Service Manual

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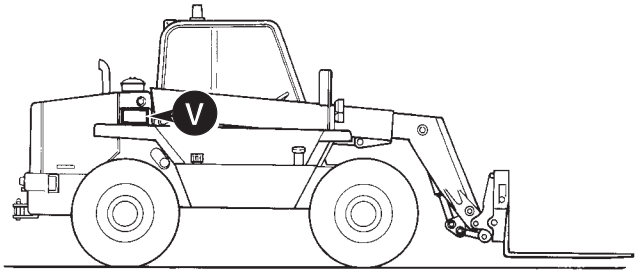
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Identification Plate

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



S195340

Explanation of Vehicle Identification Number (VIN)

SLP504BRE0277001

A B C D E

A	World Manufacturer Identification			SLP = JCB
* **B**	Machine Model			504B
C	Year of Manufacture			S
	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			0277001

Machine Model Explanation

504B
F G

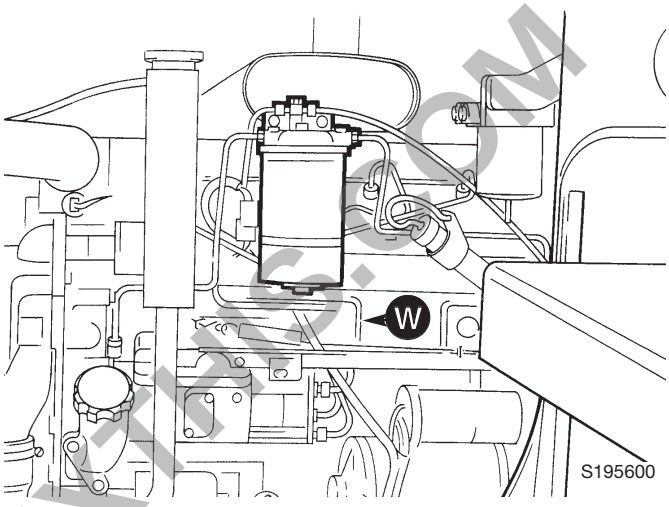
F 500 Series machine range
G 4,000 lbs lift capacity

The serial number of each major unit is also stamped on the unit itself. If a major unit is replaced by a new one, the serial number on the identification plate will be wrong. Either stamp the new number of the unit on the identification plate, or simply stamp out the old number. This will prevent the wrong unit number being quoted when replacement parts are ordered.

The machine and engine serial numbers can help identify exactly the type of equipment you have.

Unit Identification

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



S195600

Typical Engine Identification Number

AA 50261 U 500405 P
A B C D E

A Engine Type
AA = 4 cylinder naturally aspirated
AB = 4 cylinder turbo

B Build Number

C Country of Origin

D Engine Sequence Number

E Year of Manufacture

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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

Metric Grade 8.8 Bolts

Bolt Size		Hexagon (A/F)	Torque Settings		
	(mm)	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
M20	(20)	30	476	48	352
M24	(24)	36	822	84	607
M30	(30)	46	1633	166	1205
M36	(36)	55	2854	291	2105

Rivet Nut Bolts/Screws

Bolt Size		Torque Settings (for steel rivet nuts)		
	(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

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

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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

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504B (Rear Steer) Machines

ITEM	CAPACITY Litres	UK Gal	US Gal	FLUID/LUBRICANT	INTERNATIONAL SPECIFICATION
Fuel Tank Up to serial No. 279000 From serial No. 279001	120 160	26.4 35.2	31.7 42.2	Diesel Oil (See **Types of Fuel**)	ASTM D975-66T Nos. 1D, 2D
Engine (Oil)	10	2.2	2.6	**JCB 15W/40 Engine Oil** 14°F to 122°F (-10°C to 50°C) **JCB 10W Engine Oil** -4°F to 50° F (-20°C to 10°C)	SAE 15W/40 API CF4/SG SAE 10W API CF4/SG
Engine (Coolant) 55% Antifreeze	20 11	4.4 24	5.3 2.9	**Permanent Antifreeze** Starts to freeze -33 °F (-36 °C)	ASTM D3306-74
Syncro Shuttle Transmission	17	3.7	4.5	**JCB Special Transmission Fluid**	ESP-M2C 33G Friction modified oils MUST NOT be used (eg Dexron ATF type).
Front Axle **Housing** **Hubs (x2)**	9.7 0.6	2.1 0.1	2.5 0.16	**JCB Special Gear Oil Plus**	API GL4 MUST be suitable for use with oil immersed brakes and limitedslip differentials (LSD).
Rear Axle **Housing** **Hubs (x2)**	5.0 1.5	1.1 0.3	1.3 0.4		
Hydraulic Tank Up to serial No. 279000 From serial No. 279001	†100 †110	22.0 24.2	26.4 29.0	**JCB Hydraulic Fluid**	ISO VG46
Grease Points				††**JCB HP Grease**	Lithium based No. 2 consistency
Wear Pad Runways				**JCB Waxoyl**	
Boom Hoses				**JCB Special Slide Lubricant**	

† **Note**: This is nominal machine capacity. The total hydraulic system capacity depends on the equipment being used. Fill and check with all rams closed. Watch level sight glass when filling.

†† **Note**: If JCB Special MPL Grease is used, all 50 hour greasing operations must be carried out at TEN (10) HOUR intervals. All 500 hour greasing operations must be carried out at FIFTY (50) HOUR intervals.

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Pre-start Cold Checks Service Points and Fluid Levels	Operation	Daily 10 Hr	Weekly 50 Hr	First 100 Hr	6 Monthly 500 Hr	Yearly 1000 Hr	2 Yearly 2000 Hr
ENGINE							
Engine Air Filter Pre-cleaner	Clean	•	•	•	•	•	•
Oil Level and Condition	Check	•	•	•	•	•	•
Oil and Filter	(1) Change			•	•	•	•
Air Cleaner Dust Valve	Clean			•	•	•	•
Air Cleaner Outer Element	Change				•	•	•
Air Cleaner Inner Element	Change						•
Fuel System For Leaks and Contamination	Check	•	•	•	•	•	•
Fuel Filter	Drain		•	•	•	•	•
Fuel Filter	Change			•	•	•	•
Coolant Level and Antifreeze Strength	Check	•	•	•	•	•	•
Fuel Sedimenter	Drain and clean		•	•	•	•	•
Fan Belt Tension/Condition	Check			•	•	•	•
Valve Clearances (AA - AC codes)	†Check and Adjust						•
Valve Clearances (AJ - AS codes)	†Check and Adjust					•	
Engine Mount Security	Check			•	•	•	•
Rain Cap/Pre-cleaner Installed if fitted	Check			•			
Radiator	Clean				•	•	•
TRANSMISSION AND AXLES							
Transmission Oil Level	Check	•	•	•	•		
Transmission Oil	(2) Change					•	•
Transmission Oil Filter	Change			•	•	•	•
Axle(s) Oil Level	Check		•	•			
Axle(s) Oil	Change				•	•	•
Hub Oil Level	Check		•				
Hub Oil	(3) Change			•	•	•	•
Drive Shafts and Universal Joints	Security/Grease			•	•	•	•
Axle Pivots and Linkages	Grease		•	•	•	•	•
Axle Breather(s)	Check			•	•	•	•
Tyre Pressures/Condition	Check	•	•	•	•	•	•
Hub Wheel Bearings	Check			•	•	•	•
Transmission Strainer	Clean					•	•
Wheel Nut Security	Check	•	•	•	•	•	•
Wheel Alignment	Check	•	•		•	•	•
Trunnion Bearings	†Check/Adjust			•	•	•	•
Steering Stops (if fitted)	Security			•	•	•	•
Transmission Mount Security	Check			•			
Axle Mount Security	Check			•			

(1) In arduous conditions (eg. refuse re-handling, waste paper reclamation etc.) change the oil after every 250 hours or three months (whichever comes first).

