

### GENERAL

One-Plug Power (OPP) is a custom add-on accessory for the Yaesu FT-817. OPP solves the tedious and annoying battery recharging process of either (1) using the internal FT-817 charger for about 16 hours or (2) having to open the battery cover door, disconnect the battery pack from the radio, connect to the external charger, disconnect from the external charger, reconnect the battery pack to the radio, and replace the door. One-Plug Power replaces your present battery pack, battery cover door, and electrical connector to the radio with an integrated power unit.

One-Plug Power installation is a snap, just as simple as 1-2-3!

1. With the FT-817 power turned OFF and any external power supply disconnected, remove your present battery cover door, battery pack/holder, and disconnect it from the radio.
2. Insert the One-Plug Power battery pack and connect to the radio.
3. Close the new One-Plug Power battery cover door.

Be sure to take a good look inside your battery compartment; it may be the last time. With One-Plug Power, you may never have to open the battery cover door again!

One-Plug Power offers you a number of advantages over the optional Yaesu NiCd Battery Pack (FNB-72) or the Yaesu supplied Alkaline Battery Holder (FBA-28). These include the following:

- No permanent modification at all to the FT-817 is required.
- High-capacity NiMH battery pack (at least 80% capacity more than the FNB-72); 1800 mAh.
- Positive & negative battery leads are fused to protect the radio & battery from over-current conditions.
- Custom battery pack includes a resettable thermal fuse (55 °C) tailored specifically for the FT-817.
- Specially modified Yaesu FT-817 battery cover door.
- Large wires from the battery; 16 gauge.
- One-time plug into the low-life-cycle FT-817 Molex connector.
- Power plug mounted on battery cover door to allow for external charging *without opening the door*.
- One-Plug Power fuses provide protection even while using the external charger.
- External charging automatically removes radio from circuit for maximum protection of your FT-817.
- Internal FT-817 charger can still be used to charge the One-Plug Power battery pack.

### INSTALLATION

- 1. Turn OFF the FT-817 power and ***read these instructions completely before doing anything else***. You are urged to view the installation photographs located on [www.w4rt.com](http://www.w4rt.com) (click on Products, then the One-Plug Power image, and select either the PowerPoint or Adobe Acrobat versions).
- 2. Remove any external power source connected to the FT-817.
- 3. Place the FT-817 with its bottom side facing up and the front panel facing you.
- 4. Open and remove the battery cover door (store in a safe place).
- 5. Locate the tiny Molex connectors that connects your present battery pack/holder and the radio.
- 6. Carefully disconnect these connectors.
- 7. Remove the present battery pack/holder from the FT-817 battery compartment.
- 8. Take the One-Plug Power assembly and position it above the FT-817 battery compartment. ***NOTICE: DO NOT use any conductive tool (e.g., screwdriver, knife, ...) in the installation of your OPP. DO NOT insert anything into the external power jack other than the proper size and type plug. If you violate these instructions, you can short the batteries and blow the fuses! No warranty coverage.***
- 9. Carefully insert the One-Plug Power battery pack into the FT-817 battery compartment with the end of the battery pack with the large wires exiting the battery facing to your right. The battery pack slips under the right lip of the battery compartment.
- 10. Connect the tiny Molex connector from One-Plug Power to the connector from the radio. Position these cables on the shelf under the left lip of the battery compartment.
- 11. Carefully align the One-Plug Power battery cover door with the FT-817 battery compartment and close the door. Be sure that the printed-circuit board is properly aligned to fit in the open space.

- \_\_\_ 12. Turn the FT-817 over so that the front panel is facing you and the speaker is facing upwards.
- \_\_\_ 13. Turn on the power and verify that the radio is operating.
- \_\_\_ 14. Turn power off. NOTE: The battery is generally delivered in a discharged condition.
- \_\_\_ 15. You are encouraged to properly condition your new One-Plug Power battery pack before regular usage in order to achieve maximum lifetime and capacity. See subsequent section entitled "Battery Care."

