

# **S & T AIRCRAFT ACCESSORIES, INC.**

**310 FM 483  
NEW BRAUNFELS, TX 78130**



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**FAA REPAIR STATION #CC2R737K**

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## **AFTER INCIDENT INVESTIGATION REPORT**

24 November 2025

S & T Aircraft was contacted by Jason Aguilera with the National Transportation Safety Board (NTSB) on 19 November 2025 about the possibility of assisting with an accident investigation involving a Grumman G164A Super Ag-Cat with registration N6569 which crashed on 09 August 2024 in Dyess Arkansas. Basic information regarding the incident was obtained from the preliminary incident report CEN24LA313 to assist during the invitation request. I noted that the engine listed in the preliminary report as well as the FAA registration was a Pratt & Whitney R-1340 series engine. The carburetor in question is not physically capable of being installed on this engine. I reached out to Jason regarding this discrepancy, and he confirmed that the engine had been replaced with a Pratt & Whitney R-985 series engine in the past which this carburetor is installable on. No oversight was provided by the NTSB nor the FAA for this inspection.

The component was a carburetor (P/N NAR9B [P/L # 391598-1]) with serial number 5671799 (Figure 1) which arrived 24 November 2025. The package was inspected for any outward signs of damage and none that would have damaged the component was present. This component is within the capabilities of this repair station. The request for the investigation was to perform an inspection of the unit and identify any cause for concern that would inhibit proper flight characteristics.

Preliminary inspection of the carburetor indicated that it had been in a crash and did not appear to have been in a fire. The flange to which the carburetor bolts to the engine was severely damaged causing breakage to the stud holes (Figure 2 through 4) and tearing to the carburetor throat (Figure 2). The carburetor throat had also become slightly twisted causing the butterfly valve to hang and bind on the throat sidewalls. This in turn prevented the throttle shaft's ability to be moved. The safety wire appeared to be intact and was all consistent with other safety wire which indicate that the unit may have not been tampered with, but this cannot be completely ruled out.

The inspection began with an attempt to remove the fuel strainer from the body to determine if any sediment had clogged the fuel inlet. There was a dent in the body (Figure 5) which prevented the removal of the strainer assembly from the carburetor. It was decided to leave the strainer in place to prevent further damage and only remove it for inspection should no other cause of concern be found.

The economizer pump lever was removed from the throttle shaft, and it was noticed that there was a fiber gasket (Figure 6) that was installed between the throttle shaft bushing and the economizer pump lever that does not belong there. This gasket was likely installed in this location to remove some of the end play or was mistakenly installed in this position instead of under the seat where it belongs which is used to adjust the float level. It is no cause for concern that this gasket is here unless it was not installed under the seat as required. The throttle shaft was then removed from the body. Due to the body being twisted the throttle shaft was locked in place and had to be removed with percussive force. After removal of the throttle shaft, it was noticed that there was scoring on the shaft (Figure 7) as well as inside the shaft bushing (Figure 8) in the same location. This indicates that there may have been foreign material inside this bushing that was not removed during previous maintenance, or that the bushing was not inspected or replaced during previous maintenance. It was evident that this wear was caused over a period of time.

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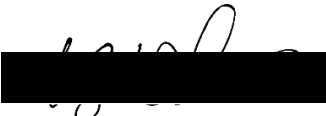
The carburetor was split in half along the seam, and the float needle was removed. It was noticed that the part number of the needle was not correct but had been previously modified to be the correct one (Figure 9). To the best of our knowledge, there exists no technical data that permits this modification. However, these carburetors were originally used for military applications, so it is within the realm of possibility that this needle was modified to support the efforts during World War 2 as a lot of basic modifications like this occurred to boost production of aircraft. Doing a record check for this serial number, this carburetor has not been at this repair station at least going back to 2000 when digital record keeping began at S & T Aircraft. Without having a complete history of work performed on this carburetor, it cannot definitively be stated that this needle was modified to support the war effort. A dimensional analysis of the needle indicates that it is mostly accurate to the correct needle, and I don't believe this modification would have caused any issues during operation.

The economizer needle was then removed, and it was evident that this needle has significant issues with it. Starting with the needle being the wrong part (Figure 10). The correct needle is more cylindrical than conical such as the incorrect part. It was also noticed that the graphite packing on this needle was so tight that it prevented the needle spring from being able to hold the needle down in its seat (Figure 11). This essentially allowed the needle to stay in an upward position which would cause the engine to run extremely rich. This would be most evident at idle. Additional effects from the engine running rich for prolonged periods would be smell of gas during operation, fouled spark plugs and rough running engine. If the pilot managed to get the aircraft off the ground, and they had ignition issues during flight, this most certainly would have been the cause of the incident.

The carburetor was then repackaged in the box it was received in and sealed with tamper tape.

It should be further investigated whether the magnetos and spark plugs were operating within expected parameters. S & T Aircraft always recommends that a mag check be performed both before takeoff and after landing. The pre-flight mag check is a standard check list item, however the reason for the after-landing check is that magnetos rarely show ignition issues until they have reached full operating temperature. When magnetos reach their operating temperature the coil and condenser insulation of the magneto begin to show breakdown resulting in weaker or improper sparking that is rarely evident during the pre-flight mag check.

