

Engine

SAA6D107E-1-A

Lift truck model Serial number

FD100-8	M246-7001 and up
FD115-8	M246-7001 and up
FD135-8	M247-7001 and up
FD150E-8	M247-7001 and up
FD160E-8	M247-7001 and up

00 Index and foreword

Composition of shop manual	00-2
Table of contents	00-3
Safety notice	00-6
How to read the shop manual	00-11
Explanation of terms for maintenance standard	00-13
Handling of electric equipment and hydraulic component	00-15
Handling of connectors newly used for engines	00-24
How to read electric wire code	00-27
Precautions when carrying out operation	00-30
Method of disassembling and connecting push-pull type coupler	00-33
Standard tightening torque table	00-36
Conversion table	00-40

Composition of shop manual

Section Title	Form Number
Shop Manual, contents binder, binder label and tabs	6D107E-BE1
00 Index and foreword	6D107E-BE1 (00)
01 Specification	6D107E-BE1 (01)
10 Structure, function and maintenance standard	6D107E-BE1 (10)
20 Standard value table	6D107E-BE1 (20)
30 Testing and adjusting	6D107E-BE1 (30)
40 Troubleshooting	6D10E7-BE1 (40)
50 Disassembly and assembly	6D107E-BE1 (50)

Table of contents

00 Index and foreword	6D107E-BE1 (00)
Composition of shop manual	00-2
Table of contents	00-3
Safety notice	00-6
How to read the shop manual.....	00-11
Explanation of terms for maintenance standard	00-13
Handling of electric equipment and hydraulic component	00-15
Handling of connectors newly used for engines	00-24
How to read electric wire code	00-27
Precautions when carrying out operation	00-30
Method of disassembling and connecting push-pull type coupler	00-33
Standard tightening torque table.....	00-36
Conversion table.....	00-40
01 Specification	6D107E-BE1 (01)
General.....	01-2
Specifications.....	01-3
General view.....	01-4
Engine performance curve	01-9
10 Structure, function and maintenance standard	6D107E-BE1 (10)
Air intake and exhaust units	10-4
Intake system	10-6
Exhaust system.....	10-7
Turbocharger.....	10-10
Cooling system.....	10-17
Fuel system.....	10-18
Cylinder head	10-22
Cylinder block.....	10-26
Crankshaft.....	10-28
Piston, piston ring and piston pin	10-30
Connecting rod.....	10-31
Vibration damper	10-32
Timing gear	10-33
Camshaft.....	10-34
Valve and valve guide	10-36
Rocker arm, shaft and tappet.....	10-38
Oil pump.....	10-42
Oil pan.....	10-43
Flywheel and flywheel housing	10-44
Oil filter	10-46
Oil cooler	10-47
Fuel supply pump.....	10-48
Water pump drive and fan drive	10-49
20 Standard value table	6D107E-BE1 (20)
Standard value table for testing, adjusting and troubleshooting	20-2
Run-in standard and performance test criteria	20-3

30 Testing and adjusting	6D107E-BE1 (30)
Testing and adjusting tools list	30-2
Testing air boost pressure.....	30-4
Adjustment of valve clearance.....	30-5
Testing compression pressure	30-7
Testing blow-by pressure	30-10
Testing engine oil pressure	30-11
Handling fuel system parts	30-12
Releasing residual pressure in fuel system	30-12
Testing fuel pressure.....	30-13
Reduced cylinder mode operation	30-15
No-injection cranking	30-15
Testing leakage from pressure limiter and return rate from injector.....	30-16
Bleeding air from fuel circuit	30-20
Testing fuel system for leakage	30-21
Replacing the fan belt.....	30-22
Handling controller high-voltage circuit.....	30-22
Functions of troubleshooting tool and check of failure code.....	30-24
40 Troubleshooting	6D107E-BE1 (40)
General information on troubleshooting	40-4
Failure code table	40-5
Information in troubleshooting table.....	40-7
Method of using troubleshooting charts.....	40-9
Troubleshooting for mechanical system (S mode)	40-12
S-1 Starting performance is poor	40-12
S-2 Engine does not start	40-13
S-3 Engine does not pick up smoothly	40-16
S-4 Engine stops during operations.....	40-17
S-5 Engine does not rotate smoothly.....	40-18
S-6 Engine lacks output (or lacks power)	40-19
S-7 Exhaust smoke is black (incomplete combustion)	40-20
S-8 Oil consumption is excessive (or exhaust smoke is blue).....	40-21
S-9 Oil becomes contaminated quickly.....	40-22
S-10 Fuel consumption is excessive	40-23
S-11 Oil is in coolant (or coolant spurts back or coolant level goes down).....	40-24
S-12 Oil pressure drops.....	40-25
S-13 Oil level rises (Entry of coolant or fuel)	40-26
S-14 Coolant temperature becomes too high (overheating).....	40-27
S-15 Abnormal noise is made.....	40-28
S-16 Vibration is excessive.....	40-29
Troubleshooting for electrical system (E mode)	40-30
E-1 Failure code [111] Abnormality in engine controller.....	40-30
E-2 Failure code [115] Engine Ne or Bkup speed sensor error	40-31
E-3 Failure code [122] Abnormally high level in charge pressure sensor.....	40-32
E-4 Failure code [123] Abnormally low level in charge pressure sensor	40-34
E-5 Failure code [131] Throttle sensor high error	40-36
E-6 Failure code [132] Throttle sensor low error	40-38
E-7 Failure code [143] (Torque derating by low engine oil pressure)	40-40
E-8 Failure code [144] Abnormally high level in coolant temperature sensor.....	40-42
E-9 Failure code [145] Abnormally low level in coolant temperature sensor	40-44
E-10 Failure code [146] (Engine overheating).....	40-46
E-11 Failure code [153] Abnormally high level in charge temperature sensor	40-48
E-12 Failure code [154] Abnormally low level in charge temperature sensor.....	40-50
E-13 Failure code [187] Abnormally low level in sensor power supply 2.....	40-52
E-14 Failure code [221] Abnormally high level in atmospheric pressure sensor	40-54
E-15 Failure code [222] Abnormally low level in atmospheric pressure sensor	40-56

