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|-------------------------------------|----------------|----------------------------------------------------------------------------|---------------|-------------|----------------------|
| <b>Hi-Force®</b><br>HYDRAULIC TOOLS |                | <b>OPERATING INSTRUCTIONS FOR PT SERIES<br/> PNEUMATIC TORQUE WRENCHES</b> |               |             | TDS:-<br><b>1167</b> |
| Prepared by:-                       | Matthew Hughes |                                                                            | Approved by:- | Mark Dalley | Date: 12/04/13       |
| REV NO:-                            | 002            |                                                                            |               |             |                      |
| ECO:-                               | 4070           |                                                                            |               |             |                      |

**IMPORTANT: DO NOT OPERATE THE TOOL BEFORE READING THESE INSTRUCTIONS**

Pneumatic Torque Wrenches are reversible, non impacting, torque controlled tools for threaded fasteners, and must always be operated with the following:-

- ❑ Clean dry air supply with a minimum flow of 19 litres/sec (40 CFM)
- ❑ Lubro Control Unit or similar filter, regulator and lubricator unit ½" bore (12mm)
- ❑ Impact sockets
- ❑ Reaction Plate

Where the intended usage is not with threaded fasteners, the safety of operation must be evaluated and appropriate precautions taken. Your distributor will be pleased to advise you.

These tools contain grease, which may cause an explosion hazard in the presence of pure oxygen. These tools contain aluminium alloy components, which may cause a hazard in certain explosive environments. Please contact your distributor for details of solutions to these hazards.

