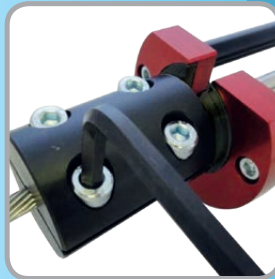
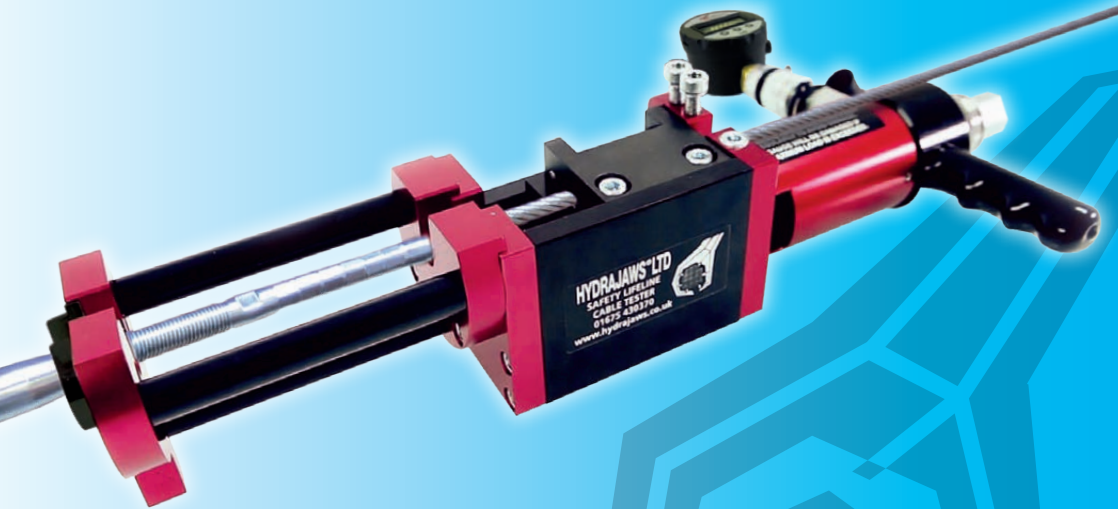
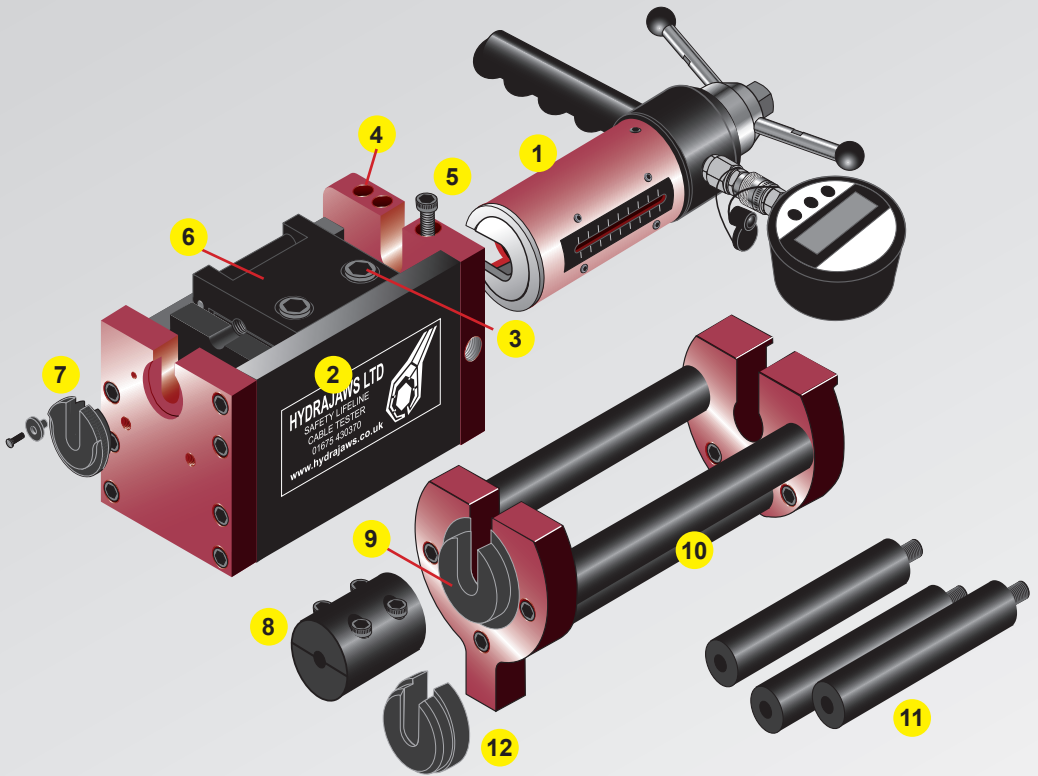


# Hydrajaws Safety Lifeline Tester

## Operating Instructions



# Hydrajaws Safety Lifeline Tester



## TECHNICAL SPECIFICATIONS

### Load Gauges

- Range available: Analogue: 0-25kN/lb/f  
Digital: 0-25kN
- Accuracy: Analogue to  $\pm 2.5\%$  fsd  
Digital to  $\pm 0.5\%$  fsd
- Indication of pull-out load
- Calibrated in kN
- Traceable UKAS calibration certificate supplied with each gauge
- Protective rubber cover (analogue only)
- Impact resistant glass (analogue only)
- Protection against sudden load relief (i.e. sudden failure of fixing)
- Analogue and Digital: peak hold memory
- Working Temperature:  
Analogue:  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$   
Digital:  $-30^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$

## Safety Lifeline Tester Parts

1. Hydrajaws Model 2000 Tester (only supplied in Kit 2)
2. Sliding test frame
3. 2 x M8 cap head screws
4. Holes for storing cap head screws
5. Spare cap head screw
6. Hinged lifeline tester clamp
7. Knurled Adaptor
8. Cable clamp (for use with swage joiner)
9. Extension plate insert
10. Test Frame extension bars
11. Extra extension legs
12. Slotted Collar Adaptor

## GENERAL DESCRIPTION

The Safety Lifeline Tester is a purpose made system for testing 8mm, 10mm, 12mm 3/8", 1/2" cable connections. It consists of a mechanical screw arrangement acting through a hydraulic load cell, which measures the load applied to the cable connection directly.

