



Service Manual

LOADALL

528-70 & 528S Machines

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Sample of manual. Download All 400 pages at:

<https://www.arepairmanual.com/downloads/jcb-528-70528s-loadalls-telescopic-handler-service-repair-manual/>

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Introduction

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.

READ the section contents to locate machine types, machine type identification **IS NOT** listed on individual pages.

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:

528-70 AWS (All Wheel Steering) machine from machine serial number 796000

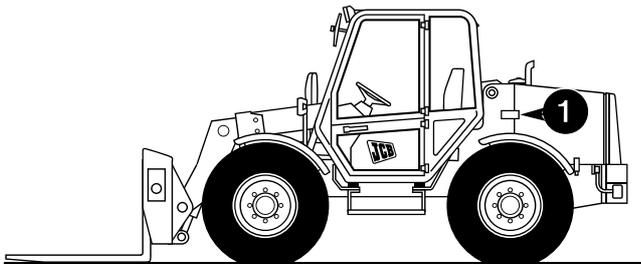
528S (All Wheel Steering) machine from machine serial number 796102

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Machine Identification

Your machine has an identification plate **1** mounted as shown. The serial numbers of the machine and its major units are stamped on the plate.

Explanation of Vehicle Identification Number (VIN)



A314930

SLP 528-67 XE 796000

A B C D E

A	World Manufacturer Identification	SLP = JCB
B	Machine Model	528-70
C	Year of Manufacture:	
	P = 1993 V = 1997 1 = 2001	
	R = 1994 W = 1998 2 = 2002	
	S = 1995 X = 1999 3 = 2003	
	T = 1996 Y = 2000 4 = 2004	
D	Manufacturing Location	E = England
E	Machine Serial Number	796000

Machine Model Explanation

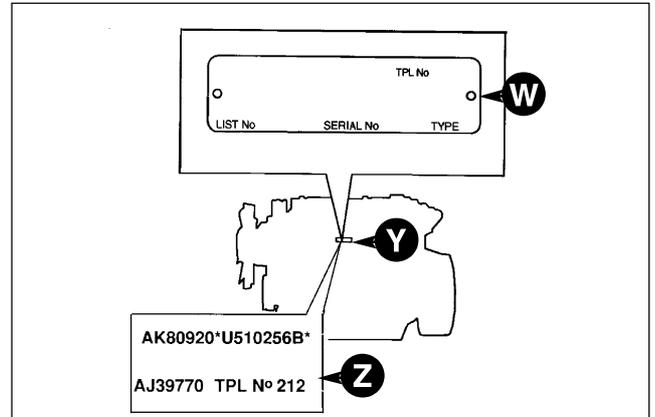
528 - 70
F G H

- F** 500 Series machine range
- G** 2.86 tonnes lift capacity
- H** 6.75 meters lift height

*** Unit Identification**

The engine serial number is stamped on label **W** which is fastened to the right side of the cylinder block at **Y**, near the fuel filter.

Explanation of Engine Identification Number



Typical Engine Identification Number

AA 50261 U 500405 P
A B C D E

A Engine Type:

A series

- AK = 4 cylinder turbo - low emission, stage 1
- AR = 4 cylinder naturally aspirated - low emission, stage 1

R Series

- RE = 4 cylinder naturally aspirated, low emission, stage 2
- RG = 4 cylinder turbo, low emission stage 2

B Build Number

C Country of Manufacture

D Engine Serial Number

E Year of Manufacture

If service information or parts are required, the complete engine number should be quoted.

If there is also a number marked 'TPL No', this should be quoted also.

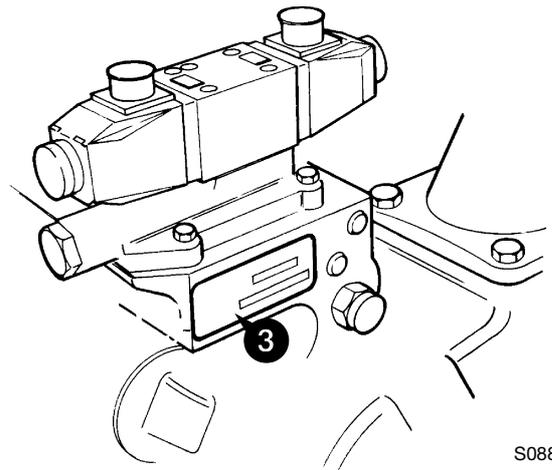
If a short engine has been fitted in service, two engine serial numbers and a TPL No. are stamped on the serial number plate as at **Z**. All the numbers should be quoted when requiring parts or information.

Note: Where the procedures in this service manual differ according to engine types, the text and/or illustrations will specify which engine types apply.

Transmission and axle identification is shown on the next page.

Transmission And Axle Identification

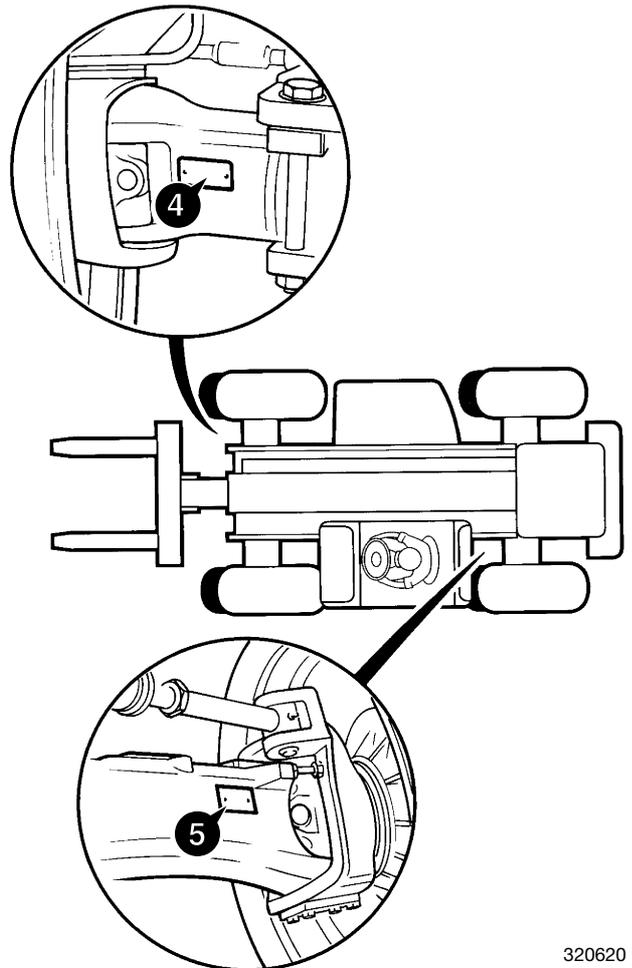
The Syncro Shuttle serial number is stamped on label **3** as shown.



S088470

The front axle serial number is stamped on plate **4** as shown.

The rear axle serial number is stamped on plate **5**.



320620

Torque Settings

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		Hexagon (A/F)	Torque Settings		
in	(mm)	in	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	(19.0)	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	(mm)	Torque Settings (for steel rivet nuts)		
		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

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

Introduction - Zinc Plated Fasteners and Dacromet Fasteners

Later Loadalls 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.

Only use the following when no setting is specified in the text of the manual.

Metric Grade 8.8 Bolts

Bolt size Diameter mm	Hexagon (A/F) mm	Zinc Plated Fasteners Torque Settings			Dacromet Fasteners Torque Settings		
		Nm	kgf m	lbf ft	Nm	kgf m	lbf ft
M6 x 1.0	10	12	1.2	9	9	0.9	7
M8 x 1.25	13	28	3.0	21	22.5	2.3	17
M10 x 1.5	17	56	5.7	42	47.5	4.8	35
M12 x 1.75	19	98	10	72	80	8.2	59
M14 x 2	22				133	13.6	98
M16 x 2	24	244	25	180	200	20.4	148
M18 x 2.5	27	350	36	258	278	28.4	205
M20 x 2.5	30	476	48	352	392	40	289
M24 x 3	36	822	84	607	675	69	498
M30 x 3.5	46	1633	166	1205	1348	138	994

Service Tools

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449/03702	Adaptor (Flow Testing)	6-3	892/00275	Adapter	5-1
449/03705	Adaptor (Flow Testing)	6-3	892/00276	Adapter	5-1
460/15707	Banjo Bolt (Flow Testing)	6-3	892/00277	Adapter	5-1
460/15708	Adaptor (Flow Testing)	6-3	892/00279	Gauge	5-3
816/00189	Blanking Cap	5-2	892/00282	Shunt	4-1
816/00190	Blanking Cap	5-2	892/00283	Tool Kit Case	4-1
816/00193	Blanking Cap	5-2	892/00284	Digital Tachometer	4-1
816/00196	Blanking Cap	5-2	892/00285	Hyd. Oil Temperature Probe	4-1
816/00197	Blanking Cap	5-2	892/00286	Surface Temperature Probe	4-1
816/00294	Blanking Cap	5-2	892/00295	End Float Setting Tool	6-1
816/15118	Pressure Test Adapter	5-3	892/00298	Fluke Meter	4-1
816/20008	Adapter	5-1	892/00301	Flow Test Adapter	6-3
816/55038	Pressure Test Adapter	5-1	892/00302	Flow Test Adapter	6-3
816/55040	Pressure Test Adapter	5-1	892/00333	Heavy Duty Socket	6-2
816/50043	'T' Adapter	5-2	892/00706	Test Probe	5-3
892/00039	Spool Clamp	5-2	892/00817	Heavy Duty Socket	6-2
892/00041	De-glazing Tool	7-1	892/00818	Heavy Duty Socket	6-2
892/00047	'T' Adapter	5-2	892/00819	Heavy Duty Socket	6-2
892/00048	'T' Adapter	5-2	* 892/00836	Liting Wire Assembly	7-2
892/00049	'T' Adapter	5-2	892/00842	Glass Lifter	3-3
892/00051	'T' Adapter	5-2	892/00843	Glass Stand	3-3
892/00055	Blanking Plug	5-2	892/00844	Long Knife	3-4
892/00056	Blanking Plug	5-2	892/00846	Glass Extractor (Handles)	3-4
892/00057	Blanking Plug	5-2	892/00847	Nylon Spatula	3-3
892/00058	Blanking Plug	5-2	892/00848	Wire Starter	3-4
892/00059	Blanking Plug	5-2	892/00849	Braided Cutting Wire	3-4
892/00060	Blanking Plug	5-2	892/00891	Seal Fitting Adapter	6-3
892/00071	Adapter	5-3	892/00893	Torque Converter Alignment Bar	6-2
892/00074	Female Connector	5-2	892/00902	Spanner, Track Rod End	6-3
892/00075	Female Connector	5-2	892/00903	Spanner, Differential	6-3
892/00076	Female Connector	5-2	892/00904	Spanner, Differential	6-3
892/00077	Female Connector	5-2	892/00905	SLI Test Box	4-1
892/00121	Discharge Tester	4-1	892/00906	Seal Fitting Adapter	6-4
892/00137	Micro-Bore Hose	5-3	892/00916	Spring Compression Tool	6-4
892/00179	Bearing Press	6-1	892/00918	Setting Tool Kit	6-5
892/00180	Seal Fitting Tool	7-1	892/00920	Flow Test Adaptor	6-3
892/00181	Plastic Boss	7-1	892/00923	Test Block for A.R.V.	5-3
892/00223	Hand Pump	5-3	* 892/00936	Timing Pin for fuel injection pump	7-2
892/00224	Impulse Extractor	6-2	892/00964	Pressure Test Adaptor (1/8")	6-1
892/00225	Adapter - Impulse Extractor	6-2	892/00965	Pressure Test Adaptor (3/8")	6-1
892/00237	Flow Test Adaptor Kit (complete)	6-3	* 892/01054	Adaptor for compression testing	7-2
892/00253	Pressure Test Kit	5-1	* 892/01111	Rocker Assembly Tool	7-2
892/00255	1/4" BSP Test Point	5-3	* 892/01112	Timing Case Alignment Tool	7-2
892/00256	3/8" BSP Test Point	5-3	* 892/01113	Thermostat Fit & Removal Tool	7-2
892/00257	1/2" BSP Test Point	5-3	* 892/01114	Camshaft Gear Timing Pin	7-2
892/00258	5/8" BSP Test Point	5-3	* 892/01115	Crankshaft Timing Pin	7-2
892/00259	1" BSP Test Point	5-3	921/52600	Spacer Kit	6-5
892/00260	1 1/4" BSP Test Point	5-3	921/52620	Spacer, 13.7 mm (service use only)	6-5
892/00261	5/8" UNF Test Point	5-3	926/15500	Rubber Spacer Blocks	3-3
892/00262	1/4" M BSP 1/4" F BSP	5-1	992/02800	ARV Extractor	5-2
892/00263	5/8" M BSP 5/8" F BSP	5-1	992/04000	Torque Multiplier	6-2
892/00264	3/4" M BSP 3/4" F BSP	5-1	992/04800	Flange Spanner	6-1
892/00265	1" M BSP 1" F BSP	5-1	992/07000	Ram End Cap Peg Spanner	5-3
892/00268	Flow Monitoring Unit	5-1	992/07603	Replacer- Bearing Cup	6-1
892/00269	Sensor Head	5-1	992/07608	Bearing Adapter	6-1
892/00270	Load Valve	5-1	992/07609	Bearing Adapter	6-1
892/00271	Adapter	5-1	992/07610	Bearing Adapter	6-1
892/00272	Adapter	5-1	992/07611	Bearing Adapter	6-1
892/00274	Adapter	5-3	992/07612	Bearing Adapter	6-1
			992/07613	Bearing Adapter	6-1