(2) After a major transmission repair, the new oil should be run to operating temperature and changed again to remove any contamination which entered during the repair. Change the oil and filter after a further 100 hours if the oil was heavily contaminated because of, or from the failure (eg. water contamination).

(3) After a major transmission repair, the new oil should be run to operating temperature and changed again to remove any contamination which entered during the repair. Change the oil again after a further 100 hours to remove bedding-in wear. This is particularly important if new brake plates have been fitted.

Note: Jobs which should be done by a specialist are shown by †.
First 100 hour service only (and after major re-builds), to be completed by JCB Distributor.

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Operation

To maintain optimum operator comfort in warm climates or during seasons of high ambient temperature, the air conditioning system delivers cool, dehumidified air into the cab. Cooling is provided by passing the warm ambient air, together with recirculated air, over an evaporator coil in the air conditioning unit.

The air conditioning system is a closed circuit through which the refrigerant is circulated, its state changing from gas to liquid and back to gas again, as it is forced through the system.

The major components of the system are the compressor **A**, condenser **B**, receiver drier **C**, expansion valve **D** and evaporator coil **E.**

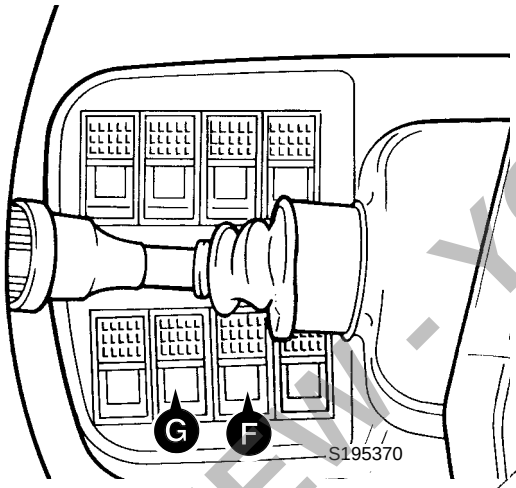
To operate the air conditioning, press switch **F** to switch the system on. Press switch **G** to operate the two-speed heater fan. Rotate **H** to select the desired temperature. Control **J** enables the operator to select either recirculating air or fresh air from outside the machine. A combination of both is also obtainable.

Air conditioning system power is generated from the engine, via an electromagnetic clutch to the compressor. Three switches, connected in series, are included in the clutch supply line, all must be closed for the clutch and therefore the air conditioning system to operate.

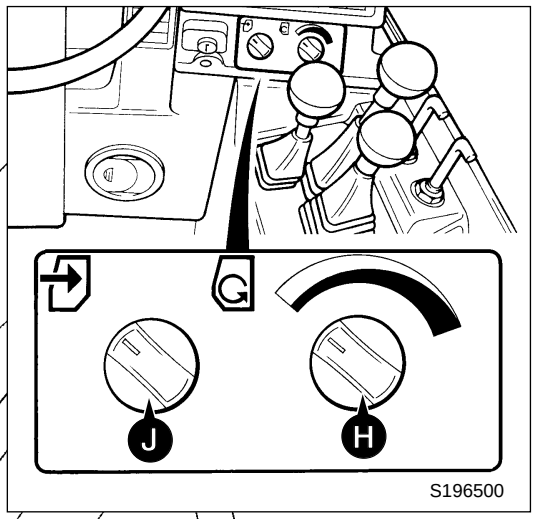
The compressor **A** draws in low pressure refrigerant gas from the suction line (evaporator to compressor) and increases refrigerant pressure through compression. This process also increases the refrigerant temperature.

High pressure refrigerant is forced from the compressor to the condenser **B**, which is mounted at the rear of the engine. Ambient air is drawn across the condenser by the engine-driven cooling fan. In the condenser, the refrigerant changes state to a high pressure, high temperature liquid but with a lower heat content.

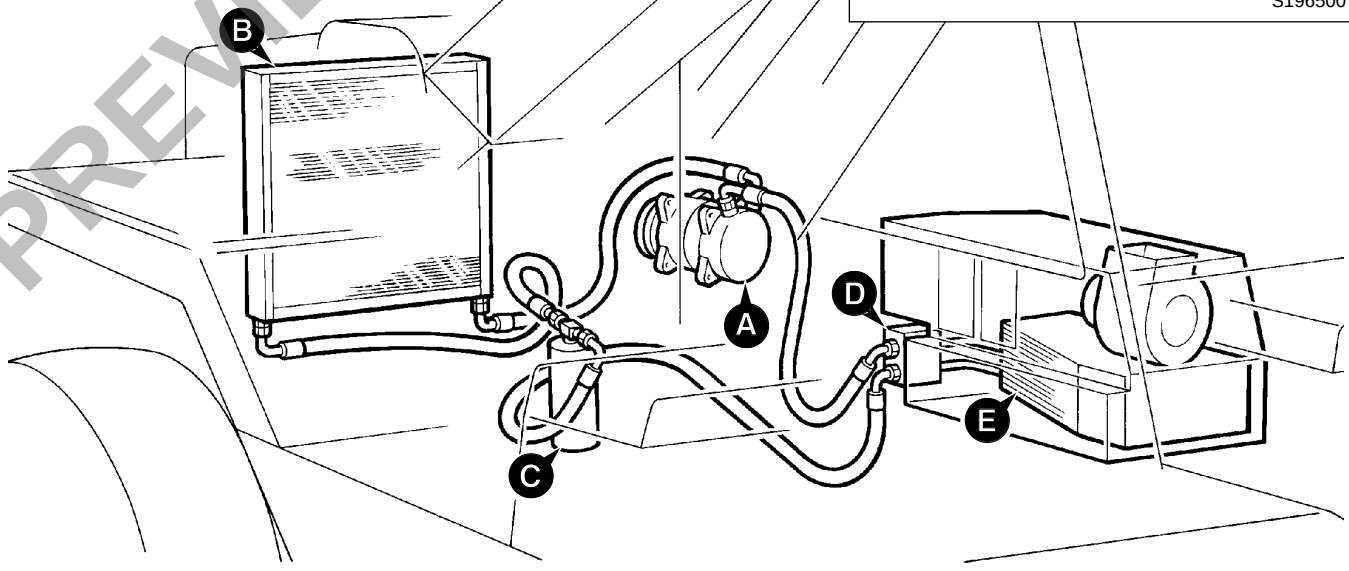
The refrigerant passes through the receiver drier **C,** which contains a desiccant to remove moisture from the system. The receiver drier serves as a reservoir for refrigerant and also includes a filter to remove foreign particles from the system.



S195370



S196500



S250760

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Fault Finding

It is recommended that, to locate faults on the system accurately and quickly, an electronic leak detector and a refrigerant pressure gauge should be used. However, leaks can be detected on the system by using soapy water applied to the suspected leak area and system pressure can be assessed by the state of refrigerant passing through the receiver drier sight glass. Following sections of the manual deal with the major components of the air conditioning system and give further fault finding and maintenance information.

General Fault Indications

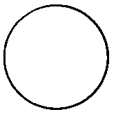
There are several indications that may help to determine the fault area on a system not working efficiently:

a)	Poor performance	Low system pressure -	Discharge and recharge system.
		Condenser coil air flow restricted -	Remove debris from around coil using compressed air.
		Air filter blocked	Clean with detergent and water.
		Compressor drive belt too slack	Adjust to correct tension.
b)	Warm or slightly cool air emitted from unit	Expansion valve stuck open or closed -	Renew expansion valve.
c)	Blower operates on fan speed 2 only	Blower resistor failed -	Renew resistor.
	Blower does not operate	Blower motor failed -	Renew complete blower unit
		Fuse A4 blown	Replace fuse and retest.
d)	Compressor clutch continually cuts out	Condenser coil blockage -	Remove debris from around coil/renew condenser.
		Overcharging of refrigerant system-	Discharge and recharge system.
		Blocked expansion valve/condenser -	Clear blocked component.

