GROUP 37

POWER STEERING

CONTENTS

GENERAL DESCRIPTION

M2370000100549

FEATURES

Power steering is adopted in all vehicles to make steering easier.

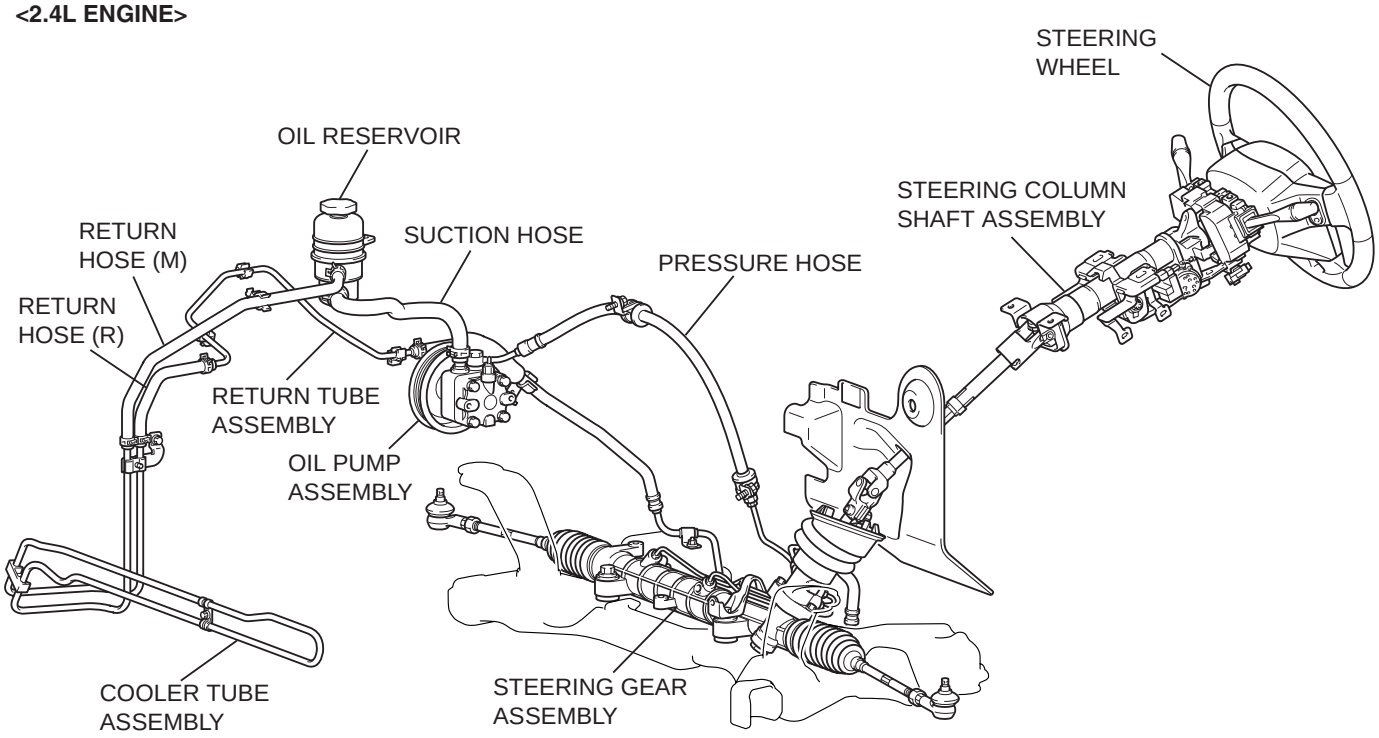
- A 4-spoke steering wheel is used.
- The steering column has a shock- absorbing mechanism and a tilt mechanism.
- A rack and pinion steering gear is used for steering that feels more direct and for ample handling performance.
- An oil pump responsive to engine RPM is used for stable steering at high speeds.
- The separate plastic resin oil reservoir is used to reduce weight and to make the fluid level checking easier.

