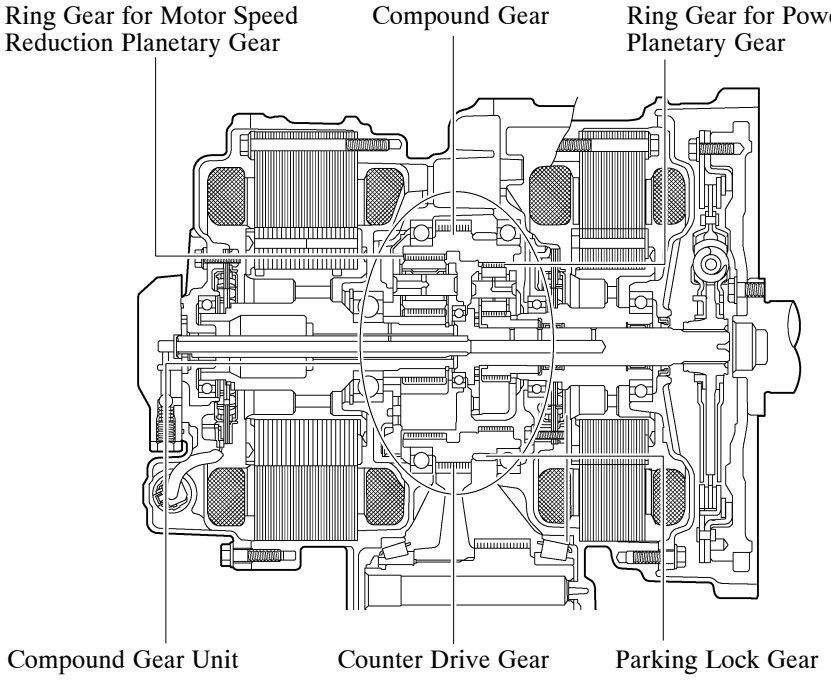
■COMPOUND GEAR UNIT

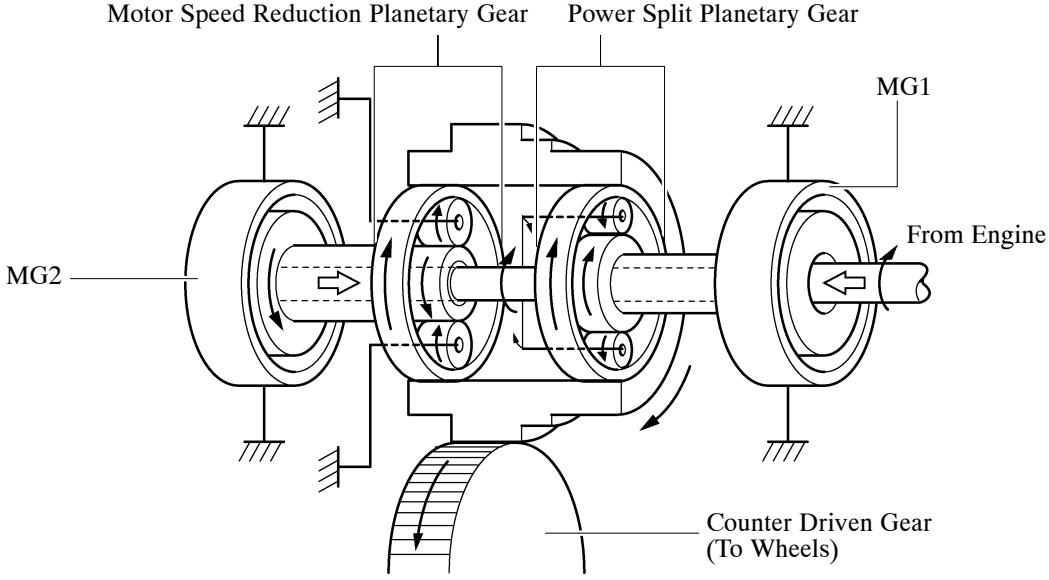
1. General

The compound gear unit consists of a motor speed reduction planetary gear unit, a power split planetary gear unit, counter drive gear, and parking lock gear.

