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CHRISTIE
TOTAL TORQUE SOLUTIONS

HYSPAN PISTOL GRIP

USER GUIDE

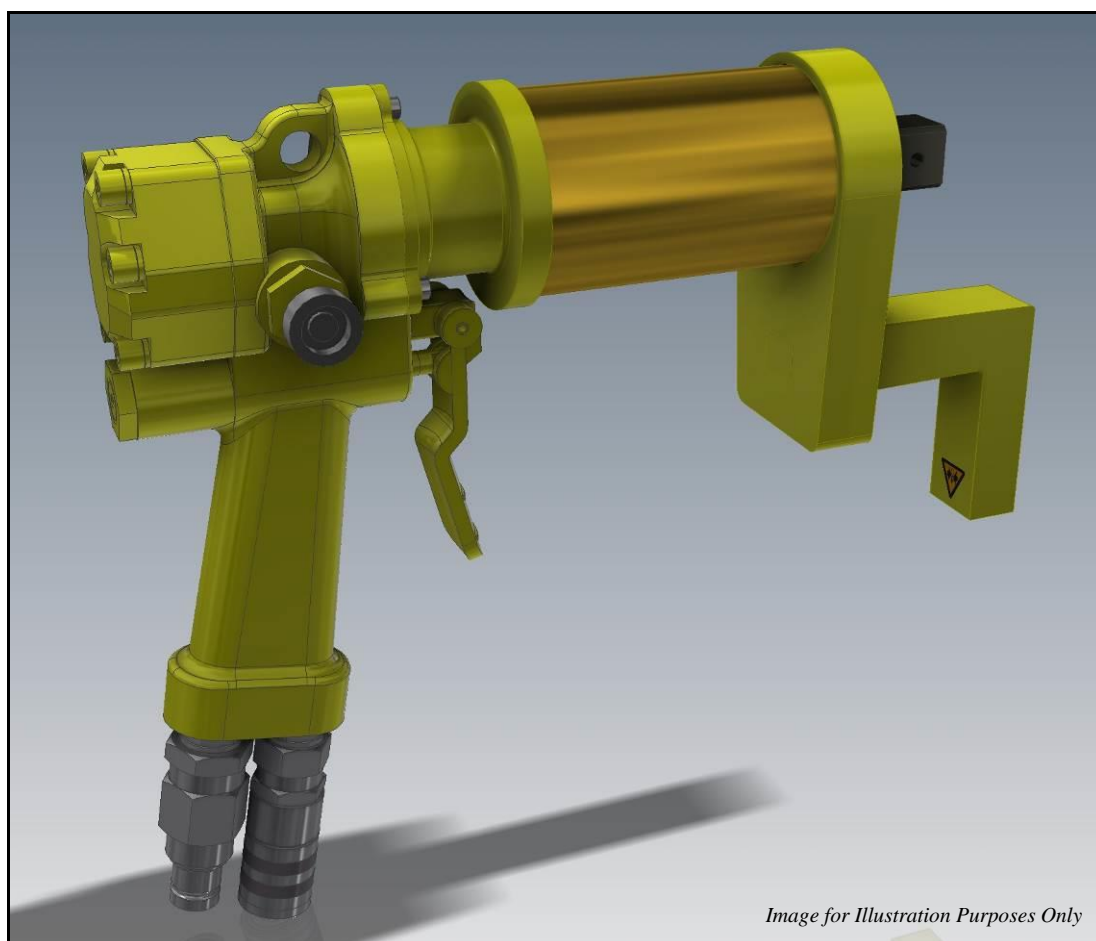


Image for Illustration Purposes Only

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ISSUE

Description	Issue	Date	Initials
First Issue	0	July 2017	PR

INTRODUCTION

The Hyspan Pistol Grip hydraulic torque wrench is a hand held, non-impacting hydraulic driven, reversible power tool designed to quickly and accurately apply torque to tighten and remove threaded fasteners. The unit is ideal for all types of maintenance work, above and below ground, offshore and sub-sea. It may be powered from the customers own hydraulic supply or via a Christie supplied power pack.