SPECIFICATIONS

ITEM			SPECIFICATION
Steering wheel	Type		4-spoke type
	Outside diameter mm (in)		370 (14.6)
	Maximum number of turns		2.64
Steering column	Column mechanism		Shock absorbing mechanism and tilt mechanism
Power steering type			Integral type
Oil pump	Type		vane pump
	Basic discharge amount cm^3/rev. (cu in/rev)		9.6 (0.59)
	Relief pressure MPa (psi)	2.4L engine	8.8 (1,277)
		3.8L engine	9.8 (1,422)
	Reservoir type		Separate type (plastic)
	Pressure switch		Equipped
Steering gear	Type		Rack and pinion
	Stroke ratio (Rack stroke/Steering wheel maximum number of turns)		49.62
	Rack stroke mm (in)		131 (5.2)
Steering angle	Inner wheel		31°48'
	Outer wheel		27°06’
Power steering fluid	Specified lubricants		GENUINE MITSUBISHI POWER STEERING FLUID
	Quantity dm^3 (qt)		Approximately 1.2 (1.3)

CONSTRUCTION DIAGRAM

<2.4L ENGINE>



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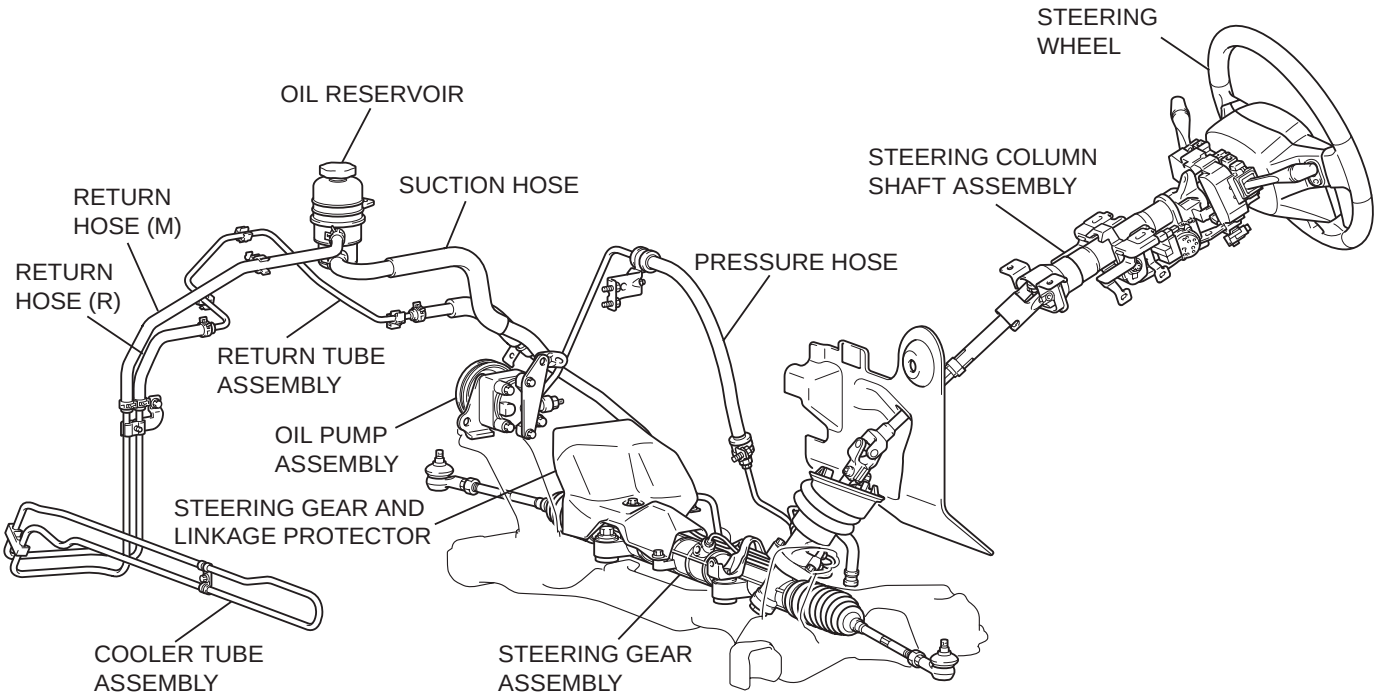
<3.8L ENGINE>



