



A Buyer's Guide To Used Formula Fords

So, you've decided you want to buy a Formula Ford. Well, we don't know how you got in this situation, but we're going to try and help you make a reasonable choice as to which car you're going to buy.

There are lots of things to think about. Where do you start? What marque should you buy? Who do you buy it from? What do you look for to tell you what shape the car is in? These are the questions we will try to answer. There are some other questions we will *not* try to answer, such as "Where does the money come from?" or "Will your marriage survive?" We will say this is a decision which, much like purchasing a house, is going to have a significant long-term impact on your physical and emotional well-being. And that brings us to our first point.

Levels of The Game

The most important step in purchasing a Formula Ford is to think first about your program goals. Didn't know you had a program, or goals? Well, you do now. There are many levels of Formula Ford competition, and you must decide which one is for you. The program which aims for the National Championship and transition to Indy cars is different from a desire to be competitive at Nationals, or wanting to be part of the action at Regionals.

You need to have a program and goals because without one your car purchase and subsequent decisions about racing won't make any sense, it will be the standard boat without a rudder syndrome. The sad fact is we speak from experience. Each of the several contributors to this article has made painful and downright embarrassing mistakes in buying (and selling) race cars. One of us sold Eldens (and sincerely apologizes). One of us bought a Titan Mk. 6, which was then sold in order to buy a Mk. 9, as big a mistake as you can possibly make.

To determine your program and goals, ask yourself some questions. What do you have to work with? How much money is really in the pot? How much money will you have to run races with? How frequently can you afford to race and how frequently will you have the time? How many people do you have to help you and how experienced are they? As Carroll Smith says, there is no magic. If you have spent your last dime on the car and can't

afford to buy tires, you won't race very well. If you have just one person helping you, but that person is experienced, he (or she) can have a real impact on the success/enjoyability of the program. Whatever your goal, you should aim to be at least as competitive as other folks spending about the same amount of money as you are kicking out.

Keep in mind there are many aspects of the program you elect which are going to be unchanged by your choice of car. You can run old tires on an old car and camp out near the circuit in a pup tent—or do exactly the same thing with a brand new car. Other things which don't change with car choice include: travel, tow vehicle, motels, food, entry fees, tires and to a certain extent, replacement parts. The latter can be, as you will see, influenced by the car's manufacturer. Things which will change from car to car are the original cash outlay and subsequent depreciation. So, the first order of the day is to work out a budget. Then you can decide on the price range of the Formula Ford you should buy.

How Do You Locate Cars For Sale

While this is a fairly self-evident subject, there are a few comments worth making. Since your probable immediate goal is to participate in local SCCA events, a look through the pages of *SportsCar*® to spot the race shops in your area as well as classified ads for FF for sale by individuals is going to be helpful. In most cases race shop proprietors have a wealth of knowledge about the local "never-bent regional champs," or "good school cars" or "ex-Jody Scheckter flyers" for sale in your neighborhood. If you are working with a race shop, be candid and honest, and take advantage of their knowledge and experience. As good small businessmen it is in their interest to take good care of you and develop you as a customer. This is not to say one should not be prudent and check out reputations with satisfied customers. Having read this article does not guarantee life-time protection from frostbite induced by gentle snow falling from an over-ambitious salesman, whether race shop or individual private party.

It is our opinion that a first or even second time FF buyer should not try to "develop" a race car. Your objective should be to spend

A Car-By-Car Analysis Of What To Buy, What To Avoid and How Much Will It Cost

as much time as possible behind the wheel of a moving Formula Ford, not on your back underneath it. We say this because there are many cars which suffer from poor design, either overall or in specific areas. There are cars which have been good designs that did not translate well from British to U.S. specs. U.S. tires for example, are capable of considerably higher traction and therefore generate more loading on suspension members. If the suspension isn't up to it you've got problems.

If a car has major problems and the manufacturer/importer/dealer network can't offer proven solutions to these problems, then get a different car. Planning to reconfigure your car with a new body, or revise the suspension design or figure out a new front-to-back weight distribution is only fine if you want to be an engineer (you have to learn somehow). If you want to drive and have as cost effective a program as possible, stay away from such projects. The car you buy should already be fully developed to the limits of its inherent design capabilities. A design which has a fundamental problem may be cheaper to buy initially, but is usually not worth it in the long run. We say "usually" because there is at least one exception to the foregoing rule, and this happy car is so noted in the evaluations which follow.

