



Open front screen

# Service Manual

## JZ140 ZTS

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Maintenance](#)

[Section B - Body and Framework](#)

[Section C - Electrics](#)

[Section E - Hydraulics](#)

[Section F - Transmissions](#)

[Section J - Track and Running Gear](#)

[Section K - Engine](#)



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# Section 1

## General Information

[Section 1 - General Information](#)

[Section 2 - Care and Safety](#)

[Section 3 - Maintenance](#)

[Section B - Body and Framework](#)

[Section C - Electrics](#)

[Section E - Hydraulics](#)

[Section F - Transmissions](#)

[Section J - Track and Running Gear](#)

[Section K - Engine](#)



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# Introduction

## About this Publication

This publication is designed for the benefit of JCB Distributor Service Engineers who are receiving, or have received, training by JCB Technical Training Department.

These personnel should have a sound knowledge of workshop practice, safety procedures, and general techniques associated with the maintenance and repair of hydraulic earthmoving equipment.

Renewal of oil seals, gaskets, etc., and any component showing obvious signs of wear or damage is expected as a matter of course. It is expected that components will be cleaned and lubricated where appropriate, and that any opened hose or pipe connections will be blanked to prevent excessive loss of hydraulic fluid and ingress of dirt. Finally, please remember above all else **SAFETY MUST COME FIRST!**

The manual is compiled in sections, the first three are numbered and contain information as follows:

- 1** General Information - includes torque settings and service tools.
- 2** Care & Safety - includes warnings and cautions pertinent to aspects of workshop procedures etc.
- 3** Routine Maintenance - includes service schedules and recommended lubricants for all the machine.

The remaining sections are alphabetically coded and deal with Dismantling, Overhaul etc. of specific components, for example:

- A** Attachments
- B** Body & Framework...etc.

The page numbering in each alphabetically coded section is not continuous. This allows for the insertion of new items in later issues of the manual.

Section contents, technical data, circuit descriptions, operation descriptions etc. are inserted at the beginning of each alphabetically coded section.

All sections are listed on the front cover; tabbed divider cards align directly with individual sections on the front cover for rapid reference.

Where a torque setting is given as a single figure it may be varied by plus or minus 3%. Torque figures indicated are for dry threads, hence for lubricated threads may be reduced by one third.

'Left Hand' and 'Right Hand' are as viewed from the rear of the machine facing forwards.

This Service Manual covers the following machines:

JZ140

## Schematic Codes

### Colour Codes

The following colour coding, used on illustrations to denote various conditions of oil pressure and flow, is standardised throughout JCB Service Publications.

	<b>Red</b>	<b>Full Pressure:</b> Pressure generated from operation of a service. Depending on application this may be anything between neutral circuit pressure and MRV operating pressure.
	<b>Pink</b>	<b>Pressure:</b> Pressure that is above neutral circuit pressure but lower than that denoted by Red.
	<b>Orange</b>	<b>Servo:</b> Oil pressure used in controlling a device (servo).
	<b>Blue</b>	<b>Neural:</b> Neutral circuit pressure.
	<b>Green</b>	<b>Exhaust:</b>
	<b>Light Green</b>	<b>Cavitation:</b> Oil subjected to a partial vacuum due to a drop in pressure (cavitation).
	<b>Yellow</b>	<b>Lock Up:</b> Oil trapped within a chamber or line, preventing movement of components (lock up).

# Identifying your Machine

## Identification Plates

### Data Plate

Your machine has a Data Plate, located on the outside the cab as shown at **A**. The machine serial number is inscribed at **B** which is the baseplate of the rear frame and the engine number is at **C**.

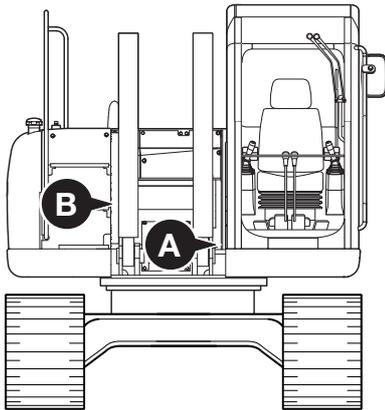


Fig 1.

### Typical Vehicle Identification Number (VIN)

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
SLP	JZ	14	C	4	E	1137000

- 1 World Manufacturer Identification (SLP = JCB)
- 2 Machine Type ( JZ = Tracked)
- 3 Machine Model (14 = 140)
- 4 Generation
- 5 Year of Manufacture (1 = 2001, 2 = 2002, 3 = 2003, 4 = 2004, 5 = 2005, 6 = 2006)
- 6 Manufacturers Location (E = England)
- 7 Machine Serial Number (1137001)

JCB HEAVY PRODUCTS LTD.  
 UTTOXETER, STAFFS,  
 ST14 8TL, ENGLAND

VIN Vehicle Identification Number

Product Identification Number

MACHINE WEIGHT kg

ENGINE SERIAL No.

ENGINE POWER kw / RPM

CONSTRUCTION YEAR 
JHP0081

732820

Fig 2.

### Typical Engine Identification Number

If the engine is replaced by a new one, the data plate serial number will be wrong. Either stamp the new number on the plate or stamp out the old one. This will prevent the wrong number being quoted when you order replacement parts.

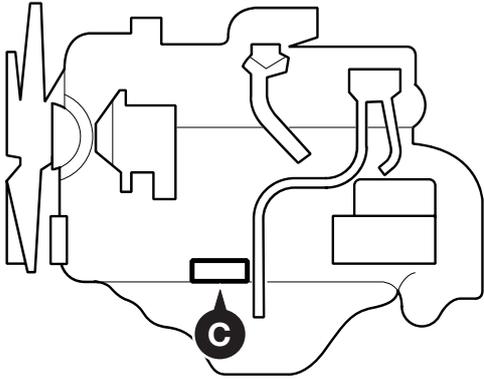


Fig 3.

a	b	c	d	e
AB	50316	J	000001	2

- a Engine Type (AB= 4 cylinder turbo)
- b Engine Parts List
- c Country of Manufacture
- d Engine Serial Number
- e Year of Manufacture

# Torque Settings

## Introduction - Zinc Plated Fasteners and Dacromet Fasteners

Some external fasteners on machines are assembled using an improved type of corrosion resistant finish. This type of finish is called Dacromet and replaces the original Zinc and Yellow plating used on earlier machines.

The two types of fasteners can be readily identified by colour and part number suffix as follows:

Fastener Type	Colour	Part Number
Zinc and Yellow	Golden finish	'Z' (e.g. 1315/3712Z)
Dacromet	Mottled silver finish	'D' (e.g. 1315/3712D)

**Note:** As the Dacromet fasteners have a lower torque setting than the Zinc and Yellow fasteners, the torque figures used must be relevant to the type of fasteners.

**Note:** A Dacromet bolt should not be used in conjunction with a Zinc and Yellow plated nut, as this could change the torque characteristics of the torque settings further. For the same reason, a Dacromet nut should not be used in conjunction with a Zinc and Yellow plated bolt.

**Note:** All bolts used on JCB machines are high tensile and must not be replaced by bolts of a lesser tensile specification.

**Note:** Dacromet bolts, due to their high corrosion resistance are used areas where rust could occur. Dacromet bolts are only used for external applications. They are not used in application such as gearbox and engine joint seams or internal applications.



# Section 1 - General Information

## Torque Settings

Zinc Plated Fasteners (golden finish)

### Zinc Plated Fasteners (golden finish)

Use only where no torque setting is specified in the text. Values are for dry threads and may be within three per cent of the figures stated. For lubricated threads the values should be REDUCED by one third.

#### UNF Grade 'S' Bolts

Bolt size		Torque Settings			
Dia.	(mm)	Hexagon (A/F) mm	Nm	kgf m	lbf ft
1/4	6.3	7/16	14	1.4	10
5/16	7.9	1/2	28	2.8	20
3/8	9.5	9/16	49	5.0	36
7/16	11.1	5/8	78	8.0	58
1/2	12.7	3/4	117	12.0	87
9/16	14.3	13/16	170	17.3	125
5/8	15.9	15/16	238	24.3	175
3/4	19	1 1/8	407	41.5	300
7/8	22.2	1 5/16	650	66.3	480
1	25.4	1 1/2	970	99.0	715
1 1/4	31.7	1 7/8	1940	198.0	1430
1 1/2	38.1	2 1/4	3390	345.0	2500

#### Rivet Nut Bolts/Screws

Bolt size		Torque Settings		
Dia.	(mm)	Nm	kgf m	lbf ft
M3	3	1.2	0.12	0.9
M4	4	3.0	0.3	2.0
M5	5	6.0	0.6	4.5
M6	6	10.0	1.0	7.5
M8	8	24.0	2.5	18.0
M10	10	48.0	4.9	35.5
M12	12	82.0	8.4	60.5

#### Metric Grade 8.8 Bolts

Bolt size		Torque Settings			
Dia.	(mm)	Hexagon (A/F) mm	Nm	kgf m	lbf ft
M5	(5)	8	7	0.7	5
M6	(6)	10	12	1.2	9
M8	(8)	13	28	3.0	21
M10	(10)	17	56	5.7	42
M12	(12)	19	98	10	72
M16	(16)	24	244	25	180
M18	(18)	27	350	36	258
M20	(20)	30	476	48	352
M24	(24)	36	822	84	607
M30	(30)	46	1633	166	1205
M36	(36)	55	2854	291	2105

#### Metric Grade 10.9 Bolts

Bolt size		Torque Settings			
Dia.	(mm)	Hexagon (A/F) mm	Nm	kgf m	lbf ft
M6	(6)	10	16	1.6	12
M8	(8)	13	39	4	29
M10	(10)	17	78	8	57
M12	(12)	19	137	14	101
M16	(16)	24	343	35	253
M20	(20)	30	657	67	485
M24	(24)	36	1157	118	853

