SEBM023104

SHOP MANUAL

KOMATSU®

PC228US-3
PC228USLC-3

MACHINE MODEL	SERIAL NUMBER
PC228US-3	**20001 and up**
PC228USLC-3	**20001 and up**

- This shop manual may contain attachments and optional equipment that are not available in your area. Please consult your local Komatsu distributor for those items you may require.

  Materials and specifications are subject to change without notice
- PC228US-3, PC228USLC-3 mounts the SAA6D102E engine.
  For details of the engine, see the 102 Series Engine Shop Manual.

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SPECIFICATIONS

Machine model				PC228US-3
Serial Number				20001 and up
Bucket capacity			m³	0.8
Operating weight			kg	21,800
Performance	Working ranges	Max. digging depth	mm	6,620
		Max. vertical wall depth	mm	5,980
		Max. digging reach	mm	9,875
		Max. reach at ground level	mm	9,670
		Max. digging height	mm	10,700
		Max. dumping height	mm	7,825
	Max. digging force (using power max. function)		kN (kg)	137 {14,000} (147 {15,000})
	Swing speed		rpm	11.0
	Swing max. slope angle		deg.	20
	Travel speed		km/h	Lo: 3.0 Hi: 5.5
	Gradeability		deg.	35
	Ground pressure (triple grouser shoe width: 600 mm		kPa {kg/cm²}	50 {0.51}
Dimensions	Overall length (for transport)		mm	8,700
	Overall width		mm	2,980
	Overall width of track		mm	2,800
	Overall height (for transport)		mm	3,010
	Overall height to chassis		mm	3,035
	Ground clearance to bottom of upper structure		mm	1,058
	Min. ground clearance		mm	440
	Tail swing radius		mm	1,680
	Min. swing radius of work equipment		mm	2,310
	Height of work equipment at min. swing radius		mm	8,250
	Length of track on ground		mm	3,270
	Track gauge		mm	2,200
	Height of machine cab		mm	2,287

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Machine model				PC228US-3		
Serial Number				20001 and up		
Engine	Model			SAA6D102E		
	Type			4-cycle, water-cooled, in-line, vertical, direct injection, with turbo charger and air-cooled aftercooler		
	No. of cylinders - bore x stroke		mm	6 - 102 x 120		
	Piston displacement		ℓ (cc)	5.883 {5,883}		
	Performance	Flywheel horsepower	kW/rpm {HP/rpm}	107/1,950 {145/1,950}		
		Max. torque	Nm/rpm {kgm/rpm}	610.0/1,500 {62.2/1,500}		
		Max. speed at no load	rpm	2,150 ± 70		
		Min. speed at no load	rpm	1,030 ± 50		
		Min. fuel consumption	g/kWh {g/HPh}	215 {158}		
	Starting motor			24V, 4.5 kW		
	Alternator			24V, 35 A		
	Battery			12V, 110 Ah x 2		
	Radiator core type			Corrugated CWX-4		
Under-carriage	Carrier roller			2 on each side		
	Track roller			7 on each side		
	Track shoe			Triple grouser, 45 on each side		
Hydraulic system	Hydraulic pump	Type x no.		HPV95+95, variable displacement piston type x 2		
		Delivery	ℓ/min	Piston type: 262 x 2		
		Set pressure	MPa {kg/cm²}	Piston type: 37.2 {380}		
	Control valve	Type x No.		{6 spool +1 spool +1 service valve} x 1		
		Control method		Hydraulic		
	Hydraulic motor	Travel motor		HMV110-2, Piston type (with brake valve, parking brake): x 2		
		Swing motor		KMF125ABE-5, Piston type (with safety valve, holding brake): x 1		
	Hydraulic cylinder	Type		Boom	Arm	Bucket
				Double acting piston	Double acting piston	Double acting piston
		Inside diameter of cylinder	mm	120	135	115
		Diameter of piston rod	mm	85	95	80
		Stroke	mm	1,385	1,490	1,120
		Max. distance between pins	mm	3,255	3,565	2,800
		Min. distance between pins	mm	1,870	2,075	1,680
	Hrdraulic tank			Box-shaped, sealed		
	Hydraulic filter			Tank return side		
	Hydraulic cooler			CF40-1		

