

HOVIS Genie

Assembly Manual





X5 DRS-0101
HerkuleX Servo



X3 DRS-0102
HerkuleX Servo



X2 DRS-0104
HerkuleX Servo



X2 DRB-0001(W)
Front / Back



X2 DRB-0002(W)
Hand



X4 DRB-0004(W)
Universal Plate



X5 DRB-0009(W)
U2-type Bracket



X1 DRC-005T(W)
Controller



X1 DRL-0728
7.4V Li-Po Battery
(3,000mAh)



X5 DRH-1001
Horn (Plastic)



X6 DRJ-0003
L-type Joint
(Hole only)



X28 DRJ-0001
L-type Joint
(Single Nut)



X4 DRJ-0007
I-type Joint
(16.0mm, Hole only)



X6 DRJ-0010
Harness Clamp



X5 DRJ-0011
Bushing Set



X1 DRQ-0001
AC Adaptor



X1 DRI-0002
Serial Cable
(DSUB 9Pin - 3P Audio Jack)



X1 DRI-0003
USB to Serial Gender



X1 DRI-0004(W)
IR Receiver



X1 DRI-0005
Remote Control



X5 DRI-0008
PSD Sensor



X3 DRI-0010
PSD Sensor



X1 DRI-0011
IR Distance Sensor

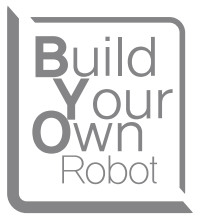


X2 DRI-0012
Tact Switch Module



X1 DRI-0013
IR Receiver PCB

HOVIS Genie Assembly Manual "Parts List"



X1 DRM-G354
MID (Mobile Internet Device)



X1 DRT-HWW1
Head Module

1:1 SCALE

X5 DRA-0051
Nut (M2)

X10 DRA-0054
Bolt (PH/M 2.0X13)

X30 DRA-0056
Bolt (PH/M 2.0X4)

X34 DRA-0058
Bolt (PH/M 2.0X6)

X14 DRA-0061
Bolt (PH/M 3.0X6)

X20 DRA-0062
Bolt (PH/M 3.0X8)

X8 DRA-0063
Bolt (CH/T 2.0X4)

X110 DRA-0064
Bolt (PH/T 2.0X5)

X10 DRA-0065
Bolt (PH/T 2.0X8)

X6 DRA-0066
Bolt (FH/M 2.0X10)

X10 DRA-0067
Horn Bolt (BH/T 2.6X8)

X10 DRA-0069
Hand Bolt (CH/T 1.7X4)

X16 DRA-0070
Bolt (PWH/T 2.0X5)

X16 DRA-0071
Bolt (RH/M 3.0X10)

X35 DRA-0073
Bolt (PH/T 2.0X4)

X10 DRA-0075
Looseproof Bolt
(PH/M 2.0X6)

X20 DRA-0076
Looseproof Bolt
(PH/M 3.0X8)

X6 DRA-0077
M3 Washer



X2 DRA-0002
Harness (75mm)



X8 DRA-0003
Harness (100mm)



X2 DRA-0004
Harness (130mm)



X2 DRA-0008
Heavy Duty Harness (200mm)

1:1 SCALE



X3 **DRA-0020**
PSD Harness 3+4pin (130mm)



X5 **DRA-0021**
PSD Harness 3pin (200mm)



X1 **DRA-0022**
IR Harness 5pin (150mm)



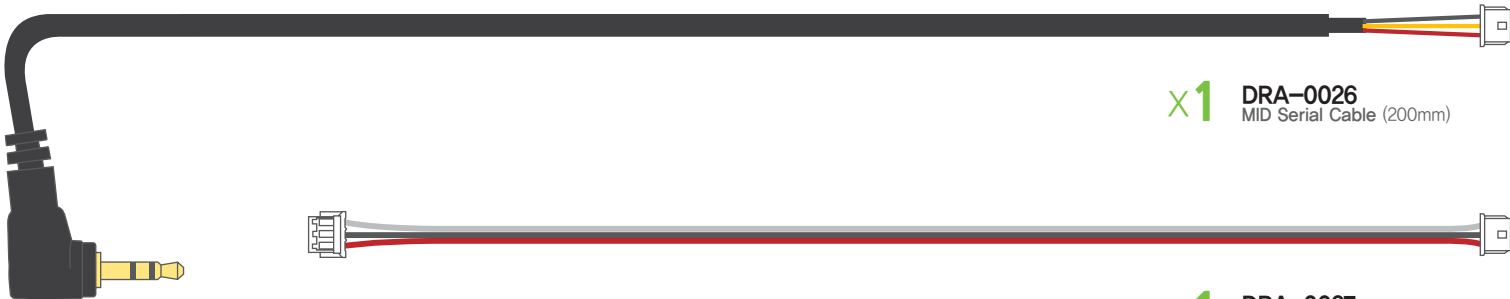
X1 **DRA-0023**
Power Connection



X1 **DRA-0024**
IR Distance Harness



X1 **DRA-0025**
MID Serial Cable (130mm)



X1 **DRA-0026**
MID Serial Cable (200mm)



X1 **DRA-0027**
IR Receiver Harness 3pin
(150mm)

HOVIS Genie Assembly Manual "Parts List"



Wheel Base

X2 **G01**
Carrier Wheel Cap

X2 **G02**
Carrier Wheel Cap
PSD Lense

Wheel Base

X1 **G03**
Carrier Bottom Wheel Cap

Wheel Base

X3 **G04**
Carrier Side Lense

Wheel Base

X1 **G05**
Carrier Bottom Base

Wheel Base

X1 **G06**
Carrier Post



Wheel Base

X1 **G07**
OPSU Board

Wheel Base

X3 **G08**
Carrier PSD Bracket

Wheel Base

X3 **G09**
Wheel Bearing Housing

Wheel Base

X3 **G10**
Omni Wheel

Wheel Base

X1 **G11**
Carrier Base Plate



Wheel Base

X3 **G12**
Carrier Wheel
Dust Cover

Wheel Base

X3 **G13**
Carrier Side PSD
Window

Wheel Base

X1 **G14**
Carrier Top Cover
Base

Left Arm

X1 **B01**
Forearm Top Cover

X1 **B02**
Forearm Bottom Cover

Left Arm

X1 **B03**
Upper Arm Holder



Left Arm

X1 **B04**
Upper Arm Top
Cover

X1 **B06**
Upper Arm Bottom
Cover

X1 **B05**
Upper Arm Top
Cover Cap

X1 **B07**
Upper Arm Bottom
Cover Cap

Left Arm

X1 **B08**
Shoulder Horn

X1 **B09**
Shoulder Holder

Left Arm

X1 **B10**
Shoulder Bottom Cover

X1 **B11**
Shoulder Front Cover

X1 **B12**
Shoulder Front Cover Cap

Right Arm

X1 **C01**
Forearm Top Cover

X1 **C02**
Forearm Bottom Cover

Right Arm

X1 **C03**
Upper Arm Holder



Right Arm

X1 **C04**
Upper Arm Top
Cover

X1 **C06**
Upper Arm Bottom
Cover

X1 **C05**
Upper Arm Top
Cover Cap

X1 **C07**
Upper Arm Bottom
Cover Cap

Right Arm

X1 **C08**
Shoulder Horn

X1 **C09**
Shoulder Holder

Right Arm

X1 **C10**
Shoulder Bottom Cover

X1 **C11**
Shoulder Front Cover

X1 **C12**
Shoulder Front Cover Cap

Body

X1 **H01**
Support Middle
Bracket

Body

X1 **H02**
MID Side PCB



Body

X2

H03
Speaker



Body

X1

H04
Chest Cover



Body

X1

H05
Back Cover



Body

X1

H06
Tilting Module



Body

X1

H07
MID Case



H09

H08

Body

X1

H08
IR Receiver Window

X1

H09
IR Receiver Holder



H10

H11

Body

X1

H10
Carrier bottom Cover

X1

H11
Carrier bottom Cover Sub



Body

X1

H12
Carrier Front Cover



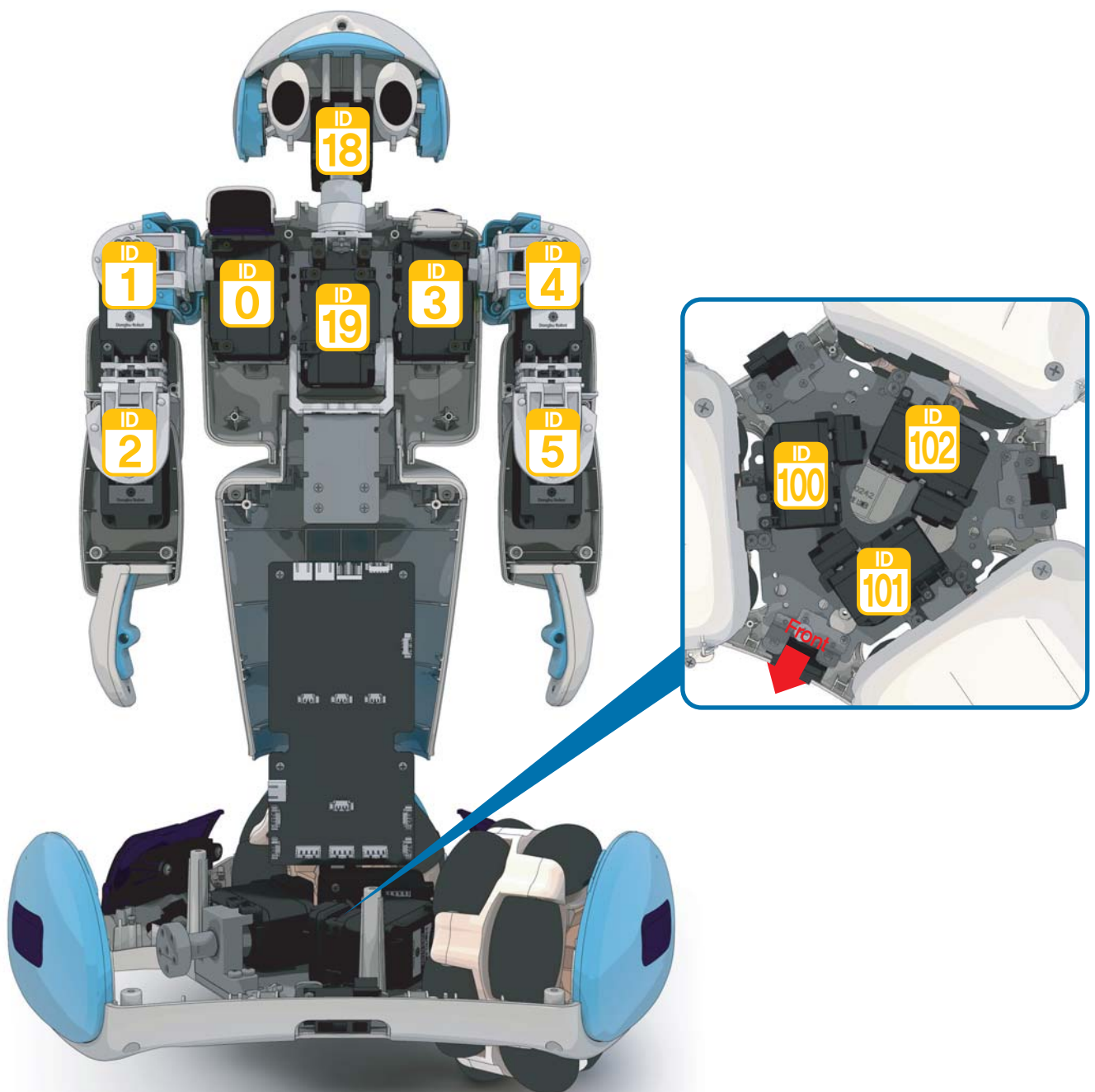
X1

H13
Charge Station

HOVIS Genie Assembly Manual “ID Layout Diagram”

Our humanoid robots are released with an ID number assigned to each motor. When assembling the robot, make sure to assemble each servo at the correct location by referring to the ID layout diagram.

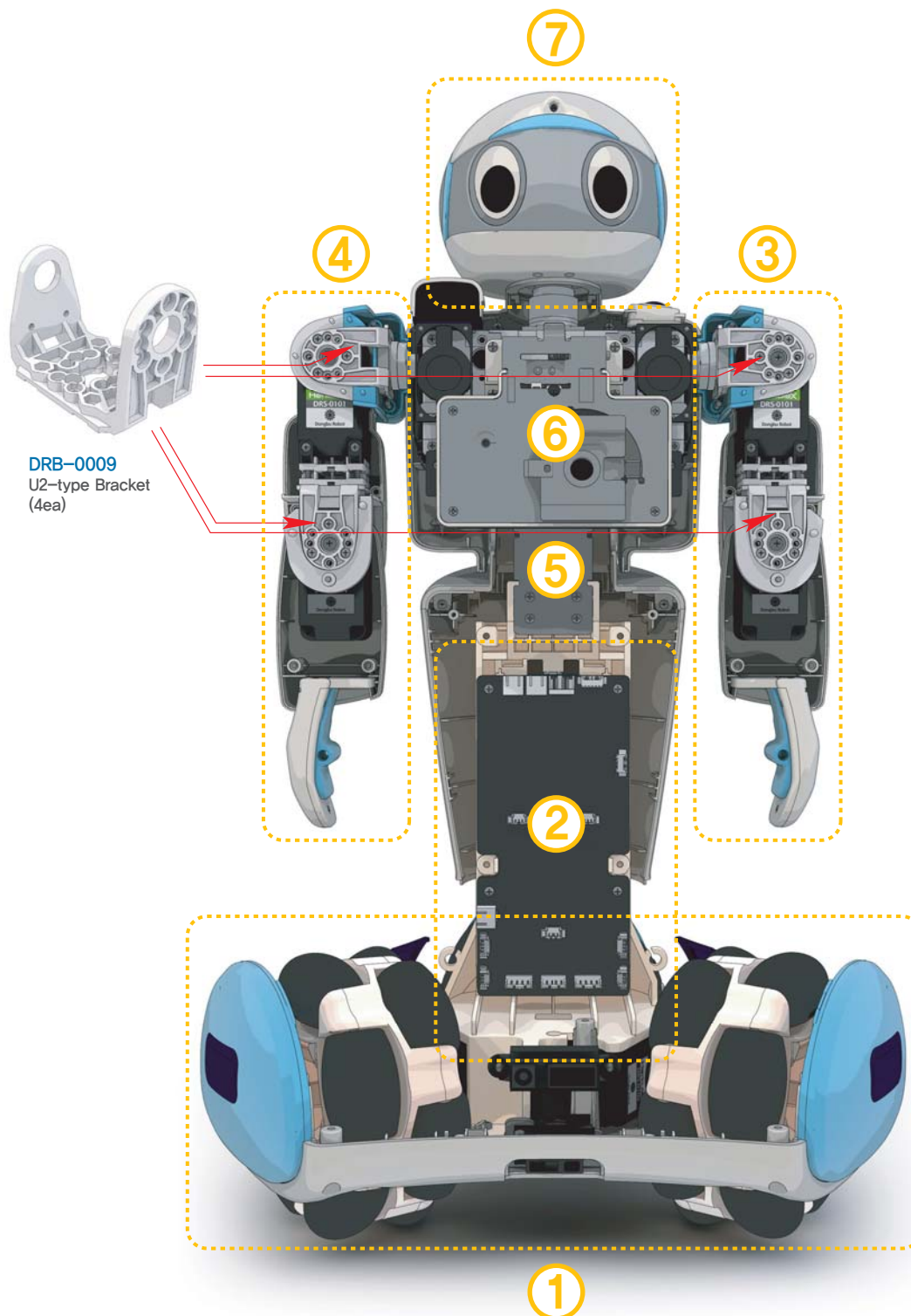
Robot will not operate properly if servo motors are placed incorrectly. Servo motor ID numbers are based on 11DOF robot. Wiring is the most difficult part of the assembly. Wires should be connected one at a time after reading the manual to understand the overall concept behind wiring.



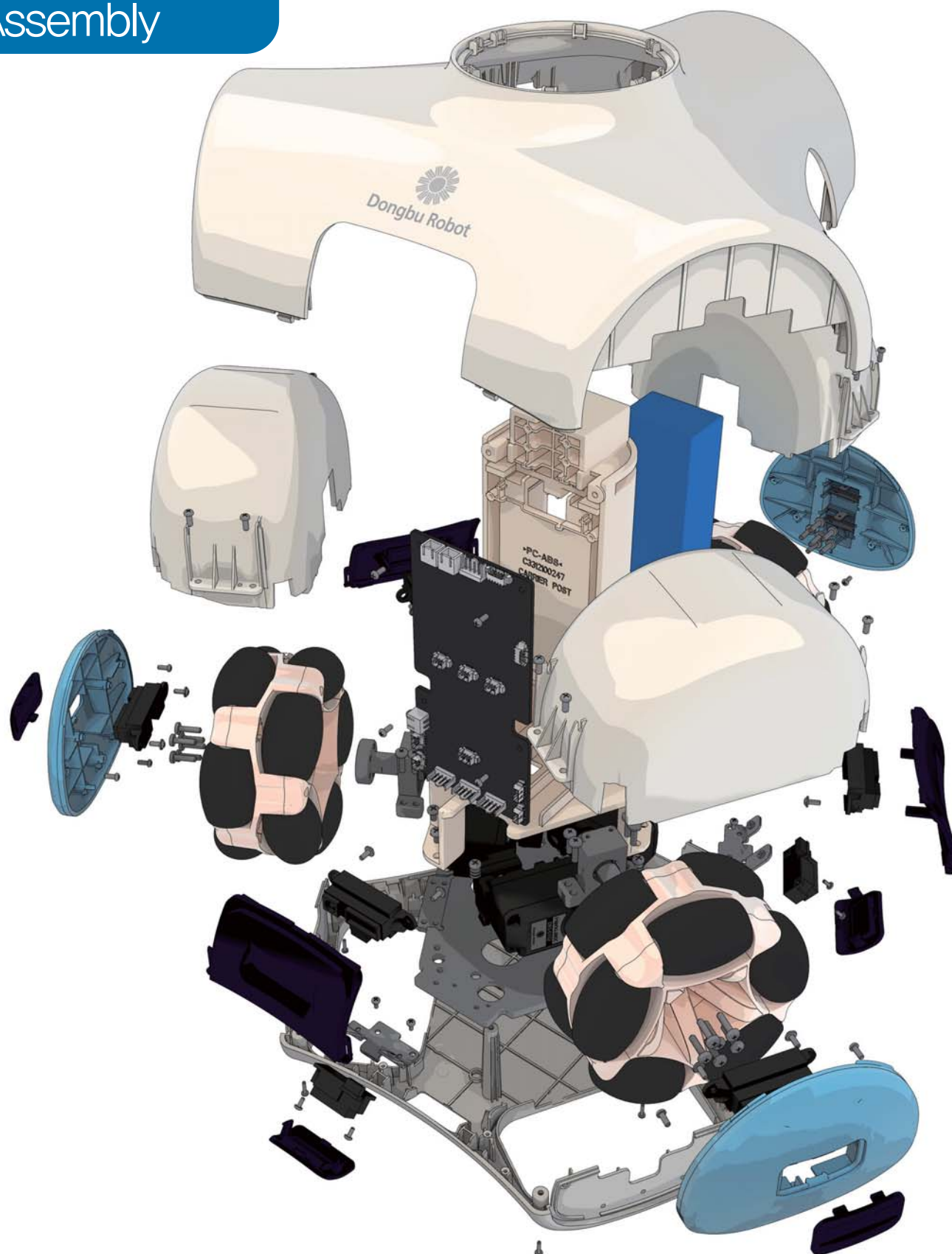
HOVIS Genie Assembly Manual “Bracket & Parts Layout Diagram”

Robot body and joints comprising of head, shoulder, arms, waist, and OPSU are composed of Electromechanical parts and brackets. Study the layout diagram and assemble the robot in the following sequence.

- ①Omni Wheel, ②Lower PCB & battery, ③Left arm, ④Right arm, ⑤Waist, ⑥Body, ⑦Head,
- ⑧Upper PCB & speaker, ⑨Controller, ⑩MID.



Lower Body Assembly



- 1 Attach **G02**(Carrier Wheel Cap PSD Lense) to the **G01**(Carrier Wheel Cap).
- 2 Connect **DRA-0021**(PSD Harness 200mm 3pin) to the **DRI-0008**(PSD Sensor).
- 3 Use 2 **DRI-0070**(Bolt PWH/T 2.0X5) to attach **DRI-0008**(PSD Sensor) to the **G01**(Carrier Wheel Cap).
- 4 Assemble the other carrier cap using the same method.

1:1 SCALE



PWH/T 2.0X5

Required Parts



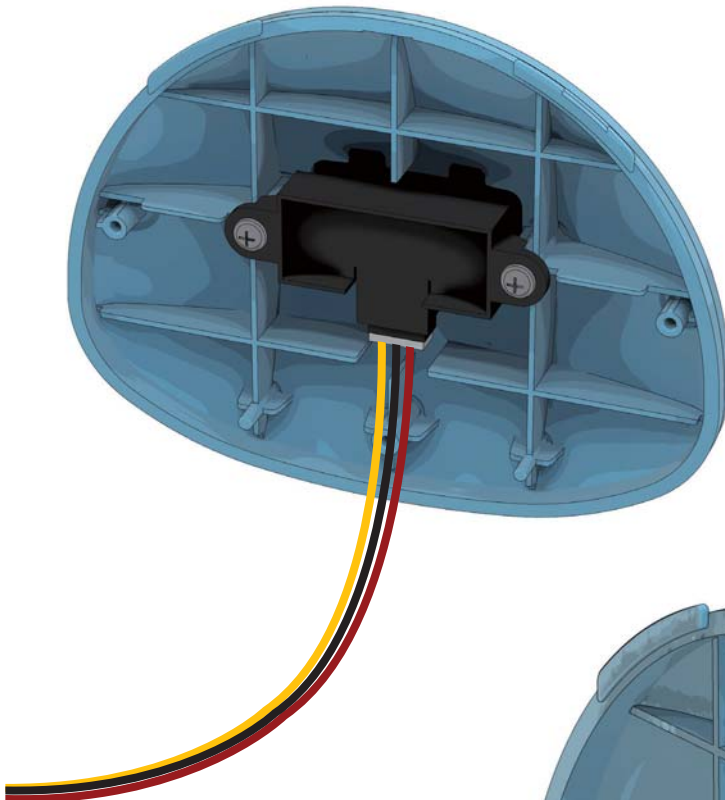
DRA-0021
PSD Harness
3pin (200mm) **1ea**



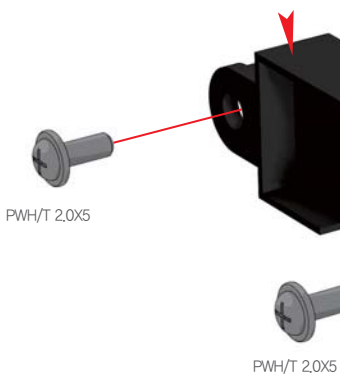
DRI-0070
Bolt (PWH/T 2.0X5) **2ea**



DRI-0008
PSD Sensor **1ea**



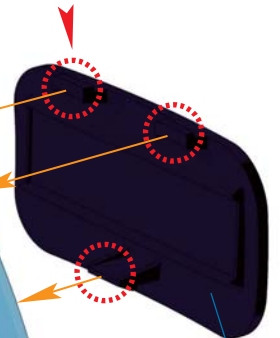
Avoid external shock to the PSD sensor during assembly.



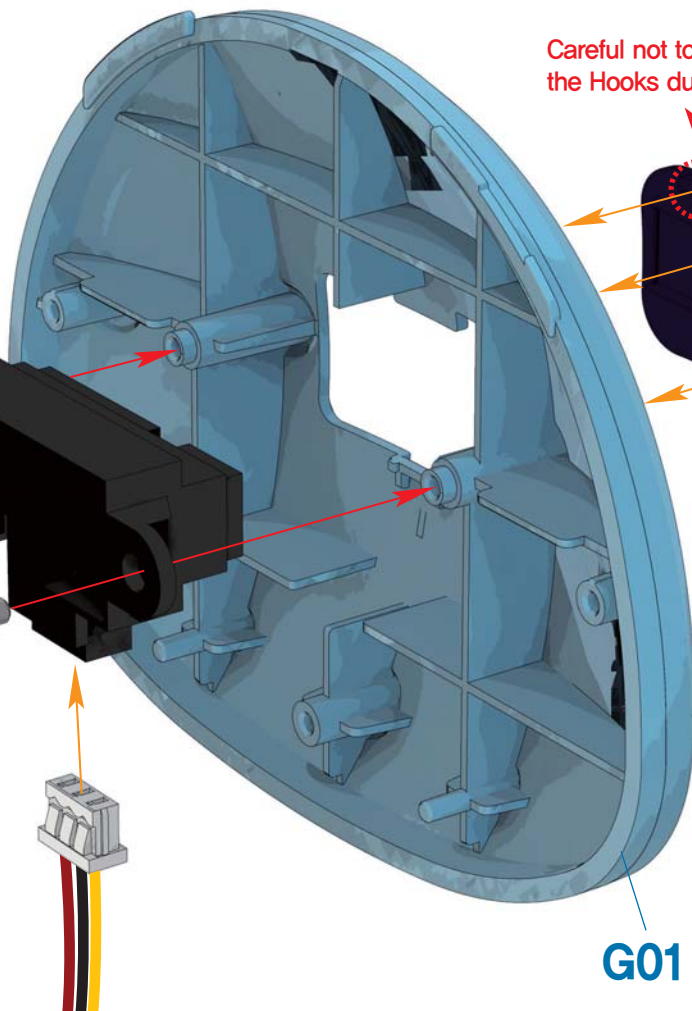
PWH/T 2.0X5

PWH/T 2.0X5

Careful not to damage the Hooks during assembly.



G02



G01

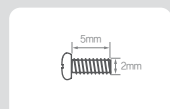
- 1 Attach 3 G04(Carrier Side Lense) to the G05(Carrier Base).
- 2 Use 10 DRA-0064(Bolt PH/T 2.0X5) to attach 2 G01/G02 assembly and G03(Carrier Rear Wheel Cap) to the carrier base.

Required Parts

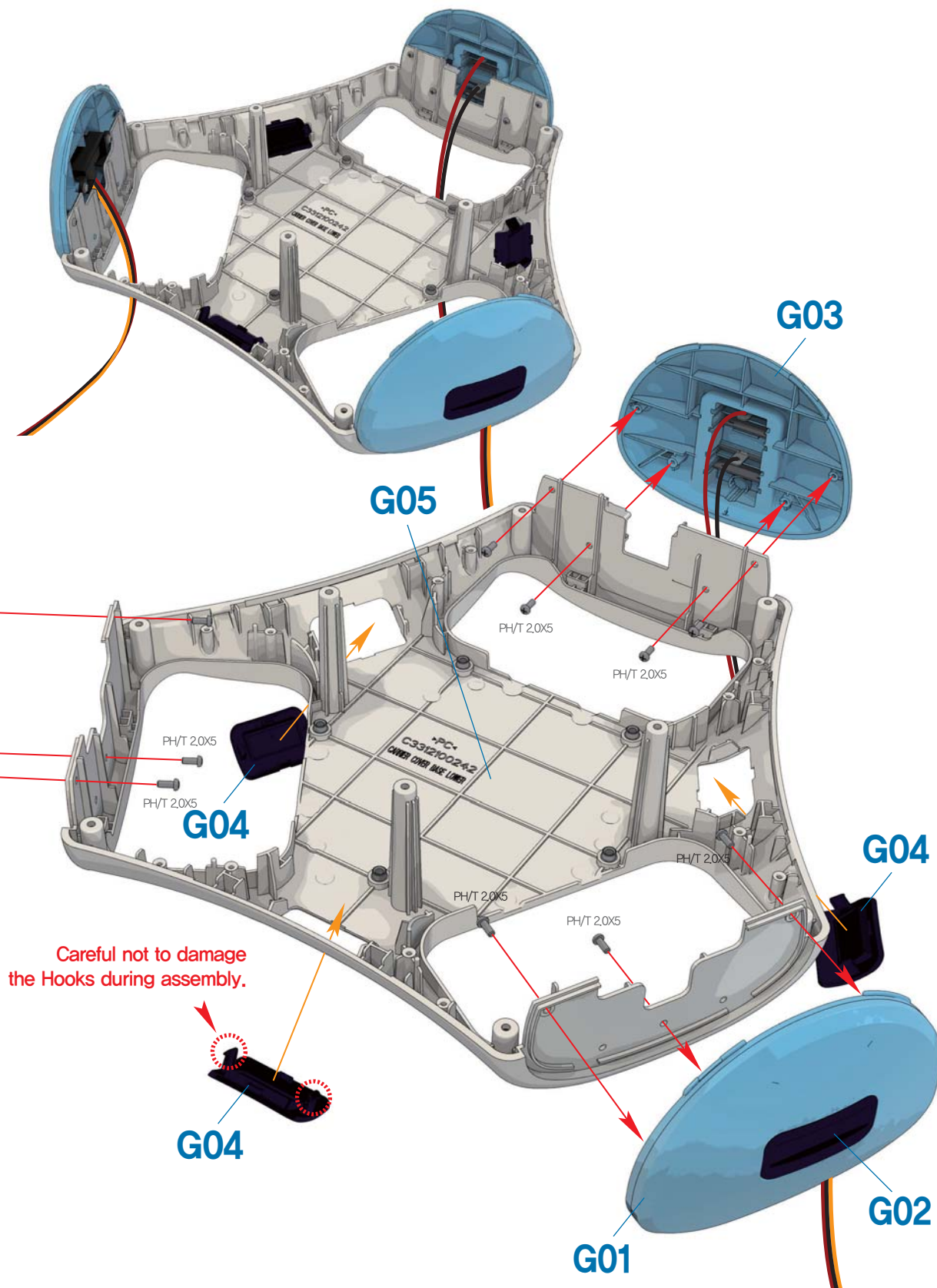


DRA-0064
Bolt (PH/T 2.0X5) 10ea

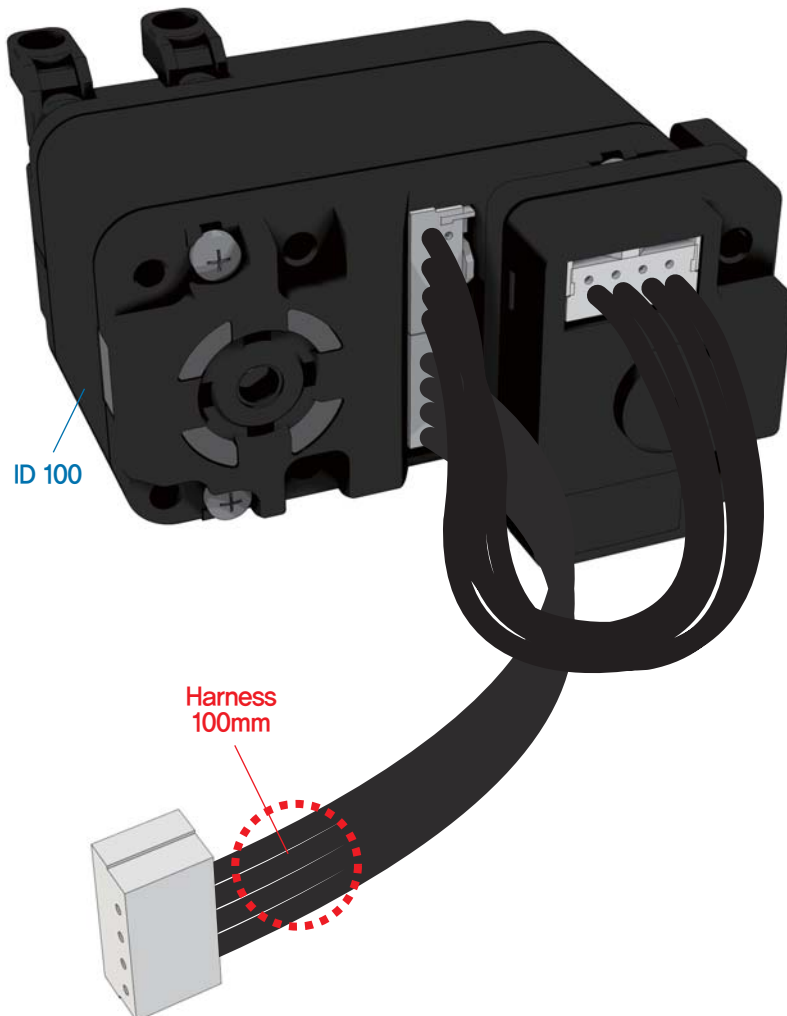
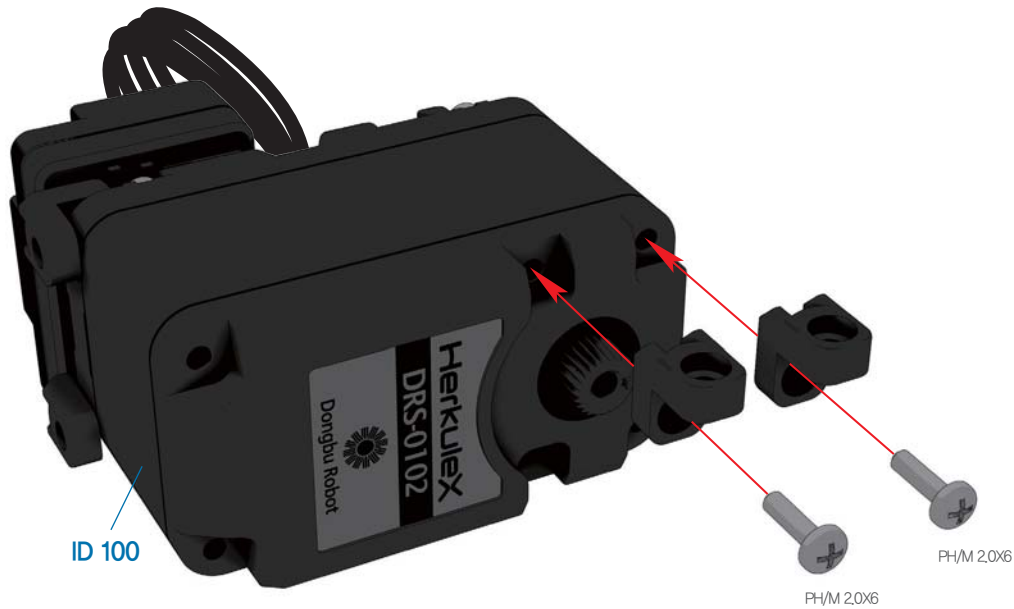
1:1 SCALE



PH/T 2.0X5



- 1 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach 2 **DRJ-0003**(L-type Joint Hole only) to the servo **ID 100**.
- 2 Connect **DRA-0003**(Harness 100mm) to the servo **ID 100** as shown in the diagram.
- 3 Assemble servos **ID 101** and **ID 102** following the above instruction.



Required Parts



DRS-0102
HerkuleX Servo **3ea**



DRJ-0003
L-type Joint (Hole only) **2ea**

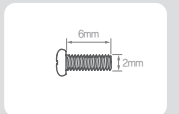


DRA-0003
Harness (100mm) **1ea**



DRA-0058
Bolt (PH/M 2.0X6) **2ea**

1:1 SCALE



PH/M 2.0X6

- 1 Attach DRL-0728(7.4V Li-Po Battery 3,000mA) to the G06(Carrier Post).
- 2 Use 4 DRA-0064(Bolt PH/T 2.0X5) to attach G07(OPSU Board) to the G06(Carrier Post).

