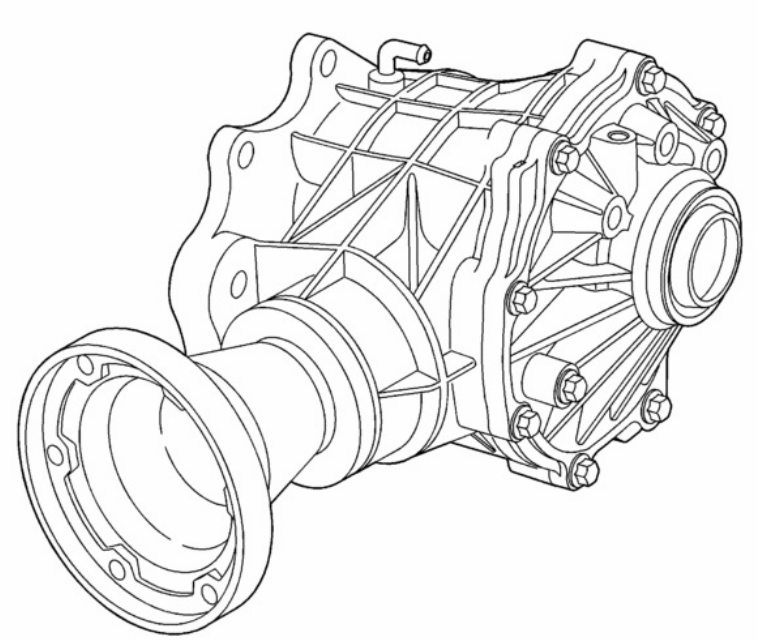
2005 Chevrolet EQUINOX

Submodel: LT | **Engine Type:** V6 | **Liters:** 3.4
Fuel Delivery: FI | **Fuel:** GAS

Transfer Case Description and Operation



Click to Enlarge

The transfer case power take-off unit (PTU) in this vehicle consists of an aluminum housing and a ring and pinion power transfer system.

The PTU transfers torque/power to the rear differential, gerotor pump design, via a 2-piece propshaft assembly.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shafts.

The on-demand system operates as follows: only when front wheel slippage is encountered torque/power is proportioned to the rear wheels, as long as there is not front-to-rear speed difference; there is no torque/power to the rear wheels.

When front-to-rear wheel slippage does occur, the rear differential gerotor, pumps fluid stored in the sump to a piston that actuates a clutch pack, which then distributes torque/power to the rear wheels.

PTU Fluid

Important
Use only GM Versatrak fluid.

The PTU uses a specifically developed synthetic hypoid gear lubricant, which is intended for lifetime service. Full fluid level is at the bottom of the fill plug hole.

PTU Operation

Motion is transferred from the engine crankshaft/flywheel through the transaxle. A ring and pinion design transfer case is mated to the right side of the transaxle.

The transfer case transfers torque/power to the rear differential via a 2-piece propeller shaft assembly. The rear differential consists of an aluminum housing, a clutch pack/hydraulic pump assembly and a ring and pinion assembly.

The on-demand rear differential distributes variable torque/power to the rear wheels via individual axle shaft assemblies. The rear differential consists of an aluminum housing, a clutch pack/hydraulic pump assembly and a ring and pinion assembly.

The system operates as follows:

On-demand drive is provided to the rear wheels only when slippage is detected at the front wheels, there is no front-to-rear speed difference and no rear wheel drive torque. In the event there is front-to-rear wheel speed difference/slippage, a rotation speed difference between the gerotor pump components, rotor and housing, occurs. In those instances, the rotor draws fluid from the sump and through the internal passages of the differential carrier, sending pressurized fluid to a piston, actuating the rear clutch pack.