KOBELCO

SHOP MANUAL

CRAWLER EXCAVATOR

SK485-8

TIER 3

87694078 NA

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33.1.6 FUEL TANK

33.1.6.1 PREPARATION FOR REMOVAL

(1) Draining fuel. (See Fig. 33-28)
   1) Unlock cap (B2) with a starter key and open it.
   2) Loosen valve (A7) under the tank.
   3) Draining fuel
      Capacity of tank : 650L (172gal)

(2) Remove stay (63) and guard assy (61).
(See 33.1.4 GUARD)

(3) Remove the connector for level sensor (A4).
(See Fig. 33-28)

(4) Remove fuel hose
   1) Loosen clip (28),(29) and draw out hoses (4), (12), (13) and (7).
   2) Put in plugs that match the hose bore.
   3) Loosen clip (A9), and disconnect the hose which joins between the front and rear tank.
   4) Loosen 2 sems bolts (37) M10×20, and remove clip (33).

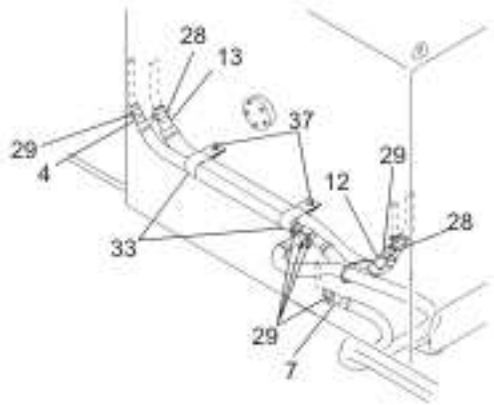


Fig. 33-27 Removing fuel hose (4),(12),(13),(7)

33.1.6.2 REMOVAL

(1) Remove 6 capscrews (A1) M16×45.

: 24 mm

(2) Hook the wire to the lifting eye on the fuel tank assy and remove the fuel tank.
Weight : 153kg (337 lbs)

(3) Remove shim (A3).

Note

Record the shim locations.

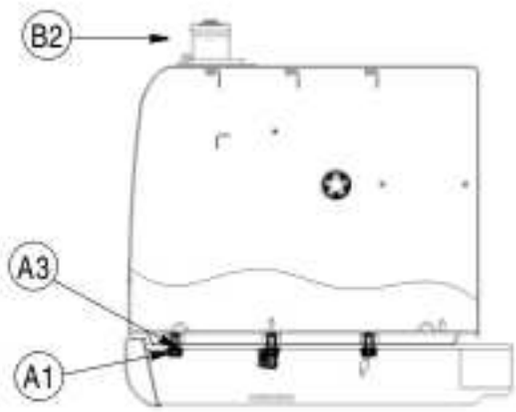


Fig. 33-28 Removing fuel tank

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Table46-87

Error code		H091		
Trouble		Fuel sensor grounding is short-circuited.		
Judging condition		The input voltage from fuel sensor is 0.1V or less.		
Symptom		Warning for low fuel level is indicated.		
Control in the event of failure		Fuel level becomes 0%.		
Returned in normal condition		It returns automatically in normal condition.		
Service diagnosis checking screen		Screen No.	10	H-9 FUEL LEVEL
		Screen No.		
		Screen No.		
Checking object				Checking contents and remedy
1	• Fuel sensor potentiometer SE-15			Move fuel sensor and measure the resistance between terminals of fuel sensor. EMPTY 95Ω - FULL 5Ω
2	• Wiring between fuel sensor and controller CN-152F CN-104F			Check wiring for possible failure according to the wiring checking procedure and repair it if necessary.
3	• Mechatro controller			Check that the error is corrected after replacement of controller.

Table46-88

Error code		H093		
Trouble		Fuel sensor's wiring is disconnection.		
Judging condition		The input voltage from fuel sensor is 4.7V or more.		
Symptom		Warning for low fuel level is indicated.		
Control in the event of failure		Fuel level becomes 0%.		
Returned in normal condition		It returns automatically in normal condition.		
Service diagnosis checking screen		Screen No.	10	H-9 FUEL LEVEL
		Screen No.		
		Screen No.		
Checking object				Checking contents and remedy
1	• Fuel sensor potentiometer SE-15			Move fuel sensor and measure the resistance between terminals of fuel sensor. EMPTY 95Ω - FULL 5Ω
2	• Wiring between fuel sensor and controller CN-152F CN-104F			Check wiring for possible failure according to the wiring checking procedure and repair it if necessary.
3	• Mechatro controller			Check that the error is corrected after replacement of controller.

