

**VM-6083D and VM-60B1D Series****Modification of the Encoder Backup Battery**

Refer to the “ VM-D SERIES, INSTALLATION & MAINTENANCE MANUAL, Chapter 3”.

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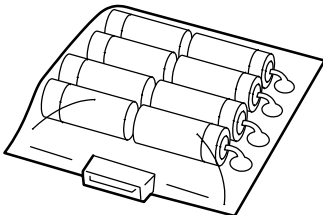
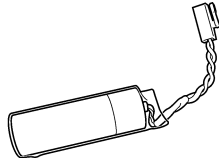
**[1] Overview**

The encoder backup battery had been modified from the robot that serial number is “**04E-122 or after**” in the VM-6083D and VM-60B1D series.

This modification has no interchangeability between the new backup battery and the old ones.

**Please confirm the serial number of the robot when ordering or replacing the encoder backup battery.**

**Modification of the encoder backup battery**

Item	When the robot serial number is “04E-121 or before”	When the robot serial number is “04E-0122 or after”
Part No.	410076-0080	410611-0070
View		A set of three batteries 
Serial No.	<p>The serial number is described on the nameplate of the controller or the robot unit.</p> <p style="text-align: center;">Example of nameplate</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;">Robot model —</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">             VM-60**DM  <b>DENSO</b>              411800 - ****              04E-122              MADE IN JAPAN           </div> </div> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Serial No. —</div> <div style="border: 1px solid black; padding: 5px; text-align: center;">             411800 - ****              04E-122              MADE IN JAPAN           </div> </div>	

## When the robot serial number is “04E-121 or before”

### [2] Cautions when replacing the encoder backup battery

Confirm the serial number of the robot before replacing the encoder backup battery, and then replace it according to the following descriptions.

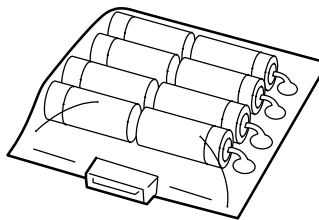
### [3] When the robot serial number is “04E-121 or before”

**Caution:** The encoder backup battery had been modified from the robot that serial number is “04E-122 or after” in the VM-6083D and VM-60B1D series. This modification has no interchangeability between the new backup battery and the old ones. Please confirm the serial number of the robot when replacing the encoder backup battery. Refer to “Item [4] when the robot serial number is “04E-122 or after”.

#### <Replacing procedure >

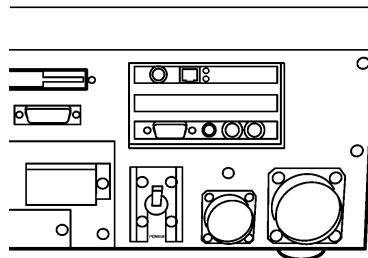
#### ►STEP 1

Prepare a new backup battery for replacement.



#### ►STEP 2

Turn the controller power ON.



#### ►STEP 3

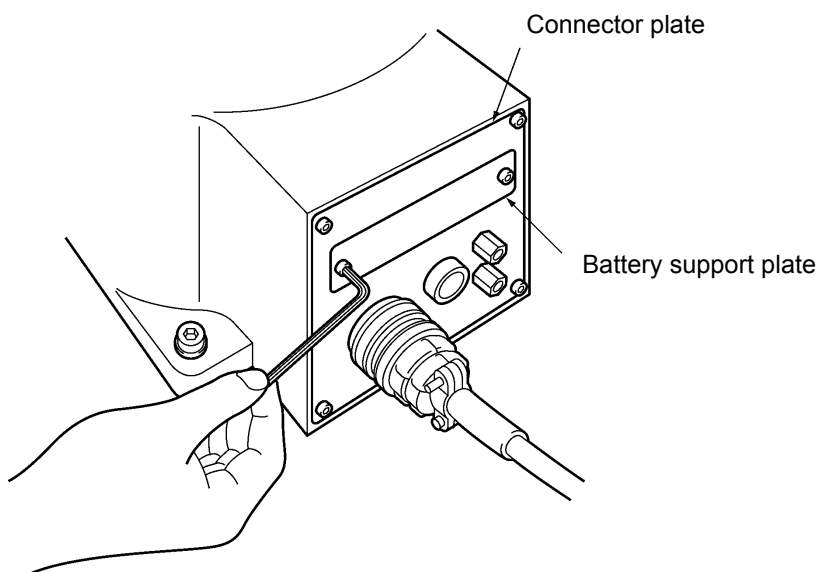
Press and lock the robot stop button on the controller (or on the teach pendant or operating panel) in order to prevent the motor power from becoming turned on accidentally.