Service Tools (continued)

Numerical List		Page No	Numerical List		Page No
992/09500	Spanner	5-2			
992/09700	Spanner	5-2	* Hub Service Kit	892/01092	7-6
992/10100	Spool Clamp	5-2			
992/12800	Cut-Out Knife	3-4	998/10623	Puller Beam	
992/12801	'L' Blades	3-4	998/10607	Inner Bearing Plate	
993/70111	Breakback Torque Wrench	6-5	1315/3731Z	Bolt M16x220	
1406/0011	Bonded Washer	5-1	1370/0601Z	Nut M16	
1406/0014	Bonded Washer	5-1	998/10614	Tube	
1406/0018	Bonded Washer	5-1	998/10624	Modified Wheel Stud	
1406/0021	Bonded Washer	5-1	998/10615	Wheel Bearing Carrier Puller	
1406/0029	Bonded Washer	5-1	1370/0701Z	Nut M20	
1604/0003	Adapter	5-3	1420/0012Z	Washer M20	
1604/0004	Adapter	5-3	998/10610	Puller Rod	
1604/0006	Adapter	5-1	1370/0401Z	Nut M12	
1606/0003	Adapter	5-3	1420/0009Z	Washer M12	
1606/0004	Adapter	5-3	998/10608	Bearing Centre Puller	
1606/0007	Adapter	5-3	1315/3414Z	Bolt M10x60	
1606/0008	Adapter	5-3	1370/0301Z	Nut M10	
1606/0009	Adapter	5-3	998/10606	Bearing Fitting Tube	
1606/0012	Adapter	5-3	998/10616	Puller Handle Nut	
1606/0014	Adapter	5-3	1315/3835Z	Bolt M20x300	
1606/0015	Adapter	5-3	445/12303	Washer	
1606/0017	Adapter	5-3	917/02800	Bearing	
1612/0006	Adapter	5-1	892/00891	Seal Dolly	
2401/0222	O-ring	6-3			
2403/0108	O-ring	6-3			
2403/0110	O-ring	6-3			

The following parts are replacement items for kits and would normally be included in the kit numbers above.

Replacement item for kit no. 892/00180

892/00181	Replacement Boss	7-1
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Replacement items for kit no. 892/00253

892/00201	Replacement Gauge	5-1
892/00202	Replacement Gauge	5-1
892/00203	Replacement Gauge	5-1
892/00254	Replacement Hose	5-1

Replacement items for spacer kit no. 921/52600

921/52601	Spacer 12.75 mm	6-5
921/52602	Spacer 12.80 mm	
921/52603	Spacer 12.85 mm	
921/52604	Spacer 12.90 mm	
921/52605	Spacer 12.95 mm	
921/52606	Spacer 13.00 mm	
921/52607	Spacer 13.05 mm	
921/52608	Spacer 13.10 mm	
921/52609	Spacer 13.15 mm	
921/52610	Spacer 13.20 mm	
921/52611	Spacer 13.25 mm	
921/52612	Spacer 13.30 mm	
921/52613	Spacer 13.35 mm	
921/52614	Spacer 13.40 mm	
921/52615	Spacer 13.45 mm	
921/52616	Spacer 13.50 mm	

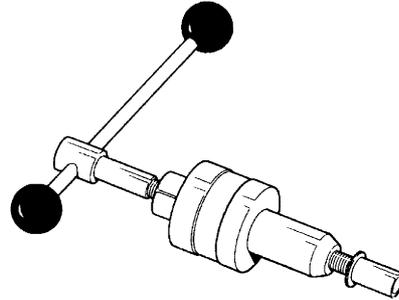
Note: To maintain a complete kit, order a replacement spacer for the one used.

Service Tools (continued)**Section B - Body and Framework**

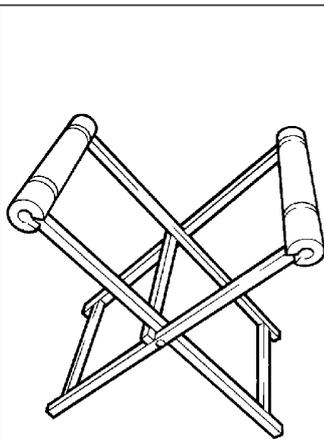
826/01176	M6 x 16mm Rivet Nut
826/01106	M6 x 19mm Rivet Nut
826/01177	M8 x 18mm Rivet Nut
826/01176	M10 x 23mm Rivet Nut
826/01333	M10 x 26mm Rivet Nut

Installation Tool Available from:

Bollhoff Fastenings Ltd.
Midacre
The Willenhall Estate
Rose Hill
Willenhall
West Midlands, WV13 2JW



S150970



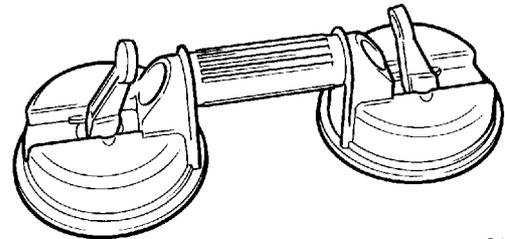
Folding Stand for Holding Glass - essential for preparing new glass prior to installation.

JCB part number - 892/00843

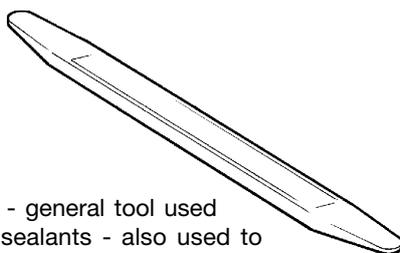
S186280

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

JCB part number - 892/00842



S186300



Nylon Spatula - general tool used for smoothing sealants - also used to re-install glass in rubber glazing because metal tools will chip the glass edge.

JCB part number - 892/00847

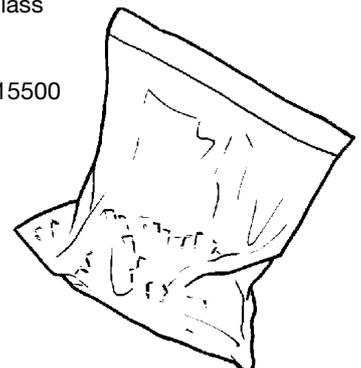
S186470

Rubber Spacer Blocks - used to provide the correct set clearance between glass edge and cab frame.

JCB part number - 926/15500
(unit quantity = 500 off)



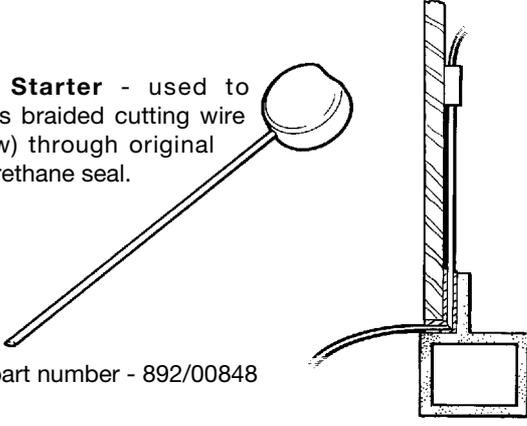
S186550



Service Tools (continued)

Section B - Body & Framework

Wire Starter - used to access braided cutting wire (below) through original polyurethane seal.

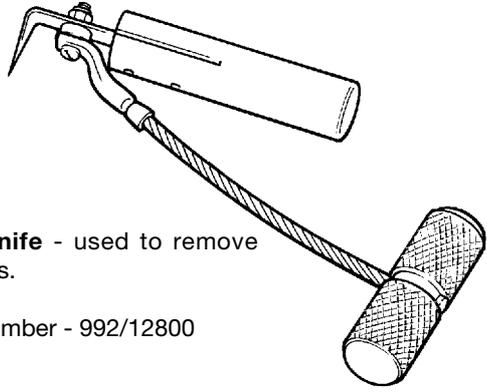


JCB part number - 892/00848

S186310

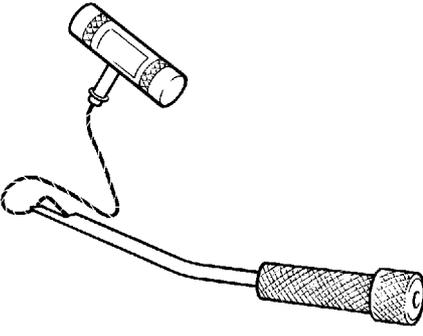
Cut-Out Knife - used to remove broken glass.