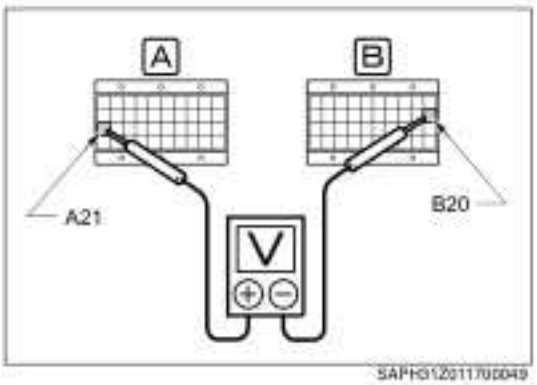
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Accelerator sensor 1 malfunction (DTC code P2122, P2123)

JP31Z01170601020

DTC	P2122	Accelerator sensor circuit 1 low voltage
DTC	P2123	Accelerator sensor circuit 1 high voltage

1	Measurement of voltage between terminals



SAPHS1Z011700049

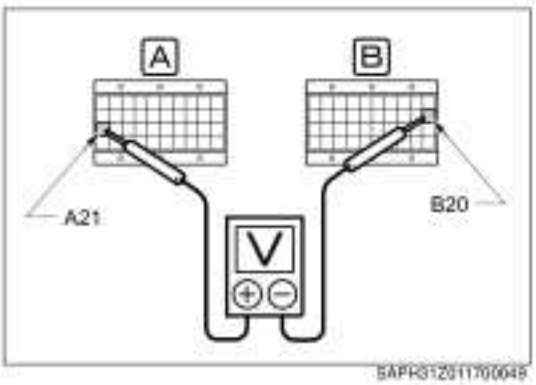
1. Set the starter key to "OFF" and connect the signal check harness.
2. Set the starter key to "ON" and measure the voltage between terminal A21 and terminal B20 of the signal check harness.

Standard value : 1.0 - 1.5V (idle status)

NG → [3] Voltage measuring at the output port of the mechatronic controller

OK

2	Measurement of voltage between terminals



SAPHS1Z011700049

1. While increasing the throttle, measure the voltage between terminal A21 and terminal B20 of the signal check harness.

Standard value

Measuring item	Engine revolution(r/min)	Voltage(V)
Low idle	800	Approx. 1.0
High idle	1,850	Approx. 2.9

NG → Defective mechatronic controller

OK

Harness failure

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4) Install drive gear (191) and driven gear (192) and bearing spacers (126, 127) to drive shaft (111) and driven shaft (113). Then fix them with snap rings (823, 825).

- Verify the installing direction of drive gear (191) before installation.
- When installing snap rings (823, 825), direct sharp edge side of snap rings (823, 825) to outside of pump.



Fig. 33-101

5) Install front casing (171) to pump casing (271) and fasten them with socket bolts (408).

: 17mm

Tightening torque : 630 N•m (465 lbf•ft)

- Be careful to install front casing (171), because it is heavy {Approx. 28 kg (62 lbs)} to handle with.
- Each 2 spring pins (886) and solid pins (889) are fixed between front casing (171) and pump casing (271) as positioning pin. Always install spring pins (886) and solid pins (889) to pump casing (271) side.
- Because front casing (171) is fitted tightly with spring pin (886) and solid pin (889), to install the front casing (171) tap lightly with plastic hammer. In this case, insert the front casing (171) into drive shaft (111) straightly. Do not damage oil seal sliding surface of drive shaft (111) when installing.
- At this time, do not damage mating face between front casing (171) and pump casing (271).
- There is seat packing (752) between front casing (171) and pump casing (271). To prevent from falling easily, apply grease to seat packing (752). Consequently it makes assembly easier.





