Shop Manual

VEBM410101

PW140-7

MACHINE MODEL **SERIAL NUMBER**

PW140-7 **H55051 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.
- PW140-7 mount the SAA4D107E-1 engine.
- For details of the engine, see the 107 Series Engine Shop Manual.

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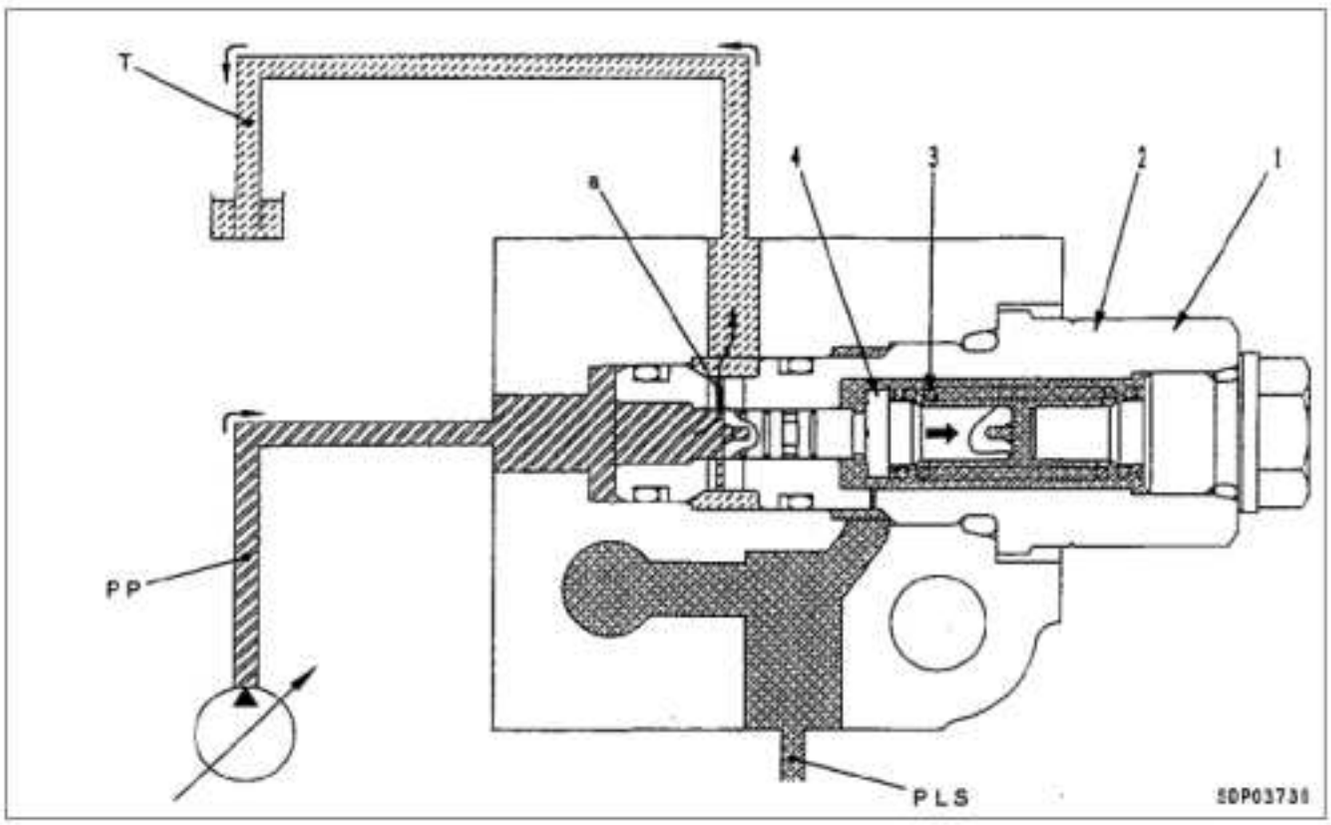
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2. During fine control of the valve, when the demand flow for the actuator is within the amount discharged by the minimum swash plate angle of the pump, pump discharge pressure **PP** is set to LS pressure **PLS** + 3.38 MPa {34.5 kg/cm²}.
   When the differential pressure between the pump discharge pressure **PP** and LS pressure **PLS** reaches the load of spring (3) (3.38 MPa {34.5 kg/cm²}), the unload valve opens, so LS differential pressure PLS becomes 3.38 MPa {34.5 kg/cm²}.



