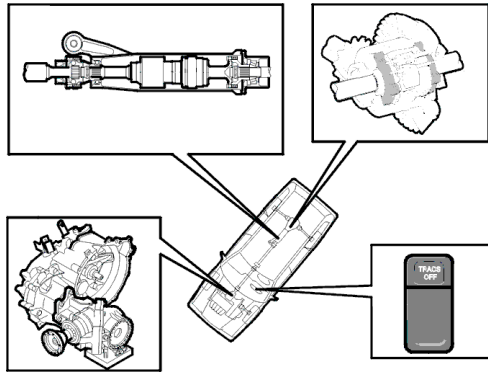


850 AWD

General



The 850 AWD with manual transmission M58, has permanent four-wheel drive with variable power distribution to the wheels. Distribution of driving power to the wheels depends on the condition of the road surface and driving conditions. Distribution changes to provide the best possible grip and traction. The system includes the TRACS system for the front wheels and a differential lock for the rear wheels.

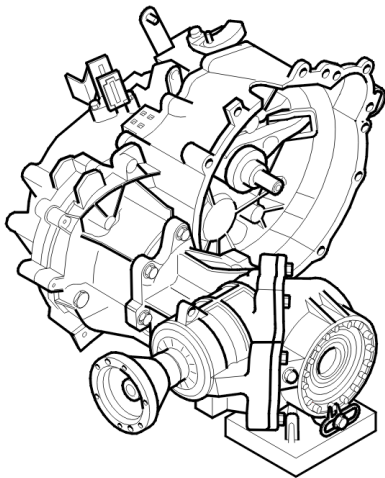
Note! Cars with AWD are not designed or built for off-road driving!

The 850 AWD will initially be available:

- * as a station wagon
- * with engine B5254T
- * with manual transmission M58
- * in Europe, Canada and certain Overseas markets.

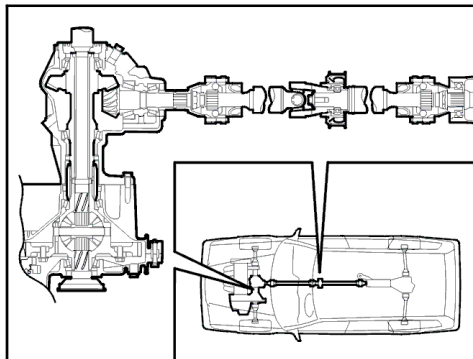
For further information about the 850 AWD, see [VCC-049156 \(IE not found\)](#), Service Manual All-wheel drive (AWD), 850 1997-.

Modified transmission (M58)



To provide the car with four-wheel drive, transmission M56 has been modified (and given the designation M58) so that power can be taken off to a bevel gear.

Bevel gear



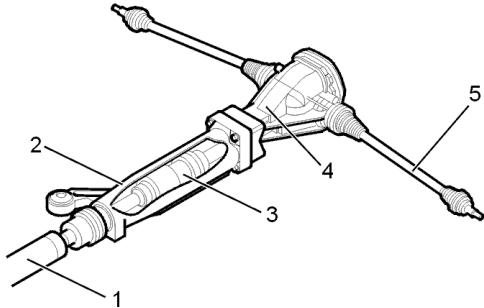
The power is transferred between the transmission's differential housing and bevel gear's tubular shaft via a splined joint. The bevel gear crown wheel is pressed and bonded to a tubular shaft. The bevel gear's crown wheel and pinion have a ratio of 1:3.31. As the final drive has a ratio of 1:3.31 the ratio between the front and rear wheels is the same.

The bevel gear transmits power to the final drive via a propeller shaft. The propeller shaft

is of the conventional type and has a support bearing mounted in a cross member. The propeller shaft has CV joints front and rear and a traditional joint in the middle by the support bearing. The propeller shaft runs along the tunnel in the floor of the car.

Rear drive unit

A short torque tube is mounted on the final drive. The torque tube contains a viscous coupling and a freewheel unit. Together with the final drive and drive shafts these make up the rear drive unit.



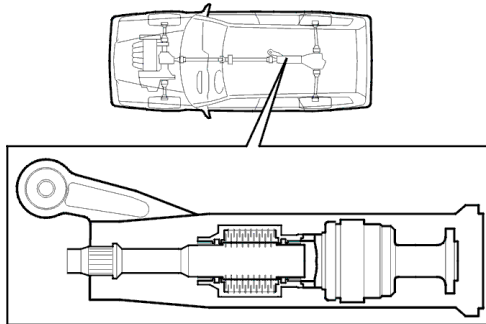
1. Propeller shaft
2. Torque tube
3. Viscous coupling and freewheel unit
4. Final drive
5. Drive shaft

Viscous coupling

The viscous coupling allows power to be transferred via the internal friction of a fluid (oil).

