
From: Peter Judis
To: Robert Dyer; Phillip J. Giannini; Raymond DeGiorgio
CC:
BCC:
Sent Date: 2005-05-31 16:52:41:000
Received Date: 2005-05-31 16:52:41:000
Subject: Re: IGNITION KEY OPERATING TORQUES
Attachments:

Robert,
The following is the latest subsystem specification I have.

Phil & Ray,
Based on the recent GMX 001 Ignition Issues, I believe you modified the values in several areas. Please provide the updated requirements to Robert Dyer and myself.

Thank you,

Pete

3.2.7.9 Ignition and Key BuzzerSwitch Interface (Applies to Column Mounted Locks)

The column shall provide attachment for ignition and key buzzer switches as specified on **Figure 35, 36, 37**. The Steering Column supplier shall provide all engineering, manufacturing, development, packaging requirements, supplier quality coordination, and validation required to provide the ignition and key buzzer switches as an integrated component of the Steering Column Assembly. The ignition switch should be electrically function checked 100% after installation to steering column and prior to shipment. Electrical check should be from the vehicle wire harness connector to verify the function of the ignition switch through the steering column wire harness.

The Steering Column supplier shall provide coordination such that no "Stick-In-Start" condition occurs. This involves coordinating and balancing the total ignition system rotational torque produced from the steering column lock housing, lock cylinder, and ignition switch. The Steering Column supplier shall design the system such that the following rotational torques can be obtained:

<u>Components Tested</u>	<u>Positions</u>	<u>Torque</u>
a. Lock cylinder maximum	offlock - run	0 - 2 N-cm
b. Lock cylinder + lock housing maximum	offlock - run	2 - 10 N-cm
c. Lock cylinder + lock housing + ignition switch maximum	offlock - run run - start	2 - 10 N-cm 15- 65 N-cm
d. Lock cylinder + lock housing + ignition switch + park lock cable or solenoid Maximum	offlock - run run - start	2 - 10 N-cm 15- 65 N-cm

*All torque loads to be taken at a rate of 6 cycles per minute.

From: Robert Dyer on 05/30/2005 11:47 PM

From: Robert Dyer on 05/30/2005 11:47 PM

To: Peter Judis/US/GM/GMC [REDACTED]
cc:
Subject: IGNITION KEY OPERATING TORQUES

Hello Pete

Here at Holden there isn't a specific requirement for ignition key operating torque. There are component level torque requirements for the lock cylinder and ignition switch but not the subsystem.

Are you aware if GMNA recommend a maximum subsystem operating torque for the ignition key as a subsystem?

Sincerely

Robert Dyer
Validation Engineer - Body Structures and Closures
GM Holden

