1. Coupling assembly	4. Extension wiring
2. Input shaft	5. Oil hydraulic
3. Pressure sensor	Motor(Actuator)

4 Wheel Drive (4WD) System

Description

4WD ECU processes signals from various sensors and determines the current road and driving conditions. The ECU
utilizes this information to implement precision control over the 4WD coupling's multi-plate clutch and variably adjust
amount of torque delivered tothe rear wheels.

Four Wheel Drive (4WD) transfer mode selection

1. AUTO MODE:
    A. When driving in 4WD AUTO mode, the vehicle operates similar to conventional 2WD vehicles under normal
       operating conditions. However, if the system determines that there is a need for the 4WD mode, the engine's d
       power is distributedto all four wheels automatically without driver intervention.
    B. When driving on normal roads and pavement, the vehicle moves similar to conventional 2WD vehicles.

2. LOCK MODE:
   A. This mode is used for climbing or descending sharp grades, off-road driving, driving on sandy and muddy roa to maximize traction.

   B. This mode automatically begins to deactivate at speeds above 30 km/h (19 mph) and is shifted to 4WD AUTO mode at speed above 40 km/h (25 mph). If the vehicle speed decelerates to below 30 km/h (19 mph), howev transfermode is shifted into 4WD LOCK mode again.

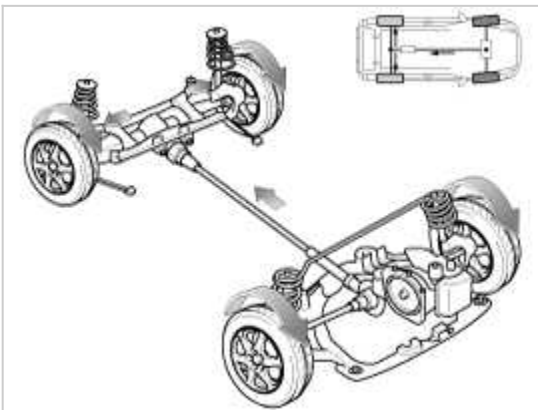Electronic Coupling - 4WD Control (By Driving Condition)

1. Cruising (Auto Mode)
   - Power is delivered mostly to the front wheels.
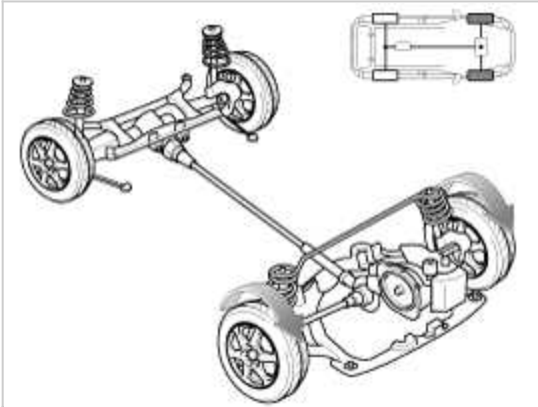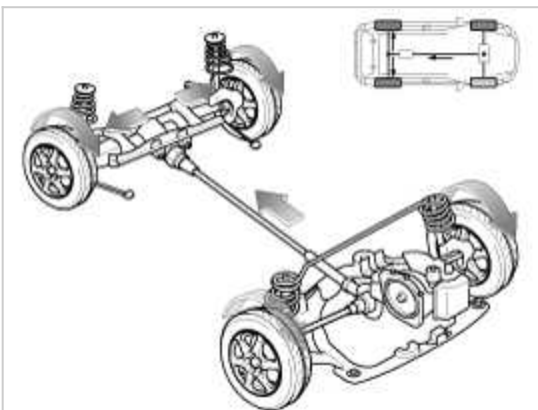

2. Cornering (Auto Mode)
   - Adjusts the amount of power to the rear wheels based on the turning radius and cornering speed.

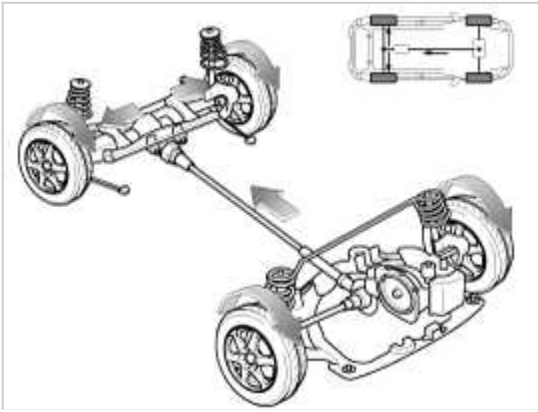

3. Wheel Slip (Auto Mode)
   - If one or both of the front wheels lose traction, the system transfers an appropriate amount of power to the rear based on the slip amount at the front wheels.

4. Lock Mode

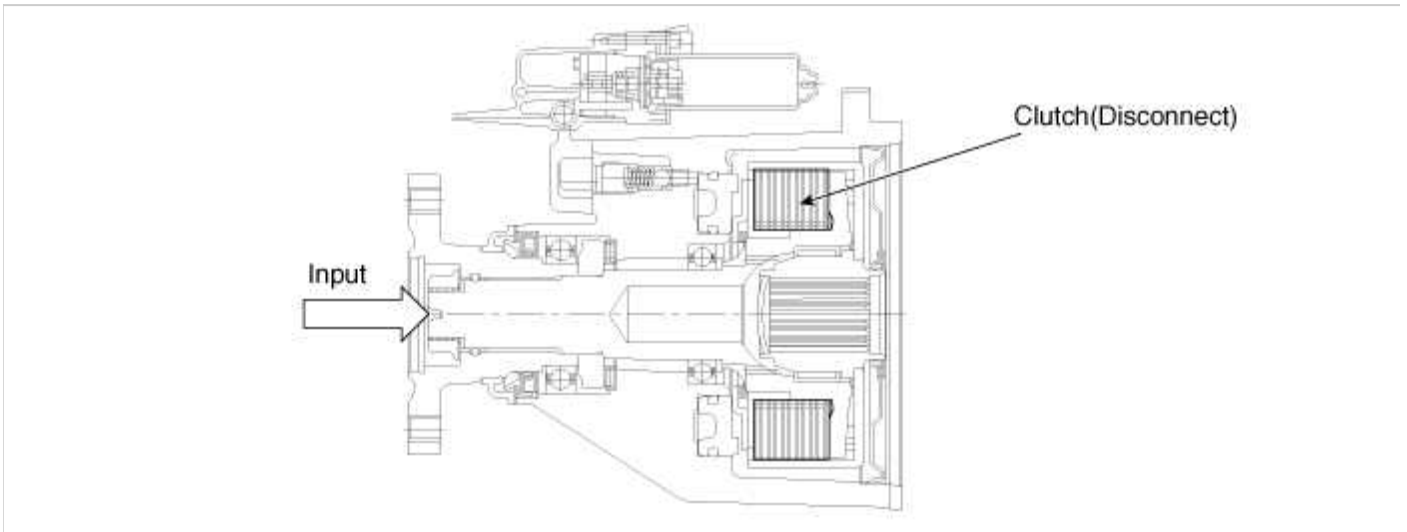- Maximizes rough terrain performance (active only at speeds below 40 km/h)

Operation

Electronic Coupling

[Inactive]

Clutch(Disconnect)

Input

[Active]

Actuator

② → 4WD ECU ← ① Vehicle

③

④

Clutch(Combination)

Propeller shaft

Input

Output ⑤

Rear differential

Piston