

MILESTONE AUTOMOBILES

Milt Brown

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the apollo GT

An American Sports Car

Jack E. Triplett

Forward

The Apollo Owners Registry decided to republish Jack Triplett's article that originally appeared in *The Milestone Car*, so that people attending the 50th anniversary celebration of Apollo at Concorso Italiano can understand what we did when we built Apollos in Oakland, California. I consider Jack's article the most accurate account of how we created the Apollo coupe, convertible and the 2+2. I am also pleased that so many owners and admirers appreciate their styling, quality and performance.

Milt Brown



Milt Brown, in Apollo convertible no. 1, receiving second in class award at the Pebble Beach concours, 1995.

the apollo GT

An American Sports Car

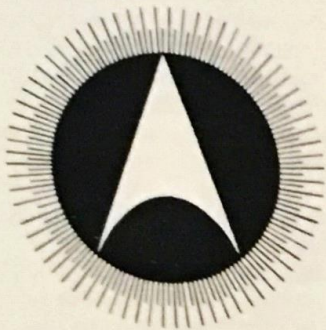
by Jack E. Triplett

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Front cover: Apollo convertible no. 1, photo from George Finley.

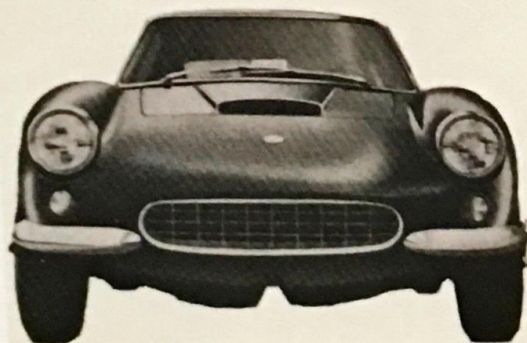


Styled and engineered in Oakland, restyled and built in Torino,
with engine and running gear from Flint, the Certified
Milestone Apollo is one of the finest of all transatlantic hybrids

BY JACK E. TRIPLETT

APOLLO

GRAN TURISMO



The original Apollo prototype was designed by Art Center graduate Ron Plescia

The Apollo GT was the conception of Milt Brown, a young California engineer with a tremendous enthusiasm for cars. Brown's dream was to build an American equivalent to the European "Gran Turismo," a dream that entertained a number of young enthusiasts in the Fifties and Sixties. Brown's GT car had to be a sports car—light, quick, fast, with nimble handling and outstanding cornering ability. A GT, however, was emphatically *not* an old-fashioned, hard-riding, wind-in-the-face kind of sports car. Instead, the GT had to combine the sports car's superlative road performance with head-turning styling and high levels of comfort and luxury. After a long, fast drive its owner should fondly recall hours of pleasant motoring, not a grueling ordeal.

From the very beginning, Brown planned the Apollo as a convenient marriage of the best of two continents; American mechanical components for performance, ease of service and low-cost maintenance, an Italian body for style, exclusiveness and hand-crafted luxury. Brown's was hardly the first attempt at such an American sports car. In addition to the all-American Corvette, there were hybrid Italian style entries for the American market like the Nash Healey, Cunningham and Devin SS. In the Apollo, however, Brown wanted to avoid what he considered the shortcomings of these previous hybrid sports

cars. He thought that most of them were somewhat on the heavy side, an unavoidable consequence of using available American V-8 engines and chassis components intended for large family sedans where weight saving was not a major design objective.

With the introduction of the compact Buick Special in the Fall of 1960, building a lightweight American sports cars became feasible. Karl Ludvigsen, in an insightful and prophetic article in *Sports Cars Illustrated*, called attention to the "vast potential" of Buick's aluminum 215 cubic inch V-8 for sports car applications. At last an American engine existed that would yield the power needed for a really fast car, yet was small enough and light enough (318 pounds) to allow good handling and cornering. The Buick 215 engine became the power unit for Brown's dream car. Though Buick advertised this engine at 185 horsepower, only careful dynamometer tuning was necessary to produce over 200 horses.