The cable test frame requires the model 2000 tester meter with minimum 20kN gauge to operate it.

A comprehensive range of accessories is also available, further increasing the scope of possible testing applications.

## USE OF THE TESTER AS DIRECTED

The tester is intended for use by skilled personnel with the appropriate training and knowledge of the applicable safety precautions.



**It is essential that the operating instructions are read before the tester is operated for the first time.**

**Always keep these operating instructions together with the tester.**

**Ensure that the operating instructions are with the tester when it is given to other persons.**

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## SAFETY RULES

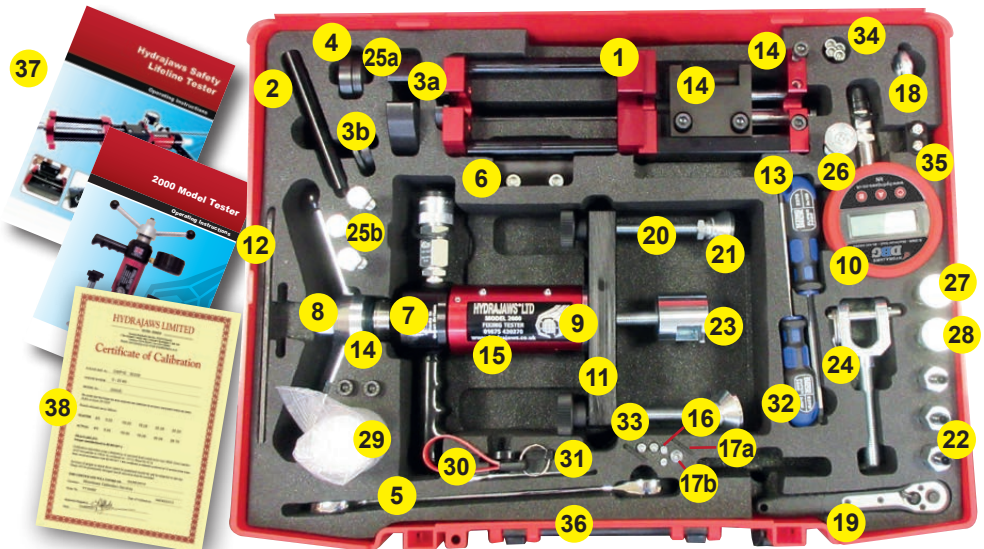
- Modification of the tester, or tampering with its parts is not permissible.
- Observe the information printed in the operating instructions applicable to operation care and maintenance.
- The tester and its accessories may present hazards when used incorrectly by untrained personnel or not as directed.
- Use only the genuine Hydrajaws accessories or ancillary equipment listed in the operating instructions.

## TESTER AND ACCESSORIES

### FULL KIT 2 CONTENTS:

1. Test Frame fitted with Extension Bars
2. Extra Extension bars
3. Extension plate insert a. - 8mm (fitted)  
b. - 12mm spare
4. Slotted Collar Adaptor
5. 22mm Operating Spanner
6. Cable Clamp bolts and Screws
7. Model 2000 Medium Duty Tester with coupler (Export only)
8. Turning handle with integrated 22mm nut
9. M12 Locking Adaptor (shipped securely in tester jaw)
10. 25kN Gauge - Analogue, Digital or Bluetooth (Detachable - Export only)
11. 150 Load Spreading Bridge with level bubbles
12. 6mm Long series Allen key
13. 5mm Ball Driver
14. 6 x clamp Screws (4 spare) M8 x 25
15. Knurled Cable Adaptor 8mm (sited securely under the tester body)  
*10mm & 12mm optional*
16. Spare Collar Pins
- 17a. 2mm Allen key for pin collar
- 17b. Pin Collar & pin (M3 x 12)
18. Safety eyebolt
19. 6mm Ratchet
20. Adjustable Threaded Legs (3)
21. Swivel Feet (3)
22. 100mm Hexagon Extension Legs (3)
23. 90mm Bolt Test Adaptor
24. 90mm M12 Ringbolt Adaptor Clevis
- 25a. Wall Tie Spacer Bridge
- 25b. with 100mm legs
26. M12 Threaded Stud Adaptor Coupler
27. M12 Threaded Stud Adaptor\*
28. M16 Threaded Stud Adaptor\*
29. Oil bottle with coupler (Export only)
30. Piston key (Export only)
31. 10mm spanner
32. 3mm Ball Driver
33. Spare bridge screws & Allen key
34. 4 x M6 x 16 zinc plated screws
35. Spare battery (Digital only)
36. Carry Case with foam filler
37. Operating Instructions
38. Calibration Certificate

\* 1/2" and 5/8" imperial equivalents.

