SEBM035103

SHOP MANUAL

KOMATSU®

82E–98E SERIES

DIESEL ENGINE

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1. GENERAL

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1.1 Specifications

3D82AE

Engine name		Unit	3D82AE						
Engine specification class		–	VM						
Type		–	Vertical, in-line, 4-cycle, water-cooled diesel engine						
Combustion chamber		–	Direct injection						
Number of cylinders		–	3						
Cylinder bore x stroke		mm x mm	82 x 84						
Displacement		ℓ (cc)	1.331 (1,331)						
Continuous rating	Revolving speed	rpm	–						
	Output	kW {HP}	–						
Rated output	Revolving speed	rpm	2,000	2,200	2,400	2,500	2,600	2,800	3,000
	Output	kW {HP}	14.6 {19.6}	16.0 {21.5}	17.5 {23.5}	18.2 {24.5}	19.0 {25.4}	20.4 {27.4}	21.9 {29.4}
Max. no-load speed (± 25)		rpm	2,180	2,375	2,570	2,675	2,780	2,995	3,180
Ignition order		–	1-3-2-1(No.1 cylinder on flywheel side)						
Power take off		–	Flywheel						
Direction of rotation		–	Counterclockwise (viewed from flywheel)						
Cooling system		–	Radiator						
Lubrication system		–	Forced lubrication with trochoid pump						
Starting system		–	Electric						
Applicable fuel		–	Diesel oil-ISO 8217 DMA, BS 2869 A1 or A2 (Cetane No.45 min.)						
Applicable lubricant		–	API grade class CD or CF						
Lubricant capacity (oil pan) (*1)	Total	ℓ	5.5						
	Effective	ℓ	1.9						
Cooling water capacity (engine only)		ℓ	1.8						
Engine Dimensions (*2) (with flywheel housing) (*1)	Overall length	mm	528						
	Overall width	mm	489						
	Overall height	mm	565						
Engine dry weight (*1),(*2) (with flywheel housing)		kg	128						
Cooling fan (std.) (*1)		mm	335 mm O/D, 6 blades pusher type F						
Fan V pulley diameter (std.) (*1)		mm	110 x 110						

*1 :Items may differ from the above depending on an engine installed on a machine unit.
*2 :Engine weight and dimensions without radiator

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S4D98E

Engine name		Unit	S4D98E			
Engine specification class		–	VM			
Type		–	Vertical, in-line, 4-cycle, water-cooled diesel engine			
Combustion chamber		–	Direct injection			
Number of cylinders		–	4			
Cylinder bore x stroke		mm x mm	98 x 110			
Displacement		ℓ (cc)	3.319 (3,319)			
Continuous rating	Revolving speed	rpm	–			
	Output	kW {HP}	–			
Rated output	Revolving speed	rpm	2,000	2,200	2,400	2,500
	Output	kW {HP}	50.7 {68.0}	55.5 {74.4}	60.3 {80.9}	62.5 {83.8}
Max. no-load speed (± 25)		rpm	2,180	2,400	2,590	2,700
Ignition order		–	1-3-4-2-1(No.1 cylinder on flywheel side)			
Power take off		–	Flywheel			
Direction of rotation		–	Counterclockwise (viewed from flywheel)			
Cooling system		–	Radiator			
Lubrication system		–	Forced lubrication with trochoid pump			
Starting system		–	Electric			
Applicable fuel		–	Diesel oil-ISO 8217 DMA, BS 2869 A1 or A2 (cetane No.45 min.)			
Applicable lubricant		–	API grade class CD or CF			
Lubricant capacity (oil pan) (*1)	Total	ℓ	10.5			
	Effective	ℓ	4.5			
Cooling water capacity (engine only)		ℓ	4.2			
Engine dimensions (*2) (with flywheel housing) (*1)	Overall length	mm	715			
	Overall width	mm	575			
	Overall height	mm	804			
Engine dry weight (*1),(*2) (with flywheel housing)		kg	245 (equivalent to SAE#4)			
Cooling fan (std.) (*1)		mm	430 mm O/D, 8 blades suction type			
Crankshaft V pulley diameter & Fan V pulley diameter (std.) (*1)		mm	130 x 130			