The direction is changed using the direction selector.

The unit is operated from a soft start trigger.

The Hyspan multiplier must always be operated with the following:-

- Single acting hydraulic power pack capable of 2,000 psi (140 bar)
- Power pack flow rate of 15-46 litres/minute (0.53-1.62 cfm)
- Hydraulic mineral oil. (none synthetic, Grade 32 or equivalent.
- Hydraulic hoses. Working pressure 4790 psi (330 bar), 3/8" (10mm) bore.

Impact quality sockets or adaptors

TRAINING REQUIREMENTS

Training on the correct use of the equipment is available. Please contact W. Christie (Industrial) Ltd for more information.

GENERAL SAFETY

The improper use of hydraulic equipment is unsafe and may result in personal injury. It is important that operators have read, understood and comply with all instructions in this user guide.

If more than one individual is involved in the operation of the equipment then all must read the operators handbook. Good communication must be established to prevent accidents or misunderstandings.

Operators must be equipped with the following personal protective equipment (PPE):-

- Eye Protection (Safety Glasses / Goggles)
- Safety Footwear (Steel Toe Cap Boots)
- Heavy Gloves

Impact quality sockets must be secured to the tool square drive by means of a pin and ring combination.

Care must be taken not to exceed the maximum working pressure of the equipment. See the torque chart provided. Failure or breakup of components may result in personal injury.

Take care not to stand on, run over or trip over hydraulic hoses. Injury may result. To minimise danger ensure that these lines are not run across walkways, ladders, roadways and doorways, etc and that people likely to pass through the working area are aware of the danger.

To prevent entanglement with moving parts operators must not wear loose clothing, ties, jewellery etc... Long hair must be tied back.

Always keep hands, fingers and body parts clear of the reaction foot at all times. Trapping in this area can result in serious personal injury.

Before use, check the hydraulic hoses are not cut, split, kinked or damaged in any way. If in doubt **Do not use**.

All hydraulic equipment and ancillary products should be inspected for damage and irregularities prior to use. If in doubt **Do not use**.

Never lift or drag hoses or cables. This weakens the swagings and puts unnecessary stress on threads and fittings. Subsequent failure may result in causing injury.

The end user of this equipment should carry out their own risk assessments prior to operating.

CAUTION: ANY MODIFICATION TO THE EQUIPMENT OR CHANGE OF USE BY ANYONE OTHER THAN W. CHRISTIE WILL INVALIDATE W. CHRISTIE (INDUSTRIAL) LTD KEY RESPONSIBILITIES AS A MANUFACTURER & INVALIDATE WARRANTY, UNLESS PRIOR WRITTEN CONSENT IS RECEIVED FROM W. CHRISTIE (INDUSTRIAL) LTD.

ACCESSORIES AVAILABLE TO BUY OR HIRE

The following accessories are available upon request and can be custom made to suit requirements. Please contact W. Christie (Industrial) Ltd for more information:-

- Special Reactions.
- Custom Lifting points.
- Nose Cone Extension.
- Offset Gearbox.
- Hydraulic Power Pack Units.
- Impact Quality Sockets.
- Torque Checking System (Run Down Fixture)

