ST*446* Tipo 300BC motore ST446 convertible FIAT 1100

1954/1955 build year / first sale

Fiat 103 engine (casting #869690), twin downdraft Weber carbs on Abarth manifold. Abarth air cleaners. I INSTALLED THAT HARDWARE. THE CAR CAME WITH A STOCK 103TV MOTOR. I ALSO MODIFIED EXHAUST, BRAKES, AND RADIATOR SHOWN IN MY EARLY FOTOS.

Tony Pompeo – NY, USA (as dealer)

Donald D. Black - Oak Park, MI, USA

1980's: Don worked as a tech at an Alfa dealership in NJ. WRONG, IN THE 80S I WAS MANAGER OF TECHNICAL SERVICES FOR ALFA ROMEO INC, NOT A DEALER. THEN BECAME DIRCTOR OF ENGINEERING FOR N.A.

Don (& Tom Payne, owner of "Sports Cars Ypsilanti") drove the car from N.Y.C. to Detroit. They found it "delightful".

Fitted with low plexiglass windscreen for racing.

Don Black "racing" fotos (WB from Don Black) printed 10//55

#43 Don Black Harewood

#43 Ken Askew Harewood

(Don Black: "... mostly run in Michigan sprints, time trials, hill climbs: had five 1st, two 3rds, one dnf")

ad SC 11-12/55 p57 "1955 Spider 1100" $2700

#37 Don Black Put-In-Bay (Lake Erie) 6/9//56

Feature article in SCI 3//57 p14-17, 54-55 "Poor Man's Ferrari" BY KARL LUDVIGSEN

"spring" 56 Walter W. Bailey - Huntsville, AL, USA

"raced in Southeast for about a year"

See: R&T 8//57 p54 Tech. Correspondence "1100 Spyder"

Nancy Bailey Enoche 10/6//57 (Another Siata 1100 (Ike Maxwell) was also there)

ad R&T 9//57 p61 & R&T 11//57 p64 "full weather equipment & roll bar, race screen, spares"

1957-61 Fred Trueman – AL, USA > CA, USA

Fred Trueman Louisiana GP 7/5-6//58 1st/ Novice Race ref: SC 9//58 p32

Fred overheated the original engine and bought a new cylinder head from Tony Pompeo.

1961 ?? - worked at Douglas Aircraft (California)

Bob Grimm - CA, USA

Jim Proffitt - CA, USA WEBER VISIT?????? CAR IN RAFTERS

-1988 Bill Jacobs – IL, USA

#14 ?? ?? foto dated 7//86

1988- Tony & Lulu C. Wang - NY, USA

Painted yellow.

Fitted with 103 engine with 2 Solex 32?PBI ?, radiator changed

#238 Wang Pittsburg Vintage GP 1989

Original convertible top "ex Poor Man's Ferrari" offered on Ebay 4//2007 by "lebaron1933" (Manhattan Beach, CA) ... sold later to Peter Zobian

9//2007 Jim Collins – VT, USA

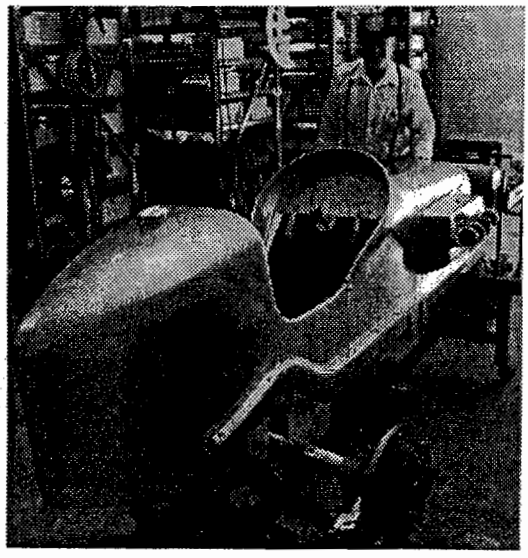
alfa Giornale 2002
March

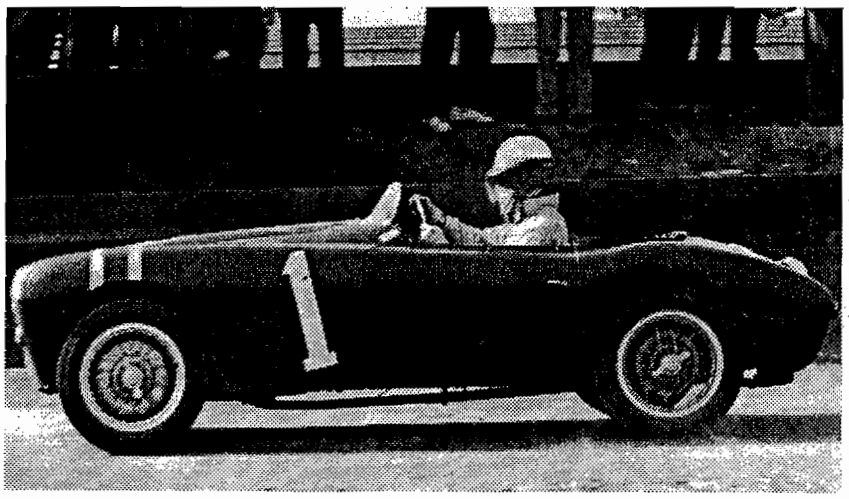
when we were young

As the Alfa Romeo Club of Detroit passes its 46th birthday, let's glance at its early days. Yes that's 1956 you're looking at -- two years before the national Alfa Romeo Owners Club was created in Chicago. In Detroit, Ken Askew, Don Black and David E. Davis were at Sports Cars of Ypsilanti and formed the Alfa Romeo Club of Detroit.

Don Black (retired chief engineer of Alfa Romeo, Inc., now lives in Florida with Margaret, their plane and hangar next to house, plus vintage dirt track race cars and motorbikes he restores) applies number 3 to his Siata. The guy in the dark shirt is Ken Askew, his Giulietta Sprint (the striped coupe) ready to board the ferry to Put-In-Bay for a day of racing.
That's Don Black below right, racing at Mt. Clemens Speedway, also 1956.

Thanks to Don Black for the loan of these photos from his garage wall. Below is Fred DiMatteo in Don's workshop with 1930s dirt track Alfa-powered race car, March 2, 2002.





