DESCRIPTION

The AWD ECU distributes the driving force to the front/rear wheel through controlling the multi plate clutch on the AWD transfer case by analyzing the input information, i.e. the wheel speed, accelerator and steering angle depending on the road condition and driving state. The AWD vehicle has different power transmitting conditions depending on the driving/road conditions. The vehicle speed is transmitted through CAN communication from ABS/ESP ECU. The information from the CAN communication includes the APS which indicates the driver's intention of acceleration, engine torque, ABS/ESP operation signal and gear position. The AWD ECU controls the DC motor, warning lamp and indicating lamp and communicates with the tester equipment. When a vehicle runs at normal speed higher than 60KPH on regular roads, it is controlled under the 2WD conditions. The ECU decides the driving force on the front and rear wheel by receiving the signals from all sensors depending on the driving conditions, i.e. abrupt starting, turning and driving on the low friction road, and the optimized torque which is proper to the driving condition is transmitted to the front wheel through calculating and controlling the transmitted torque data.