**Note:** To unlock the robot stop button, slightly turn it clockwise.

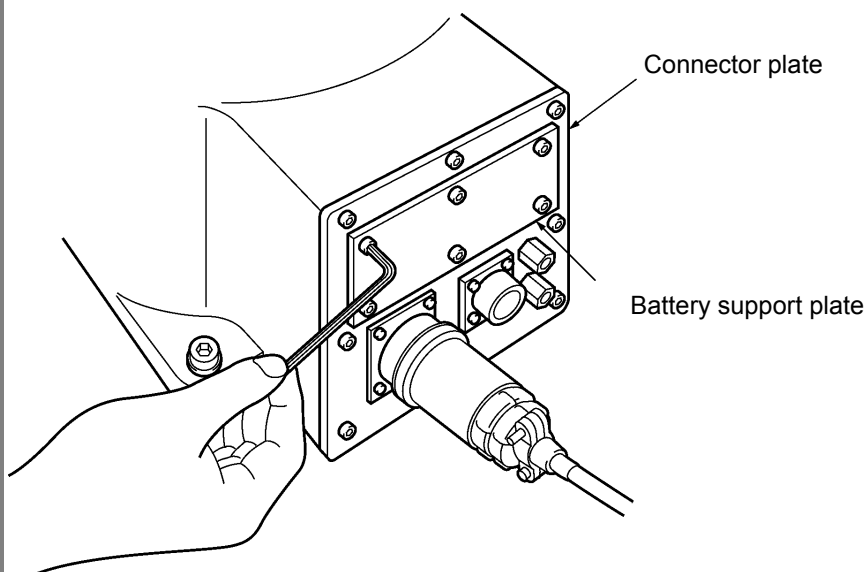
When the robot serial number is "04E-121 or before"

## ►STEP 4

Remove the battery support plate from the rear.



<Standard type ( VM-6083D ,VM-60B1D)>



< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >

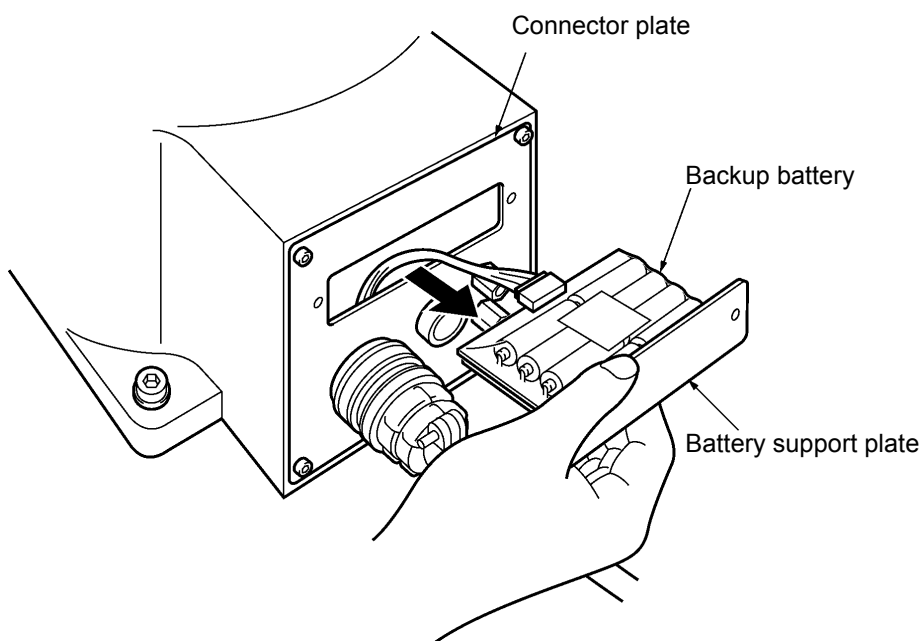
Secured to the connector plate, the battery support plate holds the backup battery.

## When the robot serial number is "04E-121 or before"

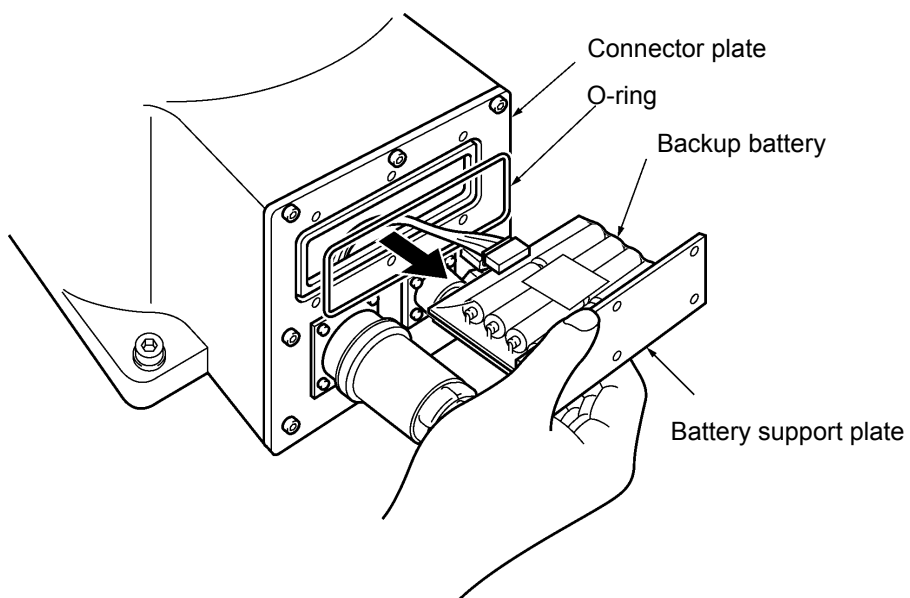
## ►STEP 5

Pull out the battery support plate.