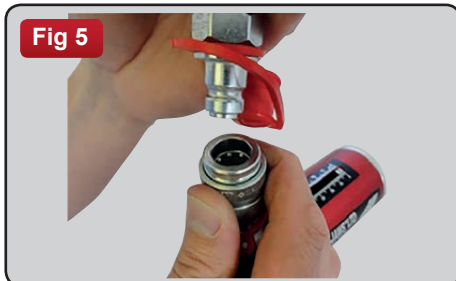
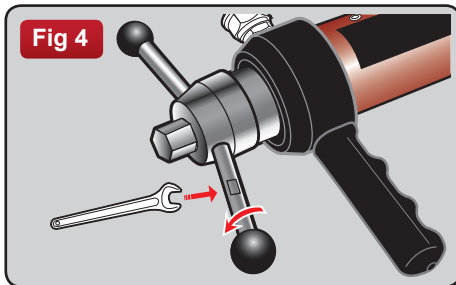
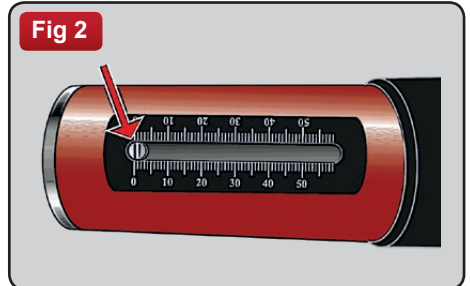
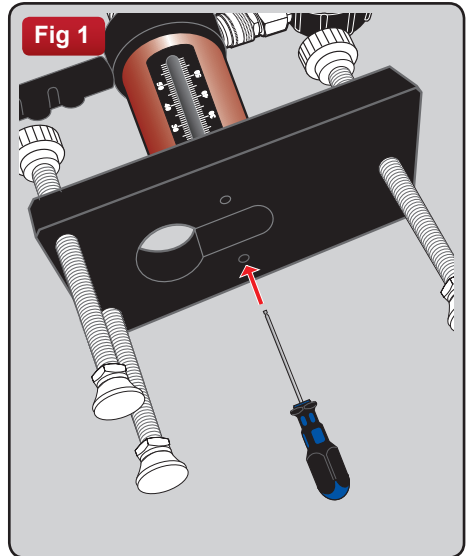


**Note:** Kit illustrated is our Export Tester Kit 2 which features a body coupler, detachable gauge and oil replenisher bottle. UK specification kits feature a fixed gauge.

# 1. GENERAL TESTING PROCEDURE - set up

## SETTING UP THE TESTER

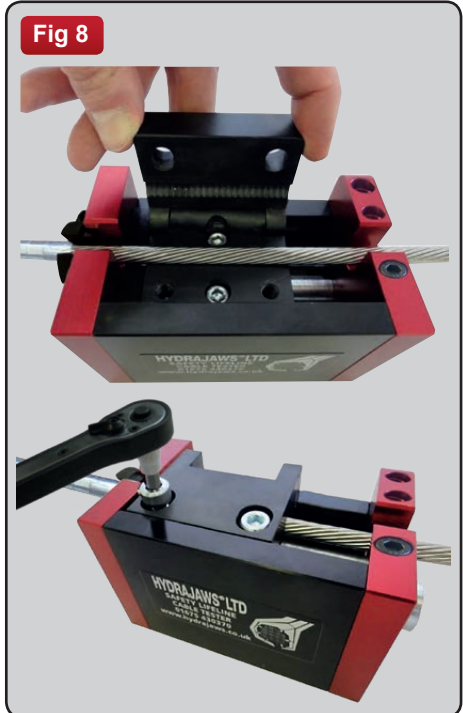
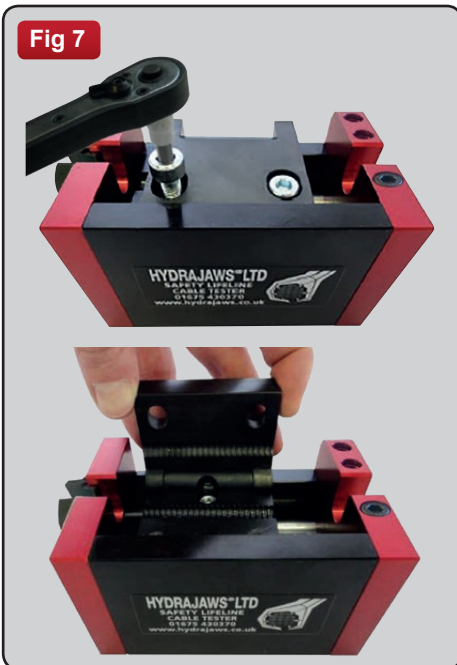
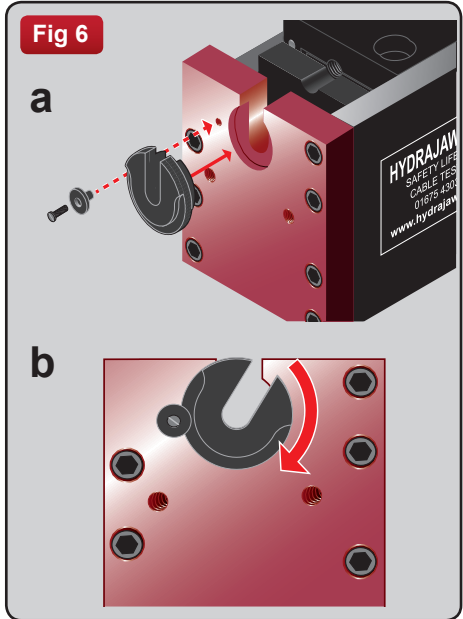
1. Remove the 150 load spreading bridge with adjustable feet by unscrewing the two M4 cap screws on the underside of the unit (**fig 1**).
2. Make sure that the jaw on the tester is fully closed. Check this by looking at the mm scale on the main body of the tester which should be near the zero indicator (**fig 2**).
3. Remove the M12 round locking adaptor from the inside slot on the bottom of the portable tensioner by first unlocking/slackening the allen screw (**fig 3**).
4. Remove the handles by unscrewing from the base using the 10mm wrench (**fig 4**).
5. Attach the gauge to the model 2000/C tester by pulling back on the body coupler and clicking into place. Turning the gauge will allow for easy reading (gauge only removable with coupler system fitted) (**fig 5**).



