

**CAR
LIFE**
ROAD TEST



STUDEBAKER



PHOTOS BY SCOTT MALCOLM

EVERY SO OFTEN, Studebaker produces a car which excites the buying public sufficiently to push the corporation's sales into the Top Ten. Unfortunately, the last time this happened was in 1953 (discounting the Lark, which really wasn't a new car), and then Studebaker promptly sat back on its laurels. The company made money, paid off bills, and then neglected to forge ahead in the competitive market. While this is hindsight, it is a hindsight shared by present day company executives. Indulging their foresight, of which those same executives are quite capable, costs big bundles of money that the corporation neither has nor is willing (although able) to borrow.

The next best thing, then, is to go with what you have. Scrounging around among Studebaker's parts bins—and those of its suppliers—can turn up some interesting items, so Studebaker has done just that. From its Paxton Products Division, the company engineers picked up a supercharger, disc brakes were available from a supplier and sliding roofs have been an attrac-

tive feature of its cousins (by marriage) from Mercedes-Benz. Using this approach, and a specially designed fiberglass body, the company came up with a Lark in a new set of feathers which it called the Avanti. Although the car has created quite a bit of excitement, its earnings for the company have been affected by unfortunate production delays and a stiff price.

Now, trying a variation on the theme, they have caged the lion in a lamb's skin by putting all the Avanti developments in the Lark body. This is one of Studebaker's strengths, the flexibility that comes from relative smallness, and the company is now committed to making the most of it. In point of fact, most of the Avanti options have been available on the Larks via special order, but the recently announced Super Lark marks the debut of the completely packaged product.

Our road test is primarily of the Avanti-ized Lark Wagonaire (next year's Avanti station wagon?), although notes and impressions gathered during a brief familiarization with the

first production-line Super Lark are included. This would be Studebaker's Super/Stock entry, if the car were more legally competitively (by NASCAR and NHRA classification) powered. Nevertheless, it is indeed competitive (by seat of the pants classification) in performance.

The Wagonaire, whether Avanti-powered or in its more utilitarian forms, is worth comment for its most striking feature, the sliding roof section. Studebaker deserves plaudits for incorporating this into the station wagon design, thereby becoming the only domestic producer of wagons with an open top capability. This one-upmanship increases both the utility and the enjoyment available in the wagon.

Along this line, it should be noted that Studebaker has offered sliding fabric sun roofs as an optional extra for its sedans for some time. To anyone familiar with such a boon, it's difficult to understand why the sun roof option hasn't been more popular with Studebaker buyers. Dealer indifference and a price comparable to that of something like a radio (which more people seem

Supercharged Regal Wagonaire



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to want) probably account for it, as far as we can determine. Nevertheless, the sun roof makes good sense. It is weathertight, offers the convertible's open feeling when skies are blue, and yet provides the steel roof's solidity that most people seem to demand. There are many other things to be said about sun roofs, but none tops one of their greatest virtues: providing immediate extraction of hot air from the car after standing locked all day under the blazing sun.

While this may seem to be a digression, we prefer to think of the sun roof as a design feature rather than an accessory. In the Wagonaire, it definitely is and its usefulness became apparent within minutes after we picked up the test car. We were to collect three rather large cartons en route back to the office, but they were so long that only two would fit inside. All three were easily carried, however, by standing them on end after the roof was opened.

The Wagonaire roof, it might be noted, did cause some delay in production of the car. Early ones leaked

and rattled and production ground to a halt while this was corrected. A twist handle locks the sliding section at any position from fully closed to fully open—the latter position uncovering the rear half of the body. It slides easily, without binding, but in the closed position we found it to be completely air- and water-tight.

When the Wagonaire is fitted with the optional third seat (which an earlier model we drove had but our test car didn't), the sliding roof transforms the backside-forward positioning from an expedient into an enhancement. With an accessory swing-down step bar in the tailgate and the open roof, access to this seat ceases to be a stoop-and-crawl proposition and becomes a more natural step-in-and-be-seated operation. In addition, the rear passengers have the benefit of open-air motoring. The electric rear window is operated by turning the key in the outside lock.

