SEBM029108

SHOP MANUAL

KOMATSU®

D85EX-15
D85PX-15

MACHINE MODEL	SERIAL NUMBER
D85EX-15	**10001 and up**
D85PX-15	**1001 and up**

- This shop manual may contain attachiments 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.

- D85EX, PX-15 mount the SA6D125E-3 engine.
  For details of the engine, see the 125-3 Series Engine Shop Manual.

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ERROR CODE DLE3LC (ENGINE NE SPEED SENSOR: SEE TABLE (LC))

Action code	Error code	Controller code	Trouble	Engine Ne speed sensor: See table (LC) (Engine controller system)
CALL E03	DEL3LC	ENG		
Contents of trouble	• Cylinders cannot be identified by signal of engine NE speed sensor.			
Action of controller	• Flashes caution lamp and turns on caution buzzer. • Limits operation of engine and transmission.			
Problem that appears on machine	• Engine speed may become unstable or engine may stop. • Once machine is stopped, engine speed is limited to medium (half). • Once machine is stopped, travel is limited to F1 and R1.			
Related information	• Special adapter (799-601-9410) is necessary for troubleshooting for engine Ne speed sensor. • Method of reproducing error code: Start engine.			

	Cause		Standard value in normal state/Remarks on troubleshooting		
Possible causes and standard value in normal state	1	Defective engine Ne speed sensor (Internal disconnection or short circuit)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			NE (male)	Resistance	
			Between (1) – (2)	85 – 210Ω	
			Between (1), (2) – chassis ground	Min. 1MΩ	
	2	Disconnection in wiring harness (Disconnection in wiring or defective contact in connector)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Wiring harness between EGC2 (female) (36) – NE (female) (1)	Resistance	Max. 1Ω
			Wiring harness between EGC2 (female) (26) – NE (female) (2)	Resistance	Max. 1Ω
	3	Short circuit with chassis ground in wiring harness (Contact with ground circuit)	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			Short circuit of wiring harness between EGC2 (female) (36) – NE (female) (1) with chassis ground	Resistance	Min. 1MΩ
			Short circuit of wiring harness between EGC2 (female) (26) – NE (female) (2) with chassis ground	Resistance	Min. 1MΩ
	4	Defective engine controller	★Prepare with starting switch OFF, then carry out troubleshooting without turning starting switch ON.		
			EGC2 (female)	Resistance	
			Between (36) – (26)	85 – 210Ω	
			Between (36), (26) – chassis ground	Min. 1MΩ	

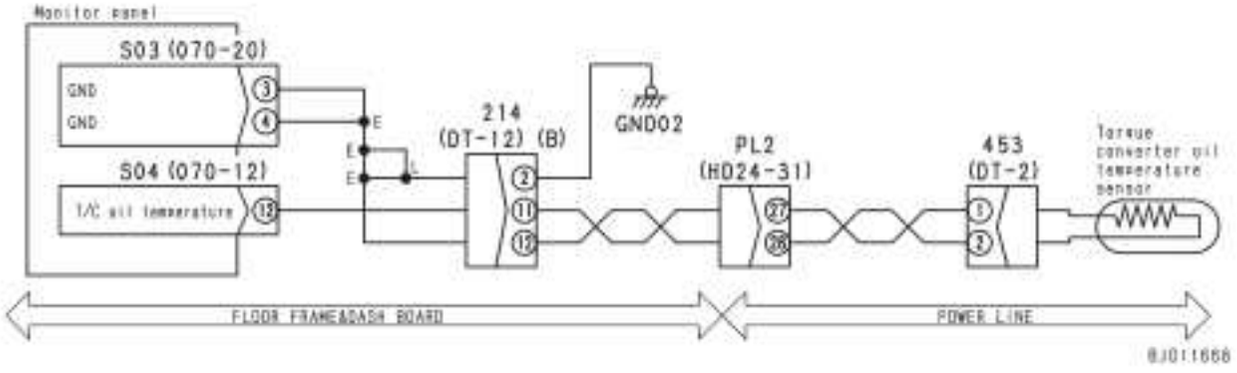
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E-10 INDICATION OF THE POWER TRAIN TEMPERATURE GAUGE IS ABNORMAL.