Milt Brown noticed something else about the Buick Special besides its engine. The Buick chassis layout was an extraordinarily good one. At the rear was an excellent four-link suspension that gave positive location to the rigid axle, limiting rear axle hop during acceleration and lateral movement during hard cornering. The importance of this design element can hardly be overemphasized,

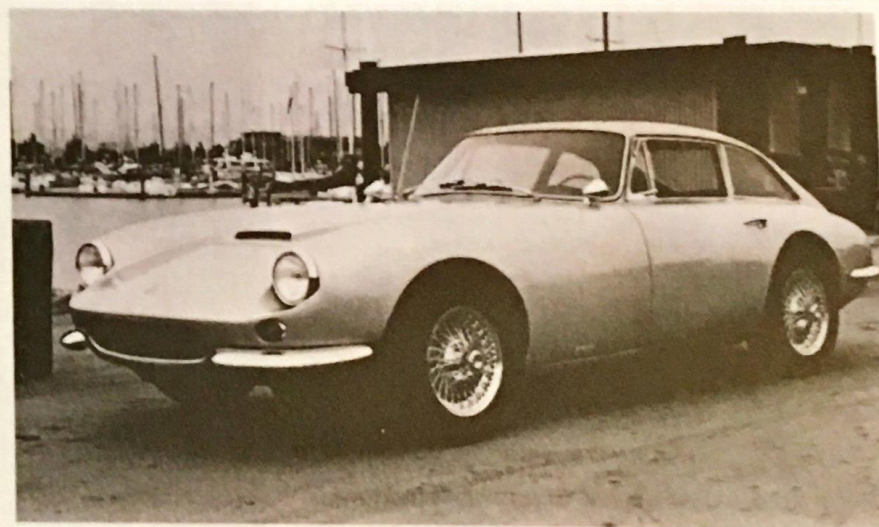
for the vices of a poor rear suspension are magnified when high performance is involved. The Buick's front suspension geometry was also well thought out, and the car's handling was praised by road testers. This is not to say that the stock Buick Special was set up like a sports car. Rather, it provided excellent components from which to start building a sports car. As a priceless bonus, the compact Special had been designed from scratch to achieve weight savings over the standard-size Buick. The 2600 lb. Special was only 188 inches long, compared to the 220 inches and 4500 lbs. of the full-size 1961 Buicks.

Milt Brown knew the key to good handling was a rigid chassis. He laid out a simple, ladder-type frame with a 97 inch wheelbase, solidly welded up from sturdy 4 inch square steel tubing. To this he attached the Buick's four-link rear suspension. The front suspension was made up from modified Special parts. These modifications included a longer pitman arm to speed up the slow Buick steering, softer front springs to compensate for the lighter overall weight, heavy-duty shock absorbers, increased caster angle, a heavier anti-sway bar and lightened wheel spindles and steering arms.

The remainder of the Apollo's mechanical makeup was chosen from the best available parts. A Chevrolet



Production Apollo coupes were restyled by Franco Scaglione in Torino



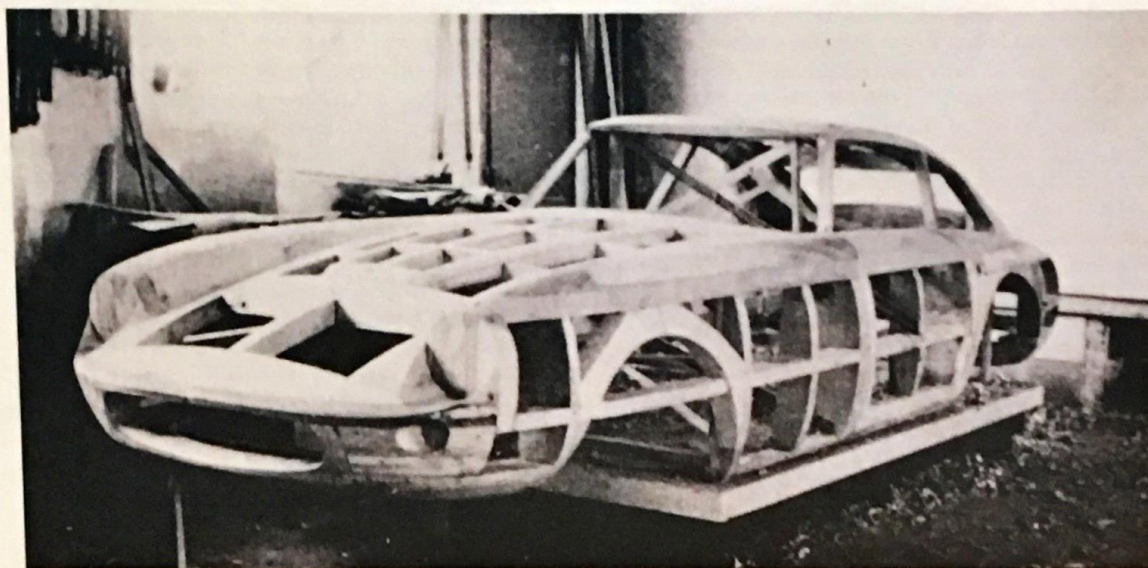
Apollo nose resembles that on 1961 Ferrari 250 GT Special Berlinetta by Pininfarina

