



**North America's
Full Service
Jabiru Center**

www.usjabiru.com email: info@usjabiru.com phone: 931-680-2800 fax: 931-680-2800
2842 Highway 231 North, Shelbyville, TN 37160

Service Bulletin	
Service Bulletin #	JSA-006
Superseded Bulletin #	N/A
Issue Date	02/21/2011
Effective Date	02/21/2011
Limitations for Completion	Immediate
Make & Model Affected	J250-SP Serial # All
	J230-SP Serial # All
	J170-SP Serial # All
Page 1 of 5	

1	APPLICABILITY:	1
2	BACKGROUND:	1
3	COMPLIANCE – IMPLEMENTATION SCHEDULE	1
4	PROCEDURE:	2
5	AIRWORTHINESS NOTE:	3

Issue	Reason for Issue	Revision Status
1	Fuel System Issues	02/21/2011

1 Applicability

All models of Light Sport Aircraft manufactured by Jabiru USA Sport Aircraft, LLC within serial number ranges above.

2 Background

- A Jabiru J230-SP aircraft has had fuel tank seepage through the fiberglass tank to the interior of the wing skins after sustained operation on auto gas.
- The sealant used in newer Jabiru fuel tanks is specified by its manufacturer as resistant to low concentrations of Ethanol and Methanol in auto fuel but is susceptible to keytones and other compounds in auto fuel.



**North America's
Full Service
Jabiru Center**

www.usjabiru.com email: info@usjabiru.com phone: 931-680-2800 fax: 931-680-2800
2842 Highway 231 North, Shelbyville, TN 37160

Service Bulletin	
Service Bulletin #	JSA-006
Superseded Bulletin #	N/A
Issue Date	02/21/2011
Effective Date	02/21/2011
Limitations for Completion	Immediate
Make & Model Affected	J250-SP Serial # All
	J230-SP Serial # All
	J170-SP Serial # All
Page 2 of 5	

- Published fuel sample results from fuel dispensing stations around the country show varying levels of acetone, toluene, MEK, MTBE, TAME and other oxygenates which may have unknown effects on Jabiru's fuel tank sealant.
- Reports have come to our attention from operators of Experimental aircraft using Jabiru engines of fuel irregularities and fuel system problems when using auto gas including engine out forced landings and even a fatal crash.
- The compilation of these incidences and reports gives Jabiru USA Sport Aircraft cause for great concern.
- The question of solvents in auto gas is a good bit more involved than just ethanol. We've recently had customers with fiberglass tanks and others with poly tanks who have had problems with auto gas even with no ethanol. In some cases the auto gas has dissolved the tank sealant even though the sealant is supposed to be ethanol resistant. In other cases the auto gas has reacted with something to form stringy mucus like strands that are quite good at gumming up the carburetor slide. In two other cases something in auto gas coated the inside of the engine with a black combustion product that looked much like burned caramelized sugar (coated valves and valve guides resulting in stuck valves). At this point Jabiru USA is unable to pinpoint the cause of the fuel anomalies.
- We have been investigating what may cause tank sealants to dissolve and have been surprised at what we have found. Anyone can find the same info if



**North America's
Full Service
Jabiru Center**

www.usjabiru.com email: info@usjabiru.com phone: 931-680-2800 fax: 931-680-2800
2842 Highway 231 North, Shelbyville, TN 37160

Service Bulletin	
Service Bulletin #	JSA-006
Superseded Bulletin #	N/A
Issue Date	02/21/2011
Effective Date	02/21/2011
Limitations for Completion	Immediate
Make & Model Affected	J250-SP Serial # All
	J230-SP Serial # All
	J170-SP Serial # All
Page 3 of 5	

you dig hard enough and pursue the initial Google findings. A week spent digging and following various leads will result in dozens of reports on auto gas quality issues. We have seen reports detailing contaminants in fuel found in the Detroit area that included ethanol, methanol, MEK, acetone, toluene, TAME and MTBE. Tank sealants are not designed to stand up to many of those contaminants.

- Additionally, many tank sealants are labeled as resistant to 10% or 15% ethanol concentrations. Some auto fuel can contain more than 15% ethanol.
- If the gas – ethanol mix stays blended, the concentrations may stay below those limits. However – when some condensation enters the tank the resulting moisture combines with ethanol very readily (ethanol will combine with water much faster or more easily than with gasoline). At some point the water ethanol mixture becomes heavier than gasoline and sinks to the bottom of the tank where it may remain in contact with the tank sealant with the ethanol concentration higher than 15%. This concentration exceeds the tolerance of many tank sealants and can dissolve the sealant. Since aircraft are prone to sitting for longer periods than cars, the ethanol mix at the bottom of the tank can be undisturbed sometimes for weeks or even months at a time while dissolving the sealant.
- Again, we are not even close to having many answers but offer these observations on what we've seen from auto gas use over the last 12 years that we've been operating aircraft with Jabiru engines. We really have not been able to come to any solid conclusions.



**North America's
Full Service
Jabiru Center**

www.usjabiru.com email: info@usjabiru.com phone: 931-680-2800 fax: 931-680-2800
2842 Highway 231 North, Shelbyville, TN 37160

Service Bulletin	
Service Bulletin #	JSA-006
Superseded Bulletin #	N/A
Issue Date	02/21/2011
Effective Date	02/21/2011
Limitations for Completion	Immediate
Make & Model Affected	J250-SP Serial # All
	J230-SP Serial # All
	J170-SP Serial # All
Page 4 of 5	

- On the other hand – we have yet to see a tank problem with the sealants we use when the aircraft is flown exclusively on 100LL Avgas. It costs a bit more but we view it as cheap insurance for our planes with tanks sealed with any of the commercial sealants out there today.
- Originally this Service Bulletin was intended to provide operators with basic guidance information for operating their aircraft and engines on fuels containing alcohol.
- Current Jabiru 2200 and 3300 engines are designed to use Aviation Gasoline (AVGAS) or Premium Unleaded Motor Gasoline (MOGAS) of at least 91 AKI (anti knock index – commonly referred to as the octane number on gas pumps in the USA).
- It has become common to find solvent substances in gasoline – even gasoline with no ethanol added.
- It is impossible to tell what additives may be in auto gas which may affect the fuel system on Jabiru aircraft.

www.usjabiru.com email: info@usjabiru.com phone: 931-680-2800 fax: 931-680-2800
2842 Highway 231 North, Shelbyville, TN 37160

Service Bulletin	
Service Bulletin #	JSA-006
Superseded Bulletin #	N/A
Issue Date	02/21/2011
Effective Date	02/21/2011
Limitations for Completion	Immediate
Make & Model Affected	J250-SP Serial # All
	J230-SP Serial # All
	J170-SP Serial # All
Page 5 of 5	

3 Required Action

- All Jabiru Light Sport Aircraft shall be operated on Avgas 100LL or Auto Gas of 91 octane or more with **NO ETHANOL** or other alcohol-based additives.
- Any auto gas used in Jabiru USA Light Sport Aircraft must be first tested for alcohol (ethanol, methanol, etc) before being added to the aircraft's fuel tanks.

4 Recommendations

- Operators of all aircraft manufactured by Jabiru USA Sport Aircraft are from the effective date of this Service Bulletin strongly encouraged to operate their aircraft on Avgas 100LL.