

V8_(model)

On sale in July 1989 and manufactured until 1994, the V8 was Audi's new high-performance luxury "flagship" sedan. It has the platform designation D1. The V8 is the predecessor to the first generation A8, though the two cars share virtually nothing save the engine block.

In markets other than North America, the V8 was available in a stretched "Lang" model in very limited quantities.

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Exterior

Exterior styling partially resembles the C3 platform (5000, 100 and 200 series), but featured a grill attached to the hood, headlights with wipers, and a variety of other subtle changes. The cars share almost no body parts. The V8 was also the only model in the US market to feature an all-red rear light bar. C-pillar covers are smooth, unlike the ribbed covers on the C3 platform cars.

Engines

The quattro models featured an aluminum V8 engine with dual overhead camshafts and four valves per cylinders. Two variants:

- 240hp, 3.6L engine, designated PT, was common to the 1989-1991 models.
- 276hp, 4.2L engine, designated ABH, was common to 1992-1994 models. This engine is often transplanted into earlier models.

Drivetrain

The V8 was offered in two variants a quattro automatic, and a quattro 5-speed manual (one of the rarest models in the United States.) The quattro system used is the 3rd generation design. All models had a TORSEN rear differential; in the 5-speed manual, the center differential is also a TORSEN unit. In the automatics, there is an electronically controlled multi-plate clutch-differential, controlled via input from the ABS sensors. The V8 was the first Audi to have an automatic transmission available with quattro.

Automatic transmission information

The automatic is a 4-speed overdrive automatic transmission. An automatic shift lock required that the brake pedal be applied to shift into a drive gear. The center console features a selector switch: E for higher fuel economy; S for sportier performance; and M for manual operation.

In economy mode, the transmission will not shift down at highway speeds. Sport mode has a hairline trigger for kickdown that is different from the the kickdown switch located inside the throttle cable; the kickdown switch is adjusted at or near wide open throttle. The TPS also has an idle switch and a WOT switch, but this has nothing to do with kick down, and is only used to go into open loop, dumping as much fuel as possible.

All V8 automatics have the same ratios in all gears and the final drive. There is no difference electrically between the transmissions for any year.

- 1990 ATU code: "Type 44" style axle flanges, early fluid line routing
- 1991 AYU code: "Type C4/B4" style axle flanges, early fluid line routing
- 1992-1994 AGZ code: "Type C4/B4" style axle flanges, late style fluid routing with direct lubrication of thrust bearing, second fluid cooler added with its own thermostatically controlled fan. Several internal mechanical upgrades to increase durability. The speedometer trigger wheel matched to the later style powered sensor.

ATU and AYU transmissions are interchangeable between 1990 and 1991 models by swapping the axles flanges to match the axles. Installing an AGZ into a 3.6 car requires:

- Using 1991-1994 axles as the flanges are NOT interchangeable with the early transmissions.
- Retrofitting the entire cooling line and cooler setup to the earlier car or fabricating custom lines.
- Speedo sensor power wire connected (the wire is in the trans harness, it is just not connected to anything in the 3.6 cars.)

An electronics mismatch dictates using the transmission harness and Transmission Control Unit (TCU) for whichever engine is installed. Ie: if installing an AGZ into a 1990/1991 you retain the 1990/1991 transmission harness and TCU.

There are many possible internal changes that can make the different sub-assemblies of a transmission incompatible with sub-variants of the same transmission. The ZF HP-24A variant has three basic sub-variants...ATU, AYU, and AGZ. A confirmed fact is the AGZ has revised lubrication to one of the thrust bearings...which happens to correspond to the same change made in HP-24E and H variants used in Jaguars and Rovers, respectively. I suspect but haven't been able to confirm that the AYU has an early attempt at revised lubrication of the bearing in question..and that the same revision occurred in the E and H variants at the same time.

I suspect that as is common practice with nearly every automatic ever built there were changes in the clutch drum assembly, valve body fluid routing, check valve springs, and check valve sizes. If so its entirely plausible that some changes made one sub-variant valve body incompatible with the main gearbox assembly of the other two sub-variants. The same goes for the torque converter.

Comments from a post by "KT"

Pricing and equipment



MRSP was \$47,450 (model year info needed.) Standard features included a driver's airbag, antilock brakes, 2-sided galvanized steel body panels, leather upholstery, Bose sound system, and a hands-free cellular phone.

Year to Year Changes

- 1990: A 5-speed manual transmission became available in the US market, as a no-cost option in place of the standard 4-speed automatic. The 5-speed models are very rare in the US.
- 1992: The 4.2L engine and a passenger airbag were introduced, along with a newer style climate control, infrared-based keyless entry, key activated "close windows" function. The 5-speed transmission was no longer available in the US.
- 1994: New paint colors and ellipsoid fog lights within the front fascia.

Production volume

A total of 21,564 vehicles were produced. *These figures represent worldwide production.*

- V8 3.6L: 16648
- V8 4.2L: 4645
- V8 Lang 3.6L: 111
- V8 Lang 4.2L: 160

Competition

The Audi V8 was homologated for racing the German Touring Car series (DTM) in Group A for the 1990 season. It was victorious, despite a considerable weight handicap over other cars in the series, winning the championship with drivers Hans Stuck and Walter Rohrl. This was the first non-turbo competition car from Audi Sport since 1978, and followed their recent Trans-Am championship in 1988 and 7 IMSA wins in 1989. Audi followed Stuck's championship with Frank Biela winning the 1991 championship and also the ITR Driver's Cup.

According to an article in The Audi Magazine (September 1990) the competition V8 was rated at 412bhp with catalytic converters (required by the DTM rules) in place horsepower raised to an official 442bhp in the 1992

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cars.

Homologation required a minimum of 5000 road cars be produced, with an additional run of 500 "Evolution" models required if the manufacturer wanted to run a higher level of race modification. Audi considered but ultimately did not produce a V8 Quattro Evolution due to the high complexity of manufacturing versus the proven success of the existing model.

Copies of the homologation papers for Group A are located elsewhere in the wiki...

[V8 DTM Homologation Paperwork...](#)