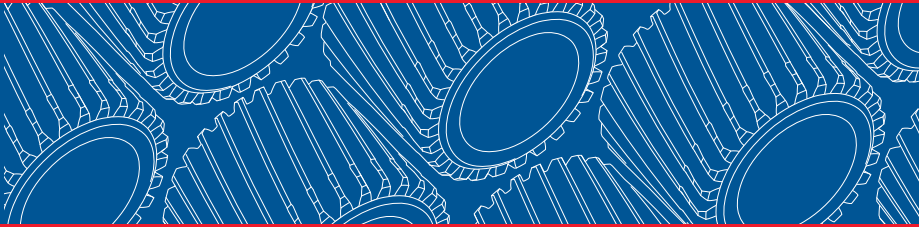




**Allison**  
**Transmission®**



# **In-Chassis Maintenance**

## **1000 And 2000 Product Families**

**JA3664EN**

# In-Chassis Maintenance

2004 APRIL 01

JA3664EN

## Allison Transmission

### VOCATIONAL MODELS

1000 EVS	2100 EVS	2200 EVS	2500 EVS
1000 HS	2100 HS	2200 HS	2500 HS
1000 MH	2100 MH	2200 MH	2500 MH
1000 PTS	2100 PTS	2200 PTS	2500 PTS
1000 RDS	2100 RDS	2200 RDS	2500 RDS
1000 SP	2100 SP	2200 SP	2500 SP
B 210	B 220		

1000 Series™ 2000 Series™ 2000 MH Series 2400 Series™



Allison Transmission, Inc.

P.O. Box 894 Indianapolis, Indiana 46202-0894

[www.allisontransmission.com](http://www.allisontransmission.com)

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## **TRADEMARKS**

1000 Series™ is a trademark of General Motors Corporation.

2000 Series™ is a trademark of General Motors Corporation.

2400 Series™ is a trademark of General Motors Corporation.

Allison DOC™ For PC is a trademark of General Motors Corporation.

# NOTES



## TROUBLESHOOTING

## SECTION I

### 1-1. GENERAL TROUBLESHOOTING INFORMATION

a. **CHECK TRANS Light.** The **CHECK TRANS** light is original equipment manufacturer (OEM)-supplied and usually located on the vehicle's instrument panel.

The **CHECK TRANS** light is illuminated briefly during vehicle start-up as a bulb check.



**NOTE:** The **CHECK ENGINE** light may serve the **CHECK TRANS** function for vehicles which are compliant to Industry On Board Diagnostics II (OBD-II) requirements.

When the light is "ON" shifts may be restricted by the Transmission Control Module (TCM) when the TCM senses abnormal conditions as follows:



**WARNING:** If ignition is turned "OFF" and then "ON" while the **CHECK TRANS** light is displayed, the transmission may remain in neutral until the code is cleared. Leave ignition "ON" until you are in a safe place to stop.

- The transmission may be locked in the range it was in when the problem was detected.
- The transmission may continue to operate with inhibited shifting.
- The TCM may not respond to shift selector requests.
- Direction changes and shifts from neutral-to-range may not occur.

## Allison 1000 2000 Product Families In Chassis Maintenance

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Whenever the **CHECK TRANS** light is displayed, the TCM logs a diagnostic code in memory. These diagnostic codes can be accessed through the Allison DOC™ For PC diagnostic system.



**NOTE:** Diagnostic codes can be logged without illuminating the **CHECK TRANS** light. This occurs when the TCM senses a problem, but determines the problem won't cause immediate transmission damage or dangerous performance.

**b. Range Inhibit Indicator.** If the TCM detects conditions such that a shift from Neutral to a forward range or to Reverse should not be allowed, shifts out of Neutral may be inhibited.

At the same time these events occur, a required OEM-supplied **RANGE INHIBITED** light, mounted on the dash or near the shift selector, is illuminated. This notifies the driver that shifting is inhibited and the shift selector may not respond to shifts requested.

**c. Allison Diagnostic Optimized Connection™ (Allison DOC™ For PC).** Control system diagnostics are performed using a “Windows” PC operating system and interface/software which is available through Allison Transmission tool sources. The PC acts as a receiver/transmitter/display medium that allows the service technician to communicate with the TCM. Typical troubleshooting activities performed are installation checkout and diagnostic code retrieval.

Consult the User Guide which accompanies the Allison DOC™ For PC diagnostic tool. Figure 1–1 shows a typical beginning screen for the Allison DOC™ for PC diagnostic tool. The user's manual contains the information for performing the following:

- Displaying (retrieving) diagnostic trouble codes (DTCs) Transmission diagnostic codes begin with P0, P1, U1, or U2 followed immediately by three additional numbers. For a complete list of codes and more detailed information, refer to TS3192EN, Electronic Troubleshooting Manual.
- Clearing diagnostic codes
- Obtaining transmission data such as input speed or sump fluid temperature
- Conducting solenoid testing
- Conducting clutch diagnostics (including torque converter clutch)