Corvette donated its steering U-joint and tachometer drive*. The Chevrolet division was also tapped for rear drum brakes and Corvair front spring pads. Borg-Warner's excellent close-ratio, four-speed T-10 transmission, also employed on the Corvette, was the obvious choice. A five-bladed fan pulled air through the stock Buick Special radiator. The wheels came from Italy. These were Borrani wire wheels, with light alloy rims on some cars, chrome-plated steel rims on others. In both cases, real knock-off hubs fastened to knock-off splines bolted to standard Buick hubs. Bolt-on wheels were thus easy to fit, and some Apollo owners have modified their cars to accept wide bolt-on wheels.

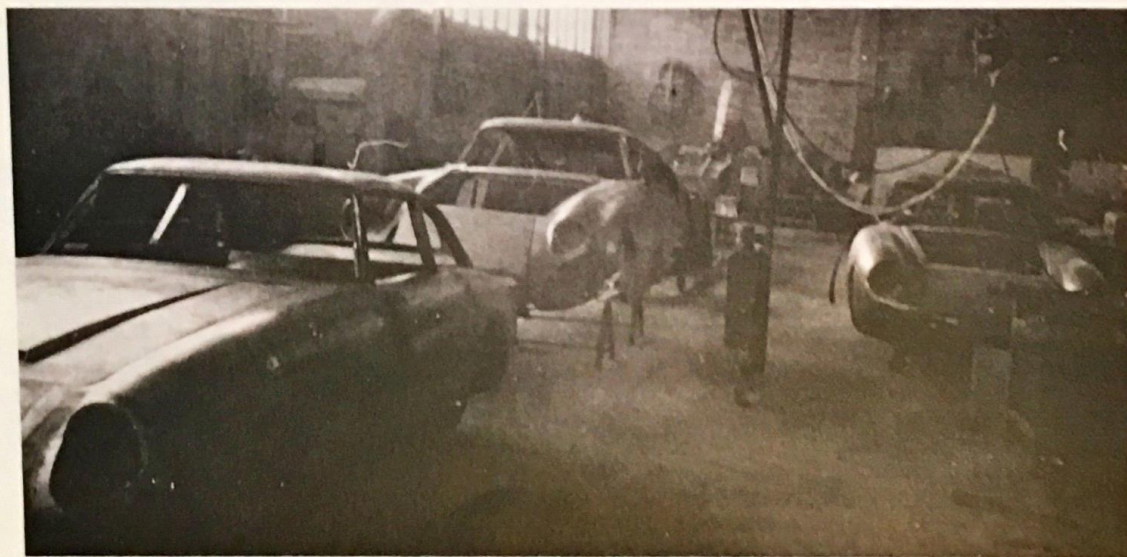
Later on, Apollo brought out a second model, the 5000 GT. This was a revised version of the 3500 GT fitted with the new Buick Skylark 300 cubic inch, 250 horsepower V-8 and Bendix power front disc brakes. Though the 3500GT had a claimed top speed of around 130 miles-per-hour (depending on the rear axle ratio) and zero to 60 times in the vicinity of eight seconds, the urge for additional performance was seemingly never satisfied in the Sixties. The larger-engined 5000GT quickly displaced the smaller one. Brown told me that the engine switch actually improved high-speed handling. They'd had some trouble with front-end lift at very high speed on the 3500GT, and the slightly heavier 5000GT behaved better in that regard (those were the days before aerodynamic front air dams).

One of the Apollo's selling points was its custom built-to-order nature, so it should surprise no one that variations exist on the basic specifications. Coupe Number 11 was factory-assembled with a 327 cubic inch Corvette V-8, and still exists in its original form owned by Bob Turcios of El Cerrito, California.

