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## GROUP 37

# POWER STEERING

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## GENERAL INFORMATION

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## FEATURES

Power steering has been adopted in all vehicles to make the steering system easier to handle.

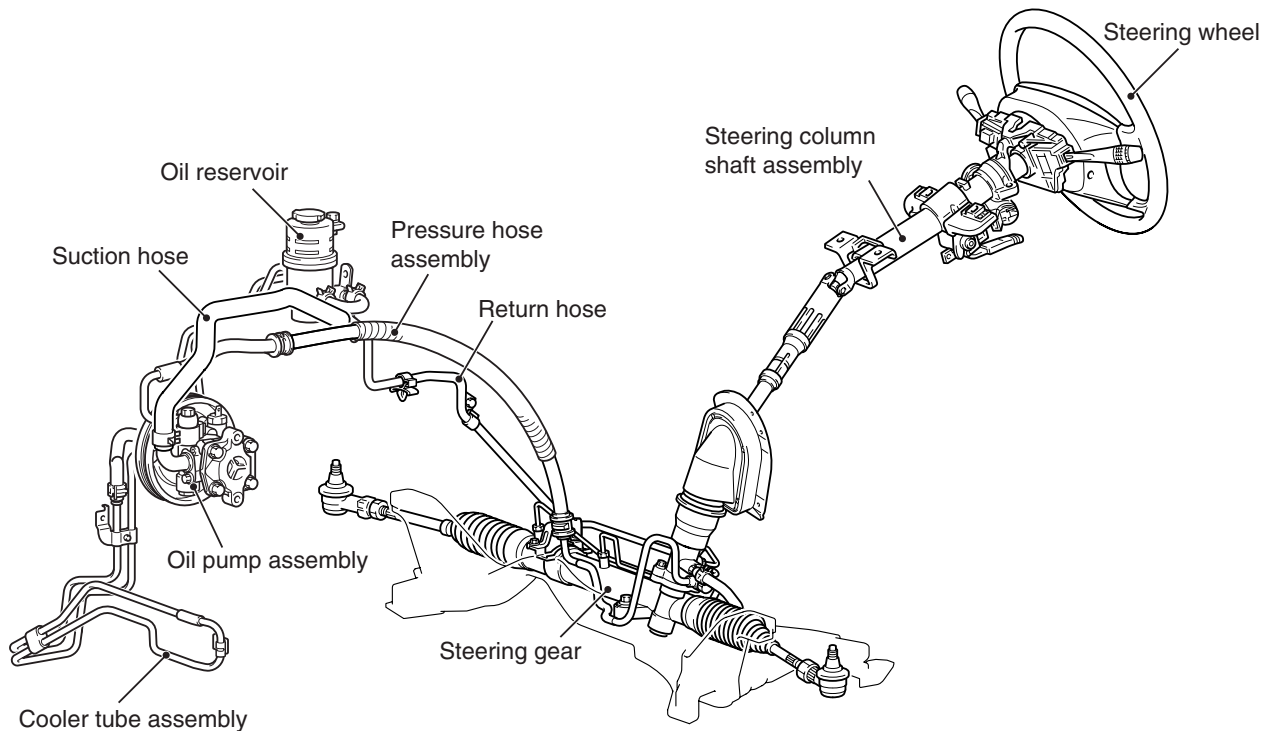
- A 4-spoke steering wheel is used.
- A steering column has a shock absorbing mechanism and a tilt steering mechanism.
- Integral-type rack and pinion gear with high rigidity and excellent response is used.
- A vane type pump with a fluid flow rate control system which change steering effort according to the engine speed is used.
- The separate plastic resin oil reservoir is used to reduce weight and to make the fluid level checking easier.
- The cooler tube assembly is installed on the power steering fluid line to improve the cooling performance of the power steering fluid.

