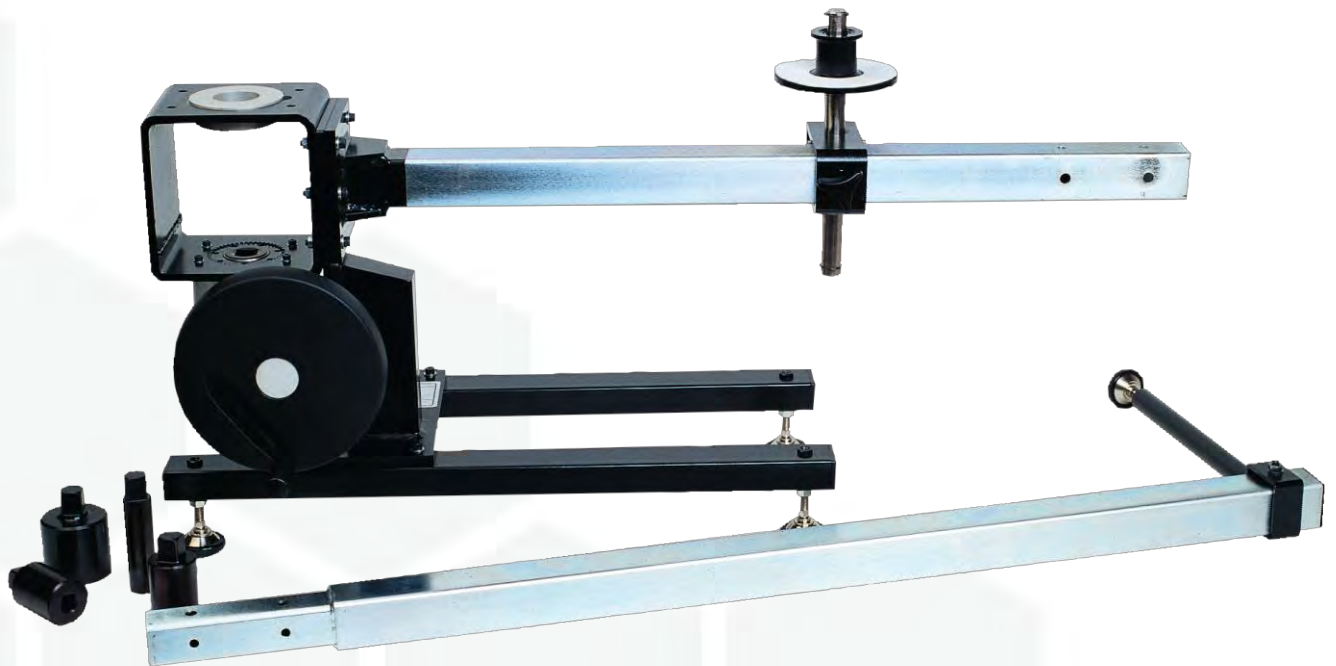


## **ISO 3000 TORQUE WRENCH LOADER**



# CONTENTS

<b>Safety</b>	<b>2</b>
<b>Introduction</b>	<b>2</b>
Parts Included	2
Accessories	2
<b>Features and Functions</b>	<b>3</b>
<b>Installation</b>	<b>4</b>
Items Required	4
Location	4
Tool Reaction Post	4
Reaction Plate for Small Torque Wrenches	4
Extension Arm	4
Reaction Post	4
Torque Measurement	4
<b>Operating Instructions</b>	<b>5</b>
Locating a Torque Wrench	5
<b>Maintenance</b>	<b>5</b>
<b>Specifications</b>	<b>5</b>

## SAFETY

- The ISO 3000 is heavy. Take care when installing.
- Ensure the operating area is capable of taking the weight of the ISO 3000.
- Trapping hazard - Keep hand and loose clothing away from the torque wrench during use.
- To avoid damage to the torque wrench under test do not exceed the wrench set torque value.
- To avoid damage to the transducer do not exceed the maximum capacity.
- Never exceed the maximum torque capacity of the ISO 3000 (3000 N·m / 2200 lbf·ft).
- Do not operate without a torque measurement system connected and working.
- The ISO 3000 is designed for testing torque tools, do not use for other purposes.