## 2. Testing Procedure of non “Slip Indicator” Swages

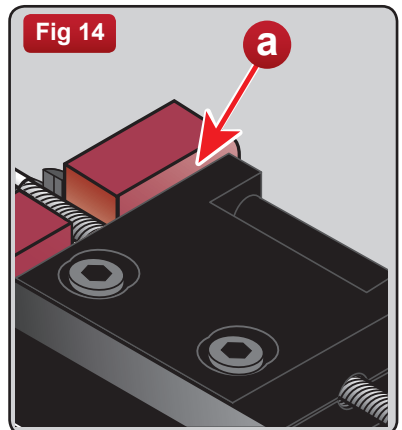
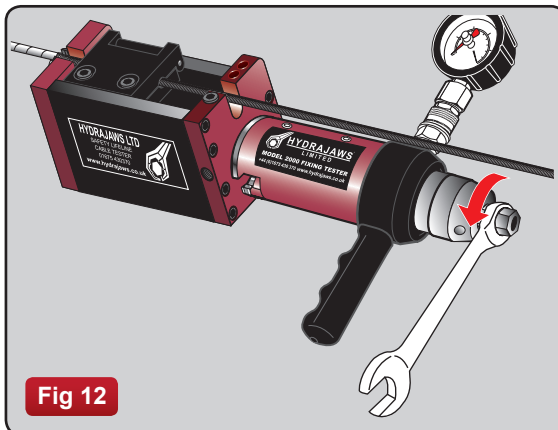
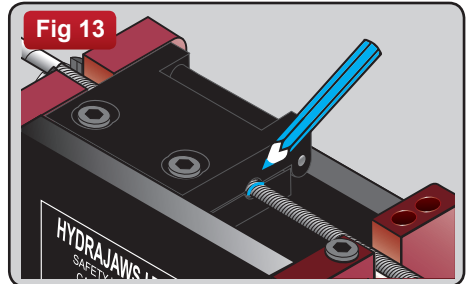
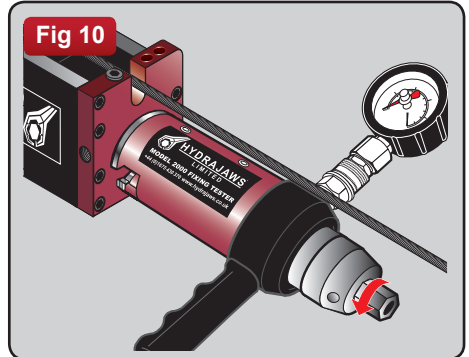
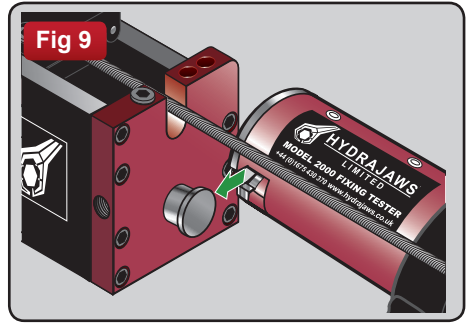
1. Place the knurled adaptor into the end of the block and fix with the 3mm countersunk screw and collar (fig 6a). Do not over tighten the 3mm screw as the knurled adaptor should be free to rotate (fig 6b).
2. With the cable tester clamp side up, remove the 2 cap head screws using the 6mm Allen key. Pull and hinge the clamp open into its vertical position (fig 7).
3. Slide the cable through the slots, close the clamp and replace the 2 cap head screws and tighten up using the 6mm Allen key or Ratchet. When tightening, apply load evenly between both screws. After initial load is applied, it is recommended a torque wrench is used to achieve a **recommended torque setting of 30Nm (MAX 35Nm)** (fig 8).

**NOTE THE POSITION OF THE CLAMP**



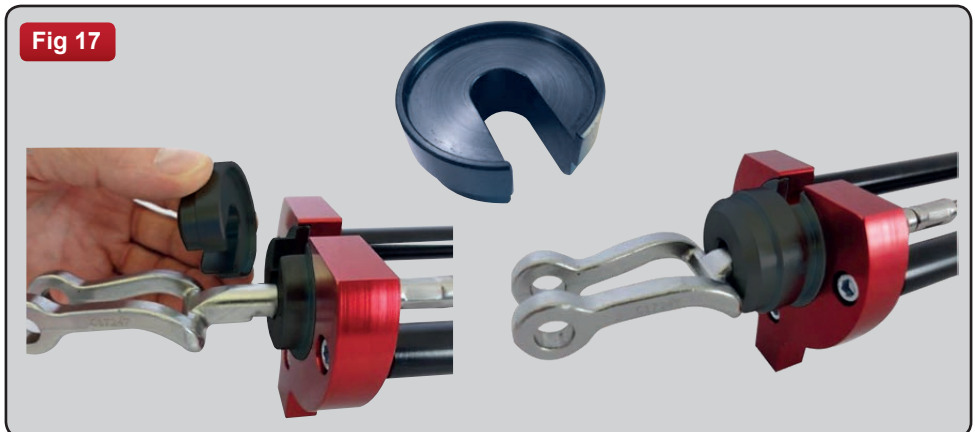
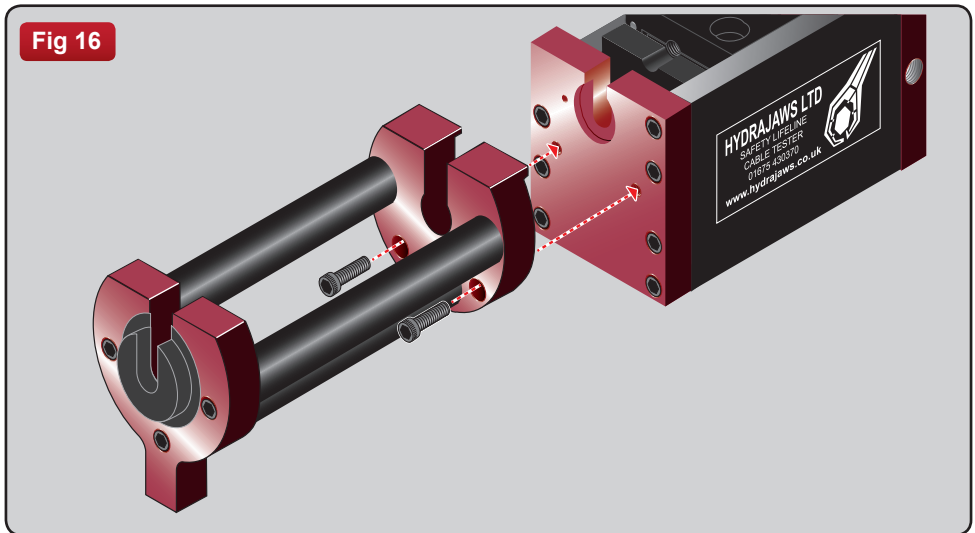
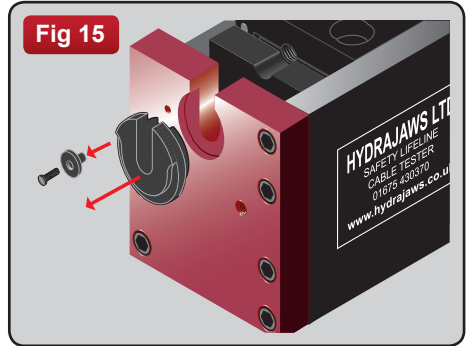
4. The model 2000 tester should be located over the button adaptor on the opposite end to the swage under test (**fig 9**).
5. Turn the operating nut clockwise by hand to apply enough tension to secure tester (**fig 10**).
6. On analogue gauge models, check that the red needle is against the stop (0) in line with the black one (**fig 11**).
7. Apply the load to the cable by using the 22mm ratchet spanner in a clockwise motion and progressively increase to the desired load (**fig 12**).
8. It is recommended to mark the cable which will indicate any slip (**fig 13**). Movement or slip will be indicated by a gap between the clamp and block (**fig 14a**).

