AVEMCO® INSURANCE COMPANY

S-LSA Claim Analysis

by: James A. Lauerman, President

In late 2007, Avemco undertook an analysis of underwriting results for Special Light Sport Aircraft (S-LSAs). At that point, we had been insuring them for over two years. And while the data was still sketchy, we wanted to see if there were any trends that could be applied to our underwriting. In addition, we also were preparing to do a forum at Sebring 2008 and wanted to have as many facts as possible to provide to the attendees. Finally, we hoped to be able to provide some assistance that could help the S-LSA manufacturers and distributors design, build, and train new customers in their aircraft.

We updated our study in July 2008, to bring the data up to date, including the first six months of 2008. It is our plan to continue to refresh the data every six months or so to keep the LSA community apprised of the most recent trends.

I need to make a few disclaimers and provide a little background before I get into the body of the information. First, this data is very preliminary. This is a new industry and while initial sales have been significant, there simply is not enough history to come to any final conclusions from the data that is available. Secondly, Avemco only insures these aircraft for non-commercial (recreational and personal transportation) purposes. Even though our study and losses are pilots flying for personal business and pleasure, flight schools and CFI's that instruct in LSA's will see that some of our comments may also apply to their LSA operations.

My comments will be "generic" in that I will not be sharing specific claims information on specific makes or models. This is to protect the privacy of the individuals involved, and to avoid having any of the specific S-LSAs singled out as "the problem". The issues are broader than that and there is plenty to be learned by all of us involved in the S-LSA business. Our intent in sharing this information is to help us learn from the past and improve the future.

To start, I will define a few insurance terms that will help you understand the data. Those terms are:

Policy Year
One aircraft insured for one year. Thus, 500 policy years of data could be 500 aircraft insured for one year or 250 aircraft insured for two years, etc.

Loss Frequency
The percentage of policyholders in any given class of business who have a claim in a year.

Loss Severity
The cost of the average claim in any given class of business.

At the time of our most recent analysis, we had 454 years of policy data on S-LSAs. This is a significant increase of about 45% over our prior study. While not a lot of information, this is enough to see some preliminary trends. In addition to the raw data, we reviewed each individual claim file to look for subjective information. Due to the relative overall lack of data, this proved to be one of the more beneficial aspects of the study.

What the raw numbers showed was that the loss frequency for all S-LSAs was about twice as high as for the rest of our business, but has shown significant improvement in the past six months. Tailwheel-equipped

S-LSAs continue to be worse than the tricycle gear aircraft, but again the numbers are improving. Loss severity for S-LSAs was about 50% greater than for our average risk. While disappointing, this too, is a significant improvement over the previous six months.

A deeper analysis shows that the issues we discovered are not that different from any new aircraft type on the market, and for many of the same reasons. We believe most of these can be addressed by the manufacturers, distributors, dealers, and insurers and that their resolution should result in substantially improved results. Other issues will improve as the industry matures. As mentioned, some improvement has already taken place.

The higher loss frequency appears to be caused by two main factors. First, there is evidence of design issues in certain models. This finding is corroborated by the fact that at least some manufacturers are making design changes. The second, and most easily fixed cause of higher loss frequency, is that new buyers continue to underestimate the quantity and quality of transition training necessary to go from current general aviation (GA) aircraft into the S-LSAs. In my opinion, this is related to the relatively light wing loading of these aircraft compared to what many GA pilots are used to. The evidence for this is that the vast majority of these losses were very early on in the ownership experience and sometimes included a CFI onboard the aircraft. Most of these losses were caused by the classic loss of directional control issues that plague all of GA. In other words, the pilots are "driving" these aircraft rather than flying them using frequent small control inputs around all three axes.

We talked to a very experienced and successful S-LSA flight instructor. She said she preferred training new students in S-LSAs rather than transitioning already licensed pilots. She indicated that the transitioning pilots were a "perfect storm" combination of lacking directional control skill in lightly wing loaded aircraft, but believing that checking out in these "simple little aircraft" couldn't

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be that big of a deal. The combination of needing training but believing you don't is not a good one for general aviation safety.

I encourage the S-LSA industry to tackle the training (especially transitional training) head on, including providing good Pilot Operating Handbooks and training standards and materials. Doing so will definitely be in the best long-term interest of the industry.

The severity of hull losses is being driven by several factors. First, these aircraft are more expensive than many of the older aircraft they are replacing. Many of the losses are total losses with the insured value often well above $100,000. Secondly, not all shops want to (or can) work on them, there is a lack of shops that will do repair work on composite aircraft so the cost to find a good shop and transport the aircraft there is higher than you might expect. A third cause of high hull loss severity is parts not always being readily available. Even when they are available, the cost can be out of proportion to those of other GA aircraft. A fourth cause has been a difficulty and uncertainty of getting parts for repairs. It comes as no surprise that new manufacturers are focused on delivering aircraft to their customers, not necessarily supporting the repair of those already flying and this perspective has long-term implications on the price and availability of insurance.

Finally, there is a challenge for insurers of S-LSAs that few outside the insurance business would consider. One of the ways that insurance companies keep down claims costs (and therefore premiums) is to sell the salvage of totaled aircraft to salvage buyers. Often this substantially reduces the net loss and therefore the price of insuring the aircraft. With the S-LSAs, however, the salvage buyers are reluctant to offer competitive salvage bids since there is virtually no track record of what these parts are worth or even if there will be any market for them at all. Clearly, a robust and healthy S-LSA industry would go a long way to resolve this issue, but in the meantime, premiums on S-LSAs will reflect this challenge.

The improving trend is encouraging, but there is still a lot of work to be done to make this exciting new industry as safe as it can be. We plan to continue to play an important part in that process.