Sight Glass Indications

* **Note:** Later machines are fitted with an access cover. Remove the cover to gain access to the receiver/drier sight glass **A**.

An approximate indication of the condition of the refrigerant can be seen through the receiver/drier sight glass **A** when the compressor is running. Sight glass indications cannot always give a positive identification of a problem. Further diagnosis, preferably by a refrigeration engineer or suitably trained person using pressure gauges, is advisable before reaching a definite conclusion. *Refer also to **Refrigerant Charging & Discharging**, this section.*


S201520A

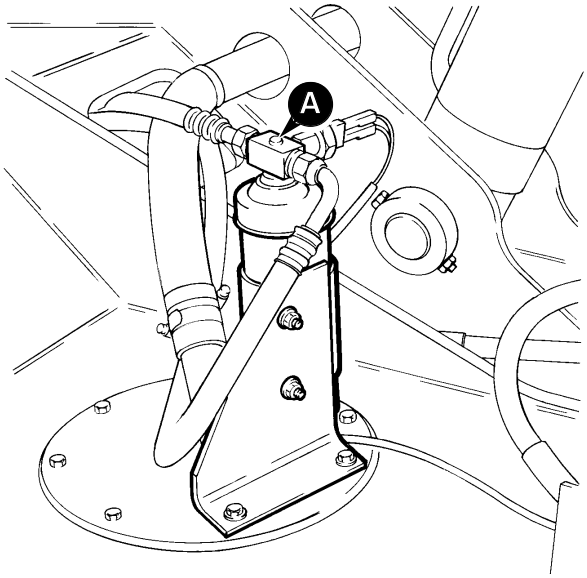
Clear - No fault indicated unless the system is unable to provide cool air. The indication then is that the system is completely discharged of refrigerant.


S201520B

Foam or bubbles - Refrigerant low and in need of charging.


S201520C

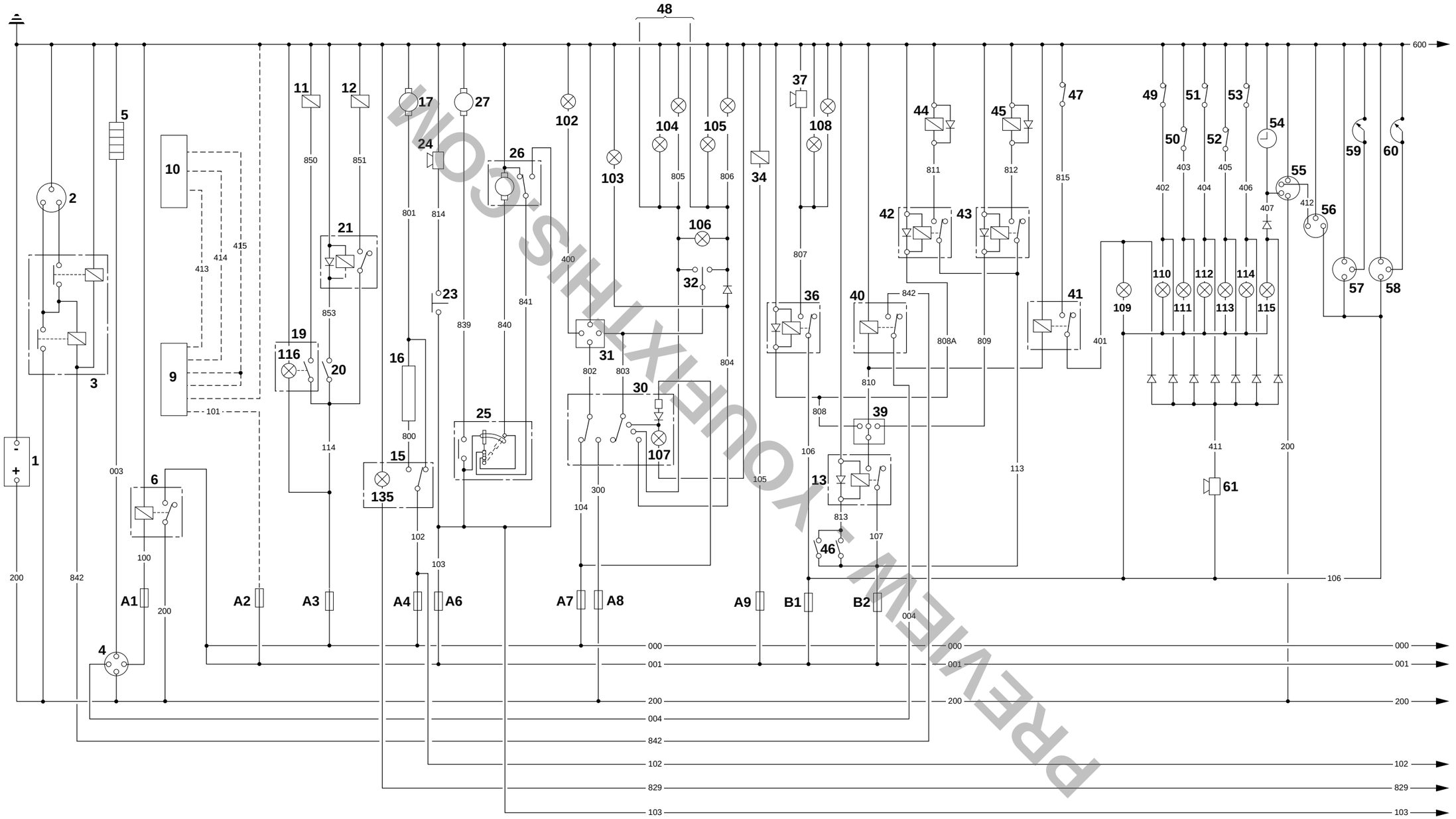
Clouded - Desiccant breakdown in the receiver-drier.



S250780

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Diagnostic Fault Codes - LMI System Only

When the system detects a fault, the audible alarm will sound and various combinations of lights on the display will indicate a fault code for approximately 10 seconds.

The audible alarm and the fault code display cancel after 10 seconds and ALL LEDs on the display will flash continuously as long as the fault remains. Press and release display button **A** to show the fault for a further 10 seconds. When the fault clears, the display will return to normal.

If any of the fault codes are displayed, switch the starter key off and on again. Refer to the list of fault codes below if the fault does not clear.

Note: A new display box will not be calibrated. Always calibrate the system when fitting a new display box.

	FAULT CODE	POSSIBLE CAUSE	REMEDY
	**Fault Code 1** **Transducer signal fault**	Transducer not connected. Faulty harness. Faulty transducer.	Check transducer connection. Check for trapped or damaged wires. Check for water ingress. Replace transducer.
	**Fault Code 2** **Calibration out of range**	System is incorrectly calibrated. Transducer not fixed down correctly. Faulty transducer.	Re-calibrate system. Check mounting surfaces are clean and flat. Check mounting bolts are not bottoming-out. Check tightness of transducer mounting bolts (70 Nm). Replace transducer.
	**Fault Code 3** **Calibration required**	System not calibrated.	Calibrate system.
	**Fault Code 4** **Display unit faulty**	The display box has detected an internal error.	Switch the starter key off and then on again. Replace the display box if the fault does not clear.
	**Fault Code 5** **Low battery voltage**	Battery voltage is below 9 Volts.	Do 12V supply test at display box. Check battery voltage.

