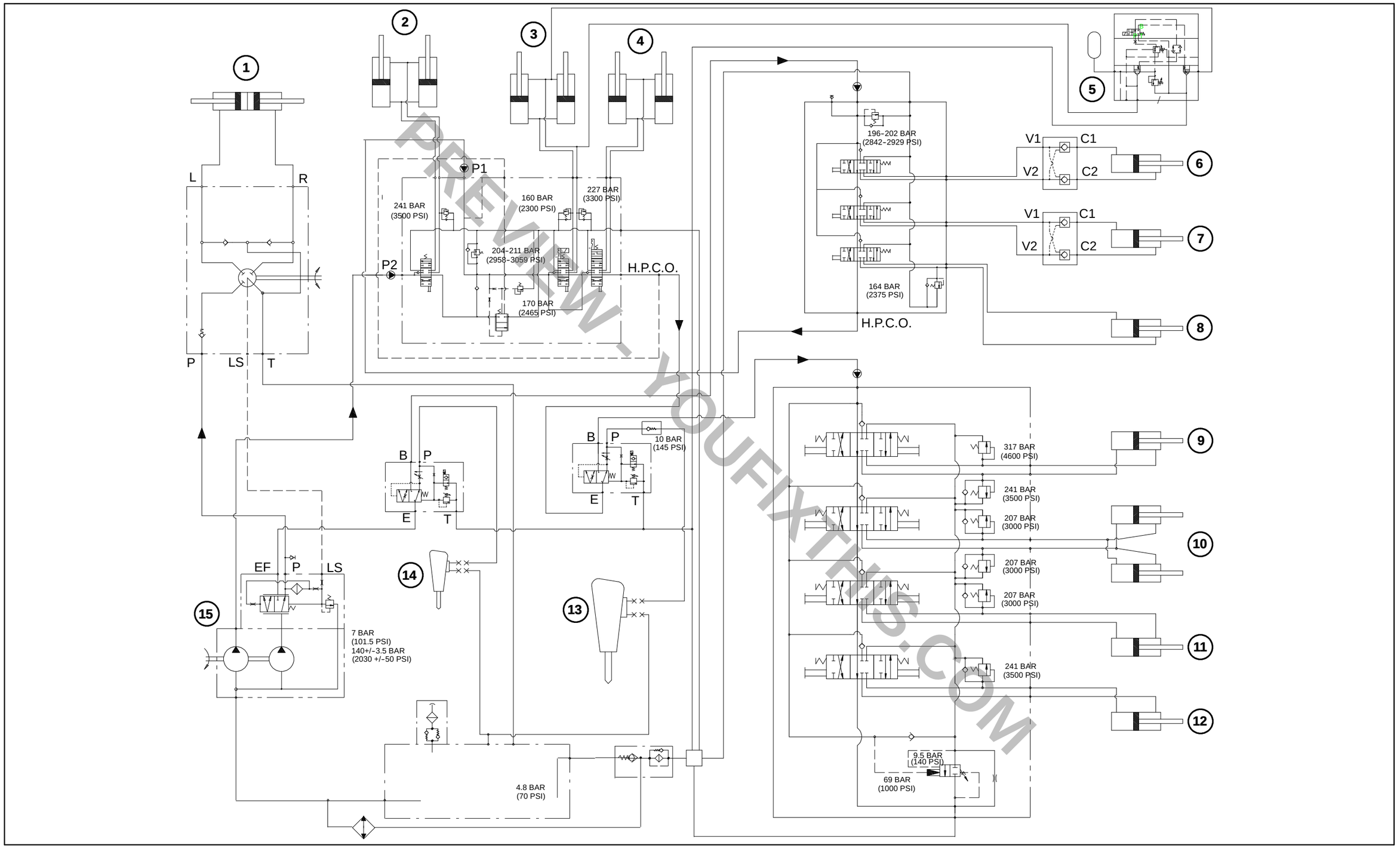
SECTION 55 - ELECTRICAL SYSTEM

Chapter 2.2 - Powershift Wiring Schematics (European and North American model)

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Description	Page
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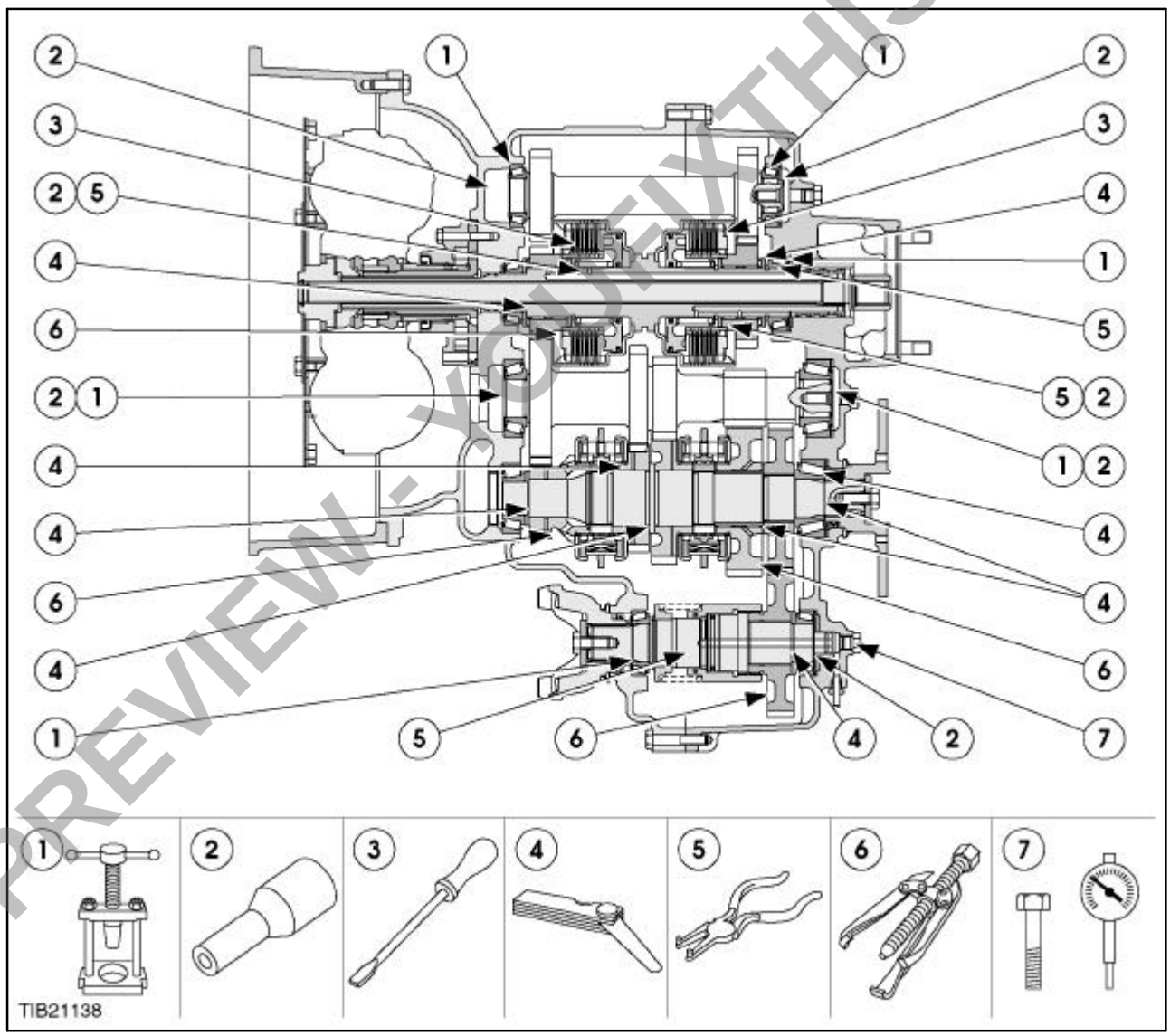
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Main Hydraulic System - 2 and 4 Wheel Drive (with Options) - North America only