Operation

Fine control of control valve

- When fine control is carried out on the control valve, LS pressure **PLS** is generated and acts on the right end of the spool (4).
- When this happens, the area of the opening of the control valve spool is small, so there is a big difference between LS pressure **PLS** and pump discharge pressure **PP**.
- When the differential pressure between pump discharge pressure **PP** and LS pressure **PLS** reaches the load of the spring (3) (3.38 MPa {34.5 kg/cm²}), spool (4) is moved to the right in the direction of the arrow, and pump circuit **PP** and tank circuit **T** are connected.
- In other words, pump discharge pressure PP is set to a pressure equal to the spring force (3.38 MPa {34.5 kg/cm²}) + LS pressure PLS, and LS differential pressure PLS becomes 3.38 MPa {34.5 kg/cm²}.

1. Unload valve
2. Sleeve
3. Spring
4. Spool

PP: Pump circuit (pressure)
PLS: LS circuit (pressure)
T: Tank circuit (pressure)

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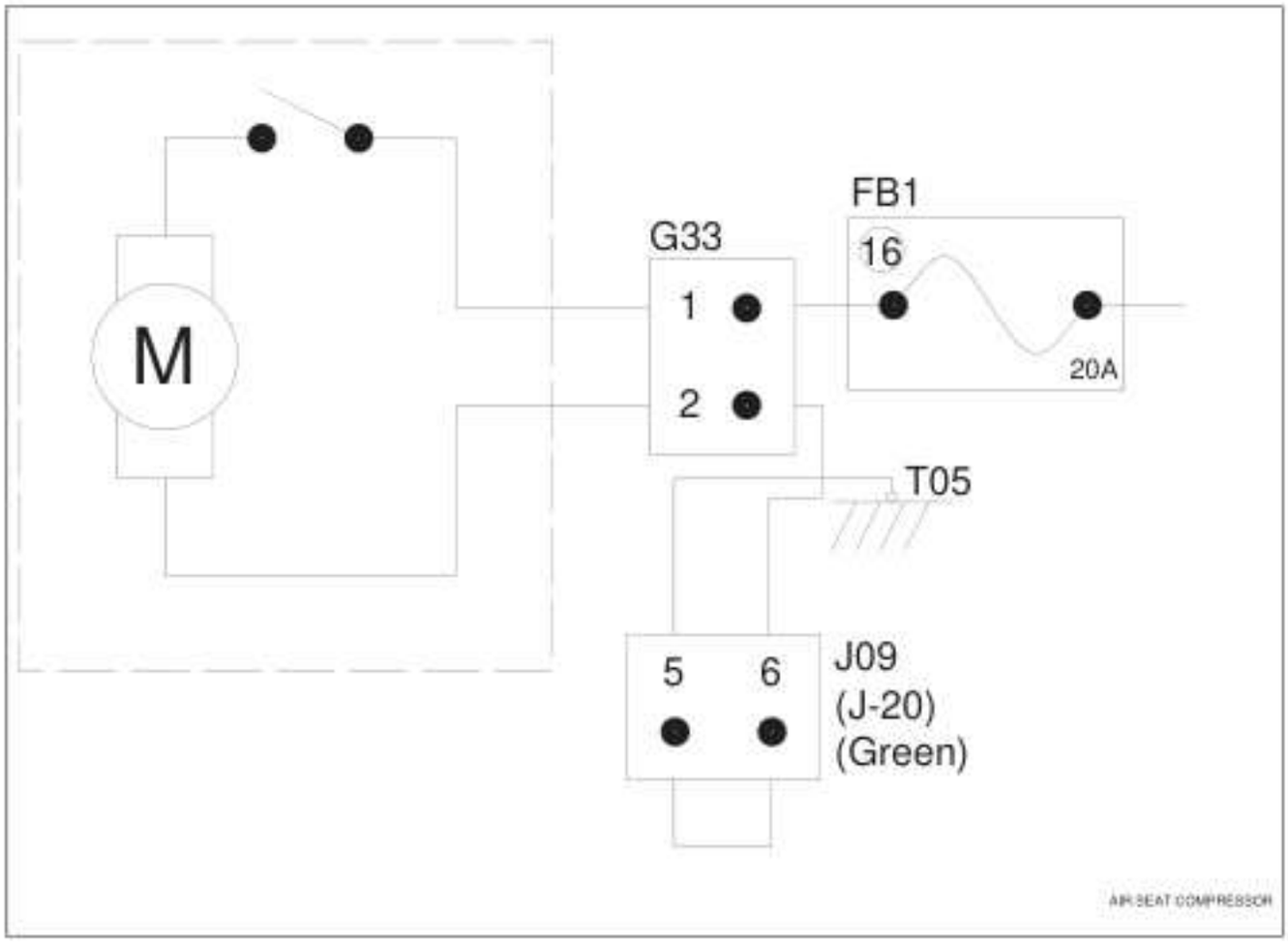
Failure code [CA451] – Rail press sensor high error

