490X4

A3 Assembly Diagrams

SERVICE MANUAL

Oct. 2015

SUMITOMO

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Travel motor	11	Check valve with travel merge orifice	21	Check valve
2	Boom (up)	12	Travel high-speed select switch	22	Oil cooler
3	Boom (down)	13	Main computer	23	Backward left
4	Cushion valve	14	Travel high speed	24	Forward left
5	Remote control valve (boom, bucket)	15	Lever lock	25	Forward right
6	Control valve	16	5 stack solenoid valve	26	Backward right
7	Left travel spool	17	Console lever lock switch	27	Boom [2] spool control
8	Right travel spool	18	Hydraulic pump	28	Straight travel spool control
9	Straight travel spool	19	Boom cylinder	29	Boom [1] spool
10	5 stack proportional pressure reducing valve	20	Travel remote control valve	30	Boom [2] spool

As an example, this section explains the case in which forward travel and boom-up operations are carried out simultaneously.
By operating the travel remote control valve (20) to the forward side, the pilot pressure oil is fed to the control valve (6) pb1 port and switches the left travel spool (7) to the forward side.
In the same way, the oil is also fed to the control valve (6) pb6 port to switch the right travel spool (8) to the forward side.
The discharge oil from the hydraulic pump (18) A1 enters the control valve (6) P1 port and the discharge oil from the hydraulic pump (18) A2 enters the control valve (6) P2 port.
Switching the left travel spool (7) and right travel spool (6) lets each discharge oil flow to the travel motor (1) and causes forward travel.
If a boom-up operation is carried out during travel, the pilot pressure oil is fed via the cushion valve (4) and boom [2] spool control (27) to the control valve (6) pa3 and pa7 ports and switches the boom [1] spool (29) and boom [2] spool (30) to the up side.
When a compound operation (it is a boom-up operation and left/right travel operation this time) are detected by the sensors, the main computer (13) turns ON the straight travel spool control (28) and the pilot pressure oil is fed to the control valve (6) pst port and switches the straight travel spool (9).
The amount of switching of the straight travel spool (9) varies with the upper pilot pressure. (The pilot pressure is low for slight upper operation. As a result, the amount of switching of the straight travel spool (9) is reduced and the travel speed is stabilized.)
Switching the straight travel spool (9) allows the pressure oil at the control valve (6) P1 port to drive the left and right travel motors (1) and the pressure oil at the control valve (6) P2 port to drive the boom.
Because the left and right motors are driven by 1 pump, the left and right motors have the same pressure and straight travel is possible.
Furthermore, the control valve (6) P2 excess oil is fed to the travel side via the check valve with travel merge orifice (11) to minimize the drop in speed.
The same operations are carried out when travel and an upper actuator other than for the boom are operated simultaneously.

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Swing motor	7	Check valve	13	Main computer
2	Cushion valve	8	Oil cooler	14	Control valve
3	Right swing	9	Lever lock	15	Hydraulic pump
4	Left swing	10	Swing brake	16	Swing parking brake
5	Swing pilot pressure sensor	11	5 stack solenoid valve		
6	Remote control valve (arm, swing)	12	Console lever lock switch		

When the machine is stopped (with the key switch OFF), the swing motor (1) P port pressure oil returns to the hydraulic tank through the swing brake solenoid (10). The swing parking brake (16) stays applied.

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Boom load holding valve check valve	10	Control valve	19	P1 pressure sensor
2	Load holding valve spool	11	Check valve	20	P2 pressure sensor
3	Cushion valve	12	Oil cooler	21	Hydraulic pump
4	Boom (up)	13	Boom cylinder	22	HBCV check valve
5	Boom (down)	14	Boom [1] spool	23	Regeneration orifice
6	Remote control valve (boom, bucket)	15	Boom-down pilot pressure sensor	24	Bleed-off
7	Lever lock	16	Console lever lock switch	25	HBCV
8	Pressure boost relief	17	Monitor display		
9	5 stack solenoid valve	18	Main computer		

