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# The Prognostics of the Allison Generation 5 Transmission



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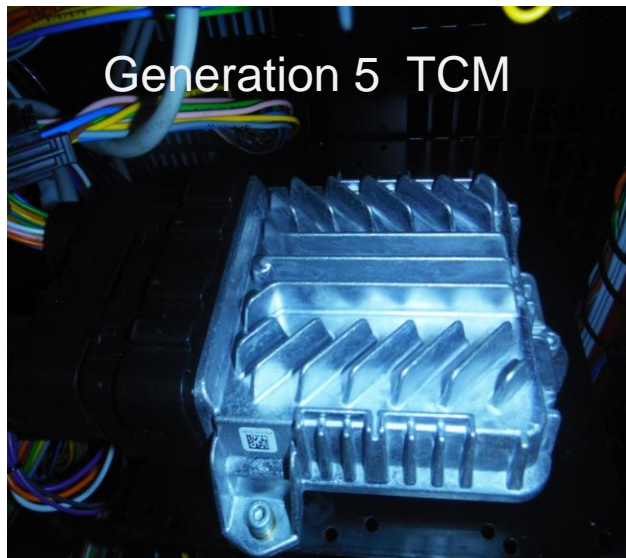
# The Allison Advantage

- Your Allison Automatic is fully electronically controlled. The Allison electronic controls package oversees the operation of the transmission, controlling transmission upshifts and downshifts, and providing important information on the operation of your drive system.



# 5th Generation Electronic Controls - Shift Selectors

As the world leader in medium- and heavy-duty commercial transmissions, Allison Transmission continues its ongoing improvement initiative with the introduction of 5th Generation Electronic Controls Shift Selectors for Model Year 2013 Allison 3000, 4000 Series models and TC10 TS model.