JCB part number - 992/12800



S186340

Glass Extractor (Handles) - used with braided cutting wire (below) to cut out broken glass.

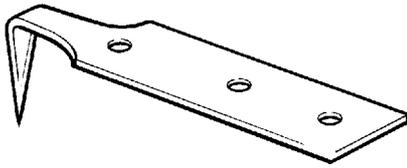


JCB part number - 892/00846

S186320

'L' Blades - 25 mm (1 in) cut - replacement blades for cut-out knife (above).

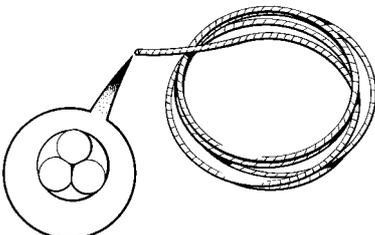
JCB part number - 992/12801 (unit quantity = 5 off)



S186350

Braided Cutting Wire - consumable heavy duty cut-out wire used with the glass extraction tool (above).

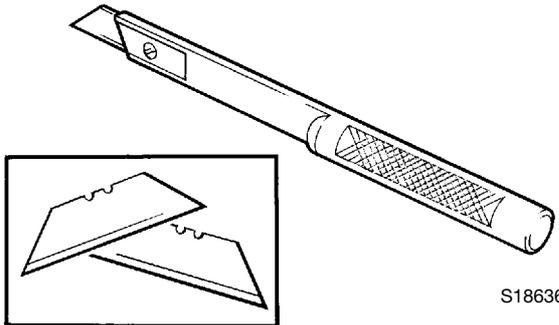
JCB part number - 892/00849
(approx 25 m length)



S186330

Long Knife - used to give extended reach for normally inaccessible areas.

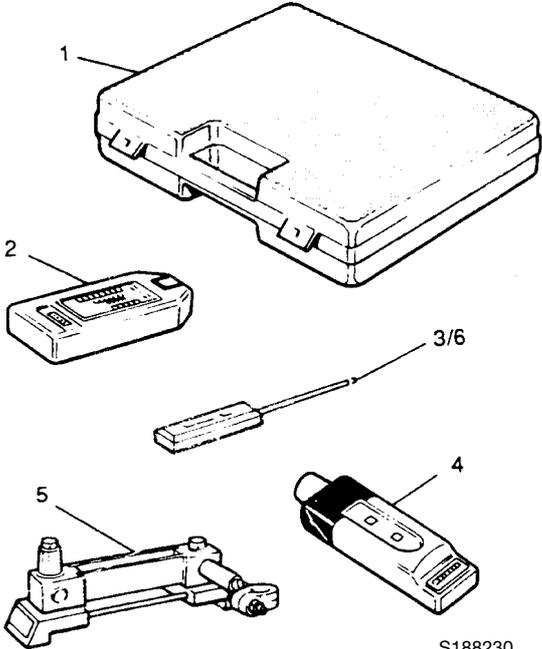
JCB part number - 892/00844



S186360

Service Tools (continued)

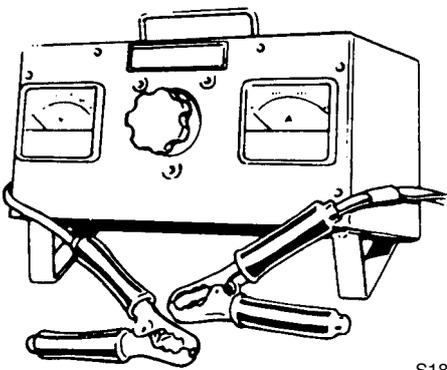
Section C - Electrics



AVO Test Kit

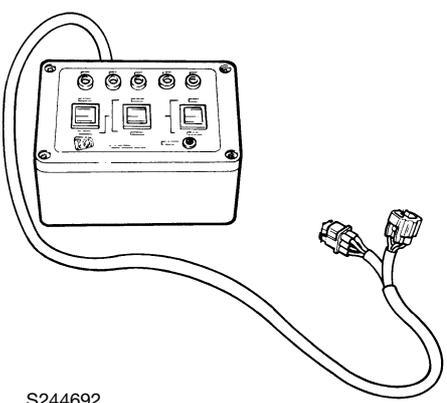
1	892/00283	Tool Kit Case
2	892/00298	Fluke Meter
3	892/00286	Surface Temperature Probe
4	892/00284	Venture Microtach Digital Tachometer
5	892/00282	100 amp Shunt - open type
6	892/00285	Hydraulic Temperature Probe

S188230



892/00121 **High Rate Discharge Tester** (400 amps)
for testing battery condition

S188240



892/00905 **SLI Test Box**

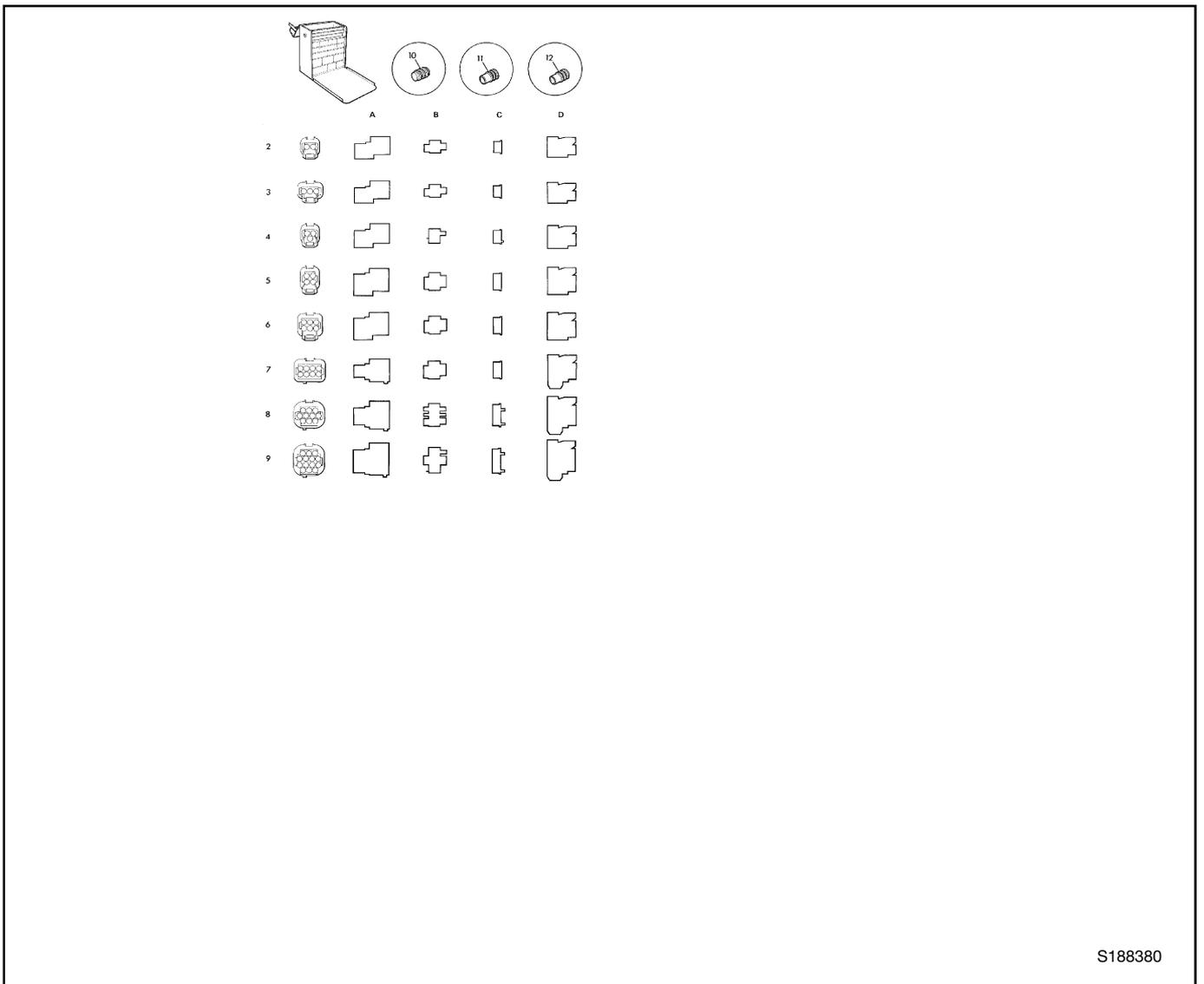
S244692

Service Tools (continued)

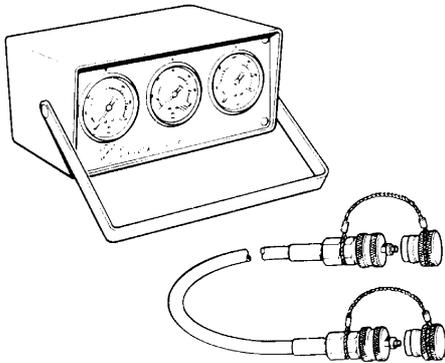
Section C - Electrics

Recommended Electrical Repair Kit

2A :7212/0002	2 Way Pin Housing	6A :7216/0002	6 Way Pin Housing
2B :7212/0004	2 Way Pin Retainer	6B :7216/0004	6 Way Pin Retainer
2C :7212/0003	2 Way Socket Retainer	6C :7216/0003	6 Way Socket Retainer
2D :7212/0001	2 Way Socket Connector	6D :7216/0001	6 Way Socket Connector
3A :7213/0002	3 Way Pin Housing	7A :7218/0002	8 Way Pin Housing
3B :7213/0004	3 Way Pin Retainer	7B :7218/0004	8 Way Pin Retainer
3C :7213/0003	3 Way Socket Retainer	7C :7218/0003	8 Way Socket Retainer
3D :7213/0001	3 Way Socket Connector	7D :7218/0001	8 Way Socket Connector
4A :7213/0006	3 Way Pin Housing (DT)	8A :7219/0002	10 Way Pin Housing
4B :7213/0008	3 Way Pin Retainer (DT)	8B :7219/0004	10 Way Pin Retainer
4C :7213/0007	3 Way Socket Retainer (DT)	8C :7219/0003	10 Way Socket Retainer
4D :7213/0005	3 Way Socket Connector (DT)	8D :7219/0001	10 Way Socket Connector
5A :7214/0002	4 Way Pin Housing	9A :7219/0006	14 Way Pin Housing
5B :7214/0004	4 Way Pin Retainer	9B :7219/0008	14 Way Pin Retainer
5C :7214/0003	4 Way Socket Retainer	9C :7219/0007	14 Way Socket Retainer
5D :7214/0001	4 Way Socket Connector	9D :7219/0005	14 Way Socket Connector
		10 :7210/0001	Dummy Plug
		11 :7210/0002	Wire Seal (1.4 - 2.2 mm dia.)
		12 :7210/0003	Wire Seal (2.2 - 2.9 mm dia.)

