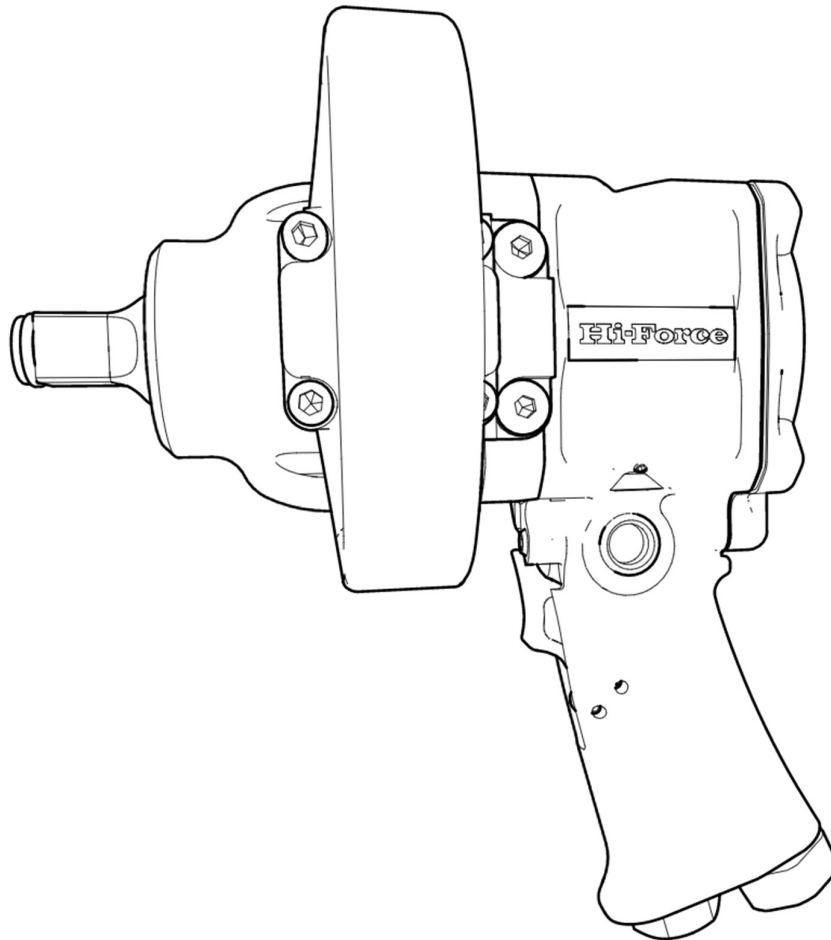


This 'Original instructions' document assumes that the operator carrying out any operation with this product is trained and competent to do so. This manual does not attempt to cover all details or variations in the equipment. Nor does this manual claim to provide for every possible contingency met in connection with the installation, operation, or maintenance thereof. Should further information be desired, or should a particular problem arise which is not covered in sufficient detail, the matter should be referred to Hi-Force.

# **OPERATING INSTRUCTION MANUAL**

## **IP SERIES | PNEUMATIC IMPACT WRENCHES**



This manual applies to Hi-Force IP series Pneumatic Impact Wrenches Only. It contains the latest product information available at the time of publication and approval. For information relating to the servicing of a Pneumatic Impact Wrench, see the servicing instructions, which are available on the Hi-Force website. Hi-Force reserves the right to make changes to this document at any time without notice.

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**NOTE:** Images contained within this document are for illustrative purposes **ONLY**.

## 1.0 Inspection upon Receipt

Upon receipt of the product, visually inspect the item for any evidence of shipping damage. Please note: the warranty does not cover shipping damage. Notify the courier immediately if shipping damage is found and refrain from putting the product into service. The carrier is responsible for repair and replacement costs resulting from damage that occurred in transit.

## 2.0 Safety Precautions

### 2.1 Introduction



Read and follow all the instructions and safety warnings carefully before handling, installation or use of any impact wrench. Failure to do so could lead to equipment damage, equipment failure, personal injury or even death. Hi-Force will not be held responsible for any damage to the equipment, injury or death resulting from the unsafe use of, lack of maintenance to, or incorrect operation of the product. If in doubt on the correct use of any Hi-Force equipment, contact your nearest Hi-Force office or distributor. Only qualified personnel should be allowed to operate impact wrenches. If an operator has not been trained on impact wrenches and their safe usage, consult your local Hi-Force sales office or distributor who can offer training courses for operators.

