IMPORTANT
DO NOT OPERATE THE TOOL BEFORE READING THESE INSTRUCTIONS

The Manual Torque Multiplier is a precision tool that will exactly multiply the input torque by the specified ratio. To operate the Manual Torque Multiplier you will need the following:-

- Power Drive or Impact Quality Sockets
- Reaction Arm

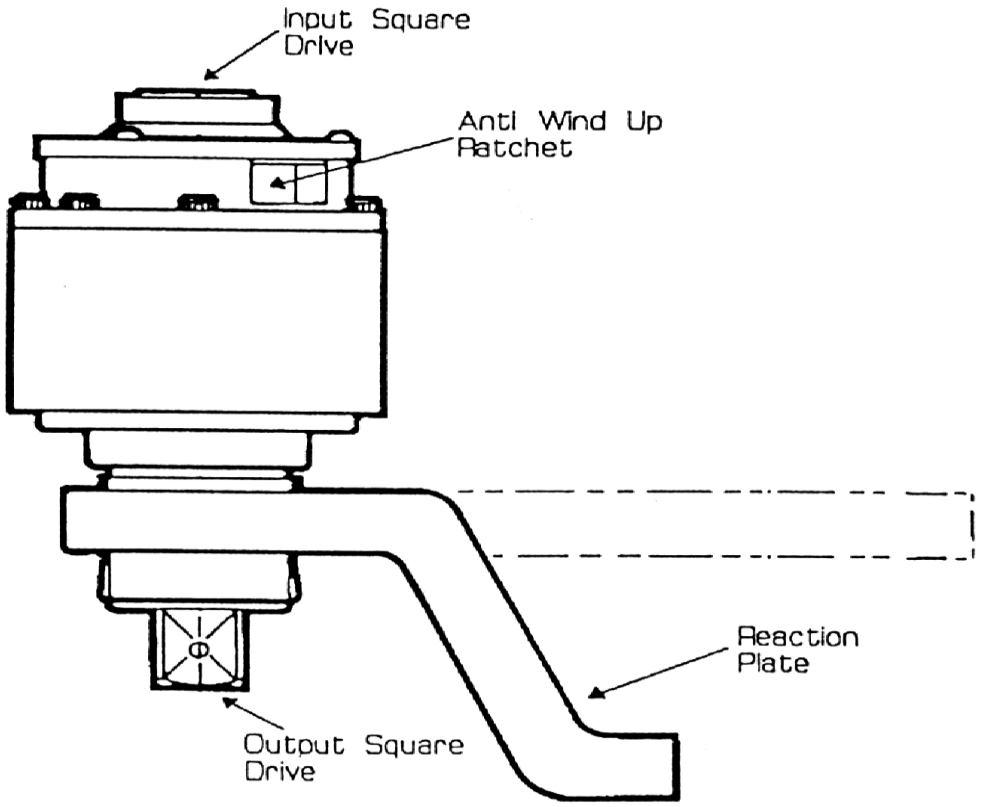

FIG 1

TORQUE REACTION

When the Hand Torque is in operation, the Reaction Plate rotates in the opposite direction to the output square drive and must be allowed to rest squarely against a solid object or surface adjacent to the bolt to be tightened (see figure 2).

Where the standard reaction plate is not suitable, it may be possible to adapt it. Refer to your **Hi-Force** distributor for advice.

WARNING: Care must be taken to ensure that the reaction plate is only used within the limitations shown in figure 3

For special applications or where extra deep sockets must be used the standard arm may be extended but only within the limitations shown on figure 3.