Zinc Plated Fasteners (golden finish)

### Metric - All Internal Hexagon Headed Cap Screws

Diameter mm	Torque Settings		
	Nm	kgf m	lbf ft
M3	2	0.2	1.5
M4	6	0.6	4.5
M5	11	1.1	8
M6	19	1.9	14
M8	46	4.7	34
M10	91	9.3	67
M12	159	16.2	117
M16	395	40	292
M18	550	56	406
M20	770	79	568
M24	1332	136	983

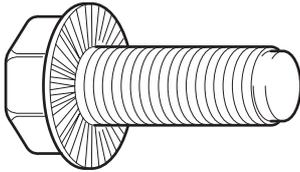
### Hydraulic Hose to Adapter Connections

BSP Size (inches)	Nm	kgf m	lbf ft
1/8	14	1.4	10
1/4	24	2.5	18
3/8	33	3.3	24
1/2	44	4.8	35
5/8	58	6.0	43
3/4	84	8.6	62
1	115	11.8	85
1 1/2	244	24.9	180

### Hydraulic Adapter into Component Connections with bonded washers

BSP Size (inches)	Nm	kgf m	lbf ft
1/8	20	2.1	15
1/4	34	3.4	25
3/8	75	7.6	55
1/2	102	10.3	75
5/8	122	12.4	90
3/4	183	18.7	135
1	203	20.7	150
1 1/2	305	31	225

### Verbs Ripp Bolts



A343780

**Fig 1.**

Torque settings for these bolts are determined by the application. Refer to the relevant procedure for the required settings.



## Dacromet Fasteners (mottled silver finish)

Use only where no torque setting is specified in the text.

### Metric Grade 12.9 Bolts

*plating process: do not lubricate.*

### Metric Grade 8.8 Bolts

Bolt Size	Torque Settings		
	Dia	Nm	kgf m
M6 x 1.0	9	0.9	7
M8 x 1.25	22.5	2.3	17
M10 x 1.5	47.5	4.8	35
M12 x 1.75	80	8.2	59
M14 x 2	133	13.6	98
M16 x 2	200	20.4	148
M18 x 2.5	278	28.4	205
M20 x 2.5	392	40	289
M24 x 3	675	69	498
M30 x 3.5	1348	138	994

Bolt Size	Torque Settings		
	Dia	Nm	kgf m
M6 x 1.0	15	1.5	11
M8 x 1.25	40	4.1	29
M10 x 1.5	80	8.2	59
M12 x 1.75	133	13.6	98
M14 x 2	225	23	166
M16 x 2	350	35.7	258
M18 x 2.5	463	47	342
M20 x 2.5	654	67	482
M24 x 3	1125	115	830
M30 x 3.5	2247	229	1657

### Metric Grade 10.9 Bolts

Bolt Size	Torque Settings		
	Dia	Nm	kgf m
M6 x 1.0	13.5	1.4	10
M8 x 1.25	35	3.6	26
M10 x 1.5	62.5	6.4	46
M12 x 1.75	115	11.7	85
M14 x 2	175	17.9	129
M16 x 2	300	30.6	221
M18 x 2.5	395	40	291
M20 x 2.5	559	57	412
M24 x 3	962	98	710
M30 x 3.5	1920	196	1416

# Service Tools

## Numerical List Section B - Body and Framework

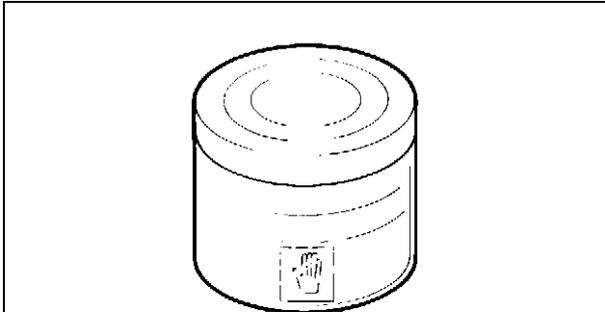
The tools listed in the table are special tools required for removal and replacement of Body and Framework parts. These tools are available from JCB Service.

*Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.*

<b>Part Number</b>	<b>Description</b>	<b>Tool Detail Reference</b>
4104/1310	Hand Cleaner	<a href="#">Fig 1. (📄 1-10)</a>
826/01099	M6 x 16mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
826/01101	M6 x 19mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
826/01102	M8 x 21mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
826/01103	M8 x 18mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
826/01104	M10 x 23mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
826/01105	M10 x 26mm Rivet Nut	<a href="#">Fig 2. (📄 1-10)</a>
892/00842	Glass Lifter	<a href="#">Fig 3. (📄 1-10)</a>
892/00843	Folding Stand for Holding Glass	<a href="#">Fig 4. (📄 1-10)</a>
892/00844	Long Knife	<a href="#">Fig 5. (📄 1-11)</a>
892/00845	Cartridge Gun	<a href="#">Fig 6. (📄 1-11)</a>
892/00846	Glass Extractor (Handles)	<a href="#">Fig 7. (📄 1-11)</a>
892/00847	Nylon Spatula	<a href="#">Fig 8. (📄 1-11)</a>
892/00848	Wire Starter	<a href="#">Fig 9. (📄 1-11)</a>
892/00849	Braided Cutting Wire	<a href="#">Fig 10. (📄 1-11)</a>
926/15500	Rubber Spacer Blocks	<a href="#">Fig 11. (📄 1-12)</a>
992/12300	12V Oven	<a href="#">Fig 12. (📄 1-12)</a>
992/12400	240V Oven 2 Cartridge	<a href="#">Fig 13. (📄 1-12)</a>
992/12600	240V Oven 6 Cartridge	<a href="#">Fig 13. (📄 1-12)</a>
992/12800	Cut-Out Knife	<a href="#">Fig 14. (📄 1-12)</a>
992/12801	'L' Blades	<a href="#">Fig 15. (📄 1-12)</a>

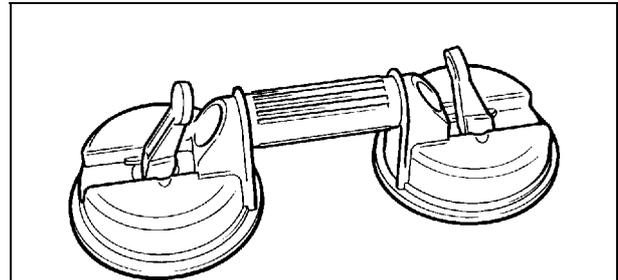
### Tool Detail Reference Section B - Body and Framework

**Note:** Not all service tools are illustrated. Illustrations are shown in tool number order.



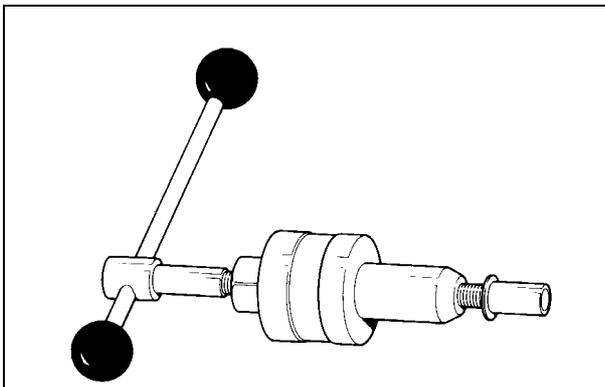
**Fig 1. 410/1310**

**Note:** Special blend for the removal of polyurethane adhesives



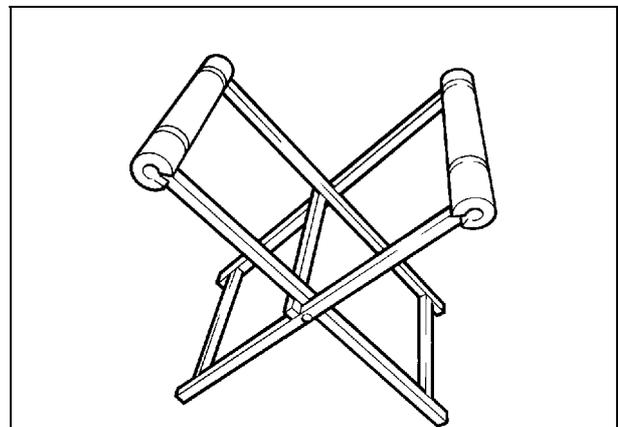
**Fig 3. 892/00842**

**Note:** minimum 2 off - essential for glass installation, 2 required to handle large panes of glass. Ensure suction cups are protected from damage during storage.