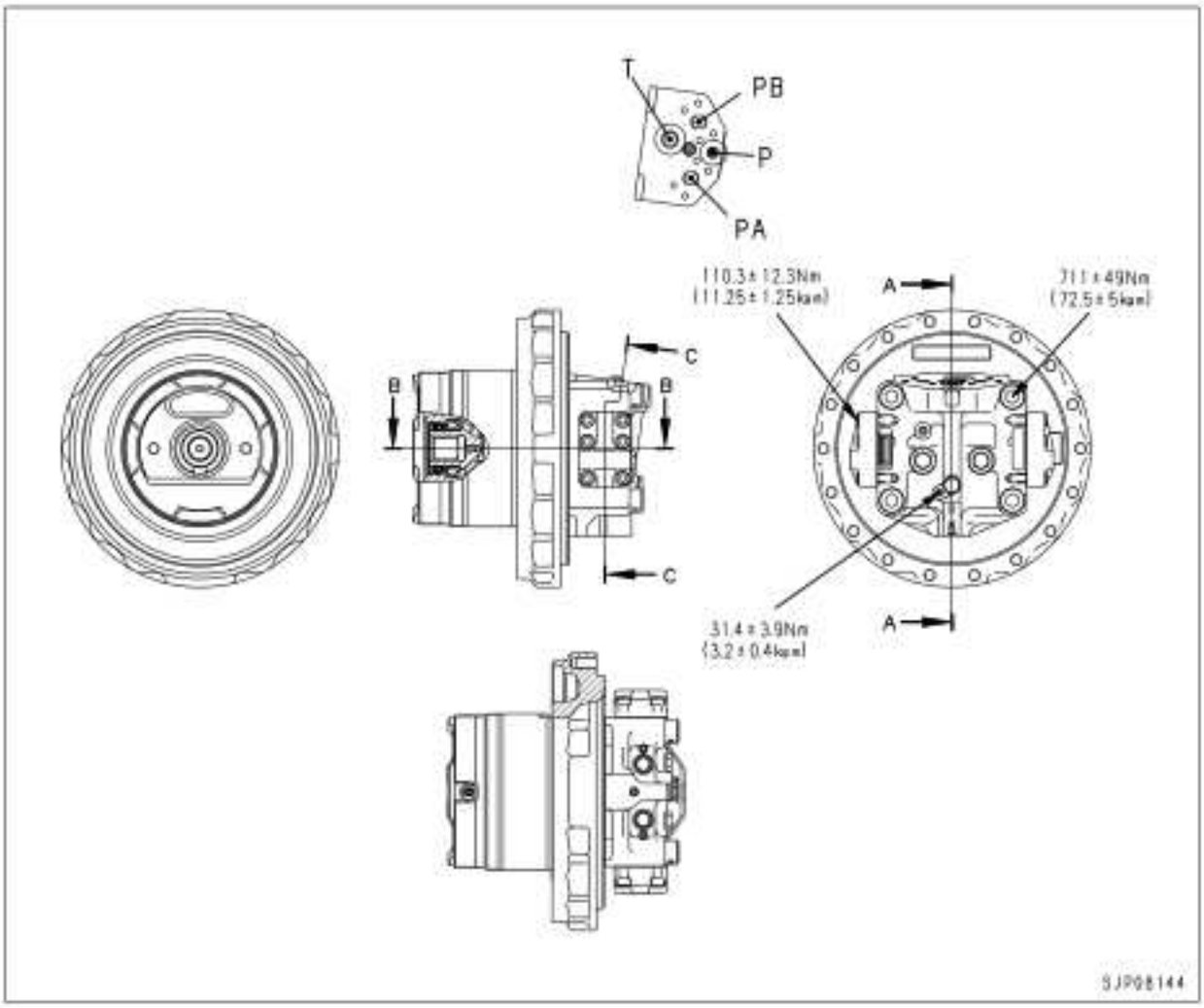
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Machine model				PC228USLC-3		
Serial Number				20001 and up		
Engine		Model		SAA6D102E		
		Type		4-cycle, water-cooled, in-line, vertical, direct injection, with turbo charger and air-cooled aftercooler		
		No. of cylinders - bore x stroke	mm	6 - 102 x 120		
		Piston displacement	ℓ (cc)	5.883 (5,883)		
	Performance	Flywheel horsepower	kW/rpm (HP/rpm)	107/1,950 (145/1,950)		
		Max. torque	Nm/rpm (kgm/rpm)	610.0/1,500 (62.2/1,500)		
		Max. speed at no load	rpm	2,150 ± 70		
		Min. speed at no load	rpm	1,030 ± 50		
		Min. fuel consumption	g/kWh (g/HPh)	215 (158)		
		Starting motor		24V, 4.5 kW		
		Alternator		24V, 35 A		
		Battery		12V, 110 Ah x 2		
		Radiator core		Corrugated CWX-4		
Under-carriage		Carrier roller		2 on each side		
		Track roller		9 on each side		
		Track shoe		Triple grouser, 49 on each side		
Hydraulic system	Hydraulic pump	Type x No.		HPV95+95, variable displacement piston type x 2		
		Delivery	ℓ/min	Piston type: 206 x 2		
		Set pressure	MPa (kg/cm²)	Piston type: 37.2 (380)		
	Control valve	Type x No.		6 spool type x 1		
		Control method		Hydraulic		
	Hydraulic motor	Travel motor		HMV110-2, Piston type (with brake valve, parking brake): x 2		
		Swing motor		KMF125ABE-5, Piston type (with safety valve, holding brake): x 1		
	Hydraulic cylinder	Type		Boom	Arm	Bucket
				Double acting piston	Double acting piston	Double acting piston
		Inside diameter of cylinder	mm	120	135	115
		Diameter of piston rod	mm	85	95	80
		Stroke	mm	1,385	1,490	1,120
		Max. distance between pins	mm	3,255	3,565	2,800
		Min. distance between pins	mm	1,870	2,075	1,680
		Hrdraulic tank		Box-shaped, sealed		
		Hydraulic filter		Tank return side		
		Hydraulic cooler		CF40-1		

