
GROUP 37

POWER STEERING

CONTENTS

GENERAL INFORMATION	37-2	OIL PUMP.....	37-7
STEERING WHEEL.....	37-4	STEERING GEAR.....	37-8
STEERING SHAFT AND COLUMN..	37-5	OIL RESERVOIR	37-9

GENERAL INFORMATION

M2370000101876

FEATURES

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

This steering system offers the following features:

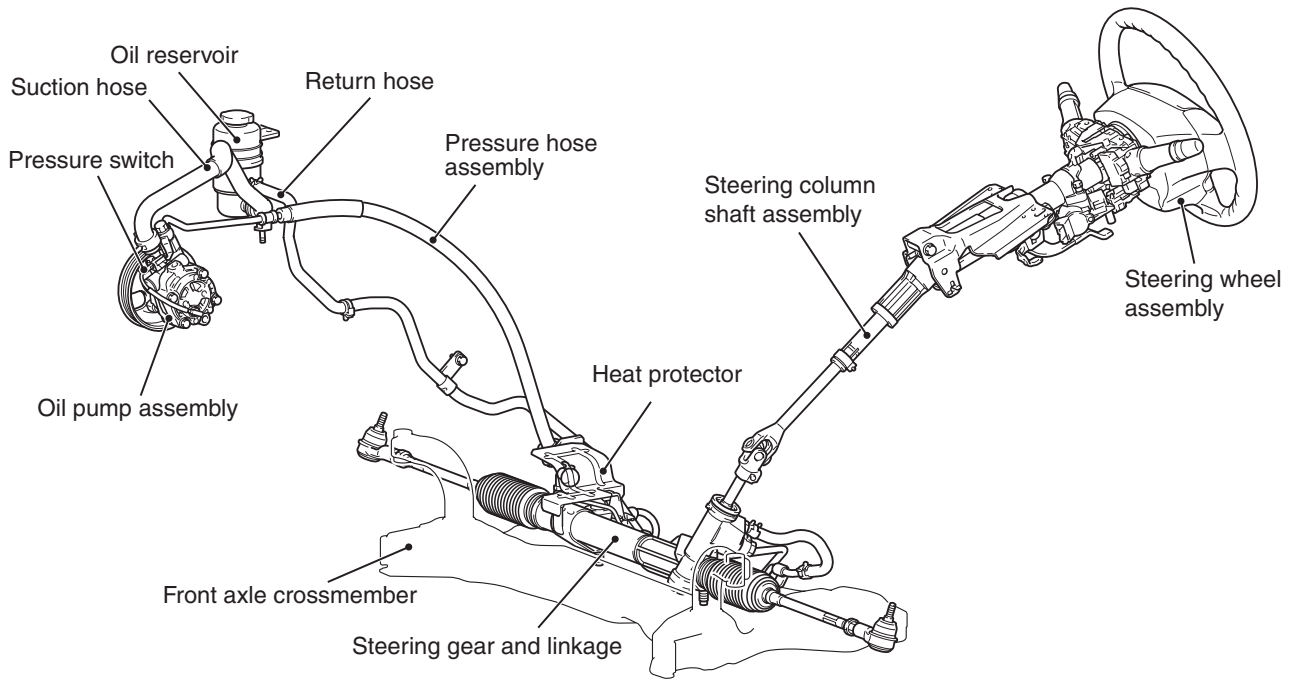
- The support method of the steering gear to the crossmember is realized by the left and right internal bushings with inner cylinders. This support method achieves higher rigidity of the steering gear and improves the steering feeling.
- Configuring the optimum flow characteristics and gear valve feature 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.
- Optimization of the flexible tube in the high pressure hose reduces the pump noise.

