

	<b>DA40XLS Competitive Comment</b>	<b>Why is this important?</b>	<b>Diamond DA40 CS / XLS</b>	<b>Cessna 182T</b>	<b>Piper Archer III</b>	<b>Cirrus SR20 GTS</b>
<b>PERFORMANCE</b>						
<b>Cruise Speed</b>	DA40XLS is has the fastest cruise speed in class. It is 2% faster than SR20 and 7% faster than C182 which both have higher hp and is a huge 17% faster than Archer which has the same hp.	Speed is life! The DA40 is the faster production 180hp airplane on the market.	<b>150 ktas</b>	140 ktas	128 ktas	147 ktas
<b>Range (@75% power)</b>	DA40XLS has only slightly less range than category leader C182 which needs 48 more gal to achieve that range and has approx 15% greater range than SR20	DA40XLS offers the ability to make medium range trips non stop	720 nm	<b>800 nm</b>	444 nm	627 nm
<b>Useful Load (typically equipped)</b>	DA40XLS compares favorably with competitive models when considering comparably equipped airplanes. C182 advantage is owed only to the fact that it needs to carry significantly more fuel to accomplish similar missions to the DA40XLS		837 lbs	<b>1037 lbs</b>	752 lbs	888 lbs
<b>Payload (with full fuel) (typically equipped)</b>	DA40XLS has very competitive full fuel payload and is only bested by the SR20 by 15 lbs		537 lbs	515 lbs	464 lbs	<b>552 lbs</b>

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<b>Takeoff Distance over 50 ft obstacle</b>	DA40XLS has a huge advantage over all other competitors with the shortest T/O distance over an obstacle	T/O distance is more than a performance number. It contributes greatly to safety. DA40's low stall speed allows you to get into the air faster and be at obstacle clearance altitude much quicker than any other airplane in class	<b>1140 ft</b>	1514 ft	1608 ft	2221 ft
<b>Fly-over Noise Level (dBa)</b>	DA40XLS is 12 to 20% quieter than the competition	Many airports already have noise restrictions and more will follow, The DA40 is a neighborhood friendly airplane.	<b>69.3</b>	77.7	n/a	83.4
<b>Stall Speed</b>	DA40XLS has low stall speed. SR20 has 14% higher stall speed.	Low stall speed means the airplane gets off the ground quicker, lands slower and has the potential for significantly lower impact forces	49 kts	50 kts	<b>45 kts</b>	56 kts
<b>Glide Ratio</b>	DA40XLS has a glide ratio competitive with the SR20 and much better than others in class.	Glide ratio equates to options in the event of a loss of power. For each 1,000 ft of altitude the DA40XLS can glide almost 2 miles.	10.3 : 1	8.6 : 1	9.8 : 1	<b>10.9 : 1</b>
<b>Demonstrated Crosswind Component</b>	DA40XLS has comparable demonstrated crosswind component	DA40XLS has great crosswind handling characteristics and can routinely handle higher crosswinds than demonstrated with a pilot familiar with the airplane	20 kts	20 kts	17 kts	<b>21 kts</b>

**VALUE FEATURES**

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	Smooth compound cures free of seams or rivet lines reduce drag, enhance aerodynamic performance and efficiency in a way not possible to achieve with conventional metal aircraft construction techniques.	This means faster cruise, lower fuel burn, better climb, and great high density altitude performance. Smooth skin surface reduces interior cabin noise	<b>Carbon/Fiberglas Composite</b>	Aluminum	Aluminum	Fiberglas Composite
<b>Airframe Construction</b>	Composite construction is inherently fail-safe. If a single strand within a composite bundle; an entire bundle of composite strands or even an entire layer, is lost there is no significant loss in strength. SR20 honeycomb composite structure is not as damage tolerant as Diamond design	Damage sustained by composite structures tend to be localized and does not transfer to associated structure. This aids in preventing catastrophic structural failure and greatly reduces the cost of repair in the event of damage when compared to metal airframes	<b>Damage Tolerant Design</b> <b>Yes</b>	No	No	Yes
	Metal aircraft suffer from common service problems, mostly due to corrosion, fatigue and damage tolerance. For composite structures the issues are extremely rare.	Much better levels of safety, and dramatically lower maintenance costs even as the airframes ages are possible with composite airframes.	<b>Corrosion resistant</b> <b>Yes</b>	No	No	Yes
<b>Engine</b>	DA40XLS utilizes a power plant that is recognized as the most popular and reliable current production piston engine in use today in new GA manufacture	This equates to readily available spare parts, low prices, and low overhaul costs.	Lycoming IO-360-M1A, 180hp, fuel injected	Lycoming IO-540-AB1A5, 230hp, fuel injected	Lycoming O-360-A4M, 180hp, carbureted	Continental IO-360-ES, 200hp, fuel-injected