### OPERATION OF YOUR ONE-PLUG POWER

Once you have installed One-Plug Power, its operation is simple. If you have the battery charged and no external power sources attached to the FT-817, then the FT-817 will operate as usual from the battery. Unlike the Yaesu FNB-72 battery pack, One-Plug Power provides charging alternatives for you. **READ BATTERY CARE BELOW BEFORE OPERATING YOUR ONE-PLUG POWER.**

1. You can use the FT-817 internal charger to recharge the OPP battery pack. Use Menu #11 [BATT-CHG] to select the charging time (two 8-hour cycles (or one 8-hour and one 6-hour cycles) are suggested WHEN the battery pack has been discharged, i.e., the FT-817 turns itself off) and Operating Function CHG (Row 11) to activate charging. W4RT Electronics™ recommends that the external power supply attached to the FT-817 power plug comply with the Yaesu specifications. The internal charger provides approximately 180 mA charging current when the input voltage is 13.8 VDC to the FT-817. You may continue to operate the FT-817 normally while the battery pack is being recharged.
2. The One-Plug Power battery pack can be charged using an **external (fast) charger** when connected to the FT-817 via the plug mounted on the battery cover door. A supplied cable allows connection to the **recommended W4RT One FAST Charger OFC-817** and the One-Plug Power plug. The jack that mates with the One-Plug Power plug is a 5.5 x 2.1mm jack. When you insert the charging jack into the OPP plug, the radio is automatically disconnected from the battery pack and the external charger is connected to the battery pack. Your FT-817 is now protected from any charger problems that might arise. If you use the W4RT OFC-817, the OPP will charge in about two hours! Fast charging time depends upon the characteristics of your charger. The Maha MH-C777/Plus or MH-C888 chargers typically take over 3 hours to charge the OPP. The W4RT OFC-817 also has been observed to pack more charge into the OPP than others do. To operate the radio during charging, you will need to use an external power source connected to the FT-817 rear-deck power plug. When charging is complete, disconnect the charging jack from the OPP plug. (*ATTENTION: The jack and plug mate firmly. Be sure to use your thumb to hold the door against the battery compartment as you pull the jack out.*) You can now operate from the battery as usual.

Note that the OPP protects the FT-817 against over-current situations during charging, operation, or short-circuit by using a 2.5-A pico fuse in both the positive and negative battery lines. The OPP battery pack is also protected by a specially selected resettable thermal fuse to guard against over-temperature conditions. Compare the protection One-Plug Power provides with other battery alternatives.

### BATTERY CARE

The NiMH batteries used in the One-Plug Power should provide long life and capacity IF you properly care for the batteries. You should charge the batteries properly. ***Upon installation of the One-Plug Power, be sure to fully charge the battery pack USING THE FT-817's INTERNAL CHARGER before using it to power the FT-817.*** Use the battery to power the FT-817 for normal operation, but allow it to fully discharge (FT-817 will turn itself off automatically). Repeat this cycle two additional times (full recharge and full discharge) using the internal charger of the FT-817. Be sure to allow the batteries rest for at least 30 minutes after charging or discharging. **USE ONLY SLOW CHARGING FOR THIS INITIAL CONDITIONING.** You can now use the batteries "normally," i.e., recharging before full discharge. You should perform a full discharge-recharge cycle at least every 10<sup>th</sup> time you do a partial recharge of the batteries. **BASIC CARE RULE: DO NOT OVERCHARGE THE BATTERIES.** When using the internal FT-817 charger, remember that it is a constant-current, timed device. Two 8-hour cycles should be acceptable for the full recharge. When using an external fast charger, it should *not* require temperature sensing. The Maha chargers mentioned above have been observed to work for this purpose. (*W4RT Electronics does not specifically recommend, sanction, or approve any charger, including those of Maha, other than the W4RT One FAST Charger, which was developed specifically for this battery pack. It is solely the responsibility of the user to select and use an appropriate charger.*) In any case, the charging current should not exceed about 1600 mA.

