



Your Torque Partner

**TOHNICHI**

# Torque Products



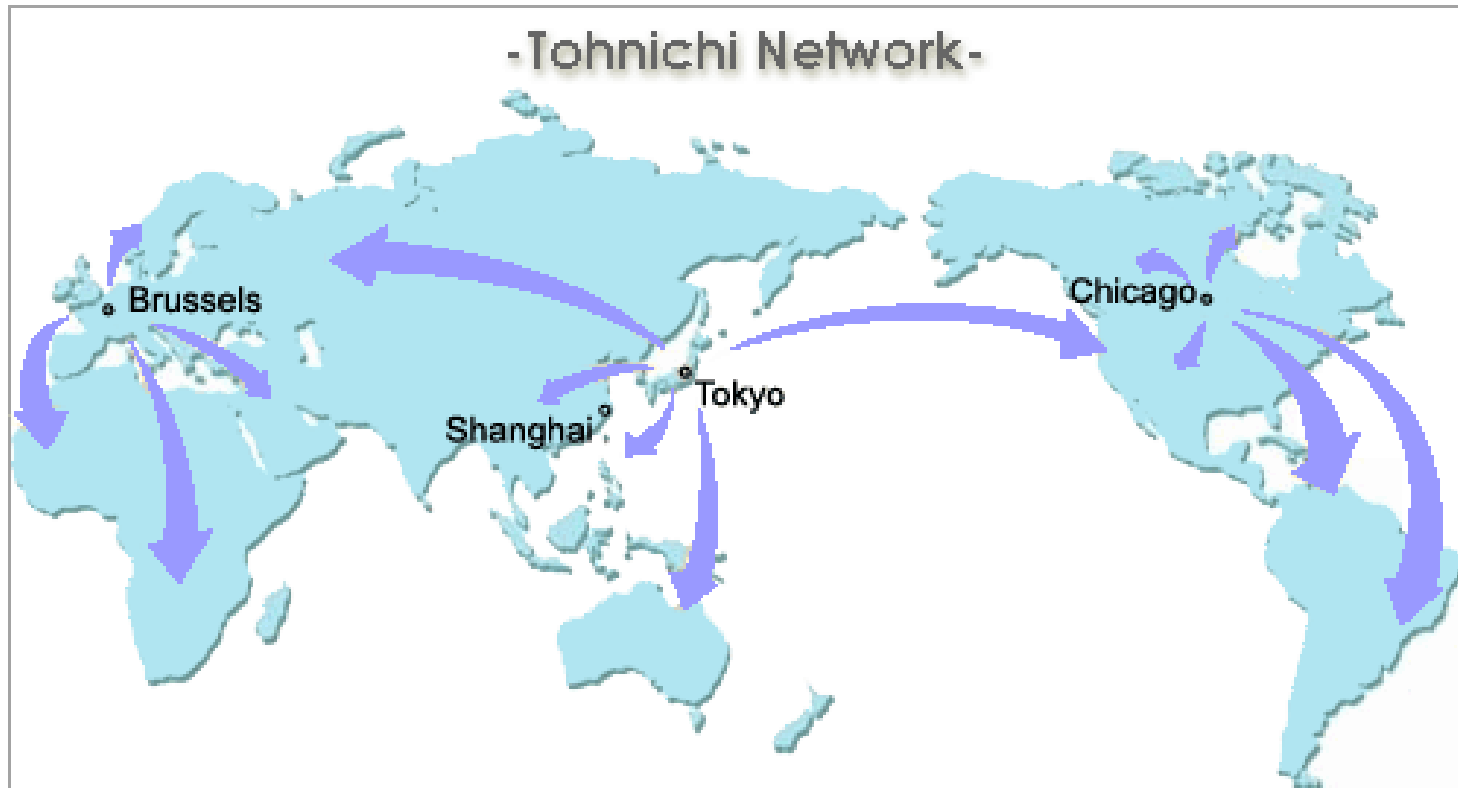
2012

Your Torque Partner  **TOHNICHI**

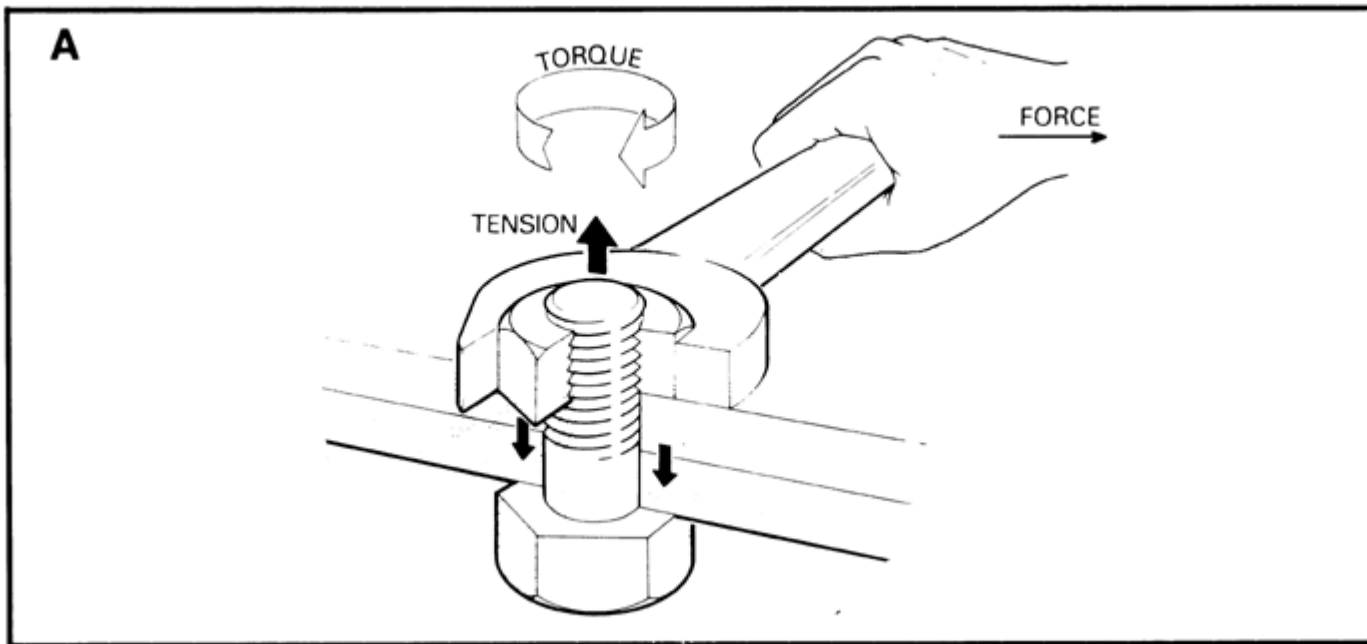
# Tohnichi Facts

- **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



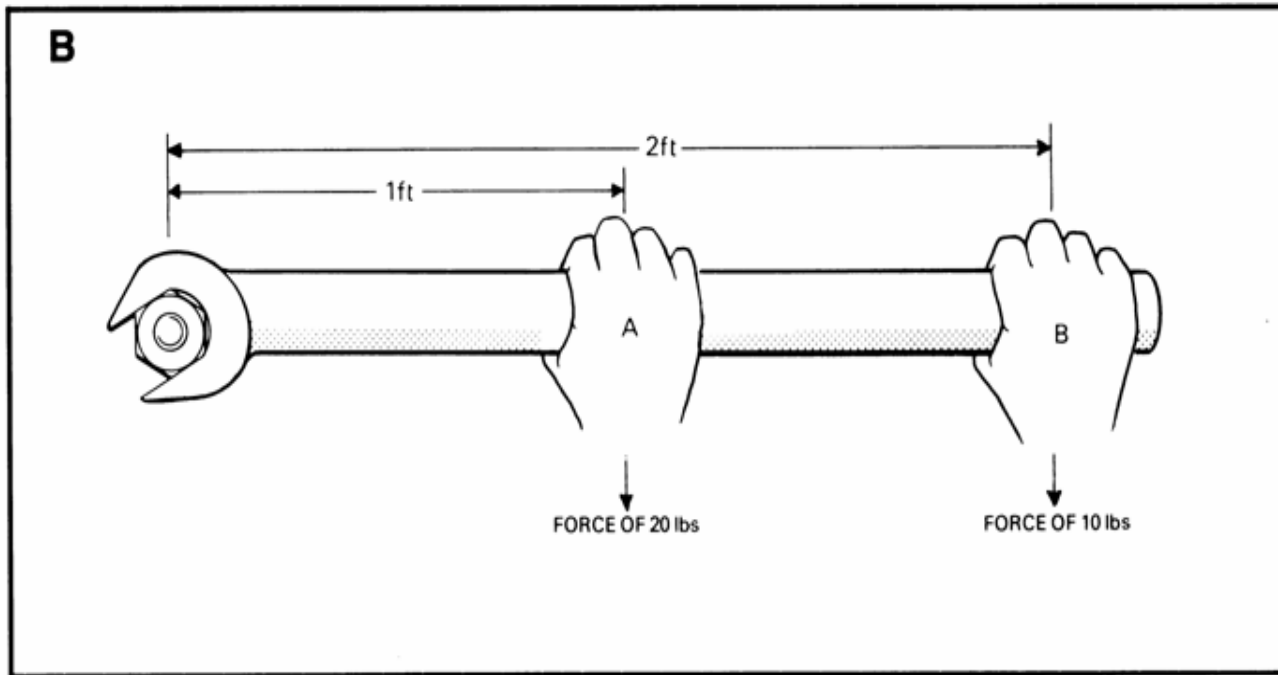
# What is Torque?



□ 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.

# How to Make Torque Evaluation



**Torque = Force x Distance**

**T = F x L so that:**

$$\mathbf{T1 = F1 \times L1 = 10 \text{ lbs} \times 2 \text{ ft} = 20 \text{ ftlbs} \quad \mathbf{T1 = T2}$$

$$\mathbf{T2 = F2 \times L2 = 20 \text{ lbs} \times 1 \text{ ft} = 20 \text{ ftlbs}$$