**AT THIS STAGE, IF THE DESIRED LOAD IS NOT ACHIEVED RE-TIGHTEN THE CLAMP BOLTS**



### 3. Fitting the extension bars

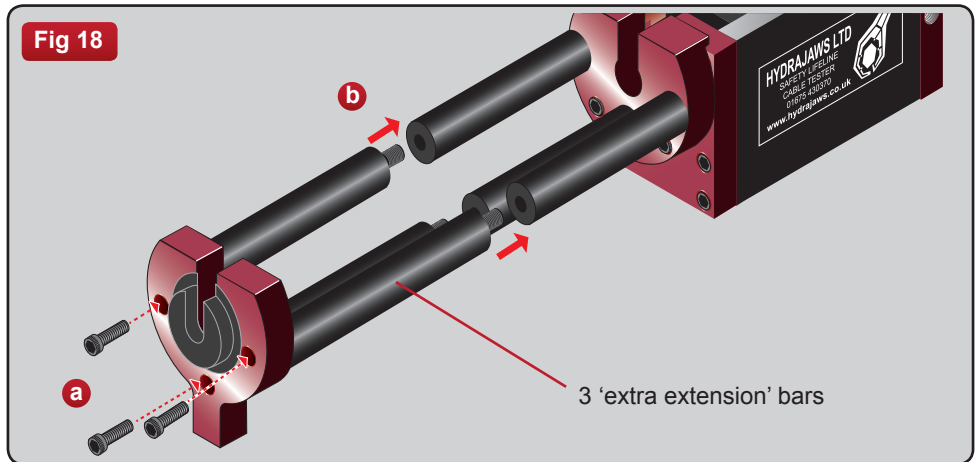
1. Remove the 3mm screw and collar and then take off the knurled adaptor (fig 15).
2. Hold and line up the extension bar frame and screw in the 2 x 6mm cap head screws using the 5mm ball driver (fig 16).
3. Set up and clamp the cable either using the supplied slotted collar or without, this depends on the type of fitting (fig 17).





## 4. Fitting the 'extra extension' bars and clamp

To test a swage joiner, use of the extra cable clamp and the 3 'extra extension' bars is required. To fit the bars, remove the 3 x 6mm screws (18a) and thread on each bar until tight (18b). Replace the 3 x 6mm screws and tighten (fig 18).



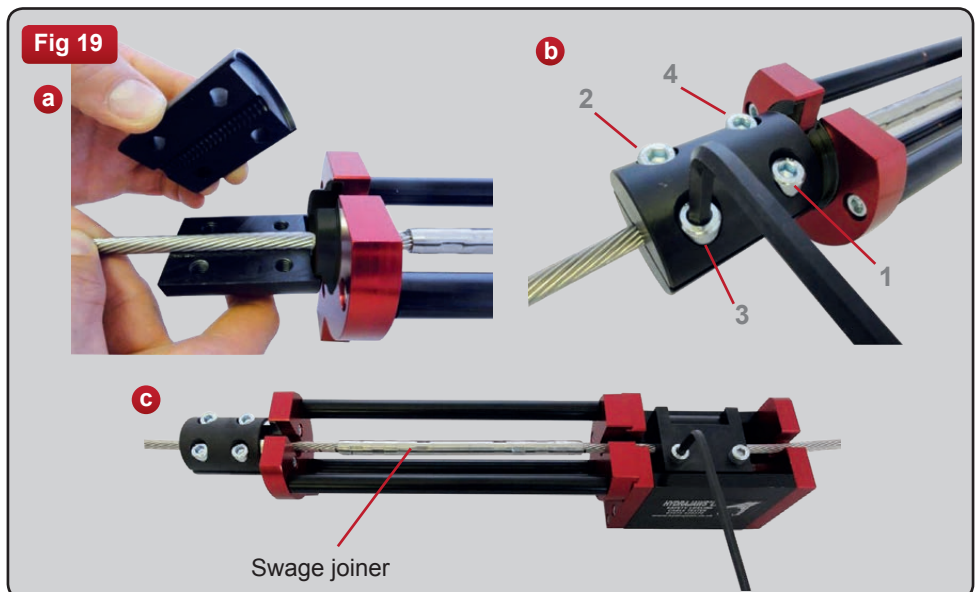
### To fit the clamp:

1. Position over cable (fig 19a). (Please note the difference of the ends of the clamp as it is designed to locate slightly over the end block.)

2. Close clamp and screw in the 4 x 6mm screws (fig 19b).

(Note: It is recommended to tighten the screws evenly and in the order shown.)

The unit will now fit over the swage joiner (fig 19c) and testing can be started (see section 2).



