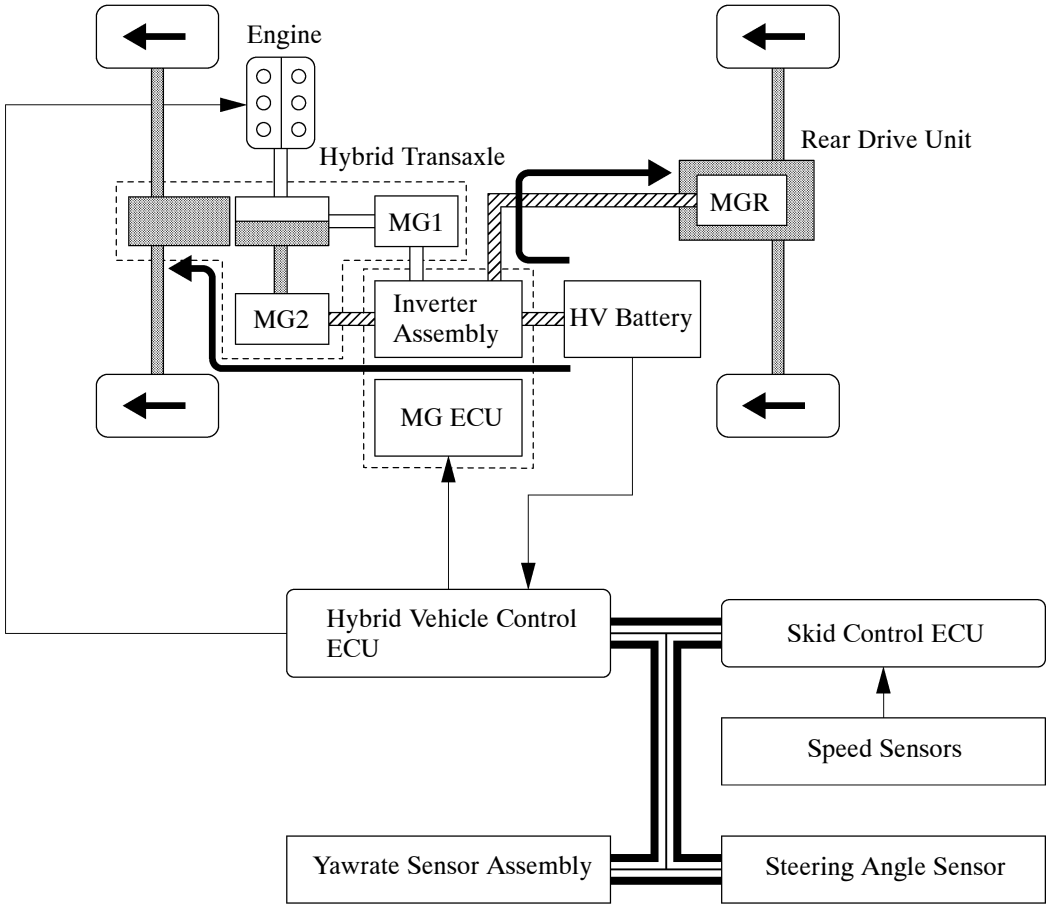
■OPERATION

1. Start-off Control

- The hybrid vehicle control ECU calculates the required motive force based on the amount of effort applied to the accelerator pedal by the driver and signals from various sensors. Then, the hybrid vehicle control ECU transmits the required motive force and the shift position signal to the skid control ECU.
- The skid control ECU determines that the vehicle is in the start-off state based on the signals from the wheel speed sensors, steering angle sensor, and the yawrate sensor assembly (deceleration rate signal). Then, the skid control ECU calculates the torque distribution between the front and rear wheels based on the foregoing signals, the required motive force, and the shift position signal from the hybrid vehicle control ECU, and transmits this required torque distribution to the hybrid vehicle control ECU.
- Upon receiving signals from the skid control ECU, the hybrid vehicle control ECU appropriately controls the motive force of MG2 and MGR, in order to achieve traction performance while ensuring driving stability.
- The hybrid vehicle control ECU controls the use of power in the following three ways:
  - Only the electrical power of the HV battery is used to drive MG2 and MGR.
  - Only the electrical power generated by MG1 is used to drive MG2 and MGR.
  - The electrical power from MG1 and the HV battery is used to drive MG2 and MGR.

