



# Service Bulletin SB0042

**Date:** September 2002  
**From:** Capstone Technical Support  
**Subject:** Checking Exhaust Dome Alignment  
Model C30 MicroTurbine

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## Affected

All Model C30 MicroTurbine systems with Engine Serial Numbers 102170 and lower, supplied by Capstone Turbine Corporation®.

## Safety Precautions

Only Capstone Authorized Serviced 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 Instructions contained within the MicroTurbine manuals.

## Summary

On the Model C30 MicroTurbine systems with Engine Serial Numbers 102170 and lower, the exhaust dome on the engine is a separate piece that is attached to the engine with a V-band clamp. If the exhaust dome is not centered and aligned correctly against the engine, the exhaust gas can leak around the dome, causing higher temperatures in the engine compartment, low output power or low system efficiency.

### NOTE

The exhaust dome leak problem on newer MicroTurbines is eliminated since the exhaust dome is welded to the engine.

## Action Required

Perform the following steps during the next scheduled site visit:

1. Check the system for symptoms such as low power, low efficiency, or high temperature inside the engine compartment (refer to C30 Performance Technical Reference for details). If any of these symptoms is detected, please note the TET, speed, ambient temperature, ambient pressure, and output power on the Field Service Report form and proceed to Step #2.
2. Command the MicroTurbine OFF and let the system enter the cool down cycle. Using a high temperature leak detection fluid, check for leaks around the V-band clamp, while the engine is operating without fuel in the cool down state. If a gross leak is detected, or bubbles are readily breaking out (small leaks are allowed and considered normal), then proceed to align the exhaust dome as explained in the following paragraphs.

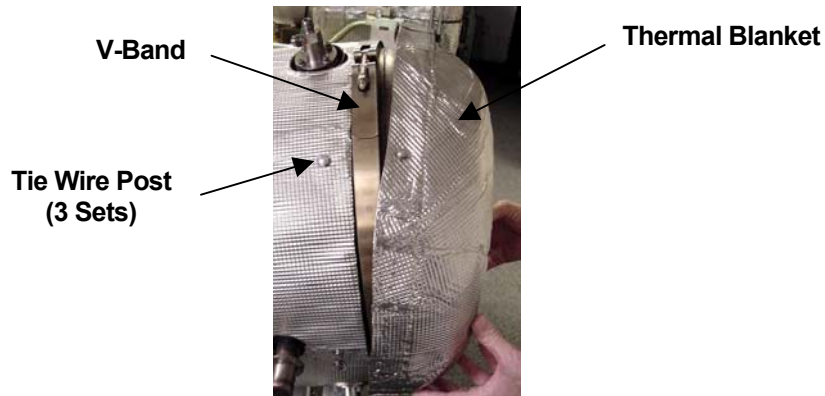
### CAUTION

Severe burns can occur since the thermal blanket and the exhaust dome are at very high temperatures at completion of the cool down cycle.

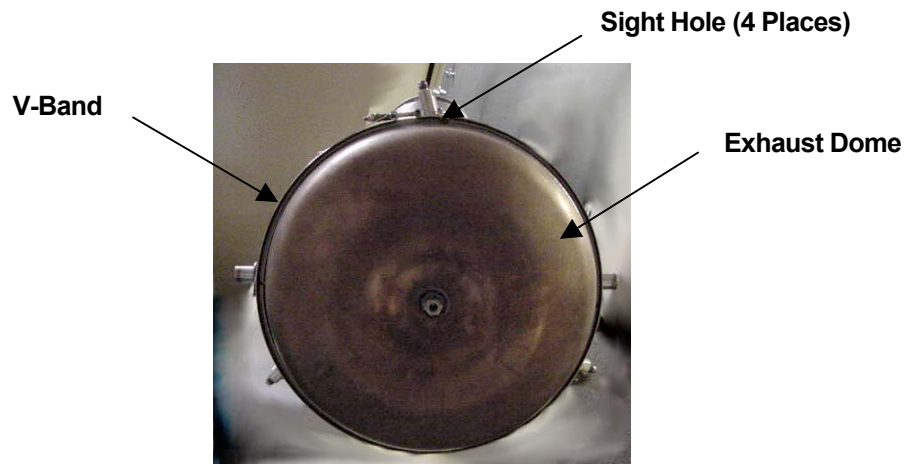
3. Let the engine cool down for approximately three hours.
4. Mark the position of the exhaust dome thermal blanket against the engine. Cut the three tie wires that secure the thermal blanket to the engine. Gently, pull the thermal blanket away to expose the exhaust dome.

**CAUTION**

Although the following figures do not show the TET thermocouple, DO NOT remove the TET thermocouple when performing these procedures.



5. Look directly into the four sight holes located around the edges of the exhaust dome under the V-band. If the exhaust dome is aligned properly with the engine, the edges of the exhaust dome and the engine will be flush in all four places.



6. If the exhaust dome is out of alignment, loosen the self-locking nut on the T-bolt sufficiently to allow the exhaust dome to move around.

**CAUTION**

If the self-locking nut and T-bolt are seized, use a suitable cutting fluid to loosen them. In extreme situations, it may be necessary to cut the T-bolt and replace it with a new T-bolt and self-locking nut.

T-bolt and  
Self-locking Nut



7. Using a rubber mallet, tap the exhaust dome a little at the edges and then tighten the T-bolt a little at a time, while looking through the sight holes. Repeat this step as required until the exhaust dome is aligned with the engine when looking through the four sight holes.
8. Using a 7/16-inch torque wrench, tighten the self-locking nut to 120 lb-in torque.
9. Slide the thermal blanket into its original position and secure it in place using tie wires.

If you have additional questions, please contact:

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## Notes and Related Information