

# Shop Manual

ENGINE

**95E -5 SERIES**

**KOMATSU**

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# ENGINE

## 95E-5 Series

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### 20 Standard value table

#### Standard service value table

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**Running-in standard**

Engine		SAA4D95LE-5				
Machine model		D37EX-22 D37PX-22				
Item		Procedure				
		1	2	3	4	5
Running time	min.	2	10	2	3	3
Speed	rpm	975	1,100	1,200	1,600	2,200
Dynamometer load	N {kg}	0 {0}	98 {10}	147 {15}	245 {25}	410 {41.8}
Output	kW {HP}	0 {0}	8.1 {11}	13.2 {18}	29.4 {39}	67.7 {91}

- ★ This table shows the values when the fan is not installed.
- ★ The dynamometer load in this table shows the value when the dynamometer arm is 716 mm long.

**Performance test standard**

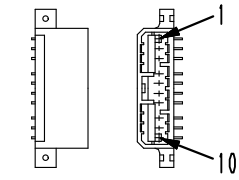
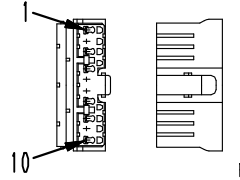
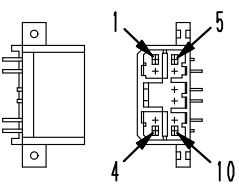
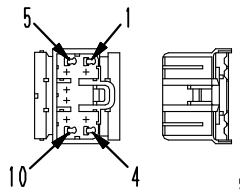
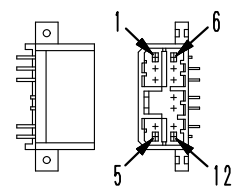
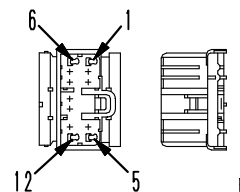
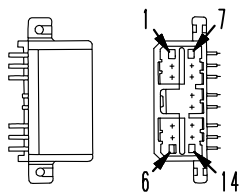
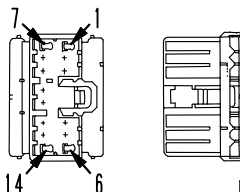
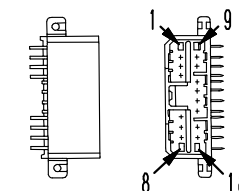
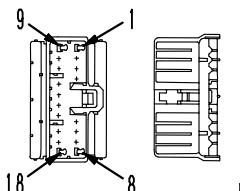
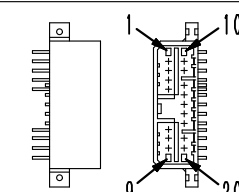
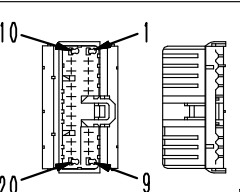
Engine		SAA4D95LE-5			
Machine model		D37EX-22, D37PX-22			
Test item		Rated output	Max. torque	Max. speed at no load	Min. speed at no load
Specification value (Gross value)	—	67.7 kW / 2,200 rpm {91 HP / 2,200 rpm}	376 Nm / 1,500 rpm {38.3 kgm / 1,500 rpm}	2,400 ± 50 rpm	975 ± 25 rpm
Speed	rpm	2,200 ± 5	1,500 ± 100	—	—
Dynamometer load	N {kg}	390 – 431 {39.8 – 43.9}	499 – 550 {50.9 – 56.1}	—	—
Output (Gross value)	kW {HP}	64.3 – 71 {86 – 95}	—	—	—
Torque (Gross value)	Nm {kgm}	—	357 – 394 {36.1 – 40.2}	—	—
Fuel consumption	sec/200 cc	—	—	—	—
Coolant temperature	°C	75 – 94	75 – 94	75 – 94	75 – 94
Lubricating oil temperature	°C	90 – 110	90 – 110	90 – 110	90 – 110
Lubricating oil pressure	MPa {kg/cm <sup>2</sup> }	0.49 – 0.69 {5.0 – 7.0}	—	—	Min. 0.2 {Min. 2.0}
Exhaust temperature	°C	Max. 620	Max. 690	—	—

- ★ The table gives the values under the standard condition (Atmospheric temperature: 25 °C, Atmospheric pressure: 99.9 kPa {750 mmHg}).
- ★ Since the dynamometer loads, output, and torque in the table are measured with the fan removed, they are different from the specification values.
- ★ The values in the table are the standard values for machines with the muffler and air cleaner installed, alternator under no load, and air compressor open (if installed).
- ★ The dynamometer load in this table shows the value when the dynamometer arm is 716 mm long.
- ★ For fuel, use ASTM D975 No. 1 or No. 2.
- ★ For lubricant, use SAE15W-40 or SAE30 oil.

