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Mandatory Service Bulletin

Date: 11/25/19

Topic: Four-cylinder E-MAGs with 24-volt bus.

Models Affected: Series 113, 114 ignitions operating on 24-volt bus and Serial No. below 5927.

Urgency: High

Background:

Almost all E-MAG Series 113 and 114 four-cylinder ignitions are labeled for operation on 12 volts. Starting with circuit board version 17, introduced with the 114 Series on October 2007 (starting serial no 1087), the ignition power regulator circuit was revised to accommodate a wider range of bus voltages - including 24-volt systems. Notwithstanding this change, ignition labeling has retained the 12-volt designation. On the few occasions where installers inquired about a 24-volt bus, we explain that 114 Series (circuit boards V17 or higher) can work with 24 volts. The exact number of 24-volt installations is unknown but is felt to be relatively few.

Until recently, 24-volt installations have been undistinguished in terms of performance or service life. However, we now have one (1) installation where a 24-volt bus has impacted the ignition p-lead (kill) control circuit, causing the circuit to fail in the OFF/grounded state. This pattern occurred twice on the same craft. We're unaware of any special or aggravating conditions on the craft in question.

Starting with Serial No. 5927 (June 2019), we revised the specification of two parts on the circuit board to increase operating margins, regardless of bus voltage. Aircraft operating with a 12-volt bus or production serial numbers after 5927 are not affected.

Remedy:

E-MAGs prior to Serial No 5927 operating on a 24-volt bus need to be inspected and updated.

Inspection:

Field inspection and repair is not authorized and may void warranty if attempted.

Actions Required:

Return equipment to E-MAG at the address shown, with instruction "Update for 24-volts". While relatively few installations are affected, we consider this update to be mandatory and urgent for aircraft with a 24-volt bus.