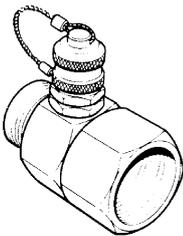


S188380

Service Tools (continued)**Section E - Hydraulics****Hydraulic Circuit Pressure Test Kit**

892/00253	Pressure Gauge Kit
892/00201	Replacement Gauge 0-20 bar (0-300 lbf/in ²)
892/00202	Replacement Gauge 0-40 bar (0-600 lbf/in ²)
892/00203	Replacement Gauge 0-400 bar (0-6000 lbf/in ²)
892/00254	Replacement Hose

S188120



S188130

Bonded Washers

892/00262	1/4 in M BSP x 1/4 in F BSP x Test Point
816/55038	3/8 in M BSP x 3/8 in F BSP x Test Point
816/55040	1/2 in M BSP x 1/2 in F BSP x Test Point
892/00263	5/8 in M BSP x 5/8 in F BSP x Test Point
892/00264	3/4 in M BSP x 3/4 in F BSP x Test Point
892/00265	1 in M BSP x 1 in F BSP x Test Point



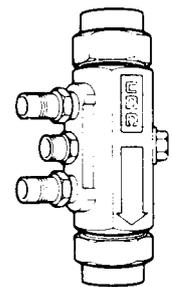
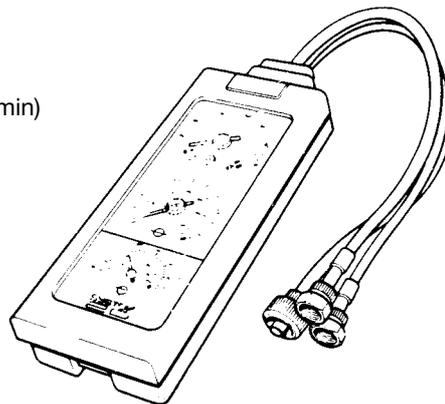
S188140

Pressure Test 'T' Adaptors

1406/0011	1/4 in. BSP
1406/0018	1/2 in. BSP
1406/0014	5/8 in. BSP
1406/0021	3/4 in. BSP
1406/0029	1 1/4 in. BSP

Flow Test Equipment

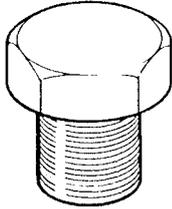
892/00268	Flow Monitoring Unit
892/00269	Sensor Head 0 to 100 l/min (0 to 22 UK gal/min)
892/00270	Load Valve
1406/0021	Bonded Washer
1604/0006	Adapter 3/4 in M x 3/4 M BSP
1612/0006	Adapter 3/4 in F x 3/4 M BSP
892/00271	Adapter 3/4 in F x 5/8 M BSP
892/00272	Adapter 5/8 in F x 3/4 M BSP
816/20008	Adapter 3/4 in F x 1/2 M BSP
892/00275	Adapter 1/2 in F x 3/4 M BSP
892/00276	Adapter 3/4 in F x 3/8 M BSP
892/00277	Adapter 3/4 in F x 3/4 M BSP



S188150

Service Tools (continued)

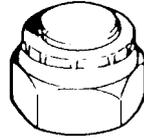
Section E - Hydraulics



S193870

Female Cone Blanking Cap

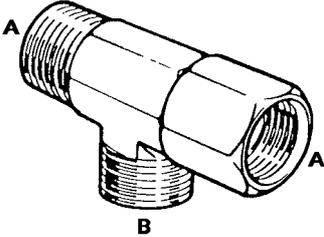
892/00055	1/4 in. BSP
892/00056	3/8 in. BSP
892/00057	1/2 in. BSP
892/00058	5/8 in. BSP
892/00059	3/4 in. BSP
892/00060	1 in. BSP



S193880

Male Cone Blanking Cap

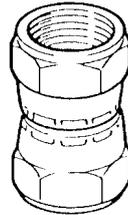
816/00294	1/4 in. BSP
816/00189	3/8 in. BSP
816/00190	1/2 in. BSP
816/00197	5/8 in. BSP
816/00196	3/4 in. BSP
816/00193	1 in. BSP



S193890

T' Adapters

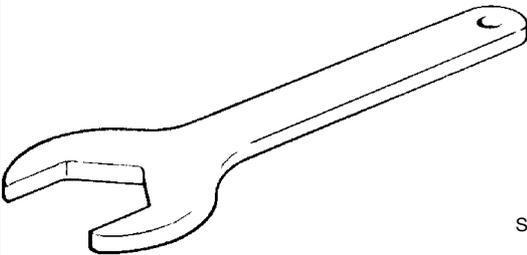
892/00047	3/8 in. BSP (A) x 1/4 in. BSP (B)
892/00048	1/2 in. BSP (A) x 1/4 in. BSP (B)
892/00049	5/8 in. BSP (A) x 1/4 in. BSP (B)
816/50043	3/4 in. BSP (A) x 1/4 in. BSP (B)
892/00051	1 in. BSP (A) x 1/4 in. BSP (B)



S193900

Female Connectors

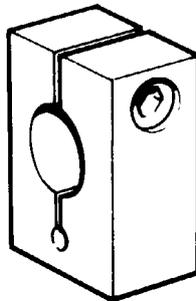
892/00074	3/8 in. BSP x 3/8 in. BSP
892/00075	1/2 in. BSP x 1/2 in. BSP
892/00076	5/8 in. BSP x 5/8 in. BSP
892/00077	3/4 in. BSP x 3/4 in. BSP



S193930

Hexagon Spanners for Ram Pistons and End Caps

992/09500	75mm A/F
992/09700	95mm A/F



S192410

Spool Clamps

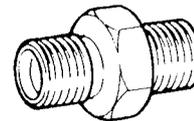
892/00039	Spool Clamp
992/10100	Spool Clamp
992/02800	ARV Extractor

Service Tools (continued)

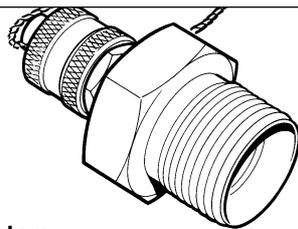
Section E - Hydraulics

Male Adapters - BSP x BSP

- 1606/0003 3/8 in. x 1/4 in.
- 1604/0003 3/8 in. x 3/8 in.
- 892/00071 3/8 in. x 3/8 in. taper
- 1606/0004 1/2 in. x 1/4 in.
- 1606/0007 1/2 in. x 3/8 in.
- 1604/0004 1/2 in. x 1/2 in.
- 1606/0017 5/8 in. x 1/2 in.
- 1606/0008 3/4 in. x 3/8 in.
- 1606/0009 3/4 in. x 1/2 in.
- 1604/0006 3/4 in. x 3/4 in.
- 1606/0012 3/4 in. x 1 in.
- 1606/0014 3/4 in. x 1 1/4 in.
- 1606/0015 1 in. x 1 1/4 in.



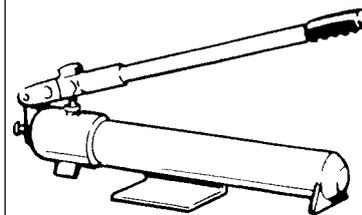
S193860



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

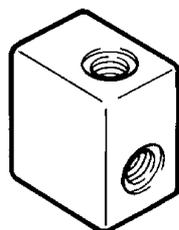
S200141



S193850

Hand Pump Equipment

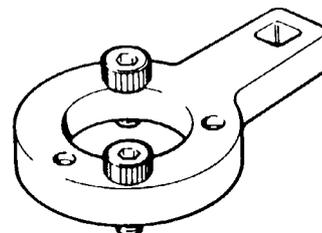
- 892/00223 Hand Pump
- 892/00137 Micro-bore Hose 1/4 in BSP x 5 metres
- 892/00274 Adapter 1/4 in M BSP x 3/8 in M BSP Taper
- 892/00262 1/4 in M BSP x 1/4 in F BSP x Test Point
- 892/00706 Test Probe
- 892/00279 Gauge 0 - 400 bar (0-6000 lbf/in²)



S270650

892/00923

Test Block for A. R. V

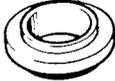


S216060

992/07000 **Ram End Cap Peg Spanner**

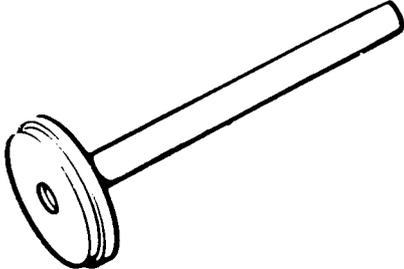
Service Tools (continued)

Section F - Transmission



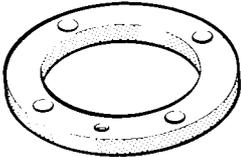
S188160

992/07608 Bearing Adapter
 992/07609 Bearing Adapter
 992/07610 Bearing Adapter
 992/07611 Bearing Adapter
 992/07612 Bearing Adapter
 992/07613 Bearing Adapter



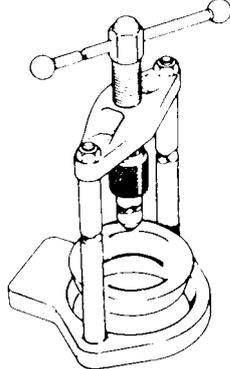
S188170

992/07603 **Replacer- Bearing Cup**



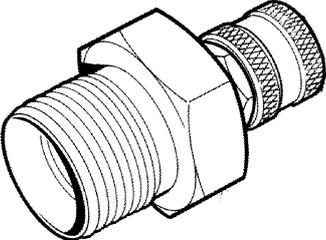
S188190

892/00295 **End Float Setting Tool**



S188200

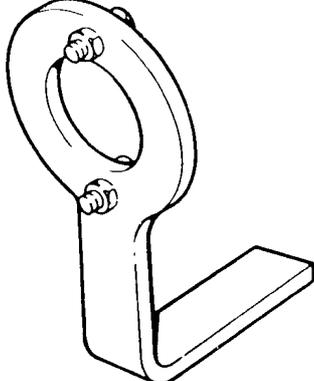
892/00179 **Bearing Press**



Pressure Test Adapters

892/00964 1/8 in BSP x Test Point
 892/00965 3/8 in BSP x Test Point

320380

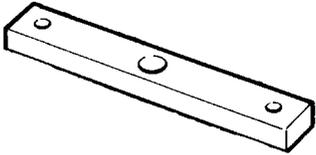


S188220

992/04800 **Flange Spanner**
 For locking pinion flange while nut is slackened or torque set

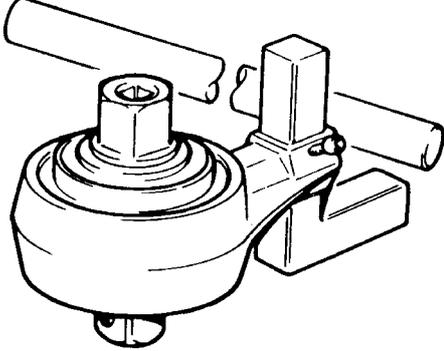
Service Tools (continued)

Section F - Transmission



892/00893
Torque Converter Alignment Bar

S228921



992/04000 **Torque Multiplier**

Use in conjunction with a torque wrench to give a 5:1 multiplication when tightening pinion nuts etc.

