Your Torque Partner

TOHNICHI

Torque Products

2012

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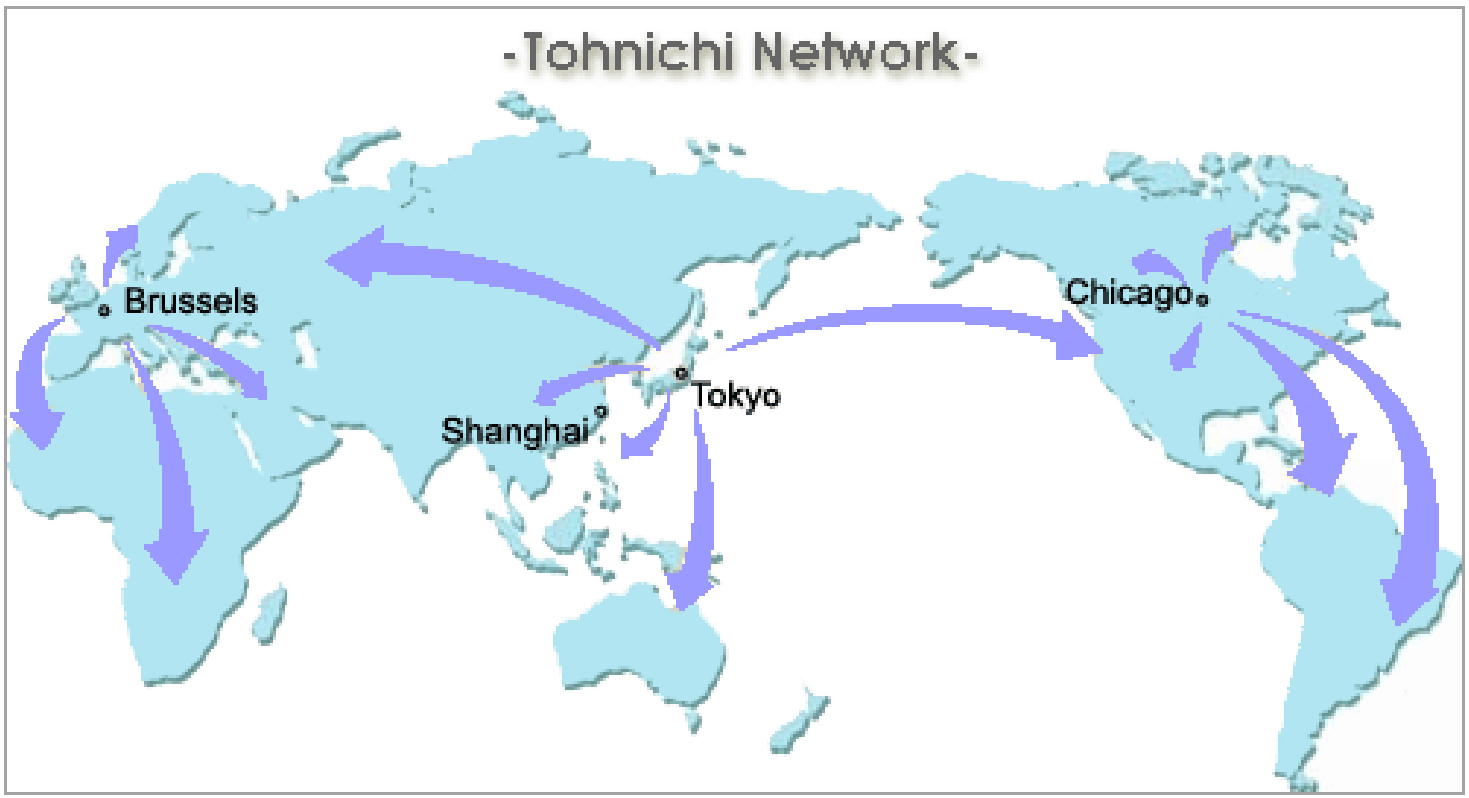
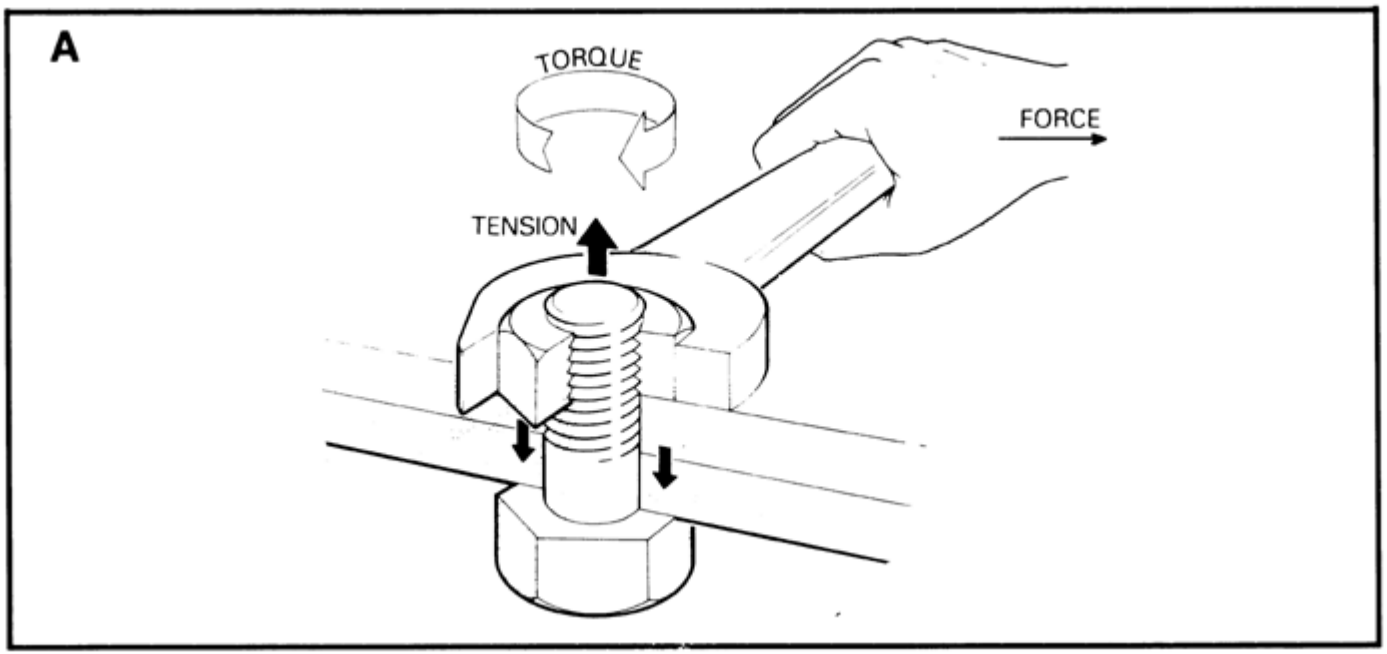
Tohnichi Facts