User code	Failure code	Trouble	Common rail pressure sensor high error (Engine controller system)
E11	**CA451**		
Contents of trouble	• There is high voltage in signal circuit of common rail pressure sensor.		
Action of controller	• Limits output and continues operation.		
Problem that appears on machine	• Engine does not start. • Engine speed or output lowers.		
Related information	• Signal voltage of common rail pressure sensor can be checked with monitoring function. (Code: 36401 Common rail pressure sensor voltage) • Method of reproducing failure code: Turn starting switch ON.		

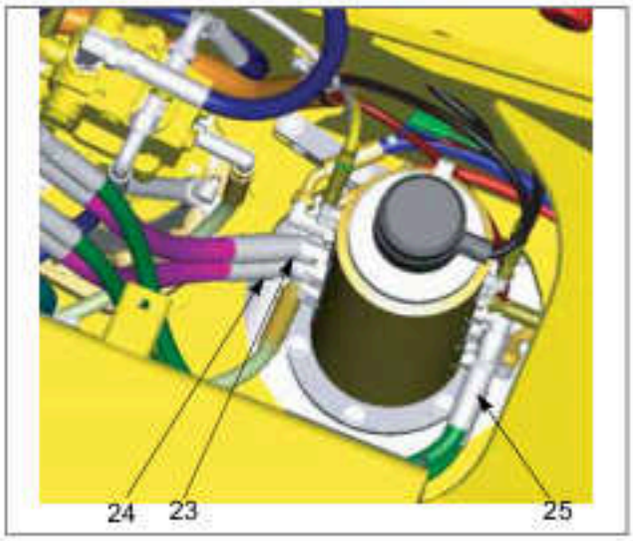
	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective sensor power supply 2 system	If failure code [**CA227**] is also displayed, carry out troubleshooting for it first.		
	2	Defective common rail pressure sensor	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			FUEL RAIL PRESS		Voltage
			Between (3) – (1)	Power supply	4.75 – 5.25 V
			Voltage is measured with wiring harness connected. Accordingly, if voltage is abnormal, check wiring harness and controller, too, for another cause of trouble, and then judge.		
	3	Hot short (Short circuit with 5V/24V circuit) in wiring harness	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			Wiring harness between CE01 (female) (25) – FUEL RAIL PRESS (female) (2)	Voltage	Max. 1 V
	4	Short circuit in wiring harness (with another wiring harness)	★ Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between CE01 (female) (25) – FUEL RAIL PRESS (female) (2) and between CE01 (female) (37) – FUEL RAIL PRESS (female) (3)	Resistance	Min. 100 kΩ
	5	Defective wiring harness connector	Connecting parts between common rail pressure sensor – engine wiring harness – engine controller may be defective. Check them directly. • Looseness of connector, breakage of lock, or breakage of seal • Corrosion, bend, breakage, push-in, or expansion of pin • Moisture or dirt in connector or defective insulation		
	6	Defective engine controller	★ Prepare with starting switch OFF, then turn starting switch ON and carry out troubleshooting.		
			CE01		Voltage
			Between (37) – (47)	Power supply	4.75 – 5.25 V