MODELS COVERED BY MANUAL

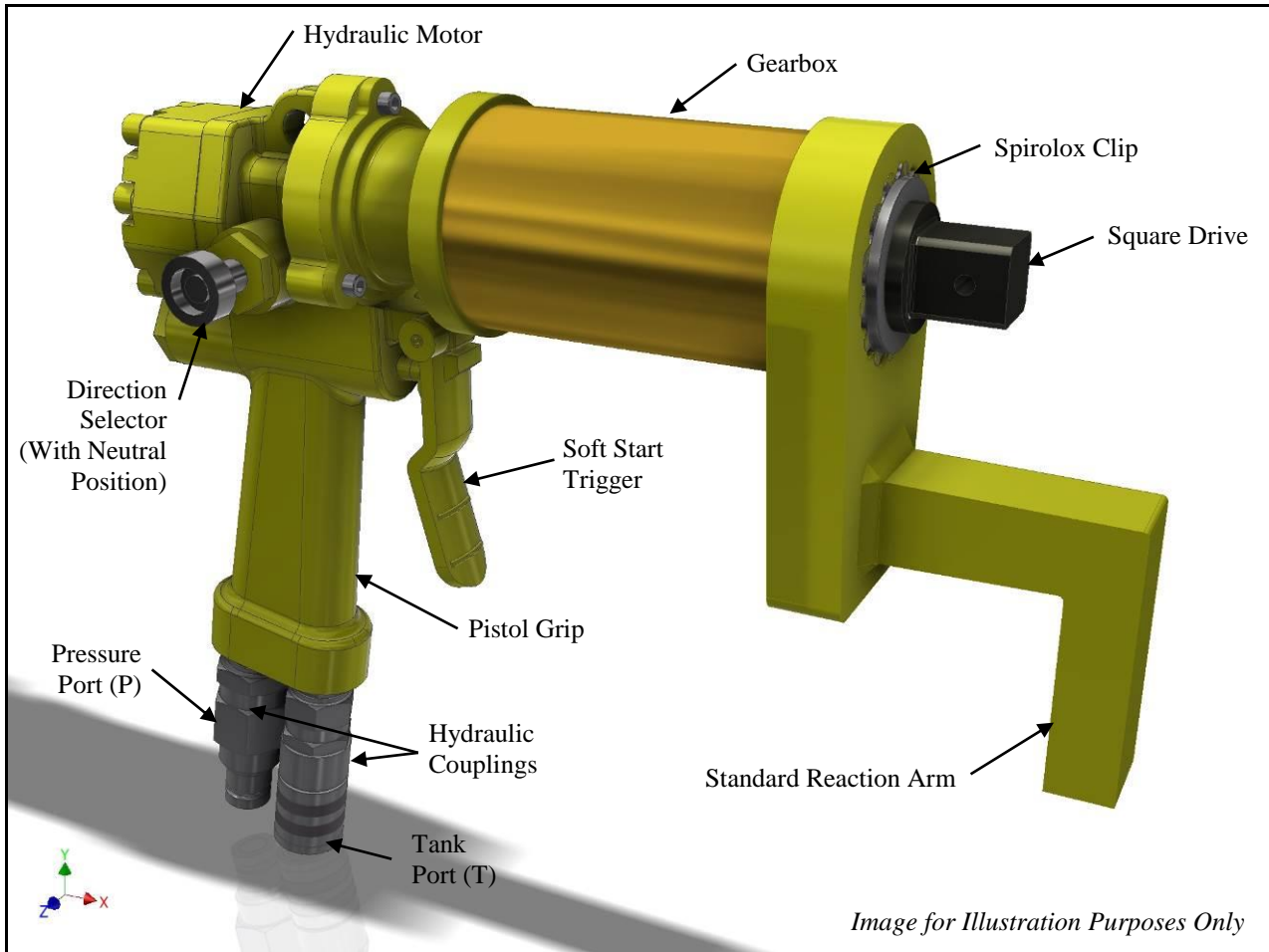
Model	Weight (Kg)	Speed (rpm)	Torque Range (Nm)	Square Drive
HY10PG	7.5	28	110 – 1,000	3/4" or 1"
HY20PG	7.5	15	190 – 2,000	1"
HY34PG	8.5	9.5	290 – 3,400	1"

NOISE & VIBRATION LEVELS

NOISE: Equivalent continuous A weighted sound pressure level is less than 85 dB(A).

VIBRATION: Vibration level at handle does not exceed 2.5m/sec.

