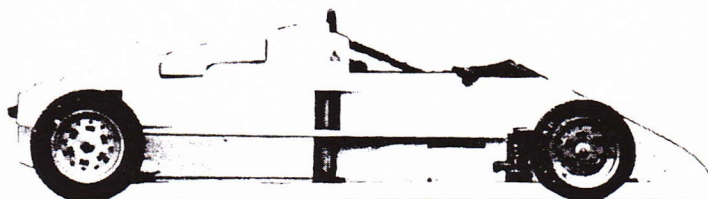
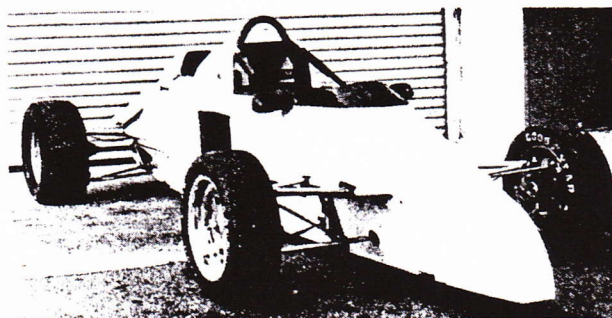


Similar to the Swift, the RF84 features a narrow shape, central radiator and far-forward driver location. (Rorquist)



# VAN DIEMEN RF84

## THE FF SALES WAR HEATS UP

What we have here is an interesting case of "parallel thought." While David Bruns sweated away in the spring of 1983 on the drawings which would yield the CSPRRC-winning Swift, his English contemporary, Dave Baldwin, was toiling toward the same goal in Van Diemen's modern factory a continent and ocean away.

Two minds, never in contact, set to the design of a world-beating '84 Formula Ford; two new chassis vastly dissimilar in execution but strikingly similar in concept.

The Swift DB-1 has already received an extraordinary amount of publicity, so let's take a careful look at Van Diemen's RF84—a car which will challenge the Swift not only on the race tracks but, with its near immediate delivery and lower price, in the sales war as well.

### Frame Of Chrome-Moly

An entirely chrome-moly steel frame is one of the RF84's major selling points. Chrome-moly's weight advantage over other mild steels is as legendary as its high cost . . . but in the Van Diemen's case, the latter feature is not reflected in the price of a rolling chassis. (Magic, mystery or some delightful by-product of the dollar/pound Sterling exchange . . .?)

The three-bulkhead frame is an interesting piece, a mixture of square, round and rectangular chrome-moly tubing finished off in a lustrous black enamel. Designer Baldwin has made good use of chrome-moly's weight advantage, triangulating everything—even triangulating the triangles in some key areas—which must surely result in a very stiff product. Driver safety is an obvious consideration: The main rollover hoop has three rearward facing braces and two forward struts; the instrument panel hoop, connected by braces aft to the roll bar extending forward to the

front suspension bulkhead, has no fewer than four forward braces.

The upper frame rails running alongside the driver's elbows is 3-inch rectangular stuff, widened by 1-inch square tubes tack-welded to its inner edge; frankly, that extra inner rail looks curious (an afterthought making it possible to narrow the roll bar?), but all the side-impact strength is welcomed.

Far-forward seating positions are a nasty trend, but if one's feet must hang out three feet in front of the steering rack, all the better to have a solid master-cylinder bulkhead supported by the four main frame rails and four separate diagonal braces. Attention has been paid to keeping the front suspension components away from the driver's knees in a crash. "Expendable" flat aluminum plates and "tear-off" brackets for the A-frames look like they'd work. The steering rack is attached to the aluminum plates, isolated between the frame rails and diagonals. Coilover Bilstein shock absorbers are strongly braced up and around—but clear of—driver thighs.

An aid to both rigidity and aerodynamics are the aluminum side panels, firewall and bellypan riveted to the frame; the latter extends all the way aft to the under-gearbox cast lower A-frame carrier.

