DCT(Dual Clutch Transmission) System / Dual Clutch Transmission Control System

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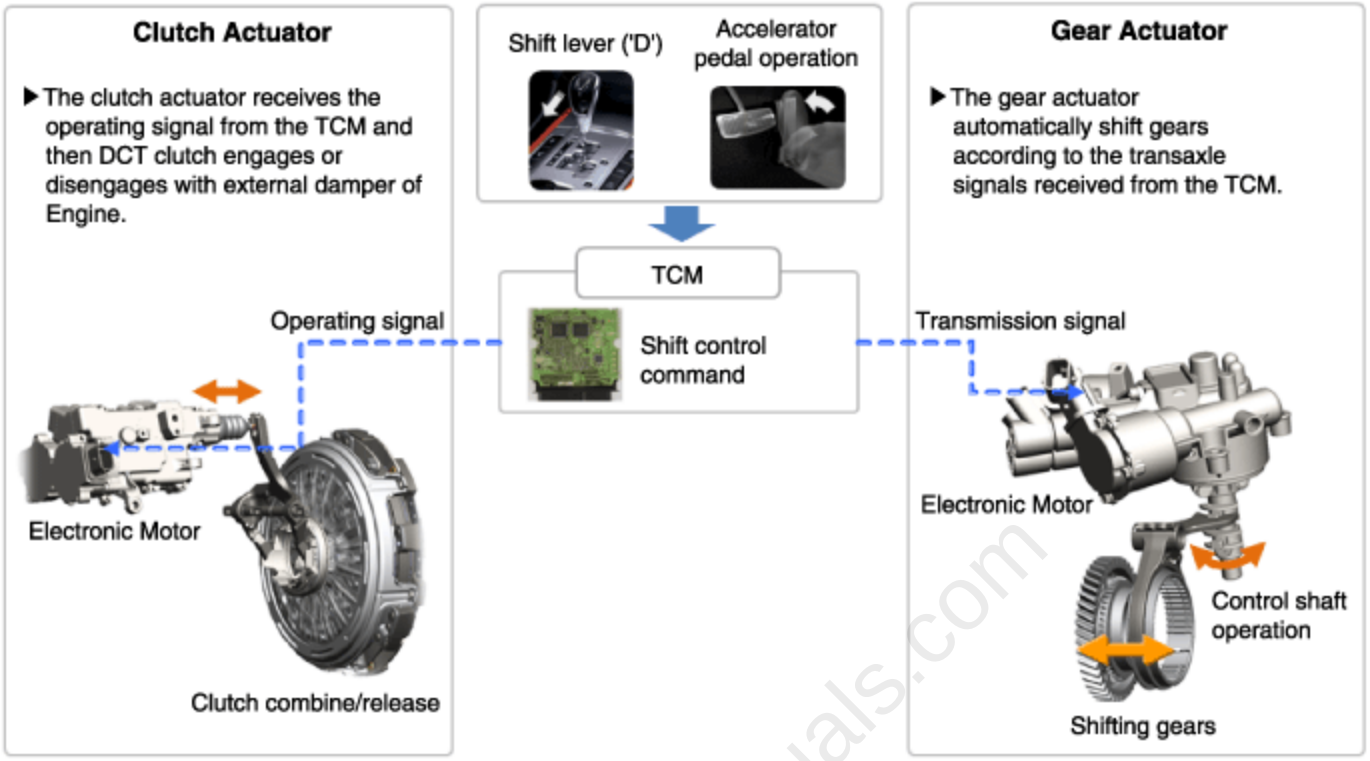
Description and operation

Description

The Dual Clutch Transmission (DCT) control system measures data required for identifying the state of control target and computes the appropriate compensation value if adjustment is necessary.

The actuator is controlled according to the computed compensation value to obtain desired output.