## 5. REMOVAL/REPLACEMENT OF CABLE ASSEMBLY

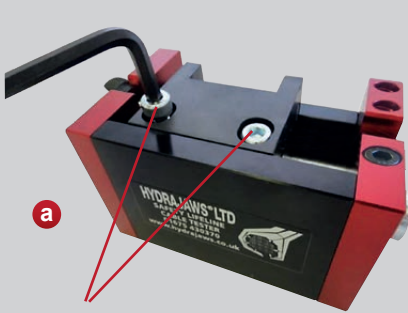
The unit is supplied as standard with an 8mm clamp but this can be interchanged with different sizes (10mm, 12mm, 3/8" & 1/2") supplied separately.

To remove the clamp, unscrew the 2 x M8 cap head screws (**fig 20a**) and open the top clamp, then remove the 2 x M6 cap head screws (**fig 20b**) using the 5mm Allen key. Remove the complete clamp assembly and reverse the procedure to replace, making sure the 3 x M6 cap head screws are fully tightened up.

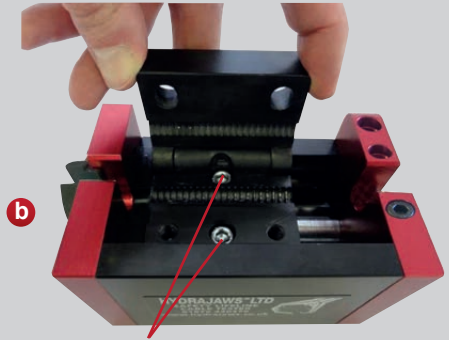
Also removal and replacement of the C washer in the end of the extension assembly is required by unscrewing the 2 x M6 cap head screws (**fig 21**) using the 5mm ball driver. To replace, reverse the procedure and tighten up using the 5mm ball driver (Do not over tighten).

The Knurled adaptor would also be required to be used with the correct sized clamp and C washer supplied with the clamp.

**Fig 20**

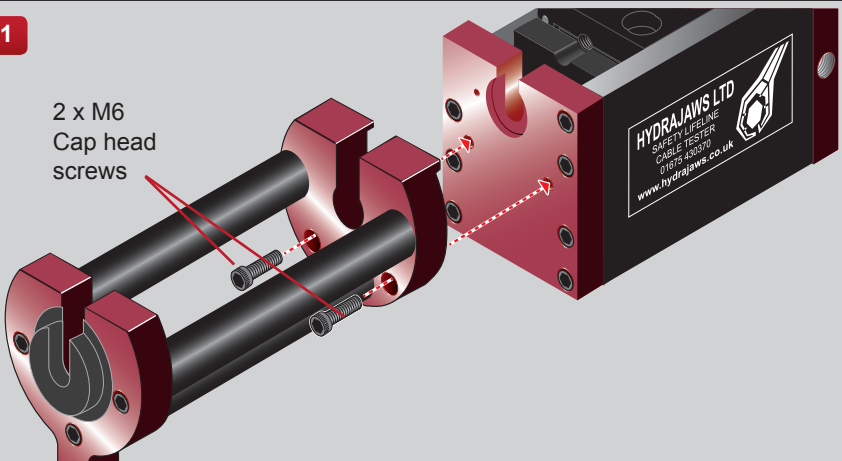


2 x M8 Cap head screws



2 x M6 Cap head screws

**Fig 21**



2 x M6  
Cap head  
screws

## 6. GENERAL GUIDELINES FOR TESTING

For systems supplied in kit form with the swage components ready swaged and marked with an “L” the swaged connections between the absorber and termination and cable has been proof loaded to 15kN.

Therefore, the system can be directly installed on to the structure without the need for proof testing onsite provided the maximum predicted end load is no greater than 15kN. If the predicted end load is greater than 15kN then a proof test to the maximum predicted end load shall be carried out as described below.

For systems supplied as individual parts the swage connection will need to be completed on site using the recommended hexagonal dies with a minimum of 3 swage bites. The connection shall be proof tested to the maximum predicated end load before installation of the system. After swaging it is recommended that the across flats dimension is 11.2mm. Any swages greater than 11.2mm must be rejected.

**It is recommended that the Hydrajaws test kit is used to perform all proof tests described below.**

**For swage testing**, apply the recommended test load and hold for 3 minutes, checking for any slipping of the cable from the swage. This will be indicated by the gauge not holding load and separation of the swage slip indicator away from the end of the swage termination. If any signs of slippage are detected the swage joint must be rejected and replaced. For end anchors secured using resin/chemically fixed anchor bolts, the fixing shall be subjected to an axial pull tester of 10kN. This load shall be held for 3 minutes. End anchor fixings not sustaining the test load must be rejected and replaced for intermediate anchors using resin/chemically fixed anchor bolt(s), the fixing shall be subjected to an axial pull test of 5kN. This load shall be held for 3 minutes. Intermediate anchors not sustaining the test load must be rejected and replaced.

**For mechanically fixed end and intermediate anchors secured to structural steelwork** the fixing bolts shall be subjected to a torque check to the recommended values. If tightening torque value is not achieved the fixing bolts should be replaced.

**For end anchors secured using expansion anchor bolts** the fixing shall be subjected to an axial pull test to 10kN. This load shall be held for 3 minutes. For intermediate anchors secured using expansion anchor bolts the fixing shall be subjected to an axial pull test to 5kN. This load shall be held for 3 minutes.