**Note:** If the robot is the dust-proof, splash-proof type, remove the O-ring from the connector plate.



<Standard type (VM-6083D, VM-60B1D)>

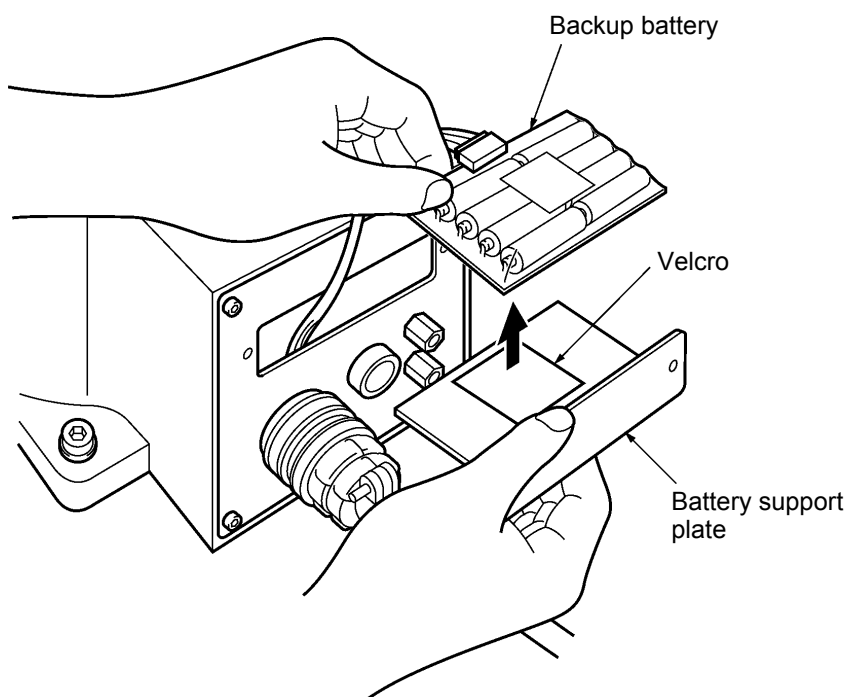


< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >

When the robot serial number is "04E-121 or before"

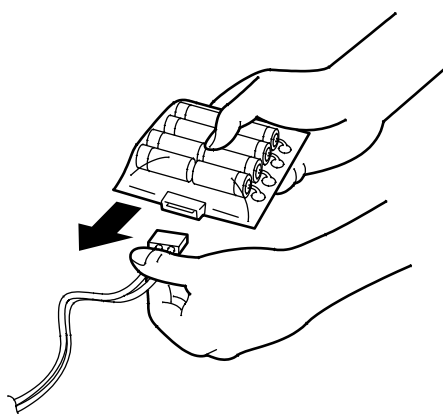
## ►STEP 6

Remove the backup battery which is fastened to the battery support plate with Velcro.



## ►STEP 7

Disconnect the connector from the backup battery and connect a new battery prepared in Step 1.

