

KOMATSU

SHOP MANUAL

4D92E, 4D94LE, 4D98E

DIESEL ENGINE

APPLICABLE MACHINE	SERIAL NO.	APPLICABLE ENGINE
FD10/15/18-20	650001 and up	4D92E
FD20/25/30-16	700001 and up	4D94LE
FD20N/25N/30N-16	700001 and up	4D94LE
FD20H/25H/30H/35A-16	700001 and up	4D98E

KOMATSU FORKLIFT

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1. GENERAL

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1-1 Specifications

Engine name	—	4D92E	4D94LE	4D98E	
Engine specification class	—	For standard forklift truck			
Type	—	Vertical, in-line, 4-cycle, water-cooled diesel engine			
Combustion chamber	—	Swirl chamber type			
Number of cylinders	—	4			
Cylinder bore x stroke	mm x mm	92 x 100	94 x 110	98 x 110	
Displacement	l	2.659	3.053	3.318	
Rated output	Revolving speed	rpm	2,450	2,450	2,400
	Output	kW {HP}	33.8 {45.3}	44.1 {59.1}	48.9 {65.7}
Fuel injection timing (A.T.D.C.)	deg	4		6	
Fuel injection pressure	MPa {kgf/cm ² }	12.3 – 13.3 {125 – 135}			
Ignition order	—	1–3–4–2 (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 CC or higher			
Battery capacity	V-AH	12–64 (5HR) or above			
Lubricant capacity (oil pan)	Total	l	7.5		
	Effective	l	2		
Cooling water capacity (engine only)	l	4.2			
Engine dimensions	Overall length	mm	700 (fan – flywheel)		
	Overall width	mm	508 (fuel filter – alternator)		
	Overall height	mm	706 (oil pan – rocker cover upper surface)		
Dry engine weight	kg	225			

1-2 Fuel oil, lubricating oil and cooling water

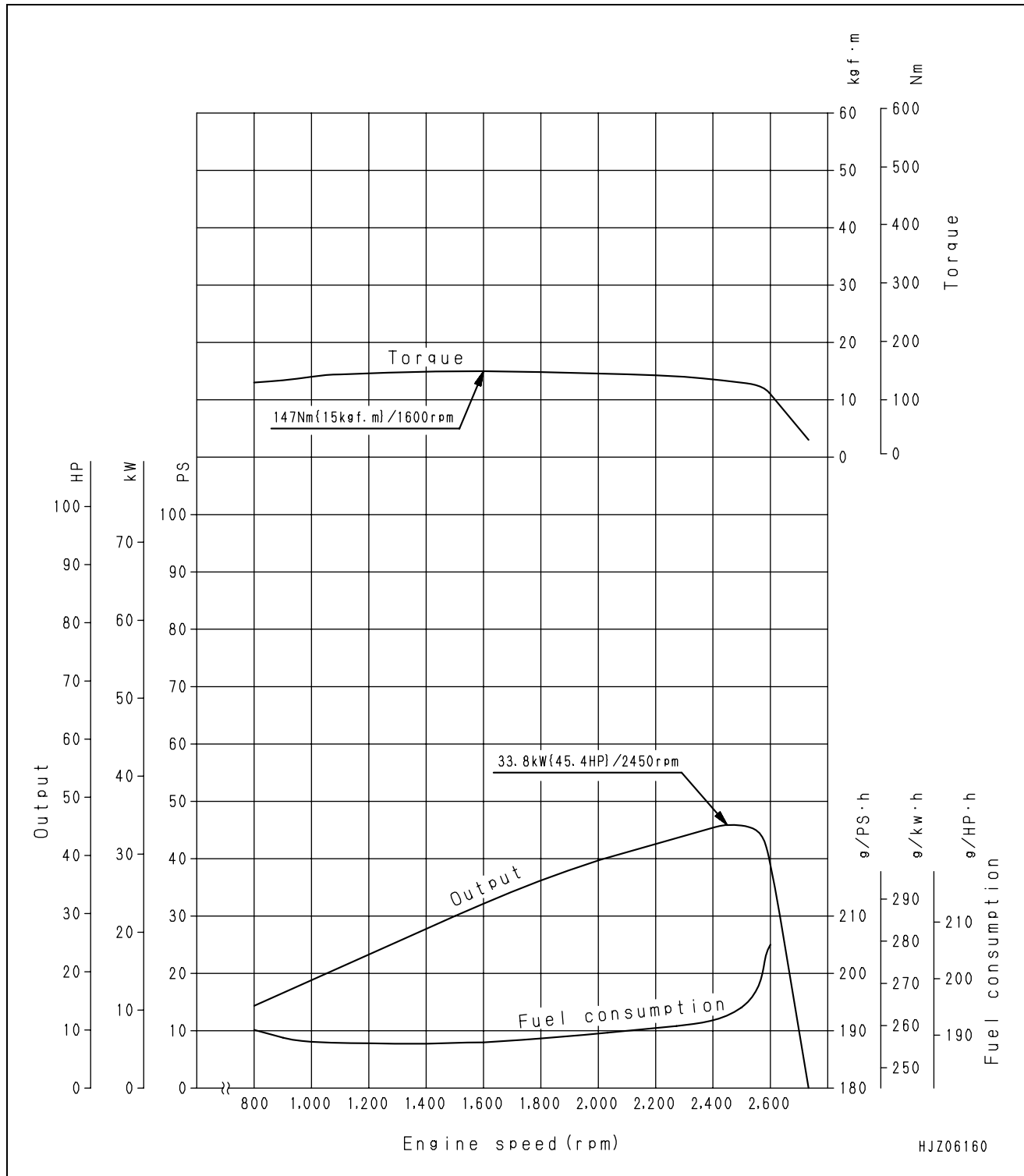
Use proper fuel oil, lubricating oil and cooling water and change them according the Operation and Maintenance Manual.

