B . Specifications

Engine

Caracteristic	6235*	6245*	6255*	6260	6265	6270	6280	6290
Perkins Motor	1004-40T	1004-40T	1004-40T	1004-40	1004-40T	1006-60T	1006-60T	1006-60T
Number of cylinders	4	4	4	6	4	6	6	6
Turbocharger	yes	yes	yes	no	yes	yes	yes	yes
Bore (mm)	100	100	100	100	100	100	100	100
Stroke (mm)	127	127	127	127	127	127	127	127
Cubic capacity (mm)	4	4	4	6	4	6	6	6
Nominal power (ISO Kw)	55,2	62,5	69,9	77,2	77,2	84,6	91,9	99,3
At engine speed of rev/min	2200	2200	2200	2200	2200	2200	2200	2200
Maximum torque (ISO Nm)	316	347	385	417	396	463	503	547
Engine speed at maximum torque	1400	1400	1400	1400	1400	1400	1400	1400
Idling speed	1000	1000	1000	1000	1000	1000	1000	1000
Maximum rated speed rev/min	2200	2200	2200	2200	2200	2200	2200	2200
Maximum no load speed rev/min	2354	2354	2354	2354	2354	2354	2354	2354
Lubrication	Gear type pump, strainer on suction side and external canister type filter(s)							
Valves	Overhead, push-road operated							
Valves clearance (cold)								
- Inlet (mm)	0,20	0,20	0,20	0,20	0,20	0,20	0,20	0,20
- Exhaust (mm)	0,45	0,45	0,45	0,45	0,45	0,45	0,45	0,45
Engine oil cooler	yes	yes	yes	yes	yes	yes	yes	yes

Fuel system and air cleaner

Caracteristic	6235*	6245*	6255*	6260	6265	6270	6280	6290
Fuel filter with sediment bowl	yes	yes	yes	yes	yes	yes	yes	yes
Number of elements	1	1	1	2	1	2	2	2
Fuel injection pump	Lucas							
Injectors and nozzle holders	Lucas							
Cold weather starting	Thermostart							
Air cleaner : two-stage, dry element with blockage indicator								

* For all models ; standard and steep nose

Introduction

Capacities

Fuel tank:	6235/6245	130 l	(28.6 Imp. gal.)	(34.34 Us gal.)
	6255/6265/6260/6270/6280/6290	160 l	(35.20 Imp. gal.)	(47.27 Us gal.)
Additional fuel tank:	6235/6245/6255/6265/6260/70/80	67 l	(14.71 Imp. gal.)	(17.9 Us gal.)
	6290	65 l	(14.30 Imp. gal.)	(17.17 Us gal.)
Cooling system:	6235/6245/6255/6265	16.6 l	(3.65 Imp. gal.)	(4.38 Us gal.)
	6255/6265/6260/6270/6280	25 l	(5.50 Imp. gal.)	(6.60 Us gal.)
	6290	28.5 l	(6.30 Imp. gal.)	(7.40 Us gal.)
Engine sump:	6235/6245/6255/6265	7.4 l	(1.62 Imp. gal.)	(1.954 Us gal.)
	6260/6270/6280	14.8 l	(3.26 Imp. gal.)	(3.91 Us gal.)
	6290	15.6 l	(3.40 Imp. gal.)	(4.00 Us gal.)
Transmission/rear axle:	6255/6265/6260	68.5 l	(15 Imp. gal.)	(18 Us gal.)
	6270/6280	71 l	(15.6 Imp. gal.)	(18.75 Us gal.)
	6290	70 l	(15.4 Imp. gal.)	(18.5 Us gal.)
Front axle assemby	6235/6245	5.8 l	(1.27 Imp. gal.)	(1.53 Us gal.)
	6255/6265/6260	6.8 l	(1.49 Imp. gal.)	(1.79 Us gal.)
	6270/6280	7.0 l	(1.53 Imp. gal.)	(2.69 Us gal.)
	6290	10.2 l	(2.23 Imp. gal.)	(2.69 Us gal.)
Front final reduction units (each)	6235/6245	0.9 l	(0.20 Imp. gal.)	(0.24 Us gal.)
	6255/6265/6260	1.1 l	(0.24 Imp. gal.)	(0.29 Us gal.)
	6270/6280	1.5 l	(0.33 Imp. gal.)	(0.40 Us gal.)
	6290	1.6 l	(0.35 Imp. gal.)	(0.42 Us gal.)

Tightening torque

Wheel nuts

	DISC ON HUB		**RIM ON DISC**	
		P.A.V.T. Wheels	Fixed cast wheel	Steel wheels
Front axle				
2 WD	200 to 260 lbf-ft	-	-	-
4 WD	400 to 450 lbf-ft	-	-	200 to 260 lbf-ft
Rear axle				
Flanged shaft	400 to 450 lbf-ft	180 to 250 lbf-ft		-
Straight shaft	350 to 460 lbf-ft	180 to 250 lbf-ft		-

Miscellaneous

Power take-off ..... 100 - 130 Nm (74 to 96 lbf-ft)
Axle outer ram ..... 400 - 600 Nm (293 to 440 lbf-ft)
Steering rams ..... 75 - 80 Nm (55 to 59 lbf-ft)
Engine oil drain plug ..... 35 Nm (25 lbf-ft)
Fuel tank drain plug ..... 15 Nm - 18 Nm (11 to 13 lbf-ft)

50. Assembly of piston (**28**) :
Note : The angular position of the piston depends on the lubrication ports of the clutch housing (18). Align the indexing holes drilled in the housing and the piston (Fig. 6). For alignment, use a pin of an appropriate diameter. Complete installation of the piston by gradually striking around it with a plastic hammer. Check that there are no chips from the gasket after assembly.

51. If removed, fit bearing (**22**) with an appropriate tool. The sealed side is directed towards the Dynashift. Fit circlip (**21**).

52. Fit Belleville washers (**25**) on shaft (**19**) as per Fig. 5.

53. Slide housing (**18**) on input shaft (**19**).

54. Compress the Belleville washers with the tool used in operation 43. Fit bush (**5**) aligning the two flat parts with the flat parts in clutch housing (**18**). Replace the rear retaining ring (**9**) and position it correctly at the bottom of the groove.

55. If disassembled, fit bearing (**32**) using an appropriate tool with the sealed side directed towards the Dynashift.

56. Fit the hub in the bearing in clutch cover (**33**).

57. Soak disks in a transmission oil bath for approximately one hour. Make sure that they are correctly impregnated with oil.

58. Position intermediate plates (**30**), by aligning their recesses, and disks (**29**) on hub (**27**) as per Fig. 2.

Details

If removal of the clutch control valve is necessary (see section 9J01).

59. Put the clutch housing (**18**) on the clutch cover (**33**). Tighten screws (**66**) to 25,5 - 34,5 Nm.

60. Check that the hub (**27**) rotates by hand.

61. Check that rings (**15**) turn correctly in their grooves. Put rings coated with miscible grease, making sure that they do not exceed the circumference of the housing.

62. If disassembled, tighten the 1.5 bar valve to 47 - 54 Nm and fit bush (**16**) using an appropriate tool, chamfer "**C**" directed as per Fig. 7.

