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APRIL 1973 · 60 CENTS

COMPARISON TEST
OF THE SPORTS (ARS YOU CAN RACE

FIAT 124 SPIDER

MGB

MG MIDGET

OPELG

PORSCHE 914

SPITFIRE 1500

TRIUMPH GT 6 MK3

KARMANN GHIA

SHOWROOM STOCK SPORTS CAR COMPARISON TEST

FIAT 124 SPIDER

MGB
MG MIDGET
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PORSCHE 914
SPITFIRE 1500
TRIUMPH GT6 MK3
KARMANN GHIA
The SCCA adds a pure-stock

The SCCA adds a pure-stockclass for those who will race only sports cars

PHOTOGRAPHY: HUMPHREY SUTTON

· One year ago the Sports Car Club of America created Showroom Stock Sedans to the gratification of amateur racers everywhere. Finally everyone could finance a competitive entry without robbing banks on the side. Car and Driver was on hand to predict the winning cars (May, 1972). In fact, we even went so far as to reveal the most competitive tires (June, 1972). So, when the SCCA recently opened the paddock gates to its newest class, Showroom Stock Sports Cars, the announcements were barely dry before we amassed all of the contenders for another showdown at Ontario Motor Speedway. In our role as track testers, we've again separated the fliers from the laggards. And to help you along toward the winner's circle, we're even prepared to let you in on almost everything else we found out in the process.

The SS/Sedan class has been such a shot in the arm for amateur racing that the SCCA has decided to extend the virtues of pure-stock cars to another arena. And other than nine new eligible cars, SS/SC is a carbon copy of the SS/Sedan class. In fact, the sports cars will race under exactly the same rules, and on the track at the same time. The only complication is that finishing positions will be scored separately for each class. So the sedans and sports cars will not be competing against each other at all, but merely sharing the track.

The following cars are legal for SS/SC: Fiat 124 Spider, MGB, MGB/GT, MG Midget, Opel GT, Porsche 914 1.7, Triumph GT6, Triumph Spitfire and Volkswagen Karmann Ghia. Only 1972 and 1973 versions of the standard model are allowed and then without the benefit of *any* performance options that

might be available. That means that the Porsche 914 with the 2-liter engine is expressly forbidden. And only the Mk3 variation of the Triumph GT6 is legal. Also, you must watch out for showroom subtleties, like the 914's optional appearance group which includes wider-than-standard wheels.

Preparation of an SS/SC racer should take about a weekend . . . if you're slow. An approved roll bar, competition restraint harness and fire extinguisher are required safety items, as before. Tire tools, the jack, and hubcaps must be removed, but the spare has to remain in place. Convertible cars *must* race with the top down. The only other modification permitted from stock specifications is tires; as in SS/Sedan, any Department of Transportation-approved radial tire up to a maximum of 165 in section may be used on standard rims.

The SS/Sedan claiming rules are also in effect. If you'd really rather be racing your competitor's car, you can buy it for

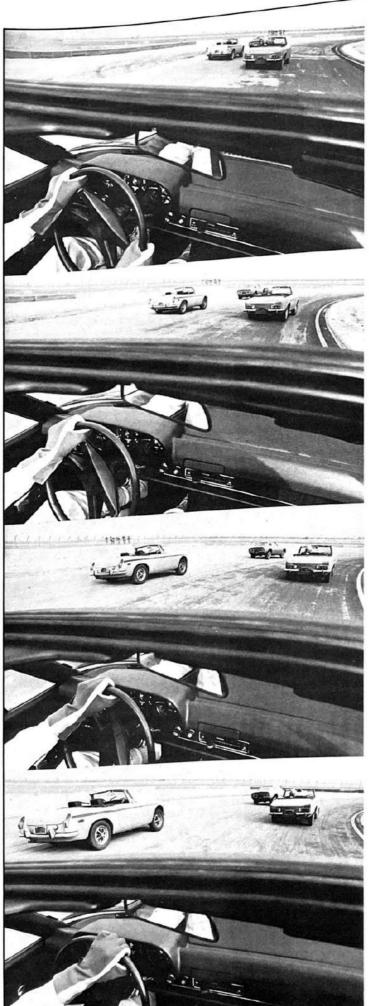
\$500 over its list price right after a race Or you can try to protest him off the track if you think his car is too fast but its color doesn't suit you. Policing of the cars from a legal standpoint is left entire. ly up to the racers. The technical inspector will demand that your seat belts are safe, but he couldn't care less what carburetor you run. The protestor must supply all specifications when he disputes a car, after which the protestee has seven days to prepare his own case. It's certainly not a foolproof system but the SCCA's Denver headquarters would rather not dirty its hands any more than they already are. If possible, it would rather see the class run itself.

In fact, that is the essence of show-room stock racing. It is not goal-oriented by design. There is no prize money at stake and no points leading to a season championship. It is club racing in the traditional sense: fun for the day with no high pressure overtones. There could be no better environment for learning to drive. For that reason, the cheaper—and safer—closed sedans may seem like a wiser choice for Showroom Stock racing, but the sports cars do present an attractive alternative.

After all, the SCCA's first name is "Sports Car," and it's the type of car many members demand to be identified with. On the track and on the street. So the selection process was not necessarily to pick a group of evenly matched chargers. Instead, the SCCA chose the obvious models and filled out the field with whatever its sponsors had to offer. British Leyland heavily bankrolls amateur racing, so five cars come from that stable. Volkswagen of America supports the professional Super-Vee series, 50

CAR and DRIVER





Ontario's sweeping high-speed road course provides a perfect setting to match the contenders wheel to wheel as testing determines just which car is fastest

the Karmann Ghia is shoehorned into a sports role it doesn't fit. But the ultimate worth of each car as a SS/SC racer will surface at the racetrack. And that's the purpose of this test.

BUT FIRST, A WORD FROM OUR ENGINEERS

By now, you should know we approach track testing of cars a little differently than if they were never to leave the street. The demands of racing are unique and therefore require special attention. For that reason, we've rolled out our portable NASA lab to scrutinize each car. That pins down each performance variable independently. Still, the driver/ car system is the ultimate test. So we pitted each car against the road course at Ontario: for countless laps, with several drivers in each car-all against the unimpeachable stopwatch. And those lap times were the sole determinant for the final ranking. There's no penalty for the Opel's hard starting, or concessions for the Midget's low price tag. We didn't compromise the standings with ride quality or noise level. They reflect exactly the cars' capabilities on the track.

And within our test procedures we sorted out the keys to improved lap times. While our fifth wheel and strip chart recorder accumulated precise acceleration information, we also programmed it to divulge optimum shift points. Every car, except the Karmann Ghia, has a tachometer, but it only tells you the engine's rpm limit. By recording forward acceleration (from an electronic accelerometer) versus speed, we were able to determine at precisely what point you're better off in a higher gear. Mark your speedometer with the speeds identified as "Max. test speed" on the specifications pages and you'll instantly improve lap times. Only a few cars, the Fiat for one, need be wound to the redline for best acceleration, so you may prolong your engine's life as well. And with your speedometer marks, you'll know exactly which corners need a downshift for maximum exit speed. That's something no tachometer will reveal.

