

## WHO SHOULD TRY AN AUTO-ENGINE CONVERSION?

BY RON VANDER HART

We who have successfully flown several different auto engines and enjoy the challenge become great proponents of their potential. They

are wonderful engines and their attributes of being inexpensive, very low maintenance, and fuel efficient needs to be explored more fully. We

need hundreds of EAA people to join the search for low-cost alternative power so the average American, with average income, can get into the air safely, reliably and inexpensively. We have a lot of work to do and misconceptions to overcome, but we can do it and must do it. But, alas, auto engines are not for everybody—yet.

Does it take a special person to convert an auto engine? What are the traits necessary to be successful? After talking to hundreds of people who looked at my plane at Oshkosh and other places, certain traits and patterns become evident. In less than five minutes of conversation, their chances of success in converting an auto engine is ascertained. What are these traits?

First, they must like engines—especially auto engines. It must be more than theory, it must be practical. In your vocabulary does the word “wrist pin” refer to an object an orthopedic surgeon would use to repair a broken forearm? Is a “rocker” something found in grandma’s living room? Do you do your own auto maintenance and enjoy it? Does putting a new water pump in your car or pulling the intake manifold off intimidate you? If so, you will probably have difficulty converting an engine.

On the other hand, if the sound of a small block Chevy winding out, Dale Earnhardt and Rusty Wallace are familiar names, and there happens to be a little bit of “racing” in your blood, you probably can do the job. Listen, if your Ford V-6 in your RV-4 or Buick V-8 in your BD-4 needs work, are you going to push it into the local car dealer to have it worked on? Hardly. Most likely, your favorite A&P won’t touch it either. You are it. It’s yours to work on and yours alone.

Second, you must be able to make decisions. Nobody has a manual with plans to mount a Chevy V-6 in a



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Mustang II. Where do I mount the radiator? How do I make the motor mounts? What shape should the cowl be? These are all questions that need to be answered. Most are solved easily. When the project is started and progressing, the answers come naturally and without much thought. Some, however, take a little research and ingenuity. If you are a person who has difficulty making a decision, converting an auto engine will be very frustrating.

Third, failure must be repulsive and unacceptable. Can you live with failure? If things don't work out and troubles come, are you easily persuaded to throw in the towel? No matter how intelligent, skilled and innovative you are, you will have problems. The idea of going to the salvage yard, picking an engine, building a drive-unit, making a cowl, mounting a radiator and being in the air in three months is pure fiction. **It will not happen. You will**

have teething problems. So what? If it was easy, everybody would do it. Having a pioneer spirit coupled with an attitude that failure will not be tolerated will stand you in good stead and get you in the air. Quitters need not apply.

The average man with little money and lots of desire and grit can fly auto engines successfully. We must keep trying and trying. Different engines on different airframes must be attempted until we can come up with a body of knowledge that can be used by everybody. Subarus on Tailwinds and Kitfoxs must become common place for flying to be affordable to all.

If you like engines, can innovate and be decisive and not let failure stop you; we need you. You can do it.

*Editor's Note: Rev. Ron Vander Hart has successfully built and test flown five auto engines in his test*

*bed Stits Playmate (see **Sport Aviation**, January 1995). He is also the chairman of the Oshkosh Experimental Auto Engine parking area, and conducted or participated in three auto engine forums at Oshkosh '95. Ron has two videos on this subject: "How to Avoid the Pitfalls of Converting Auto Engines to Aircraft," and "How to Build a Propeller Reduction Drive Unit for Less than \$500."*

*Each tape is 2-1/2 hours in length, and contains one hour of basic principals and one hour of "how to" information. The costs is \$22 + \$5 postage and handling per tape, or both can be purchased for \$39 + \$6 postage and handling. Contact Ron at 7925 Vandalia Rd., Runnells, IA 50237, 515/262-1753. ◆*

*Articles for Craftsman's Corner are obtained and edited by Ben Owen, Director of Information Services.*