63. Lubricate the bush. Assemble the pump housing (**1**) on the clutch housing (**18**).

64. Lubricate the pump (**14**) and position it directing the flat parts in the same direction as those on the clutch housing (**18**). Check that the angular movement of the rotor on the flat sections of clutch housing (**18**) by hand.

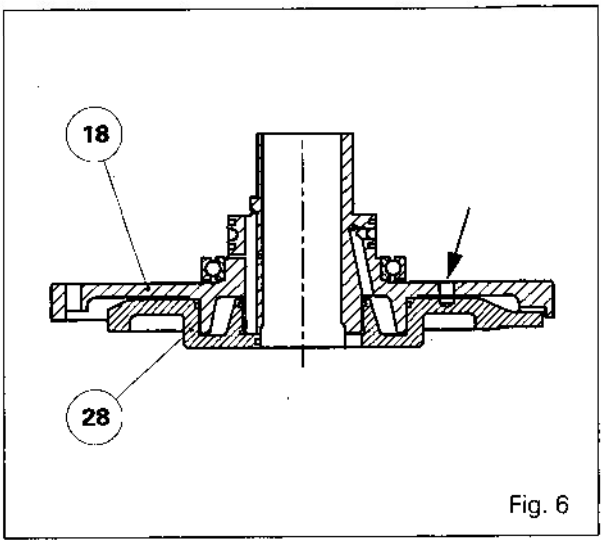


Fig. 6

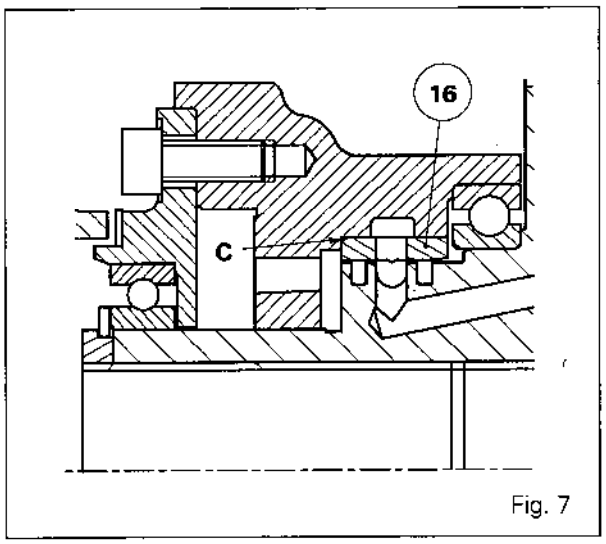


Fig. 7

65. Install the pup cover (**2**). Fit the ball bearing (**12**). Put circlips (**11**). Tightenthe screw to 25 - 35 Nm.

66. Fit the O'ring (**7**) and bush (**8**) (see § A). Install the clutch (see § B).

Gearbox -

Dynashift with power shuttle

9. Using tool 3376888 M1 (See § J), immobilize the ring gear (**34**). Remove the screws (**25**) (Fig. 8).
10. Pull out the ring gear (**34**), ring gear carrier (**1**), ring gear (**31**) and bearing (**27**) assembly.
11. Separate the ring gear (**34**) from the ring gear carrier (**1**). Remove the spring washer (**77**) and the bearing (**27**).
12. Remove the spacer housing (**21**) and the piston (**22**).
13. Remove the discs (**3**) (**15**), the intermediate plates (**2**) and the counter-plates (**17**), the hub (**5**), the springs (**20**) and the thrust plate (**16**).
14. Remove the Belleville washer (**4**) and the clutch housing (**14**).

