



Fahrzeug-Identitätsurkunde

Audi 100 Coupé S

Manufacturer: AUDI NSU AUTO UNION AG, Neckarsulm
VIN: 8111 056083
Type code: 8170-110 – two-door coupé, left-hand drive, manual four-speed gearbox
Engine: ZP 001102 – petrol engine, 4 cylinders in-line
Capacity: 1871 cc
Output: 85 kW / 115 BHP at 5500 rpm
Top speed: 185 km/h
Date of manufacture: week 6 / 1971, Ingolstadt
Delivered to: Netherlands
Purchase price: DM 14 400.-
(Germany, incl. purchase tax, 01/1971)
Color: 06 06 – pastel white (L90D)
Trim: 10 – cloth upholstery, black
Optional equipment: T06 equipment package Netherlands

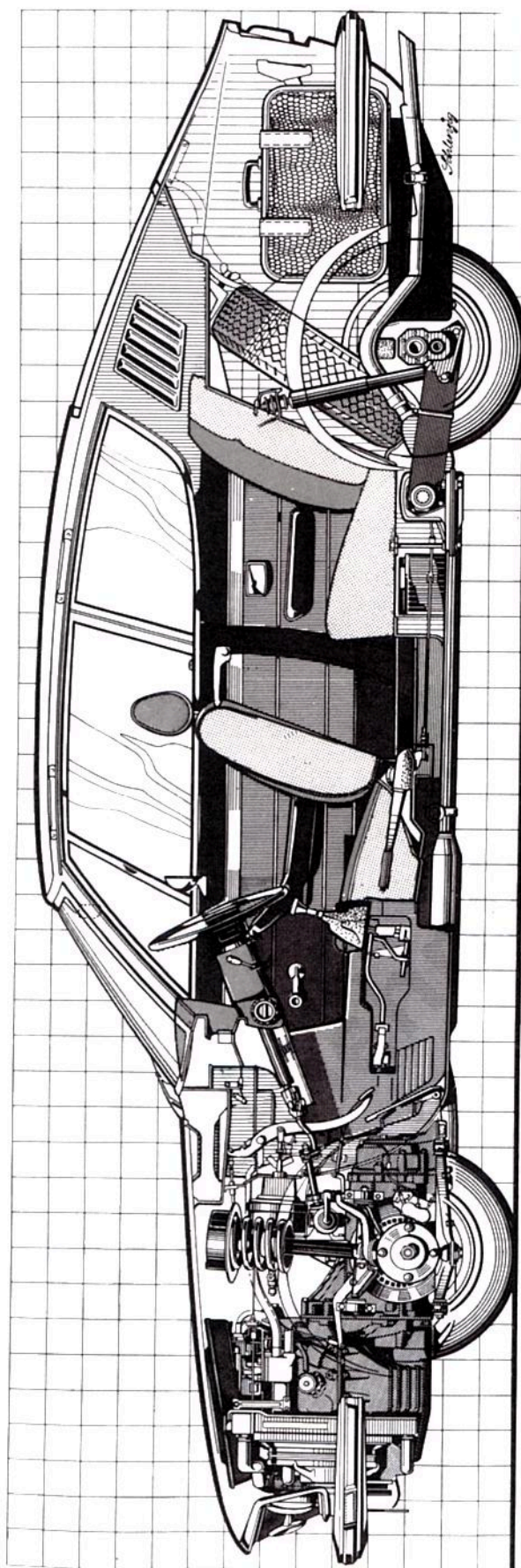
Total production figure: 30 684 (1970 – 1976)