S197030



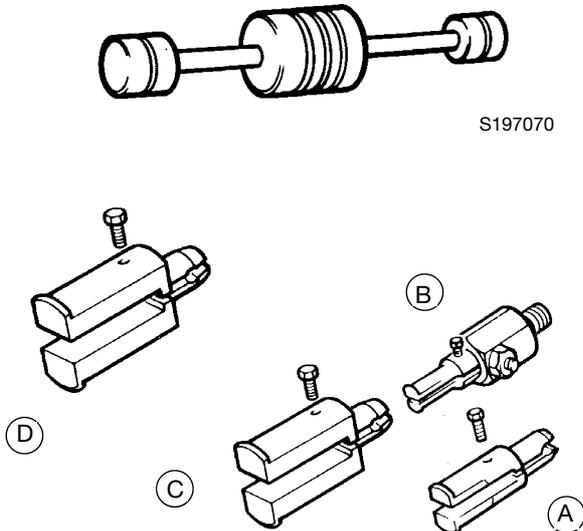
S197250

Heavy Duty Sockets for Durlok bolts

892/00817 17mm A/F x $\frac{3}{4}$ in square drive
 892/00818 22mm A/F x $\frac{3}{4}$ in square drive
 892/00819 15mm A/F x $\frac{1}{2}$ in square drive
 892/00333 19mm A/F x $\frac{3}{4}$ in square drive

892/00224

Impulse Extractor Set for Hub Bearing Seats



S197070

S197080

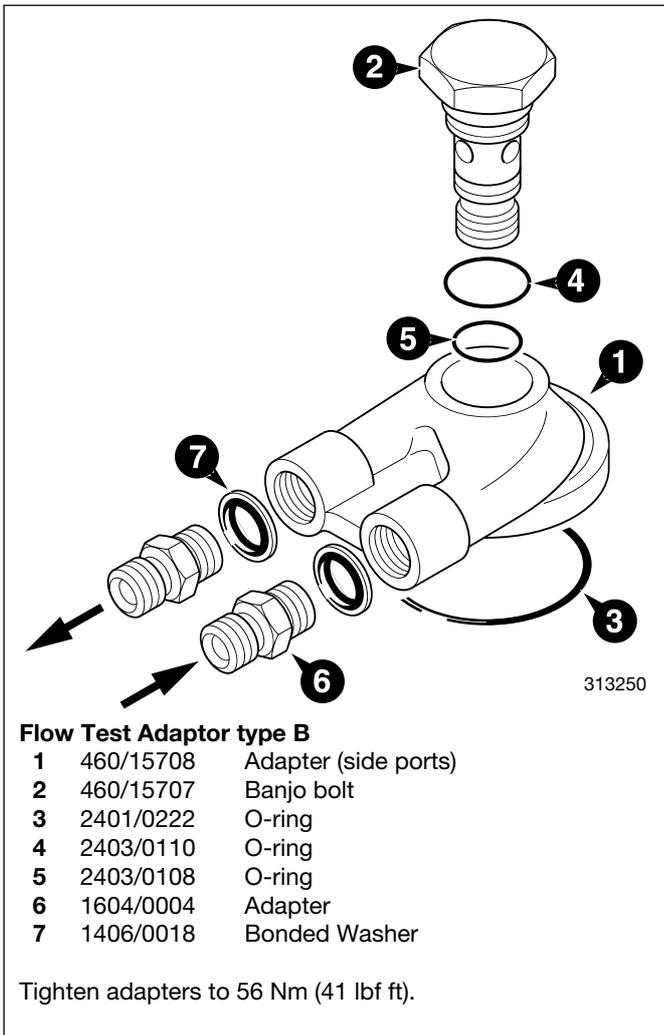
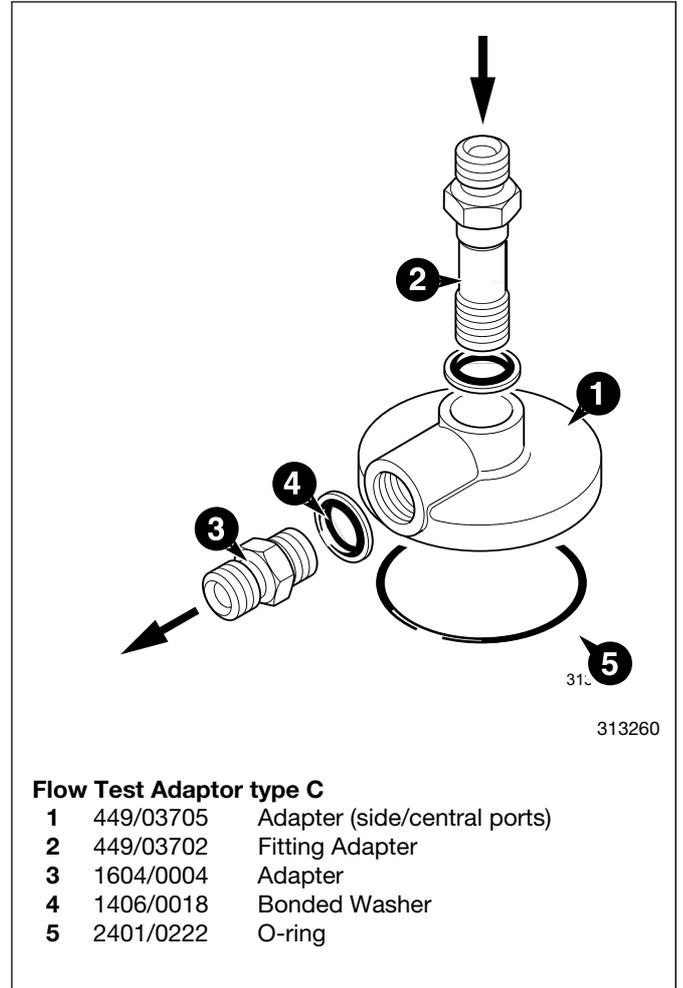
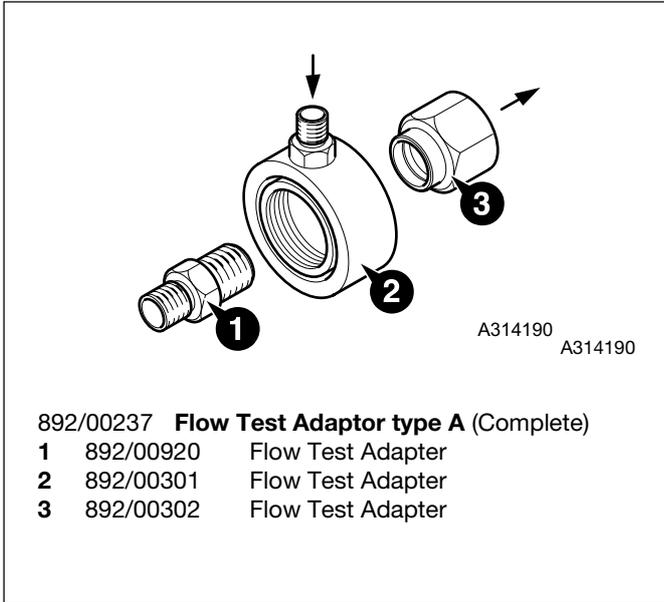
892/00225 Adapter - Impulse Extractor
 A Small 17mm to 25mm
 B Medium 25mm to 45mm
 C Large 45mm to 80mm

993/59500 Adapter - Impulse Extractor
 D (syncro shuttle)

Service Tools (continued)

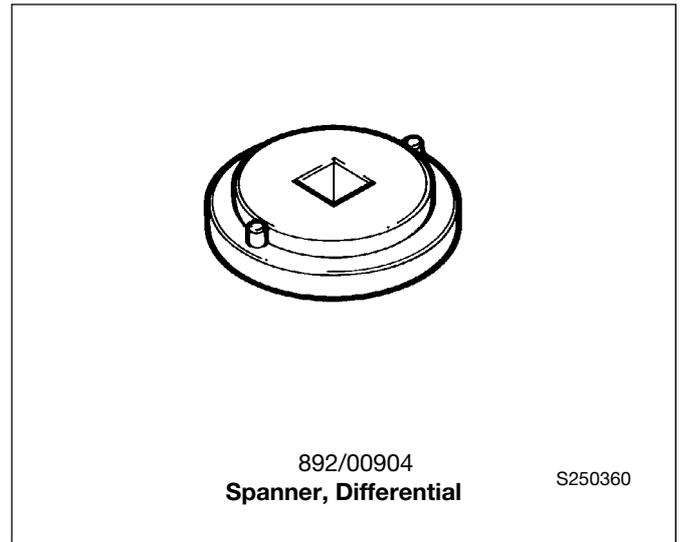
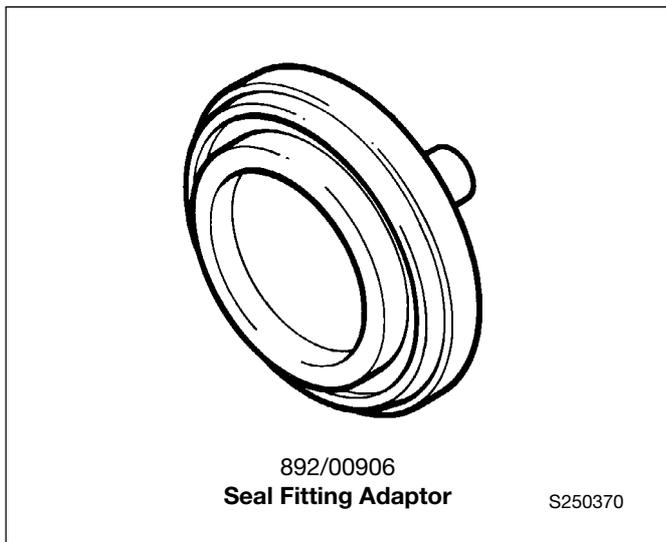
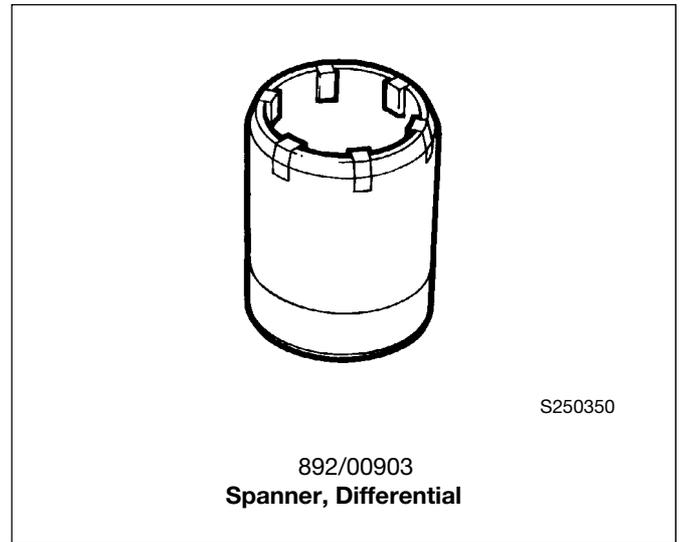
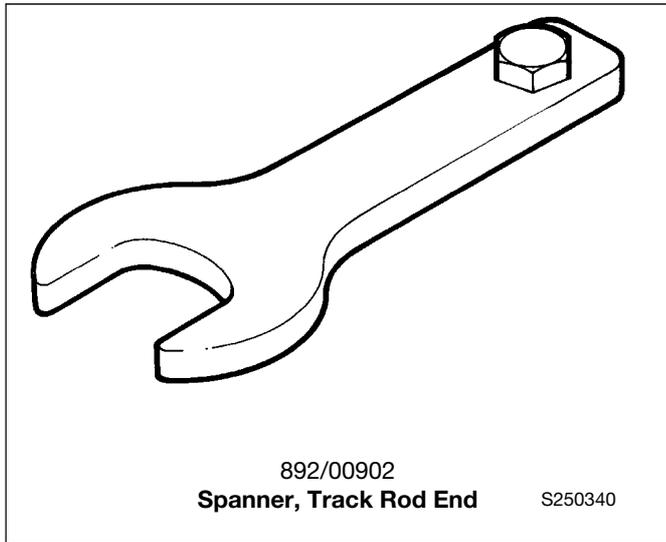
Section F - Transmission