Profiling Don Black, A Friend to Alfisti

By J. Michael Hemsley

What if you met someone who seemed to be an Alfisto, even had an extraordinary knowledge of Alfas, but had never owned one? You may have just met Don Black, Deputy Director of FIAT Research and Development, U.S.A. Branch. Black is someone who has had the great fortune of having his business and personal interests coincide. He is also a great friend of serious Alfisti.

The Early Days

Black began in and has returned to Detroit. After his education was interrupted by the Korean Conflict, when he made C119 parts for Chase Aircraft, he was hired by Volvo, who was new to the U.S., in 1956. His initial involvement with marine applications of Volvo products was followed by his first foray into the auto industry. Volvo formed its auto division in 1958, and Don moved to New Jersey "...and set up a small shop to build 'promotional cars' for show, ice racing, little LeMans, and other odd jobs in areas where Volvo was feeling its way."

It was that kind of strange work that made him attractive to Alfa Romeo in 1963 when they were creating Alfa Romeo, Inc. (ARI). Lots happened during this period. He established the service and parts departments at ARI, began the establishment of "relationships" with state and regulatory agencies, and launched the motorsports program.

Government Relations and Racing

With the creation of EPA and increasing DOT involvement in the industry, Black's job began to "...shift toward vehicle design and advanced prototype testing. I then became Alfa's U.S. engineering office manager reporting to Satta and Garcea in Portello. Following their deaths, my boss became Filipo Surace, Vice President of Research and Development in the then-new Arese."

When ARI set up shop at Englewood Cliffs, N.J., he initially commuted from the Princeton area, then moved to the lower part of upstate New York's Catskill area, commuting south to Alfa's headquarters. "I have a philosophy. 'If you don't like to drive, you shouldn't be in the car business.'"

Between 1965 and 1978, motorsports management took up nearly 50 percent of Black's time, much of it on weekends. "As Alfa phased out of motorsports activity in the U.S., I became more involved in product development for the U.S." That involvement continued until 1987, when his office was closed by FIAT, and he "...was asked to move into R&D with FIAT, Alfa's new owner." April 1, 1993, will be 30 years with Alfa/FIAT!

At FIAT, he is still involved with Alfa. "My first work was to establish an exclusive road test program for the 164 for the USA. We did run a fleet of about 40 cars, half of which were in excess of 150,000 miles each. Over 300 changes in the vehicle resulted from our work." His wife Margaret, also a serious Alfista, drove 164s at least 100,000 miles during this test period.

Project Cars

His projects (his own cars to drive) are a 1947 Kurtis Kraft midget, a 1968 Alexis-Cosworth F3, and a 1966 original, unrestored FIAT 500. "Margaret drives the 500 daily, and it is a concours winner. She will also drive the Alexis."

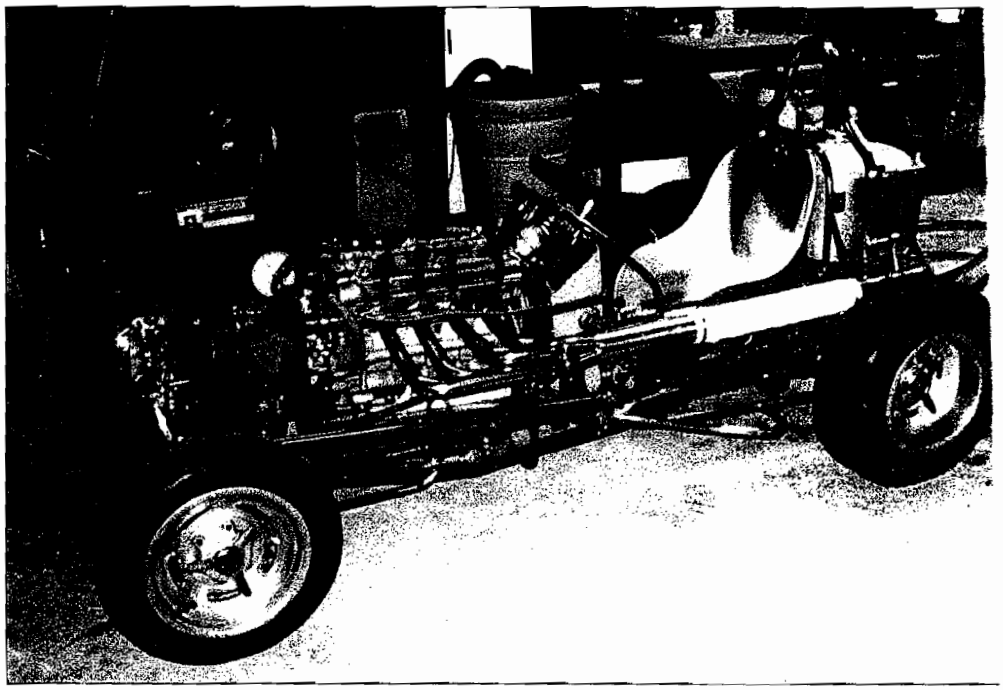
The Kurtis Kraft is kind-of an Alfa; well, it has an Alfa engine. "It is the third restoration of a midget. I am a Frank Kurtis fan, the 'Satta' of California. I have re-fabricated 75 percent of the car new and 'back-dated' it to original configuration. The motor is a mess of Alfa experimental department dumpster and museum pieces. I tried to duplicate Lou Fageol's 'mystery car.' Dirt cars are a story by themselves. Another world."

His list of favorite Alfa products came easily, too. It included the 33s and GTAs, 10 years of SPICA injection development, and the diesel/comprex GTV SAE demo car, as well as prewar kitchen appliances and Alfa Avio. He also has some fond memories of ill-fated projects, such as the AlfaSud US Spider and TI, a Spider prototype built in Detroit, the 33 Stradale USA, and the Giulia Wankel. There may be more stories in that list!

