

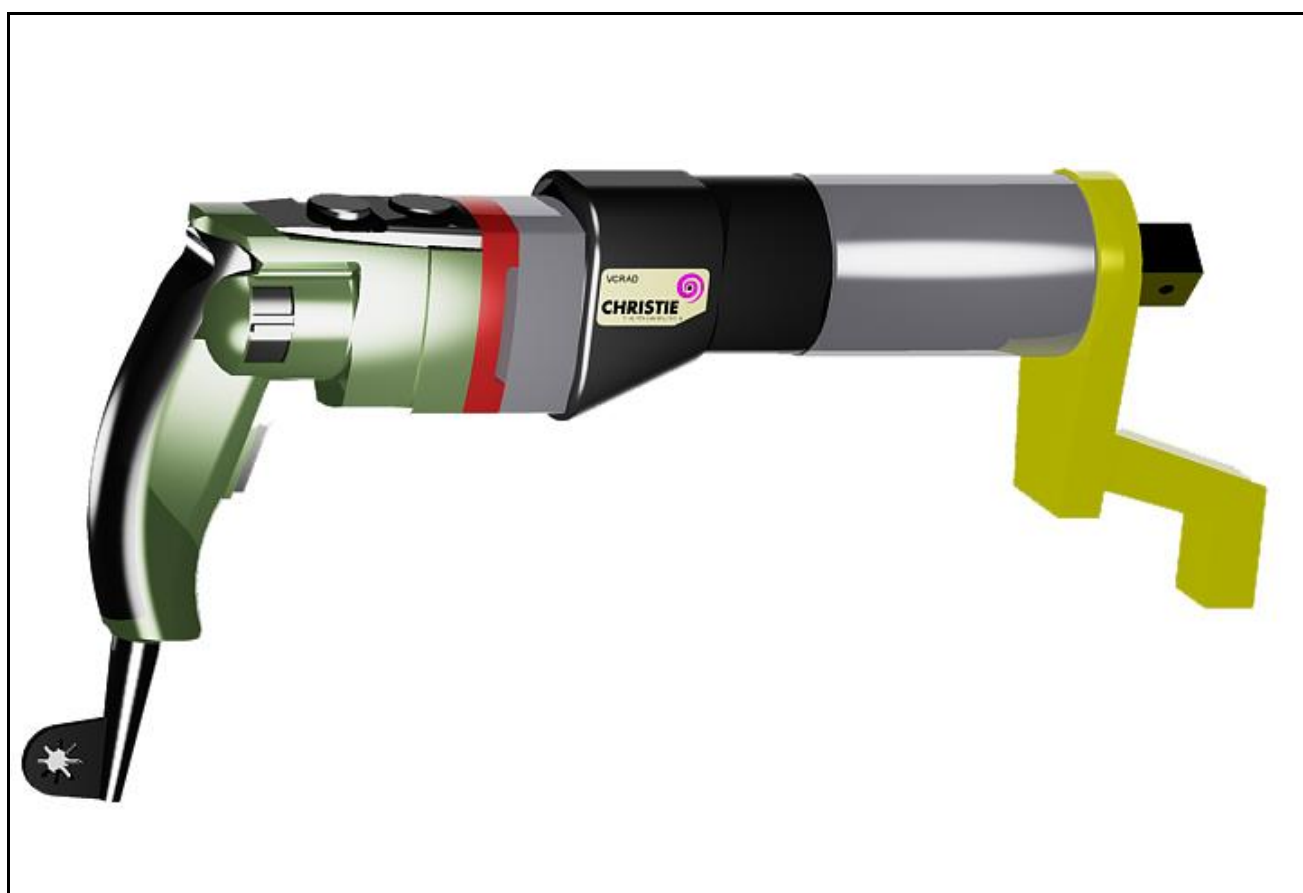
CE



CHRISTIE
TOTAL TORQUE SOLUTIONS

ELECTRICALLY OPERATED TORQUE WRENCH (VC-RAD)

USER GUIDE



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INTRODUCTION

The VC-RAD Electric torque wrench is a handheld electrically driven power tool intended to tighten and un-tighten nuts, bolts and threaded fasteners.