The exotic part of the Apollo was the body. The prototype Apollo coupe was styled in California by Brown's friend Ron Plescia, a graduate of the L.A. Art Center. Plescia's car had blank rear quarters, an exceedingly long nose with too much front overhang (especially so considering that a V-8 is a short engine, and in the Apollo was mounted well back in the chassis) and a different grille from the production version. Milt Brown told me that Plescia was trying to obtain what he called the "visual excitement" of the best Italian designs. Logically enough, Italian stylist Franco Scaglione, whose reputation had been made on the attention-getting Bertone-bodied Alfa Romeo BAT series and Sprint Speciale, was commissioned to rework Plescia's design. Most Apollo literature credits the styling to Scaglione, for



Apollo GT body buck takes shape during 1962 at Carrozzeria Intermeccanica in Torino



Completed all-steel bodies were trimmed and finished by Intermeccanica, sent to Oakland for mechanicals

* An error (note added in 2013): Tach drive was not a GM part.

having his name associated with the car was a sales asset, but the Apollo principals now say that Plescia's contribution was substantial.

To build the Apollo body, Milt Brown worked out an arrangement with Hungarian-born Frank Reisner. Reisner and Brown met in Monte Carlo; Brown had a new car he wanted to build, Reisner had a new company, Carrozzeria Intermeccanica, that wanted to build cars. The Apollo project was one of the first big commissions for Intermeccanica, and led directly to the Intermeccanica-built Griffith, Omega and Indra... all similar hybrid GT cars with American mechanical components and sleek Italian bodywork.

The first Apollo was Ron Plescia's prototype, with aluminum body. This proved to be too fragile for everyday use, so all subsequent cars, complete with Scaglione's styling revisions, were hammered out in steel. In the first production year of 1963, only two-passenger coupes were built. For 1964, a Scaglione convertible was added to the line, with similar styling. Coupe or convertible, body building at Intermeccanica employed extensive hand labor and a bare minimum of tooling. A skilled panel beater, starting with a piece of sheet steel and using only a hammer and tree stump, whacked each body component into the correct shape. These individual hand-formed sections were then welded up into a complete Apollo body, and the body welded to the hand-fabricated frame. This body-chassis unit was painted, upholstered and trimmed at Intermeccanica, then shipped to Oakland, California where the mechanical parts were installed.

In interior trim and detail, the Apollo's Italian heritage is evident, with stock hardware also used on several similar European sports cars. The instrument panel was obviously derived from the 250GT Ferrari. The large round tachometer and speedometer dials (on my car the speedo is labeled "kilometers per hour" but registers in "miles per hour") are carried in a hooded pod directly in front of the driver. A row of five smaller round dials in the center monitor the oil temperature and pressure, water temperature, fuel level and charging rate.

A stalk on the left side of the steering column controls the lights, in the Continental fashion. One of the Apollo's peculiarities is the method for sounding the horn—you waggle a long lever which protrudes from the instrument panel at the right of the steering column. A beautiful and comfortable wood-rimmed steering wheel was added in California, and carried at its center the Apollo emblem, a stylized letter "A" inside a sun-burst



Creator Milt Brown with a restored Apollo



Interior gives no hint of American influence



Lightweight Buick V-8 gives reliable power

design. This emblem is itself a collector's item, made of cream and orange ceramic. A duplicate mounts on the hood. On later cars, a less attractive metal substitute appeared. The Apollo's interior is both roomy and luxurious for a GT coupe. Two comfortable, genuine leather bucket seats nestle close to the floor to provide adequate headroom for tall Americans (most expensive European GTs were deficient in this respect). On the first few cars, the seat backs incorporated head rests, which were dropped because of dealer objections. Floors and drive-shaft tunnel are fully carpeted, and the whole car has the look of quality.

Most magazine road tests were carried out on the very first production coupe completed in January, 1963, and not surprisingly, all the bugs had not been worked out of the car yet. Even so, the quality of its coachwork came in for praise. "Finish and detailing are excellent," said *Road & Track*, "everything seems to fit as it should." *Hot Rod* magazine was more specific: "Workmanship is of the highest quality, panels fit well, doors close with authority and the interiors are comparable to cars costing twice that of the Apollo."

Everyone who was connected with the car has emphasized to me that quality continued to improve throughout the production run. Recently, I've had the opportunity to inspect two of the very last Apollos Intermeccanica made, units which were never assembled into completed cars and have remained in storage for a dozen years. Paint, chrome, leather and other details on these brand-new, original bodies can only be described as "fantastic." There can be no question that in construction, finish and detailing, the Apollo GT met very high standards, indeed.

Apollo sales literature compares the car with such foreign exotics as Ferrari, Maserati and Aston-Martin (all of which cost more than the \$7,105 asked for an Apollo 5000GT coupe with 4-speed gearbox). The sports car press gave the Apollo high marks. *Road & Track* tried an early 3500GT and concluded that, "In general, the Apollo is a very appealing automobile." *Car & Driver* also published an enthusiastic road test, calling the Apollo a "sophisticated, high-performance GT coupe that achieves a surprisingly high level of excellence on all counts, from finish details to handling qualities."