The viscous coupling transmits driving power to the rear wheels when necessary. In normal driving conditions on dry asphalt only a small proportion of driving power is transmitted to the rear wheels via the viscous coupling. However, the slightest difference in speed between the front and rear wheels causes power to be transmitted to the rear wheels to ensure good grip.

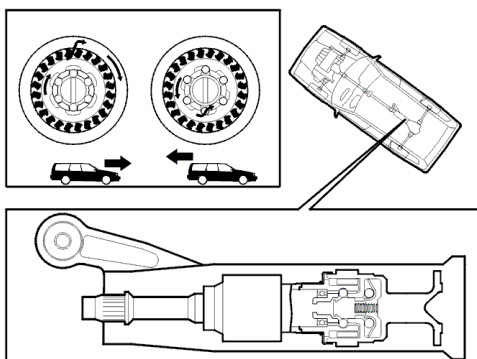
The viscous coupling protects itself from overheating due to prolonged and intensive slipping by automatically locking-up.



Freewheel unit

A freewheel unit is connected to the viscous coupling. It automatically provides complete braking stability. This is achieved by the freewheel unit disconnecting the rear wheels during braking so that the rear wheels cannot transfer power to the front wheels. This means that the car's stability is not reduced.

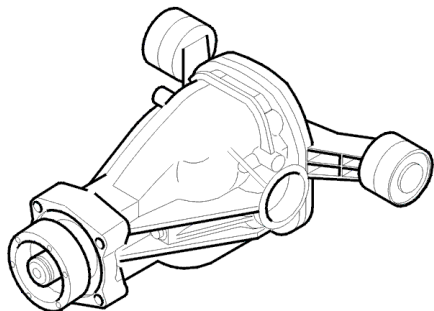
The freewheel unit, which has a centrifugal roller lock-up mechanism, also makes it possible to reverse with four-wheel drive at up to 50 km/h.



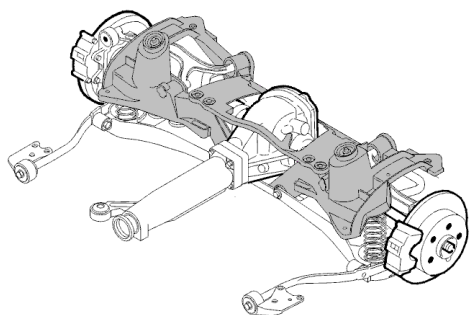
Final drive

The 850 AWD has a final drive type 1165. This final drive is in principle the same as the 1055 used in the 1995 model year 960. 1165 differs only in the castings and machining on the

housing and rear cover. The 1165 final drive always has an automatic differential lock.



Multi-link rear suspension

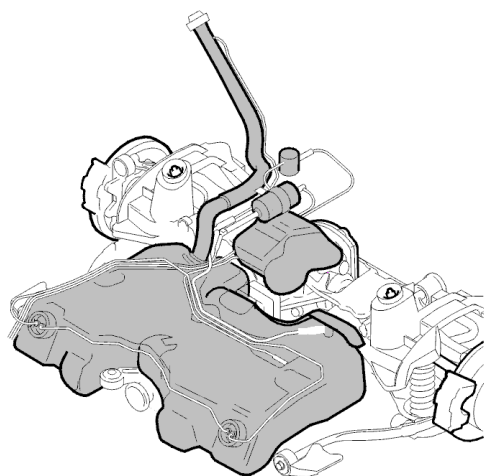


This version of the 850 has multi-link rear suspension. It is the same type as on the 1995 model year 960 but has coil rather than leaf springs.

The rear suspension consists of a rear axle member made up of an upper and lower section. These are joined to each other with screwed joints. The upper and lower sections of the rear axle member are in cast aluminum. The final drive is mounted between the members. The member is mounted on the side-members of the car body.

For further information about the rear suspension for the 850 AWD, [VCC-046735 \(IE not found\)](#) , Service Manual for Rear suspension AWD, 850 1997-.

Fuel system



The 850 AWD has a saddle fuel tank with an outer expansion tank. The fuel tank consists of two halves, one on each side of the propeller shaft. Fuel tank capacity is 70 liters.

The fuel tank and expansion tank are mounted on the rear axle member. The member is designed as a crash barrier. In the event of a collision it absorbs energy and protects the fuel tank.

Other

The introduction of the AWD has meant the development of a new exhaust system and modifications to the engine mounting, sub-frame, brake pipe, rear brakes, parking brake cables, electrical system and bodywork.