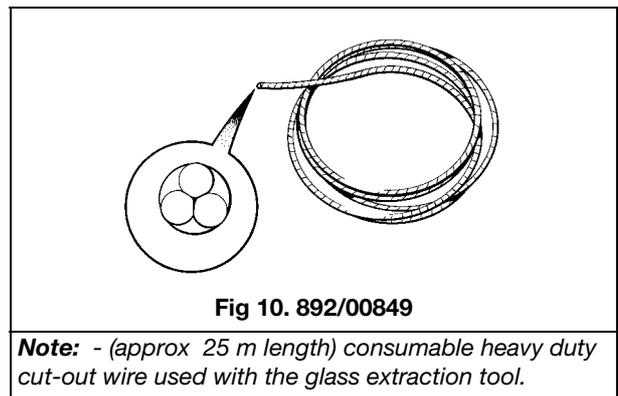
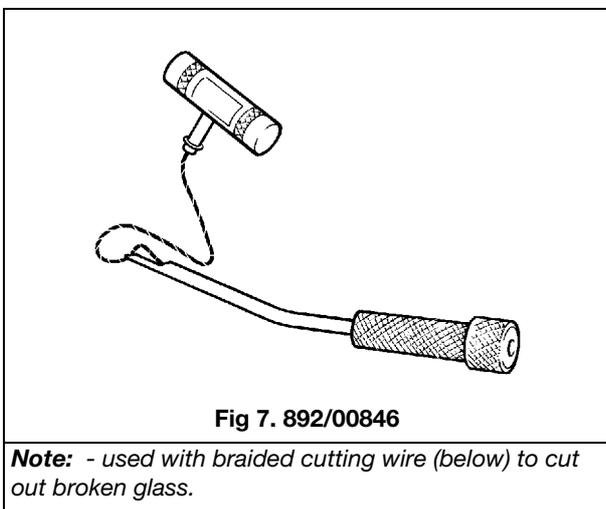
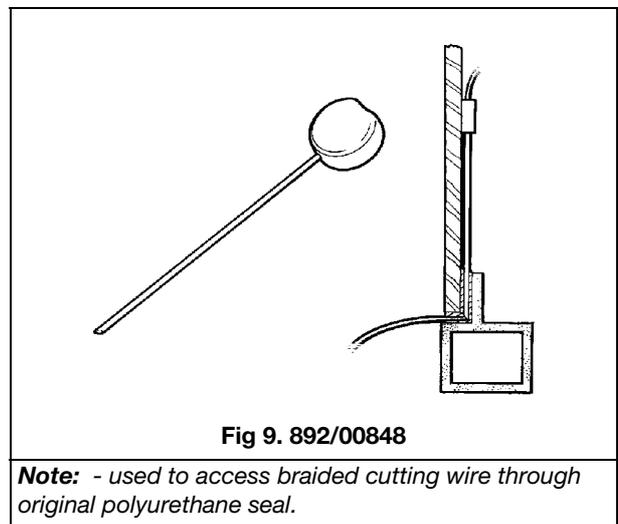
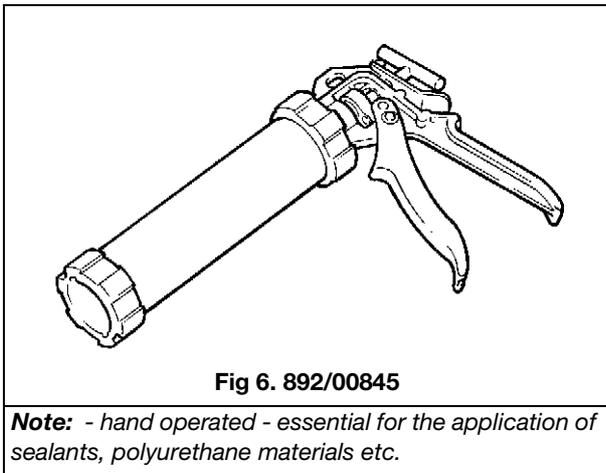
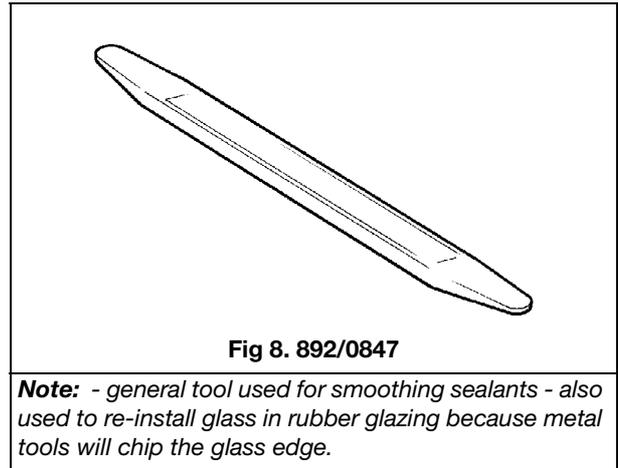
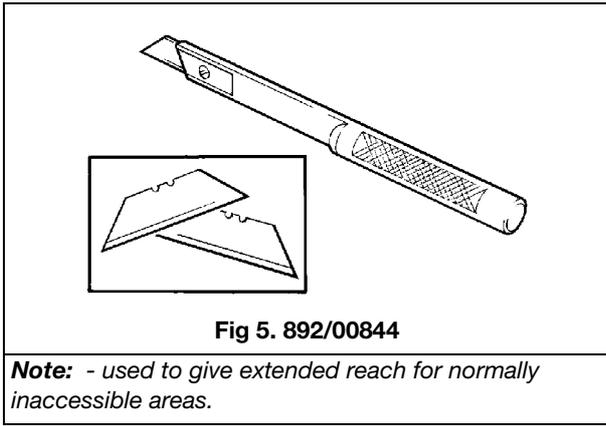
**Fig 2.**

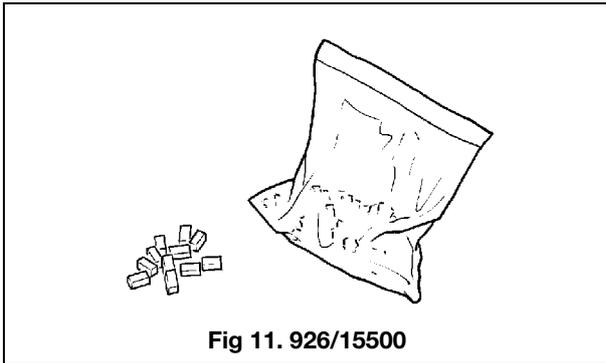
Installation Tool Available from:  
 Bollhoff Fastenings Ltd.  
 Midacre  
 The Willenhall Estate  
 Rose Hill  
 Willenhall  
 West Midlands, WV13 2JW



**Fig 4. 892/00483**

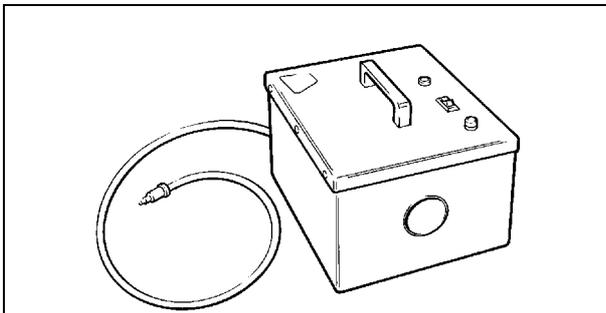
**Note:** - essential for preparing new glass prior to installation..





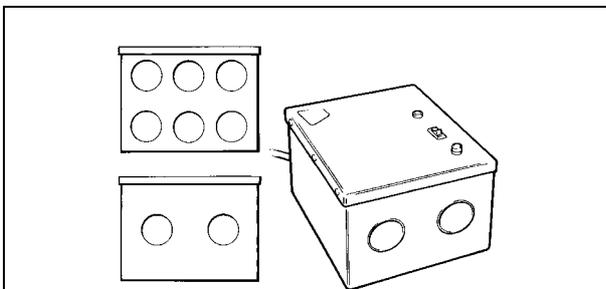
**Fig 11. 926/15500**

**Note:** - (unit quantity = 500 off) used to provide the correct set clearance between glass edge and cab frame.



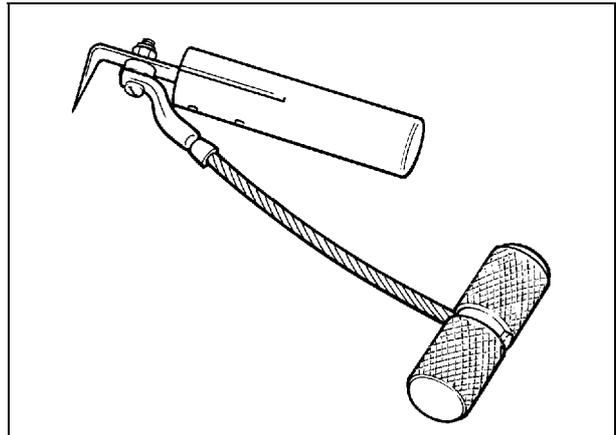
**Fig 12. 992/12300**

**Note:** - 1 cartridge capacity - required to pre-heat adhesive prior to use. It is fitted with a male plug (703/23201) which fits into a female socket (715/04300).



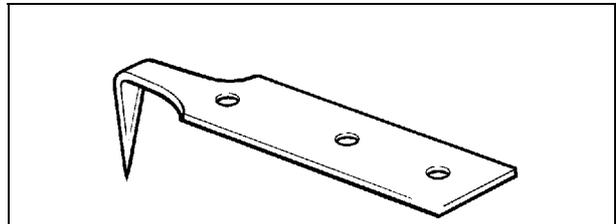
**Fig 13.**

**Note:** -available with 2 or 6 cartridge capacity ( 992/12400 - 2 Cartridge x 240V, 992/12600 - 6 Cartridge x 240V) - required to pre-heat adhesive prior to use. No plug supplied. 110V models available upon request - contact JCB Technical Service.



**Fig 14. 992/12800**

**Note:** - used to remove broken glass.



**Fig 15. 992/12801**

**Note:** - (unit quantity = 5 off) 25 mm (1 in) cut - replacement blades for cut-out knife (above).



# Section 1 - General Information

## Service Tools

Numerical List Section C - Electrics

### Numerical List Section C - Electrics

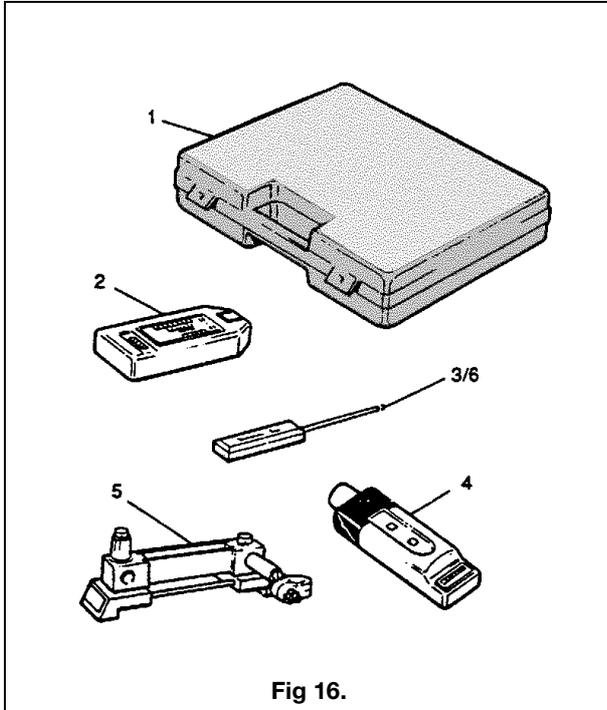
The tools listed in the table are special tools required for testing electrics. These tools are available from JCB Service .