When the remote control valve (6) boom operation lever is in neutral, the pressure oil at the boom cylinder (13) bottom side is sealed by the boom load holding valve check valve (1), reducing internal leakage from the boom [1] spool (14) to reduce the hydraulic drift of the boom.
By operating the remote control valve (6) to the boom-down side, the pilot pressure oil is fed to the control valve (10) pb7 port via the cushion valve (3) and switches the boom [1] spool (14) to the down side.
The pilot pressure oil separated before the control valve (10) moves the load holding valve spool (2) to the left.
In this way, the pressure oil in the spring chamber of the boom load holding valve check valve (1) is connected to the tank line through the load holding valve spool (2), the pressure in the spring chamber drops, and the boom load holding valve check valve (1) is opened.
Also, the separated pilot pressure oil is fed to the HBCV (25) Pi1 port and switches the HBCV check valve (22).
The discharge oil from the hydraulic pump (21) A2 enters the control valve (10) P2 port and is fed to the boom [1] spool (14) via the parallel oil path.
Switching the boom [1] spool (14) lets the pressure oil flow into the boom cylinder (13) rod side, and the boom-down operation is carried out.
The boom cylinder (13) bottom side pressure oil returns to the hydraulic tank through the HBCV check valve (22), boom load holding valve check valve (1) and boom [1] spool (14).

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Load holding valve spool	11	Remote control valve (arm, swing)	21	Monitor display
2	Arm load holding valve check valve	12	Lever lock	22	Main computer
3	Oil cooler	13	Pressure boost relief	23	P1 pressure sensor
4	Regeneration check valve	14	5 stack solenoid valve	24	P2 pressure sensor
5	Large orifice	15	Control valve	25	Hydraulic pump
6	Small orifice	16	Arm cylinder	26	Check valve
7	Regeneration release valve	17	Arm [1] spool	27	HBCV check valve
8	Arm (in)	18	Arm [2] spool	28	HBCV
9	Arm (out)	19	Arm-in pilot pressure sensor	29	5 stack proportional pressure reducing valve
10	Cushion valve	20	Console lever lock switch	30	Arm [2] spool control

By operating the remote control valve (11) to the arm-in side, the pilot pressure oil is fed to the control valve (15) pa5 port via the cushion valve (10) and switches the arm [1] spool (17) to the in side.
Also, the pilot pressure oil separated before the control valve (15) is fed to the control valve (15) pa9 port via the arm [2] spool control (30) and switches the arm [2] spool (18) to the in side.
At the same time, the pilot pressure oil separated before the control valve (15) enters the HBCV (28) Pi port and switches the HBCV check valve (27).
The discharge oil from the hydraulic pump (25) A1 enters the control valve (15) P1 port and is fed to the arm [1] spool (17) via the center bypass oil path.
The discharge oil from the hydraulic pump (25) A2 enters the control valve (15) P2 port, is fed to the arm [2] spool (18) via the center bypass oil path and merges downstream of the arm [1] spool (17).
The merged pressure oil flows into the arm cylinder (16) bottom side, and the arm-in operation is carried out.
At the same time, the pilot pressure oil is fed to the control valve (15) pc1 port and moves the load holding valve spool (1) to the right.
In this way, the pressure oil in the spring chamber of the arm load holding valve check valve (2) is connected to the tank line through the load holding valve spool (1), the pressure in the spring chamber drops, and the arm load holding valve check valve (2) is opened.
The arm cylinder (16) rod side pressure oil goes through the arm load holding valve check valve (2) and arm [1] spool (17), and is metered by the small orifice (6).
Through this, the return oil pushes open the regeneration check valve (4) in the arm [1] spool (17) and is forcibly regenerated on the arm cylinder (16) bottom side, securing the arm speed for leveling work, etc.
When the arm cylinder (16) bottom side load pressure becomes high, the regeneration release valve (7) is switched to the large orifice diameter (5) side and the return opening becomes larger.
Through this, the regeneration check valve (4) in the arm [1] spool (17) is closed and the arm cylinder (16) rod side return oil returns to the hydraulic tank through the arm [1] spool (17) and the regeneration release valve (7) without regeneration.

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Hydraulic pump	8	Bucket cylinder	15	Boom [2] spool
2	5 stack solenoid valve	9	HBCV	16	Bucket spool
3	Remote control valve (boom, bucket)	10	Control lever lock switch	17	Boom cylinder
4	Cushion valve	11	Lever lock	18	Bucket spool control
5	Control valve	12	Bucket close	19	Boom [2] spool control
6	5 stack proportional pressure reducing valve	13	Boom up	20	P1 neutral cut valve
7	Main computer	14	Boom [1] spool		

Purpose

Reduces back pressure while digging.

During a non-digging operation or compound operation, controls the system to secure pressure required for a compound operation.