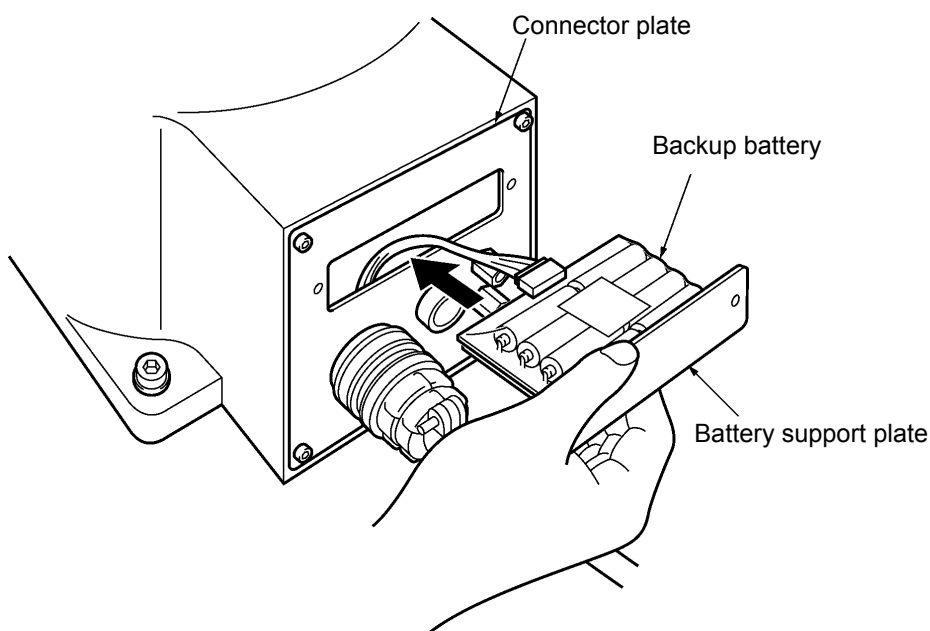


## When the robot serial number is "04E-121 or before"

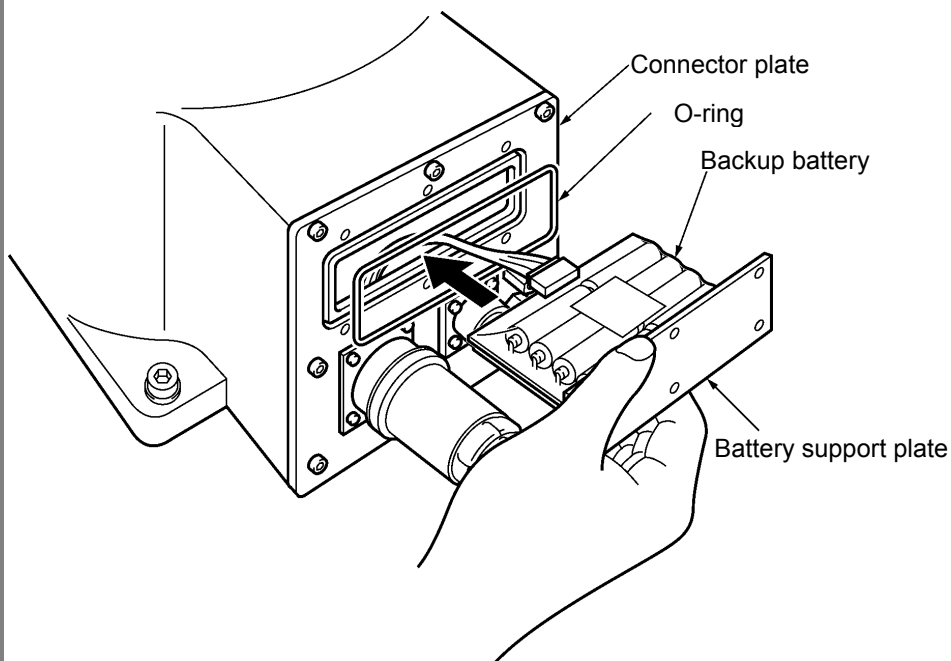
## ►STEP 8

Fit Velcro on the new backup battery and that on the battery support plate together, then set the battery support plate into the connector plate.

**Note:** If the robot is the dust-proof, splash-proof type, set the new O-ring onto the connector plate.



&lt;Standard type (VM-6083D, VM-60B1D)&gt;

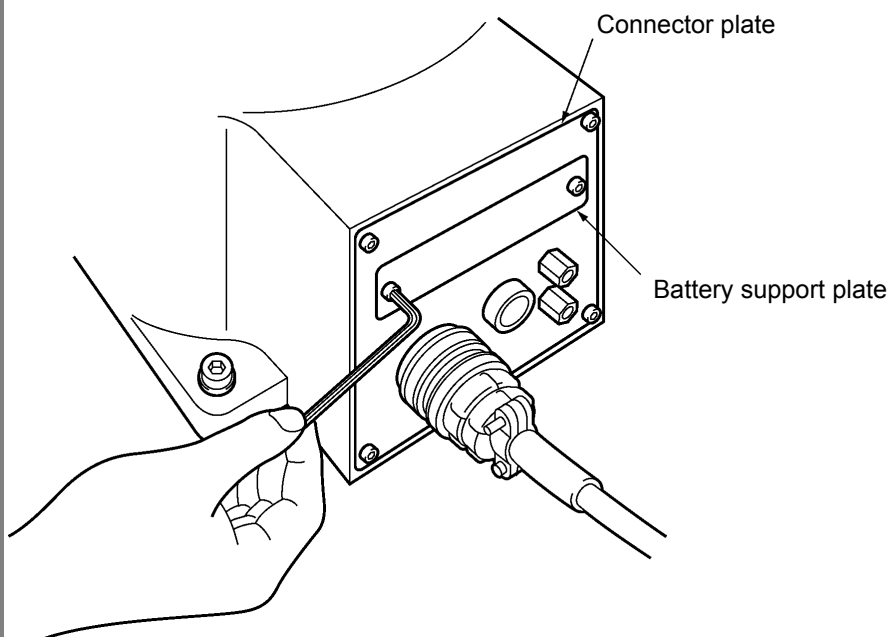


&lt; Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) &gt;