1-3 Engine performance curve

4D92E [Applicable machine: FD10/15/18-20]

Rated horsepower: 33.8 kW {45.3 HP}/2,450 rpm (Net)

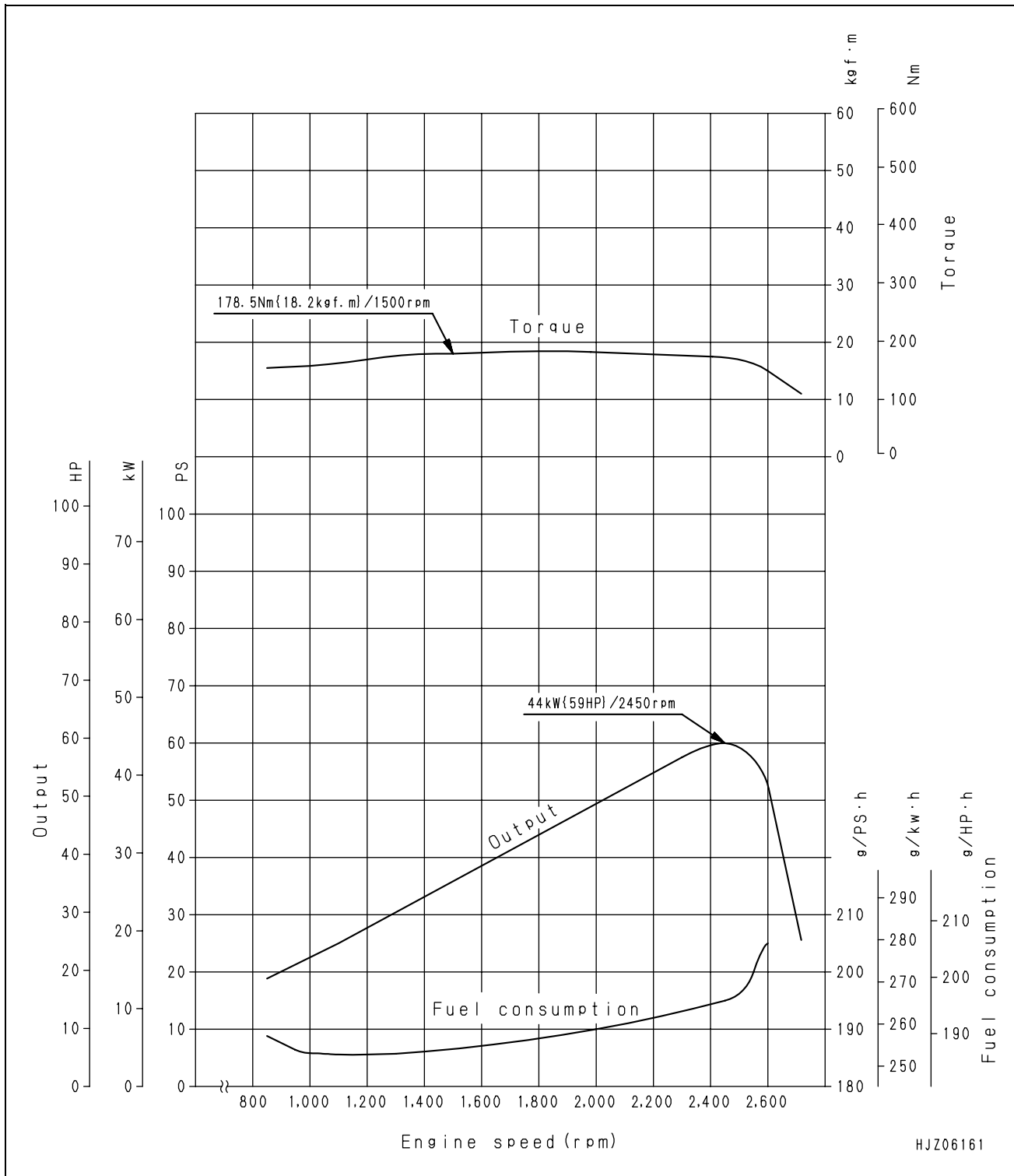
Maximum torque: 147 Nm {15 kgf·m}/1,600 rpm (Net)