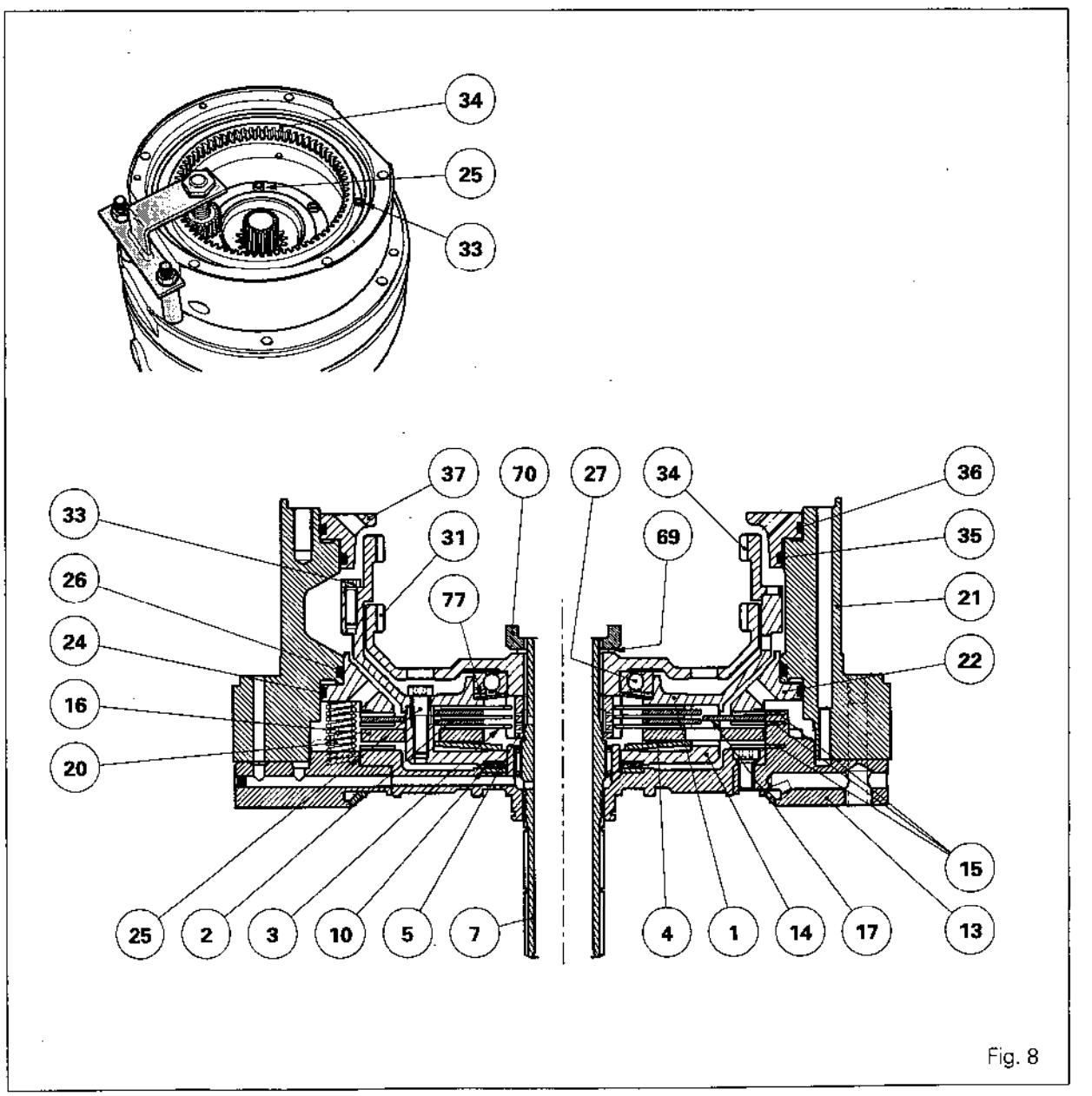


Fig. 8

Heavy Duty Gearbox - Mainshaft

Assembly

18. Clean the housing and the mating faces.
19. With compressed air, check that all channels in the gearbox and in the shaft are not clogged.
20. Clean and check parts. Replace defective parts.
21. Lubricate cones, cups, bores of bearings and the bush.
22. Using an appropriate tool, force-fit bearing cone **(17)** on shaft **(69)** (if removed) using a press.
23. Install locking ring **(70)**.
24. Install cups **(2)** **(16)**
25. Install the 1st, 2nd pinon, synchronizer (11), cones **(73)** **(74)** and bush **(8)** assembly.
26. Fit the shaft from the rear of the housing while holding the pinion/synchronizer assembly together (Fig. 6), making sure that bush **(8)** is correctly fitted in pinion **(14)**.
27. Install locking tool 3378082M1 (see § D) and retaining sleeve, made locally (Fig. 3 - 4).
28. Force-fit cone **(1)** on pinion **(67)**.
29. Install washers **(6)** separated by a number of shims **(3)** sufficiently thick to obtain a temporary clearance of 0.10 to 0.15 mm approx in expectation of shimming with preload.
30. Install pinion **(67)** on shaft **(69)**.
31. Fit the nut **(68)** using socket 3378010M1 and tighten to 130 - 170 Nm (Fig. 5).
32. Remove the tool and the sleeve (Fig. 3 - 4).
33. Set the shaft.
34. Put the contact end of the dial gauge at the end of the shaft (Fig. 7).
35. From the front of the housing, pull the shaft, turning it alternately from left to right in order to correctly seat the cones in the cups.
36. Set the dial gauge to zero.
37. Repeat operation 35. but pushing.
38. Depending on the clearance measured, select the thickness of final shims required and necessary to obtain a preload :
P1 = 0.14 to 0.20 mm. If possible, shim to the maxi.
39. Install the locking tool and the retaining sleeve (Fig. 3 - 4).
40. Loosen nut **(68)**.
41. Remove pinion **(67)**.
42. Position shims **(3)** selected during operation 38 between two washers **(6)**.
43. Install the pinion.
44. Degrease the thread of the shaft with a solvent.
45. Lightly smear new nut **(68)** with Loctite 270 then tighten to 130 - 170 Nm.

