

MID-ENGINE'D CARS: PAST, PRESENT & FUTURE

# ROAD & TRACK

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UK 5/-

SWEDEN KR. 6:-INKL.MOMS

SEVENTY-FIVE CENTS

## Tests: Rover 3500S

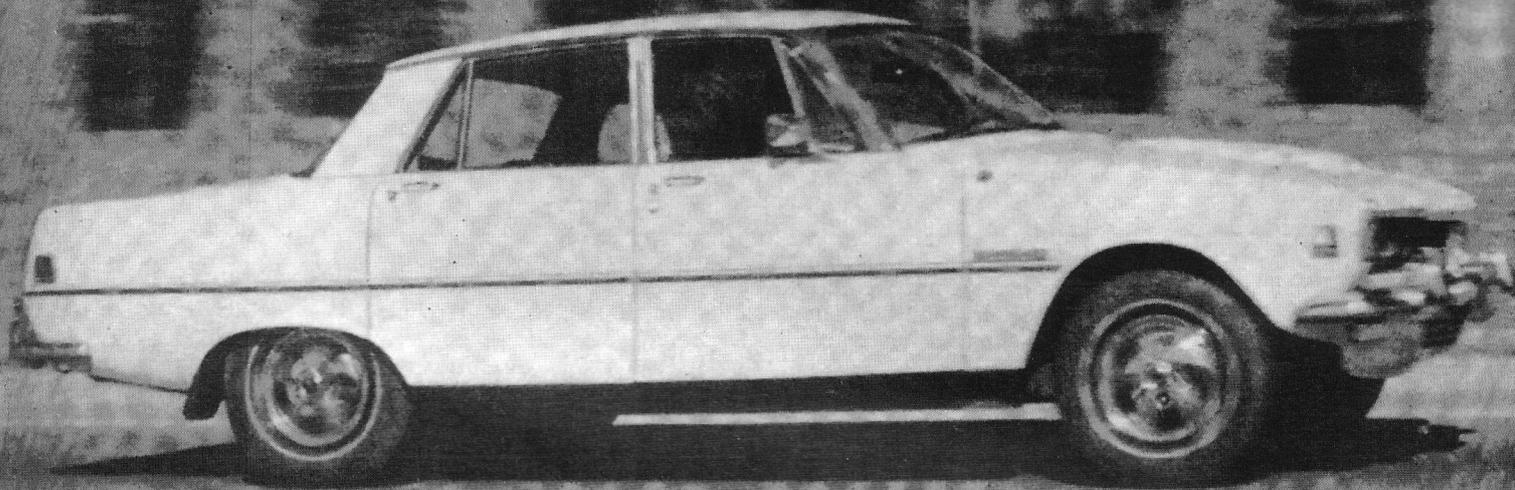


**New from England:**

One of the nice cars

is made even nicer





# ROVER 3500S

*One of the nice cars is made even nicer*



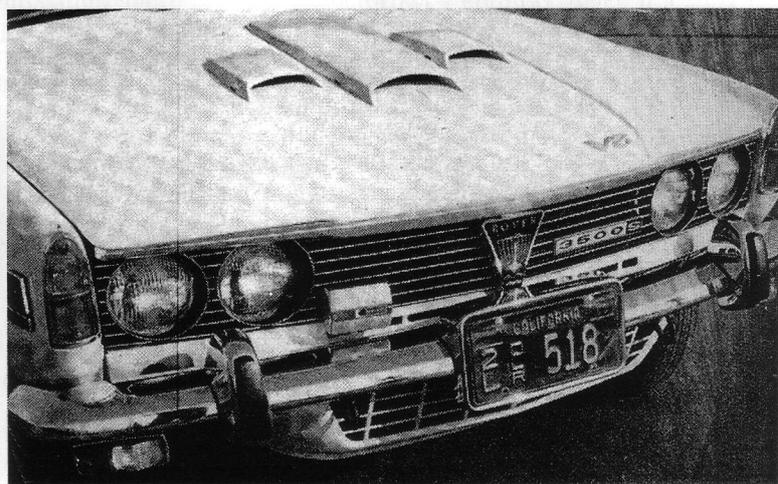
This is the Rover 3500S. It has the same body as the Rover 2000/2000TC but instead of the hard-working 2-liter 4-cyl Rover engine it uses the 3.5-liter aluminium V-8 that was designed in Detroit for the small Buick-Olds-Pontiac lines of 1961-63. As an engine swap, it's one of the happiest hybrids we've ever encountered. And as an automobile, taken all in all, it's just about the nicest sedan we've come across this year.

