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MB10

Marker Beacon Receiver/

Indicator

Part No. 050-023- (XXXX)

Pilots Guide

PS ENGINEERING, INCORPORATED 9800 Martel Road Lenoir City, TN 37772 Phone (865) 988-9800 FAX (865) 988-6619

www.ps-engineering.com FAA-Approved, TSO C35d

NOTICE: Warranty is not valid unless this product is installed by an <u>Authorized PS Engineering dealer</u>.

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General Information

The **MB10** is a compact, panel, or blind mounted Marker Beacon Receiver (75 MHz). Please read this manual completely to become familiar with all the features.

Scope

This manual contains operational instructions for the following PS Engineering units:

| Model Number | Part Num- ber | Description |
|-----------------|------------------|---|
| MB10 | 050-023-0100 | Panel Mounted Marker Re- ceiver |
| MB10R | 050-023-0101 | Remote Mounted Marker Re- ceiver |

Description

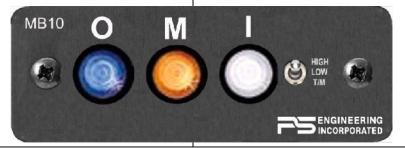
The **MB10** is a 75 MHz Marker Beacon receive with 3-lamp indication that provides the Marker Beacon signal for the ILS System.

A front panel mode switch allows the pilot to select high or low sensitivity, lamp test, and audio mute.

The MB10R is a remote mounted receiver capable of activat-

ing either panel mounted lamps (not included), an electronic display system, or both.

| SPECIFICATIONS | | |
|----------------------------|--|--|
| FAA-Approval | TSC C35d RTCA DO-143 | |
| Frequency: | 75 MHz Crystal Controlled | |
| Sensitivity: | Capable of: (preset at factory for field | |
| Low: | application) 1000 µVolts (Hard) | |
| High: | (360 to 570 μV soft) | |
| | 200 μVolts (Hard) (130 to 200 μV soft) | |
| Selectivity: | -6 dB at ±10 kHz -40 dB at ±120 kHz | |
| External Lamp | 7.5 (±4 VDC | |
| Output: | unloaded, at maxi- mum brightness) VDC positive when active, max. current 125 mA | |
| MM Sense: | Active high (4.5 ± 1.0VDC) | |
| Output impedance: | 510 Ohms | |
| Audio Output: | 38 mW <1% THD typical | |
| Operating Tempera- ture | -15° to +55° C | |
| Altitude | 55,000' unpressurized | |
| Power | 11-33 VDC, <0.25 A | |
| Weight | 6.5 oz. | |





OPERATION

Power

The MB10 is active whenever the avionics bus is energized.

Marker Beacon Operation

The Marker Beacon Receiver uses visual and audio indicators to alert you when the aircraft passes over a 75 MHz transmitter.

The **Blue** lamp, labeled "O", is the Outer Marker lamp and has an associated 400-Hertz 'dash' tone. The lamp and tone will be keyed at a rate of two tones/flashes per second when the aircraft is in the range of the Outer Marker Beacon.

The **Amber** lamp, labeled "M", is the Middle Marker lamp and is coupled with a 1300 Hertz tone. It is keyed alternately with short 'dot' and long 'dash' bursts at 95 combinations per minute.

The **White** lamp, labeled "I", is the Inner marker and has a 3000-Hertz 'dot' tone. The lamp and tone will be keyed at a rate of six times per second.

The audio from the Marker Beacon Receiver is provided to the aircraft audio selector system. To adjust the volume level, there is a service adjustment located on the top of the unit.

A toggle switch is used to set the receiver sensitivity and to test the indicator lamps. Use "HI" sensitivity initially. This allows you to hear the outer marker beacon about a mile out. Then switch into Low Sensitivity mode. "LO" sensitivity gives you a more accurate location of the Outer Marker. Holding the MKR switch down for two seconds activates marker test lamp, labeled "T/M" and illuminates all three lamps simultaneously to assure the lamps (internal and external) are in working order. TST does not activate MM autopilot sense output. Releasing the button returns to the low sensitivity.

Pressing the marker mode select (to "T/M") for two seconds will also cause the marker audio to mute for that beacon. The next beacon received will re-activate the audio.

Warranty and Service

Warranty

In order for the factory warranty to be valid, the installations in a certified aircraft must be accomplished by an appropriately rated FAA- certified avionics shop and authorized PS Engineering dealer. If the unit is being installed by a non-certified individual in an experimental aircraft, a factory-made harness must be used for the warranty to be valid.

PS Engineering, Inc. warrants this product to be free from defect in material and workmanship for a period of one year from the date of retail purchase. During this one year warranty period, PS Engineering, Inc., at its option, will send a replacement unit to the PS Engineering dealer, if the unit should be determined to be defective after consultation with a factory technician. PS Engineering will not ship to the end user under warranty, unless au-



thorized by the dealer.

This warranty is not transferable. Any implied warranties expire at the expiration date of this warranty. PS Engineering SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAM-AGES. This warranty does not cover a defect that has resulted from improper or unreasonable use or maintenance as determined by us. This warranty is void if there is any attempt to dissemble this product without factory authorization. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. Some states do not allow the exclusion of limitation of incidental or consequential damages, so the above limitation or exclusions may not apply to you.

Factory Service

The **MB10** is covered by a oneyear limited warranty. See warranty information.

Call PS Engineering, Inc. at (865) 988-9800 before you return the unit. This will allow the service technician to provide any other suggestions for identifying the problem and recommend possible solutions.

After discussing the problem with the technician and you obtain a **Return Authorization Number**, ship product to:

PS Engineering, Inc. Attn: Service Department 9800 Martel Road Lenoir City, TN 37772 (865) 988-9800 FAX (865) 988-6619.

www.ps-engineering.com/ support.shtml

NOTE:

PS Engineering is not responsible for units shipped US Mail.

If no method of payment is provided, the units will be returned COD. If no RMA or description of problem is present, the shipment will be refused.

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