SPECIAL TOOLS

DESCRIPTION	APPLICATION
Bearing Cone Drift 40mm	Counter Shaft, Rear Main Shaft and 4WD Bearing
Bearing Cone Drift 35mm	Reverse Idler and Front Main Shaft Bearing
Bearing Cone Drift 40mm	Front Input Shaft Bearing
Bearing Cone Drift 50mm	Rear Input Shaft Bearing
Slide Hammer	Bearing cone removal
Bush Insertion Tool 22mm	Pump rod Insertion Tool
Welch Plug Drift	Shim Adjustment Cover
Oil Seal Drift	Pump Seal
*Spring Compressor	Main Clutches Tool no 380000679
Spring Compressor	Detent Ball Spring
Circlip Pliers .	Where applicable
Feeler Gauges	Where applicable
*Dial Indicator Bolt	Shaft end float Tool no 380000700



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'O' RING FLAT FACE SEAL FITTING TORQUE VALUES

Nominal O.D (in.)	Tube (mm)	Dash Size	Thread Size In.	Swivel Nut Torque lbf. Ft	Nm
0.250	6.35	-4	9/16-18	12	16
0.375	9.52	-6	11/16-16	18	24
0.500	12.70	-8	13/16-16	37	50
0.625	15.88	-10	1-14	51	69
0.750	19.05	-12	1 3/16-12	75	102
0.875	22.22	-14	1 3/16-12	75	102
1.000	25.40	-16	1 7/16-12	105	142
1.250	31.75	-20	1 11/16-12	140	190
1.500	38.10	-24	2-12	160	217

SEALER SPECIFICATIONS

The following sealers should be used as directed in the manual:

SEALERS	PART NUMBER	TRADE DESCRIPTION
Anaerobic sealer	82995770/1	LOCTITE GASKET ELIMINATOR 518
RTV silicone sealer	82995775/6	LOCTITE SUPERFLEX 593, 595 or 596 LOCTITE ULTRA BLUE 587 DOW CORNING SILASTIC 732 GENERAL ELECTRIC RTV 103 OR 108
Pipe sealant	82995768	PST 592 PIPE SEALANT WITH TEFLON
Thread-locking compound	82995773	LOCTITE 271 THREADLOCKER/SEALANT (red)

HARDWARE TORQUE VALUES

Check the tightness of hardware periodically.

Use the following charts to determine the correct torque when checking, adjusting or replacing hardware on the Backhoe Loader.

IMPORTANT: *DO NOT use the values listed in the charts if a different torque value or tightening procedure is specified in this manual for a specific application. Torque values listed are for general use only.*

Make sure fastener threads are clean and not damaged.

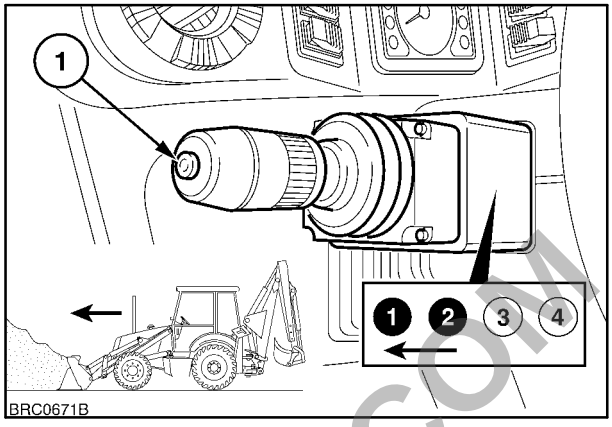
NOTE: *A torque wrench is necessary to properly torque hardware.*

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LED Displayed Faults

If a fault is, or there have been (intermittent faults) present, a detailed fault display can be selected by placing: The Powershift lever in Neutral position and pressing the Kickdown button. The indicated fault on the LED display can then be localised by using the table below, until power down.

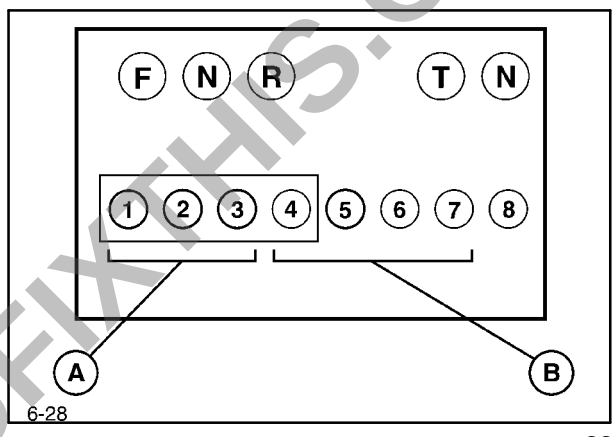


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Fault Group

The faults are displayed using 2 LEDs on the 8 LED display. Faults are displayed as 3 subgroups – Group A:

Fault Sub Group A	Group Indication
Input related	LED 1 blinks red
Output related	LED 2 blinks red
Other	LED 3 blinks red



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Within each group several faults are possible. The second LED's position – Group B, indicates the fault area, where the colour indicates the fault type.

Typically an open circuit condition is shown using an orange LED where a short circuit condition is indicated with a red LED.

Once the fault code has been determined proceed to fault codes page 18.

Fault Group LED (A)	Fault Group LED (B)	Fault	Fault Code
None	None	No fault active	–
1 Red	4 Orange	Shift lever input fault	F1
1 Red	5 Orange	Speed sensor Open Circuit	F2
1 Red	5 Red	Speed sensor Short Circuit	F3
1 Red	7 Green	Battery Over voltage	F4
2 Red	4 Orange	Open circuit on one or both direction outputs	F5
2 Red	4 Red	Direction output forced to plus – Critical fault	F6
2 Red	5 Orange	Other output Open Circuit	F7
2 Red	5 Red	Other output Short Circuit	F8
2 Red	6 Orange	Modulation output Open Circuit	F9
2 Red	6 Red	Modulation output Short Circuit	F10
3 Red	5 Red	Startup Fault – Limp Home Mode Selected	F11

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SECTION 00 – MAINTENANCE

Chapter 1 – General Instructions

IMPORTANT NOTICE

All maintenance and repair operations described in this manual should be carried out exclusively by authorised workshops. All instructions detailed should be carefully observed and special equipment indicated should be used if necessary.
Everyone who carries out service operations described without carefully observing these prescriptions will be directly responsible of deriving damages.

SHIMMING

At each adjustment, select adjusting shims, measure them individually using a micrometer and then sum up recorded values. Do not rely on measuring the whole shimming set, which may be incorrect, or on rated value indicated for each shim.

ROTATING SHAFT SEALS

To correctly install rotating shaft seals, observe the following instructions:

- Let the seal soak into the same oil as it will seal for at least half an hour before mounting;
- Thoroughly clean the shaft and ensure that the shaft working surface is not damaged;
- Place the sealing lip towards the fluid. In case of a hydrodynamic lip, consider the shaft rotation direction and orient grooves in order that they deviate the fluid towards the inner side of the seal;
- Coat the sealing lip with a thin layer of lubricant (oil rather than grease) and fill with grease the gap between the sealing lip and the dust lip of double lip seals;
- Insert the seal into its seat and press it down using a flat punch. Do no tap the seal with a hammer or a drift;
- Take care to insert the seal perpendicularly to its seat while you are pressing it. Once the seal is settled, ensure that it contacts the thrust element if required.;
- To prevent damaging the sealing lip against the shaft, place a suitable protection during installation.

'O' RINGS

Lubricate the 'O' rings before inserting them into their seats. This will prevent the 'O' rings from rolling over and twine during mounting which will jeopardise sealing.

SEALERS

Apply FLEXIBLE GASKET SEALANT 82995770 or a suitable equivalent, over the mating surfaces marked with an X.
Before applying the sealer, prepare the surface as follows:

- remove possible scales using a metal brush;
- thoroughly degrease the surfaces using DEGREASER 82995779, or a suitable equivalent.

BEARINGS

It is advisable to heat the bearings to 80 to 90°C before mounting them on their shafts and cool them down before inserting them into their seats with external tapping.