The VC-RAD Electrical torque wrench must always be used with the following:-

- 240V or 110V electrical power supply (dependant on model purchased)
- Impact Quality Sockets
- Ring and pin fastener system (or similar)
- Reaction Arm

It is the responsibility of the user to consider associated site risks before introducing the equipment into the work-place.

TRAINING REQUIREMENTS

Training on the correct use of the VC-RAD Electric Torque Wrench is available. Please contact W-Christie (Industrial) for more information.

GENERAL SAFETY

The improper use of the VC-RAD electric torque wrench 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.

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 ring and pin combination.

Only use VC-RAD wrenches with impact quality sockets. Do not use with extension bars or universal joints.

Do not use in the presence of explosive gases or liquids - fire/explosion hazard

Only use VC-RAD wrench with 240v or 110v electrical power supply (dependant on model purchased)

To prevent entanglement with rotating 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 arm at all times. Trapping in this area can result in serious personal injury.

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

VC-RAD WRENCH MODELS COVERED BY MANUAL

Model	Weight (Kg)	Speed (RPM)	Torque Range (Nm)		Square Drive
		Single	Minimum	Maximum	
VC-RAD 1	4.5	76	20	100	3/4"
VC-RAD 6	4.5	21	150	550	3/4"
VC-RAD 10X	5.6	10	230	1000	3/4"
VC-RAD 14	4.9	7	400	1,350	3/4"
VC-RAD 21	6.8	6	700	2,150	1"
VC-RAD 31	6.8	4	1,100	3,100	1"

