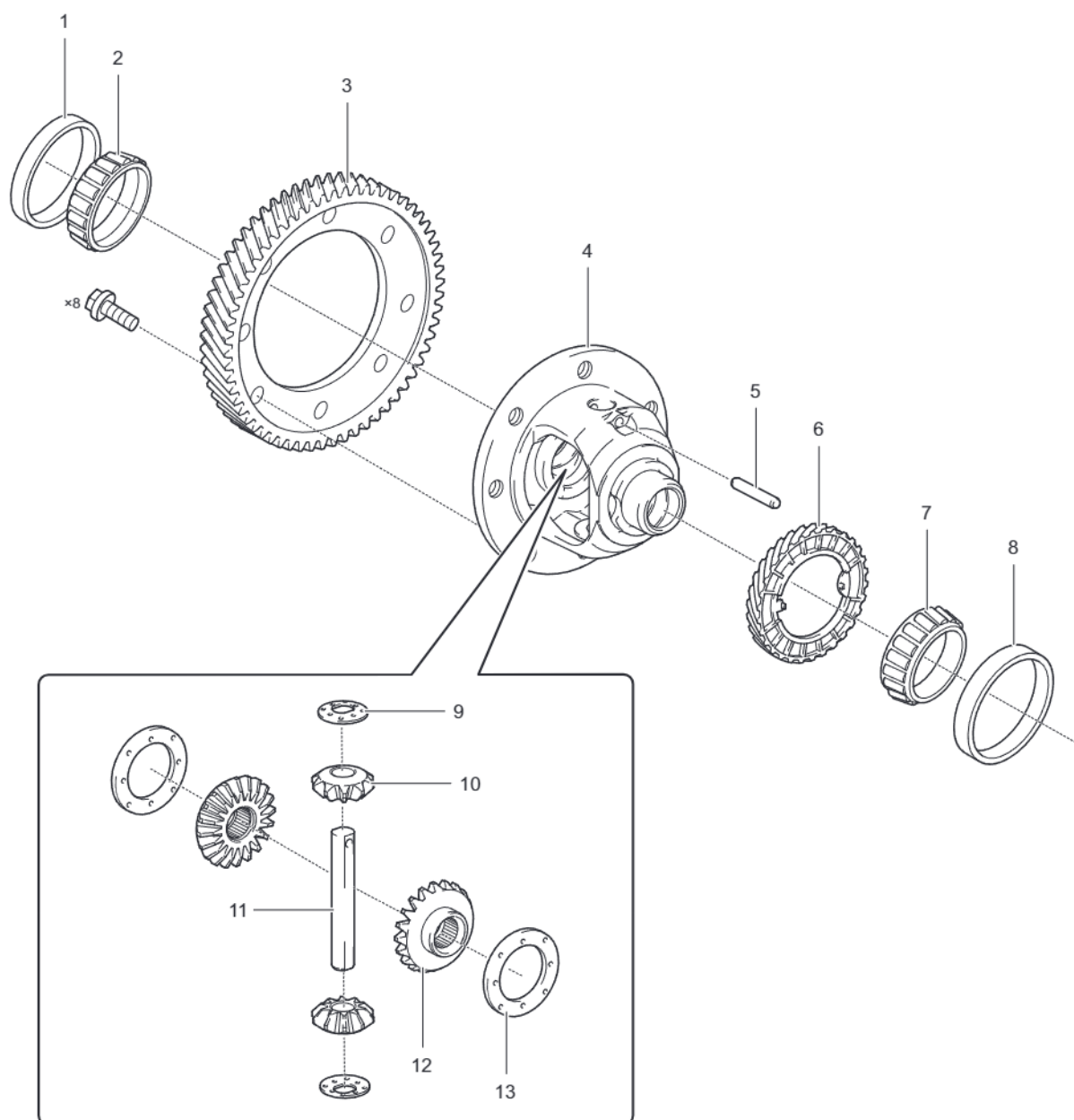

DIFFERENTIAL

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GENERAL INFORMATION

Description



RM16210010

1 - Differential Tapered Roller Bearing Outer Race	2 - Differential Tapered Roller Bearing
3 - Driven Gear of Final Drive	4 - Differential Case
5 - Dowel Pin	6 - Speedometer Drive Gear
7 - Differential Tapered Roller Bearing	8 - Differential Tapered Roller Bearing Outer Race
9 - Planetary Gear Washer	10 - Planetary Gear
11 - Planetary Gear Shaft	12 - Drive Shaft Gear
13 - Drive Shaft Gear Washer	