Required Parts



DRA-0064
Bolt (PH/T 2.0X5) **10ea**



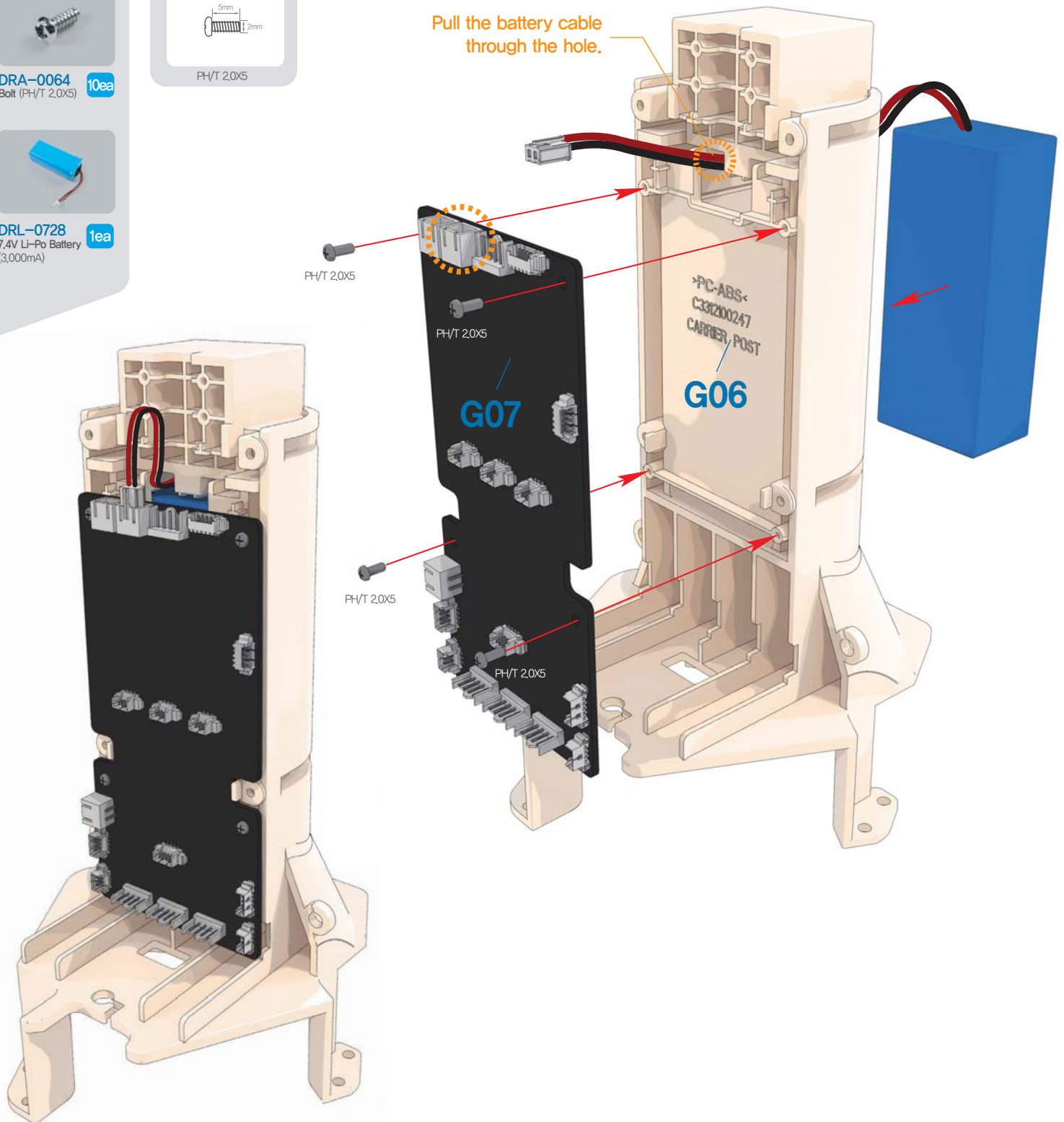
DRL-0728
7.4V Li-Po Battery
(3,000mA) **1ea**

1:1 SCALE

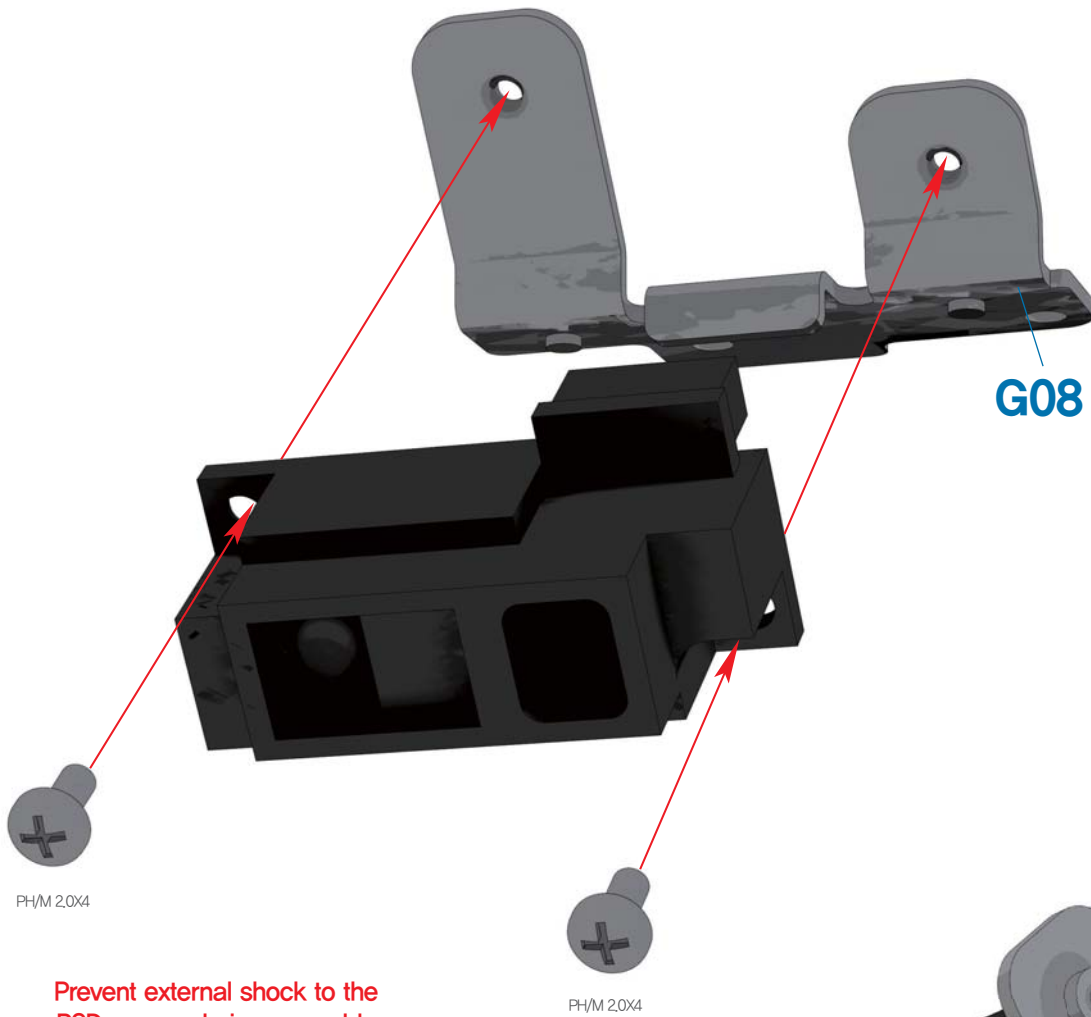


PH/T 2.0X5

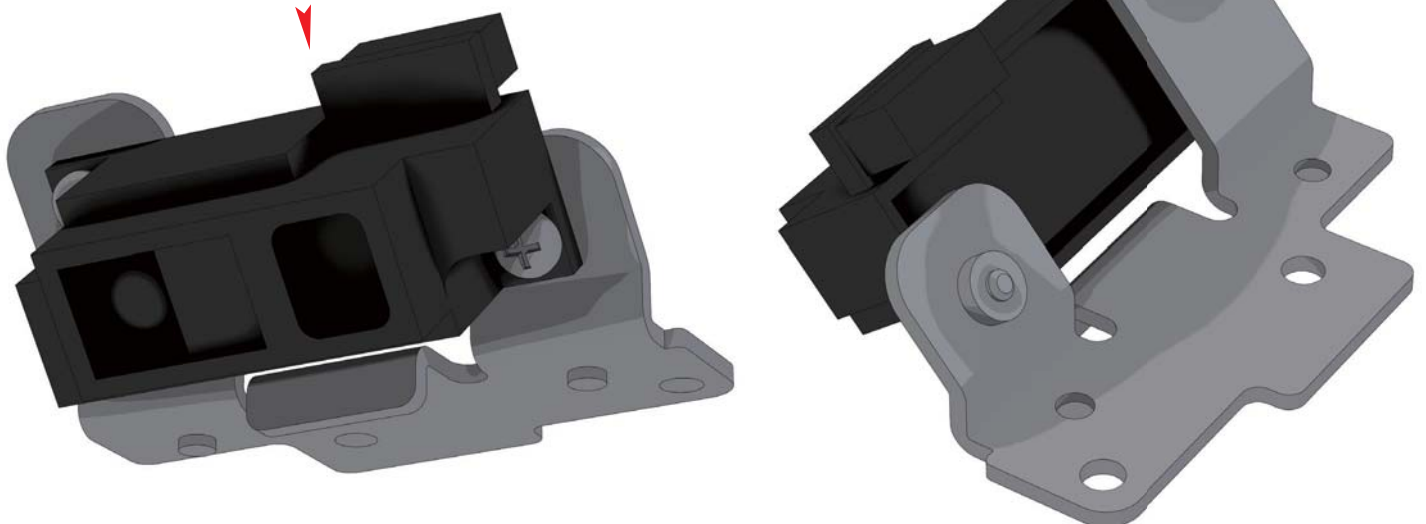
Pull the battery cable through the hole.



- 1 Use 2 **DRA-0056**(Bolt PH/M 2.0X4) to attach **DRI-0010**(PSD Sensor) to the **G08**(Carrier PSD Bracket).



Prevent external shock to the PSD sensor during assembly



Required Parts

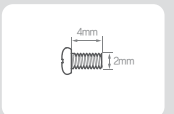


DRA-0056
Bolt (PH/M 2.0X4) **2ea**



DRI-0010
PSD Sensor **1ea**

1:1 SCALE



PH/M 2.0X4

- 1 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach servo **ID 100** to the **G09**(Wheel Bearing Housing).
- 2 Use 6 **DRA-0076**(Looseproof Bolt PH/M 3.0X8) to attach Servo/Housing assembly to the **G10**(Omni Wheel).
- 3 Assembly servos **ID 101** & **ID 102** following the instructions above.

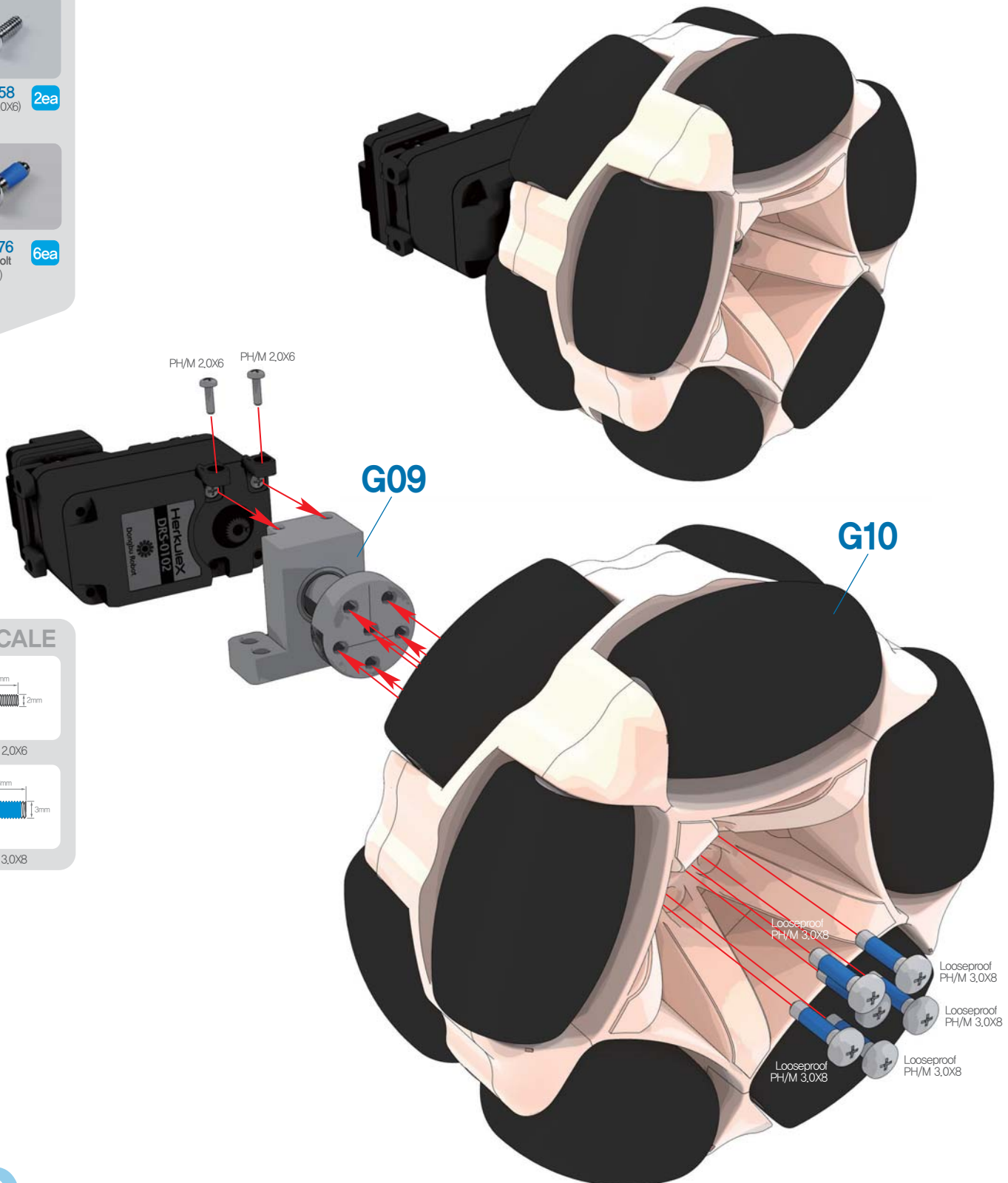
Required Parts



DRA-0058
Bolt (PH/M 2.0X6) **2ea**



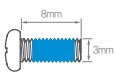
DRA-0076
Looseproof Bolt (PH/M 3.0X8) **6ea**



1:1 SCALE

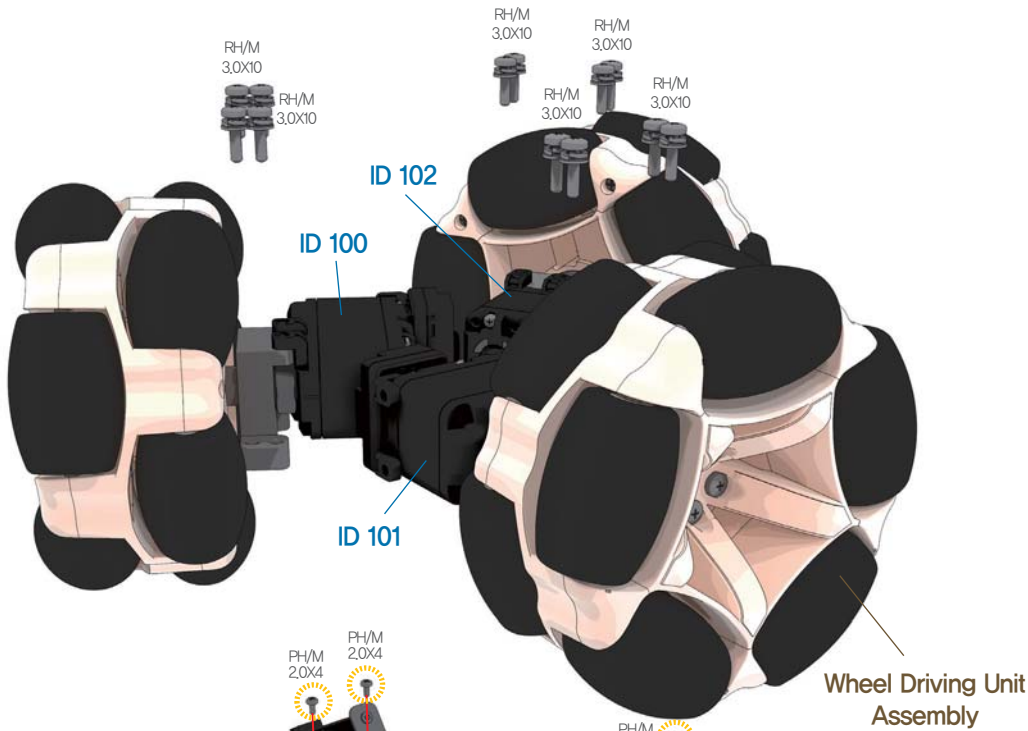


PH/M 2.0X6



PH/M 3.0X8

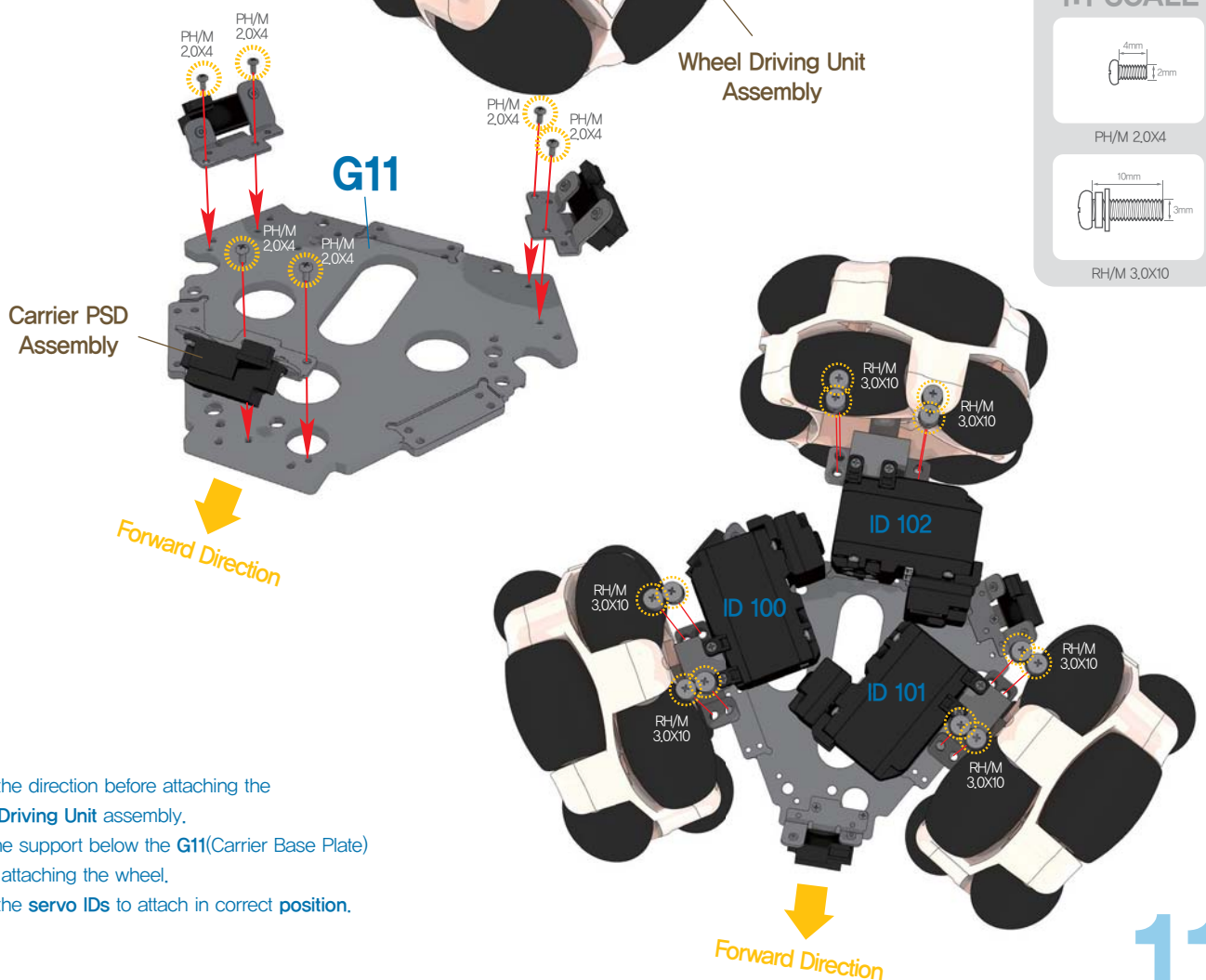
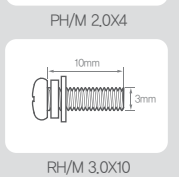
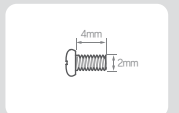
- 1 6 DRA-0056(Bolt PH/M 2.0X4) attach 3 Carrier PSD assembly to the G11(Carrier Base Plate).
- 2 Use 12 DRA-0071(Bolt RH/M 3.0X10) to attach 3 Wheel Driving Unit assembly to the G11(Carrier Base Plate).



Required Parts



1:1 SCALE



- ※ Check the direction before attaching the **Wheel Driving Unit** assembly.
- ※ Install the support below the **G11**(Carrier Base Plate) prior to attaching the wheel.
- ※ Check the **servo IDs** to attach in correct **position**.

Required Parts



DRA-0061
Bolt (PH/M 3.0X6) **5ea**

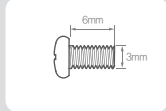


DRA-0064
Bolt (PH/T 2.0X5) **12ea**

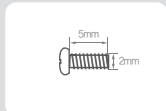


DRA-0077
M3 Washer **5ea**

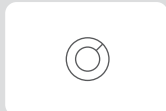
1:1 SCALE



PH/M 3.0X6

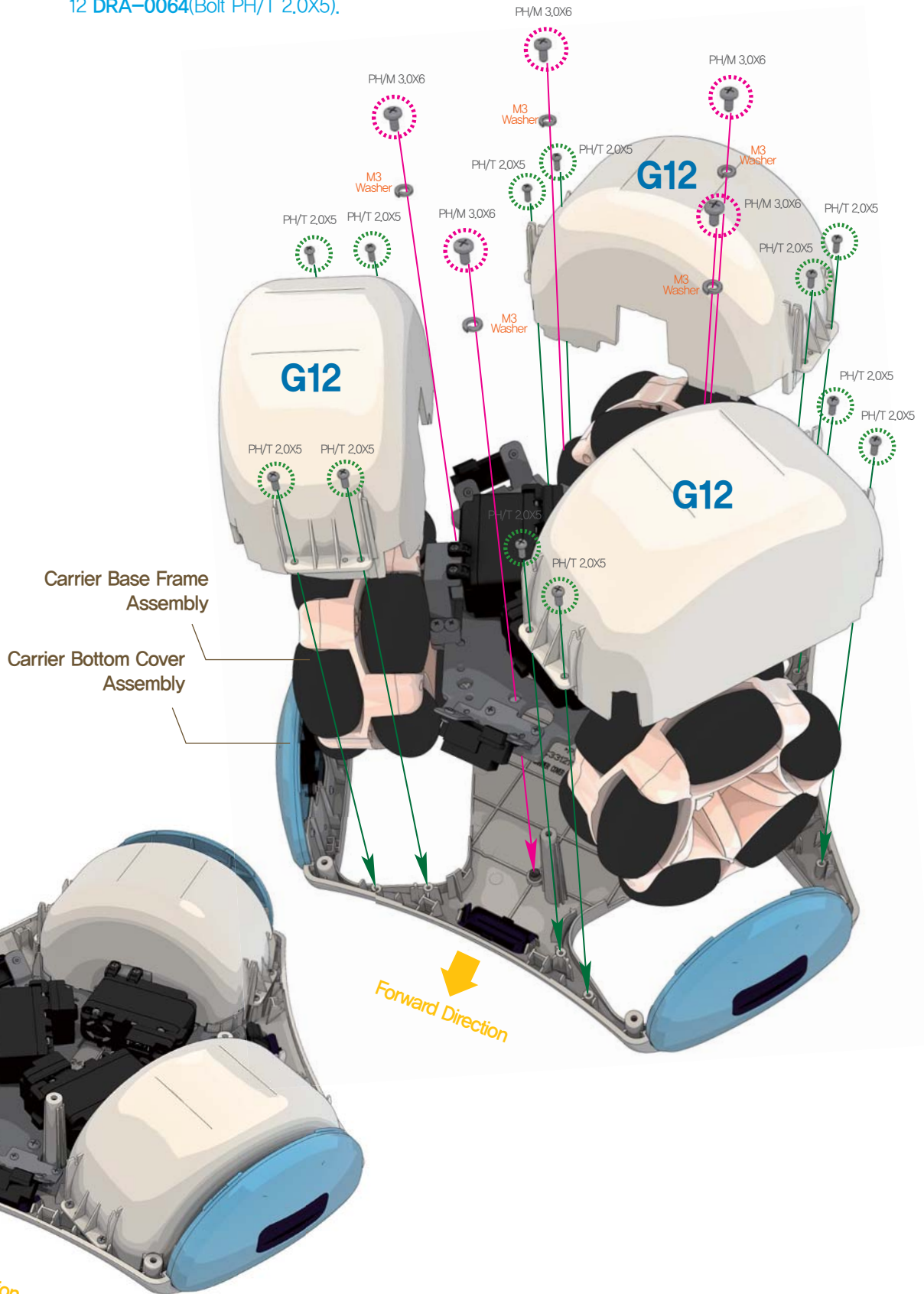


PH/T 2.0X5



M3 Washer

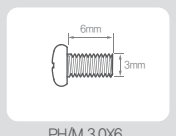
- 1 Place “Carrier Base Frame assembly” on “Carrier Bottom Cover assembly”. Then, fix them firmly using 5 **DRA-0061**(Bolt PH/M 3.0X6) and 5 **DRA-0077**(M3 Washer).
- 2 Cover each wheel with **G12**(Carrier Wheel Dust Cover) and attach using 12 **DRA-0064**(Bolt PH/T 2.0X5).



1 Use 6 **DRA-0061**(Bolt PH/M 3.0X6) to attach Carrier Post assembly to the Carrier Wheel/PSD assembly.


※ Check the **direction** prior to attaching the **Carrier Post**.

1:1 SCALE

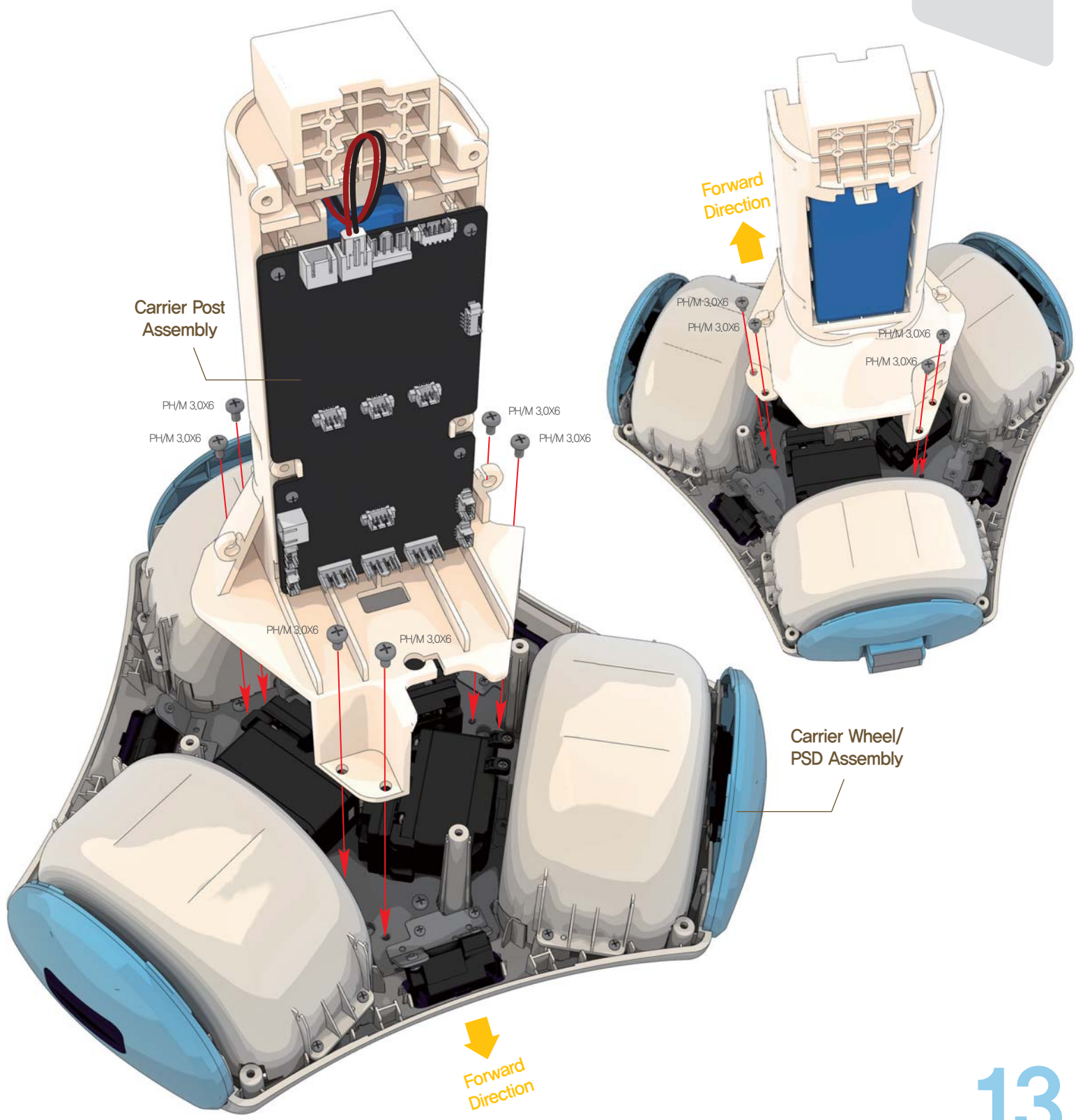


PH/M 3.0X6

Required Parts



DRA-0061
Bolt (PH/M 3.0X6) **6ea**



1 Connect the cables as shown in the diagram.

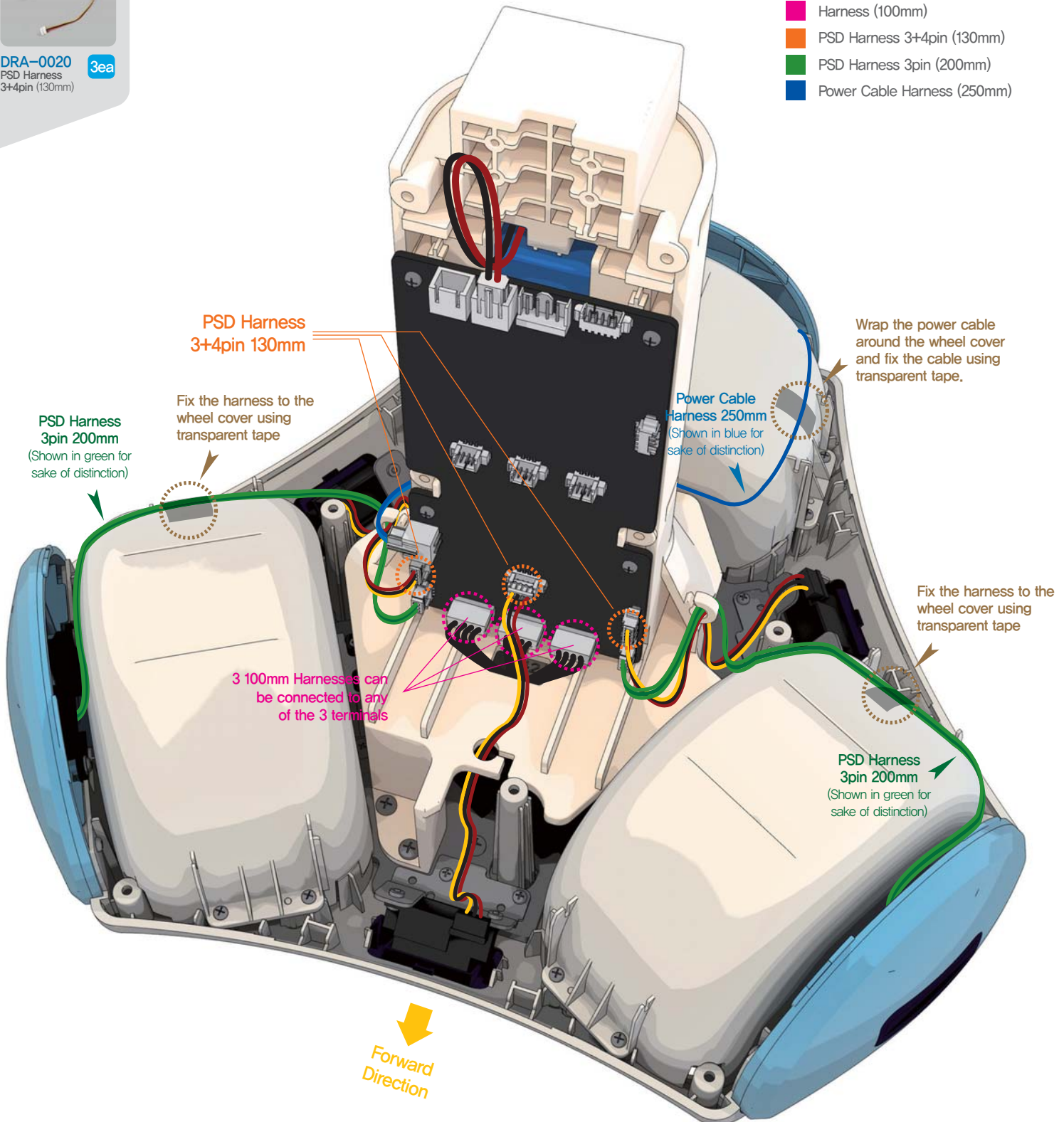
※ Incorrectly connected cables will cause sensors to malfunction.

Required Parts

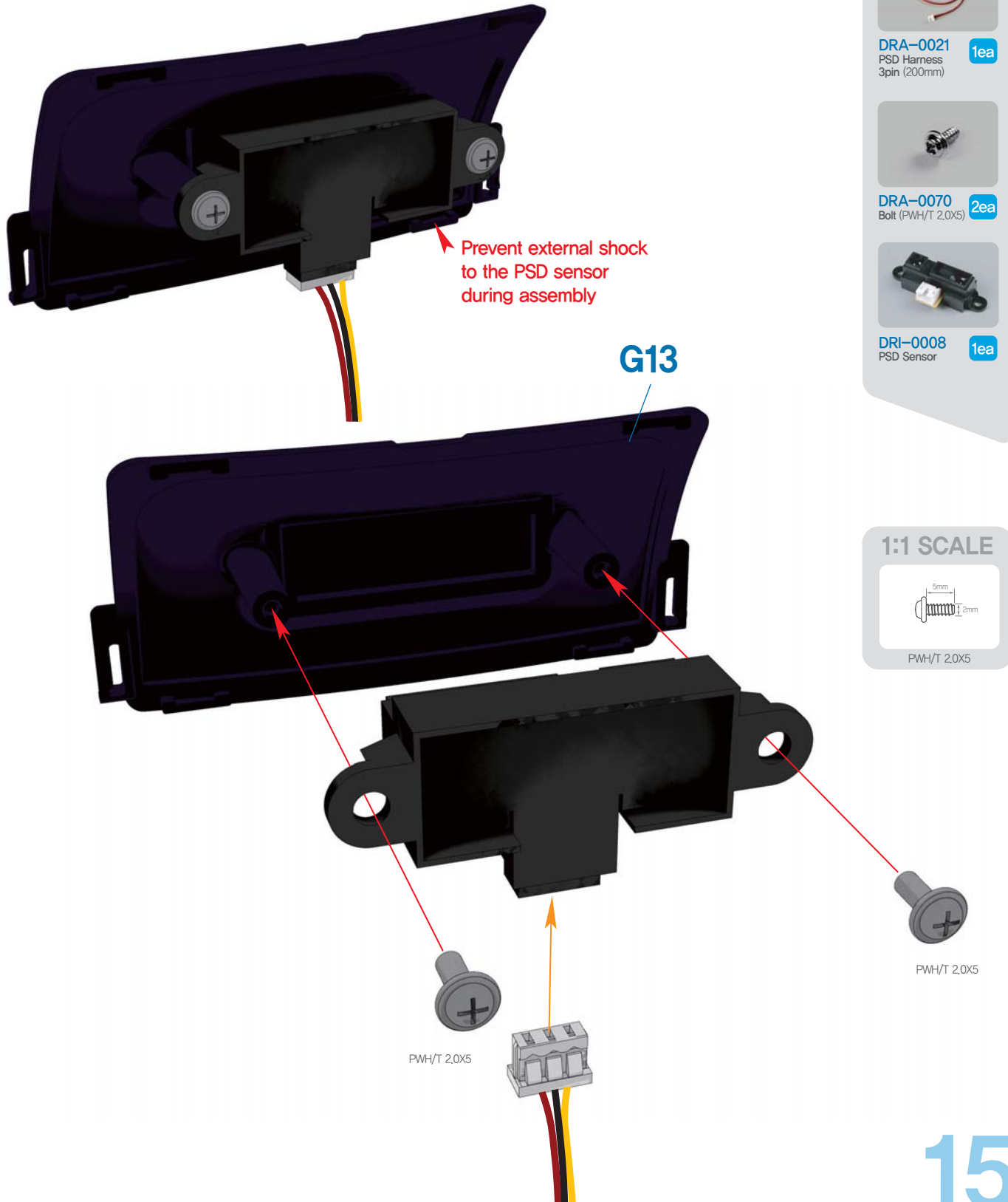


DRA-0020 3ea
PSD Harness
3+4pin (130mm)

- Harness (100mm)
- PSD Harness 3+4pin (130mm)
- PSD Harness 3pin (200mm)
- Power Cable Harness (250mm)



- 1 Use 2 **DRI-0070**(Bolt PWH/T 2.0X5) to attach **DRI-0008**(PSD Sensor) to the **G13**(Carrier Side PSD Window).
- 2 Connect **DRA-0021**(PSD Harness 200mm 3pin) to the **DRI-0008**(PSD Sensor).
- 3 Assemble 2 other sensors following the instructions above.