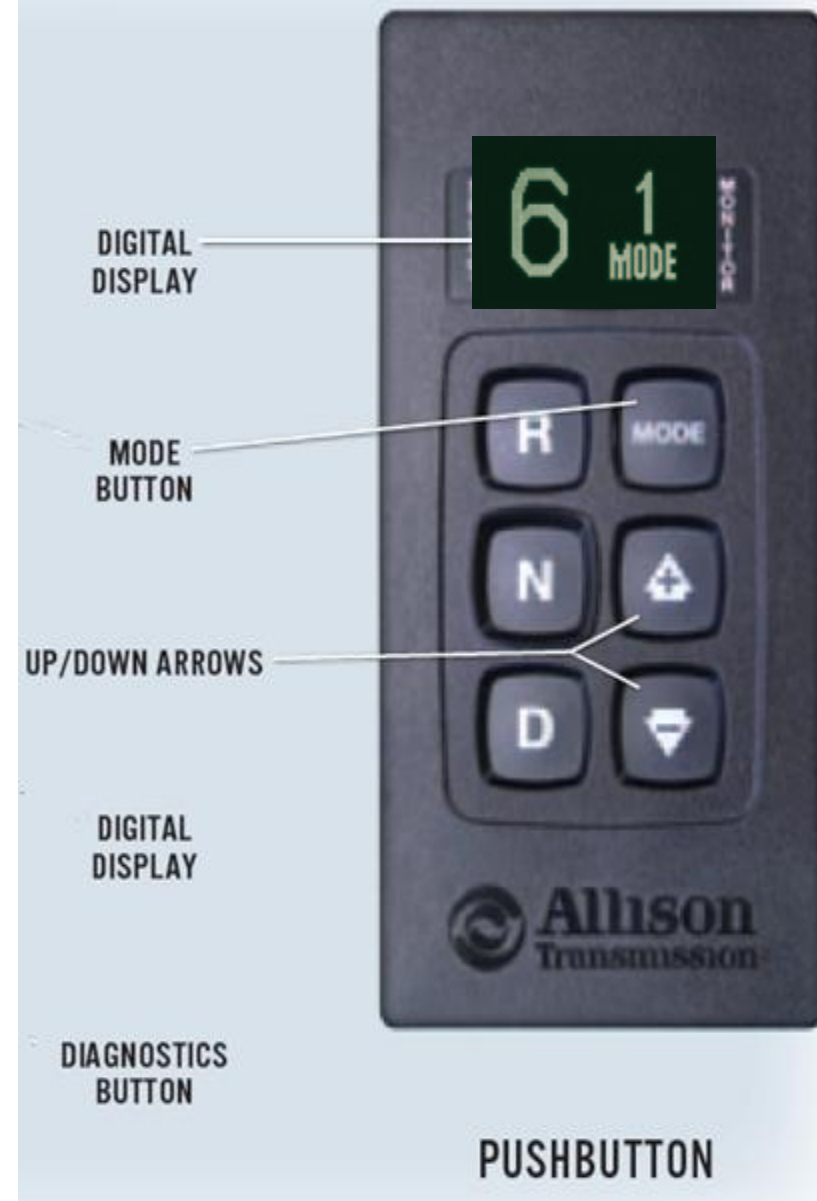


# Gen 5 Transmission

All 5th Generation Electronics Controls Shift Selectors feature easy-to-read graphic displays that show both text and symbols.

## Mode Button

Allison Automatics offer primary and secondary shift schedule modes to enhance performance or fuel economy. The vehicle always defaults to the primary mode. You can switch to the secondary mode by pushing the MODE button.





# Gen 5 Transmission

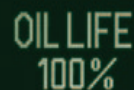
## Prognostic Features

The WRENCH ICON will illuminate briefly after you turn the key to the run position on your Allison equipped vehicle to indicate that prognostics are enabled. If the WRENCH ICON remains on or flashes, this indicates there is a service issue relating to clutch, filter or fluid life.



# Gen 5 Transmission

## Oil Life Monitor



OIL LIFE  
100%

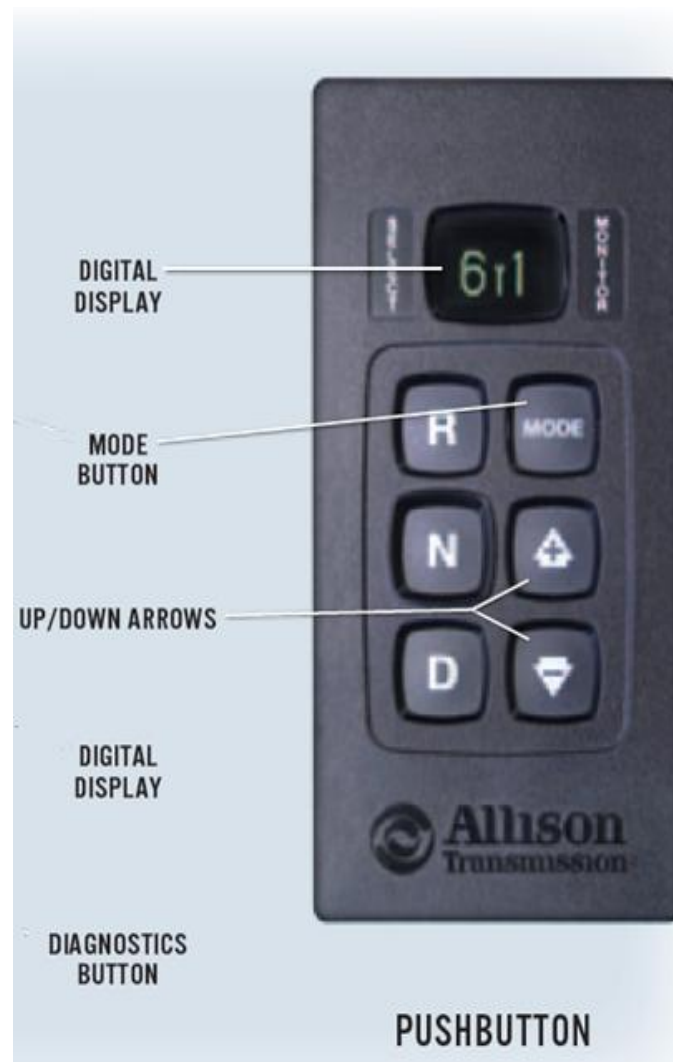
The status of the oil life is displayed as a percentage (OIL LIFE 100%) until fluid is due for a change.

## Filter Monitor



OIL FILTERS  
OK

The status of filter life is displayed as OIL FILTERS OK and alerts when filters are due for a change with REPLACE FILTERS.