**WARRANTY:** One-Plug Power is warranted for a period of one year from the date of purchase to be free of electrical defects in materials and workmanship; however, the battery pack is warranted for a period of 60 days. If the One-Plug Power is determined to be defective, the defective item will be repaired or replaced, at the sole option of W4RT Electronics, provided that the purchaser returns said item, postage prepaid, with proof of purchase to W4RT Electronics, ATTN: Technical Support, 3077-K Leeman Ferry Rd, Huntsville, AL 35801. Include a description of the problem, daytime phone number, email address, and return mailing information. Any modification to the One-Plug Power or its cables, or abusive charging or discharging of the battery pack by purchaser voids the warranty. The warranty applies only to the original purchaser and is not transferable. 04 February 2003

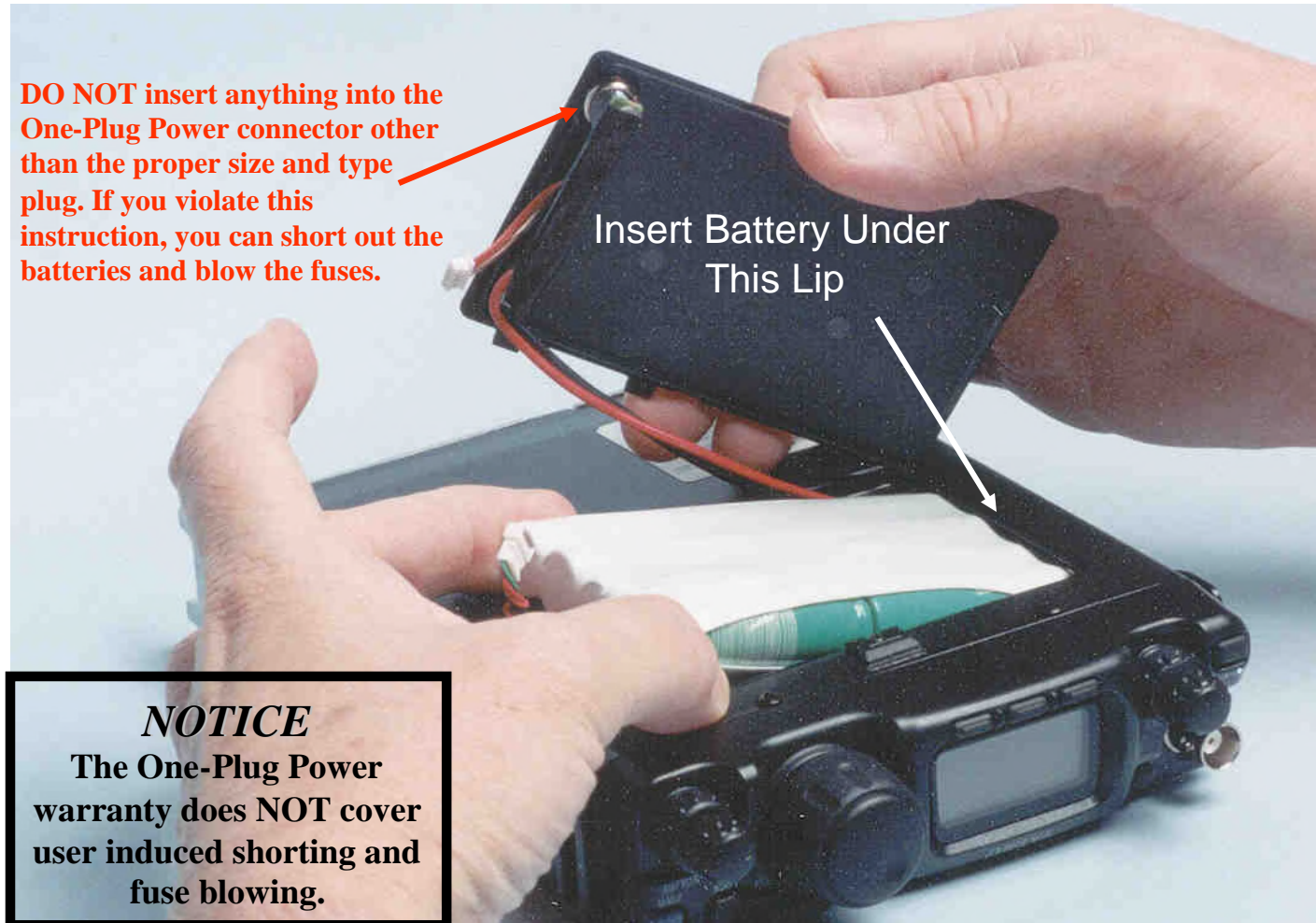
# Step 9-A

## **WARNING**

**DO NOT USE A METAL SCREWDRIVER OR THE LIKE AROUND THE BATTERY PACK, PC BOARD, OR CONNECTORS. YOU CAN CAUSE A SHORT AND BLOW THE FUSES!**

**DO NOT** insert anything into the One-Plug Power connector other than the proper size and type plug. If you violate this instruction, you can short out the batteries and blow the fuses.

