



Powering Business Worldwide

Aerospace Group  
Carter Ground Fueling  
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### Applicable To Underwing Refueling Nozzles

64200 Series

64201 Series

64250 Series

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## Cotter Pin dislodgement

### Functional Operation:

During normal operation the operating handle crank transfers movement through the crank pin screw into the poppet linkage. This drives the nozzle poppet open and holds it open during fueling operations. The cotter pin functionally prevents the castle nut from inadvertently unthreading from the crank pin screw.

### Related Issue Cotter pin (P/N GF24665-1013):

We were recently made aware of multiple crank pin failures at various sites due to inadvertent cotter pin dislodgement. Without a cotter pin to properly secure the crank pin and castle nut it is possible for the poppet linkage to become detached. This can lead to fuel spills when the nozzle is disconnected from the aircraft. We believe it is possible for the cotter pin to become dislodged if installed incorrectly. If the cotter pin is improperly installed it may contact the nozzle body during the process of rotating the crank handle. As the crank assembly rotates around the nozzle body housing it may bind against the crank support structure or the casted support rib (Figure 1). When this event is repeated it can fatigue the cotter pin and cause it to fail.

Based on the serial numbers reported and their associated manufacturing dates, Eaton has determined that this is not related directly to a specific manufacturing lot of nozzles. It appears to be a random occurrence leading us to believe that the issue is occurring after field service of the nozzles in question. Therefore Eaton is recommending users follow the below inspection and maintenance.

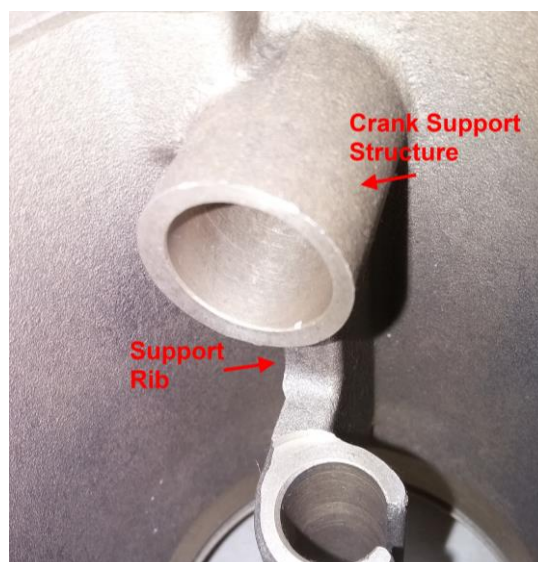


Figure 1 Nozzle Body

**Inspection:**

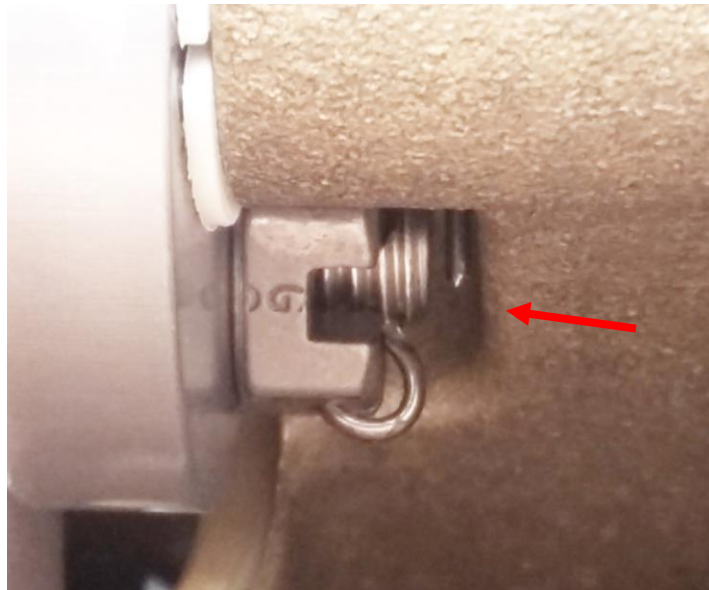
Due to the type of failure reported, and a potential for fuel spillage, we recommend inspecting nozzles currently in use. It is important to ensure the cotter pin is properly installed and secured so that it does not become inadvertently dislodged. If it is difficult to view the cotter pin from the inlet side you may open the nozzle poppet and view the cotter pin from the outlet end of the nozzle using a nozzle opening tool. It is important to ensure all pressure has been relieved prior to inspection.