Thomas Frank
Managing Director Auto Union GmbH

i.V. Thomas Stebich
Head of Audi Corporate Archives and Audi museum mobile

Engine	Type Bore/Stroke Cubic capacity Compression ratio Maximum torque Maximum output	Water-cooled, four-cylinder, in-line; four stroke 3.3 in./3.32 in. (84 mm/84.4 mm) 111.4 cu. in. (1871 cc) 10.2 : 1 117 ft/lbs (16.2 mkp) at 4000 rev/min 130 SAE HP (115 HP DIN) at 5500 rev/min														
Carburettor		2 downdraft multiple jet carburettors; Solex 32/35 TDID														
Electrical system	Battery	12 volt / 770 watt alternator, starter 0.8 HP and distributor 12 V / 54 Ah														
Clutch		Single plate dry type clutch														
Gearbox	Overall ratios Drive principle	Fully synchronized four-speed manual <table><tr><td>1st gear</td><td>2nd gear</td><td>3rd gear</td><td>4th gear</td><td>reverse gear</td></tr><tr><td>12.580 : 1</td><td>7.194 : 1</td><td>5.032 : 1</td><td>3.576 : 1</td><td>11.470 : 1</td></tr></table> Front wheel drive with homokinetic power transmission					1st gear	2nd gear	3rd gear	4th gear	reverse gear	12.580 : 1	7.194 : 1	5.032 : 1	3.576 : 1	11.470 : 1
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Wheels and Tyres	Type of rims Tyre size	Drop rim steel disc wheels 5 J x 14 H 2 - B 185/70 HR 14														
Steering system	Type Steering ratio Minimum turning circle	Self-adjusting rack and pinion steering with integral dampers; angled and jointed safety steering column; steering wheel height adjustable, adjustment range 1.6 in. (40 mm) 20.6 : 1 reducing progressively to 14.4 : 1 at wheel lock 35 ft. 1.1 in. (11 metres)														
Suspension system	Front Rear	Independent suspension on transverse wishbones Torsional crank axle with transverse stabilizer mounted on flat steel suspension arms; Panhard rod														
Springs and Dampers	Front Rear	Progressively acting suspension: coil springs with transverse stabilizer; hydraulic, double-acting telescopic shock absorbers Progressively acting suspension: transverse torsion bars; hydraulic, double-acting telescopic shock absorbers														
Brakes	Type Front Rear	Dual circuit brake system with vacuum power brakes Internally ventilated disc brakes 11.5 in. ϕ (291 mm ϕ) Drum brakes 7.9 in. ϕ (200 mm ϕ)														
Bodywork	Type Construction	Coupé, 2-door four seater All steel unitary construction														
Overall dimensions	Track width Fuel tank capacity	<table><tr><td>Length</td><td>Width</td><td>Height</td><td>Wheelbase</td></tr><tr><td>173 in. (4398 mm)</td><td>68.9 in. (1750 mm)</td><td>52.9 in. (1344 mm)</td><td>100.8 in. (2560 mm)</td></tr><tr><td colspan="2">Front 56.8 in. (1442.5 mm)</td><td colspan="2">Rear 56.7 in. (1440 mm)</td></tr></table> 12.8 Imp. gal. – 15.3 US gal. (58 litres)	Length	Width	Height	Wheelbase	173 in. (4398 mm)	68.9 in. (1750 mm)	52.9 in. (1344 mm)	100.8 in. (2560 mm)	Front 56.8 in. (1442.5 mm)		Rear 56.7 in. (1440 mm)			
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Performance	Acceleration Top speed	<table><tr><td>0–50 mph in 7.0 sec.</td><td>0–62 mph in 9.9 sec.</td><td>0–75 mph in 14.5 sec.</td></tr></table> 115 mph (185 km/h)	0–50 mph in 7.0 sec.	0–62 mph in 9.9 sec.	0–75 mph in 14.5 sec.											
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Picture Nr. PR 24e/70

How to pack 130 SAE HP into a 115 mph car while following the rules of modern automobile engineering

is demonstrated by this longitudinal cross section of the Audi 100 Coupé S. The engine is situated at the front. So too is the wheel drive, for in this way the torque and output of the 1.9 liter engine has the shortest route to the road. The advantage of this concentration over the front axle is most useful at high speeds: Audi vehicles are pulled by the well-weighted front wheels which — obviously — contribute considerably to directional stability.

Front wheel drive vehicles need weight on the front axle for proper roadholding and to avoid wheel spin on steep hills. This is achieved when the axle load distribution of all types of load does not shift appreciably and remains with the centre of gravity towards the front. The Audi designers have solved this problem:

- With a driver and front passenger each weighing 12 $\frac{1}{2}$ st, the front/rear axle load ratio is 58:42 %. With

another two portly 12 $\frac{1}{2}$ -stoners in the back and 66 lbs. of luggage in the boot the ratio is still a favourable 52:48 %.