With the optimum shift points in hand, we recorded acceleration in increments beginning at 30 mph right up to each car's top speed. In race conditions, you'll never fall below that range even in the tightest of corners. And with a profile for every car, you'll be able to size up your competition at various tracks—before the racing begins. For example, the Triumph GT6 is the fastest to 90 mph, so it will be tough to beat at the longer "horsepower" tracks like Elkhart Lake or Bridgehampton. The Fiat 124 is far down

on the acceleration list, but its composure in fast turns will make it a wily choice for short, highspeed tracks like Lime Rock or Bryar.

There's only one fissure in the rules to allow legal tuning: tires. The benefit will vary from car to car, depending upon the quality of the standard tires, so we've mounted an alternate set of maximum-legal-size rubber on the three fastest cars. From last year's tire test we know that the Semperit M401 is the best all around tire for SS/Sedan racing. In some cases, like the Triumph GT6, the change is dramatic.

In every case, the performance data should be examined with the track application in mind. The Opel can't use all its acceleration ability coming out of right turns because of insufficient traction. The Triumph GT6 is uncomfortable turning and braking at the same time, so it may be less proficient at racing than the braking and cornering test results indicate. So keep in mind that this is a track test as we discuss the chances each challenger will have in the realm of Showroom Stock racing.

ON THE TRACK

Now that we've transferred the rubber from the tires of eight cars onto Ontar-



Accelerometer determines shift points

io's corners and Orange County Raceway's skidpad, the story can be told. The winning car is the Fiat 124 Spider . . . but not by much. There's an angry pack of *three* more cars, less than 1.5 seconds behind, that are strong contenders. A good driver in any one of them should

see the SS/Sedans only in his rearview mirror. From the leading pack the cars string out in 4-second intervals to the tailender Karmann Ghia, a good 16 seconds off the pace.

FIAT 124 SPIDER

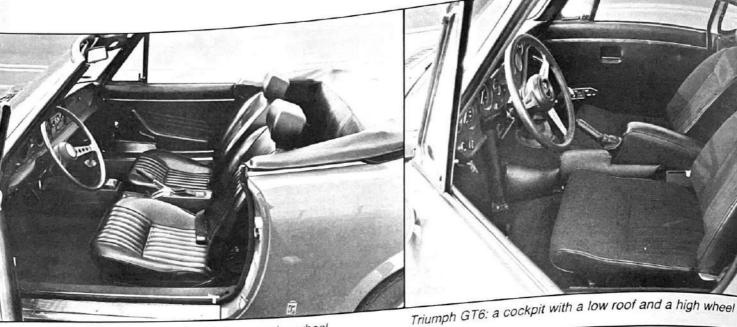
Our choice for SS/SC racing is the Fiat, even though it squeaked by the second place Triumph GT6 by a mere 0.2 seconds at OMS. The Fiat won with a best lap of 2:40.7, nearly 4 seconds ahead of the time turned by last year's SS/Sedan champion, the Opel 1900.

The Fiat is the most capable on the track because it offers a premium assortment of performance parts as standard equipment. And they're screwed together at a level of refinement that is.unparalleled in this class of sports car.

The exceptional hardware begins with the engine. It's of Formula One stature in comparison to most of its competition's tractor-like sophistication. On top, there's an aluminum cross-flow head with double overhead camshafts which allow the in-line Four to breathe so well that its power curve is still climbing right up to the 6400 rpm redline. And in the process, the Fiat pumps out a healthy 90 net horsepower, more power than any of the competition. Even though the cam-



Each car was driven by each driver in order to establish representative lap times . . . the sole determinant for final rankings



Fiat 124 Spider: a long reach to the steering wheel



MGB: good driving position, but seats too soft and compliant

MG Midget: just your size if you're a 38-short

mer engine drives through a smooth 5-speed transmission, it doesn't produce the best acceleration. From 30 to 90 mph, the Fiat takes 28.2 seconds, only the fourth fastest in the test. This is largely due to the car's weight. At 2165 lbs. only the MGB is heavier. Also, the Fiat is not as slippery aerodynamically as cars like the Opel GT.

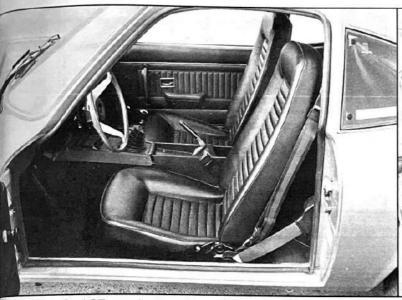
But road racing is much more than a horsepower match, and that's why the Fiat comes out ahead. It's better than every car but the Porsche 914 in straight line stopping. All of the Fiat's ability is difficult to use on the track, however, because the brake bias is towards the rear which swings the tail wide as you enter turns. The brakes are highly assisted too, so modulating the system is not easy. Even so, a good driver will find the Fiat's brakes more to his liking than those of any other car but the Porsche.

He will like the Fiat's handling, too, if his choice is unflagging understeer. There's a lot of it-especially at high speeds-and you must occasionally lift to keep the front end from sliding out. Still, the limit of adhesion is very high and only the Spitfire generates more lateral acceleration on the skidpad. The Fiat comes from the factory with 165HR-13 Michelin XAS tires. Last year's tire test showed them to equal the Semperit M401 in dry cornering ability, so it was no surprise when Semperit tires did not substantially improve the Fiat's lap times. The gain was only 0.25 seconds per lap, primarily due to the Semperit's more stable braking.

An inexperienced driver will be comfortable with the Fiat's understeering tendency, because it is invariably predictable. You can back off on the throttle in the middle of a turn without worrying about the rear end breaking loose. For that reason, the Fiat is fast in Ontario's very important high speed sweeping bends. You can enter with your foot hard on the gas and lift if necessary to keep from using up 110 per cent of the road while making a hasty exit. And the Fiat is just as manageable in rapid left-to-right and right-to-left transients.

There is one characteristic of the Fiat, however, that few will adjust to quickly. The driving position does not encourage racing activities. The steering wheel is a long reach away and tilted so horizontally that only a bus driver—or an Italian—will be happy. And while you struggle to reach for the remote wheel, the seats provide only a place to sit down. Don't count on them for lateral support. It's fortunate that the Fiat is so smooth and forgiving, because the driving position is not conducive to rapid corrections.

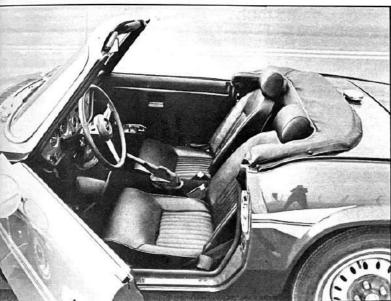
CAR and DRIVER



Opel GT: excellent seating position, wheel in the right place



Porsche 914: ideal seating position adjustable to fit anyone



Triumph Spitfire: small, but bring your knees and elbows



Karmann Ghia: soft seats and few instruments are a handicap

More than any other car, the Fiat feels worth its \$3917 price tag. It conveys the impression of finely-wrought machinery—equal in value to about two Triumph GT6s or maybe three MG Midgets. The engine does its job quietly without sending tremors through the car, and every control feels lined with Teflon so that there's a direct response for every movement you put in. The brake pedal is too low for best heel-and-toe control, but it can be done. And the floor is shaped to provide a good rest for the driver's left foot during hard cornering.