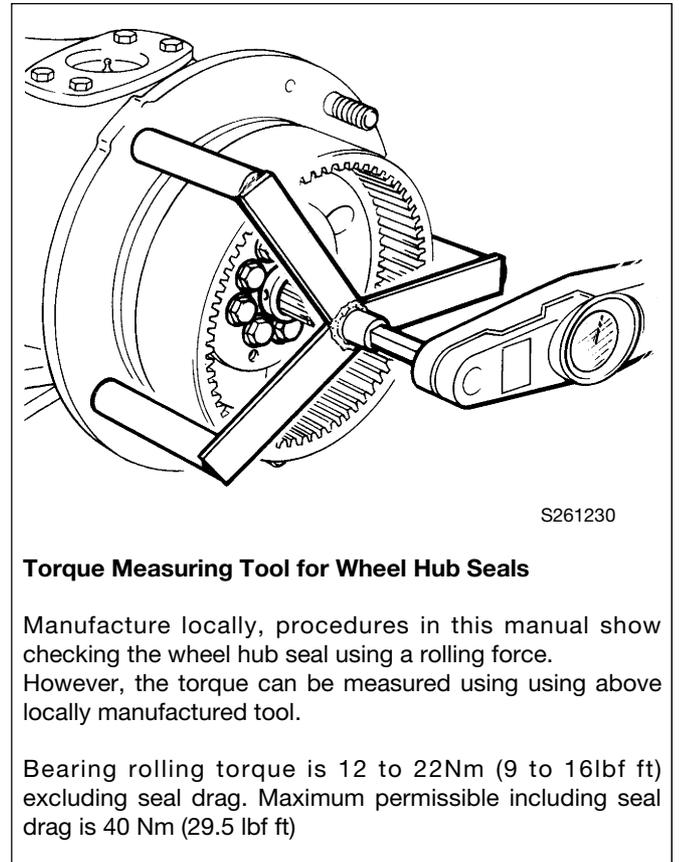
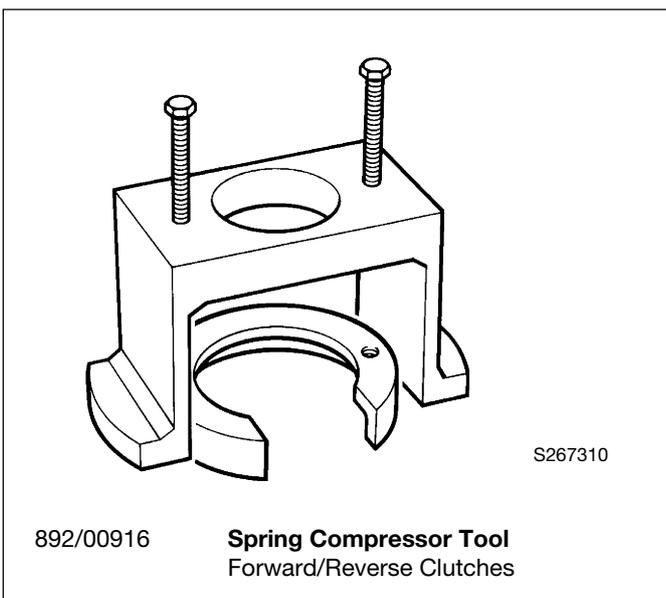
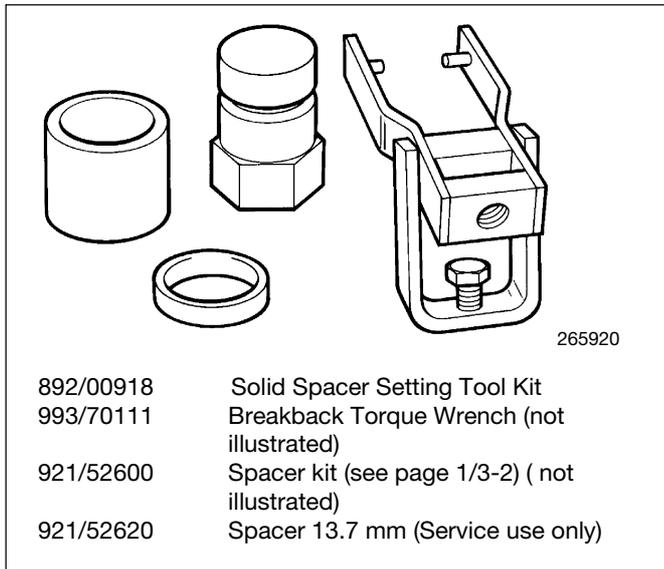
Alternative Pump Flow Test Adapters



Service Tools (continued)

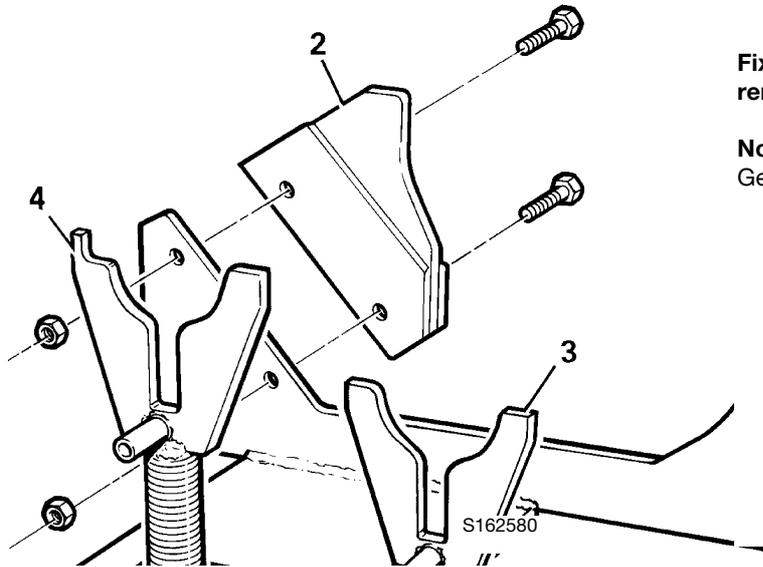
Section F - Transmission



Service Tools (continued)**Section F - Transmission**

Service Tools (continued)

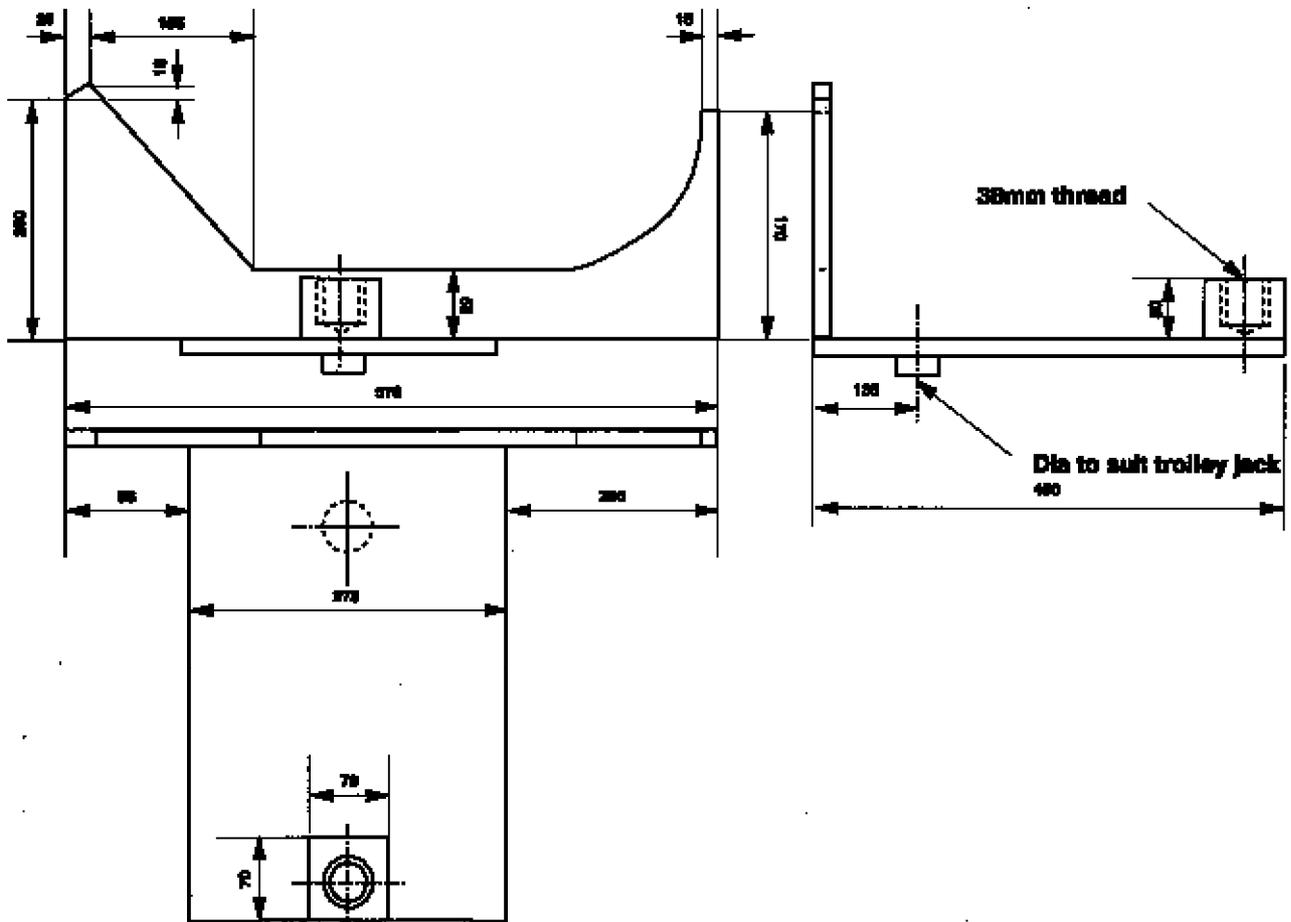
Section F - Transmission



Fixture for Syncro Shuttle & Powershift Gearbox removal & replacement.