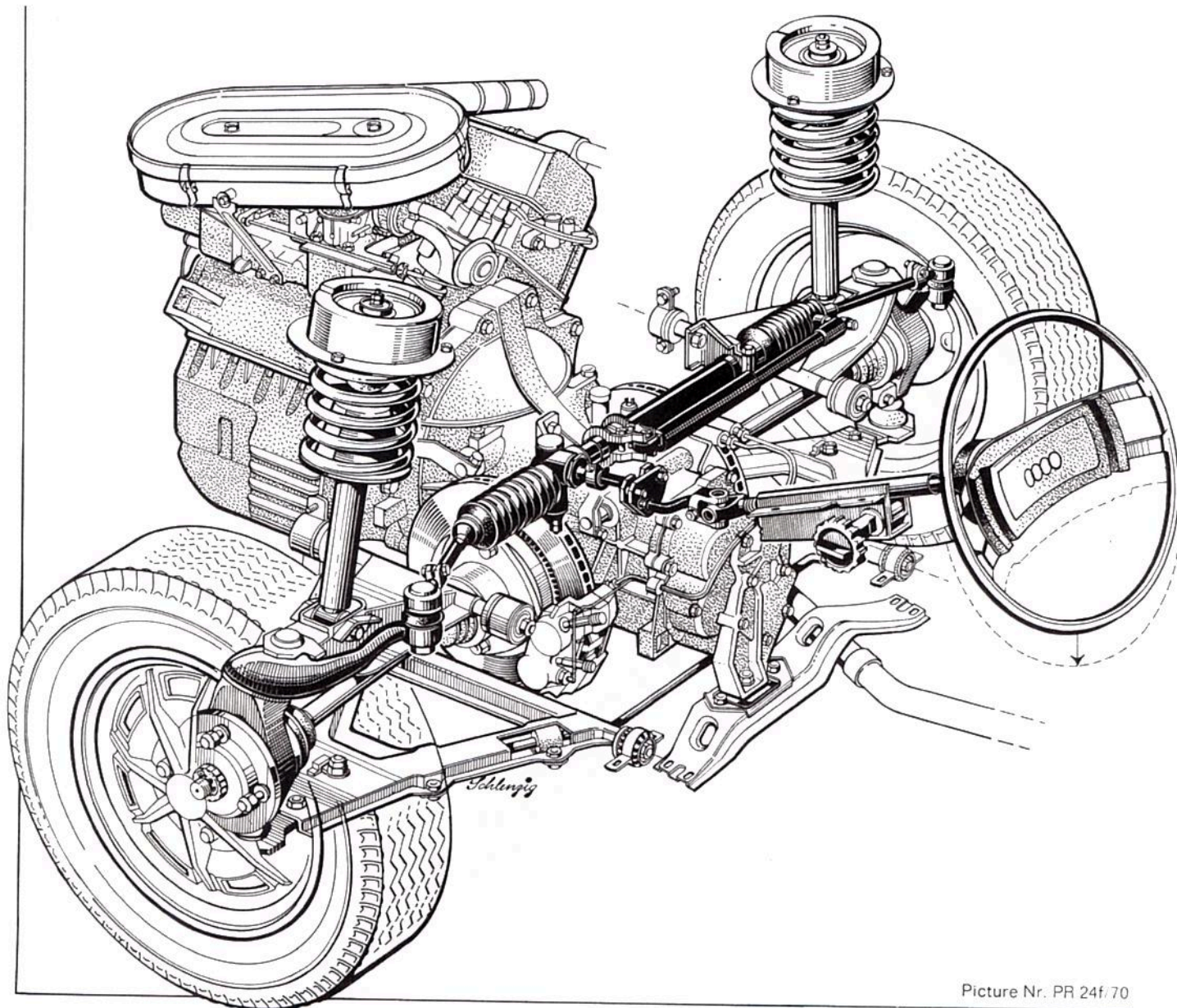
The chassis is designed for sports car safety, and the rear axle construction, an Audi-developed torsion crank axle, has been widely acclaimed. This combines the advantages of precise and continuous track holding of the rear wheels with independent wheel suspension, because the slotted rear axle tube permits elastic movement of the control arms.

The wheelbase of the Audi 100 Coupé S has been shortened, compared to the other members of the Audi 100 group, by 4.5 in. to 100.8 in. to give sports car cornering. The broad tyre measurements, 185/70 HR 14 with a large roadholding surface, (as is the trend in designing racing cars) increase lateral guidance, thus giving driving safety where otherwise shimmy begins to be critical even for experienced rally drivers.