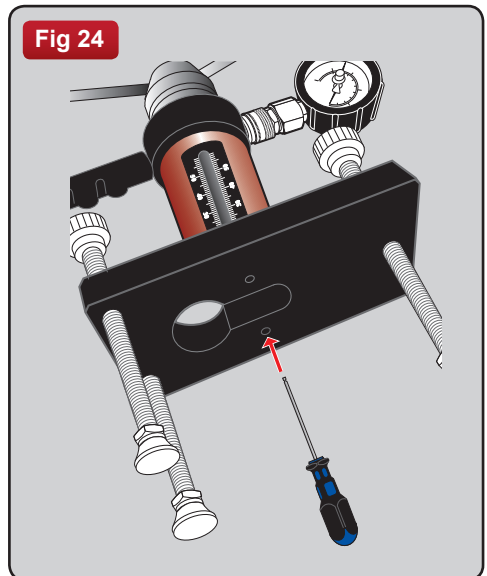
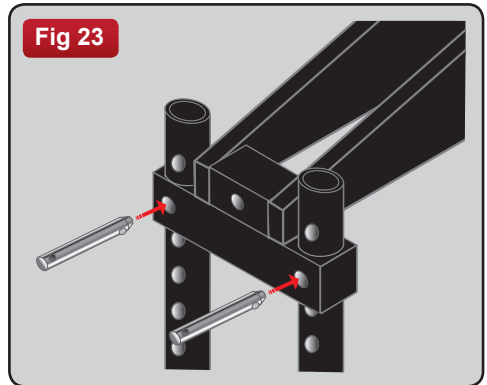
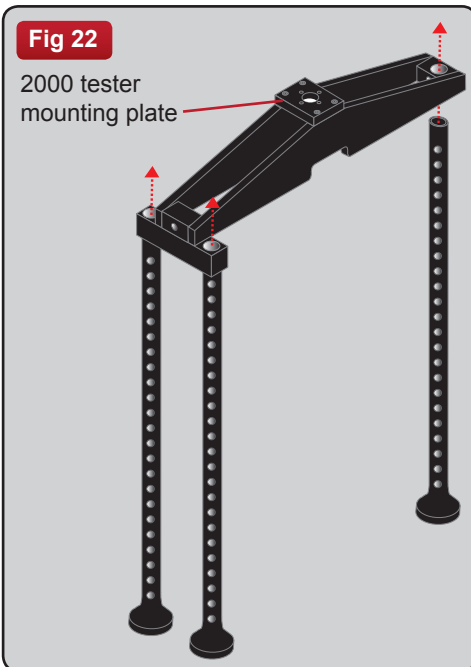
All single point anchors, push lock safety ring etc should be subjected to an axial pull test of 6kN. This load shall be held for 3 minutes.

## 7. ASSEMBLY INSTRUCTIONS OF 600mm LOAD SPREADING BRIDGE TO MODEL 2000

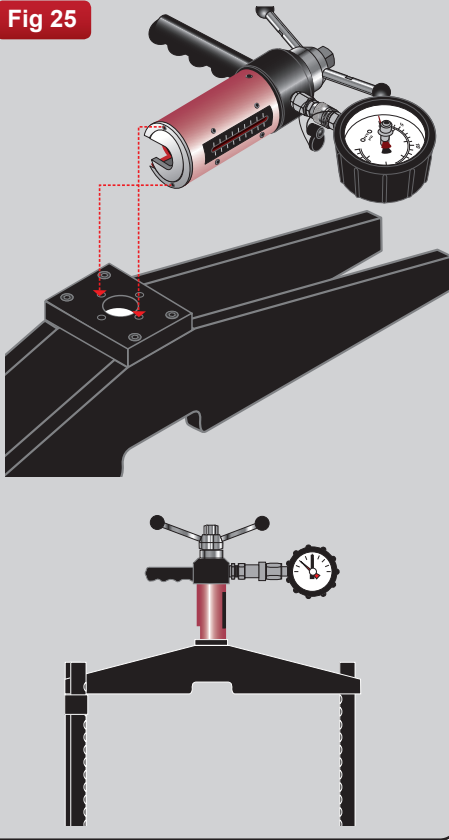
For testing of safety lifeline posts at the start, middle or end of cable.

*Please note: 600mm bridge not included as standard.*

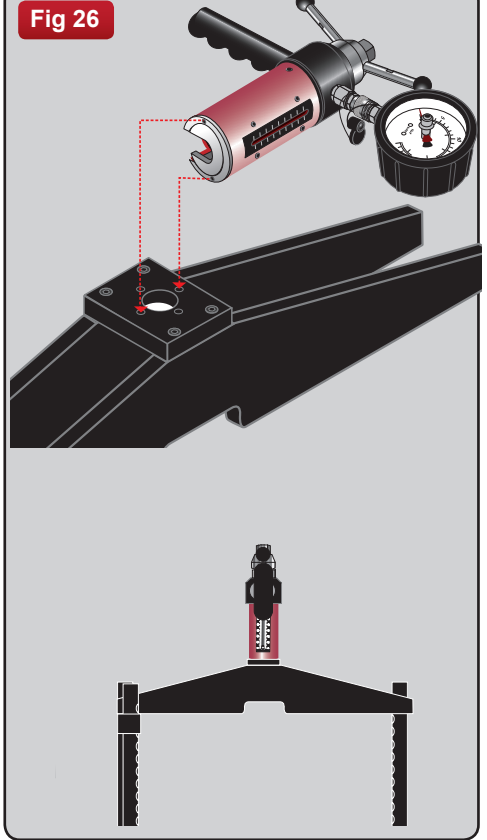
1. Hold the bridge horizontal with the top plate visible (2000 tester mounting plate).
2. Slide the 3 legs through the blocks with the round foot toward the ground (**fig 22**).
3. Align the holes at the desired height and place the pin through until the ball bearing releases (**fig 23**).
4. To mount the Model 2000 tester to the bridge remove the existing bridge and make sure the M12 locking adaptor is located in the operating jaw (**fig 24**).
5. Turn the bridge upside down with the round feet in the air.
6. By using the same screws you removed from the other bridge, line up the holes and use the 3mm ball driver. The tester can be attached in-line (**fig 25**) or at 90 degrees (**fig 26**).
7. Use the M12 coupler supplied with the bridge and screw this fully into the locking adaptor. The other end will then accept the M12 Ringbolt Adaptor Clevis (**fig 27**).



**Fig 25**



**Fig 26**



**Fig 27**



## 8. CARE OF TESTER

### 8.1 LUBRICATION

#### Lubrication of rod

This is required periodically depending on usage.