Trouble	• Indication of the power train temperature gauge is abnormal.
Related information	• Signals of the power train oil temperature sensor are sent and received through communication by the monitor panel.

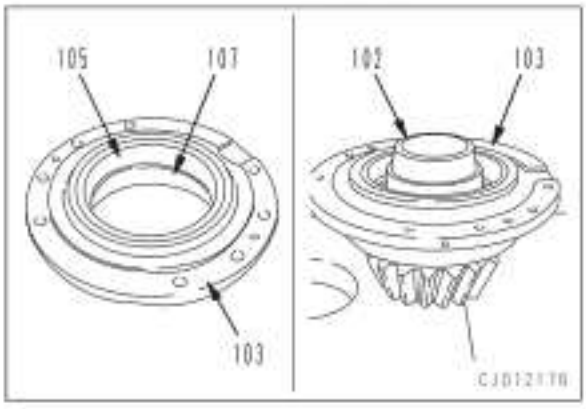
	Cause		Standard value in normal state/Remarks on troubleshooting			
Possible causes and standard value in normal state	1	The power train oil temperature sensor is defective. (Internal disconnection or short circuit)	★Prepare with the starting switch OFF, then carry out troubleshooting without turning the starting switch ON.			
			453 (male)	Torque converter oil temperature	Resistance	
			Between (1) and (2)	10 – 100°C	About 3.8k – about 80kΩ	
			Between (1) and ground		Min. 1MΩ	
	2	Disconnection of wiring harness (Disconnection in wiring or defective contact in connector)	★Prepare with the starting switch OFF, then carry out troubleshooting without turning the starting switch ON.			
			Wiring harness between S04 (female) (12) and 453 (female) (1)		Resistance	Max. 1Ω
			Wiring harness between 453 (female) (2) and S03 (female) (3)		Resistance	Max. 1Ω
	3	Ground fault of wiring harness (Contact with ground circuit)	★Prepare with the starting switch OFF, then carry out troubleshooting without turning the starting switch ON.			
			Between wiring harness (between S04 (female) (12) and 453 (female) (1)) and ground		Resistance	Min. 1MΩ
	4	Hot short circuit of wiring harness (Contact with 24V circuit)	★Prepare with the starting switch OFF, then turn the starting switch ON and carry out troubleshooting.			
			Between wiring harness (between S04 (female) (12) and 453 (female) (1)) and ground		Voltage	Max. 1V
	5	Defective monitor panel	★Prepare with the starting switch OFF, then carry out troubleshooting without turning the starting switch ON.			
			S04 (female)	Torque converter oil temperature	Resistance	
			Between (12) and ground	10 – 100°C	About 3.8k – about 80kΩ	