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STEERING WHEEL

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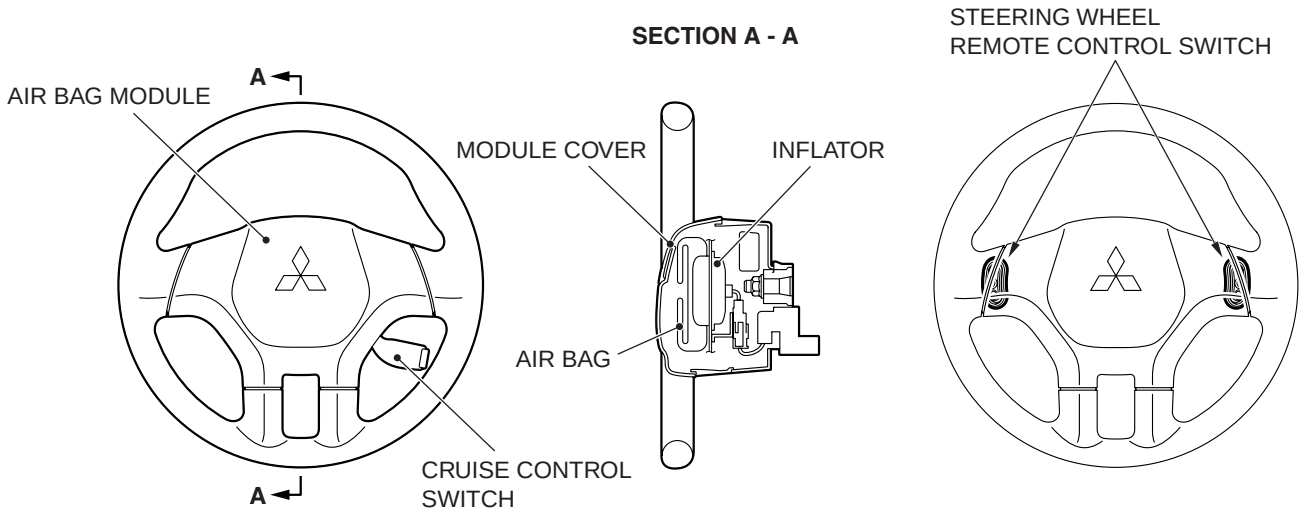

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The steering wheel has the following features:

- It has four spokes and the synthetic leather steering wheel is standard equipment.
- An aluminum look three-diamond emblem has been attached to the module cover.
- A steering wheel remote control switch is used <option> (For steering wheel remote control switch, refer to GROUP-54A, RADIO, CD PLAYER, SPEAKER, ANTENNA P.54A-12).
- A cruise control switch is used (For cruise control switch, refer to GROUP17, AUTO-CRUSE CONTROL SYSTEM P.17-3).
- In case of collision, an electric signal sent from SRS-ECU triggers the inflator gas to expand an airbag to protect the driver's upper half of the body.
- A non-azide gas is used for the inflator with attention to environmental issues.
- The employed airbag is the dual stage inflator airbag, whose expansion force is adjusted in two levels according to the collision speed, driver's weight, and seating position, so that the driver is better protected (Refer to GROUP 52B, Driver's air bag module P.52B-11).

STEERING SHAFT AND COLUMN

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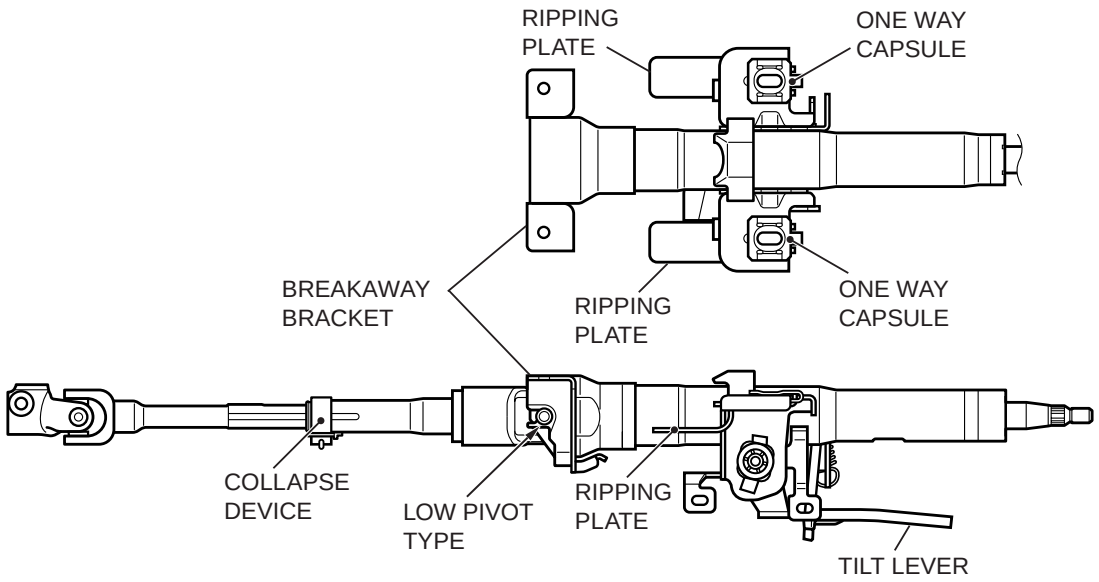