- The motor speed reduction planetary gear unit, whose purpose is to reduce MG2 speed, is used to enable the high-speed, high-output MG2 to adapt optimally to the power split planetary gear unit.
- The power split planetary gear unit splits the motive force of the engine two ways: one to drive the wheels, and the other to drive MG1, so that MG1 can function as a generator.



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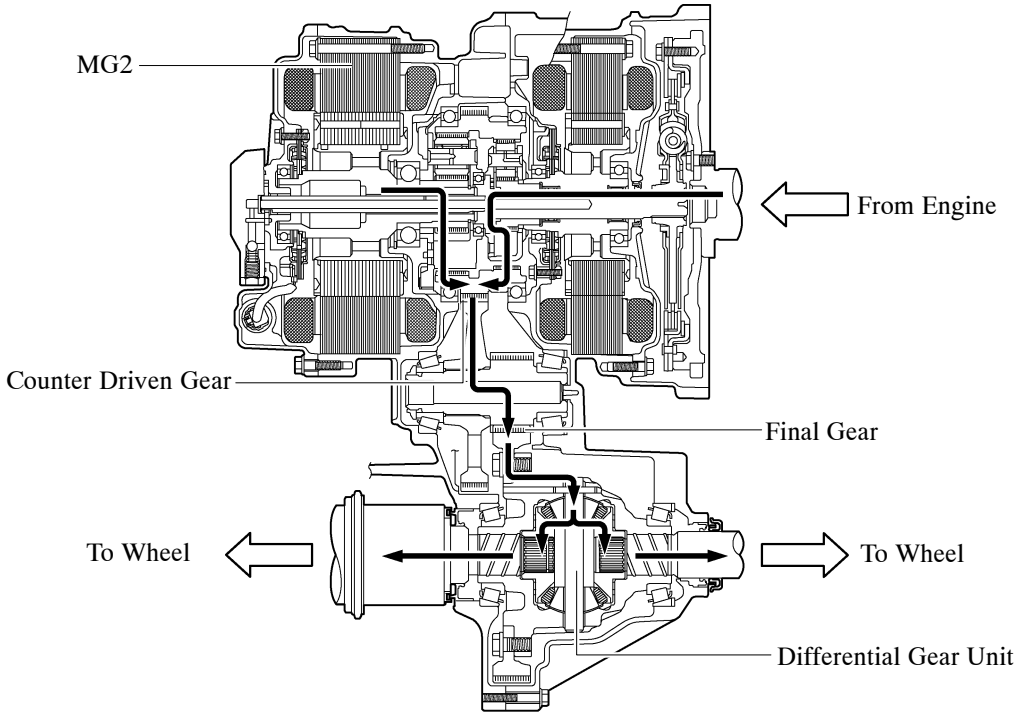
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- The connection of the sun gear, ring gear and carrier of each planetary gear unit is as shown below.

Planetary Gear		Connection
Power Split Planetary Gear Unit	Sun Gear	MG1
	Ring Gear	Compound Gear (Output)
	Carrier	Engine Output Shaft
Motor Speed Reduction Planetary Gear Unit	Sun Gear	MG2
	Ring Gear	Compound Gear (Output)
	Carrier	Fixed

2. Motive Force Transmission Path

The motive force created by the engine and MG2 is transmitted by the counter drive gear of the compound gear unit, the counter driven gear, the final drive gear, and then the differential gear unit, in order to drive the front wheels.



