

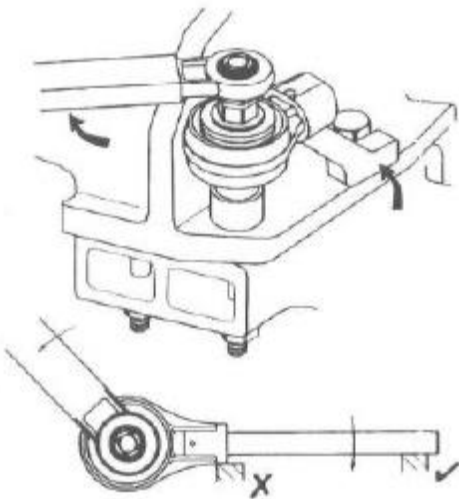
Prepared by:-	M.Davies	Approved by:-	P Wright	Date: 13/10/14
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The **Hi-Force** TWG series of manual torque multipliers provide a true torque multiplication with repeatable accuracy of +/- 4%



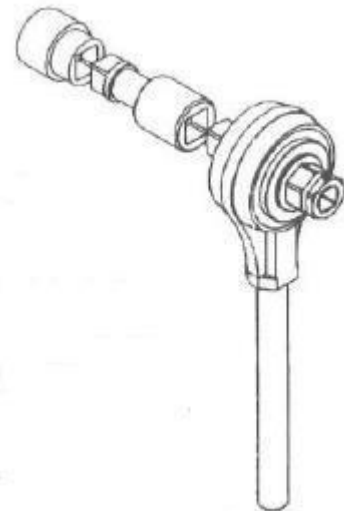
To Rotate a nut:

- Select the correct output socket: $\frac{3}{4}$ " for TWG13 or 1" for TWG20 and TWG28. It is recommended that power drive sockets are used, however, this is not an essential requirement.
- In use the tool body rotates in the opposite direction to the applied drive. It is necessary to allow the torque reaction arm to rest against some solid stop before any useful work can be done.
- To prevent undue stress on the gears, always take torque reaction as far away from the drive square as circumstances permit.
- Up to a 250mm (9") long extension driver may be used providing output torque does not exceed the maximum allowable load/force for the specified TWG multiplier and reaction forces are taken near the end of the reaction bar. See diagram.



Driving tool:

- For torque control and even bolt loading an input torque wrench is required.
- Set torque wrench to the required torque as given in the tables above to achieve your desired output torque on the nut. Do not exceed maximum input torque.



DO NOT USE THE MULTIPLIER WITH IMPACT OR IMPULSE WRENCHES



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TORQUE VALUE SETTINGS.

Each tool supplied by Hi-force carries its own unique serial number, and each tool is individually calibrated prior to supply, and is issued with:-

- Individual test certificate which tabulate the exact input and output values for that individual tool.
- The tool carries a label on it which specifies the unique calibrated values of that tool.
- Also included on the test certificate, for each individual tool, is a graph plotting the actual calibrated values of the individual tool supplied. For individual input/output torque not listed on the label & test certificate these can be taken from the graph provided.

SETTING TORQUE FOR BOLT TIGHTENING

1. Establish the correct torque figure for the bolt from manufacturer's instructions or by calculation.
2. From the bolt manufacturers recommended torque figure, select the correct tool from the charts given in the catalogue and which can also be found on the website at www.hi-force.com.
3. The selected tool for the output torque, will give you the correct input torque to achieve the required bolt torque. Select a suitable torque wrench for the input torque from Hi-force's range of TWM torque wrenches.

SETTING TORQUE FOR BOLT LOOSENING

1. To ensure that the multiplier is not overloaded, it is desirable to use a torque wrench even for bolt loosening.
2. Select a suitable torque multiplier from the charts given in the catalogue and which can also be found on the website at www.hi-force.com which will give you the torque required to loosen the bolt. From the selected tool you will see the input torque required.
3. Select a suitable torque wrench from Hi-Force's range of TWM torque wrenches for the input torque. Note, some torque wrenches will not 'click' or 'break' when used in the anti-clockwise direction.

OPERATING THE MULTIPLIER

1. Fit the multiplier with the correct size of power drive or impact quality socket to suit the bolt to be tightened.
2. Fit the multiplier to the bolt with the reaction plate adjacent to the reaction point. See figure 2.
3. Fit the torque wrench to the multiplier, set as in 'Setting Torque for Bolt Tightening'.
4. Operate the torque wrench in the normal manner until it 'clicks' or 'breaks'. Smooth and even use of the torque wrench will give more accurate results, DO NOT SNATCH.

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NOTES:

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