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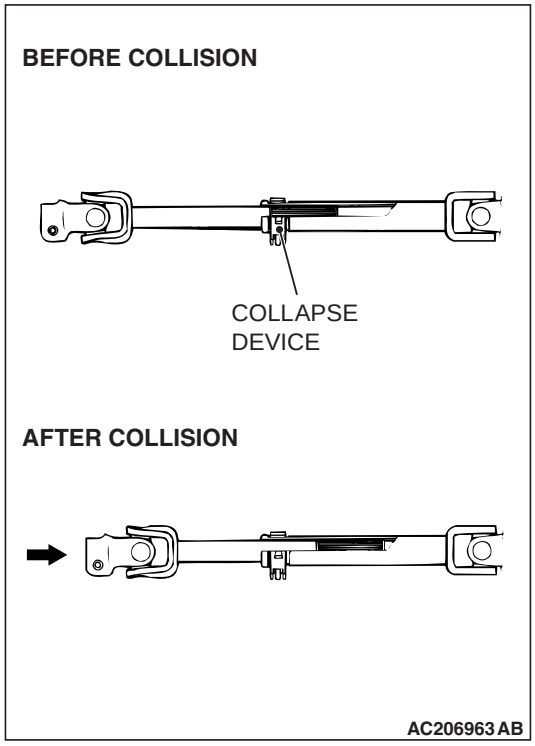
The steering column has an impact-absorbing mechanism which absorbs impact energy in the event of a collision.

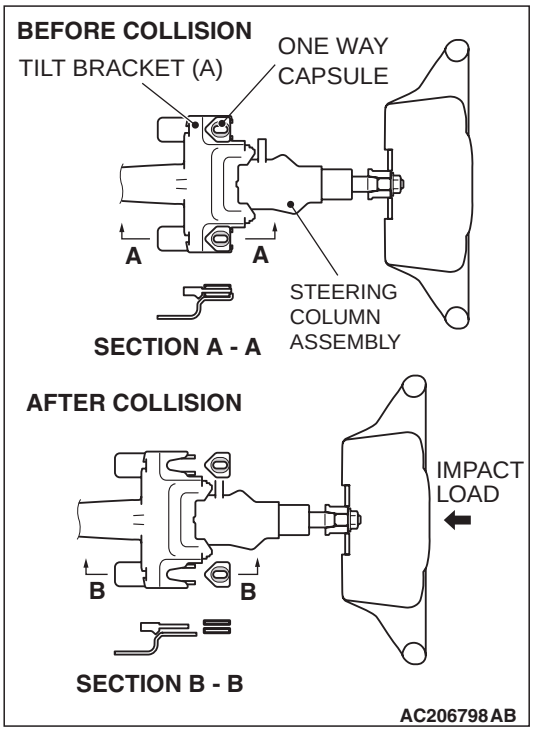
- A collapsible intermediary shaft prevents the steering column from entering the passenger compartment during initial impact.
- A system for energy absorption is provided by the breakaway steering column (which has a one-way capsule and breakaway bracket) and the ripping plate.
- A tilt steering mechanism enables the driver to obtain an optimum driving position.
  The tilt steering mechanism is essentially the same as a conventional one.



