
GROUP 37

POWER STEERING

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GENERAL INFORMATION

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FEATURES

A hydraulic power steering system has been adopted to all models.

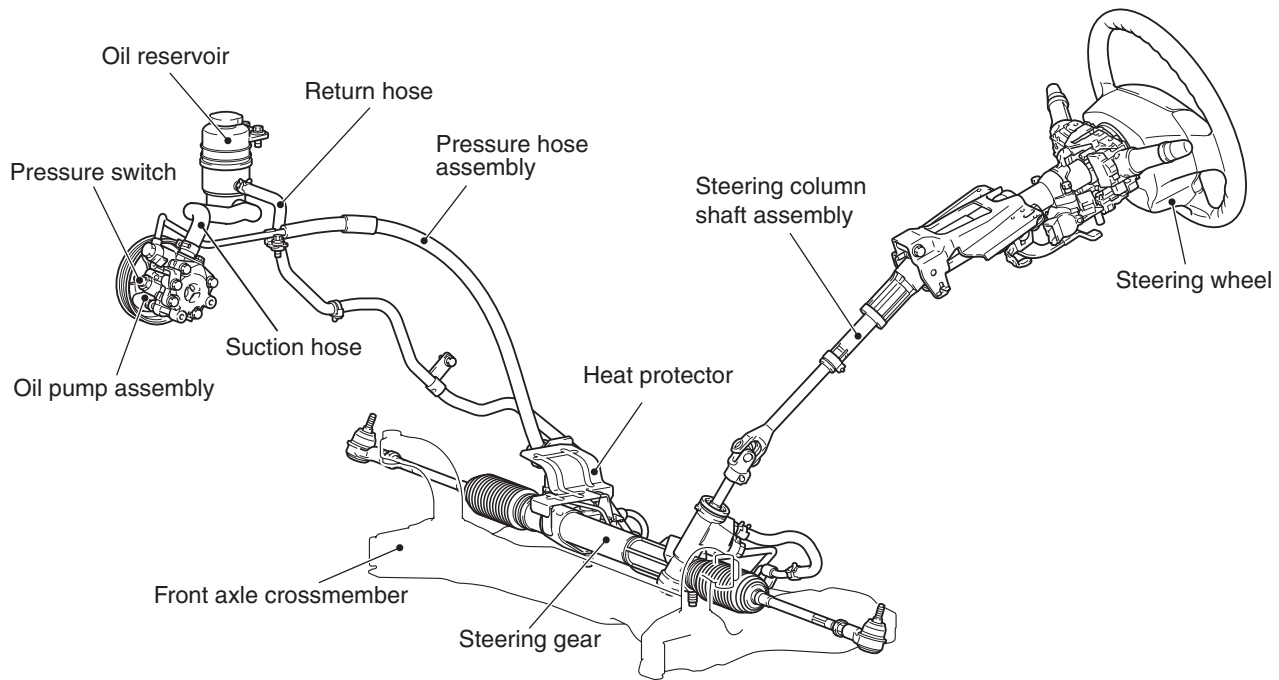
This steering system offers the following features:

- The support method of the steering gear to the crossmember is realised by the left and right internal bushings with inner cylinders. This support method achieves higher rigidity of the steering gear and improves the steering feeling.
- Configuring the optimum flow characteristics and gear valve feature improves the handling stability.
- Appropriate application of friction to the steering gear cuts off the disturbance from the road surface and improves the stability during the straight-ahead driving.
- Optimisation of the flexible tube in the high pressure hose reduces the pump noise.

SPECIFICATIONS

Items		Specifications
Steering wheel	Type	Three-spoke type
	Outside diameter mm (in)	375 (14.7)
	Maximum number of turns	3.16
Steering column	Column mechanism	Shock absorbing mechanism and Tilt steering mechanism
Power steering type		Integral type (Engine speed-dependent type)
Oil pump	Type	Vane type with fluid flow amount control system
	Basic discharge amount cm ³ /rev. (cu in/rev)	8.1 (0.49)
	Relief pressure MPa (psi)	8.8 (1,276)
	Reservoir type	Separate type (Resin made)
Steering gear	Type	Rack and pinion type
	Stroke ratio (Rack stroke/Steering wheel Maximum turning radius) mm/rev (in/rev)	45.58 mm/rev (1.79 in/rev)
	Rack stroke mm (in)	144
Steering angle	Inner wheel	40° 50'
	Outer wheel	33° 50'
Power steering fluid	Specified lubricants	GENUINE MITSUBISHI POWER STEERING FLUID
	Quantity dm ³ (qt)	Approximately 1.0 (1.06)