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TRAVEL MOTOR

HMV110-2



P : From travel speed solenoid valve
T : To tank
PA : From control valve
PB : From control valve

SPECIFICATIONS

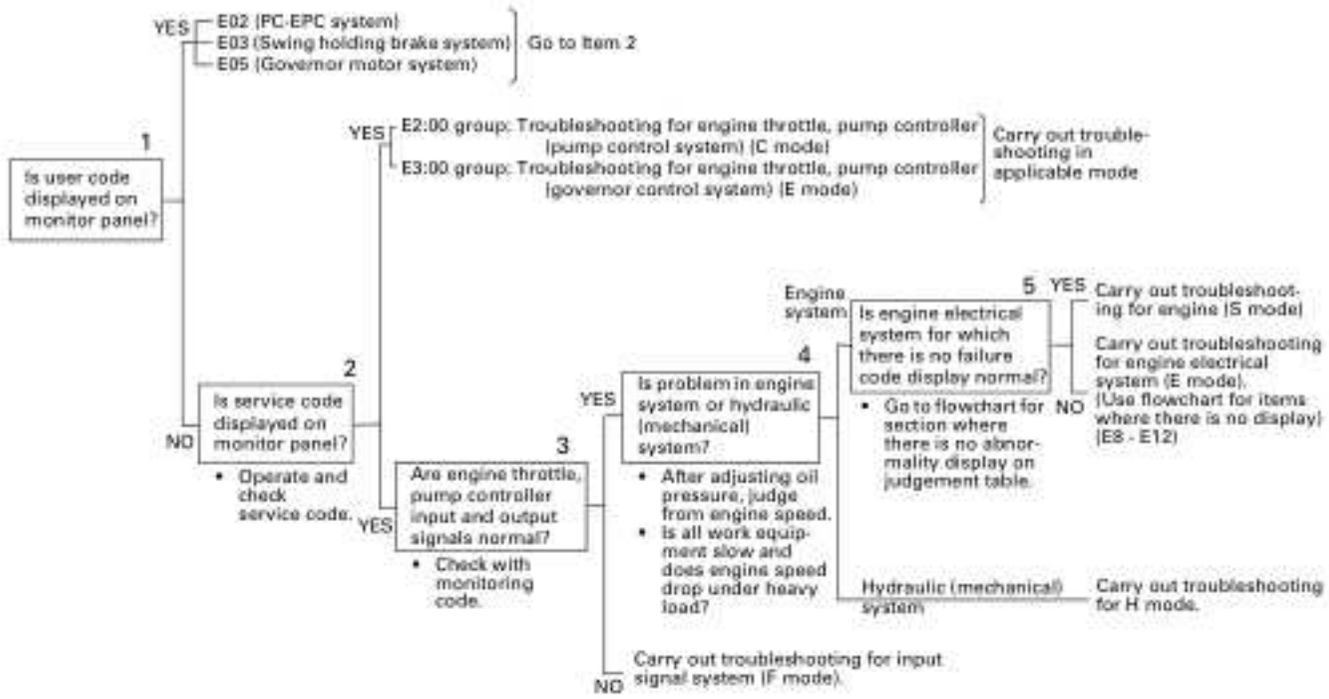
Item \ Model		PC228US-3
Type		HMV110-2
Theoretical Delivery	Min.	74 cm³/rev
	Max.	110.7 cm³/rev
Set pressure		32.7 MPa {333 kg/cm²}
Rated speed	Min. Capacity	2,980 rpm
	Max. capacity	1,485 rpm
Brake releasing pressure		1.2 MPa {12 kg/cm²}
Travel speed switching pressure	Differential pressure	0.8 MPa {8 kg/cm²}

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DETAILS OF TROUBLESHOOTING AND TROUBLESHOOTING PROCEDURE

If any abnormality should occur, it is necessary to go to the correct troubleshooting chart in accordance with the judgement table for that type of failure (governor, pump controller (governor control system) and governor, pump controller (pump control system)). For details of the troubleshooting and troubleshooting procedure, refer to this flowchart.
When carrying out troubleshooting, ask the operator as much as possible about the condition of the machine, and check the following items before starting. ① Condition of controller connections (check with monitoring codes 02 - 04) ② Blown fuses ③ Battery voltage (monitoring mode 32) ④ Generation of electricity (charge input) voltage (monitoring code 43).

The procedure for carrying out check items No. 3 and 4 in the flowchart below is given on the following pages.