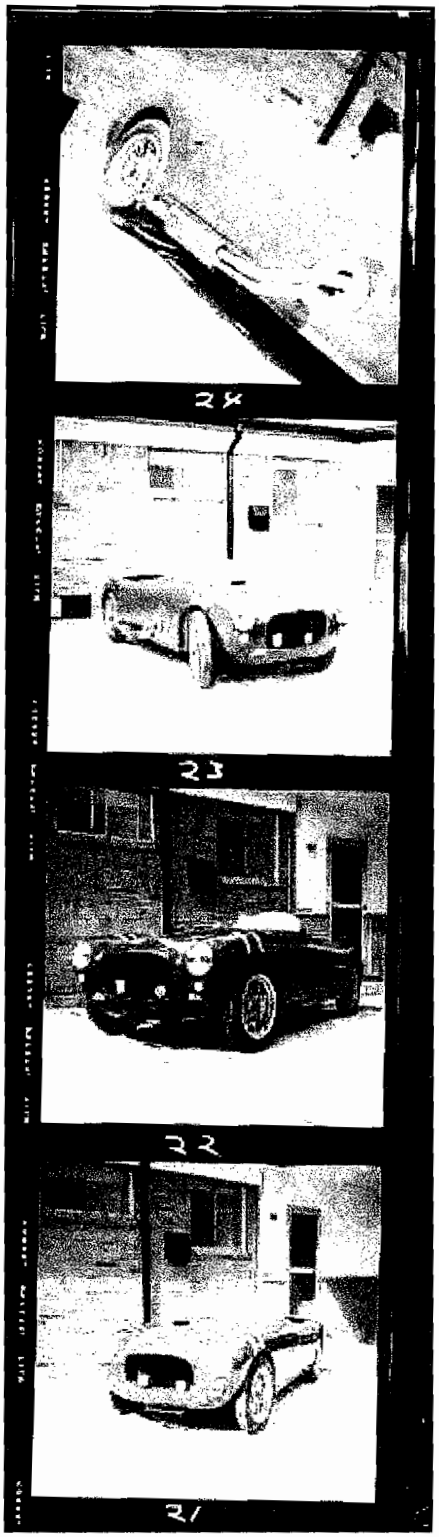
Special Memories

"A special memory is writing the "Competition Advisory Service" by hand; Kathy Ruccio typing the thing by hand (no computers then); then both of us cranking out 200 copies of each page on a mimeo machine that pissed real ink all over us. I had no budget for this volume (or service), so we did the original in my library. It took a year, then we updated the thing weekly. I was, I guess, on the line between enthusiasm and insanity."

For your willingness to hover on that fine line, we thank you, Don Black. You are a friend. ❑



Black's pet project: Kurtis Kraft midget with an Alfa Romeo powerplant.



Siata_Black_1956_thumbs.jpg

8/4/56 Hanewood Acres Race

Entry List

Entries as received up to August 1st. Late entries may be announced over the Public Address System.

No.	DRIVER	CAR	ENGINE CAPACITY C.C.	CLUB
1	V. N. HAYES	Jaguar XK120	3442	N.T.M.S.C.
2	J. WEBSTER	TR3	1991	N.T.M.S.C.
3	T. PEKOE	Cooper-Climax	1100	W.O.S.C.A.
4	W. TANNHAEUSER	Doretti-Swallow	2000	S.C.C.A.
5	F. BRADLEY	D.K.W.	896	B.E.M.C.
	(Entrant British Motors Ltd.)			
6	D. CLARK	Cooper Mark IV	500	S.C.C.
7	W. ROBINSON	Jaguar XK120M	3442	S.C.C.
8	F. ALLEN	Austin Healey 100M	2660	S.C.C.A.
9	R. J. HANNA	Alta-Minor	918	B.E.M.C.
	(Entrant Auto Sport Ltd.)			
10	G. SCHON	Thunderbird	5115	B.E.M.C.
11	R. LARTER	Lartini	748	B.E.M.C.
12	R. WEILER	Lotus Mark IX	1098	S.C.C.A.
14	W. RUSSELL	Jordon	500	B.E.M.C.
15	L. WALLACE	MG "A"	1489	B.E.M.C.
16	R. PRICE	MG "TF"	1250	S.C.C.A.
17	B. JONES	MG "TD" V8-60	2332	S.C.C.A.
18	W. SADLER	Sadler Special	1991	H.S.C.C.
	(TR2 Engine, Sadler Fuel Injection)			
19	P. Van ANTWERPEN	Mercedes 300SL	2996	S.C.C.A.
20	W. KIMBERLY	TR 3	1991	S.C.C.A.
21	H. FRANKLIN	Austin Healey 100	2660	S.C.C.A.
22	M. TANNER, JR.	Martin T	750	S.C.C.A.
23	H. STONE	Siata GranSport	2332	Mich. S.C.C.
24	D. R. BROWN	Austin Healey 100M	2660	St. Cath. C.C.
25	----------	----------	----------	----------
26	----------	----------	----------	----------
27	H. SUTHERLAND	Jaguar XK120M	3442	B.E.M.C.
	(Entrant Ecurie Volante)			
28	H. GRASETT	TR3	1991	B.E.M.C.
	(Entrant Ecurie Volante)			
29	B. BUCHER	Allard-Cad JR	5800	S.C.C.A.
30	D. STEWART	MG Special "TC"	1466	S.C.C.
31	D. DEUBLE	Jaguar XK140MC	3442	S.C.C.A.
32	R. C. DONNELLY	Jaguar XK120M	3442	S.C.C.A.
33	J. W. BAXTER	Mercedes 300SL	2996	S.C.C.A.
34	J. C. MUELLER	Siata Spyder	749	S.C.C.A.
35	D. E. SMITH	MG "A"	1489	S.C.C.A.
36	J. ADAMS	MG "TD"	1250	S.C.C.A.
37	J. SHAVER	Jaguar XK120M	3442	S.C.C.A.
38	M. J. GOLDMAN, JR.	Abarth	1098	S.C.C.A.
39	W. MEYER	MG "TD"	1250	S.C.C.A.
40	D. ECKMAN	Jaguar XK120	3442	S.C.C.A.
41	G. GOWANS	MG "TF"	1250	ST. LAC.
42	R. SAIDEL	Jomar Mark I	1172	S.C.C.A.
43	D. BLACK	Siata Spyder	1086	S.C.C.A.
44	T. R. GILMOUR	Lotus Mark VI-MG	1466	S.C.C.
45	D. SWETT, JR.	Porsche Speedster	1600	M.G.C.C. (Mid-West)
46	W. BRADLEY	Siata 208-S	1998	S.C.C.A.
47	R. J. BARSANTEE, JR.	MG "TF"	1250	S.C.C.A.
48	F. VETTER	Porsche 550	1498	S.C.C.A.
49	P. RIZZO	Arnolt Bristol	1971	S.C.C.A.
50	J. F. MANTING	Porsche 550 Spyder	1486	S.C.C.A.
51	W. HAY	Jaguar XK120	3442	B.E.M.C.
52	R. KENNEDY	Morgan TR3	1991	S.C.C.A.
53	F. ANDREWS, JR.	TR2	1991	S.C.C.A.
54.	J. T. WILSON	MG "TD"	1280	S.C.C.A.
	(Entrant R. Soulsby)			
55	C. SHERMAN	Porsche Speedster	1500	S.C.C.A.
56	R. KEITH	Cooper Mark IV	498	S.C.C.A.
57	M. WOOD	Effyh-JAP	500	S.C.C.A.