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<b>Propeller</b>	DA40XLS offers choice of 3 different prop types	The propeller that matches the needs of the buyer is available rather than being stuck with only one choice	Choice of 2 or 3 blade, constant speed, (metal or composite)	3 blade constant speed, metal	2 blade, fixed pitch, metal	3 blade constant speed, metal
<b>Passenger Entry Front Doors</b>	DA40XLS has a unique front entry via the large fwd hinged canopy	Allows easy and unobstructed access for front seat occupants	<b>Front Canopy, accessible left and right</b>	Left and right front doors	Right front door	Left and right front doors
<b>Passenger Entry Rear Doors</b>	DA40XLS is the <u>only</u> aircraft in class to offer a separate door for rear passenger entry	No more acrobatic gyrations to get your passengers into the rear seat. The ability to load large and awkward baggage items through the rear door offers load carrying flexibility not available with other airplanes.	<b>Left Rear Passenger Door</b>	None	None	None
<b>Avionics</b>	DA40XLS offers the most advanced glass cockpit available in GA unlike the non-integrated avionics systems offered by Cirrus and Piper	G1000 offers the most advanced, reliable and feature rich avionics product available in GA which is designed for easy upgradeability as new features are released	<b>Garmin G1000 Integrated Avionics System</b>	<b>Garmin G1000 Integrated Avionics System</b>	Conventional Analog or optional Avidyne Integra with panel mount radios	Avidyne Integra with panel mount radios
<b>WAAS / Electronic Flight Charts</b>	DA40XLS is fully WAAS enabled and offers the most advanced charting options available.	PrecisionGPS WAAS approaches open up many smaller airports (more than 1000 today). Electronic charts simply cockpit management.	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Autopilot</b>	DA40XLS uses the GFC700 digital flight control system which capability and accuracy that cannot be matched by last generation autopilots offered by Cirrus and Piper	An autopilot is indispensable when flying single pilot IFR or on long cross country trips. The GFC700 offers business jet style automated flight control system in a GA airplane	<b>Garmin GFC700 Digital, attitude based, Automated Flight Control System</b>	<b>Garmin GFC700 Digital, attitude based, Automated Flight Control System</b>	STEC 55X rate-based analog autopilot	STEC 55X rate-based analog autopilot

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<b>Cabin Width</b>	DA40XLS has a wide cockpit that is 3.5 in wider than a C182 and 4.25 in wider than an Archer (and is only 1.5 in less than SR20)	Comfort and space mean a more enjoyable travelling experience for you and your passengers	Measured (@ shoulder in front) 45.5 in	42	41.75 in	<b>47 in</b>
	DA40XLS has the widest rear seat area in class (3 in or more)		Measured (@ shoulder in rear) <b>45 in</b>	40 in	n/a	42 in
<b>Baggage Capacity (lbs / cu ft)</b>	DA40XLS has a large and versatile baggage loading compartment	4-way baggage compartment system offers multiple storage options for both large and small articles.	100 lbs / 20 cu ft	<b>200 lbs / 19 cu ft</b>	<b>200 lbs / 26 cu ft</b>	130 lbs / 25 cu ft