Finally we need to say don't pass up a car just because everyone else has one. This is self-defeating. In most cases the reason for a car's popularity is because it wins races. Formula Ford is, after all, supposed to be a driver's class where the cars are all equal, and grids are commonly dominated by the marques with the currently most successful technology. As a newcomer to Formula Ford it's usually wise to pass up the revolutionary idea and let the experienced drivers sort the forthcoming hot setup from the equally forthcoming turkeys.

How To Determine The Condition Of Your Find

Right off the bat, the safest approach is to assume the engine is tired. No matter what claims are made, plan on having your engine builder disassemble the engine, inspect the corpus delecti and then—replace the crankshaft. Yes, it will cost about \$575, but it's a fact of Formula Ford life. Crankshaft breakage is the curse of Formula Ford, because it is fatigue related. While the number of engine hours is a good indicator if precisely known, who knows what sorts of revs were being obtained over that time?

If you do break a crank the results are severe. For openers (pun intended) you will almost certainly ventilate the block (another \$575) and damage the pan and a few rods (\$267). Along the way you will probably damage the cam and lifters (\$155), and sometimes the engine-to-gearbox adaptor (\$160) along with the starter (\$65). You still haven't paid anybody to put it all together either. If you're really lucky you may bend or break the frame (\$150 or so depending on labor rates). So change the crank. You need to select who will handle your engine work anyway, the

home mechanic or the pro. We recommend a pro unless you are highly qualified. It's cheaper (in the time otherwise spent doing it yourself you can usually earn more money exercising your own job skills than it costs to hire an expert) if it's done right the first time and it ultimately means more time behind the wheel for you.

While engine evaluation is really best done by taking it apart, note that a car which has been sitting for some length of time may have condensed moisture in the cylinders, damaging rings and cylinder walls. Does the car have a suitable air cleaner? An important detail to keep from inhaling damaging dust, dirt or worse. Gearbox and engine noises are best evaluated by an expert, but quiet operation is a good sign. Of course that's why they invented molasses and sawdust . . .

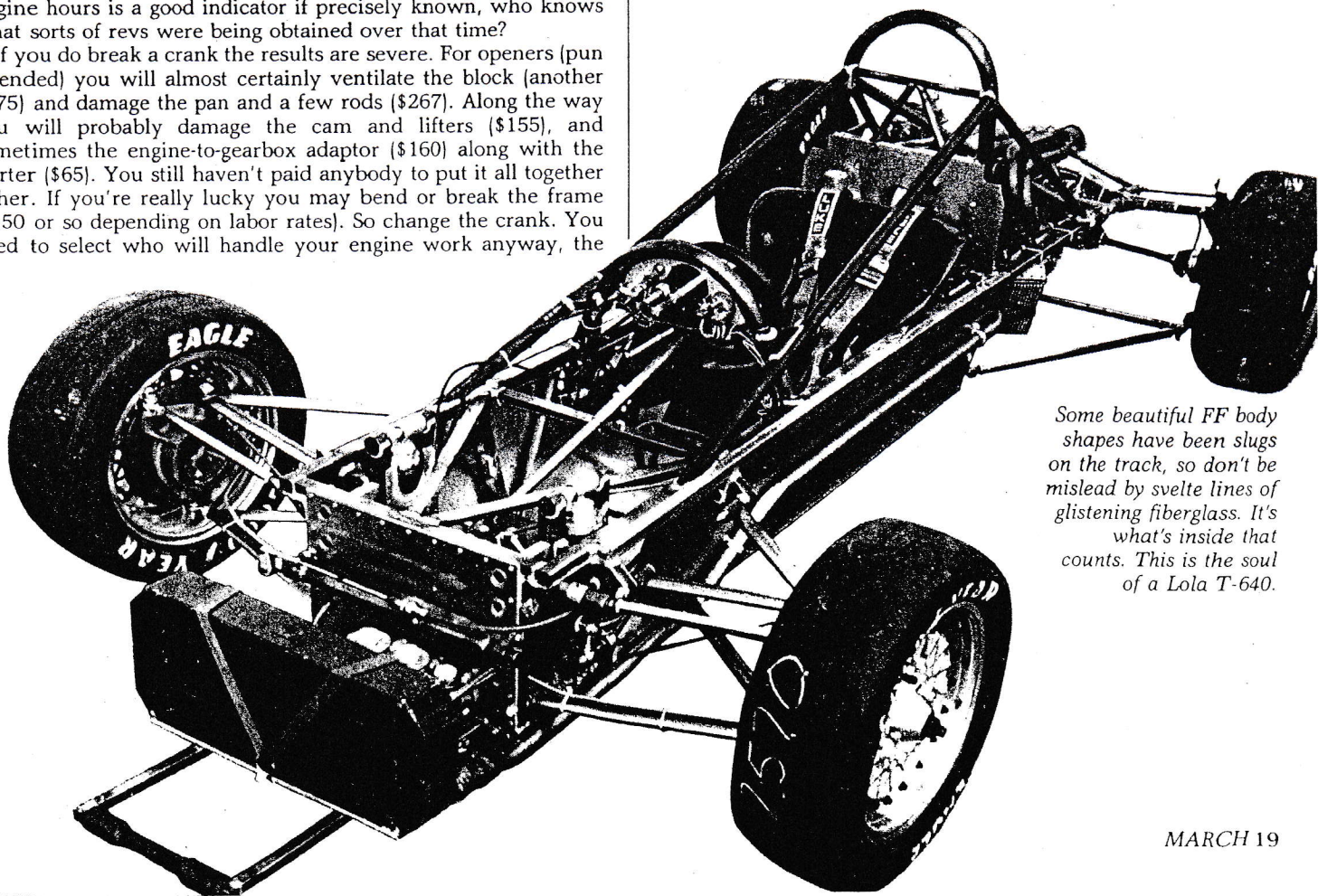
While we're talking about experts, it isn't a bad idea to hire an objective professional to evaluate your prospect. The \$30-an-hour shop rate is a cheap insurance policy.