**Note:** Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.

Part Number	Description	Tool Detail Reference
892/00283	Tool Kit Case	<a href="#">Fig 16. (5) 1-14</a>
892/00281	AVO Meter	<a href="#">Fig 16. (5) 1-14</a>
892/00286	Surface Temperature	<a href="#">Fig 16. (5) 1-14</a>
892/00284	Microtach Digital Tachometer	<a href="#">Fig 16. (5) 1-14</a>
892/00282	Shunt - open type	<a href="#">Fig 16. (5) 1-14</a>
892/00285	Hydraulic Oil Temperature Probe	<a href="#">Fig 16. (5) 1-14</a>
892/00298	Fluke 85 Multimeter	<a href="#">Fig 16. (5) 1-14</a>
718/20237	Interconnecting cable	<a href="#">Fig 17. (5) 1-14</a>
892/01033	Electronic Service Tool Kit	<a href="#">Fig 18. (5) 1-14</a>
892/01174	Electronic Service Tool Kit	<a href="#">Fig 19. (5) 1-15</a>

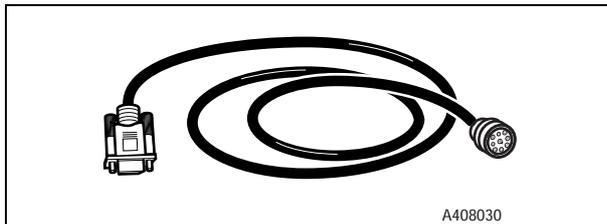
### Tool Detail Reference Section C - Electrics

**Note:** Not all service tools are illustrated. Illustrations are shown in tool number order.



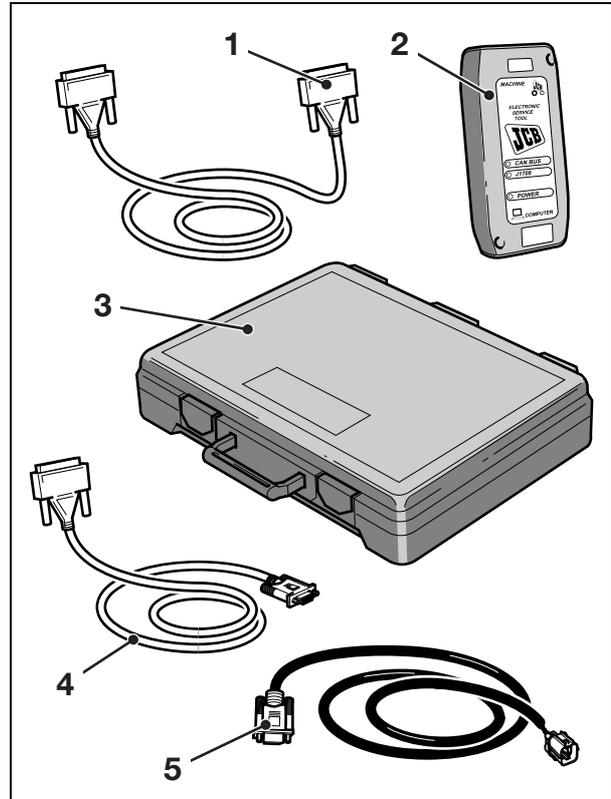
**Fig 16.**

1	892/00283 Tool Kit Case
2	892/00281 AVO Meter
3	892/00286 Surface Temperature
4	892/00284 Microtach Digital Tachometer
5	892/00282 Shunt - open type
6	892/00285 Hydraulic Oil Temperature Probe
7	892/00298 Fluke 85 Multimeter



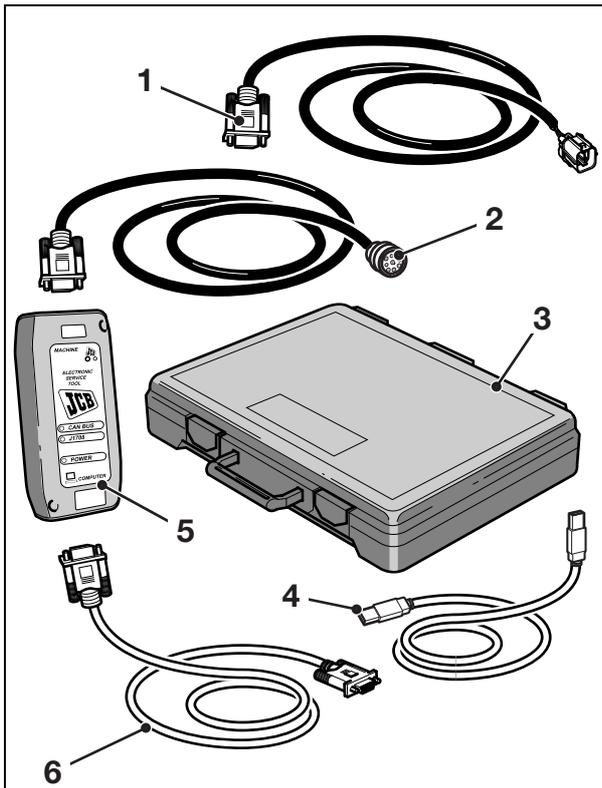
**Fig 17. 718/20237**

Interconnecting cable, DLA to machine ECU diagnostics socket.



**Fig 18. 892/01033**

1	Parallel Interconnecting cable, DLA to laptop PC.
2	Data Link Adaptor (DLA), enables data exchange between the machine ECU (Electronic Control Unit) and a laptop PC loaded with the applicable diagnostics software.
3	Kit carrying case.
4	Serial Interconnecting cable, DLA to laptop PC.
5	Interconnecting cable, DLA to machine ECU diagnostics socket.



**Fig 19. 892/01174**

1	Interconnecting cable, DLA to machine ECU diagnostics socket.
2	Interconnecting cable, DLA to machine ECU diagnostics socket.
3	Kit carrying case.
4	USB Interconnecting cable, DLA to laptop PC.
5	USB Data Link Adaptor (DLA), enables data exchange between the machine ECU (Electronic Control Unit) and a laptop PC loaded with the applicable diagnostics software.
6	Serial Interconnecting cable, DLA to laptop PC.

### Numerical List Section E- Hydraulics

The tools listed in the table are special tools required for testing, removing and replacing hydraulics. These tools are available from JCB Service .

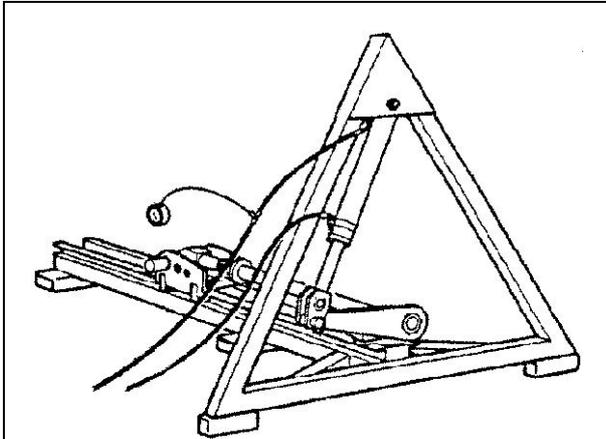
**Note:** Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.

Part Number	Description	Tool Detail Reference
545/18000	Lynch Pin	<a href="#">Fig 20. (1-18)</a>
556/43400	Lift Ram	<a href="#">Fig 20. (1-18)</a>
811/50232	1,1/4" Pivot Pin	<a href="#">Fig 20. (1-18)</a>
816/00018	1 in BSP (A) x 1 in BSP (B)	<a href="#">Fig 21. (1-18)</a>
816/00189	Male Cone Blanking Plug 3/8 in BSP	<a href="#">Fig 22. (1-18)</a>
816/00190	Male Cone Blanking Plug 1/2 in BSP	<a href="#">Fig 22. (1-18)</a>
816/00193	Male Cone Blanking Plug 1 in BSP	<a href="#">Fig 22. (1-18)</a>
816/00196	Male Cone Blanking Plug 3/4 in BSP	<a href="#">Fig 22. (1-18)</a>
816/00197	Male Cone Blanking Plug 5/8 in BSP	<a href="#">Fig 22. (1-18)</a>
816/00294	Male Cone Blanking Plug 1/4 in BSP	<a href="#">Fig 22. (1-18)</a>
816/15118	Pressure Test Adapter 3/4 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
816/50005	1/2 in BSP (A) x 1/2 in BSP (B)	<a href="#">Fig 21. (1-18)</a>
816/55038	Pressure Test 'T' Adapter 3/8 in BSP x 3/8 in F BSP x Test Point	<a href="#">Fig 24. (1-19)</a>
816/55040	Pressure Test 'T' Adapter 1/2 in BSP x 1/2 in F BSP x Test Point	<a href="#">Fig 24. (1-19)</a>
816/60096	3/4 in BSP (A) x 3/4 in BSP (B)	<a href="#">Fig 21. (1-18)</a>
892/00055	Female Cone Blanking Plug 1/4 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00056	Female Cone Blanking Plug 3/8 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00057	Female Cone Blanking Plug 1/2 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00058	Female Cone Blanking Plug Female Cone Blanking Plug 5/8 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00059	Female Cone Blanking Plug 3/4 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00060	Female Cone Blanking Plug 1 in BSP	<a href="#">Fig 25. (1-19)</a>
892/00223	Hand Pump	<a href="#">Fig 26. (1-19)</a>
892/00254	Hose	<a href="#">Fig 27. (1-20)</a>
892/00255	Pressure Test Adapter 1/4 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00256	Pressure Test Adapter 3/8 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00257	Pressure Test Adapter 1/2 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00258	Pressure Test Adapter 5/8 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00259	Pressure Test Adapter 1 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00260	Pressure Test Adapter 1,1/4 in BSP x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00261	Pressure Test Adapter 5/8 in UNF x Test Point	<a href="#">Fig 23. (1-19)</a>
892/00262	Pressure Test 'T' Adapter 1/4 in BSP x 1/4 in F BSP x Test Point	<a href="#">Fig 24. (1-19)</a>