SPRING PINS

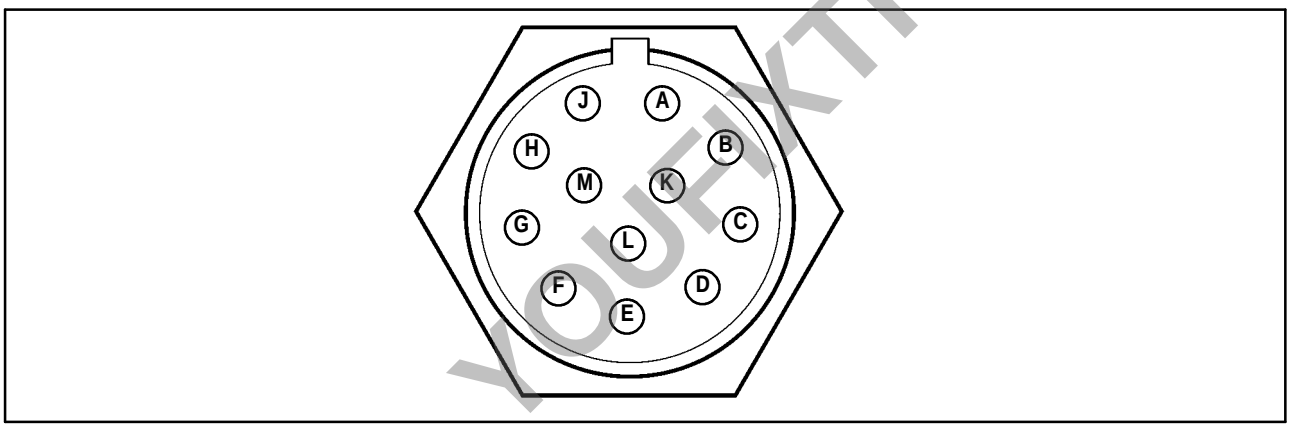
When mounting split socket spring pins, ensure that the pin notch is oriented in the direction of the effort to stress the pin.
Spiral spring pins should not be oriented during installation.

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Powershift Control Valve Transmission Connector

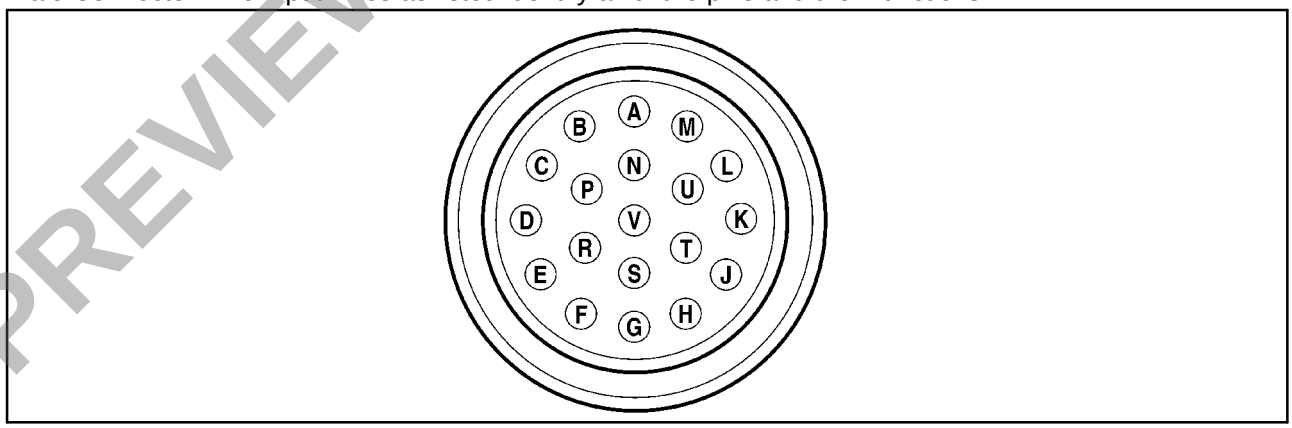
Wire	Pin	Function
CV04	M	Control valve common plus
CV05	L	Transmission temperature out Ground
CV06	K	Range modulation solenoid
CV07	J	Speed sensor, Temperature Sensor, Ground
CV08	H	Control Valve Common Ground
CV09	G	Direction Modulation Solenoid
CV10	F	Reverse Neutral Solenoid
CV11	E	4WD / 2WD Solenoid
CV12	D	Range 1/2 Solenoid
CV13	C	Forward / Neutral Solenoid
CV14	B	Forward Lo/Hi Solenoid
CV15	A	Speed Sensor plus output



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Powershift Operating Lever Connector

The connector between the operating lever and the transmission harness is a 19 Pole – ITT Trident Neptune Male Connector. The Input wires as listed identify all of the pins and their functions:



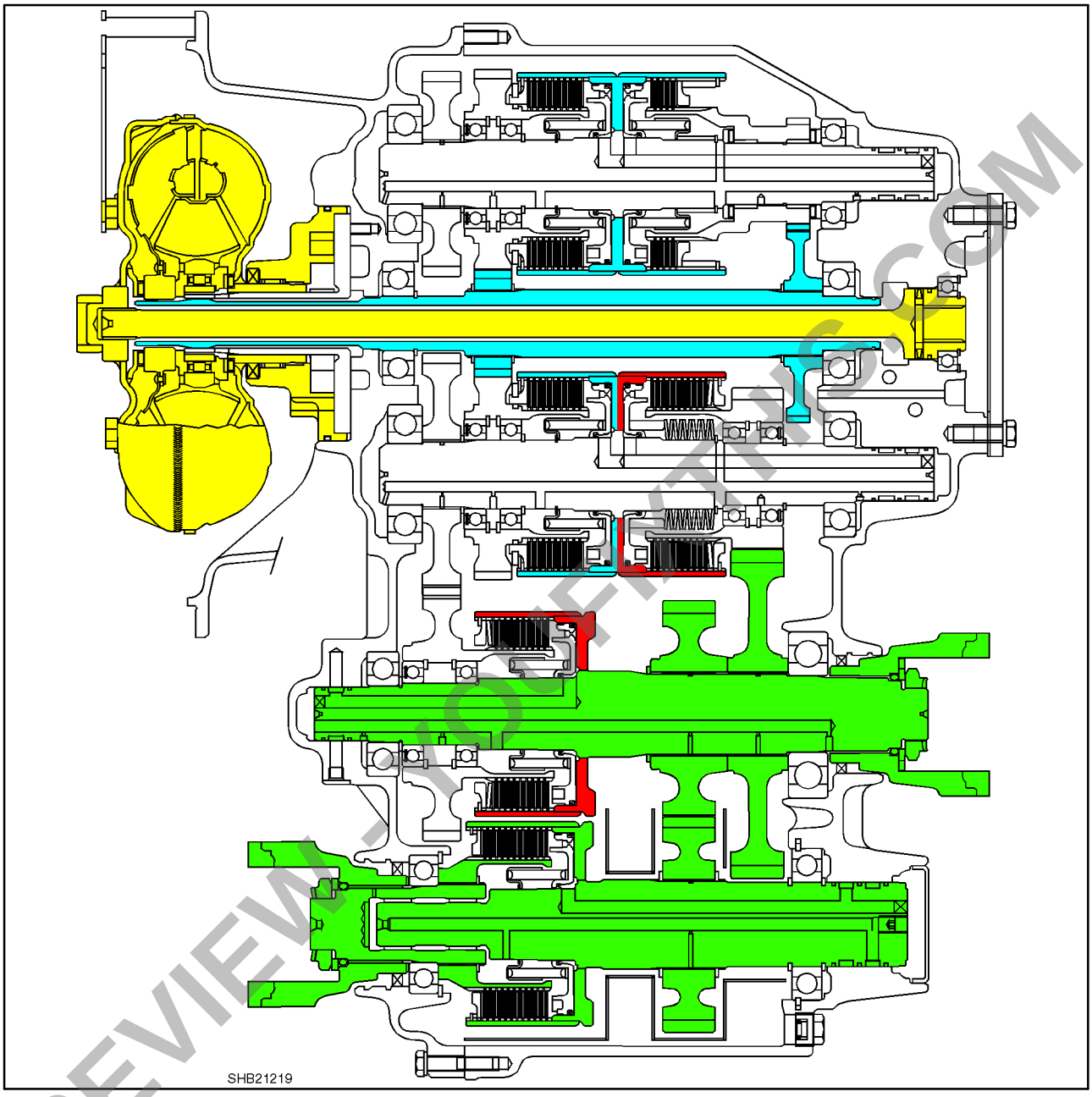
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TRANSMISSION ASSEMBLY