The Fiat is not so much faster than all the others that it will have the advantage at every track. But it handily does the job at Ontario by virtue of its competitive acceleration backed up by powerful cornering and brakes.

TRIUMPH GT6

The GT6 finds itself on the outside of

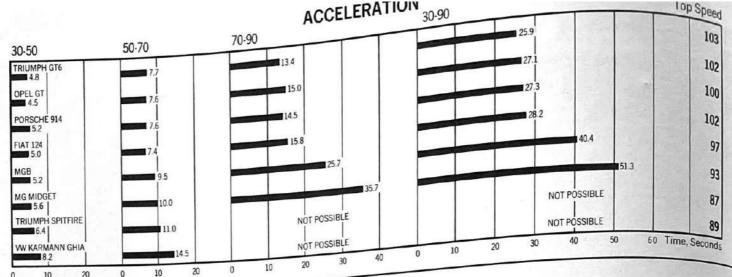
the front row, just 0.2 seconds behind the Fiat, for one simple reason—horse-power. It accelerates more rapidly and has a higher top speed (103 mph) than any other car in the test. But for driving pleasure it ranks very near the other end of the scale. It is ponderous and unwieldy in a way that no sports car should ever be. So the GT6 driver's satisfaction will have to come from winning races. He has little else to draw from.

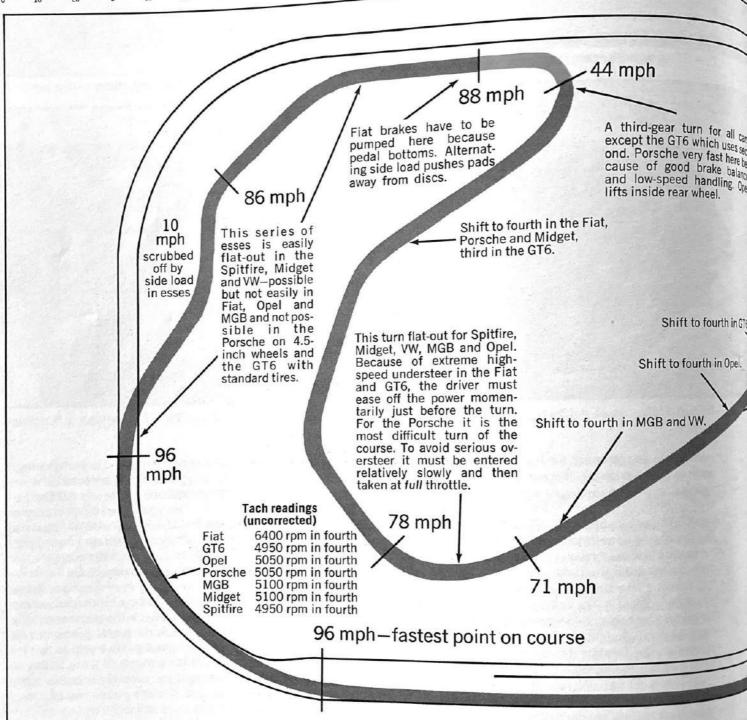
Basically, the GT6 is a coupe-bodied Spitfire with a TR6 engine destroked to 2-liters. It's a *very* small car, just under 150 inches long and, at 2010 pounds, very light. Which is why it goes so fast: the 79-horsepower Six has minimal weight and frontal area to hold it back.

Considering the size of the envelope, it is only natural that the cockpit should be crowded. Tall drivers will have to recline the seat to keep their helmets from

banging on the roof and any driver's legs are going to be tightly confined between the transmission tunnel and the kick panel. The seat has been much improved since the days of the old GT6+, but it is still an unwelcome hard spot mating with your tail bone. Nor is there enough lateral support to make note of. On the dashboard, everything worth seeing is visible with a little bending of your gaze around the steering wheel. The part that is really annoying are the pedal controls. You risk a sprained ankle trying to twist it around far enough to work both the brake and the accelerator at the same time and all of the pedals feel as if they are half disconnected.

It is this lack of precision, spread throughout the car, that makes the GT6 so unrewarding to drive. The GT6's brakes are average (for this test) in performance but the pedal is devoid of

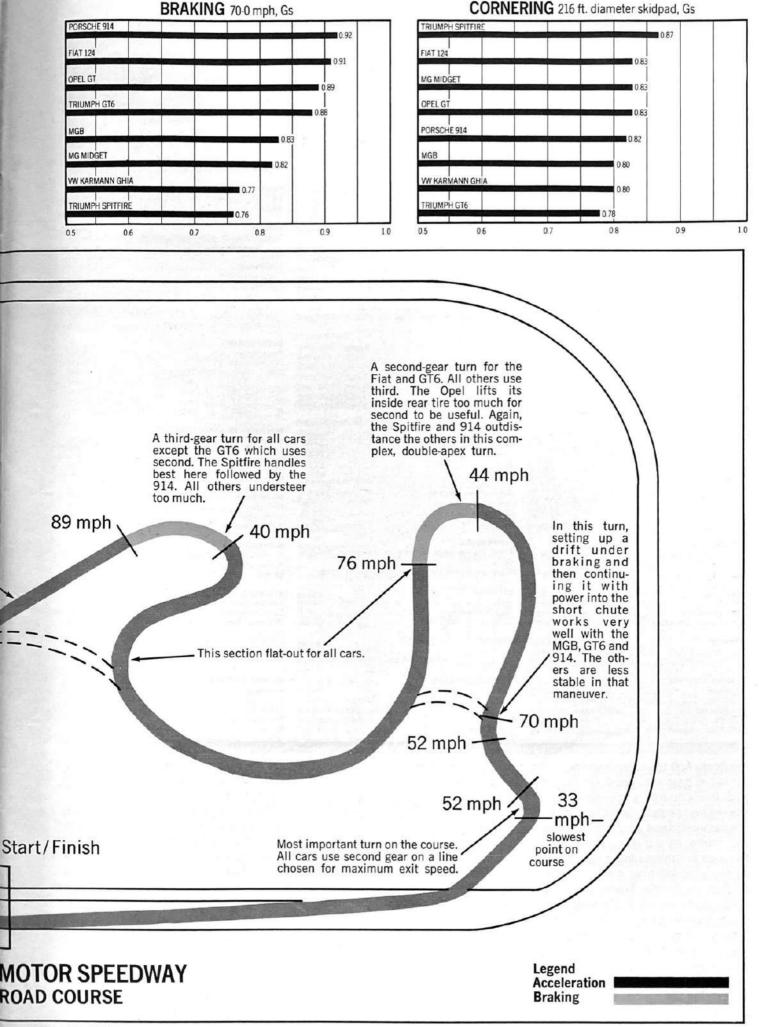




46

Timed lap for:

Fiat 124 Spider with 110 lbs. of instrumentation Lap time: 2:42.0 Average speed: 71.8 mph





FIAT 124 SPORT SPIDER

Vehicle type: Front engine, rear-wheel-drive, 2-passenger convertible

Price as tested: \$3917.00

Options on test car: Base Fiat 124 Spider, \$3867.00; Dealer preparation, \$50.00

ENGINE

Type: Four-in-line, water-cooled, cast iron block and aluminum head, 5 main bearings

Bore x stroke	x3.15 in
Displacement9	8.0 cu in
Compression ratio8	
Carburetion	bl Weber
Valve gearBelt-driven double overhead	ead cams
Power (SAE net)	400 rpm
Torque (SAE net)	800 rpm
Max. recommended engine speed	

DRIVE TRAIN

	nission rive ratio		5-speed, all-synchro
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.66	4.3	28 mph (6400 rpm)
11	2.10	7.5	48 mph (6400 rpm)
III -	1.36	11.5	74 mph (6400 rpm)
IV	1.00	15.7	100 mph (6400 rpm)
٧	0.88	17.8	102 mph (5750 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	89.7 in
Track, F/R53.0/	51.8 in
Length	58.0 in
Width	63.5 in
Height	49.2 in
Curb weight	165 lbs
Weight distribution, F/R55.5/	44.5%
Fuel capacity1	1.4 gal
Oil capacity	4.0 qts
Water capacity	8.0 qts

SUSPENSION

F: Ind., unequal length control arms, coil springs, anti-sway

R: Rigid axle, four trailing links, panhard rod, coil springs

STEERING

Туре	worm and roller
Turns lock-to-lock	
Turning circle curb-to-curb	34.2 ft

BRAKES

F:	8.9-in solid disc, power-assist
R:	8.9-in solid disc, power-assist

WHEELS AND TIRES

Wheel size	13x5.0-in
Wheel type	Stamped steel, 4-bolt
Tire make and size	.Michelin XAS, 165 HR-13
Tire type	Radial ply, steel belt
Test inflation pressures, F/R	32/32 psi



TRIUMPH GT6 Mk3

Vehicle type: Front engine, rear wheel-drive, 2-passenger convertible

Price as tested: \$3865.00

Options on test car: Base Triumph GT6 Mk3, \$3765.00; Dealer preparation, \$40.00; AM/FM radio, \$60.00.

ENGINE

Max. recommended engine speed 6000 rpm

DRIVE TRAIN

Transn	nission		4-speed, all-synchro
Final d	rive ratio		
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	2.65	7.6	42 mph (5500 rpm)
II	1.78	11.3	65 mph (5900 rpm)
111	1.25	16.1	89 mph (5500 rpm)
IV	1.00	20.1	103 mph (5150 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase83.0 in
Track, F/R49.0/50.0 in
Length149.0 in
Width
Height
Curb weight
Weight distribution, F/R
Fuel capacity
Oil capacity
Water capacity

SUSPENSION

F: Ind., unequal length control arms, coil springs, anti-sway

R: Ind., swing axles, trailing links, tranverse leaf spring

STEERING

Type	٠.				+	٠		٠,١	Ra	30	k	a	n	d	pir	ilo	п
Turns lock-to-lock																4.	2
Turning circle curb-to-curb .														.2	5.	3 f	t

DAVE

	•		٠,	-	•																																				
F:						·												,				i,				5	9.	7		ir	10	ii	SC		pow	er	a	SS	is	t	
R:	8				٠.	Ų.	٠	1		4	1	8	3.	C	×	d	1	5	5.	di	n		c	a	s	t	ir	o	n	1 (dr	u	m	i.	DOW	er	a	55	is	t	

WHEELS AND TIRES

wheel size	
Wheel type	Stamped steel, 4-bolt
Tire make and size	. Goodyear G800, 155 SR-13
Tire type	Radial ply, rayon belt
Test inflation pressures, F/R.	32/32 psi



OPEL GT

Vehicle type: Front engine, rear-wheel-drive, 2-passenger coupe

Price as tested: \$3489.00

Options on test car: Base Opel GT, \$3345.00; AM radio, \$65.00; white wall tires, \$26.00; Dealer preparation, \$53.00

ENGINE

 Type: Four-in-line, water-cooled, cast iron block and head, 5 main bearings

 Bore x stroke
 3.66x2.75 in

 Displacement
 115.8 cu in

 Compression ratio
 7.6 to one

 Carburetion
 1x2-bbl Solex

 Valve gear
 Chain-driven cam-in-head, hydraulic lifters

 Power (SAE net)
 .75 bhp @ 4800 rpm

 Torque (SAE net)
 .92 lbs-ft @ 2800 rpm

DRIVE TRAIN

			the state of the s
Transn	nission		4-speed, all-synchro
Final d	rive ratio		
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.43	5.7	32 mph (5600 rpm)
H	2.16	9.1	54 mph (6000 rpm)
III	1.37	14.2	85 mph (6000 rpm)
IV	1.00	19.5	102 mph (5250 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	95.7 in
Track, F/R	49.4/50.6 in
Length	
Width	
Height	
Curb weight	
Weight distribution, F/R	
Fuel capacity	14.5 gal
Oil capacity	
Water capacity	

SUSPENSION

F: Ind., unequal length control arms, transverse leaf spring R: Rigid axle, torque tube, 2 trailing links, Panhard rod, coll springs

CTEEDIN/

STEERING	
Type	Rack and pinion
Turns lock-to-lock	
Turning circle curb-to-curb	

BRAKES

BRAKES																						
F:																			.9.4-1	n	solid disc,	power assist
R-													q	1	1	2	1	١.	in raci	+	iron drum	nower acciet

WHEELS AND TIRES

wheel size	
Wheel type	Stamped steel, 4-bolt
Tire make and size	Goodyear 165-13/6.45-13
Tire type	Bias ply, polyester cord
Test inflation pressures, F/R.	32/32 psi

feedback. And the basic handling of the car is not even that good. On the skidpad, this Triumph's cornering ability marked the low point of the test. And it is characterized by a plodding understeer that seems all the more overwhelming because of rubbery steering. The only escape available from the understeer is to lift off the throttle. Then the tail immediately starts around. Fortunately, like all of the Triumph's other traits, this one is lethargic so that no superhuman quickness is required to cope with it. Some drivers even find this kind of trailingthrottle oversteer useful in setting up for fast corners but it tends to be unpredictable in the GT6 and hard to use.

In its off-the shelf condition, the GT6's lap times were not at all competitive with those of the Fiat. Its best lap was only 1.5 seconds slower, but it was so inconsistent that an average figure is well below that. Part of the deficit was traced to the sloppy steering. As is common in cars with rack-and-pinion steering gears, Triumph uses a rubber-isolated mounting where the gear attaches to the frame. (Generous hint: by sliding the retaining clamps along their slotted holes in the direction that provides more preload on the rubber, we were able to firm up the steering a great deal.) Then, too, there is the problem of the standardequipment Goodyear radial-ply tires.