Circuit diagram related to power train oil temperature sensor

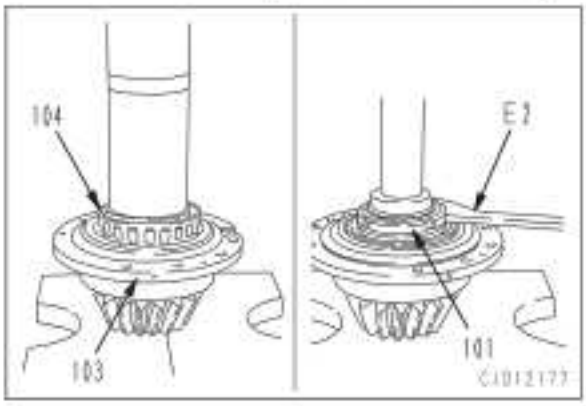


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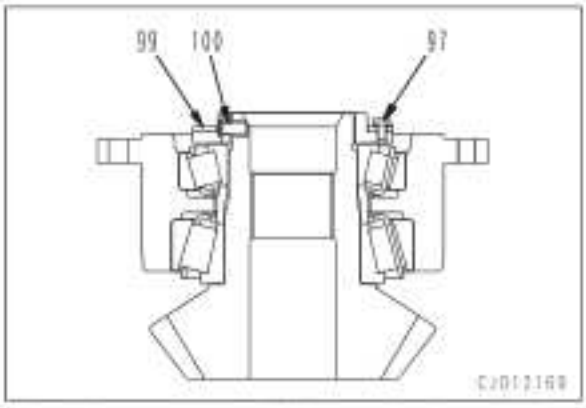
ii) Using the push tool, press fit outer races (105) and (107) to cage (103).
iii) Place bevel pinion (102) on the press stand and set cage (103).



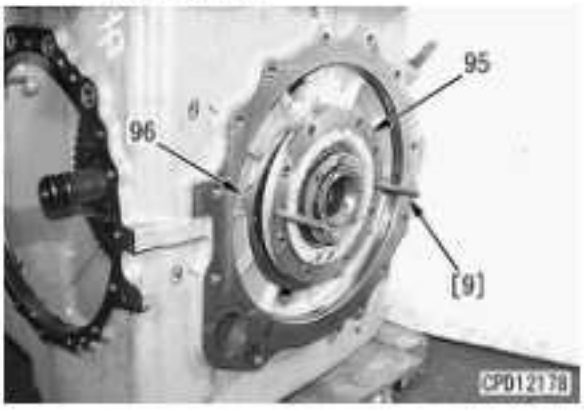
iv) Press fit bearing (104) to cage (103) with the press.
v) Secure the pinion with the press and tighten locknut (101) with tool **E2**.
Locknut: **Adhesive (LT-2)**
Locknut:
392 – 441 Nm {40 – 45 kgm}
vi) After tightening the nut, return it until 1 of 8 pin holes on it is matched to 1 of 5 pin holes on the pinion shaft.
★ Return the nut by 0 – 9°.
★ Tighten the nut, while turning the cage.
★ After tightening the nut, check that the bevel pinion rotates smoothly.



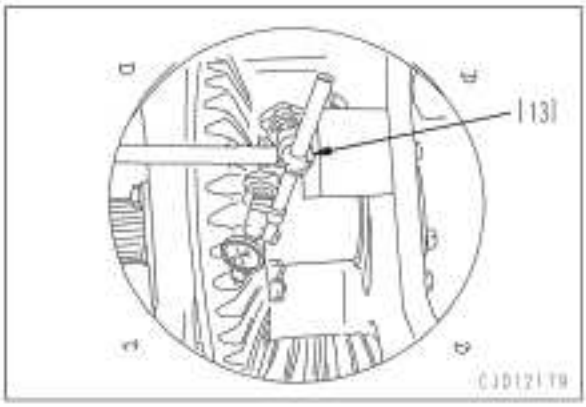
vii) Install pin (100) and plate (99), and then tighten bolt (97).
Bolt:
11.8 – 14.7 Nm {1.2 – 1.5 kgm}



4) Using guide bolt [9], install shims (96) and bevel pinion assembly (95).
★ Install shims of the thickness and quantity recorded when removed.
• Standard shim thickness: 2 mm
• Varieties of shim thickness: 0.2 mm, 0.3 mm, 1.0 mm