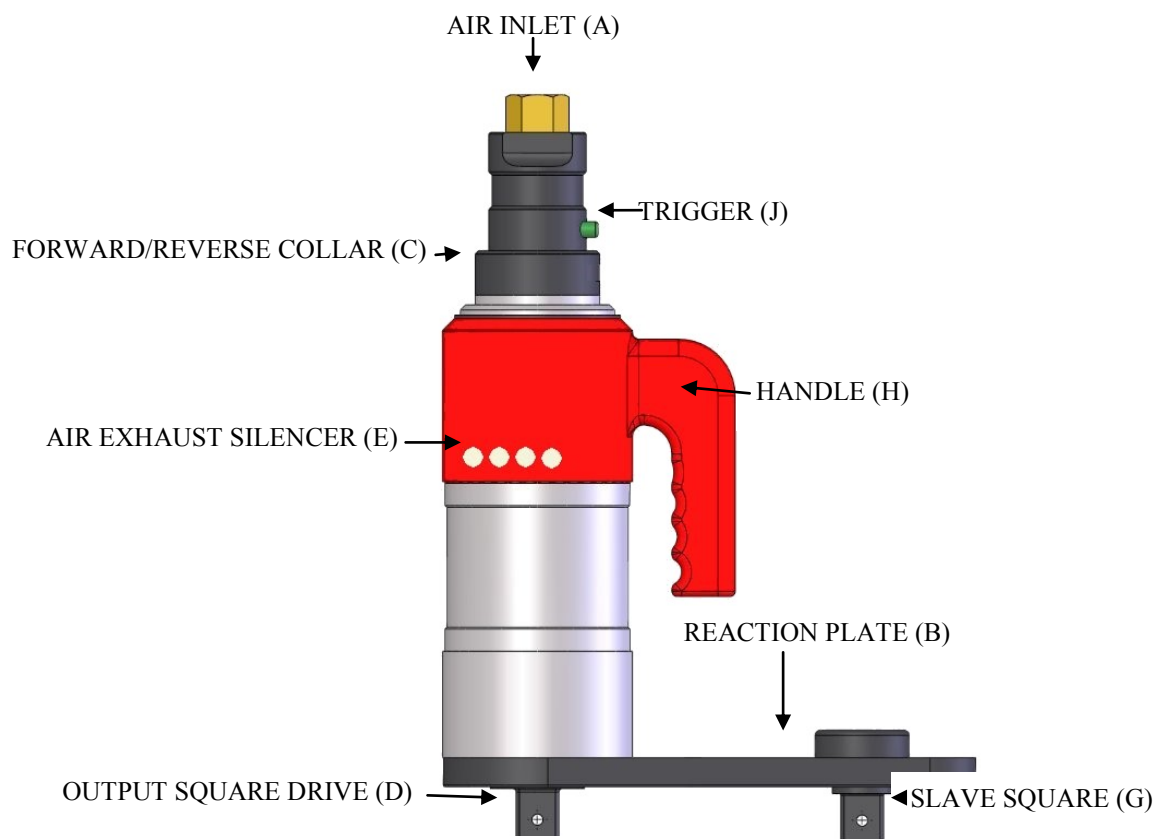


**Fig. 1**

|                                     |                |                                                                            |               |                      |
|-------------------------------------|----------------|----------------------------------------------------------------------------|---------------|----------------------|
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### **ASSEMBLY (Refer to fig 1 for component identification)**

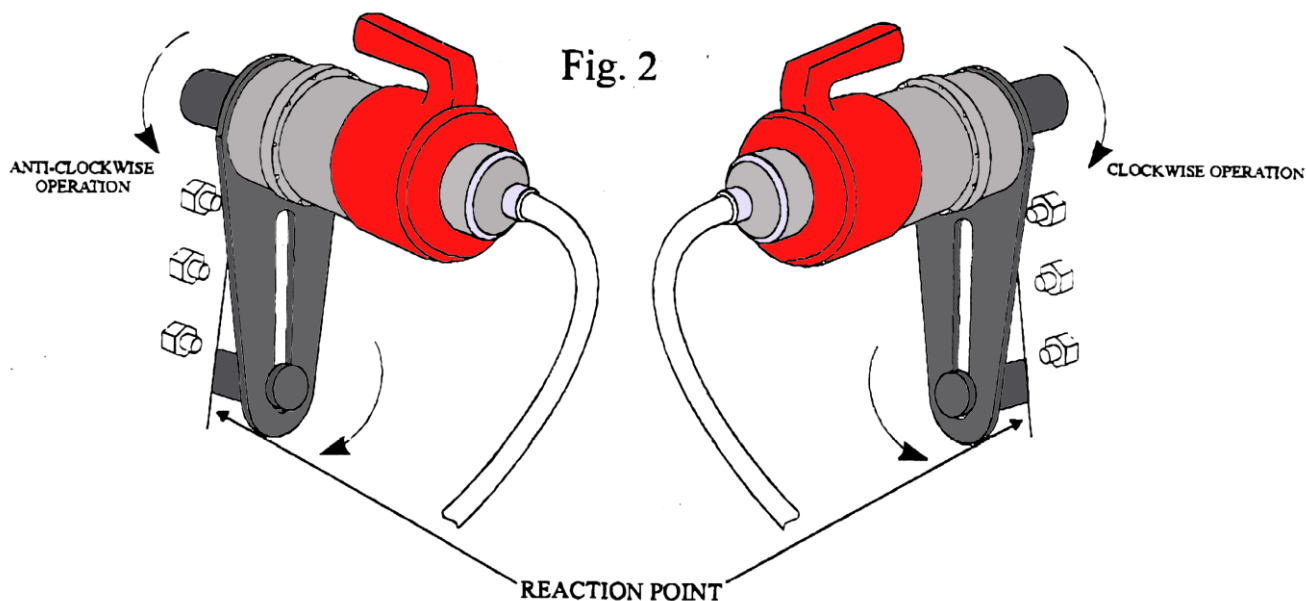
1. Blow out all hoses before connecting.
2. Connect the wrench Air Inlet (A) to the outlet side of the Lubro Control Unit using the 3 metre hose provided, observing the air flow direction arrows.
3. Connect air supply to the inlet side of the Lubro Control Unit using a minimum size of ½" bore (12mm). Avoid using ½" bore hoses of longer than 5 metres from the supply to the Lubro Control Unit as this will reduce performance of the wrench.
4. Check oil level in lubricator and fill to the correct level if required. (see "LUBRICATION").