## SPECIFICATIONS

Item			Specification
Steering wheel	Type		4-spoke type
	Outside diameter mm		380
	Maximum number of turns		2.7
Steering column	Column mechanism		Shock absorbing mechanism and Tilt steering mechanism
Power steering type			Integral type
Oil pump	Type		Vane pump
	Basic discharge amount cm <sup>3</sup> /rev.	Except MIVEC	9.6
		MIVEC	8.1
	Relief pressure MPa		8.8
	Reservoir type		Separate type (plastic)
	Pressure switch		Equipped
Steering gear	Type		Rack and pinion
	Stroke ratio (Rack stroke/Steering wheel maximum turning radius)		51.45
	Rack stroke mm		141
Steering angle	Inner wheel		34° 50'
	Outer wheel		29° 20'
Power steering fluid	Specified lubricants		ATF DEXRON III or DEXRON II
	Quantity L		Approximately 1.0

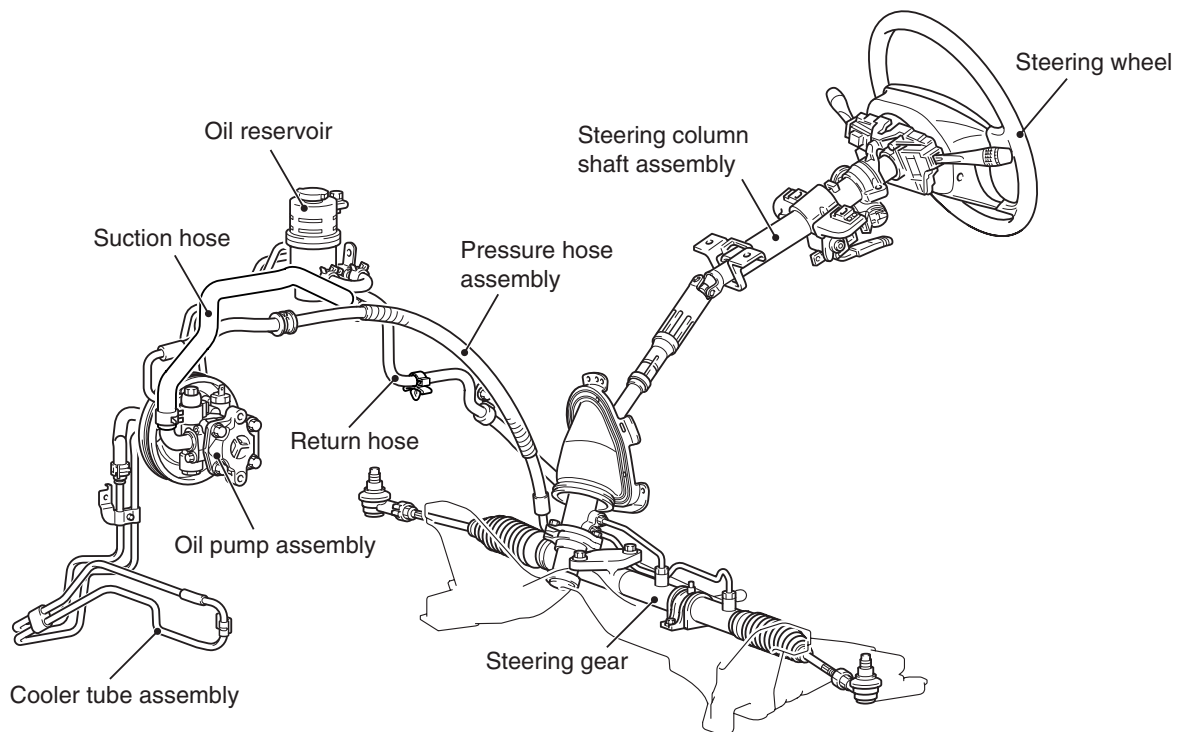
## CONSTRUCTION DIAGRAM

### LH drive vehicles



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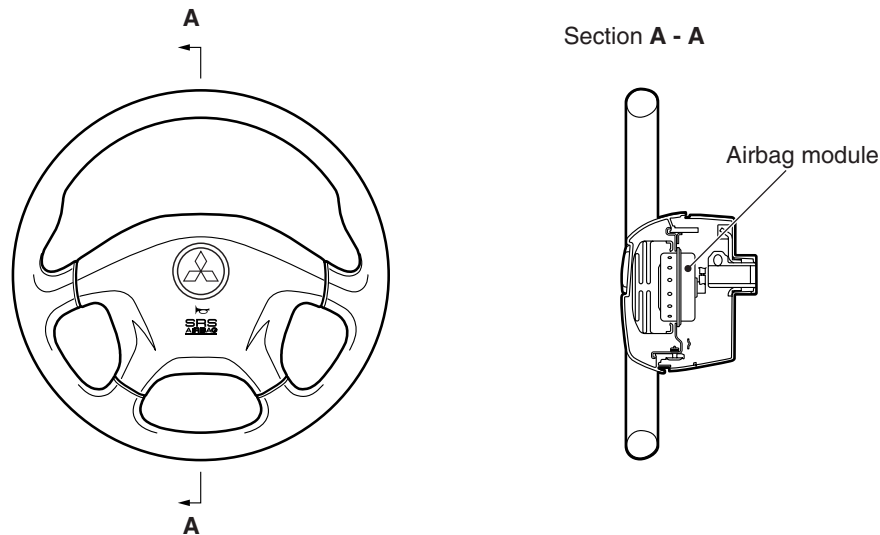
### RH drive vehicles