Independent operation

By operating the remote control valve (3) to the bucket-close side, the pilot pressure oil is fed to the control valve (5) pb8 port via the bucket spool control (18) and switches the bucket spool (16) to the close side.

The pilot pressure oil is also fed to the control valve (5) pa11 port and switches the P1 neutral cut valve (20).

The pressure oil from the hydraulic pump (1) A2 enters the control valve (5) P2 port and is fed to the bucket spool (16) via the parallel oil path.

The pressure oil from the hydraulic pump (1) A1 enters the control valve (5) P1 port, goes through the center bypass oil path and merges with the pressure oil from the P2 port upstream of the bucket spool (16).

Switching the bucket spool (16) lets the pressure oil enter the bucket cylinder (8) bottom side, and the bucket-close operation is carried out.

The bucket cylinder (8) rod side pressure oil returns to the hydraulic tank through the bucket spool (16).

The main computer (7) controls the bucket spool control (18) according to the digging operation conditions to change the bucket spool (16) opening.

Compound operation (ex. boom-up + bucket-close operations)

By operating the remote control valve (3) to the bucket-close side, the pilot pressure oil is fed to the control valve (5) pb8 port via the bucket spool control (18) and switches the bucket spool (16) to the close side.

By operating the remote control valve (3) to the boom-up side, the pilot pressure oil is fed to the control valve (5) pa7 port via the cushion valve (4) and switches the boom [1] spool (14).

Also, the pilot pressure oil separated before the control valve (5) pa7 port is fed to the control valve (5) pa3 port via the boom [2] spool control (19) and switches the boom [2] spool (15).

The pressure oil from the hydraulic pump (1) A2 enters the control valve (5) P2 port and is fed to the boom [1] spool (14) and bucket spool (16) via the parallel oil path.

The pressure oil from the hydraulic pump (1) A1 enters the control valve (5) P1 port and is fed to the boom [2] spool (15) via the parallel oil path and merges with the pressure oil from the P2 port downstream of the boom [1] spool (14).

The merged pressure oil flows into the boom cylinder (17) bottom side, and the boom-up operation is carried out.

The pressure oil fed to the bucket spool (16) enters the bucket cylinder (8) bottom side, and the bucket-close operation is carried out.

The main computer (7) controls the bucket spool control (18) according to the digging operation conditions to change the bucket spool (16) opening.

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Arm (in)	8	5 stack solenoid valve	15	Oil cooler
2	Arm (out)	9	Control valve	16	Filter
3	Cushion spool	10	Arm [1] spool	17	5 stack proportional pressure reducing valve
4	Cushion orifice	11	Arm [2] spool	18	Arm [2] spool control
5	Cushion valve	12	Console lever lock switch	19	Main computer
6	Remote control valve (arm, swing)	13	Hydraulic pump		
7	Lever lock	14	Check valve		

When the lever is operated all at once from an arm-out operation to an arm-in operation (arm rattling operation), the pilot pressure oil is fed to the cushion valve (5) A port from the remote control valve (6) 2 port, pushes up the internal check valve (14), and enters the control valve (9) pa5 port.
Also, the pilot pressure oil separated before the control valve (9) enters the control valve (9) pa9 port via the arm [2] spool control (18).
At the same time, the cushion valve (5) cushion spool (3) is switched to the right.
The pressure oil from the control valve (9) pb5 and pb9 ports returns to the hydraulic tank through the cushion spool (3) not through the cushion orifice (4), so response is improved.

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Control valve	8	Option remote control valve	15	P2 flow control proportional valve
2	Stop valve	9	Option pilot pressure sensor	16	P1 flow control proportional valve
3	Relief valve	10	Console lever lock switch	17	Hydraulic pump
4	Breaker	11	Lever lock	18	Check valve
5	Main computer	12	5 stack solenoid valve	19	Oil cooler
6	Monitor display	13	P1 pressure sensor	20	Option spool
7	ATT select switch	14	P2 pressure sensor		

By operating the option remote control valve (8) to the breaker side, the pilot pressure oil is fed to the control valve (1) pb4 port and switches the option spool (20).
The discharge oil from the hydraulic pump (17) A1 is fed to the option spool (20) through the control valve (1) P1 port and the parallel oil path.
Switching the spool lets the discharge oil flow into the breaker (4).
When the main computer (5) receives an electrical signal output from the option pilot pressure sensor (9), the main computer (5) outputs an electrical signal to the P1 flow control proportional valve (16) to control the discharge flow.
The return oil from the breaker (4) returns to the hydraulic tank without going through the control valve (1).
The breaker set pressure is set by the relief valve (3).