### 2.2 Work Area Safety

- Keep work areas clean and well lit. Cluttered spaces and inadequate lighting can result in unnecessary accidents.
- Keep unauthorised persons at a safe distance from the task site.
- **NEVER** use the tools in the presence of inflammable liquids, gases or material.
- **DO NOT** use the tools in potentially explosive atmospheres (ATEX) this tool is **NOT** ATEX approved.

### 2.3 General Safety Precautions



**WARNING!** Failure to observe and obey the following safety precautions could result in property damage, significant personal injury or death;



- When operating any impact wrench, all operators should ensure that all necessary personal protective equipment (PPE) is worn, as specified by their employer. Steel toe-cap safety shoes, safety glasses/visor and protective gloves should be worn at all times. All relevant risk assessments should be completed before the use of the equipment.
- Immediately replace any worn or damaged parts using genuine Hi-Force parts only.
- **DO NOT** use any impact wrench if you are under the influence of alcohol, drugs or medication. Lack of attention whilst operating air tools can result in personal injury or death.



## CAUTION!

Failure to observe and obey the following safety precautions could result in property damage, equipment damage or minor/moderate personal injury;

- **NEVER** use defective or worn accessory parts. Replace defective or worn parts with original parts.
- **DO NOT** let familiarity gained with any tools allow you to become complacent. Complacency with any tooling can result in a lack of discipline toward working guidelines and safety principles.
- **DO NOT** remove any labels from the product. Replace any damaged or unreadable labels immediately.
- Avoid loose clothing and jewellery that could get caught in moving parts, tie back long hair.

### 2.4 Impact wrench specific safety precautions



## WARNING!

Failure to observe and obey the following safety precautions could result in property damage, serious personal injury or death;

- **NEVER** try and remove trapped nuts from a socket with the tool connected to an airline.
- **NEVER** exceed the maximum rated capacity of any impact wrench.
- **NEVER** change the sockets with the tool connected to an airline.
- **DO NOT** weld any items to the impact wrench or modify it in any way from its delivered condition. Your warranty may be invalidated, and it could lead to serious personal injury.



## CAUTION!

Failure to observe and obey the following safety precautions could result in property damage, equipment damage or minor/moderate personal injury;

- **ONLY** use impact wrenches within their permissible torque range.
- **ONLY** use sockets and accessories that correctly fit the impact wrench.
- **ONLY** use sockets and accessories that correctly fit the nut/bolt and function without tilting the tool off the axis of the bolt

### 3.0 Declaration of Incorporation/Conformity

Hi-Force declares that this product has been tested and complies with the standards and declarations as set out in the Declaration of Incorporation/Conformity (DoI/DoC). The DoI/DoC is included as Annex A to this instruction document and is supplied with all shipments of this product.

## 4.0 Specifications

Model Number	Square Drive Size	Bolt Range		Free Speed (R.P.M)	Maximum Torque		Working pressure	Air Flow At Load - (91 psi)	Air Inlet Type	Vibration Lvl (m/s2)	Sound Pressure Lvl (dB(a))	Weight (kg)
		Metric	Imperial		Nm	lbf.ft						
Pistol grip versions												
IP650	1/2"	M10-M16	3/8" - 5/8"	5600	650	480	6.3 bar - 92 psi	18 cfm	1/4" BSP	5.0	97	2.3
IP1700	3/4"	M14-M24	9/16"-1"	5400	1700	1254	6.3 bar - 92 psi	32 cfm	1/2" BSP	9.4	102	5.95
IP1700X	3/4"	M14-M24	9/16"-1"	5400	1700	1254	6.3 bar - 92 psi	32 cfm	1/2" BSP	9.4	102	6.6
Back handle grip versions												
IP3200	1"	M18-M39	3/4"-1.1/2"	3200	3185	2350	6.3 bar - 92 psi	53 cfm	1/2" BSP	4.9	101	9.48
IP3200X	1"	M18-M39	3/4"-1.1/2"	3200	3185	2350	6.3 bar - 92 psi	53 cfm	1/2" BSP	4.9	101	10.6
IP5950	1 1/2"	M24-M56	1"-2"	3200	5933	4376	6.3 bar - 92 psi	63 cfm	1/2" BSP	12.3	104	14.52

“X” Denotes an extended square drive.