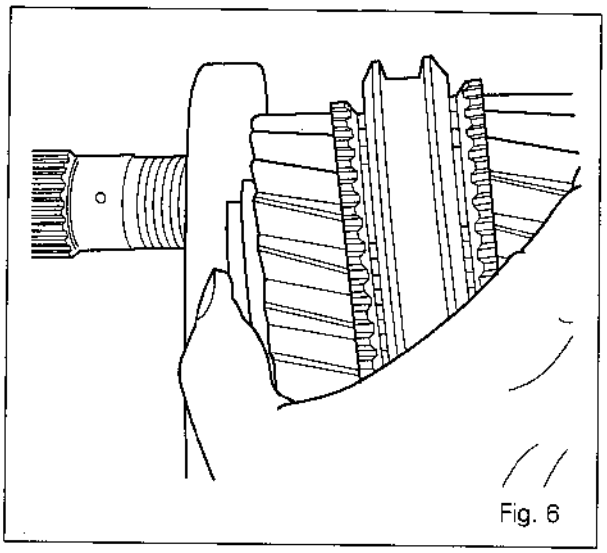


Fig. 6

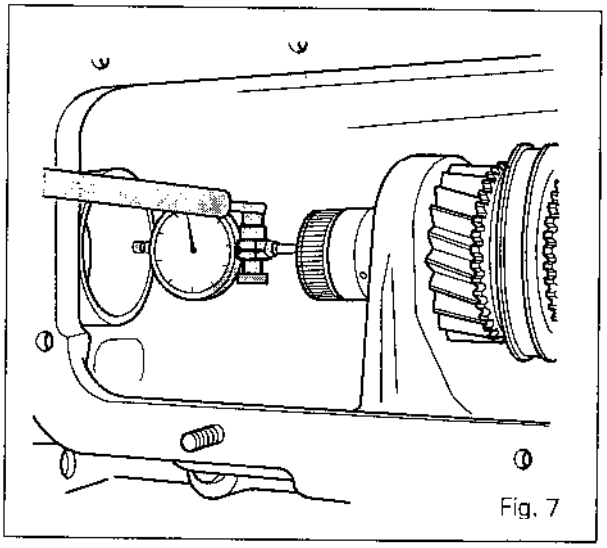


Fig. 7

Exploded view - 6280 - 6290 assembly

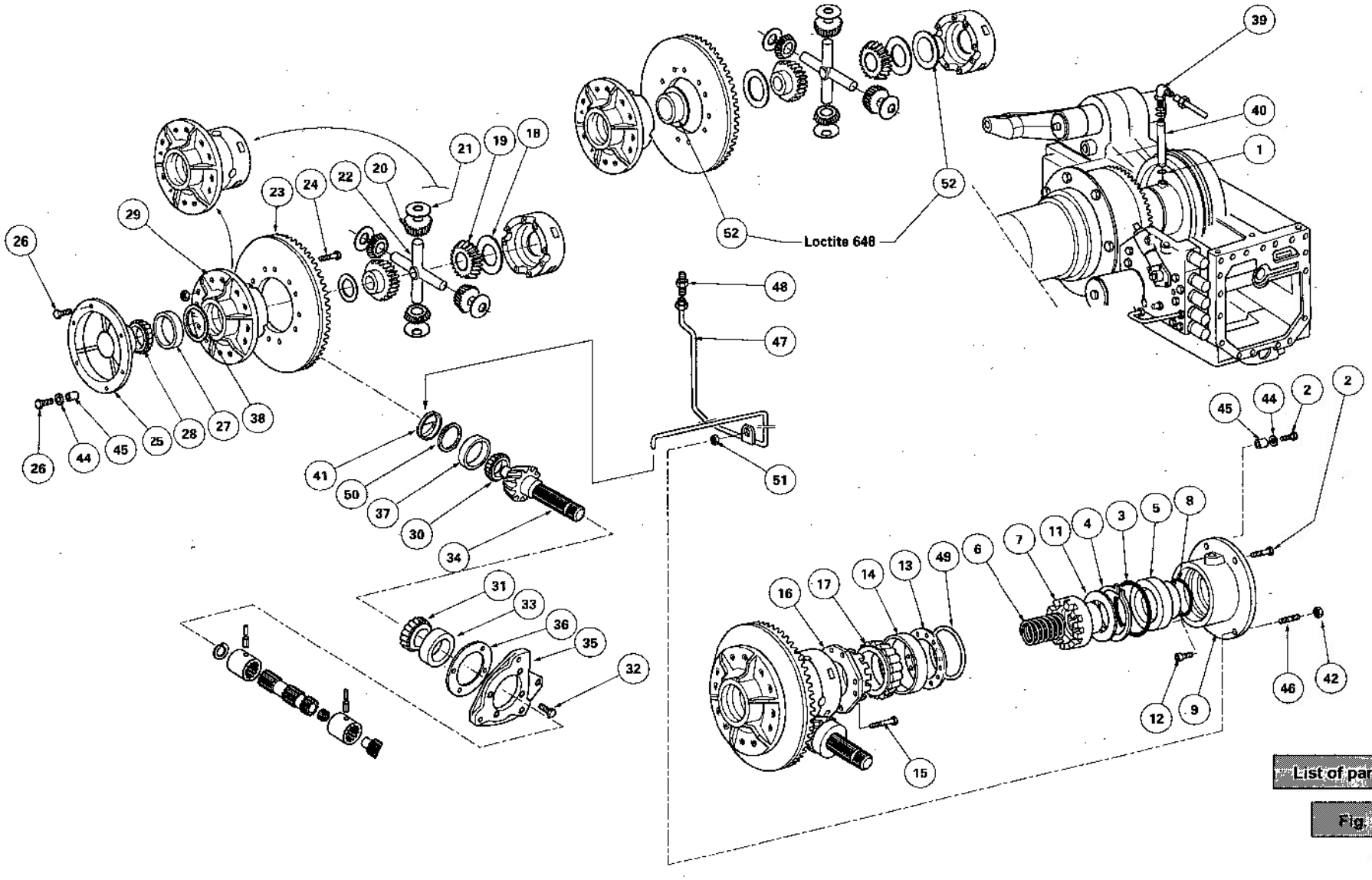
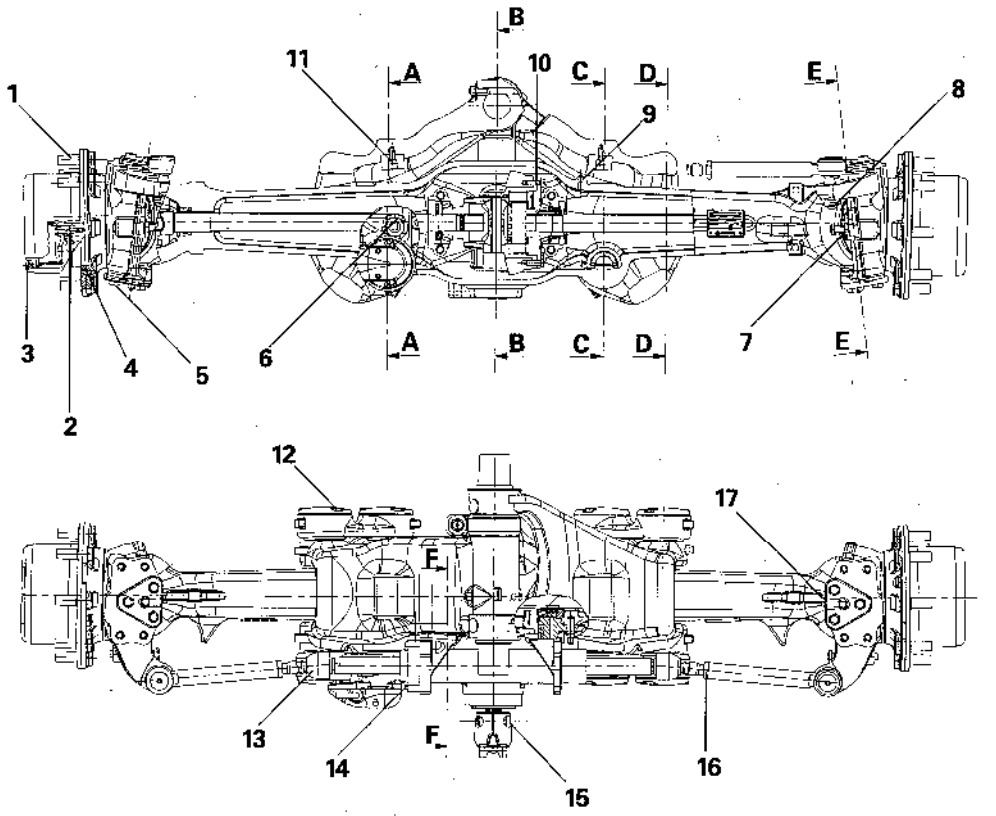
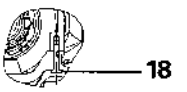