At the risk of sounding over-enthusiastic, a few additional examples of the increased utility of this sliding roof

might be worth mentioning. One news-film company, for instance, now has a fleet of Wagonaires for its cameramen to use as rolling twin-level platforms for their tripods. And small appliance dealers whose company vehicle serves as their own private car now use this wagon instead of a pickup truck or van.

At the rear of the wagon, there is a Brooks Stevens styling touch that we thought immensely practical. That is the high taillight mountings, at belt-line height on each rear corner post, which flash on at about eye level for most drivers following along behind. Lenses wrap around the corners, providing side warnings as well. Back up lights, though, are located at bumper level.

The body of the wagon itself, unlike many examples of this type of vehicle (and one earlier version we drove), was well assembled and tank tight. Nary a squeak or rattle could be detected during the time we had it, a tribute to Studebaker's care of assembly. However, there were occasional bits of adhesive compounds where there shouldn't have been, indicating that a little more care in preparation for delivery could have been taken.

Studebaker lacks the huge styling

staffs of the Big Three, and this fact is most evident in interior appointments. The materials used are fine enough, on par in quality with Detroit cars, but the end result just doesn't seem to come off as well. Pleated vinyl seats and door panels are done well, but tend to look utilitarian instead of stylish. Carpeting has a "nailed down" appearance, instead of the "poured-in" look of floor coverings of other makers' cars. Nevertheless, the luxury of carpeting extends the length of the cargo deck, encouraging the kids to romp back there, although it might discourage an owner from loading lumber and cement aboard.

Dashboards in Studebaker cars (including Avanti and Hawk models) are perhaps the most impressive interior feature. Throughout the Lark line, including the stripped and de-scripted Studebaker Standard, the same molded and padded dashboard is used. An outside supplier furnished the Studebaker dashboard and it is doubtful if there is a better one in the industry for sheer simplicity and functional design. The black grained molded vinyl covering has no ragged edges, although a bright metal trim strip sometimes fails to line up where it crosses the glove compartment.

Instruments are clustered in three large bezels directly in front of the driver. The left one contains, even on the cheapest Larks, the often-absent oil pressure gauge and ammeter as well as the fuel supply and water temperature gauges. Either a tachometer

or clock (or Studebaker nameplate in the cheapest models) fits in the center ring, while the speedometer is at the right.

The only blinking lights are for turn signal and high beam indicators, and it is notable that Studebaker carries this through to its cheapest models. However, the fuel gauge is slow to register after the ignition is switched on (the company admits this is a characteristic), a shortcoming which could strand a forgetful driver with an empty tank. The tachometer fitted to the test car, it also should be noted, was slow—as much as 400 rpm at 90 mph—and the speedometer was as much as 3.4 mph (at 70 mph indicated) fast.

Steering wheels on all Studebakers, with the exception of the Avanti, are oddly-shaped, flat bottomed things which we find difficult to use and even to justify. With such a wheel, the driver is at a loss to know where to grab when he's turning fully through to right or left lock. The rim, however, is of a hefty cross section which invites a good grip and imparts a more business-like feel to manning the helm than do the dainty-rimmed wheels common on many other cars.