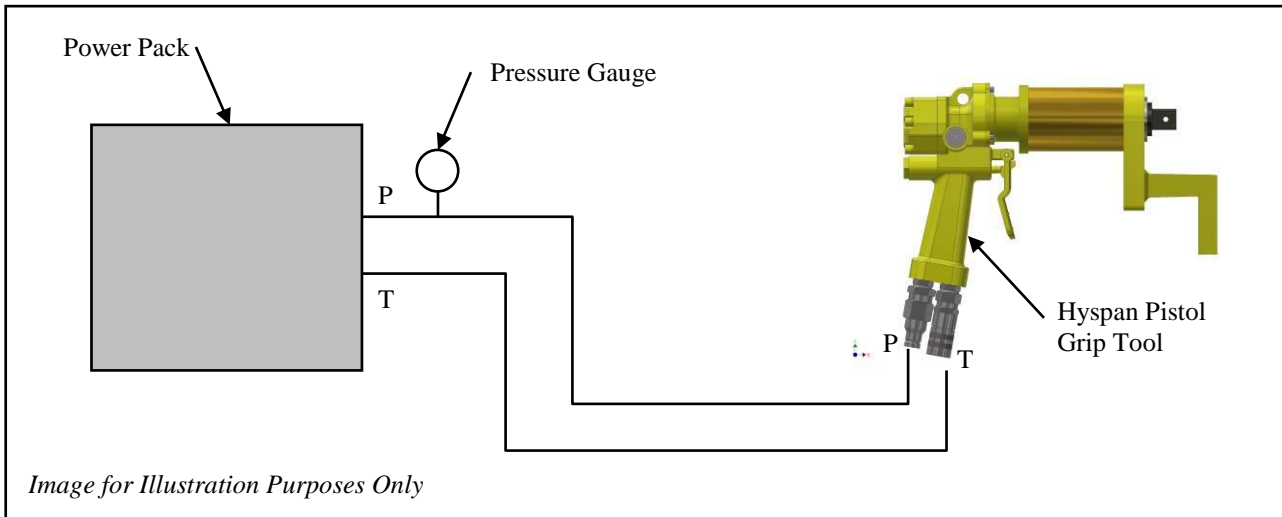
PARTS LAYOUT



ASSEMBLY

- Push the Reaction arm onto the Hyspan Gearbox Serpentine and retain in place using spirolox clip.
- **Secure** the impact socket to the wrench square drive using ring and pin combination
- **Ensure** that the assembled wrench and socket fits comfortably on the application and there are no restrictions to the fastening operation.
- **Connect** the hoses to the hydraulic couplings on the Hyspan, ensuring the fittings are connected correctly. (Refer to Typical Connection Layout on next page)
- **Connect** the hoses to the power pack, ensuring the fittings are connected correctly. (Refer to Typical Connection Layout on next page)