Fig. 33-102

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23.3.6.1 UPPER HARNESS: LS13E01096P1 (5/5)

WIRE NO	WIRE COLOR	WIRE SIZE	FROM	CONNECTION	TO
1A	RY	AVSS0.75sq	CN-105F		CN4-1
1B	RY	AVSS0.75sq	CN-105F		CN4-1
2	WY	AVSS0.75sq	CN4-2		CN4-2
3A	L	AVSS1.25sq	CN-105F		CN4-1
3B	L	AVSS1.25sq	CN-106F		CN4-1
10	YG	AVSS0.75sq	CN-106F		CN4-1
11	YB	AVSS0.75sq	CN-262F		CN4-1
14	LG	AVSS1.25sq	CN-149F		CN4-2
21	WB	AVSS0.75sq	CN4-1		CN-172F
29A	Gr	AVSS1.25sq	CN4-1		CN-32F
29B	Gr	AVSS1.25sq	CN-74F		CN-32F
29C	Gr	AVSS0.75sq	CN-114F		CN-32F
29D	Gr	AVSS0.75sq	CN-180F		CN-32F
30	WR	AVSS0.75sq	CN4-1		CN-518F
34	W	AEX15sq	P-12		P-8
37	W	AEX5sq	P-4		P-7
51A	W	AV8sq	CN-267M		
51B	W	AVSS1.25sq	CN-73F		
51C	W	AV8sq	CN1		
52	W	AV8sq	CN-258M		CN1
53	Y	AV8sq	CN-267M		CN1
58A	R	AVSS0.75sq	CN-156F		CN-263F
58D	R	AVSS0.75sq	CN-214F		CN-263F
58E	R	AVSS0.75sq	CN-261F		CN-263F
59	W	AVSS0.75sq	CN-256F		CN4-1
61	GrB	AVSS0.75sq	CN-107F		P-20
63A	WY	AVSS0.75sq	CN-216F		CN-705F
63B	WY	AVSS0.75sq	CN-158F		CN-705F
63C	WY	AVSS0.75sq	CN-261F		CN-705F
64A	LW	AVSS0.75sq	CN-216F		CN-705F
64B	LW	AVSS0.75sq	CN4-2		CN-705F
64C	LW	AVSS0.75sq	CN-261F		CN-705F
66A	W	AEX15sq	P-21		P-6
66B	W	AEX1.25sq	CN-26F		P-22
68	YR	AEX1.25sq	CN-26F		CN4-2
93A	GO	AVSS1.25sq	CN4-2		CN-270F
93B	GO	AVSS1.25sq	CN-153F		CN-33F
93C	GO	AVSS1.25sq	CN-156F		CN-33F
85A	WB	AVSS1.25sq	CN4-2		CN-115F
85B	WB	AVSS0.75sq	P-11		CN-115F
86B	OW	AVSS0.75sq	CN-116F		CN4-1
88	P	AEX0.75sq	CN-138F		CN4-1
120	BR	AVSS0.75sq	CN-149F		CN-135F
121	BL	AVSS0.75sq	CN-149F		CN-135F
150B	BP	AVSS0.75sq	CN-133F		CN4-1
155	BP	AEX0.75sq	CN-133F		CN-208F