48 PROGRAM UNCLEAR HERE

1956 WAS THE 1ST YEAR FOR THE HANEWOOD ACRES COURSE. BEFORE THAT IT WAS EDENVALE. I CHECKED THE 1955 EDENVALE RACES & THIS CAR ISN'T LISTED IN THE ENTRIES.

I HAVE THE OFFICIAL RESULTS AND HE DOES NOT SHOW UP ANYWHERE. PROBABLY NO EITHER DIDN'T SHOW OR WAS A DNS.

THERE WERE 5 RACES THIS YEAR, THIS IS THE ONLY ONE THAT LISTS THIS CAR.

SPORTS CARS ILLUSTRATED

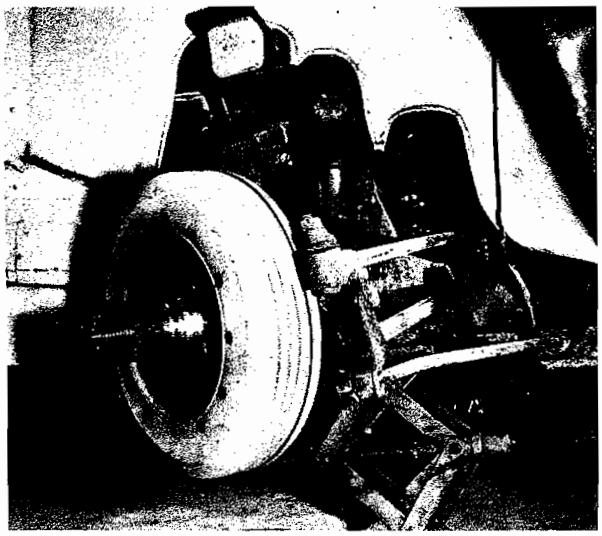
QUICK and DEADLY
Hot Rods That Broke
The Land Speed Record

2 ROAD TESTS - JAG XK140 MC & RAPIER

Poor Man's Ferrari

In full song, the Black-Siata-Fiat comes boring into a long right bend. It's a genuine Italian racing machine in every way, without the big bite out of the pocketbook that goes with the very special editions. Cornering is flat and vice-free.

By KARL LUDVIGSEN



Austin tie rod ends and heavy shocks have outfitted Fiat 500 front end for rugged running. Big 1400 Fiat brakes were added to cope with new-found horses.

WHEN a Pirelli-suit-clad daredevil reels off the names: Abarth, Giaur, Siata, Nardi, Mondial, Stanguellini and Weber, you're likely to think, "Ferrari, no doubt. The man is loaded." But don't be too hasty, friend. He's probably pushing a form of Fiat, which is the Italian equivalent of "Ford." Those are speed shops he's listing, and they all make souping-up goodies for the swarms of Fiats that scuttle out of the great factory at Turin. Abarth, Siata and Stanguellini in particular specialize in Fiats, and the last-named, a Fiat dealer, even builds d.o.h.c. heads for the bigger varieties.

Not even in this horsepower-mad country do we waste time making advanced speed equipment for engines that can't take it, so these Italian rocker-boxes must have something to offer. Except for their limited-production two-liter V-8, the current Fiat line is strictly four-barrel, and includes sizes of 600 cc, 1100 cc, 1400 cc and 1900 cc. They're versatile, then, and available around the world. To suit the heavy-booted Italians and their rugged country, they're way overdesigned. The astonishing clincher is that many Fiat parts are cheaper, even in this country, than the equivalent Volkswagen pieces. They are available through Columbia Motor Corporation, at 245 West 56th Street in New York, while Tony Pompeo in New Haven, is a leading importer of the hop-up bits.

In the course of building up the sexy Siata seen on these

pages, Don Black of Ypsilanti, Michigan became well acquainted with these facts. He feels that a Fiat-based car is a perfect way to get into modified sports car racing at minimum cost, and backed this up by importing a new Siata 1100 Sprint in the Fall of 1955. Siata, of course, functioned for some time as the Experimental Department of Fiat, and like all their products the 1100 Sprint is an assemblage of Fiat parts. The engine, for example, is based on the beefed-up block of the 1100 TV (for "Turismo Veloce"), which displaces 1089 cc, or 66.4 cubic inches. Bore and stroke are 2.68 by 2.95 inches, and the factory output was 50 horsepower at 5200 rpm. Siata initially supplied the engine in modified form, and Don took it down and went the route with it. As always, this is but one of many ways to approach a given engine, but we're sure it'll give you a few ideas.

Siata apparently cast the special aluminum cylinder head that came with the roadster. It differed from standard in that the spark plug was angled closer to the vertical, and the combustion chamber had a more compact heart shape. Don wrote the piston-making firm of Mondial, in Italy, describing the engine, the head and his requirements, which included a compression ratio of 10 to 1. They responded with a piston set that carried the right crown contours for the Siata head. A mere .006 inch was removed from the head face to clean it up before assembly.

Valve and port sizes have been substantially stretched from standard. The present 32 mm diameter intake valve was 26 mm, while the 30 mm exhaust is up from 24 mm. Both valve seats were originally pressed in but the cast iron intake valve seat is now a cold shrink fit while the Stellite exhaust seat is now screwed in. Both seat angles are 45 degrees.

