

# MODEL-T2000

## Light-Duty Truck

### OFFICIAL SERVICE GUIDE

Engine:	5.0L V8 Gasoline
Power Output:	385 HP @ 5,750 RPM
Torque:	387 lb-ft @ 3,850 RPM
Emissions:	Tier 3 EPA Compliant
GVWR:	8,500 - 10,000 lbs
Service Class:	Light-Duty Commercial

■■ IMPORTANT NOTICE: This service guide contains MODEL-SPECIFIC diagnostic procedures required for warranty claim approval. Generic procedures from other models are NOT acceptable. Failure to follow T2000-specific steps may result in claim denial.

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# TABLE OF CONTENTS

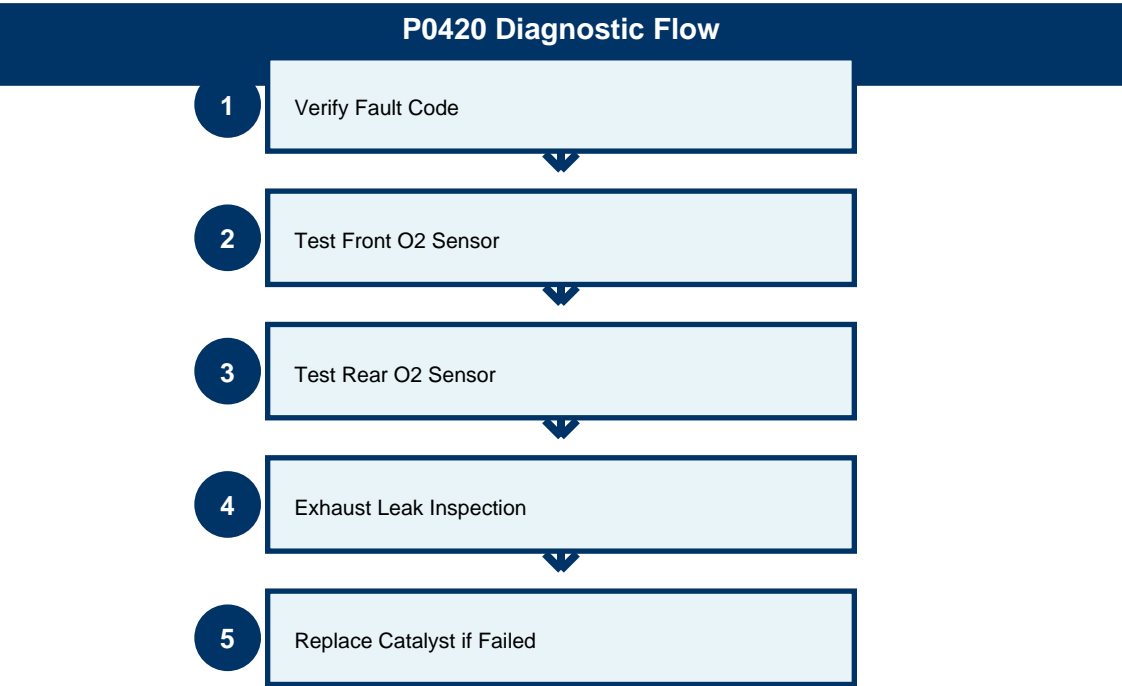
Section	Title	Page
1.	P0420: Catalyst System Efficiency Below Threshold	3
2.	P0300: Random Misfire Detected	4
3.	Warranty Requirements Summary	5

# SECTION 1: DIAGNOSTIC PROCEDURE

## P0420: Catalyst System Efficiency Below Threshold

### OVERVIEW

P0420 indicates the catalytic converter is not operating efficiently. This code is SET when the rear O2 sensor shows the same switching pattern as the front sensor, indicating the catalyst is not converting emissions properly.



### DETAILED DIAGNOSTIC PROCEDURE

#### STEP 1 Verify Fault Code

Connect OBD-II diagnostic scan tool. Retrieve all stored fault codes and freeze frame data. Confirm P0420 is active or pending.

■ **REQUIRED TOOLS:** OBD-II scan tool

✓ **EXPECTED RESULT:** P0420 confirmed

## STEP 2 Test Front O2 Sensor

Connect oscilloscope to front O2 sensor. Engine at operating temperature, observe voltage at idle.

### ■ SPECIFICATION (T2000):

Voltage should fluctuate 0.1-0.9V at 0.5-2.0 Hz. This indicates proper rich/lean cycling.

✓ EXPECTED RESULT: Front sensor cycling properly

## STEP 3 Test Rear O2 Sensor

Connect to rear O2 sensor (downstream of catalyst). Monitor voltage.

### ■ SPECIFICATION (T2000):

Voltage should be STEADY 0.4-0.6V. If fluctuating 0.1-0.9V, catalyst is failed.

✓ EXPECTED RESULT: Rear sensor steady (good) or cycling (bad catalyst)

## STEP 4 Exhaust Leak Inspection

Visual inspection of exhaust system. Check all connections, welds, and gaskets.

### ■ SPECIFICATION (T2000):

No leaks present. Leaks can cause false P0420 codes.

✓ EXPECTED RESULT: No exhaust leaks detected

## STEP 5 Replace Catalyst if Failed

If Steps 1-4 confirm catalyst failure, replace with OEM-equivalent part.

### ■ SPECIFICATION (T2000):

Part: CAT-T2000-V8-001. Torque: 35 lb-ft.