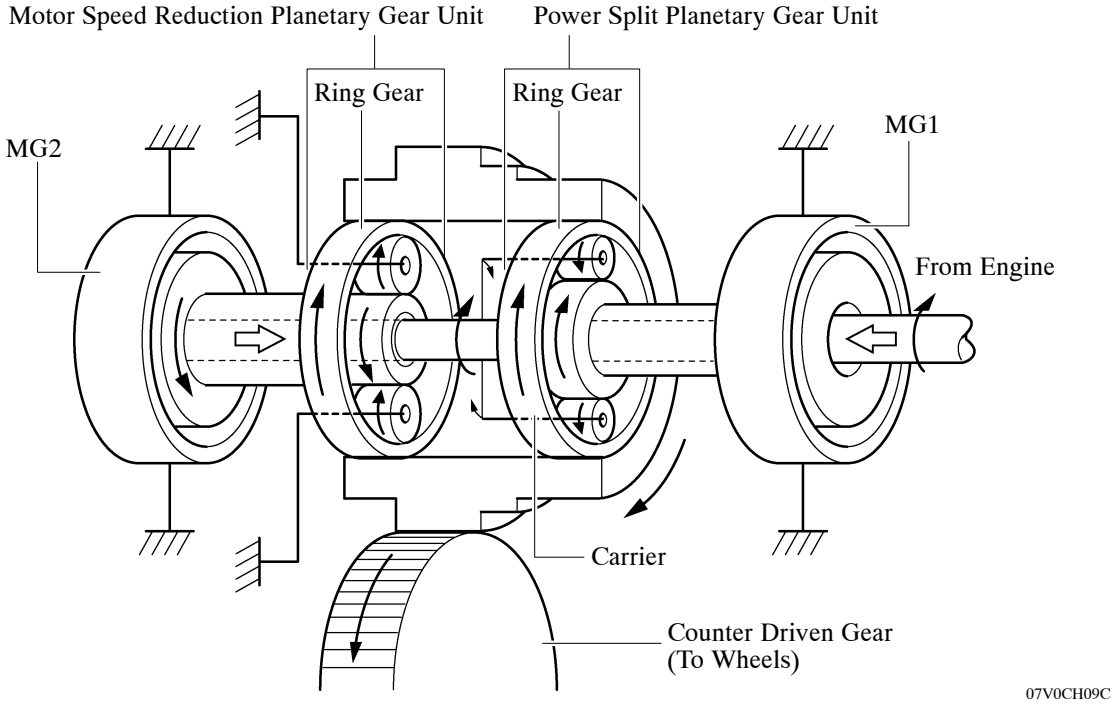
3. Power Split Planetary Gear and Motor Speed Reduction Planetary Gear

General

The power split planetary gear and the motor speed reduction planetary gear in the compound gear unit transmit motive force in the 4 ways described below.
- Engine motive force and MG2 motive force transmission
- MG2 motive force transmission
- Engine motive force transmission
- MG1 motive force transmission

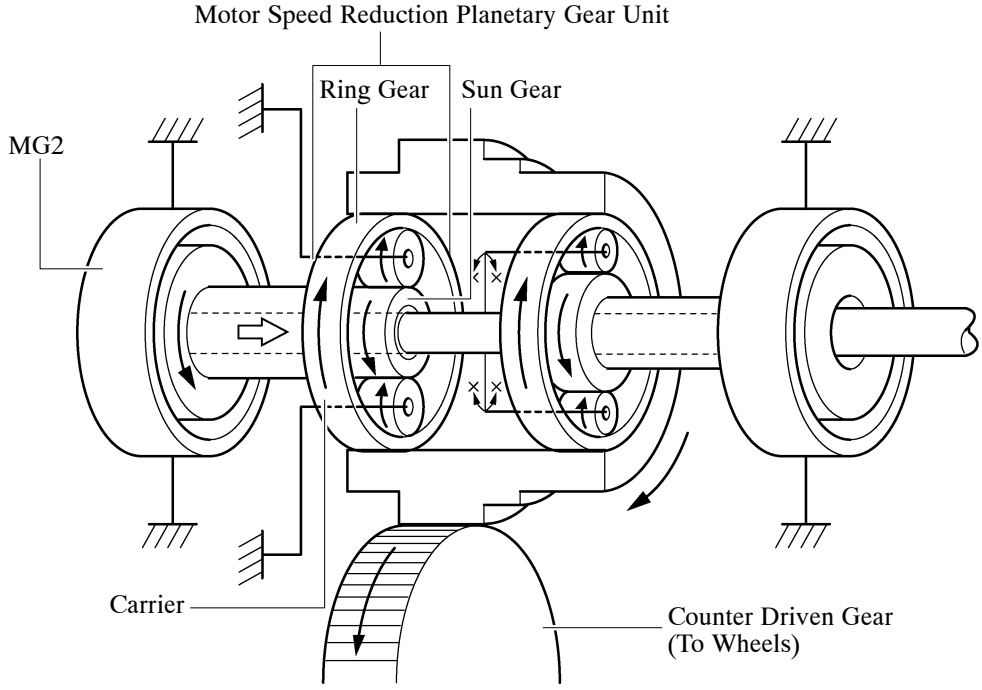
Engine Motive Force and MG2 Motive Force Transmission