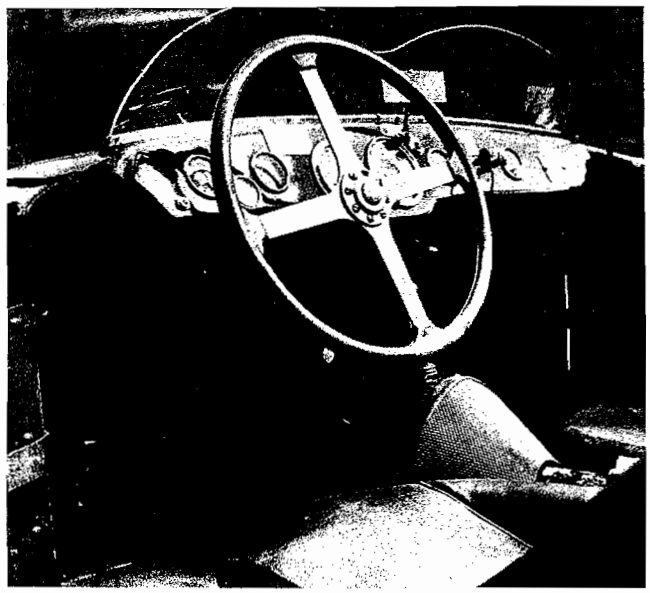
Correspondingly, the intake port size has gone up to 1 5/16 inch instead of 1 1/16, and the old 7/8 inch exhaust holes have jumped to 1¼ inch.

To make the most of this area, Don fitted an Abarth cam to the chain cam drive that distinguishes the TV from the gear-driven standard 1100. This was a handsome stick and it moved the car, but the valve gear was noisy and a tear-down revealed badly chewed lifters. The diagnosis was excessive valve acceleration plus high cam hardness, so a new contour was laid out to give the best possible results within the limitations of the semi-radiused tappets. Consulting on this and the actual grinding were done by Joe Lishin of Lishin Engineering, at 2560 Ewald Circle in Detroit, and the cam bears his identification number: 1910T.

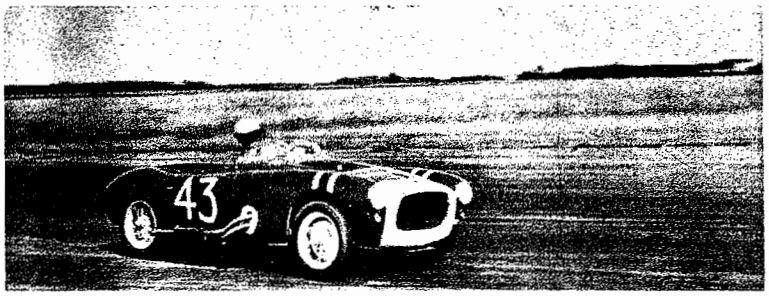
Both valves lift .270 inch instead of the stock .230, while the overlap is up from 20 to 44 degrees. Intake duration is 265 degrees instead of 240. Performance equals that of the Abarth cam and lifter life is much improved. Cam loadings were further cut by the use of shortened 1955-56 Buick Super pushrods, which individually were 15 grams lighter than the originals.

The standard rocker arms have an arm length ratio of 1 to 1.1. They were polished all over, magnafluxed and, like the pushrods, balanced. Special lightweight Abarth spring seats were fitted to all valves, as were outer valve springs from the same maker. The inner springs were shortened MG, rated at 45 pounds, making the total pressure for each valve 140 pounds.

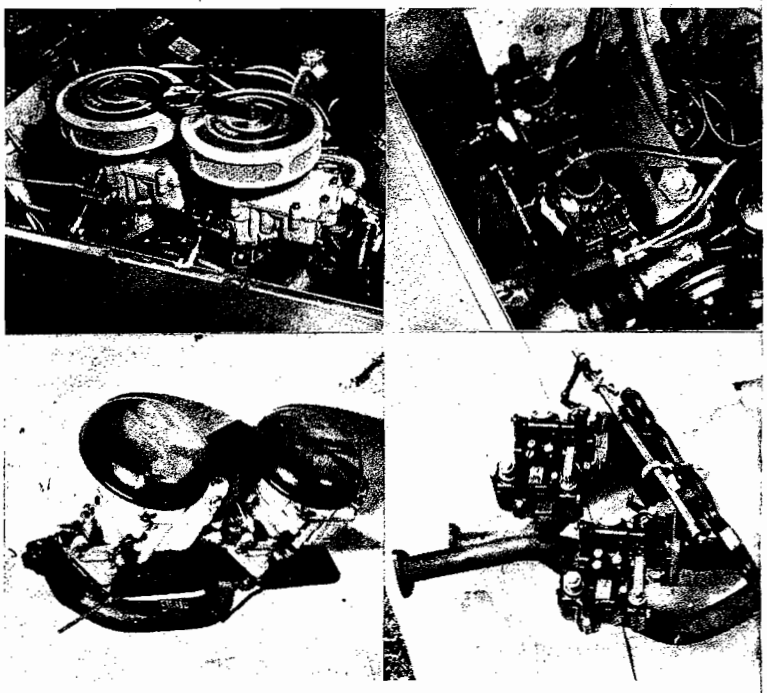
Original equipment on the Fiat 1100 induction system consisted of a single 32 mm Weber type DR10 carburetor, and as delivered the Siata had two of these units connected by a simple Siata-cast manifold. The whole works was replaced by a fabricated Abarth manifold carrying two 36 mm downdraft Webers, of type 1B. This manifold has an unusual twin balance pipe layout, and some rough experimentation showed that this is mainly for improving the idle. Carb venturis of 30 mm are fitted, while the jets have been drilled out after the unit was tested on the flow



Engine and gearbox sit well back into firewall, giving handy shift control. Seats and wheel are completely classic, both in construction and position.

