



# Work Instructions

## Engine PM and Frame (System) PM Replacement Capstone Model C60 MicroTurbine

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### Purpose and Scope

This document describes the procedure for replacing the engine and frame (system) Personality Modules (PM's) on the Capstone Model C60 MicroTurbine.

### Guidelines

This document presents information sufficient to allow an Authorized Service Provider (ASP) to properly replace the engine and frame PM's.

Conduct maintenance in a clean, well-lighted area using normal shop tooling to avoid damage to delicate components.

Retain all parts removed for use at assembly, unless otherwise specified. Discard all parts as noted in this document.

### Safety Precautions

Only Capstone Authorized Service Providers (ASP's) should open the MicroTurbine and other equipment connected to the MicroTurbine. The systems can include multiple sources of power.

Observe and adhere to the Safety Precautions listed below when servicing your MicroTurbine. Read and become familiar with the General Safety Precautions and Instructions contained within the MicroTurbine User's Manual. Before servicing:

- Check to ensure that the inlet fuel supply is SHUT OFF.
- Always check to ensure that your MicroTurbine is de-energized from the utility. Isolate and lock out the utility (if applicable).
- Isolate and lock out any other sources of power to the MicroTurbine. For example, connections to the solid state relays in the MicroTurbine Communications Bay.
- Open the Stand Alone battery circuit breaker, lock it in the OFF position, and then unplug the battery cable.
- Wait at least ten minutes after disconnection from utility before servicing to allow for electrical energy dissipation.
- Verify that no voltage is present on any electrical terminals.
- Never work on energized equipment.
- Observe all safety precautions to prevent injury or death.

## Required Tools

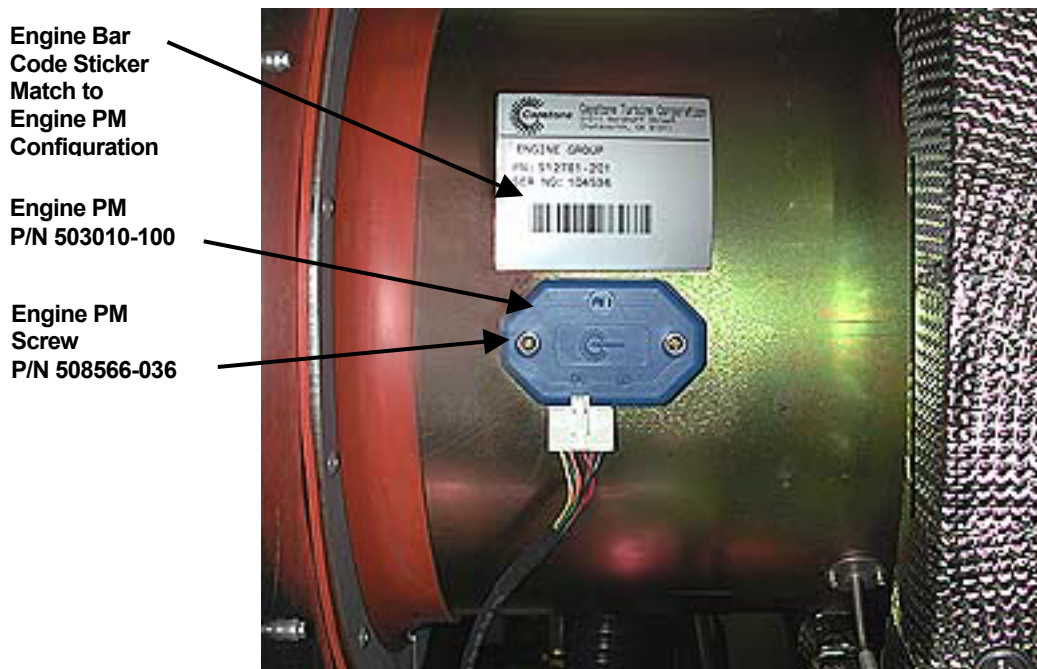
- #1 Phillips screwdriver
- 10mm socket
- 5/16 Allen key
- Anti-static wrist strap

## Procedures

1. Ensure the MicroTurbine system is OFF.
2. Remove all power sources and fuel supply from the MicroTurbine system.

### Engine PM Replacement

1. Remove the upper side panel on the right side of the MicroTurbine enclosure by removing the 8 hex-head screws, which attach the panel. Use a 10mm socket wrench to remove the screws, and retain them for later use.



**C60 Engine PM**

2. Unclip the cable from the PM.
3. Remove the two screws with #1 Phillips screwdriver, remove the PM.
4. Replace the PM module P/N 503010-100 using the 2 screws P/N 508566-036.
5. Reattach the PM cable.

NOTE	The Personality Module (PM) can be programmed for either frame (system) or engine PM functions. It is not programmed from Capstone. Program the PM for the engine PM.
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6. Program the PM per the CRMS instructions using the P/N and serial number from the engine bar code sticker.
7. Check the configuration using CRMS or the Display Panel. The PM configuration should match the engine PM serial bar code on the engine sticker.

NOTE	A 4011 software compatibility fault will be reported if software does not match the device or code set.
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8. Replace side panel.
9. Reapply power and fuel supply.
11. Test the system for proper operation as detailed in the MicroTurbine User's Manual.

### Frame (System) PM Replacement

1. Open C60 front door with a 5/16 Allen key.

Frame  
(System)  
PM P/N  
503010-100  
(Blue)

Screw  
P/N 508566-036



C60 Frame PM

<b>CAUTION</b>	<p>Before replacing Frame (System) PM note all PM settings from the Display Panel or from the CRMS.</p> <p>Note UCB settings, control settings, grid connect and stand alone settings as they will be need to be reloaded after installing the new PM.</p>
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2. Unclip the cable from the PM.
3. Remove the two PM screws with #1 Phillips screwdriver to remove the PM.
4. Replace the PM module P/N 503010-100 using the 2 screws P/N 508566-036.
5. Reattach the frame PM cable.

<b>NOTE</b>	<p>The Personality Module (PM) can be programmed for frame or engine PM functions. It is not programmed from Capstone.</p> <p>Program the PM for the frame (system) PM.</p>
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6. Check the configuration using CRMS or the Display Panel. The PM configuration should match the frame (system) PM serial bar code at the back of the package.
7. Program the PM per CRMS instructions.

<b>NOTE</b>	<p>A 4011 software compatibility fault will be reported if software does not match the device or code set.</p>
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8. Close the front door with a 5/16 Allen key.
9. Reapply power and fuel supply.
10. Before restarting MicroTurbine, reload all system settings.
11. Test the system for proper operation as detailed in the MicroTurbine User's Manual.

## Responsibility

It is the responsibility of Capstone to make these procedures available to the Authorized Service Providers so they can successfully complete this task.

It is the responsibility of the Authorized Service Providers to read this document, understand its contents, and effectively complete the replacement procedures.

It is the responsibility of the Authorized Service Provider to provide Capstone with a Field Service Report when the Engine or Frame (System) PM replacement task is completed.