Basically the transmission is composed of five main assemblies:



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4 Wheel Drive Transmission – 2 Wheel Steer

Converter and pump drive section

Range clutches

Input or directional clutches

Output section

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FAULT FINDING

IMPORTANT: *When effecting a repair the cause of the problem must be investigated and corrected to avoid repeat failures.*

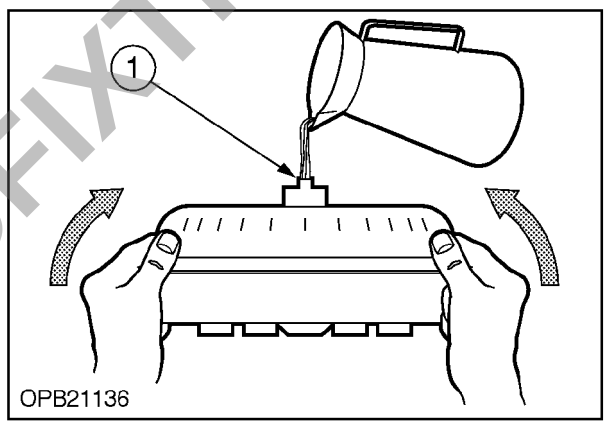
The following table lists problems and their possible causes with recommended remedial action.

PROBLEM	POSSIBLE CAUSES	CORRECTION
1. Low stall speed	Hydraulic clutch not releasing.	Replace Torque Convertor
	Stator support broken.	Replace Torque Convertor
	Defective torque converter.	Replace Torque Convertor
	Low engine power.	Check and correct output
2. High stall speed	Hydraulic clutch not applying or is slipping.	Replace
	Low line pressure.	Check pump output
	Sealing rings on rear input shaft broken.	Replace seals
	Defective torque converter.	Replace Torque Convertor

OVERHAUL

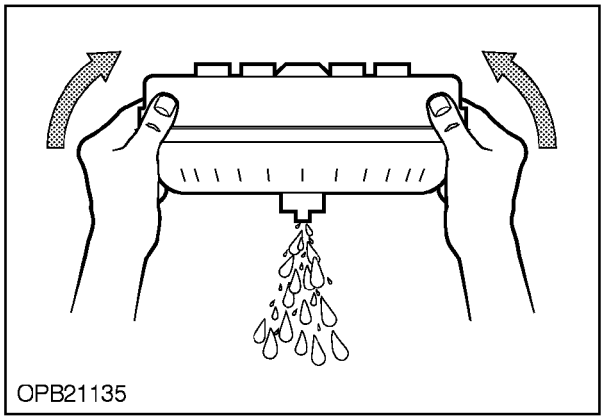
NOTE: *To remove the torque convertor refer to the transmission section 21 000 for disassembly procedure.*

The torque converter, is a welded unit and cannot be disassembled. The only maintenance performed on the converter, other than the stall test, is cleaning and visual inspection. A commercial torque converter cleaner may be used to clean the converter. However, if a commercial cleaner is not available, the converter should be cleaned as outlined below.



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1. Drain as much oil as possible from the hub of the converter by tilting the converter in all directions.
2. Fill the converter about half full, through the hub (1), with paraffin base solvent or any cleaning solvent specified for cleaning transmissions.
3. Plug the opening in the hub, then circulate the solvent inside the converter by rotating and shaking.
4. Drain the solvent from the converter.
5. Repeat Steps 1 to 4, as required, until the solvent that is drained from the converter is clean.



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SECTION 17 – TORQUE CONVERTOR

Chapter 1 – With Powershuttle Transmission

CONTENT

Description	Page
Specifications	1
Tightening Torques	2
Description and Operation	3
Fault Finding	4
Overhaul	4

SPECIFICATIONS

Engine Stall Speeds

Power Shuttle Transmission . . . . . 2009–2065 revs/min

Hydraulic Tests

Tachometer Setting . . . . . 2000 revs/min
Test temperature, oil . . . . . 80–85°C (176–185°F)
Cold Start Valve (For reference only) . . . . . 26 bar (377 psi)
System Pressure Test . . . . . 13.7–15.2 bar (198–220 psi)
Torque Converter . . . . . 7–11 bar (101–159 psi)

Sealant

Gasket sealant 82995774
Thread sealant 82995768

TORQUE SPECIFICATIONS

Item Description	N·m	ft. lbs.
Cooler return pipe union	49-78	36-58
Cooler return pipe elbow	49-78	36-58
Stator support retaining bolt	26	19
Flywheel to flex plate	43	32
Flex plate to converter	43	32

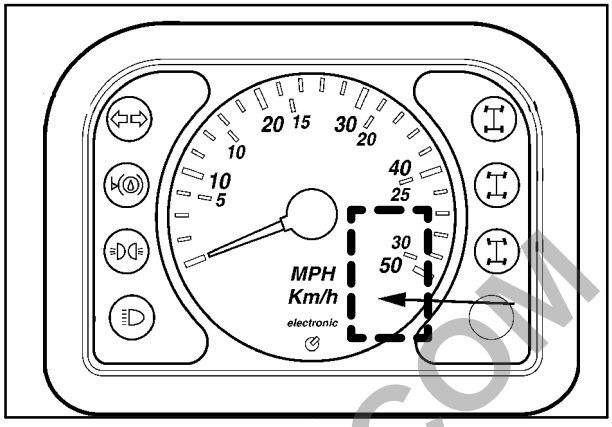
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CALIBRATION OF SPEEDOMETER

Dependant upon the model and tyres fitted it may be a requirement to set the calibration of the front console.

This setting is required if fitting a new instrument or a change of tyres takes place, and can be performed by adjusting the settings of the switch block, mounted at the rear of the console.



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Each switch numbered 1 to 8 mounted in the block should be turned ON = ■ or OFF □ as shown in the opposite example, to suit the requirement and as shown in the following tables.

Switch Positions:
1 = ON
0 = OFF



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POWER SHUTTLE

AXLE RATIO	TYRE - ROLLING CIRCUMFERENCE	FREQUENCY AT 50 Km/hr	SWITCH POSITIONS 1-2-3-4-5-6-7-8
18.5	4065 - 4335	2055	1-1-1-1-0-1-0-0
18.5	3810 - 3911	2245	1-1-1-0-1-0-1-0
20.8	4065 - 4335	2310	1-1-1-0-1-1-1-0
20.8	3810 - 3911	2522	1-1-0-0-0-0-0-1

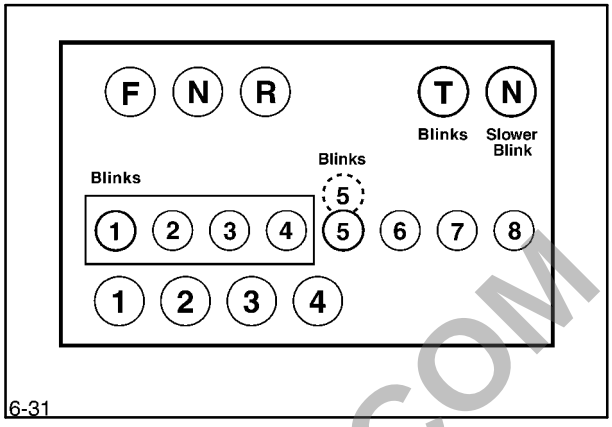
POWER SHIFT

EGS FREQUENCY	TYRE - ROLLING CIRCUMFERENCE	FREQUENCY AT 50 Km/hr	SWITCH POSITIONS 1-2-3-4-5-6-7-8
6.53 - 6.13	4065 - 4335	315 Hz	0-0-0-0-0-0-0-0
6.97 - 6.79	3810 - 3911	345 Hz	0-1-0-0-0-1-0-0

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FAULT CODE – F2 & F3



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SPEED SENSOR

A fault indication on the display is given to warn of this problem.