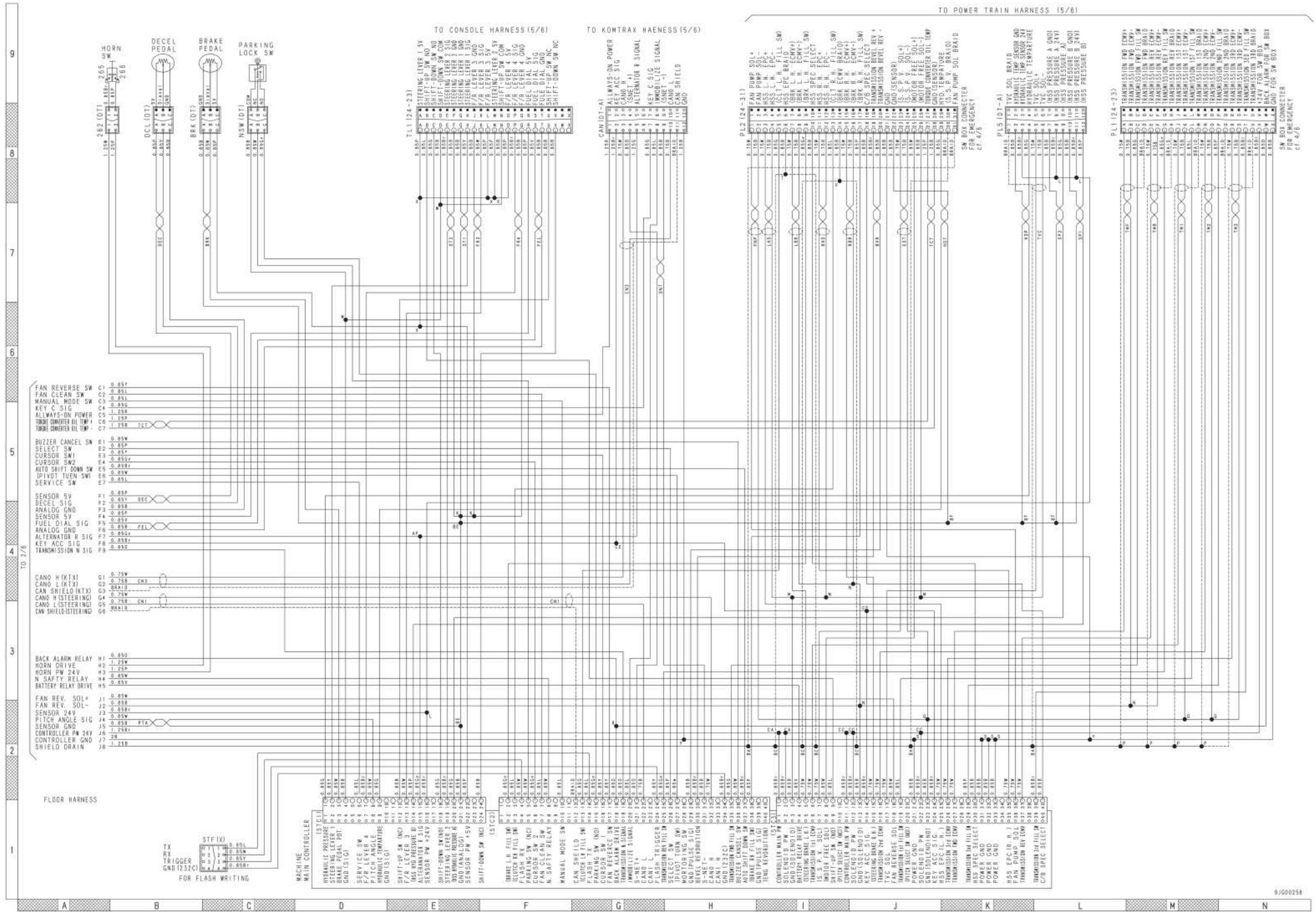


4. Adjusting backlash and tooth contact
1) Adjusting backlash
Apply the probe of dial gauge [13] to the tooth tip at the end of the bevel gear at right angles. Fix the bevel pinion and move the bevel gear forward and backward, and read the value at this time.
★ Standard backlash: 0.2 – 0.28 mm
★ Measure the backlash diagonally at 3 or more places.
• If the measured backlash is out of the standard range, adjust it according to the following procedure.



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ELECTRICAL CIRCUIT DIAGRAM (3/6)



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