# Gen 5 Transmission

## Accessing Prognostics

When you are alerted via the wrench icon on the shift selector that service is due, you can check the status by toggling through the shift selector display as follows. *Be sure to park the vehicle on a level surface, shift to N (Neutral) and apply the parking brake before accessing prognostics through the shift selector*

### OIL LIFE MONITOR



For a *pushbutton shift selector*, simultaneously press the **UP** and **DOWN** arrows two times.

The percentage of the fluid life remaining is displayed. New fluid is shown as OIL LIFE 100%.



# Gen 5 Transmission

## Filter Life Monitor



For a *pushbutton shift selector*, simultaneously press the **UP** and **DOWN** arrows three times.

Acceptable filter life status is shown as **FILTERS OK**, unacceptable filter life status is shown as **REPLACE FILTERS**.





# Gen 5 Transmission

## Transmission Health Monitor



For a *pushbutton shift selector*, simultaneously press the **UP** and **DOWN** arrows four times.

When TRANS HEALTH OK is shown, clutch maintenance is not required. When TRANS HEALTH LO is displayed, clutch maintenance is required.



# Gen 5 Transmission – Resetting Prognostics

## Oil Life Monitor

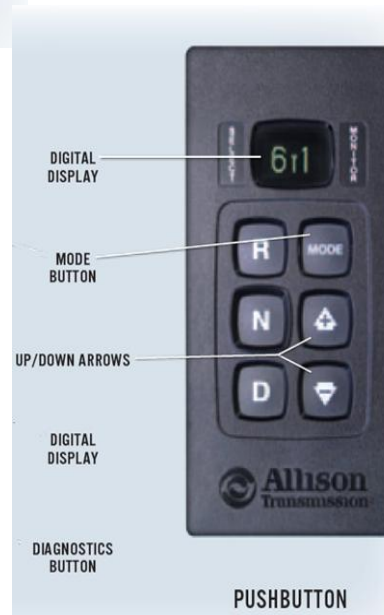


For either a *pushbutton* or *bump lever shift selector*, press and hold the **MODE** button for approximately 10 seconds while in Oil Life Monitor mode.

## Secondary Method

For either a *pushbutton* or *bump lever shift selector*, perform the following shift sequence with the ignition on, but the engine off. Do not stop the sequence for more than three seconds once you have started.

N-D-N-D-N-R-N



# Gen 5 Transmission – Resetting Prognostics

## Filter Life Monitor

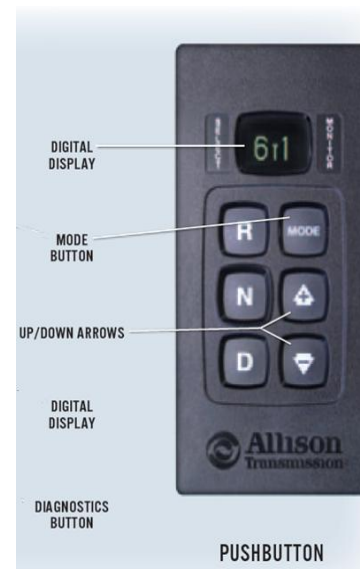


For either a *pushbutton* or *bump lever shift selector*, press and hold the MODE button for approximately 10 seconds while in Filter Life Monitor mode.

## Secondary Method

For either a *pushbutton* or *bump lever shift selector*, perform the following shift sequence with the ignition on, but the engine off. Do not stop the sequence for more than three seconds once you have started.

N-D-N-D-N-R-N



Note: Transmission health Monitor must be reset using Allison DOC after correcting a clutch system issue