In overall appearance, it is similar to the 2000 and while the 3500S is still a pleasant looking car, the treatment of the front end is unfortunate. There are three functional hoods scoops tacked on, to start with. These were added for better control of underhood temperatures and were necessary, we are told, to enable Rover to meet the latest emission control requirements. In addition, an expanse of grille was added for additional cooling and there are two turn signal lamps tacked on under the bumper. These things, plus the Icelert sensor (which warns the driver when road conditions approach freezing), the Rover badge, a "3500S" flash and a chrome "V8" result in an awkwardly busy front end.

Going on with the styling, there's a chrome strip and an accompanying pin stripe down the side. The 3500 V-8 sold in England has neither the excrescences on the hood, the chrome strip nor the pin stripe and the tack-on signals

are blessedly absent. And it looks much better. We decided that the U.S. trim must represent the Rover version of what the British think Americans like on their cars.

The V-8 engine fits neatly under the hood and there is even a tiny bit of space around it to perform minor adjust-





ments. The chunky V-8 looks familiar and comfortable to American eyes but giving it away as indubitably British is a pair of semi-sidedraft SU carburetors sitting on top and inhaling through a remote air cleaner. The V-8 went into the engine bay with an amazingly small amount of difficulty. The battery was sent to the trunk, the oil filter mount was angled to miss a frame member, the exhaust manifolding revised and the front cross-member moved slightly forward. Then, by tilting the engine about four degrees, it slipped right in and it looks like it belongs there.

The engine itself, in case you've forgotten, has a sand-cast aluminium alloy block with dry liners and the heads are die-cast aluminium alloy with wedge-shaped combustion chambers. In the Rover it is putting out 184 bhp at 5200 rpm while in its earlier existence in Detroit it was rated at 200 bhp at 5000 rpm in its strongest unturbocharged form. It weighs just slightly more than the 4-cyl Rover engine

so the weight distribution hasn't deteriorated. In fact, the weight distribution is slightly better than it was previously; probably due to the battery's relocation and the fuel tank's capacity being increased from 14.4 to 18 gal.

The engine is mated to a Type 35 Borg-Warner gearbox and while this isn't the world's greatest automatic – we say that principally because it has no “torque-demand” down-shift; that is, you have to floor the accelerator to command a lower gear – it works all right. The engine and gearbox are well suited to each other, you move off smoothly and without dramatic pauses between shifts. The car responds well to manual manipulation of the automatic and we suspect that many drivers will drive it this way, selecting their gears rather than letting it shift for itself.

One of the things Rovers do best is make the driver feel like somebody. The seats are superb – it seems almost unnecessary to explain that they are fully adjustable – and there's excellent support from the form-fitting seatback. These seats, coupled with a steering wheel that can be moved up and down to suit the driver's comfort, make it a car that is grand for long-distance touring.

The instrumentation for the 3500S has been improved by using big, legible white-on-black instruments in place of the ribbon-type speedometer formerly used.

Adding to the touring pleasure potential, there are lots of places to put things. There's a spacious drop-out bin in front of the passenger, a slightly smaller one in front of the driver, a useful, full-width tray across the top of the instrument panel (with non-skid surface) and a pair of pullout pockets under the arm rests. We found a couple annoyances even amidst all this splendor, however, as the door handles are awkward to operate, hiding as they do under the arm-rests and the heater and vent controls stick out, hard-cornered and unyielding, ready to jab the passenger's left knee when his seat is forward.

Other nice touches include an intermittent wipe feature for the windshield and electric window lifts that rise and drop at a properly rapid pace. There's a stalk growing out of each side of steering post, the one on the left for the headlight dimmer/flasher (shhhh) and the one on the right for the turn signal/horn honker. This all works quite well once you're used to it but we never did get over finding it all too easy to toot the horn when inserting or removing the key from its slot directly ahead of the stalk.

With the 3500S the suspension remains the same – independent at front, DeDion with sliding tube at the rear – but there has been a tightening of spring rates and a slight stiffening of shock settings. This hasn't hurt the ride a bit, in our opinion; if anything, we like it better. The ride is excellent, it handles dips and humps with equanimity and there's a nice balance between a soft ride and a controlled ride.