Part Number	Description	Tool Detail Reference
892/00263	Pressure Test 'T' Adapter 5/8 in BSP x 5/8 in F BSP x Test Point	<a href="#">Fig 24. (🔗 1-19)</a>
892/00264	Pressure Test 'T' Adapter 3/4 in BSP x 3/4 in F BSP x Test Point	<a href="#">Fig 24. (🔗 1-19)</a>
892/00265	Pressure Test 'T' Adapter 1 in M BSP x 1 in F BSP x Test Point	<a href="#">Fig 24. (🔗 1-19)</a>
892/00266	Pressure Test 'T' Adapters 1,1/4 in M BSP x 1,1/4 in F BSP x Test Point	<a href="#">Fig 24. (🔗 1-19)</a>
892/00267	Pressure Test 'T' Adapter 1,1/2 in M BSP x 1,1/2 in F BSP x Test Point	<a href="#">Fig 24. (🔗 1-19)</a>
892/00279	Pressure Gauge 0-400 bar (0-6000 lbf/in <sup>2</sup> )	<a href="#">Fig 27. (🔗 1-20)</a>
892/00346	Pressure Gauge 0-70 bar (0-1000 lbf/in <sup>2</sup> )	<a href="#">Fig 27. (🔗 1-20)</a>
892/00347	Connector	<a href="#">Fig 27. (🔗 1-20)</a>
993/99512	Spanner 55 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99513	Spanner 60 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99514	Spanner 65 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99515	Spanner 70 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99516	Spanner 75 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99517	Spanner 85 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99518	Spanner 90 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99519	Spanner 100 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99520	Spanner 110 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99521	Spanner 115 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
993/99522	Anchor Side Plate (supplied loose unwelded)	<a href="#">Fig 20. (🔗 1-18)</a>
993/99523	Anchor Cross Member (supplied loose unwelded)	<a href="#">Fig 20. (🔗 1-18)</a>
993/99524	Ram Eye End Modification Plate Assembly	<a href="#">Fig 20. (🔗 1-18)</a>
993/99525	Rig Assembly (not including spanners and ram)	<a href="#">Fig 20. (🔗 1-18)</a>
SSP0046	Spanner 80 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
SSP0047	Spanner 95 mm A/F	<a href="#">Fig 28. (🔗 1-20)</a>
	Socket Box Wrench	<a href="#">Fig 29. (🔗 1-21)</a>
	Nut Adapter	<a href="#">Fig 30. (🔗 1-22)</a>
	Seal Ring Tool	<a href="#">Fig 31. (🔗 1-23)</a>
	Stopper	<a href="#">Fig 32. (🔗 1-24)</a>
	Bearing Rig	<a href="#">Fig 33. (🔗 1-25)</a>

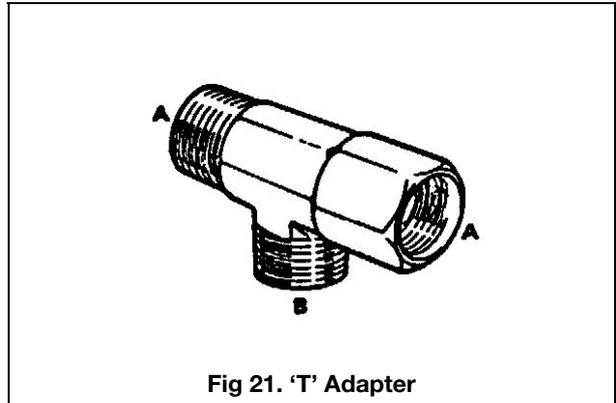
### Tool Detail Reference Section E- Hydraulics

**Note:** Not all service tools are illustrated. Illustrations are shown in tool number order.



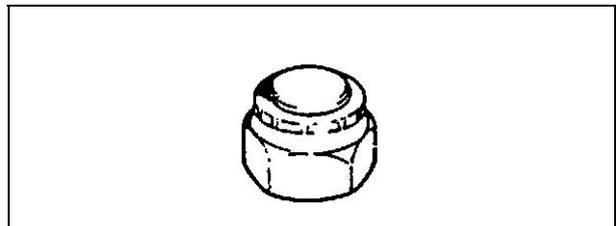
**Fig 20. Ram Piston Nut Removal/Fitting Rig**

993/99525 Rig Assembly (not including spanners and ram)
993/99522 Anchor Side Plate (supplied loose unwelded)
993/99523 Anchor Cross Member (supplied loose unwelded)
993/99524 Ram Eye End Modification Plate Assembly
556/43400 Lift Ram
545/18000 Lynch Pin
811/50232 1,1/4" Pivot Pin



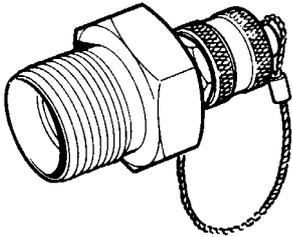
**Fig 21. 'T' Adapter**

816/50005 'T' adapter 1/2 in BSP (A) x 1/2 in BSP (B)
816/60096 'T' adapter 3/4 in BSP (A) x 3/4 in BSP (B)
816/00018 'T' adapter 1 in BSP (A) x 1 in BSP (B)



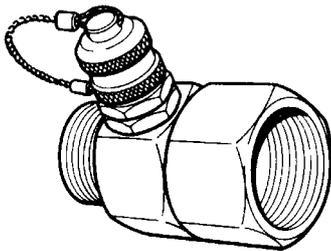
**Fig 22. Male Cone Blanking Plug**

816/00294 - 1/4 in BSP
816/00189 - 3/8 in BSP
816/00190 - 1/2 in BSP
816/00197 - 5/8 in BSP
816/00196 - 3/4 in BSP
816/00193 - 1 in BSP



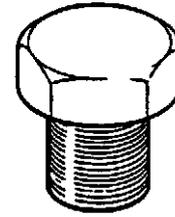
**Fig 23. Pressure Test Adapters**

892/00255 1/4 in BSP x Test Point
892/00256 3/8 in BSP x Test Point
892/00257 1/2 in BSP x Test Point
892/00258 5/8 in BSP x Test Point
816/15118 3/4 in BSP x Test Point
892/00259 1 in BSP x Test Point
892/00260 1,1/4 in BSP x Test Point
892/00261 5/8 in UNF x Test Point



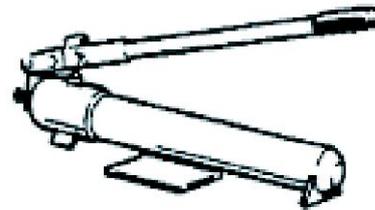
**Fig 24. Pressure Test 'T' Adapters**

892/00262 1/4 in BSP x 1/4 in F BSP x Test Point
816/55040 1/2 in BSP x 1/2 in F BSP x Test Point
892/00263 5/8 in BSP x 5/8 in F BSP x Test Point
892/00264 3/4 in BSP x 3/4 in F BSP x Test Point
892/00265 1 in M BSP x 1 in F BSP x Test Point
892/00266 1,1/4 in M BSP x 1,1/4 in F BSP x Test Point
892/00267 1,1/2 in M BSP x 1,1/2 in F BSP x Test Point



**Fig 25. Female Cone Blanking Plug**

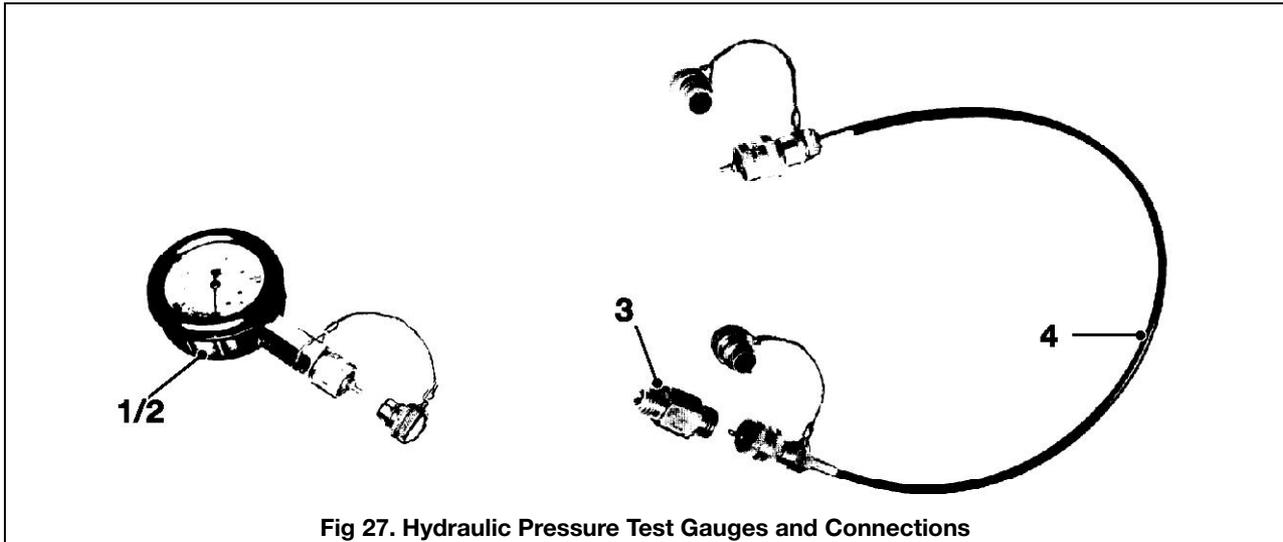
892/00055 - 1/4 in BSP
892/00056 - 3/8 in BSP
892/00057 - 1/2 in BSP
892/00058 - 5/8 in BSP
892/00059 - 3/4 in BSP
892/00060 - 1 in BSP