Extended square drive increase in length:

IP1700X	118.9
IP3200X	137

**Calibration Period:** Every 12 Months or 5000 bolting cycles (minimum).

## 5.0 System Components / Accessories

(Refer to the Hi-Force website or latest Hi-Force catalogue, for further details)

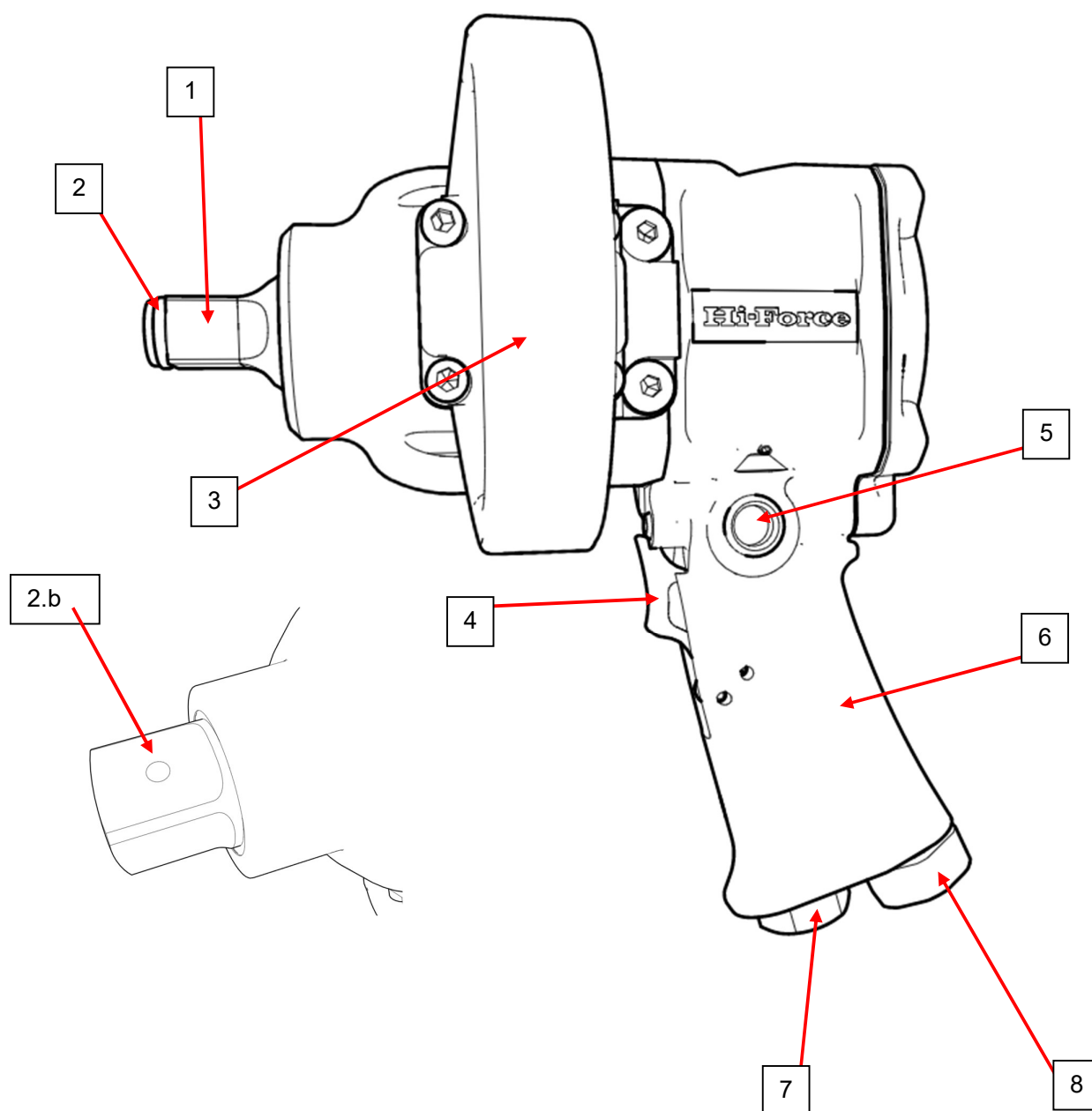
- Metric & Imperial hexagon AF size heavy duty sockets.
- FRL, Filter, Regulator, Lubricator unit

## 6.0 Introduction

The Hi-Force range of IP impact wrenches consist of 4 models, **See Specifications**. The IP impact wrench is designed to be a compact design with an excellent power to weight ratio. Operating from a standard 6 bar air pressure supply, the output torque can be controlled via a filter, regulator and lubricator unit, supplied separately, **See accessories**. Accessories also include a range of high quality impact sockets available in both metric and imperial AF sizes.

