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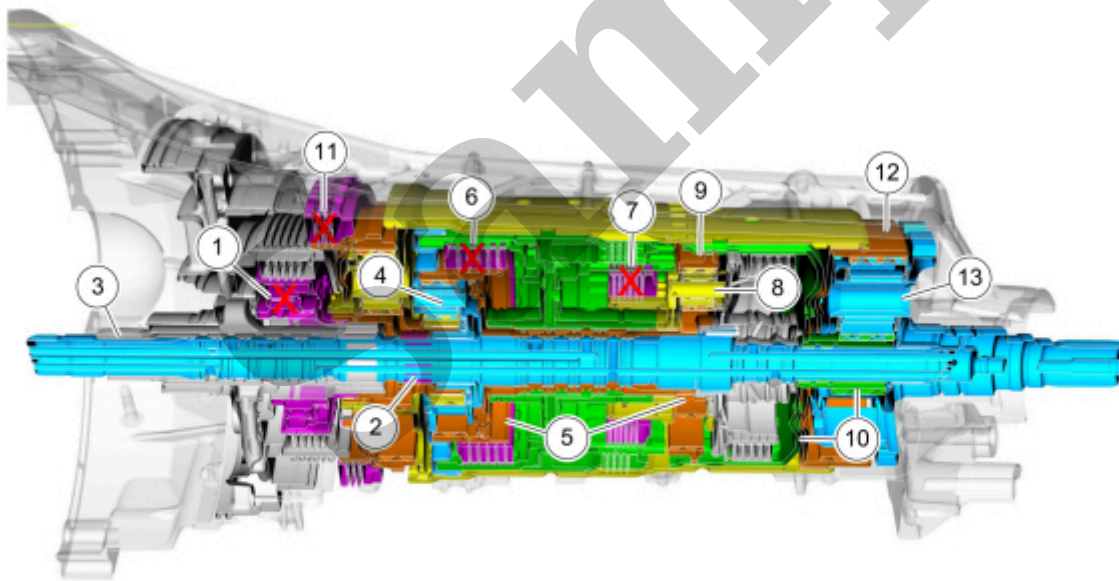
2010 FORD Flex OEM Service and Repair Workshop Manual

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3	Shell and sun gear No. 4
4	A clutch
5	One-Way Clutch (OWC)
6	Ring gear No. 4
7	Output shaft and planetary carrier No. 4
8	D clutch

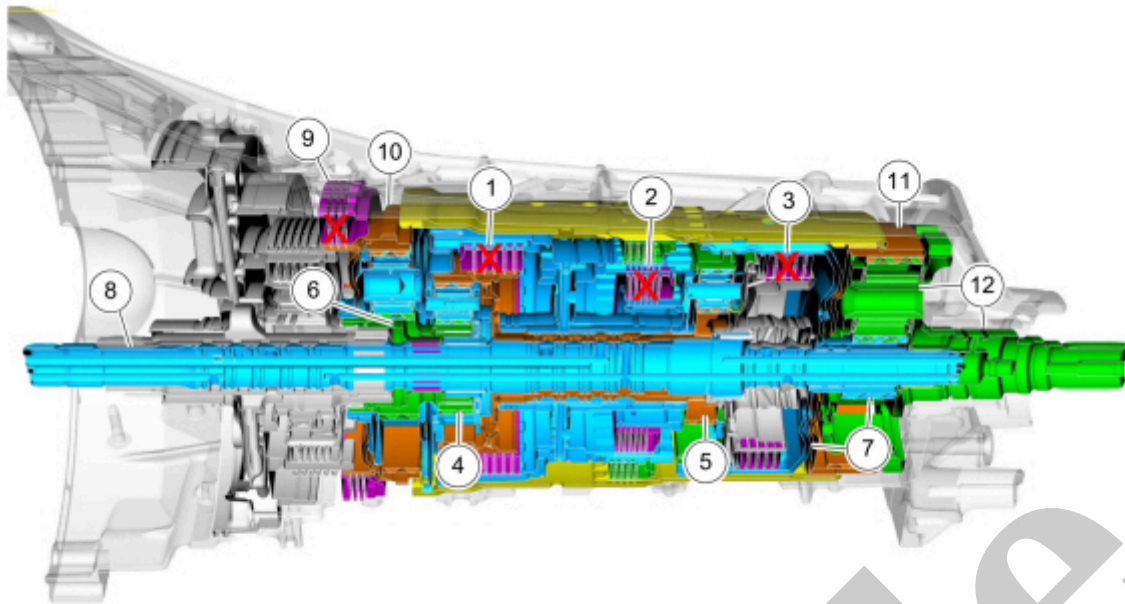
The E clutch is applied allowing torque to be transferred from the input shaft to the shell and sun gear No. 4. The A clutch and the One-Way Clutch (OWC) are both applied to hold the ring gear No. 4 stationary on acceleration. The shell and sun gear No. 4 drives the pinions of the output shaft and planetary carrier No. 4 in a 4.69 reduction gear ratio. The D clutch is applied to reduce frictional losses from a released clutch, but does not contribute to powerflow.