Differential case contains 2 drive shaft gears, planetary gear shaft and 2 planetary gears. Driven gear of final drive is linked up with the differential case by bolts. Planetary gear shaft, which is fixed on differential case, drives planetary gears to rotate when differential operates, thus driving the drive shaft gears to turn. Drive shaft gears are connected with drive shaft to transmit effort to wheels.

Operation

When driving on a bumpy road or turning, the travel distance of outside wheels is longer than that of inside wheels, so the speed of outside wheels is faster, which breaks the balance of vehicle drive train.

- The planetary gear mechanism in differential can transmit the speed difference between outside and inside wheels via drive shaft when turning. It forces the planetary gears to rotate, thus allowing inside and outside wheels to spin at two different speeds in order to balance the speed difference and keep vehicle moving smoothly.
- Final drive is a component to reduce the rotation speed and increase the torque of drive train.

Specifications

Torque Specification

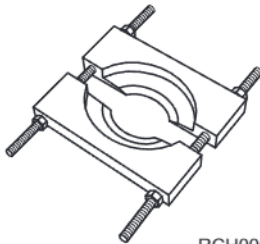
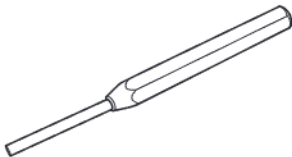
Description	Torque (N·m)
Final Drive Driven Gear Bolt	111 - 118

Clearance Specification

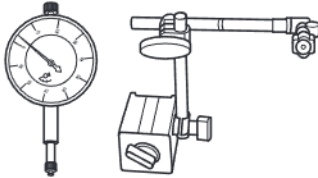
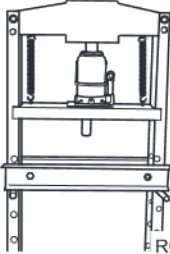
Description	Acceptable Range (mm)
Clearance Between Differential Case and Planetary Gear	0.025 - 0.150

Tools

Special Tools

Bearing Remover	 RCH0000011
Punch	 RCH0000015

General Tools

Dial Indicator and Magnetic Holder	 RCH0000023
Hydraulic Press	 RCH0000012

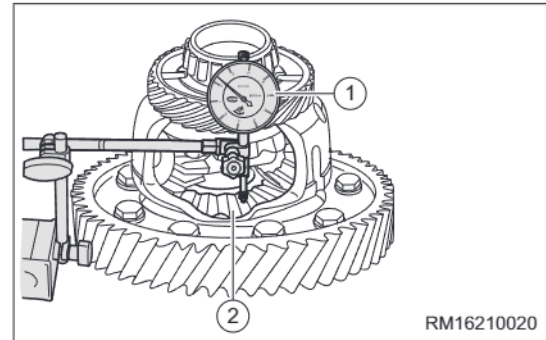
DIAGNOSIS & TESTING

Differential Gear Clearance Inspection

Inspection Method

1. Remove the differential.
2. Check the clearance of differential drive shaft gear (2) with the dial indicator (1).

Gear clearance: 0.025 - 0.150 mm



CAUTION

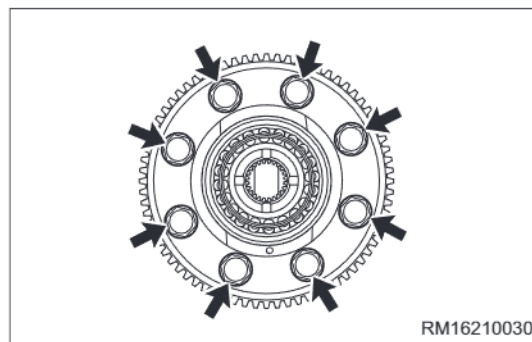
- If clearance is not as specified, replace and adjust the drive shaft gear washer.
- After replacing drive shaft gear washer, measure and adjust the clearance again to ensure that it is as specified.