The engine motive force, which is input by the carrier, is output to the ring gear. The motive force of MG2 is output to the ring gear via the motor speed reduction planetary gear unit. The sum of these two motive forces is transmitted by the compound gear in order to drive the wheels.



MG2 Motive Force Transmission

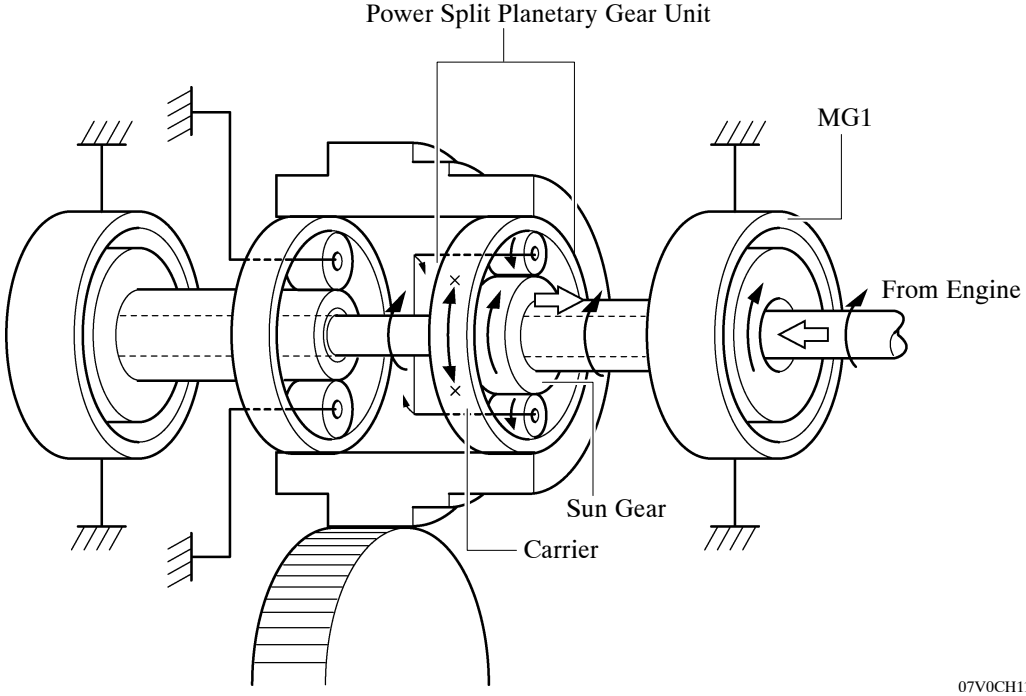
The motive force of MG2 is transmitted via the sun gear and is output to the ring gear, in order to drive the wheels. The carrier of the motor speed reduction planetary gear in the compound gear unit is fixed. As a result, the motor speed reduction planetary gear reduces the speed of MG2, increasing torque, in accordance with a set gear ratio.



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Engine Motive Force Transmission

The engine motive force, which is input by the carrier, is output to the sun gear. Thus, motive force is transmitted in order to operate MG1 as a generator.



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MG1 Motive Force Transmission

The motive force of MG1 is transmitted via the sun gear and is output to the carrier. Thus, motive force is transmitted in order to start the engine.