2nd Gear



E240869

Item	Description
1	One-Way Clutch (OWC)



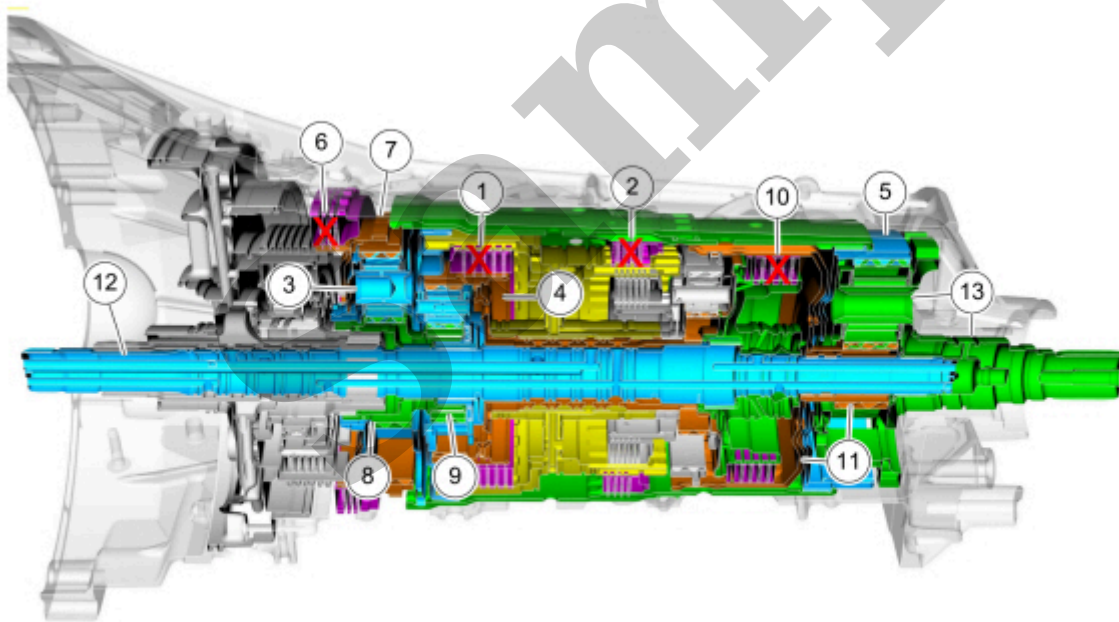
E240871

Item	Description
1	C clutch
2	D clutch
3	E clutch
4	Planetary gear set No. 2
5	Planetary gear set No. 3
6	Sun gear No. 1
7	Shell and sun gear No. 4
8	Input shaft
9	A clutch
10	Ring gear No. 1
11	Ring gear No. 4

6	Planetary carrier No. 1
7	Ring gear No. 2
8	A clutch
9	Ring gear No. 1
10	Input shaft
11	Output shaft and planetary carrier No. 4