## 7.0 Component Identification

1	Square drive	5	Directional control
2	Socket retaining ring	6	Pistol grip
2.b	Socket retaining pin location/ IP5950,IP3200	7	Air inlet
3	Handle (Not required on IP650)	8	Exhaust
4	Trigger		



**Figure 7.1: Component Identification**

## 8.0 Installation/Setup

1) Insert an airline connection into the air inlet (7) using PTFE tape if required. Details of the air inlet thread sizes can be found in the specification chart, **See specifications**. An airline with an internal diameter of 13mm minimum is recommended for optimum tool efficiency.

2) Fit the supplied handle (not required on the IP650) to the impact wrench. Hand, arm, vibration (HAV) figures are taken from a tool with a properly fitted handle.

Figure 1

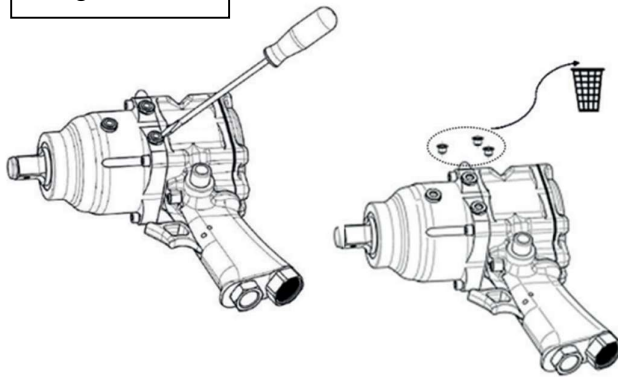
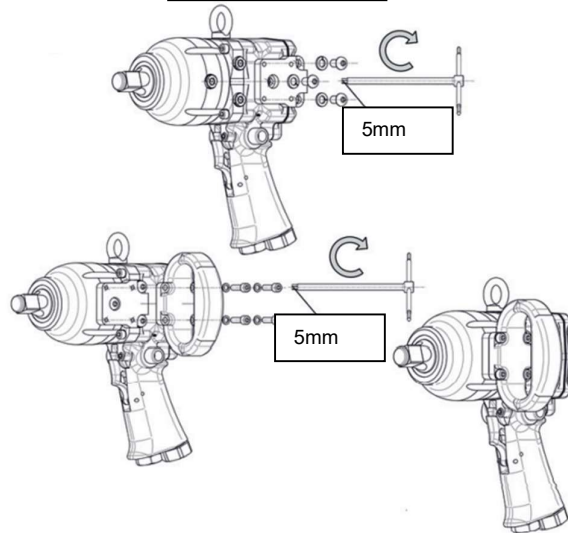


Figure 2



3) Connect the tool to the Filter, regulator and lubricator unit ("FRL" (recommended)) ensuring that the oil reservoir has sufficient airline oil and the drop rate is set to approx. 1-2 drops every few minutes. This rate can be adjusted to suit the tooling size and the environment. More details on the FRL units can be found in the operating instructions supplied with the FRL unit and also in the Hi-Force catalogue and online at [www.Hi-Force.com](http://www.Hi-Force.com).

**CAUTION!** Airline connections should be secured by a whip prevention system to avoid injury due to whipping, if a component failure occurs.

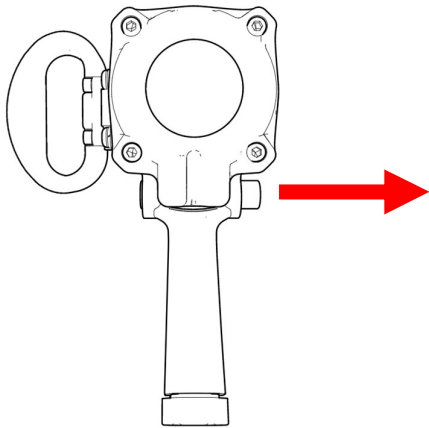
4) Without the tool connected to any application or socket, and the regulator set to zero, depress the trigger (4) and gradually turn up the regulator allowing the tool to free speed until the required max is reached. If there are any signs of air leaks, stop the tool, dis-charge any residual air in the system and investigate the leak.

