

5.3.5 Replacing the backup battery

An absolute encoder is used for the position detector, so the position must be saved with the backup battery when the power is turned OFF. The controller also uses a backup battery to save the program, etc. These batteries are installed when the robot is shipped from the factory, but as these are consumable parts, they must be replaced periodically by the user.

The guideline for replacing the battery is one year, but this will differ according to the robot's usage state. When the battery life nears, the "Battery cumulative time over alarm (Alarm No. 7520)" will occur. Once the alarm occurs, replace all batteries in the robot arm and controller as soon as possible. Lithium batteries (type: A6BAT and ER6) are used in both the controller and robot arm. The battery replacement procedures are as follow.

(1) Replacing the robot arm battery



CAUTION

Don't disconnect connector, etc. While replacing the battery, the encoder position data is saved by the power supplied from the controller. Thus, if the cable connection is incomplete, the encoder position data will be lost when the controller power is turned OFF. Several batteries are used in the robot arm, but replace all old batteries with new batteries at the same time.

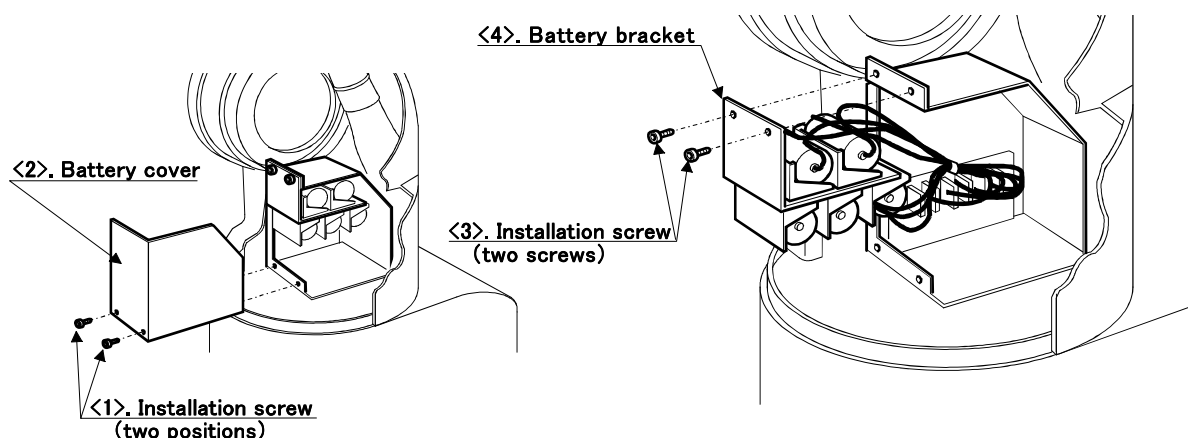


Fig.5-12 : Replacing the battery

- 1) Confirm that the robot arm and controller are connected with a cable.
- 2) Turn the controller control power ON.

The position data is retained by the power supplied from the controller while replacing the battery. Thus, if the cable is not connected correctly, or if the controller power is OFF, the position data will be lost.

- 3) Move to J2 = -20° , J3 = 90° and J5 = 90° with JOG operations so that the cover can be removed.
- 4) Press the emergency stop button to set the robot in the emergency stop state. This is a measure for safety, and must always be carried out.
- 5) Remove the shoulder cover F from the robot. (Refer to Fig. 5-4 or Fig. 5-5.)
- 6) Remove the two installation screws <1>, and remove the battery cover <2>.
- 7) Remove the two installation screws <3>, and remove the battery bracket <4>.
- 8) The battery holder is located in the battery bracket <5>. Remove the old battery from the holder, and disconnect the lead connector.
- 9) Insert the new battery into the holder, and connect the lead connector. Replace all batteries with new ones at the same time.
- 10) Carry out steps 5) to 7) in reverse to install the parts.
- 11) Initialize the battery consumption time.

Always carry out this step after replacing the battery, and initialize the battery usage time. Refer to the separate "Instruction Manual/Detailed Explanation of Functions and Operations" for details on the operation methods.