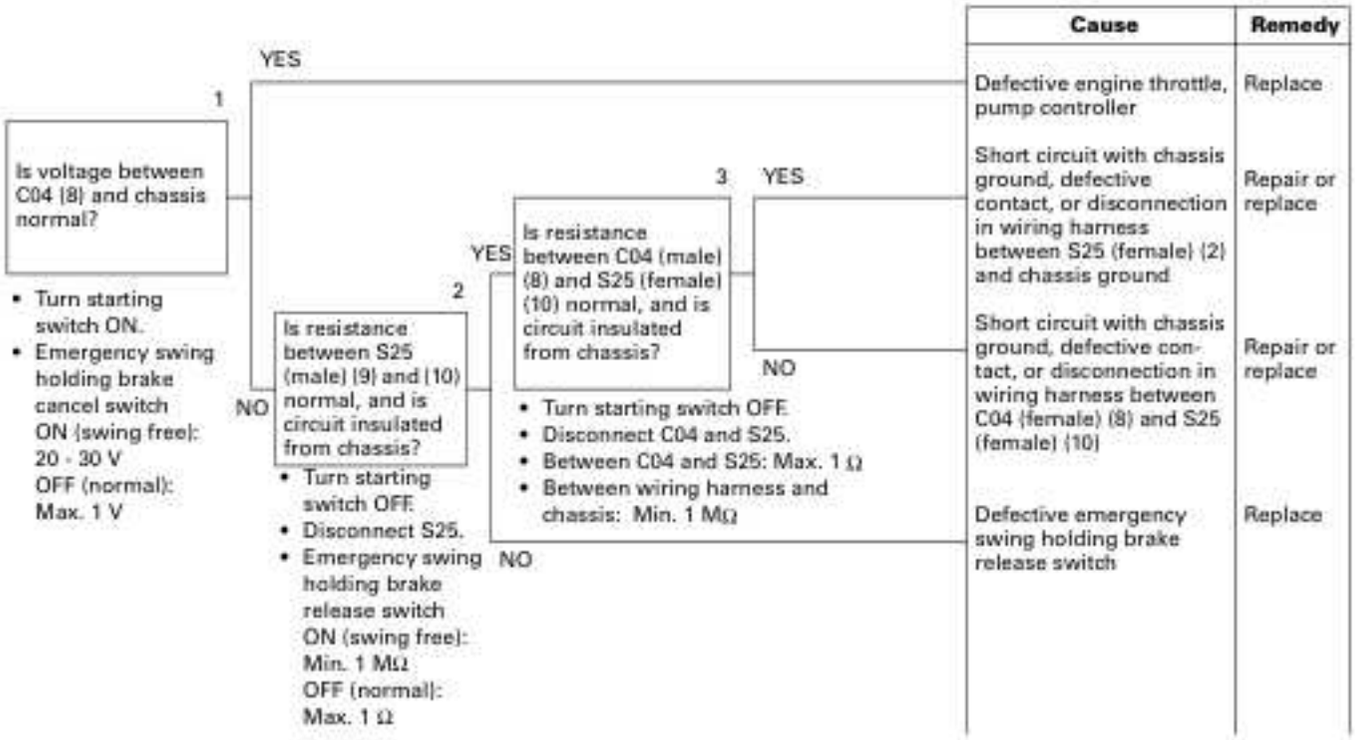


★ When making judgement, see governor, pump controller (governor control system) (pump control system) in the JUDGEMENT TABLE.

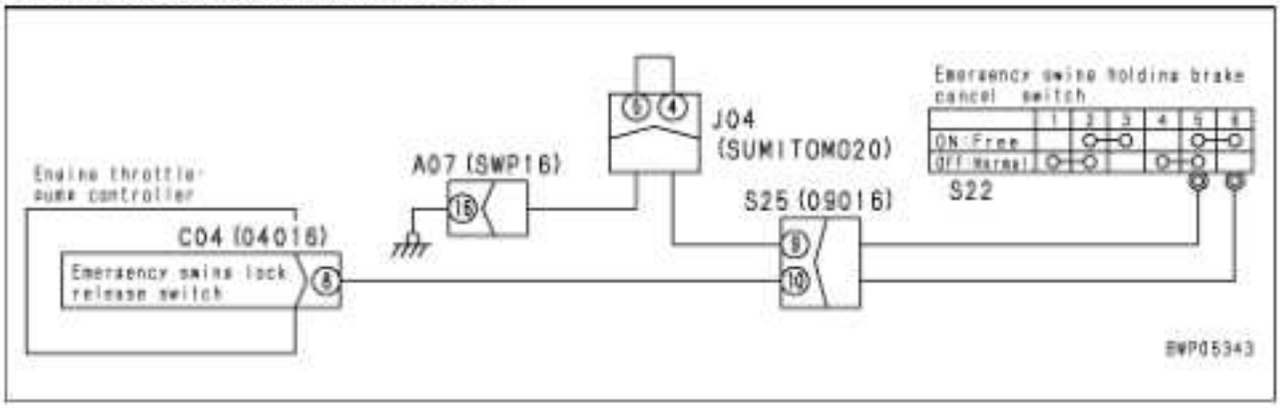
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F-12 Bit pattern 22-(4) Emergency swing holding brake release switch ON display does not light up

★ When the panel display is normal. (If the swing lock lamp does not light up, go to M-22.)