4D94LE [Applicable machine: FD20/25/30-16, FD20N/25N/30N-16]

Rated horsepower: 44.1 kW {59.1 HP}/2,450 rpm (Net)

Maximum torque: 178.5 Nm {18.2 kgf·m}/1,500 rpm (Net)

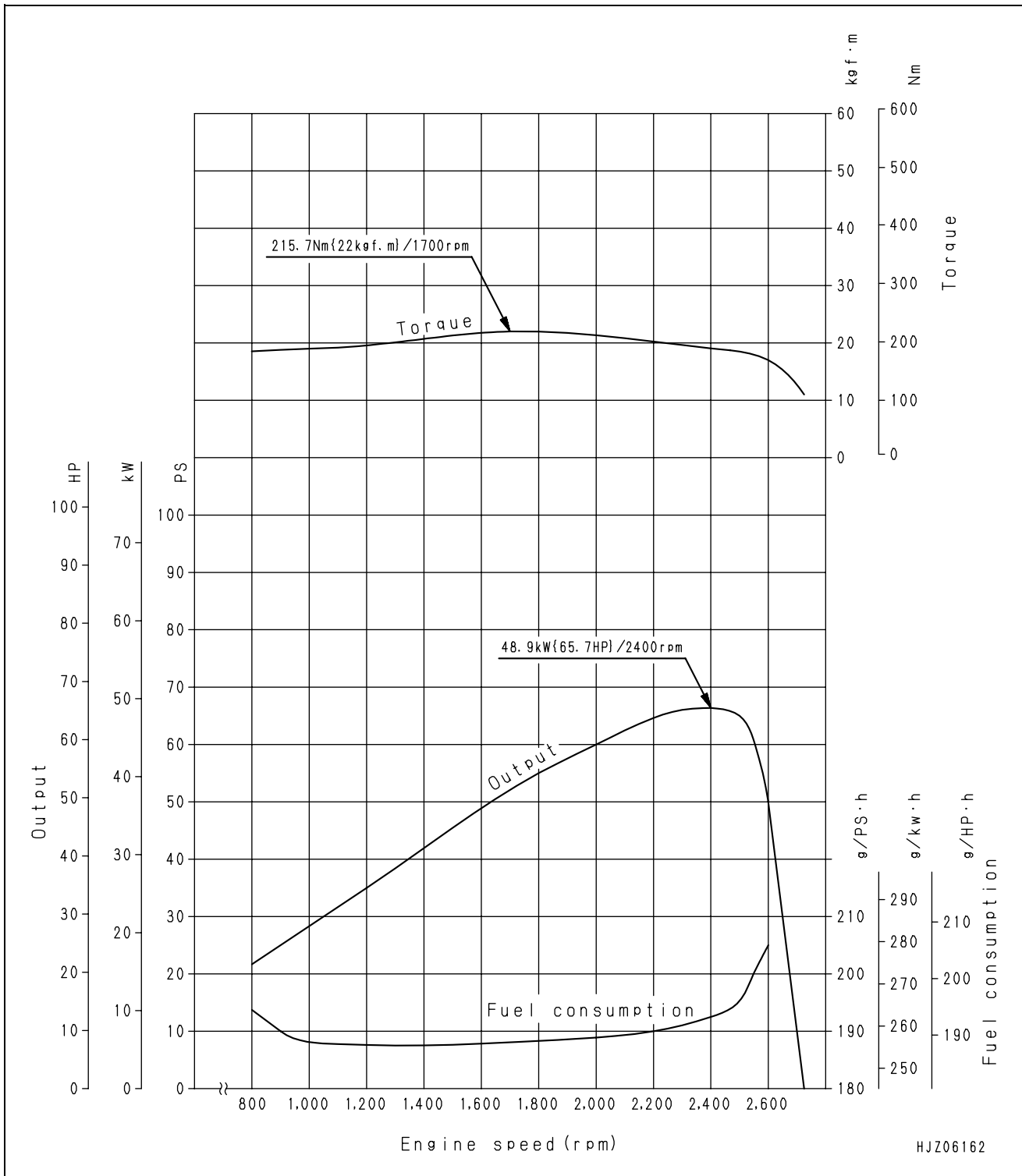


1. GENERAL

4D98E [Applicable machine: FD20H/25H/30H/35A-16]