They are slow in response and not too much on what the NASCAR boys call "side bite." Replacing them with 165-SR-13 Semperits produced a fantastic transformation. Lap times dropped to just 0.2 seconds off those of the Fiat and they could be maintained at that level with great consistency. In addition to markedly improved cornering ability, steering response was much crisper and the brakes were more controllable. In that condition the GT6 is a competitive SS/SC racer. Triumph fans, take note.

OPEL GT

The Opel GT is third in the front running four-car pack of SS/SC racers. On the grid, it's the inside, second row car.



PORSCHE 914

Vehicle type: Mid engine, rear-wheel-drive, 2-passenger convertible

Price as tested: \$4591.00

Options on test car: Base Porsche 914, \$4199.00 (West Coast); Appearance Group, \$300.00; Console, \$18.00; Dealer preparation, \$75.00

ENGINE

main bearings
Bore x stroke 3.54x2.60 in
Displacement
Compression ratio8.2 to one
Carburetion Bosch electronic fuel injection
Valve gear Pushrod-operated overhead valves
Power (SAE net)
Torque (SAE net) 95.2 lbs-ft @ 2700 rpm
Max. recommended engine speed5600 rpm

DRIVE TRAIN

Transm	nission		5-speed, all-synchro
Final di	rive ratio		4.43 to one
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.09	5.4	29 mph (5400 rpm)
11	1.89	8.8	48 mph (5450 rpm)
III	1.26	13.2	71 mph (5400 rpm)
IV	.93	17.9	93 mph (5200 rpm)
٧	.71	23.5	100 mph (4250 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	96.5 in
Track, F/R	54.4 in
Length	59.4 in
Width	
Height	48.4 in
Curb weight2	111 lbs
Weight distribution, F/R46.7,	53.3%
Fuel capacity	6.4 gal
Oil capacity	3.7 qts

SUSPENSION

F: Ind., MacPherson struts, torsion bars R: Ind., semi-trailing arms, coil springs

STEERING

Type								٠.		Ra	ick	a	nd	pin	ion
Turns lo	ck-to-lo	ck		· is							1				3.0
Turning	circle ci	urb-to-c	urb										.3	6.0) ft

R:11.1-in solid disc

WHEELS AND TIRES	
Wheel size	
Wheel type	Stamped steel, 4-bolt
Tire make and size	Michelin ZX, 165SR-15
Tire type	Radial ply, steel belt
Test inflation pressures, F/R	32/32 psi



MGB

Vehicle type: Front engine, rear-wheel-drive, 2-passenger convertible

Price as tested: \$3635.00

Options on test car: Base MGB, \$3545.00; Dealer preparation, \$90.00

ENGINE

Type: rour-in-line, water-cooled, c	ast from block and nead, 5
main bearings	
Bore x stroke	3.16x3.50 in
Displacement	
Compression ratio	8.0 to one
Carburetion	2x1-bbl SU
Valve gear Pushroo	d-operated overhead valves
Power (SAE net)	
Torque (SAE net)	94 lbs-ft @ 3000 rpm
Max. recommended engine speed	6100 rpm

DRIVE TRAIN

Transn	nission		4-speed, all-synchro
Final d	rive ratio		3.91 to one
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.42	5.3	32 mph (6100 rpm)
11	2.17	8.3	51 mph (6100 rpm)
III	1.38	13.0	78 mph (6000 rpm)
IV	1.00	18.0	97 mph (5400 rpm)

DIMENSIONS AND CAPACITIES

DIMENSIONS AND CAPACITIES	
Wheelbase	91.0 in
Track, F/R49.6	0/49.2 in
Length	.153.2 in
Width	
Height	49.4 in
Ground clearance	5.0 in
Curb weight	2250 lbs
Weight distribution, F/R51.	
Fuel capacity	
Oil capacity	
Water capacity	

SUSPENSION

F: Ind., unequal length control arms, coil springs, anti-sway bar R: Rigid axle, semi-eliptic leaf springs

STEEDING

STEERING	
Type	Rack and pinion
Turns lock-to-lock	2.9
Turning circle curb-to-curb	32.0 ft

DAVES

F	ı	٩	ı	<	E	5	;																					
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ė.																		1	(١	(1	- 1		7	r.	in cast iron drum	

WHEELS AND TIRES

Wheel size	14x5.5-in
Wheel type	Stamped styled steel, 4-bolt
Tire make and size	Dunlop SP68, 165 SR-14
Tire type	Radial ply, fabric belt
Test inflation pressures, F/R .	32/32 psi



MG MIDGET

Vehicle type: Front engine, rear-wheel-drive, 2-passenger convertible

Price as tested: \$2789.00

Options on test car: Base Midget, \$2699.00; Dealer preparation, \$90.00

ENGINE

main bearings	cast non block and nead, o
Bore x stroke	2.78x3.20 in
Displacement	
Compression ratio	8.0 to one
Carburetion	
Valve gear Pushro	
Power (SAE net)	54.5 bhp @ 5500 rpm
Torque (SAE net)	
Max. recommended engine speed	

RIVE TRAIL

	INAIN		
Transn	nission		nchro in top three gears
Final di	rive ratio		3.90 to one
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.18	5.2	31 mph (6000 rpm)
18	1.91	8.6	50 mph (5800 rpm)
III	1.35	12.1	68 mph (5600 rpm)
IV	1.00	16.4	93 mah (5700 ram)

DIMENSIONS AND CAPACITIES

Wheelbase
Track, F/R
Length137.6 in
Width
Height48.6 in
Curb weight
Weight distribution, F/R
Fuel capacity
Oil capacity
Water capacity

SUSPENSION

F: Ind., unequal length control arms, coil springs R: Rigid axle, semi-eliptic leaf springs

STEERING

Type	 	2				.1	R	30	k	a	70	j,	pi	nic	วก
Turns lock-to-lock			٠		٠.		i i							2	.5
Turning circle curb-to-curb									.,			3	11	.5	ft

BRAKES

F																,							8.2-in solid dis	C
R		*		,					*				9				,	7	()	×	1	2-in cast iron drur	n

WHEELS AND TIRES

Wheel size	13x4.5-in
Wheel type	Stamped styled steel, 4-bolt
Tire make and size	Michelin ZX, 145SR-13
Tire type	Radial ply, steel belt
Test inflation pressures, F/R	32/32 psi

0.8 seconds off the Fiat's pace and 0.6 seconds behind the Triumph GT6. The reason is that the Opel has competitive handling and braking abilities, in conjunction with a powerful engine and good aerodynamics.

And more than any other car, the Opel's blend of strengths tightly matched the demands of Ontario's 3.23-mile road course. However, the car has problems because of suspension geometry that will likely be critical elsewhere. On the skidpad, the Opel generates 0.87G in left turns. . . but only 0.79G to the right. The inside rear wheel unloads severely during right turns, so the spinning tire converts forward thrust into

blue smoke. There is understeer in both directions, but assymetries in the chassis are such that cornering power is less in right turns. Since the high-speed sections at Ontario are primarily left-hand turns, the Opel can use its high cornering ability in that one direction to great advantage. Right turns, on the other hand, demand a special technique. Most of the turning has to be done early with the power off, simply so that when you get back on the gas, both rear wheels are in firm contact with the track. With the additional understeer present to complicate things, the right-turn process essentially requires that you exit a turn on as large a radius line as possible.

