



Technical Service Information

G.M. 4T40/65/80-4L80E P0730 GEAR RATIO ERROR

COMPLAINT: Before or after overhaul, General motors vehicles equipped with the 4T40/45, 4T65, 4T80E transaxles or 4L80E transmission may have a complaint of a re-occurring diagnostic trouble code P0730 Gear Ratio Error.

CAUSE: The cause may be one or more components slipping inside of the transmission or possibly a mismatched sprocket assembly and or final drive ratio. Other causes may be wrong gear starts and or missing ratios. The way to verify which components could be at fault is to refer to Figure 1 and note the location of the ratio PID and the 1-2/2-3 solenoid ON/OFF PID's on the data list as shown. ***Note: the example is of a 4T65E application.*** To pinpoint an exact cause or component that is at fault, it will help greatly if you can connect the P0730 to a specific gear.

CORRECTION: To correct this condition, refer to Figure 1 and locate the PIDs for solenoid application and compare it to the ratio provided by the scan tool. Match this information up with the charts listed in Figures 2 and 3 based on the vehicle you are working on. Areas that can be resolved with this information include, slip on take off, wrong gear starts , no up-shifts, no 3rd and no 4th. Another item that can be verified is if the wrong ratio was installed as all of the ratios will be wrong.

4T40/45E

SHIFT SOLENOID CHART			GEAR RATIO
RANGE	A SHIFT SOLENOID	B SHIFT SOLENOID	
PARK	ON	OFF	-
REVERSE	ON	OFF	2.14:1
NEUTRAL	ON	OFF	-
1ST GEAR	ON	OFF	2.96:1
2ND GEAR	OFF	OFF	1.62:1
3RD GEAR	OFF	ON	1.00:1
4TH GEAR	ON	ON	0.68:1

4T65E

SHIFT SOLENOID CHART			GEAR RATIO
RANGE	1-2 SHIFT SOLENOID	2-3 SHIFT SOLENOID	
PARK	ON	ON	-
REVERSE	ON	ON	2.38:1
NEUTRAL	ON	ON	-
1ST GEAR	ON	ON	2.92:1
2ND GEAR	OFF	ON	1.56:1
3RD GEAR	OFF	OFF	1.00:1
4TH GEAR	ON	OFF	0.70:1

4T80E

SHIFT SOLENOID CHART			GEAR RATIO
RANGE	A SHIFT SOLENOID	B SHIFT SOLENOID	
PARK	ON	OFF	-
REVERSE	ON	OFF	2.13:1
NEUTRAL	ON	OFF	-
1ST GEAR	ON	OFF	2.96:1
2ND GEAR	OFF	OFF	1.63:1
3RD GEAR	OFF	ON	1.00:1
4TH GEAR	ON	ON	0.68:1

4L80E

SHIFT SOLENOID CHART			GEAR RATIO
RANGE	A SHIFT SOLENOID	B SHIFT SOLENOID	
PARK	ON	OFF	-
REVERSE	ON	OFF	2.08:1
NEUTRAL	ON	OFF	-
1ST GEAR	ON	OFF	2.48:1
2ND GEAR	OFF	OFF	1.48:1
3RD GEAR	OFF	ON	1.00:1
4TH GEAR	ON	ON	0.75:1

Copyright © 2014 ATSG

Figure 3