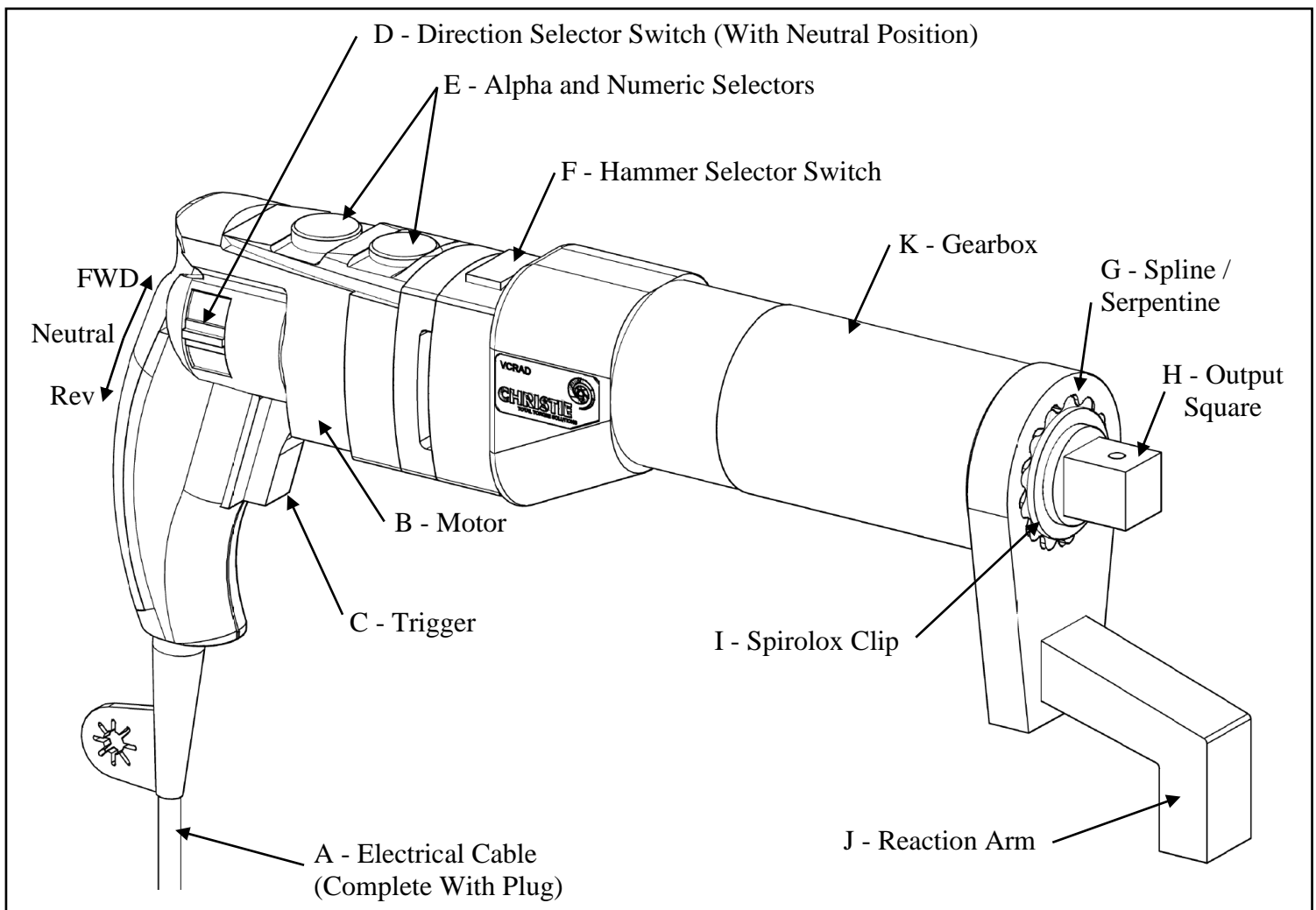
ACCESSORIES AVAILABLE

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

- Special Reactions.
- Custom VC-RAD Wrench Lifting points.
- Nose Cone Extension.
- Offset Gearbox.
- Impact Quality Sockets.

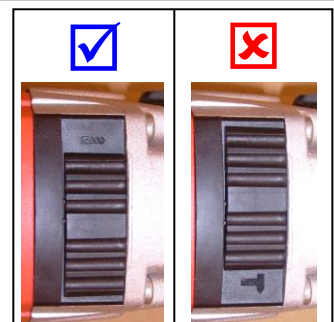
VC-RAD WRENCH FEATURES

VC-RAD Wrenches are handheld, reversible, non-impacting torque delivery tools designed primarily to tighten and un-tighten nuts, bolts and threaded fasteners.



CAUTION ALWAYS KEEP (F) – HAMMER SELECTOR SWITCH THE DRILL POSITION

DO NOT OPERATE THE WRENCH WITH (F) – HAMMER SELECTOR SWITCH IN THE HAMMER POSITION.