- **Tohnichi Mfg. Co Ltd.**
  - Tokyo, Japan established in 1949
  - ISO9001 Kofu Manufacturing Facility
- **Tohnichi Shanghai Mfg. Co. Ltd**.
  - Shanghai, China established in 2003
  - Manufacturing Facility for Asian market
- **Tohnichi Europe S. A.**
  - Brussels, Belgium
    - Sales and Distribution Center
- **Tohnichi America Corp.**
  - Northbrook, IL USA (1984) Head Office
  - Atlanta, GA USA (2008) Regional Office

Sales Territories



What is Torque?



- **Torque = T** **Force = F**

- Torque = Force by Turning or Twisting.
- Tension = Power by Creating of Straight-Pull. (but, differs from Torque)
- so that: Torque is used for creating Tension.

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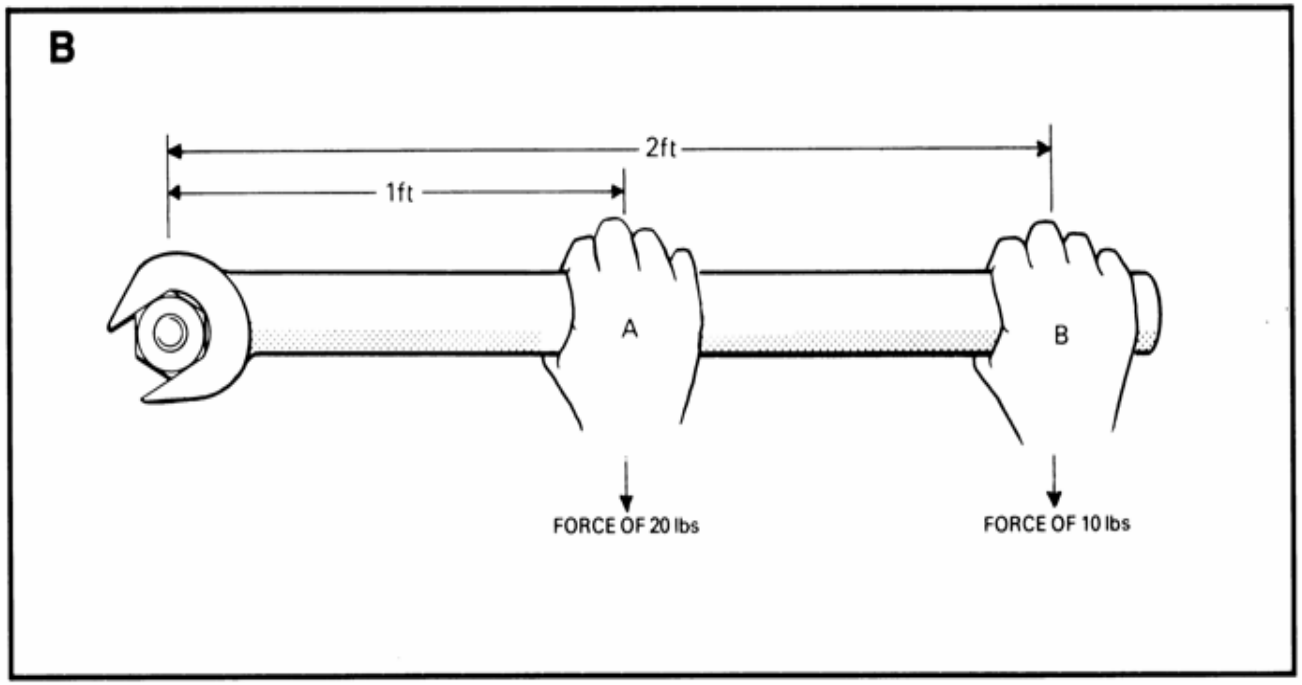
How to Make Torque Evaluation



Torque = Force x Distance

T = F x L so that:

T1 = F1 x L1 = 10 lbs x 2 ft = 20 ftlbs **T1 = T2**

T2 = F2 x L2 = 20 lbs x 1 ft = 20 ftlbs

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Torque Units

- Combination of Mass/Force units and Length units
- S.I.
  - The International Standard expressed in Newtons.
    - Ex. NM Newton Meter
- Metric
    - Ex. Kgf.cm. Kilogram force centimeter
- English
    - Ex. Ft.lbs. Or lbf.ft for Foot Pounds

Accuracy

- Basic Torque Wrenches

  Accuracy +/- 3%

  This means that the tool should read within plus or minus 3% of that reading.

  Ex. Set at 10NM It should consistently click between 9.7 NM and 10.3 NM

Certificates & Durability

- ISO Certificates from the Factory
  - Valid for three years or one year from date of first use
- Guaranteed for 100,000 cycles or 1year. Tools can be used up to 1,000,000 cycles with proper maintenance and calibration at 100,000 cycles.

Types of Products

- Torque Screwdrivers
- Torque Wrenches
- Power Torque Tools
- Torque Testers/Checkers
- Torque Measuring Equipment
- Optional Equipment
- Specialty Products and Accessories

Purpose: Assembly or Quality

- Tightening Tools
  - Easy to apply torque quickly and repeatedly
  - Click type tools

- Quality Inspections:
  - Need to read torque value when performing loosening or re-tightening test
  - Tools have scale or digital readout

What's your torque range?

