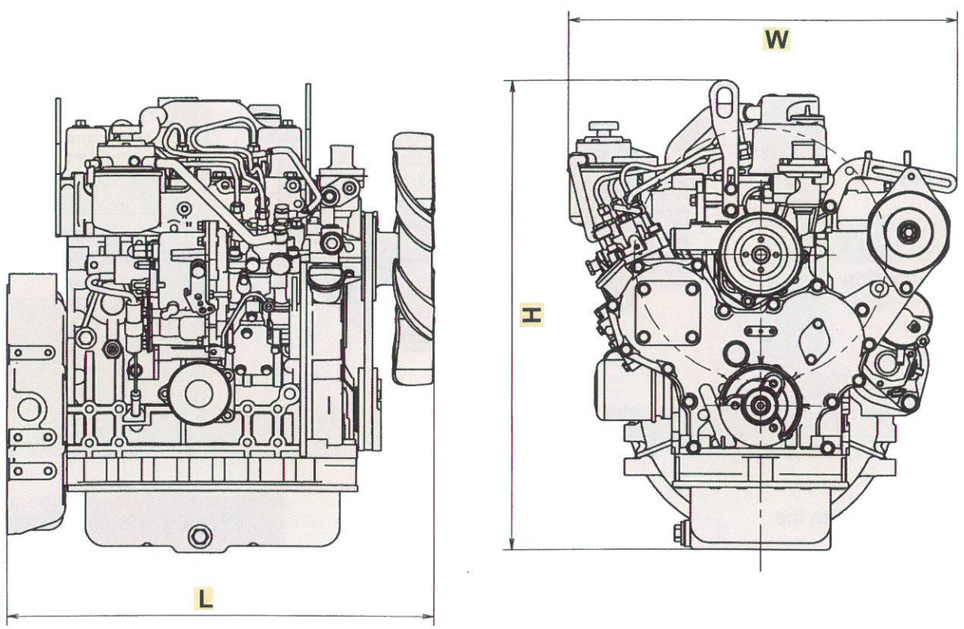
SPECIFICATIONS

Model		3TNV82		3TNV84T		3TNV88		4TNV84T		4TNV88	
Specification		-DSA	-GGE	-KSA	-GGE	-DSA	-GGE	-DSA	-GGE	-DSA	-GGE
Type		Vertical Cylinder, Inline, 4-cycle, Water-Cooled Diesel Engine									
Combustion		DI		DI		DI		DI		DI	
Aspiration		NA		Turbo		NA		Turbo		NA	
No. of cylinders		3		3		3		4		4	
Cyl. bore x stroke	mm	82 x 84		84 x 90		88 x 90		84 x 90		88 x 90	
Displacement	L	1.33		1.496		1.642		1.995		2.189	
Rated output	hp/rpm	30.2/3000	17.7/1800	38.9/2800	25.2/1800	35.9/3000	21.7/1800	55.2/3000	35.9/1800	47.5/3000	29.0/1800
Cooling system		Radiator		Radiator		Radiator		Radiator		Radiator	
Starting system		Electric		Electric		Electric		Electric		Electric	

DIMENSIONS



Model	3TNV82A				3TNV88				3TNV84T				4TNV88				4TNV84T			
Spec.	SA	SA2	SA3	GGE	SA	SA2	SA3	GGE	SA	SA2	SA3	GGE	SA	SA2	SA3	GGE	SA	SA2	SA3	GGE
L (in.)	22.99"	21.26"	20.94"	20.77"	24.69"	22.95"	22.64"	23.46"	24.69"	22.95"	22.64"	23.46"	28.39"	26.65"	26.34"	27.17"	28.39"	26.65"	26.34"	27.17"
W (in.)	20"	20"	20"	20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.20"	20.47"	20.47"	20.47"	20.47"
H (in.)	24.02"	24.02"	24.02"	24.02"	26.18"	26.18"	26.18"	26.18"	27.44"	27.44"	27.44"	27.44"	25.47"	25.47"	25.47"	25.47"	27.95"	27.95"	27.95"	27.95"
Dry wt. (lbs)	313	288	273	318	375	351	335	373	386	362	346	384	434	410	395	439	445	421	406	450

Note: All data subject to alteration without notice.