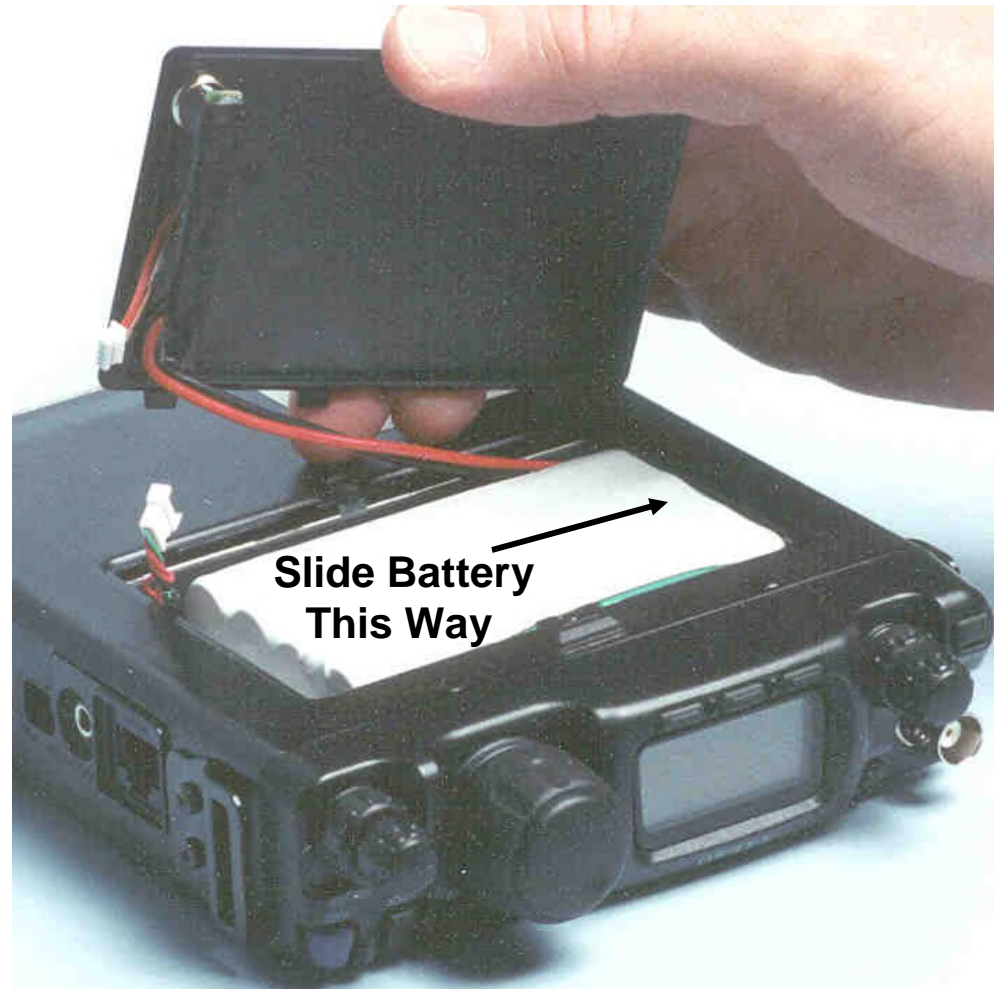
Insert Battery Under This Lip



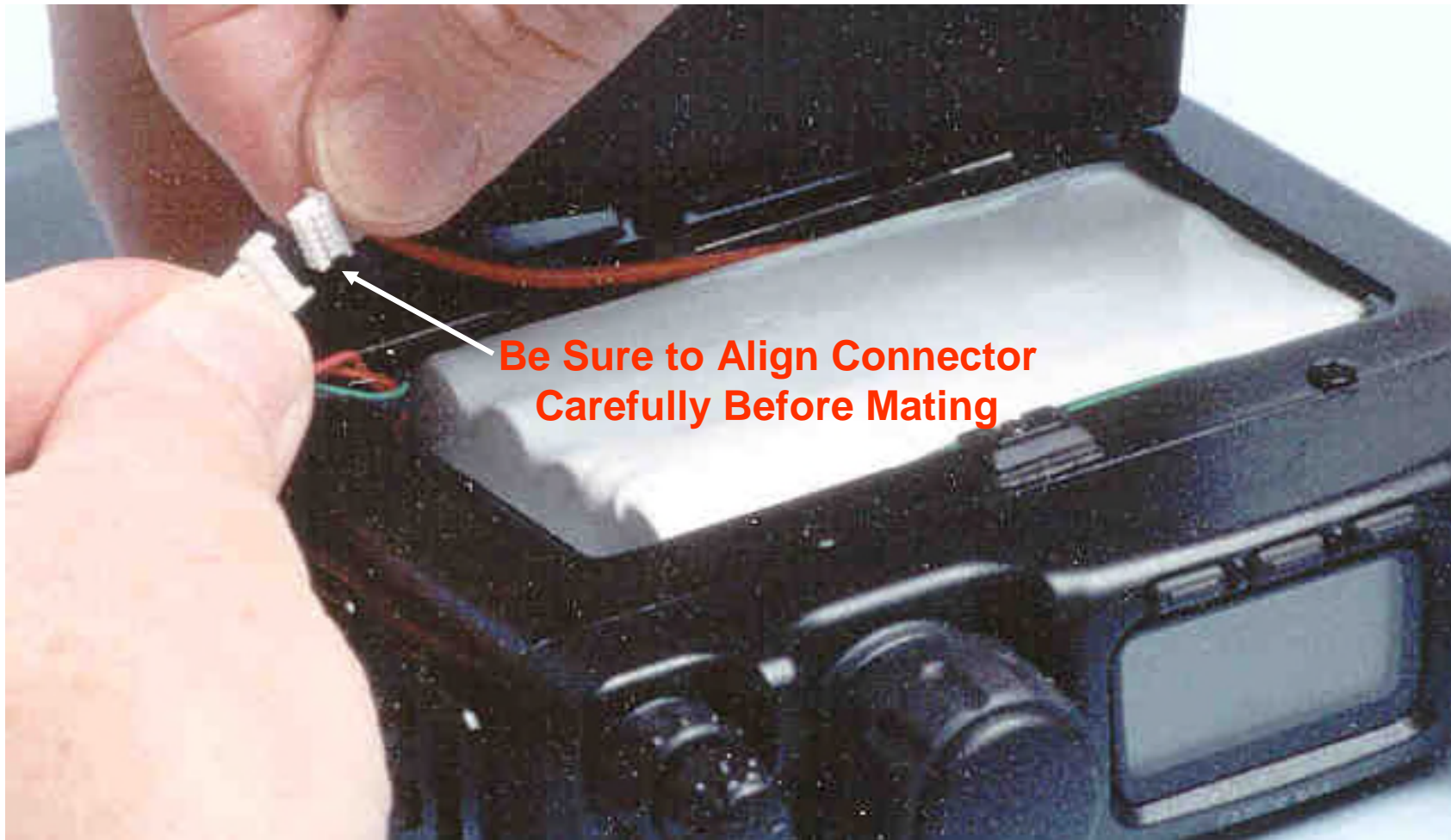
### ***NOTICE***

**The One-Plug Power warranty does NOT cover user induced shorting and fuse blowing.**

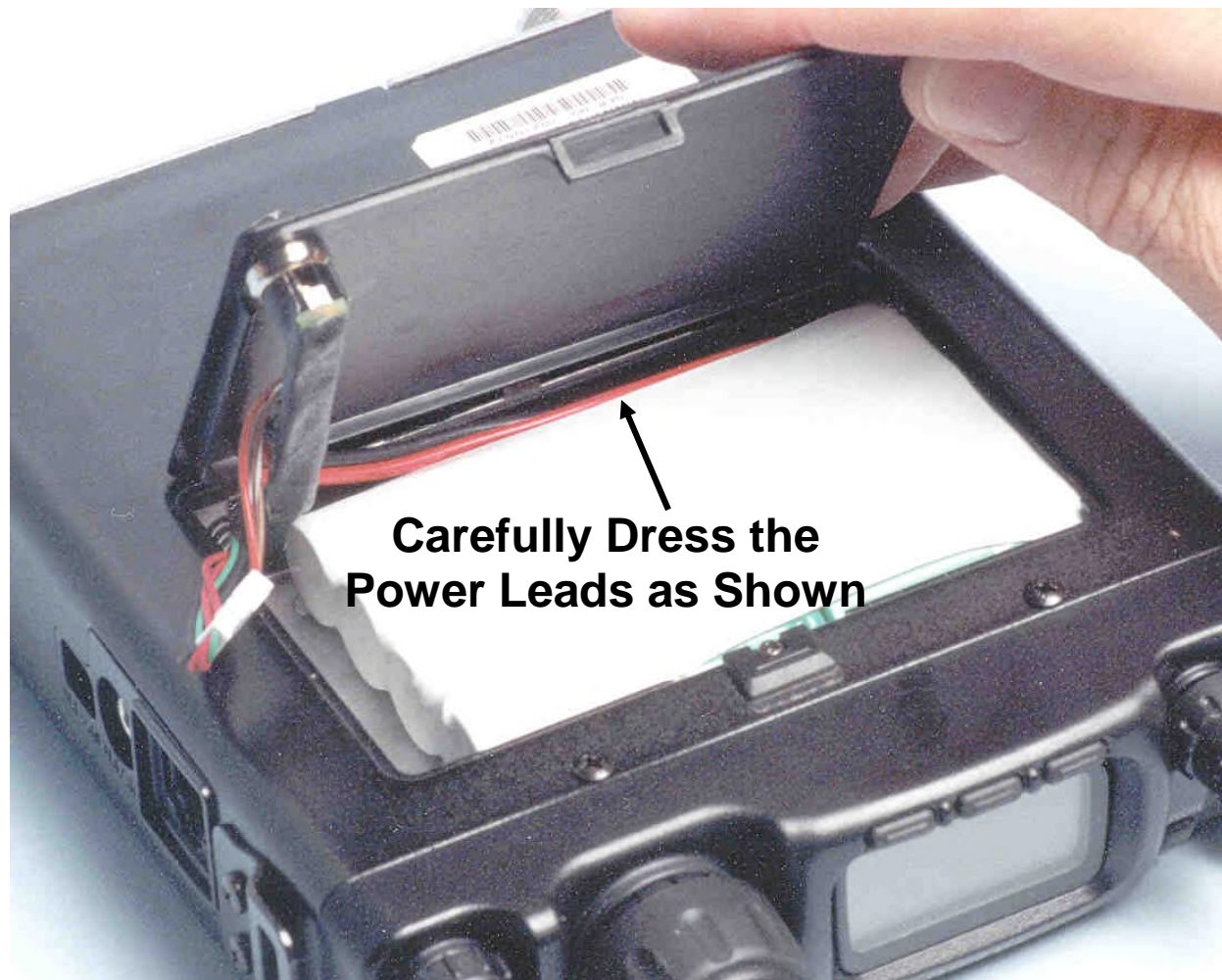
# Step 9-B



# Step 10-A



# Step 10-B

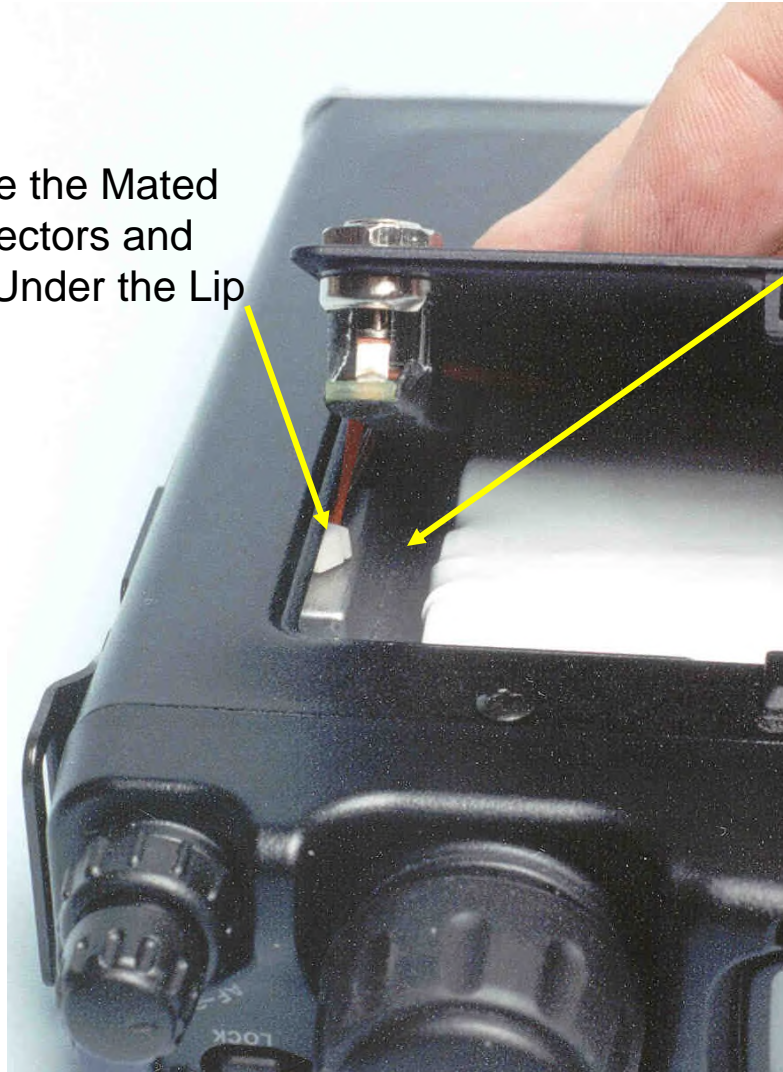


**Carefully Dress the  
Power Leads as Shown**

# Step 10-C

Carefully Slide the Mated  
Molex Connectors and  
Excess Wires Under the Lip

The PCB Will Go Into This  
Space When You Close  
the Battery Cover Door



# Step 11-A

## **DO NOT FORCE THE DOOR SHUT!**

If You Feel Something Resisting Door Closure, Then Please Check to Determine the Reason and Correct the Problem Before Attempting to Close the Door Again.

**DO NOT USE A METAL SCREWDRIVER OR THE LIKE AROUND THE BATTERY PACK, PC BOARD, OR CONNECTORS. YOU CAN CAUSE A SHORT AND BLOW THE FUSES!**



**Make Sure the PCB is Aligned With the Open Space!**

# Step 11-B

## **WARNING**

Do Not Insert Anything Into This Connector Other Than the Proper Plug! You Can Short the Batteries and Blow the Fuses! This is not covered under warranty.

**Correctly Installed  
One-Plug Power**

**Power Connector  
For External Charger**