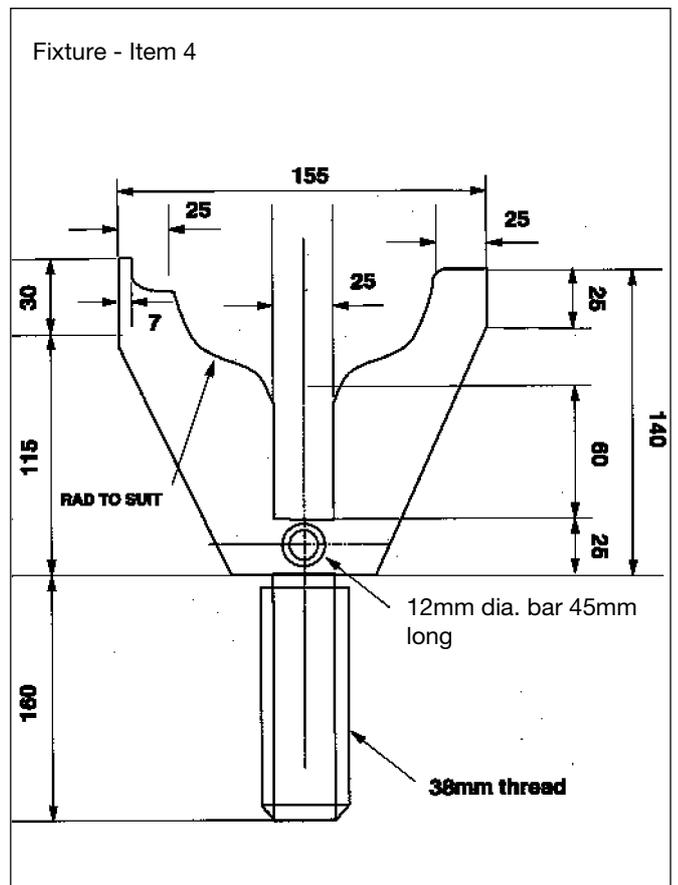
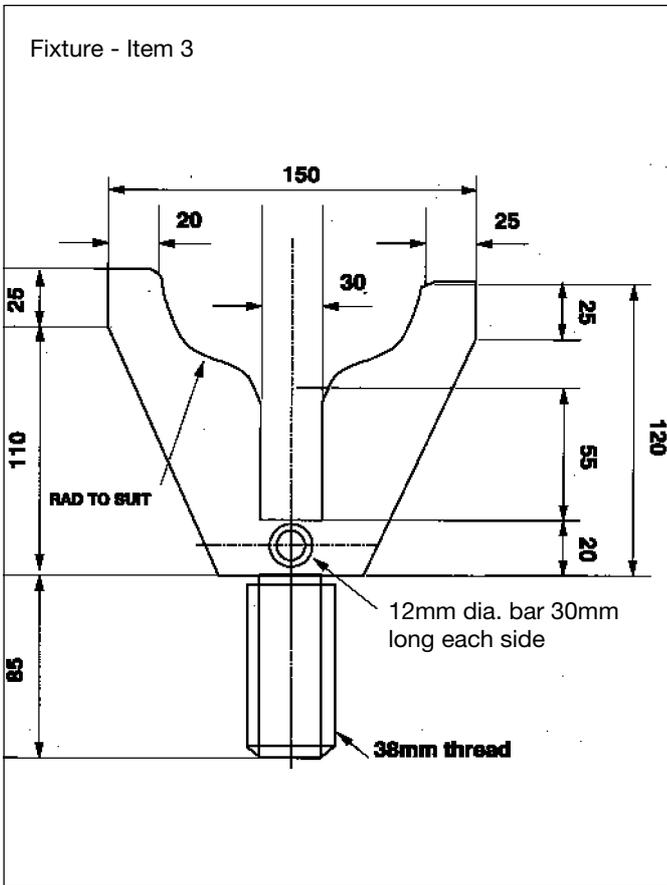
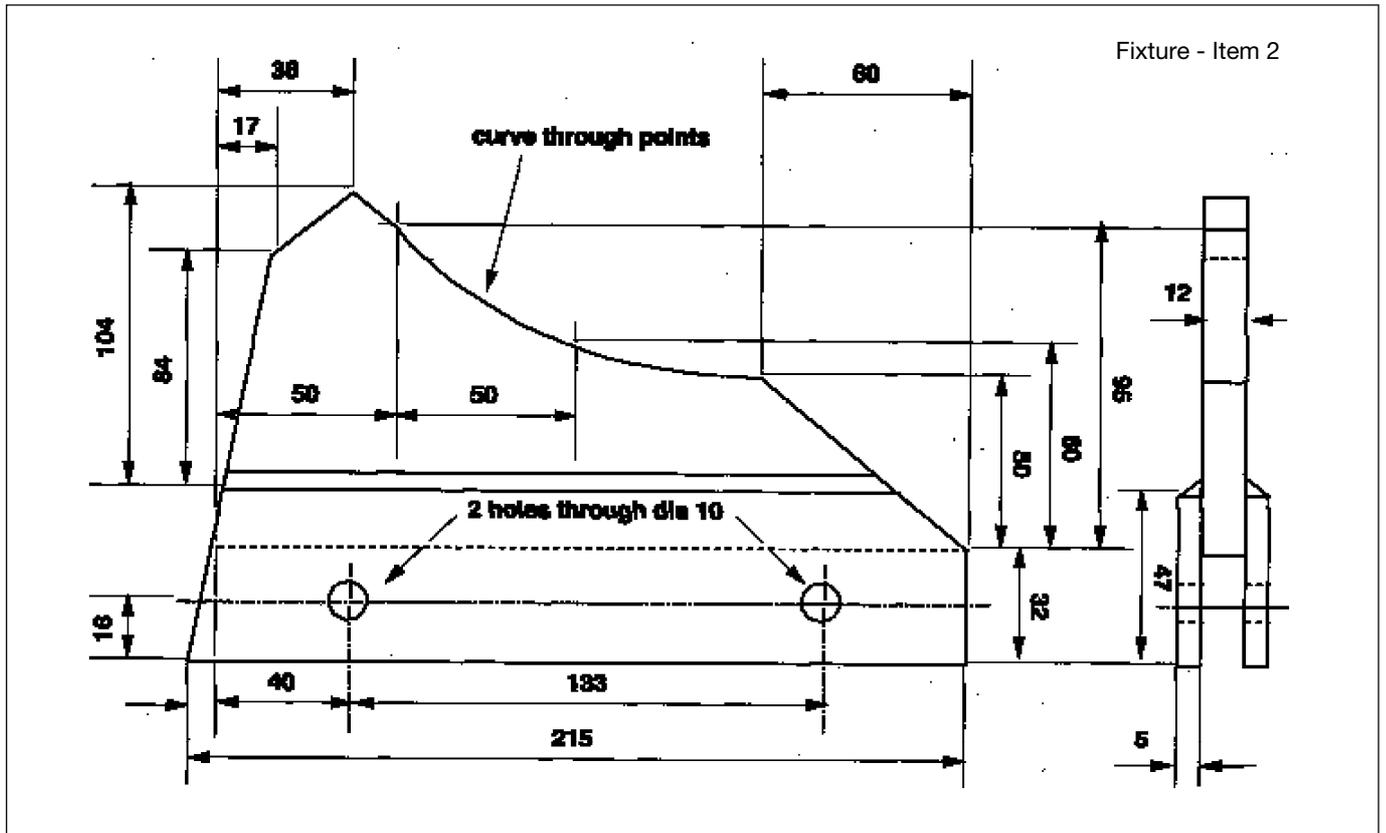
Note: When removing/replacing a Syncro Shuttle Gearbox, use items 1, 2 and 3.

Fixture - Item 1



Service Tools (continued)

Section F - Transmission



Service Tools (cont'd)

Section F - Transmission (cont'd)

