YANMAR

SERVICE MANUAL

INDUSTRIAL ENGINE

3TNM74F
3TNV74F
3TNV80F

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	Trouble symptom / Cause	Starting problem: Engine does not start	Starting problem: Engine starts but stops soon: Exhaust smoke: None	Starting problem: Engine starts but stops soon: Exhaust smoke: Little	Starting problem: Engine starts but stops soon: Exhaust smoke: Much	Insufficient engine output: Exhaust color: Ordinary	Insufficient engine output: Exhaust color: White	Insufficient engine output: Exhaust color: Black	Poor exhaust color: During work: White	Poor exhaust color: During work: Black	High knocking sound during combustion	Abnormal engine sound	Uneven combustion sound	Engine surging: During idling	Engine surging: During work operation	Excessive engine vibration	Difficulty in returning to low speed	Excessive fuel consumption	Engine oil: Excessive oil consumption	Engine oil: Dilution by diesel fuel	Engine oil: Oil with water	Engine oil: Low oil pressure	Excessive blow-by gas	Engine coolant: Overheat	Engine coolant: Low water temperature	Air intake: Pressure drop	Air intake: Pressure rise	Exhaust temperature rise	Corrective action	Reference page
Engine system	Governor adjusted incorrectly		O										O	O	O	O												Make adjustment	*See Check and adjust the governor lever and engine speed control on page 5-14.*
	Improper open/close timing of intake/ exhaust valves	O					O	O	O	O		O																Adjust the valve clearance	*See Measuring and Adjusting Valve Clearance on page 6-31.*
Engine coolant system	Excessive radiator cooling								O								O							O				Replace thermostat	*See Disassembly of Engine Coolant Pump on page 8-6.*
	Insufficient radiator cooling							O															O				O	Replace thermostat or check for loose fan belt	*See Disassembly of Engine Coolant Pump on page 8-6. or Check and adjust cooling fan V-belt on page 5-14*
	Insufficient engine coolant level							O															O				O	Check water leakage from engine coolant system	*See Engine Coolant System Check on page 8-6.*
	Cracked water jacket																			O	O		O					Repair or replace	*See Disassembly of Engine Coolant Pump on page 8-6.*
	Stretched fan belt							O															O				O	Adjust the belt tension	*See Check and adjust cooling fan V-belt on page 5-7.*
	Defective thermostat							O	O														O	O				Check or replace	*See Disassembly of Engine Coolant Pump on page 8-6.*
Engine oil system	Incorrect engine oil	O	O			O											O			O	O							Use correct engine oil	*See Engine Oil Specifications on page 4-15.*
	Engine oil system leakage																O			O								Repair	*See Disassembly of Oil Pump on page 9-7.*
	Insufficient delivery capacity of trochoid pump																			O								Check and repair	*See Disassembly of Oil Pump on page 9-7.*
	Clogged engine oil filter																			O	O							Clean or replace	*See Replace engine oil and engine oil filter on page 5-14.*
	Defective pressure regulating valve																			O								Clean, adjust or replace	*See Disassembly of Oil Pump on page 9-7.*
	Insufficient engine oil level		O																	O								Add correct engine oil	*See Adding Engine Oil on page 4-16.*
	Overfilled engine crankcase																			O								Check engine oil	*See Checking Engine Oil on page 4-16.*

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