Required Parts



DRA-0021
PSD Harness
3pin (200mm) 1ea

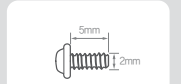


DRI-0070
Bolt (PWH/T 2.0X5) 2ea



DRI-0008
PSD Sensor 1ea

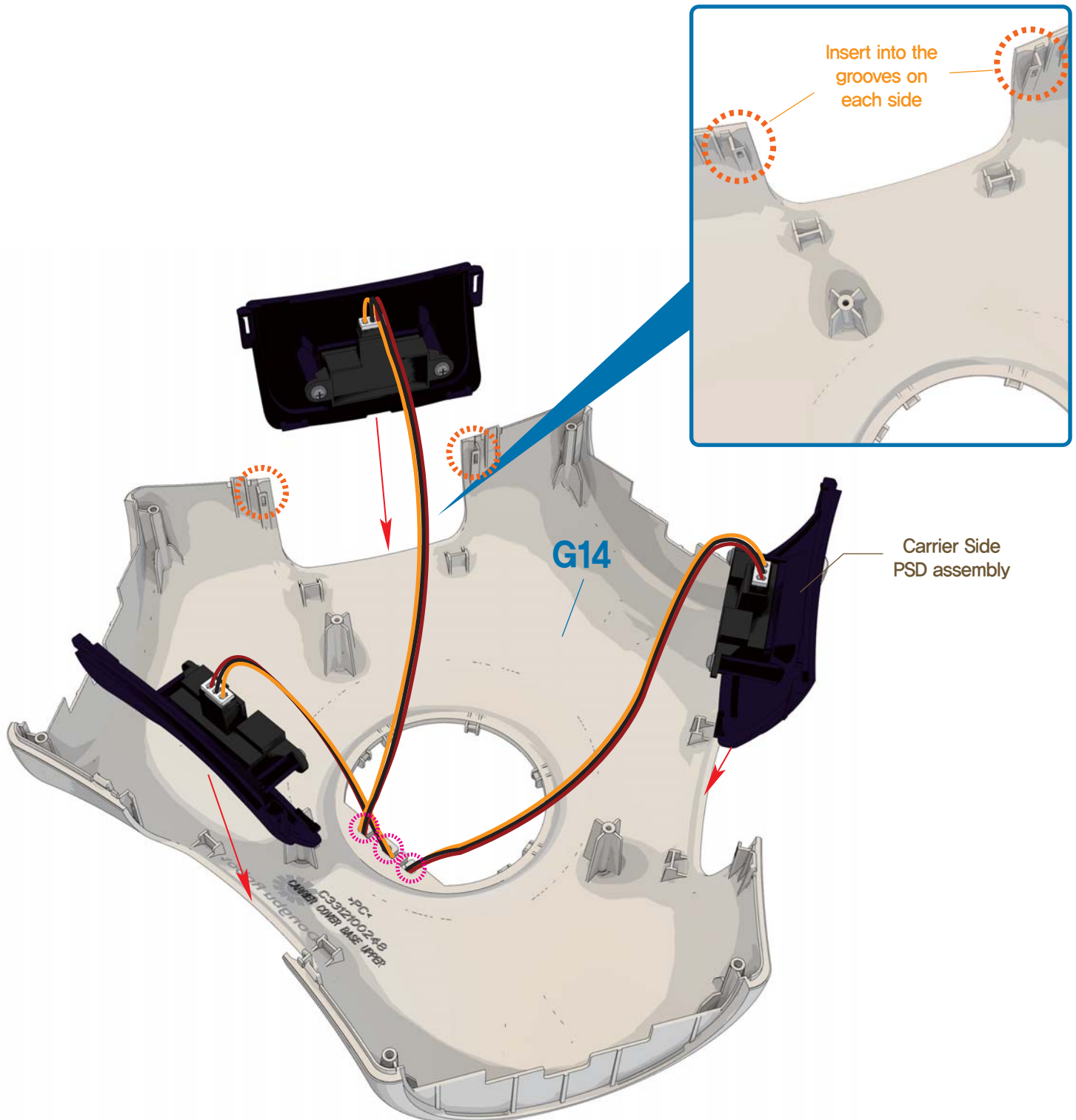
1:1 SCALE

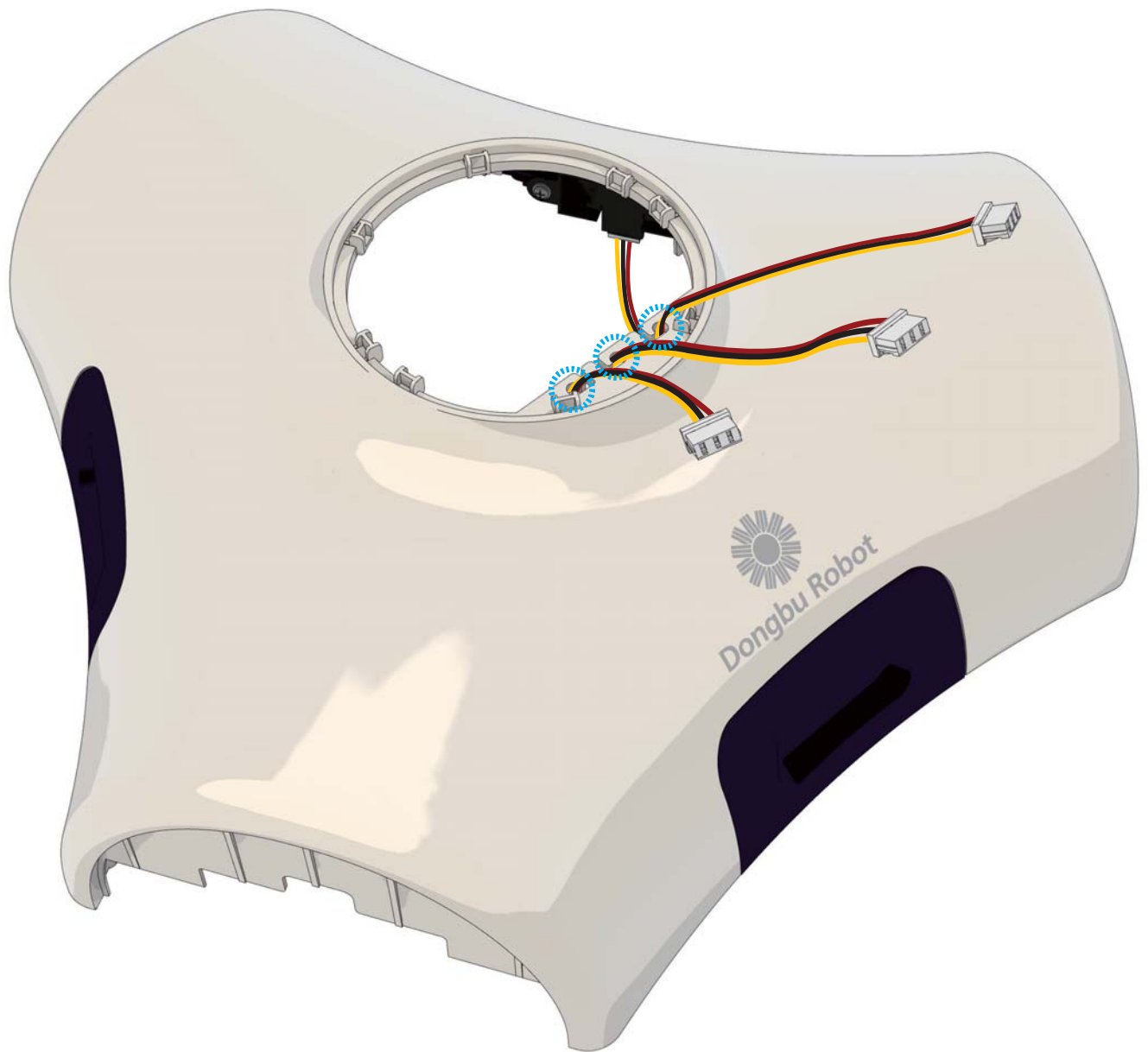


PWH/T 2.0X5

- 1 Attach 3 Carrier Side PSD assembly to the G14(Carrier Cover Base Top Piece).
- 2 Insert the harness cables through the holes located near the center of G14(Carrier Cover Base Top Piece).

※ Be careful not to cut or disconnect the harness cables during assembly.





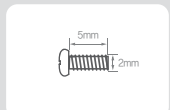
- 1 Place "Carrier Cover Base top piece assembly" on top of the "Carrier Base bottom piece assembly" and use 9 DRA-0064(Bolt PH/T 2.0X5) to attach 2 pieces.

Required Parts

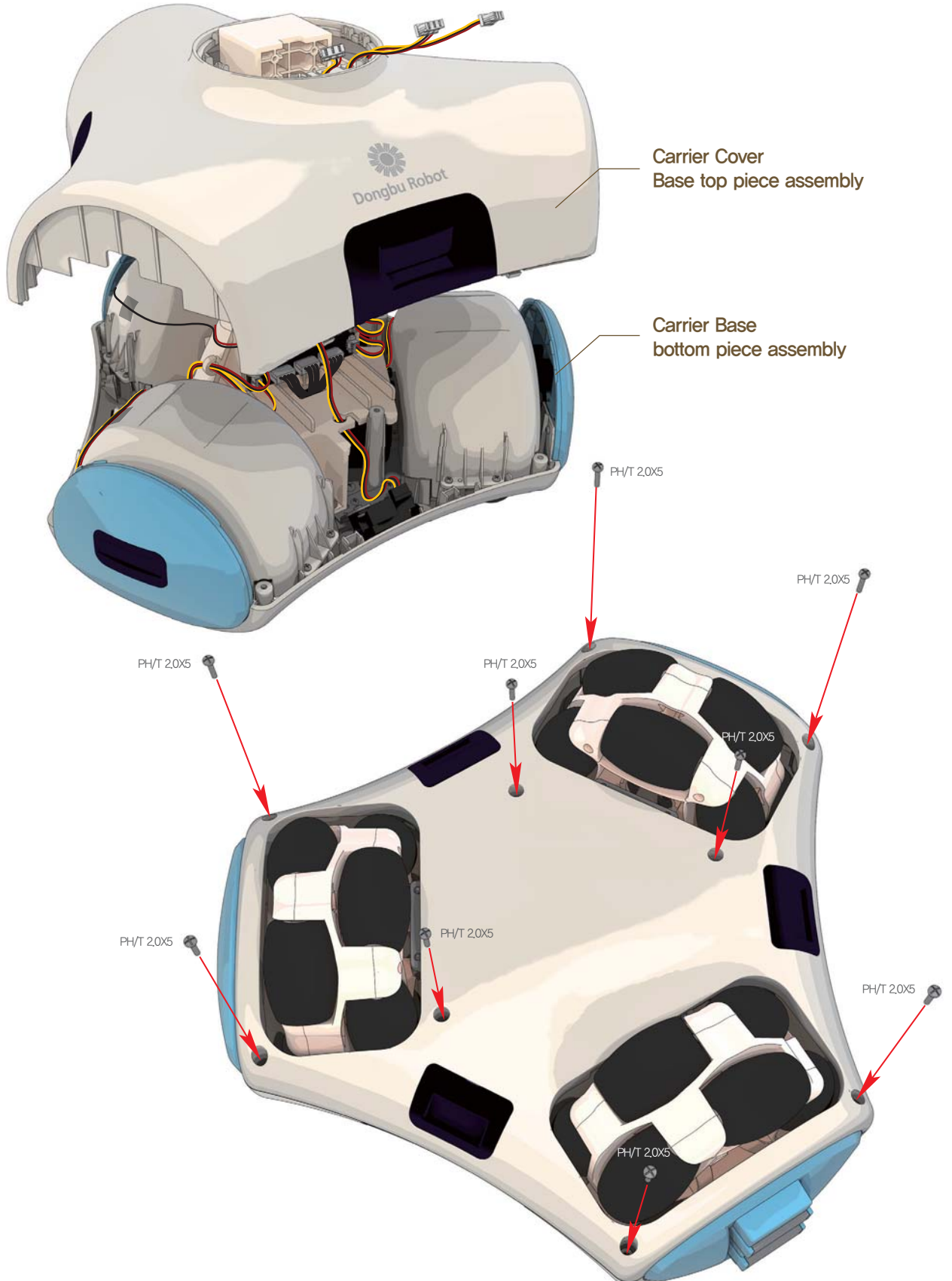


DRA-0064
Bolt (PH/T 2.0X5) 9ea

1:1 SCALE



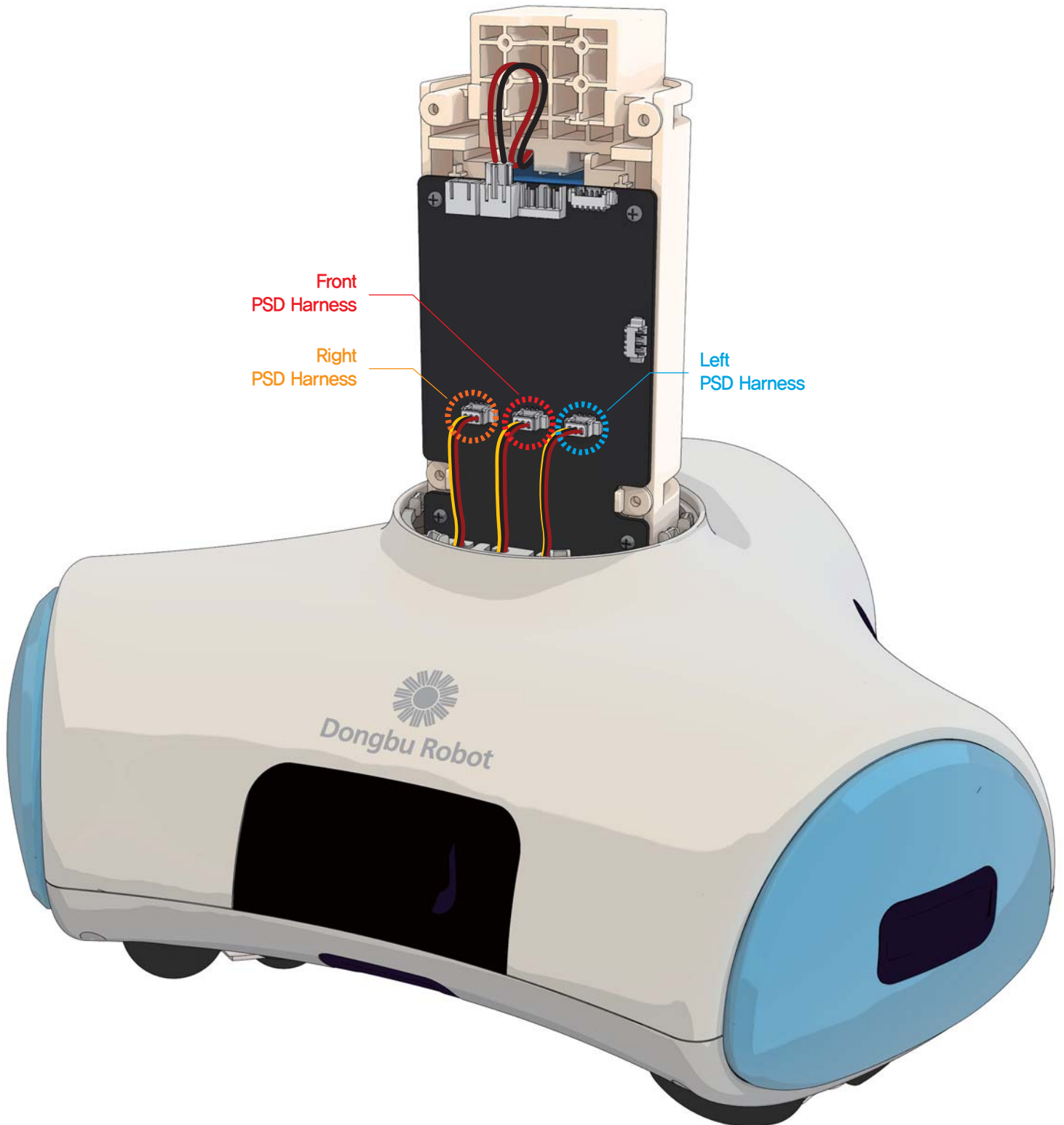
PH/T 2.0X5



1 Connect each cable to the the appropriate terminal.

※ Make sure to connect the cables to the proper terminal.

Sensors will not work properly if the cables are connected to the wrong terminal.



1 Connect each cable to the appropriate terminal.

- ※ Make sure to connect the cables to the proper terminal.
Sensors will not work properly if the cables are connected to the wrong terminal.

Required Parts



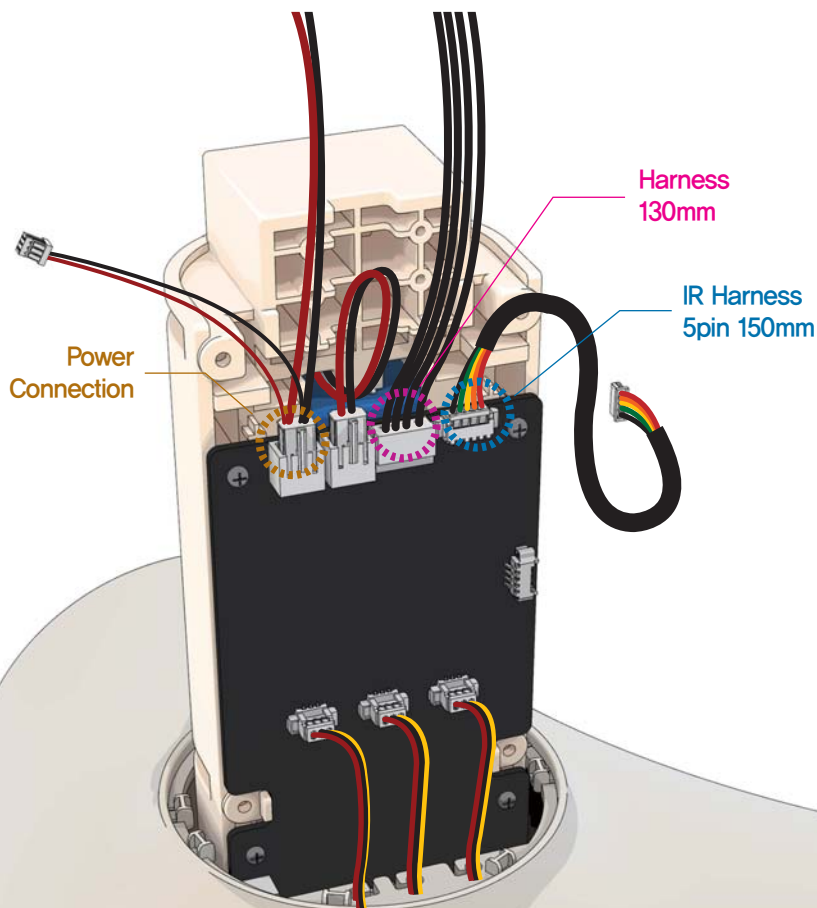
DRA-0004
Harness (130mm) 1ea



DRA-0022
IR Harness
5pin (150mm) 1ea

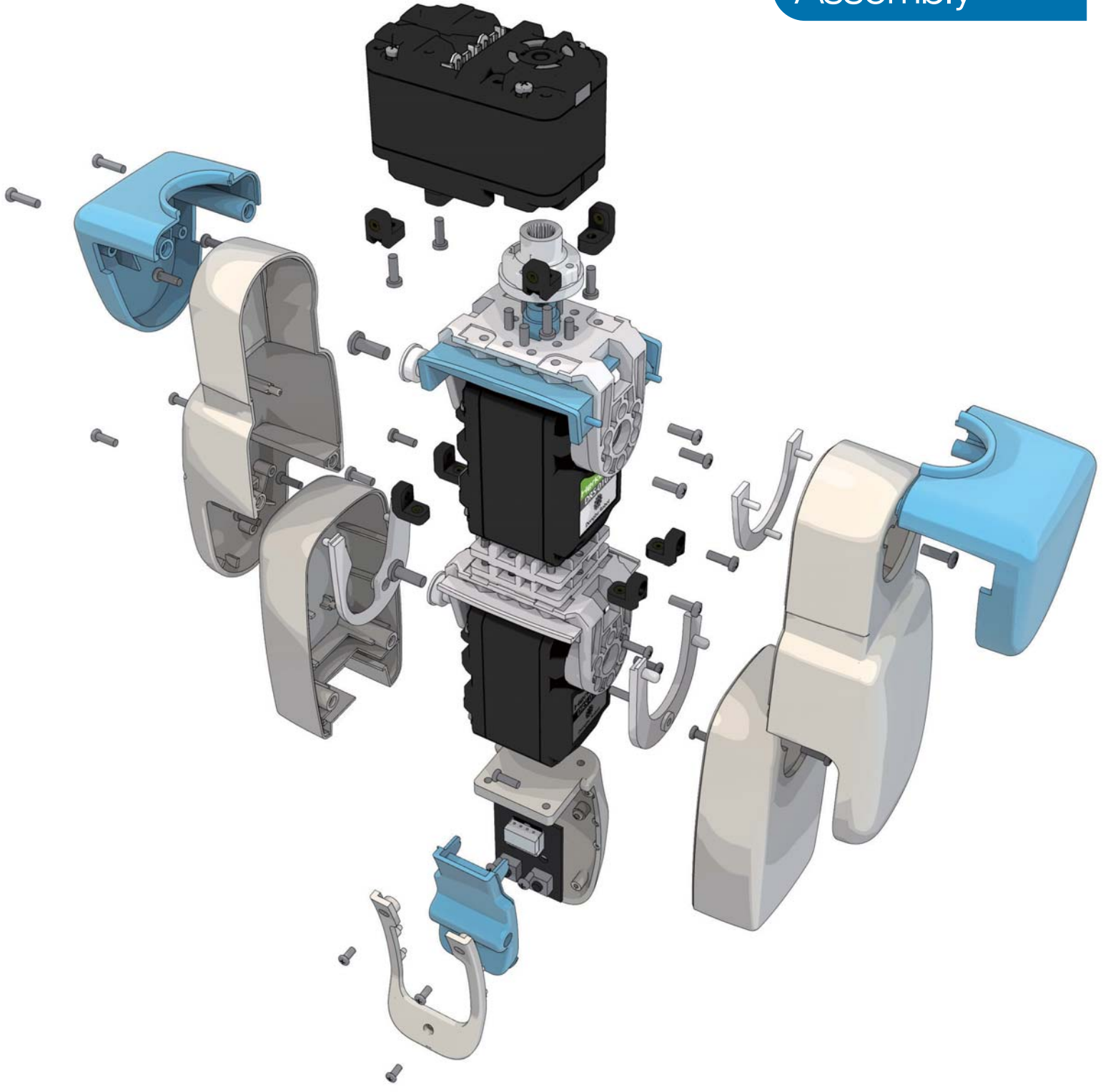


DRA-0023
Power Connection 1ea




Dongbu Robot

Left Arm
Assembly



- 1 Connect **DRA-0002**(Harness 75mm) to the **DRI-0012**(Tact Switch Module) and pull out the other end of the cable through the hole near the wrist as shown in the diagram.
- 2 Use 2 **DRA-0063**(CH/T 2.0X4) to attach the **DRI-0012**(Tact Switch Module) to the top hand cover.
- 3 Use 3 **DRA-0069**(CH/T 1.7X4) to attach **DRB-0002**(Hand(W)) top cover to the bottom cover.
- 4 Assemble the right hand in symmetrical direction with the left hand.

Required Parts



DRB-0002
Hand(W) **1ea**



DRA-0069
Bolt (CH/T 1.7X4) **3ea**



DRA-0063
Bolt (CH/T 2.0X4) **2ea**



DRA-0002
Harness (75mm) **1ea**



DRI-0012
Tact Switch Module **1ea**

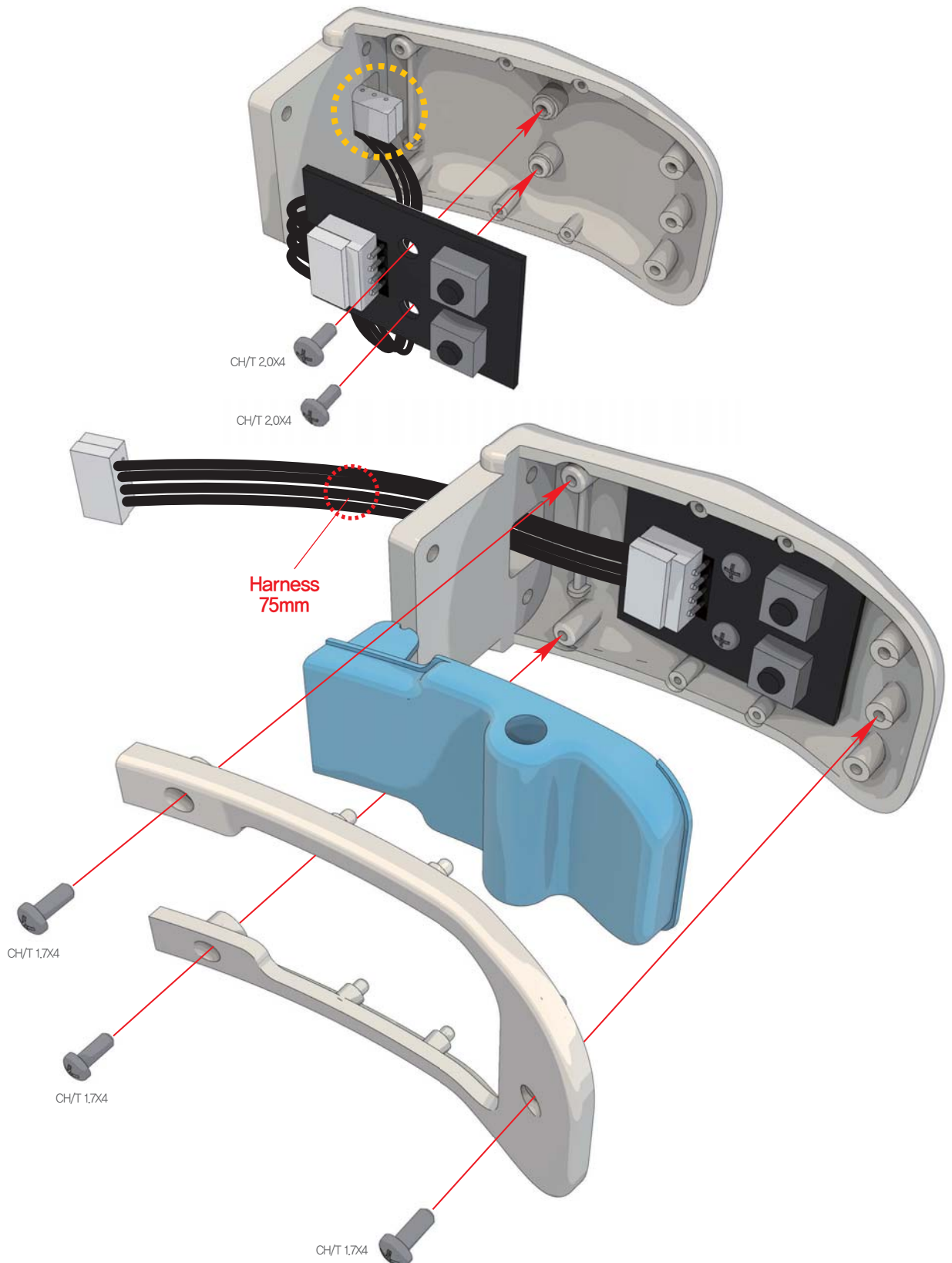
1:1 SCALE



CH/T 2.0X4



CH/T 1.7X4



- 1 Use **DRA-0067**(BH/T 2,6X8) to attach the Horn to the servo **ID 5**.
- 2 The zero points between **Horn** and servo should be coincided all the time. Please make sure if both zero points are coincided after assembling **Horn** onto the servo and before assembling brackets onto the horns. Otherwise, there might be some problems during zero point adjustment by software.



Required Parts



DRS-0104
HerkuleX Servo **1ea**

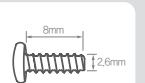


DRH-1001
Horn (Plastic) **1ea**



DRA-0067
Bolt (BH/T 2,6X8) **1ea**

1:1 SCALE



BH/T 2,6X8

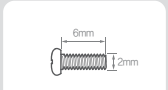
- 1 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach the servo to the **B01**(Forearm Top Cover).

Required Parts

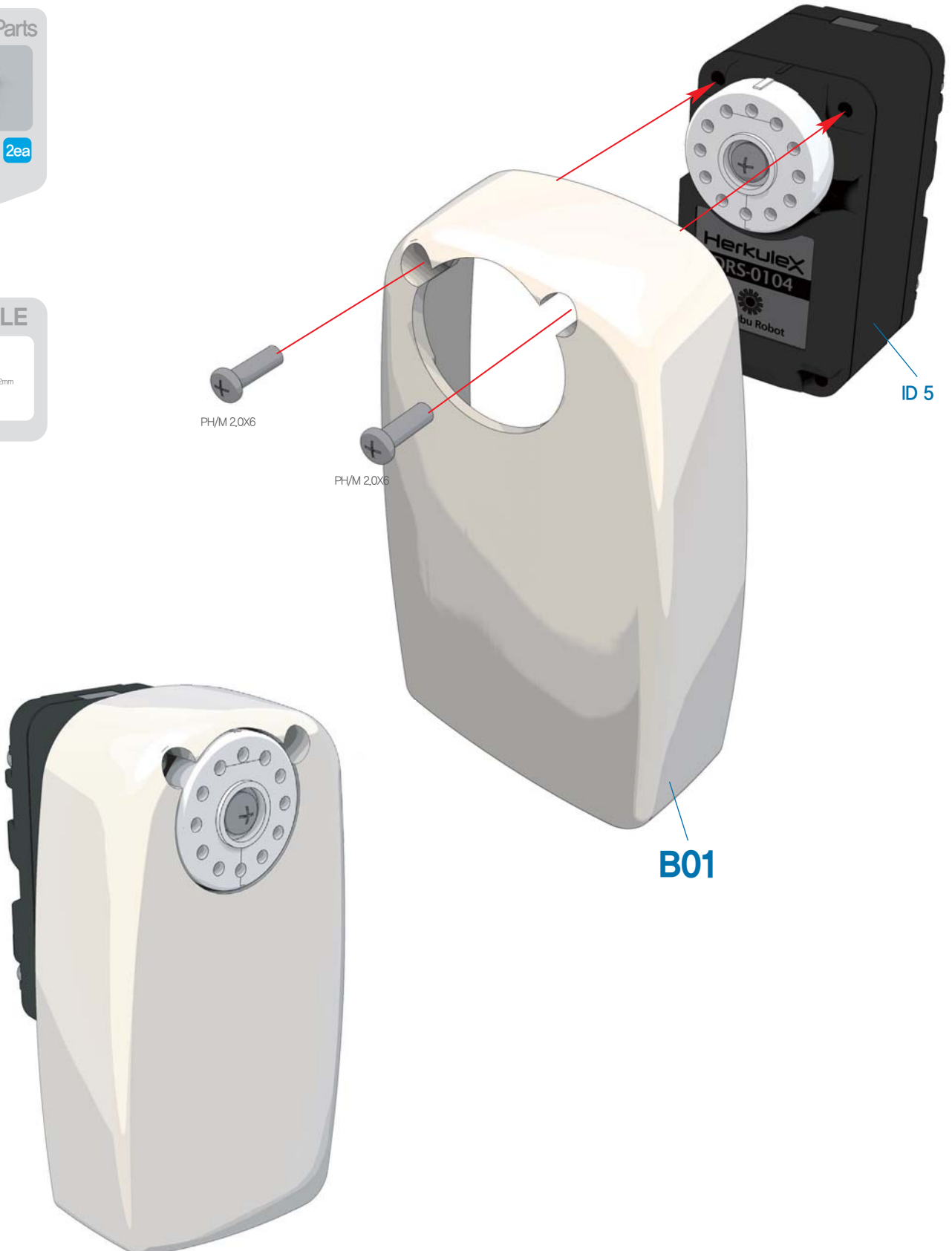


DRA-0058
Bolt (PH/M 2.0X6) **2ea**

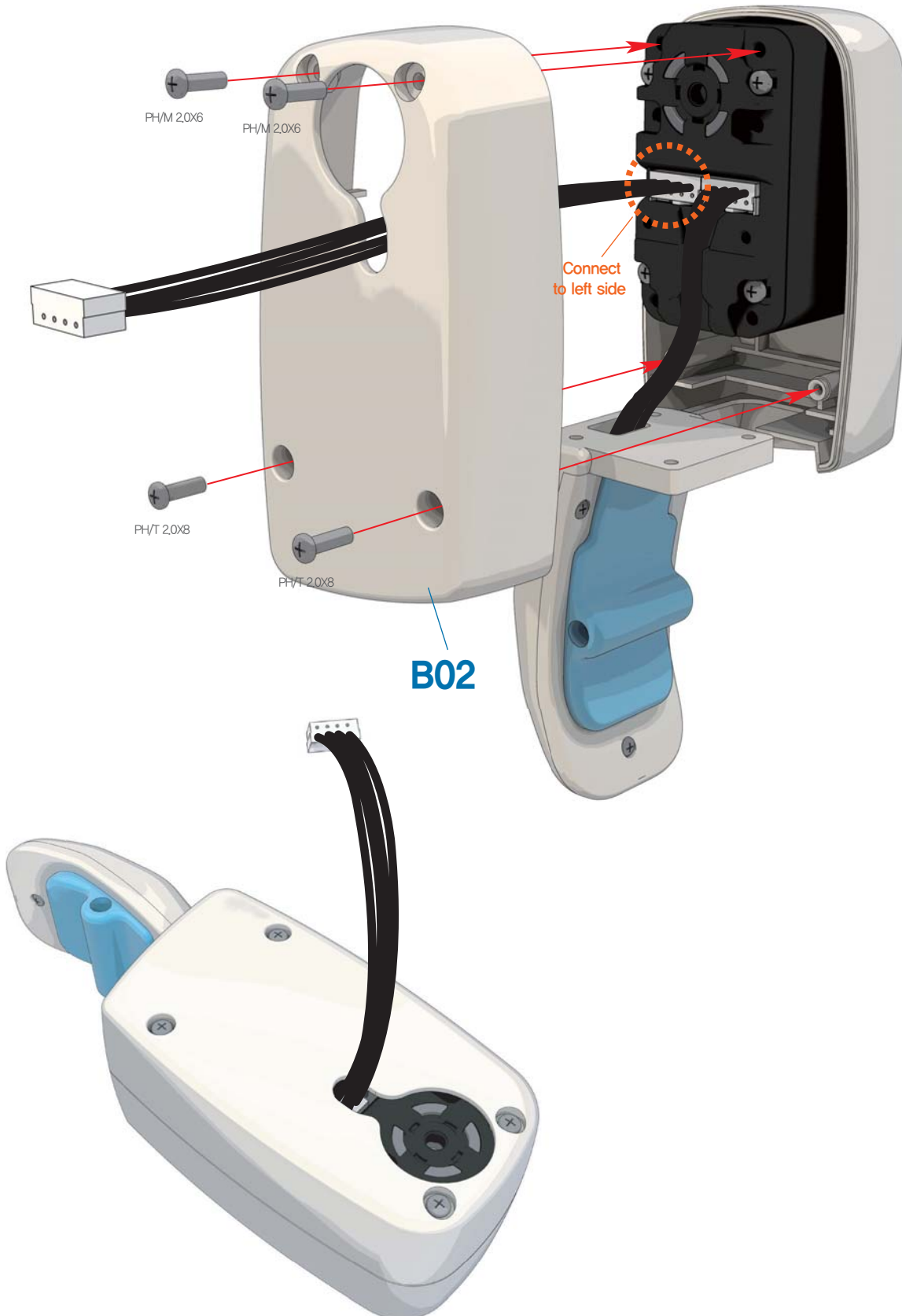
1:1 SCALE



PH/M 2.0X6



- 1 Connect **DRA-0003**(Harness 100mm) to the assembled servo and attach the Hand and **B02**(Forearm Bottom Cover).
- 2 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) and 2 **DRA-0065**(Bolt PH/T 2.0X8) to attach the parts.



Required Parts



DRA-0003
Harness (100mm) **1ea**

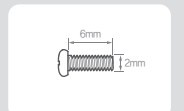


DRA-0058
Bolt (PH/M 2.0X6) **2ea**

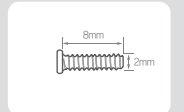


DRA-0065
Bolt (PH/T 2.0X8) **2ea**

1:1 SCALE



PH/M 2.0X6



PH/T 2.0X8

Required Parts



DRB-0009
U2-type Bracket(W) **1ea**



DRB-0004
Universal Plate(W) **2ea**

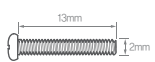


DRJ-0001
L-type Joint
(Single Nut) **4ea**



DRA-0054
Bolt (PH/M 2.0X13) **4ea**

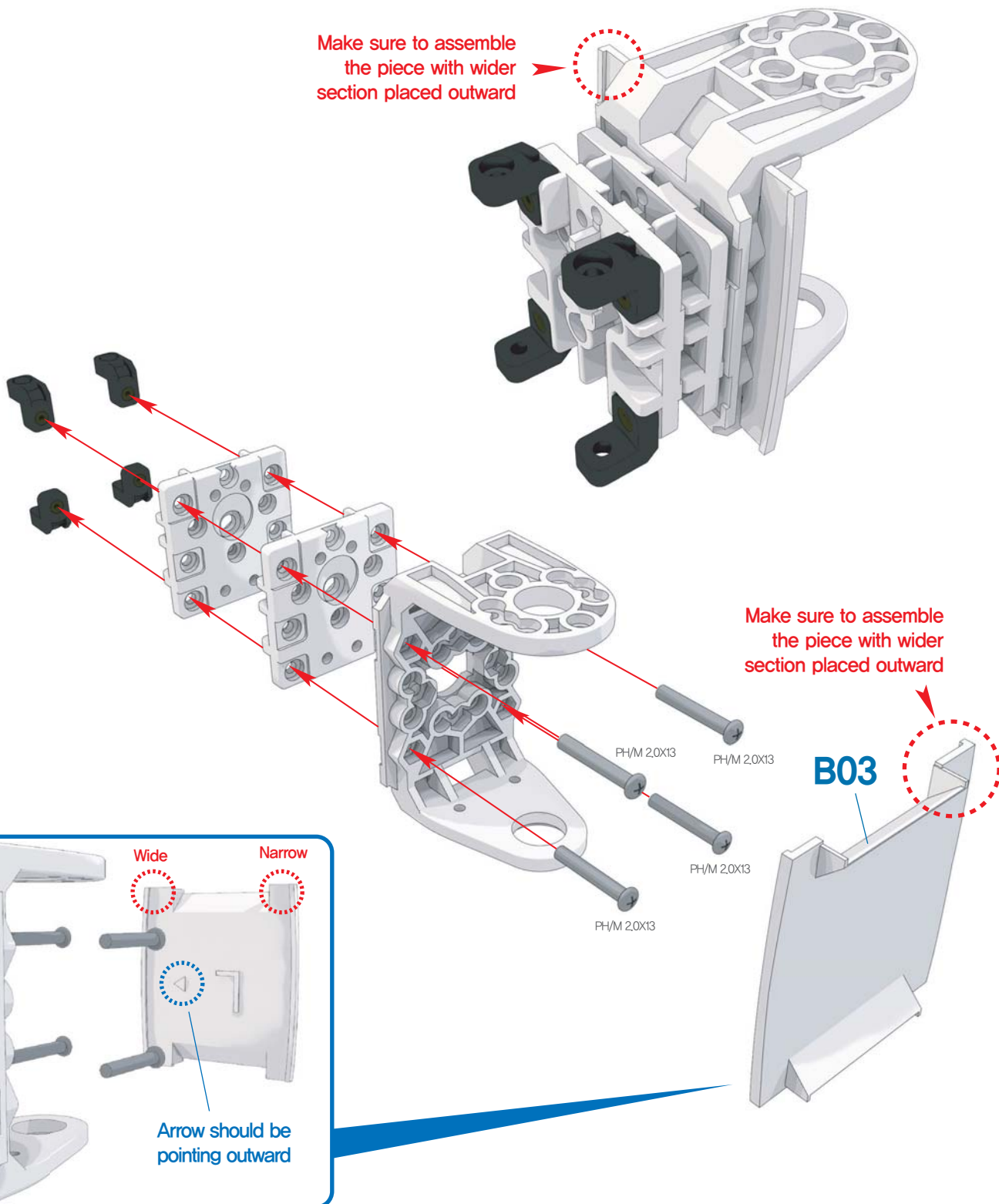
1:1 SCALE



PH/M 2.0X13

- 1 Place 2 **DRB-0004**(Universal Plate(W)) as shown in the diagram and use 4 **DRA-0054**(Bolt PH/M 2.0X13) and 4 **DRJ-0001**(L-type Joint Single Nut) to attach the **DRB-0009**(U2-type Bracket(W)).
- 2 Finally, attach **B03**(Upper Arm Holder).