- Torque range or target torque
  - Select tool that target will fall in the middle of the range to help prevent over torque
- Confirm units of measure
  - Wrong tool selection can result if torque value is not specific: Nm or cNm

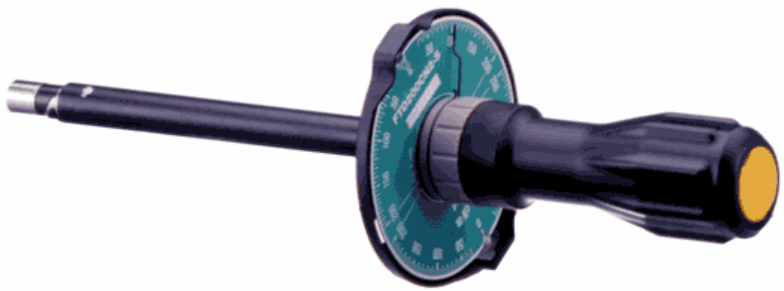
Torque Screwdriver

- 3 Basic Types
  - Click
  - Dial
  - Digital
- For Production and Inspection

RTD120CN

RTD60CN

*Shown with optional bit



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Click Type Drivers

- 6 Model Series
- AMLD/BMLD
- AMRD/BMRD
- NTD (Preset)
- RNTD (Preset Rotary Slip)
- LTD (Adjustable)
- RTD (Adjustable Rotary Slip)

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RTD

- Adjustable Rotary Slip Clutch Type
  - When torque is achieved it clicks and user should stop but if work continues to apply force, it ratchets around without applying more torque
  - Reduces chance of over torque
    - Accepts 1/4 inch hex bits
    - Gold color body
    - Accuracy plus/minus 3% of scale reading
    - For clockwise tightening only
    - Very popular series

LTD

- Adjustable Non Rotary Type
  - When torque set is achieved it clicks and slightly springs back in the hand. The user must stop applying force. If additional force is applied it could lead to overtorque.
    - Silver colored body
    - Accuracy plus/minus 3% of scale reading
    - Excellent repeatability
    - Less expensive than RTD
    - Other features same as RTD

AMRD/BMRD

New

- Adjustable
- Rotary Slip
- For small torque ranges
- Small body with index finger end cap for precision in small areas.
- AMRD comes with set of specialty bits
  - Black colored body
- BMRD uses standard 1/4 hex bits
  - Gold colored body
- Accuracy plus/minus 3% of each scale reading

AMLD/BMLD

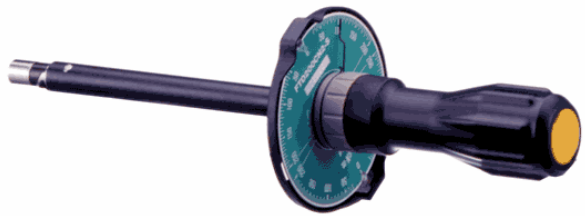
- Adjustable
- Non rotary version
- Other features are the same as the AMRD and BMRD.
- Silver color body
- Accuracy plus/minus 3% of each scale reading

How to Preset Drivers

Catalog #	Applicable Models
42	NTD15CN ~ 60CN /NTD
43	NTD120CN ~ 260CN / RNTD
44	NTD500CN ~ 1000CN /RNTD

Dial & Digital Drivers

- FTD2-S
  - Dial with Memory Pointer
  - Bi-directional
- STC
  - Digital w/ storage and download via IR
  - Bi-directional
  - Battery Operated
- MTD
  - Micro Applications



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Torque Wrenches

- Production Click Type
  - Preset
  - Adjustable
  - Prelock
- With fixed heads
  - QSP, QL, PQL, SP,RSP
- With interchangeable heads CSP, CL, PCL

Preset Wrenches

- QSP, CSP, SP, RSP
- Preset wrenches have no external scale and must be set to one torque value by using a torque tester and an adjustment tool.
- Torque set is secured

Colored Grip Options for QSP/CSP

- Easily Identify Wrenches
- Specific Preset Value
- Particular Application
- Permanently Attached
- Avoid Using Incorrect Tool
- Purchase as tools or as spare parts.

+Red

QSPCA/QSPCAMS Preset Slip Type

- Fixed Ratchet head preset style
- Cam link mechanism generates 45degree slip action
- Once torque set is achieved, even if additional force is applied, tool will not add more torque to the fastener.
- 6N,12N, 30N & 70N models

Adjustable Wrenches

- Adjustable wrenches have a knob that is turned to torque set on scale and locked into place.
- Easy to set and change torque value
- Scale protected from oil and dirt

Prelock Wrenches

- Uses hex key to set scale
  - Convenience of adjustable
  - Torque set security of preset

Interchangeable Heads

CL100NX15D Model takes heads that fit 15D root size. Ex.