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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:

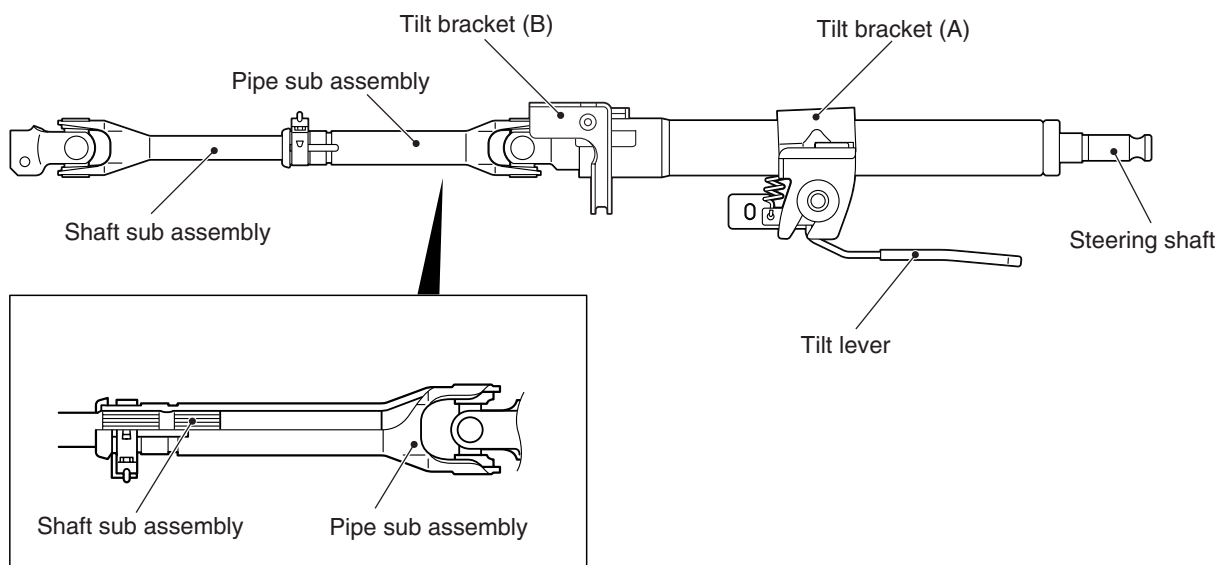
- It has four spokes and comes in two types: with and without a (synthetic) leather cover.
- It incorporates an airbag module to protect the driver in the event of a frontal collision.
- The airbag module is equipped with an inflator that does not contain sodium azide.

## STEERING SHAFT AND COLUMN

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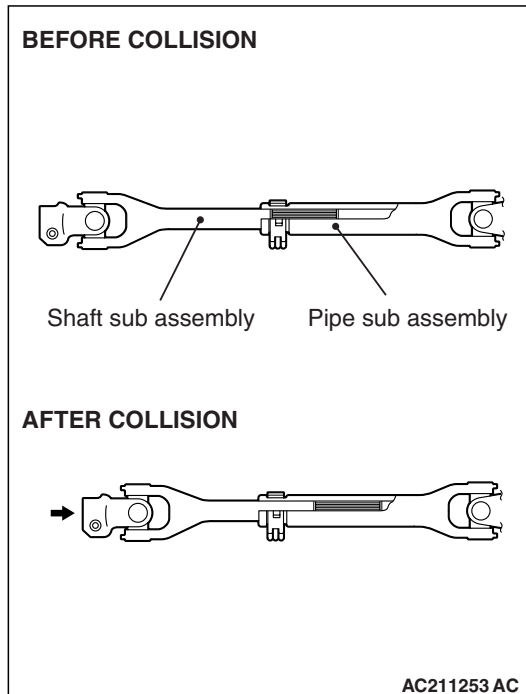
The steering column uses an impact absorbing mechanism which absorbs impact energy in the event of a collision as well as a tilt steering mechanism which enables the driver to obtain an optimum driving position.