	Pressure line		Pilot tank line
	Tank line		Electric line
	Pilot pressure line		

1	Control valve	10	Console lever lock switch	19	Oil cooler
2	3-direction valve	11	Lever lock	20	Option spool
3	Electromagnetic inversely proportional relief valve	12	5 stack solenoid valve	21	Option pilot pressure sensor
4	Breaker	13	P1 pressure sensor	22	Manifold
5	Proportional switch	14	P2 pressure sensor	23	Stop valve
6	ATT select switch	15	P2 flow control proportional valve	24	Check valve
7	Main computer	16	P1 flow control proportional valve	25	Check valve
8	Monitor display	17	Hydraulic pump		
9	2 stack reducing valve	18	Check valve		

When using a multi-purpose circuit breaker, manually switch the 3-direction valve (2) oil path from 2 → 1.
When a breaker operation is carried out with the proportional switch (5), the 2 stack reducing valve (9) is switched by the electrical signal output from the main computer (7) and the pilot pressure oil is fed to the control valve (1) pb4 port and switches the option spool (20).
The discharge oil from the hydraulic pump (17) A1 is fed to the option spool (20) through the control valve (1) P1 port and the parallel oil path.
Switching the spool lets the discharge oil flow into the breaker (4) via the electromagnetic inversely proportional relief valve (3) A port and the B port.
When the pressure of this discharge oil exceeds the set pressure of the electromagnetic inversely proportional relief valve (3), the oil returns to the hydraulic tank from the electromagnetic inversely proportional relief valve (3) T port.
When negative pressure is generated at the B port of the electromagnetic inversely proportional relief valve (3), the operation of check valve (24) feeds the pressure oil from the T port to the A and B ports.
At this time, the main computer (7) detects the electrical signal output from the option pilot pressure sensor (21) and outputs an electrical signal to the P1 flow control proportional valve (16) to control the discharge flow.
The return oil from the breaker (4) returns to the hydraulic tank through the 3-direction valve (2) 2 port and the 1 port.
The breaker pressure is set by the electromagnetic inversely proportional relief valve (3) and the set pressure can be changed from the menu screen on the monitor.

Note

1.Install the fuse box and blade fuse on CN.D68F, D69F, and D70F.
2.Install the 50 A fuse (KHR3850) on CN.67M, and 60 A fuse (KHR12950) on CN.71M and CN.72M.
3.Adjust caulking of the terminal CN.D79 - D82 outside for fitting fuse holder.
4.For connectors marked with * (CN.D24F, D32F, D33M, D34F, D43F, D46F, D51F, D52F, D60F, D61F, D62F, D89F, D95F, D98M, D99M, D100M), install the suitable housing, waterproof plug, and rear holder assembly.
5.For connectors marked with # (CN.D12, D13, D73, D74), install the suitable rubber cap.
6.Connect the built-in connector with 120 Ω resistance to CN.D4M (CN J1939).
7.Connect the joint connector to CN.D90F (ground joint connector).

a	The connectors (CN.D51F, D61F) must be fastened with red tape.	e	The connector (CN.D38F) must be fastened with red tape.	i	The connector (CN.D98M) must be fastened with red tape.
b	The connectors (CN.D32F, D33F, CN34F) must be fastened with red tape.	f	The connectors (CN.D85F, D93F) must be fastened with red tape.	j	The connector (CN.D95F) must be fastened with red tape.
c	The connector (CN.D62F) must be fastened with red tape.	g	The connector (CN.D89F) must be fastened with red tape.	k	The connector (CN.D46F) must be fastened with red tape.
d	The connector (CN.D60F) must be fastened with red tape.	h	The connector (CN.D90F) must be fastened with red tape.		