Now we come to an area that is less mysterious and more readily indicative of trauma—the belly pan. If it's scarred and dented it may mean the car has run over rattle bars, which can be a disaster for the flywheel, and thus the crank. Look carefully for a bent or broken adaptor, or any cracks in the gearbox case. Peer at the flywheel teeth to see if they show signs of contact with a hard surface.

While you're underneath the car acting like you know what you're doing, sight along the frame rails for straight and twist. All space frames have some distortion as a manufacturing tolerance, but displacement exceeding 3/8" should be a definite consideration in the price of the car. How well the body fits is a very good indicator of shunts, but you of course should check the car's log book to see about such events. If there's no log book then you don't have your check book.

Does the steering wheel turn freely? Is it sloppy in the center or all through the travel? This could mean a bent steering rack. Are the bushes at the end of the steering rack worn? In either case the resultant imprecise steering won't get any better, and you may have trouble finding replacement parts, as steering racks tend to be custom-built to a manufacturer's specifications.

Taking another look at the gearbox, see if there are any cracks in



Some beautiful FF body shapes have been slugs on the track, so don't be misled by svelte lines of glistening fiberglass. It's what's inside that counts. This is the soul of a Lola T-640.

the sharp radius ahead of the side plates. While welding is a perfectly adequate short term fix it will eventually mean a new case (\$325 if it's a Webster). Likewise check the bell housing for cracks around the starter mounts. Again, welding is successful short term, but you will need a new one sooner than later (\$160).

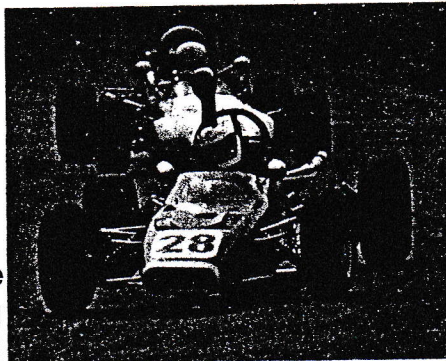
Moving along to the drive train, check for excessive play in the CV joints. About 1/8" movement at the disk is normal. Check for plunge in the axles, i.e. the axle should move in and out at full droop to full bump. Lack of plunge indicates either a damaged CV joint or a suspension which is drastically out of alignment, which can only hasten joint wear.

Trying to wiggle the wheels laterally with your hands is a good test for loose rod ends (\$20 to \$150 depending on size). But play could also signify worn wheel bearings, or worn bearing barrels or worn upright mounting points. The bearings aren't expensive but the replacement is a real pain because they're a press fit, so you've got to drag out the bearing press, light up the heating torch and start beating away.

And Now A Few Words From Mom

We hate to bring up an old chestnut, but don't buy a race car without seeing it first. It's like going on a blind date: 99 percent of the time you're going to be disappointed. And while the blind date won't necessarily be there in the morning, that Formula Ford you just financed through the credit union is going to be sitting in your garage a long time.

