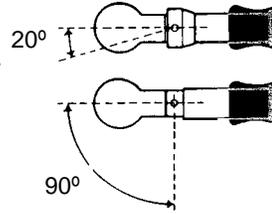


# MTBN (Break-Over Wrench) Operating Instructions

Rev 1.0

## MTBN "Break-Over" Wrenches

These production wrenches break-over once reaching preset torque and reset automatically. MTBN 2 & 10 models can break-over at 20° or 90°. MTBN 25, 65 & 135 models break-over at 20°. Compact and well balanced, these wrenches can adapt to a variety of different "head" styles.

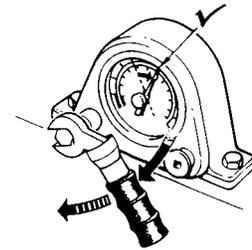


MTBN 2 & 10 models are supplied with a removable stop collar, which restricts the "break" angle to 20°. If the collar is removed, the "break" angle increases to 90°.

## Calibrating Torque Wrenches

To calibrate torque wrenches either use a torque analyzer or torque transducer within the range of the torque wrench. For break-over torque wrenches calibrate torque in "Peak" mode with a digital analyzer or transducer. Make sure you apply the torque slowly and smoothly at the center of the hand grip.

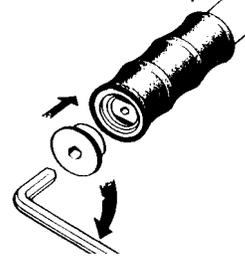
1. Select a torque analyzer or transducer that covers the torque range of the MTBN wrench. Connect wrench to the torque analyzer or transducer using the appropriate adapters as needed (not supplied).
2. Apply torque clockwise slowly until wrench 'breaks-over' and note reading.
3. Adjust wrench to required torque setting as described below.
4. Test and repeat adjustment as necessary to obtain desired value.
5. Recalibrate torque wrench at prescribed intervals.



## Adjusting Torque Setting For MTBN 2 & 10 Models

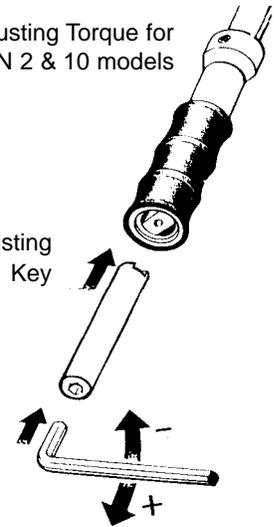
1. Remove end cap from the wrench using the larger hex key.
2. Insert smaller hex key into set screw in the middle of torque adjusting bolt inside wrench handle. Turn counter clockwise to loosen set screw, but do not remove screw.
3. Insert hex key into adjusting key and turn clockwise to increase torque and counter clockwise to decrease torque. Do not adjust torque above or below the recommended torque ranges. Tighten end cap back on.

Remove end cap



Adjusting Torque for MTBN 2 & 10 models

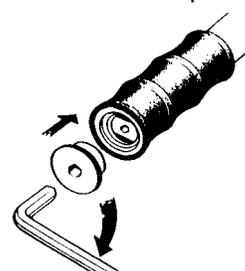
Adjusting Key



## Adjusting Torque Setting For MTBN 25, 65 & 135 Models (w/ M-TALD)

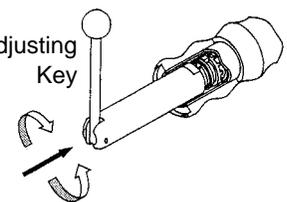
1. Remove end cap from wrench and insert adjusting key.
2. The special Adjusting Key is an articulated design. When in use the two halves are set at 90°, this allows downward force to be exerted on the Sliding Lock while rotating the Adjusting Screw.
3. Turn clockwise to increase torque and counter clockwise to decrease torque. Do not adjust torque above the or below the recommended torque ranges. Tighten end cap back on.