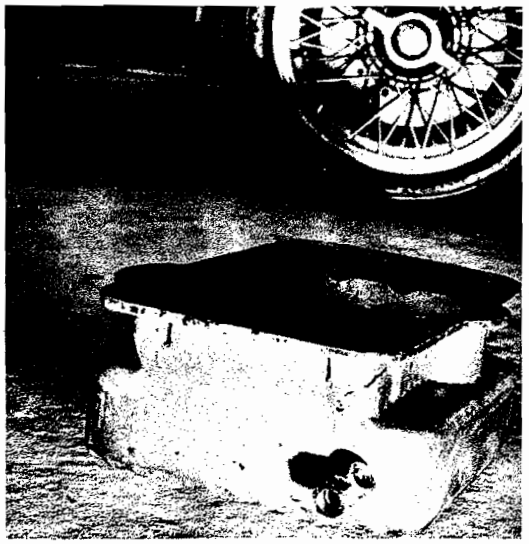


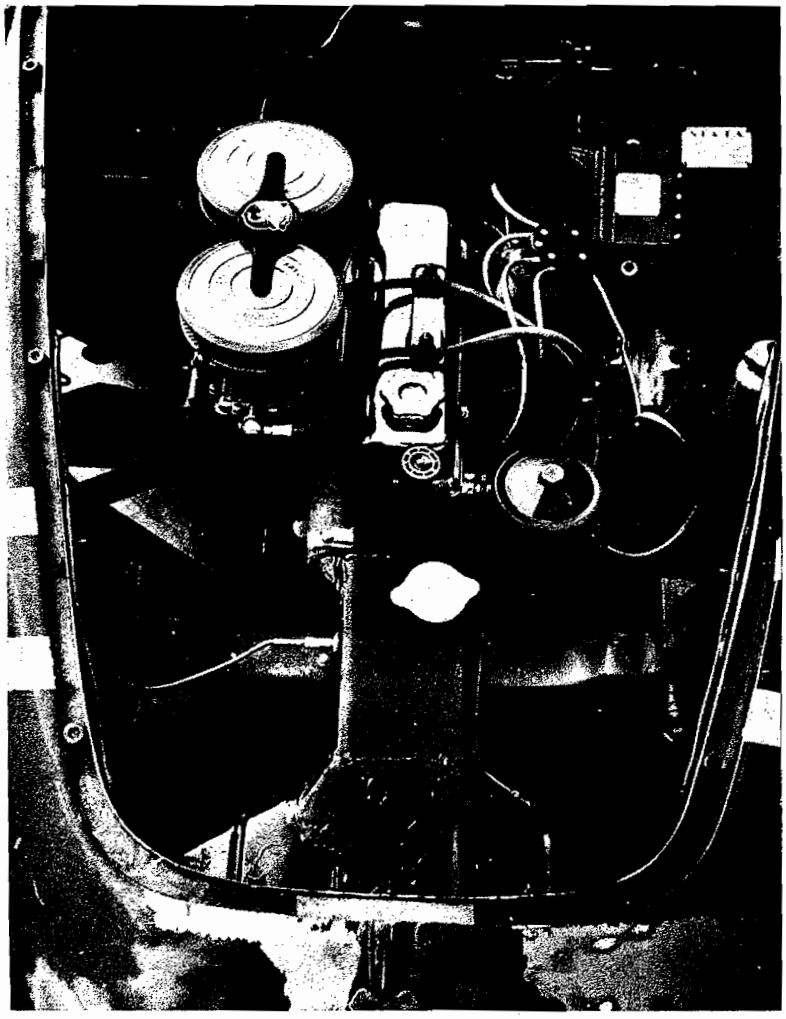
Co-driver Ken Askew finds line on tricky Harewood course before SCC One Hour Race. Siata Special is often seen in MGCC, SCCA and BEMC events.



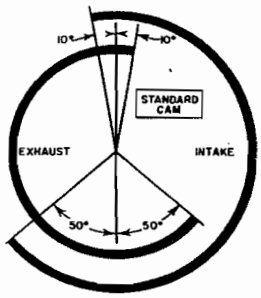
All kinds of manifold sets can be had for the 1100 Fiat, and similar Simca 1300. At upper left is Don's Abarth rig, with 36 mm Webers. Upper right is a variation on this, below it is a special Abarth. Original Siata is below left.

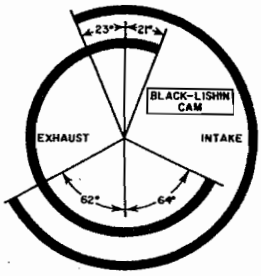
Special cast alloy sump from Italy has larger storage volume, is partial answer to hot oil problem that crops up. Oil cooler is a must for long-distance events.





Long extension on the radiator header tank was necessary to stop hose-blowing. Engine sits well behind high front crossmember, which limits potential engine length. Underhood room is otherwise ample, also spotless in this case.





Stock 1100 cam is typical touring unit, has negligible overlap. Black-Lishin grind is hotter, doesn't cut bottom-end power.

stand by Viktor Schupe. Not wildly drilled, though, since Don gets 20 miles per gallon when racing.