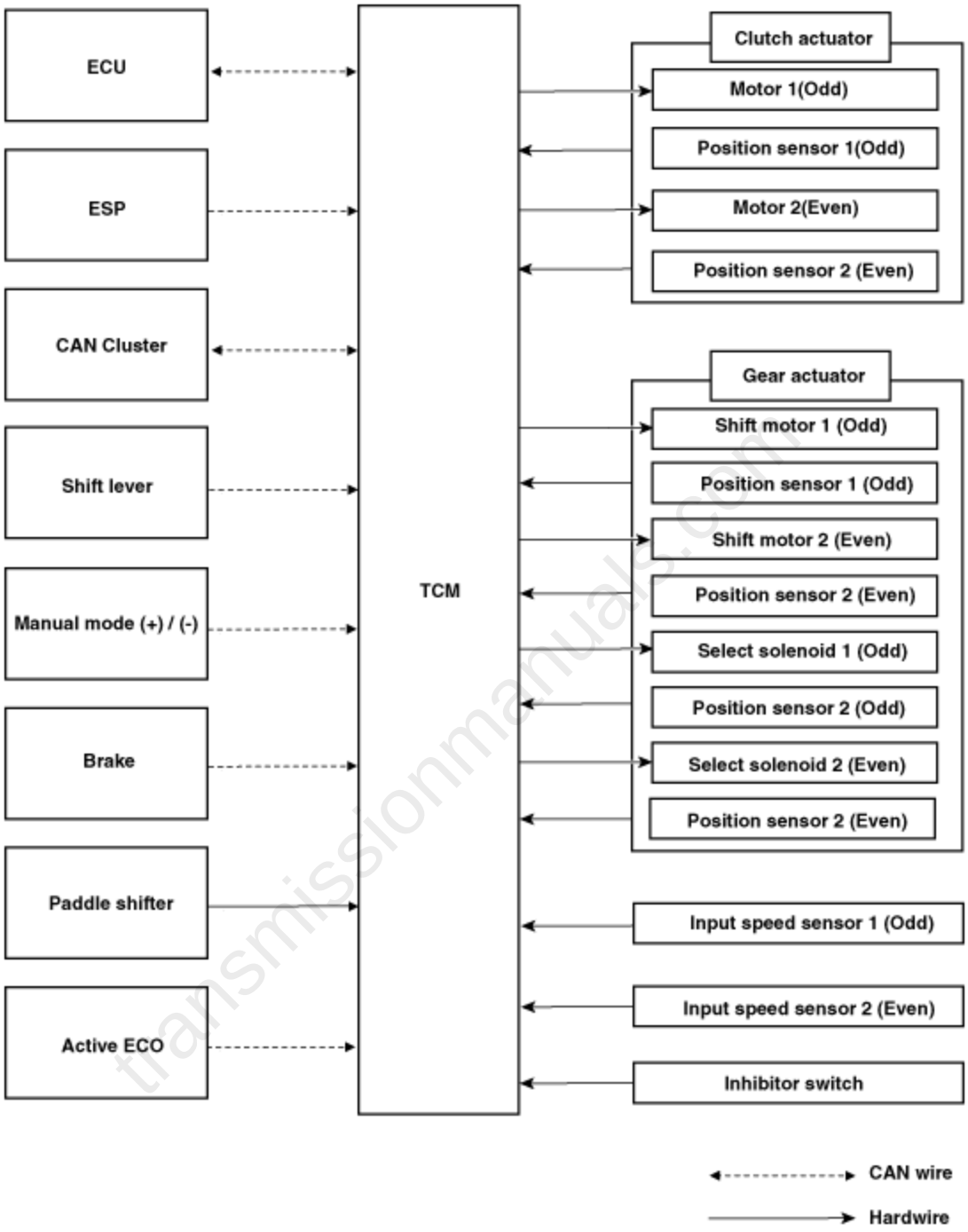
Operating principle



Control system logic

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Control system logic



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- DCT Control Module (TCM)
- Clutch Actuator Assembly
- Gear Actuator Assembly
- Input Speed Sensor 1
- Input Speed Sensor 2
- Inhibitor Switch
- Shift Lever
- Shift Cable

DCT(Dual Clutch Transmission) System

Service data Service Data Dual clutch transmission Transmission model D7UF1 Engine model Gamma 1.6 T-GDI Clutch ...