Ensure the cotter pin and castle nut are properly attached to the crank pin. The assembly should look like figure 2. If any of the items are damaged or missing the nozzle should be taken out of service and repaired.

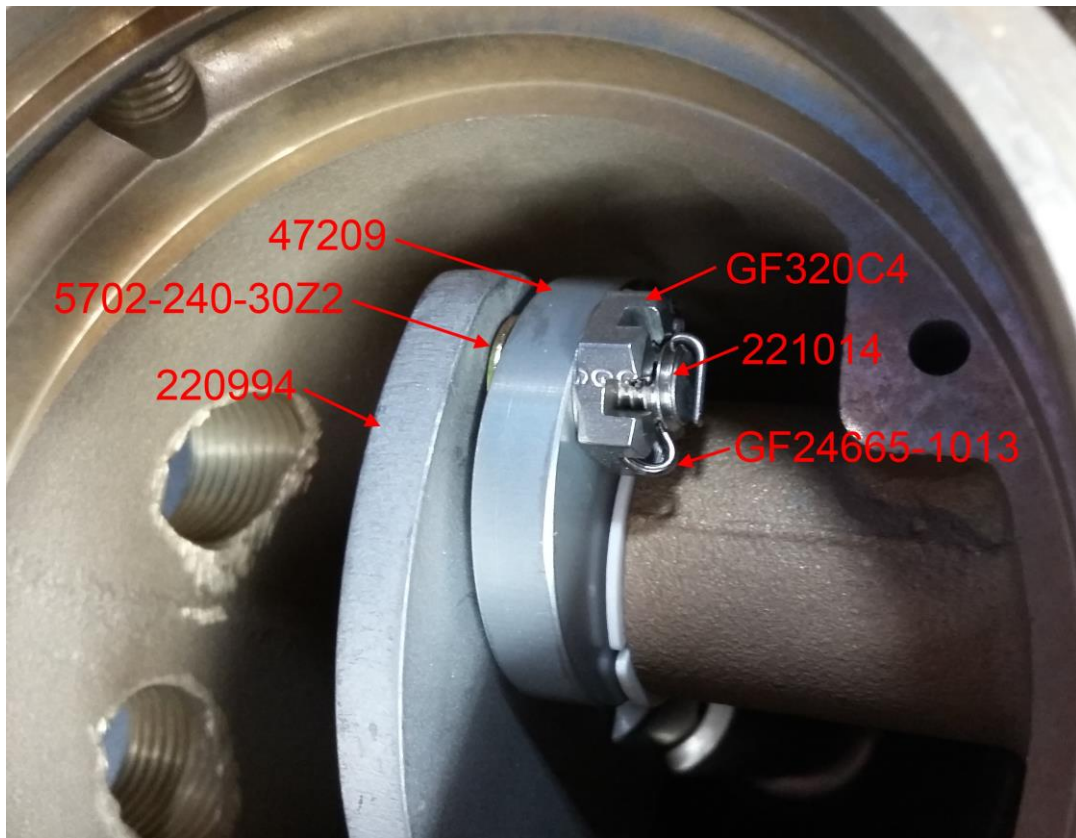


**Figure 2 Crank Assembly**

Ensure the cotter pin does not contact the nozzle body or the support rib. A properly installed cotter pin should pass through the slot in the support rib with adequate clearance similar to figure 3.



**Figure 3 Cotter Pin Clearing Support Rib**



**Figure 4 Crank Assembly**

**Technical Information and Repair:**

Service manuals are available if repair is required.

- SM64200 – For all 64200 nozzles
- SM64201 – For all 64201 nozzles
- SM64250 – For all 64250 Nozzles

Service manuals can be found at the link below.

<http://www.eaton.com/Eaton/ProductsServices/ProductsbyName/Carter/CarterGroundFuelingMaintenanceManuals/index.htm>