SPECIFICATIONS

Items		2.0L Engine	2.4L Engine
Steering wheel	Type	Three-spoke type	
	Outside diameter mm (in)	365 (14.4)	375 (14.7)
	Maximum number of turns	3.16	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 rate cm ³ /rev. (cu in/rev)	9.0 (0.55)	8.1 (0.49)
	Relief pressure MPa (psi)	8.55 (1,240)	8.8 (1,276)
	Reservoir type	Separate type (Resin made)	
Steering gear	Type	Rack and pinion type	
	Stroke ratio (Rack stroke/Steering wheel maximum number of turns) mm/rev (in/rev)	45.58 (1.79)	45.58 (1.79)
	Rack stroke mm (in)	144 (5.7)	144 (5.7)
Steering angle	Inner wheel	41°	41°
	Outer wheel (reference value)	34°	34°

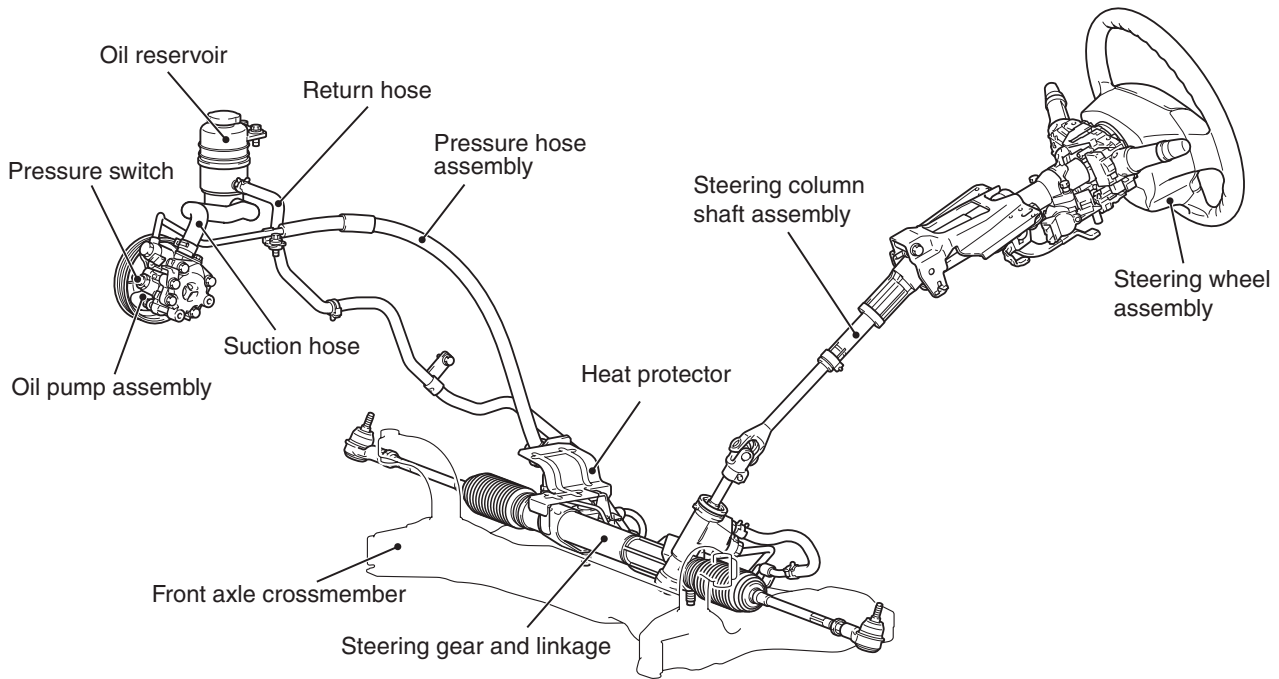
CONSTRUCTION DIAGRAM

<2.0L Engine>



AC802969 AC

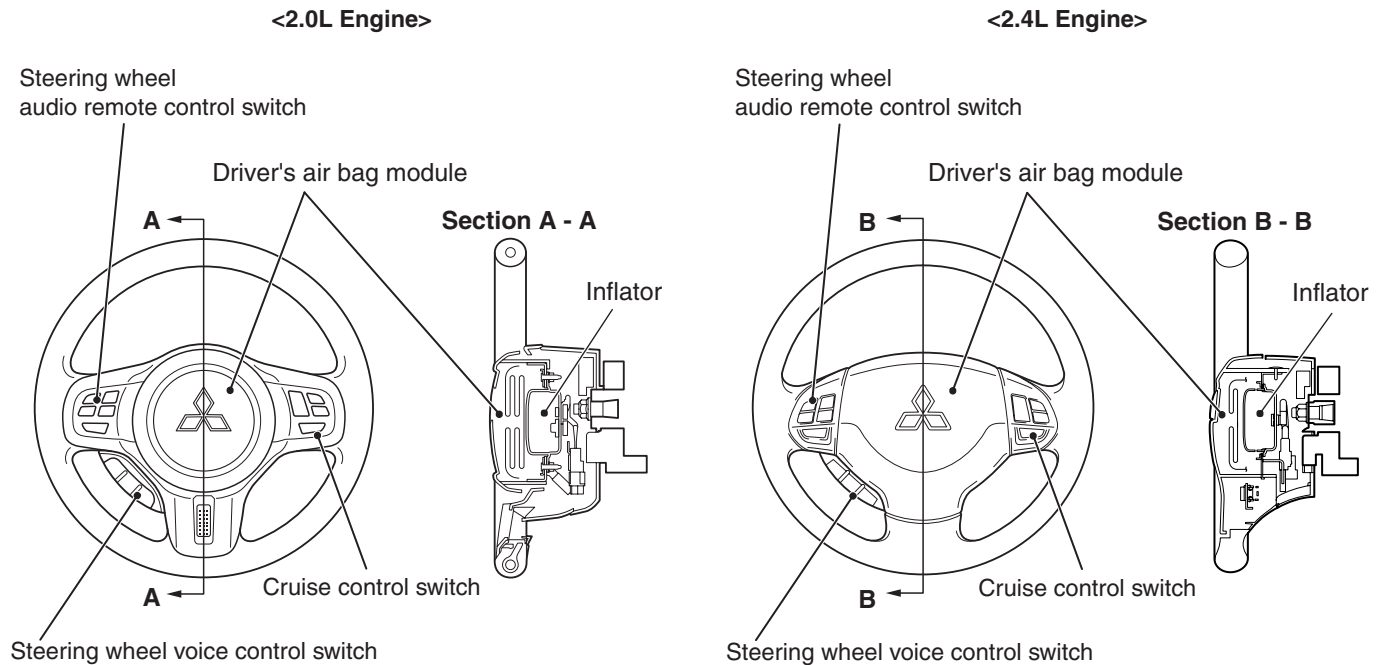