Make sure to assemble
the piece with wider
section placed outward



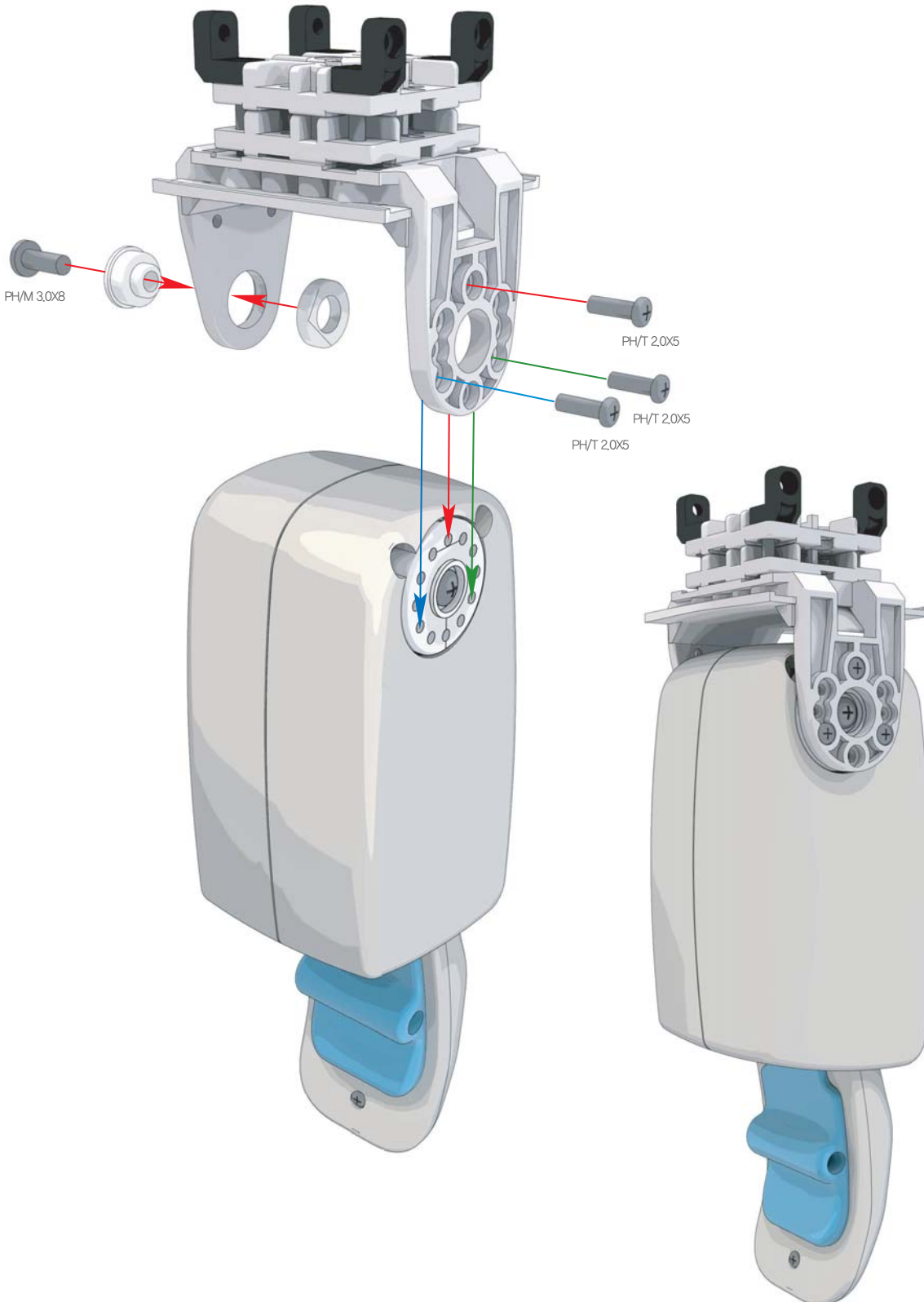
Make sure to assemble
the piece with wider
section placed outward

B03

Wide Narrow

Arrow should be
pointing outward

- 1** Use **DRJ-0011**(Bushing Set), **DRA-0062**(Bolt PH/M 3.0X8), and 3 **DRA-0064**(Bolt PH/T 2.0X5) to attach the pieces assembled in Pg 25 and 26.



Required Parts



DRJ-0011
Bushing Set **1ea**

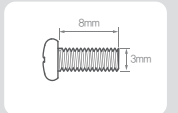


DRA-0062
Bolt (PH/M 3.0X8) **1ea**

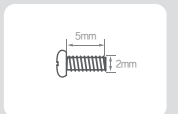


DRA-0064
Bolt (PH/T 2.0X5) **3ea**

1:1 SCALE



PH/M 3.0X8



PH/T 2.0X5

Required Parts



DRA-0063 4ea
Bolt (CH/T 2.0X4)



DRJ-0007 1ea
I-type Joint
(16.0mm, Hole only)



DRS-0101 1ea
HerkuleX Servo

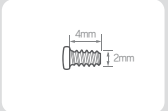


DRH-1001 1ea
Horn (Plastic)

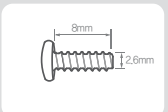


DRA-0067 1ea
Bolt (BH/T 2.6X8)

1:1 SCALE

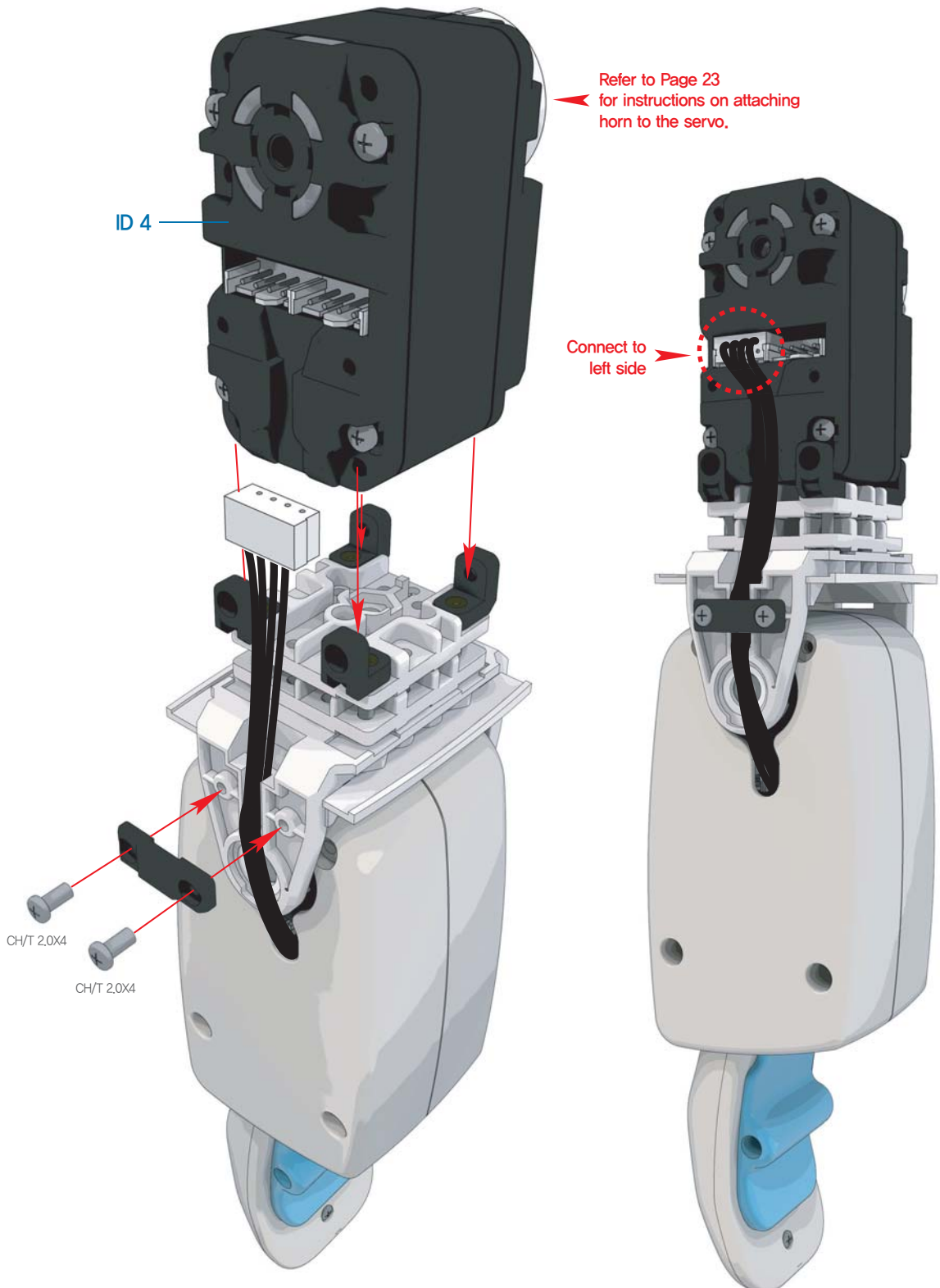


CH/T 2.0X4



BH/T 2.6X8

- 1 Use **DRA-0067**(BH/T 2.6X8) to attach the Horn to the servo **ID 4**.
- 2 Attach servo **ID 4** to the assembled arm and fix the connected harness to the arm using **DRJ-0007**(I-type Joint 16.0mm Hole only) and **DRA-0063**(Bolt CH/T 2.0X4) as shown in the diagram.



- 1 Use **DRA-0063**(Bolt CH/T 2.0X4) to attach **B05**(Upper Arm Top Cover Cap) to the **B04**(Upper Arm Cover).
- 2 Use **DRA-0063**(Bolt CH/T 2.0X4) to attach **B07**(Upper Arm Bottom Cover Cap) to the **B06**(Upper Arm Bottom Cover).

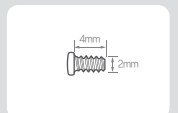


Required Parts



DRA-0063
Bolt (CH/T 2.0X4) **2ea**

1:1 SCALE



CH/T 2.0X4

Required Parts



DRA-0008
Heavy Duty
Harness (200mm) **1ea**

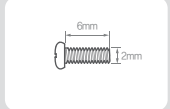


DRA-0058
Bolt (PH/M 2.0X6) **4ea**

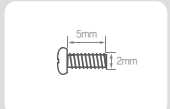


DRA-0064
Bolt (PH/T 2.0X5) **2ea**

1:1 SCALE

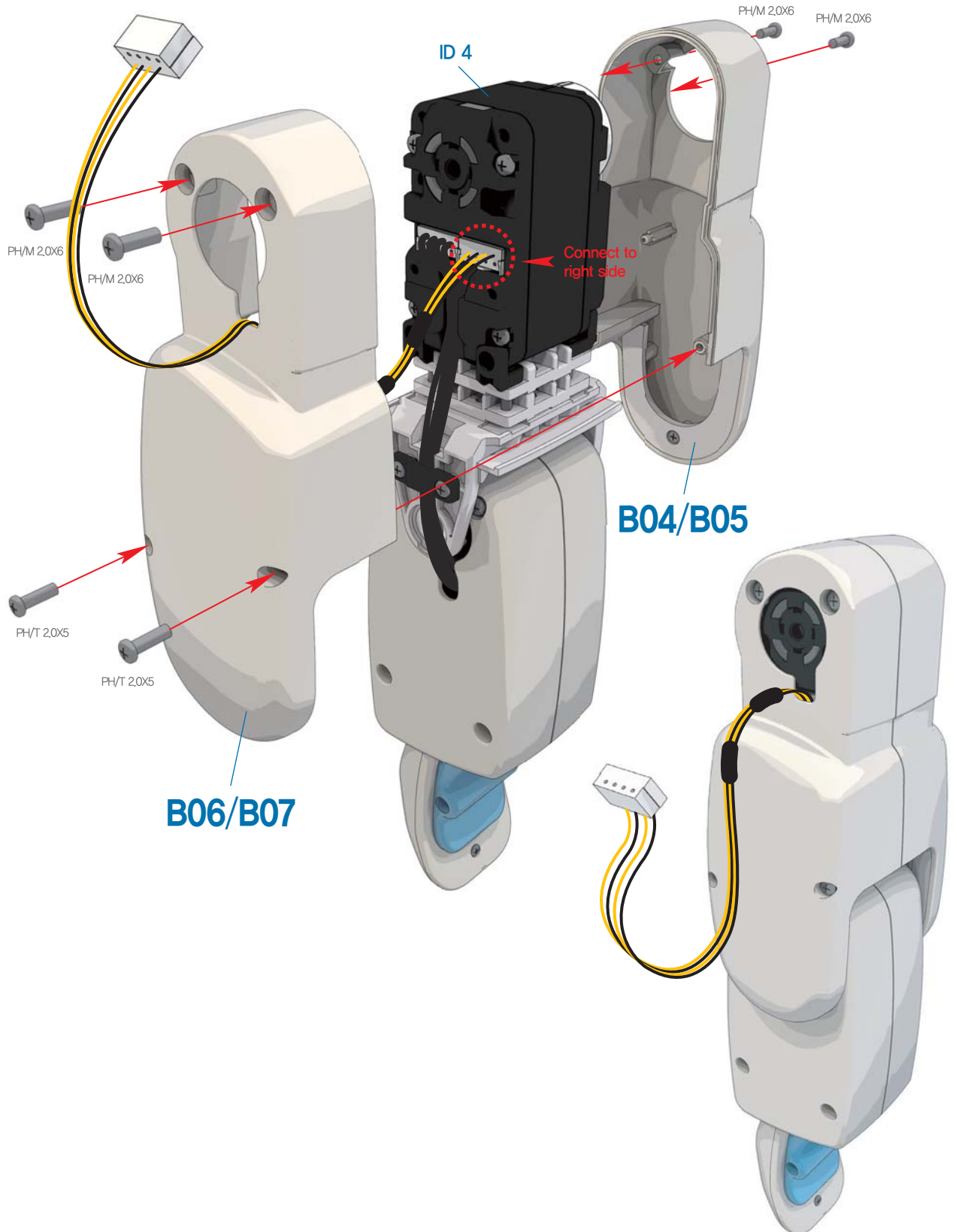


PH/M 2.0X6



PH/T 2.0X5

- 1** Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach **B04/B05**.
- 2** Connect **DRA-0008**(Heavy Duty Harness 200mm) to the assembled servo, use 2 **DRA-0058** (Bolt PH/M 2.0X6) and 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach the **B06/B07** assembly.



Required Parts



DRB-0009
U2-type Bracket(W) **1ea**



DRA-0063
Bolt (CH/T 2.0X4) **2ea**

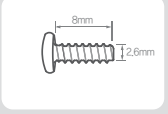


DRA-0064
Bolt (PH/T 2.0X5) **5ea**

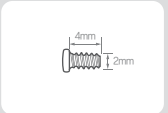


DRA-0067
Bolt (BH/T 2.6X8) **1ea**

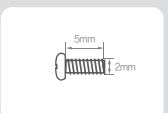
1:1 SCALE



BH/T 2.6X8

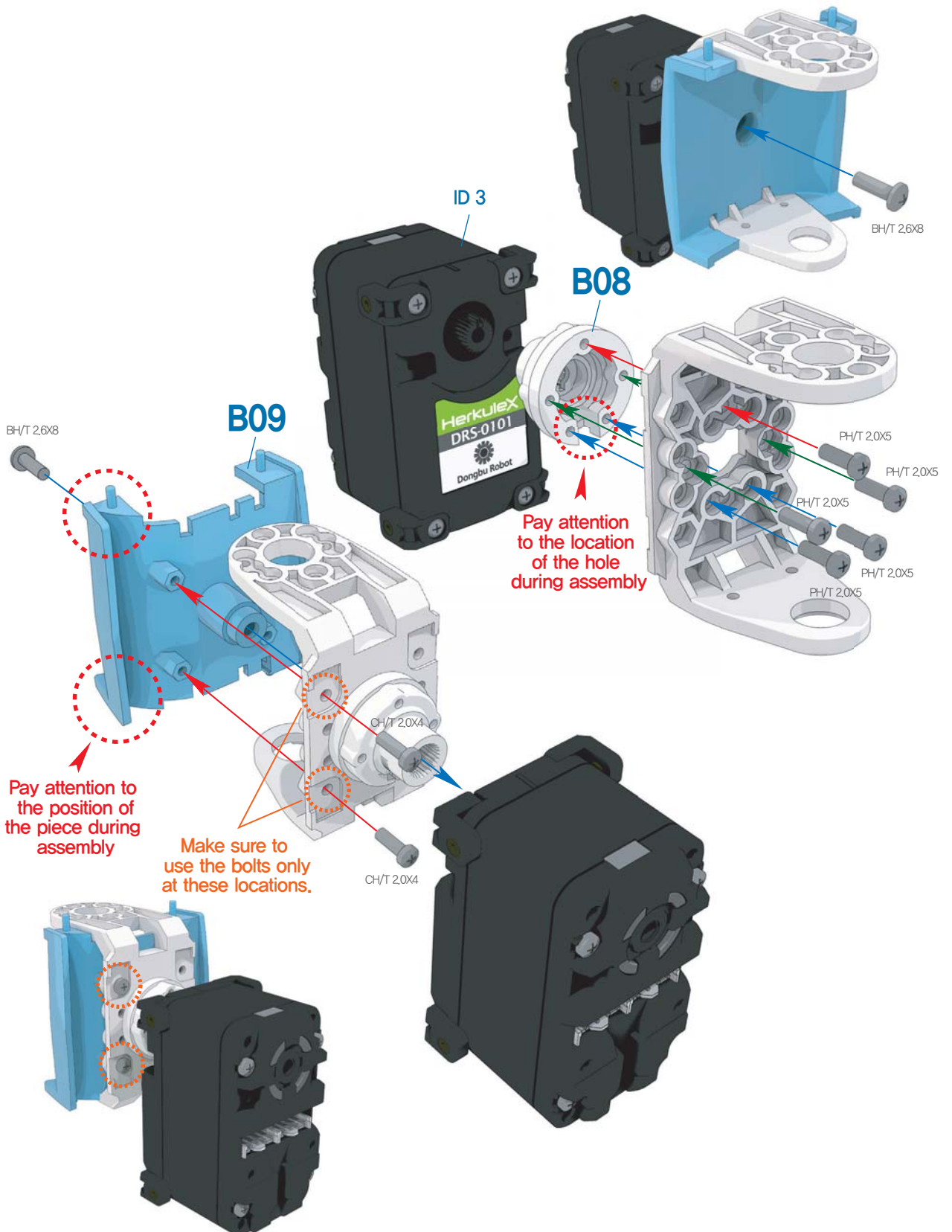


CH/T 2.0X4

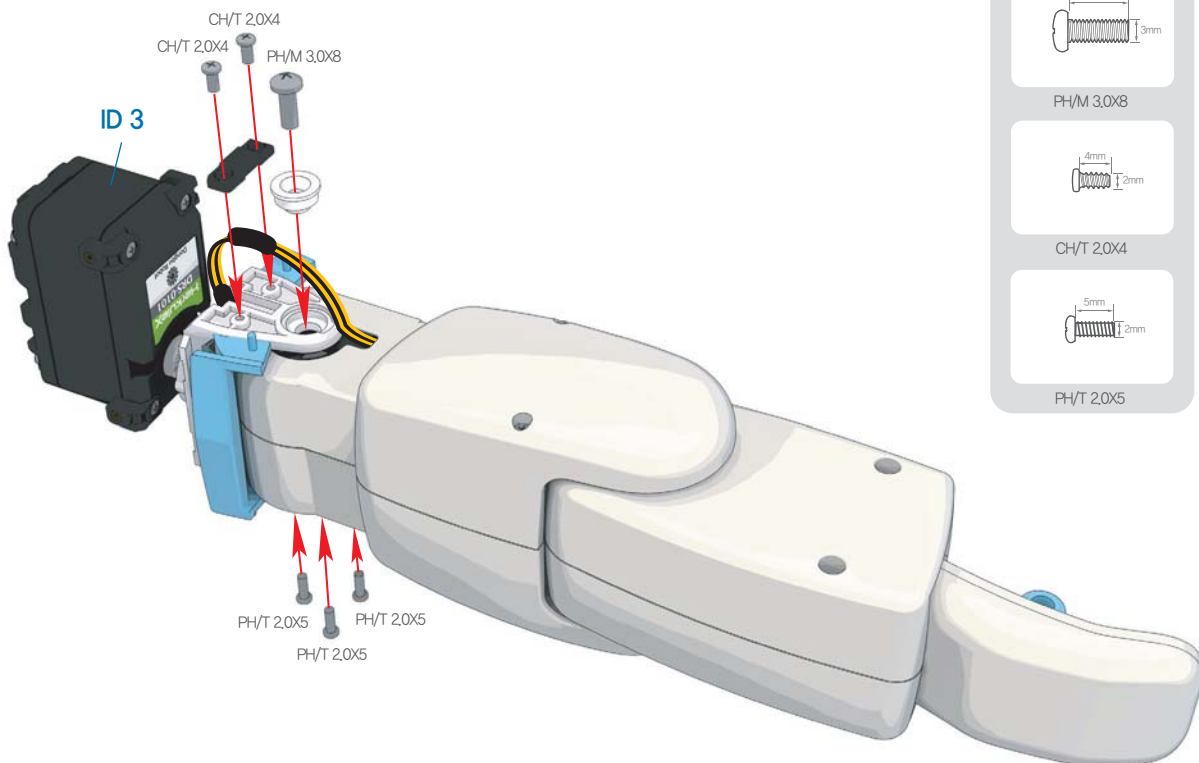


PH/T 2.0X5

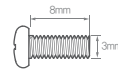
- 1 Attach **B08**(Shoulder Horn) to the servo. Pay attention to the position of the hole in the servo and use 5 **DRA-0064**(Bolt PH/T 2.0X5) to attach **DRB-0009** (U2-type Bracket(W)) to the horn.
- 2 Use 2 **DRA-0063**(Bolt CH/T 2.0X4) to attach **B09**(Shoulder Holder) to the assembled **DRB-0009**(U2-type Bracket(W)) and complete the assembly using **DRA-0067**(Bolt BH/T 2.6X8).



- 1 Use **DRJ-0011**(Bushing Set), **DRA-0062**(Bolt PH/M 3.0X8), and 3 **DRA-0064**(Bolt PH/T 2.0X5) to attach previously assembled pieces from Pg 30 and Pg 32.
- 2 As shown in the diagram, use **DRJ-0007**(I-type Joint 16.0mm Hole only) and 2 **DRA-0063** (Bolt CH/T 2.0X4) to fix the harness to the arm.



1:1 SCALE



PH/M 3.0X8



CH/T 2.0X4



PH/T 2.0X5

Required Parts



DRJ-0011
Bushing Set **1ea**



DRJ-0007
I-type Joint
(16.0mm, Hole only) **1ea**



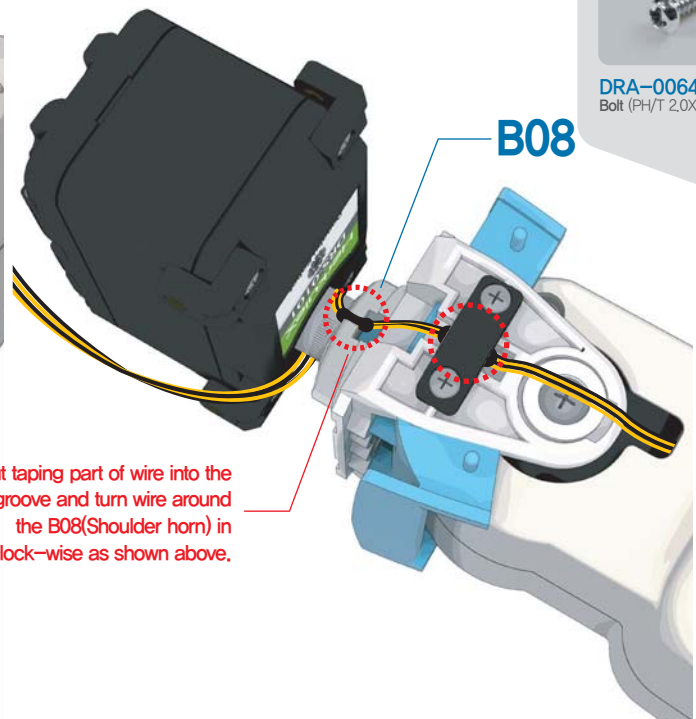
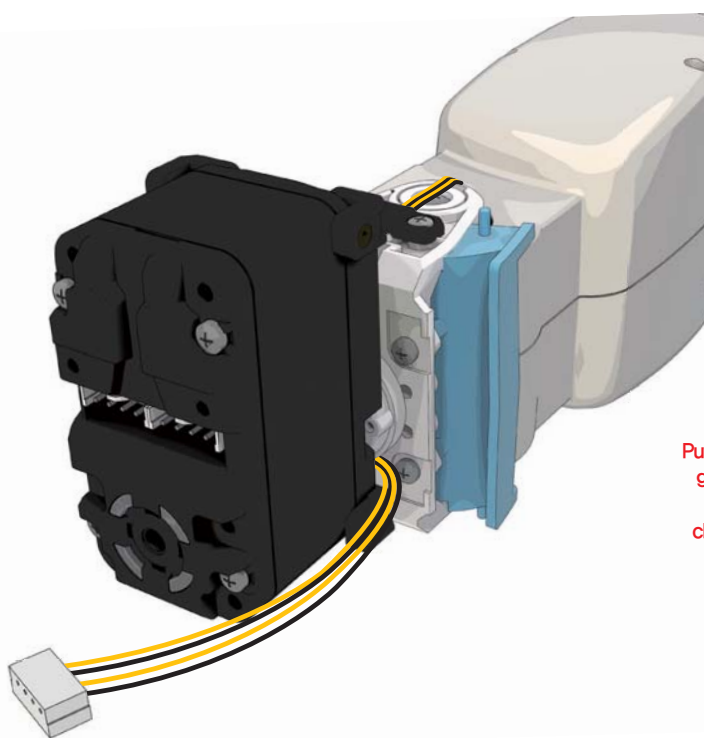
DRA-0062
Bolt (PH/M 3.0X8) **1ea**



DRA-0063
Bolt (CH/T 2.0X4) **2ea**



DRA-0064
Bolt (PH/T 2.0X5) **3ea**



Put taping part of wire into the groove and turn wire around the B08(Shoulder horn) in clock-wise as shown above.

- 1 Assemble **B11**(Shoulder Front Cover) and **B12**(Shoulder Front Cover Cap) and attach it to the arm.
- 2 Use 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach **B10**(Shoulder Bottom Cover) to previously assembled **B11/B12** piece.
- 3 Place **DRJ-0010**(Harness Clamp) at correct position and fold the clamp in half with the harness clamped between the two halves. Use **DRA-0058**(Bolt PH/M 2.0X6) to fix the clamp to the servo.
- 4 Connect **DRA-0003**(Harness 100mm) to the servo **ID 3**.

Required Parts



DRA-0003
Harness (100mm) 1ea



DRA-0064
Bolt (PH/T 2.0X5) 2ea



DRA-0058
Bolt (PH/M 2.0X6) 1ea



DRJ-0010
Harness Clamp 1ea

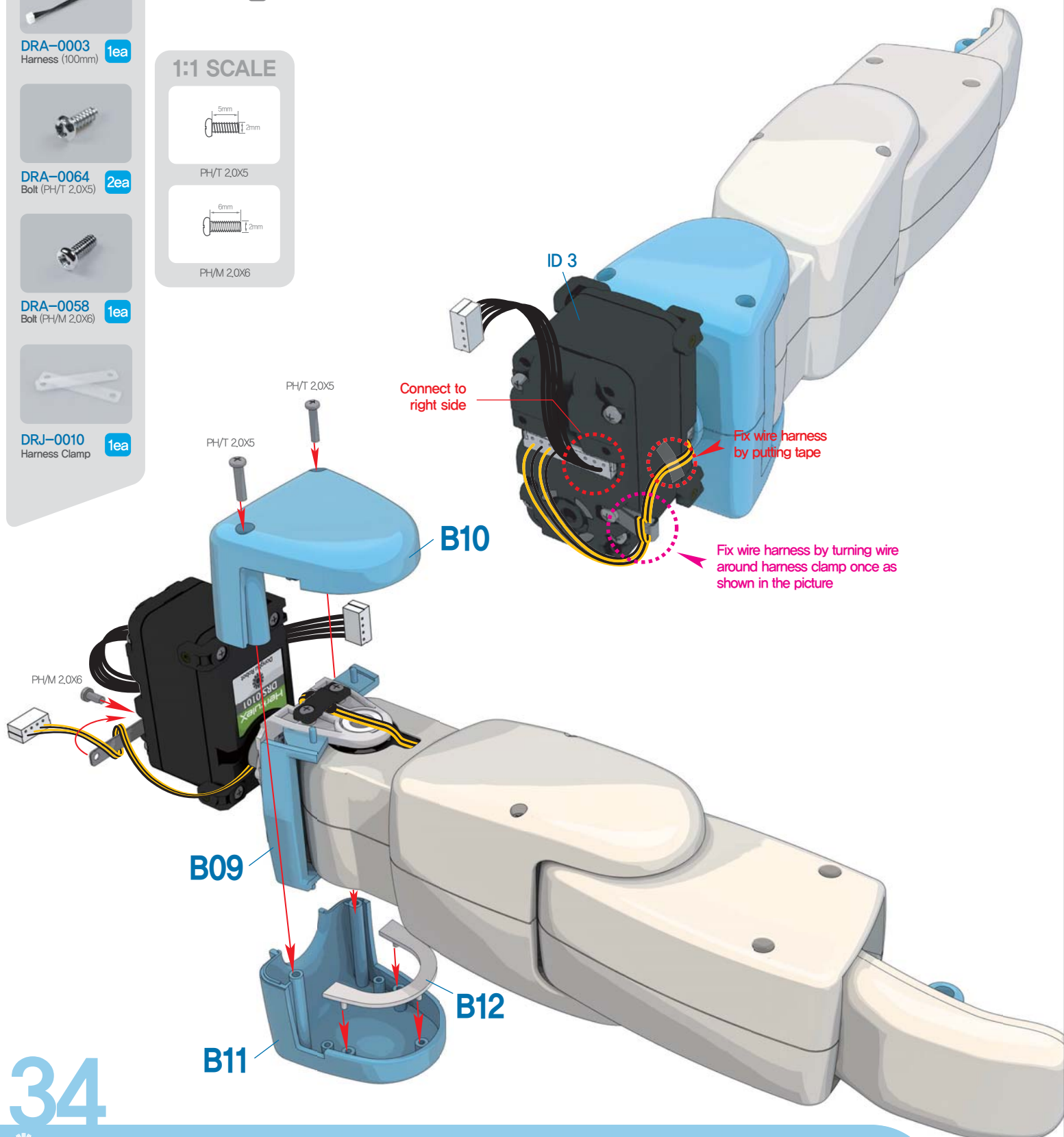
1:1 SCALE



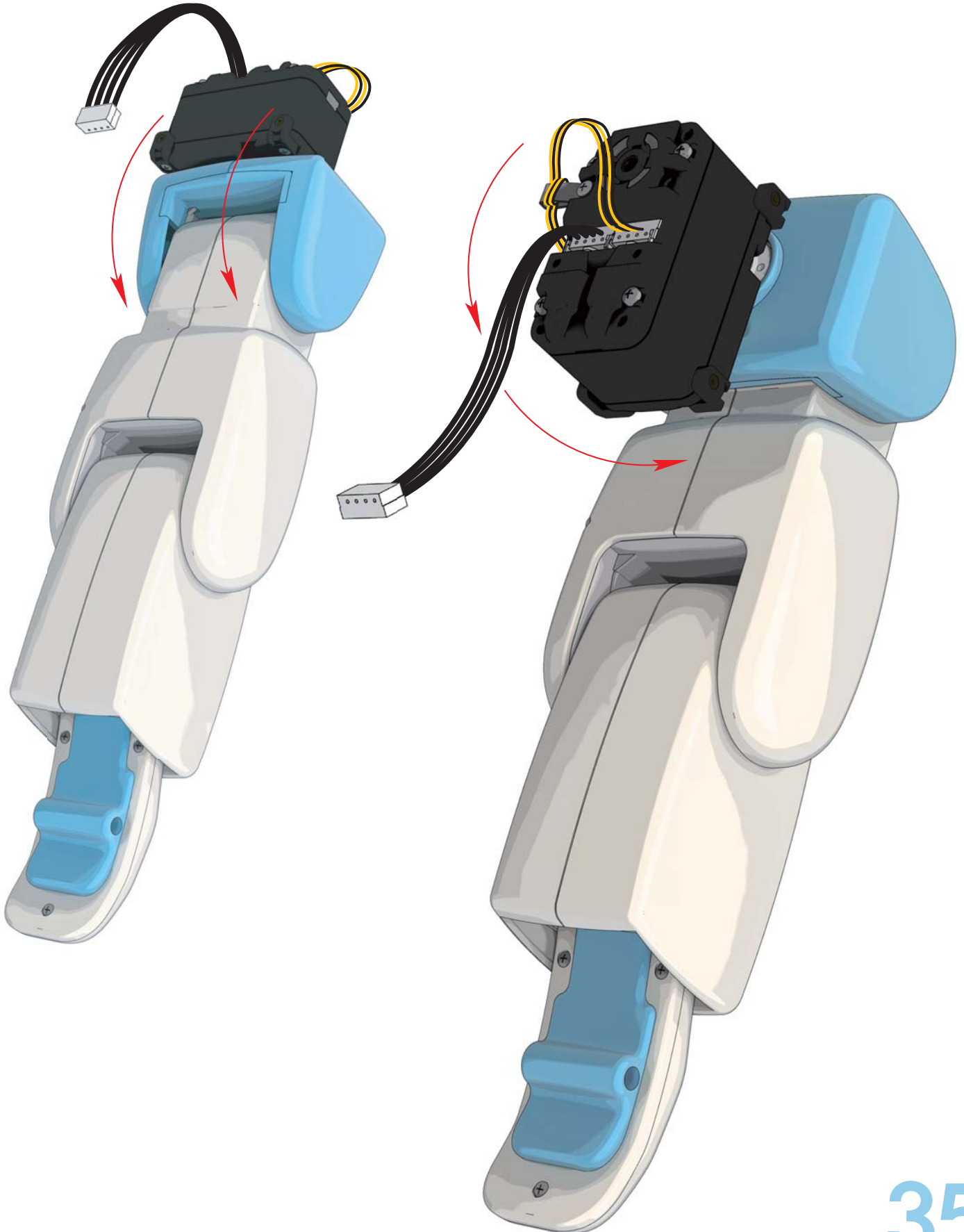
PH/T 2.0X5



PH/M 2.0X6



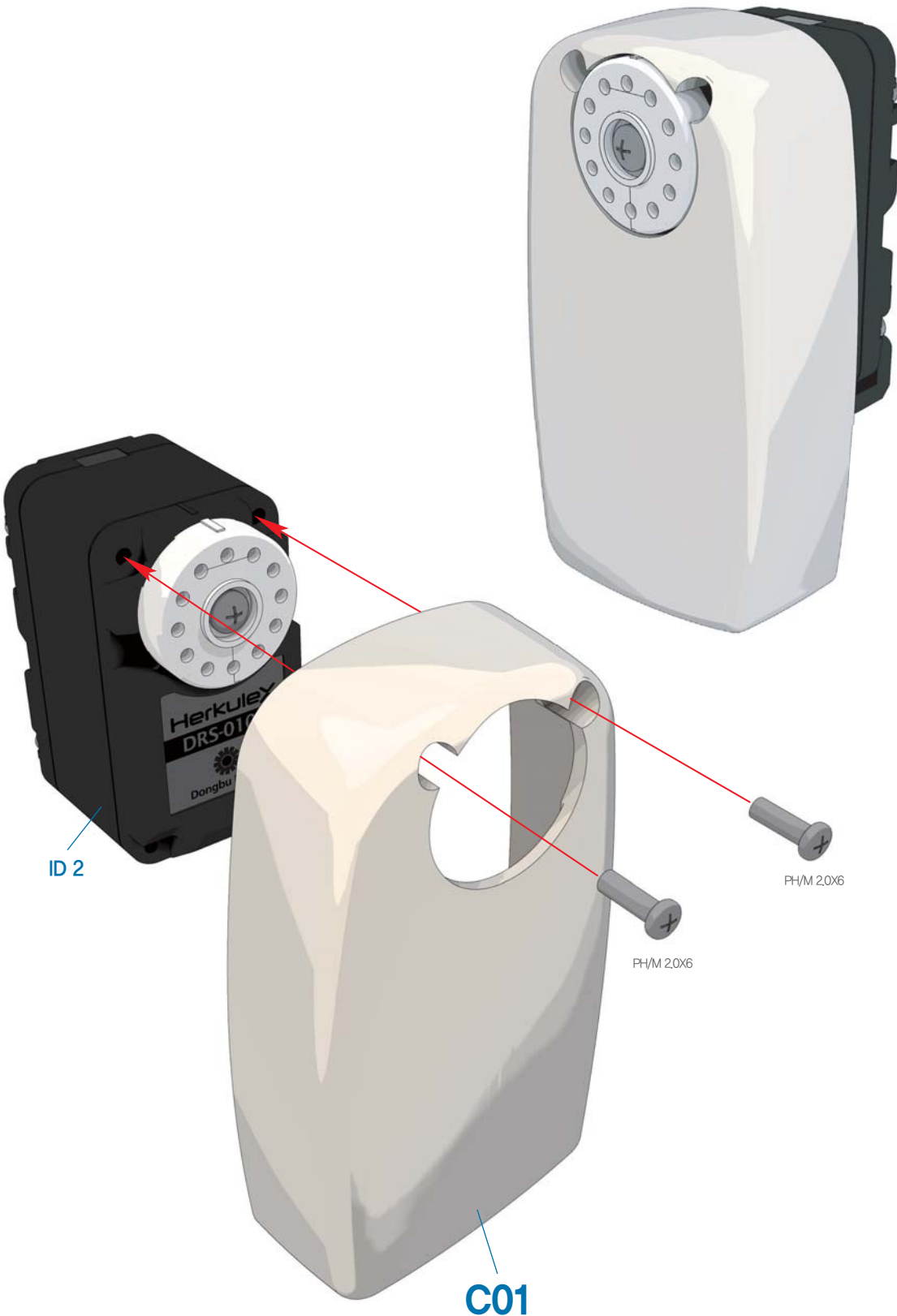
- 1 To complete the left arm assembly, twist the servo as shown in the diagram.



