

Modifications to the Audi Quattro for rallying

Extensive adaption is essential for the special requirements of modern rallying, but the basic vehicle and all the important Quattro features are of course retained. All modifications comply with FIA rules, appendix J, Group 4.

- Body:** Floor reinforcements and aluminium roll cage extending from the front bumper through the whole vehicle. Aluminium dashboard with special instrumentation and quick-release catches. Racing seats and extinguisher system. Aluminium front bumpers, bonnet and doors; plastic boot lid.
- Brakes:** Four ventilated discs with bolt-on aluminium hubs, light alloy calipers and adjustable brake pressure regulator (no hydraulic servo), hand brake acting hydraulically on the rear wheels.
- Steering:** Power assisted, driven off the camshaft.
- Transmission:** 5-speed gearbox with special ratios for rallying
1 - 3.00
2 - 2.00
3 - 1.50
4 - 1.217
5 - 1.040
Differentials: 4.11, 4.55 or 4.87.
- Running gear:** Wishbones, steering knuckles, tie rods, springs, shock absorbers and stabilizers strengthened and, where permissible, adapted to suit the difficult service and repair conditions in a rally. Similar measures adopted for the mountings for engine, gearbox, rear differential and front and rear subframes. Aluminium underbody guards front and rear.

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Fuel tank: 26 gallon safety tank with Kleber rubber envelope and foam filling.

Wheels and tyres: Forged aluminium wheels, 6J x 15 or 7J x 15 for M + S tyres. 10J x 15 for racing tyres. A further selection of Pirelli tyres available for 15" rims with tread patterns and tyre compositions for special stages on dry tracks, wet/dry tracks, very wet tracks and on snow and ice.

Engine: Power output increased by improving the charge cycle (induction/scavenging) with only a slight increase in engine rpm.

The maximum torque is developed at only 3250 rpm.

The purpose of engine tuning measures was to obtain a wide power band rather than a very high peak output.

The successful pairing of the Audi five-cylinder engine with a KKK turbocharger has boosted available engine power to 330 bhp between 5500 and 7000 rpm, i.e. in the engine's most useful working range. To achieve this increase detail modifications were necessary on all components affecting the engines charge cycle. The greater thermal loads were managed by adjusting the compression ratio and improving the intercooler, water radiator and oil circuit. Using the DVG racing injection system it was then possible to restrict the mean specific full throttle consumption between 5500 and 7000 rpm to about 320 g/kwh. The DVG system meters the fuel supply precisely on the basis of the following parameters: engine speed, throttle position, boost pressure and engine temperature.

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Performance

Depending on transmission ratios maximum speed is
109 - 158 mph.

0-62 mph in 4.9 to 5.2 seconds

0-100 mph in 12.8 to 13.5 seconds.

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