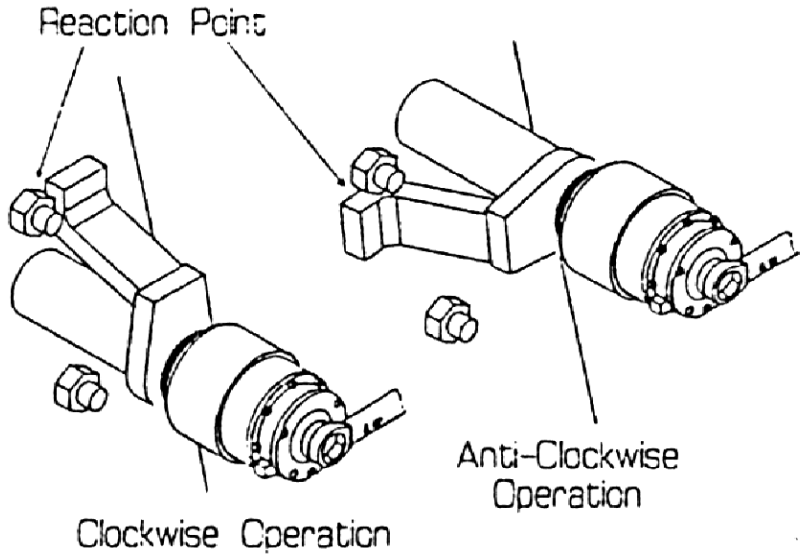

FIG 2

WARNING: FAILURE TO OBSERVE THE LIMITATIONS SHOWN IN FIGURE 3. MODIFYING STANDARD REACTION PLATES OR MAKING SPECIALS MAY RESULT IN PREMATURE WEAR OR DAMAGETO THE WRENCH OUTPUT DRIVE.

Standard square drive extensions MUST NOT be used as these will cause serious damage to the wrench output drive. **Hi-Force** manufacture a range of nose extensions for applications where access is restricted and these are designed to support the final drive correctly.

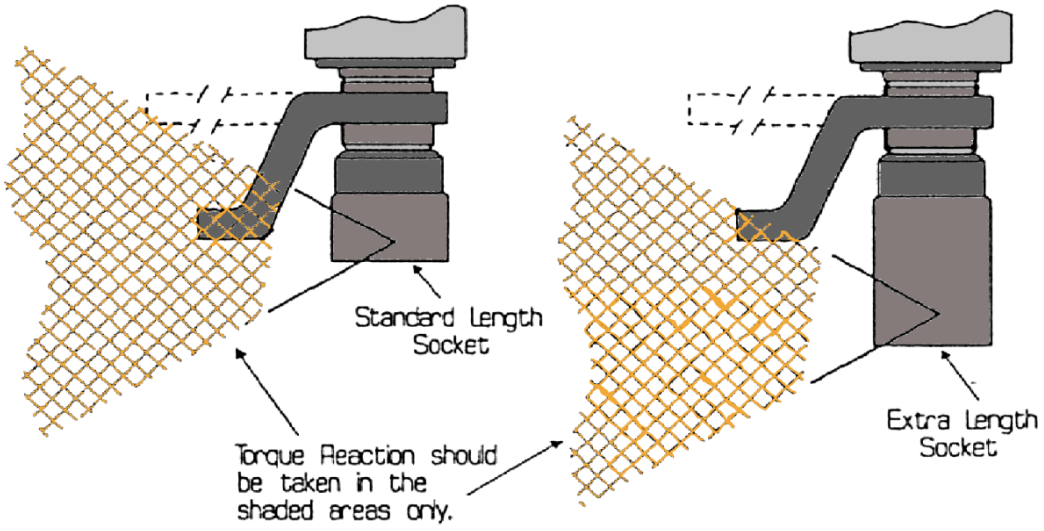

FIG 3

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 is 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 form 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.

UK Head Office:

Hi-Force Limited
Prospect Way, Daventry, Northamptonshire
NN11 8PL
United Kingdom

Tel: + 44 1327 301000
Fax: + 44 1327 706555
Email: daventry@hi-force.com

Hi-Force Regional Offices:

Hi-Force Caspian **Baku** **Azerbaijan** **Tel: +994 12 447 4100** **Email: baku@hi-force.com**	**Hi-Force S.r.l.** **Milan** **Italy** **Tel: +39 0253 031 088** **Email: italy@hi-force.com**
Hi-Force Hydraulics (Asia) S.B **Selangor** **Malaysia** **Tel: +603 5525 4203** **Email: malaysia@hi-force.com**	**Hi-Force Nederland BV** **Numansdorp** **Netherlands** **Tel: +31 85 902 8111** **Email: holland@hi-force.com**
Hi-Force Hydraulics (Pty) Ltd **Midrand** **South Africa** **Tel: +27 11 314 0555** **Email: south.africa@hi-force.com**	**Hi-Force Saudi** **Dammam** **Saudi Arabia** **Tel: +966 13 802 1338** **Email: saudi@hi-force.com**
Hi-Force Hydraulics **Abu Dhabi** **United Arab Emirates** **Tel: +971 2 551 3100** **Email: abu.dhabi@hi-force.com**	**Hi-Force FZCO** **Dubai** **United Arab Emirates** **Tel: +971 4 815 0600** **Email: dubai@hi-force.com**

GLOBAL BRAND. LOCAL SERVICE. **www.hi-force.com**