<2.4L Engine>



AC607284 AD

STEERING WHEEL

M2370001001344



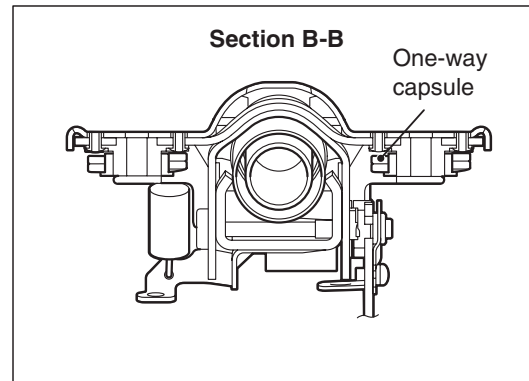
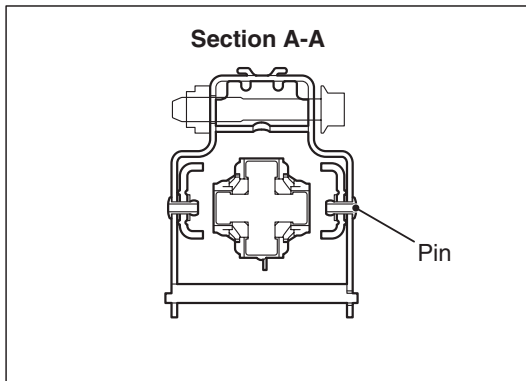
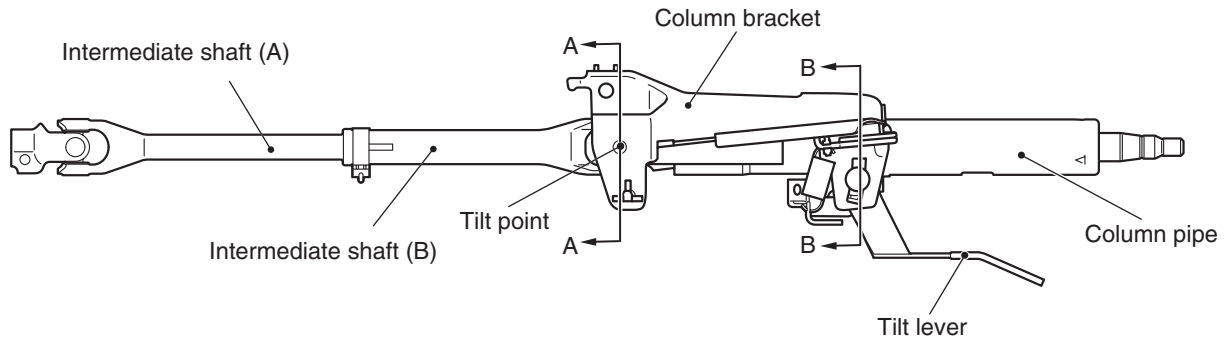
AC800448AB

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

- Three-spoke type has been adopted. The steering wheel made of leather has been adopted.
- Steering wheel audio remote control switch, steering wheel voice control switch and cruise control switch are available on some models.
- Sporty and thick type grip shape has been adopted.
- Rigid core metal reduces steering wheel vibration.
- It incorporates an air bag to protect the driver in the event of a frontal collision.
- The air bag module is equipped with an inflator that does not contain sodium azide.