WIRE NO	WIRE COLOR	WIRE SIZE	FROM	CONNECTION	TO
216	O	AVSS0.75sq	CN4-2		CN-35F
218	P	AVSS0.75sq	CN4-1		CN-35F
223	YG	AVSS0.75sq	CN4-1		CN-76F
225	G	AVSS0.75sq	CN4-1		CN-35F
227	PL	AVSS0.75sq	CN4-2		CN-35F
264C	Bry	AVSS0.75sq	CN-172F		CN-158F
274	WV	AVSS0.75sq	CN4-1		CN-176F
334C	YG	AVSS0.75sq	CN-107F		CN-158F
401A	GR	AEX0.75sq	CN-157F		CN-32F
401B	GR	AVSS0.75sq	CN-146F		CN-32F
401C	GR	AVSS0.75sq	CN-74F		CN-32F
402A	YG	AEX0.75sq	CN-157F		CN-32F
402B	YG	AVSS0.75sq	CN-146F		CN-32F
402C	YG	AVSS0.75sq	CN-74F		CN-32F
403A	Br	AEX0.75sq	CN-157F		CN-32F
403B	Br	AVSS0.75sq	CN-146F		CN-32F
403C	Br	AVSS0.75sq	CN-74F		CN-32F
507	VG	AVSS0.75sq	CN-103F		CN-165F
512	V	AVSS0.75sq	CN-103F		CN-701F
515	V	AEX0.75sq	CN-103F		CN-139F
516	L	AEX0.75sq	CN-103F		CN-140F
518	L	AVSS0.75sq	CN-103F		CN-701F
519	GR	AEX0.75sq	CN-104F		CN-142F
522	PG	AEX0.75sq	CN-107F		CN-183F
523	L	AVSS0.75sq	CN-102F		CN-104F
524	WR	AVSS0.75sq	CN-104F		CN-701F
546	P	AVSS0.75sq	CN-107F		CN-180F
547	GB	AVSS0.75sq	CN-213F		CN-180F
548	GY	AEX0.75sq	CN-107F		CN-206F
549	Lg	AVSS0.75sq	CN-107F		P-12
566	GR	AVSS0.75sq	CN-107F		CN-518F
567	Sb	AVSS0.75sq	CN-107F		CN-158F
569	LR	AVSS0.75sq	CN-107F		CN-518F
570	YB	AVSS0.75sq	CN-67JM		CN4-2
571	YG	AVSS0.75sq	CN-107F		CN-571F
580	B	FEV850.5sq	CN-136F		CN-106F
581	W	22y-4f	CN-136F		CN-106F
GH1	Gr		CONNECTION		CN-106F
583	Br	AVSS0.75sq	CN-107F		CN-518F
595	BP	AVSS0.75sq	CN-35F		CN-107F
601	BrR	AVSS0.75sq	CN-152F		CN-104F
700	WG	AVSS0.75sq	CN-258F		CN4-2
701	V	AVSS0.75sq	CN-106F		CN-158F
702	LGR	AVSS0.75sq	CN-122F		CN-105F
703	P	AVSS0.75sq	CN-117F		CN-105F
705	RL	AVSS0.75sq	CN-251F		CN-105F
713B	BrY	AVSS0.75sq	CN-74F		CN-513M
715	GW	AVSS0.75sq	CN-74F		CN-158F
716	WV	AVSS0.75sq	CN-74F		CN-158F
720	PB	AVSS0.75sq	CN-123F		CN-158F

WIRE NO	WIRE COLOR	WIRE SIZE	FROM	CONNECTION	TO
740	BO	AVSS0.75sq	CN-118F		CN-105F
741	GrR	AVSS0.75sq	CN-118F		CN-105F
742	YR	AVSS0.75sq	CN-119F		CN-105F
743	GrB	AVSS0.75sq	CN-119F		CN-105F
744	BP	AVSS0.75sq	CN-120F		CN-106F
745	PW	AVSS0.75sq	CN-120F		CN-105F
746	BrG	AVSS0.75sq	CN-105F		CN-121F
747	YV	AVSS0.75sq	CN-105F		CN-121F
748	V	AEX0.75sq	CN-105F		CN-141F
749	Lg	AEX0.75sq	CN-105F		CN-141F
750	W	AEX0.75sq	CN-142F		CN-105F
751	Sb	AEX0.75sq	CN-142F		CN-105F
754	G	AVSS0.75sq	CN-105F		CN-148F
755	So	AVSS0.75sq	CN-105F		CN-148F
756	GrL	AVSS1.25sq	CN-172F		CN-106F
757	LO	AVSS1.25sq	CN-172F		CN-106F
758	WR	AVSS0.75sq	CN-172F		CN-106F
759	GW	AVSS0.75sq	CN-172F		CN-106F
760	P	AVSS0.75sq	CN-106F		CN-183F
761	Gr	AVSS0.75sq	CN-108F		CN-183F
766	LR	AVSS0.75sq	CN-105F		CN-178F
767	RG	AVSS0.75sq	CN-105F		CN-177F
768	LG	AVSS0.75sq	CN-105F		CN-177F
769	GR	AVSS0.75sq	CN-105F		CN-178F
771	RY	AVSS0.75sq	CN-106F		CN-76F
772	LY	AVSS0.75sq	CN-106F		CN-76F
907	YG	AVSS0.75sq	CN-103F		CN-109F
914	PL	AVSS0.75sq	CN-104F		CN-701F
915	Y	AEX0.75sq	CN-103F		CN-139F
916	R	AEX0.75sq	CN-103F		CN-140F
918	RG	AVSS0.75sq	CN-103F		CN-701F
919	RW	AEX0.75sq	CN-104F		CN-143F
933	B	AVSS0.75sq	CN-162F		CN-104F
957	Br	AVSS0.75sq	CN-103F		CN-169F
961	BP	AVSS0.75sq	CN-104F		CN-701F
962	BY	AVSS0.75sq	CN-103F		CN-701F
965	Br	AEX0.75sq	CN-103F		CN-139F
966	Gr	AEX0.75sq	CN-103F		CN-140F
968	BG	AVSS0.75sq	CN-103F		CN-701F
969	BrY	AEX0.75sq	CN-104F		CN-143F
973	BG	AVSS0.75sq	CN-162F		CN-104F
991	Gr	AVSS0.75sq	CN-152F		CN-104F