TYPICAL CONNECTION LAYOUT



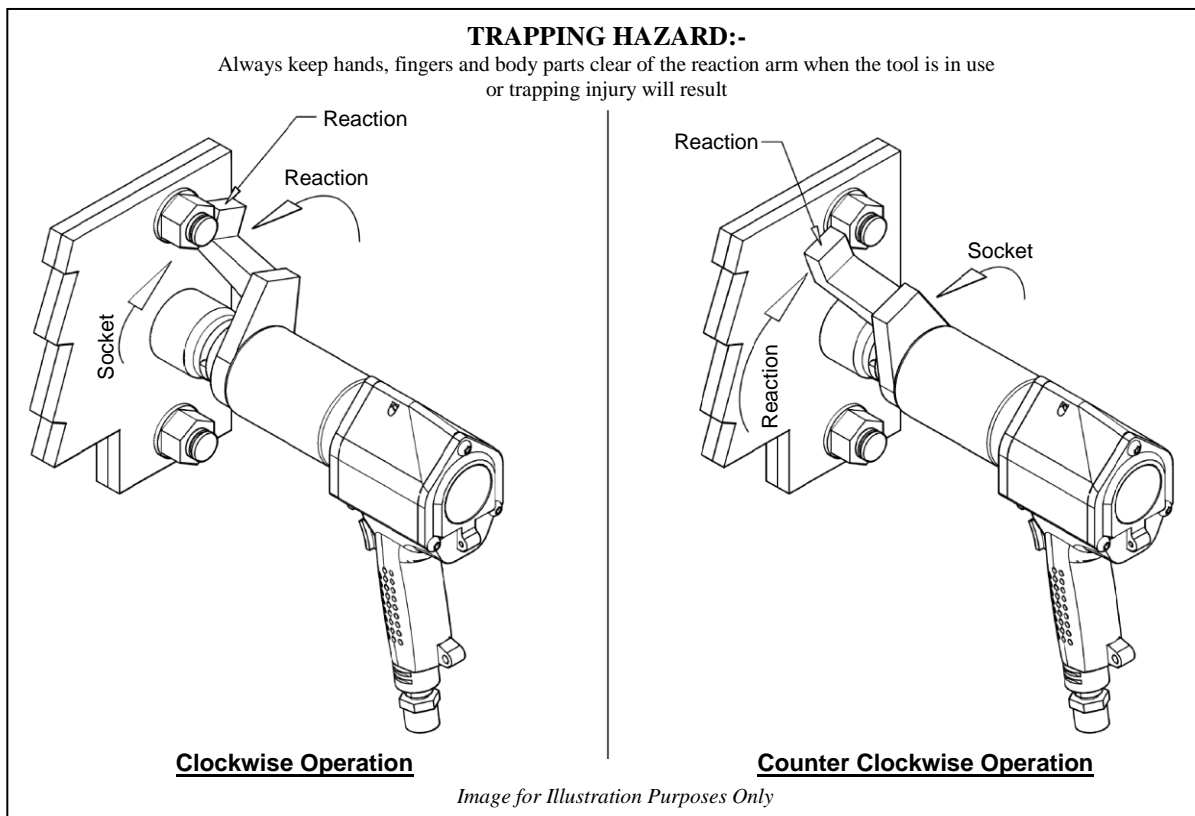
TORQUE REACTION

When the Christie Hyspan Wrench is in operation the reaction arm 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 below).

Ensure the Reaction Arm is NOT resting on a sloping or bevelled face.