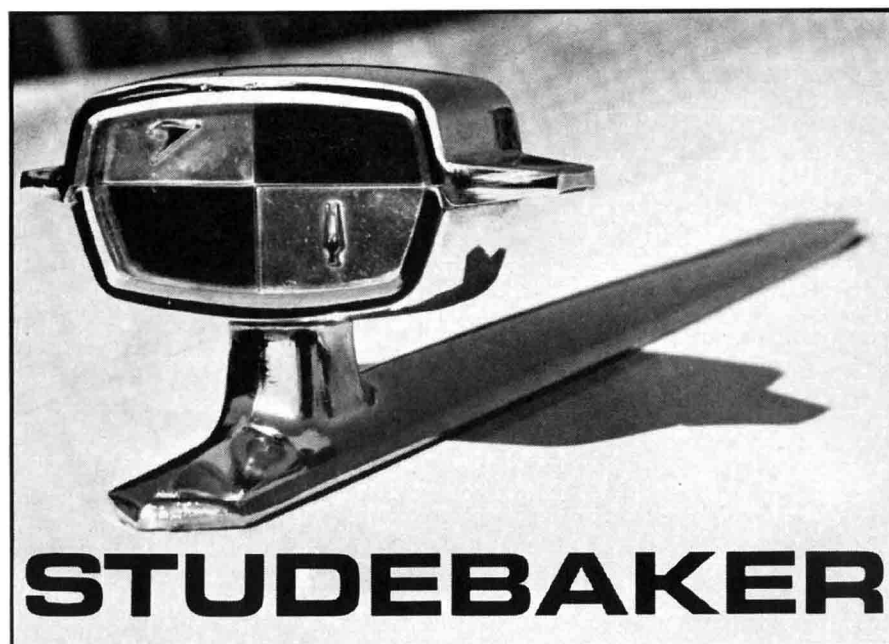
Along this line, we suggested to company officials that a logical factory (or dealer installed) option for the Super Larks would be one of those smaller diameter racing-type spring steel wheels with either wood or soft plastic rim. Since power steering is almost a necessity with these nose-heavy cars (and reduces turns to 4.4

in the process), the smaller diameter—and round—racing wheels would provide sufficient leverage and better control. Another of our suggestions was to make leather buckle-down straps for the hood, available as options after it had displayed a tendency to flutter at speeds around 100 mph. Aside from enhancing the high performance look of the car, the straps—and to some extent, the steering wheel—would be reasonable additions from a safety standpoint.

As much as anything else on the 10-year-old Studebaker chassis, the steering is outdated. Although certain things have been done to improve ("tickle," as one factory man put it) the suspension characteristics, not much can be done about the steering setup. In an era of ball-joints, Studebaker still uses king pins. The power-assisted steering is something most owners could very easily live with, but it tends to suffer in comparison with competitive systems. The steering gear gives a variable ratio that is, however, quick enough where only slight steering corrections are necessary during high speed driving. But there also is the faint presence of road wander, particularly on wavy, crowned roads, that requires fairly constant attention to the wheel.

Alterations of the suspension and chassis for the Avanti, when applied to the bread-and-butter sedans and wagons, breed a whole new brood of Broncos for the barn. We have commented, in every Studebaker test we've





conducted, about the cars' front heaviness and tendency to plow in a turn (including Avanti). Short of a major chassis redesign, little can be done about the overweight front end, but plowing can be reduced to within reasonable limits. This the company has done.

Heavy duty coil springs from the Lark police car package firm up the front spring rates at the wheel from 78 lb./in. to 116 lb./in. These are tied together with a linkless 0.75-in. stabilizer bar. Five-leaf semi-elliptic rear springs with a rate at the wheels of 136 lb./in. (instead of the standard

4-leaf with 108 lb./in.) are installed in conjunction with an anti-roll bar of 0.625 in. diameter.

The latter attaches to the frame kick-up in front of the axle, then curves rearward along each spring to a short link that in turn attaches to the spring attaching plate. In addition, stout radius rods run forward from an axle top mounting to the frame, an arrangement that is based on the same principle as Traction Master suspension aids. Topping off the "tickling" are adjustable (3-position) direct action shock absorbers of 1.187 in. bore to replace the 1-in. non-adjusting

standard dampers normally available.