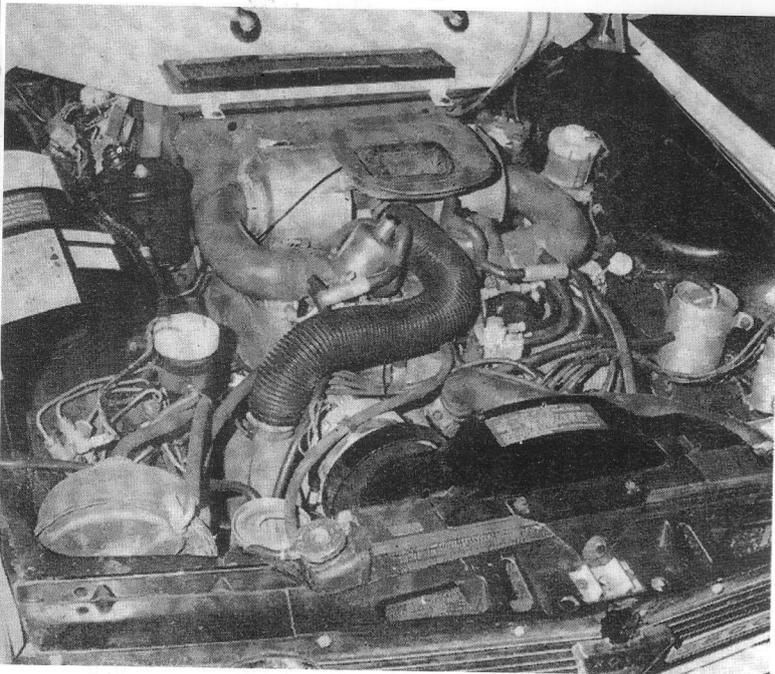
The handling is very good indeed, a characteristic we 

## ROVER 3500S

### AT A GLANCE

Price as tested .....	\$5398
Engine .....	ohv V-8, 3528 cc, 184 bhp
Curb weight, lb .....	3195
Top speed, mph .....	117
Acceleration, 0-1/4 mi, sec .....	17.7
Average fuel consumption, mpg .....	17.5
Summary: Quiet, luxurious sedan with good handling, brakes . . . .	3.5-liter V-8 adds smoothness and speed.





## ROVER 3500S

have always appreciated in Rovers. Pushed very hard, the front end will plow but it is also readily set up with a flick of the wheel to get the tail out and there's enough power to hold it in a stable cornering attitude. There's considerable suspension travel, which makes it a good rough-road car, and while this also adds up to a lot of body lean, it isn't bothersome to the driver although the passengers may feel they're being tossed about in a series of fast bends.

With a final drive ratio of 3.08:1 (vs. 3.54:1 in the 2000) and 14-in. wheels, it isn't terribly long-legged (over 3100 rpm at 70 mph) but the engine gives no sign of strain at any speed, including 100 mph. Wind noise begins to intrude upon the consciousness at 70 mph and over, however, and we kept touching the window lift switches (thinking one was down a crack) until we were convinced that the roar was normal.

Power assisted steering and power brakes are standard on the 3500S and both are in keeping with the car's character — easy, smooth and responsive. The disc brakes have been increased in size to offer 372 sq in. of swept area (instead of 350) and they worked very well except that they squealed and grumbled in a most attention-drawing manner when used with medium to light pressure.

All-out performance of the 3500S is better than adequate. The best quarter-mile times (those drawn in the data panel)

were obtained making handbrake starts. That is, we held the car on the line with the handbrake, elevated the revs to stroke up the torque, then let fly. Using the footbrake, the brake pads were not instantaneous in their release, thereby resulting in a quarter-mile time that was a full second slower.

