



# HOW TO:



## Throttle By Wire TPS and TGS Diagnostic Codes

Two sensors provide information to the ECM to control the throttle.

TPS = Throttle Position Sensor

TGS = Throttle Grip Sensor (Throttle twist grip)

If either of the sensors becomes faulty, the ThunderMax ECM places the throttle into one of two for safety modes.

Engine RPM is reduced to “Idle Only”

Engine RPM is set to “Limited Performance Mode (Limp home)”

**NOTE: This is not a “fault” within the ThunderMax ECM. The ThunderMax ECM is responding to sensor faults on the motorcycle for rider safety.**

The following link describes methods of diagnosing this condition

[TT418: DTCs P2135 and P2101 Theory and Diagnostics](#)

### Recommended Maintenance Procedure to correct loss of throttle.

Locate the TCA connector (back side of the Throttle Body)

Disconnect the TCA connector

Inspect the TCA connector pins

**NOTE: If your TCA connector pins are severely fretted or damaged then repair is required\*\*\*.**

Clean and apply a light coat of dielectric grease to the connector.

Securely connect the TCA connector making sure it LOCKS into place.

\*\*\*H-D dealer offers an updated pin released in 2011 (Part # 72663-11) These new pins are made from silver to enhance conductivity to the TCA.

If you continue to experience loss of throttle control with stored DTC's for TGS and TCA functions, you likely have a wiring problem with the TGS circuit in the handlebars. TGS problem are commonly due to faulty wiring during a handlebar change.



THUNDERMAX  
120 INDUSTRIAL DRIVE  
WHITE HOUSE, TN 37188

SUPPORT@THUNDER-MAX.COM  
WWW.THUNDER-MAX.COM  
@THUNDERMAXEFI





# HOW TO:



Repairing or extending TGS wires using “solder and wire” techniques will not work properly.

Proper installation of either a TGS with an extended connector or use of a TGS wire extender eliminates problems created by other non-approved methods of extension.



*TGS with extension and TGS extension wire*



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