**Right Arm
Assembly**



- 1 Refer to the instructions on Page 22 and Page 23 to assemble the hand and to attach the horn to servo ID 2.
- 2 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach **C01**(Forearm Top Cover) to the servo.

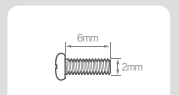


Required Parts



DRA-0058
Bolt (PH/M 2.0X6) **2ea**

1:1 SCALE



PH/M 2.0X6

- 1 Connect **DRA-0003**(Harness 100mm) and attach the Hand to **C02**(Forearm bottom Cover).
- 2 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) and 2 **DRA-0065**(Bolt PH/T 2.0X8) to assemble.

Required Parts



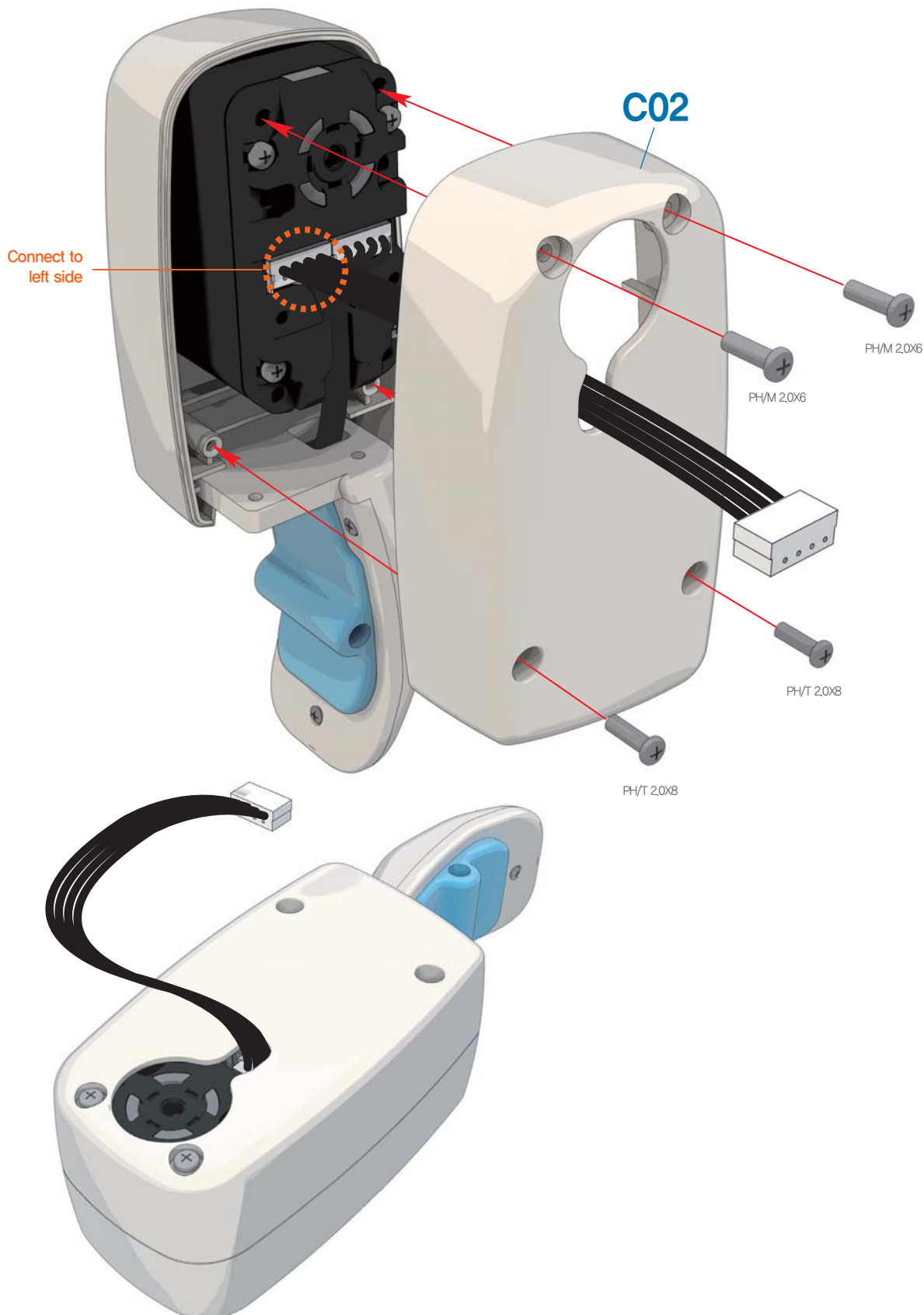
DRA-0003
Harness (100mm) 1ea



DRA-0058
Bolt (PH/M 2.0X6) 2ea



DRA-0065
Bolt (PH/T 2.0X8) 2ea



1:1 SCALE

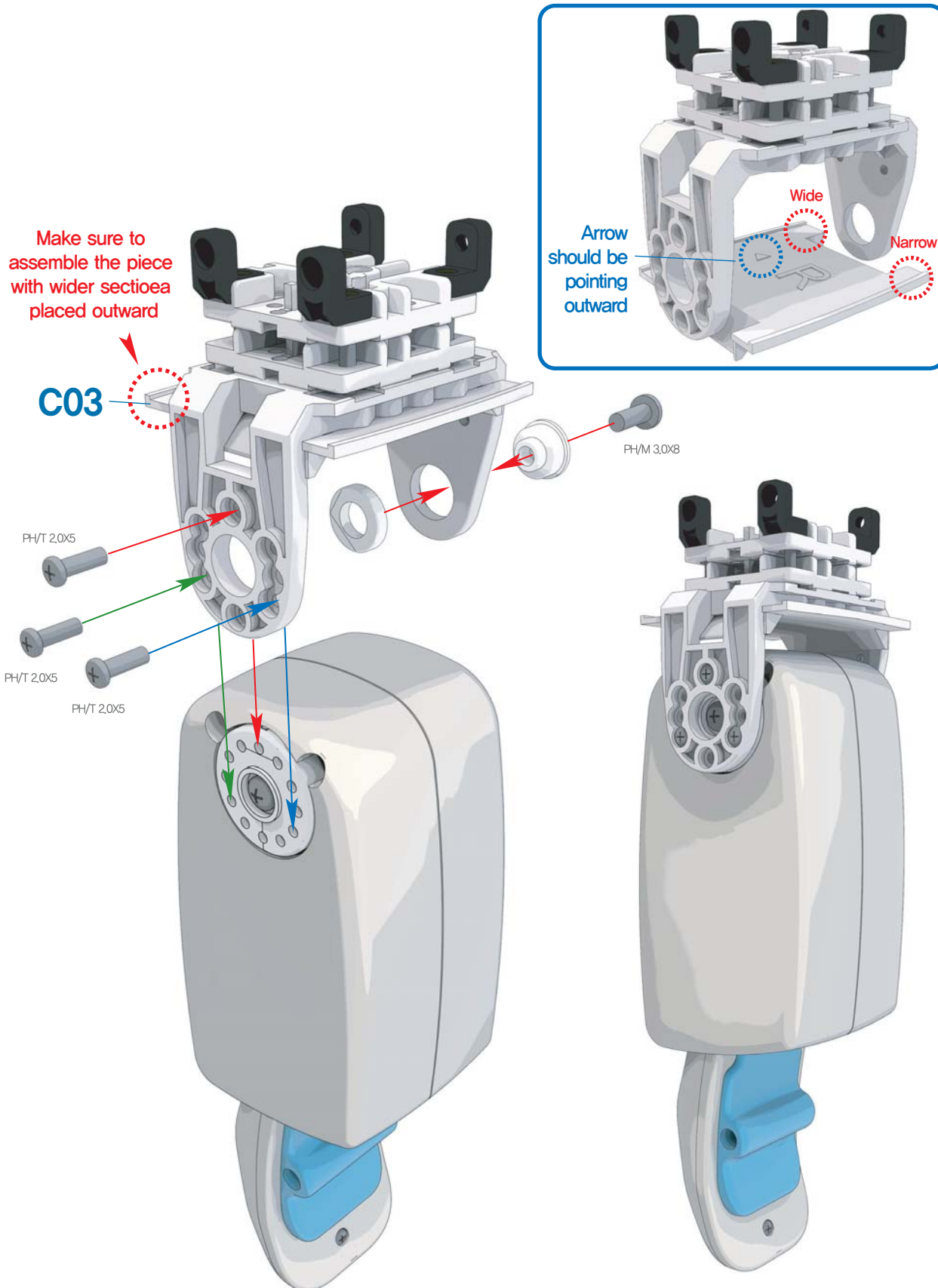


PH/M 2.0X6



PH/T 2.0X8

- 1 Refer to Page 26 for assembly instructions.
- 2 Use DRJ-0011(Bushing Set), DRA-0062(Bolt PH/M 3.0X8), and 3 DRA-0064(Bolt PH/T 2.0X5) to attach 2 assembled pieces.



Required Parts

DRJ-0011
Bushing Set **1ea**

DRA-0062
Bolt (PH/M 3.0X8) **1ea**

DRA-0064
Bolt (PH/T 2.0X5) **3ea**

1:1 SCALE

PH/M 3.0X8

PH/T 2.0X5

- 1 Attach the Horn to the servo ID 1 using DRA-0067(BH/T 2.6X8).
- 2 Attach servo ID 1 to the arm and use DRA-0063(Bolt CH/T 2.0X4) and DRJ-0007(I-type Joint 16.0mm Hole only) to fix the harness to the assembled arm.

Required Parts



DRA-0063 4ea
Bolt (CH/T 2.0X4)



DRJ-0007 1ea
I-type Joint
(16.0mm, Hole only)



DRS-0101 1ea
HerkuleX Servo

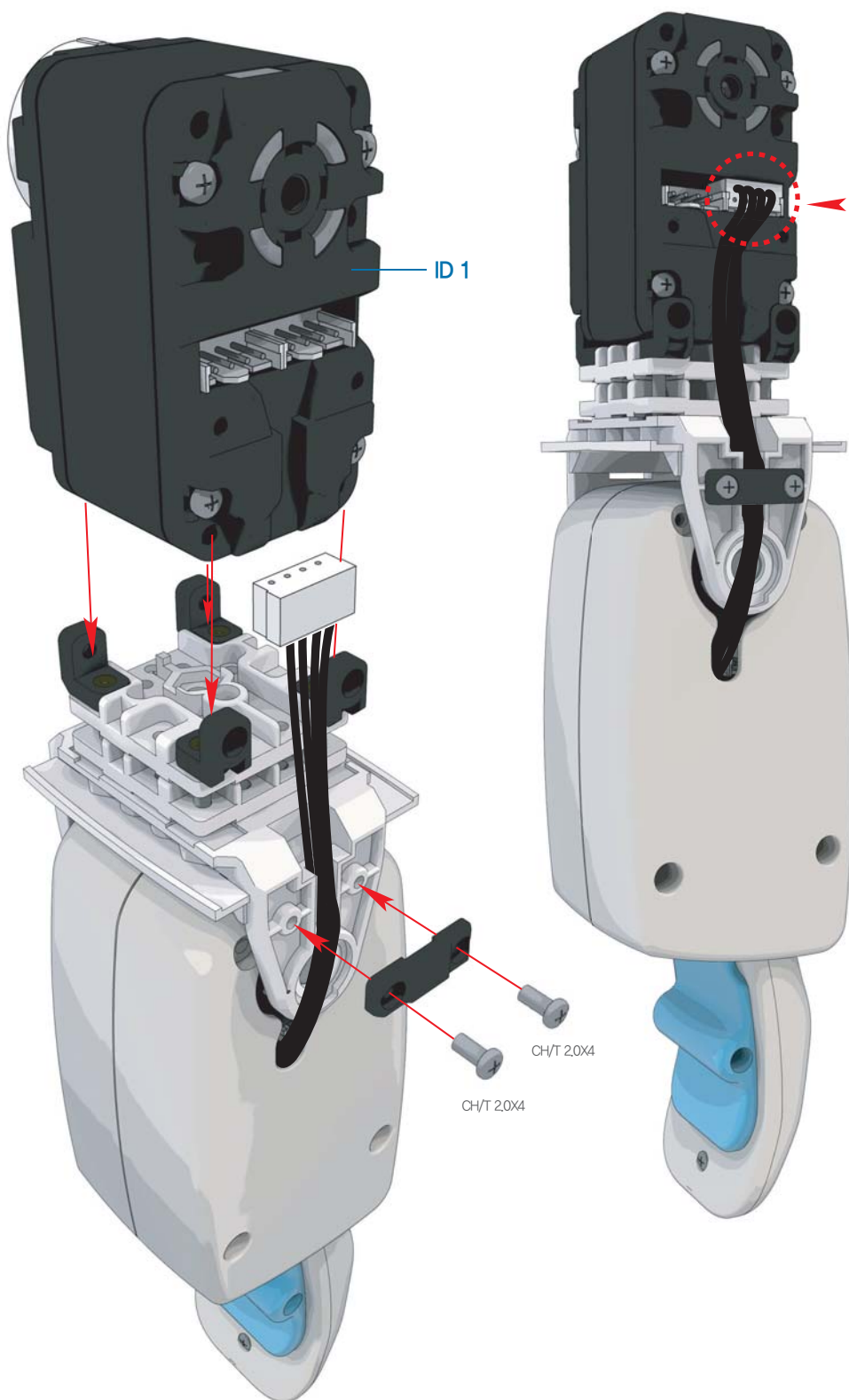


DRH-1001 1ea
Horn (Plastic)

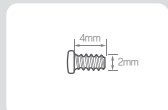


DRA-0067 1ea
Bolt (BH/T 2.6X8)

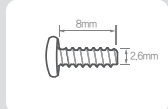
Refer to Page 23
for instructions
on attaching the
horn to the servo



1:1 SCALE

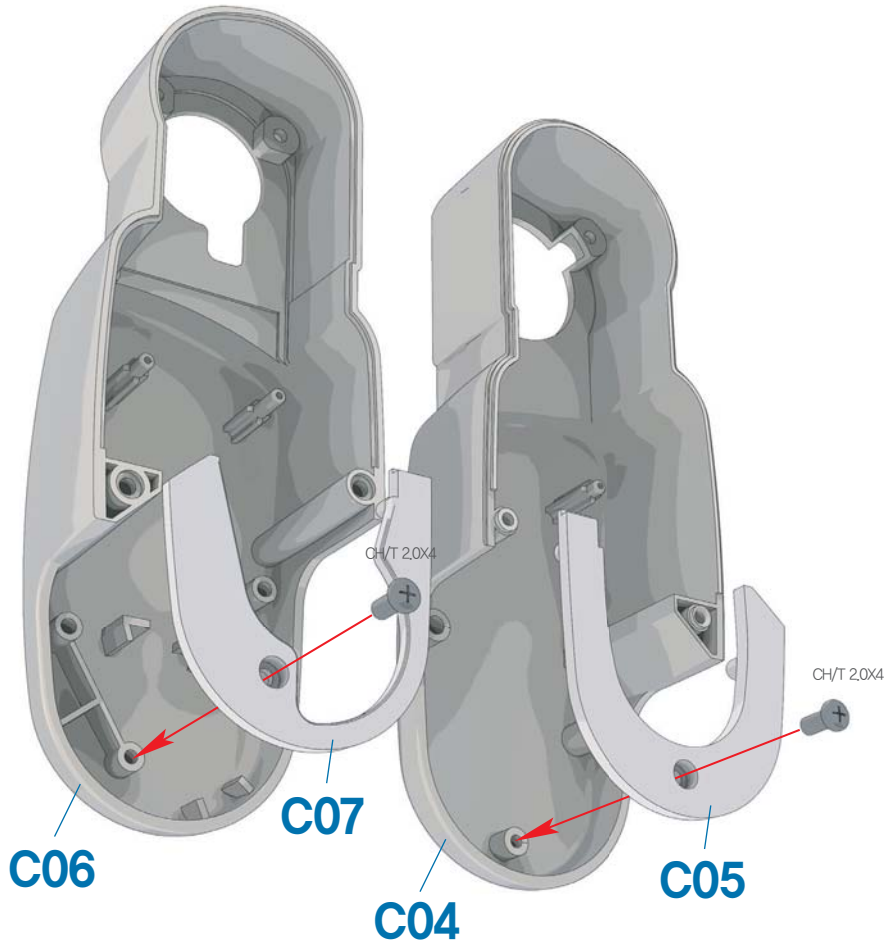


CH/T 2.0X4



BH/T 2.6X8

- 1 Use **DRA-0063**(Bolt CH/T 2.0X4) to attach **C05**(Upper Arm Top Cover Cap) to **C04**(Upper Arm Top Cover).
- 2 Use **DRA-0063**(Bolt CH/T 2.0X4) to attach **C07**(Upper Arm Bottom Cover Cap) to **C06**(Upper Arm Bottom Cover).

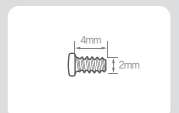


Required Parts



DRA-0063
Bolt (CH/T 2.0X4) **2ea**

1:1 SCALE



CH/T 2.0X4



- 1 Use 2 **DRA-0058**(Bolt PH/M 2.0X6) to attach **C04/C05**.
- 2 Put **DRA-0008**(Heavy Duty Harness 200mm) wire into the servo as shown below, then attach **C06/C07** using 2 **DRA-0058**(Bolt PH/M 2.0X6) and 2 **DRA-0064**(Bolt PH/T 2.0X5).

Required Parts



DRA-0008
Heavy Duty
Harness (200mm) **1ea**

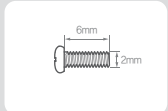


DRA-0058
Bolt (PH/M 2.0X6) **4ea**

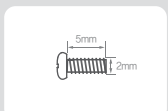


DRA-0064
Bolt (PH/T 2.0X5) **2ea**

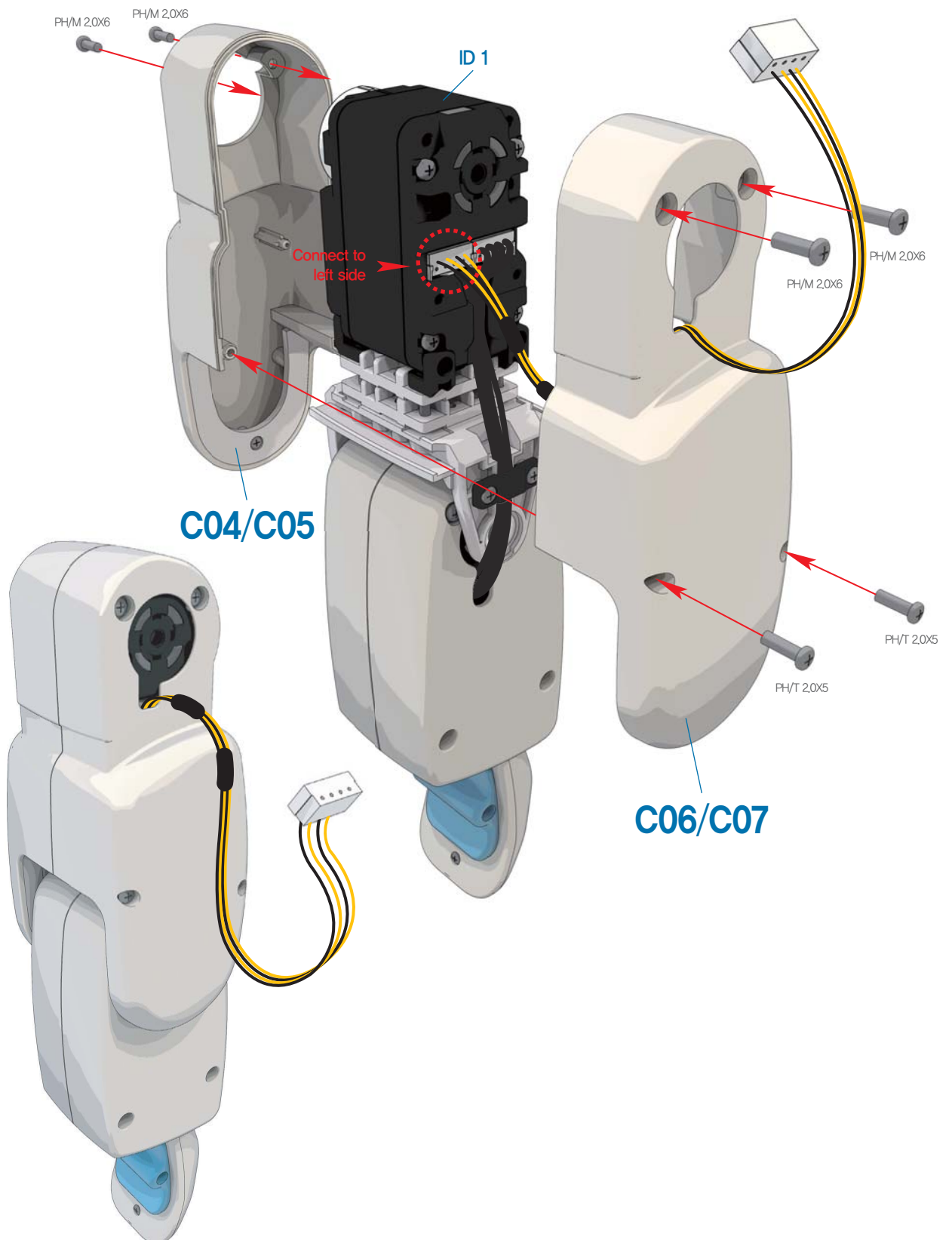
1:1 SCALE



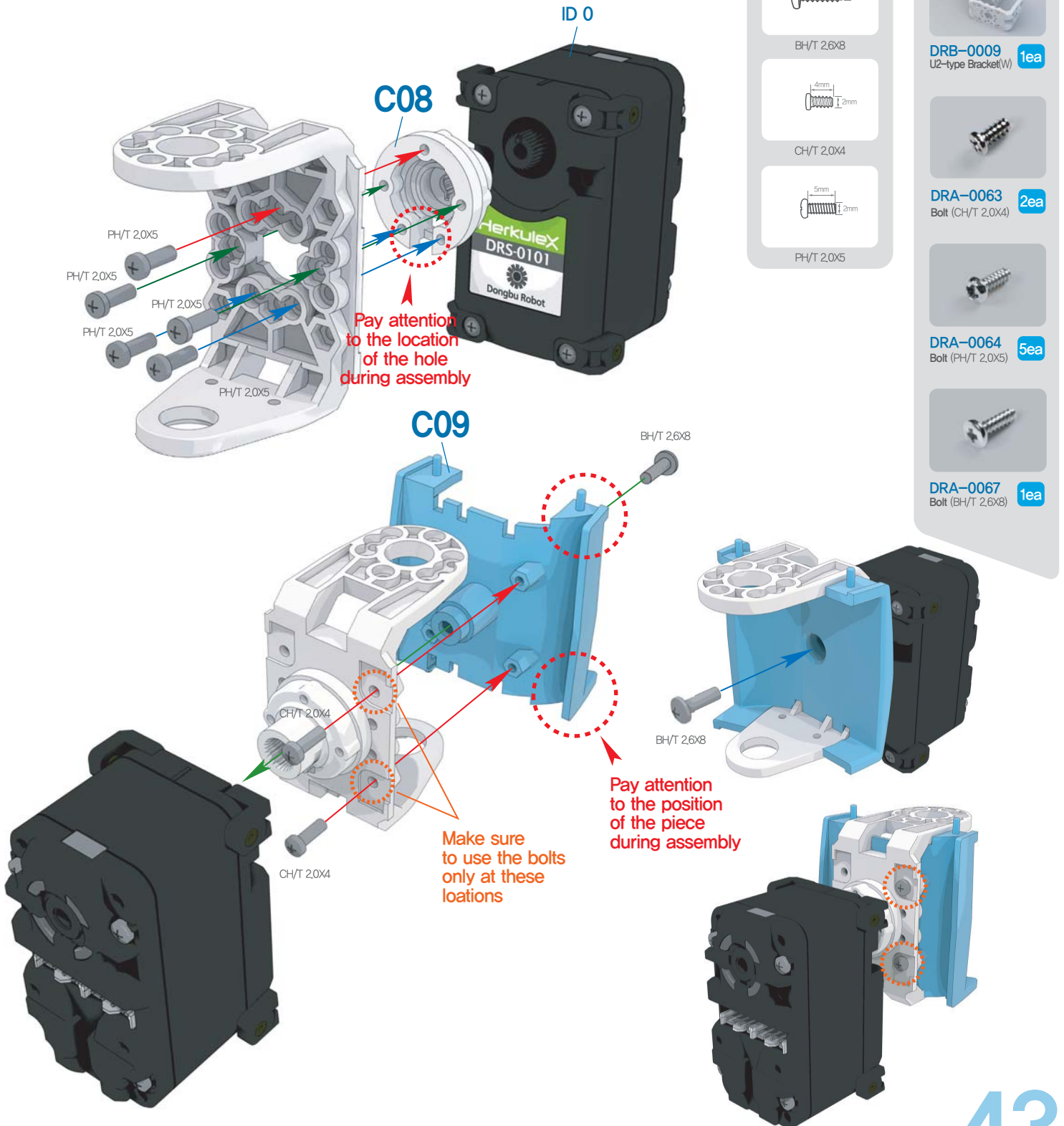
PH/M 2.0X6



PH/T 2.0X5



- 1 Refer to Page 31 for instructions on assembling servo ID 0.
- 2 Attach C08(Shoulder Horn) to the servo and use 5 DRA-0064(Bolt PH/T 2.0X5) to attach DRB-0009(U2-type Bracket(W)) to the horn paying attention to the position of the hole on the horn.
- 3 Attach C09(Shoulder Holder) to the assembled DRB-0009(U2-type Bracket(W)) and use 2 DRA-0063(Bolt CH/T 2.0X4) and DRA-0067(Bolt BH/T 2.6X8) to assemble.



- 1 Use **DRJ-0011**(Bushing Set), **DRA-0062**(Bolt PH/M 3.0X8), and 3 **DRA-0064**(Bolt PH/T 2.0X5) to attach previously assembled pieces from Page 42 and Page 43.
- 2 As shown in the diagram, use **DRJ-0007**(I-type Joint 16.0mm Hole only) and 2 **DRA-0063**(Bolt CH/T 2.0X4) to fix the harness to the arm.

Required Parts



DRJ-0011
Bushing Set **1ea**



DRJ-0007
I-type Joint
(16.0mm, Hole only) **1ea**



DRA-0062
Bolt (PH/M 3.0X8) **1ea**

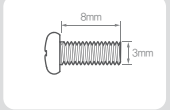


DRA-0063
Bolt (CH/T 2.0X4) **2ea**

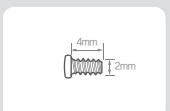


DRA-0064
Bolt (PH/T 2.0X5) **3ea**

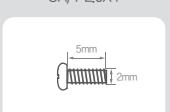
1:1 SCALE



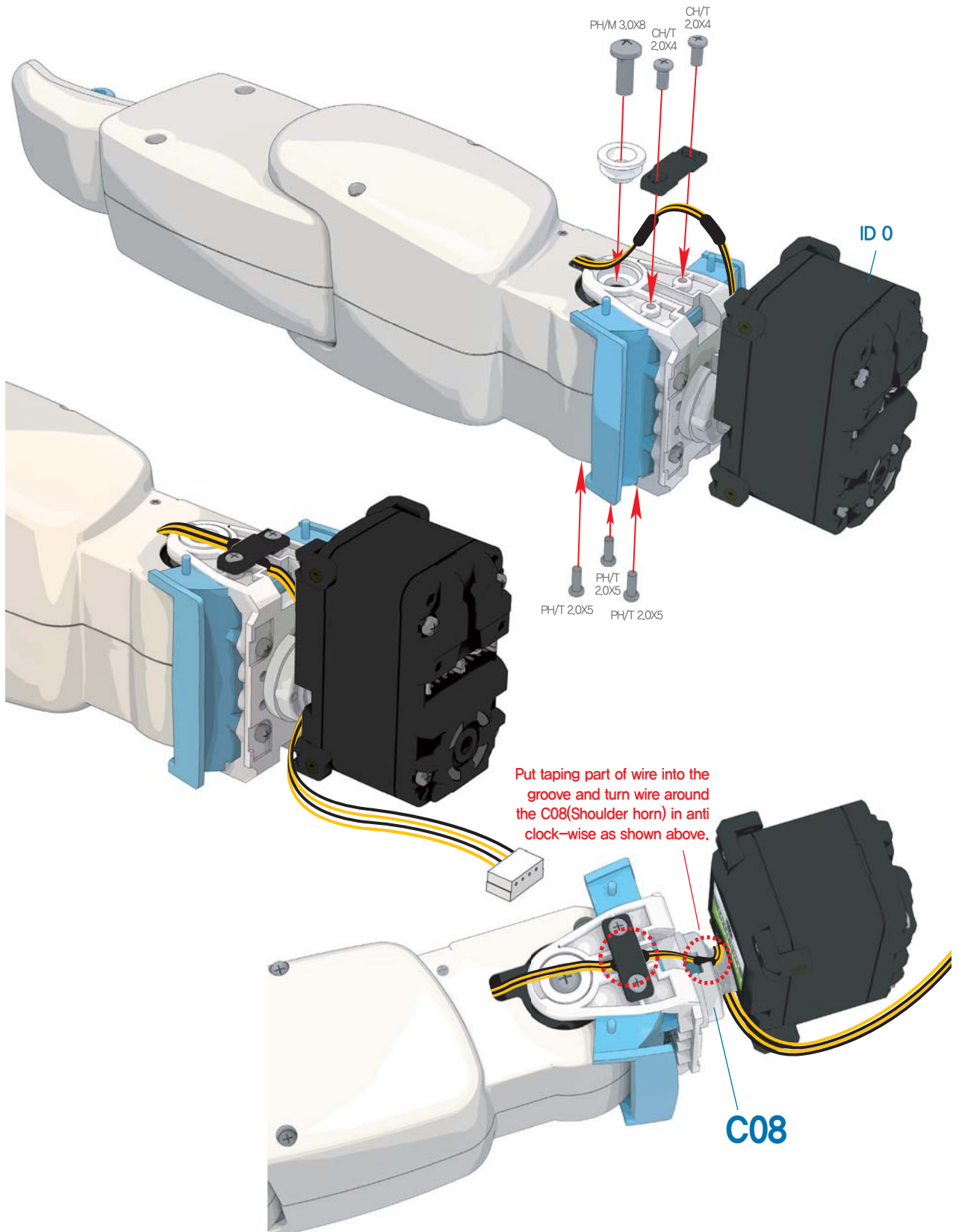
PH/M 3.0X8



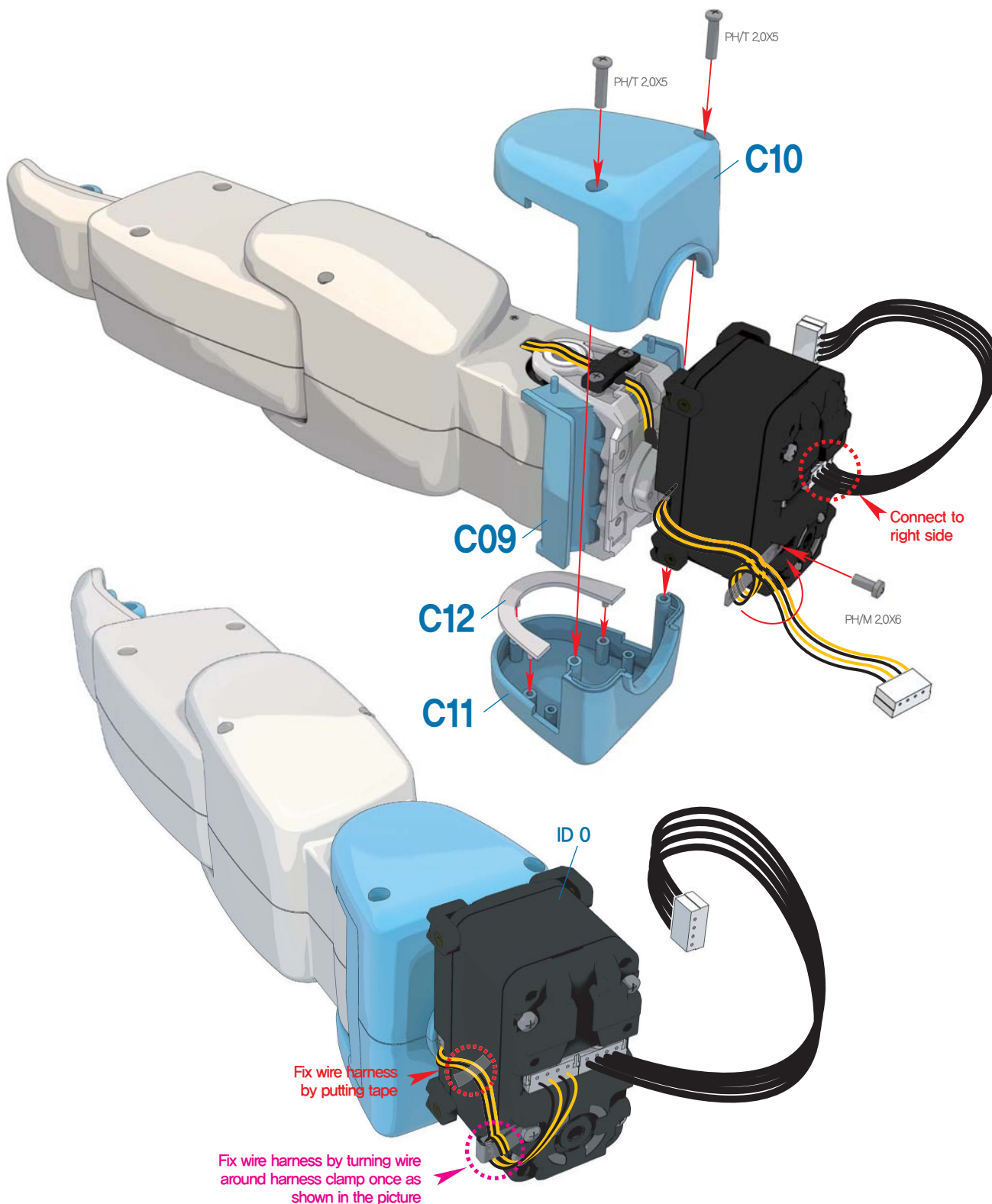
CH/T 2.0X4



PH/T 2.0X5



- 1 Assemble **C11**(Shoulder Front Cover) and **C12**(Shoulder Front Cover Cap) and attach it to the arm.
- 2 Use 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach **C10**(Shoulder Bottom Cover) to previously assembled **C11/C12** piece.
- 3 Place **DRJ-0010**(Harness Clamp) at correct position and fold the clamp in half with the harness clamped between the two halves. Use **DRA-0058**(Bolt PH/M 2.0X6) to fix the clamp to the servo.
- 4 Connect **DRA-0003**(Harness 100mm) to the servo **ID 0**.



Required Parts



DRA-0003
Harness (100mm) **1ea**



DRA-0064
Bolt (PH/T 2.0X5) **2ea**

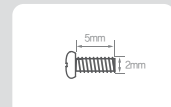


DRA-0058
Bolt (PH/M 2.0X6) **1ea**

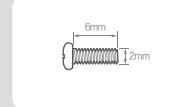


DRJ-0010
Harness Clamp **1ea**

1:1 SCALE

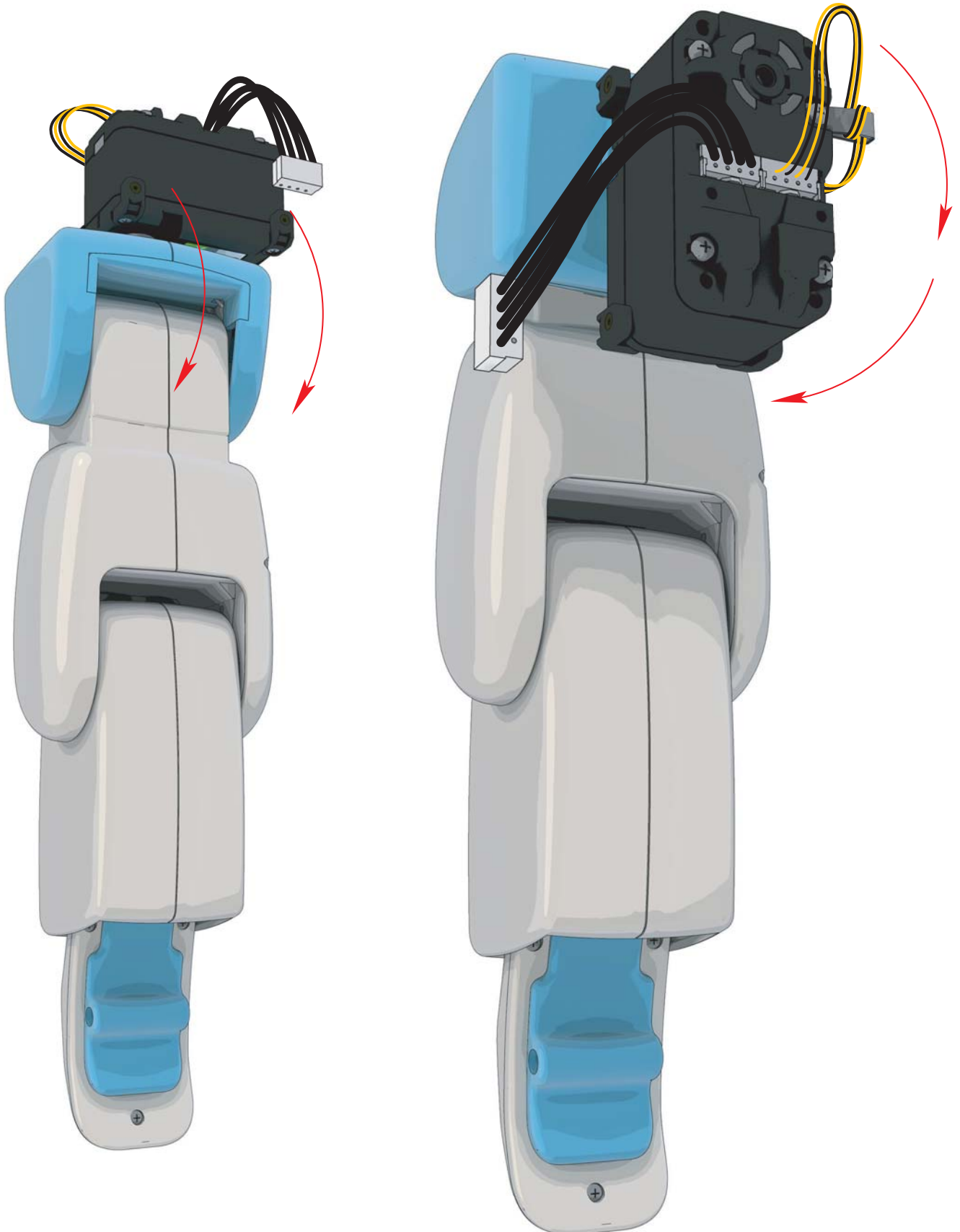


PH/T 2.0X5



PH/M 2.0X6

- 1** To complete the right arm assembly, twist the servo as shown in the diagram.