## INTRODUCTION

The Norbar ISO 3000 Torque Wrench Loader is designed to test torque wrenches up to a maximum capacity of 3000 N·m or 2200 lbf·ft.

To measure the applied torque a torque transducer coupled to an appropriate measurement instrument are required.

This manual covers 20505 only.

## Parts Included

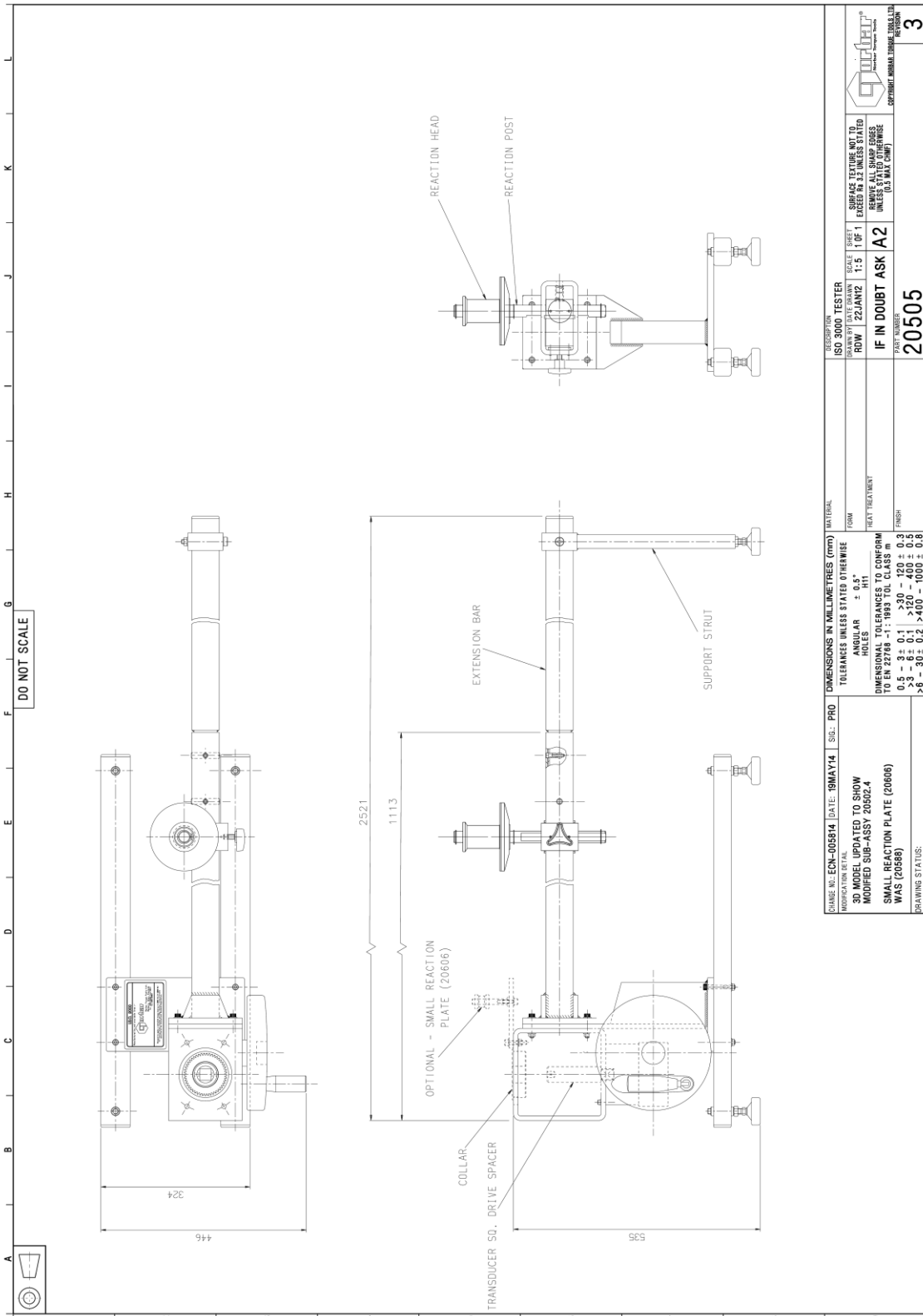
Parts Included	Part Number	Quantity
ISO 3000	20505	1
Adaptor 1 ½" male to 1" female	21214	1
Adaptor 1 ½" male to ¾" female	86034.4	1
Adaptor 1" male to 1 ½" female	20502.49	1
Adaptor 1" male to 1" female	20502.48	1
Adaptor 1" male to ¾" female	20502.47	1
Adaptor 1" male to ½" female	20502.46	1
Adaptor ½" to ⅜"	25429	1
Adaptor ½" male to ⅜" female	29614	1
Adaptor ½" male to ¼" female	29610	1
Collar (small)	20502.51	1
Collar (medium)	20502.52	1
Collar (Large)	20502.53	1
Reaction post	-	1
Extension arm (with leg, dowels & 5mm hex key)	-	1
Hand wheel	-	1
Operators Manual	34378	1