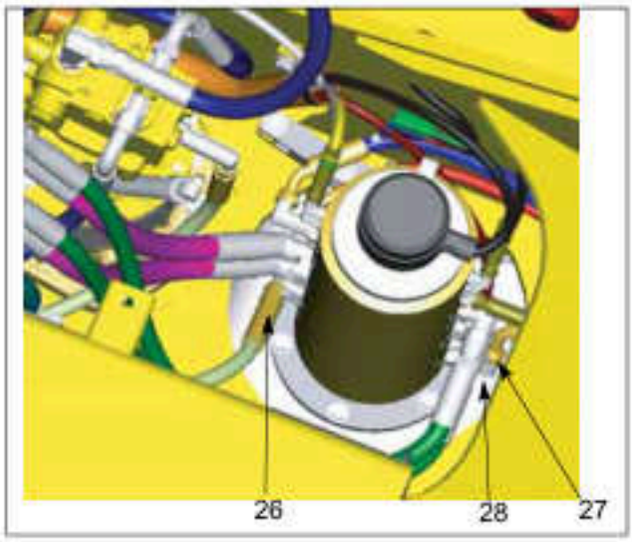
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Circuit diagram for air seat compressor (option – air suspension seat)

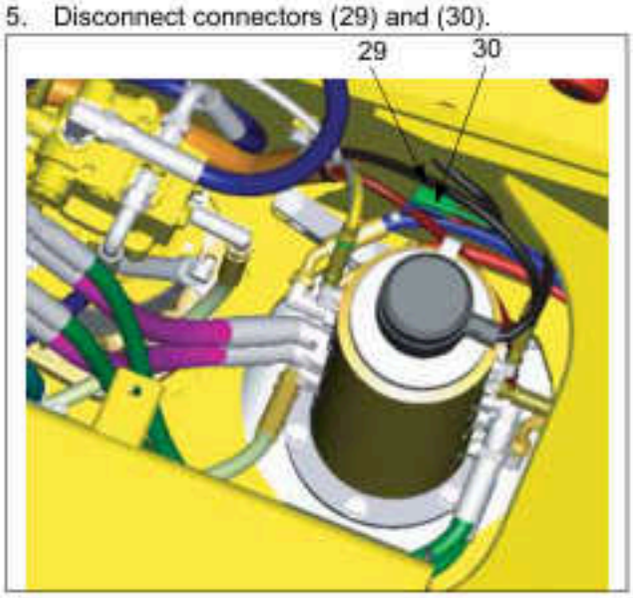


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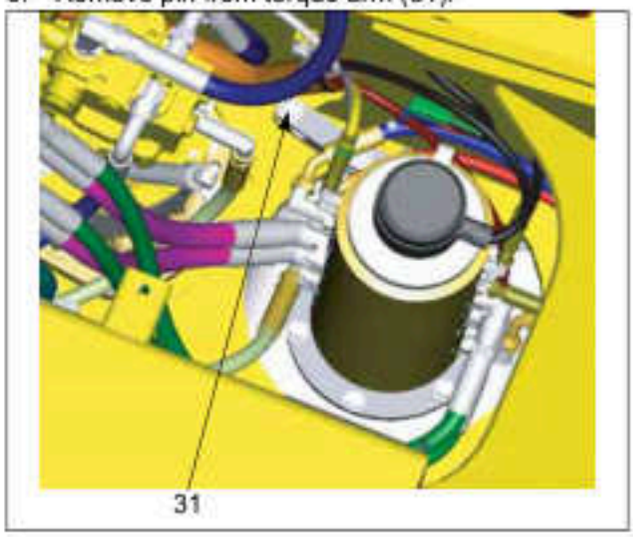




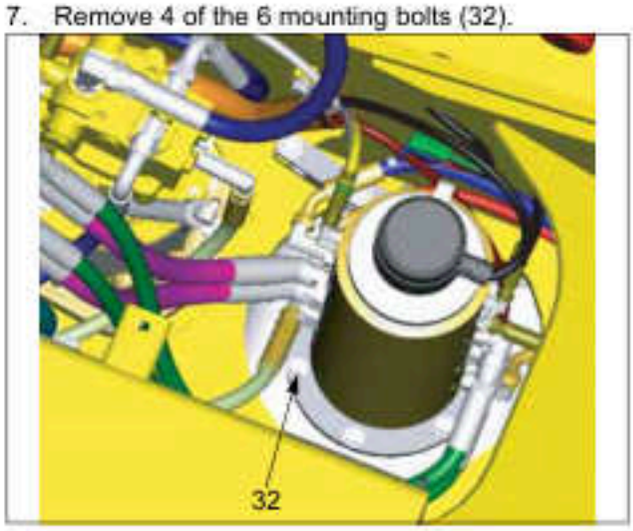
5. Disconnect connectors (29) and (30).