# Gen 5 Transmission

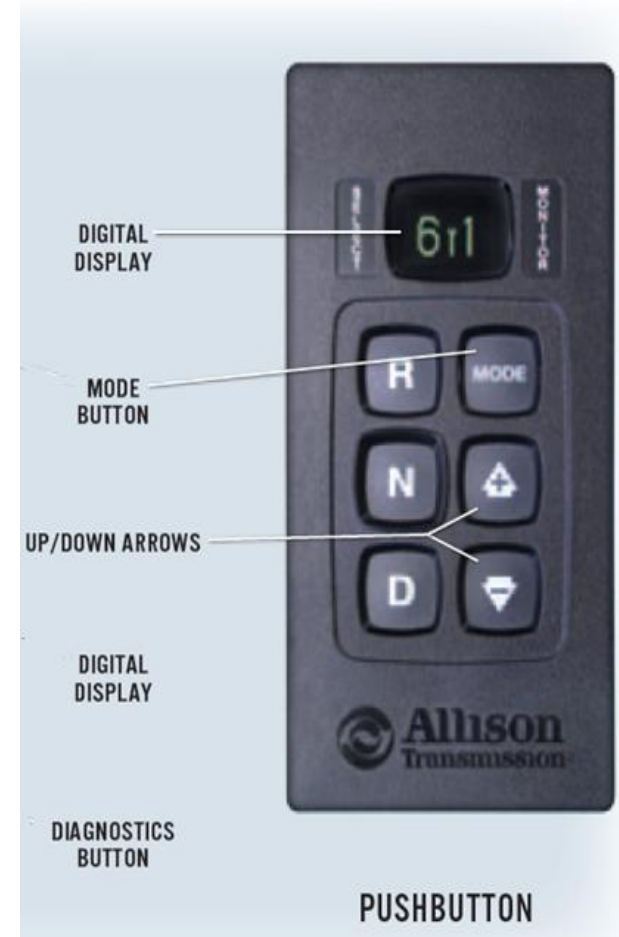
The transmission fluid cools, lubricates and transmits hydraulic power, so it is important the proper fluid level be maintained at all times. If the fluid level is too low, the converter and clutches do not receive an adequate supply of fluids. If the fluid level is too high, the fluid can aerate causing the transmission to shift erratically or overheat.

# Gen 5 Transmission

## Checking Fluid Levels

To enter the oil level function:

1. Park the vehicle on a level surface, shift to N (Neutral) and apply the parking brake.
2. Using a *pushbutton shift selector*, simultaneously press the UP and DOWN arrows one time.





# Gen 5 Transmission

## Checking Fluid Levels continued:

3. The fluid level reading will be **delayed** until the following conditions are met.
  - Engine must be at idle.
  - Transmission is in N (Neutral).
  - Output speed must be zero.
  - Fluid temperature must be between 140° F (60° C) and 220° F (104° C).
  - Vehicle has been stationary for two minutes to allow the fluid to settle.

# Gen 5 Transmission

## Checking Fluid Levels continued:

- The shift selector displays the oil level data as follows:
  - Correct Fluid Level – The fluid is within the correct fluid level zone when “OK” is shown.



TRANS OIL  
LEVEL OK

- Low Fluid Level – The display shows the number of quarts the transmission oil is low.

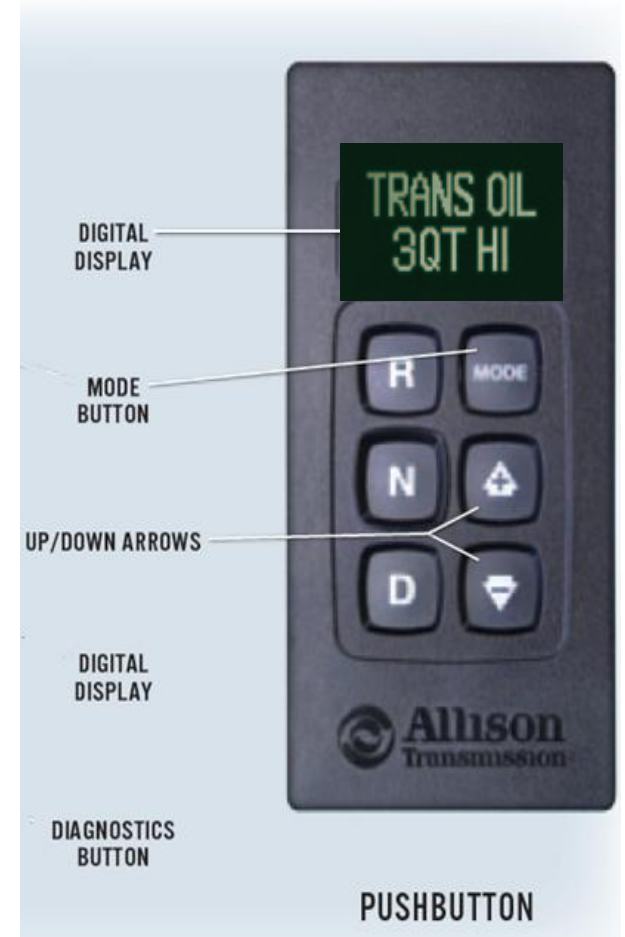


TRANS OIL  
2QT LO

# Gen 5 Transmission

## Checking Fluid Levels continued:

- High Fluid Level – the display shows the number of quarts the transmission oil is overfilled.