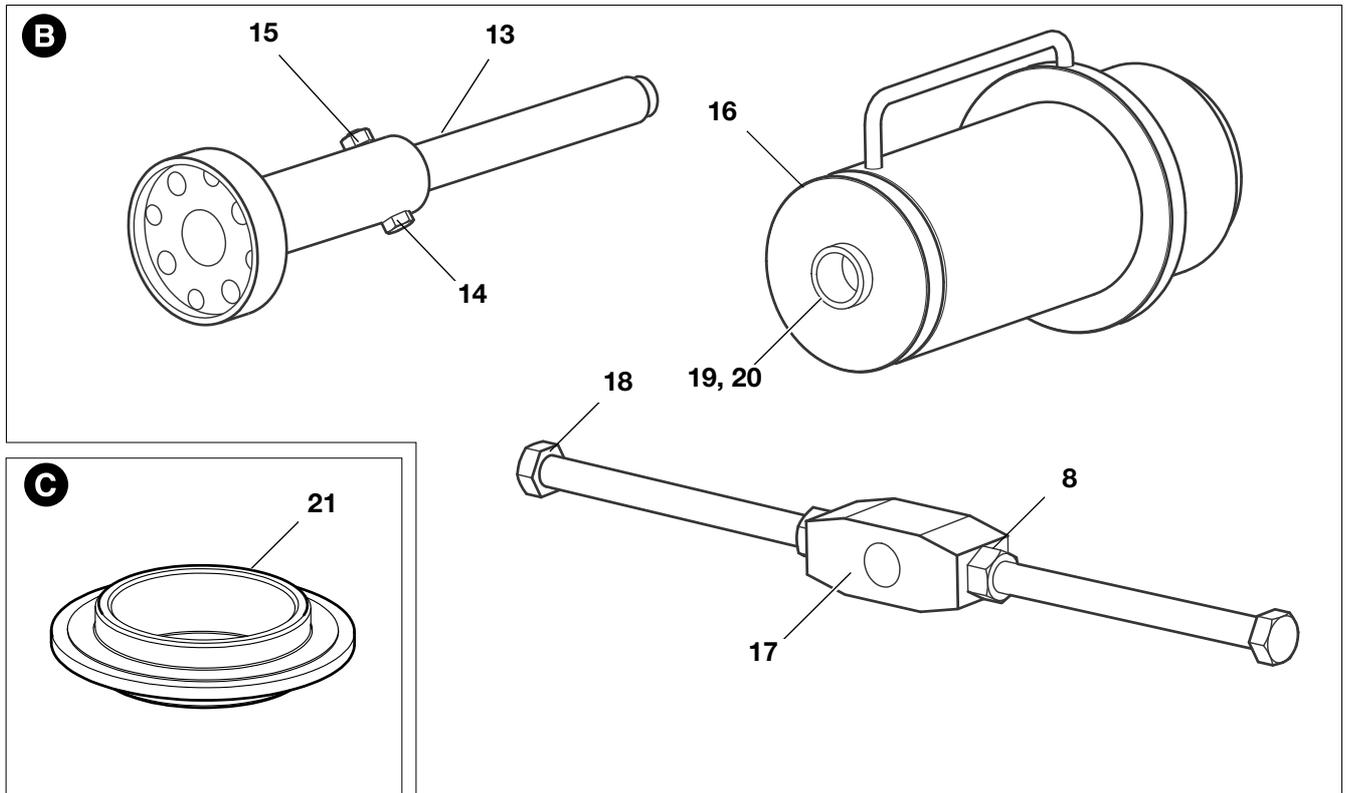
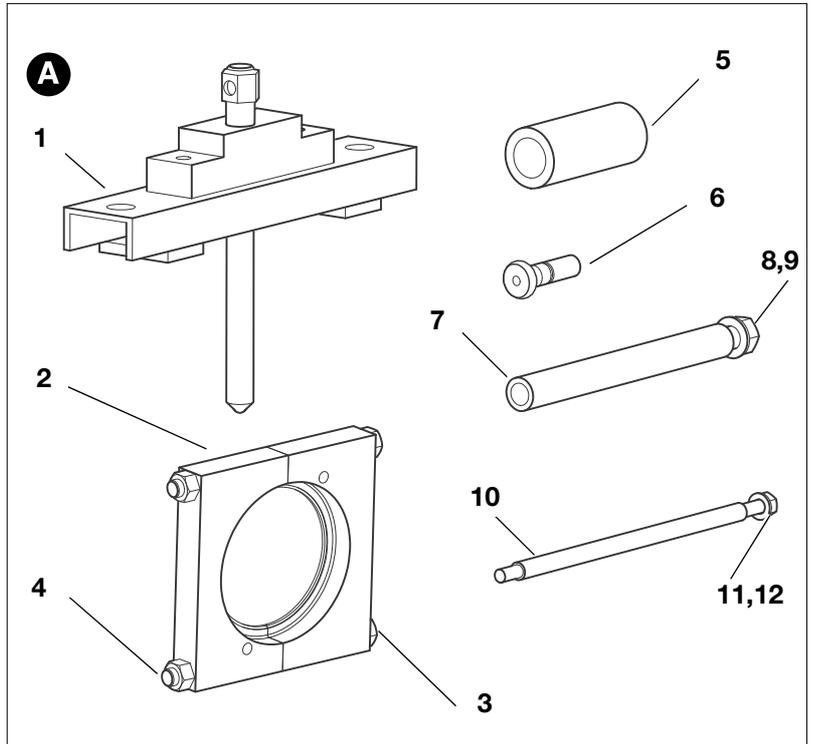
Wheel Hub Service Tool -

- A** Bearing Puller
- B** Bearing Press
- C** Hub Seal Dolly

Item	Description	Part No.	Qty
A, B & C	Hub Service Kit	892/01092	1

comprises of:

1	Puller Beam	998/10623	1
2	Inner Bearing Plate	998/10607	1
3	Bolt M16x220	1315/3731Z	2
4	Nut M16	1370/0601Z	2
5	Reaction Tube	998/10614	1
6	Modified Wheel Stud	998/10624	2
7	Wheel Bearing Carrier Puller	998/10615	2
8	Nut M20	1370/0701Z	4
9	Washer M20	1420/0012Z	2
10	Puller Rod	998/10610	2
11	Nut M12	1370/0401Z	2
12	Washer M12	1420/0009Z	2
13	Bearing Centre Puller	998/10608	1
14	Bolt M10x60	1315/3414Z	1
15	Nut M10	1370/0301Z	1
16	Bearing Fitting Tube	998/10606	1
17	Puller Handle Nut	998/10616	1
18	Bolt M20x300	1315/3835Z	2
19	Washer	445/12303	2
20	Bearing	917/02800	1
21	Seal Dolly	892/00891	1

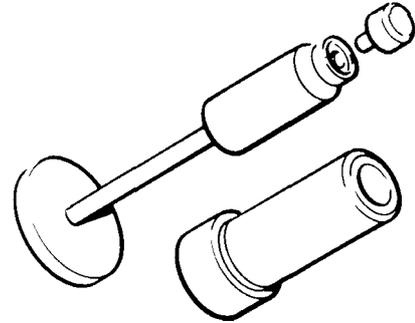


A439160

Service Tools (continued)**Section H - Steering**

892/00180 **Seal Fitting Tool** for fitting 'O' ring and back-up ring to Danfoss Orbitrol Unit

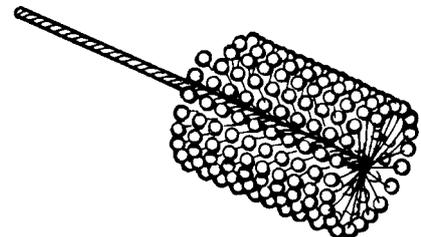
892/00181 Replacement Plastic Boss



S191750

Section K - Engine

892/00041 **De-glazing Tool for Cylinder Bores**
(to assist bedding-in of new piston rings)



S192390

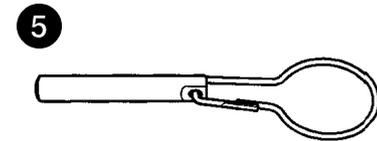
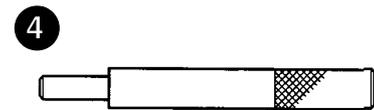
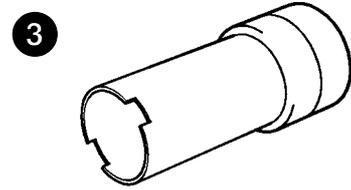
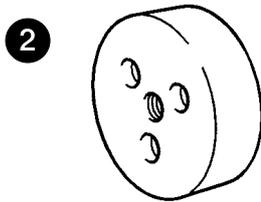
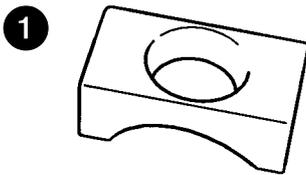
For details of other engine service tools refer to Perkins Service Manual Publication No. 9806/2140

Service Tools (continued)

Section K - Engine

Note: "R" Series Engines Only

- 1 892/01111 Rocker assembly tool
- 2 892/01112 Timing case alignment tool
- 3 980/01113 Thermostat fit & removal tool
- 4 892/01114 Camshaft gear timing pin
- 5 892/01115 Crankshaft timing pin



A314530

892/00936 Timing pin for fuel injection pump (AK, AR)

892/01054 Adaptor for compression testing (AK, AR)

892/00836 Lifting Wire Assembly (for engine removal only)

S219080

Sealing and Retaining Compounds

JCB Multigasket	A medium strength sealant suitable for all sizes of gasket flanges, and for hydraulic fittings of 25-65 mm diameter.	4102/1212	
JCB High Strength Threadlocker	A high strength locking fluid for use with threaded components. Gasketing for all sizes of flange where the strength of the joint is important.	4102/0551	
JCB Retainer (High Strength)	For all retaining parts which are unlikely to be dismantled.	4101/0651	
JCB Threadlocker and Sealer	A high strength locking fluid for sealing and retaining nuts, bolts, and screws up to 50 mm diameter, and for hydraulic fittings up to 25 mm diameter.	4101/0252	
JCB Threadseal	A medium strength thread sealing compound.	4102/1951	
JCB Threadlocker and Sealer (High Strength)	A medium to high strength locking fluid for retention and sealing of ram piston heads.	4101/0552	
JCB Threadlocker	A locking fluid for use on threads larger than 50 mm dia.	4101/0451	
JCB Activator	A cleaning primer which speeds the curing rate of anaerobic products.	4104/0251 4104/0253	Aerosol Bottle
JCB Cleaner/Degreaser	For degreasing components prior to use of anaerobic adhesives and sealants.	4104/1557	Aerosol

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Safety Notices

In this handbook and on the machine there are safety notices. Each notice starts with a signal word. The signal word meanings are given below.

DANGER

Denotes an extreme hazard exists. If proper precautions are not taken it is highly probable that the operator (or others) could be killed or seriously injured.

INT-1-2-1

WARNING

Denotes a hazard exists. If proper precautions are not taken, the operator (or others) could be killed or seriously injured.

INT-1-2-2

CAUTION

Denotes a reminder of safety practices. Failure to follow these safety practices could result in injury to the operator (or others) and possible damage to the machine.

INT-1-2-3

All construction and agricultural equipment can be hazardous. When a JCB machine is correctly operated and properly maintained, it is a safe machine to work with. But when it is carelessly operated or poorly maintained it can become a danger to you (the operator) and others.

Do not work with the machine until you are sure that you can control it.

Do not start any job until you are sure that you and those around you will be safe.

If you are unsure of anything, about the machine or the job, ask someone who knows. Do not assume anything.

Remember

**BE CAREFUL
BE ALERT
BE SAFE**

GEN-1-6

General Safety

WARNING

Decals

You can be injured if you do not obey the decal safety instructions. Keep decals clean. Replace unreadable or missing decals with new ones before operating the machine. Make sure replacement parts include warning decals where necessary.

INT-1-3-4

WARNING

Clothing

You can be injured if you do not wear proper clothing. Loose clothing can get caught in the machinery. Wear protective clothing to suit the job. Examples of protective clothing are: a hard hat, safety shoes, safety glasses, a well-fitting overall, ear-protectors and industrial gloves. Keep cuffs fastened. Do not wear a necktie or scarf. Keep long hair restrained.

INT-1-3-6

WARNING

Care and Alertness

All the time you are working with or on the machine, take care and stay alert. Always be careful. Always be alert for hazards.

INT-1-3-5

WARNING

Raised Boom

A raised boom can fall or be lowered accidentally. Do not walk under a raised boom which is not fitted with a safety strut, or you could be injured.

5-1-1-1

WARNING

Lifting Equipment

You can be injured if you use faulty lifting equipment. Make sure that lifting equipment is in good condition. Make sure that lifting tackle complies with all local regulations and is suitable for the job. Make sure the lifting equipment is strong enough for the job.

INT-1-3-7