- Optimization of the airbag specifications reduces the risk of injury to the passengers in a collision.
- The small-diameter steering wheel suitable for the sport drive has been adopted <2.0L Engine>.

STEERING SHAFT AND COLUMN

M2370002000924



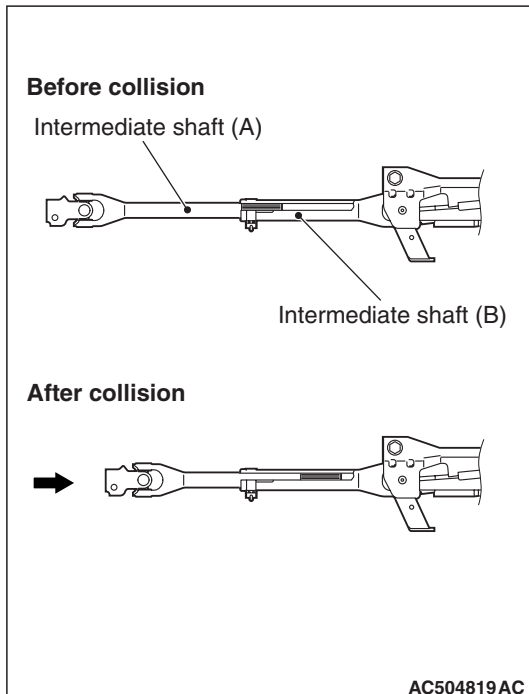
AC708298 AB

The steering column shaft is designed to improve operability and safety, and has the following features.

- The steering column layout has been optimized for better steering feeling (reduction of torque fluctuation) covering the whole tilting range.
- The collapsible steering column, with which the steering wheel moves forward on a collision, has been employed for improvement of passenger safety.

