



GROUP
Transmission

MODEL
All Models Equipped
with DCT

NUMBER
PS481

DATE
March 2017



TECHNICAL OPERATIONS

SUBJECT: DUAL CLUTCH TRANSMISSION (DCT)
CHARACTERISTICS

All models with a 1.6L Turbo engine may come equipped with a 7-speed Dual Clutch Transmission (DCT), except the 2017MY~ Niro (DE) with a 1.6L Atkinson engine comes equipped with a 6-speed Dual Clutch Transmission (DCT). This automatic transmission is unlike the conventional automatic transmission found in the complete line up of Kia vehicles. The new DCT improves fuel efficiency and can also provide a sportier feel. Certain aspects of this technology may lead to customer concerns if they are unfamiliar with it. To help maximize owner satisfaction on this new technology, Kia would like all dealership sales and service personnel to be familiar with the characteristics of this new transmission.

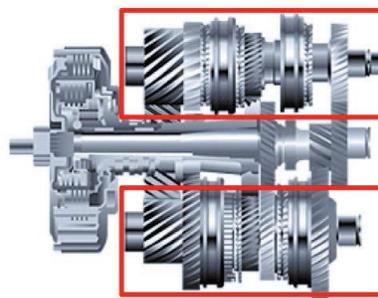
Essentially, a DCT is an automated manual transmission. Unlike a conventional automatic transmission, this transmission utilizes two separate clutches and gear sets: one for odd gears, and one for even gears. The transmission control module (TCM) engages and disengages the clutches automatically. Being an automated manual transmission, customers may experience some characteristics not common in a traditional automatic transmission, such as a shudder sensation.

This shudder sensation can be compared to what is felt when the driver of vehicle with a manual transmission disengages the clutch when coming to a stop, and then engages it to transmit power to the wheels. In vehicles equipped with a DCT, a similar sensation may be felt under light acceleration from a stop, or at slow speeds (such as in stop and go traffic).

Keep this condition in mind as you test drive the DCT equipped vehicle. A well prepared technician will be able to address customer questions by explaining these normal characteristic concerns leading to a happy customer.



Gear set 1 (controlled odd gears)

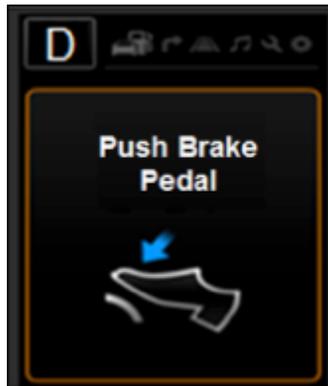


Gear set 2 (controlled even gears)

In certain operating conditions, specific DCT related warning messages may appear on the instrument cluster. It is important to understand these warning messages in order to address potential customer concerns with this type of transmission.

Push Brake Pedal Warning

This warning message (or similar) may illuminate while attempting to keep the vehicle stationary uphill utilizing the accelerator pedal, which will cause excess clutch slippage. When this message appears, the TCM will also actuate the clutches to create a vibration feeling to warn the driver. In order to prevent this message, customers should utilize the brake pedal when stopping uphill.



Clutch High Temperature Warning

This message (or similar) may illuminate while driving in stop and go conditions uphill, which can lead to excessive clutch slippage, thus increasing clutch temperature. To prevent damage, the “Clutch High Temperature” warning message will be displayed on the instrument cluster. When this message is displayed, customers may notice deterioration in shift quality such as increased vibration or roughness. Initially, an audible warning and blinking of the gear indicator will also occur 3 times. A sequential warning may follow shortly after, in which an audible warning and gear indicator blinking will occur continuously. Should this condition occur, the customer should safely pull over to the side of the road. Place the vehicle in park and idle the engine until the message goes away.



Clutch Over Heat Warning

If customer disregards the previous warning and clutch temperatures continue to increase, the “Clutch Over Heat” (or similar) warning will appear. In this condition, the system will disengage the clutches, preventing operation of the vehicle in order to protect the system from further damage. A timer of approximately 20 minutes will then appear. Once the timer reaches 0, clutch operation will be reestablished.