This Super Lark arrangement differs from the Avanti in the forward (rather than trailing) attachment of the anti-roll bar and the use of shorter radius rods because of a chassis mounting problem with the stock body. The radius rod is eliminated from the Wagonaire rear suspension. On the Super Lark, one final touch is the use of stronger Avanti wheels with 5 in. rims (instead of 4.5 in.) to reduce tire slip angles and improve cornering. Company engineers figure these changes increase by 26% the rear roll control and move the front-to-rear roll control 15% toward the rear—in other words, alter the handling characteristics from heavy understeer to much milder understeer.

Powering this reworked chassis is the R-2 Avanti engine with positive induction by Paxton (formerly McCulloch) centrifugal supercharger. This unit, similar to the installation used in 1957 on the Golden Hawk, provides up to 5 lb. of boost pressure (although we suspect the figure may be closer to 6 lb.). The company has consistently refrained from revealing power and torque ratings, so the data panel figures are our conservative calculations. However, in terms of comparative performance, the time figures we obtained seem to indicate the R-2 engine develops closer to 300 bhp and perhaps 340 lb./ft. of torque.

Studebaker's adaptation of the belt-drive blower to its 289-cu. in. V-8 engine, in contrast to the painstakingly engineered turbo-supercharged engines brought out at GM, takes on the aspect of a somewhat makeshift ar-

rangement upon close examination. Nonetheless, the basic engine has been modified to overcome many of the shortcomings that often develop after a supercharger is merely bolted to an engine.

A flat-headed, slipper-type piston replaces the standard piston, decreasing compression ratio and incorporating different rings to control excessive blowby. Problems with crankcase ventilation and oil return were eliminated by relocating and enlarging the drain hole in the valve lifter valley, reducing the rocker shaft metering hole, re-routing the air path for crankcase ventilation, and redesigning the oil pan and breather pipe for better baffling. Tougher bearings were fitted to the rods and the Carter AFB carburetor was slightly reworked to seal it against fuel/air leakage under pressurized conditions. A double-breaker distributor is installed for more effective ignition.

The standard warranty of 24 months or 24,000 miles is valid for the supercharged engines, which speaks well of the company's confidence in them. Supercharged cars that Studebaker has already sold have presented no problems, company officials say, and so long as reasonable rpm limits (5800-6000) are observed, none should develop. Some criticism of a delay in response from a supercharged engine has been voiced, but we do not necessarily share this view. The build-up of power in this engine is quite rapid, yet is more controllable than the sledgehammer effect of opening the tap on 400 cu. in. Under normal day-to-day driving, moreover, the engine is as docile and tractable as the unblown

versions, quite in contrast to the touchy big-bore powerplants with their rather limited low-end torque.

Slipping such a chassis under the Wagonaire's bulk should enliven such a load-hauler, and it does. Our test car had the Flightomatic automatic transmission, a torque converter plus 3-speed planetary unit that can be held in 1st and 2nd gears. The latter is accomplished by moving the lever to the "low" range after the unit has shifted to 2nd or 3rd and speeds are above 20 mph. While the unit seemed a bit too sloppy for high-performance work, it should be remembered that the wagon is certainly not a sports car.

Giving away some 45 bhp and about 100 lb./ft. of torque (but with a 250 lb. weight advantage), the Wagonaire turned in better times than the Oldsmobile Starfire we tested last month—up to a full second in the quarter mile. On the other hand, the 340-bhp Chevrolet 409 has a similar weight advantage over the Wagonaire (but with closer to the Starfire output) and reaches the end of the quarter-mile a second sooner. The Wagonaire output, between these two reference points, then, seems quite respectable.

Incidentally, the Chevrolet 409 would have a close race with the 2-door Super Lark, which is a lighter car that could scamper away from the "hot" Pontiac Tempest V-8 in spite of that car's weight advantage. We hasten to repeat that we didn't put the Super Lark through our usual road test procedure, but did record acceleration times over a couple of runs. The car was the first one produced and the engine was still so tight it twanged.