### SAFETY

<b>Airframe Life</b>	Diamond composite airframes are certified with <u>no life limitations</u> , unlike the SR20 which cannot be used beyond 12,000 hours	Unlimited life means that airframe structure greatly exceeds the certification limits and is at no risk of failure even after high hours or age.	<b>Unlimited</b>	<b>Unlimited</b>	<b>Unlimited</b>	12000 hrs.
<b>Dual Spar Fail-Safe Structural Design</b>	Diamond fail-safe design provides duplication of structure on this scale allows large scale damage without failure. Each wing spar carries full design limit load.	There has never been a structural failure in any Diamond airplane and this means that you can be confident that you are travelling in the very best designed and built GA airplane available.	<b>Yes</b>	No	No	No
<b>Fuel System Protection</b>	DA40XLS has fuel system protection that is not matched by any GA airframe manufacturer. The incidence of post-impact fires in Diamond airplanes is almost non-existent.	In the event of a serious accident, deformation of structure usually is followed by a post impact fire in most other airplanes. Diamond designs all of its airframes and fuel systems to survive all but the most catastrophic of impacts.	<b>Protected alum fuel cells, flexible SS fuel lines from wing to fuel selector</b>	Unprotected fuel bladders / hard lines from wing to fuel selector	Unprotected fuel bladders / hard lines from wing to fuel selector	Unprotected wet wing / hard lines from wing to fuel selector

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<b>Cockpit Safety Cell</b>	Diamond is the only airframe manufacturer to incorporate advanced structural occupant protection features with its proprietary "Safety Cell" technology.	In the event of an accident, minimizing the potential for serious or fatal injury is paramount. Diamond's "Safety Cell" technology provides the very best occupant protection available in GA.	<b>Yes - 26g crash test safety cell design</b>	No	No	3g rollover only
<b>Superior visibility through bubble canopy &amp; large windows</b>	No other aircraft provides the panoramic visibility that is a hallmark of all Diamond airplanes.	Visibility is first - safety, and second - enjoyment. Unobstructed cockpit view is critical to flight safety and no other airplane can compare. Large low sill rear windows provide the same panoramic view for passengers.	<b>Yes</b>	No	No	No
<b>Push rod aileron and elevator controls</b>	DA40XLS flight control system provides crisp and responsive handling characteristics. SR20 has spring-loaded control system which does not allow for pilot to experience natural flight loads and C182 and Archer are cable operated control systems which are not as responsive or precise and are much "heavier" feeling.	Easy and responsive manners enhances flight safety and provides an enjoyable piloting experience	<b>Yes</b>	No	No	No

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<b>Manual &amp; Electric Trim System</b>	DA40XLS has conveniently located manual trim wheel. SR20 has no manual trim and relies only on electric trim system which, in the event of failure means the pilot must overcome flight control forces manually.	Allows for precise elevator trim control and system redundancy in case of electric trim motor failure.	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	No
<b>AmSafe inflatable restraints</b>	DA40XLS offers the latest inflatable occupant restraints as standard equipment	Inflatable restraints greatly minimize the possibility for injury in the event of an impact.	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>
<b>Unobstructed Head Strike Zones</b>	DA40XLS design considers potential head strike zones and eliminates or minimizes any structure or equipment where possible which could cause potential head injury	Unobstructed head strike zones minimize head injury possibilities in the event of a serious impact.	<b>Yes</b>	No	No	??
<b>Number built world-wide since 2000</b>	DA40 models are the second most prolific model in class behind the C182 since 2000.	Consistent production and continual increases from year to year mean that the airframe has achieved a level of market acceptance that will ensure current and future support for the product and enhance residual values as the airplane ages.	1000	<b>1374</b>	357	762