The tilt steering mechanism is essentially the same as the conventional one.



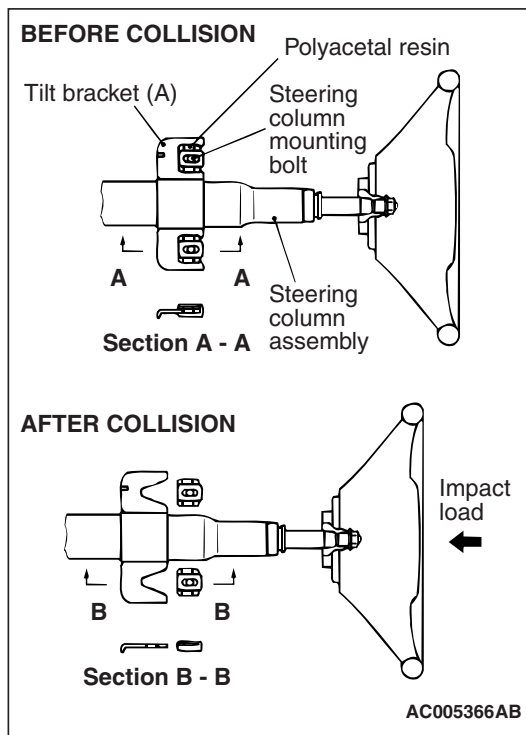
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## SHOCK ABSORBING MECHANISM PRIMARY IMPACT

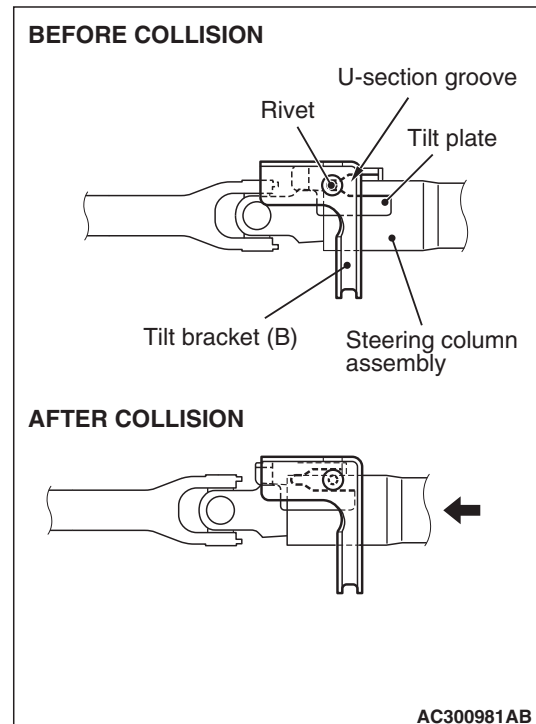


When the vehicle collides with something and there is a load added to the shaft sub assembly from the gearbox, the shaft sub assembly slides in the pipe sub assembly to absorb the shock load. This prevents the steering column from moving backwards during the impact.

## SECONDARY IMPACT



1. When the driver's body falls against the deployed air bag, the tilt bracket (A) moves forwards by crushing the polyacetal resin, causing the steering column assembly to move into the engine compartment.



2. As the bracket breaks free, the rivet comes out of the U-section groove in the tilt plate, allowing the steering column assembly to move forward.