Notched Wrench

SP-N Open end head style preset click wrench with “speed notch”

- Notch is able to grasp corner of bolt faster without taking wrench off of bolt head
- Creates speed in tightening

Adjustable Specialty Wrenches

- QL-MH, CL-MH
- QSP-MH, CSP-MH
- TIQL
- MTQL
- DQL
- YCL
- MT70N
- PHL

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Preset Specialty Wrenches

- QSP-MH, CSP-MH
- SP-H for Piping
- NSP For SMA Connectors

Model NSP

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Bi-Directional Preset Wrenches

- BQSP5, BCSP5

Bi-directional Preset Wrenches can be set to click in both CW and CCW directions. Set at factory.

Verification Systems

- LS,CSPD, FH, FHD(S) versions
  - Micro switch relays contact to CNA-4 Count Checker or directly to PLC board to count number of clicks generated by a wrench therefore confirming a certain number of bolts were torqued.
  - LS uses cable connection for counting
  - CSPD uses cable connection for counting & torque data
  - FH,FHD(S)* uses radio frequency to send count and/or torque data to receiver

LS & FM Systems

RF Transceiver
T-FH256MC

RF Terminal
R-FH256

New

RF Setting Box
SB-FH256
(Option)

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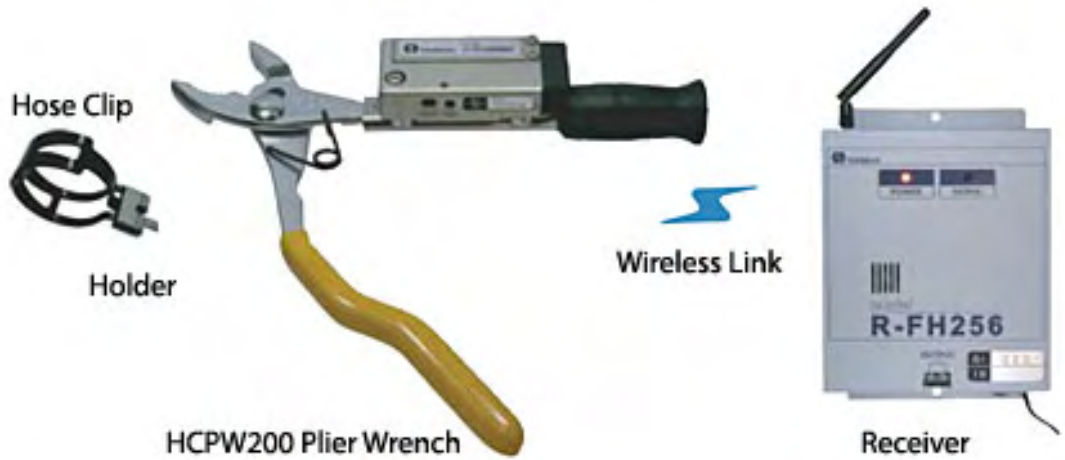
Specialty FH

- HCPWFH230 Pliers with Wireless Confirmation
  - LS (corded) Version also available

New Style

Interchangeable head type with basic and needle nose ends



To insure proper installation of hose clamps

FHD/FHDS*

- Wireless Data Output
  - FHD with LED Display
  - FHDS, No Display
  - R-FHD, Receiver

*Currently production is on hold for these items.

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D Class Torque Data Collection System

- Available in CSP or Airtork versions
- Torque set to CD42 Display unit
- Actual applied torque is captured in CD42 and hi/lo indicates if within parameters

Marking Wrenches

- MPQL/MQSP Series Torque Wrench marks top of bolt with ink when torque set is achieved.
  - Reduced human error
  - Uses specialized socket and refillable ink cartridge
- CMQSP Series
  - For hex cap screws
  - Marks side and surface of product

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Indicating Wrenches

- DB, CDB-S Dial Indicating
- T-Handle
- SF, CSF, QF Flat beam

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Digital Torque Wrenches

- CEM3 DataTork
  - For quality inspections or for applying specific torque value
  - CEM3-LS / CEM3-FH
    - Adds fastener count function
- CEM3-P
  - Programmable for Torque Route Data Collection (Quality)
- CEM3-BTS
  - Send data wirelessly via Bluetooth transmission to PC
- CEM3-BTD
  - Duplex version sends tightening torque information to wrench then wrench sends information back to PC through Bluetooth technology