The most laudatory test appeared in *Science and Mechanics*. Significantly, this test was carried out on a late production 3500GT coupe, a car which incorporated numerous refinements over the early car tried by most of the other road testers. The S/M test also had the



DIMENSIONS

Wheelbase, in	98.0	4th (1.00)	3.90
Tread, f and r	56.0/56.0	3rd (1.51)	5.89
Overall length, in	178.0	2nd (1.92)	7.49
width	66.0	1st (2.54)	9.91
height	50.0		
equivalent vol, cu ft	340		
Frontal area, sq ft	18.4		
Ground clearance, in	5.0		
Steering ratio, o/a	20.5		
turns, lock to lock	3.5	30 mph	actual, 28.1
turning circle, ft	n.a.	60 mph	56.7
Hip room, front	2 x 19.0		
Hip room, rear	n.a.		
Pedal to seat back, max.	43.0		
Floor to ground	9.5		

CALCULATED DATA

lb/hp (test wt)	14.1
Cu ft/ton mile	140.0
Mph/1000 rpm (4th)	18.9
Engine revs/mile	3175
Piston travel, ft/mile	1480
Rpm @ 2500 ft/min	5350
equivalent mph	101.0
R&T wear index	47.0

SPECIFICATIONS

List price	\$6597
Curb weight, lb	2485
Test weight	2830
distribution, %	47/53
Tire size	165-400
Brake swept area	224
Engine type	V-8, ohv
Bore & stroke	3.50 x 2.80
Displacement, cc	3524
cu in	215.5
Compression ratio	11.0
Bhp @ rpm	200 @ 5000
equivalent mph	95
Torque, lb-ft	240 @ 3200
equivalent mph	61

GEAR RATIOS

SPEEDOMETER ERROR

PERFORMANCE

Top speed (5500), mph	104
Shifts, rpm-mph	
3rd (5500)	69
2nd (5500)	54
1st (5500)	41

FUEL CONSUMPTION

Normal range, mpg	17-22
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ACCELERATION

0-30 mph, sec	2.8
0-40	4.0
0-50	5.8
0-60	8.4
0-70	11.5
0-80	15.0
0-100	27.0
Standing 1/4 mile	16.0
speed at end	82

TAPLEY DATA

4th, max. gradient, %	16.2
3rd	26.4
2nd	off scale
Total drag at 60 mph, lb	



Scaglione-designed convertible appeared in 1964, only eleven were built by Intermeccanica

most explicit comparison of the Apollo's handling qualities: "The Apollo handles as well or better than a 2-plus-2 Ferrari, an Aston-Martin DB-4 or a Sting Ray Corvette." Not bad for a car built out of Buick parts.

In addition to their power and good handling, the strongest impression left by these cars is their rock-firm solidness, a quality that adds immensely to the enjoyment of driving them. After fifteen years, they simply don't rattle. Though you know from the specifications that the Apollo was light (around 2300 pounds for the 3500GT), the car has that sturdy feel usually associated with cars that are much heavier... Mercedes springs to mind as the nearest equivalent. The origin of this solid feel of quality is the welded-up structure which inhibits vibration. As the Apollo weighed approximately the same as a TR-4 and considerably less than an XK-E, this satisfying solidness is a striking contrast to what one expects from contemporary sports cars.

Comparison with the Corvette is inevitable, especially since the independently-sprung Sting Ray coupe came out the same year the 3500GT went into production. The Apollo's controls all seem lighter. Even though both cars have engines set so far back in the chassis that weight bias is to the rear wheels in spite of the front-mounted V-8, the Apollo's steering is light in comparison to the Corvette's. The Apollo's 700 lb. lower overall weight accounts for most of the difference, bearing out Milt

Brown's original weight-saving design objective. The Apollo clutch is a definite improvement on most Corvettes I have driven, and the finely-assembled shift linkage is more precise and easier to use than the Corvette's production line version. Both cars will get you away from a dead stop like a rocket, but the Corvette has an edge in acceleration, especially when fitted with one of the extra-power engine options (up to 400 hp, double the 3500GT's 200 hp). In most other respects, I'd give the edge to the Apollo. It's smoother, quieter, more refined, more comfortable, handles better and is all around a more pleasant car to drive.

