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## Wheel Torque Verification & Documentation System

### System Overview

This electronic wireless torque measuring system is a standardized platform specifically for use in the automotive wheel service industry. The system uses OEM-defined torque specifications associated with an established work order, all transmitted wirelessly to a robust electro-mechanical user tool. The tool is designed to accept multiple work order references displayed through the tool user interface. The user easily selects a specific order in process, matches it to the vehicle, applies torque to the fastener while the tool automatically records the actual torque applied, and transmits the acquired torque values for data collection and closure of the work order. The actual torque data collected for each lug nut can then be used to report values for customer reference, archived for future reference, or used for quality analysis. The torque application tool is highly accurate and is designed to withstand the elements typical of tire and lubrication shop environments for a long service life.

### General System Specifications

a)	Torque Range:	25 – 250 ft-lbs. (34-340 Nm)
b)	Drive:	1/2" SAE Square Drive with Positive Lock
c)	Tool Length:	27 inches (drive center to handle center)
d)	System Accuracy:	+/- 3% in the clockwise direction
e)	Torque Units of Measure:	Ft.- Lbs. and Nm
f)	Operating Temperature	32 - 110 degrees F
g)	Humidity:	Up to 90% non-condensing
h)	Wireless Transmission Range:	100 yards
i)	Base Unit Power Requirements:	110 VAC 50 – 60 Hz
j)	Tool Battery Life:	72 hours of continuous operation between charges
k)	Battery Re-Charge:	3 hours
l)	Torque Database:	OEM or Customer Defined
m)	Tool Storage:	Combined Storage / Charging Cradle
n)	Operating System	Microsoft Windows 7, Vista, Windows XP
o)	Installed Active Data Base	25 years of manufacturers lug torque data
p)	Data Archiving	Torque values for every lug nut
q)	Wheels Per Vehicle	1 to 6 (including dual axel rear wheels)
r)	Maximum Work Order Quantity	25 at one time
s)	Maximum Wrenches Per System	10

## Detailed Features and Benefits

### 1) The system is SMART!

- ✓ Detects existing lug nut conditions – i.e. previously installed or stripped lug nuts
- ✓ Requires only one technician to complete tire service
- ✓ Requires only a one-time torque tightening sequence
- ✓ Minimum training for all levels of shop technicians
- ✓ Theft deterrent wrench - only operates within 100 yards of charging station
- ✓ Installation is simple and easy, “plug and play”
- ✓ Accurately records and achieves torque values for every lug nut installed
- ✓ Up to 10 wrenches can be used simultaneously on one system
- ✓ Over-torque indicator displayed on wrench

### 2) The system provides excellent data management and archiving!

- ✓ Accurately records and archives torque values for every lug nut installed
- ✓ All lug nut torque values can be programmed to print on customer's invoices
- ✓ User-enabled program installed for "Re-torque" check after 100 miles of driving
- ✓ Capable of sending customer's torque data to company's system for creating a historical database
- ✓ Archives data indefinitely for all lug nuts tightened; can be recalled for future review
- ✓ All torque values taken can be integrated into customer's shop management system

### 3) The system is robust and ergonomic!

- ✓ Accurate torque measurement, independent of user's hand position on wrench
- ✓ Light weight, high-strength cast alloy frame, steel tube construction
- ✓ Rubber armored to protect wrench and electronics
- ✓ User-friendly, ergonomic design
- ✓ Oil, chemical, moisture, and dirt resistant
- ✓ Conformal coated electronics: protects from vibration and moisture contamination

### 4) The system is easy to use!

- ✓ Operator easily scrolls up or down on the wrenches display to select proper work order number
- ✓ Visual indicators:
  - Large, high-contrast LED display oriented to face the operator, so it's easy to read
  - Digital Scale that shows applied torque load progression
  - Tri-colored indicator lights: yellow approaching torque setting / green pass / red fail or over torque
  - Battery level graphically depicts remaining battery life
- ✓ Audible indicator: Buzzer/tone to communicate pass/fail of applied torque
- ✓ Tactile indicator: Vibrating impulse signals torque action completed

**5) The system is wireless!**

- ✓ No cables; a reliable, secure and positive wireless transmission via RF technology is used
- ✓ Transmission of data is secure: will not lose any data / torque values taken and transmitted
- ✓ OEM specific vehicle torque lug nut, drain plug, and filter values easily uploaded to wrench via company's POS system or database
- ✓ Collected torque values automatically downloaded from wrench

**6) Strong battery life!**

- ✓ 72 hours of continuous use between charges
- ✓ Fast recharging cycle; the torque wrench recharges while in storage cradle
- ✓ Easy battery pack replacement
- ✓ Auto shut-off mode conserves battery charge

**7) Best-in-class warranty and service!**

- ✓ One year warranty on materials and workmanship
- ✓ Torque wrench service kits provided to address common repair issues on-site; additional battery packs and ratchet replacement kits available
- ✓ Torque wrench service and calibration available from Team Torque, the Factory Authorized Professional Laboratory
- ✓ Wrench Service / Exchange Programs Available
  - Calibration and repair / refurbishment with minimal downtime
  - Certified third party maintenance contract