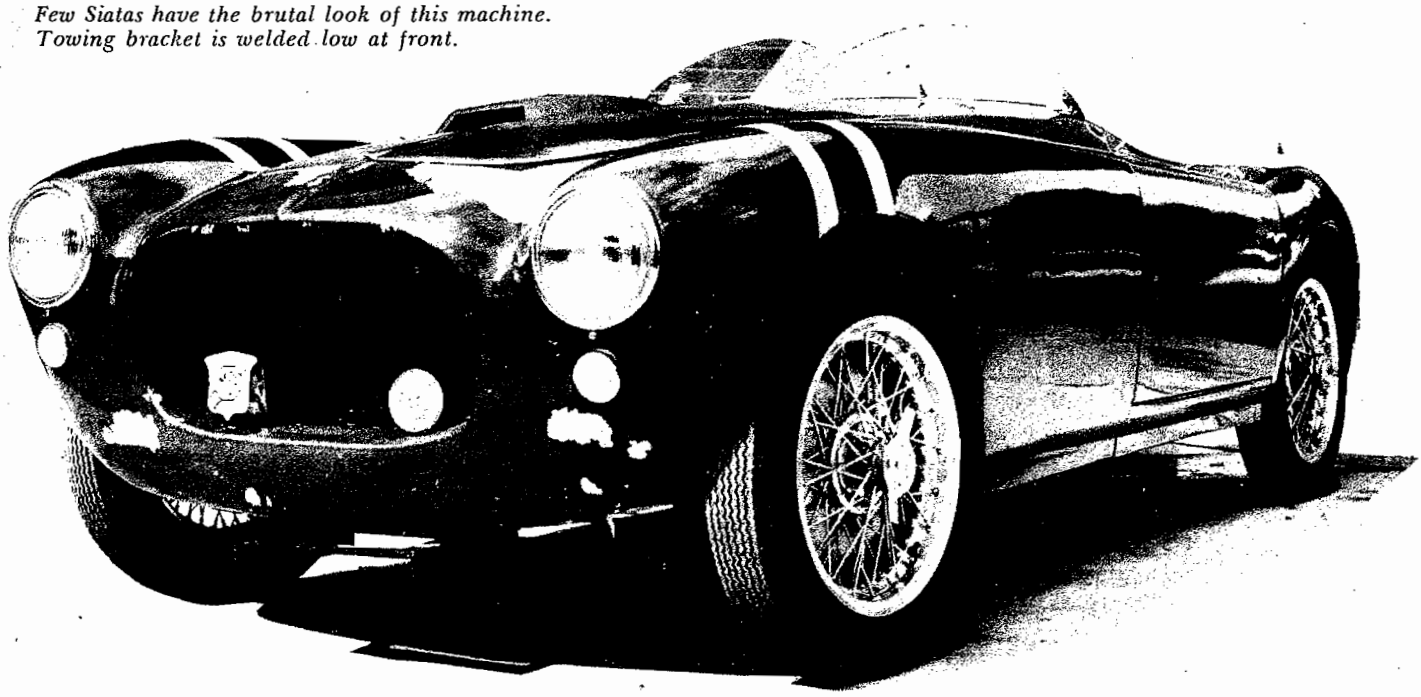
Abarth goodies were again enlisted to clean up the exhaust system. The Fiat has a three-port exhaust, so the center port is ducted out alone while the two side ones are joined to form a "Y". This bundle free-flows without regard for Siata firewalls, and to get it in unbent, the right-hand toeboard was grossly relocated with the help of Fiberglas. Turning sessions had the neighbors holding their ears. They were relieved by the addition of two lengths of flex pipe and a simple expansion chamber, which actually cuts the noise down.

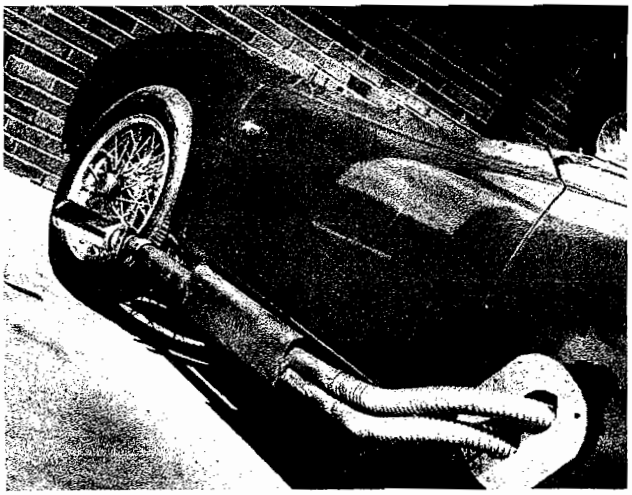
A right-hand rotation Vertex magneto for an MG was on hand, and was easily adapted to the Fiat. Type number OA-O/4, it was sent back to the representatives in this country to have its advance curve retailored. There's a manual control for static advance, which is usually set at TDC. Starting at 1200 rpm, the magneto advances between 12 and 18 degrees at full throttle. The usual plug is a platinum-pointed Lodge R-47.

To take all the poke from this highly refined top end, the rest of the engine received a lot of less glamorous attention. It all starts with those Mondial pistons, which have full skirts and four Fiat rings. The two compression ring are 2.5 mm wide, and just below them is a combination compression-oil ring 3.5 mm wide. A pure oil ring of the same width is below the wrist pin. Knurlizing holds oil on the piston skirts, which clear the walls by .0025 inch. For rapid seating of the chromed top ring the cylinder is left rough after cleaning up. This 1100 TV block had very hard dry sleeves .040 inch thick, but these aren't standard.

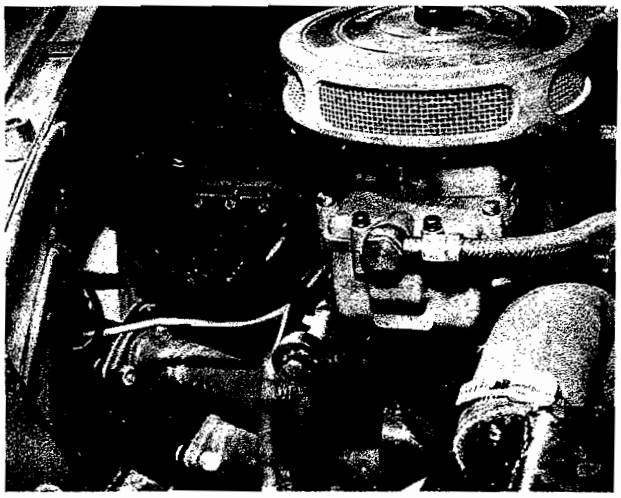
Offset by 2 mm, the 22 mm piston pin is kept away from the walls by circlips. It's embraced by a full-floating sintered bronze bushing in the small end of the 1100 (or type 103) Fiat con rod. The two-bolt big end is 1.574 inches in diameter, and carries a Vandervell lead-indium bearing. Clearances on these have been upped from .0008

Few Siatas have the brutal look of this machine. Towing bracket is welded low at front.





Largely to appease irate neighbors, twin pipes from Abarth muffler were led into expansion chamber with single outlet. Much quieter with no power loss.



Sweeping Abarth exhaust has mind of its own, required relocation of right firewall. New wall is Fibreglas, and portion of old can be seen below piping.

to .0011 inch.

The crankshaft is a long but unusual story, which tells eloquently of the versatility of these Fiat fours. After some ruler and micrometer work, Don decided that his 1100 could use the big main bearings of Fiat's 1400 cc engine, and he set about adapting the 1400 (or type 101) crank to his block. This actually had a shorter stroke than the 1100, so when the rod journals were turned down they were also offset to maintain the desired amplitude. The block's three 1.653 inch diameter main bearings were line bored to 1.875 inch size, to take the regular Vandervell lead-bronze bearings for the type 101. Clearance for these is .0024 inch.