**Related circuit diagram**

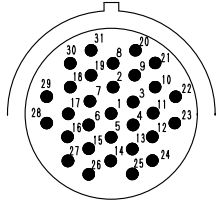
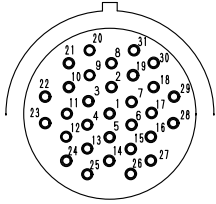
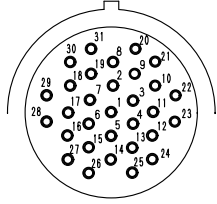
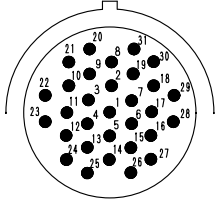
This drawing is a part of the electric circuit diagram related to troubleshooting.

- Connector No.: Indicates (Model – Number of pins) and (Color).
- “Connector No. and pin No.” from each branching/merging point: Shows the ends of branch or source of merging within the parts of the same wiring harness.
- Arrow ( $\Rightarrow$ ): Roughly shows the location on the machine.

No. of pins	AMP070 type connector		Testing connection use special tool Part No.
	Male (female housing)	Female (male housing)	
10	 <p>BWP04759</p>	 <p>BWP04760</p>	—
10	 <p>9JS02245</p>	 <p>9JS02246</p>	799-601-7510 (T-adapter)
	—	Part No. : 7821-92-7330	
12	 <p>BWP04761</p>	 <p>BWP04762</p>	799-601-7520 (T-adapter)
	—	Part No. : 7821-92-7340	
14	 <p>BWP04763</p>	 <p>BWP04764</p>	799-601-7530 (T-adapter)
	—	Part No. : 7821-92-7350	
18	 <p>BWP04765</p>	 <p>BWP04766</p>	799-601-7540 (T-adapter)
	—	Part No. : 7821-92-7360	
20	 <p>BWP04767</p>	 <p>BWP04768</p>	799-601-7550 (T-adapter)
	—	Part No. : 7821-92-7370	

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[The pin No. is also marked on the connector (electric wire insertion end)]

Type (shell size code)	HD30 Series connector		
	Body (plug)	Body (receptacle)	Testing connection use special tool Part No.
24-31 (9)	Pin (male terminal)	Socket (female terminal)	799-601-9290 (T-adapter)
	 <p style="text-align: center;">BWP05033</p>	 <p style="text-align: center;">BWP05034</p>	
	Part No. :08191-91203, 08191-91204, 08191-91205, 08191-91206	Part No. :08191-94103, 08191-94104, 08191-94105, 08191-94106	
	Socket (female terminal)	Pin (male terminal)	799-601-9290 (T-adapter)
 <p style="text-align: center;">BWP05035</p>	 <p style="text-align: center;">BWP05036</p>		
	Part No. :08191-92203, 08191-92204, 08191-92205, 08191-92206	Part No. :08191-93103, 08191-93104, 08191-93105, 08191-93106	

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SUMITOMO connector for engine			
No. of pins	Boost (air intake) pressure and temperature sensor (107, 114 engine)		
	Sensor side (plug)	Harness side (receptacle)	Testing connection use special tool Part No.
4			799-601-4230 (Socket) (Kit: 799-601-4101) (Kit: 799-601-4201)
-	-	-	-
No. of pins	Boost (air intake) pressure sensor (125, 170, 12V140 engine)		
	Sensor side (plug)	Harness side (receptacle)	Testing connection use special tool Part No.
3			799-601-4250 (Socket) (Kit: 799-601-4101) (Kit: 799-601-4201)
-	-	-	-
No. of pins	G sensor (fuel supply pump speed sensor) (125, 140, 170, 12V140 engine)		
	Sensor side (plug)	Harness side (receptacle)	Testing connection use special tool Part No.
3			799-601-4330 (Socket) (Kit: 799-601-4101) (Kit: 799-601-4201)
-	-	-	-

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<How to use check sheet>

Carry out the above troubleshooting and take a record of the contents of the attached "Check sheet for no-pressure feed".

**Note 1:** Check the low-pressure circuit parts for the following items.

- 1) Fuel level
- 2) Clogging of fuel tank breather
- 3) Sticking and wear of feed pump and clogging of filter
- 4) Leakage through and clogging of low-pressure fuel piping
- 5) Clogging of fuel filter
- 6) Replace the fuel filters when trouble doesn't cancel it even if clogging is checked.

## E-41 Code [2185/CA2185] Throttle Sens. Sup. Volt. High Error

Throttle sensor of accelerator pedal type

Error code	Failure code	Trouble	Throttle Sens. Sup. Volt. High Error
<b>2185</b>	<b>CA2185</b>		
Contents of trouble	<ul style="list-style-type: none"> <li>Signal voltage in throttle sensor power supply (5 V) circuit is abnormally high.</li> </ul>		
Action of controller	<ul style="list-style-type: none"> <li>Sets throttle angle with signal other than throttle sensor signal and continues operation (depending on each model)</li> </ul>		
Problem that appears on machine	<ul style="list-style-type: none"> <li>Different problems occur on different machine models.</li> </ul>		
Related information			

(Since this code is not set for the related machines, details are not described.)

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