**WARNING: TO AVOID HAZARD FROM WHIPPING AIR HOSES MAKE ALL CONNECTIONS TO THE TOOL BEFORE TURNING ON THE AIR SUPPLY**

### **TORQUE REACTION (Refer to fig 1 for component identification)**

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

**WARNING: ALWAYS KEEP HANDS CLEAR OF THE REACTION PLATE WHEN THE TOOL IS IN USE OR SERIOUS INJURY MAY RESULT**



|                                                                                   |                |                                                                           |             |                      |
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### **SETTING TORQUE FOR BOLT TIGHTENING (Refer to fig 1 for component identification)**

Every Pneumatic Torque Wrench is supplied with an Air Pressure Graph, which relates torque output to air pressure. Set the torque output as follows:-

1. Establish the air pressure required the Air Pressure Graph.
2. Turn collar (C) to set the tool direction, then squeeze and hold the trigger (J) (where fitted).
3. Adjust the Lubro Control Unit pressure regulator until the correct pressure is shown on the gauge.

**IMPORTANT: THE WRENCH MUST BE FREE RUNNING WHILE ADJUSTING THE AIR PRESSURE TO GIVE THE CORRECT SETTING**

**WHILE THE WRENCH IS FREE RUNNING CHECK THAT THE LUBRO CONTROL UNIT IS SUPPLYING APPROXIMATELY SIX DROPS OF OIL PER MINUTE**

### **SETTING TORQUE FOR BOLT LOOSENING**

1. Establish maximum air pressure from Air Pressure Graph or tool label and set air pressure as for bolt tightening.
2. Ensure that the collar is set to the '**REV**' (reverse) position for the right hand threads.

**WARNING: EXCEEDING THE MAXIMUM AIR PRESSURE WILL OVER-LOAD THE WRENCH AND MAY CAUSE SERIOUS DAMAGE**

|                                                                                   |                |                                                                           |             |                      |
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### **OPERATING THE WRENCH (Refer to fig 1 for component identification)**

1. Fit the wrench with the correct size impact socket to suit the bolt.
2. Fit the tool onto the bolt with the reaction plate (B) adjacent to the reaction point. (See fig 2).
3. Slowly bring the reaction plate into contact with reaction point by operating the wrench in short bursts.

### **WARNING: KEEP HANDS CLEAR OF REACTION ARM**

**WARNING: IN USE, THIS TOOL MUST BE SUPPORTED AT ALL TIMES IN ORDER TO PREVENT UNEXPECTED RELEASE IN THE EVENT OF FASTENER COMPONENT FAILURE**

4. Keep the 'trigger' (J) squeezed to its open position and collar (C) turned fully until wrench stalls. If the 'trigger' is released or collar is turned back to the 'OFF' position before the wrench stalls, full torque will not be applied to the bolt.
5. Release the 'trigger' and turn collar to 'off' and remove tool from bolt.
6. If the tool will not release from the bolt, turn collar to the opposite direction and squeeze the trigger for a fraction of a second.

### **TWO SPEED AUTOMATIC GEARBOX**

Automatic gearboxes, where fitted, will 'run down' the nut at five times normal speed. No operation intervention is required. The wrench will automatically select low gear (ie. low speed, high torque) to apply final torque. Set the wrench exactly as described above.

### **TWO SPEED MANUAL GEARBOX**

1. Set the air pressure as described above.
2. Set the gear selector to it's 'high' position and then follow the procedure 'Operating The Wrench'.
3. Where there are several bolts in the joint, eg. a flange, it is desirable to tighten all of the bolts with the tool in 'high' gear.
4. Set the gear selector to 'low' and apply final torque.

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## **MAINTENANCE**

To maintain optimum performances and safety, the following maintenance should be carried out:

1. Check that the bolts fastening reaction plate are tightened to torque stamped onto the reaction plate. Frequency: Weekly

## **LUBRICATION**

Air Lubricator and Air Motor:-

Shell Tellus 15, BP

Energol H.L.P 46 or equivalent good quality hydraulic oil.

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NOTE(S):

|                                                                                   |                |                                                                           |               |             |                      |
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