Milt Brown had a partner and business manager named Newton Davis, as well as a small group of other stockholders, but the company was vastly undercapitalized from the very beginning. The initial financial hurdle—building and testing the prototype and setting up production facilities—was met in 1962. Production commenced in late 1962, and the first production 3500GT coupe was exhibited at the Los Angeles auto show in early 1963 (one of the exhibitors later wrote an amusing account of the experience for *Road & Track*). During the rest of 1963, a small but steady flow of cars rolled out of the Oakland factory. New for 1964 were the 5000GT and the convertible. A single prototype four-passenger 2+2 coupe was completed in 1965.

The expansion of the Apollo line was a false sign of

Reprinted from *Road & Track*, November, 1963.

Note 3.90 rear ratio (note added in 2013)

health, for 1964 actually brought a severe financial crisis to the fledgling company. Apollo's financial troubles had nothing to do with its ability to sell cars. However, to sell a car, first you have to make one, and that means you must pay for parts, labor and transportation. Apollo's fund of working capital was far too small. And because the company was so small, and operating in an industry where everyone "knows" it takes an industrial giant to function, borrowed money was hard to find.

In mid-1964, Apollo's financial squeeze forced suspension of production, with five unassembled bodies in Oakland and a larger batch in process at Intermeccanica. When the wheels stopped, the Oakland factory had built and sold all of 39 coupes and one convertible (the only 3500GT convertible, incidentally), in addition to the original aluminum-bodied prototype coupe. The bodies already in Oakland were disposed of to individuals, some of whom departed from normal specifications in assembling their own Apollos. These five cars were coupes number 40 to 44.

This production suspension was optimistically regarded as only temporary, until new financing could be found. In order to protect the Intermeccanica connection, which would be needed when production started up again, Reisner was permitted to sell Apollo bodies to the Vanguard air conditioning company. Vanguard planned to assemble the cars in Dallas and sell them under the peculiar name "Vetta Ventura." The initial shipment of bodies to Texas left Intermeccanica late in 1964. According to Frank Reisner, 19 Apollo bodies (16 coupes and 3 convertibles) went to Texas. If that number is correct, then only 11 cars were actually completed by Vanguard before it went into bankruptcy in 1965. According to Tom Johnson of Precision Motors, he bought the eight remaining bodies (all coupes) in December of 1965 and assembled them over a period of several years until 1971.

Meanwhile, new financing had been found for the Apollo. A new company was formed, headed by attorney Robert Stevens, and the factory was moved to Pasadena near the end of 1964. Intermeccanica reopened the interrupted flow of bodies. Apollos and Vetta Venturas were in simultaneous production during 1965, with more or less the same specifications. Apollo's revival was brief, however. After only 24 bodies were shipped (7 convertibles), the Pasadena factory closed its doors. The factory was apparently only able to complete 14 cars, for six bodies were acquired by shop foreman Otto Becker, who assembled them on his own ac-

"APOLLO invites comparison with the world's finest luxury sports cars . . ."

	APOLLO	Mercedes 230SL	Jaguar XKE	Ferrari 2 + 2	Aston- Martin	Maserati
SPECIFICATIONS						
List price	\$6597	\$7600	\$5525	\$12,900	\$10,475	\$12,600
Annual production	200	3000	4000	600	600	1000
Horsepower	200 @ 5200	170 @ 5600	265 @ 5500	240 @ 7000	263 @ 5700	230 @ 5500
Top speed	132	123	150	150	148	127
Standing 1/4 mile	16.1	17.3	15.2	16.3	16.0	16.1
0-50 mph	5.8	7.0	5.7	6.3	6.5	5.0
Torque	224 @ 2800	159 @ 4500	260 @ 4000	181 @ 5000	240 @ 4250	224 @ 4500
Displacement	3524cc	2306cc	3781cc	2953cc	3670cc	3485cc
Engine	V-8 Buick	6	6	V-12	6	6
Wheelbase (inches)	97	94.5	96	102	98	102
Overall length (inches)	177	169	175	185	180	174
Overall width (inches)	66	70.1	65	57	66	60
Tread (inches)	56	58.5	50	54	54	55
Curb weight	2440	3010	2720	3100	3050	3140
FEATURES						
Hand-made steel body and chassis	YES	NO	NO	NO	NO	NO
completely undercoated	YES	YES	NO	YES	YES	YES
Opening wind wings	YES	NO	NO	YES	NO	YES
Dashboard completely upholstered	YES	NO	NO	NO	NO	NO
Built-in roll bar	YES	NO	NO	NO	NO	NO
Synchromesh low gear	YES	YES	NO	YES	YES	YES
Reverse lock-out	YES	NO	NO	NO	NO	NO
Automatic transmission	YES	YES	NO	NO	YES	NO
Adjustable steering column	YES	NO	YES	YES	YES	NO
Oil temperature gauge	YES	NO	NO	YES	YES	YES
Adequate head room for drivers over 6 feet	YES	NO	NO	NO	NO	NO
Wood-rim steering wheel	YES	NO	YES	YES	YES	NO
Twin-trumpet air horns	YES	NO	NO	YES	NO	YES
Removable transmission tunnel	YES	NO	NO	YES	YES	YES
Factory-installed air-conditioning	YES	YES	NO	NO	YES	NO
Emergency service and routine maintenance available everywhere	YES	NO	NO	NO	NO	NO
Solid rear axle	YES	NO	NO	YES	YES	YES