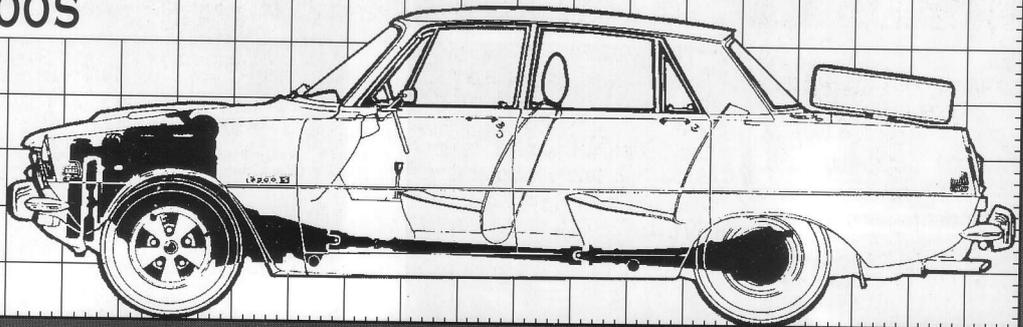
With the spare tire in place in the trunk, there's not a lot of storage space, thanks in part to the extra space used up by the larger fuel tank. A trunk-top mounting bracket is included, however, and while this doesn't improve the car's looks, it's a very practical solution to the problem. The trunk is fully carpeted and finished, we might add.

We wish we were able to report on the long-haul durability of the 3500S but with our short-haul experience with the car doesn't permit it. The 2000s have had their full share of problems, if the readers we've heard from are typical. So about all we can say at this point is that the V-8 should be reliable and long-lived and that in our test car, which had close to 6000 miles on it at the end of our test, we couldn't find anything that would indicate that it wasn't going to keep running just as sweetly as it was then.

All in all, as you can tell, we like Rovers. They're fine automobiles and have a tradition of doing everything just a little better than they have to do to get by. In these days when most manufactured products seem to be just a little worse than they can be, it's nice to encounter a car that's better than it has to be. And while they're hardly cheap, we don't know of any car costing less that makes you feel you've got more. 



# ROAD TEST ROVER 3500S



SCALE: 10" DIVISIONS

## ROAD TEST RESULTS

### ACCELERATION

Time to distance, sec:	
0-100 ft. ....	3.5
0-250 ft. ....	6.5
0-500 ft. ....	9.7
0-750 ft. ....	12.5
0-1000 ft. ....	15.1
0-1320 ft (1/4 mi) ....	17.7
Speed at end of 1/4 mi, mph .	75
Time to speed, sec:	
0-30 mph ....	4.1
0-40 mph ....	6.1
0-50 mph ....	8.4
0-60 mph ....	11.9
0-70 mph ....	15.5
0-80 mph ....	20.6
0-100 mph ....	44.7
Passing exposure time, sec:	
To pass car going 50 mph .	6.0
<b>FUEL CONSUMPTION</b>	
Normal driving, mpg. ....	17.5
Cruising range, mi. ....	315

### SPEEDS IN GEARS

3rd gear (5150 rpm), mph . .	117
2nd (5200) . . . . .	83
1st (5200) . . . . .	51

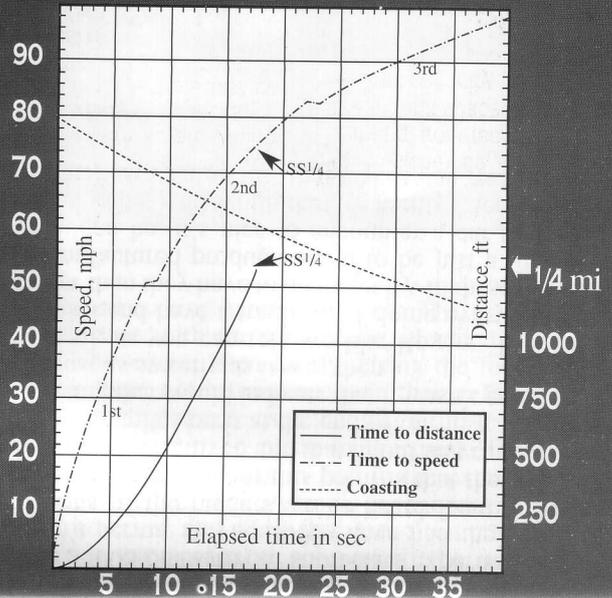
### BRAKES

Panic stop from 80 mph:	
Stopping distance, ft. ....	329
Deceleration, % g. ....	90
Control . . . . .	very good
Fade test: percent of increase in pedal effort required to maintain 50%-g deceleration rate in six stops from 60 mph . . . . .	52
Parking: hold 30% grade. . . . .	yes
Overall brake rating. . . . .	very good

### SPEEDOMETER ERROR

30 mph indicated. . . actual 30.5
40 mph . . . . . 39.5
60 mph . . . . . 60.0
80 mph . . . . . 79.5
100 mph . . . . . 99.0