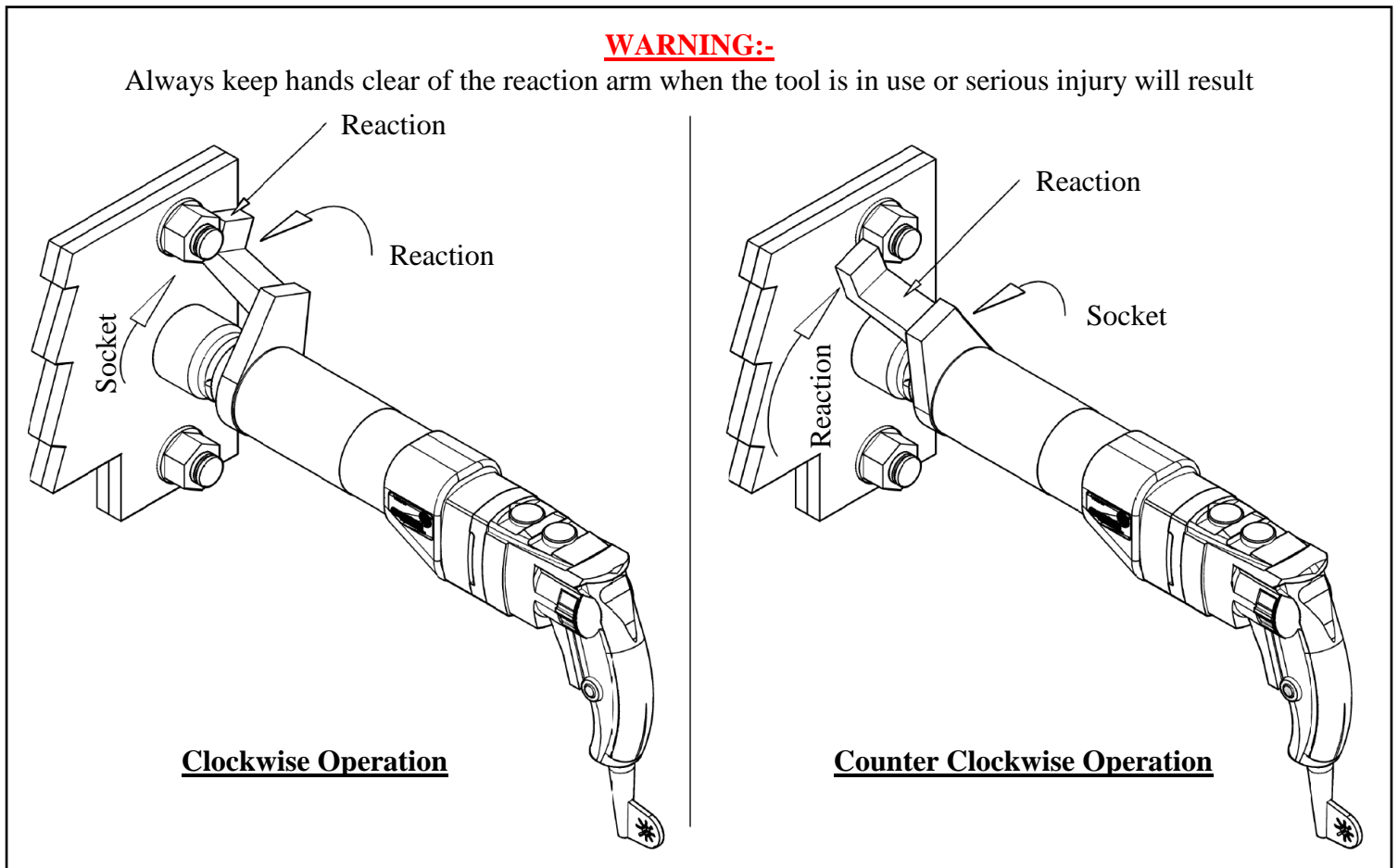
TORQUE REACTION

When the Christie VC-RAD 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

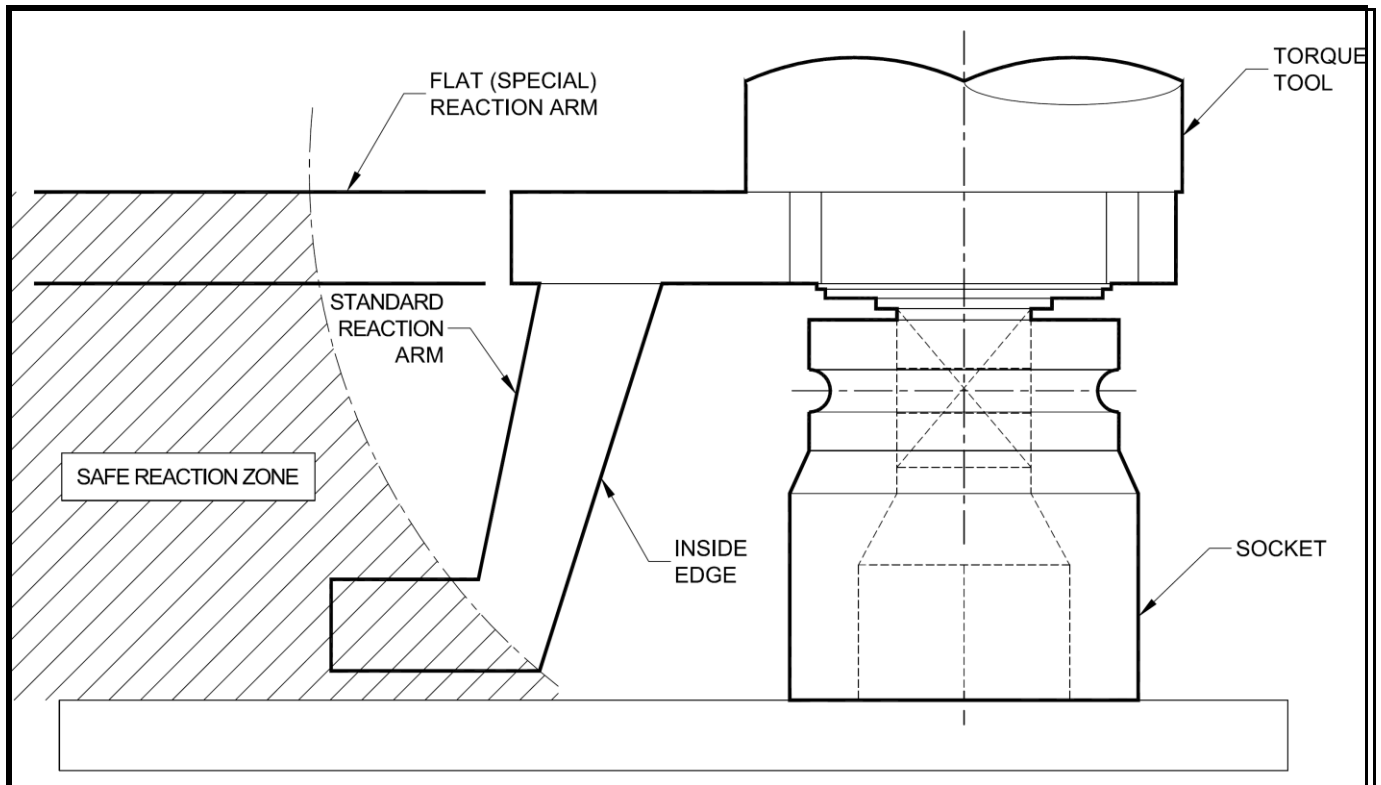
When tightening or releasing tight fasteners, the torque required to move the nut may be high enough to keep the reaction locked in one position. This can cause the reaction plate to bend or cause gearbox failure. To prevent failure, re-position the reaction plate after every two turns of the fastener, 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 or inside edge. 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 or their agents for technical assistance.