Apollo sales brochure contained this chart; difference in claimed top speed and R/T test data on page 7 partly accounted for by rear drive ratio

count. Another four Apollo bodies, fully paid for except for customs duties, arrived at the dock in Los Angeles just as the Pasadena factory closed. In the confusion, no one claimed them. A year or so later these bodies were sold at a customs auction. The buyer put them into storage. With the revival of interest in Apollos, two of these units have recently been assembled into brand new Apollos, one of them (convertible number 11, the last convertible made) by Milt Brown.

When you add it all up, Apollo production from 1962 through 1980 totals 88 Apollos. Building a limited-production sports car is harder than it looks. *As Road & Track* pointed out in its original article on the Apollo in November, 1963, "it is significant that few of these ventures ever get past the dreaming stage. A great many intelligent, capable and—sometimes—wealthy men have attempted the task and failed." The company failed, but the Apollo car was a success.

Apollo Notes: A 2013 Addendum

Buick Mechanical Components. Among the questions often asked about the Apollo's design, one is: Why Buick mechanicals? Why not, for example, the Chevrolet V-8, as used on other European-American hybrids, such as Iso and Gordon-Keeble?

One reason was weight. The Buick Special was designed to be a light-weight car, the Chevrolet V-8 chassis was not. Buick's 215 cubic inch V-8 (aluminum block) weighed only 318 pounds, lighter than any other American engine of the period, except for the air-cooled Corvair, and it was lower and narrower than the 283 cubic inch Chevrolet V-8, so the Buick engine fit better into sports car space. Likewise, the Buick Special's running gear was much lighter. As a result, *Road & Track* in 1963 quoted 2200 pounds as the weight of an Apollo 3500GT, compared with 3030 for a Corvette (which of course used Chevrolet chassis components, in addition to engine)—27 percent less, a considerable advantage for a sports car. And remember that the Apollo had a substantial steel body, luxuriously trimmed, not lightweight fiberglass (or aluminum), so Apollo expended part of the weight reduction from its light chassis components on its deluxe interior and sturdy body.

Other contemporary rivals in the 1963 *Road & Track* table were also heavier than Apollo, including Aston-Martin DB5, Ferrari 250GT, and Maserati 3500GT, all of which exceeded 3000 pounds. The then-new Jaguar E-type, lighter than other comparable European sports cars at 2720, was still more than 500 pounds heavier than Apollo. Indeed, the Apollo GT weighed about the same as a Triumph TR-4 (2240 pounds), but the Triumph had a 2-litre engine that gave it barely half the power of an Apollo 3500GT. Aston-Martin, Ferrari, and Maserati were rated at 220 to 240 horsepower in 1963, so not much more than the 3500 GT Apollo's 200, and similar to the 5000GT's 250 hp. Thus, with the exception of the Jag, the Apollo's power to weight ratio was better than other exotic cars of its day, so it could certainly keep up. And another consequence of Milt Brown's weight-saving strategy: Except for the then new independently-sprung Jag, Apollo handled better (judgment of Denise McCluggage, in *Science and Mechanics* article quoted on page 7).

A second factor in choosing Buick Special parts was their excellent engineering design. Buick engineers created a sophisticated rear suspension system with a four-link suspension mounting that gave positive location of the rear axle under acceleration and cornering. Chevrolet rear suspension was still an outmoded leaf spring layout until the independent rear arrived for Corvette. Both weight and engineering favored the Buick Special when Milt Brown designed the Apollo in 1961-62.