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Calibration - SLI System

Adjustment of Balance Setting

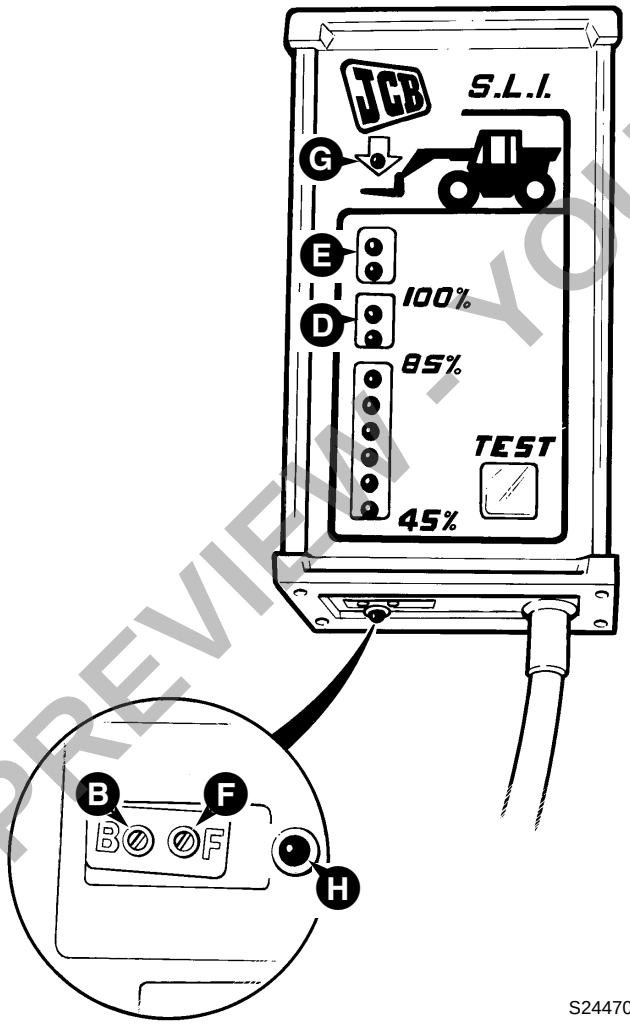
1 Park the machine on firm level ground.

2 Remove any attachment other than pallet forks. Set the steering to the straight ahead position and release the brakes.

3 Raise boom to horizontal position with machine unladen and the inner boom fully retracted.

4 Adjust balance screw **B** until all lights are extinguished.

Note: Some readout boxes have LED **H** fitted. If LED **H** is ON, turn screw **B** anticlockwise until the LED is flashing. If LED **H** is OFF, turn screw **B** clockwise until the LED is flashing. LED **G** is a power-ON indication only.



S244700

Adjustment of Full Scale Setting

⚠ WARNING

During the following procedure, do not raise the load more than 600mm above ground level otherwise the machine may be able to tip forward at a dangerous angle. Keep all personnel clear of the front and rear of the machine.

Elec 4-1

1 With boom fully retracted, pick up any load between 1800 and 2000 kg. Use either pallet forks loaded with a test weight or a bucket filled with a high density material.

2 Slowly extend the boom, keeping the load close to the ground, until the machine is balanced about the front axle. Lower the boom to the ground and measure the distance the boom is extended (millimetres).

3 Refer to the chart shown overleaf for the machine concerned and on the scale, find the extension figure measured at step 2 above.

4 Read vertically from the extension figure (example line X) to the Tipping Line AA**.**

5 Read horizontally (example line Y) to the maximum working limit Line BB.

6 Read vertically (example line Z) down to the scale and read off the extension figure (example 640mm).

7 Retract the boom to the extension figure obtained from the chart.

8 Adjust screw **F** until both amber LEDs **D** (but not the red LEDs **E**) are flashing.

9 Fully retract the boom then slowly extend it until the amber LEDs **D** are flashing. Check the boom is within 20mm of the figure obtained from the chart.

Note: The buzzer will sound when the load exceeds the maximum working limit by 10% and red LEDs **E** are flashing.

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Voltage Readings

The following table may be used to record information in the event of an enquiry and must be submitted along with a warranty claim together with any additional information such as: which lights are not illuminating, if system balancing is possible, or if the display box function test is not successful.

	Expected Readings	Measured Readings
V1	11.0V to 15.0V	
V2	11.0V to 15.0V	
V3	4.3V to 4.7V	
V4	4.48V to 4.52V	

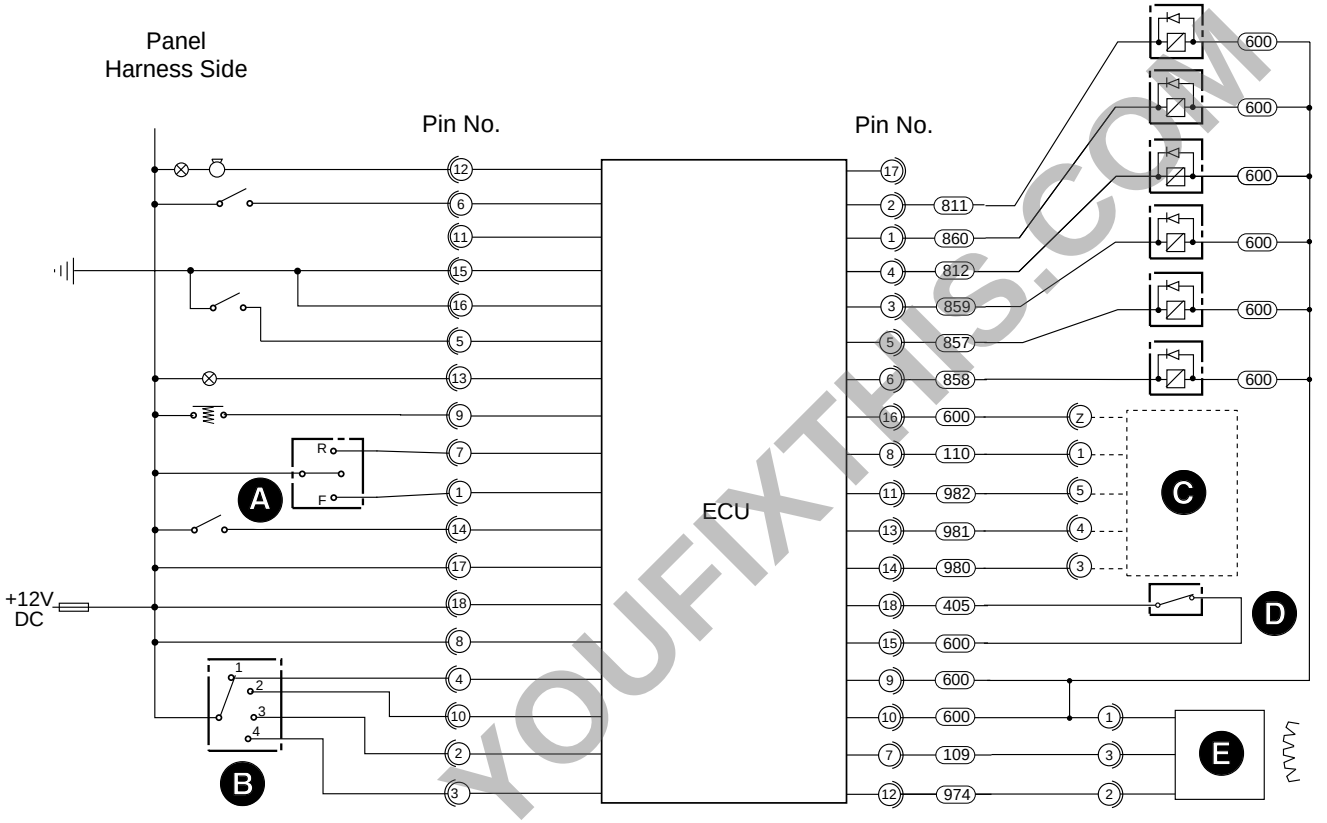
V1 12V Supply
V2 Transducer supply voltage
V3 Transducer output voltage (Fitted)
V4 Transducer output voltage (Removed)

IMPORTANT: Calibrate the system after performing the above tests, and before operating the machine.