SPECIAL NOTICE - TIGHT FASTENERS

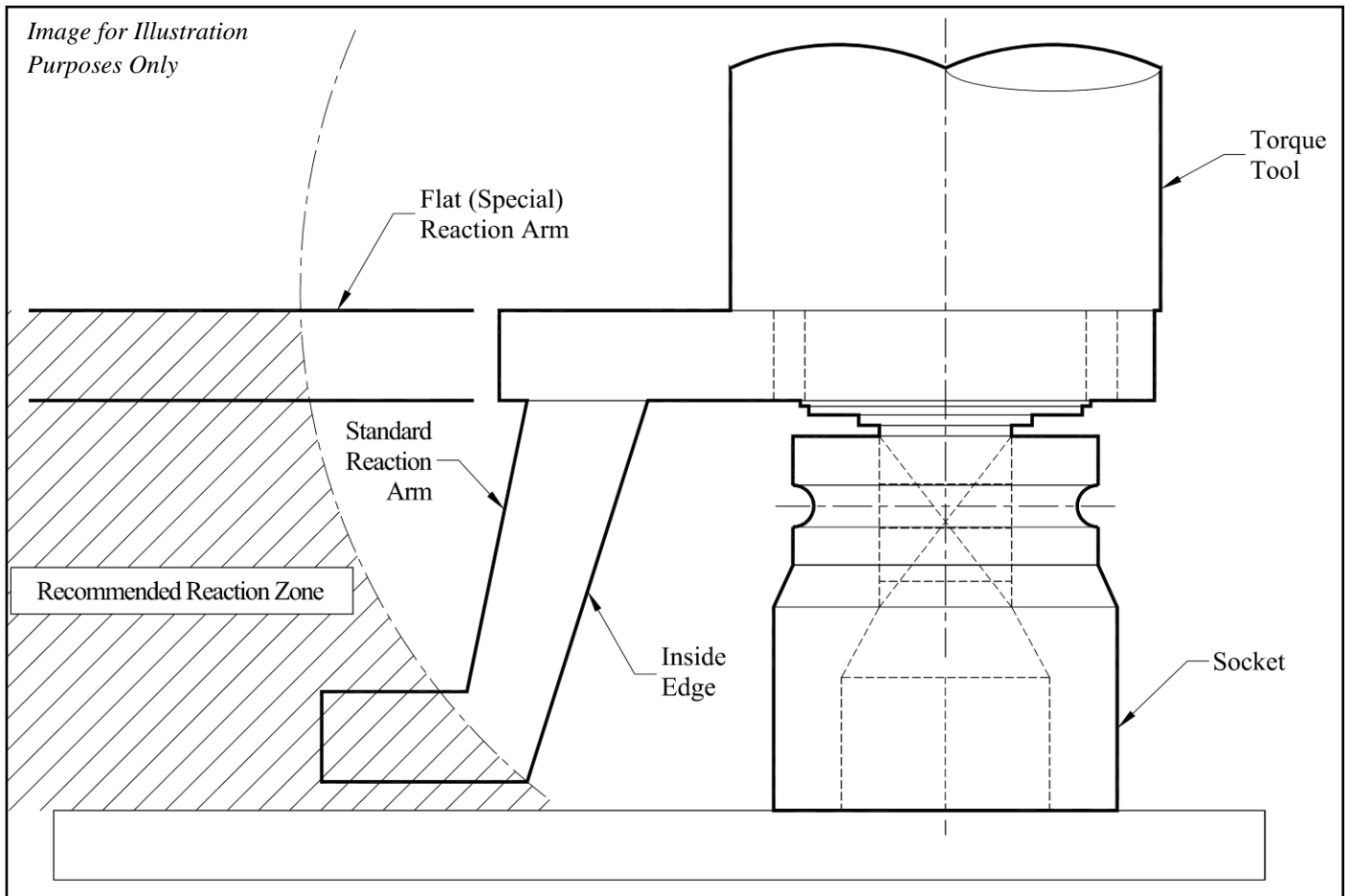
When tightening or releasing tight fasteners, the torque required to move the nut may be high enough to keep the reaction locked in one position. This can cause the reaction plate to bend or cause gearbox failure. To prevent failure, re-position the reaction plate after every two turns of the fastener, i.e operate the tool briefly in the opposite direction.



SAFE REACTION ZONE

Care must be taken to ensure that the reaction arm is only used within the limitations shown in the figure below. Failure to observe this instruction will result in premature wear or damage to the wrench. Do not react on the reaction arm vertical crank. Extreme forces are created which may cause damage to the wrench. If the application does not allow the use of a standard reaction arm, non-standard reaction arms are available.

Customers must not modify reaction arms and are strongly advised to contact W. Christie (Industrial) Ltd for technical assistance.



SETTING TORQUE AND OPERATING – TORQUE TIGHTENING

1. Ensure that the tool has been assembled as per the “Assembly” section.
2. Determine the required hydraulic pressure for the desired torque (See supplied calibration graph – do not exceed maximum hydraulic pressure)
3. Set the hydraulic pressure.
4. Set the direction selector to the forward direction (test by briefly pressing the trigger and releasing to ensure correct direction)

WARNING:- KEEP HANDS CLEAR OF REACTION.

5. Position the Hyspan tool onto the application, ensuring correct reaction (See “Torque Reaction” and “Safe Reaction Zone” sections)
6. Press and hold the trigger.
 - When tightening the hydraulic motor will stall out when the fastener is tight.
7. Release the trigger.
8. Remove the Hyspan tool from the fastener

Note – It may be necessary to set the tool to reverse and blip the trigger to enable it to be removed.

