



RV Recommendations

CX28,CX31 & CX35

TRANSMISSION WARM-UP

Operations with ambient temperatures from 0°C (32°F) to 35°C (95°F) require minimal transmission warm up. Warming the engine will circulate and warm the transmission oil. When the transmission oil is allowed to warm up gradually, the anti friction components maintain optimum lubrication and cooling. High engine speeds during a cold start-up will decrease the durability of the bearing components. The electronic control system will restrict available transmission gears if operated with cold oil. If the ambient temperature is less than -23°C (-10°F) the engine needs to be warmed-up for 20 minutes.

Daily Oil Level Check

The Caterpillar Shift Pad Selector allows the transmission oil level to be checked from the driver's seat by using an electronic oil level sensor mounted inside the transmission. The oil level can also be checked by using the transmission dip stick provided by the RV builder.

Requirements: Checking Transmission Oil

- Vehicle stationary
- Transmission in neutral
- Engine at idle
- Vehicle on level plane
- Transmission oil temperature above 80°C (176°F)

To initiate the electronic transmission oil level check, simultaneously press and hold the Up and Down arrows on the Shift Selector pad. This action starts a two-minute timer. The Shift Selector Pad will display one of the listed messages if **requirements are not met**. The Shift Pad will display two characters at a time in one of the sequences shown in the following table:

Display	Description
OL-ES-LO	Engine speed too low
OL-ES-HI	Engine speed too high
OL-TX-N	Neutral not selected
OL-OT-LO	Oil temperature too low
OL-OT-HI	Oil temperature too high
OL-VS-HI	Vehicle speed not zero
OL-SE	System error

Once all the vehicle requirements are met, the range display will show 90 and will count down to 0 during a two-minute period. At the end of the two-minute countdown, one of the following messages will be displayed.

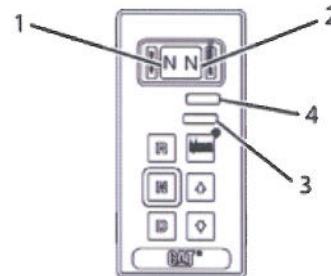
Display	Description
OL-LO-XX	Oil low XX quarts
OL-HI-XX	Oil high XX quarts
OL-OK	Oil level full

Note: Periodically the manual oil level dip stick should be compared to the electronic oil level display to ensure both methods provide comparable results.

The Oil Level Message display continues to function until the driver exits the mode by pressing a range button or the Up/Down arrows simultaneously. The transmission will not take any action at the end of the oil level check. The oil level check is for the driver's information and it is up to the driver to take appropriate action.

Basic Operation

With the ignition key switch in the ON position, the Shift Selector Pad will display "N N," indicating that the transmission is in Neutral.



Shift Pad

- (1) Left character
- (2) Right character
- (3) Mode One decal and LED light
- (4) Mode Two decal and lamp

Flashing Desired Gear

Several circumstances may prevent the transmission from shifting into a desired Range. When this happens, the Desired Gear value will flash and the transmission will not shift into the selected range. Circumstances preventing shift into the desired range include the following:

- Engine speed too high (over 1,000 rpm)
- Vehicle speed too high
- Programmable parameters
- Neutralized by park brake
- Auto Neutral

Range Selection: To shift the transmission into a desired Range or Gear, the operator pushes the D for Forward or the R for Reverse

Additional Features: The mode functions listed in this RV bulletin may or may not be available based on the RV and customer programming.

Mode Feature Access

The RV body builder and dealers have the capability of programming Mode features. At this time two of the available features can be accessed using the Mode button. The two features are requested using different techniques of pressing the Mode button. A quick press and release of the Mode button will provide the first mode displayed by the programmer decal in position 3 on the shift pad. Pressing and holding the Mode button for three seconds request the second mode feature indicated by the decal on the lamp in position 4 on the shift pad.

Economy Mode

Selecting the Economy mode will reduce the engine speed at which the transmission shifts in order to provide earlier upshifts. This will enhance fuel economy. Additional mode information can be obtained from the OEM manufacturer.

TRANSMISSION DIAGNOSTICS

Caterpillar requires that RV transmission users install RED and AMBER driver warning lamps. The lamps may have several locations within the operator's station depending on the RV's design. The lamps provide an indication of the transmission's condition.

1. AMBER Trouble Indicator

The diagnostic lamp is yellow or AMBER. This lamp communicates the status of the transmission electronic system. If the amber lamp (trouble code) is activated, it alerts the driver that a diagnostic condition exists within the transmission.

2. RED Warning Indicator

The RED warning light tells the driver a condition exists which requires immediate attention. This lamp indicates a transmission oil filter bypass or an excessive oil temperature.

TRANSMISSION MAINTENANCE & SERVICE INTERVALS

Distance (odometer), service hours or calendar **time**, **whichever occurs first**, can be used to determine the maintenance schedule. More frequent oil changes are necessary when high levels of contamination, overheating, or S.O.S oil analysis indicate that the transmission oil has been contaminated. Contamination may include an oil viscosity change, a strong odor, or a discolored black appearance.

RV APPLICATIONS with SHALLOW SUMP ATF Dexron® III H		
Fluid Change Intervals	Main Filter	Main Filter
25,000 miles(1) (40,000 km) 1000 hours 12 months	25,000 miles (40,000 km) 1000 hours 12 months	25,000 miles (40,000 km) 1000 hours 12 months
RV APPLICATIONS with SHALLOW SUMP Synthetic ATF Meeting Caterpillar AT-1 Specifications (1)(2)		
150,000 miles(1) (240,000 km) 4,000 hours 48 months	50,000 miles (80,000 km) 2,000 hours 24 months	150,000 mile (240,000 km) 4,000 hours 48 months

(1) With acceptable SOS oil analysis results every 25,000 miles

(2) Factory test and fill oil is Dexron III H. Residual oil in the transmission will dilute the 1st use of synthetic oil. Caterpillar recommends a reduced oil change schedule for the 1st installation of synthetic oil.

Transmission Oil Filters:

Remote Spin-on 126-1817 Cartridge 249-2329
Non-remote oil filters for each of the CX transmissions are listed in the Application and Installation Guides.

Reference Literature:

CX28 Application & Installation Guide REHS8198
CX31 Application & Installation Guide REHS2790
CX35 Application & Installation Guide REHS2885
Parts Book CX28 SEBP4914
Parts Book CX31 SEBP4927
Parts Book CX35 SEBP4945

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Parts and Service Directory LEGT3466