**Fig 26. 892/00223**

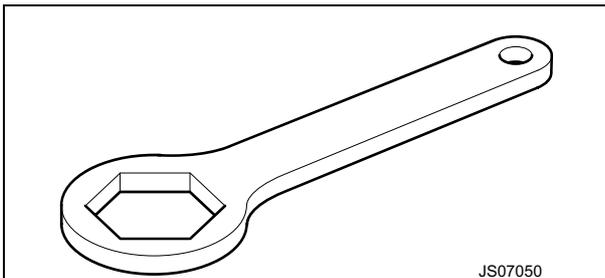
**Note:** Components listed below also required

Item	Description
1	892/00137 Micro-bore Hose 1/4 in BSP x 5 metres
2	892/00274 Adapter 1/4 in M BSP x 3/8 in M BSP Taper
3	892/00262 1/4 in M BSP x 1/4 in F BSP x Test Point
4	892/00706 Test Probe
5	892/00278 Gauge 0 - 40 bar (0 - 600 lb/in <sup>2</sup> )
6	892/00279 Gauge 0 - 400 bar (0 - 6000 lb/in <sup>2</sup> )
7	892/00280 Gauge 0 - 600 bar (0 - 8500 lb/in <sup>2</sup> )



**Fig 27. Hydraulic Pressure Test Gauges and Connections**

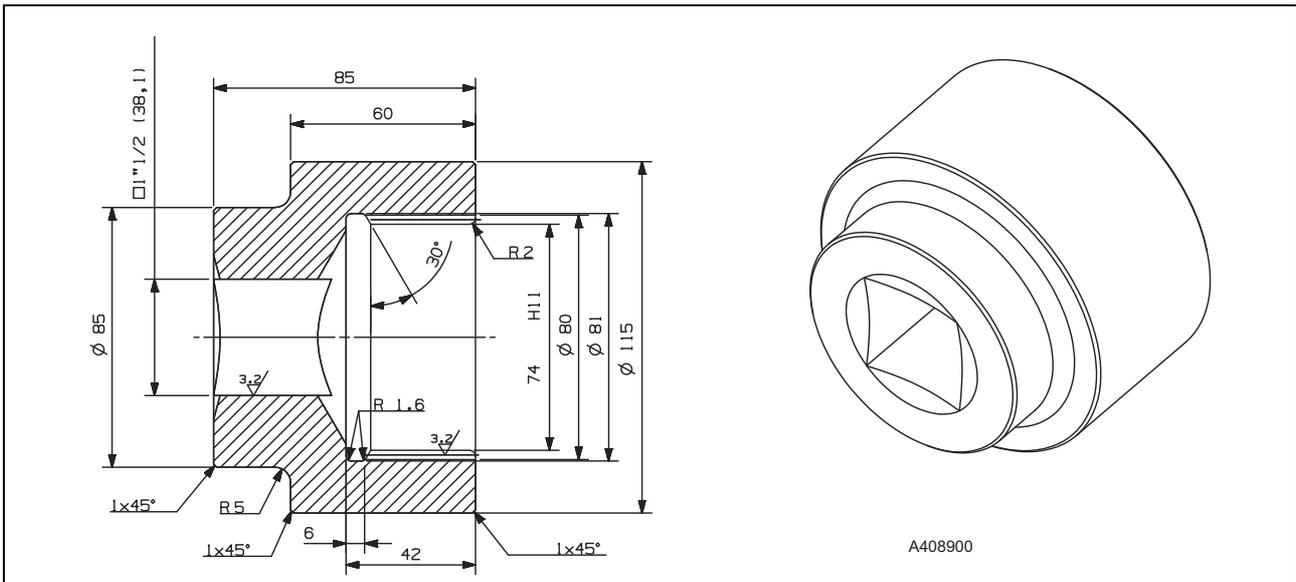
1	892/00279 Pressure Gauge 0-400 bar (0-6000 lbf/in <sup>2</sup> )
2	892/00346 Pressure Gauge 0-70 bar (0-1000 lbf/in <sup>2</sup> )
3	892/00347 Connector
4	892/00254 Hose



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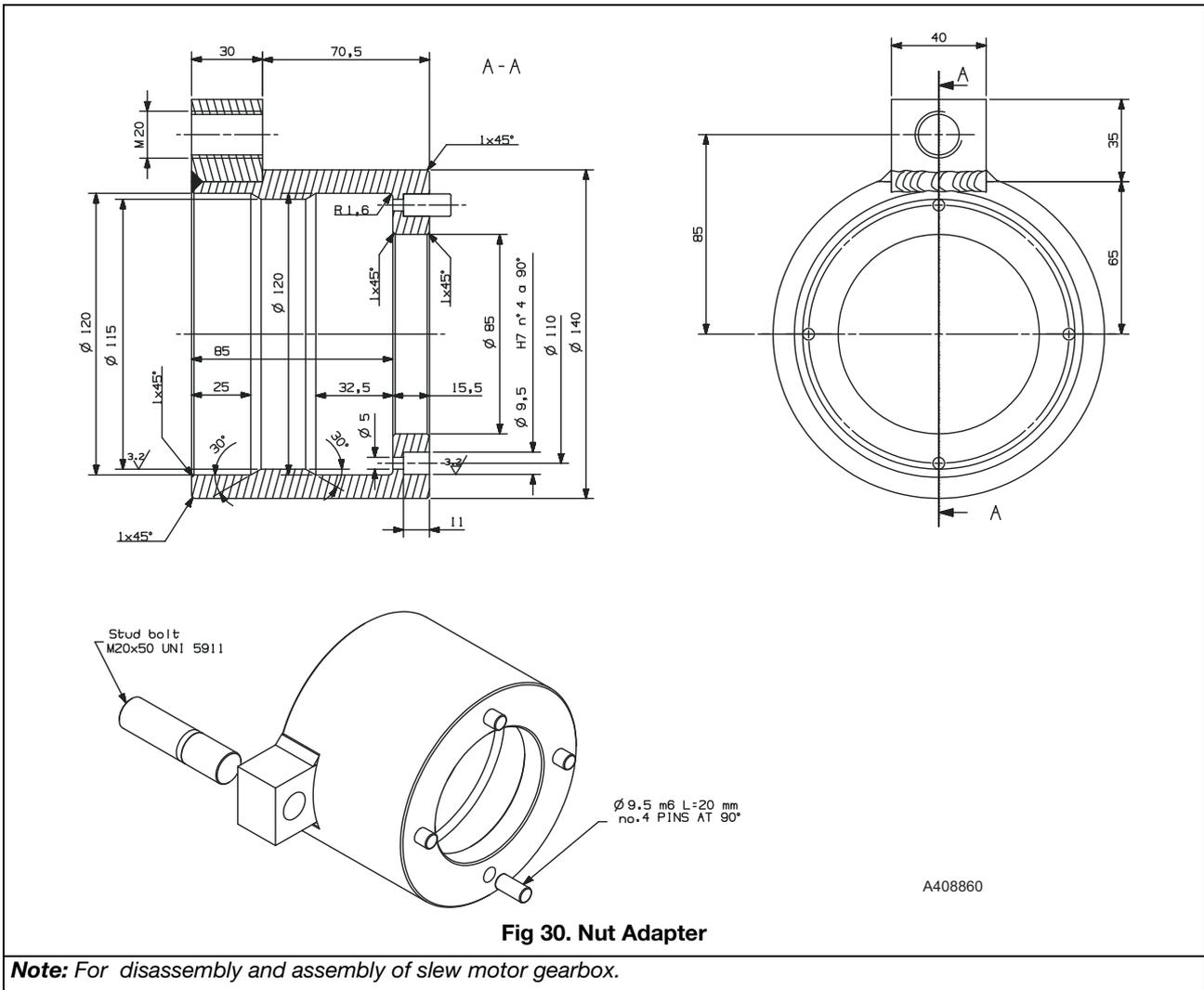
**Fig 28. Ram Piston Nut Removal/Fitting Spanner**