DCT Control Module (TCM)

Schematic diagrams TCM Connector TCM Terminal Function Connector [A] Pin Description Pin Description ...

Other information:

Kia Forte 2019-2023 (BD) Owners Manual: To help prevent corrosion

You can help prevent corrosion from beginning by observing the following: Keep your vehicle clean The best way to prevent corrosion is to keep your vehicle clean and free of corrosive materials. Attention to the underside of the vehicle is particularly important. If you live in a hig ...

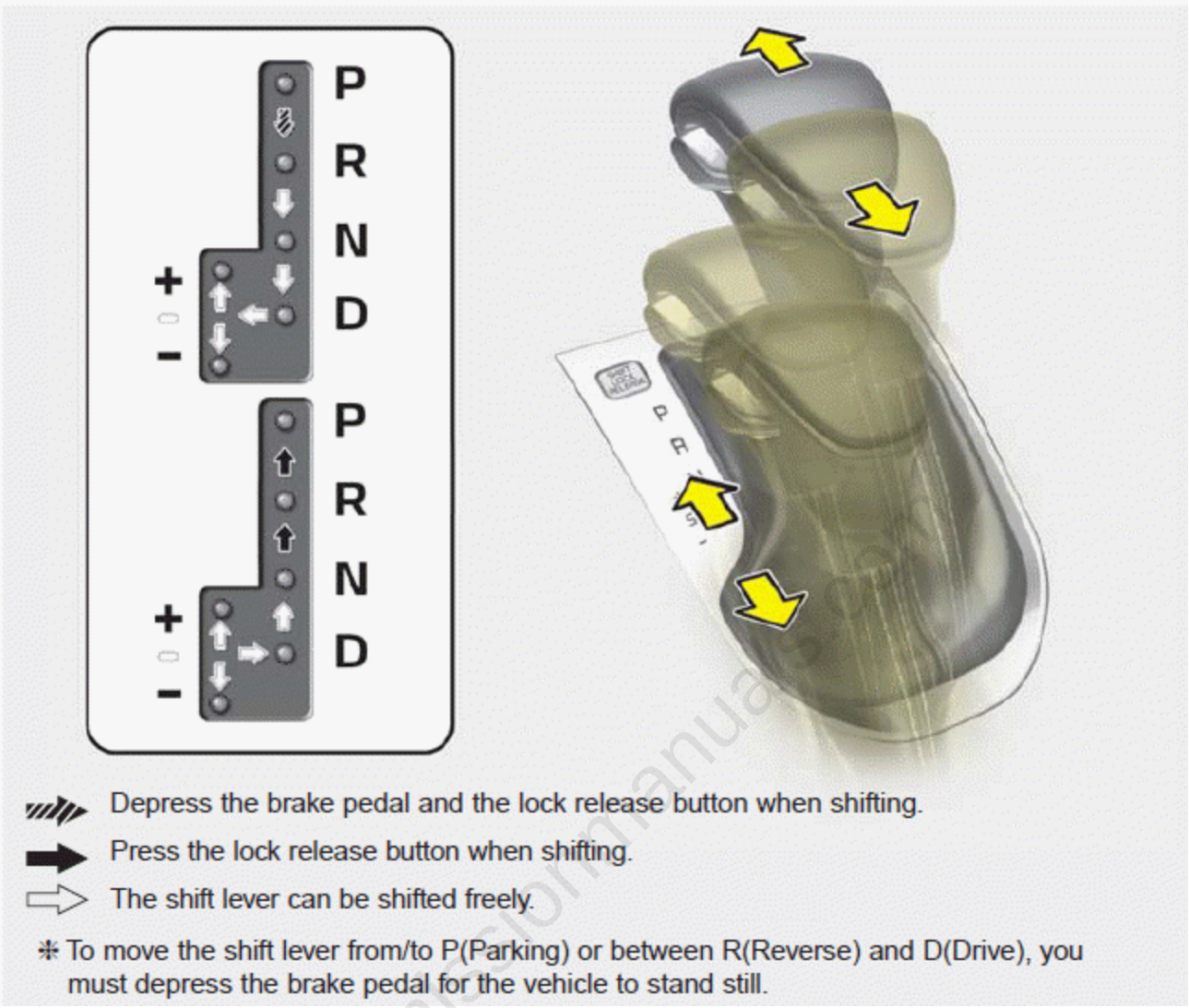
Kia Forte 2019-2023 (BD) Owners Manual: Emergency trunk safety release