SHOCK ABSORBING MECHANISM

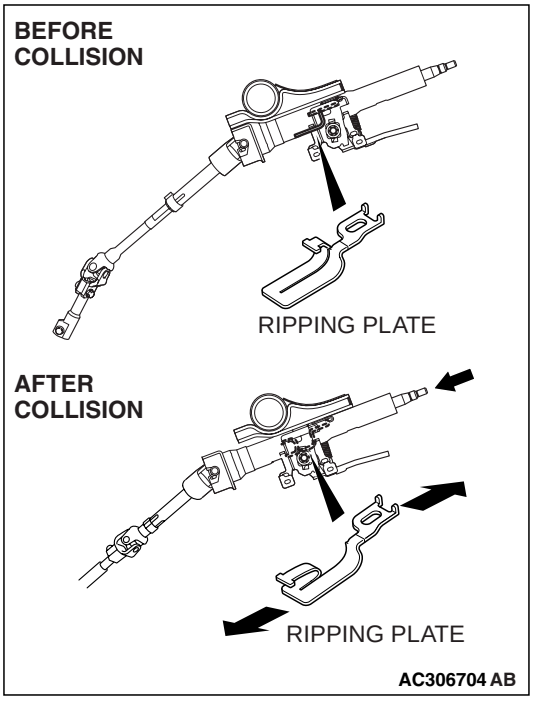
PRIMARY IMPACT

When the vehicle is in a collision and there is a force applied to the steering column assembly from the gearbox, the collapse device is contracted to absorb the impact load. This prevents the steering column from moving backwards during the impact.



SECONDARY IMPACT

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



2. As the steering column assembly moves forward, the ripping plate deforms to absorb the energy.

OIL PUMP

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The oil pump is a vane type with a fluid flow control system. Steering wheel turning effort is reduced at low speeds and is increased at higher speeds.

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STEERING GEAR

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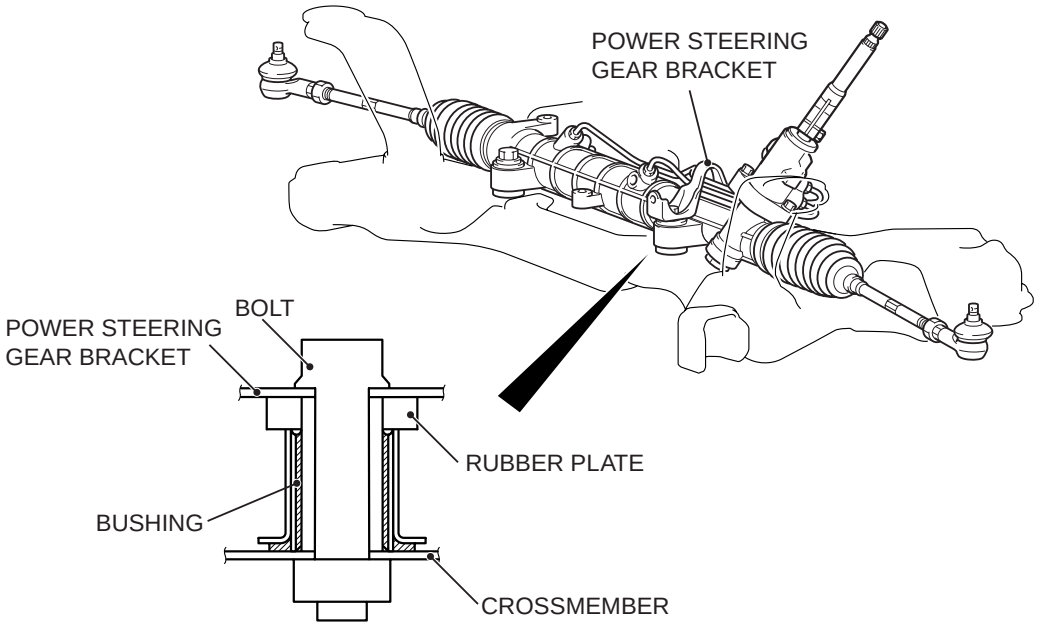

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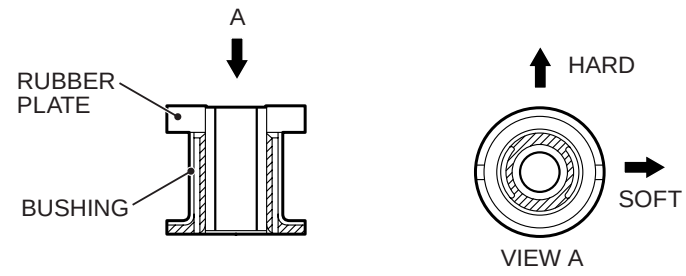