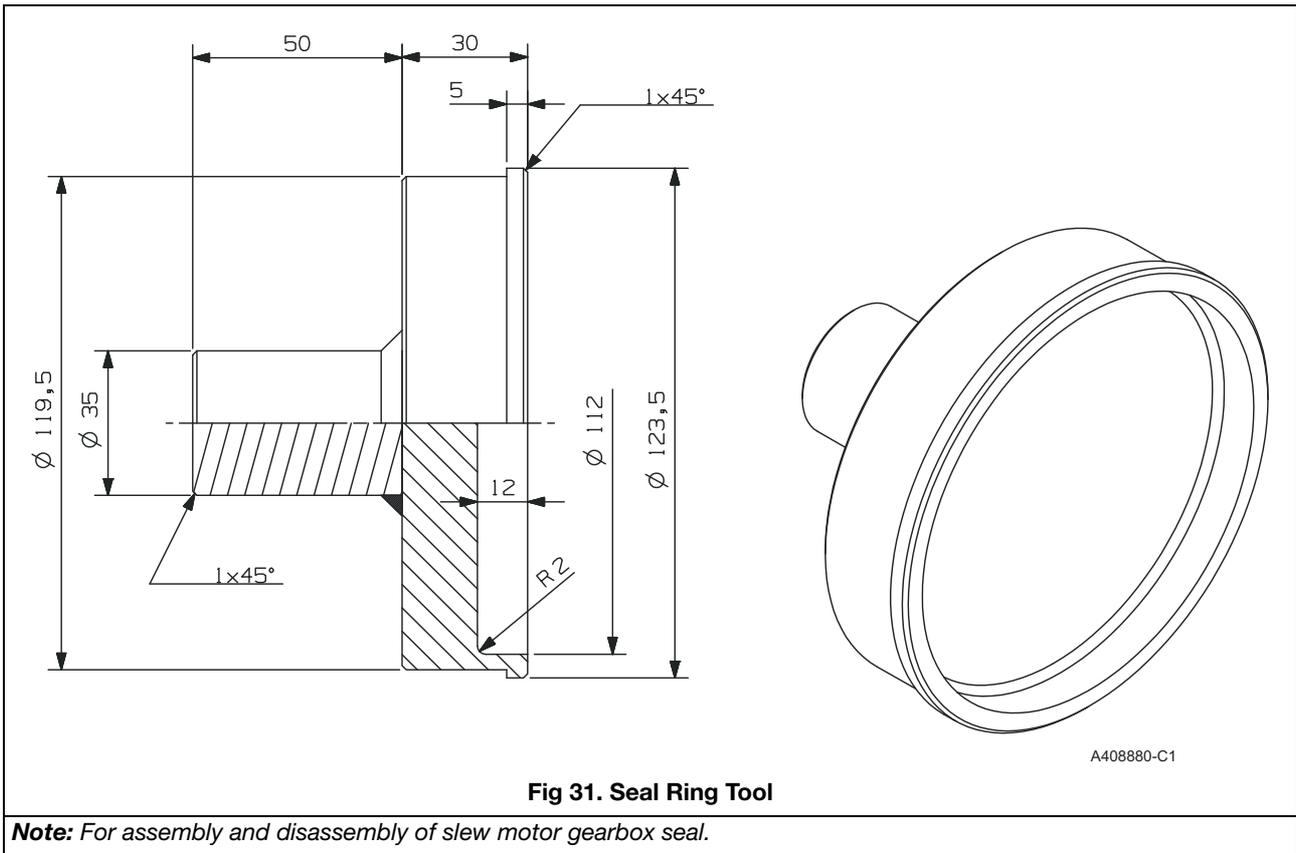
993/99512	Spanner 55 mm A/F
993/99513	Spanner 60 mm A/F
993/99514	Spanner 65 mm A/F
993/99515	Spanner 70 mm A/F
993/99516	Spanner 75 mm A/F
993/99517	Spanner 85 mm A/F
993/99518	Spanner 90 mm A/F
993/99519	Spanner 100 mm A/F
993/99520	Spanner 110 mm A/F
993/99521	Spanner 115 mm A/F
SSP0046	Spanner 80 mm A/F
SSP0047	Spanner 95 mm A/F