The 4-speed manual transmission also was so stiff from newness that speed-shifts were impossible. In addition, an extra passenger was aboard and the track was still wet from a day-long rain which had just stopped. Yet the Super Lark took the quarter mile in 16.4 sec. A properly run-in car under our usual test conditions would, we're confident, better that by a full second.

On the wet track, the butyl tires installed on the Super Lark exhibited an erratic grip-and-slip characteristic which put the traction bar modifications to a real test. During a really brutal acceleration attempt, which few owners would try, the rods weren't quite stout enough and rear axle wind-up was sufficient to allow the differential to pound against the floorboards.

Even without the traction rods on the Wagonaire, however, this windup was not particularly apparent. The car's greater weight, and the slipping take-up of power by the automatic transmission, got the Wagonaire off the line in less jumpy fashion. Since the wagon body alters the weight distribution to a better (than Super Lark) 54/46, the heavier car handles quite as well as the little sedan when once underway. The stiffer springs and shock absorbers effectively limit the body lean and substantially improve cornering ability. For a station wagon, it wends its way along winding roads with a surprising unconcern.

The Wagonaire's front seat was a split back (reclining) bench, fitted with headrests. Passengers sit high and comfortably, but the broad, slick cushion made seat belts necessary for lateral positioning during brisk cornering.

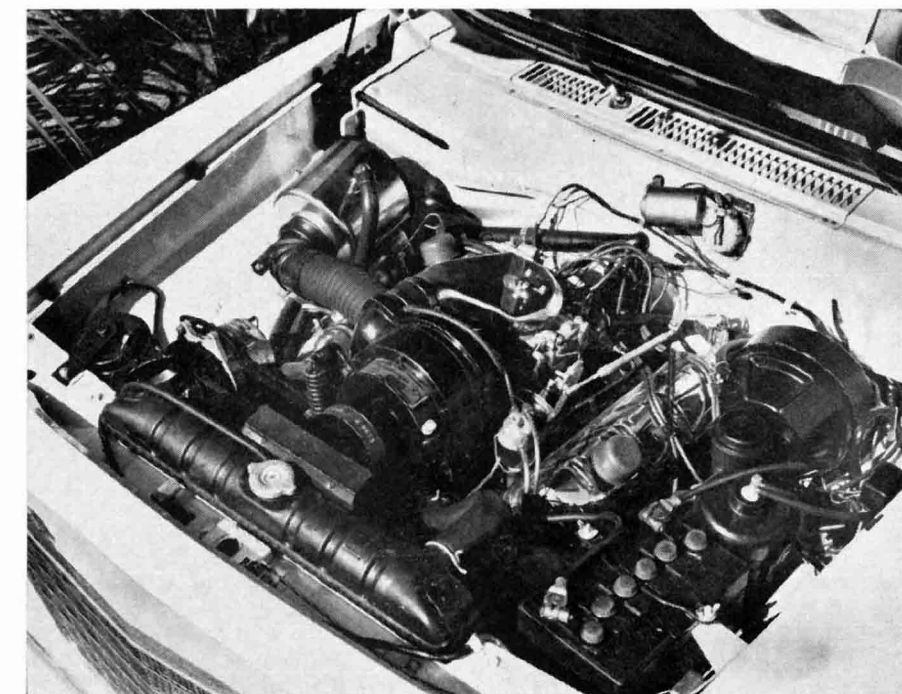
ELECTRIC REAR window operates with key twist in tailgate lock.



SLIDING ROOF makes wagon most versatile. Note waist-high taillights.



SUPERCHARGED ENGINE puts spirit into heavyweight station wagon.