WIRE NO	WIRE COLOR	WIRE SIZE	FROM	CONNECTION	TO
E1	B	AVSS1.25sq	CN-149F		P-17
E2	B	AVSSsq	P-1E		CN-150F
E19	B	AVSS0.75sq	P-1B		CN-114F
E5	B	AVSS0.75sq	M-11		CN-252F
E21	B	AVSS0.75sq	CN-145F		CN-252F
E50	B	AVSS1.25sq	CN-252F		P-18
E51	B	AVSS1.25sq	CN-252F		P-16
E52	B	AVSS1.25sq	CN-252F		CN-252F
E14	B	AEX0.75sq	CN-252F		CN-138F
E15	B	AEX0.75sq	CN-252F		CN-157F
E4	B	AVSS0.75sq	CN-254F		CN-251F
E43	B	AVSS0.75sq	CN-254F		CN-262F
E89	B	AVSS0.75sq	CN-254F		CN-518F
E92	B	AVSS0.75sq	CN-254F		CN-518F
E18	B	AVSS1.25sq	CN-254F		P-9
E6	B	AVSS1.25sq	CN-254F		P-9
E54	B	AVSS1.25sq	CN-254F		CN-254F
E9	B	AVSS0.75sq	CN-116F		CN-254F
E10	B	AVSS0.75sq	CN-117F		CN-254F
E11	B	AVSS0.75sq	CN-122F		CN-254F
E12	B	AVSS0.75sq	CN-123F		CN-254F
E7	B	AVSS1.25sq	CN-156F		P-19
E13	B	AVSS0.75sq	CN-266F		M-12
E22	B	AVSS0.75sq	CN-255F		CN-76F
E35	B	AVSS0.75sq	CN-255F		CN-213F
E82	B	AVSS1.25sq	CN-255F		CN-35F
E45	B	AVSS1.25sq	CN-255F		P-15
E46	B	AVSS1.25sq	CN-255F		P-15
E53	B	AVSS1.25sq	CN-255F		CN-255F
E25	B	AVSS0.75sq	CN-214F		CN-255F
E34	B	AVSS0.75sq	CN-256F		CN-255F
E41	B	AVSS0.75sq	CN-261F		CN-255F
E94	B	AVSS0.75sq	CN-176F		CN-255F
E26	B	AVSS1.25sq	CN-164F		P-8
E29	B	AVSS1.25sq	CN-105F		P-11
E30	B	AVSS1.25sq	CN-105F		P-11
E38	B	AVSS1.25sq	CN-106F		P-10
E39	B	AVSS1.25sq	CN-105F		P-10
E40	B	AV8sq	CN1		P-13
E42	B	AVSS0.75sq	CN-74F		P-13
E55	B	AVSS0.75sq	CN-180F		P-14

GRAPHIC_1D

Figure 27

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