

APPENDIX D

PISTON AVIATION ENGINES: A MANUFACTURER'S PERSPECTIVE

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Textron Lycoming Reciprocating Engine Division has been producing piston aviation engines for 64 years at its Williamsport, Pennsylvania plant. Over 260,000 engines have been produced in radial and horizontally opposed configurations. Of these, there are estimated to be 175,000 still active around the world.

With the depressed state of the industry, there are only about 1,500 new, certified aircraft being produced per year (excluding any produced in Russia or China that are not powered by Western engines). The survival of the engine business in this market is only due to the support of the fleet of aircraft (approximately 300,000 including Lycoming and Continental). The OEM business (engines for new aircraft manufacturing) has been reduced from over 30,000 engines in 1978 to only 1,500 in 1992. The spare parts and rebuilt engine business now accounts for over 75 percent of the revenues of the engine manufacturers.

The aircraft manufacturers are mostly small and fragile in this market, and there are few multiproduct companies left. The largest companies are Beech and Robinson. Beech still produces several variants of the Bonanza and Baron in large quantities, and Robinson produces about 200 of its R22 helicopter and are growing their production of the larger R44. No other producer is building more than a few dozen aircraft, and this is a long way from the production line quantities built by Cessna, Beech and Piper in the late 1970's.

With Piper in Chapter 11 and several other companies moving in and out of production as the order books fluctuate, the industry is in critical condition. It may be that consolidation of companies will be necessary since there are over 50 companies around the world producing these 1,500 aircraft per year — an average of only 30 units per company. Most of these companies produce fewer than 20 units per year, and this is not going to provide any efficiency in the production process. Consolidation of companies with noncompeting products would allow for consolidating sales and administrative staffs. If this does not take place, many of these companies will likely fail in the next few years. This may allow the remaining companies to survive.

One new wrinkle in the market is the probable entry of certified versions of kit planes from the largest and most sophisticated of these companies. There may also

be new certified engines that will enter the market below the traditional horsepower threshold of 100 horsepower. These new products will come into the market without the product liability tail that burdens the old-line producers. They may be able to produce aircraft with new features for more affordable prices.

The market could also be flooded with cheap imports from Eastern Europe, where labor costs are much lower. Tort reform could get through Congress and help lower the cost of flying.

However, these possibilities are not without risk. Maybe the new kits will not be easily certified or will become more expensive when meeting the requirements of certification. The Eastern European products may prove to be unmarketable in the West due to real or perceived product feature inadequacies or poor designs. Tort reform may languish in committee for many more years, as it has for the past decade. If all of these eventualities come about, the market is likely to remain small or even shrink further.

Simply stated, flying is too expensive, too much work, and too hard to do anymore. Part of this is due to the average worker's loss of disposable income and leisure time in a more competitive worldwide market. And government policies are affecting the industry through increased taxes and the end of GI-Bill flight instruction benefits.

In summary, Textron Lycoming is aware of most changes in the general aviation sector due to high levels of involvement in all phases of the market. These are very difficult times, and cost control will remain one of the best methods of surviving. Thus, forecasts should be realistic and take into account all of the negative influences on the market. A slow growth forecast, as all recent forecasts have been will not be realistic in forecasting production of new aircraft, fleet size, or flight hours. Better methods of estimating flight hours will help establish more accurate trend data, and more timely reporting will help the industry adjust to changes in demand in a more responsive manner. The present government and industry forecasts are too optimistic and not in line with the current reality.