Remove end cap



Adjusting Torque for MTBN 25, 65 135 models

Adjusting Key



# MTBN (Break-Over Wrench) Operating Instructions

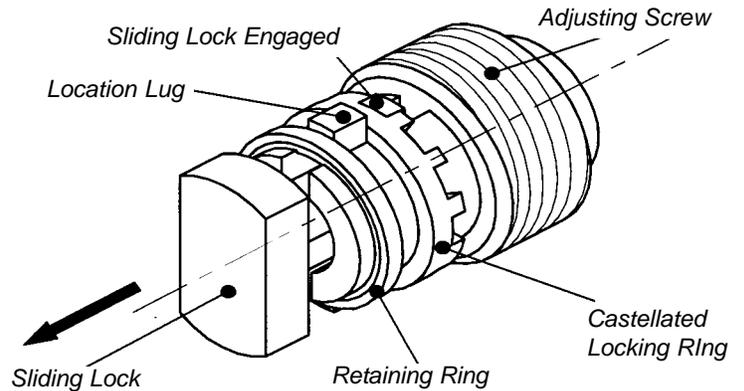
Rev 1.0

## Construction & Operation of M-TALD System

The MTBN 25, 65 & 135 models now feature the new M-TALD (Mechanical Torque Adjustment Locking Device) system. The M-TALD is an easy to use locking device for adjusting the torque of the MTBN 25, 65 & 135 models. It's a positive, mechanical locking system that does not rely on friction for movement, and does not require a secondary locking device. It's operated using a single key.

1. M-TALD comprises of three main parts: The Adjusting screw, the spring-loaded Sliding Lock and the Castellated Lock Ring. These are assembled into a single, self-contained unit and held together by a retaining ring.
2. The assembly is screwed into the wrench handle tube, with the location lugs of the Lock Ring engaging with specially formed grooves.
3. An inward force has to be exerted onto the Sliding Lock, through the special adjusting key, while the Adjusting Screw is being rotated.
4. As soon as the inward force is released, the spring-loaded Sliding Lock engages with the teeth of the Lock Ring, further rotation of the Adjusting Screw is not possible.
5. The Castellated Lock Ring has ten teeth, allowing the Adjusting Screw to be set at increments of  $36^{\circ}$ . The resolution of each increment varies with each model of the tool and are, generally, as follows:

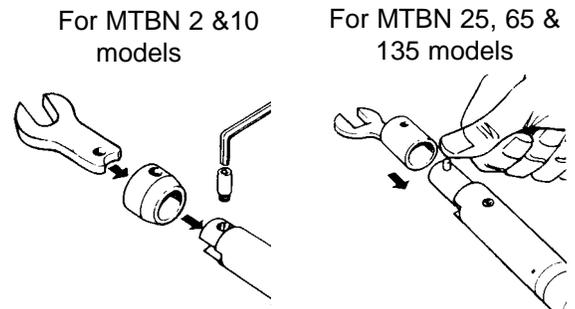
MTBN 25	0.15 Nm
MTBN 65	0.6 Nm
MTBN 135	1.0 Nm



## Placing Heads on Wrench

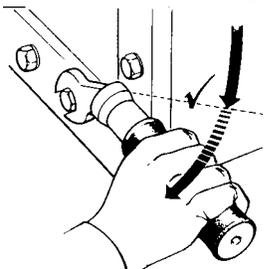
*For MTBN 2 & 10 Models* - Loosen side pin along the collar with hex key. Slide "head" in between the slit. Slide pin back in and tighten with hex key.

*For MTBN 25, 65 & 135 Models* - Slide "head" on to the end of wrench. Align the pin with the head's pin slot.



## Applying Torque

1. Tighten nut or bolt by applying a steady even pull. Wrench should be kept at 90 degrees to axis of bolt during tightening. When pre-set torque is reached, the wrench will 'break.'
2. The wrench will automatically reset itself for the next application.
3. With its unique design, it's impossible to over tighten beyond the preset load.



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