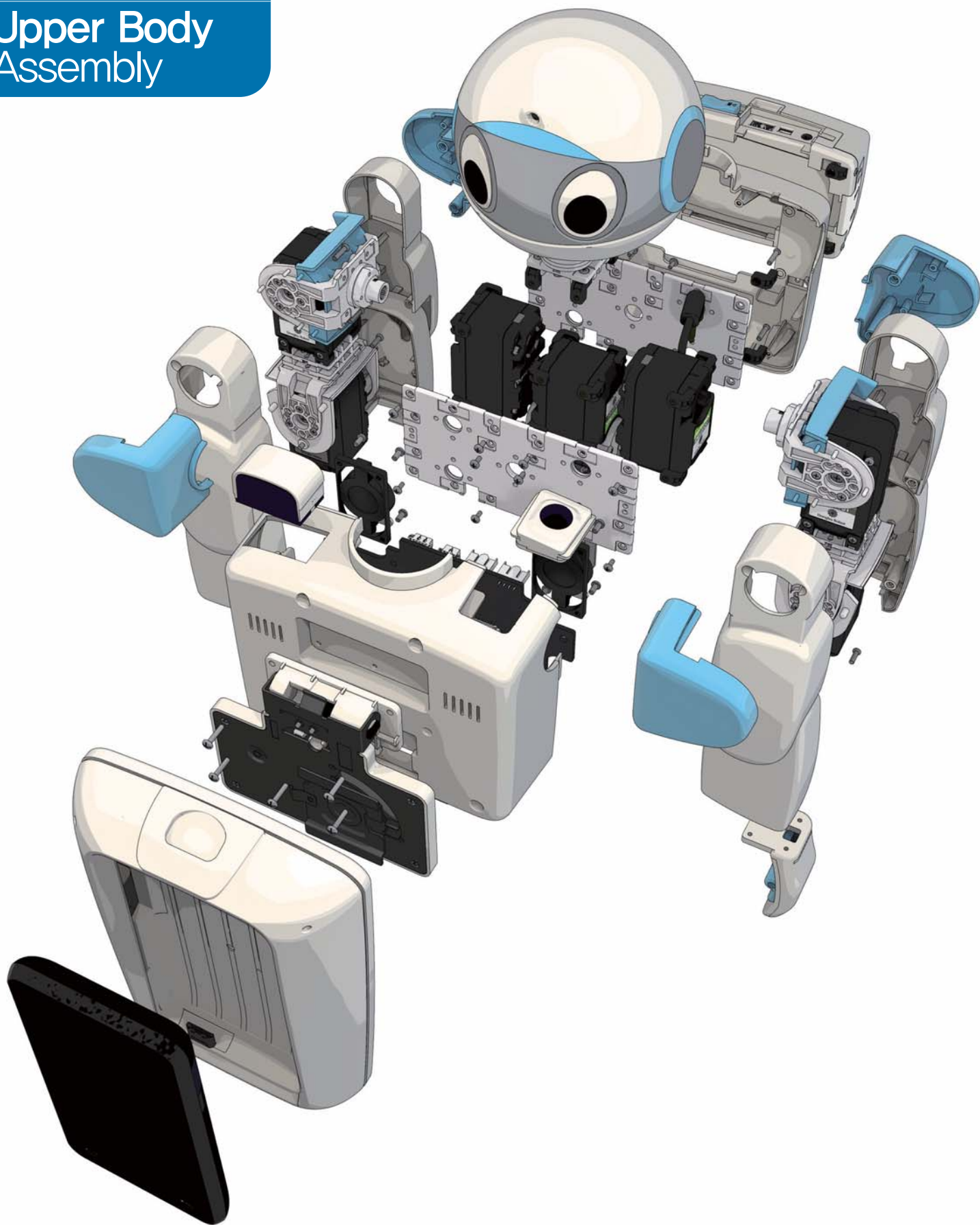
Left Arm



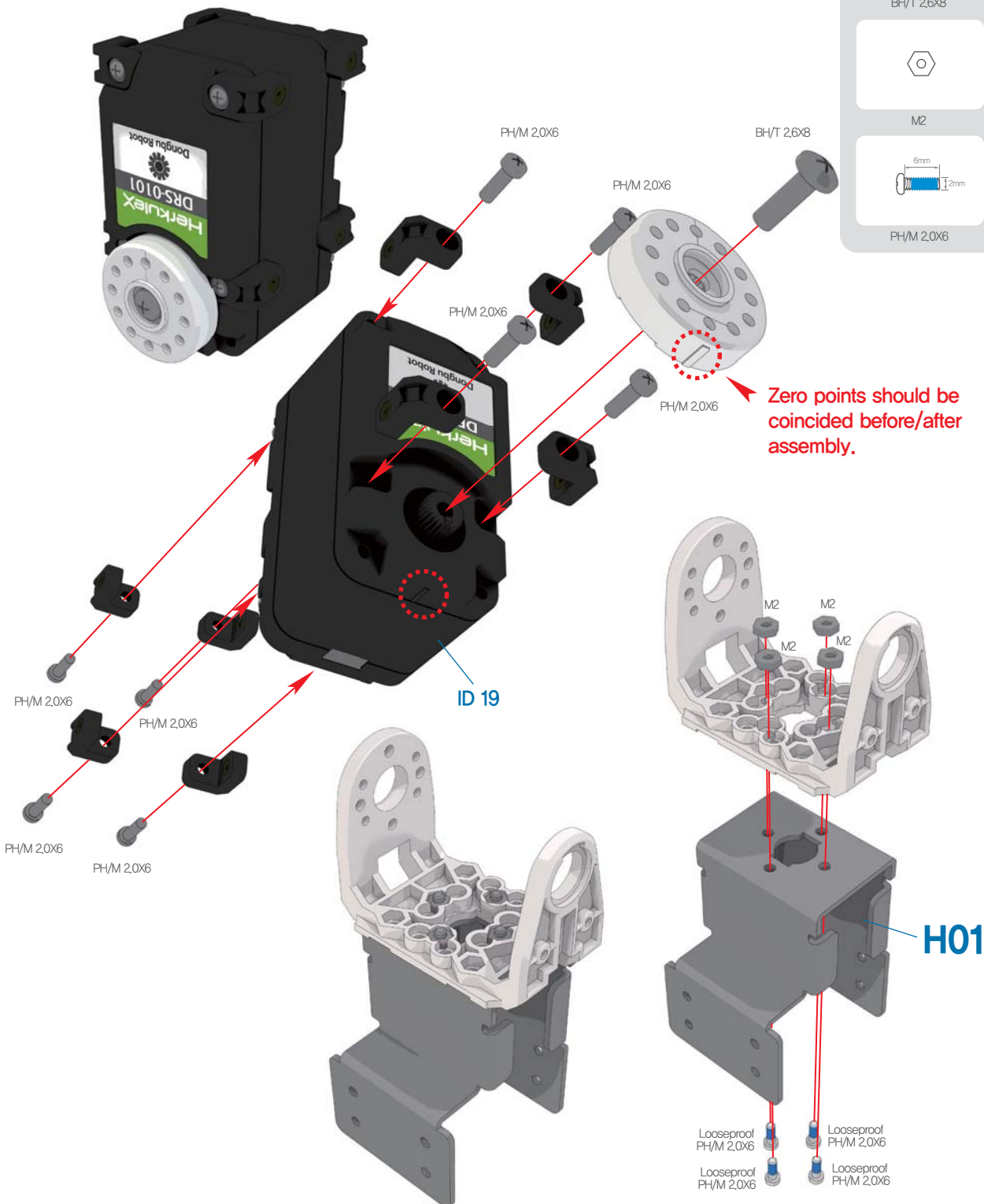
Right Arm

HOVIS Genie

Upper Body
Assembly



- 1 Use 8 **DRA-0058**(Bolt PH/M 2.0X6) to attach 8 **DRJ-0001**(L-type Joint Single Nut) to the servo ID 19 as shown in the diagram.
- 2 Use **DRA-0067**(BH/T 2.6X8) to attach horn to the servo. Check the zero point alignment before/after horn installation. (Refer to page 23, Item 2 for detailed information).
- 3 Insert 4 **DRA-0051**(M2 Nut) into the nut home in **DRB-0009**(U2-type Bracket(W)) as shown in the diagram.
- 4 Use 4 **DRA-0075**(Looseproof Bolt PH/M 2.0X6) to attach **DRB-0009**(U2-type Bracket(W)) to the **H01**(Support Middle Bracket).



1:1 SCALE



Required Parts

- DRS-0101** HerkuleX Servo **1ea**
- DRA-0058** Bolt (PH/M 2.0X6) **8ea**
- DRA-0067** Bolt (BH/T 2.6X8) **1ea**
- DRA-0051** Nut (M2) **4ea**
- DRA-0075** Looseproof Bolt (PH/M 2.0X6) **4ea**
- DRH-1001** Horn (Plastic) **1ea**
- DRJ-0001** L-type Joint (Single Nut) **8ea**
- DRB-0009** U2-type Bracket(W) **1ea**

Required Parts



DRA-0003
Harness (100mm) 1ea



DRA-0004
Harness (130mm) 1ea



DRJ-0011
Bushing Set 1ea

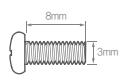


DRA-0062
Bolt (PH/M 3.0X8) 1ea

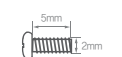


DRA-0064
Bolt (PH/T 2.0X5) 3ea

1:1 SCALE



PH/M 3.0X8

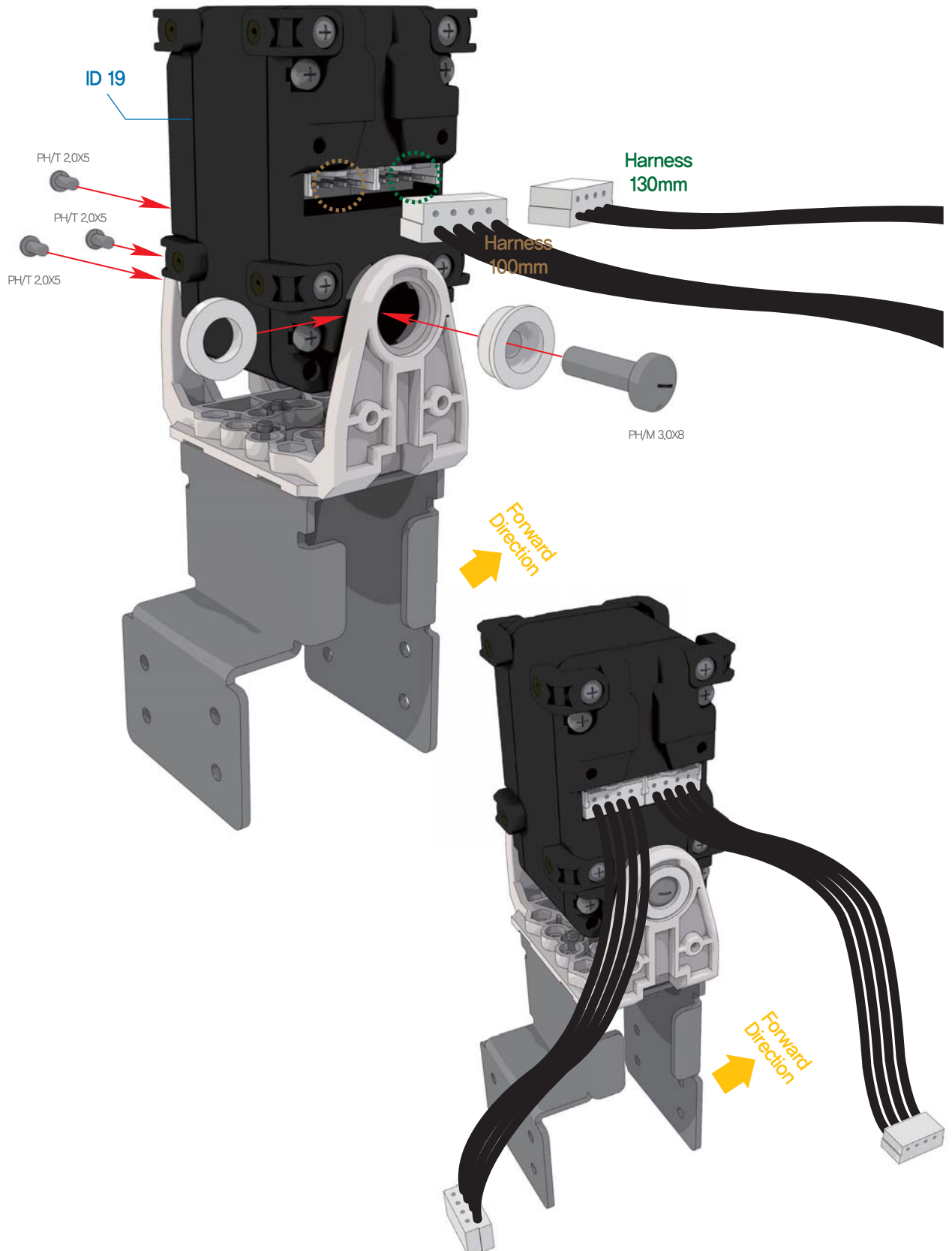


PH/T 2.0X5

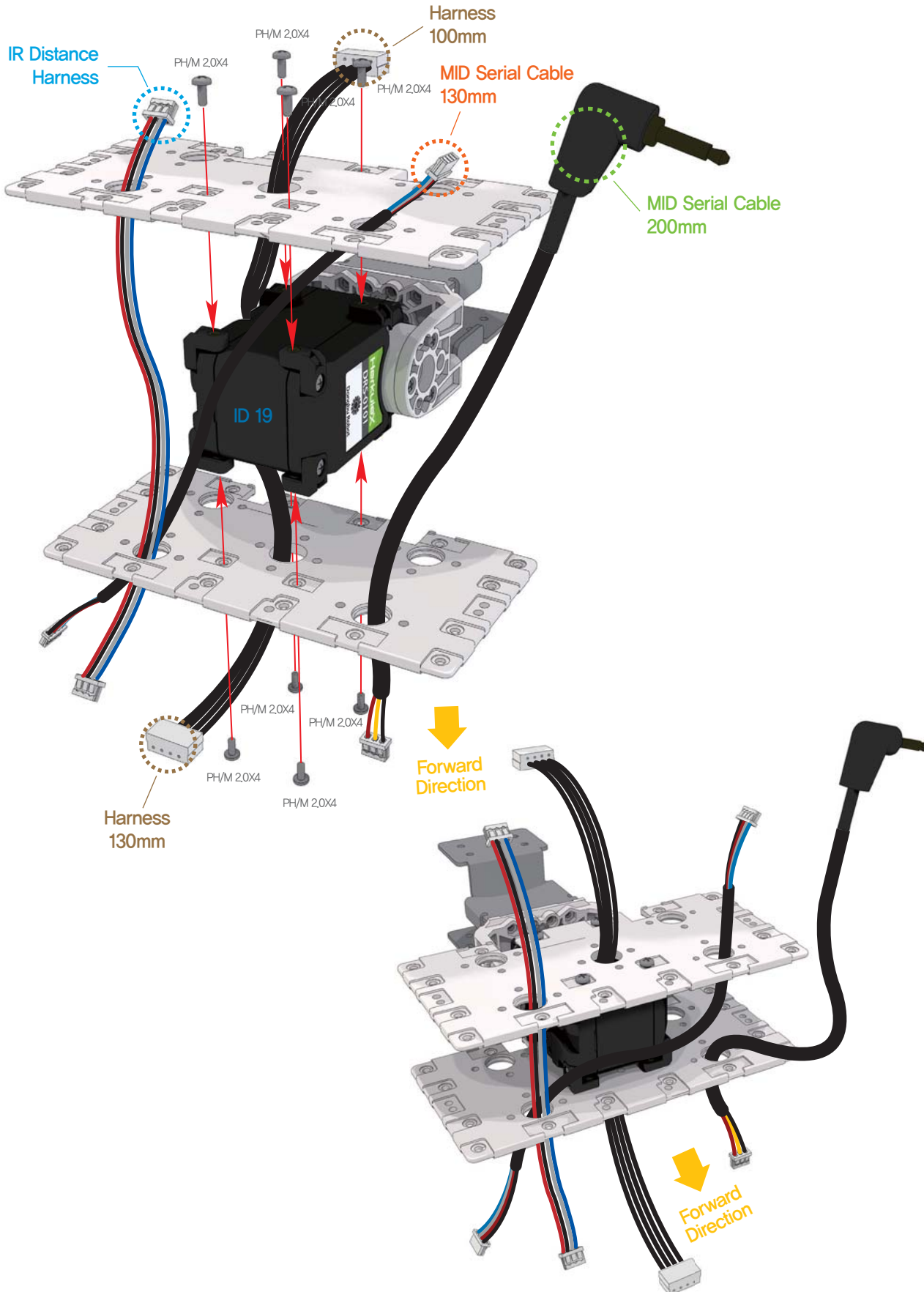
1 Insert and attach servo ID 19 to the DRB-0009(U2-type Bracket(W)) using DRJ-0011(Bushing Set), DRA-0062(Bolt PH/M 3.0X8), and 3 DRA-0064(Bolt PH/T 2.0X5).

2 Connect DRA-0003(Harness 100mm) and DRA-0004(Harness 130mm) to the servo.

※ Pay attent to the dierction when attaching servo ID 19 to the DRB-0009(U2-type Bracket(W)).



- 1 Insert the harness cables into to the appropriate holes in the plate.
- 2 Use 8 DRA-0056(Bolt PH/M 2.0X4) to attach DRB-0001(Front/Back(W)) to the servo ID 19.



Required Parts



DRB-0001 Front/Back(W) 2ea



DRA-0056 Bolt (PH/M 2.0X4) 8ea



DRA-0024 IR Distance Harness 1ea

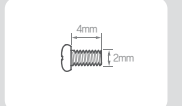


DRA-0025 MID Serial Cable (130mm) 1ea



DRA-0026 MID Serial Cable (200mm) 1ea

1:1 SCALE



PH/M 2.0X4

Required Parts



DRT-HWW1
Head Module **1ea**



DRI-0004
IR Receiver(W) **1ea**

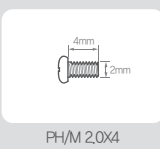


DRA-0027
IR Receiver
Harness 3pin (150mm) **1ea**

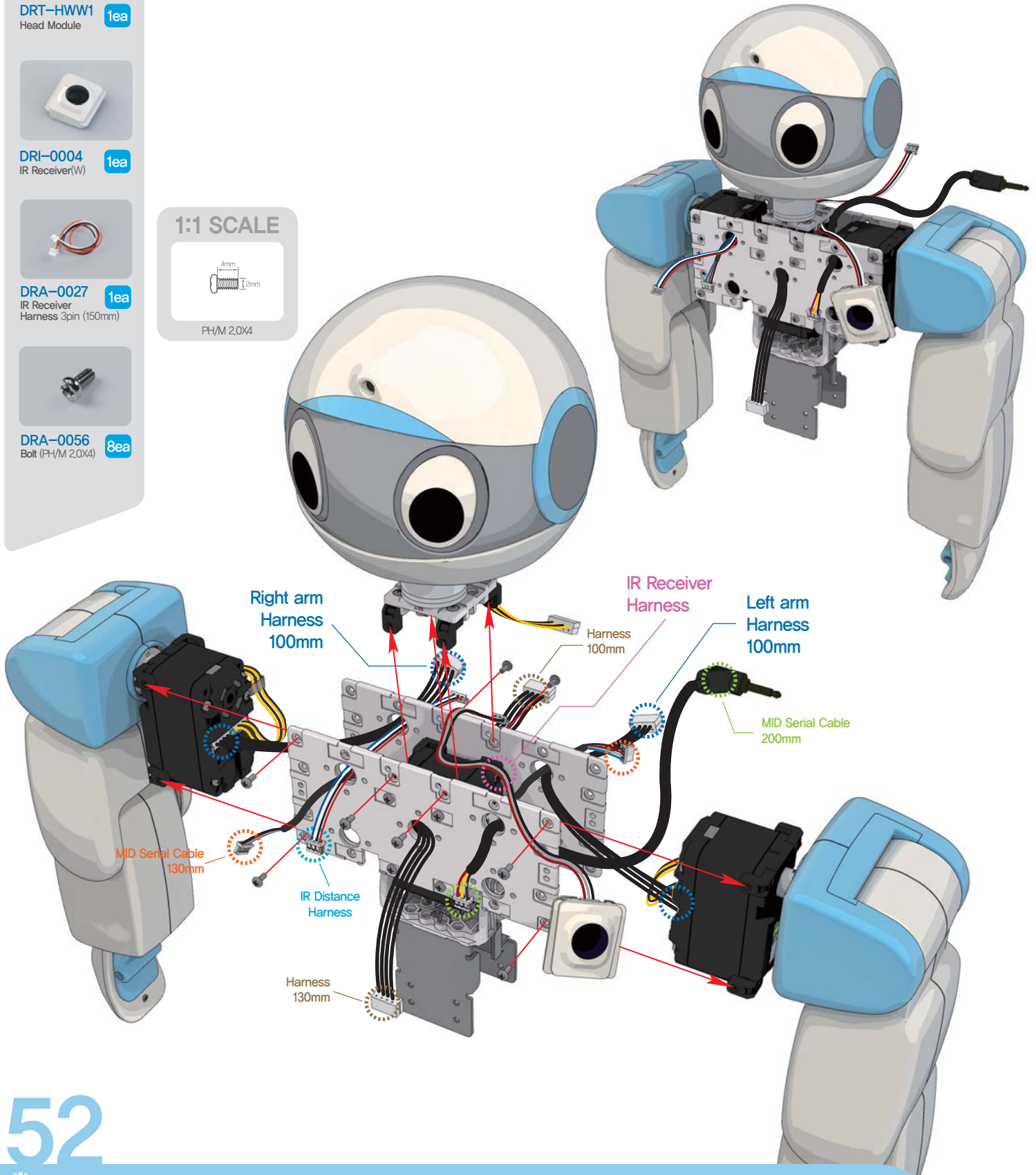


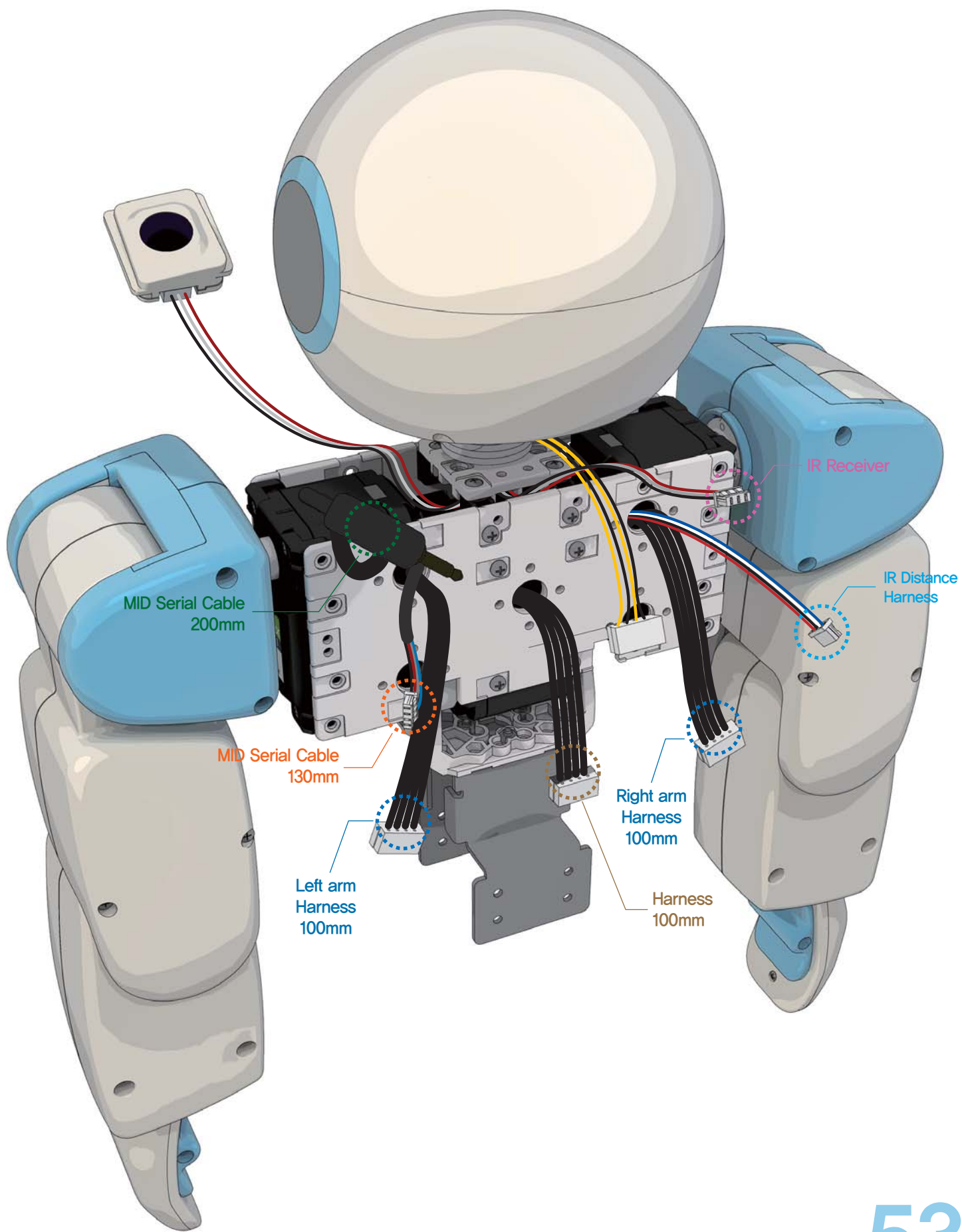
DRA-0056
Bolt (PH/M 2.0X4) **8ea**

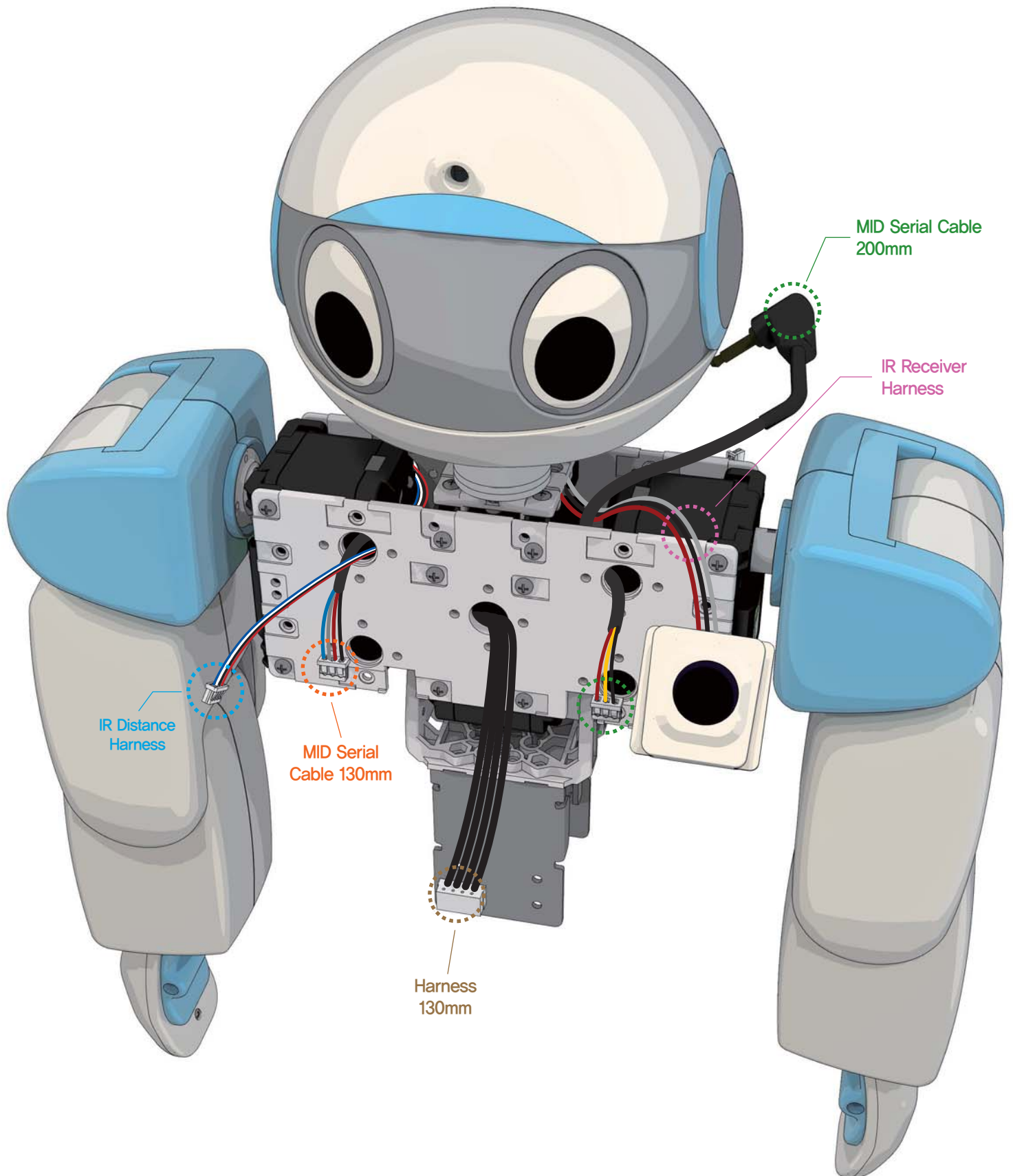
1:1 SCALE



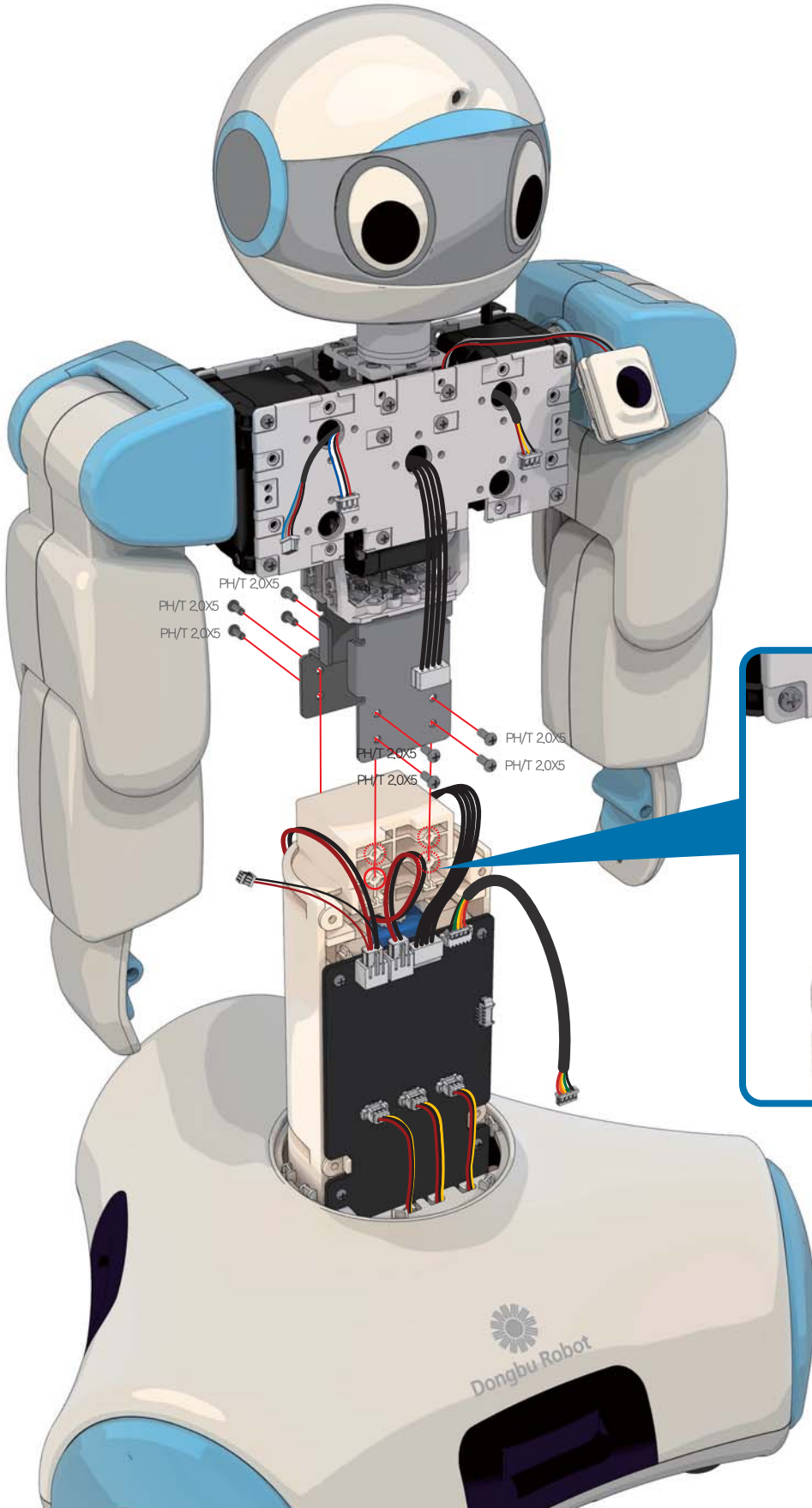
- 1** Attach Left / Right arms and insert the harness cables into the appropriate holes in the plate.
- 2** Do not put **DRA-0027**(IR Receiver Harness 150mm 3pin) into the hole of plate and just place it on the upper side of plate as shown in picture below.
- 3** Attach the **DRT-HWW1**(Head Module) and pull the **DRA-0027**(IR Receiver Harness 150mm 3pin) towards the back of the head. Refer to next page regarding the IR receiver cable.








1 Use 8 **DRA-0064**(Bolt PH/T 2.0X5) to attach upper body section to the lower body.

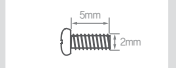


Required Parts

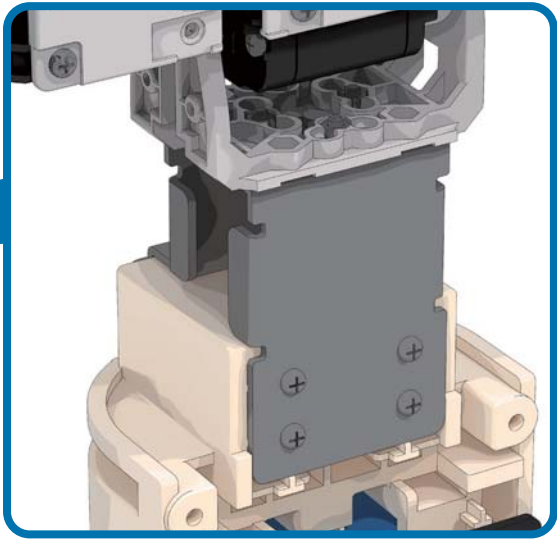


DRA-0064
Bolt (PH/T 2.0X5) **8ea**

1:1 SCALE



PH/T 2.0X5



PH/T 2.0X5
PH/T 2.0X5
PH/T 2.0X5
PH/T 2.0X5
PH/T 2.0X5
PH/T 2.0X5

- 1 Use 8 **DRA-0063**(Bolt CH/T 2.0X4) to attach **H03**(Speaker) to the **H04**(Chest Cover).
- 2 Attach **DRI-0011**(IR Distance Sensor) to the **H04**(Chest Cover).
- 3 Use 4 **DRA-0064**(Bolt PH/T 2.0X5) to attach **H02**(MID Side PCB) to the **H04**(Chest Cover).