*1	Red adhesive tape	*5	Green adhesive tape	*9	Computer unit (DCU)
*2	Blue adhesive tape	*6	Black adhesive tape	*10	Fuse holder
*3	White adhesive tape	*7	Plate		
*4	Yellow adhesive tape	*8	Computer unit (ECM)		

CN.A50F	Cab main harness: A	CN.D50F	P2 pressure sensor
CN.A51F	Cab main harness: B	*CN.D51F	Return room sensor
CN.A52F	Cab main harness: C	*CN.D52F	Boom cylinder (bottom) pressure sensor
CN.A53F	Cab main harness: D	CN.D53F	Fuel level sensor
CN.A54F	Cab main harness: E	CN.D54F	Oil temperature sensor
CN.A55F	Cab main harness: F	CN.D55F	Lever lock solenoid valve
CN.A56F	Cab main harness: G	CN.D56F	Swing brake solenoid valve
CN.C18F	Cab harness: Rear camera	CN.D57F	Travel high-speed solenoid valve
CN.C23F	Cab harness: C	CN.D58F	Pressure boost relief solenoid valve
CN.D1F	DCU: 1	CN.D59F	Hydraulic load solenoid valve
CN.D2F	DCU: 2	*CN.D60F	Free swing solenoid valve
CN.D3F	ECM: 1	*CN.D61F	Quick coupler solenoid valve
CN.D3F	Turbo computer	*CN.D62F	Option harness proportional solenoid valve
CN.D4F	ECM: 2	CN.D63F	P1 flow proportional solenoid valve
CN.D7F	Engine harness: A	CN.D64F	P2 flow proportional solenoid valve
CN.D8M	Engine harness: B	CN.D65F	Control valve sensor
CN.D9M	Engine harness: C	CN.D66F	Control valve PWM
CN.D10M	Engine harness: D	CN.D67M	Fuse 50 A: +B
CN.D11M	Engine harness: H	CN.D68F	Fuse: 1
#CN.D12	Starter motor: S	CN.D69F	Fuse: 3
#CN.D13	Alternator: B	CN.D70F	Fuse: 2
CN.D14F	Alternator: L/R	CN.D71M	Fuse 60 A: ST 1
CN.D15	Alternator: E	CN.D72M	Fuse 60 A: ST 2
CN.D16	Alternator: GND	#CN.D73	Battery relay: Coil 1
CN.D17F	SCR harness	#CN.D74	Battery relay: Coil 2
CN.D18F	Supply module	CN.D75M	Battery relay: GND
CN.D19F	Coolant control valve	CN.D76	Battery relay: B1
CN.D20F	Urea sensor	CN.D77	Battery relay: B2
CN.D21F	MAF sensor	CN.D78	Battery relay: IGN
CN.D23F	Floor harness: 1	CN.D79	Fuse 60 A: 1
CN.D24F	Floor harness: 2	CN.D80	Fuse 100 A: 2
CN.D25F	Swing pressure sensor	CN.D81	Fuse 60 A: 2
CN.D26F	Boom-up pressure sensor	CN.D82	Fuse 100 A: 1
CN.D27F	Boom-down pressure sensor	CN.D83F	Starter relay: B/C
CN.D28F	Arm-out pressure sensor	CN.D84F	Starter relay: S/E
CN.D29F	Arm-in pressure sensor	CN.D85F	Starter: Diode
CN.D30F	Bucket-open pressure sensor	CN.D86F	Glow relay: 2
CN.D31F	Bucket-close pressure sensor	CN.D87F	Glow relay: 1
*CN.D32F	Urea solution pump	CN.D88F	Glow relay coil
*CN.D33M	Lubricator	*CN.D89F	Option power supply
*CN.D34F	Refueling pump harness	CN.D90F	Ground joint connector
CN.D35F	Boom lamp harness	CN.D91	G2 GND
CN.D36F	Housing lamp	CN.D92	G1 GND
CN.D37F	Washer motor	CN.D93F	Diode: Lever lock
CN.D38F	Washer motor; Diode	CN.D94M	Hydraulic motor fan
CN.D39F	Horn: L+	*CN.D95F	CTWT installation and removal harness
CN.D40F	Horn: L-	CN.D96M	Engine harness: F
CN.D41F	Horn: H+	CN.D97F	Feed pump
CN.D42F	Horn: H-	CN.D97-1F	Diode: feed pump
*CN.D43F	Beacon harness	*CN.D98M	Backlight harness
CN.D44F	Receiver dryer	CN.D99	G3 GND
CN.D45F	Air conditioner compressor	*CN.D99M	Right light harness
*CN.D46F	Travel alarm	*CN.D100M	Left light harness
CN.D47F	Coolant tank switch	CN.D101F	Lever lock relay
CN.D48M	Air cleaner switch	CN.E18M	Camera harness (rear)
CN.D49F	P1 pressure sensor		