That is a critical weakness, because races are run in a clockwise direction and there are usually 360 more degrees of turning to the right. The Opel will not turn out to be so competitive at primarily right-turn tracks like Lime Rock.

Transients seem especially crisp in the Opel GT, largely because of the precise steering which is perfectly linear and with excellent feedback. You can confidently crank lock into the steering wheel and the car responds quickly with less understeer than the Fiat or Triumph. In addition, slip angles of the Goodyear bias-ply tires are larger than for the cars with radial tires, and the rear end drifts out gradually under power in high-speed



TRIUMPH SPITFIRE 1500

Vehicle type: Front engine, rear-wheel-drive, 2-passenger convertible

Price as tested: \$2935.00

Options on test car: Base Triumph Spitfire 1500, \$2895.00; Dealer preparation, \$40.00

ENGINE

Type: Four-in-line, water-cooled, cast iron block and head, 3 main bearings

Bore x stroke	2.90x3.44 in
Displacement	91.0 cu in
Compression ratio	7.5 to one
Carburetion	1x1-bbl Stromberg
Valve gear	Pushrod-operated overhead valves
Power (SAE net)	57 bhp @ 5000 rpm
Torque (SAE net)	74 lbs-ft @ 3000 rpm
Max. recommended engin	ne speed 6000 rpm

DRIVE TRAIN

Transn	nission		4-speed, all-synchro
Final d	rive ratio		3.89 to one
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.50	4.7	28 mph (6000 rpm)
11	2.16	7.6	46 mph (6000 rpm)
111	1.39	11.8	70 mph (5900 rpm)
IV	1.00	16.4	87 mph (5300 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase8	3.0 in
Track, F/R49.0/5	0.0 in
Length14	9.0 in
Width	
Height4	
Curb weight	
Weight distribution, F/R54.3/4	
Fuel capacity	.7 gal
Oil capacity4	.8 qts
Water capacity4	.8 qts

SUSPENSION

F: Ind., unequal length control arms, coil springs, anti-sway bar R: Ind., swing axles, trailing link, transverse leaf spring

STEERING

Type	Rack and pinion
Turns lock-to-lock	3.5
Turning circle curb-to-curb	24.0 ft

BRAKES

WHEELS AND TIRES	
Wheel size	
Wheel type	Stamped steel, 4-bolt
Tire make and size	

Test inflation pressures, F/R

.....7.0x1.2-in cast iron drum

......Bias ply, nylon cord

KARMANN GHIA

Vehicle type: Rear engine, rear-wheel-drive, 2-passenger coupe

Price as tested: \$2867.00

Options on test car: Base Karmann Ghia, \$2800.00, white sidewall tires, \$32.00; Dealer preparation, \$35.00

ENGINE

Type: Four-opposed, air-cooled, light alloy block and heads, 4 main bearings

Bore x stroke																٠	(4)		3		37x2.72 in
Displacement																					
Compression ratio	٥.				. ,			+ 1		 									* 2		.7.3 to one
Carburetion																		*	1	X	1-bbl Solex
Valve gear		 							*		6.3				F	1	15	st	ır	o	d-operated
Power (SAE net)			_	· ·								4	11	6	t	of	η	D	6	ò	4000 rpm
Torque (SAE net)																					

DRIVE TRAIN

Transn	nission		4-speed, all-synchro
Final d	rive ratio		3.88 to one
Gear	Ratio	Mph/1000 rpm	Max. test speed
1	3.78	5.0	24 mph (4800 rpm)
11	2.06	9.1	44 mph (4850 rpm)
III	1.26	14.9	72 mph (4850 rpm)
IV	.93	20.2	89 mph (4400 rpm)

DIMENSIONS AND CAPACITIES

Wheelbase	94.5 in
Track, F/R	
Length	165.0 in
Width	64.5 in
Height	52.0 in
Ground clearance	5.9 in
Curb weight	1940 lbs
Weight distribution, F/R	41.0/59.0%
Fuel capacity	10.6 gal
Oil capacity	2.7 qts

SUSPENSION

F: Ind., trailing arms, transverse torsion bars, anti-sway bar R: Ind., trailing arms, transverse torsion bars

STEERING

Туре								١	W	01	m	1	a	no	i	oll	er
Turns lock-to-lock				3												.2	.7
Turning circle curb-to-curb	*													. 3	36	.9	ft

BRAKES

....9.0-in disc

32/32 psi

F:	
R:	9.1x1.6-in cast iron drum

WHEELS AND TIRES

Wheel size	15x4.5-in
Wheel type	Stamped steel, 4-bolt
Tire make and size	Continental 6.00-15
Tire type	Bias ply, rayon cord
Test inflation pressures, F/R	32/32 psi

sweeping bends. The standard tires are also very predictable, and their pavement scratching sounds let you know exactly when the limit is approaching. If you must lift in a corner, the Opel loses none of its composure. In that respect, it is better than any car in the test and a large part of the reason why the Opel is so successful in the high speed bends at Ontario. Switching to the Semperit tires didn't make the same improvement that was the case for the other cars. In fact, the difference in lap times is practically insignificant while the driving techniques differ sharply. The tight, high corneringpower-at-low-slip-angle characteristics of the radials demand precision in your

steering inputs. The standard Goodyear bias-ply tires are noticeably more tolerant. Their chief disadvantage is short life under racing conditions.

Under the Opel GT's miniature Corvette appearance lies much the same hardware found in the Opel 1900 line of cars. The engine is identical, except that the GT has a carburetor with mechanical, (rather than vacuum-controlled), secondaries. It provides the best 30-50 mph acceleration, and is second only to the Triumph GT6 in the 30-90 sprints. The same is true for top speed: only the GT6 will outdo the Opel's 102 mph top end . . . and that by a meager one mph.

In straight-line stopping, the Opel GT

is third to the Fiat and Porsche. In the corners, however, you can't use as much braking power as either of those two cars. The problem is front brakes that insist on locking up prematurely. If you don't keep them rolling in a turn, the car will understeer widely off the line The brake booster is partly at fault it is much too numb for sensitive modulation The matter is further complicated when you try to heel-and-toe. The pedals are too widely spaced and the brake is lower than the throttle. So you must make several exploratory stabs to find the throttle and all the while modulate pressure on the brake. It's not easy.

Other than the throttle/brake pedal arrangement, the seating position is excellent. Everyone fits with the exception of tall drivers whose helmets will try to butt extra clearance in the sharply curving top of the door frame. As to the seats, the Opel buckets make you feel bolted in place. The bottom cushion is hard and low with steep side bolsters for lateral location. Unfortunately, the seat back makes no comparable contribution to keeping you in place. You can, however. brace yourself with the steering wheel. In marked contrast to the Fiat, the wheel is high and close at hand with a nearly vertical rim. The size and location are perfect for steering, and it's like a fixed grab handle for holding on.

That friendly relationship with the controls makes the Opel easy to get along with on the street. And more importantly, it offers an excellent chance at winning on the track.