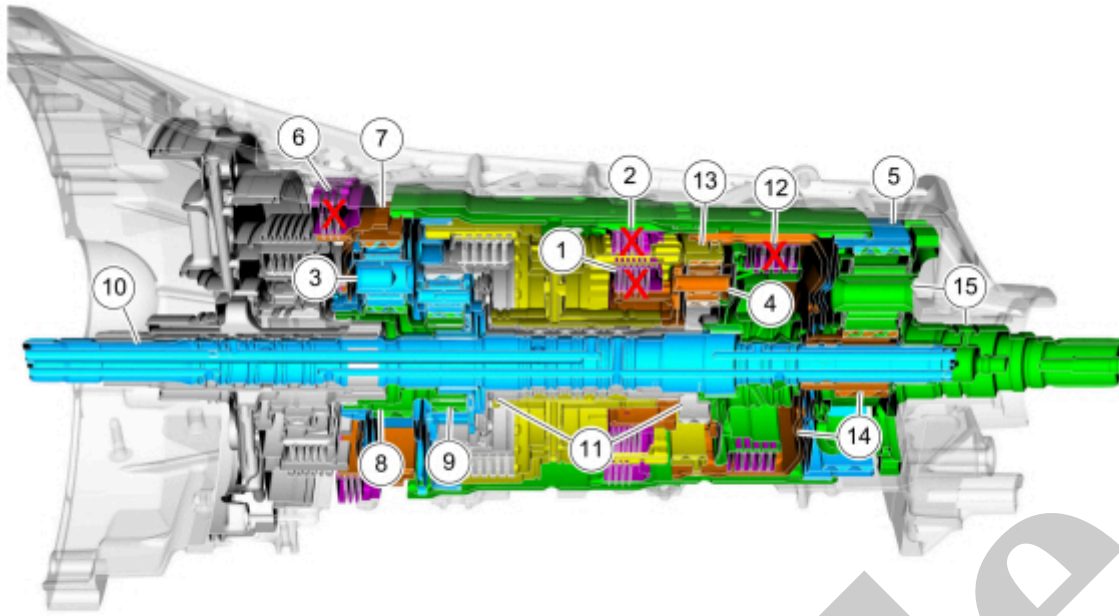
The C clutch, D clutch, and F clutch are applied effectively locking the 3rd and 4th planetary gear sets, the planetary carrier No. 1, and the ring gear No. 2 together. The A clutch is holding the ring gear No. 1. The 2 inputs to the planetary gear set No. 1 cause the sun gear No. 1 and the sun gear No. 2 to rotate at a 0.56 overdrive ratio. The input shaft turns the planetary carrier No. 2 and causes the ring gear No. 2 and the 4th planetary gear set to rotate at a 1.77 ratio.