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Digital Torque Wrench for Tightening

- CPT ProTork
  - Set multiple torque tightening values and percentage of accuracy for different fasteners and application requirements.
  - Lights and alarms indicate proper tightening and help prevent over torque

Specialty Digital Wrenches

- CTB2-G Retightening Method
  - Detects movement of fastener for more consistent quality testing

- CTA2 Torque & Angle
  - Applies specific snug torque and degree of angle.
  - Easy to see relationship of increasing torque as angle is applied

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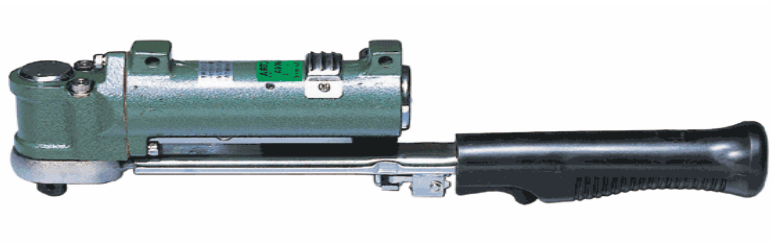
A & AC AirTork

- Rundown by air motor for fast tightening
- Final pull to click for high 3% accuracy
- Adjustable with hex key for flexibility and security



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Testers/Checkers

TDT2-G Torque Driver Tester

- Tests click style and dial indicating torque drivers
- Data storage
- Loading mechanism for precise measuring

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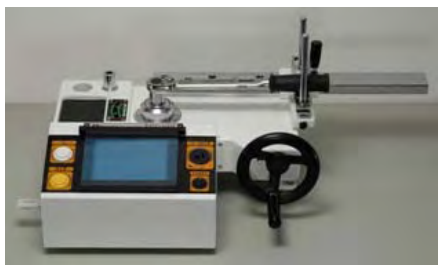
Torque Wrench Testers



- DOTE3-G/DOT with loading mechanism
- TCC, Checker Controller
- LC2-G Line Checker
- TF Master Tester
- ST2, ST2-BT Spin Tork

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Torque Measuring Equipment

Torque Meters

- TM Torque Meter
  - Analog with Memory Pointer
- TME2 Digital Torque Meter
  - Digital with Statistical Data

For Bottle Cap Testing

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Torque Gauges

Ideal for low torque testing

- ATG Torque Gauge
  - Lower ranges smaller body size
- BTG Torque Gauge
  - Slightly higher ranges with bigger body size

- Main Features:
  - Side and Top Scales both with Memory Pointers
  - Three Fingered Keyless Chuck

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Digital Torque Gauge ATGE-G

- 6 models cover 0.1~20cNm
- Pull Out Display
- Optional Stand
- USB port
- 999 Data Memory
- Coin Battery/10hrs use

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Digital Torque Gauge BTGE

- Bi-directional
- Peak Value Capture
- 999 Data Memory
- Statistics
- USB port
- Flip out compact design
- Easy portable option for torque driver testing

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Calibration Equipment

- Apparatus for calibrating Tohnichi tester and meters by using dead weights

Optional Equipment

- CNA-4mk2
- SB-FH246
- I/O FH256
- CD5
- EPP16M2
- DECA
- RA
- R-DT999

RF Setting Box
SB-FH256
(Option)

Attachment for
R-FH256 Receiver Box
I/O-FH256 (Option)

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Accessories

- Adjusting Tools/Keys
- Down Adapters
- Interchangeable Heads
- Bits
- Sockets/Drive Adapters
- Battery Packs
- Connecting Cables

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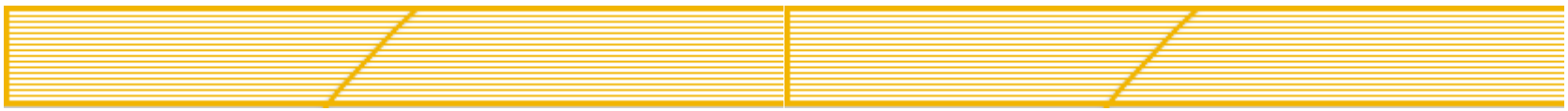
World Wide Supplier of Innovative Torque Products



Innovative **Accurate** **Reliable**

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