Fig. 2





Sez.F.F

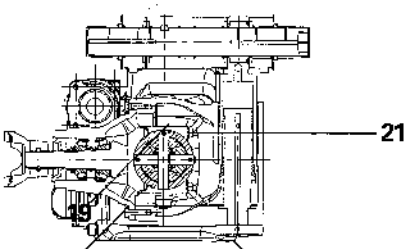


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Fig. 5

Front Axle - Bearings and transmission shaft

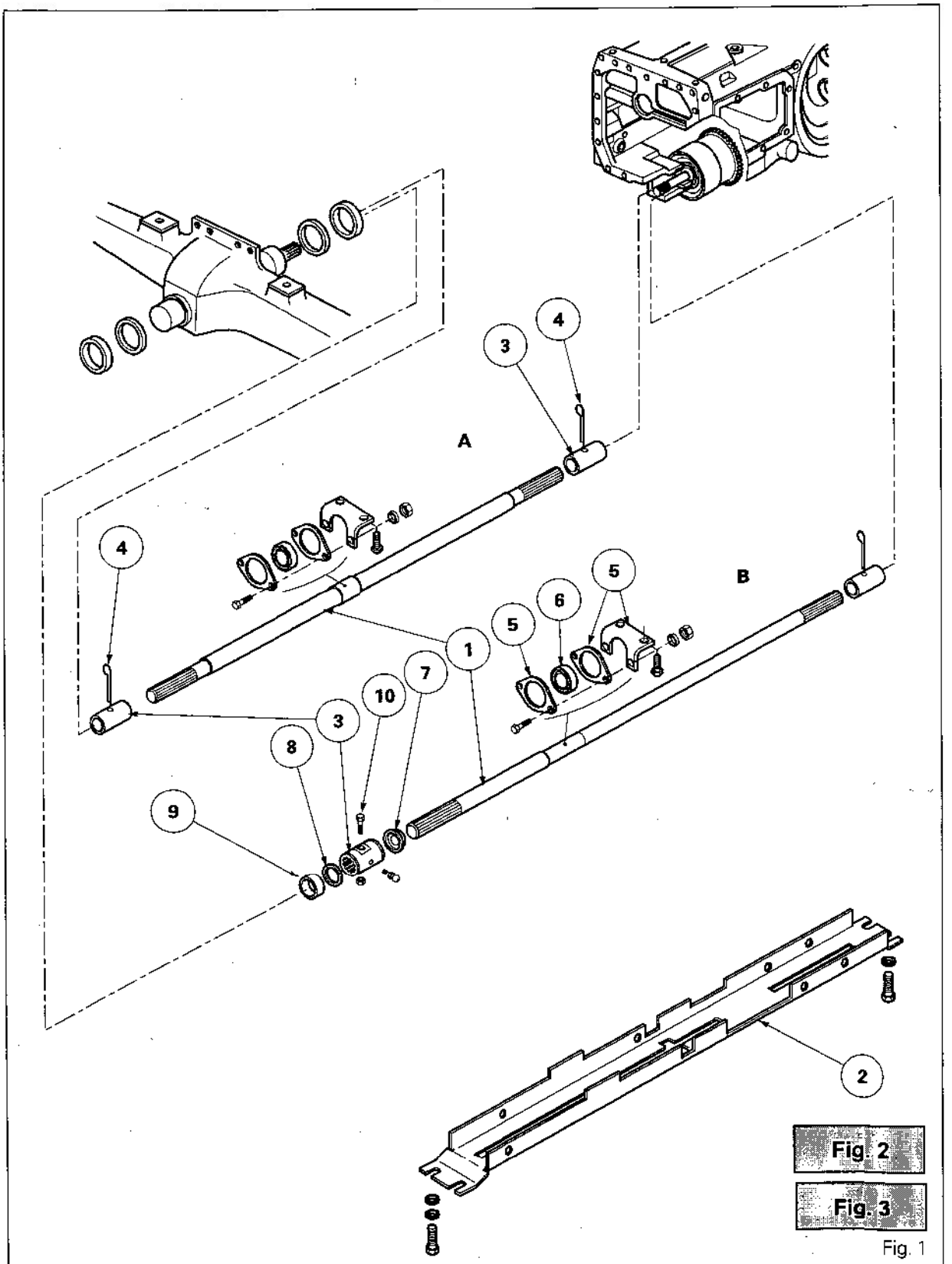


Fig. 1

Fig. 2
Fig. 3

Open centre hydraulics -
Auxiliary spool valves

C . 3-position spool valve, SA / DA with spring loaded return to neutral

Operation (Fig. 10)

Oil from the high flow rate circuit passes through the trailer braking valve (**3**) (if fitted) or the cover plate mounted on the right-hand side hydraulic cover. This feeds the various spool valves via the continuity channel "**N**". The spool valves are fitted in series and have priority over the lift control.

Neutral position (Fig. 10)

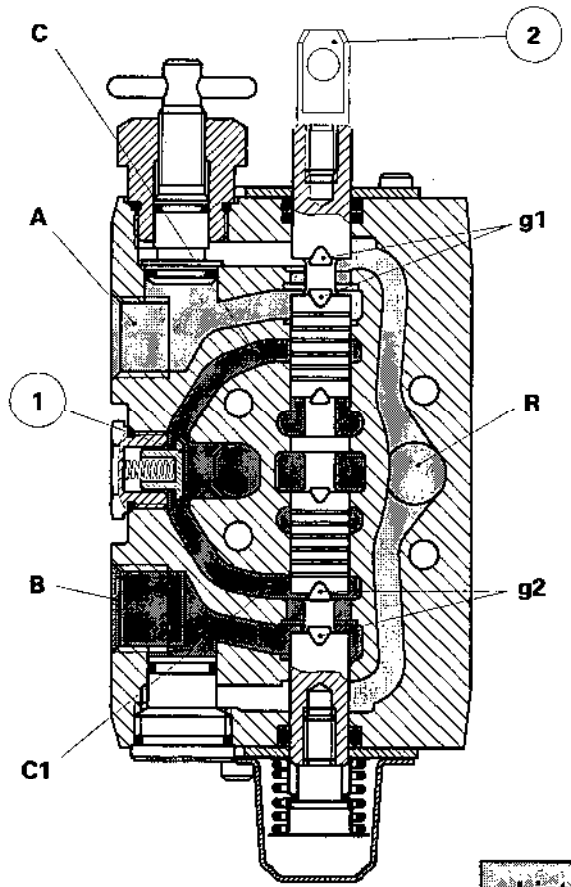
The oil is not available at outputs "**A**" or "**B**". Via the continuity channel "**N**", it is directed to the lift control valve and passes directly to the pump suction pipe when the lift control is in the neutral position. Channels "**N**" and "**P**" are linked in the intermediate block (**7**) (Fig. 7) to supply the subsequent spool valves.

Inlet –discharge position (Fig. 8)

When the spool (**2**) is moved upwards or downwards, the continuity channel is cut, the pressure increases and raises the valve (**1**). The oil is directed to channels "**C**" or "**C1**" depending on the movement of the spool and in order to feed outputs "**A**" or "**B**" via grooves "g_1" or "g_2". Simultaneously, the oil returning from the ram is directed depending on the position of the spool, to outputs "**A**" or "**B**" to reach the return channel "**R**".

Single / double acting change-over (Fig. 9)

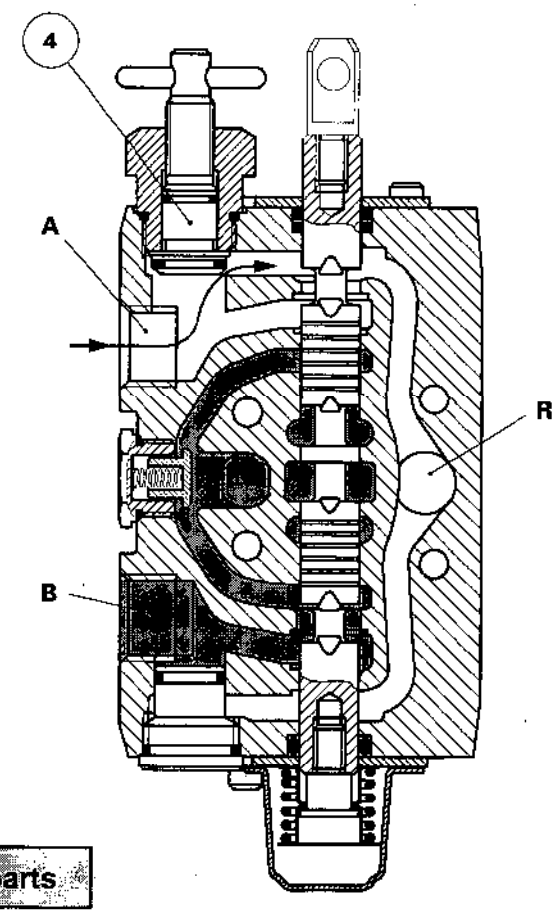
To obtain the single acting position, unscrew the valve (**4**); output "**A**" is then placed in communication with channel "**R**". The output "**B**" supplies the hydraulic utilisation side. To obtain the double acting position, screw in the valve (**4**).