Required Parts



DRA-0063
Bolt (CH/T 2.0X4) **8ea**

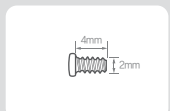


DRA-0064
Bolt (PH/T 2.0X5) **4ea**

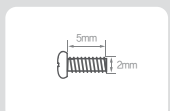


DRI-0011
IR Distance Sensor **1ea**

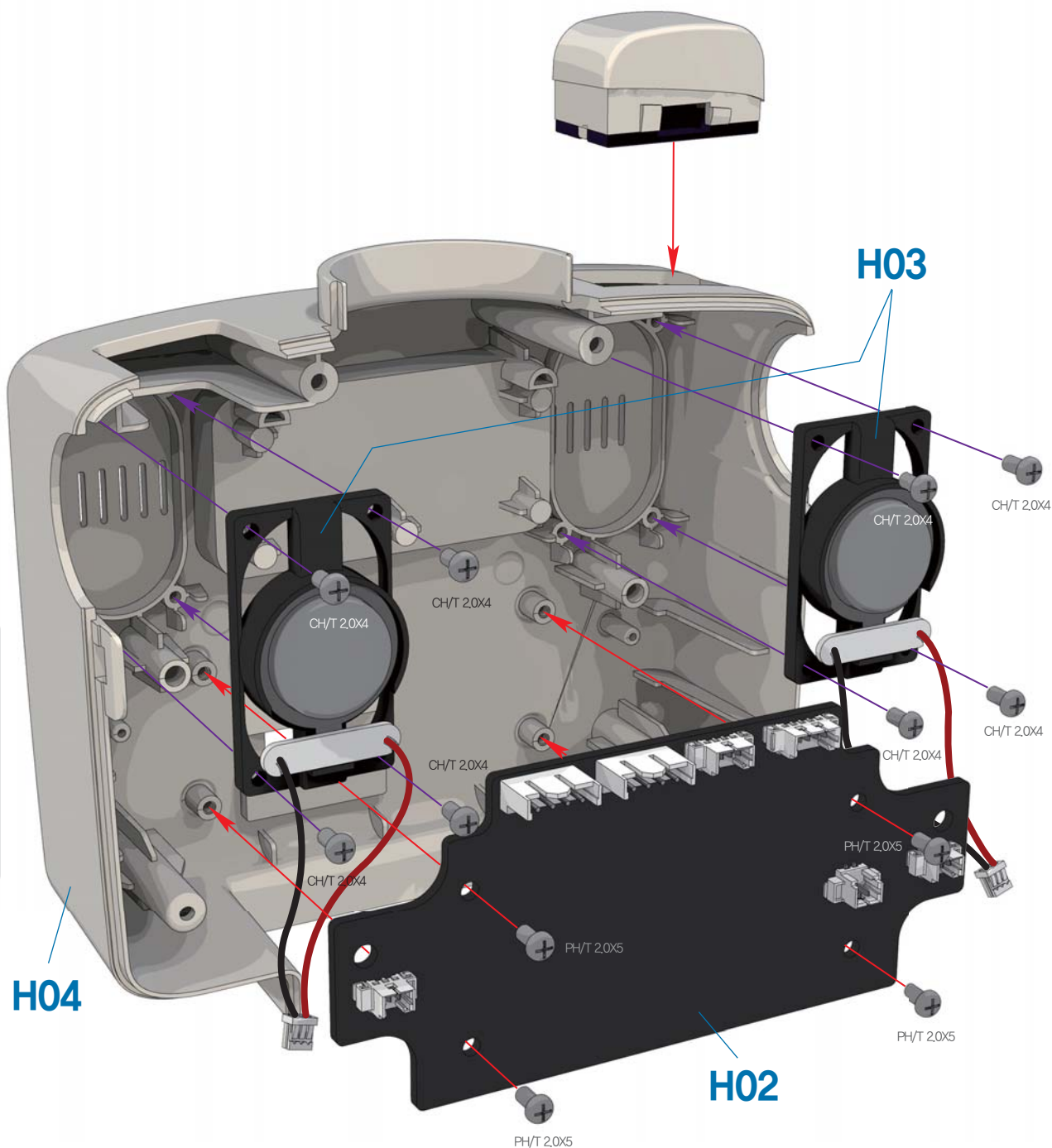
1:1 SCALE



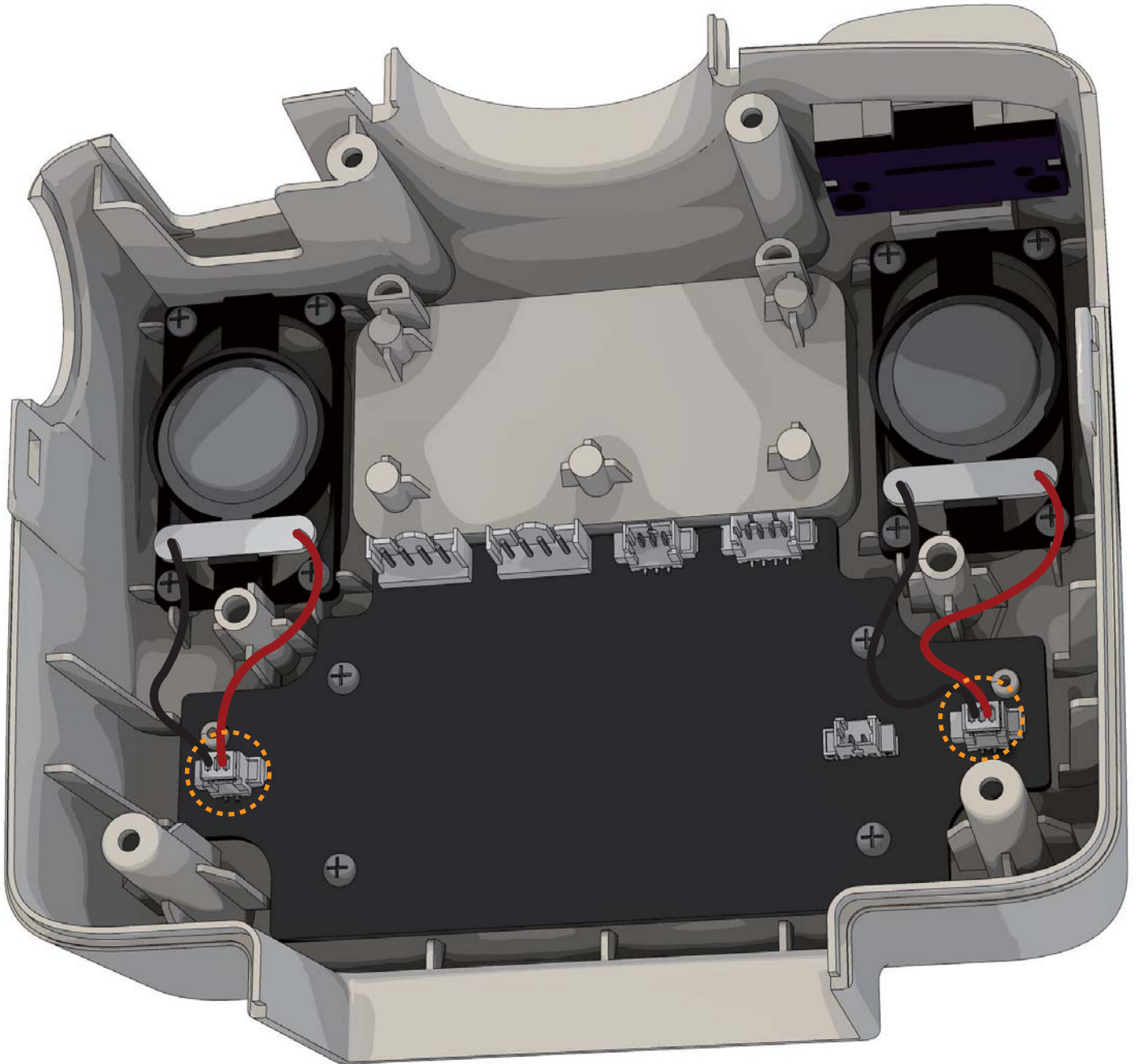
CH/T 2.0X4



PH/T 2.0X5



- 1 Connect speaker harness cables to the PCB as shown in the diagram.



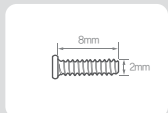
- 1 Use 5 DRA-0065(Bolt PH/T 2.0X8) to attach H06(Tilting Module) to the H04(Chest Cover).

Required Parts

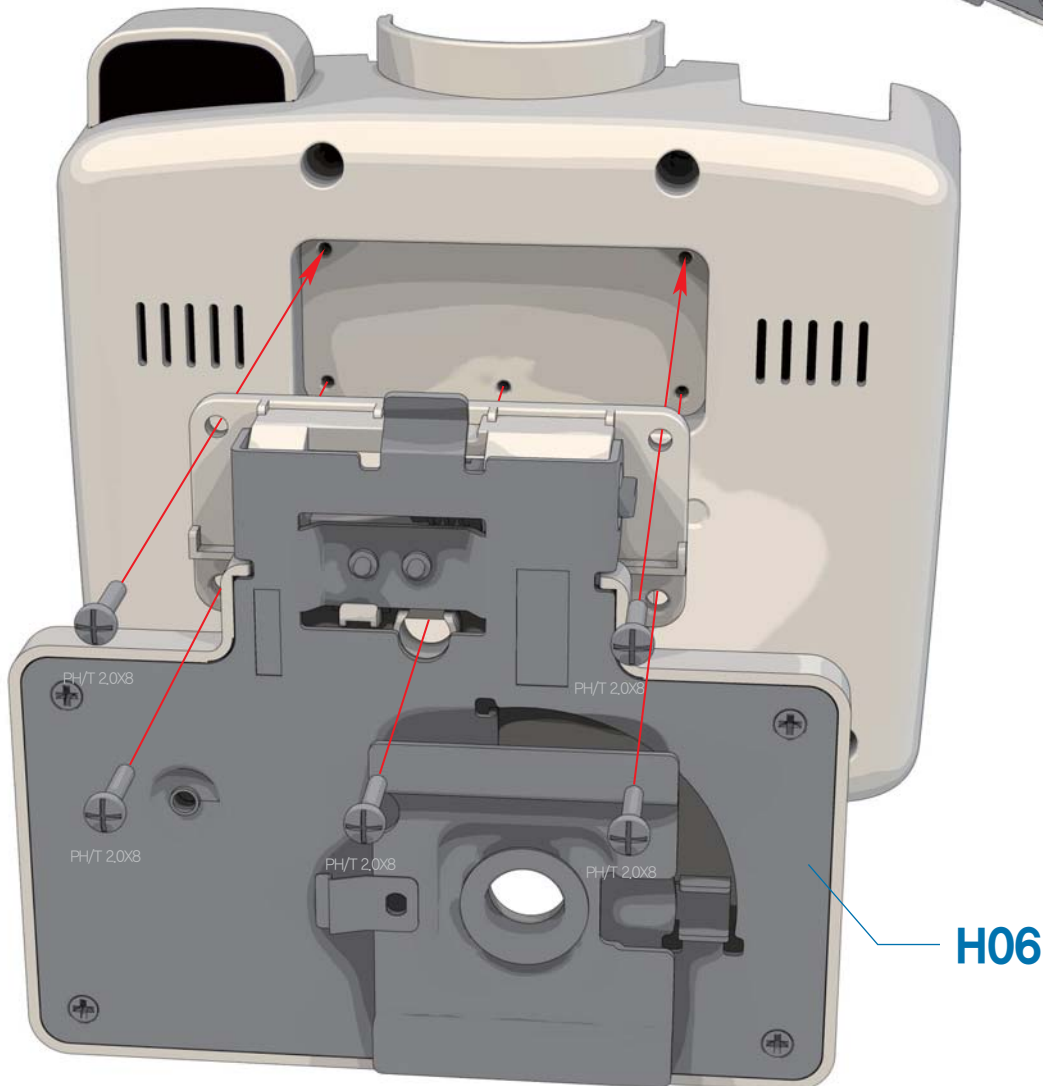
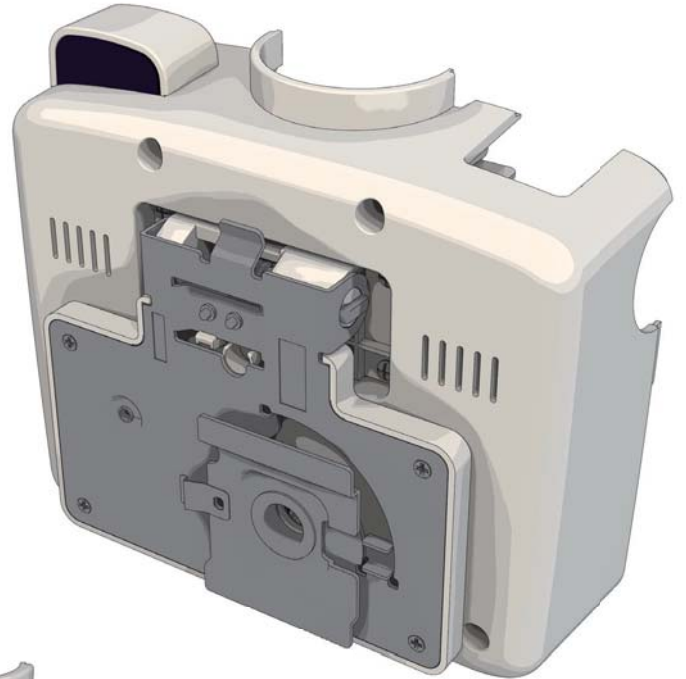


DRA-0065
Bolt (PH/T 2.0X8) 5ea

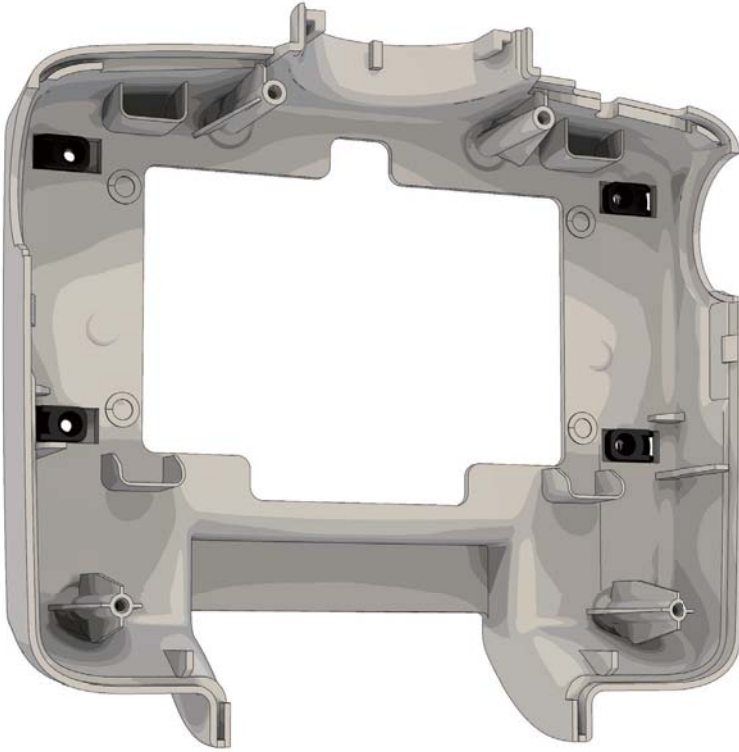
1:1 SCALE



PH/T 2.0X8



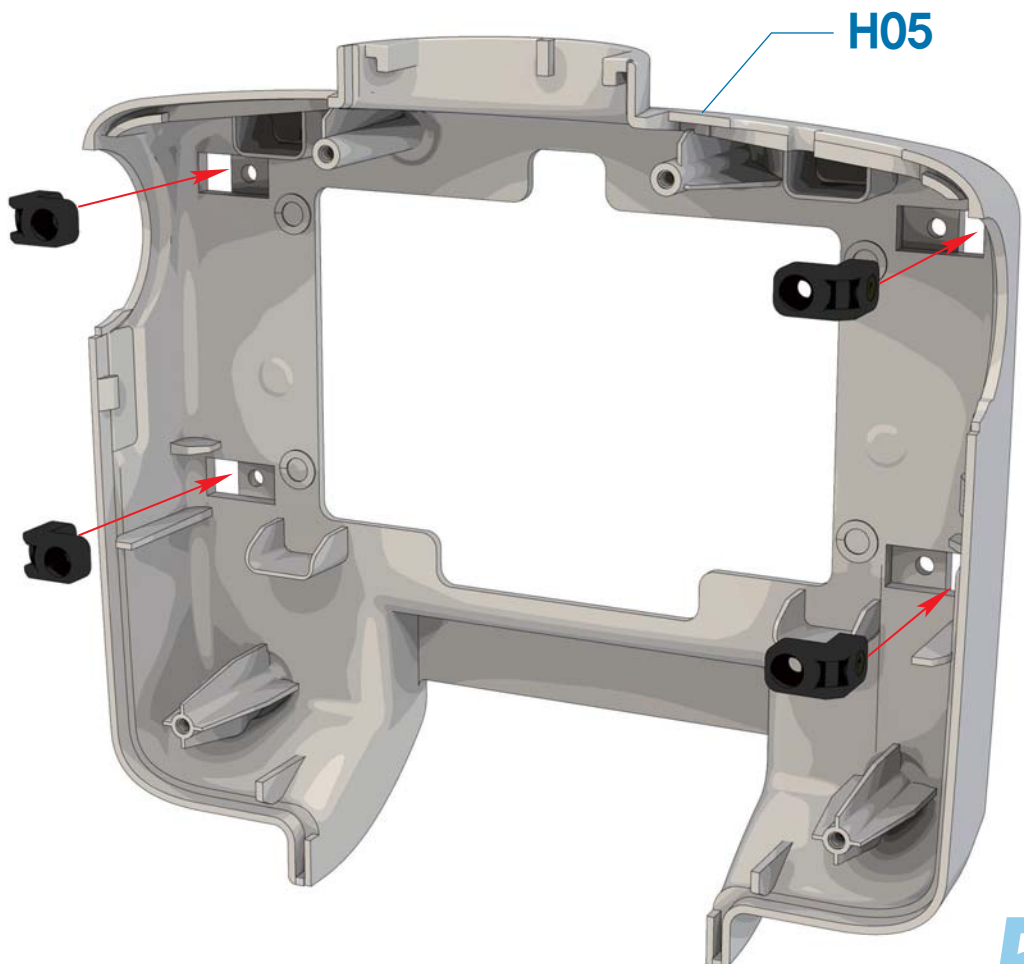
- 1 Attach 4 DRJ-0001(L-type Joint Single Nut) to the H05(Back Cover).



Required Parts



DRJ-0001
L-type Joint
(Single Nut) **4ea**



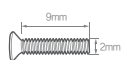
- 1 Use 4 DRA-0066(Bolt FH/M 2.0X10) to attach H06(Back Cover) to the robot.

Required Parts

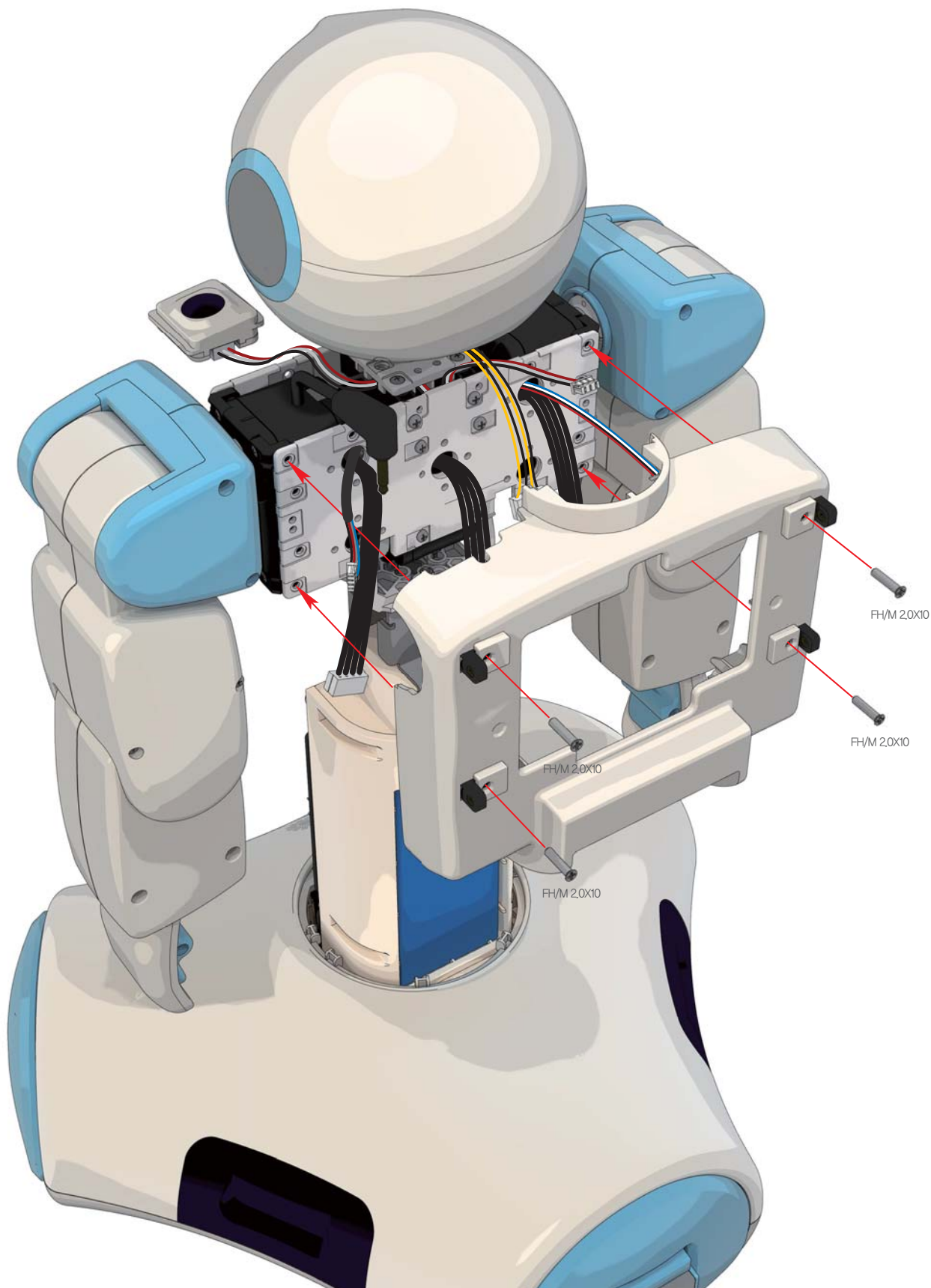


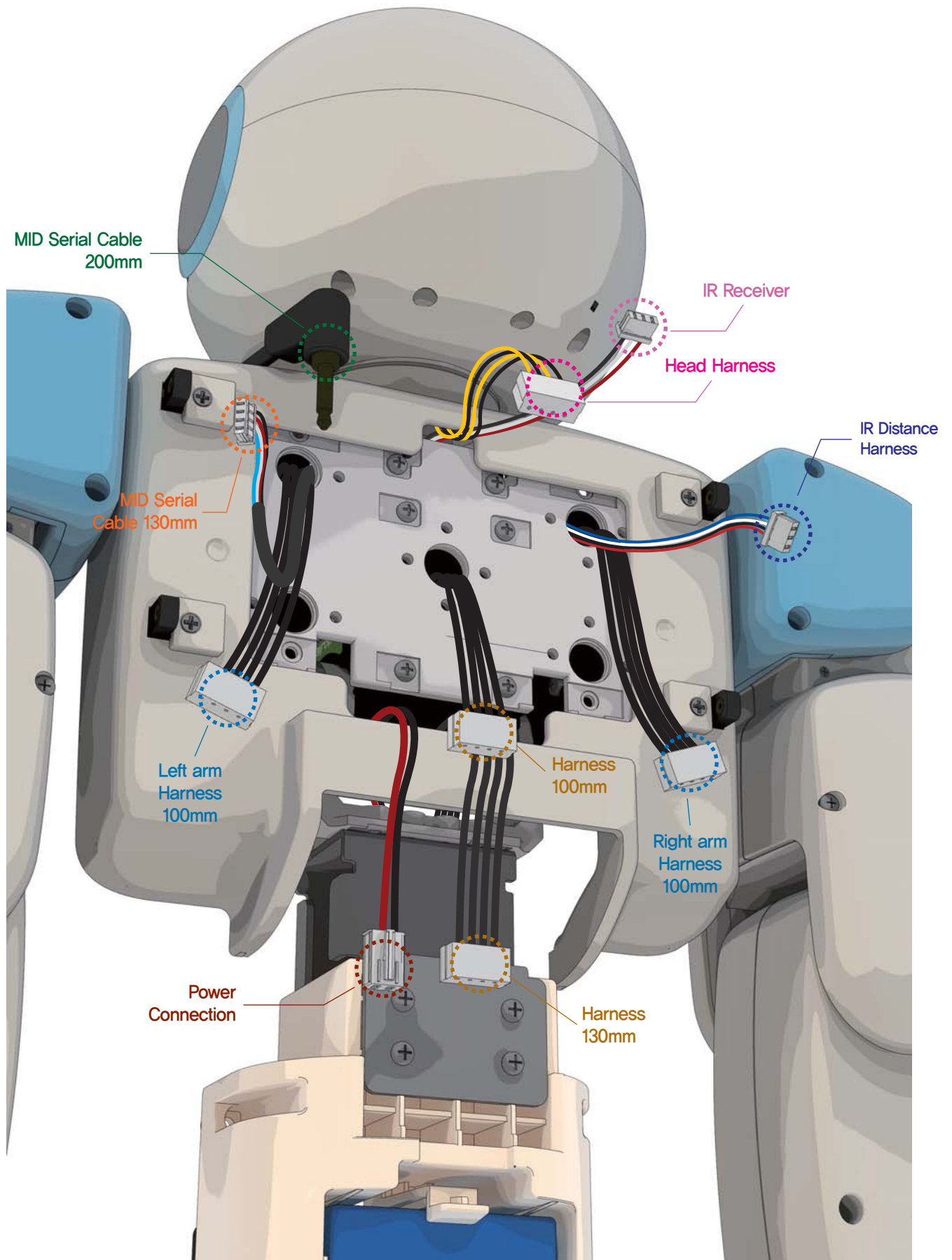
DRA-0066
Bolt (FH/M 2.0X10) 4ea

1:1 SCALE



FH/M 2.0X10





MID Serial Cable 200mm

IR Receiver

Head Harness

IR Distance Harness

MID Serial Cable 130mm

Left arm Harness 100mm

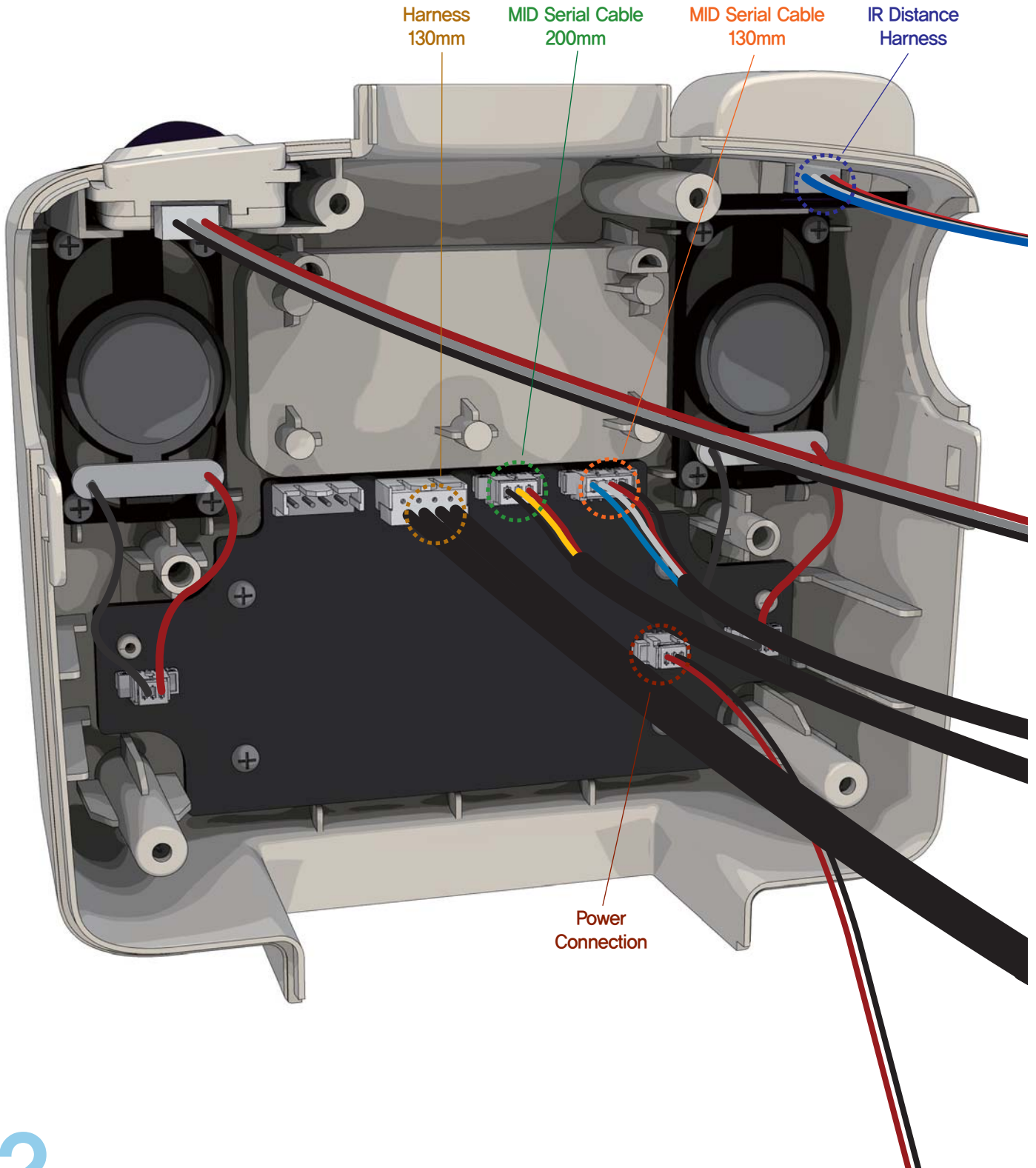
Harness 100mm

Right arm Harness 100mm

Power Connection

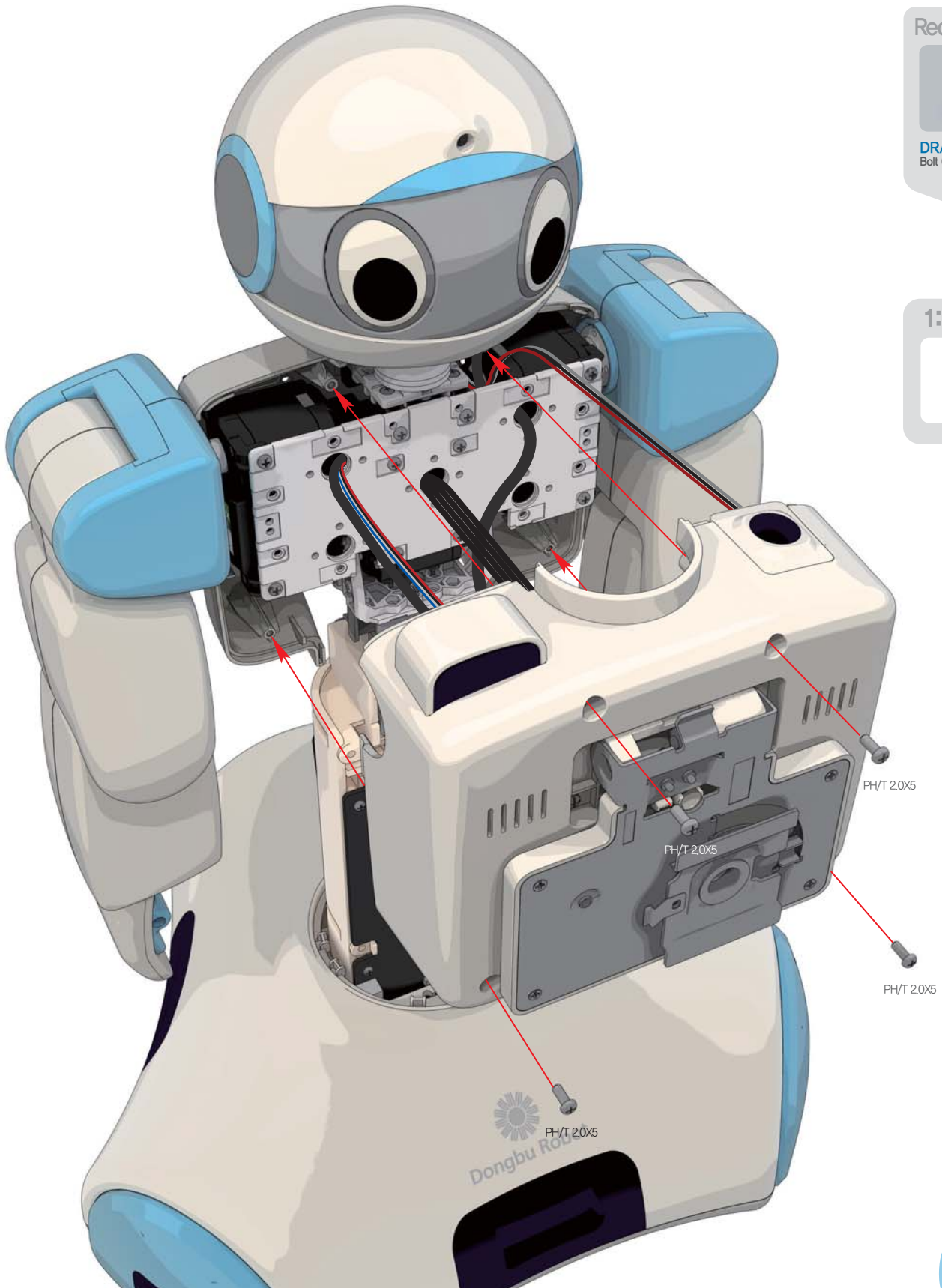
Harness 130mm

- 1 Prior to attaching the chest cover to the body, connect the remaining harness cables to the PCB as shown in the diagram.



1 Use 4 **DRA-0064**(Bolt PH/T 2.0X5) to attach the chest cover to the body.

※ Be careful not to get the harness cable wrapped around the shoulder horn get caught between the cases during assembly.

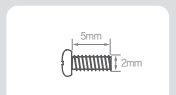


Required Parts



DRA-0064
Bolt (PH/T 2.0X5) **4ea**

1:1 SCALE



PH/T 2.0X5

- 1 Use 4 **DRA-0058**(Bolt PH/M 2.0X6) attach the controller to the back.
- 2 Pull the harness cables towards the back of the controller as much as possible so that cables can be neatly arranged after installing the controller.