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Simplified ECU Installation



311130

Mainframe Connections:

1	Forward
2	Third gear
3	Fourth gear
4	First gear
5	Handbrake
6	N/A
7	Reverse gear
8	N/A
9	Transmission Dump
10	Second gear
11	Spare earth
12	N/A
13	Low pressure switch
14	N/A
15	Earth
16	Earth
17	+ 12V
18	+ 12V

Transmission Connections:

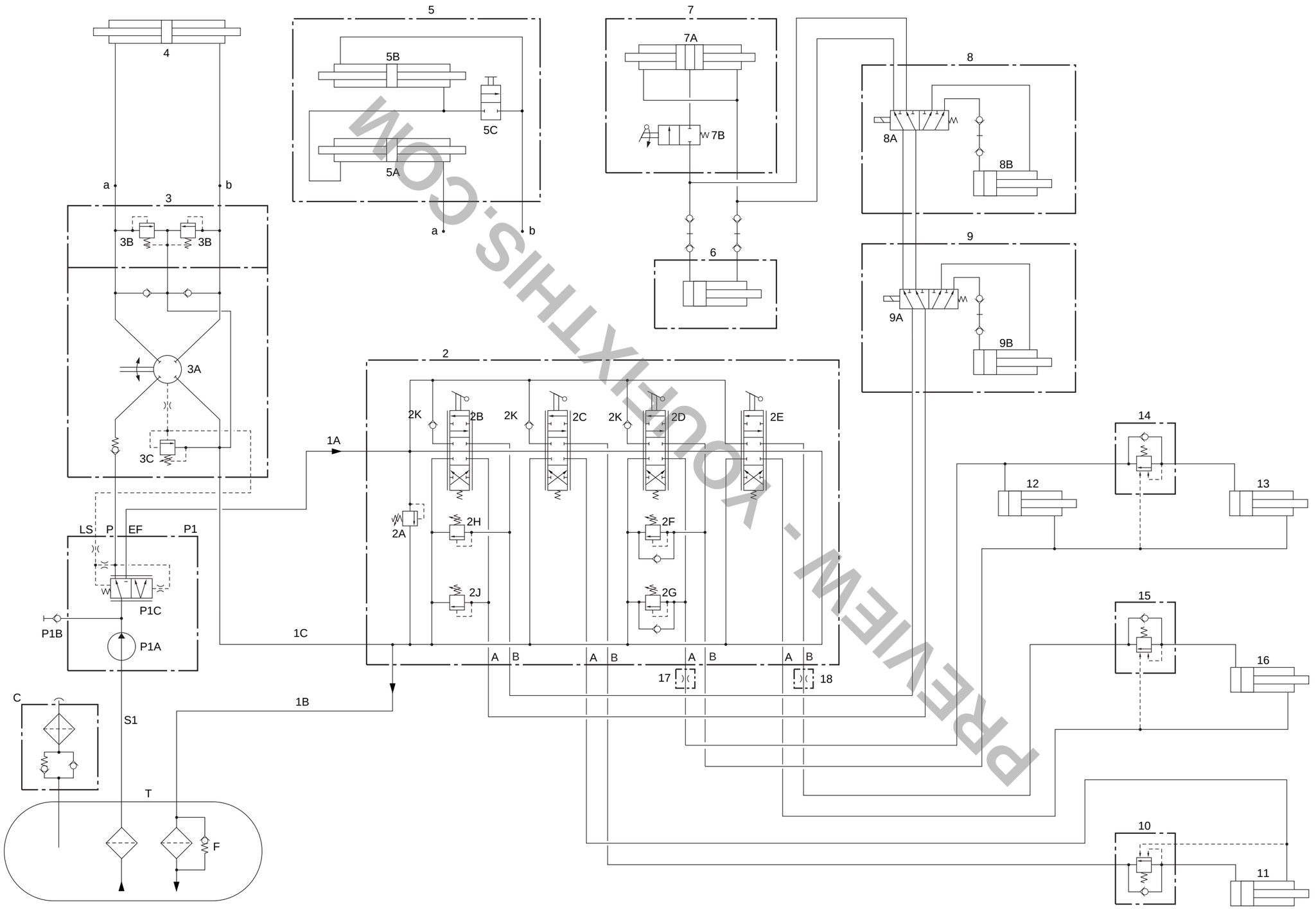
1	RL - Reverse Low solenoid
2	RH - Reverse High solenoid
3	FL - Forward Low solenoid
4	FH - Forward High solenoid
5	LS - Layshaft solenoid
6	MS - Mainshaft solenoid
7	Speed sensor (+VE)
8	Test unit (+VE)
9	Earth
10	Earth
11	Test unit
12	Signal - speed sensor
13	Test unit
14	Test unit
15	Earth - Low pressure switch
16	Earth - test unit
17	N/A
18	Low pressure switch

Main Components:

A	Forward/Reverse Lever
B	Gear Selection Switch
C	Test Unit
D	Low Pressure Switch
E	Speed Sensor

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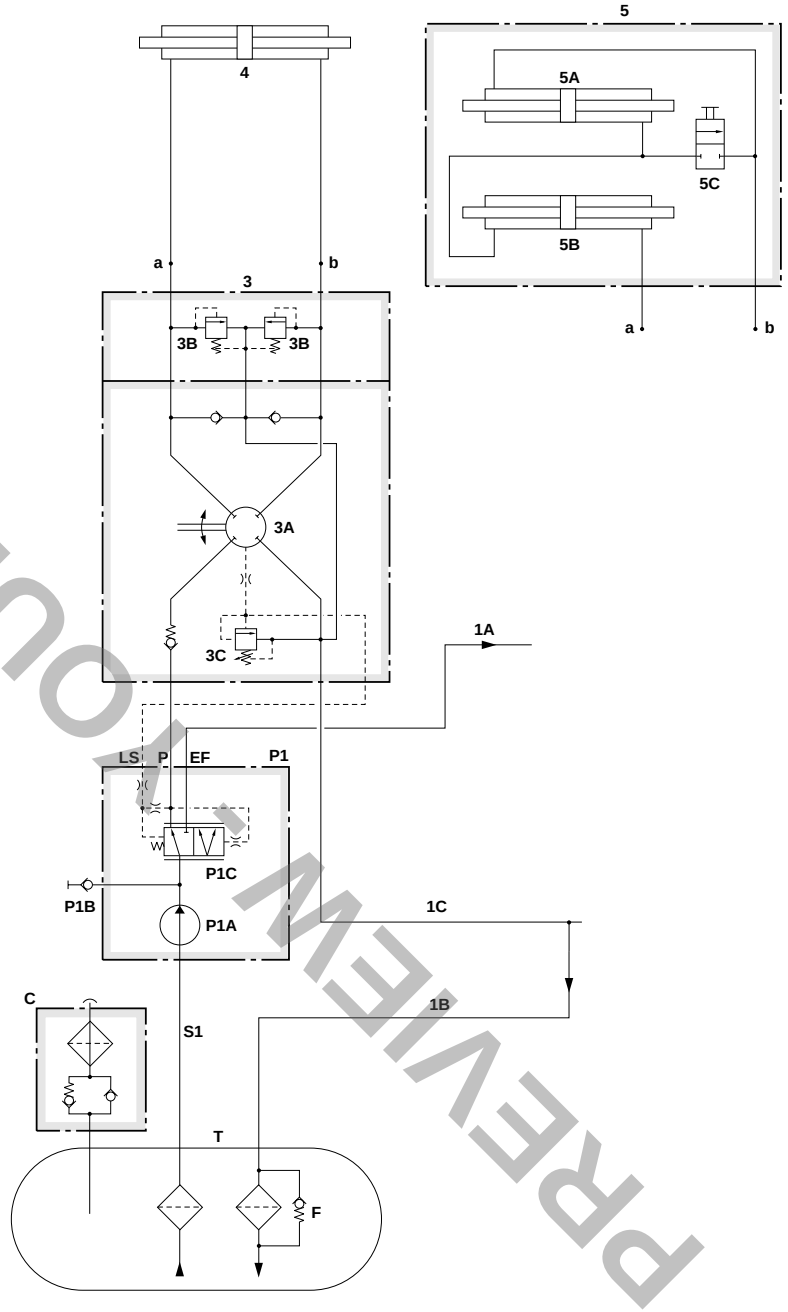
Basic Machine Neutral Circuit (504B)

*

Oil is drawn from tank **T** by engine driven pump **P1** via suction line **S1**. Pump **P1** has an integral priority valve which always gives priority demand to the steer circuit. With the steering in the straight ahead position pump **P1** delivers oil via line **1A** to the control valve block **2**. In neutral circuit conditions (no service selected), the oil flows through the valve block, past M.R.V. **2A**, out into the return or exhaust line **1B** and back to tank **T** via filter **F**.