If a speed sensor fault is detected the microproccesor will modify its Behaviour in the following areas:

– no up shifts will be allowed above 2nd gear

– direction change while in F3 or F4: the actual reversal is preceded by a downshift sequence until 2nd gear is obtained.

– 4WD braking remains operative

NOTE: *That the system response in this case is identical to the response in case of a power supply overvoltage*

Speed Sensor Test Using The Turbine Speed Display

NOTE: *A lamp test is performed prior to the speed sensor test and monitors all LEDs are operational*

SPEED SENSOR TEST REQUIREMENTS: *Powershift lever to be in reverse position, twist to upshift (keep the shift lever in this position during power up) turn the ignition on and start the engine.*
With engine running return Powershift lever to neutral position and then place lever in forward and twist to upshift. Increase engine speed and compare with the table opposite.

IMPORTANT: *Selftest modes can only be started* ***WHILE POWERING UP*** *(ignition on). Leaving the selftest mode is done* ***by switching OFF the power*** *to the Microprocessor (ignition off).*

In this mode, **driving is possible**

The LED corresponding with the table opposite illuminates to indicate the torque converter turbine speed and increases with engine revs.

NOTE: *Application of the footbrakes during this test will reduce the turbine speed to zero.*

Turbine Rev/Min	LED
0	1 blinks
0 – 249	1 on
250 – 499	2 on
500 – 749	3 on
750 – 999	4 on
1000 – 1249	5 on
1250 – 1499	6 on
1500 – 1749	7 on
1750 – 1999	8 on
above 2000	8 blinks

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SECTION 25 – FRONT AXLES

Chapter 1 – Front Axle for 2 and 4 Wheel Drive Only

CONTENT

Description	Page
Specifications	1
Tightening Torques	2
Special Tools	2
Description and Operation	3
Fault Finding	9
Overhaul	10
Differential Disassembly – Powershuttle / Powershift	26

SPECIFICATIONS

Type	Centre driven, double reduction (Crown wheel and pinion) and integral steering cylinder
Overall width	1974 mm
Oil Capacities	
Hubs (each)	1.0 litres (2 US. pints)
Axle differential	5.5 litres (1.45 US. gals)
Oil change period	Every 1200 hours or annually
Lubricants	See operator's manuel

CLEARANCES AND ADJUSTMENTS

Front wheel toe–in	0 – 2.0 mm
Axle hub bearing rolling resistance	Non–adjustable pre–set
Swivel bearing freeplay	Non–adjustable pre–set
Drive pinion bearing rolling resistance	2.0 Nm (18.0 lbs in)
Pinion to crown wheel backlash	0.17 – 0.23 mm (0.067 – 0.090 in)
Pinion to crown wheel tooth engagement	110.3 mm (4.301 in)
Differential bearing rolling resistance	0.9 Nm (8.2 lbs in)

SEALANTS

Thread sealant	NH 82995773
Dowel fixative adhesive	NH 82995772
Flange sealant	NH 82995770

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COMPANY POLICY

Company policy, which is one of continuous improvement, reserves the right to make changes in design and specification at any time without notice and without obligation to modify units previously built.

All data given in this book is subject to production variations. Dimensions and weights are approximate only and the illustrations do not necessarily show tractors in standard condition. For exact information about any particular machine please consult your Dealer.

PARTS AND ACCESSORIES

Genuine parts and accessories have been specifically designed for these machines.

We would like to point out that ‘‘non-genuine’’ parts and accessories have NOT been examined and released by the Company. The installation and or use of such products could have negative effects upon the design characteristics of your machine and thereby affect its safety. The Company is not liable for any damage caused by the use of ‘‘non-genuine’’ parts and accessories.

MODEL CODES

The complete range of Backhoe Loaders described in this manual are identified below :

	EUR										NA			
	LB 90.B	LB 95.B	LB 110.B	LB 115.B 4WS	580 SR	590 SR	695 SM 695 SR	B95	FB 100.2 B100	FB 110.2 B110	FB 200.2 4WS B200 4WS	LB 75.B	LB 95.B LB 90.B	LB 110.B	LB 115.B 4WS
Moteur 95HP FAGE0454C	X	X			X			X				X			
Moteur 110HP FAGE0484G			X	X		X	X		X	X	X		X	X	X
PowerShuttle	X	X	X		X	X		X	X			X	X	X	
PowerShift			X	X	X	X	X			X	X			X	X
Cab	X	X	X	X			X	X	X	X	X	X	X	X	X
Euro. cab			X	X	X	X	X								
ROPS	X				X							X	X	X	
Central Pivot			X	X			X		X		X	X	X	X	X
Side Shift	X	X	X	X	X	X	X	X	X	X	X				
2 WD					X							X			
4 WD	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4 WS				X			X				X				X
Mechanical control	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Pilot control	X	X	X	X	X	X	X		X	X	X	X	X	X	X

The vehicles listed above may not be available in all countries or markets, therefore for the latest information consult your local authorised dealer.

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SECTION 21 – TRANSMISSIONS

Chapter 2 – Powershift Introduction

CONTENT

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Specifications	1
Tightening Torques	1
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Description and Operation (Transmission Hydraulic Operation)	2
Removal from Vehicle	35

SPECIFICATIONS

STALL SPEED

110hp Turbocharger ..... xxxx – xxxx revs/min

TORQUE CONVERTER RATIO

Ratio. ..... 2.54 : 1

GEAR RATIOS

Power shift 4x2 Transmission

LUBRICANT

See Operator's Manual

TORQUES

Engine / transmission retaining bolts and nuts	95 Nm (70 lbf ft)
Engine coolant expansion tank retaining bolts	25 Nm (18 lbf ft)
Engine / transmission mounting bolts	95 Nm (70 lbf ft)
Hydraulic pump pipe connection (small)	35 Nm (26 lbf ft)
Hydraulic pump pipe connection (large)	120 Nm (86 lbf ft)
Power steering outlet to tank	55 Nm (41 lbf ft)
Hydraulic oil cooler to coolant radiator bolts	25 Nm (18 lbf ft)
Hose transport lock valve to gearbox	15 Nm (11 lbf ft)
Hose transport lock valve to gearbox dipstick pipe	15 Nm (11 lbf ft)
Spicer universal couplings rear and front (when FWD fitted)	38 Nm (28 lbf ft)

SPECIAL TOOLS

Engine / Transmission Lifting Bracket	297389

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CONTROL VALVE – COMPONENTS

1. System Pressure Regulator Spool
2. Range Spool Spring
3. Spool Cover Screw
4. Spool Cover
5. Electronic Controlled Modulation Valve
6. Solenoid
7. Plug
8. Solenoid Plate
9. Speed Sensor
10. Speed Sensor 'O' ring
11. 'O' ring
12. Nut
13. Wiring Harness 'O' rings and Speed Sensor assembly
14. Wiring Clamp
15. Clamp Screw Lock Washer
16. Clamp Screw
17. Spool Body to Solenoid Plate Screw
18. Check Port Plugs
19. Spool Body
20. Pressure Reducer Spool
21. Pressure reducer Spring
22. Separator Plate
23. System Pressure Regulator Spring
24. Spool Stop
25. 1st/2nd spool
26. Spool Stop
27. Four Wheel Drive Spool
28. Four Wheel Spool Spring
29. Booster Spool
30. Accumulator Spring
31. Accumulator Spool
32. 1st and 2nd Spool Spring
33. Separator Plate
34. Range Modulation Spool
35. Forward Low High Spool Spring
36. Forward Low High Spool
37. Spool Stop
38. Forward Spool
39. Reverse Spool Spring
40. Reverse Spool
41. Spacer Plate
42. Separator Plate
43. Wiring Strap
44. Solenoid Clamp
45. Solenoid Clamp Screw
46. Bypass Valve Spool
47. Bypass Valve Spring
48. Solenoid Plate
49. Separator Plate