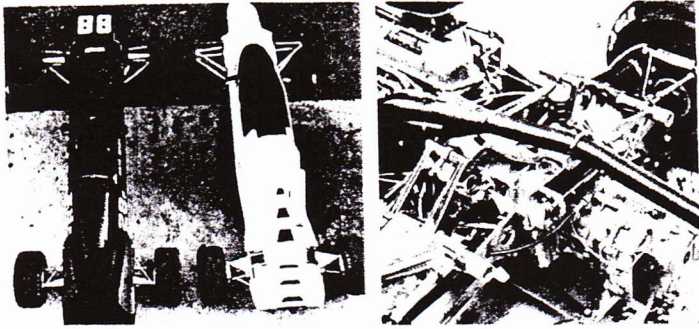
### Suspension

Nothing really new or surprising on the RF84's inboard-at-all-four-corners suspension. At the front, rocker arms have been replaced by lightweight A-frames and pullrods which operate on the lower end of the shocks directly; no bellcranks, links and whistles like on the Swift. Nice touch at the front: The tie rods get a straight, horizontal shot between steering rack and fabricated uprights. With no odd angles it should be very easy to bumpsteer.

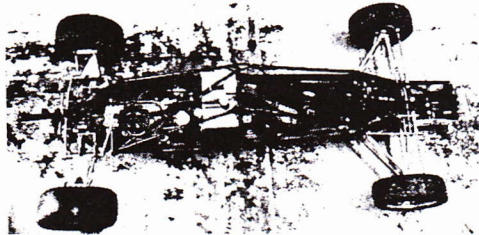
At the rear are massive, intricate-but-lightweight upper rocking arms operating spring/shocks and a driver-adjustable rear sway bar. There is no rear bulkhead per se, the suspension attaching to flat aluminum pieces and one tidy casting, which in turn are bolted to gearbox and the frame proper. Rear uprights are cast. Center-lock wheels are standard equipment.

### Engine Installation

Despite the three fixed (welded) roll bar struts, all the major engine components are accessible. There are no side engine mounts; rather, at the rear an aluminum bulkhead between engine and bellhousing is bolted to the frame while at the front of the engine an unusual "spider web" mount bolts on also. There is very generous clearance between the sides of the engine and the upper frame rails—room, for instance, for one of those neat Toyota starters.



A-frames replace rocker arms at the front. Forward driving position is evident compared to early Merlyn. (Rorquist)



### Major Components And Plumbing

As is modern F1 practice, all the "big stuff" is in line with the driver. From front-to-back it reads: Master cylinders (cable clutch on the RF84 prototype was replaced with conventional hydraulics on the production examples), pedals, driver, battery, fire system, firewall, fuel tank, water radiator, engine and gearbox, all forming a neat little line. The tall, delta-shaped (looking from above) fuel tank forms the inner edge of the air channels leading to the massive water radiator.

While the RF84 looks tail-heavy, an informal weigh-in with driver showed a quite standard 42 percent to 58 percent fore-aft weight balance.

### Bodywork And Ergonomics

The RF84 won't win any styling awards, but it's much more appealing in "real life" than in the early press photographs. The car is much narrower and longer than those pix suggested, and fairly tall because of the very upright seating position.

There are four fiberglass pieces: a tiny nosecone, a tail piece, a long and ponderous top cover and airbox.

Seat and seating position are both terrific. There's plenty of room for a six-footer and there's plenty of ways to make adjustments. The seat moves fore and aft, and the pedals and steering column adjust. Straightforward ingress/egress once you get the knack of squeezing through the helmet-high, forward-facing roll bar struts.

And, by the way, where did Van Diemen get those neat mirrors?

### Performance Testing At Willow

Bill Fickling of P-1 Racing Service, the Southern California Van Diemen dealers, invited *SportsCar*® to the RF84's first out-of-the-crate test at Willow Springs, and all parties were delighted with the results. Despite a tired (and eventually ailing) engine, the RF84 was six-tenths of a second a lap quicker than its predecessor at the same stage of development, i.e. before Fickling and his crew got the chance to "Southern Californize" the car (which amounts to fitting stiffer springs and lowering the car because the West Coast circuits are considerably smoother than the English's testing tracks).

One big question was answered immediately: The big water rad works. There'll be no problem with cooling . . .

"A very encouraging first day out," said Fickling.

Noting that major items like the center-lock wheels are standard equipment as opposed to options, a Van Diemen RF84 rolling chassis can be had for something on the order of \$2000 to \$3000 less than a Swift. No small sum, that, for a truly '84 vintage chassis. The RF84 should win itself some friends . . . —Steve Nickless

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