STUDEBAKER

In the Super Lark, where the Grand Touring idea is more pronounced, individual bucket seats provide a bit more lateral support. Handling improvements with the Avanti chassis are almost startling. The car has a rock-solid, slightly bottom-spanking feel that the motoring enthusiast enjoys in his mount. With an indicated 65 mph on the speedometer, the Super Lark cocked itself into a perfect, soul-satisfying drift to round the wet north turn of the Studebaker Proving Ground track and eased us around the inside edge in impeccable fashion. A hardly perceptible corrective flick of the steering wheel straightened us out for the back straight, where the speedometer touched 124 mph before we backed off for the next curve. Despite the run-down and cracking road surface, the Super Lark's solid feeling at this speed indicated that the car could capably handle the additional speed which the supercharged engine might develop. The Super Lark, incidentally, is supplied with a 3.54:1 rear axle and one so fitted has been timed, unofficially, at Bonneville at 132 mph.

We commented that the Avanti (CL, December 1962) corners well but not fast. The same is true in varying degrees of both the Wagonaire and Super Lark. The modifications that have been made help to get the best possible action out of the old chassis. The changes

in cornering attitude and characteristics are worthwhile improvements to the cars. However, until a new chassis comes along, incorporating the latest developments in the state of the art, the cars are outmatched in sheer speed through the corners.

There is one other area in which Studebaker engineers have scored a significant advance and that is in the brakes. We were highly critical (CL, May 1962) of the brakes on the Hawk, as we have been on many other domestic cars. As simple as it may sound, staff members believe that every car should have brakes capable of stopping it from at least 80% of its top speed, but there are many brakes that don't.

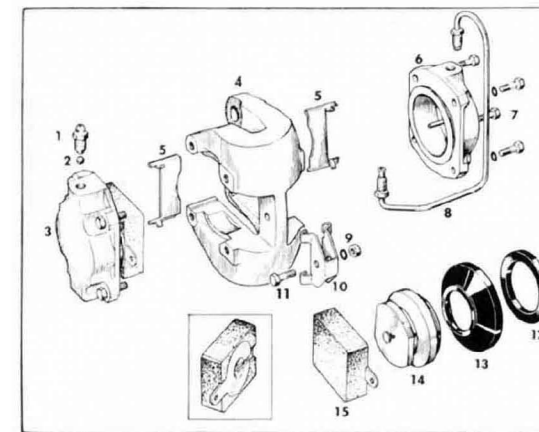
The braking system developed for the Avanti, and applied to our Wagonaire and the Super Lark, definitely can stop these cars from any speed which they might attain. And they do it rapidly, without any trace of fading or grabbing. Three successive crash stops in the Super Lark, from indicated speeds of 80, 100 and 124 mph, failed to faze these brakes, nor did our standard 2-stop test in the heavier Wagonaire reveal any reduced effectiveness.

An 11.5-in. cast iron disc replaces the usual front brake drum and is straddled by a vise-like caliper mounted on the steering knuckle. Movable jaws on the caliper are hydraulically

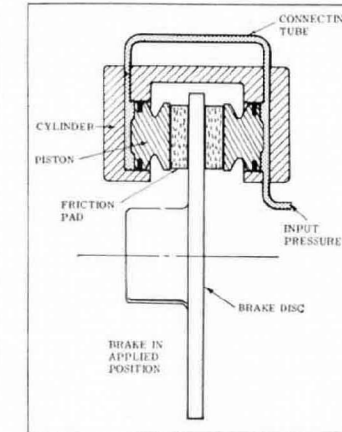
actuated and push 2 x 2 in. lining pads against each side of the disc for braking action. The brakes are supplied by Bendix from the English Dunlop design. Since most of the braking effort (62%) is taken up by the front brakes, normal drum and shoe units are fitted to the rear. These are 11-in. drums with heat-dissipating fins across the 2-in. width.

To overcome the naturally high pedal pressure required by the disc design (1300 lb./sq. in.), power assist is an integral part of the Studebaker system. But the power unit valving is such that the assistance runs out just under the line pressure required for skid on dry pavement—possible only because of the more consistent nature of disc brake action. In effect, this increases the pedal effort required just before the wheels lock up, and warns the driver that any further effort could cause the car to be out of control (skid). It also imparts an odd "feel" to the brake pedal—hard as the initial action starts, then easy as the power actuator lends assistance, and finally hard again as the maximum brake efficiency is reached.

