

**KG: Tachometer — F-Series, Econoline, and Excursion**← [KG: Introduction](#)**KG1 TACHOMETER INOPERATIVE: CHECK FUSE**

- Check I/P fuse panel Fuse 19.

**Is fuse blown?**

Yes	No
REPAIR short to ground. REPLACE fuse. TEST system for normal operation.	GO to <a href="#">KG2</a> .

**KG2 CHECK GROUND TO TACHOMETER**

- Disconnect small black instrument cluster harness connector.
- Measure resistance of Circuit 57 (BK) between Pin 1 on the small black instrument cluster harness connector and ground.

**Is resistance less than 5 ohms?**

Yes	No
GO to <a href="#">KG3</a> .	REPAIR open in Circuit 57 (BK). RESTORE vehicle. TEST system for normal operation.

**KG3 CHECK POWER TO TACHOMETER**

- Disconnect large white instrument cluster harness connector.
- Key on, engine off.
- Measure voltage of Circuit 640 (R/Y) between Pin 6 on the large white instrument cluster harness connector and ground.
- Key off.

**Was voltage greater than 10.5 volts?**

Yes	No
GO to <a href="#">KG4</a> .	REPAIR open in Circuit 640 (R/Y). RESTORE vehicle. TEST system for normal operation.

**KG4 CHECK SIGNAL CIRCUIT OUTPUT**

- Use the scan tool plugged into the data link connector (DLC) and two jumpers, one plugged between the COM port of the scan tool to Pin 1 (ground) on the small black connector for the cluster, the other jumper plugged between the SIG port of the scan tool to Pin 4 (tach signal) on the large white connector for the cluster.
- Key to start, engine running.

- With scan tool, select VEHICLE and ENGINE.
- select DIGITAL MEASUREMENT SYSTEM.
- change level to 4 VOLT DC.
- press the LINK button to choose a PID.
- select PID/DATA MONITOR.
- select the RPM PID.
- press START.
- Take three readings at 650 rpm, 1500 rpm and 3000 rpm.
- Key off.

Did the readings match the table listed below?

Step No.	RPM	Frequency
1	650	43 ± 10 Hz
2	1500	100 ± 10 Hz
3	3000	200 ± 10 Hz

Yes	No
INSPECT printed circuit board for damaged or open circuits. If damaged or open circuits are present, REPLACE printed circuit board. If OK, REPLACE tachometer. RESTORE vehicle. TEST system for normal operation.	GO to <a href="#">KG5</a> .

### KG5 CHECK FOR OPEN IN TACH SIGNAL CIRCUIT

- Install breakout box; leave PCM disconnected.
- Measure resistance of Circuit 648 (W/PK) between Pin 4 on the large white instrument cluster harness and PCM Test Pin 19.

Is resistance less than 5 ohms?

Yes	No
GO to <a href="#">KG6</a> .	REPAIR open in Circuit 648 (W/PK). RESTORE vehicle. TEST system for normal operation.

### KG6 CHECK FOR SHORT TO GROUND IN TACH SIGNAL

- Measure resistance of Circuit 648 (W/PK) between Pin 4 on the large white instrument cluster harness connector and ground.

Is resistance greater than 10,000 ohms?

Yes	No
GO to <a href="#">KG7</a> .	REPAIR short to ground on Circuit 648 (W/PK). RESTORE vehicle. TEST system for normal operation.

**KG7 CHECK SHORT TO POWER IN TACH CIRCUIT**

- Key on, engine off.
- Measure voltage of Circuit 648 (W/PK) between Pin 4 on the large white instrument cluster harness connector and ground.

**Is voltage greater than 10.5 volts?**

<b>Yes</b>	<b>No</b>
REPAIR short to power in Circuit 648 (W/PK). RESTORE vehicle. TEST system for normal operation.	REPLACE PCM. RESTORE vehicle. TEST system for normal operation.

---