YANMAR AMERICA CORP
951 Corporate Grove Drive
Buffalo Grove IL 60089-4508, U.S.A.
TEL: 847/541-1900 FAX: 847/541-2161
www.yanmar.com

11/04-500TNV2

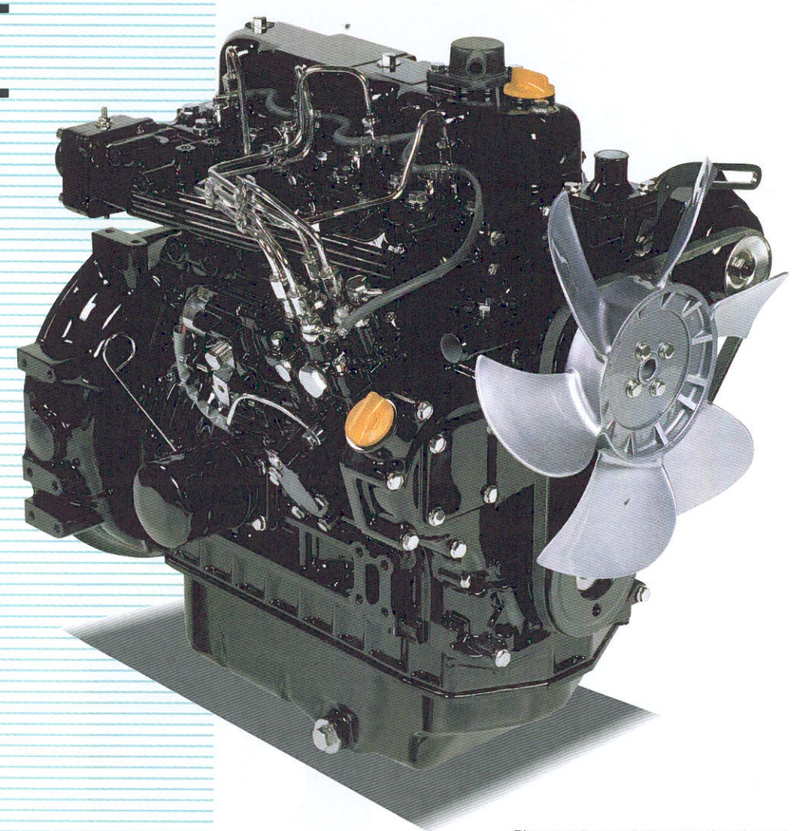
YANMAR®

DIESEL ENGINES

TNV series-2

17.7~55.2 hp

3TNV82A
3TNV84T
3TNV88
4TNV84T
4TNV88



Photograph may show optional equipment.

The TNV series adds a whole range of “goodies” that make this engine a mechanical “Work of art”

The much acclaimed “Clean and Silent” TNE series has just become even better. Its called the TNV, and it stands for Total New Value. Lets take a look.....

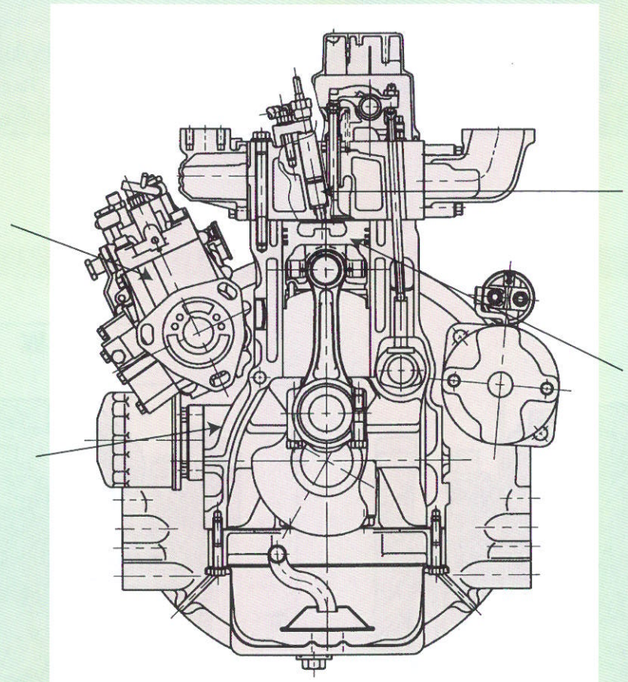
Noise reduction
New L.O. pump
- Increase No. of teeth
- Drive by crankshaft instead gear

