School Board of Nassau County

School Board Meeting Agenda Item Request

Please complete this form in order to add any item to the School Board Meeting Agenda.

ITEM TYPE: ☐ Recognition / Award ☐ Presentation ☑ Consent ☐ Discussion

ACTION TYPE: ☐ Informational ☑ Take Action ☐ Recognition ☐ Tabled Item

If this is a tabled item, on what date was the item tabled?

AGENDA STATEMENT:

Donation of a 1996 Diamond DA20-A1 Katana, Serial Number 10170, and a number of spare parts for the Aerospace Program at FBHS.

ISSUE:

Keith and Annie Ellis of 100 Mallard Lane, Locust Grove, GA 30248 have offered to donated the plane so that the district can expand the scope of the aerospace program.

ALTERNATIVES:

Decline the donation.

RECOMMENDATIONS:

Accept the donation.

RATIONALE:

Have a plane for the program will allow a more hands-on approach to many of the course frameworks including design and maintenance. Our ultimate goal is that advanced students would be able to learn to pilot the plane.

BUDGET IMPACT (SPECIFIC DETAILS):

We may incur storage, maintenance, and insurance costs at some point.

DATA SOURCE:

SUBMITTED BY:

Brent Lemond

Spec Sheet: Diamond DA20-A1 “Katana” N859DF (nee N853DF)

Design


DA20-A1 “Katana”


DA20-C1 Instrument Panel

The Diamond DA20 Katana is a low-wing cantilever monoplane, commonly operated as a low-cost two-seat trainer aircraft. According to Flight International, it has been considered to be relatively unorthodox amongst trainers, utilizing a design that makes heavy use of the manufacturer's prior glider products. The Katana benefits in the training role from its relative ease of handling and responsive controls. In comparison to traditional trainer aircraft, it has been marketed as substantially reducing the associated fuel and maintenance costs of operation, while providing favorable flight qualities and the necessary range for trainees to gain experience with. For a time, the Katana was the only two-seat composite training aircraft available that offered both low costs and incorporated advanced technologies, giving it an effective niche in the sector.

The Katana has several distinctive features, including its all-composite construction, low-mounted wing, T-tail arrangement, and a castering nosewheel. All models make use of a composite airframe which is constructed of glass- and carbon-fiber reinforced plastic. The one-piece fuselage has removable wings, which assists with transportation and servicing activities. The wings themselves have transparent Plexiglas panels present so that key control elements can be readily inspected without disassembly. The airframe is complete with a sleek finish across the entirety of its exterior, which serves to eliminate corrosion and rivets in order to lower maintenance requirements. The maintenance costs of the Katana have been considered to be relatively low.

The Katana provides excellent external visibility to its pilots via the use of an one-piece bubble canopy, which its hinged at the rear, enabling easy entry using the built-in steps. The cockpit features a comprehensive six-unit instrumentation panel on the left-hand side, the majority of avionics-related controls and displays in the center of the console, and engine-specific elements are allocated to the

right-hand panel. The Katana makes use of individual stick-type flight control, as opposed to yokes, along with key engine controls on a centrally-positioned pedestal. There have been positive reports on the aircraft's comfort, the crew accommodated on fixed-position reclined seats with a small personal stowage area located directly behind; the noise levels are so low that headsets are typically unnecessary for voice communication, although an intercom system is integrated for this purpose.

DA20-A1 Katana

The nose wheel of the DA20 is not linked to the rudder pedals and turns while taxiing are made with differential braking, with rudder steering becoming more effective as airspeed increases. The Katana possesses a higher glide ratio than many of its competitors; its glide ratio is 11:1 and the DA20-A1 is 14:1. The aircraft does not feature any instances of vortex generators, wing fences or many other aerodynamic devices, aside from the integral winglets, which positively contribute to roll stability, drag-reduction, and enhanced aileron effectiveness. The Katana's T-tail configuration has also been claimed to reduce the negative effects of propeller-generated slipstream on the aircraft's pitch control as well as increase low-speed pitch authority.

The wings have an intentional twist in their shape which causes the wing roots to stall in advance of the wingtips, which has the effect of the ailerons being fully effective well after the onset of a primary stall condition.[6] Other unfavorable flight conditions are often guarded against, such as a wing drop, which may only be produced as a consequence of prolonged and excessive elevator application during a steep climbing turn, and can be rectified by the relaxation of back pressure. The control forces across all regimes are well-balanced, which reportedly reduces the frequency to which trimming of the control surfaces may need to be performed. Many of the flight control surfaces, such as the elevators and ailerons, are push-rod actuated, while control of the rudder is achieved via cables. As a measure to protect against instances of over-rotation, a reinforced plastic skid is present underneath the tail unit.

The Katana is commonly fitted with a Continental O-240 piston engine, which is both a lightweight and relatively fuel-efficient powerplant. The Rotax 912 is also equipped upon many aircraft. Variants powered by the Rotax engine have been approved for use with standard automotive gasoline, automotive-grade oil Mobil is also recommended for use as a lubricant. In the event of a loss of coolant leak, the Rotax engine is capable of 'dry running' for up to 2 hours without any resulting damage if run at or below 56 per cent power. The aircraft's constant-speed propeller is hydraulically actuated and fitted with composite blades. A unique clutch arrangement automatically disengages the propeller from the engine in the event of an obstacle being struck.