# 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 1 year. 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:

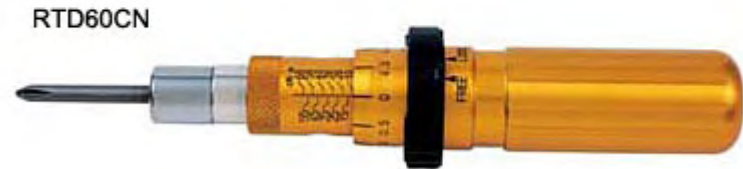
- Need to read torque value when performing loosening or re-tightening test
- Tools have scale or digital readout

# What's your torque range?

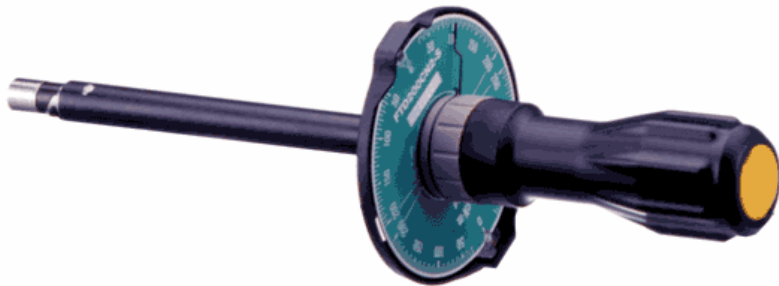
- Torque range or target torque
  - Select tool that target will fall in the middle of the range to help prevent over torque
- Confirm units of measure
  - Wrong tool selection can result if torque value is not specific: Nm or cNm

# Torque Screwdriver

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



\*Shown with optional bit



## Click Type Drivers

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



# 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

- 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



# ■ RNTD



- Preset to one torque value
- Rotary slip type
- Black colored body
- Accepts 1/4 hex bits
- Model name indicates max value in S.I but can be set in any measurement units of an equivalent torque range.
- Accuracy plus or minus 3% of preset value

# ■ NTD



- Non Rotary Slip
- Green colored body
- Other functions same as RNTD
- Accuracy plus or minus 3% of preset value