ON-VEHICLE SERVICE

Driven Gear of Final Drive

Removal

1. Remove the differential ([See page 17-26](#)).
2. Hold the differential in a vise.
3. Remove the final drive driven gear bolts.
(Tightening torque: 111 - 118 N·m)



Installation

Installation is in the reverse order of removal.

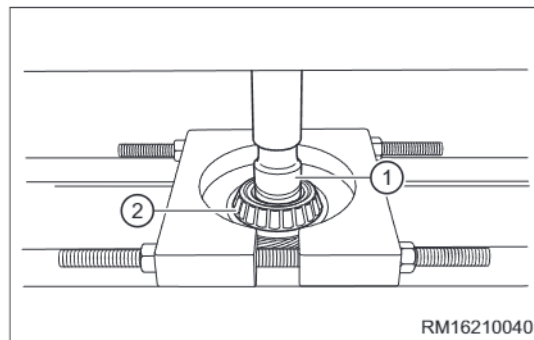
CAUTION

- Apply seal gum to the bolts during installation.

Differential Bearing

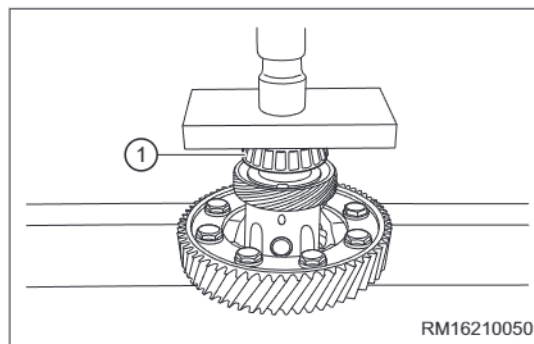
Removal

1. Remove the differential ([See page 17-26](#)).
2. Remove the differential bearing.
 - a. Using a hydraulic press (1), separate the bearing (2) from differential.



Installation

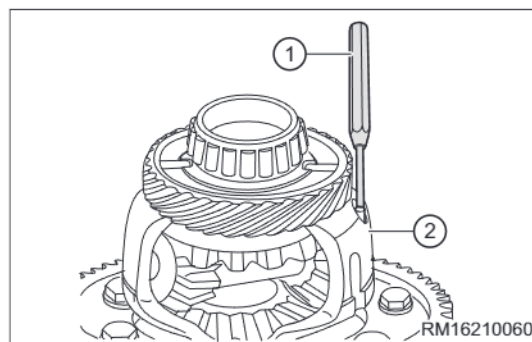
1. Install the differential bearing.
 - a. Using a hydraulic press, press the bearing (1) into differential.



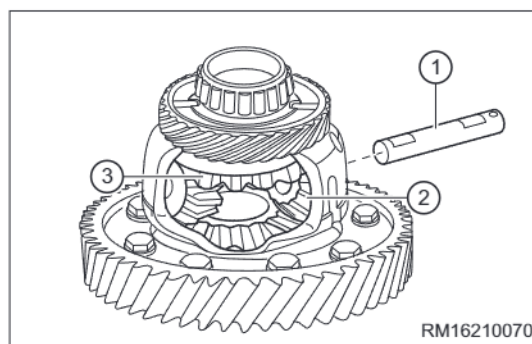
Differential Planetary Gear

Removal

1. Remove the differential ([See page 17-26](#)).
2. Remove the differential planetary gear.
 - a. Tap out the dowel pin (2) with a punch (1).



- b. Remove the planetary gear shaft (1), planetary gear (2) and drive shaft gear (3).



Installation

Installation is in the reverse order of removal.

CAUTION

- Adjust clearance until gear clearances of both sides are the same during installation.
- The drive shaft gears and planetary gears should operate normally after tapping in dowel pin.

Differential Parts Inspection

1. Clean all the components.
2. Check the following components for wear:
 - Driven gear of final drive
 - Planetary gear washer
 - Drive shaft gear
 - Planetary gear
 - Planetary gear shaft
 - Drive shaft gear washer