5th Gear



E240873

Item	Description
1	C clutch



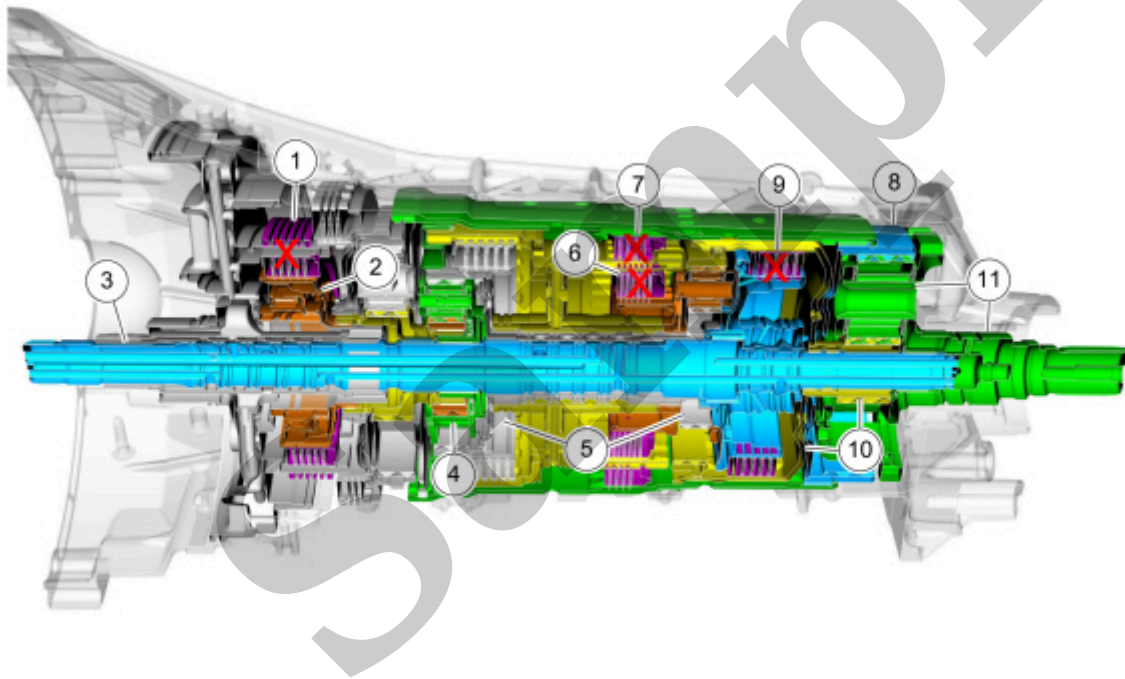
E240874

Item	Description
1	D clutch
2	F clutch
3	Planetary carrier No. 1
4	Planetary carrier No. 3
5	Ring gear No. 4
6	A clutch
7	Ring gear No. 1
8	Sun gear No. 1
9	Sun gear No. 2
10	Input shaft
11	Ring gear No. 2 and sun gear No. 3

2	D clutch
3	F clutch
4	E clutch
5	Input shaft
6	Output shaft and planetary carrier No. 4

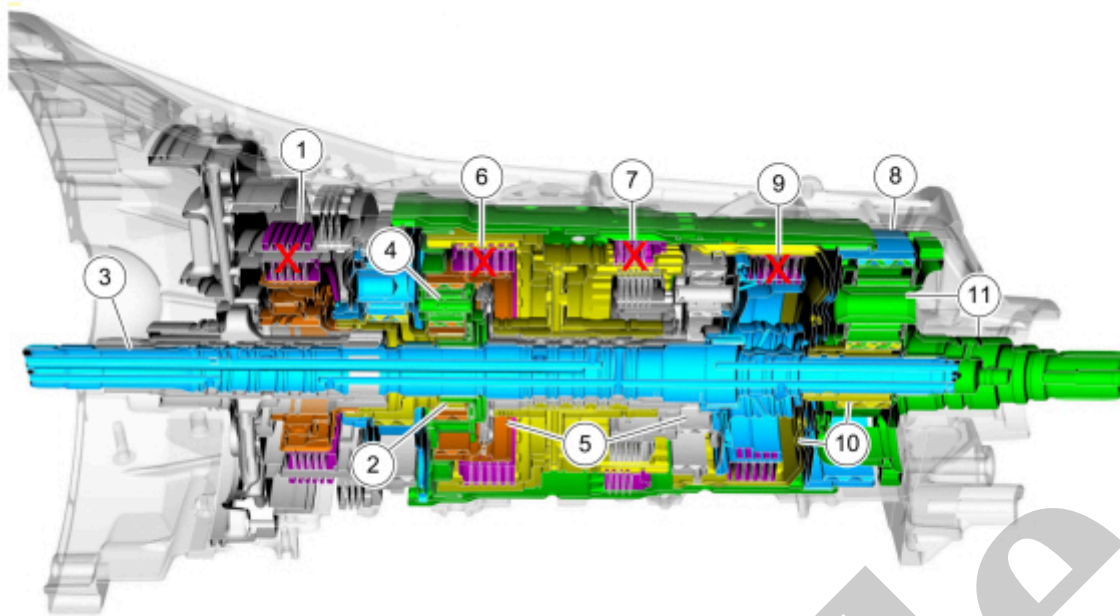
The C clutch, D clutch, F clutch and the E clutch are applied to provide multiple inputs at the same speed to all four planetary gears sets. These inputs effectively lock all four planetary gears sets causing the output shaft and planetary carrier No. 4 to rotate at a 1:1 ratio with the input shaft.