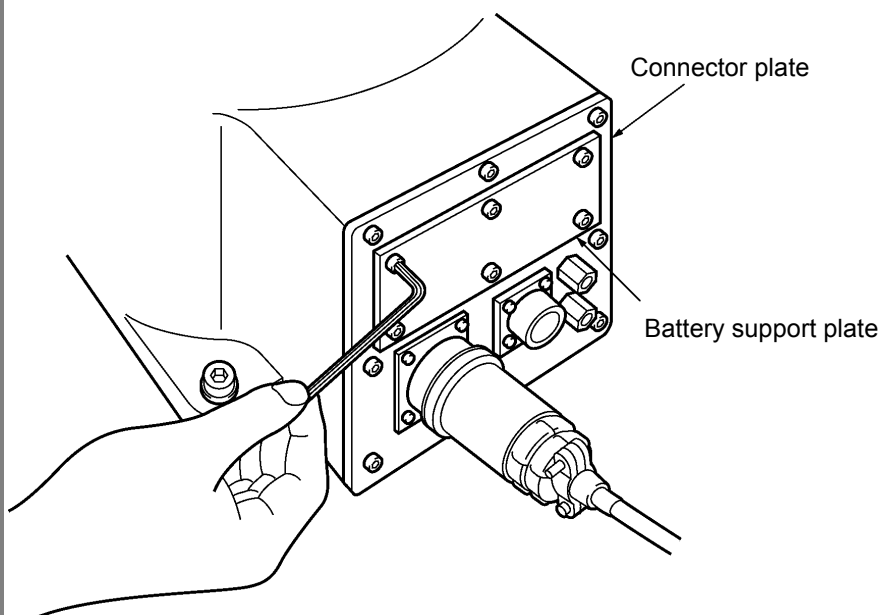
When the robot serial number is "04E-121 or before"

## ►STEP 9

**Secure the battery support plate to the connector plate.**  
Tightening torque:  $1.6 \pm 0.3$  Nm



<Standard type (VM-6083D, VM-60B1D)>



< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >

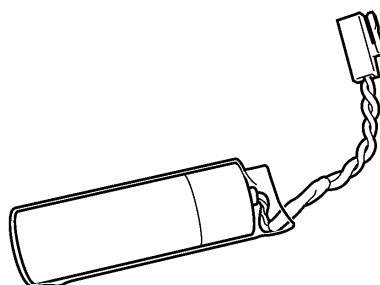
**When the robot serial number is “04E-122 or after”****[4] When the robot serial number is “04E-122 or after”**

**Caution:** The encoder backup battery had been modified from the robot that serial number is “04E-122 or after” in the VM-6083D and VM-60B1D series. This modification has no interchangeability between the new backup battery and the old ones. Please confirm the serial number of the robot when replacing the encoder backup battery. Refer to “Item [3] when the robot serial number is “04E-121 or before”.