6. Remove pin from torque arm (31).



7. Remove 4 of the 6 mounting bolts (32).

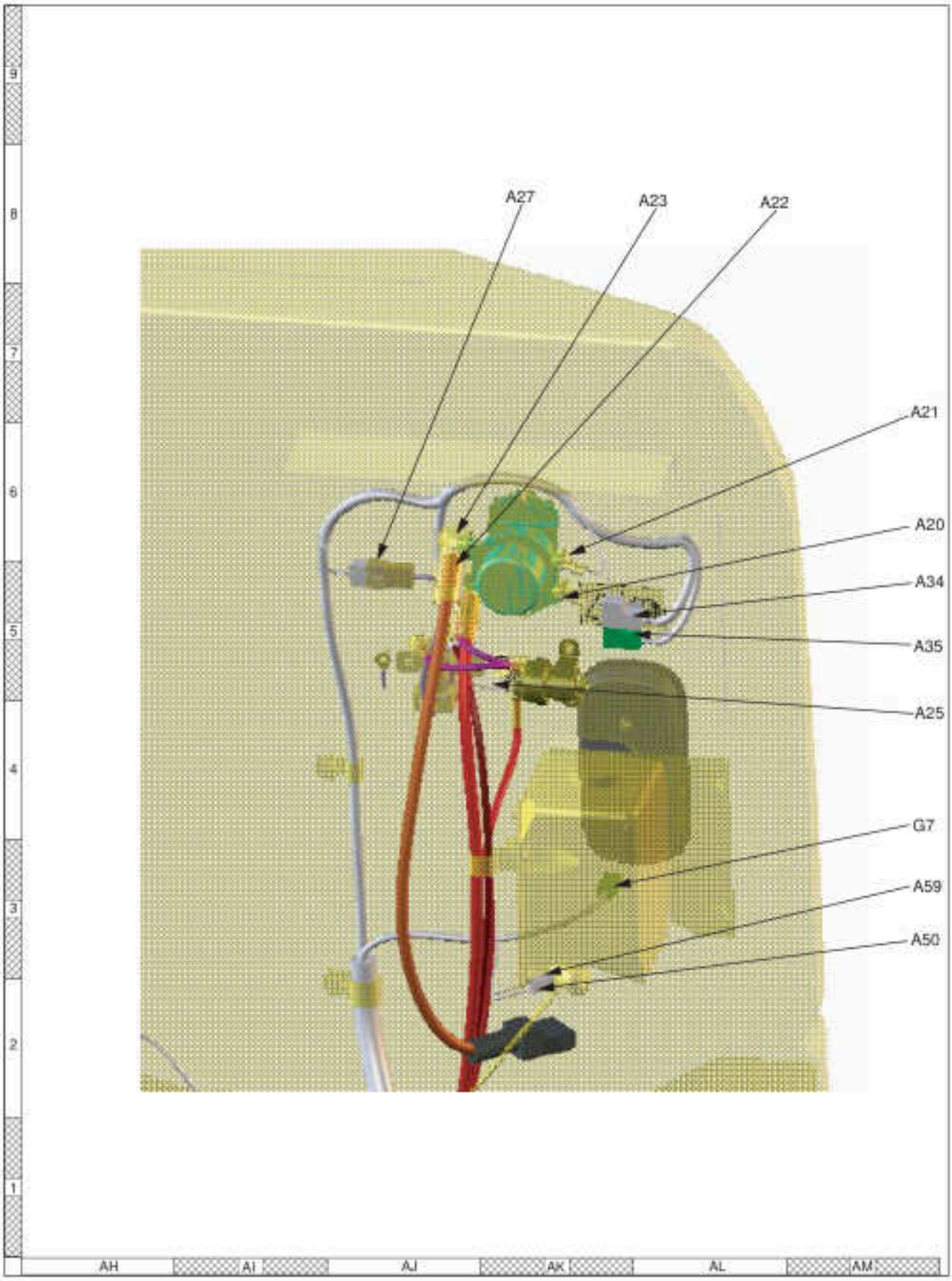


8. Sling centre swivel joint then remove 2 remaining mounting bolts (32) and remove.

kg Center swivel joint assembly: 95 kg