8th Gear



E240876

Item	Description
1	A clutch
2	One-Way Clutch (OWC)
3	Input shaft



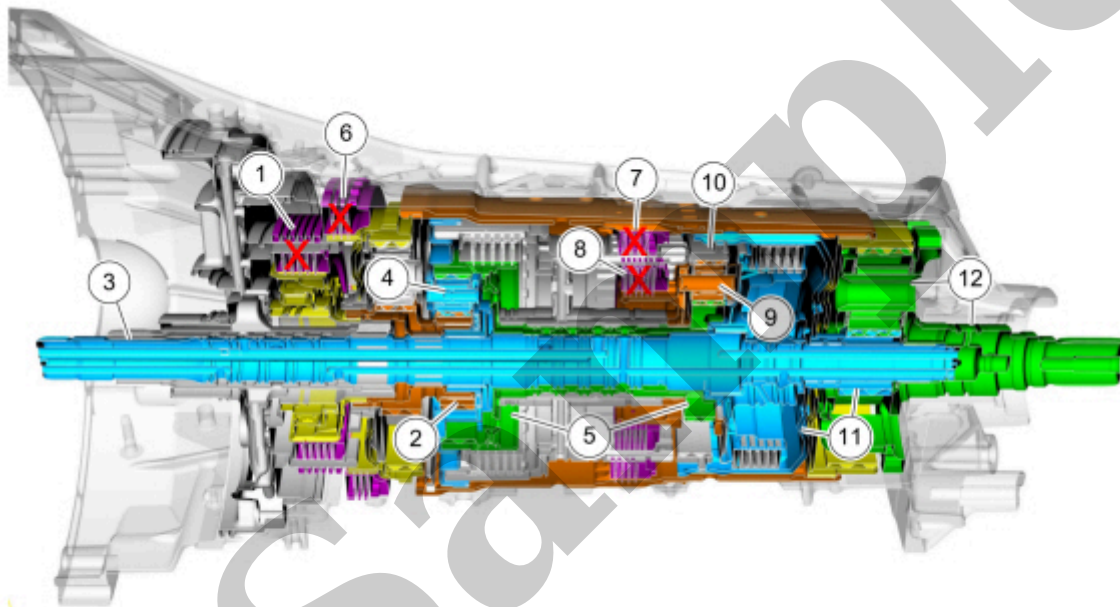
E240877

Item	Description
1	B clutch
2	Sun gear No. 2
3	Input shaft
4	Planetary carrier No. 2
5	Ring gear No. 2 and sun gear No. 3
6	C clutch
7	F clutch
8	Ring gear No. 4
9	E clutch
10	Shell and sun gear No. 4
11	Output shaft and planetary carrier No. 4

8	F clutch
9	Planetary gear set No. 3 and planetary gear set No. 4
10	Output shaft and planetary carrier No. 4

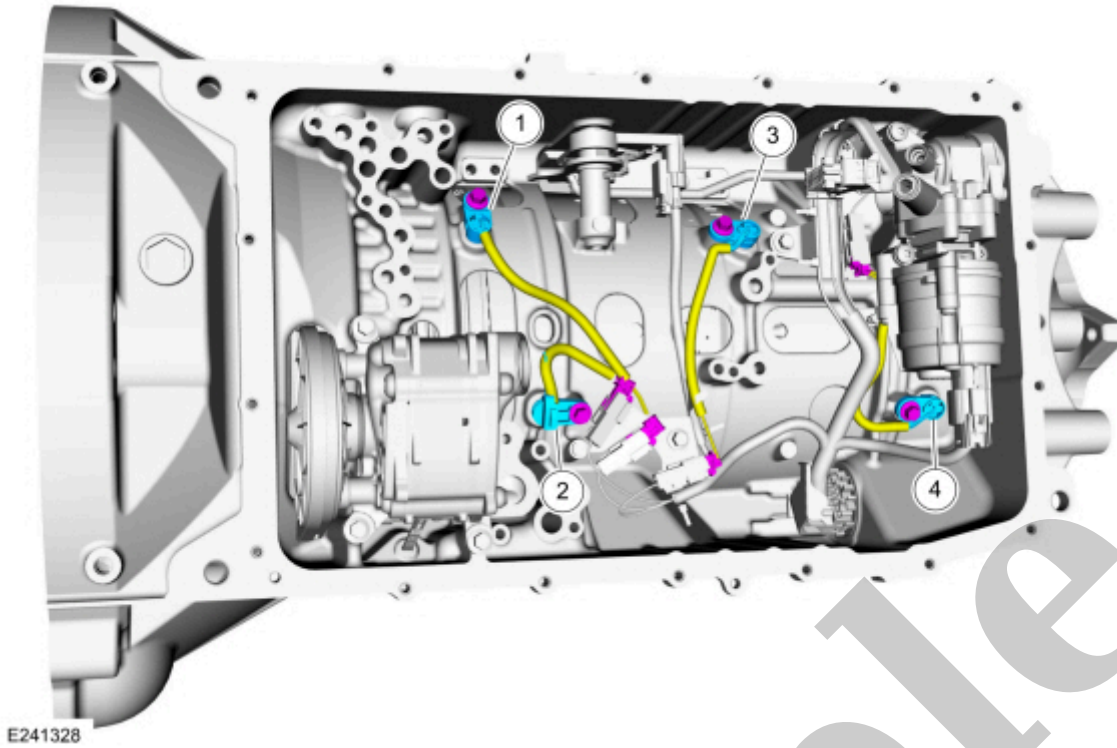
The B clutch is holding the sun gear No. 2 stationary. The input shaft turns the planetary carrier No. 2 and causes the ring gear No. 2 and sun gear No. 3 to rotate. The C clutch, D clutch, and the F clutch are applied to provide torque input from the ring gear No. 2 at an overdrive ratio of 0.56. This torque input effectively locks the 3rd and 4th planetary gears sets causing the output shaft and planetary carrier No. 4 to rotate at a 0.64 ratio.