PORSCHE 914

The Porsche 914 has qualified fourth on the SS/SC grid, 1.5 seconds behind the Fiat. The tragic part is that it misses the front row by just one inch. And that inch happens to be in wheel width. It all has to do with marketing. The SCCA, as a matter of course, allows only the standard version of any car recognized for the class. Porsche, on the other hand, builds the standard car as a stripper. based on the idea of inducing buyers to upgrade to a more expensive model. So the standard car's 4.5-inch wide wheels are replaced by 5.5-inch rims on the "appearance group" 914s. We tried both sizes. The extra inch is a very worthwhile option.

It probably wouldn't be so significant if every 914 since the beginning hadn't been built with one very nasty handling quirk; lightning-quick, lift-throttle oversteer. Ease up on the gas in a high-speed bend and you're in serious trouble. The wide wheels offer two advantages. First, they increase cornering power, which is

always helpful. And secondly, they slow down the transition from understeer to oversteer when you come off the throttle, slow that transition down enough so that any race driver can cope with it after a little practice. But you might just as well forget about the wide wheels because they aren't legal for SS/SC.

With the narrower wheels the 914 is exceedingly tricky in fast bends. The curious part is that you have to take them at full throttle. This hunkers the rear end down a bit and keeps the car stable. And it has to be full throttle. If you're close to the limit, part throttle is very nearly as bad as no throttle at all. You'll spin off tail first either way. This is a particularly serious handicap on a course like Ontario where you have a series of three lefthanders leading onto a long infield straight. Normally you would take them all flat out, accelerating through, as they are close enough together so that the line you drive can be considered a single continuous curve linking all three. But the 914, with its narrow wheels, doesn't have the cornering power to take the last turn flat out. And because the section before it is curved too, there is no place to lift off the gas. So you end up easing through the first two, severely compromising lap times, so that the third turn can be taken under full power. In a race, an aggressive driver in a Fiat, GT6 or Opel will pull up beside you, squeeze you off the line, and then you'll have to slow way up for the last turn, too, while he motors away. So the 914 has strong tactical disadvantages.

In low speed turns—hairpins and Ontario's tricky under-50-mph double-apex corners—the Porsche is second only to the Triumph Spitfire. It understeers, but only a little; just the right amount to let you thread through in a hurry. But because the car definitely understeers in slow turns and oversteers in fast ones you might just as well forget fine tuning with tire pressure. You'll only rob Peter to pay Paul.

The 914's speed in slow turns is enhanced by its ability to go very deep under braking. The all-disc system is well balanced and one of the easiest of the test to modulate. And as a bonus, the pedals are well grouped so that you can heel-and-toe effortlessly.

Even though the 914 borrows its engine directly from the Volkswagen 412 sedan, it still has enough power to be competitive with the other cars in the class. Only the GT6 and the Opel were faster in 30-90 mph acceleration. But you should know, for the record, that even though this test was done in Cali-



Engineers Sherman, Bedard and Cozzi comparing notes on the racers



The GT6, wired to electronically record track test data

fornia the car was a non-California model. The reason for that is simple enough. Because of emission control regulations, California 914s have only 69 horsepower while those delivered everywhere else in the Union have 76 hp. This test is definitely of the best 914.

Apart from its handling quirks, the 914 very nearly matches the Fiat in driving pleasure. It feels very low to the ground and race car-like. And because the seat adjusts over a wide range, almost any driver will find a position that suits him. He will also find the steering wheel, gear shift and instrument placing to be nearly ideal. Tracks that need either first or fifth in the 5-speed gear box will be rare but

the other three are easy to find. The major complaint about the 914's interior is the same as for the other cars: no lateral support from the seat. But in the Porsche, it is more troublesome because the cockpit is wider and you therefore end up sliding a longer way before you hit the door panel.

From the overview, the Porsche 914 fits into a rather uncomfortable middle ground. Because of a combination of SCCA rules and Porsche's marketing philosophy, the 914's track performance puts it well back from the front runners, but its price, at \$4199 (west coast) plus dealer preparation, is the highest of any car in the test.



Fiat 124 Spider: great adhesion with a dose of unflagging understeen



Triumph GT6: unfortunately handicapped by limp original-equipment tires



MG Midget: twitchy understeer but a fairly high limit of adhesion

The MGB is just slightly out of contention for the winner's circle. It's a good five seconds off the leaders' pace. Instead, MGB drivers will have to concentrate on beating the three slower cars or the boxy SS/Sedan racers. Since the MGB falls right in the middle of the Colt/Pinto/Datsun lap times of last year, loneliness on the track should be no problem for MG drivers.

According to advertised ratings, the MGB makes as much or more power than any car in the test but the Fiat. And the exhaust note is so potent that there is surely not much lost to a restrictive muffler. It's to no avail, however, as the 2250 lb. curb weight-more than any other car-is like having a millstone to drag around a race track with you. Acceleration times are strictly fifth place. even though the MGB eventually flattens out at a respectable top speed of 97 mph. The MGB/GT (coupe version) is also legal for the class, but its additional weight penalty of 120 lbs. only means even weaker acceleration.

In spite of the MGB's languor, it's not a bad ride on the track. It understeers a lot-just slightly less than the Triumph GT6. But you can counteract that tendency with the brakes. Entering a turn, you can use the strong rear wheel bias to bring the tail out. And then, with heavy applications of the throttle, you can exit and simply continue the drift. It's surprisingly smooth and stable, and much faster than letting terminal understeer set in. Steering effort is quite high and the wheel itself is so large that your hands and thighs are often on collision tangents. So whatever steering you can do with the foot controls is a major relief.

Anywhere on the track that the MGB can't slide corners, it's pretty cumbersome. The body will roll a lot. And although the seat's backrest wraps around to hold your back in place, the cushion is so soft and compliant that you suspect it is overburdened just trying to support its vinyl covering.

You can't heel-and-toe in the normal sense, but must be content with exerting pressure on the side of the gas pedal with your foot. Then, as you depress the brake pedal, hopefully you will also get a few revs out of the engine before the downshift. In contrast, the shifter couldn't be better. It's smooth in its action and there are solid detents for a crisp feel. The brakes, on the other hand, require inordinate effort because there is no power assist. That contributes to long stopping distances. In the brake tests—and on the skidpad as

Eighteen seconds per lap separate the backmarker Ghia from the pole-sitting Fiat



well—the MGB is definitely a fifth place car...in graphic support of its slow lap times. A set of tires with more grip like the Semperit M401's would help, but not enough to significantly alter the MGB's standings. More than anything else, it needs about 300 lbs. less weight.

MG MIDGET

From the buzzing swarms of H/Production MG Midgets storming the amateur race tracks of the country, the car would seem a fair choice for SS/SC racing as well. First off, the Midget's curb weight (1630 lbs.) is by far the lightest of the qualified cars. Moreover, the mass is low to the ground and well distributed with 51.6 per cent on the front wheels. It's the smallest car on the track in every respect. Eight inches narrower than the Fiat, and twenty inches shorter. But for that miniaturization, British-Leyland has issued no more than a miniature engine. From 77.9 cubic inches (1275cc), the Midget generates only 54.5 net hp. That's less power on tap than for any car except the Karmann Ghia. That deficiency relegates the Midget to sixth on the grid, nearly ten seconds off the pace.