*1 : Items may differ from the above depending on an engine installed on a machine unit.
*2 : Engine weight and dimensions without radiator

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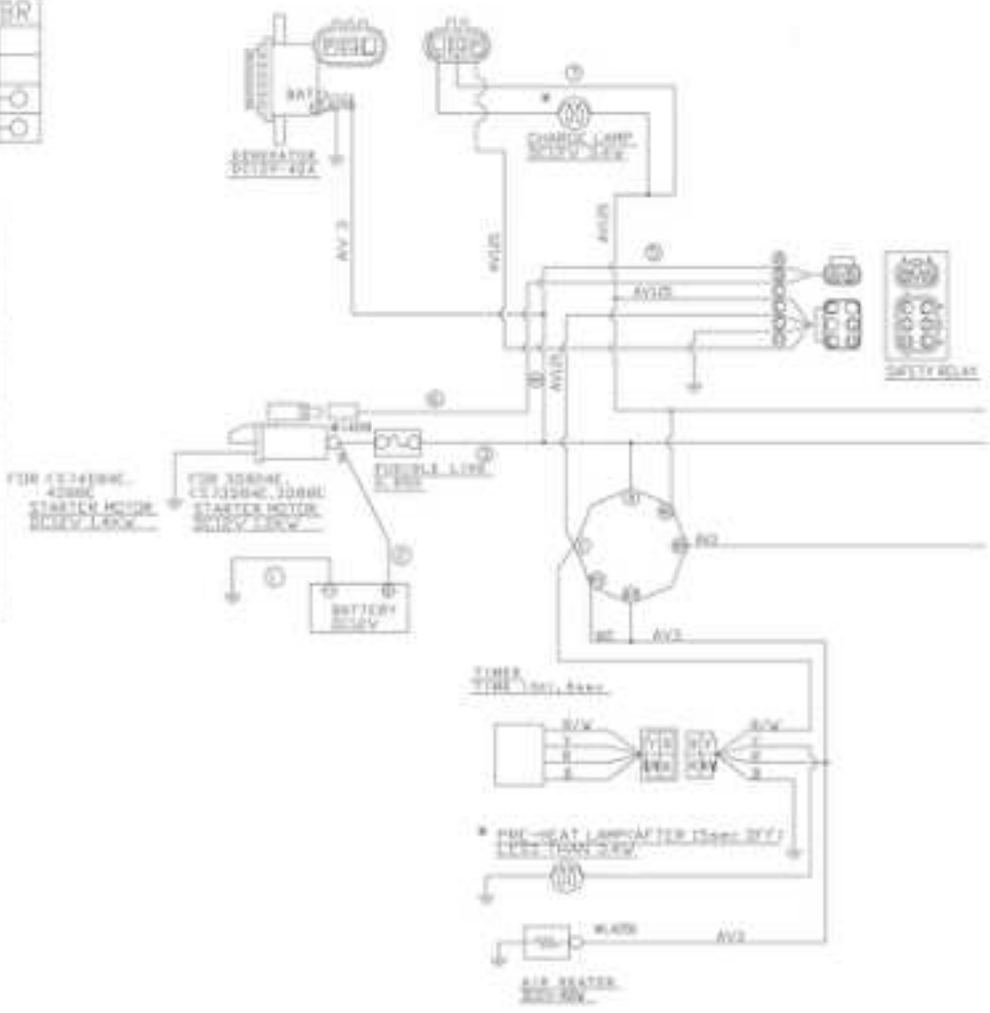
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11.1 Electric Wiring Diagram

	B	R1	R2	ACC	C	BR
PRE-HEATING	○	○		○		
OFF	○					
ON	○			○		○
START	○		○	○	○	○

KEY SW. DIAGRAM

MARK	COLOR
B	Black
W	White
R	Red
L	Blue
G	Green
Y	Yellow
Br	Brown
Lg	Light Green
Sb	Sky blue
O	Orange
P	Pink
Gr	Gray
R/W	Red/White



REMARKS
1. ※ MARKED PARTS ARE NOT PROVIDED BY KOMATSU

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