List of parts

High flow rate – High pressure

Fig. 8



Return

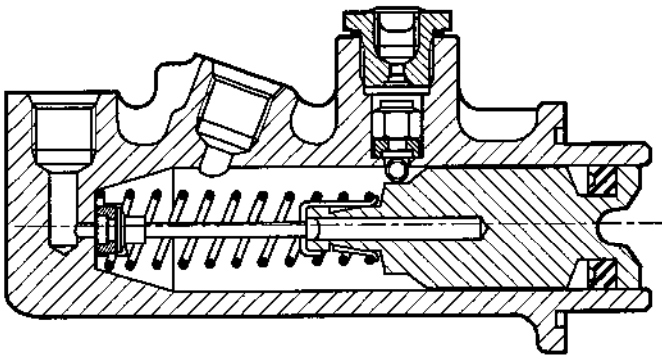
Fig. 9

Open centre Hydraulics - Master cylinders

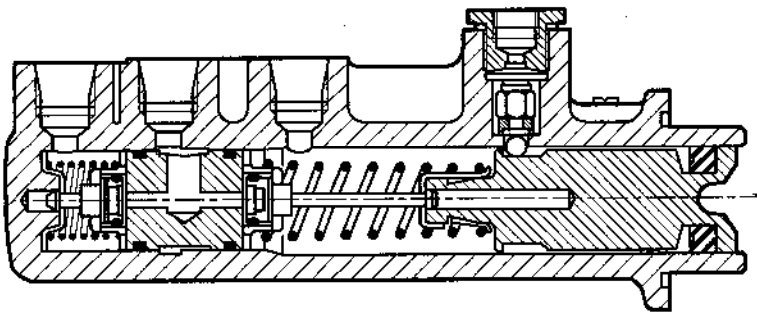
Identification of servobrake ports (Fig. 9)

A : 17 bar power supply
R : Towards housing return
T : Chamber of piston **(9)**

Single circuit master cylinders



Double circuit master cylinders



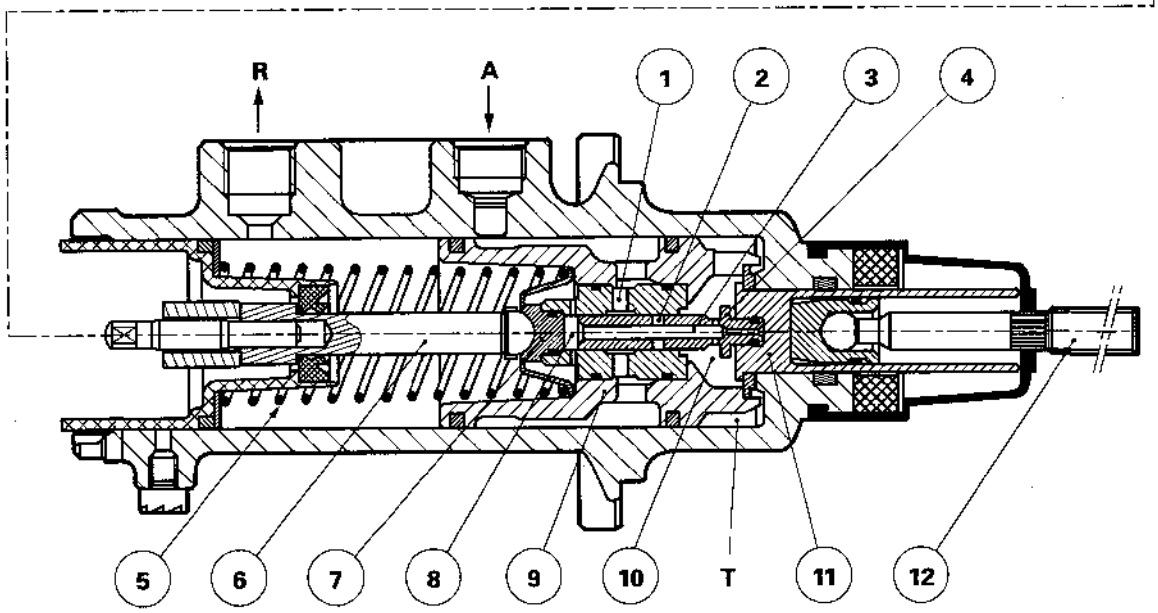


Fig. 9

Lowering position (Fig. 3B)

- During the lowering phase, only the solenoid valve **WV2** (**7**) is fed.
- Oil feeds chamber **B** of the cylinder through channel **E**. The pressure created in the pilot line **F** gives priority to the suspended front axle.
- The proportional solenoid valve (**10**) stops supplying the auxiliary spool valves and the lift control system. When the pressure in the circuit reaches 180 bars, the proportional solenoid valve (**10**) opens and starts feeding the auxiliary spool valves (**15**) and the lift control system.
- The pressure in the pilot line **F** also allows the opening of the check valve (**11**) so that oil in chamber **A** returns to the tank through channel **G**.