**NOTE:** If the tool is to be used in cold conditions, has been stored in a cold environment, or has not been used for a long period of time. It is recommended to allow the tool free speed, without the tool connected to any application or socket, to allow it to come up to temperature and prevent seizing due to the oil viscosity thickening in the tool.

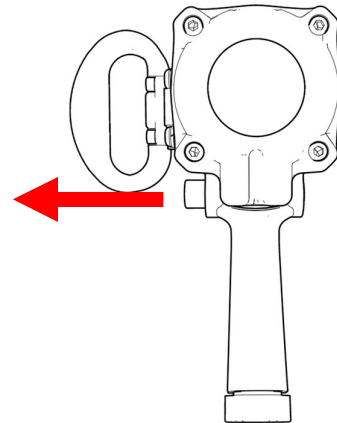
5) The regulator can be used to decrease the operating pressure if the tools max range is not required, this will reduce both the energy used and operator fatigue. Noise (dB) levels will be lowered and the tools longevity will be greatly increased.

## 9.0 Operation

- 1) Connect and secure the correct size socket for the application.
- 2) Connect the tool to the air supply and secure the airline hose with a whip protection device.
- 3) Set the tools rotation using the directional control (5) as per the below images. (Images and rotation viewed from the rear of the tool).



**Anti-clockwise**



**Clockwise**

- 4) Place the socket onto the nut, ensuring the tool is parallel to the bolt/fastener.
- 5) Using both hands on the tool, depress the trigger (4) release the trigger when complete, and proceed to the next bolt/fastener.

## 10.0 Maintenance and Storage

- Keep the impact wrench exterior clean in order to prolong the products lifespan. Clean the impact wrench by wiping it down with a clean, dry, lint-free cloth. Do not immerse the impact wrench in any type of liquid or cleaner, as this may damage the internal components.
- Routinely perform a visual inspection for signs of general damage.
- When not in use, store in clean and dry conditions.
- Hi-Force IP pneumatic torque tools should be serviced and repaired only by authorised Hi-Force repair centres.



## 11.0 Troubleshooting

Hi-Force IP Square Drive Impact wrenches should be serviced and repaired only by authorised Hi-Force repair centres. The following table gives possible causes and solutions for common problems.

TROUBLESHOOTING GUIDE		
Problem	Possible Cause	Solution
1. Square drive does not rotate.	a. Trigger (4) not fully depressed.	Ensure that the Trigger (4) is fully depressed.
	b. The pressure or capacity of the air supply is insufficient.	Check the airline pressure and capacity.
	c. Temperature too low.	Operate in an environment with higher temperature.
	d. Directional control (5) position is incorrect.	Check the position of the directional control (5)
	e. Tool failure.	Contact your local Hi-Force office.
2. Performance drop.	a. Trigger (4) not fully depressed.	Ensure that the Trigger (4) is fully depressed.
	b. The pressure or capacity of the air supply is insufficient.	Check the airline pressure and capacity.
	c. Directional control (5) position is incorrect.	Check the position of the directional control (5)
	d. Insufficient lubrication.	Check lubrication <b>See section 5.3</b>
	e. Clogged exhaust (8).	Clean the exhaust (8).
	f. Tool failure.	Contact your local Hi-Force office.
3. Tool vibrates abnormally.	a. The tool is not sufficiently supported between the operator and the application.	Ensure the tool is sufficiently supported.
	b. Handle (3) not fitted.	Fit the handle as per <b>Section 5.2</b> .
	c. Socket not properly engaged to the tool.	Check socket engagement.
	d. Worn or broken sockets.	Check the sockets for wear and or damage.
	e. Tool failure.	Contact your local Hi-Force office.
4. The square drive continues rotation after the trigger is released.	a. Trigger mechanism jammed.	Switch off the air supply and disconnect once discharged. Contact your local Hi-Force office.

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