Brown's Expertise. A second question often asked: How did someone as young as Milt Brown gain enough knowledge to design a sports car chassis? Some modern observers have thought that the Apollo body was simply dropped on the Buick Special's floor pan, but that is emphatically not the case: The Special was no sports car itself, though it had engine and mechanical components that were ideal for creating a sports car. Engineer Brown took those components and created from them a chassis design, essentially equivalent to what Donald Healey did with English Austin mechanical parts when he created the Austin-Healey.

Though he was only in his 20s, Milt Brown had been designing race cars since he was in high school. His Crosley-powered class H sports racing special won its class first time out. Around 1960, Brown built and sold a small series of Formula Jr. race cars (this racing class required engines from production sedans). An article on Brown's Formula Jr. car, the Apache, appeared in *Road & Track*. One Apache car is still around, campaigned by its present owner in vintage race events in Europe and at Laguna Seca in 2006. Brown earned a final piece of valuable experience in 1961 when he worked as a chassis engineer at Emeryson Cars, which had launched a short-lived program of making Formula 1 race cars, plus Formula 2 and Formula Jr. cars. Clearly, this young man had the credentials for designing the Apollo sports car, and making it right.

Emblem: Brown's Apache Formula Jr.



Apollo People. My 1980 article had very tight space limits, so some things were left out, among them recognizing contributions from two key people. Jim Behrens was shop manager in Oakland, and went at least briefly to help set up production in Texas and in Pasadena. George Finley came on as sales manager at Oakland, signing up new dealers and facilitating sales. Both were highly praised by the other Apollo principals I talked with. Finley owns Apollos today, including convertible no. 1.

The Love Bug. Apollo appeared in the Disney movie *The Love Bug*. In the movie, the Apollo (two cars were used) was billed as the "Thorndyke Special" and played the role of "villain" car. Actually, no one seems to notice that Herbie, the Love Bug himself, also cheats (going off course down the side of a mountain, and so forth), but little matter. An Apollo also played a role in at least one minor racing movie, *Run Fast, Run Hard*.

Four Leftover Bodies. My 1980 article mentioned the four Apollo bodies that arrived at the Los Angeles dock after the Pasadena Apollo operation shut down. A man bought the four at the subsequent customs auction and put them into lock-up storage where they remained untouched for the better part of 30 years. Milt Brown bought convertible body #11 and had nearly completed assembly of his car when it was destroyed in the big Berkeley-Oakland hills firestorm of 1991. Rob Phillips bought convertible body #10 in 2000, and acquired a Buick Special donor car to provide mechanics. At that point my convertible #9, the last factory-assembled convertible, had completed its restoration under Milt Brown's supervision, all except for interior and top. I sent my car to Portland Oregon as a guide to Phillips' mechanic in doing an authentic job assembling the mechanical end, while Guy's Interiors in Portland was instructed to copy *exactly* all the details of interior and top on Phillips' new, old stock body. Guy did that superbly, even to finding top material with the correct inside pattern. Phillips took great care to produce a new Apollo that authentically met the makers' original specifications, unlike a few others who have gone off on their own, ignoring Milt Brown's engineering. The pair of coupe bodies in storage in LA have also been assembled into running Apollos. Thus, Reisner's tally of completed bodies—which because of the uncompleted cars



One of Milt Brown's Apache Formula Jr. race cars, in the pits at Laguna Seca race track in 2006.

always differed confusingly from the count of Apollo/Vetta Ventura production—finally matched completed Apollos.

VV and Apollo. Finally, though it is detailed in the original article, it bears repeating that the Vetta Ventura cars used bodies in the *middle* of Intermeccanica's Apollo body production run, beginning with coupe number 45 and convertible number 2. An error about Apollo history often repeated is the notion that VV cars followed Apollo production. In fact, they corresponded to Intermeccanica bodies made in the middle or the production run, after the suspension of production in Oakland and before Apollo resumption in Pasadena. Two production lines—in Texas and in Pasadena—were operating at the same time in 1965.

Other Books on Apollo. *Intermeccanica: The Story of the Prancing Bull*. Andrew McCredie, as told by Paula Reisner. (Veloce Publishing Ltd., Poundbury, Dorchester, Dorset, DT1 3AR, England; www.veloce.co.uk) Contains a valuable chapter on Apollo, based on Paula Reisner's memory and records. She was business manager of Intermeccanica and is the widow of Frank Reisner.

A book on Apollo is in preparation by Bob Northrup and may be out before long.