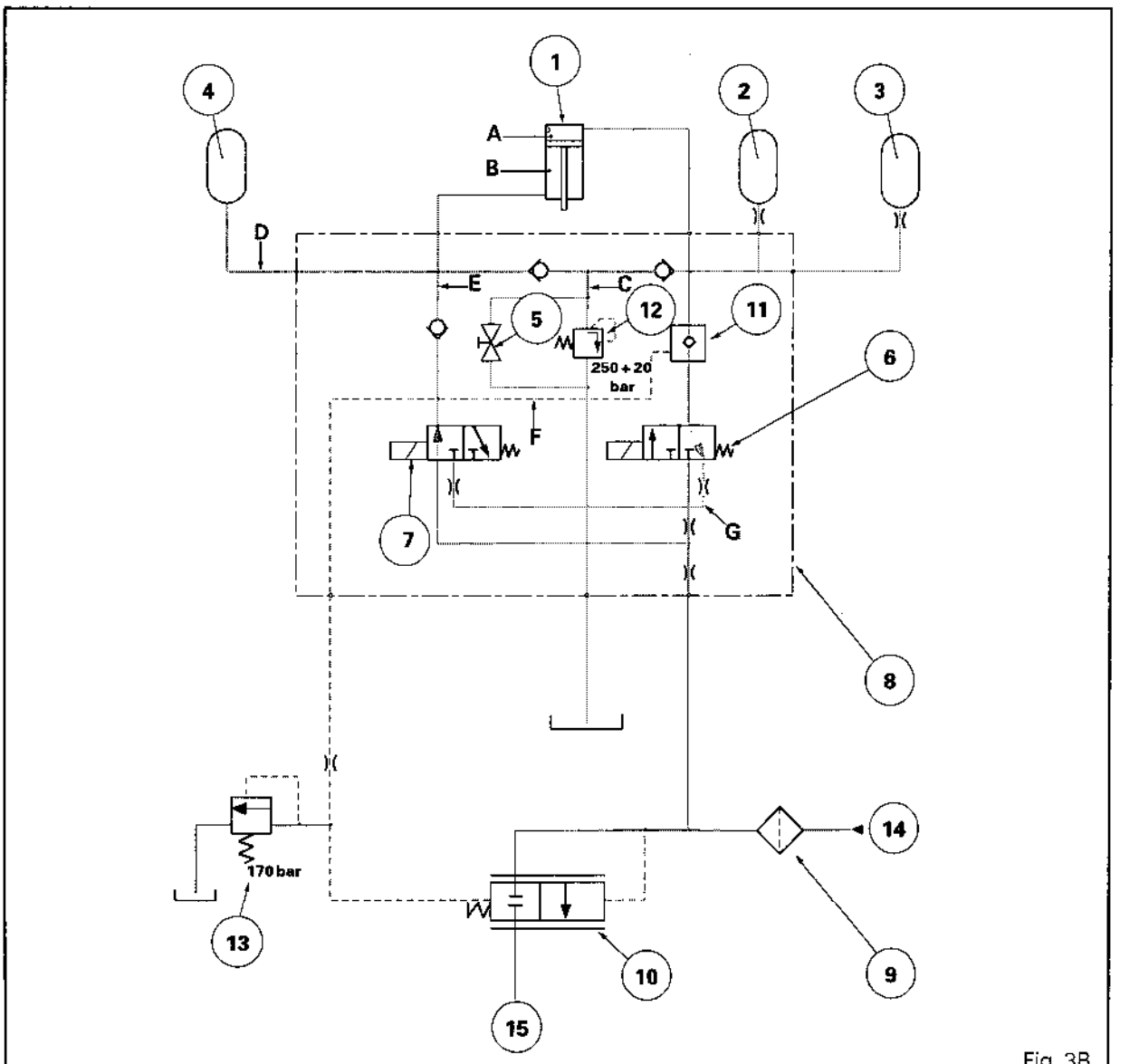


Fig. 3B

Closed centre hydraulics

Description of the circuit

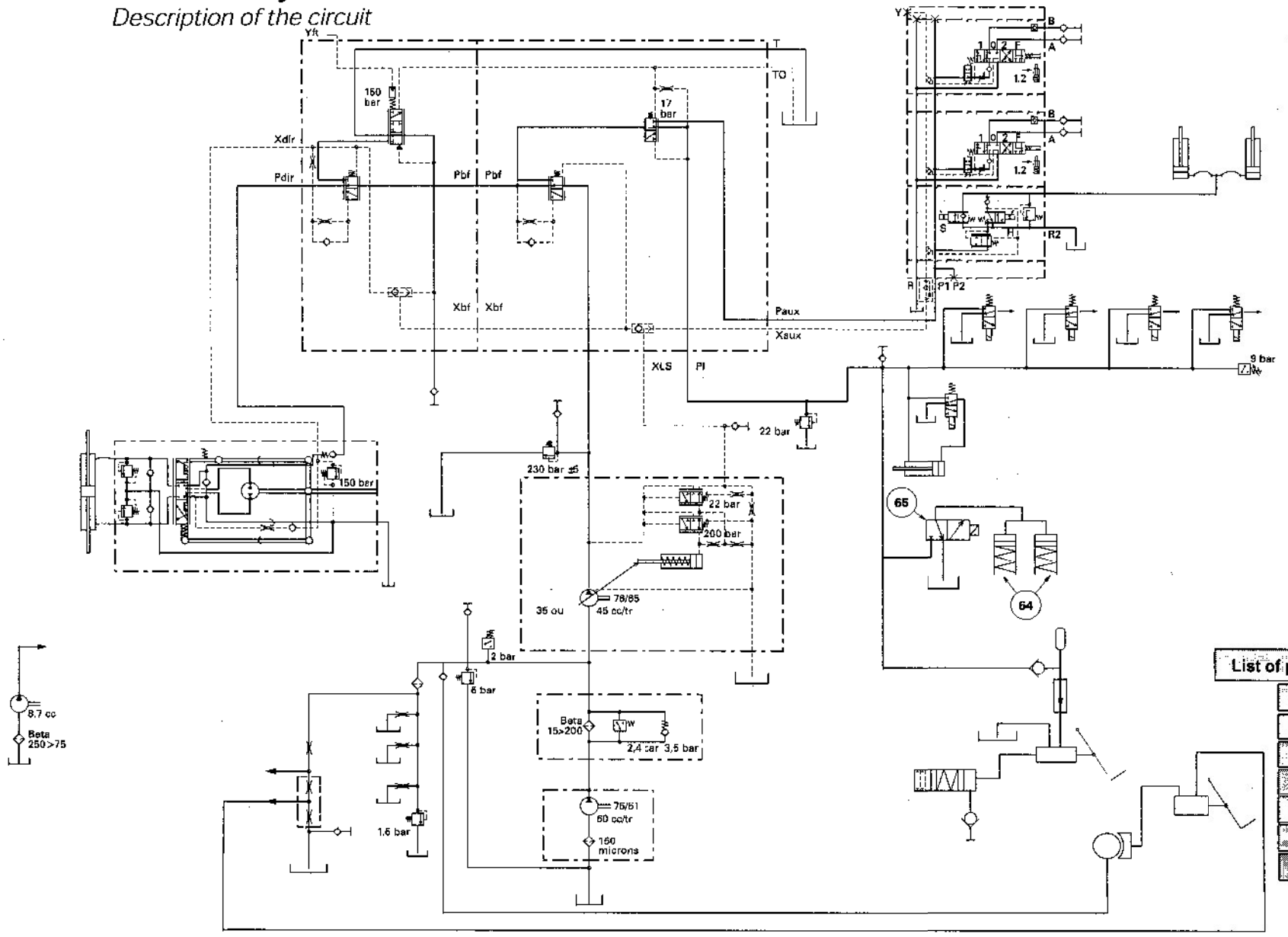


Fig. 8

9U02.6

Hydraulics closed centre - Left-hand cover

A. Removal and refitting of the cover

Removal

1. Take off the wheel concerned. Place an axle stand.
2. Partially drain the rear axle housing.
3. Unscrew the bowl (**20**). Remove the strainer (**6**).
4. Remove the supports of the handbrake control and the proportional PTO (if fitted). Remove the bolts (**7**) (**10**) and (**19**) (Fig. 7).
5. Take off the cover (**14**) and the suction manifold (**4**).

Refitting

6. Clean the mating faces of the housing and the cover. Smear the mating face of the housing with Loctite 510 or equivalent.
7. Replace the O-ring (**17**) and position the O-ring (**5**) on the suction manifold (**4**) (Fig. 3).
8. Place the manifold on the pipe (**1**).
9. Slide the gasket (**18**) over the guide studs "**G2**", the manifold side lightly smeared with silicone (Silicomet type). Screw two diametrically opposed guide studs "**G1**" into the housing (Fig. 8).
10. Check for the presence of the two centring pins (**16**) (Fig. 6).
11. Slide the cover over the guide studs "**G1**" and "**G2**" and press the cover home onto the housing.
12. Alternatively take out guide studs "**G2**" and fit the bolts (**7**) smeared with Loctite 241, tighten to a torque of 15 - 20 Nm.
13. Take out the guide studs "**G1**". Refit the supports taken off in step 4. Fit and tighten the bolts (**10**) (**19**) to a torque of 90 - 120 Nm.
14. If necessary, replace the O-ring (**21**) on bowl (**20**). Fit the strainer (**6**) and tighten the bowl.
15. Refit the wheel. Tighten the wheel nuts to the torque indicated below. Top up the oil level in the housings and check it using the gauge located at the rear of the central housing.
16. Check the oil tightness of the mating faces of the cover and bowl.

Tightening torques

- Bolts (**7**): 15 - 20 Nm (Loctite 241)
- Bolts (**10**) (**19**): 90 - 120 Nm
- Wheel nuts: 400 - 450 Nm
- Bowl (**20**): moderate tightening.