## Accessories

Accessories Available	Part Number
Norbar torque measurement system.	Consult Norbar
Reaction Plate for small torque wrenches. (Wrench length 100mm to 204mm at handle loading point).	20606

# FEATURES AND FUNCTIONS

- Allows torque wrenches to be calibrated or tested in accordance with ISO 6789:2003, BS EN 26789:2003 and American military standard GGG-W-686.
- Also available with 1500 N·m capacity, see ISO 1500 N·m (Part number 60300).
- For part identification see drawing below:



# INSTALLATION

**NOTE:** If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

## Items Required

Norbar torque transducer to suit capacity of test with suitable torque display instrument.

## Location

Ensure location can cope with weight of loader.

Locate ISO 3000 on a level surface at a comfortable working height.

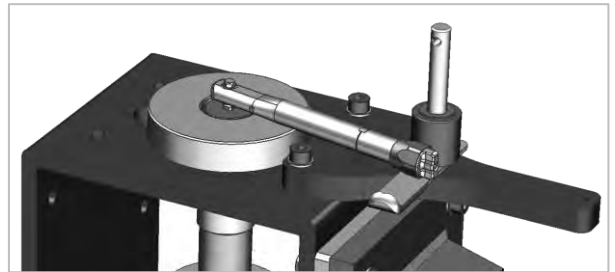
## Tool Reaction Post

Slide "Tool reaction post" on to the reaction bar.

## Reaction Plate for Small Torque Wrenches (Optional)

To use small torque wrenches a smaller reaction plate may be required.

Fix using M8 socket cap screws provided with reaction plate. Tighten to 20 N·m.



## Extension Arm

For long torque wrenches fit extension arm as follows:

1. Fit the small square of the extension arm into the existing arm.
2. Insert the two locating dowels through the horizontal holes. Keep thread vertical.
3. Fit securing pins from the top of the arm into vertical thread. Tighten with 5mm hex key (included) as shown in picture.
4. Attach the support strut at the end of the extension arm.



## Reaction Post

Slide reaction post onto ISO 3000 reaction arm.

## Torque Measurement

Select the lowest capacity torque transducer to cover the wrench to be tested.

Mount the male square of the transducer into the female square of the gear box, use adaptors to suit.

Place collar over the transducer.

Connect a transducer lead from the transducer to the instrument.

Ensure the instrument functions correctly. (If in doubt see operators manual).

# OPERATING INSTRUCTIONS

## Locating a Torque Wrench

Select the correct adaptor to place the torque wrench drive into the transducer.

Set the reaction post position on the reaction arm so it is in the middle of the torque wrench handle.



