Beech Jet 400, Wheel Tie Bolts Maintenance Alert

REMOVE OMEGA PMA BOLT NUMBER GYS186C21-OAA FROM SERVICE

Since 2016, several notable Omega PMA Bolt failures have occurred on Beech Jet 400 Aircraft; this resulted in main landing gear wheel tire deflation and wheel separation. These failures include:

- In June of 2016, during a pre-flight inspection of a Beech Jet 400A, an aircrew staff member noted, one of the seven (7) bolts on the right main Landing Gear wheel was missing. Further investigation revealed an Omega PMA Bolt had sheared off at the nut-end and fallen out of the wheel assembly.
- In July of 2017, a mechanic discovered, an Omega PMA Wheel Bolt was missing from a Beech Jet 400A. The mechanic found the nut, with the shank still attached, near the aircraft's right wing tip, which indicated the Bolt had sheared off at the head end.
  - During a post-flight inspection, a mechanic discovered a tire deflation and two Omega PMA Wheel Bolts with their heads sheared off. Inspection of the wheel revealed three (3) additional Omega Wheel Bolts with cracks in the radius between the head and the shank. These Bolts also appeared to have tooling marks on the Bolt shanks.
  - FAA Airworthiness Inspectors from the Lincoln Nebraska Flight Standards District Office examined a number of failed Beech Jet 400A Omega PMA Wheel Bolts. Inspectors found bolt heads and shanks sheared. Inspectors also noted several bolt heads cracked in the radius between the shank and the head (see Figures 1, 2, and 3).
- In May of 2018, a Beech Jet 400A experienced a wheel separation failure just after a landing roll while exiting the runway and entering the taxiway. The outer half of the wheel had separated and departed the aircraft due to **all seven (7)** of the main Wheel Bolts failing. During the event, the main tire deflated and departed the wheel, causing an impact to the underside of the aircraft wing. Further investigation revealed five of the seven failed main Wheel Bolts were Omega PMA bolts (see Figure 4).

Subsequent Investigation uncovered Manufacturing anomalies that render the Omega fasteners not airworthy; these anomalies were undetected prior to the end user failures. Records indicate the Omega PMA Bolts were installed in Beech Jet 400A wheel assemblies during overhaul at Aircraft Specialties Inc., a Part 145 Certified Repair Station from 2016 to 2018. The overhauled wheel assemblies were returned to Service and sold through wheel exchange programs.

Omega issued a Mandatory Service Bulletin OAA-MSB-2018-001 (see Appendix) to inform operators of possible damaged or failed Wheel Bolts. See Attached Service Bulletin under Figure 6t.

Applicability-Omega Bolt part number (P/N) GYS186C21-OAA were installed on Meggitt Main Wheel assembly P/N 5010720-1 and Beechcraft Main Wheel assembly P/N 400- 8002-201. These wheel assemblies are eligible for installation on Beech Jet model 400, 400A, and 400T aircraft. The Omega Bolt was PMA approved as a direct replacement part for Meggitt Aircraft Braking Systems Bolt P/N GYS186C21.

The Omega PMA bolts, part number GYS186C21-OAA, can be identified by its head marking (Figure 5). If found, these Bolts should be **immediately removed from service and discarded.**

Figure 1 OMEGA Head Bolt and Shank Failures (1)