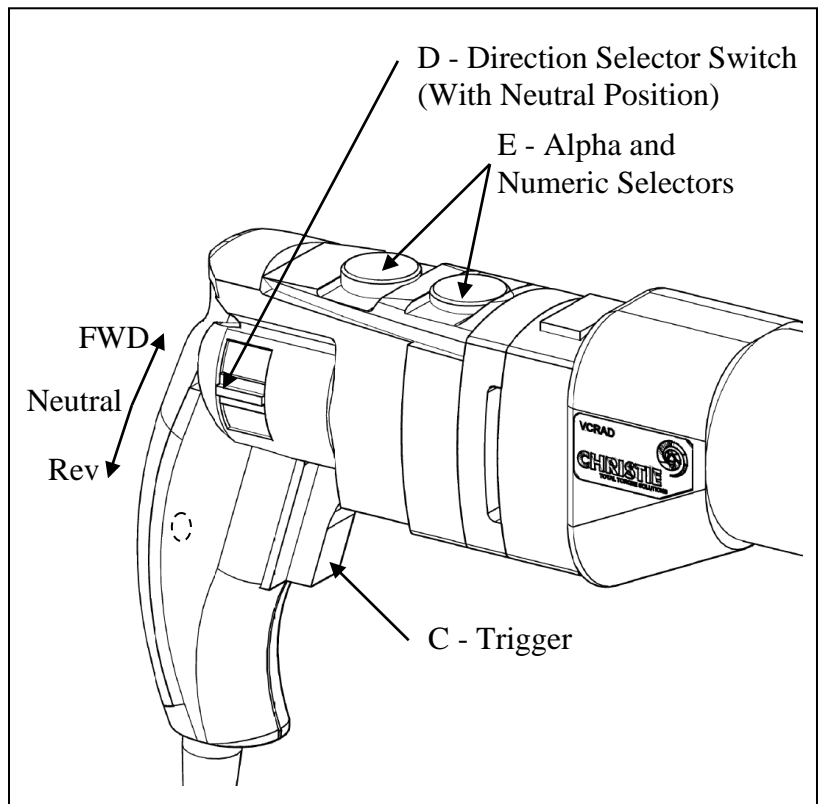
TRAPPING HAZARD WARNING:- ALWAYS KEEP HANDS, FINGERS AND BODY PARTS CLEAR OF THE REACTION ARM WHEN THE TOOL IS IN USE OR SERIOUS TRAPPING INJURY WILL RESULT.