At Ontario, the Midget spends nearly all its life straining to run flat out. Acceleration, however, is so leisurely that the car never gets within eight mph of its 93-mph top speed on the road course. It also understeers heavily, which means that whatever speed is scrubbed off in the high speed turns can only be built back ever so gradually during acceleration on the long straights.

There's less pleasure than you might hope in negotiating the slow sections too, because handling is in line with the acceleration: about sixth best. You can, however, go up two tire sizes in the Midget and still be legal. That will increase cornering power, although the Midget is less deficient in that category than any other. On the skidpad, it ties with the Fiat for second place.

But the track manners of the Midget are completely contrary to its high finish on the skidpad. There's a lot of body roll in turns, and the rear suspension is so hard that the wheels often hop sideways over rough sections. Transients will destroy your confidence in the Midget due to its unnerving twitchiness. There seems to be only two attitudes to the car: steady cornering well under the tires' limit of adhesion, and a millimeter beyond—with suspension preparations well underway for a roll over. The fact that it doesn't roll, but just feels like it's

going to, is only a minor consolation.

The steering doesn't help matters at all. It acts like something out of a golf cart. The overall ratio is very fast and effort is moderate, but there seems to be an invisible hand applying heavy amounts of friction. Small corrections are impossible because by the time you overcome the friction you've cranked in twice as much lock as you intended. On top of all that the steering's self-centering tendencies get lost in the process. The wheel stays turned to whatever position you leave it. The source of the friction remains a mystery. Looking at the machinery involved, there seems to be nothing more than rack-and-pinion steering gear and a straight steering shaft with no universal joints leading to it.

Inside, the Midget's shrunken cockpit also hampers speedy efforts on the track. The seats offer absolutely no side support so you end up bouncing around on the hard, encircling surfaces. And because of the cars diminutive dimensions there are a lot of those surfaces to come into play. The door panel is ready interference for your elbow whenever you turn the steering wheel, which, in turn, seems always to be pressing against your chest. The window crank gouges your left leg, while the edge of the console makes life tough for your right knee. It takes a half-turn of your ankle to heeland-toe, and then the best you can manage is a crude lean of the side of your shoe on the gas pedal.

Realistically, the Midget is best relegated to racing in H/Production. It can obviously be quite competitive when prepared for that class.

TRIUMPH SPITFIRE 1500

The Triumph Spitfire is a changed automobile. Previous versions have earned it a reputation as a sports car that spends much of its time trying to tip over. But if any car has redeemed itself of past habits during this test, it is the Spitfire. Now, it is easily the best handling car in the bunch, tragically combined with insufficient acceleration to pass any car on the straight except a Karmann Ghia. The combination is worth only a seventh place on the grid. That's 14 seconds—and quickly out of sight—behind the Fiat.

Even with its additional 275cc of engine displacement for 1973 and an overall weight of only 1735 lbs., the Spitfire is considerably slower than the MG Midget. And with an 87-mph top speed, the Spitfire won't have a chance on any

track in the country. Unless they start running races on the skidpad, that is. In that contest, the Spitfire, at 0.87G, is an accomplished champion.

On the Ontario road course, that handling is fun to use even though the Spitfire's lap times are so far off the pace. The best thing about it is that it doesn't possess the tire-grinding understeer that plagues all of the other cars. The Spitfire is very close to neutral so you can thread around double-apex turns and through the esses like a demon slot car. For those of you who may have forgotten, the Spitfire still has its swing-axle rear suspension and its ultimate handling characteristics still show the traits long associated with that kind of geometry. The rear definitely jacks itself up as you groove through the turns and, as you approach the limit, the inside wheel starts a nervous chatter. But none of that is any cause to slow down. Just keep your foot in it. The Spitfire's cornering speeds are so high during all of this that you'll probably pass a car or two in the process.

This fine balance, after years of nervous and jerky Spitfires, is brought to you through the mystery of the "Swing Spring," if we are to believe British Leyland representatives. It is essentially a transverse leaf spring in the rear that holds the car up in the normal driving-down-the-road mode but offers no resistance to roll. A giant camber compensator, if you will. The GT6, starting with the 1973 models, employs basically the same system, but it doesn't work half so well in that car, probably because of that car's heavier nose and higher center of gravity.

Apart from the Spitfire 1500's unfortunate lack of power, it has a few other quirks which take their toll on lap time. The brakes require very high pedal pressure which means that it takes a bit more time to build up to maximum braking effectiveness as you approach a corner. And the shifter, because of an exceptionally wide crossbar in the H, is slow on the second-to-third shift.

Still, it's the Spitfire's energy crisis that ultimately holds it back. And even though it's not likely to win SS/SC races, it's fun to drive, a white-on-black contrast to the GT6.

KARMANN GHIA

Karmann Ghia drivers are going to have the best seats in the house for SS/SC races . . . because all of the action (Continued on page 94)

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SHOWROOM STOCK

(Continued from page 54)

will take place in front of them where they can keep an eye on it. Like the other sports cars, the Karmann Ghia has two front bucket seats, but otherwise it's pure Volkswagen. That means the lowest horsepower of the bunch and economy-oriented gearing. Together they produce the poorest acceleration in the test. Surprisingly, the Karmann Ghia's aerodynamics are good enough that it squeaks by the Spitfire in top speed (Karmann Ghia: 89 mph, Spitfire, 87 mph). But it takes forever to get there.

While the lack of power is a serious handicap, the Ghia's interior is also contrary to the needs of racing. For comfort's sake, the seats are soft and spongy, but that quality lets you slide right out of a driving position in the corners. And instruments to help you on the track are in short supply. In fact there are none, except for a speedometer and fuel gauge. You can, however, heel-andtoe without much difficulty and the shift linkage is reliable.

If anything, the Karmann Ghia's handling is less suited for racing than the Beetle's. Understeer is always present in spite of the fact that the suspension jacks somewhat in the corners. On the skidpad, only the Triumph GT6 generates less cornering power. Larger tires are legal and they would help in that respect. But they will not alleviate the braking problems. The bias is heavily towards the front so the Karmann-Ghia takes longer to stop than every car but the Spitfire. But that should be no problem if you use the Karmann Ghia for spectating purposes only. Wise Karmann Ghia drivers will expect no more on the race track. But even wiser SS/SC drivers will pick another car in which to compete.

Wiser racers yet, might pick another class. Sports cars are the traditional vehicles for club racers to lust after, and the cars usually chosen by production class road racers the world over. Admittedly, all the thrills of road racing are yours for the taking in SS/SC. Still, we have a few reservations. Showroom Stock Sedans will get you on the track for a lot less money; they are undeniably safer than convertibles should you go over on your head; and finally, their brand of competition is every bit as intense. The sports cars' chief attraction, it would seem, is that they are incrementally faster. That, and the fact that they are sports cars. Many SCCA drivers will wear nothing else.