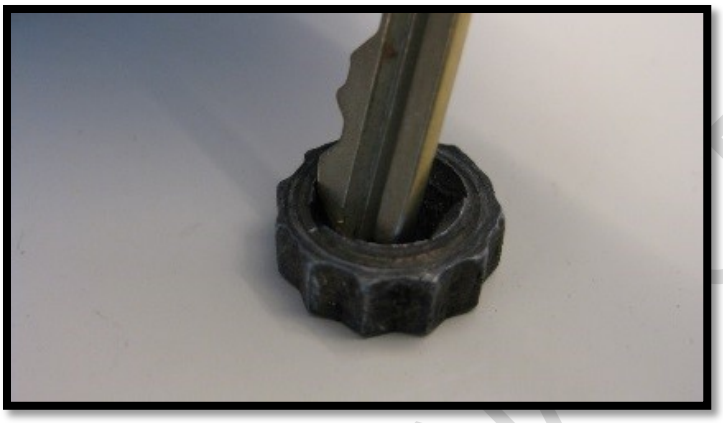


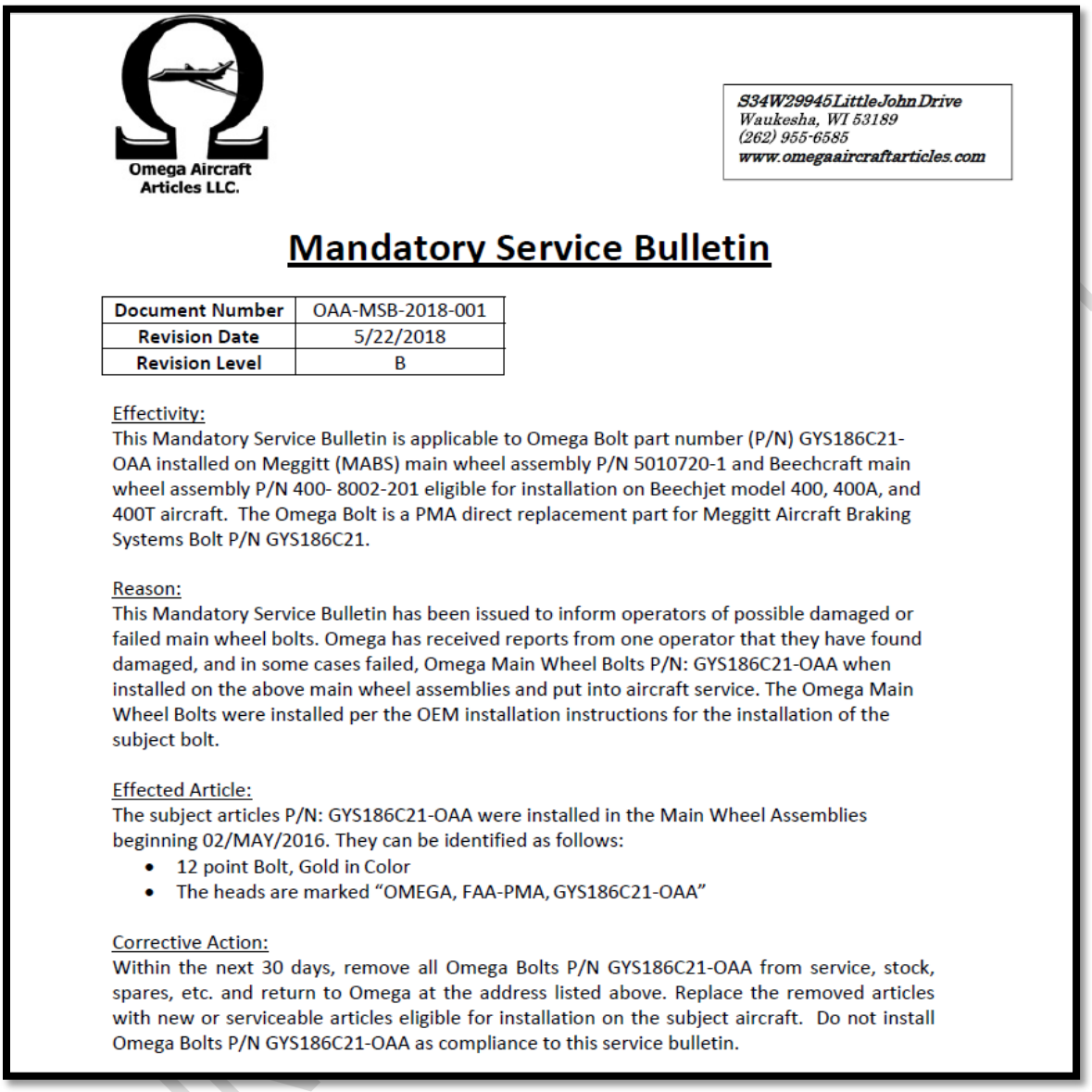
Figure 2 OMEGA Head Bolt and Shank Failures (2)

Figure 3 OMEGA Head Bolt and Shank Failures (3)

Figure 4 Beech Jet 400A, Service Wheel Separation

Figure 5 REMOVE FROM SERVICE

APPENDIX - MANDATORY SERVICE BULLETIN



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Mandatory Service Bulletin

Document Number	OAA-MSB-2018-001
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Revision Level	B

Effectivity:
This Mandatory Service Bulletin is applicable to Omega Bolt part number (P/N) GYS186C21-OAA installed on Meggitt (MABS) main wheel assembly P/N 5010720-1 and Beechcraft main wheel assembly P/N 400- 8002-201 eligible for installation on Beechjet model 400, 400A, and 400T aircraft. The Omega Bolt is a PMA direct replacement part for Meggitt Aircraft Braking Systems Bolt P/N GYS186C21.

Reason:
This Mandatory Service Bulletin has been issued to inform operators of possible damaged or failed main wheel bolts. Omega has received reports from one operator that they have found damaged, and in some cases failed, Omega Main Wheel Bolts P/N: GYS186C21-OAA when installed on the above main wheel assemblies and put into aircraft service. The Omega Main Wheel Bolts were installed per the OEM installation instructions for the installation of the subject bolt.

Effected Article:
The subject articles P/N: GYS186C21-OAA were installed in the Main Wheel Assemblies beginning 02/MAY/2016. They can be identified as follows:

- 12 point Bolt, Gold in Color
- The heads are marked "OMEGA, FAA-PMA, GYS186C21-OAA"

Corrective Action:
Within the next 30 days, remove all Omega Bolts P/N GYS186C21-OAA from service, stock, spares, etc. and return to Omega at the address listed above. Replace the removed articles with new or serviceable articles eligible for installation on the subject aircraft. Do not install Omega Bolts P/N GYS186C21-OAA as compliance to this service bulletin.

Figure 6 OMEGA Mandatory Service Bulletin