## ACCELERATION & COASTING



### PRICE

Basic list . . . . .	\$5398
As tested . . . . .	\$5398

### ENGINE

Type. . . . .	ohv V-8
Bore x stroke, mm. . . . .	88.9 x 71.1
Equivalent in. . . . .	3.50 x 2.80
Displacement, cc/cu in . . . . .	3528/215
Compression ratio. . . . .	10.5:1
Bhp @ rpm . . . . .	184 @ 5200
Equivalent mph. . . . .	118
Torque @ rpm, lb-ft. . . . .	226 @ 3000
Equivalent mph. . . . .	67
Carburetion . . . . .	two SU HS6
Type fuel required. . . . .	premium
Emission control . . . . .	engine mods

### DRIVE TRAIN

Transmission: Borg-Warner	
Type 35 3-spd automatic	
Gear ratios: 3rd (1.00) . . . . .	3.08:1
2nd (1.45) . . . . .	4.47
1st (2.39) . . . . .	7.36:1
Torque converter ratio . . . . .	2.1:1
Final drive ratio . . . . .	3.08:1

### CHASSIS & BODY

Layout . . . . .	front engine, rear drive
Body/frame . . . . .	unit steel
Brake type: disc; 10.8-in. dia. front, 10.7 rear, vacuum assisted	
Swept area, sq in. . . . .	372
Wheels . . . . .	steel, 14 x 5 1/2J
Tires . . . . .	Pirelli Cinturato 185 HR-14
Steering type: cam and follower, power assisted	
Overall ratio . . . . .	19.3/15.4:1
Turns, lock-to-lock . . . . .	3.25
Turning circle, ft . . . . .	31.5
Front suspension: upper leading arms, lower A-arms, horizontal coil springs, tube shocks, anti-roll bar	
Rear suspension: De Dion sliding tube on fore & aft Watt linkage coil springs, tube shocks	
<b>INSTRUMENTATION</b>	
Instruments: 140-mph speedo, 6000-rpm tach, 99,999 odo, 999.9 trip odo, ammeter, oil press, water temp, fuel level, clock	
Warning lights: oil pressure, brake fluid, handbrake, brake pad wear, fuel reserve, lcelet	

### ACCOMMODATION

Seating capacity, persons. . . . .	5
Seat width, front/rear 2 x 22.0/55.0	
Head room, front/rear . . . . .	37.5/36.0
Seat back adjustment, deg. . . . .	75
Driver comfort rating (scale of 100):	
Driver 69 in. tall. . . . .	95
Driver 72 in. tall. . . . .	95
Driver 75 in. tall. . . . .	90

### MAINTENANCE

Engine oil capacity, qt . . . . .	5.3
Every 5000 mi: chg engine oil & filter, lube driveshaft, minor tune-up, various op'l checks	
Every 10,000 mi: major tune-up; cln air filter, fuel pump filter; replace fuel filter	
Every 20,000 mi: cln engine flame traps, replace air filter, chg differential oil, chk alignment	
Every 40,000 mi: cln automatic choke, replace evap control filter, brake seals	
Tire pressures, f/r, psi . . . . .	30/30
Warranty period, mo/mi 12/12,000	

### EQUIPMENT

Standard: power steering, power brakes, electric window lifts, radial tires, lcelet
Optional: Air-conditioning (\$478), tinted glass (\$50), radio (\$110)

### GENERAL

Curb weight, lb . . . . .	3195
Test weight . . . . .	3620
Weight distribution (with driver), front/rear, % . . . . .	52/48
Wheelbase, in. . . . .	103.4
Track, front/rear . . . . .	53.4/51.7
Overall length . . . . .	181.0
Width . . . . .	65.0
Height . . . . .	56.2
Ground clearance, in . . . . .	7.0
Overhang, front/rear. . . . .	29.6/48.0
Usable trunk space, cu ft. . . . .	8.0
Fuel tank capacity, gal . . . . .	18

### CALCULATED DATA

Lb/hp (test wt) . . . . .	19.7
Mph/1000 rpm (3rd gear) . . . . .	22.2
Engine revs/mi (60 mph) . . . . .	2700
Engine speed @ 70 mph . . . . .	3160
Piston travel, ft/mi . . . . .	1260
Cu ft/ton mi . . . . .	92.6
R & T wear index. . . . .	34
R & T steering index. . . . .	1.02
Brake swept area sq in/ton. . . . .	206

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