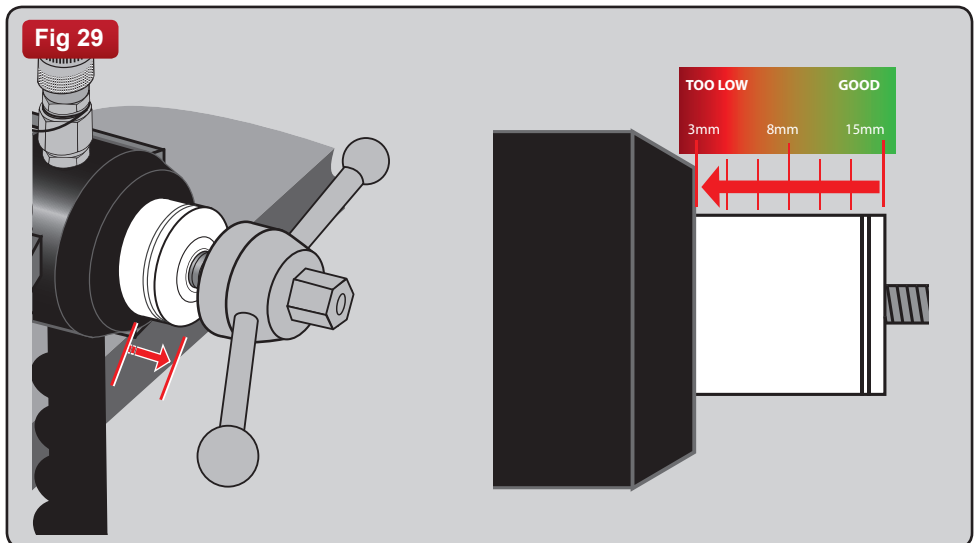
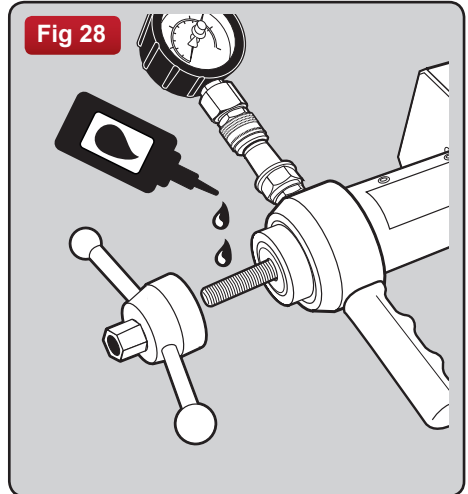
Unscrew and remove operating handle. Take care to avoid moving the washer and bearing below. Grease surfaces and threads before re-assembly (**fig 28**).

#### Oil refilling

Connecting and disconnecting Gauges from the Tester body will eventually use up the spare oil capacity and will not allow the tester plunger to travel its full stroke or give an accurate reading on the Gauge.

Eventually the plunger will stop at approx. 3mm from the edge and indicate that oil is too low (**fig 29**).

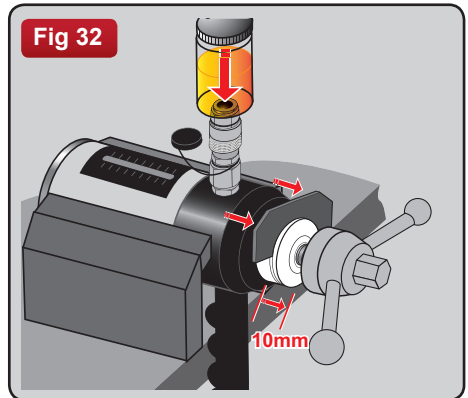
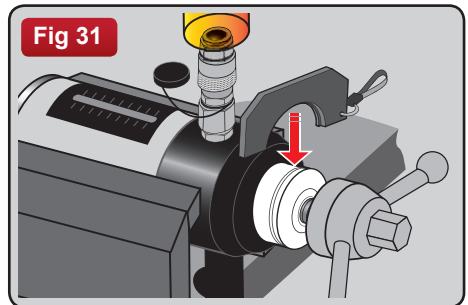
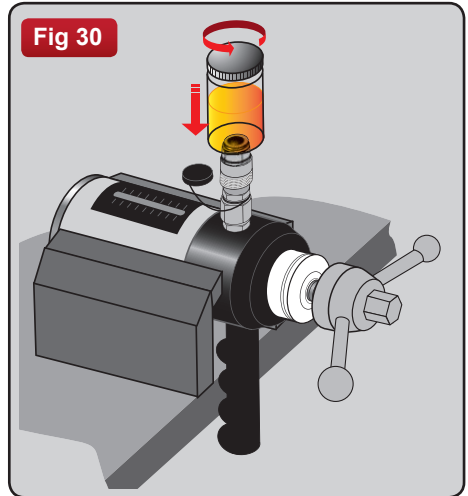
(To refill oil see **8.2 oil refilling instructions**).



## 8.2 OIL REFILLING INSTRUCTIONS

*NOTE: A tester with a fixed gauge cannot be filled with oil by the operator.*

1. Remove the bridge and all accessories.
2. Secure the tester (e.g. in a vice or other suitable holding device if on-site) with the coupler in the vertical position.
3. Connect the oil bottle via the quick release coupler.
4. Loosen bottle cap (**fig 30**).
5. Turn the handle anti-clockwise a few turns then using the piston key provided insert this into the groove on the piston. Ensure the piston key outer slot is nearer the piston body (**fig 31**).
6. Force any air out of the system by pushing the piston in fully then pull on the piston key and handle until 10mm away from the inside of the slot. This will draw oil from the bottle (**fig 32**).
7. Push the piston back in fully, pull out again and repeat until all the air bubbles are expelled into the bottle, the oil is replenished, and piston is 10mm from face of the Body.
8. Remove oil bottle.



**Ensure not to pull the piston out further than 15mm.**



Recommended oil:  
**Light Mineral DTE Type**

## 8.3 CALIBRATION

From the date of purchase, your tester is calibrated for one year. After this time, the tester should be returned for calibration. Testers with Bluetooth Digital will receive a reminder message on their digital display, one month from date of renewal.

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