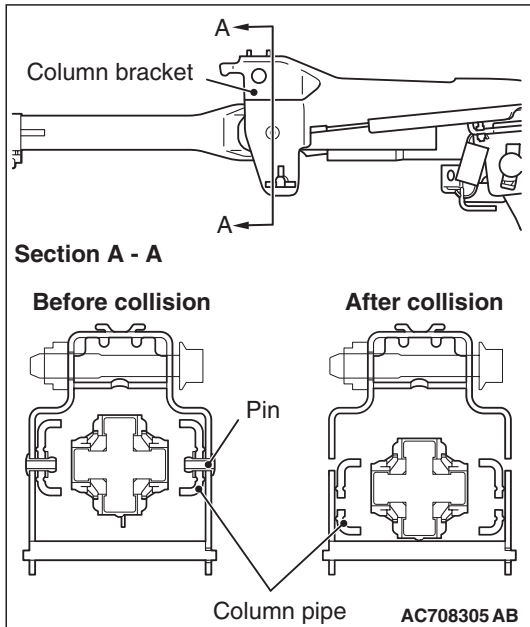
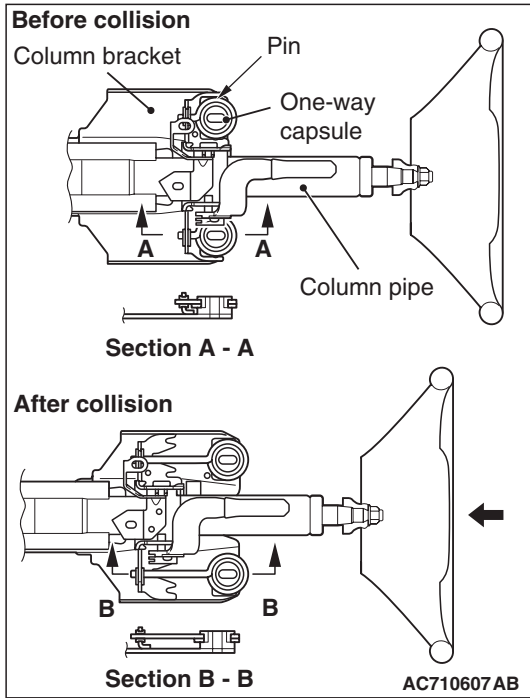
Energy absorbing mechanism**PRIMARY COLLISION**

When a vehicle is crashed and the load is applied to the lower shaft from the gearbox side, the intermediate shaft (A) is forced into the intermediate shaft (B) to absorb the impact load.



SECONDARY COLLISION

When the load of the driver's body is applied to the steering wheel after the airbag deployment, the column pipe is separated from the column bracket for reducing the impact applied to the driver.