A slight difference in end distances called for thicker thrust surfaces, which were then built up by babbitt spraying. There was plenty of meat for the line boring operation, and the deep crankcase gives a full two inches of side support to each of the healthy main bearing caps. The well-being of some sixty bucks worth of machining was safeguarded by static and dynamic balancing of the whole assembly within a tenth of a gram.

Structurally the above was a worthwhile improvement, as long as it didn't result in weakening of the crankcase bearing support. Prevention of distortion should often precede increases in bearing area. The problem that did crop up with this engine was the supply of enough cool oil to these bearings. Bigger gears had been added to the Fiat oil pump by Siata, and it put out very nicely, while the Italian Fram bypass filter was no obstacle to the system.

The sump, however, was the standard Fiat stamped part, which holds a mere three quarts of oil. SAE 50 oil kept the viscosity up for short sprints and time trials, but temperatures skyrocketed on longer runs. Dan has a bigger cast aluminum sump for the engine, and recommends also the use of an oil cooler.

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Poor Man's Ferrari

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A similar difficulty appeared in early development, when the top radiator hose was prone to blow off. An extension to the header tank solved it, both by increasing the coolant capacity and decreasing the length of hose necessary. The radiator has been recored by Harrison, and an easily-installed Simca water pump offers both a larger capacity and a bronze instead of an aluminum impeller.

Other accessories include the Marelli generator and starter, which are from a Fiat 500. That starter just kicks the engine over, but it's as light as can be. This whole reworked assembly has been on a couple of Detroit dynamometers in the course of construction, and the torque peak has been located at 4000 rpm. Peak power is at 6000, where 70 horses can be held consistently and a top of 74 reached. Don reports that it'll run on up to 8000 revs without strain. Not bad for 66 cubic inches on gas!

To keep tabs on the activities there's a 7000 rpm Sun tachometer, which is being sadly overworked. Also indicated are the oil and water temperatures, the oil pressure, charging rate and fuel level. For quick engine cutoff there's a relay magneto control.

Again basically Fiat, the deep, recessed flywheel received a good reducing diet at the hands of Siata. The Volkswagen-like pressure plate went out to Ace Clutch in Detroit for new springs and spacers, and now applies a total of some 900 pounds to the eight-inch MG clutch disc. Chosen for its shock-reducing sprung hub, this has been faced with Fren-Do competition segments.

The clutch housing is another Siata-Fiat combo, and carries the actuating shaft for the roller-type throwout bearing. To the rear there's an 1100 TV four-speed gearbox, with central control by a short lever and synchro on the top three speeds. After the cam was developed and new rear end ratios selected, third gear wasn't quite right, so a more suitable third and fourth gear set from a Fiat station wagon was installed.

Siata is fully responsible for the car's light-gauge steel platform chassis, which was originally intended to carry the featherweight Crosley 750 cc engine. Wheelbase is 82.6 inches, while the treads are 45.2 inches front and 43.8 inches rear. A small-section box framework and a steel cowl support the aluminum bodywork, which came

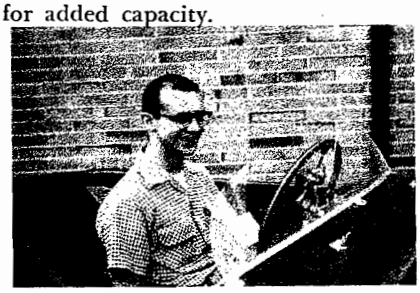
off the boat with full weather equipment. This is now reposing in the Black family basement, of course, but some sort of windshield was necessary. Don cooked up a good one from a sheet of lucite and some strips of Reynolds aluminum "Do-it-Yourself" storm door molding.

The transverse leaf front suspension is taken from a Fiat 500 station wagon, and was originally set up for the weight of the Crosley engine. To bring back the proper camber with the heavier Italian engine, Don shortened the top leaf slightly. Other refinements are zinc shims between the leaves, and large-capacity Jaguar-Girling telescopic shocks.

A hefty 1100 steering box is tied into the type 500 linkage, and the combination gives a rapid one and three-quarters turns from lock to lock. Unhappy about the Italian approach, Don fitted Austin A-30 tie rod ends.

Two Spicer universals bracket the open tubular drive shaft, which has splined joints at both ends and is thus very easy to remove. The live rear axle is 1100 Fiat. Its center section has been vented to prevent pressure build-up, which appears to be particularly critical with these axles. In addition to the standard 4.6 ratio, Black has some coarser Siata gears for 3.7, 3.9, 4.1 and 4.3. A good selection, though some lower "short course" ratios might round it out.

The axle is hung Hotchkiss-fashion from two semi-elliptic leaf springs. These are a Siata concoction, being midway in size between 500 and 1100. Hillman-Girling shocks are used at the back, more for convenience than for added capacity.



Don's happy with Do-It-Self windshield.

As power went up, so did the braking requirements, and a pair of ten-inch 1400 Fiat assemblies were ordered for the front wheels. The inner wheel bearings were okay for the conversion, but Timken outer bearings had to be found with the 1400 outer diameter and an inner diameter for the type 500 spindle. The new drums are the latest in Al-Fin, with machined-on fins, while the six-inch rears have the earlier finned muffs shrunken on steel drums. There's no special air venting, though such is planned, and Fren-Do competition lining is used all around.

Fifteen-inch aluminum alloy Borrani Record wheels hold it all up, through 3.75 inch rims. Tire size is 4.25 x 15, and 30 pounds of pressure are usually carried. A Marelli mechanical pump has been relied on to draw fuel from the six gallon tank, but it's about to be supplemented with a rear-mounted electric Autopulse.

In the original trim, fully suitable for touring, the handsome red machine weighed in at 1250 pounds. The competition, "poor man's Ferrari," version is down to a lithe 1105 pounds dry, split equally between front and rear. At this point Don Black still affirms that this is a cheap way to go racing, thanks to the very high design/cost ratio of the vast line of Fiat components.

Running largely in Michigan sprints, time trials and hillclimbs, the red Siata has raked in five firsts, two thirds and one d.n.f. It's still practical and fun for street use, but Don is a firm believer in the competition car for its own sake. To follow this up without going broke he's looking around for a good Formula III car, and when he finds it we can be sure of one thing: If it needs any changes they'll be *done* first and talked about only when proved.

Karl Ludvigsen