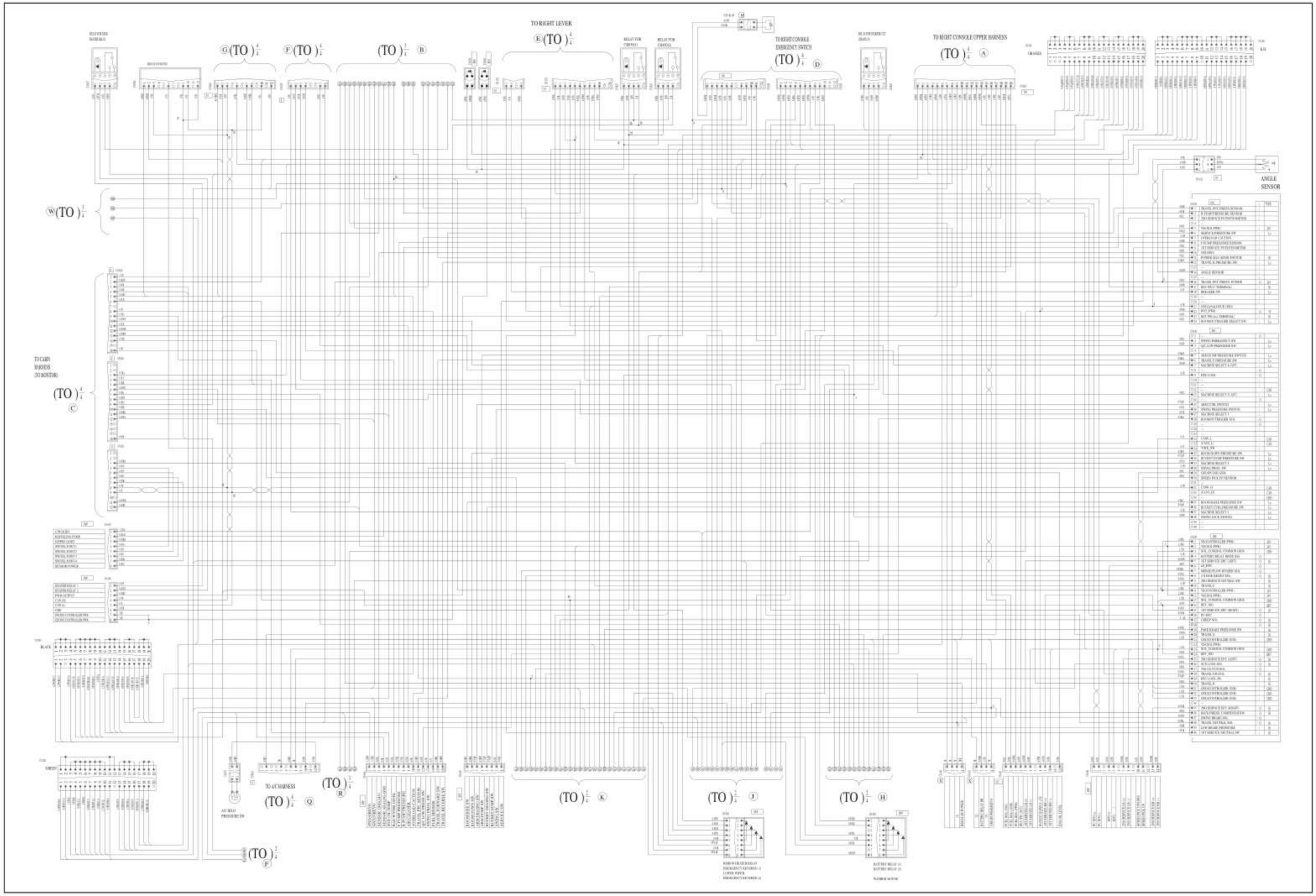
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Area F



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Electrical circuit diagram (1/7)



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