# ■ How to Preset Drivers



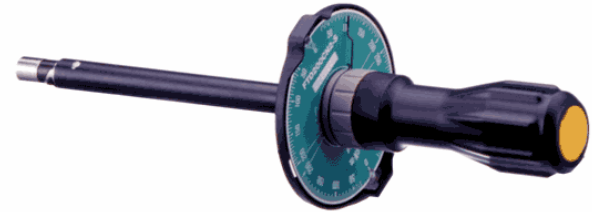
Catalog #	Applicable Models
42	NTD15CN ~ 60CN /NTD
43	NTD120CN ~ 260CN / RNTD
44	NTD500CN ~ 1000CN /RNTD



# ■ 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



# 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



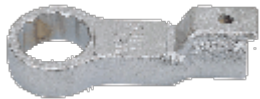
- Uses hex key to set scale
  - Convenience of adjustable
  - Torque set security of preset

# Interchangeable Heads

Root Shape



CL100NX15D Model  
takes heads that fit  
15D root size. Ex.  
SH15DX30



SH10D-5X10N



SH10D-3X10N

# ■ 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



# Preset Specialty Wrenches

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



Model NSP



© 2011 TOHNICHI Mfg.CO.,LTD. All Rights Reserved



# ■ 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



RF Setting Box  
SB-FH256  
(Option)



**New**

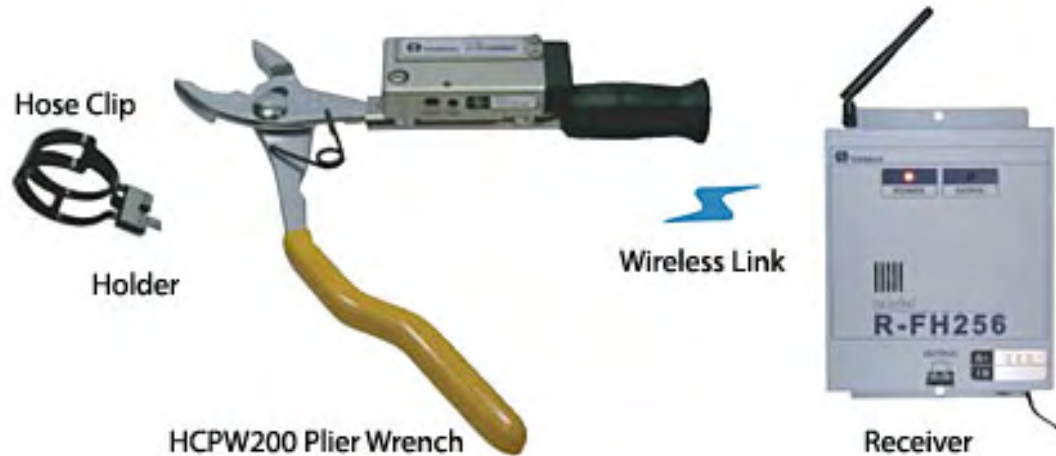


# Specialty FH

- 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.

# ■ 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



# ■ Indicating Wrenches

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



DB12N4-S



# ■ 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





# 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



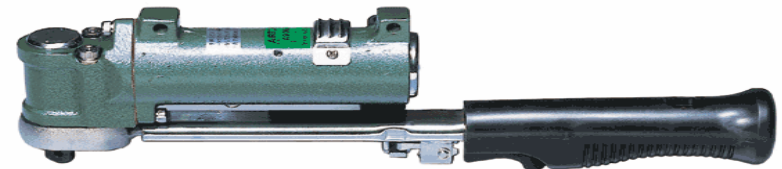
- CTA2 Torque & Angle

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



# ■ 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



# Testers/Checkers

## TDT2-G Torque Driver Tester



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

# Torque Wrench Testers

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



# Torque Measuring Equipment

## Torque Meters



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



For Bottle Cap Testing

# 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



# 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





# 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

## ■ 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)



# Accessories

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



● BATTERY PACK





**Your Torque Partner**  **TOHNICHI**

---

**World Wide Supplier of Innovative Torque Products**



**Innovative**

**Accurate**

**Reliable**

**Your Torque Partner**  **TOHNICHI**

---