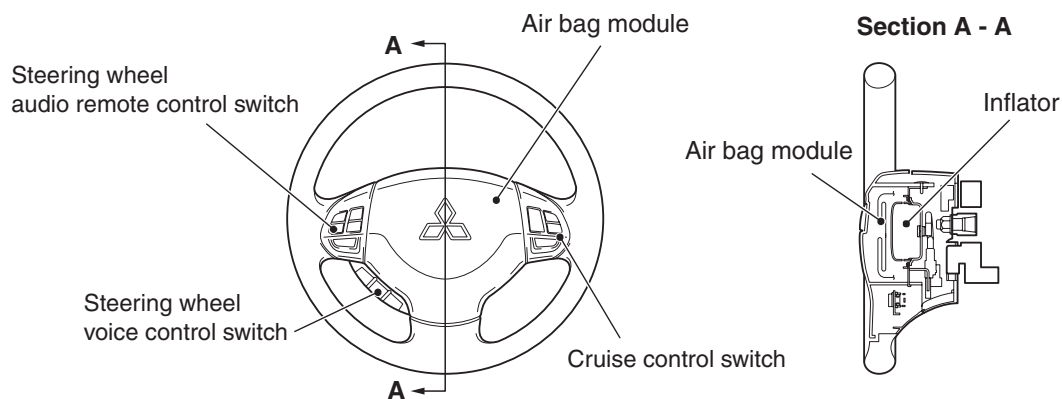
CONSTRUCTION DIAGRAM



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STEERING WHEEL

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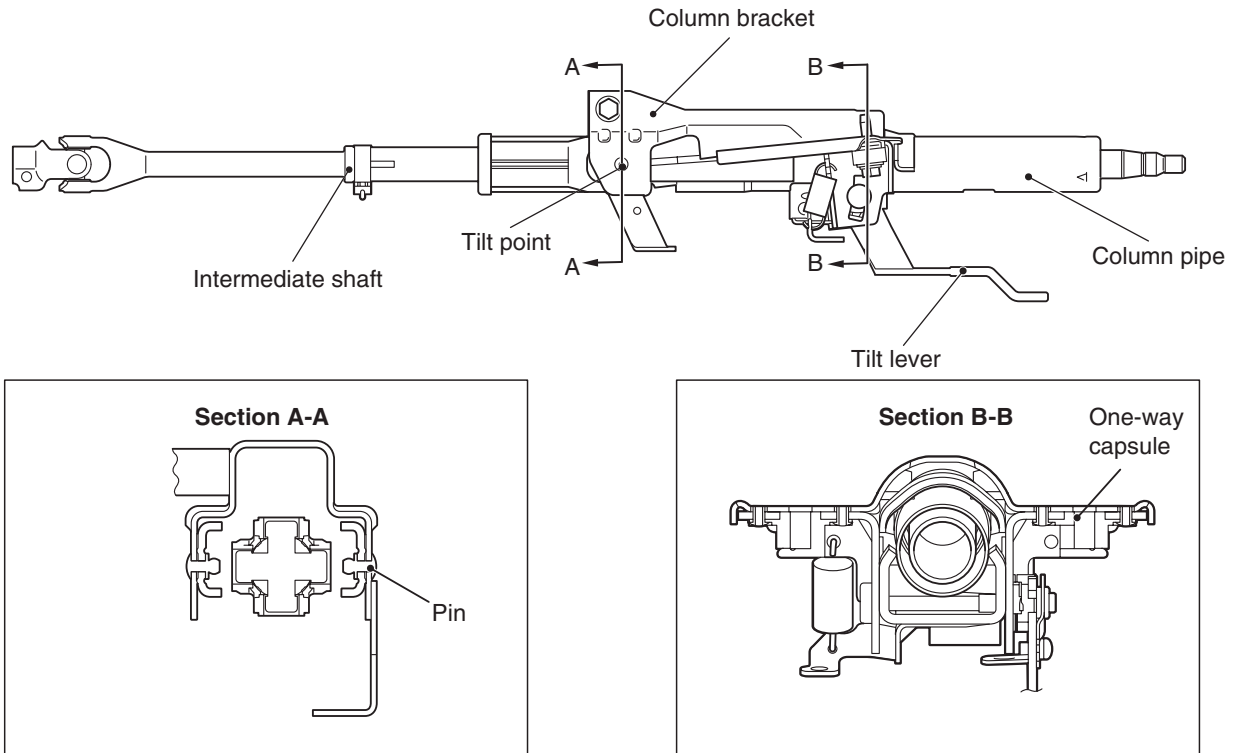
The steering wheel is designed to improve operability, safety and maintainability and has the following features:

- Newly designed Three-spoke type has been adopted. For DE and ES, the steering wheel made of urethane has been adopted. For GTS, the steering wheel made of genuine leather has been adopted.
- Audio remote control, voice control, and cruise control switches are available on some models.
- Sporty and thick type grip shape has been adopted.
- Rigid core metal reduces steering wheel vibration.
- It incorporates an SRS airbag to protect the driver in the event of a frontal collision.
- The airbag module is equipped with an inflator that does not contain sodium azide.
- Optimisation of the airbag specifications reduces the risk of injury to the passengers in a collision.