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SECTION 25 – FRONT AXLES

Chapter 2 – Front Axle for 4 Wheel Steer Only

CONTENT

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SPECIFICATIONS

Component	
Axle Type	Modular
Planetary Reduction	6.923 : 1
Overall Ratio	18.5 : 1
Number of Planetary Gears	3
Load Carrying Capacity Dynamic	8000 kg (17636 lb) at 1890 mm track width
Overall Width	2304 mm
Oil Capacity	11 Litres (2.9 US. gals)
Oil Change Period	1 year or 1200 hours
Lubricants	See operator's manuel

CLEARANCES AND ADJUSTMENTS

Drive pinion preload	9.2–13.7 Nm
Steering Sensor to steering rod disc	1.5mm – 1.6mm

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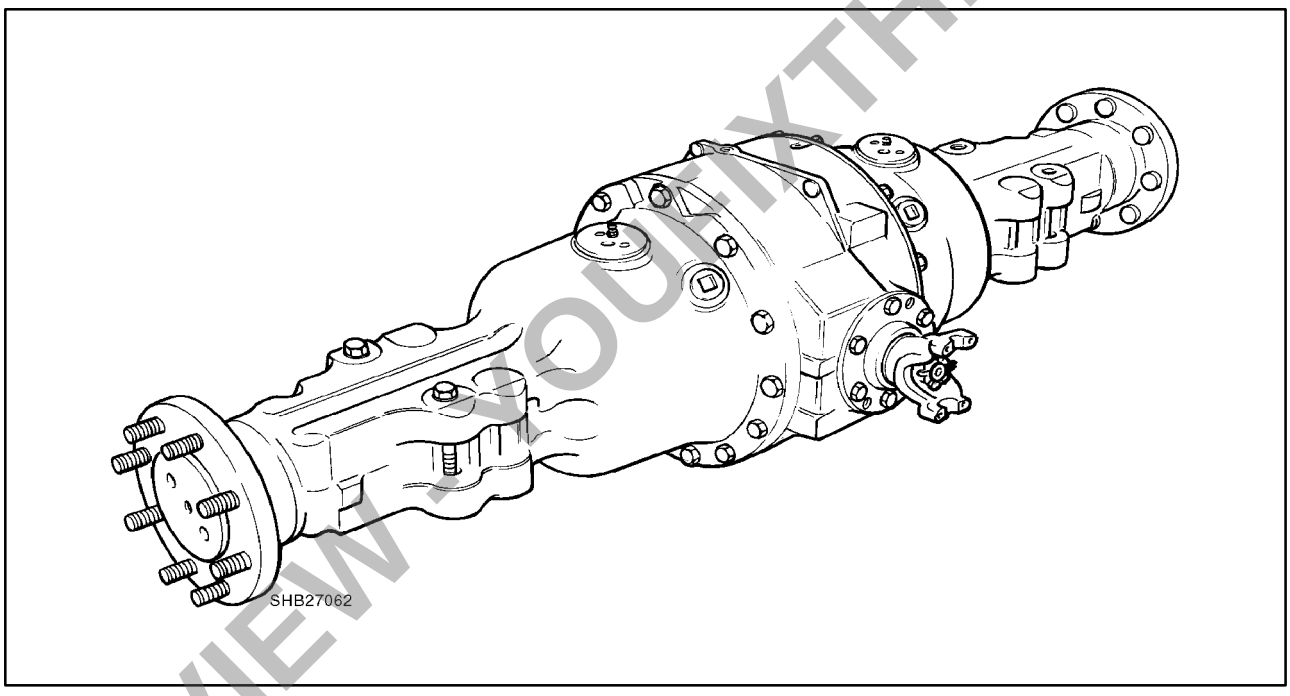
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SPECIAL TOOLS

	APPLICATION
Splitting Tool	Axle removal
Half axle lifting bracket	Half shaft removal
Sliding Hammer	Axle bearing cup removal
Ratchet Tool	Axle housing bearing/seal
Puller Tool	Axle housing bearing/seal
Pulling Attachment Tool	Axle housing bearing/seal

SEALANTS

Code	Number	Name
82995768	Sealer	Anaerobic Low strength
82995776	Sealer	Silicone
82995774	Sealer	Polyester Urethane
82995773	Sealer	Anaerobic



2

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MAIN HYDRAULIC SYSTEM (WITH OPTIONS) 2 AND 4 WHEEL DRIVE

1. Front Axle
2. Bucket 4x1 – 6x1
3. Boom
4. Crowd
5. Glide Control (Optional)
6. LH Stabiliser
7. RH Stabiliser
8. Telescopic
9. Boom
10. Swing
11. Bucket
12. Dipper
13. Backhoe Hammer
14. Hand Hammer (Optional)
15. Pump Output–
    38+38 for Machine 110 HP Engine
    34+34 for Machine with 95 HP Engine

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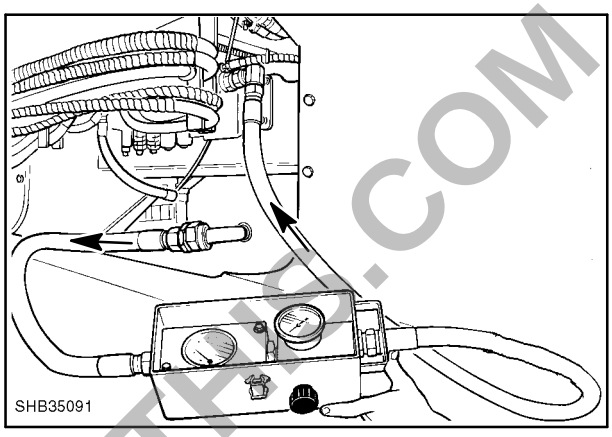
Flow Testing

Pump Performance Test

The following pump performance test must be performed after pressure testing the system and rear pump relief valves and when the hydraulic oil is at normal operating temperature of 75° C.

1. Disconnect inlet hose to backhoe control valve and install 0–200 Litres/min flowmeter.
2. Open flowmeter valve.
3. Set engine speed to 2200 rev/min and measure flow (A).
4. Slowly turn flow control valve and increase pressure to 175 bar (2550 psi), at which point the rear pump relief valve should operate. Measure pump flow (B) which should be 69–81 Litres/min. This is output of front pump.

NOTE: *On machines installed with the unload valve the pump flow will reduce when the pressure reaches 159 bar and the unload valve returns the rear pump flow to reservoir.*



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Analysis

If flow (B) recorded in step 4 is less than 69 Litres/min the front pump is worn and requires overhaul.

Subtract the flow (B) recorded in step 4 from the flow (A) recorded in step 3. This is the flow from the rear pump under 'no load' conditions and should be greater than 53 Litres/min. If the flow is less than 53 Litres/min the rear pump is worn and requires overhaul.