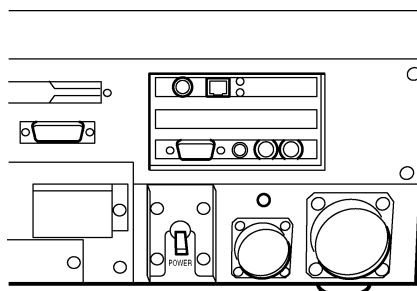
**<Replacing procedure >****►STEP 1**

**Prepare a new set of 3 backup batteries for replacement.**

**Note:** Be sure to replace all of three batteries with new ones at one time.

**►STEP 2**

**Turn the controller power OFF.**

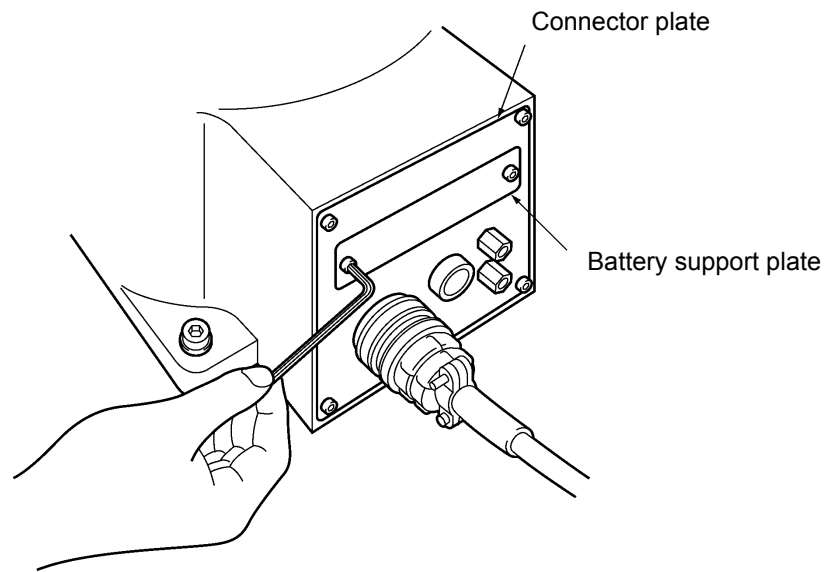




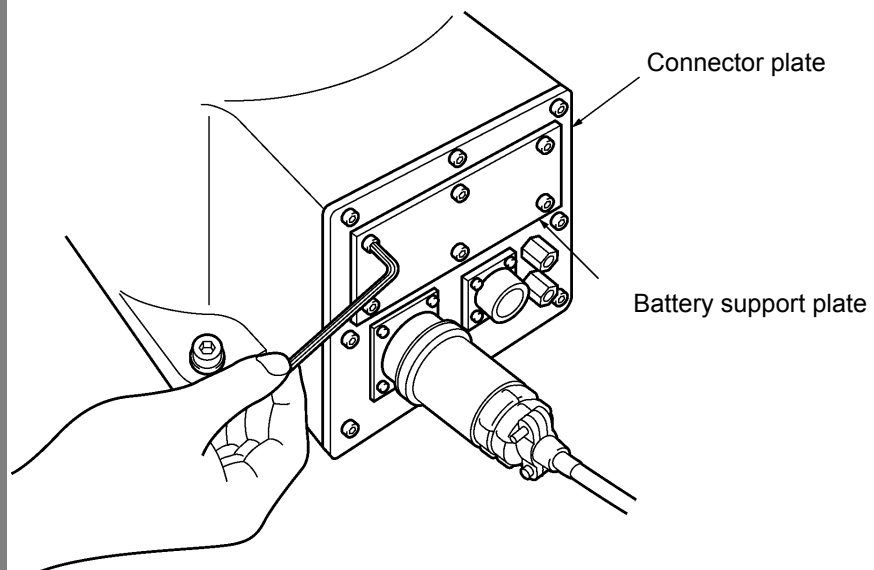
## When the robot serial number is "04E-122 or after"

## ►STEP 3

Remove the hexagon socket-head bolts from the battery support plate.



<Standard type ( VM-6083D ,VM-60B1D)>

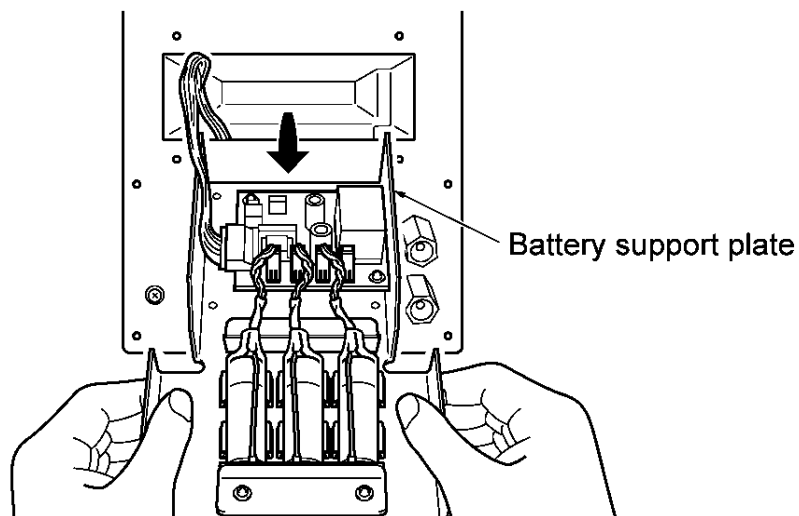


< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >

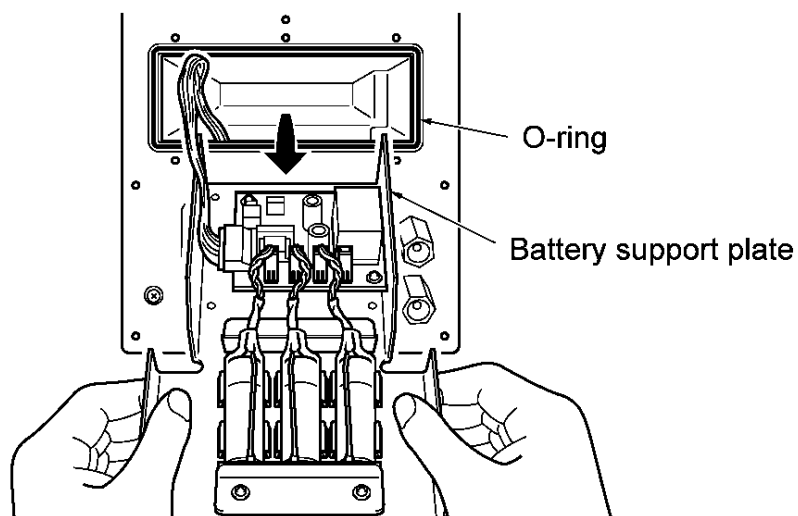
**When the robot serial number is “04E-122 or after”****►STEP 4**