STEERING SHAFT AND COLUMN

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- To improve the feeling of steering (reduction of torque fluctuation) covering the whole tilting range, the steering column layout has been optimised by focusing the tilting function.
- Tilt steering mechanism that the desired driving position is obtained has been employed on all models (Tilt-up amount: 20mm/Tilt-down amount: 25mm).
- To reduce the separation load during a collision, the sliding resistance reduction member has been installed to the column bracket.

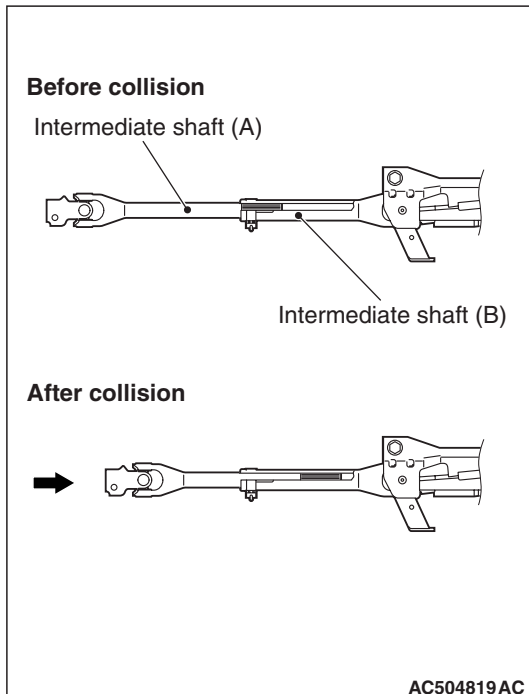


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IMPACT-ABSORBING MECHANISM

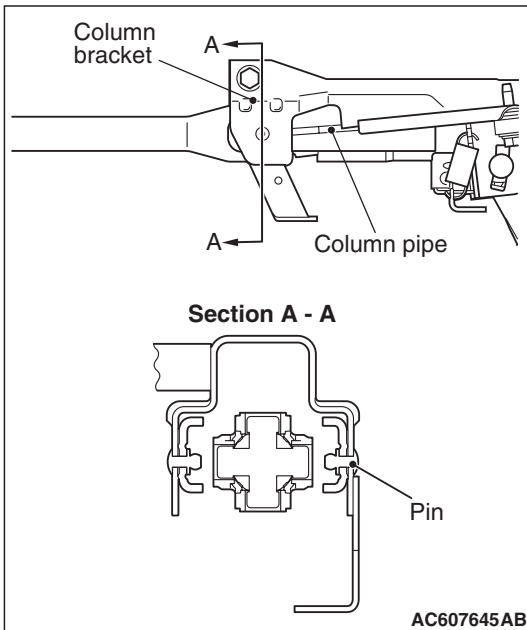
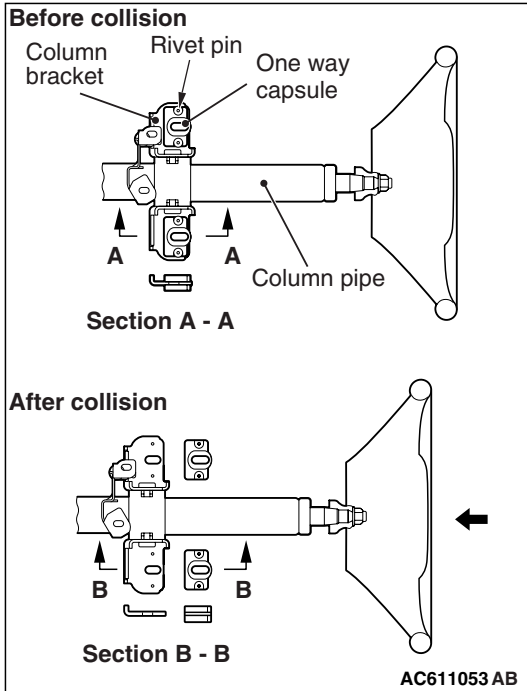
Primary collision

If the vehicle is involved in a crash and impact energy is transmitted to the lower shaft from the gearbox side, the intermediate shaft (A) will be pushed into intermediate shaft (B) to absorb impact energy. Thus, the steering column will not be projected into the passenger compartment.



Secondary collision

When the driver's body falls against the steering wheel via the deployed air bag, the column bracket moves forward by deforming the rivet pin of the one-way capsule, and simultaneously the steering column assembly frees from the pin of column bracket to move forward and downwards.