■ REQUIRED TOOLS: Torque wrench, exhaust tools

## COMPLETE T2000 SPECIFICATIONS

Parameter	Specification
Front O2 Voltage	0.1-0.9V cycling
Rear O2 Voltage (Good)	Steady 0.4-0.6V

Rear O2 Voltage (Failed)	Cycling 0.1-0.9V
Exhaust Flange Torque	35 lb-ft

#### ■ ■ WARRANTY CLAIM DOCUMENTATION REQUIREMENTS

- BOTH O2 sensor voltage readings MUST be documented
- Exhaust leak inspection MUST be documented
- Front sensor functionality MUST be verified before replacing catalyst
- Replacing catalyst without O2 testing will result in claim denial

#### ■ COMMON MISTAKES TO AVOID (T2000):

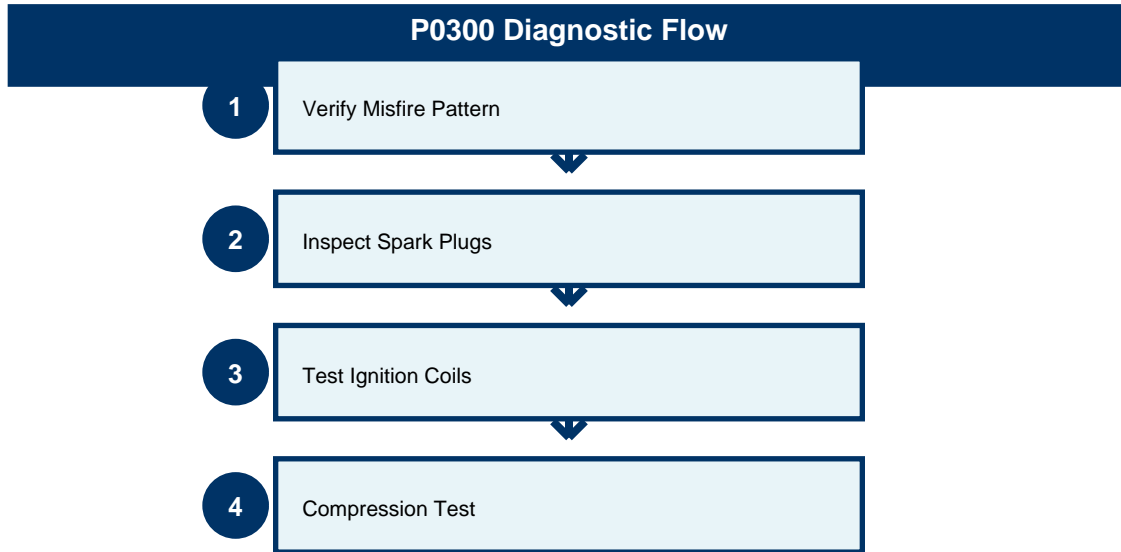
- Replacing catalyst without testing O2 sensors first
- Assuming P0420 always means bad catalyst (could be sensor or leak)
- Not checking for exhaust leaks

## SECTION 2: DIAGNOSTIC PROCEDURE

### P0300: Random Misfire Detected

#### OVERVIEW

P0300 indicates random misfires across multiple cylinders.



#### DETAILED DIAGNOSTIC PROCEDURE

##### STEP 1 Verify Misfire Pattern

Retrieve fault codes and misfire counters. Identify affected cylinders.

✓ **EXPECTED RESULT:** Pattern of misfires identified

## STEP 2 Inspect Spark Plugs

Remove and inspect all spark plugs. Check gap, wear, fouling.

### ■ SPECIFICATION (T2000):

Gap: 0.040-0.050 inches. No excessive wear or fouling.

■ REQUIRED TOOLS: Spark plug socket, gap gauge

## STEP 3 Test Ignition Coils

Test each coil with multimeter.

### ■ SPECIFICATION (T2000):

Primary: 0.5-1.5Ω. Secondary: 6,000-8,000Ω.

■ REQUIRED TOOLS: Digital multimeter

## STEP 4 Compression Test

Perform compression test on all cylinders.

### ■ SPECIFICATION (T2000):

150-170 PSI, all within 10% of each other.

■ REQUIRED TOOLS: Compression tester

## COMPLETE T2000 SPECIFICATIONS

Parameter	Specification
Spark Plug Gap	0.040-0.050 inches
Coil Primary Resistance	0.5-1.5 ohms
Coil Secondary Resistance	6,000-8,000 ohms
Compression	150-170 PSI (within 10%)

### ■ WARRANTY CLAIM DOCUMENTATION REQUIREMENTS

- Document coil resistance values for all coils tested
- Document compression results for ALL cylinders

- Spark plug condition must be documented

#### ■ COMMON MISTAKES TO AVOID (T2000):

- Replacing only spark plugs without testing coils
- Not checking compression
- Shotgun approach without proper diagnosis



## WARRANTY REQUIREMENTS SUMMARY

### For Model T2000 Warranty Claims:

- ✓ All diagnostic procedures in this guide are SPECIFIC to the T2000 model
- ✓ Technician notes must include actual measured values with units (PSI, volts, ohms, etc.)
- ✓ Using diagnostic procedures from other models on T2000 vehicles is NOT acceptable
- ✓ Generic statements like 'Replaced part. Cleared code.' will result in claim denial
- ✓ Post-repair verification testing must be documented
- ✓ Model-specific tools (where required) must be used and documented
- ✓ All specifications must be compared against T2000 specifications (not other models)