: Electrical Path

: Mechanical Power Path



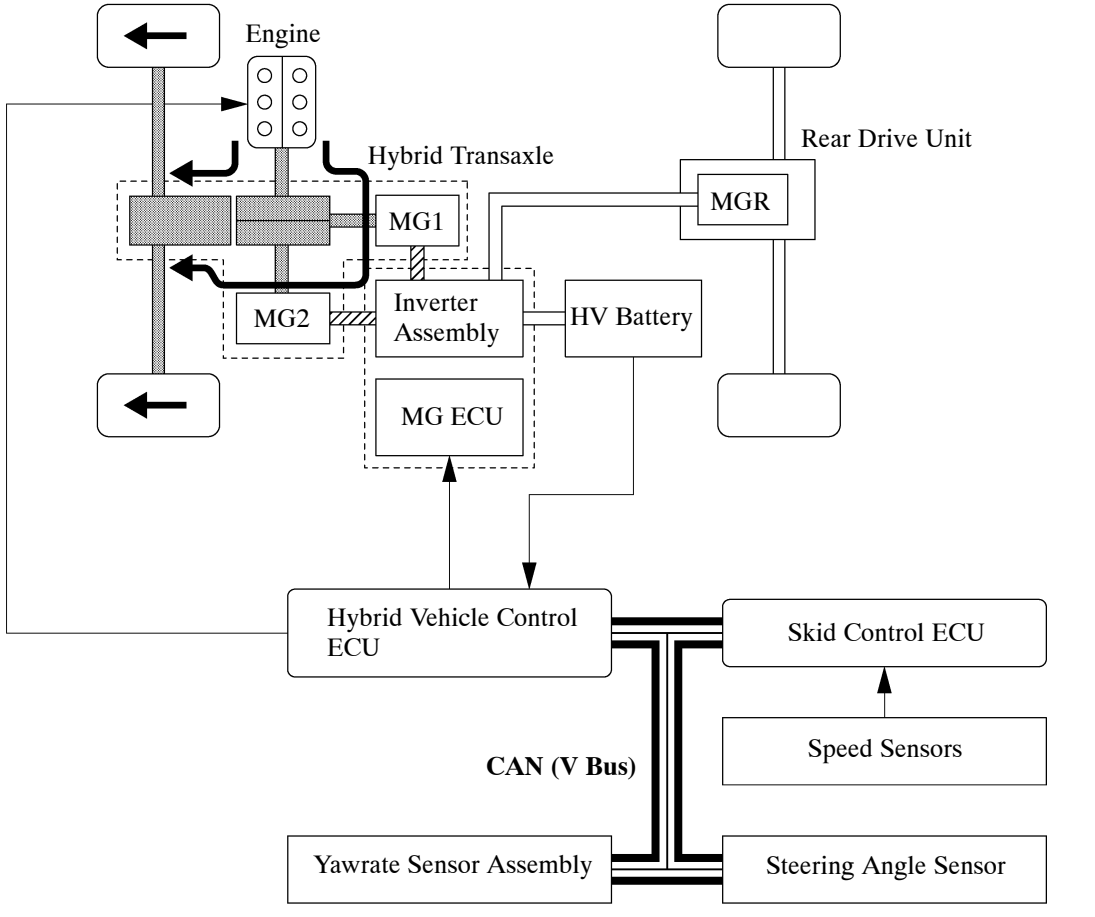
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2. Normal Driving

- Generally, the system stops the driving of the rear wheels during normal driving, to ensure fuel economy performance.
- If the vehicle is being driven on a slippery road surface, if it accelerates, or makes a tight turn, the skid control ECU detects this based on signals provided by the wheel speed sensors, steering angle sensor, and the yawrate sensor assembly (deceleration rate signal). Then, the skid control ECU calculates the torque distribution between the front and rear wheels, and transmits this required torque distribution to the hybrid vehicle control ECU.
- Upon receiving signals from the skid control ECU, the hybrid vehicle control ECU appropriately controls the motive force of the engine, MG2, and MGR, in order to achieve traction performance while ensuring driving stability.
- The hybrid vehicle control ECU controls the use of power in the following three ways:
  - Only the electrical power of the HV battery is used to drive MG2 and MGR.
  - Only the electrical power generated by MG1 is used to drive MG2 and MGR.
  - The electrical power from MG1 and the HV battery is used to drive MG2 and MGR.

: Electrical Path

: Mechanical Power Path



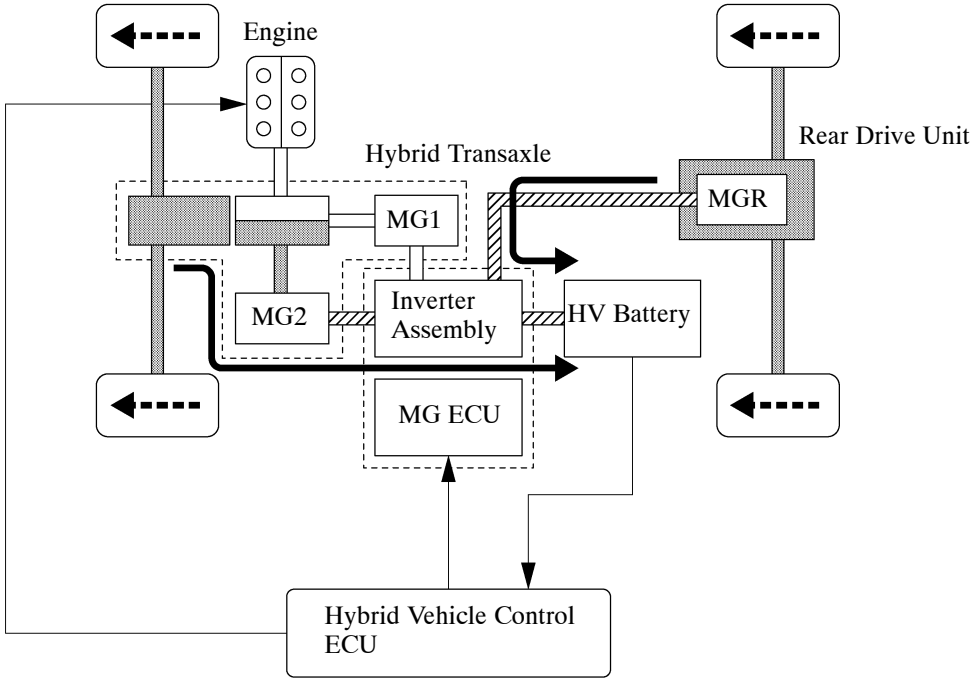
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3. Deceleration

- The hybrid vehicle control ECU determines that the vehicle is decelerating by way of the required motive force and the shift position signal, and calculates the torque distribution for the front and rear wheels.
- Based on the front and rear wheel torque distribution values that have been calculated, the hybrid vehicle control ECU determines the amount of regenerative braking that can be performed by MG2 and MGR. According to this, MG2 and MGR charge the HV battery. By converting the kinetic energy of the vehicle into electrical energy and storing it in the HV battery, this system contributes to enhancing fuel economy.

: Electrical Path

: Mechanical Power Path



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