OIL PUMP

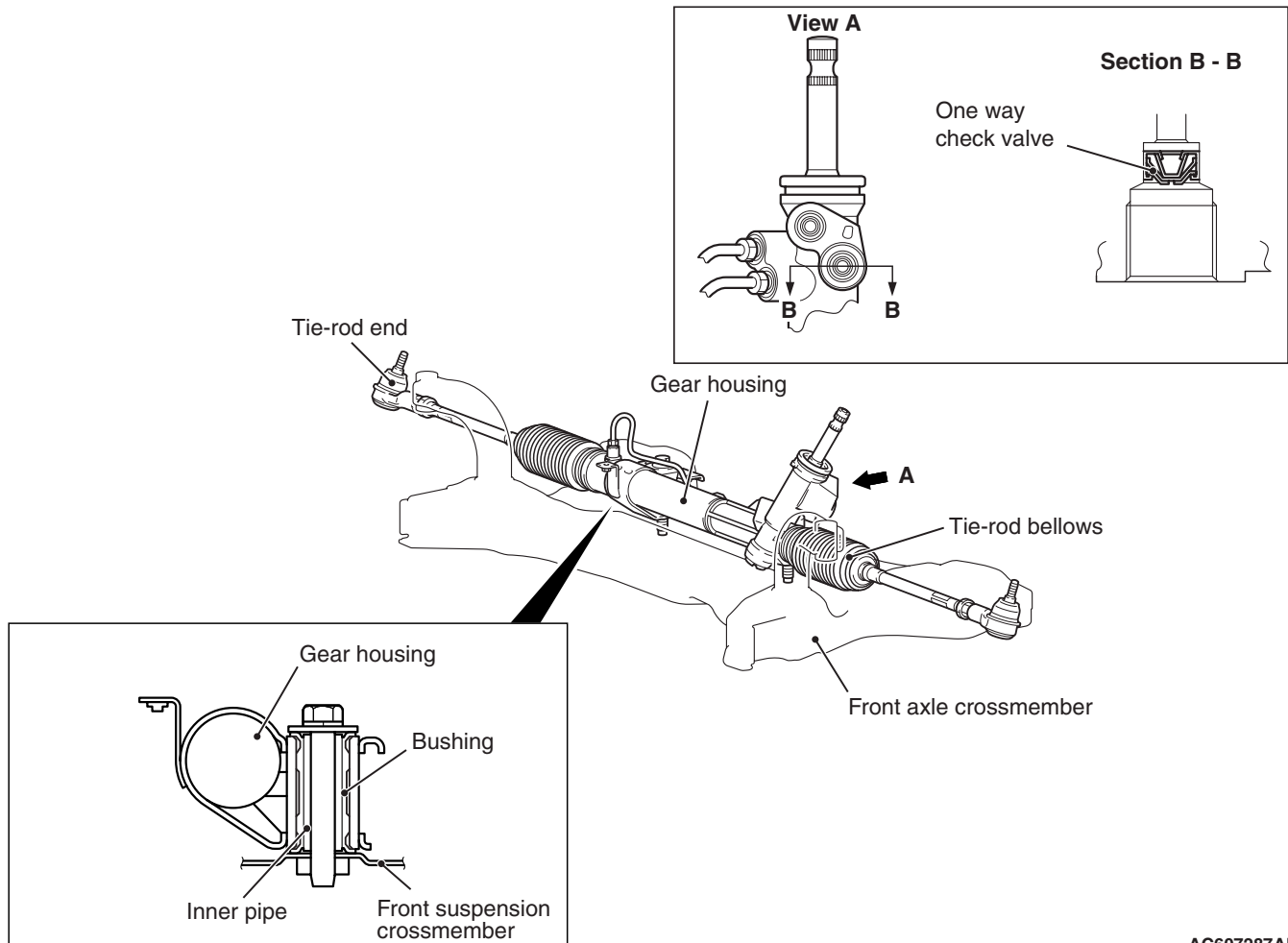
The oil pump is a vane type with a fluid flow control system which functions so the steering wheel turning effort will be reduced at low engine speeds and increase at higher speeds.

The oil pump is essentially the same as the conventional one in construction.

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STEERING GEAR

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- The steering gear and linkage is mounted on the suspension crossmember via two bushings with inner cylinders.
- The inner bushing with inner cylinder supports the steering gear and linkage in the vertical and fore-and-aft direction with high rigidity, improving the feeling of steering considerably.
- One-way check valve for the power steering fluid has been added in the steering gear. By reducing the kickback due to the disturbance from the uneven road surface, the handling stability has been improved.

OIL RESERVOIR

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The resin oil reservoir is used to reduce weight. The oil reservoir is translucent and has fluid level marks (MAX and MIN lines), facilitating inspection.

