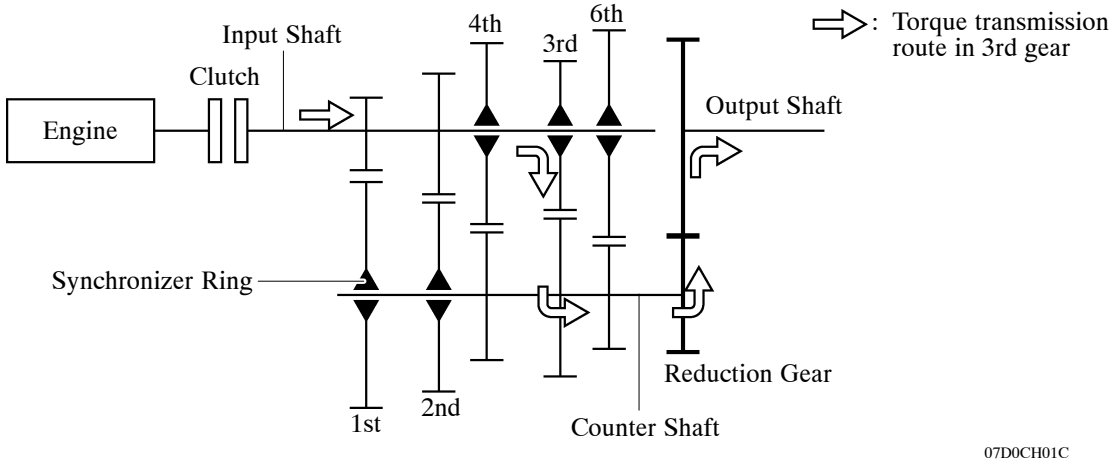
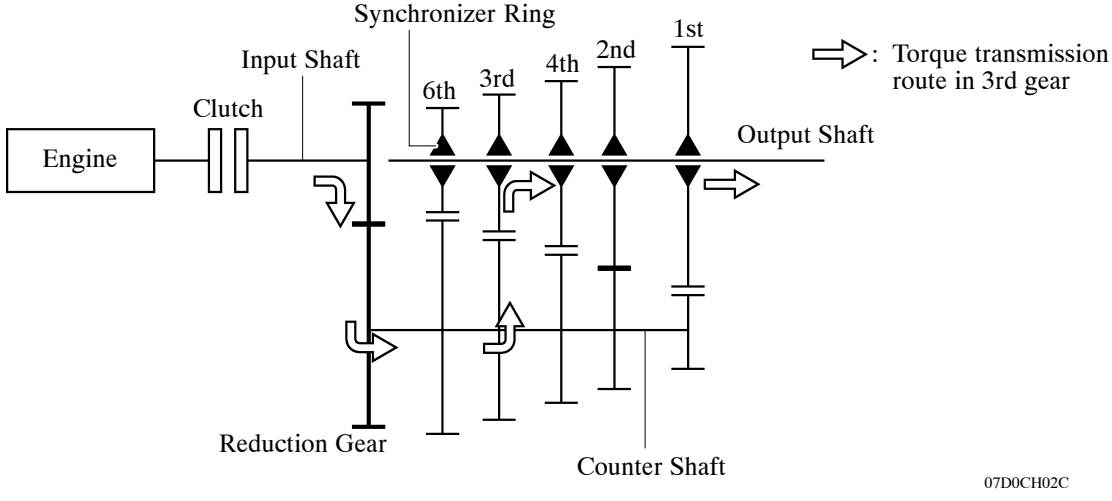
■GEAR TRAIN

The gear train uses the output reduction method, that is, the output shaft is equipped with a reduction gear. When compared with the input reduction method, the output reduction method has the following features:

- In a transmission that uses the input reduction method, input torque from the engine is increased by the reduction gears before the input torque acts on each drive and driven gear. In this case, the width of the teeth on each gear needs to be large. On the other hand, in a transmission that uses the output reduction method, input torque from the engine is increased by the reduction gears after the input torque acts on each drive and driven gear. This reduces the width of the teeth needed on each gear, allowing a smaller and lighter gear train to be produced.
- In the configuration of a gear train that uses the input reduction method, the drive and driven gears are located behind the reduction gear. Because of this, the moment of inertia of the input shaft and counter shaft acts on these two gears. In contrast, in the configuration of a gear train that uses the output reduction method, the drive and driven gears are located in front of the reduction gear. This causes the moment of inertia of the input shaft only to act on the gears, reducing shifting effort.



Output Reduction Method



Input Reduction Method