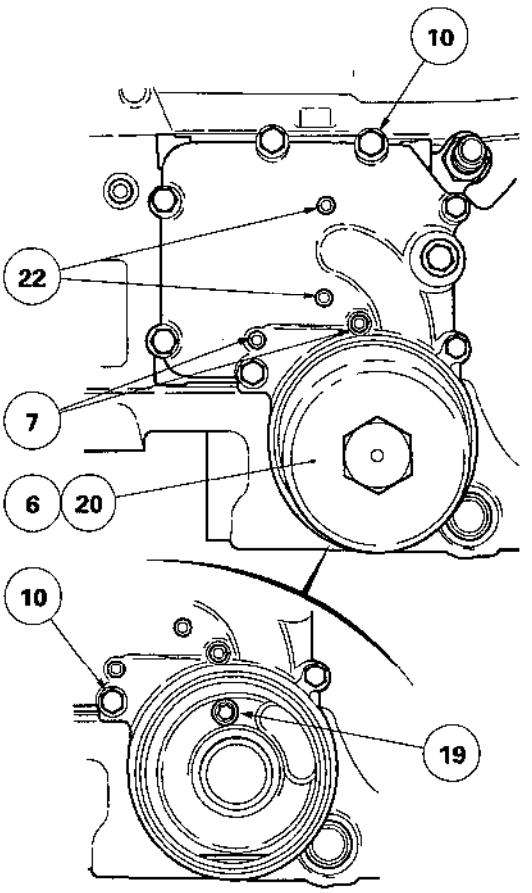


Fig. 7

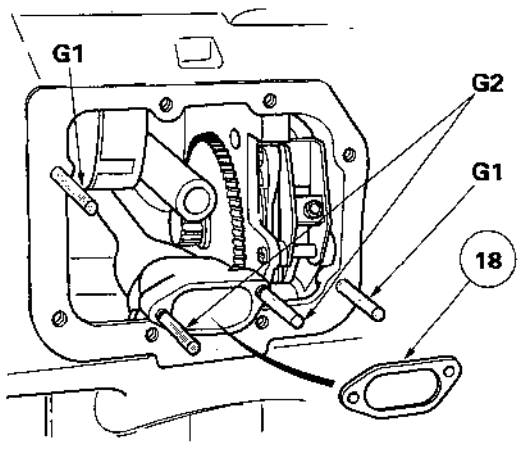


Fig. 8

Electronics - Linkage
Tractor with cab

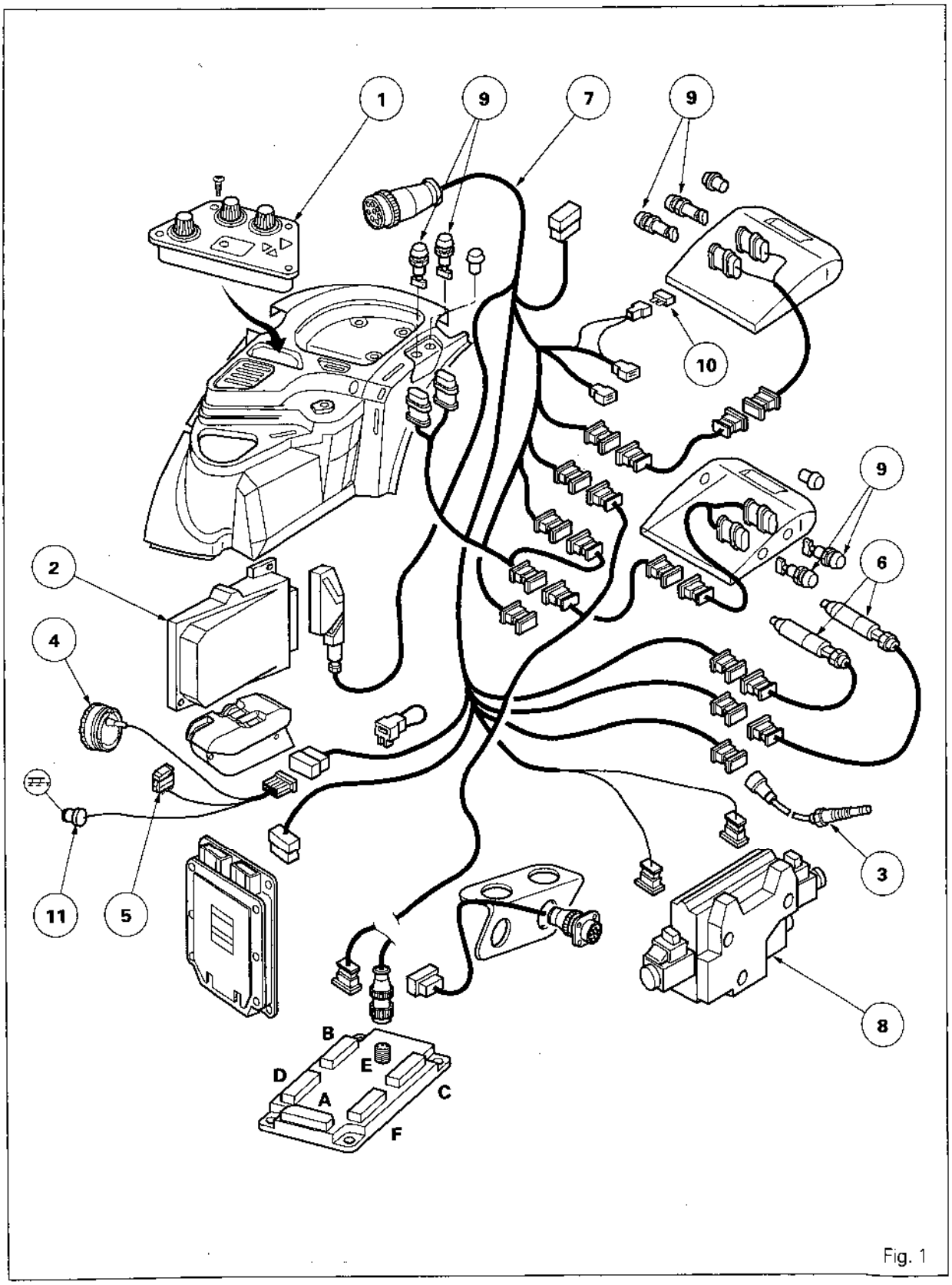


Fig. 1

Code F: Speedshift	Code G: Dynashift	Code H: Reverse shuttle
0 = No Speedshift 1 = Speedshift with button control 2 = Speedshift with steering wheel lever 3 = Not used 4 = Speedshift with power shuttle type lever	0 = No Dynashift 1 = Dynashift with steering wheel lever 2 = Dynashift with gear lever button 3 = for AGCO Allis or White 4 = Dynashift with power shuttle type lever	0 = Mechanical 1 = Pre-selection • with button • with MCB sensor (old model) 2 = Pre-selection • with lever • with MCB sensor (old model) 3 = Pre-selection • with lever • with Bosch sensor (new model) 4 = Pre-selection • with button • with Bosch sensor (new model) 5 = Power shuttle

Code I: Factory	Code J: Creeper unit
0 = AGCO MF old range **(c)** 1 = Not used 2 = MF 6200 / 8200 **(d)**	0 = None **(e)** 1 = With **(e)**

Code K : PTO
0 = without PTO 1 = PTO with ON / OFF solenoid valve 2 = PTO with proportional solenoid valve