**Pull out the battery support plate from the robot unit.**

**Note:** If the robot is the dust-proof, splash-proof type, replace the O-ring to the new ones.



<Standard type ( VM-6083D ,VM-60B1D)>

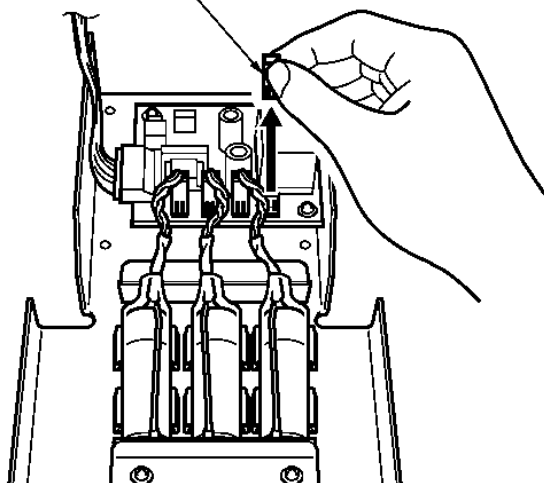


< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >

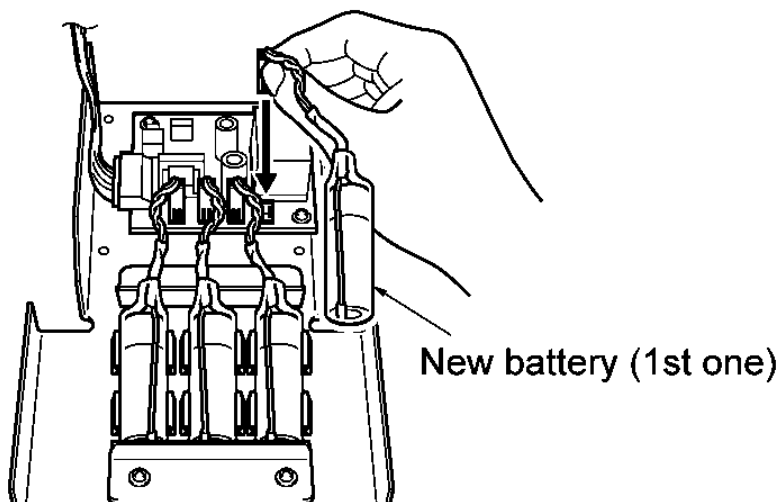
**When the robot serial number is “04E-122 or after”****►STEP 5**

Remove the dummy connector cap from the battery board.

Dummy connector cap

**►STEP 6**

Connect a new battery (1st one) to the pin from which you have disconnected the dummy connector cap in Step 5.

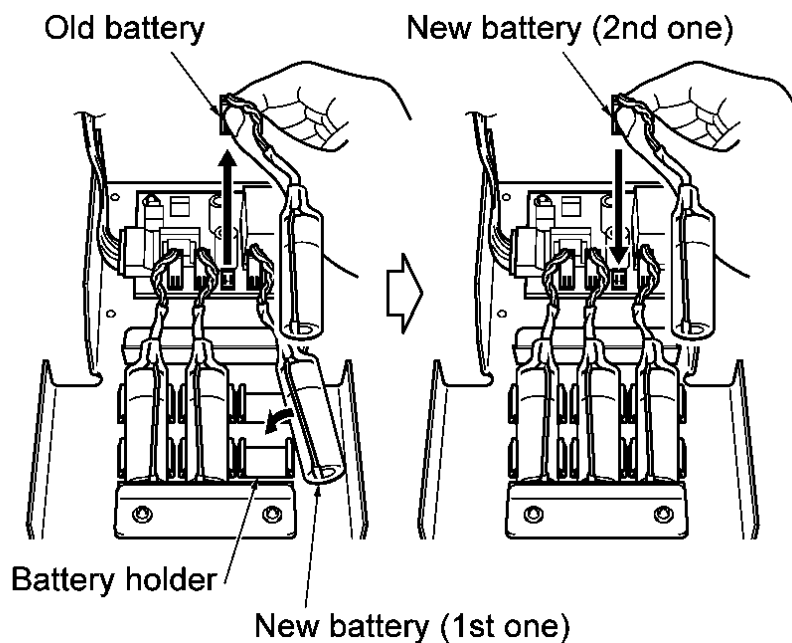


**Note:** Do not disconnect old backup batteries before connecting a new one to the pin from which the dummy connector cap is removed. If you do so, the encoder positional data may be lost.

## When the robot serial number is "04E-122 or after"

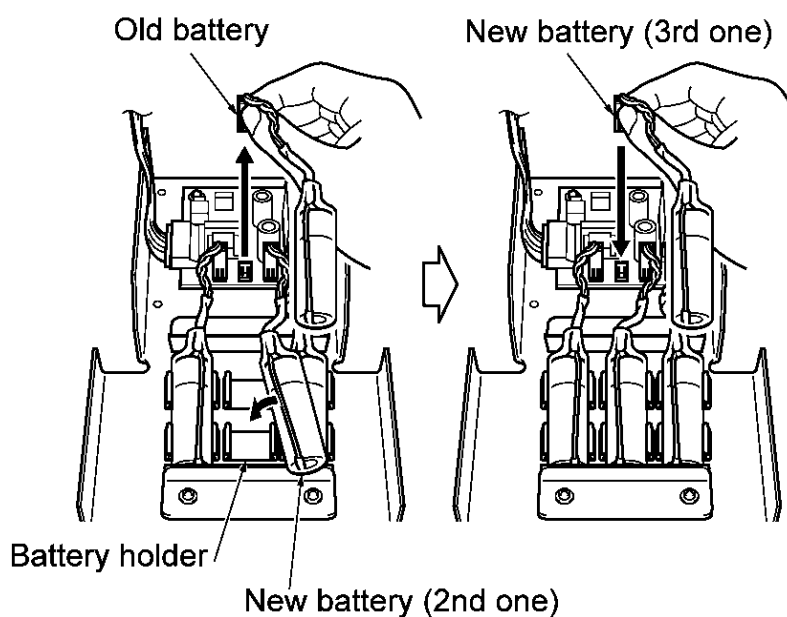
## ►STEP 7

Disconnect the old backup battery that is left next to the new battery connected in Step 6, and then connect a new battery (2nd one).



