P0792: INTERMEDIATE SHAFT SPEED SENSOR A CIRCUIT RANGE/PERFORMANCE

OVERVIEW

Severity	:	Medium
DIY Difficulty Level	:	Intermediate
Repair Cost	:	**$250-$300**
Can I Still Drive?	:	No

What Does The P0792 Code Mean?

The intermediate shaft, otherwise known as the layshaft aids in distributing rotational force from the input drive to the output shaft inside the transmission. The speed of the intermediate shaft depends on which gear you are in.

In a manual transmission, the gear selector dictates this, so there is no need to monitor speed of the intermediate shaft.

On the other hand, in an automatic transmission, if you are in “D” drive, the gear you are in is determined by the TCM (Transmission Control Module) using multiple sensor inputs that all contribute to the vehicle shifting smoothly and efficiently.

One of the sensors included here is the Intermediate shaft speed sensor. The TCM needs this specific input to aid in determining and adjusting hydraulic pressures, shift points and patterns. Experience in diagnosing other types of speed sensors (e.g.: VSS (Vehicle speed sensor), ESS (Engine Speed Sensor), etc.) will help you here as most speed sensors are similar in design.

The ECM (Engine Control Module) in conjunction with the TCM (Transmission Control Module) may activate P0792 and associated codes (P0791, P0793, P0794) when they monitor a fault within the intermediate shaft speed sensor or it’s circuits.

Sometimes when the sensor fails, the TCM uses other speed sensors within the transmission and determines a “backup” hydraulic pressure in order to keep the automatic transmission functional but this may vary significantly between manufacturers.

The code P0792 Intermediate Shaft Speed Sensor A Circuit Range/Performance is set by the ECM (engine control module) and/or the TCM (transmission control module) when it/they monitors an out of range condition within the A speed sensor or it’s circuit. Refer to a vehicle specific repair manual to determine which is the “A” part of the circuit for your particular application.

NOTE: Record any codes active in other systems if multiple warning lights are illuminated (e.g.: Traction control, ABS, VSC, etc.).

What Are The Symptoms Of The P0792 Code?

Symptoms of a P0792 trouble code may include:

- Hard shifting
- Numerous instrument panel lights illuminated
- Poor driveability
- Erratic engine speed

What Are The Potential Causes Of The P0792 Code?

Causes for this P0792 engine code may include:

- Defective or damaged Intermediate shaft speed sensor
- Electrical fault in the wires between the speed sensor and modules used
- Internal ECM and/or TCM issue
- Other related sensors/solenoids damaged or defective (e.g.: Input shaft speed sensor, Output shaft sensor, Shift solenoid etc.)
- Dirty or low automatic transmission fluid (ATF)

How Can You Fix The P0792 Code?

Basic Step #1

If you’re researching this code I am going to assume you have already checked the transmission fluid level. If not, start with this. Make sure the fluid is clean and adequately filled. Once everything fluid-wise is good, you need to locate the intermediate shaft speed sensor. Often times, these sensors are mounted directly to the transmission housing.

You may even be able to access the sensor from under the hood, this may include removing one more components such as the air cleaner and box, miscellaneous brackets, wires etc. to gain

access. Make sure the sensor and corresponding connector are in good condition and fully connected.

TIP: Burnt smelling ATF (Automatic Transmission Fluid) is a sign that new fluid is needed so don't be afraid to do a full transmission service with all new filter, gasket and fluid.

Basic Step #2

An easily accessible speed sensor should be removed and cleaned. This costs basically nothing and if you find the sensor's pickup to be excessively dirty once removed, you may be able to wash your problems away, literally. Use brake cleaner and a rag to ensure a clean sensor pickup. Dirt and/or shavings here can alter the sensors readings so make sure yours is clean!

NOTE: Any signs of rubbing on the pickup may indicate inadequate spacing between the reluctor ring and the pickup. Most likely the sensor malfunctioned and is now hitting the ring. If a replacement sensor still doesn't clear the ring, refer to manufacture procedures for adjusting the pickup/reluctor gap.

Basic Step #3

Test the sensor and its circuit. To test the sensor itself, you will need to use your multimeter and specific manufacturer specifications and measure different electrical values between the sensors pins. One good trick is to do these tests from the same wires but at the corresponding ECM or TCM connector pins. This will verify the integrity of the harness involved as well as the sensor.

Severity Description

I would say this fault is moderately severe. Like mentioned earlier, your automatic transmission may still be functioning OK. That said, it could also be indicative if one or more bigger more pressing issues. Diagnosing any transmission issue ASAP is the best strategy.

Reference Sources

P0792 Intermediate Shaft Speed Sensor A Circuit Range, OBD-Codes.