In high ambient temperature climates a liquid/liquid cooler is fitted in return line **1B**.

The steer circuit is fed via the integral priority valve in pump **P1** and delivers oil to the steering unit **3**. This controls oil flow and pressure in the system and exhausts surplus oil back to tank **T** via filter **F**. The steering unit **3** delivers oil to the steer axle **4** (RS Machines) or **5A** and **5B** AWS Machines.



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* 504B & 526 Machines

Pump

Type	Powermaster 2PR 036, gear type	
Flow at 2200 engine rev/min		
— at zero pressure	21.0 US gal/min	79.0 liters/min
— at system pressure	20.0 US gal/min	75.0 liters/min

Control Valves

Type: Kontak, parallel service, double acting spools.

	Services Operated	Mode of Operation: All Machines except as column right	Mode of Operation: 526 Machines with Single Lever Control Option
— Spool 1	Auxiliary	Mechanical	Pilot
— Spool 2	Boom Raise & Lower	Mechanical	Mechanical
— Spool 3	Carriage Tilt	Mechanical	Mechanical
— Spool 4	Boom Extend & Retract	Mechanical	Pilot

Relief Valve Operating Pressures

	lbf/in²	bar	kgf/cm²
Main Relief Valve (M.R.V.)	3500	241	245
Auxiliary Relief Valves (A.R.V.)			
— Auxiliary, rod side	2798	193	196
— Auxiliary, head side	2080	144	144
— Carriage Tilt Crowd, head side	3625	250	255
— Carriage Tilt Dump, rod side	4000	276	281

Cylinders	Bore		Rod Dia.		Stroke		Open centre		Closed centre	
	in	mm	in	mm	in	mm	in	mm	in	mm
Boom Lift	3.9	100	2.3	60	43.3	1101	100.0	2542	56.6	1440
Boom Extension	2.7	70	1.9	50	66.0	1700	145	3685	78.1	1985
Tilt Cylinder (504B)	4.7	120	2.7	70	13.1	333	40.3	1023	27.1	690
Tilt Cylinder (526)	5.1	130	2.9	75	13.1	333	1023	40.3	27.1	690
Displacement	2.7	70	1.5	40	27.5	700	64.75	1645	37.2	945
Hitch (earlier type)	1.9	50	1.0	25	10.0	254	27.5	698	17.5	444
Hitch (later type)	1.9	50	1.0	25	12.0	305	-	-	18.7	475
Hitch (526 with 24 inch (600 mm) wheels)	1.9	50	1.0	25	13.4	340	-	-	20.0	510

Filter

Filter Type	Partial flow ('spin on')
Filtration Size	0.001 in (25 microns)
Relief Valve Setting	15 lbf/in² (1.05 bar)
Suction Strainer	0.005 in (125 microns)

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* The machine may be towed for a distance of approximately 1 mile (1.5 kilometers). Always use a rigid tow bar, ensure that the gear lever is in neutral (Syncro Shuttle machines only) and that the 2/4WD selector is in the 2WD position. Place the forward/reverse lever in neutral. Restrict recovery speed to 15 m.p.h. (25 k.p.h.).

If it is necessary to recover the machine for a distance in excess of 1 mile (1.5 kilometers) transport the machine on a suitable vehicle. Failing this the top propshaft must be disconnected to prevent damage to the transmission system.

⚠ WARNING

When the propshaft is disconnected the parking brake will not function. The procedure below must be strictly followed.
TRANS 1-6

⚠ WARNING

Make the machine safe before working underneath it. Park the machine on level ground, lower the arms. Apply the parking brake, put the transmission in neutral and stop the engine. Chock both sides of all four wheels.

Disconnect the battery, to prevent the engine being started while you are beneath the machine.
GEN-1-2

Position the machine on firm level ground and block the wheels securely to prevent any movement. Select neutral and release the parking brake.

Disconnect the top propshaft from the front axle drop box and tie up the shaft securely well clear of the rotating axle flange. Alternatively remove the shaft completely.

On 2/4 wheel drive machines select 2 wheel drive.

Connect the recovery vehicle. Restrict the recovery speed to 15 m.p.h. (25 k.p.h.).

Important: In some States the above procedures may not be legally acceptable for recovery on public highways.

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Direct Glazing (cont'd)

Preparing the New Glass (cont'd)

5 Install the Ultra Fast Adhesive cartridge (see **Sealing and Retaining Compounds**, Section 1 and **Note 2** below) into a suitable applicator gun:

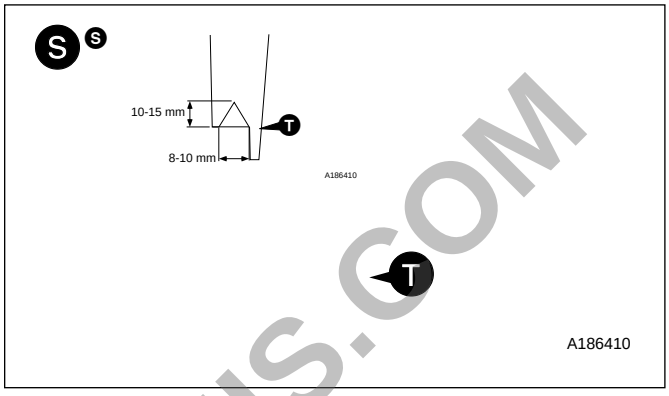
a Remove the aluminium disc cover from the base of the cartridge and discard the 'dessicant capsule'.

b Make sure that the rolled edge of the cartridge is not damaged - if necessary, the edges should be pressed flat, otherwise it will be difficult to remove the cartridge from the applicator gun.

c Pierce the front 'nozzle' end of the cartridge to its maximum diameter.

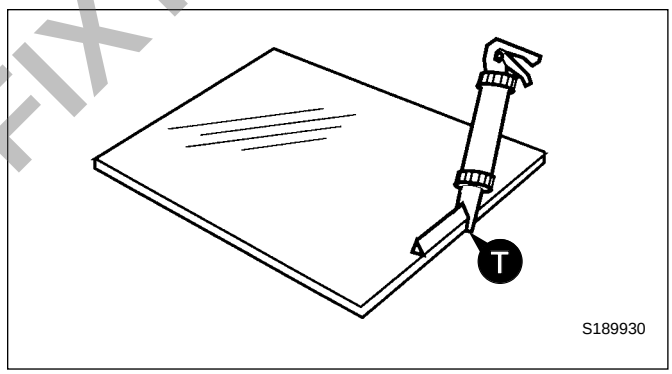
d Fit the pre-cut nozzle shown at **S**.

e Install the cartridge in the applicator gun.



Note 2: Cold material will be very difficult to extrude. The cartridges must be pre-heated in a special oven (see **Service Tools**) for 1 hour to a temperature of 80°C (176°F). Pre-heating the cartridges makes the adhesive more workable and also brings the 'curing' time down to 30 minutes.

