BeneHeart D3/BeneHeart D2

Defibrillator/Monitor

Service Manual

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Revision History

This manual has a revision number. This revision number changes whenever the manual is updated due to software or technical specification change. Contents of this manual are subject to change without prior notice.

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If the upgraded MPM module is equipped with Nellcor SpO$_2$, you need to stick a Nellcor label at the lower left corner of the front housing, as indicated in the following pictures.

Nellcor label

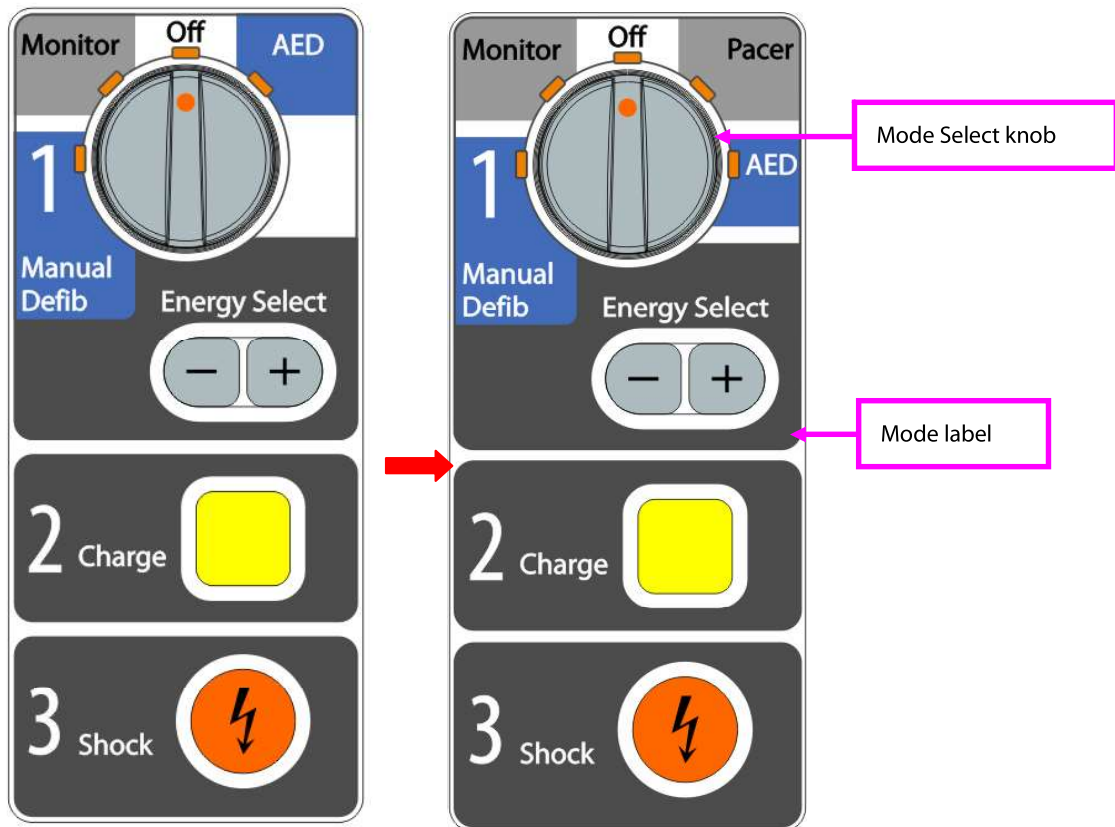After upgrade the MPM module, perform the tests described in **4.6.3 ECG Test**, **4.6.4 Resp Test**, **4.6.5 SpO2 Test**, **4.7Electrical Safety Tests**, and **4.8 Recorder Check**.

5.1.2 Upgrade the Therapy Module

You can use 115-049460-00 pacer function upgrade kit to upgrade the therapy module so that equipment has pacing function. After upgrading the therapy module, choose Mode label (with pacing function) with the language you need.

Follow this procedure to upgrade the therapy module:

1. Remove therapy module as described in **7.3.7 Removing the Therapy Module**. Be noted that you need not to remove the parameter panel assembly and MPM module assembly.

2. Take off the Mode Select knob. Peel off the Mode label, see the picture below.

3. Replace the old therapy module using the one with pacing function in the upgrade kit.

4. Replace the old Mode Select knob and Mode label using new ones in the upgrade kit.

5. Reassemble the equipment.

Mode Select knob

Mode label

After upgrade the therapy module, perform the tests described in **4.6.1 Manual Defibrillation Test**, **4.6.2 Pacing Test**, and **4.7 Electrical Safety Tests**.

5.2 Software Upgrade through a PC

You can upgrade system software and module software using Mindray Patient Monitor Software Upgrade Tool. You can also view software upgrade log. Mindray Patient Monitor Software Upgrade Tool can directly run on a PC. By connecting the defibrillator/monitor to a PC via a crossover network cable, you can upgrade the following software:

■ Bootstrap

■ System software

■ Language library

■ BMP files (including screen icons, start-up screens, standby screens)

■ General configurations (including passwords, company logo)

■ System functional configuration

■ FPGA program

■ Power module software

■ MPM module software and therapy module software

■ CO_2 module