The front axle of the Audi 100 Coupe S differs from the other members of the Audi 100 family in many respects, and for this reason: we have produced a vehicle based on the experience of an already successful car range but with certain additions for sports car safety. The increase in performance to 130 SAE HP places demands on the chassis which we can easily fulfil thanks to the well thought-out design of the Audi 100 range already available.

- The wheels are supported by broad based wishbones. The steering knuckles turn in spherical ball joints, and the power transmission, from the differential unit via the short half axles to the wheels, is effected by two homokinetic joints per wheel. Long-stroke shock absorbers and coil springs complete the picture.
- The self-adjusting rack and pinion steering automatically eliminates steering wheel play. It is progressive: as the turning circle increases, the steering ratio decreases. A steering damper ensures that, when the steering wheel is released, the steering returns to the straight-ahead position at a rate governed by the severity of the turning angle.

The wheelbase of the Audi 100 Coupe S has been shortened by 4.5 in. to 100.8 in. to provide sports car cornering. This measure has not, however, reduced lateral guidance compared with the Audi 100 saloon.



Picture Nr. PR 24f/70

- The Coupe has broad tyres (185/70 HR 14) with a large roadholding surface to provide good track at all speeds and in all conditions.

A brief glance under the Coupe's bonnet shows perceptive onlookers that much can be done towards the safety of a superfast sports car.

- We have fitted inboard air-cooled disc brakes to bring the car to a safe stop from its top speed of 115 mph. Through their own ventilation they divert so much friction heat from the brake surface that the feared oiling up of the brake pads – fading – and total brake failure are impossible.
- Braking safety is provided by the twin-circuit brake

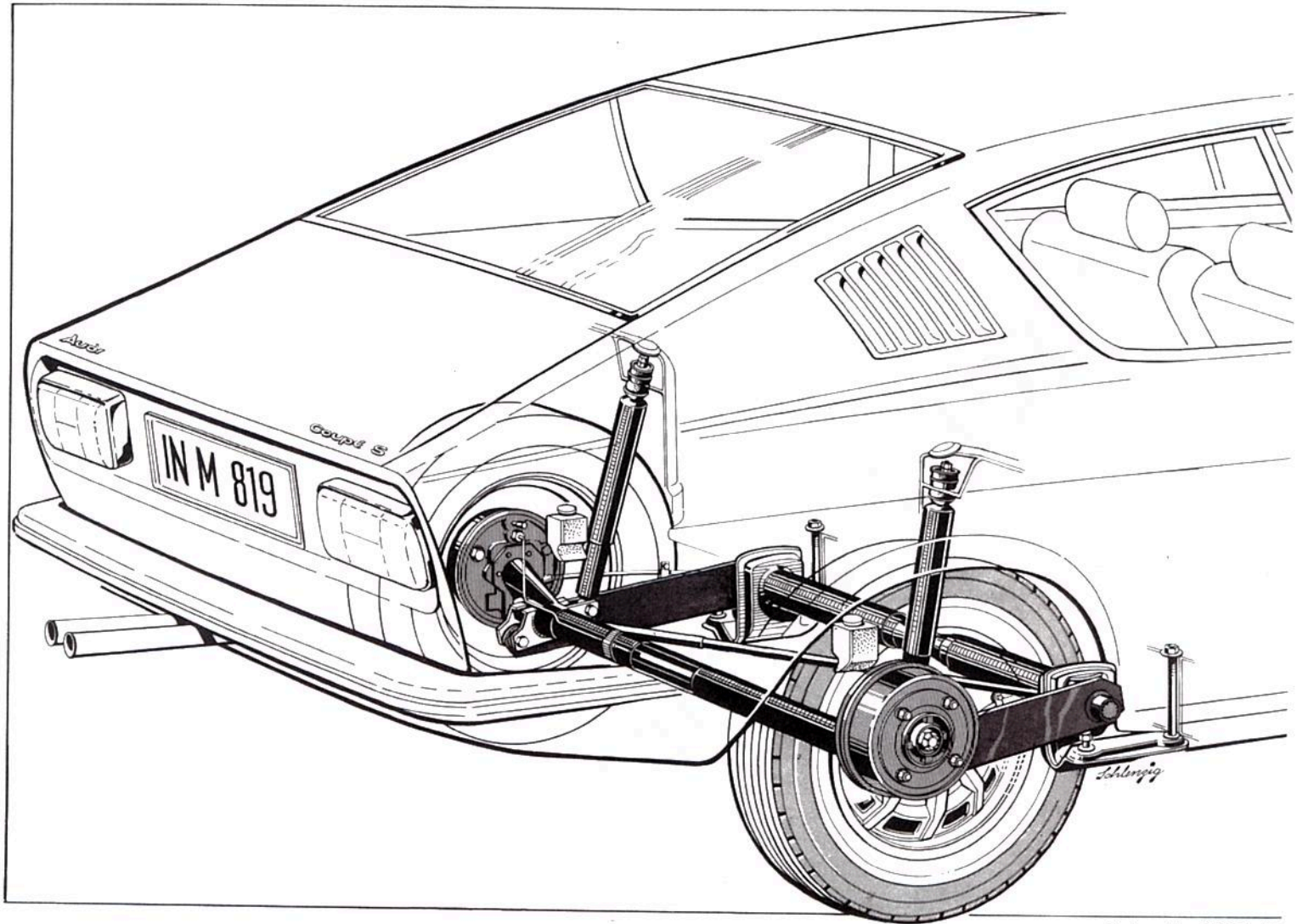
system with twin brake calipers and twin fluid lines to both the front discs.