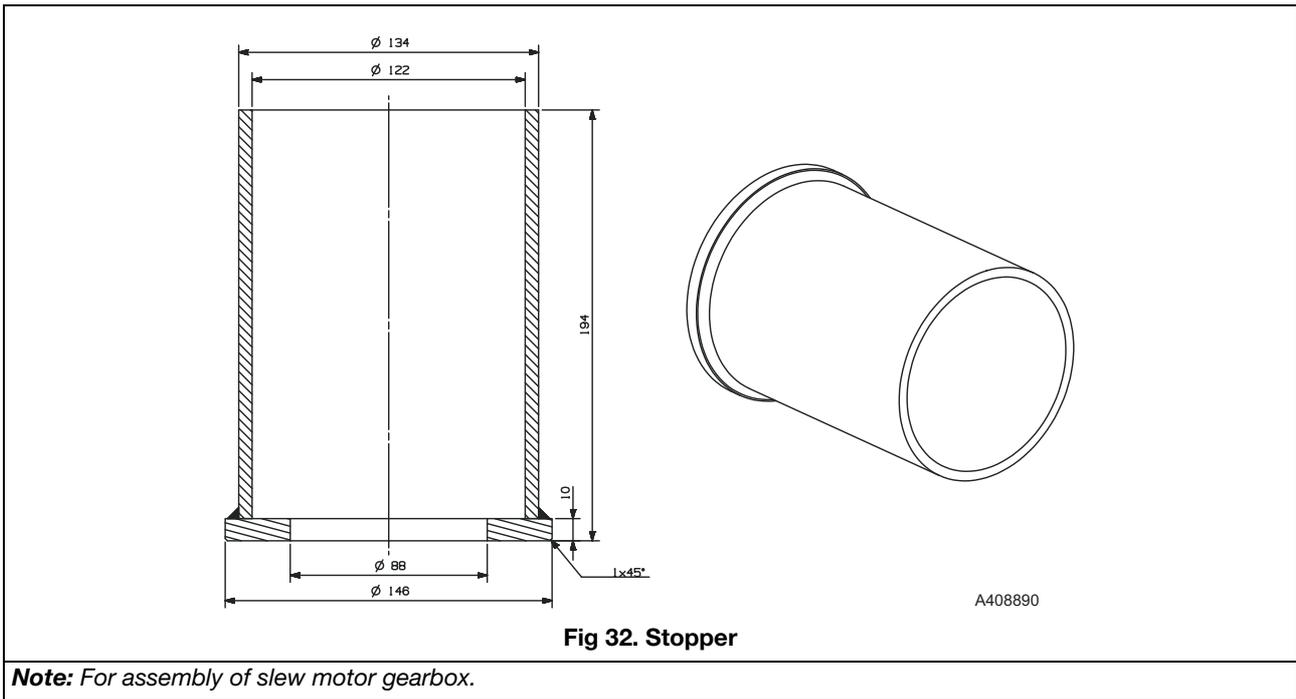


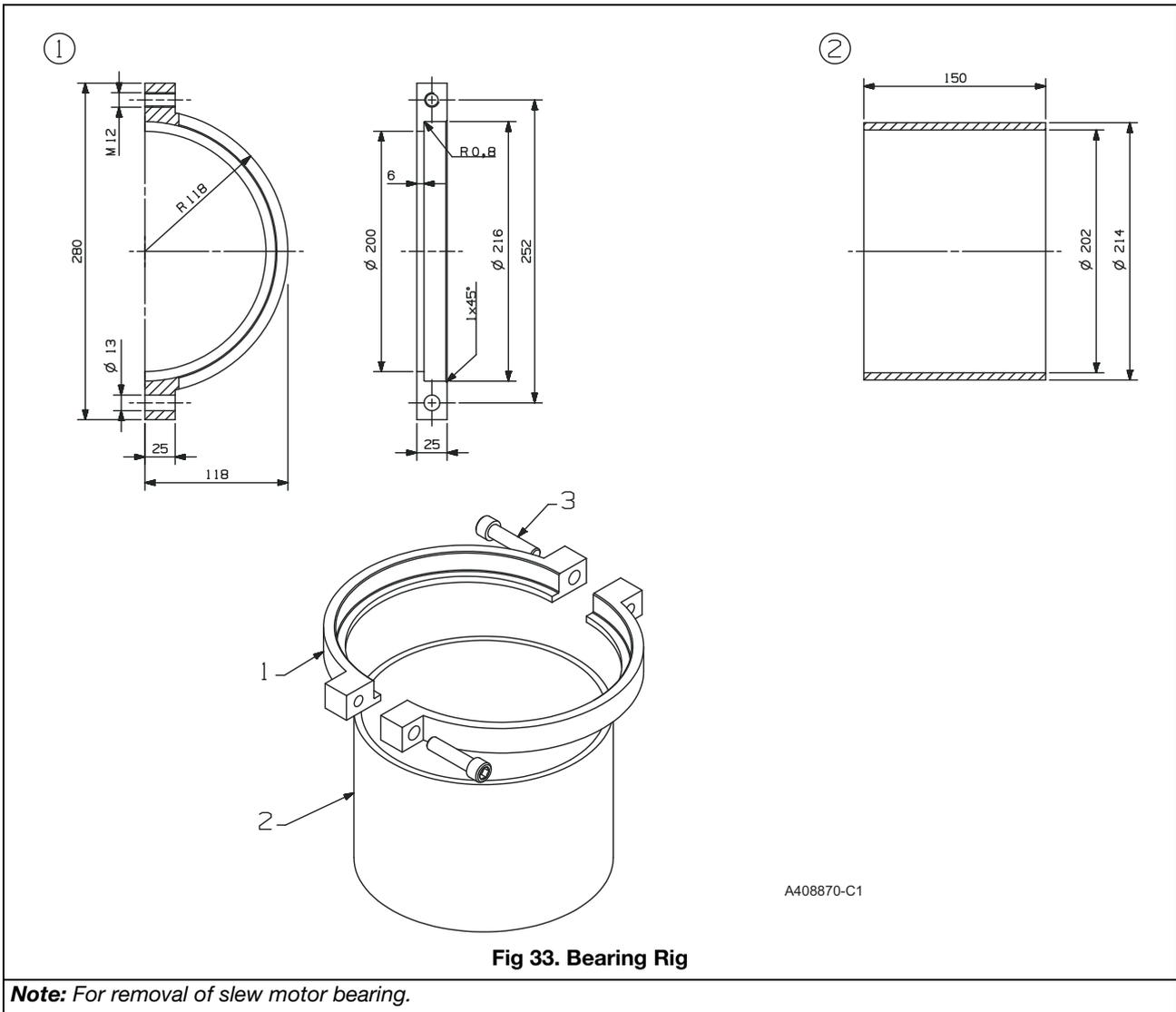
**Fig 29. Socket Box Wrench**

**Note:** For disassembly and assembly of slew motor gearbox.











### Numerical List Section F - Transmission

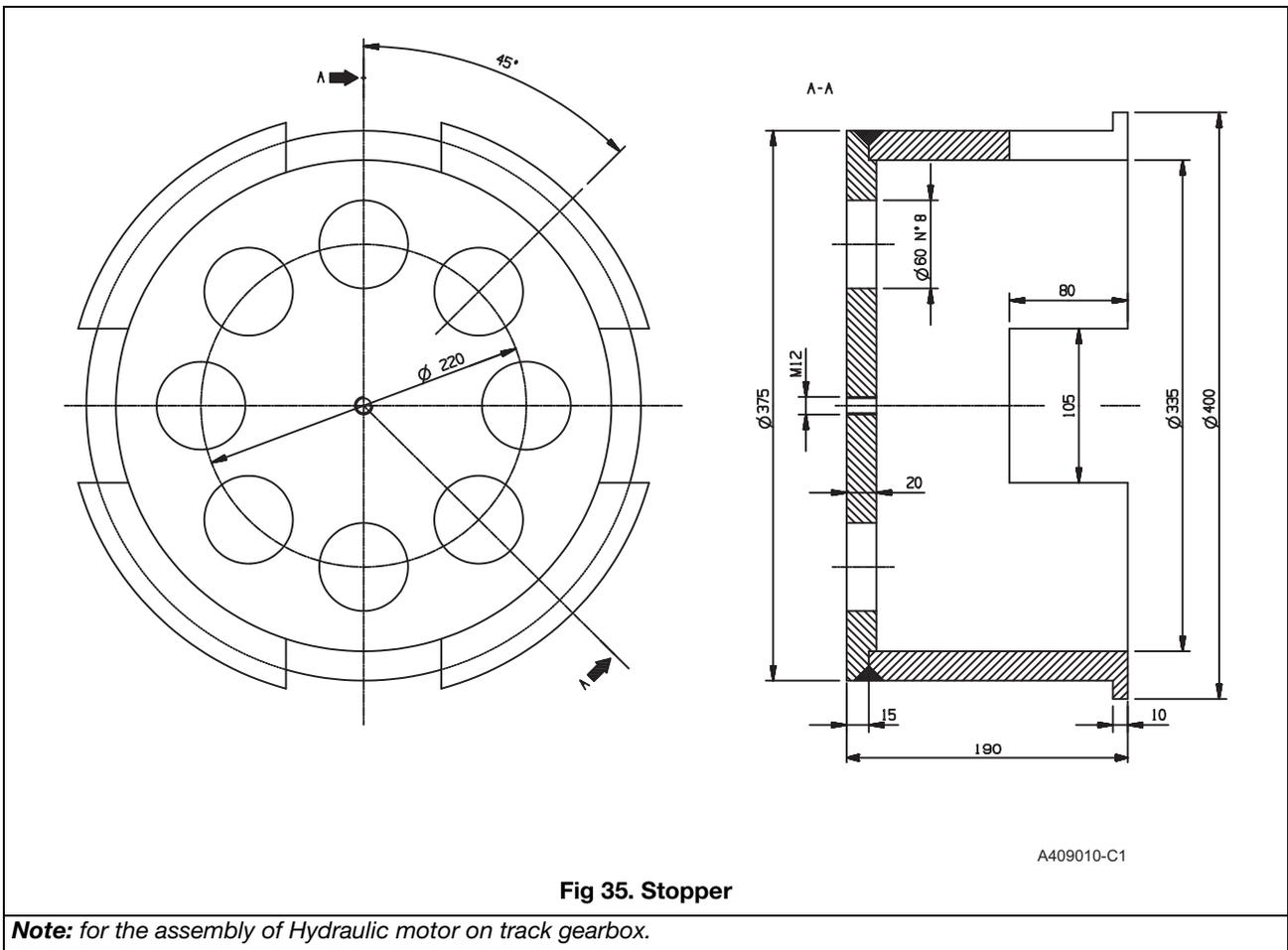
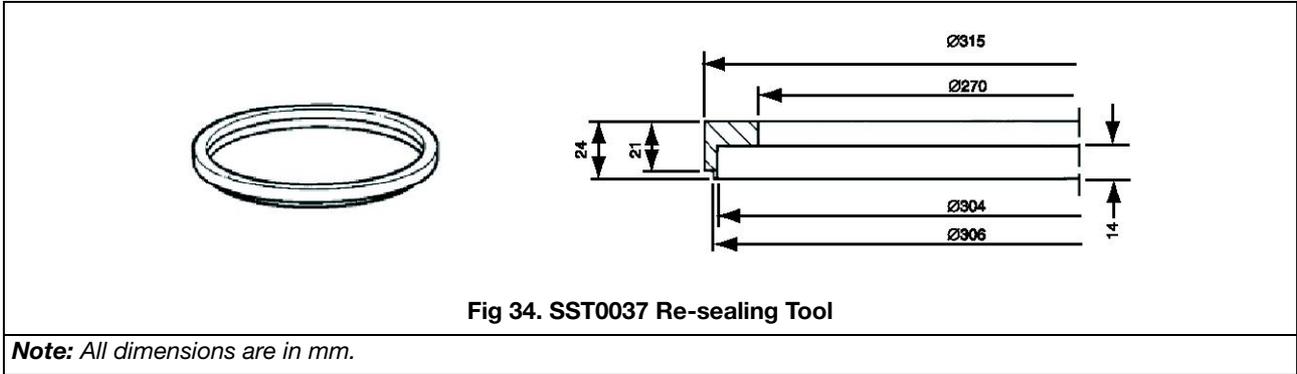
The tools listed in the table are special tools required for testing, removing and replacing hydraulics. These tools are available from JCB Service .

**Note:** Tools other than those listed will be required. It is expected that such general tools will be available in any well equipped workshop or be available locally from any good tool supplier.

Part Number	Description	Tool Detail Reference
SST0037	Re-sealing Tool	<a href="#">Fig 34. (🔗 1-27)</a>
	Stopper	<a href="#">Fig 35. (🔗 1-27)</a>
	Puller	<a href="#">Fig 36. (🔗 1-28)</a>

### Tool Detail Reference Section F - Transmission

**Note:** Not all service tools are illustrated. Illustrations are shown in tool number order.



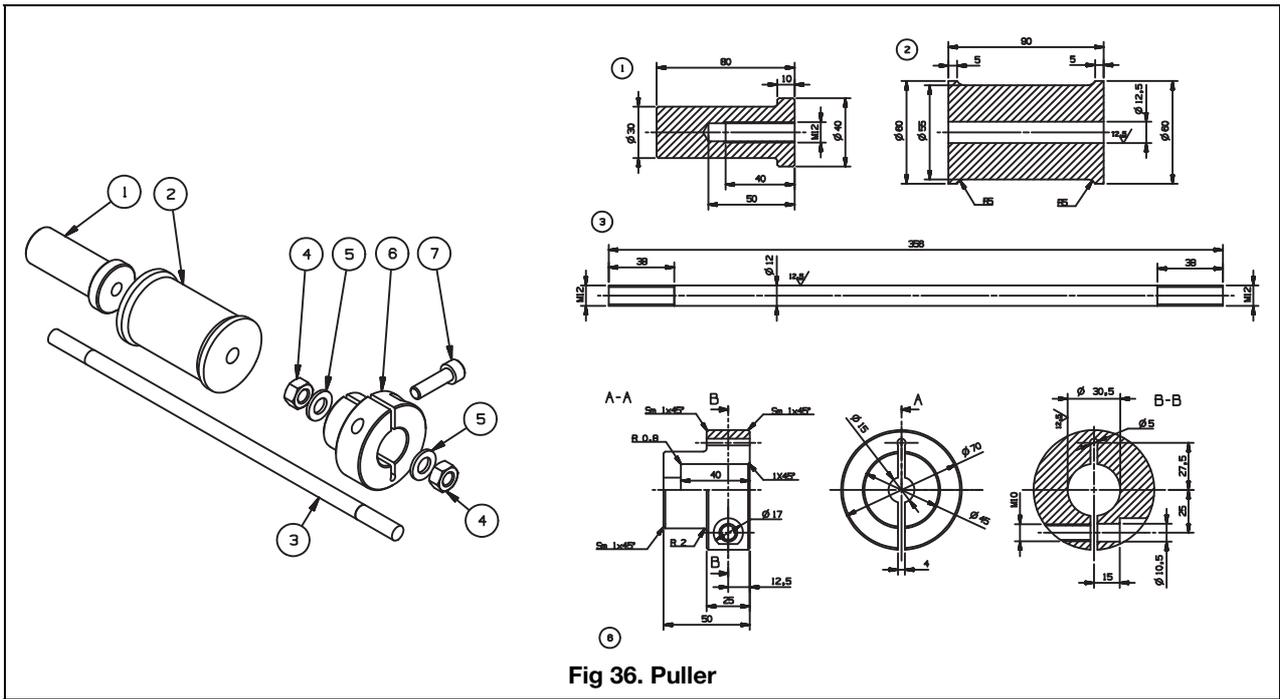


Fig 36. Puller

**Note:** For the removal of Track motor Bushes. (All dimensions in mm).

1	Handle
2	Sliding Hammer
3	Bar
4	Nut M12
5	Washer 13 x 24
6	Bush
7	Bolt M10 x 35