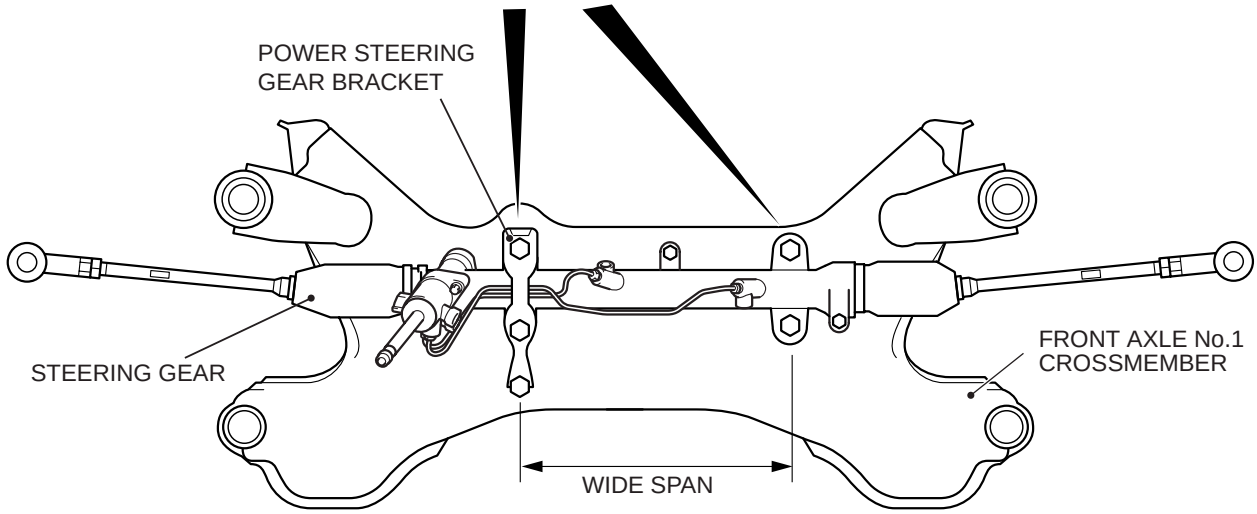

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- The span for attachment of the steering gear to the supporting rigidity is increased.

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- The power steering gear bracket is added to the left side of the section where the steering gear is attached to the cross member. This enhances the steering feel and reduces shimmy vibration, in conjunction with the rubber bushing (designed to be soft in the lateral vehicle direction and rigid in the vertical and cross direction) at the power steering gear bracket point of attachment.

OIL RESERVOIR

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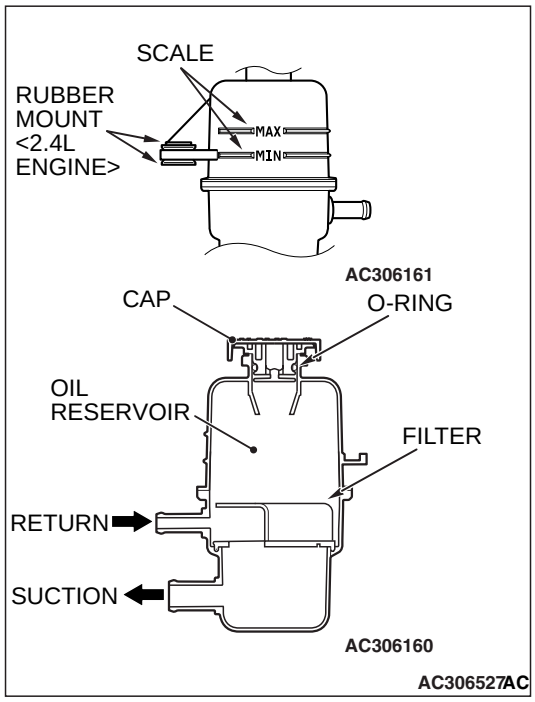

A plastic oil reservoir is used to reduce weight. It also allows the oil reservoir itself to be semi-transparent, and it has a scale (MAX and MIN lines) which lets you check the fluid level visually.
For 2.4L engine, rubber mount at the point of attachment to body is used to insulate groan noise from oil pump.