SETTING TORQUE AND OPERATING – TORQUE LOOSENING

1. Ensure that the tool has been assembled as per the “Assembly” section.
2. Determine the maximum hydraulic pressure for the wrench from the calibration graph – do not exceed maximum hydraulic pressure
3. Set the hydraulic pressure.
4. Set the direction selector to the reverse direction (test by briefly pressing the trigger and releasing to ensure correct direction)

WARNING:- KEEP HANDS CLEAR OF REACTION.

5. Position the Hyspan tool onto the application, ensuring correct reaction (See “Torque Reaction” and “Safe Reaction Zone” sections)
6. Press and hold the trigger.
 - The fastener should loosen.
7. Release the trigger
8. Remove the Hyspan tool from the fastener

MAINTENANCE AND INSPECTION

All inspection and maintenance procedures should be carried out by a competent and authorised person.

Should any faults be detected, the machine should not be used and a thorough examination should be carried out.

The Hyspan Pistol Grip tool should be stored in a clean dry place.

Please refer to the following for the Maintenance Schedule information.

Daily/Before Use

Section / Parts	Inspection & Maintenance Procedure
ALL	Visual inspection on all parts
ALL	Ensure the oil within the system is clean and of suitable quality (Hydraulic mineral oil, none synthetic, Grade 32 or equivalent)

Every 12 Months

Section / Parts	Inspection & Maintenance Procedure
All	Return back to W. Christie for full service, lubrication of moving parts and calibration

WARRANTY

This equipment has a 12 month warranty.

This warranty excludes wear parts such as square drive and bearings.

The warranty does not include misuse.

For any further information please contact W. Christie (Industrial) LTD

When returning tooling for examination, always ensure the reaction, Impact Socket and Power Pack are returned for inspection.



E.C. DECLARATION OF CONFORMITY

HYSPAN MODELS COVERED: HY10PG, HY20PG, HY34PG

DESCRIPTION: Hyspan Pistol Grip Hydraulic Torque Wrench

We hereby declare that the following machinery complies with the essential health and safety requirements of the European Machinery Directive 2006/42/EC published on the 9th June 2006

W Christie (Industrial) Ltd, Meadowbank Road, Rotherham S61 2NF, United Kingdom.

This machinery has been designed and manufactured in accordance with the following transposed harmonised European Standard:-

BS EN ISO 12100-2:2003 Safety of Machinery – Technical Principles

2006/42/EC Machinery Directive

EN ISO 12100:2010 Risk Assessment + Risk Reduction

BS EN 792-6:2000 Hand-held, non-electric power tools - Safety requirements. Assembly power tools for threaded fasteners

BS EN ISO 4413:2010 Hydraulics fluid power, general rules and safety requirements for systems and their components.

ISO 1179-1 Connections for general use and fluid power

SIGNED: 

NAME: Stuart Berresford

POSITION: Workshop Manager

On behalf of W Christie (Industrial) Ltd



Site Assessment



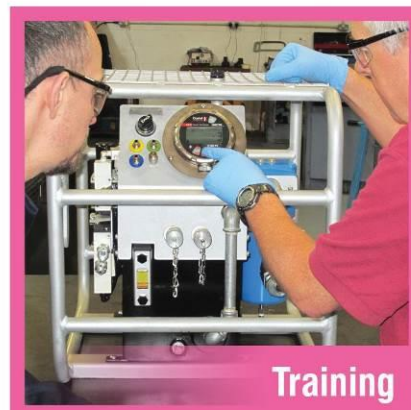
Tool Maintenance & Calibration



Bespoke Engineering



Sockets & Ancillaries



Training



Hand Held Torque Tools



Offset Gearboxes



Hydraulic Torque Tools



In-house CNC Facilities



Storage Trolleys & Boxes

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