6 Apply the pre-heated adhesive to the glass (do not start in a corner). Keep the nozzle guide **T** against the edge of the glass and make sure that the adhesive forms a continuous 'pyramid' shape.



Note 3: Once the pre-heated adhesive has been applied to the glass, install the glass in the aperture as soon as possible. After approximately 10 minutes the sealant will form a 'skin', this will prevent the glass from bonding.

7 After applying the adhesive, leave a small amount of sealant protruding from the nozzle. This will prevent any adhesive left in the cartridge from 'curing'.

Installing the New Glass

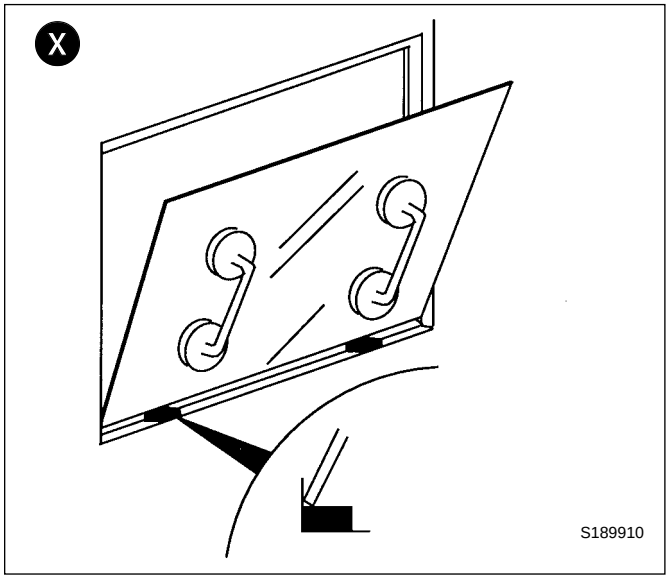
1 If the internal trim strip is damaged, renew it (cut to length as required) before fitting the new glass. Make sure the two spacer blocks are in position (see step 1 of **Preparing the New Glass**).

2 Install the glass in the frame aperture:

a ALWAYS use the special lifting tools when moving the glass.

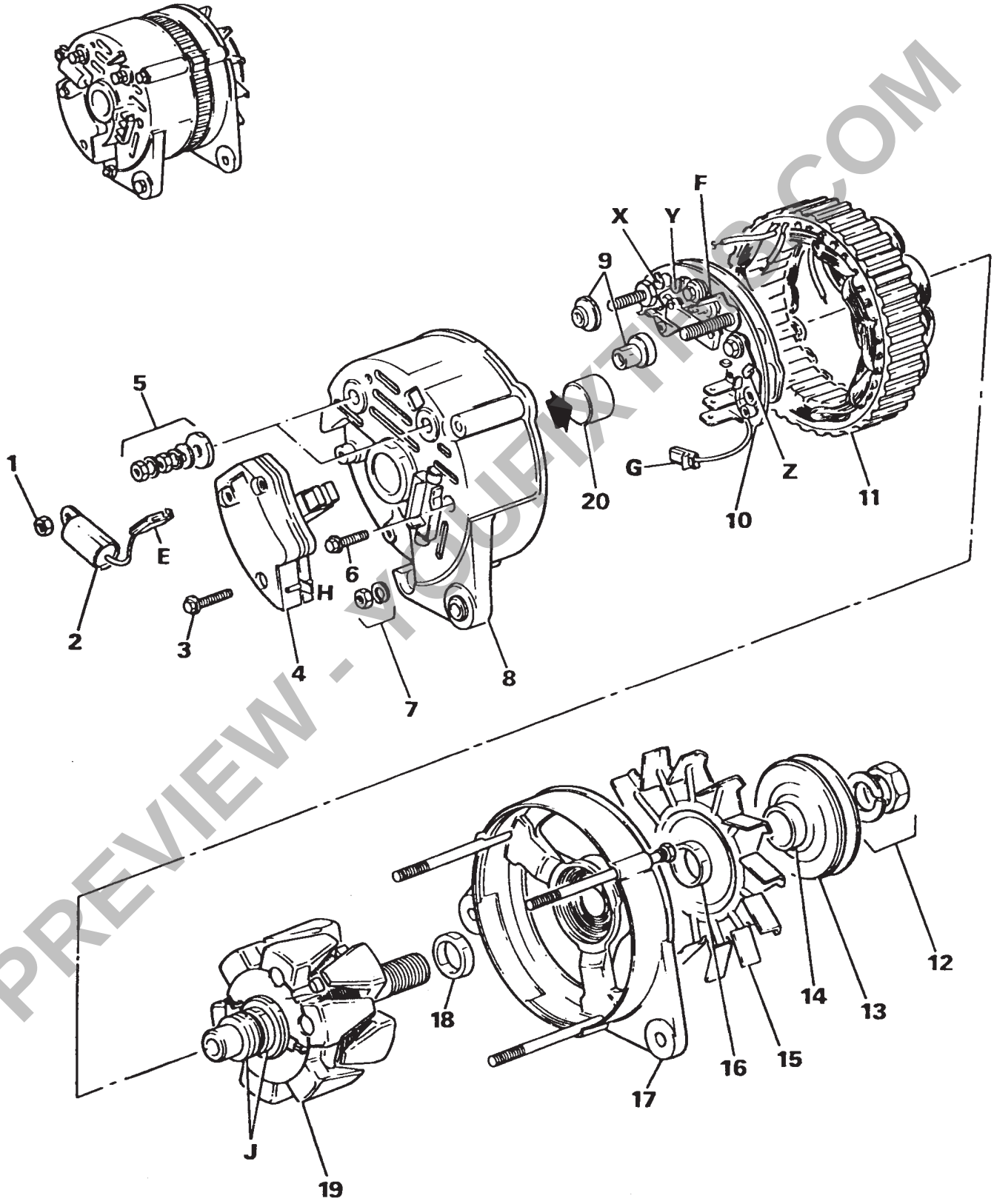
b Sit the bottom edge of the glass on the spacer blocks as shown **X**.

c Make sure that the glass is correctly positioned, then gently press around the edges of the glass and ensure full adhesive contact is achieved. Do not press too hard or too much adhesive will squeeze out.



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Adjusting

Carry out General Safety procedures, *see* ***Machine Safety****, Section 3.*

Remove panel from the underside of the cab.

Select cab control lever to 2 wheel drive position, undo locknut **A** several threads to allow for adjustment.

Remove clevis pin **C** and spring **D**.

When fitting a new cable screw fork end **E** onto cable until no more than two threads are showing through the fork end, lock in position.

Select cab control lever to 4 wheel drive position.

Push lever **F** up to the 4 wheel drive position.

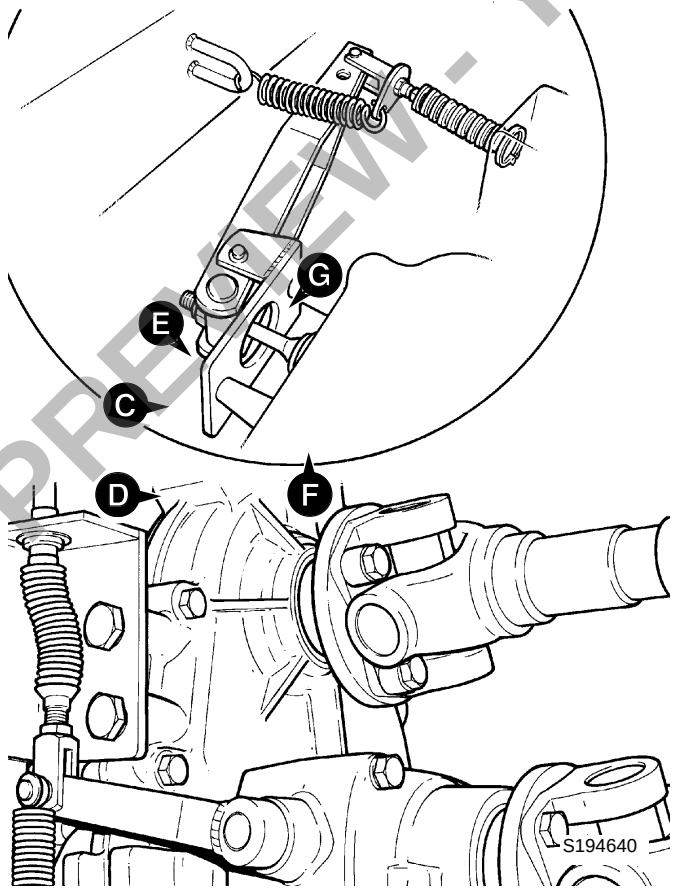
Adjust nuts **A/B** until fork end **E** and lever **F** align.