# Gen 5 Transmission

## Checking Fluid Levels continued:

- Delayed Fluid Level – If the fluid level check cannot be completed, one of the following Oil Level Display faults will be shown:



Note: To exit oil level function Push any range button once.

# Gen 5 Transmission

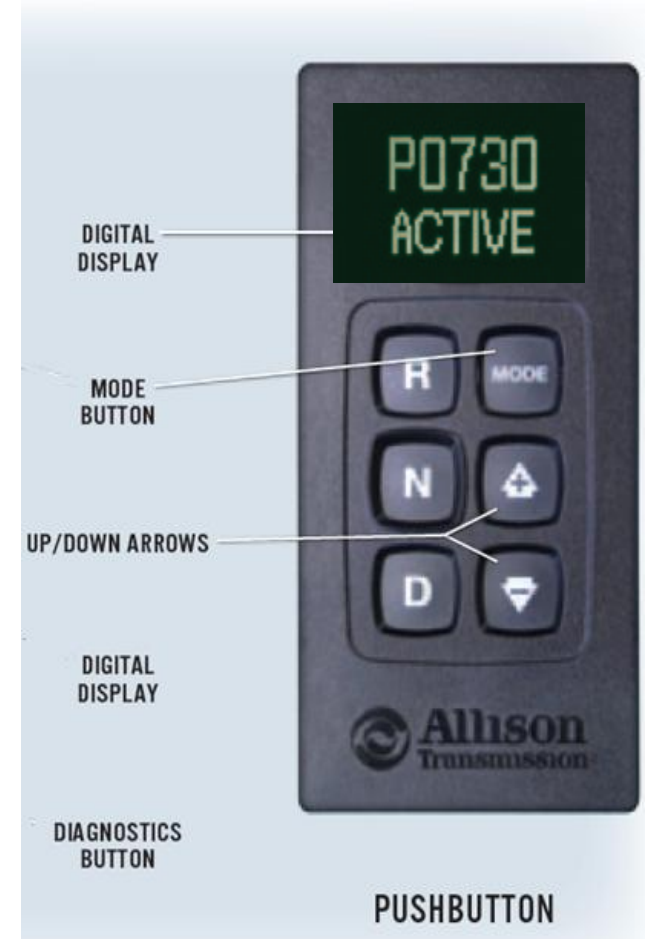
- The Transmission Control Module (TCM) of your Allison Automatic monitors the transmission's electronic controls; and when a problem condition is detected, it:
  - Restricts shifting
  - Illuminates the CHECK TRANS\* light on the instrument panel
  - Registers a diagnostic code
- Continued illumination of the CHECK TRANS light during vehicle operation (other than start-up) indicates that the TCM has signaled a diagnostic code.



# Gen 5 Transmission

## Diagnostic Codes

1. Bring the vehicle to a complete stop. Apply the parking brake.
2. For a *pushbutton shift selector*, simultaneously press the UP and DOWN arrows one time.
3. The transmission fluid level will be shown in the display first, followed by the prognostics and then the diagnostic codes. Up to five codes may be recorded in memory.
4. Each code remains in the display until the MODE button is pushed, then the next code is shown. Active codes are shown first, newest to oldest, followed by any inactive codes still in the memory.



# Gen 5 Transmission

## To exit the diagnostic code function:

Any of the following methods may be used.

1. For a *pushbutton shift selector*, simultaneously press the UP and DOWN arrows or press any range button.
2. Wait approximately ten minutes and the system will automatically return to normal operating mode.
3. Turn off the vehicle engine ignition switch



# Conclusion

- Prognostics of your Allison Transmission.
- Checked fluid levels.
- Accessed Health Life Monitor.
- Filter Life monitor.
- Reset Oil Life and Filter Life monitor.
- Access stored codes.

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