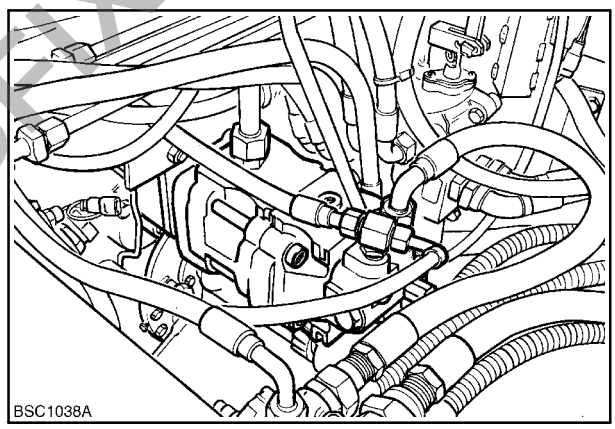
Example:-

Combined Pump Flow (No Load) = A

Front Pump Flow (Under Load) = A–B

Rear Pump Flow = B

NOTE: *If the machine has a history of poor service intervals replace the hydraulic system filter and clean pump intake filter in the reservoir.*



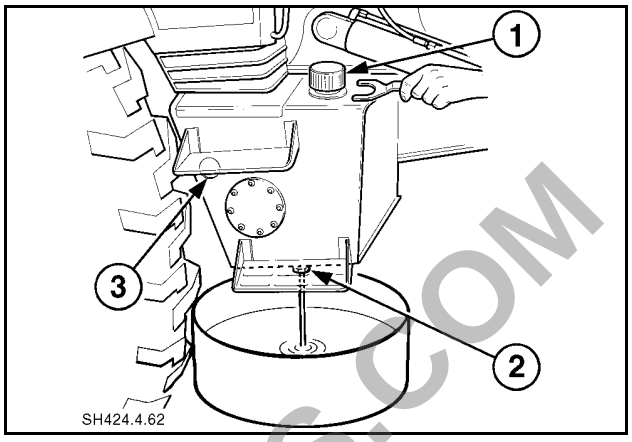
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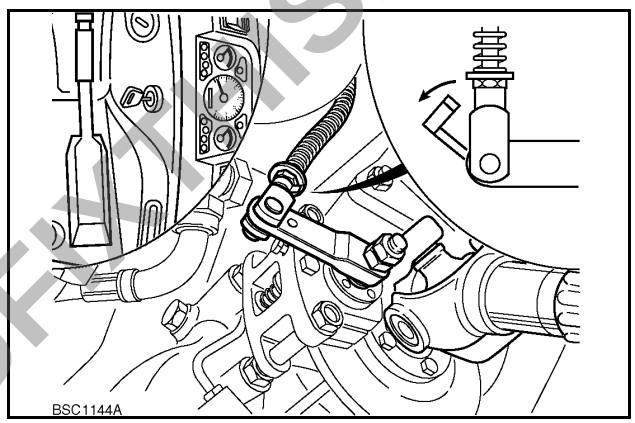
PUMP OVERHAUL

If the pump assembly is suspected of wear pressure and flow test the pump prior to removal and disassembly. refer to the Trouble Shooting chapter, Pressure and Flow Testing.

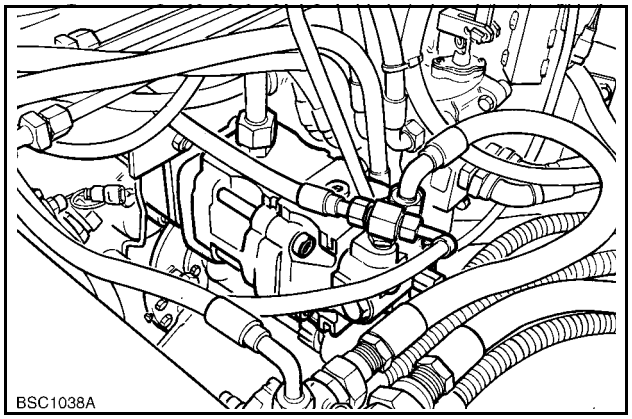


Removal

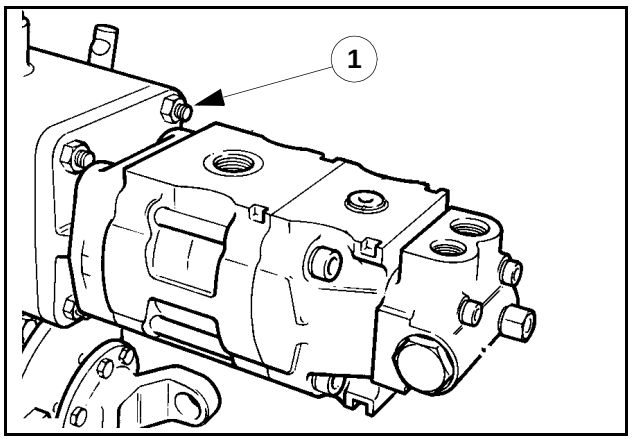
1. Drain hydraulic reservoir into a container capable of holding up to 75 litres (20 US. gals).



2. Disconnect handbrake cable and transmission to rear axle drive shaft.



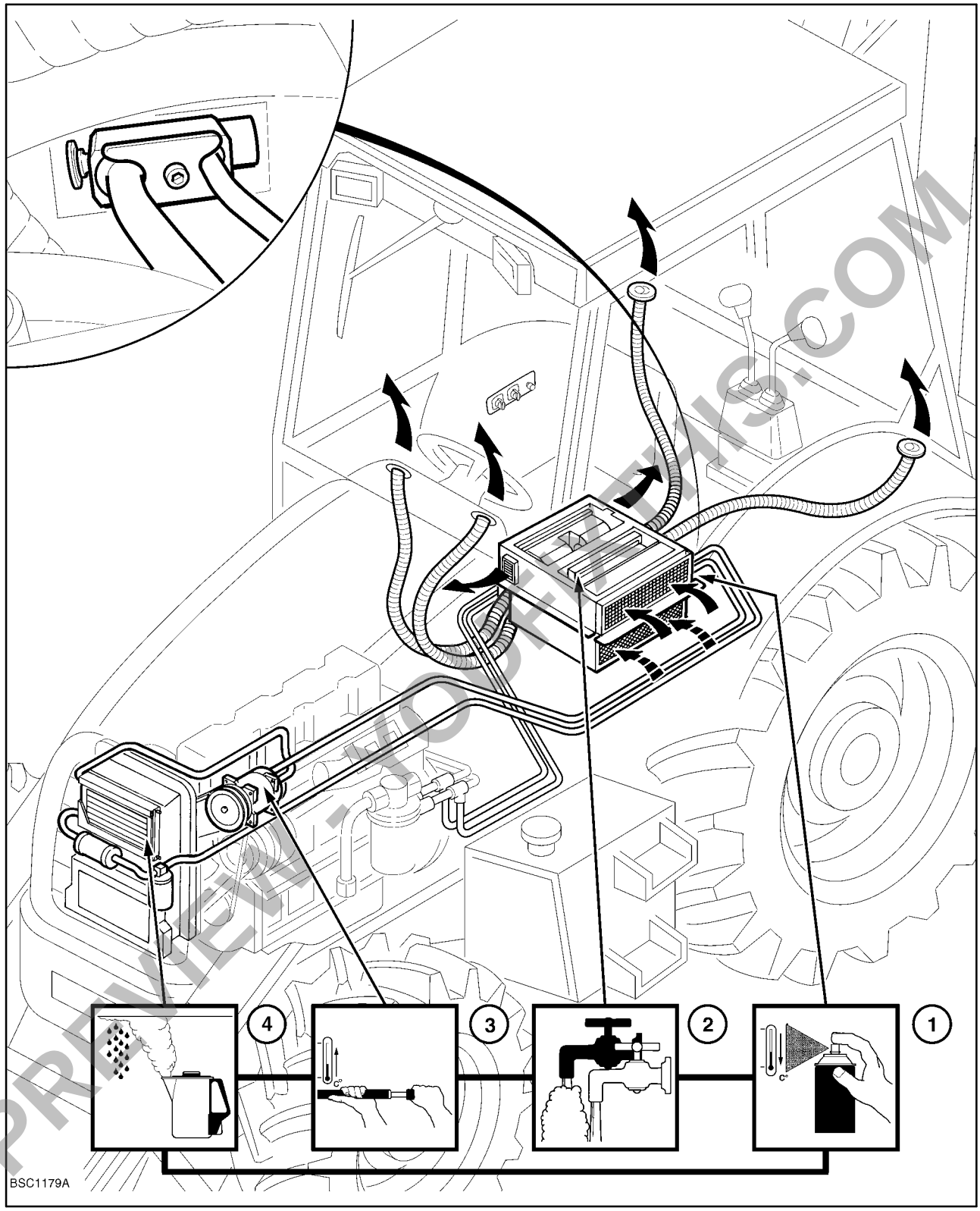
3. Disconnect and plug pump inlet and pressure hoses.
4. Remove pump flange mounting bolts and remove pump.



Installation.