Tighten nuts **A/B** without altering the setting.

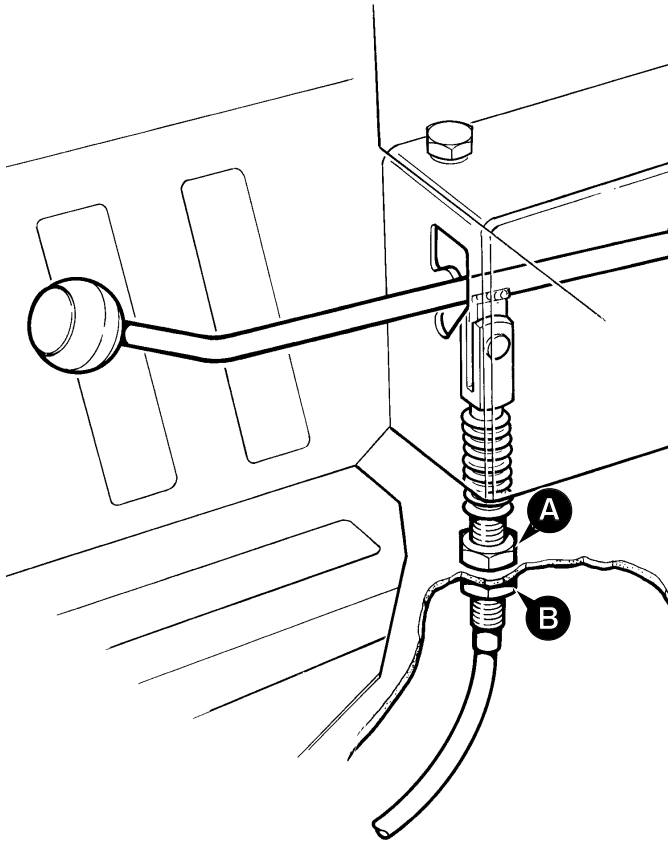
Refit clevis pin **C**, (lock with new split pin), fit spring **D**.

Operate the lever in the cab, check there is clearance between lever **F** and bolt **G**.

Note*: If a washer is fitted under bolt* ***G****, remove bolt and discard washer.*



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Checking the Park Brake Switch

1 Chock the roadwheels and remove fuse A2 to prevent the engine starting.

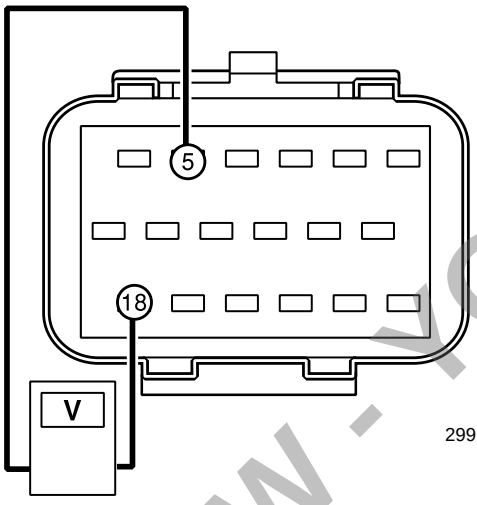
2 Select a forward or reverse gear and apply the park brake.

3 Switch ON the ignition.

4 Check for a voltage across pin **18** and pin **5** of the panel harness connector using a voltmeter or test lamp.

5 With the help of an assistant, release the park brake.

6 There should be 12V detected with the park brake in the ON position and zero volts with the park brake in the OFF position.



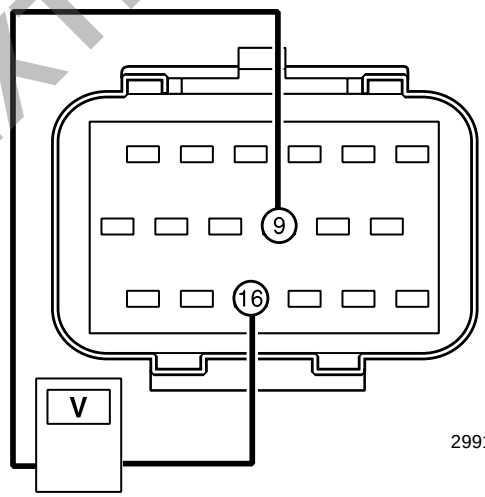
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Checking the Transmission Dump Switch

7 Check for a voltage across pin **9** and pin **16** of the panel harness connector using a voltmeter or test lamp.

8 With the help of an assistant, operate the transmission dump button.

9 There should be 12V detected when the transmission dump button is pressed, and zero volts when the transmission dump button is released.



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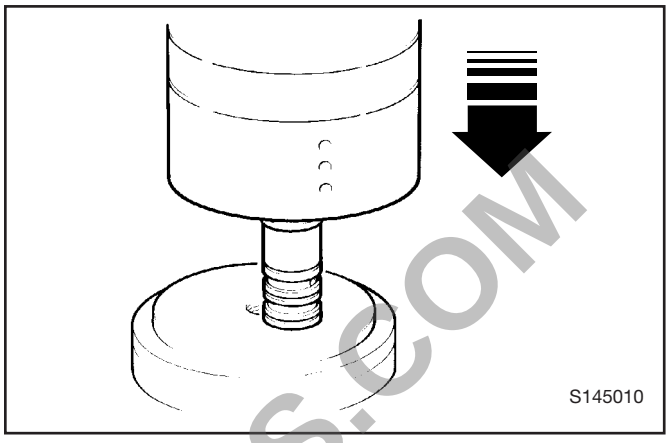
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Input Clutch and Reverser Clutch - Dismantling (continued)

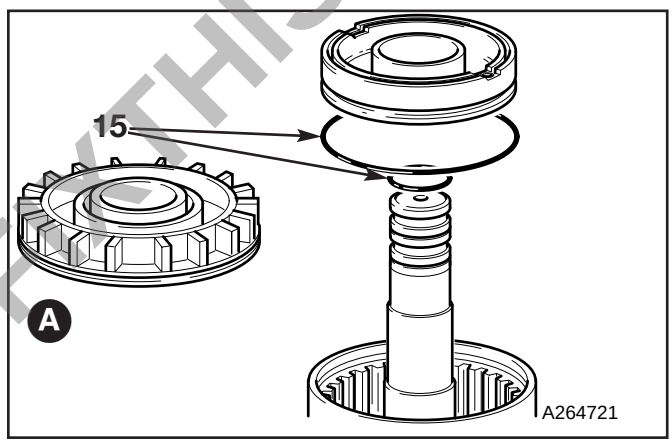
14 Knock the clutch shaft on a piece of aluminimum (or wood) to remove the piston.

Note: If the piston does not loosen when the clutch shaft is knocked on aluminimum, then hand pump air down the shaft oil inlet hole.



15 Remove and discard piston and shaft 'O' rings. Make sure the piston liner is secure. The liner must be a tight fit on the piston (not shown).

Note: The plastic type piston is shown at **A**.



16 Repeat steps **2** to **15** to dismantle the opposite clutch.

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