Emission reduction
New fuel injection pump
- Mono plunger
- Higher injection pressure
- Mechanical control of injection timing

Speed timer, Load timer, Cold start timer

Noise reduction
Higher stiffness Cylinder block

Emission reduction
New fuel injection nozzle
- Low sac volume
- Multi injection holes



Emission reduction
Cylinder head
- 4-valve/cylinder (intake-2, exhaust-2, 4TNV84T)
- Optimal installation of the injection nozzle
- Optimal valve timing

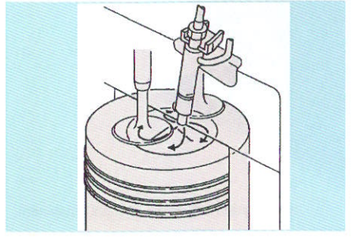
Emission reduction
Piston
- New combustion chamber

Noise reduction
Higher stiffness timing Gear-Case

Emission Reduction (ie a Cleaner Engine)

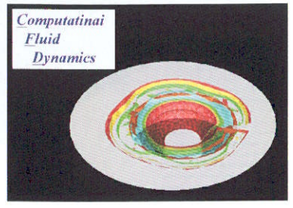
Cleaner engines with even lower exhaust emissions are achieved by improving on the already excellent TNE base. Stricter emission standards are cleared by a wide margin.

Nozzle Installation Angle
The installation angle of the fuel injection nozzle is greater than that



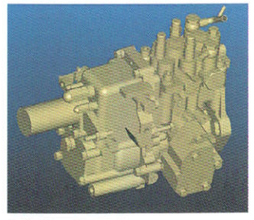
in conventional engines, so that uneven atomization of fuel between injections can be reduced. Excellent matching between intake swirl ratio and the shape of the combustion chamber has resulted in uniform mixing of fuel in the combustion chamber. Therefore, performance including combustion efficiency, startability, noise, and exhaust emission has been improved.

1. Combustion Chamber
It increases the fluid energy of the air and fuel charge. The swirl effect produced in the chamber continues

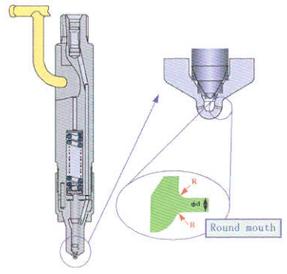


while combustion occurs, aiding mixing and results in lower exhaust emissions compared to conventional chambers.

2. Fuel Injection Equipment
NMP Pump
A new MP pump has been developed especially for the TNV engine series. Our aim was to make improvements over a wide range of areas to even further reduce emissions. Features are:



- High injection pressure
- Use of a mono plunger reduces uneven injection between the cylinders.
- Timing Control Device system optimizes injection to take into account speeds, loads and the startup phase.
- New mechanical governor helps to maintain cleaner exhausts.
- Minimal variation from chosen revs at low speed using constant pressure valve.
- Fuel Injection Nozzle
- Multiple numbers of very small holes are used to achieve uniform atomization.
- Holes are not simply drilled, their inside edges are carefully rounded to promote even flow and direction of spray, also to reduce resistance.
- Low sack nozzle profile improves combustion. Double corn shape
- Fuel filter installed at inlet of injector.



Noise Level Reduction (ie a more Silent Engine)

1. Cylinder Block Noise Reduction
Yanmar's original CAE techniques have optimized the stiffness, minimized transformation, and reduced radiant noise.