Note

1.Install the joint connector (7257-9322-40) on connectors CN. A33F, A34F, A37F, and A38F.
2.Install the joint connector (6440-0128) on connectors CN. A35F and A36F.
3.For connectors marked with *, install the suitable housing.

a	CN. A47M and A47F must be fastened with red tape.	e	CN. A46 must be fastened with red tape.	i	CN. A25F must be fastened with red tape.
b	CN. A30 and A31 must be fastened with red tape.	f	CN. A27 must be fastened with red tape.	j	CN. A21F must be fastened with red tape.
c	CN. A28M and A28F must be fastened with red tape.	g	CN. A33 and A34 must be fastened with red tape.	k	CN. A24M and A24F must be fastened with red tape.
d	CN. A35 and A36 must be fastened with red tape.	h	CN. A26 must be fastened with red tape.		

*1	White adhesive tape	*3	Fuse box: 1
*2	Plate position	*4	Fuse box: 2

CN.A1F	Computer: CN1	CN.A28M	Hour meter: -
CN.A2F	Computer: CN2	CN.A29F	DC converter
CN.A3F	Computer: CN3	CN.A30F	Diode 1
CN.A4F	Computer: CN4	CN.A31F	Diode 2
CN.A5F	Computer: CN5	CN.A33F	Joint connector: CONT1
CN.A6F	ECM relay	CN.A34F	Joint connector: CONT2
CN.A7F	Starter cut relay	CN.A35F	Joint connector: A
CN.A8F	Neutral start relay	CN.A36F	Joint connector: B
CN.A9F	ACC1 relay	CN.A37F	Joint connector: Ground 1
CN.A10F	ACC2 relay	CN.A38F	Joint connector: Ground 2
CN.A11F	Key ON relay	CN.A39	Cab ground
CN.A12F	Room lamp relay	CN.A40F	Cab harness: A
CN.A13F	Cab lamp relay	CN.A41F	Cab harness: B
CN.A14F	Beacon relay	CN.A42M	Console harness: A
CN.A15F	Upper lamp relay	CN.A43M	Console harness: B
CN.A16F	Speaker (L) relay	CN.A44M	Console harness: C
CN.A17F	Speaker (R) relay	CN.A45M	Console harness: D
CN.A18F	Horn (R) relay	CN.A46F	Horn jumper
CN.A19F	EST-B (F) connector	CN.A47F	Immobilizer
CN.A20F	Diagnostic connector	CN.A47M	Immobilizer ground
CN.A21F	EST-A harness	CN.A50M	Frame harness: A
CN.A24F	Buzzer: -	CN.A51M	Frame harness: B
CN.A24M	Buzzer: +	CN.A52M	Frame harness: C
CN.A25F	Option harness	CN.A53M	Frame harness: D
CN.A26F	Computer T harness	CN.A54M	Frame harness: E
CN.A27F	Computer C harness	CN.A55M	Frame harness: F
CN.A28F	Hour meter: +	CN.A56M	Frame harness: G

Note

・Install the jumper harness on CN.A24-3M.

*1	Plate position

1	GPS jumper harness

CN.A24M	Cab main harness
CN.A24-3F	Service connector: S
CN.A24-3M	GPS jumper harness

a	The connector (CN.C4-2M) must be fastened with red tape.

*1	Heat shrink tube (5 locations)	*4	Plate
*2	3-wire compound cable	*5	Joint section details
*3	Adhesive tape		

CN.C4-1F	CCD harness
CN.C4-2M	CCD harness
CN.E1M	CCD camera

Note

1.For the connectors marked with * (CN.G1F, G2F, G4M), install the suitable housing, waterproof plug, and rear holder assembly.

*1	White adhesive tape	*3	Blue adhesive tape
*2	Red adhesive tape	*4	Plate

CN.B19F	Console harness	*CN.G2F	Option solenoid valve for 2 pumps flow
CN.D82M	Frame main harness	*CN.G4M	2nd option harness
*CN.G1F	Option switchover solenoid valve	CN.G11F	1st option pressure sensor (up)

		a	Diodes 1 and 2 must be fastened with red tape.

*1	White adhesive tape	*3	Blue adhesive tape
*2	Red adhesive tape	*4	Plate

CN.B19F	Console harness	CN.G6F	Diode 2
CN.D82M	Frame main harness	CN.G16F	2nd option solenoid valve (right)
CN.G5F	Diode 1	CN.G17F	2nd option solenoid valve (left)