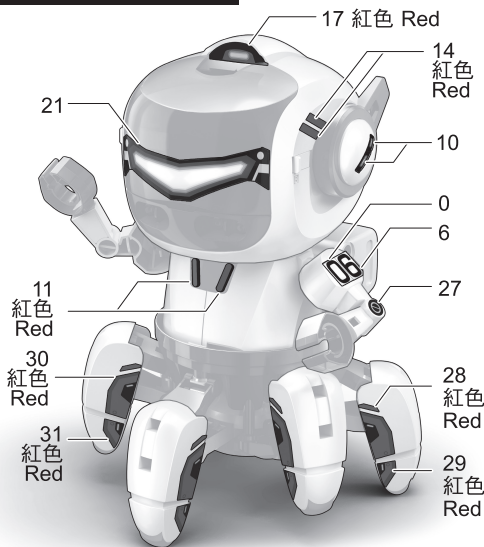
Refer to page 6, step **7**, check and ensure all screws are fastened tightly.

5. 若寶比走路不穩或跌倒，請確認 A1(見第18頁，步驟16)、A2(見第22頁，步驟22)是否混淆且是否組裝正確。

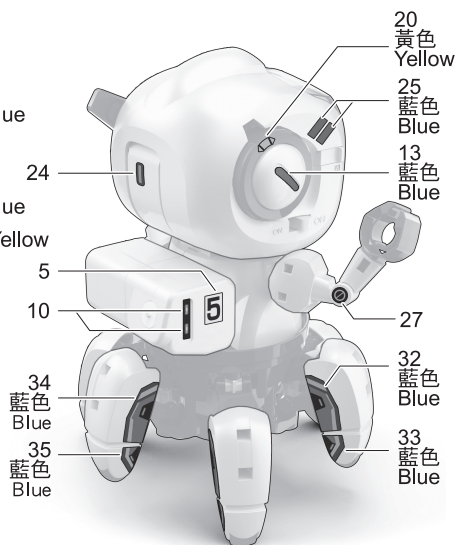
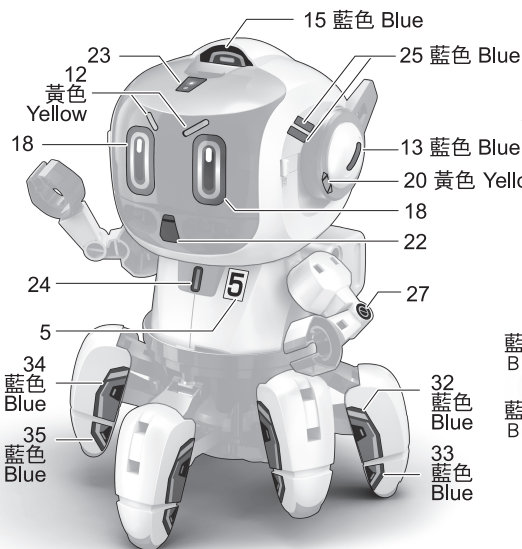
If Probbie II is walking unstably or tumbling, check if **A1**(refer to page 12, step **19**) & **A2**(refer to page 16, step **25**) are not mixed. Ensure both parts are installed correctly.