## ►STEP 8

Disconnect the old backup battery that is left next to the new battery connected in Step 7, and then connect a new battery (3rd one).

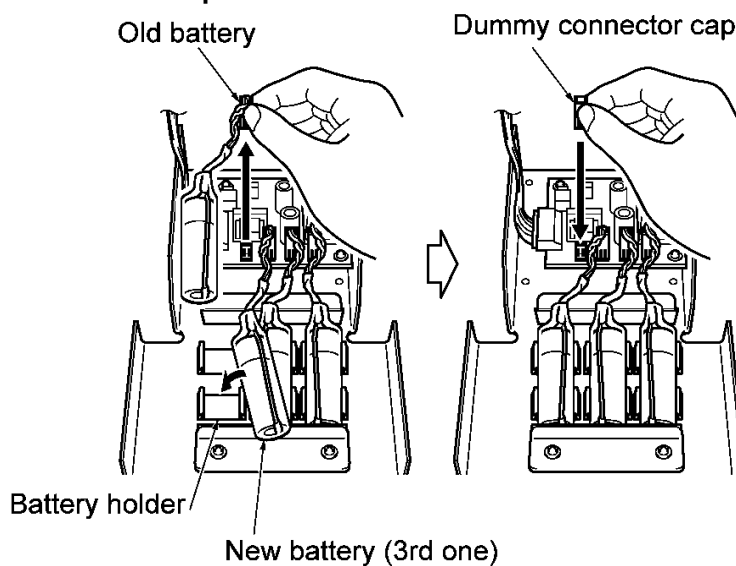


**Note:** Be sure to replace all of three batteries with new ones at one time. Otherwise, the battery service life will become short.

# When the robot serial number is "04E-122 or after"

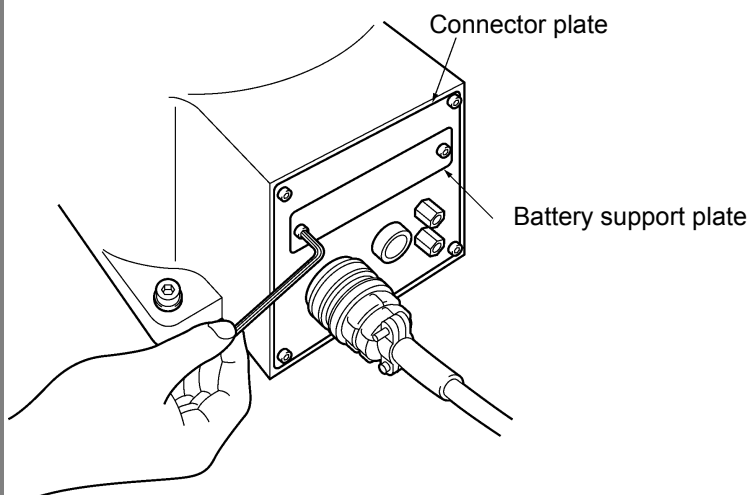
## ►STEP 9

Remove the last old battery and connect the dummy connector cap disconnected in Step 5.

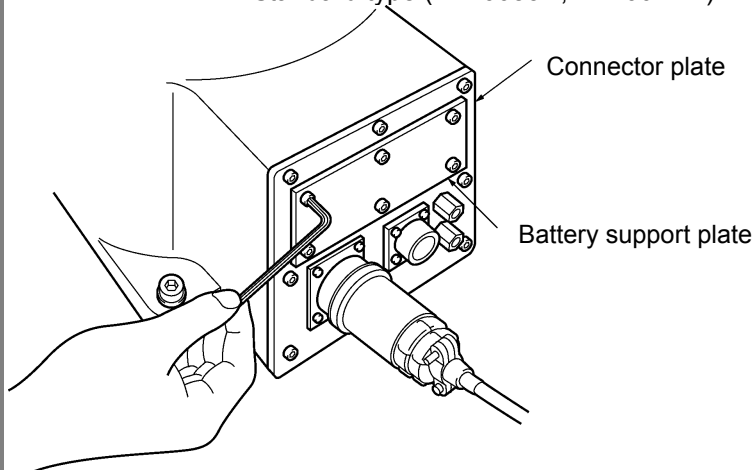


## ►STEP 10

Secure the battery support plate to the connector plate.  
Tightening torque:  $1.6 \pm 0.3$  Nm



<Standard type (VM-6083D, VM-60B1D)>



< Dust-proof, splash-proof type (VM-6083D-W, VM-60B1D-W) >