Set the reaction post height to ensure the wrench handle is parallel to the reaction arm.

If the Torque Wrench is too small for the reaction arm use reaction plate option (Part 20606).

If the Torque Wrench is too big for the reaction arm fit extension arm supplied - See installation.

The large gear box ratio makes movement in the output drive difficult to detect.

Use the 'A' and 'B' arrows on the hand wheel and gearbox output as an indication.

For clock-wise calibration 'A' indicates direction to apply force & 'B' indicates direction to release force.

**TIP: In the case of a ratchet wrench, with push through square drives, it is important to ensure the square is operating on the correct side of the ratchet.**

## MAINTENANCE

The ISO 3000 is engineered for a long maintenance free life. Under normal operation maintenance is not required.

When cleaned do not use abrasive or solvent based cleaners.

For maintenance and recalibration of the instrument and transducer refer to their manuals.

## SPECIFICATIONS

Maximum Output Torque:	3000 N·m / 2200 lbf·ft
Torque Wrench Length:	With small reaction plate option = 125mm to 210mm Standard reaction arm = 220mm to 1100mm With extension arm = up to 2200mm
Direction of Torque Application:	Clockwise and Anticlockwise
Square Drive Sizes:	1/4", 3/8", 1/2", 3/4", 1" & 1 1/2"
Gear Ratio:	1250:1
Calibration Direction:	Clockwise and Anti-Clockwise
Operating Temperature Range:	0 °C to +50 °C
Storage Temperature Range:	-20 °C to +70 °C
Maximum Operating Humidity:	80% Relative Humidity @30°C
Dimensions (without extension bar):	535mm high x 1123mm wide x 446mm deep
Dimensions (with extension bar):	535mm high x 2533mm wide x 446mm deep (Height without reaction post fitted)
Weight:	55 Kg

**NOTE: If equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment could be impaired.**

**NORBAR TORQUE TOOLS LTD**

Beaumont Road, Banbury,  
Oxfordshire, OX16 1XJ  
UNITED KINGDOM  
Tel + 44 (0)1295 270333  
Email [enquiry@norbar.com](mailto:enquiry@norbar.com)

**NORBAR TORQUE TOOLS PTE LTD**

194 Pandan Loop  
#07-20 Pantech Business Hub  
SINGAPORE 128383  
Tel + 65 6841 1371  
Email [singapore@norbar.com.au](mailto:singapore@norbar.com.au)

**NORBAR TORQUE TOOLS PTY LTD**

45-47 Raglan Avenue, Edwardstown,  
SA 5039  
AUSTRALIA  
Tel + 61 (0)8 8292 9777  
Email [enquiry@norbar.com.au](mailto:enquiry@norbar.com.au)

**NORBAR TORQUE TOOLS (SHANGHAI) LTD**

E Building-5F, no. 1618 Yishan Road,  
Minhang District, Shanghai  
CHINA 201103  
Tel + 86 21 6145 0368  
Email [sales@norbar.com.cn](mailto:sales@norbar.com.cn)

**NORBAR TORQUE TOOLS INC**

36400 Biltmore Place, Willoughby,  
Ohio, 44094  
USA  
Tel + 1 866 667 2279  
Email [inquiry@norbar.us](mailto:inquiry@norbar.us)

**NORBAR TORQUE TOOLS INDIA PVT. LTD**

Plot No A-168, Khairne Industrial Area,  
Thane Belapur Road, Mahape,  
Navi Mumbai - 400 709  
INDIA  
Tel + 91 22 2778 8480  
Email [enquiry@norbar.in](mailto:enquiry@norbar.in)

**NORBAR TORQUE TOOLS (NZ) LTD**

B3/269A Mt Smart Road  
Onehunga, Auckland 1061  
NEW ZEALAND  
Tel + 64 9579 8653  
Email [nz@norbar.com.au](mailto:nz@norbar.com.au)

**[www.norbar.com](http://www.norbar.com)**