Required Parts

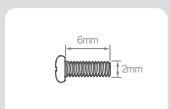


DRA-0058
Bolt (PH/M 2.0X6) **4ea**

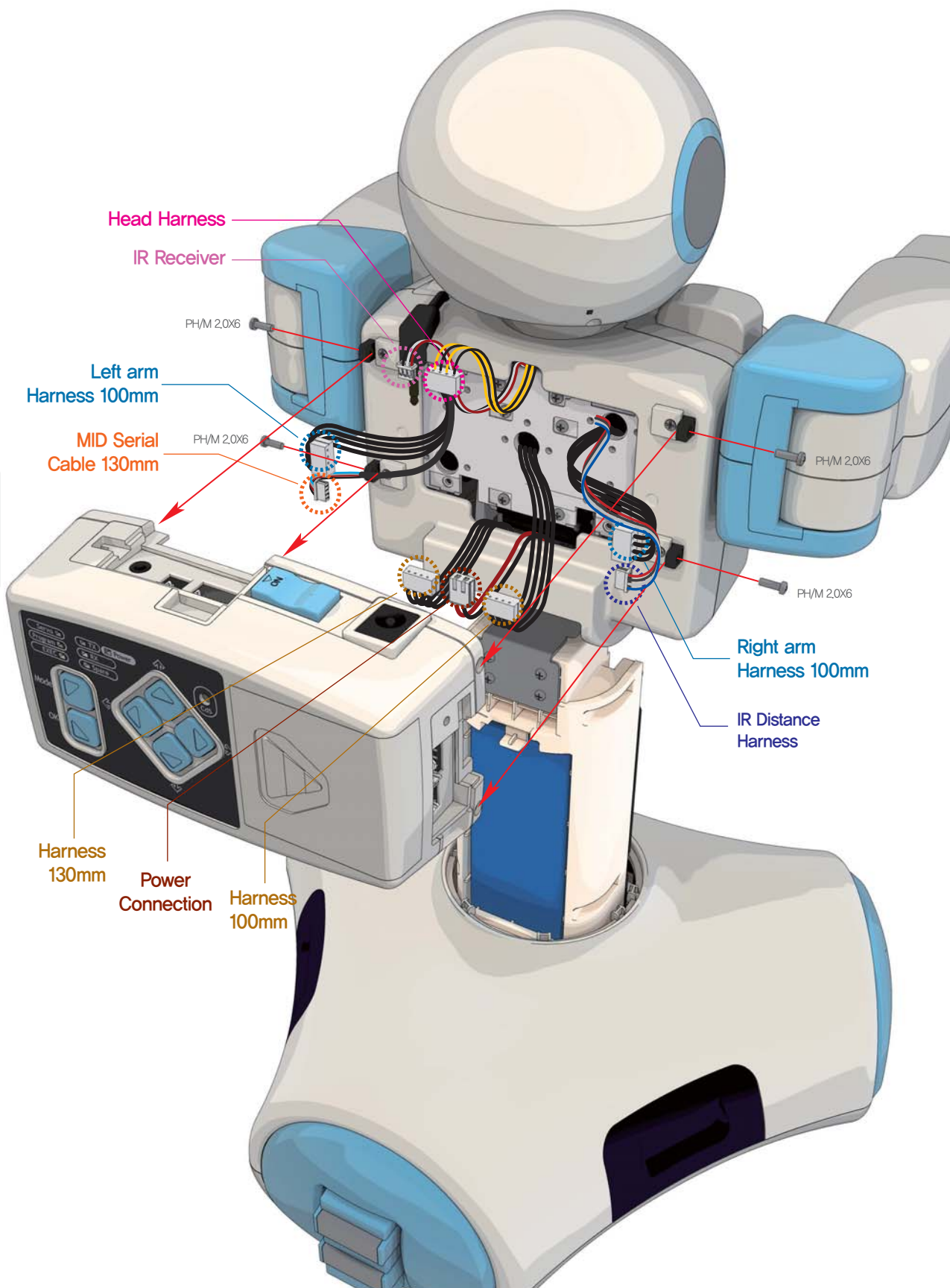


DRC-005T
Controller(W) **1ea**

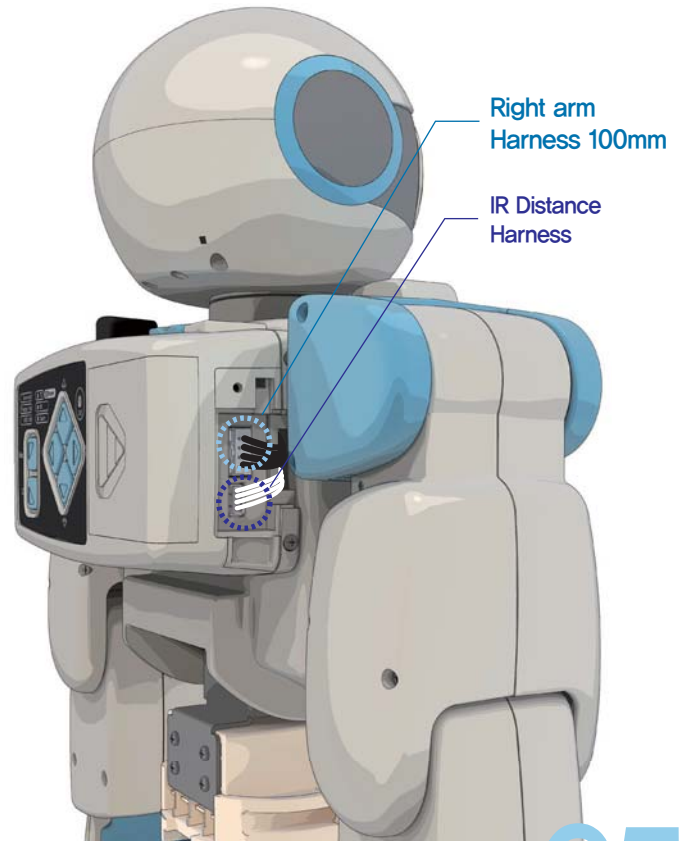
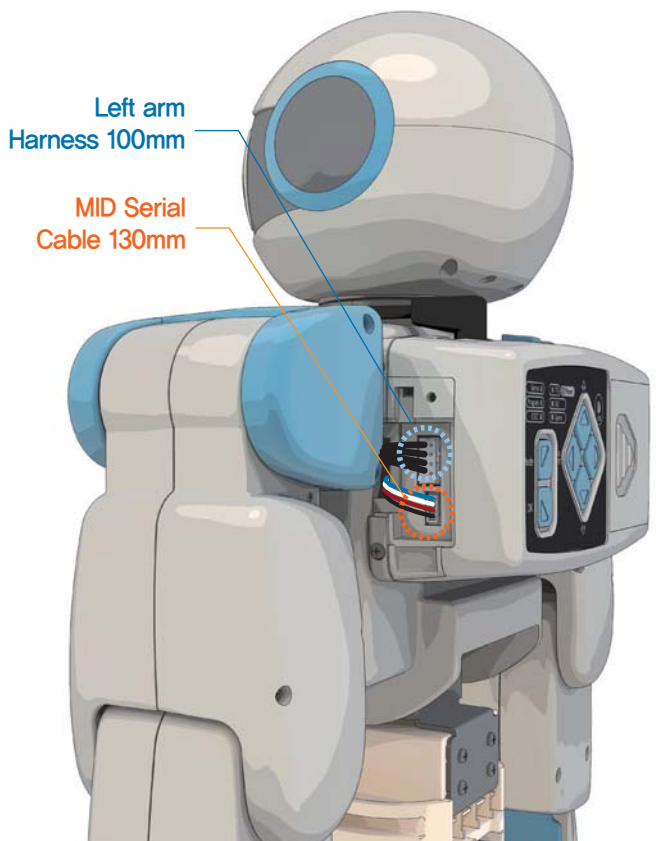
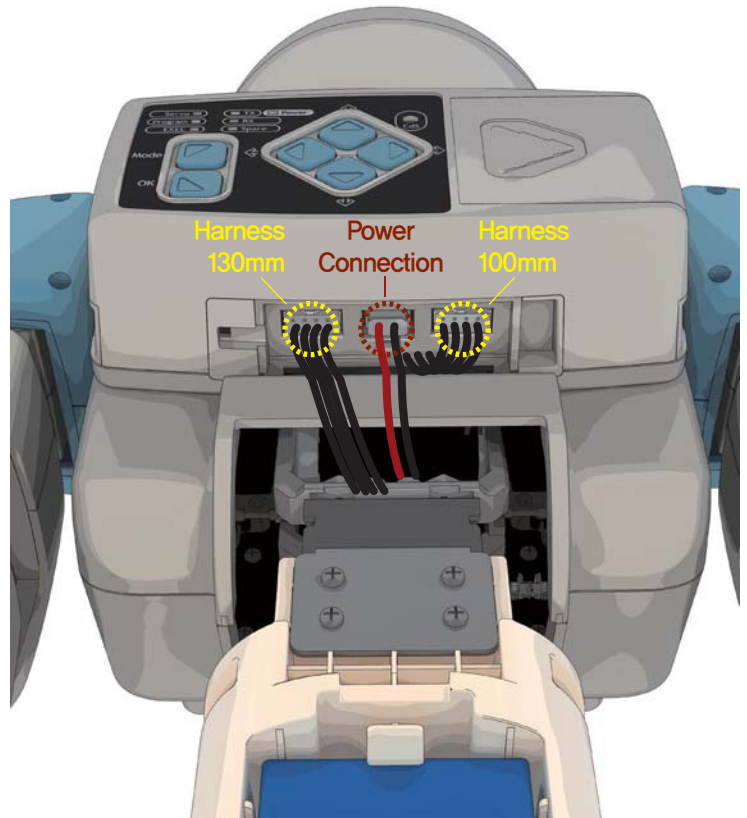
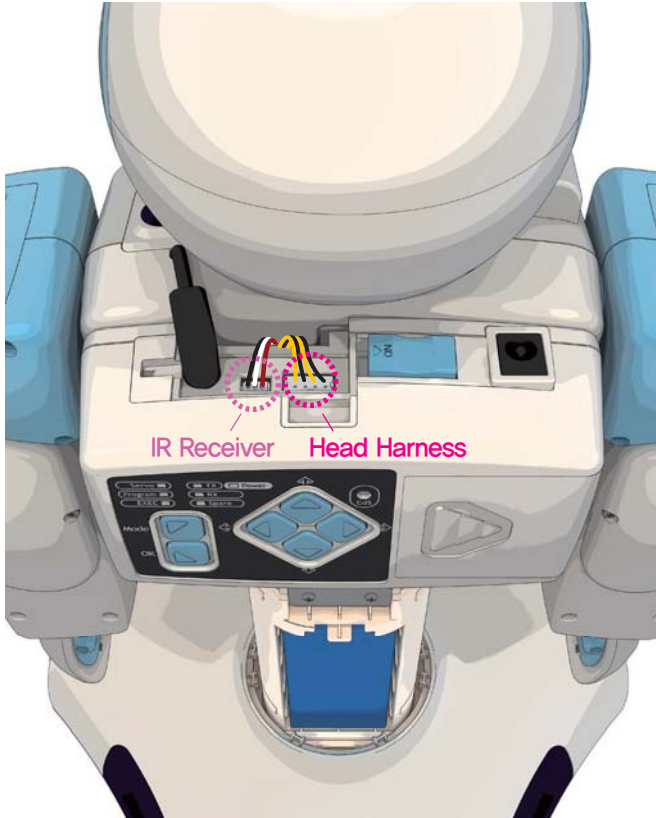
1:1 SCALE



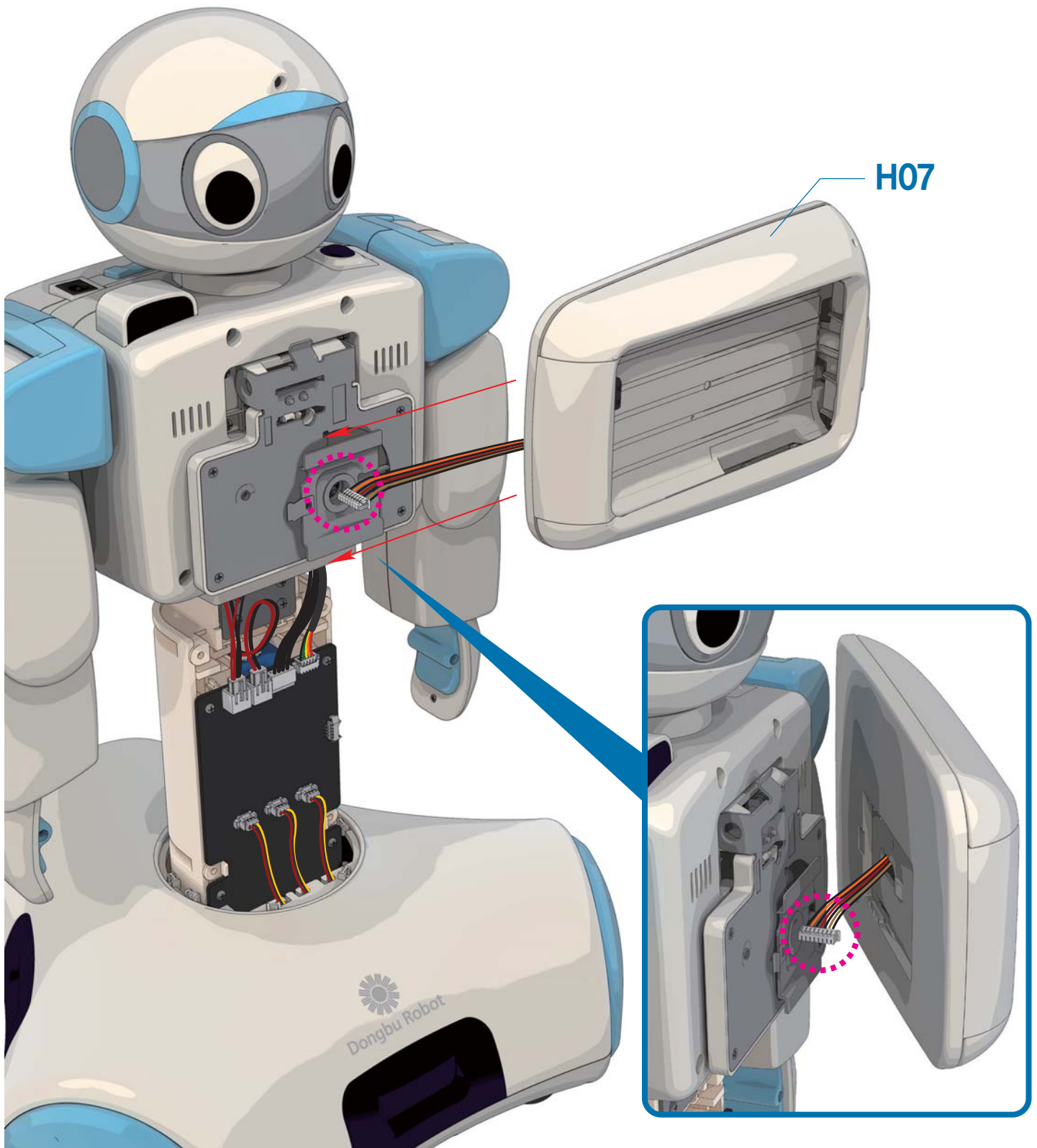
PH/M 2.0X6



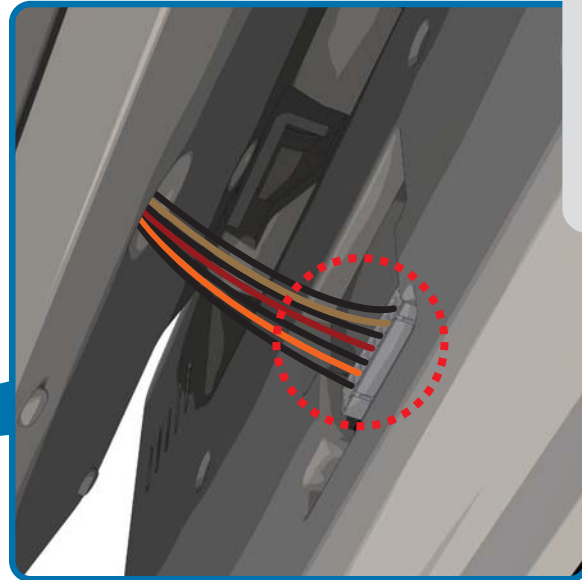
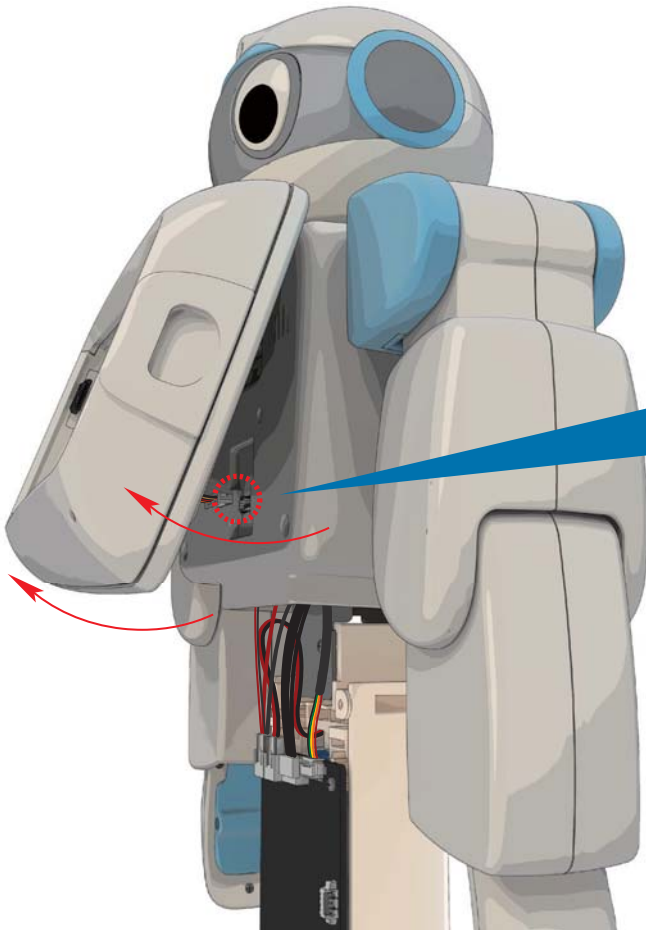
1 Connect the harness cables to the controller as shown in the diagram.



- 1 Insert the H07(MID Case) harness cable into the hole in the H06(Tilting Module).
- 2 To attach MID case to the tilting module, slide and insert H07(MID Case) horizontally over the H06(Tilting Module).



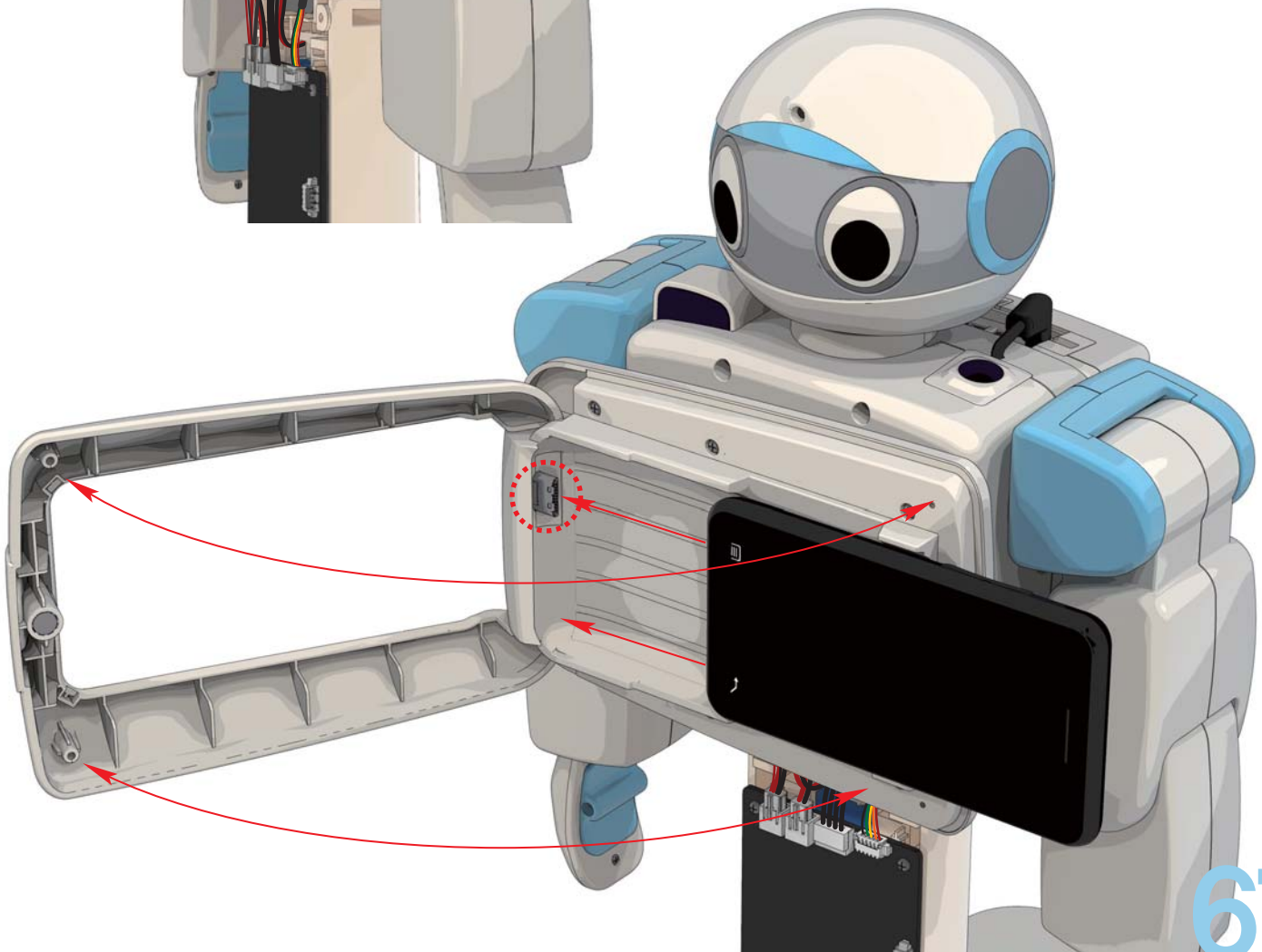
- 1 Lift up the H07(Tilting Module) as much as possible and connect the MID harness cable to the terminal on the chest cover.
- 2 Open the MID Case and slide in the DRM-G354(MID) until it connects to the MID connector.



Required Parts



DRM-G354 1ea
MID
(Mobile Internet Device)



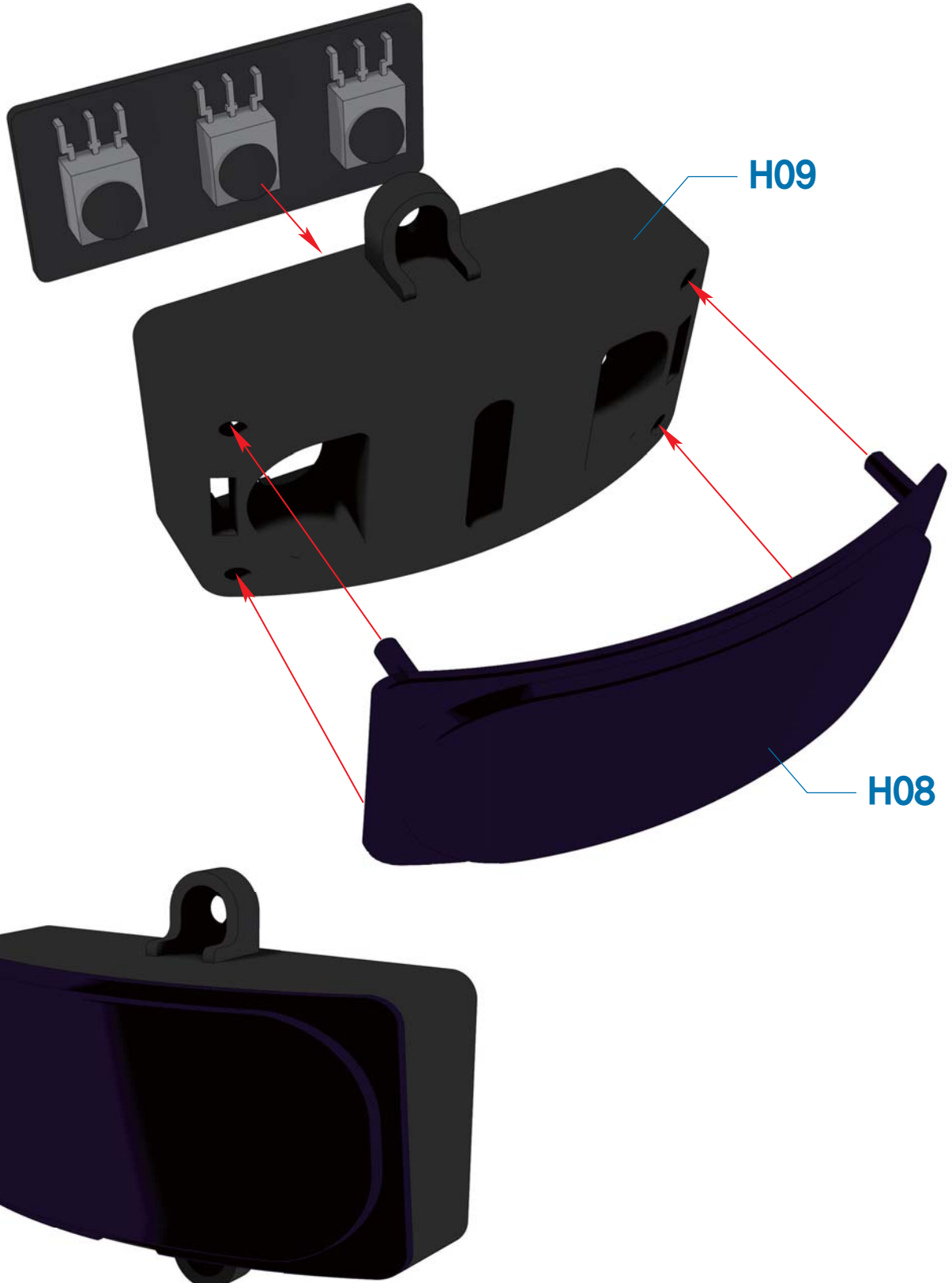
- 1 Attach H08(IR Receiver Window) to the H09(IR Receiver Holder).
- 2 Attach DRI-0013(IR Receiver PCB) to the H09(IR Receiver Holder).

※ Pay attention to the direction of the sensor while installing DRI-0013(IR Receiver PCB).

Required Parts

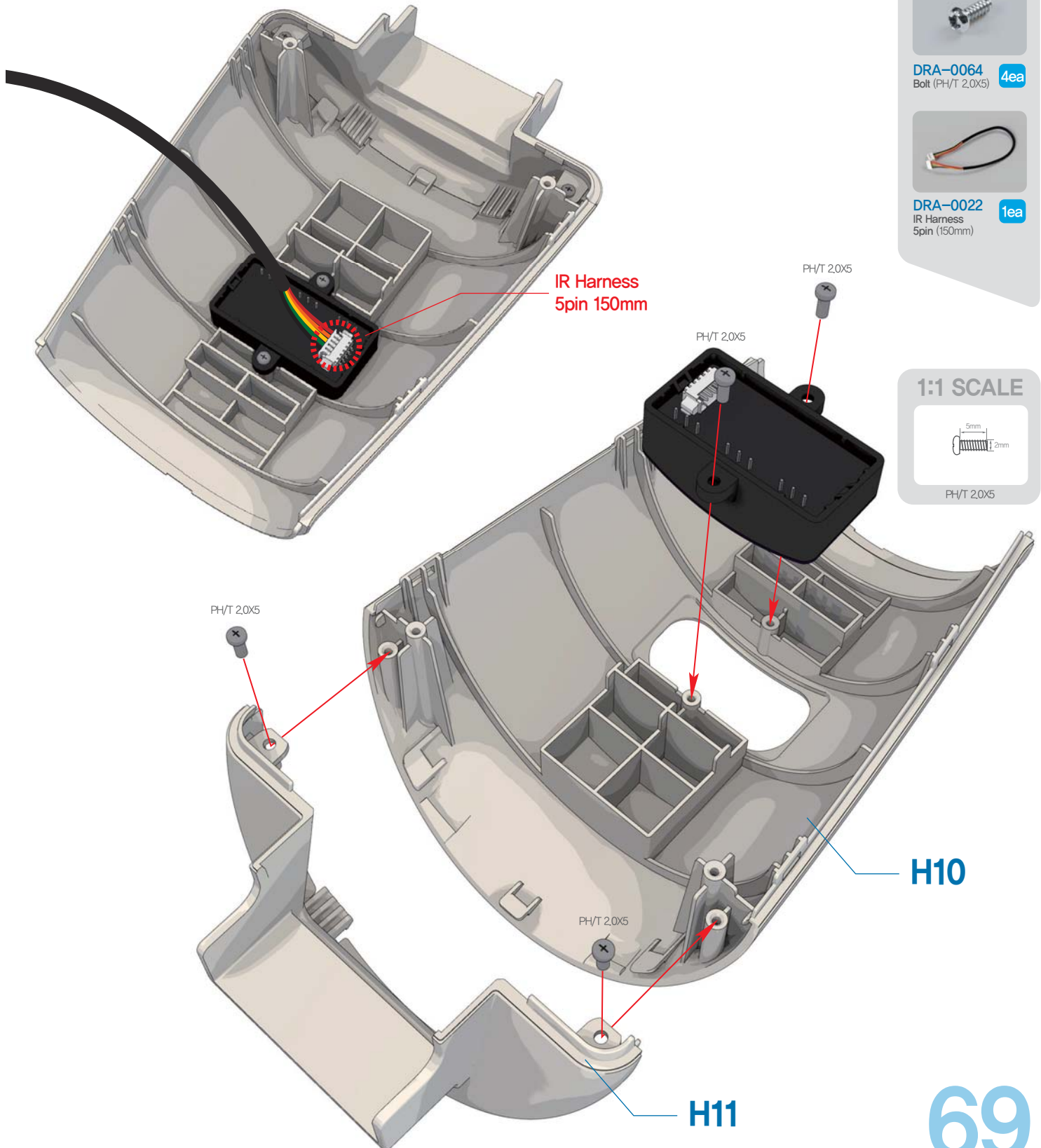


DRI-0013
IR Receiver PCB 1ea



- 1 Use 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach **H11**(Carrier Bottom Cover Sub) to the **H10**(Carrier Bottom Cover).
- 2 Use 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach IR Receiver to the **H10/H11** assembly.
- 3 Connect **DRA-0022**(IR Harness 150mm 5pin) to the IR Receiver.

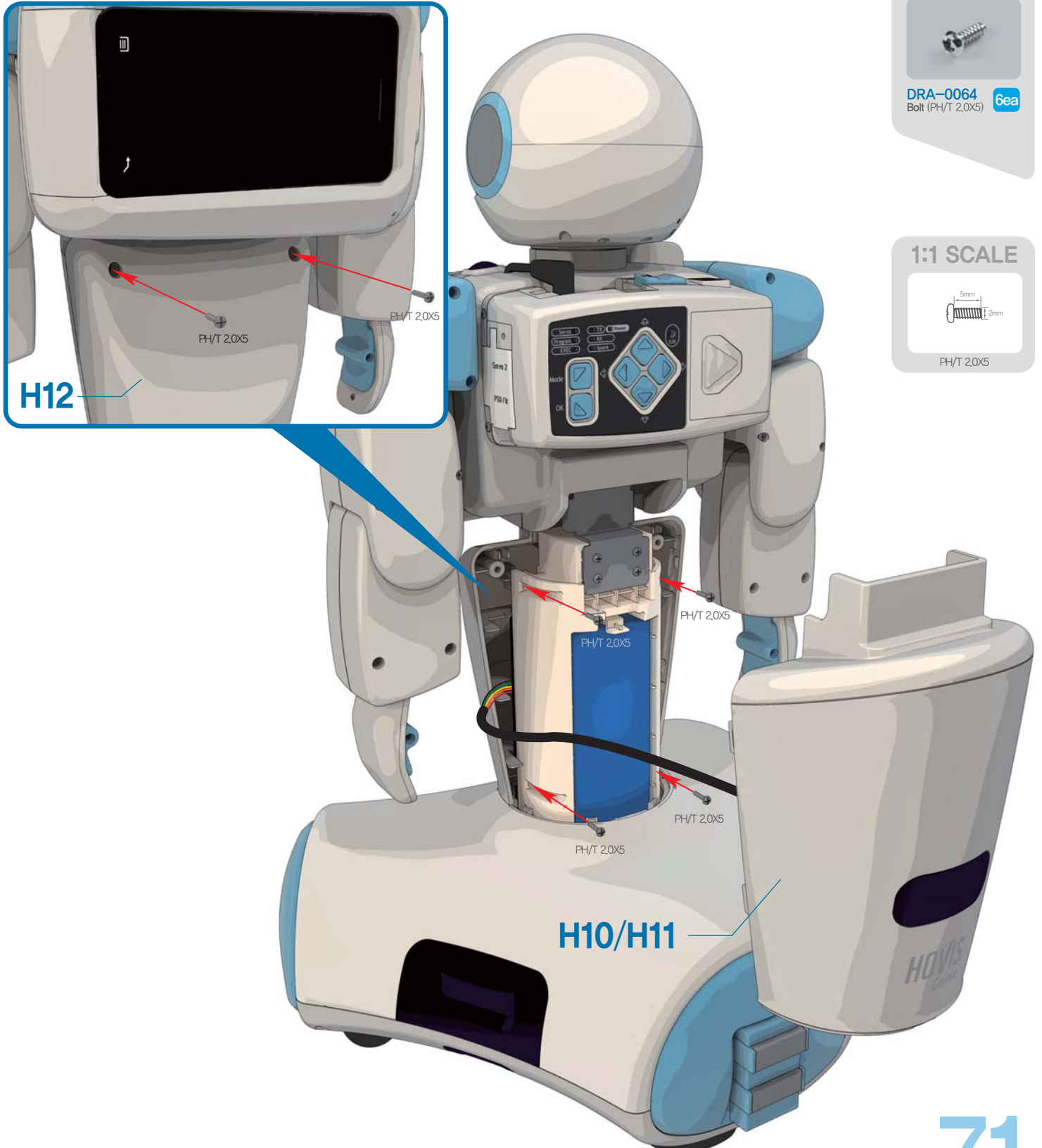
※ Prevent external shock to the sensor during assembly.



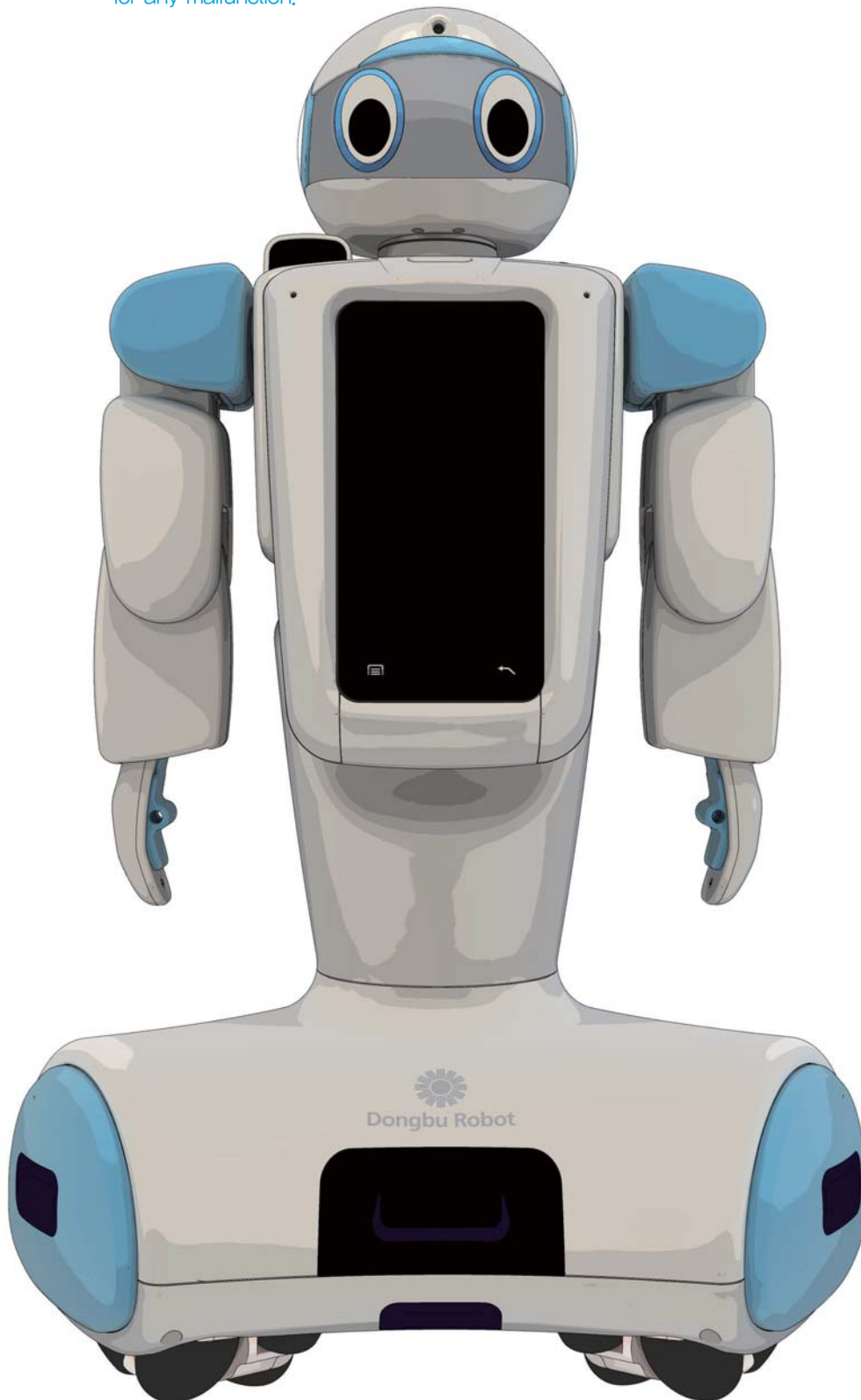
- 1 Connect **DRA-0022**(IR Harness 150mm 5pin) from the IR Receiver to the **G07**(OPUS Board) as shown in the diagram.
- 2 Attach **H12**(Carrier front Cover). Continue to next page.

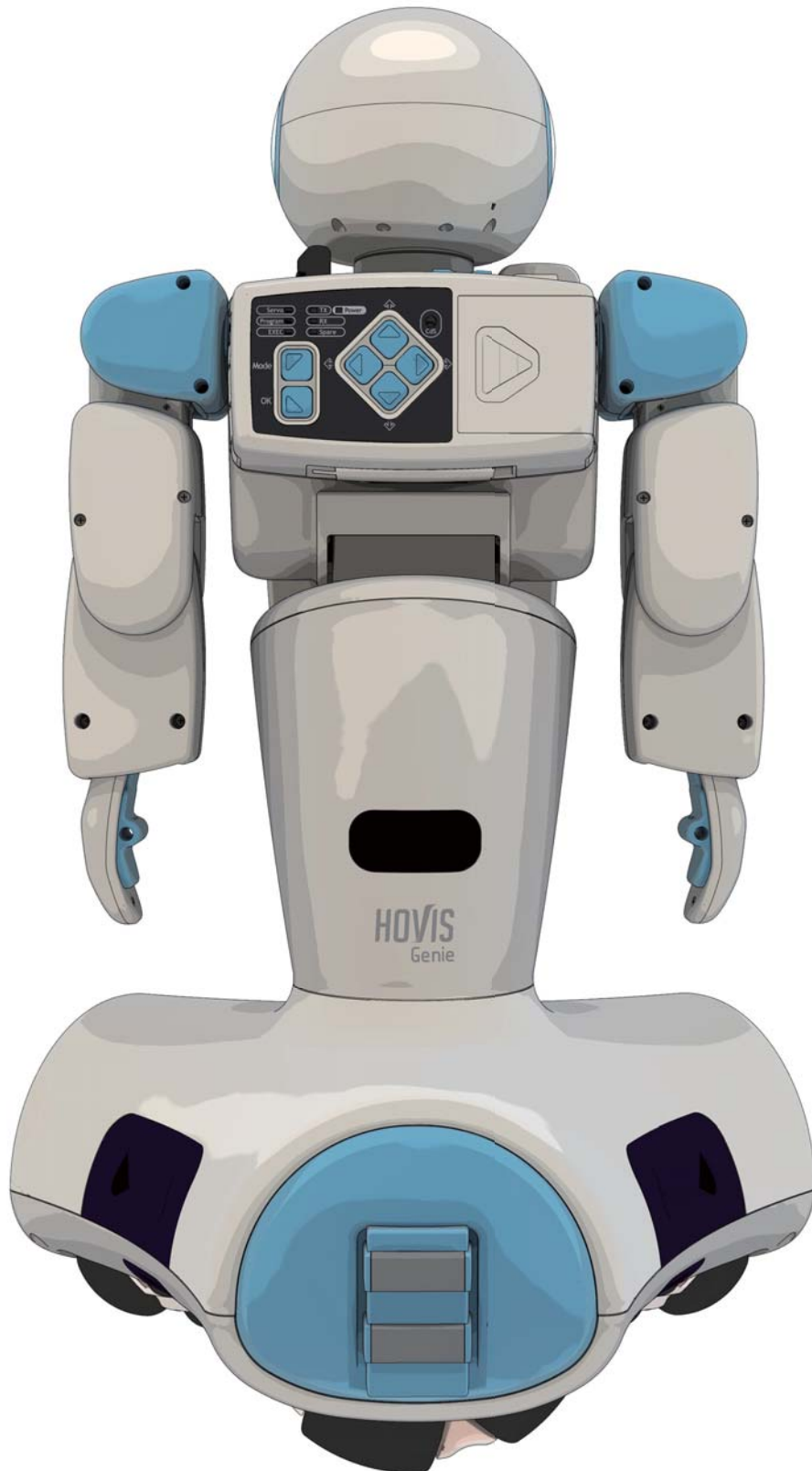


- 1 Use 4 **DRA-0064**(Bolt PH/T 2.0X5) to attach **H12**(Carrier Front Cover) to the Carrier Post.
- 2 Use 2 **DRA-0064**(Bolt PH/T 2.0X5) to attach **H10/H11** assembly to the **H12**(Carrier Front Cover).
- 3 After completing the assembly, rotate the MID to portrait position.



- 1 After completing the assembly, run self-test to check the robot functions.
- 2 Rotate MID to portrait position and turn ON the controller power switch.
- 3 Refer to the “Self-Test (Kit type)” section in the Hovis Genie User’s Guide to check the robot for any malfunction.





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Quick Manual

1. Software & Manual Download

Download "Task Editor Program / Motion Editor Program / User Guide Manual / Assembly Manual / Register Manual" from the link below.

- www.hovis.co.kr/guide
- www.dongburobot.com > Customer Support > For Service > Archives
- www.dongburobot.com > Quick Menu > For Service > Archives

2. Assemble the robot following instructions in the assembly manual.

3. Test the robot after assembly referring to "Self Test" section on user guide manual of HOVIS Genie to check assembly has been done properly.

4. Install DR-SIM (Motion Editor), DR-Visual Logic (Task Editor) in the PC.



HOVIS Genie

The HOVIS Genie is an ultimate robot among HOVIS brothers as it has been designed to provide true home service for our daily life. Featured with MID (Mobile Internet Device) based on Android OS platform, HOVIS Genie provides various home service solutions by interlocking robot motions with Android applications in our daily life at home, school, entertainment and even at our work.