The Big Deal



My good friend John Herne and I started racing in a co-bought Crossle 16F which we didn't take all too seriously at the time ("When we find that big sponsor, we'll have ourselves a new 30F"), but which, in the decade since, has begun to shine with gemlike quality in my failing memory.

Oh, how well cared-for were we by the god of innocence.

How little we knew about Formula Ford! How carefully we trod through page after page of "Formula Car" classifieds in *Competition Press*, the \$2,000 apiece we had to spend (a big chunk of my Boston University tuition money; the sum of John's summer earnings) looking smaller by the day.

How despairing we were after racing madly the 150 miles to a New York FF dealer, desperate for the "Merlyn Mk-mumble, professionally maintained, national winner in the right hands; \$3500" and ready to fight the horde surely beating down the doors for the car... only to find that the \$3500 did *not* include the basket we'd need to cart all the pieces away. It was a "Merlyn do-it-yourself kit," covered with cobwebs and smelling of old oil and lost hope.

The scurrilous dealer's parting words—"You kids get outta here"—triggered a series of terrible articles in my New England Region magazine *Pit Talk* and set me on a new career path, so the trip was not entirely wasted.

The grand project very nearly died with the end of summer and start of the fall semester. But then, in late August, we found The Car. The magnificent Crossle 16F, polished clean

Second chestnut: Be wary of the "professionally maintained" car. Such a car has its good points, in that profit motive spurred the replacement of parts, but this can also encourage flat-rating. This is otherwise known as "get the job done in the least possible time but still charge the maximum amount allowable" and often occurs shortly before a race date. Such a car may have not actually received the kind of loving attention a private owner can bring to his racer.

Third chestnut: "If it only had a better driver it would be a cinch national champion." This is usually said by the same fellow who misplaced the car's log book.

Parts Availability

In the car evaluations which follow many of the lower-cost worthwhile machines are now getting long in the tooth. While they may be inherently good cars, parts availability is usually a problem. *There is a place for these cars*, but be aware of the need for spares when evaluating the price, i.e. running down parts for an Elden, or a Hawke, or an Elfin or a Lotus, etc. can be time consuming, chancy and expensive. As noted, cannibalism is often the only answer. Of the more contemporary machines probably Lola and Crossle parts are the most readily available, simply because of their long success in this country. But the other manufacturers and importers can usually be counted on to support you. Here it more often is simply a matter of the time required to get the requisite bit from the factory.

and wondrous... about to give up its place in an immaculate garage to a new station wagon or somesuch.

There were a few tires kicked, a few passes in and out of the cockpit, some war stories recounted. There were a number of features pointed out, a spares crate to look into.

There was one magic moment when its Cortina engine was fired up—instantly, on the first touch of the button. Oh, that lovely unmuffled sound ringing off the rafters, attracting none of the neighborhood children who'd heard it all before. (And who would run to my parents' garage through the fall as John and I repeated the exercise every weekend.)

Did we look carefully at all the things we should have? I don't think so. Did we know a rod end from a back end? No. Did we even quibble on the price? Pretty sure we didn't. This was The Car and we knew it from the moment we saw its lovely gel-coat blue fiberglass pulling into the driveway of a suburban neighborhood in south shore Massachusetts.

Oh, how lucky we were! The car was as immaculate, as well maintained, as it looked at first glance. It resisted all our attempts to ruin it. I decided after a "careful reading" of the CGR we had to have a steel belly pan, and so we drilled a hundred holes in its sturdy frame. We decided that because it was Irish it must be painted like John Watson's black-and-orange Brabham, but used a gummed-up, ancient spray gun at school and forever after it looked good only from 200 yards away. We succumbed to that snorkel air box fad, which did nothing for revs on the straight but did mess up the car's graceful styling. I tore off a corner and warped the frame back into line at Lime Rock.

The Crossle survived all of this, as rock sturdy and comfortable a piece of 1970 Formula Ford engineering as there ever was.

Herne got his 30F a few years later—and with it his first win, and then the regional championship. The 16F, by then battered and war-scarred, moved on into another's hand. John got a surprisingly good price for it.

I hope its new owner, a racing beginner, got his money's worth, that the old brown beast was as tolerant of his best "demon tweak" efforts as it was with us.

There are good deals and "big deals" and if only everyone could take up FF racing with a car that's such a happy blend of both...

—Steve Nickless