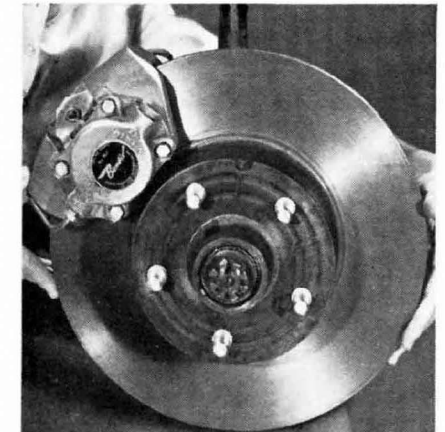
Although shielded from water splash, the entire disc unit is in the air stream for more rapid heat dissipation. Pads on disc brakes oftentimes need replacement sooner than shoe linings, but here the job is a mere snap-out-and-press-in operation which any owner can do himself. Dual master cylinders, it should be added, are used as an additional safety measure. After trying these brakes on several different Stude-



CALIPER CUTAWAY shows simplicity.



PADS PRESS onto disc to stop.



FULL DISC brake ready to install.

baker models, we can only conclude that there are none better.

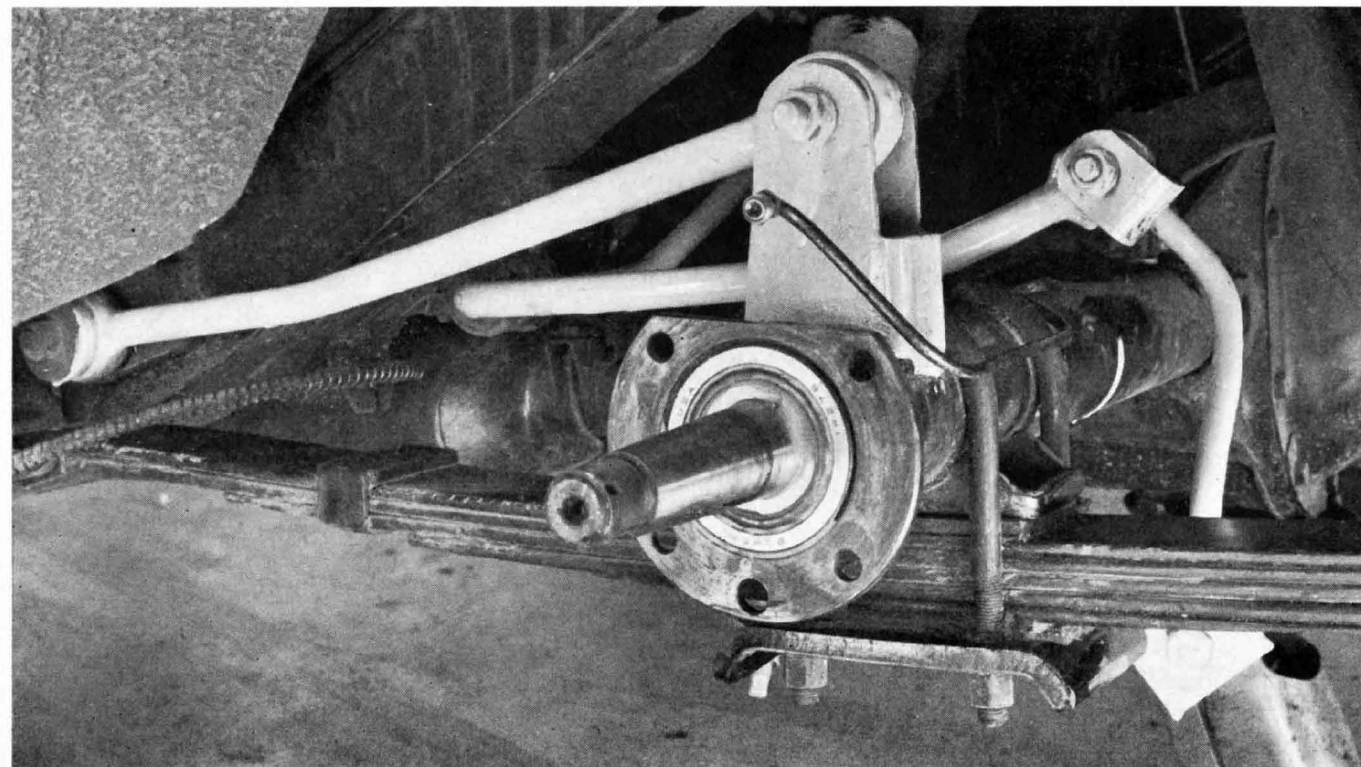
Our test Wagonaire, we should also note, was equipped with rather rich carburetion jets. A low of 8 mpg was recorded on one tankful of fuel, and