Rated horsepower: 48.9 kW {65.7 HP}/2,400 rpm (Net)

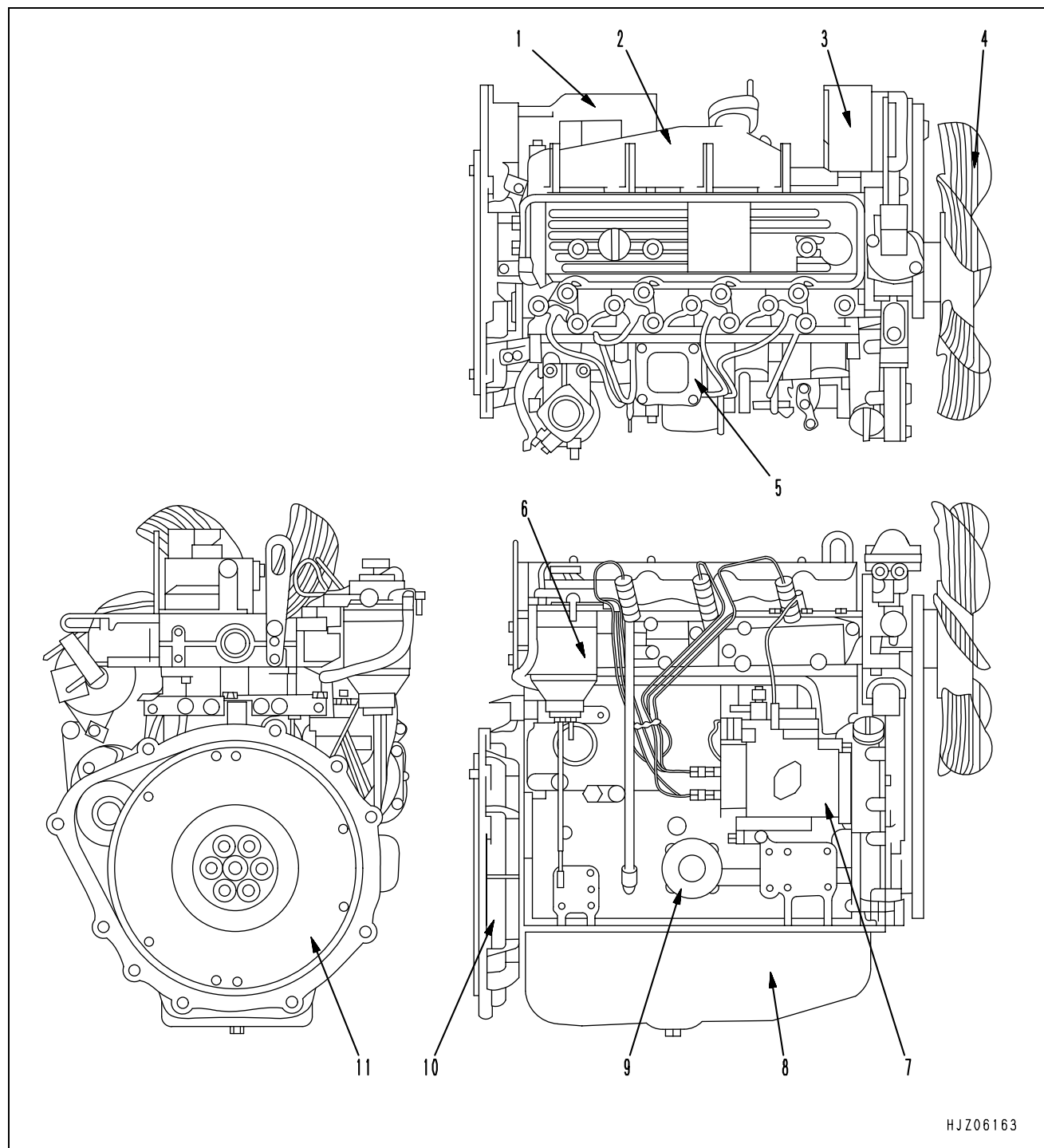
Maximum torque: 215.7 Nm {22 kgf·m}/1,700 rpm (Net)



1. GENERAL

1-4 Engine external views

4D92E/94LE/98E



- | | |
|---------------------|------------------------|
| 1) Starting motor | 7) Fuel injection pump |
| 2) Exhaust manifold | 8) Oil pan |
| 3) Alternator | 9) Oil filter |
| 4) Radiator fan | 10) Flywheel housing |
| 5) Intake manifold | 11) Flywheel |
| 6) Fuel filter | |