Reverse



E240868

Item	Description
1	B clutch
2	Sun gear No. 2
3	Input shaft
4	Planetary carrier No. 2



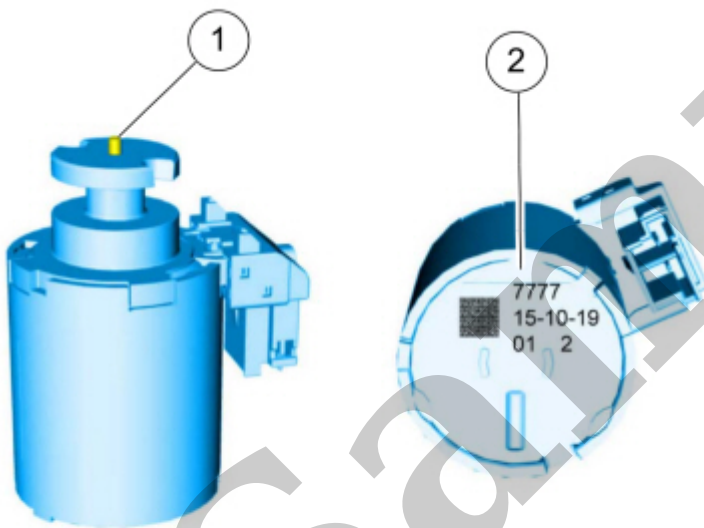
Item	Description
1	Intermediate speed sensor A
2	TSS (turbine shaft speed) sensor
3	Intermediate speed sensor B
4	OSS (output shaft speed) sensor

The PCM (powertrain control module) or the TCM (transmission control module) controls the electronic functions of this transmission. The PCM (powertrain control module) or TCM (transmission control module) receives input signals from engine and transmission sensors and uses these inputs to control line pressure, shift time, TCC (torque converter clutch) and shift solenoids.

Item	Description
TFT (transmission fluid temperature) Sensor	The TFT (transmission fluid temperature) sensor is located in the transmission main control valve body. It is a temperature-sensitive device called a thermistor. The resistance value of the TFT (transmission fluid temperature) sensor will vary with temperature change. The PCM (powertrain control module) or the TCM (transmission control module) monitors the voltage across the TFT (transmission fluid temperature) sensor to determine

A	TCM (transmission control module) that changes in frequency as the trigger wheel part of the No. 1 ring gear varies in speed or direction. The intermediate speed sensor A (ISSA) is used to monitor clutch states for transmission fault detection and diagnostics. The intermediate speed sensor A (ISSA) is mounted to the transmission case.
Intermediate Speed Sensor B	The intermediate speed sensor B (ISSB), is a 2-Wire Hall-effect type sensor that provides a intermediate speed sensor B (ISSB) signal to the PCM (powertrain control module) or the TCM (transmission control module) that changes in frequency as the trigger wheel part of the clutch and planetary container cylinder varies in speed or direction. The intermediate speed sensor B (ISSB) is used to monitor clutch states for transmission fault detection and diagnostics. The intermediate speed sensor B (ISSB) is mounted to the transmission case.

Shift Solenoids



E241875

Item	Description
1	Armature/pin assembly
2	Part information

The 10R80 utilizes six shift (A-F) solenoids that are linear force solenoids. Unlike previous shift solenoids they are mechanical in nature in that no transmission fluid passes through them. CIDAS (casting integrated direct