1. Installation follows removal procedure in reverse.
2. Tighten retaining bolts (1) to a torque of 41-51 Nm (30-38 lbf ft).
3. Refill reservoir until oil reaches level of sight glass with backhoe and loader in transport position.

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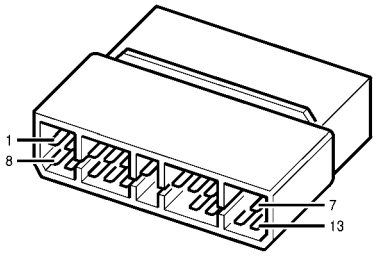
8

Air Conditioning Principle of Operation

1. Expansion Valve – Atomizes Liquid Refrigerant Before Passing to Evaporator
2. Evaporator– Absorbs Heat From Air In Cab
3. Compressor – Compresses and Raises Temperature Of Refrigerant Gas
4. Condenser and Receiver Dryer – Converts Refrigerant from Gas to a Liquid

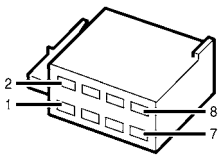
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X22



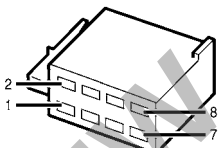
1	B-G 1	8	N 1.5	15	V-B 1
2	B 1	9	R-N 1.5	16	-
3	S 1	10	B/N 1	17	-
4	G/R 1	11	-	18	Z-B 1
5	Z 1	12	R 1	19	G-R 1
6	S-N 1	13	G/R 1	20	M/N 1
7	G/N 1	14	-		

X53



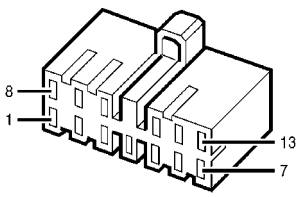
1	R-P 0.5	3	R-N 1	6	N 1
	R-N 1	4	N 1	7	R-N 1
2	N-P 0.5	5	R-P 0.5	8	N-P 0.5
	N1		R-N 1		N1

X54



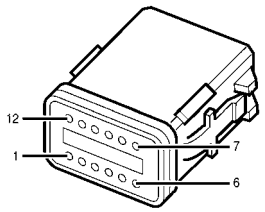
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2	-	5	-		N 1
3	-	6	-		
4	R-N 1	7	R-N 1		

X58



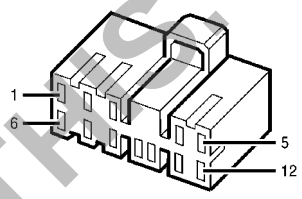
1	A-G 1	6	-	10	L/B 1
2	S-N 1	7	N 1	11	L-N 1
3	L/R 1		N 1	12	A1
4	L 1	8	A/V 1	13	A-V 1
5	L-G 1	9	H-L 1		

X61



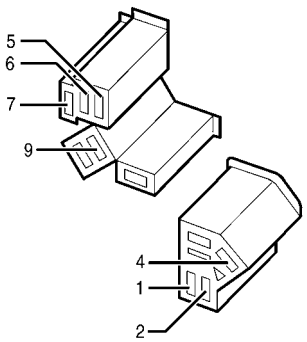
1	-	5	V-N 1.5	9	L-G 1
2	L-B 1	6	A/B 1	10	A-V 1
3	-	7	A/N 1	11	L-N 1
4	G/R 1	8	A/R 1	12	-

X70



1	R/N 1	5	G-N1	9	-
2	N 1	6	G 1	10	-
3	A-B 1	7	-	11	R-V 1
4	V 1	8	-	12	G-R 1

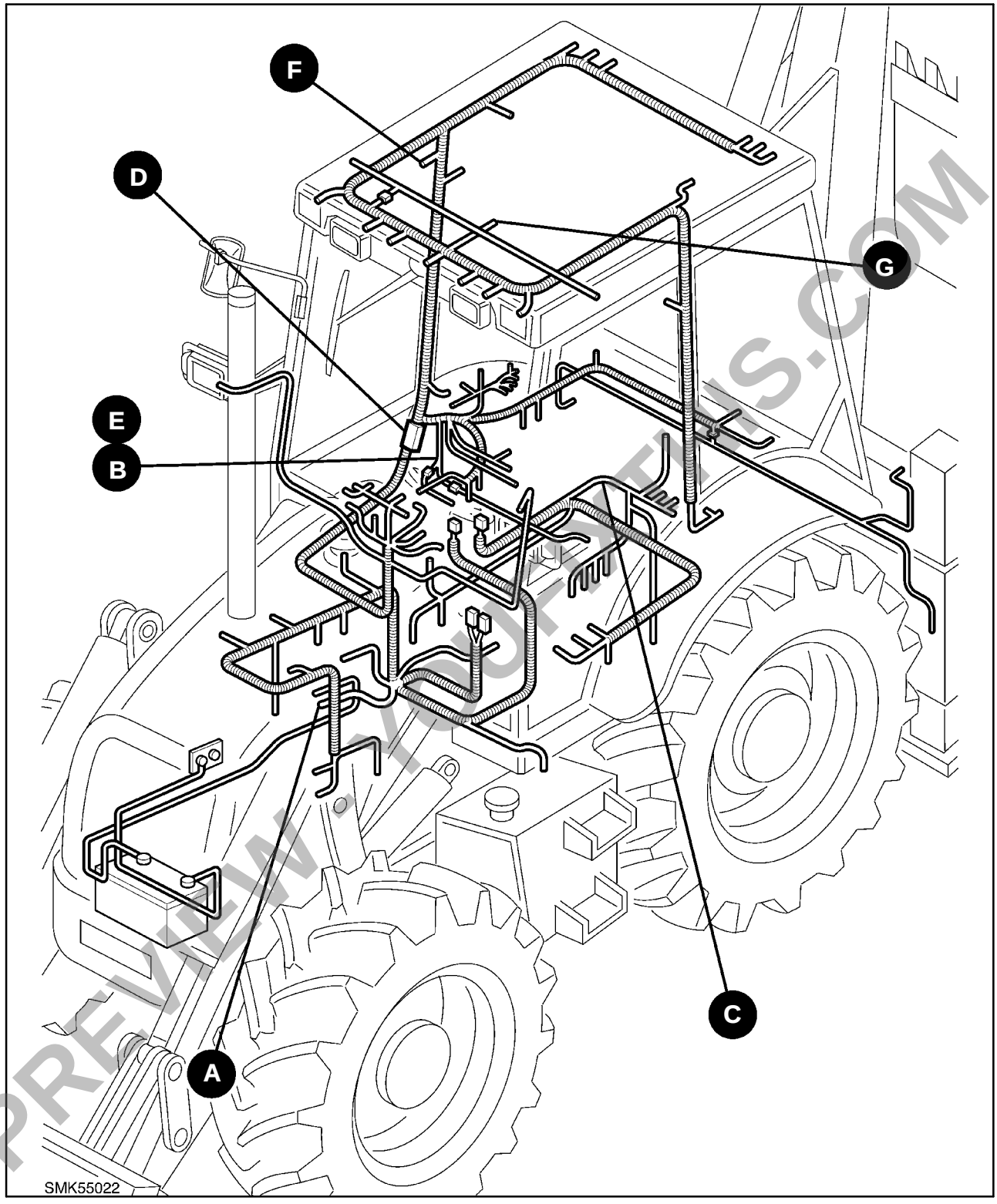
X71



1	R 1.5	4	M-N 1.5	8	-
	R 1.5	5	A 2.5	9	M-N 1.5
2	R 6	6	A 2.5		M/N 1
3	-		A 2.5	10	-
4	M-N 1.5	7	B-N 1.5		

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COMPONENT EARTH POINTS



4

A	Starter Solenoid
B	Front Console Harness – Joins earth point B behind right hand console
C	Chassis Harness – Located underneath body to rear of chassis, above rear axle
D	Fuse Board – Located behind right hand console
E	Cab Main – Located behind right hand console
F	Roof Harness – Located in roof above right hand B pillar
G	Roof Harness – Located in cab roof with interior lamp assembly

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