Your vehicle is equipped with an emergency trunk release lever located inside the trunk. If someone is inadvertently locked in the trunk, moving the handle in the direction of the arrow will release the trunk latch mechanism and open the trunk. No one should be allowed to occupy the ...

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Driving your vehicle / Dual Clutch Transmission (DCT)

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Dual clutch transmission operation

The dual clutch transmission has 7 forward speeds and one reverse speed.

The individual speeds are selected automatically in the D (Drive) position.

WARNING

To reduce the risk of serious injury or death:

- *ALWAYS check the surrounding areas near your vehicle for people, especially children, before shifting a vehicle into D (Drive) or R (Reverse).*
- *Before leaving the driver's seat, always make sure the shift lever is in the P (Park) position, then set the parking brake, and place the ignition switch in the LOCK/OFF position. Unexpected and sudden vehicle movement can occur if these precautions are not followed.*
- *Do not use engine braking (shifting from a high gear to lower gear) rapidly on slippery roads. The vehicle may slip causing an accident.*

• The Dual Clutch Transmission gives the driving feel of a manual transmission, yet provides the ease of a fully automatic transmission. Unlike a traditional automatic transmission, the gear shifting can be felt (and heard) on the dual clutch transmission
- Think of it as an automatically shifting manual transmission.
- Shift into Drive mode and get fully automatic shifting, similar to a conventional automatic transmission.

• Dual clutch transmission adopts a dry-type dual clutch, which is different from the torque converter of a automatic transmission, and shows better acceleration performance during driving, but the initial launch might be little bit slower than an Automatic Transmission.

• The dry-type clutch transfers torque and provides a direct driving feeling which may feel different from a conventional automatic transmission with a torque converter.This may be more noticeable when starting from a stop or low vehicle speed.

• When rapidly accelerating at low vehicle speed, the engine may rev at a higher rpm depending on vehicle drive condition.

• For a smooth launching uphill, press down the accelerator pedal smoothly depending on the current conditions.

• If you release your foot from the accelerator pedal at low vehicle speed, you may feel strong engine braking, which is similar to a manual transmission.

• When driving downhill, you may use Sports Mode to downshift to a lower gear in order to control your speed without using the brake pedal excessively.

• When you turn the engine on and off, you may hear clicking sounds as the system goes through a self test. This is a normal sound for the Dual Clutch Transmission.

WARNING

In the case of a transmission failure, the vehicle may not move and the position indicator (D, R) will blink on the cluster. In this situation, have the system checked by a professional workshop. Kia recommends to visit an authorized Kia dealer/service partner.

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- LCD display for transmission temperature and warning message

Good driving practices

Never take the vehicle out of gear and coast down a hill. This is extremely hazardous. Always leave the vehicle in gear. Don't "ride" the brakes. This can cause them to overheat and m ...

LCD display for transmission temperature and warning message

Transmission temperature Gauge ■ Type A ■ Type B ■ Type A ■ Type B Select trip computer mode on the LCD display and move to the transmission temperature screen to see ...

Other information:

Kia Forte 2019-2023 (BD) Service Manual: Air Cleaner

Components and components location Components 1. Air cleaner assembly 2. Air intake hose 3. Air duct 4. Air intake shield 5. Air duct extension 6. Breather hose Repair procedures Removal and Installation Air Cleaner Assem ...

Kia Forte 2019-2023 (BD) Service Manual: Power Window Motor

Schematic diagrams Circuit Diagram [Safety Window Motor] [Standard Window Motor] Repair procedures Inspection • Wrap the protective tape on the tool to disassemble wit ...

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