It is my belief that this incident was precipitated by an inadequacy of maintenance on the aircraft and the MRO that performed the maintenance on the carburetor. Additionally, because this needle would be stuck causing a rough running engine, the unnecessary risk that the pilot took with their life should not be understated. Here at S & T Aircraft, when we train new mechanics, we make sure to drive home the point that an airplane is not like a car; you cannot pull over at the nearest cloud when something goes wrong. The work that our mechanics do has to be right the first time, or they will hurt someone at best, or destroy a family at worst. Our repair station's safety record and reputation are paramount to this training mentality. More emphasis needs to be placed on this line of thought for anyone working in aviation.

  
Thomas L Durbin  
Chief Inspector & Quality Assurance Manager  
S & T Aircraft Accessories, Inc.

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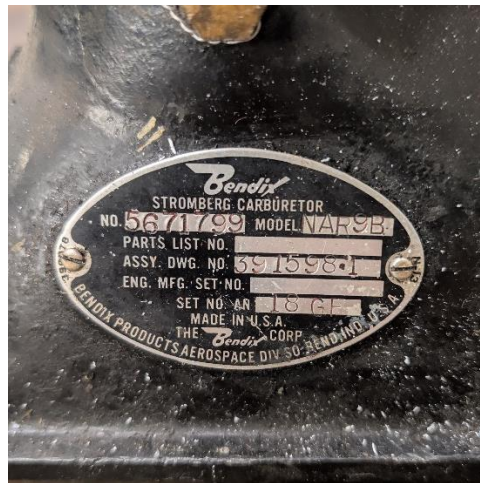


Figure 1



Figure 2

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Figure 3



Figure 4

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Figure 5



Figure 6

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Figure 7



Figure 8

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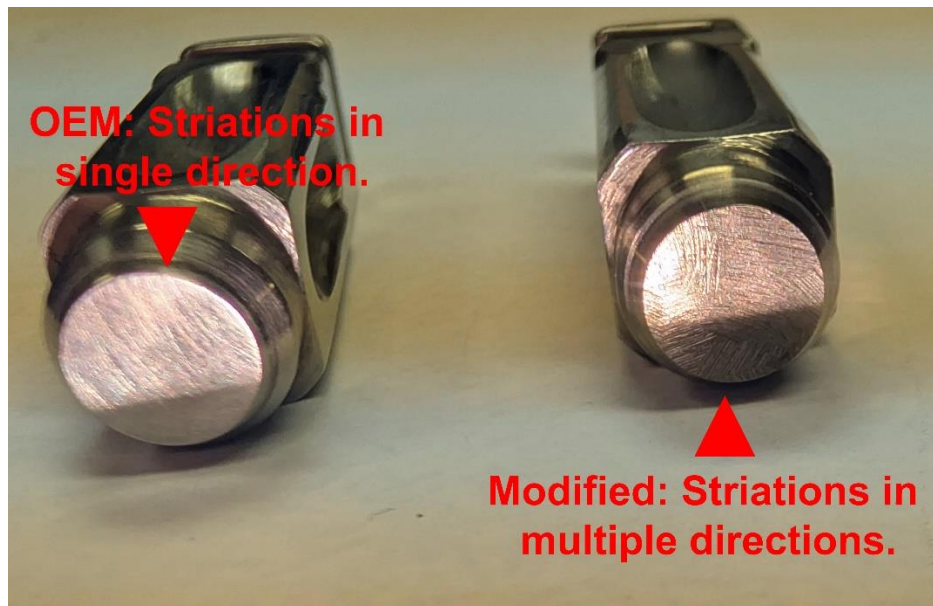


Figure 9

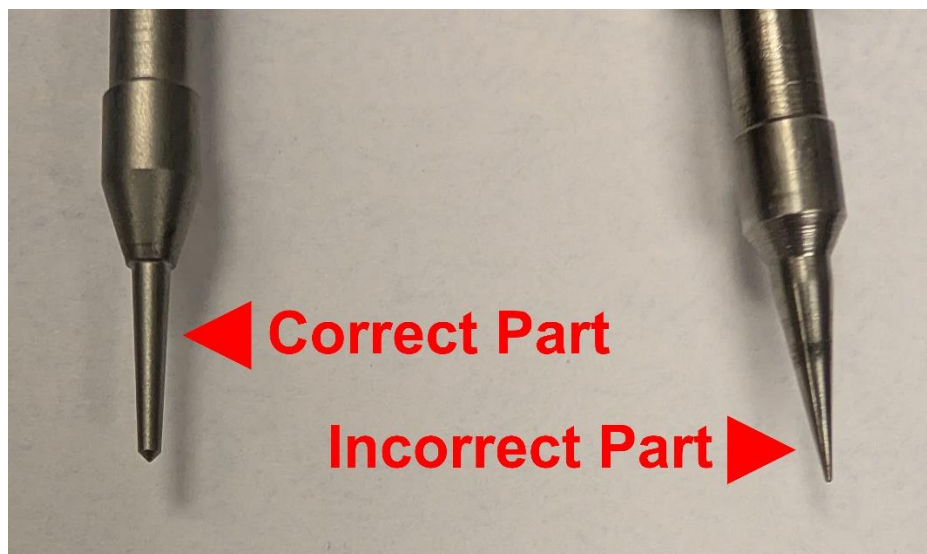


Figure 10

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Figure 11