

2013 Chevrolet Colorado

Submodel: | Engine Type: | Liters:

Fuel Delivery: | Fuel:

As the vehicle speed increases, the transmission control module (TCM) receives input signals from the automatic transmission input and output speed sensors, the throttle position sensor and other vehicle sensors to determine the precise moment to command OFF the normally-high C35R pressure control solenoid 2. At the same time the normally-low CBR1/C456 pressure control solenoid 3 is commanded ON to regulate 4-5-6 clutch apply.

[4-5-6 Clutch Applies](#)

CBR1/C456 Pressure Control Solenoid 3

The CBR1/C456 pressure control solenoid 3 (PCS) is commanded ON allowing actuator feed fluid to enter the PCS CBR1/456 clutch fluid circuit. PCS CBR1/456 clutch fluid is routed through orifice #39 to the CBR1/C456 clutch regulator valve and, through orifice #31 to the CBR1/C456 clutch boost valve.

CBR1/C456 Clutch Regulator Valve

PCS CBR1/456 clutch fluid moves the CBR1/C456 clutch regulator valve against CBR1/C456 clutch regulator valve spring force to allow line fluid to pass through the valve and enter the CBR1/456 clutch feed circuit. CBR1/456 clutch feed is then routed to the 4-5-6 clutch boost valve and clutch select valve 2.

4-5-6 Clutch Boost Valve

PCS CBR1/456 clutch fluid pressure acts on a differential area moving the CBR1/456 clutch boost valve against the CBR1/456 clutch boost valve spring. CBR1/456 clutch fluid passes through the valve and enters the CBR1/456 clutch feedback circuit. As PCS CBR1/456 clutch fluid pressure is increased to a given value, the CBR1/456 clutch boost valve opens the CBR1/456 clutch feedback circuit to exhaust. This results in the CBR1/456 clutch regulator valve moving to the full feed position, sending full line pressure to the clutch.

Clutch Select Valve 2

CBR1/456 clutch feed fluid passes through the clutch select valve 2 and enters the 456 clutch feed circuit. The 456 clutch feed fluid is routed to the clutch select valve 3 where it passes through the valve and enters the 456 clutch fluid circuit. The 456 clutch fluid is routed to the 4-5-6 clutch, the 2-6 clutch regulator gain valve and to the #3 ball check valve. The 456 clutch fluid seats the #3 ball check valve against solenoid 2 fluid passage and directed into the CSV3 enable fluid circuit where it is routed through orifice #20 and to clutch select valve 3.

4-5-6 Clutch

The 456 clutch fluid enters the 4-5-6 clutch housing to move the piston against spring force, combined with force from the compensator to apply the 4-5-6 clutch plates.

[3-5 Reverse Clutch Releases](#)

C35R Pressure Control Solenoid 2

The C35R pressure control solenoid 2 is commanded OFF, allowing PCS 35 reverse clutch fluid from the 3-5 reverse clutch boost valve and the 3-5 reverse clutch regulator valve to exhaust through the solenoid.

3-5 Reverse Clutch Boost Valve

The 3-5 reverse boost valve spring force moves the valve to allow 35 reverse clutch feedback fluid from the 3-5 reverse clutch regulator valve to enter the 35 reverse clutch fluid circuit and exhaust.

3-5 Reverse Clutch Regulator Valve

The 3-5 reverse clutch regulator valve spring force moves the valve to allow 35 reverse clutch fluid from the 3-5 reverse clutch to pass through the valve and enter the exhaust backfill fluid circuit. The 35 reverse clutch fluid then enters the exhaust backfill fluid circuit and is routed through orifice #30 to the exhaust backfill pressure relief valve where excess pressure is exhausted.

3-5 Reverse Clutch

The 3-5 reverse clutch spring force combined with force from the compensator move the 3-5 reverse clutch piston to release the 3-5 clutch plates and forces 35 reverse clutch fluid to exhaust from 1- 2-3-4 and 3-5 reverse clutch housing. The 35 reverse clutch fluid is then routed to the 3-5 reverse clutch regulator valve and exhausted.