SETTING TORQUE FOR BOLT TIGHTENING

- Ensure the direction selector switch (D) is set to forward
- Identify the torque required for the bolting application.
 - The VC-RAD Wrench comes with a torque calibration certificate. The torque calibration certificate displays alpha and numeric characters that are dialled in on the tool that correspond to the torque values to the right. To select a desired torque, dial in your VC-RAD by using the alpha and numeric selectors (E) on the top of the VC-RAD wrench.
 - For example on the “Sample VC-RAD Calibration Certificate” below to tighten to 730Nm set the Alpha and Numeric Selectors (E) to C,3.

CAUTION: DO NOT ATTEMPT TO RUN THE TOOL WITH SETTINGS THAT ARE NOT DISPLAYED ON THE TORQUE CHART OR CALIBRATION CERTIFICATE. FAILURE TO DO SO COULD CAUSE THE TOOL TO FAIL AND VOID YOUR WARRANTY.

Sample VC-RAD Torque Calibration Certificate (Nm)	
Setting	Torque
B2	380
C2	450
E2	520
F2	590
G2	660
C3	730
D3	800
E3	870
F3	940
G3	1,010
D4	1,080
E4	1,150
C5	1,220
F4	1,290
G4	1,350



SETTING TORQUE FOR BOLT LOOSENING

- Ensure the direction selector switch (D) is set to reverse
- Set the torque to maximum
 - The VC-RAD Wrench comes with a torque calibration certificate. The torque calibration certificate displays alpha and numeric characters that are dialled in on the tool that correspond to the torque values to the right. To select a desired torque, dial in your VC-RAD by using the alpha and numeric selectors (E) on the top of the VC-RAD wrench.
 - For the “Sample VC-RAD Torque Calibration Certificate” shown above the maximum torque is G,4

OPERATING THE WRENCH

1. Fit the wrench with the correct size impact socket to suit the bolt to be tightened and retain with ring and pin system.
2. Rotate the handle to convenient position relative to the reaction arm.
3. Fit the tool onto the bolt to be tightened with the reaction arm adjacent to the reaction point (See “Torque Reaction” Page)
4. Move the direction selector switch (D) from the neutral position and into either forward or reverse as required.
5. Squeeze the trigger (C) to bring the reaction arm into contact with the reaction point.
6. Fully press the trigger (C) and keep pressed until the tool stalls (when tightening) or the fastener is released (when un-tightening). If the trigger is released before the wrench stalls, full torque will not be applied to the bolt. Once the motor stalls do not “blip” the trigger, or incorrect torque will be applied.

IMPORTANT: IF A FASTENER WILL NOT UN-TIGHTEN WHEN THE TOOL IS SET TO MAXIMUM, DO NOT “BLIP” THE TRIGGER, USE TOOLING OF HIGHER TORQUE OUTPUT.

7. Release the soft start trigger (C) and remove tool from bolt.

CAUTION: IN USE THIS TOOL MUST BE SUPPORTED AT ALL TIMES IN ORDER TO PREVENT UNEXPECTED RELEASE OF A FASTENER OR COMPONENT FAILURE.

IMPORTANT: IF BREAKDOWN, MALFUNCTION OR DAMAGE OCCURS DO NOT ATTEMPT TO REPAIR, CONTACT W. CHRISTIE (IND) LTD IMMEDIATELY.

MAINTENANCE AND RECALIBRATION

To prevent premature failure and ensure confidence in torque supply, it is recommended that this equipment is serviced and calibrated at least on an annual basis, by W. Christie (Ind) LTD.

There are no user serviceable parts. If any failures occur then the wrench should be returned to W. Christie (Ind) LTD for evaluation.



E.C. DECLARATION OF CONFORMITY

MODELS COVERED: VC-RAD 1 VC-RAD 6, VC-RAD 10X,
VC-RAD 14, VC-RAD 21, VC-RAD 31

DESCRIPTION: Electrical 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 (Ind) 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

BS EN 60745-1:2006 Hand-held Motor Operated Electric Tools – Safety – General Requirements

SIGNED:

A handwritten signature in black ink, appearing to read "R. G. Askham", is written over a horizontal line.

POSITION: Senior Applications Engineer

NAME: R. G. Askham

On behalf of W Christie (Ind) Ltd



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