E-16 Failure code [227] Abnormally high level in sensor power supply 2	40-58
E-17 Failure code [234] Engine overspeed	40-59
E-18 Failure code [238] Abnormally level in Ne speed sensor power supply	40-60
E-19 Failure code [271] Short circuit in IMV	40-61
E-20 Failure code [272] Disconnection in IMV	40-62
E-21 Failure code [322] Disconnection, short circuit in injector No. 1 (L/B No. 1)	40-64
E-22 Failure code [323] Disconnection, short circuit in injector No. 5 (L/B No. 5)	40-66
E-23 Failure code [324] Disconnection, short circuit in injector No. 3 (L/B No. 3)	40-68
E-24 Failure code [325] Disconnection, short circuit in injector No. 6 (L/B No. 6)	40-70
E-25 Failure code [331] Disconnection, short circuit in injector No. 2 (L/B No. 2)	40-72
E-26 Failure code [332] Disconnection, short circuit in injector No. 4 (L/B No. 4)	40-74
E-27 Failure code [342] Matching error in engine controller data	40-76
E-28 Failure code [351] Abnormality in injector drive circuit	40-78
E-29 Failure code [352] Abnormally low level in sensor power supply 1	40-80
E-30 Failure code [386] Abnormally high level in sensor power supply 1	40-82
E-31 Failure code [415] (Rotation derating by low engine oil pressure)	40-83
E-32 Failure code [418] Water mixed in fuel	40-84
E-33 Failure code [428] Abnormally high level in water sensor	40-86
E-34 Failure code [429] Abnormally low level in water sensor	40-88
E-35 Failure code [431] Idle validation switch error	40-90
E-36 Failure code [432] Idle validation action error	40-92
E-37 Failure code [435] Abnormality in engine oil pressure switch	40-94
E-38 Failure code [441] Abnormally low power supply voltage	40-96
E-39 Failure code [442] Abnormally high power supply voltage	40-98
E-40 Failure code [449] Abnormally high common rail pressure 2	40-100
E-41 Failure code [451] Abnormally high level in common rail pressure sensor	40-102
E-42 Failure code [452] Abnormally low level in common rail pressure sensor	40-104
E-43 Failure code [488] Derating of torque by abnormally high charge temperature	40-106
E-44 Failure code [553] Abnormally high common rail pressure 1	40-107
E-45 Failure code [559] No-pressure feed by supply pump 1	40-108
E-46 Failure code [689] Abnormality in engine Ne speed sensor	40-110
E-47 Failure code [731] Abnormality in engine Bkup speed sensor phase	40-112
E-48 Failure code [757] Loss of all data in engine controller	40-114
E-49 Failure code [778] Abnormality in engine Bkup speed sensor	40-116
E-50 Failure code [2185] Throttle sensor supply voltage high error	40-118
E-51 Failure code [2186] Throttle sensor power supply low error	40-119
E-52 Failure code [2249] No-pressure feed by supply pump 2	40-120
E-53 Failure code [2311] Abnormality in IMV solenoid	40-122
E-54 Failure code [2555] Disconnection in intake air heater relay	40-124
E-55 Failure code [2556] Short circuit in intake air heater relay	40-126
50 Disassembly and assembly	6D107E-BE1 (50)
How to read this manual	50-2
Coating materials list	50-4
Special tools list	50-7
General disassembly of engine	50-8
General assembly of engine	50-22

It's a preview. You can download the full file by clicking the link below.

<https://shopservicemanual.com/>

Service Manuals from 2\$