This outline is from the “Diamond DA20” Wikipedia entry.

Note: N859DF is equipped with the Rotax engine and constant speed propeller.

Aircraft Valuation

Valuation: DA20-A1 “Katanas” do not come up for sale very often, so there are few currently available. As of 26 April 2018, comparable aircraft prices are as follows:

Domestic—

1996 Diamond DA20-A1 “Katana” in Orange County, California--$48,000 (private seller)

1995 Diamond DA20-A1 “Katana” in Denver, Colorado—$54,900 (broker)

International—

1996 Diamond DA20-A1 “Katana” in Sweden—$78,651

1997 Diamond DA20-A1 “Katana” in Germany—$79,203

N853DF is Assigned

Data Updated each Federal Working Day at Midnight

Aircraft Description

Serial Number	10170	**Status**	Valid
Manufacturer Name	DIAMOND AIRCRAFT IND INC	**Certificate Issue Date**	11/29/2017
Model	DA20-A1	**Expiration Date**	11/30/2020
Type Aircraft	Fixed Wing Single-Engine	**Type Engine**	Reciprocating
Pending Number Change	None	**Dealer**	No
Date Change Authorized	None	**Mode S Code (base 8 / oct)**	52731316
MFR Year	1996	**Mode S Code (base 16 / hex)**	ABB2CE
Type Registration	Corporation	**Fractional Owner**	NO

Registered Owner

Name	GECKO AIR LLC		
Street	13330 N PILOT DR		
City	TUCSON	**State**	ARIZONA
County	PIMA	**Zip Code**	85755-8737
Country	UNITED STATES		

Airworthiness

Engine Manufacturer	BOMBARDIER	**Classification**	Experimental
Engine Model	ROTAX 912 F3	**Category**	Research and Development
A/W Date	10/11/2007		

The information contained in this record should be the most current Airworthiness information available in the historical aircraft record. However, this data alone does not provide the basis for a determination regarding the airworthiness of an aircraft or the current aircraft configuration. For specific information, you may request a copy of the aircraft record at http://aircraft.faa.gov/e.gov/ND/

Note: The current owner will be retaining the registration number N853DF for his new airplane. The Katana will be re-registered as N859DF.

Lemond, Brent M

From: Krea Ellis <krea.ellis@gmail.com>
Sent: Friday, April 27, 2018 12:55 PM
To: Keoki Gray
Cc: Lemond, Brent M
Subject: Re: DIamond Katana Aircraft

Follow Up Flag: Follow up
Due By: Monday, May 07, 2018 8:00 AM
Flag Status: Flagged

Thanks for the update. Yes, it's a bit hectic as we are leaving in a hour or so.

Name: Keith R. Ellis II and Annie T. Ellis
Address: 100 Mallard Lane Locust Grove, GA 30248
Phone: (H) 770-898-7869 Keith Cell - 678-520-5059 Annie Cell 404-983-7704

Our intention is to donate our plane, a 1996 Diamond DA20-A1 Katana, Serial Number 10170, and a number of spare parts to the Foundation.

I would like a little more information on the Foundation, how it is structured and how they intend to use and finance the operation of the plane.

We will return on May 5, but should have access to email at most of the hotels during this week.

Please let me know if you have any questions and if you have an idea of when we can actually complete the donation process. As I mentioned to you, I need to re-register the airplane with a different tail number and have it appraised.

Krea

> On Apr 27, 2018, at 12:46 PM, Keoki Gray <kgflieraia@gmail.com> wrote:
>
> Hi, Krea,
>
> I know you said you were leaving for a trip today, but I wanted to forward this to you anyway. It is from my boss (his email address is included) and seems to be the last bits of information he needs for his presentation to the School Board/Foundation. I understand how hectic the departure day can be, so if this has to wait until you return that's okay.
>
> Thanks and fly safely,
>
> Keoki
>
> ---------- Forwarded message ----------
> From: **Keoki P. Gray** <keoki.gray@nassau.k12.fl.us>

Date: Fri, Apr 27, 2018 at 12:42 PM
Subject: Fwd: RE: DIamond Katana Aircraft
To: kgflieraia@gmail.com

Keoki,

Can you get me the donor's name, address, contact information, and perhaps a letter form him stating that he would like to donate the plane? That would help me complete the board packet.

Sincerely,
Brent Lemond
Director of Career and Adult Education
Nassau County School District
1201 Atlantic Avenue
Fernandina Beach, FL 32034
(904) 548-4474 Office
(904) 548-4499 Fax

From: Keoki P. Gray [mailto:keoki.gray@nassau.k12.fl.us]
Sent: Friday, April 27, 2018 8:19 AM
To: Brent M. Lemond <brent.lemond@nassau.k12.fl.us>
Subject: DIamond Katana Aircraft

Hi, Brent,
This is a quickie bit of info about the airplane. Please let me know if you need more information, or if I need to send this on to anyone else.
Thanks,
Keoki

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