## OIL PUMP

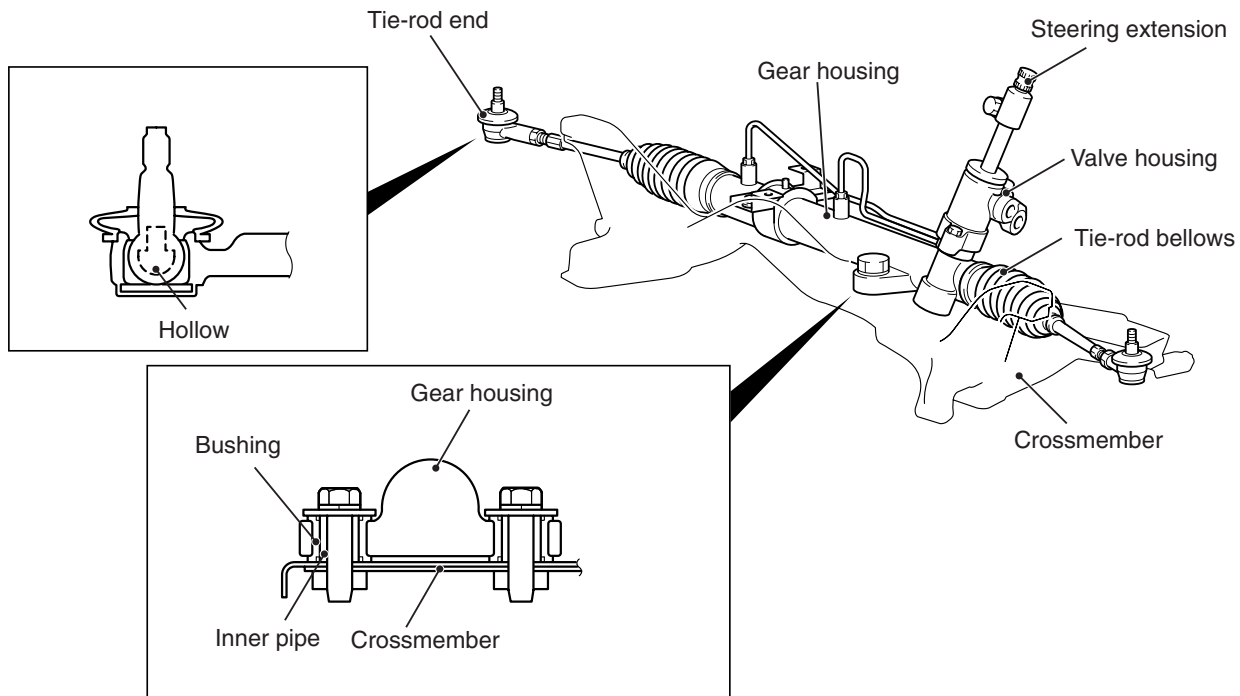
The oil pump is a vane type with a fluid flow control system which functions so the steering wheel turning effort will be reduced at low engine speeds and it increased at higher speeds.

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

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## STEERING GEAR

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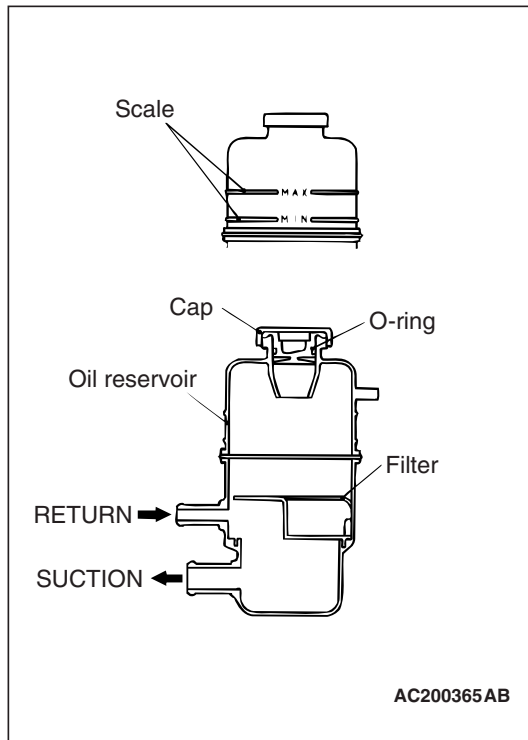
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- Using the following parts have contributed to save weight; an aluminium steering gear and linkage valve housing, a plastic tie-rod bellows, and the hollow-type tie-rod stud.
- The installation accuracy, rigidity and steering stability have been improved by using an eye bushing, which secures the steering gear to the crossmember.

## OIL RESERVOIR

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A plastic oil reservoir is used to reduce weight. It also allows the oil reservoir itself to be semi-transparent, and it has a scale (MAX and MIN lines) which lets you check the fluid level visually, making inspection much easier.



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## NOTES