our 10-12 mpg overall range indicates that the supercharger was ramming too much fuel right on through. Readings of 12-16 mpg were made from the burette-equipped Super Lark, however.

With more spirit under the Wagon-

aire, as overweight and home-folksy as it may be in appearance, and the pre-packaging of the Super Lark, Studebaker can't help but expand its appeal into the ranks of the more discriminating enthusiasts.

REAR END control is aided by traction rods, anti-roll bar and adjustable shocks on Super Lark.



CAR LIFE ROAD TEST



1963 STUDEBAKER Regal Wagonaire (supercharged)

SPECIFICATIONS

List price	\$2835
Price, as tested	3697
Curb weight, lb.	3995
Test weight	4310
distribution, %	54/46
Tire size	6.50-15
Tire capacity, lb @ 26 psi	4000
Brake swept area	377
Engine type	V-8, ohv
Bore & stroke	3.56 x 3.50
Displacement, cu in.	289
Compression ratio	9.0
Carburetion	1 x 4
Bhp @ rpm	280 @ 5200
equivalent mph	109
Torque, lb.-ft.	330 @ 3600
equivalent mph	75

EXTRA-COST OPTIONS

Automatic transmission, supercharger, power steering, power disc brakes, electric rear window, reclining seats, headrests.

DIMENSIONS

Wheelbase, in.	113.0
Tread, f and r	57.4/56.6
Over-all length, in.	187.0
width	71.2
height	57.0
equivalent vol, cu ft.	440
Frontal area, sq ft.	22.6
Ground clearance, in.	5.9
Steering ratio, o/a	22.5
turns, lock to lock	4.4
turning circle, ft.	41.5
Hip room, front	60.2
Hip room, rear	60.0
Pedal to seat back, max.	38.0
Floor to ground	13.2
Cargo vol, cu ft.	75.0
Fuel tank capacity, gal.	18.0

GEAR RATIOS

3rd (1.00), overall	3.31
2nd (1.47)	4.86
1st (2.40)	7.94
1st (2.40 x 2.15)	17.1

PERFORMANCE

Top speed (5800), mph	121
Shifts, rpm-mph (forced)	
3rd ()	
2nd (5800)	93
1st (5800)	57

ACCELERATION

0-30 mph, sec.	3.2
0-40	4.3
0-50	5.6
0-60	7.8
0-70	10.3
0-80	13.2
0-100	22.7
Standing 1/4 mile	16.2
speed at end	87

FUEL CONSUMPTION

Normal range, mpg	10-12
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SPEEDOMETER ERROR

30 mph, actual	29.7
60 mph	57.7
90 mph	87.4

CALCULATED DATA

Lb/hp (test wt)	14.3
Cu ft/ton mile	111.8
Mph/1000 rpm	20.9
Engine revs/mile	2875
Piston travel, ft/mile	1675
Car Life wear index	48.3

PULLING POWER

70 mph, maximum gradient, %	20.6
50	23.1
30	off scale
Total drag at 60 mph, lb.	203