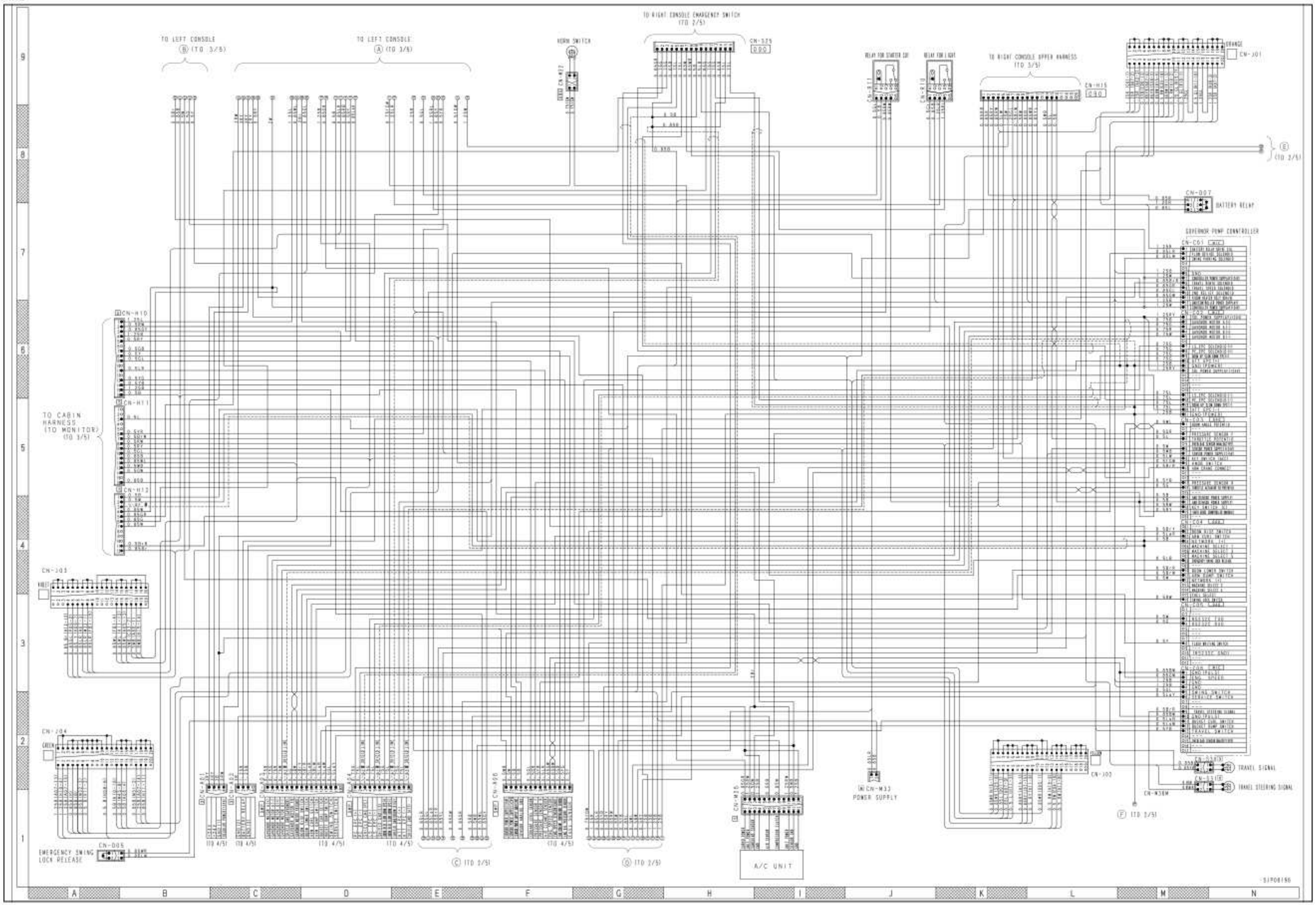
F-12 Related electrical circuit diagram



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ELECTRICAL CIRCUIT DIAGRAM (1/5)

STD machine



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