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<b>Low Accident /Injury &amp; Fatality Rates</b>	DA40XLS, like all Diamond airplanes, enjoys <u>the lowest accident and fatality rate in General Aviation</u> . No competitive airplane can even come close.	Accident, injury and fatality rates are the result of not only how the airplane is operated but how it is designed to be operated. The low rate demonstrated by the DA40XLS is the direct result of all of the design features and performance and handling characteristics inherent in the airplane.  <a href="http://www.nts.gov/nts/query.asp#query_start">http://www.nts.gov/nts/query.asp#query_start</a>	<b>Yes</b>	No	No	No
<b>Number of FAA AD's on type</b>	DA40XLS has had very few AD's	AD's can indicate significant design weakness or recurring mechanical safety problems. All Diamond airplanes have experienced low AD's rates which support the quality of the initial design and manufacture of the airplanes.	4	10	4	9
<b>Certification Basis</b>	DA40XLS is certified to more recent govt regulations than the competitors.	Some competitive airplanes are still built to certification standards that originated in the 1950's. Standards have become much more stringent in recent years and the DA40XLS meets the more current FAA standards.	FAR23 Amdt 1 thru 51	FAR23 Amdt 1 thru 6	CAR3 Amdt 2 & 4	FAR23 Amdt 1 thru 47
<b>Prop Clearance</b>	DA40XLS in either prop configuration provides greater prop clearance than the competition	You want the most prop clearance possible especially when operating on unprepared surfaces,	3-blade - 13 in 2-blade - 12 in	3-blade - 11 in	2-blade - n/a	3-blade - 8 in

**ECONOMY**

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<b>Fuel Burn (Cruise)</b>	DA40XLS is the most fuel efficient airplane in class when compared with cruise speed achieved at that fuel burn	The cost of avgas is certain to increase as time goes on. Diamond's approach is not only energy efficient but also energy concious. By consuming less fuel you are not contributing to the effects of combustion by-products on the environment at the same time as you are enjoying significantly lower operating costs today and certainly in the future.	<b>10.0 gph</b>	12.8 gph	<b>10.0 gph</b>	11.6 gph
<b>Fuel Economy in Cruise</b>	DA40XLS goes 20-30% further on one gal of fuel than the competitors		<b>15 nm/gal</b>	11.5 nm/gal	12.8 nm/gal	12.6 nm/gal
<b>Fuel Cost for 3 hour trip (based on \$4.70/gal)</b>	DA40XLS fuel cost is 12-15% less than competitors on a 3 hr trip		<b>\$141.00</b>	\$180.48	<b>\$141.00</b>	\$163.56
<b>Fuel Cost for 500 nm trip (based on \$4.70/gal)</b>	DA40XLS is 15-28% less expensive than competitors over 500 nm trip		<b>\$156.67</b>	\$214.86	\$183.59	\$185.44
<b>Time for 500 nm trip</b>	DA40XLS completes a 500 nm trip as much as 30 minutes faster than some competitors	You can leave later or arrive sooner. Additional speed contributes to the overall utility of the airplane.	<b>3.3 hrs</b>	3.6 hrs	3.9 hrs	3.4 hrs
<b>Low Insurance Costs</b>	DA40XLS enjoys some of the lowest insurance rates available to GA airplanes. A new PVT pilot will pay almost twice as much for insurance in an SR20 than in an DA40XLS.	Insurance premium rates are not arbitrary but are established based on the demonstrated claims rates experienced by each airplane model. Low insurance rates means the insurance company is confident that their risk (and thus your risk) is lower than a higher rated airplane.				

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<b>Low Maintenance Costs</b>	DA40XLS composite airframe has lower routine inspection times and costs than competitive airframes.	Easy accessibility of all critical airframe structure and systems contributes to lower inspection hours and a lower overall cost of ownership both today and well into the future.	<b>Yes</b>	No	No	No
<b>Engine Overhaul Cost</b>	O/H costs for DA40XLS are the lowest of all competitive airplanes equipped with fuel injected engines. Overhaul cost for a DA40XLS is almost 25% less than SR20 and almost 30% less than C182.	Overhauling a 4-cyl engine is much less than a 6-cyl engine. Engine overhaul costs have been increasing every year and by using one of the highest volume production GA engines, the impact of those cost increases are minimized.	\$25,000	\$35,000	<b>\$22,000</b>	\$32,000

All figures are based on manufacturer's published specification, flight manual data or actual aircraft documents and are subject to change at any time without notice.

Fuel cost calculations are based on national average fuel price February 2008 of \$4.70/gal. Overhaul costs are based on manufacturer's 0 time remanufactured engines not including R & R or accessories.

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