OIL PUMP

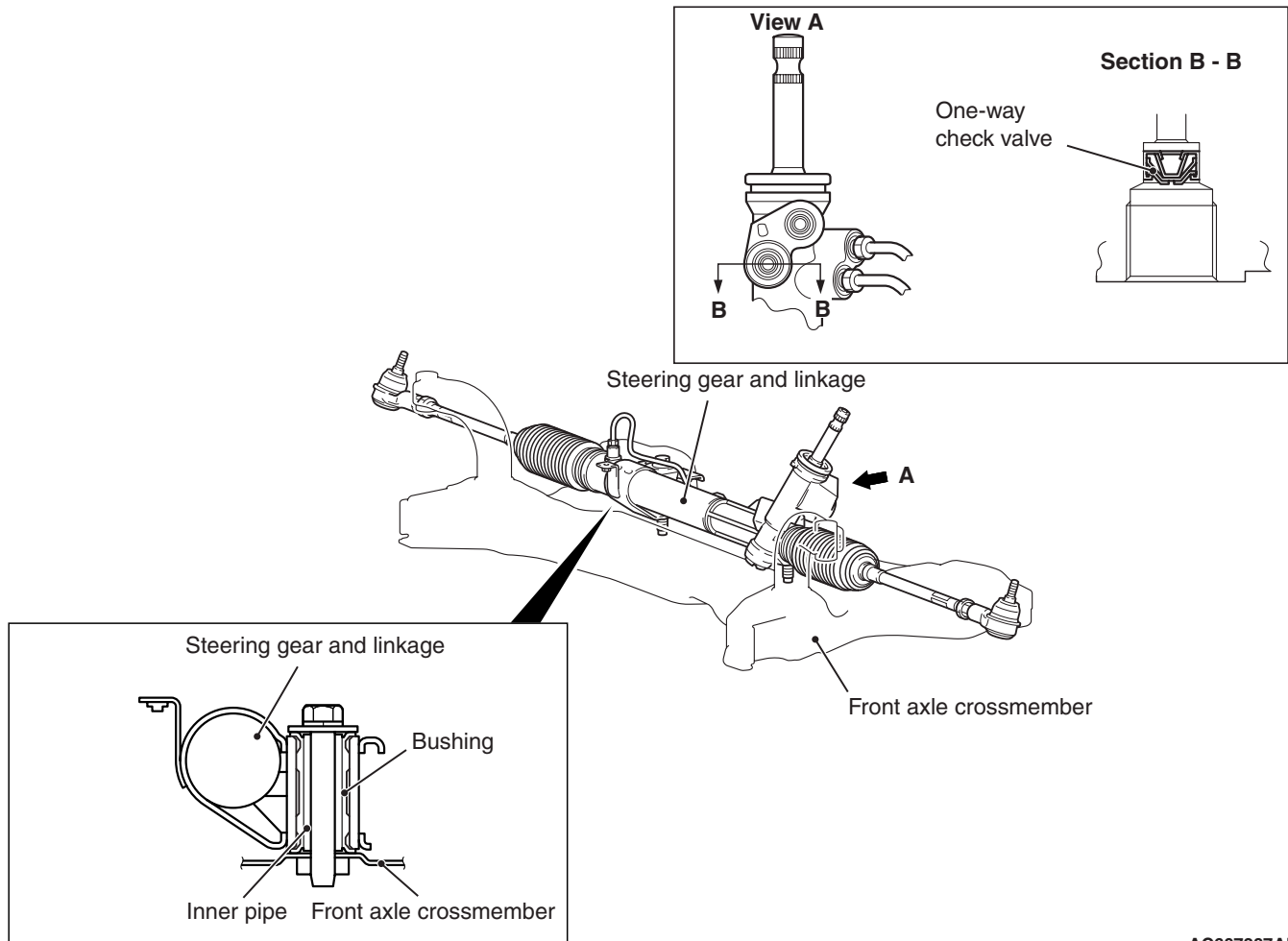
The oil pump is a vane type with a fluid flow control system which functions so the steering wheel turning effort will be reduced at low engine speeds and increase at higher speeds.

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

M2370004000373

STEERING GEAR

M2370003000499



AC607287AD

The steering gear and linkage is mounted on the front axle crossmember via two bushings with inner cylinders.

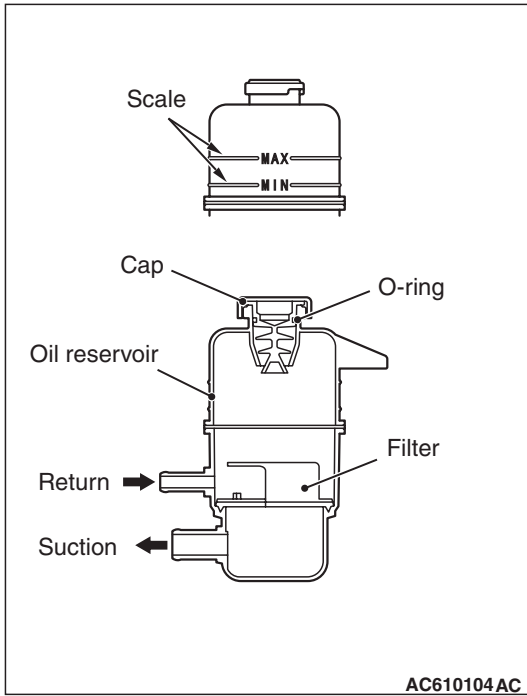
- The inner bushing with inner cylinder supports the steering gear and linkage in the vertical and fore-and-aft direction with high rigidity, improving the feeling of steering considerably.

- 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

M2370005000376

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.



NOTES