Lastly we shall take a seat at the steering wheel. From the excellent sitting position the instruments are clearly visible and the switches within easy reach.

- Comfortable and safe driving demands perfect steering wheel positioning, and we human beings – not exactly identically built – cannot be treated alike. For this reason the steering column of the Audi 100 Coupé S can be adjusted for height: you can have the steering wheel in your lap or on your chest – as you like it!

This is the rear axle of the Audi 100 Coupe S. — It may be simple in construction, but for the chassis designers it is as important as the front axle — the rear axle should provide the guidance. AUDI research engineers have paid particular attention to the track holding of the rear wheels because lateral guidance — which should counteract cross interference such as centrifugal forces, sloping road surface, and wind — is a determining factor for safe driving.

- Awkward track variations caused by the shock absorber stroke are eliminated by a tubular axle connecting the two wheel hub/brake anchor plate assemblies. The tube, an ideal light construction unit, thereby fulfils yet another condition of the front wheel drive chassis. The unsprung rear axle, which must vibrate together with the shock absorber stroke, is as light as possible. In marathon autocross and suchlike, the wheels are therefore not carrying un-



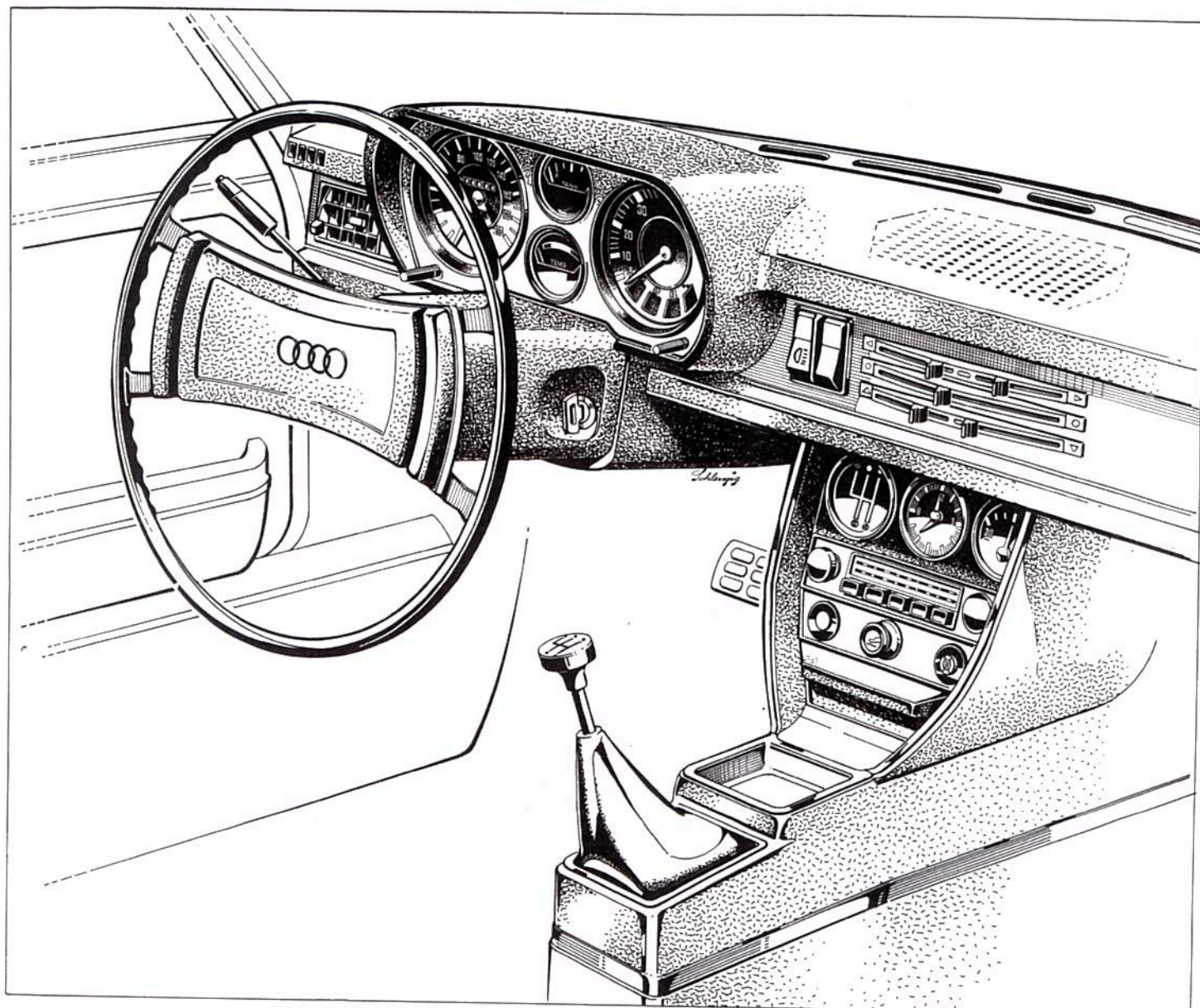
Picture Nr. PR 24g/70

necessary ballast but only themselves, the brakes, the axle tube, and part of the weight of the flat steel suspension arms. Thus this axle adapts to the worst road conditions and is fit for top speed driving.

The two suspension arms rest on two completely independent spring units, torsion bars, whose casing — front righthand corner in the picture — is bolted to the bodywork. A diagonal suspension rod stabilizes and strengthens the rear axle system. It absorbs transverse forces. A small stroke of genius, which manages to combine track holding ability with the comfortable springing of independent wheel suspension, also has a hand in the Audi 100 Coupe S:

- The axle tube has been slit open lengthwise and is therefore supple around its own axis. Now each wheel can, for example, cross ruts and holes and only influence its own suspension arm, because the rectangular axle assembly is pushed into the third

dimension. The independence of both sides was of course carefully synchronized in a series of experiments. In quickly-taken bends, a torsion bar as transverse stabilizer is drawn into the torsion axle as a support against body roll.



Picture Nr. PR 6c/70

The picture above shows the complete arsenal of instruments, levers and knobs of the Audi 100 Coupé S. The most important — the speedometer with milometer and trip recorder, the revolution counter, fuel gauge and water temperature gauge, and the multicoloured warning lights for oil pressure, main beam headlights, flasher indicators and battery charge — are all positioned within the driver's immediate range of vision. To the right of these come the tumbler switches for the headlights and any additional lights. The heating and ventilation controls in the centre of the instrument panel are equally convenient for both driver and front passenger. A single glance is enough to show that this can only be

the cockpit of a sporty car, for the clock, ammeter, hazard warning light knobs, and whatever else is of interest to both driver and passenger, are mounted on a console under the instrument panel and in front of the short gearshift.

We have paid particular attention to safety in the passenger compartment. The bowl-shaped steering wheel has a broad impact pad, and the ignition is embedded in a depression in the steering column. The instrument panel is heavily padded as you would expect, and all unavoidable knobs and handles are made of a flexible material.