打扮你的寶比 Decoration

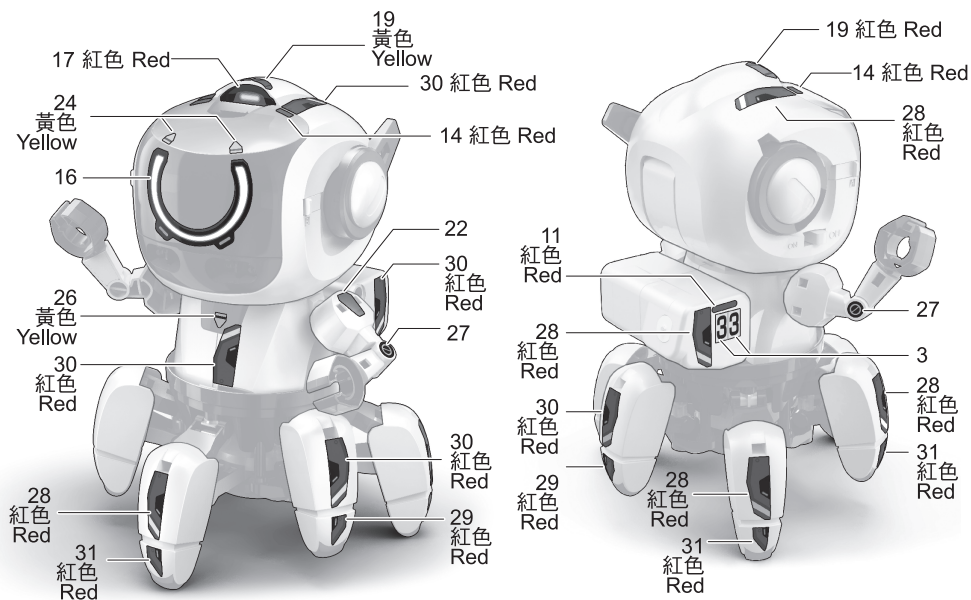
範例1 Example 1



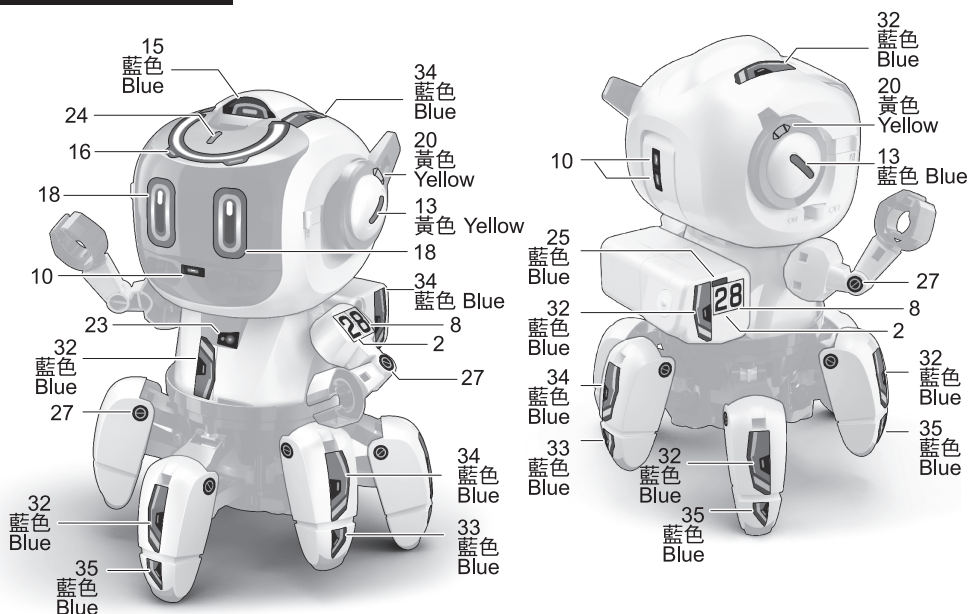
範例1 Example 1



範例3 Example 3



範例4 Example 4



When ordering parts, please include the following

1. 請留下訂購人姓名、寄送地址、連絡電話、E-mail
Name, address (no P.O. Box), telephone number, and email address.
2. 請註明產品名稱、產品型號、零件名稱、零件型號以及數量
Model name and model number, Part number, part name, and quantity.
3. 如有任何需求，請洽您的經銷商
Please contact local distributor if any query.

[illegible]

零件型號Part Number	零件名稱Part Name	數量Qty
5GE-89400P1	小齒輪(白色) Pinion Gear(White)	
5GE-89400P2	齒輪(灰色) Gear 32/10T(Gray)	
5GE-89400P3	齒輪(藍色) Gear 32T(Blue)	
5GE-89400P4	齒輪(綠色) Gear 36/14T(Green)	
5GE-89400P5	齒輪(白色) Gear 36T/14T(White)	
5GE-89400P6	齒輪(橘色) Gear 36T(Orange)	
5GE-89400P7	齒輪(粉紅色) Gear 40/10T(Pink)	
5GE-89400P8	出力齒輪(橘色) Gear 10T(Orange)	
5GE-89400P9	自攻螺絲 Tapping Screw	
5GE-89400P10	華司螺絲 Tapping Screw	
5GE-89400P11	圓軸(短) Shaft (Short)	
5GE-89400P12	圓軸(長) Shaft (Long)	
5GE-89400P13	馬達端子組(藍黑) Motor With Connector (Blue/Black)	
5GE-89400P14	馬達端子組(紅黑) Motor With Connector (Red/Black)	
5GE-89400P15	電池座 Battery Holder Connector	
5GE-89400P16	電路板 PC Board	
5GE-89400P17	貼紙 Sticker	
5GE-89400P18	電池盒蓋(含螺絲) Battery Holder Cover with Screw	



內含小零件，請勿讓三歲以下孩童使用，避免誤食危險。不可對着人臉和眼部衝撞，避免造成意外傷害。

內含小零件，請勿讓三歲以下孩童使用，避免誤食危險。不可對着人臉和眼部衝撞，避免造成意外傷害。

Probbie II

micro:bit



- 電池移除或更換應由成人或在成人監督下進行。
Removal and replacement of batteries should be carried out by adult or under adult supervision.
- 請避免電池或電池連接器端子短路。
Avoid short circuiting the contacts in the battery compartment or the battery terminals.
- 電池長期不用或電力耗盡時請取出以避免電池漏液。
Remove exhausted batteries from the product to avoid leakage.
- 請勿混用新舊電池及不同廠牌、種類的電池，以免造成危險或電器損耗。
Do not mix used batteries and new batteries or batteries of different types.
- 請勿混合鹼性、碳鋅電池或充電電池使用。
Do not mix alkaline, standard (carbon-zinc), or rechargeable (nickel-cadmium) batteries.
- 電池放入前請先確認正確正負極性方向。
Batteries are to be inserted with the correct polarity.
- 請勿試圖對非充電電池進行充電。
Do not attempt to recharge non-rechargeable batteries.
- 充電電池應在成人監督下進行充電。
Rechargeable batteries are only to be charged under adult supervision.
- 充電前請將充電電池自玩具中取出。
Rechargeable batteries are to be removed from the toy before being charged.
- 請勿連接超過建議數量的電源供應器。
The toy is not to be connected to more than the recommended number of power supplies.

Pro'sKit®

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Prokit's Industries Co., LTD.

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