

# YANMAR

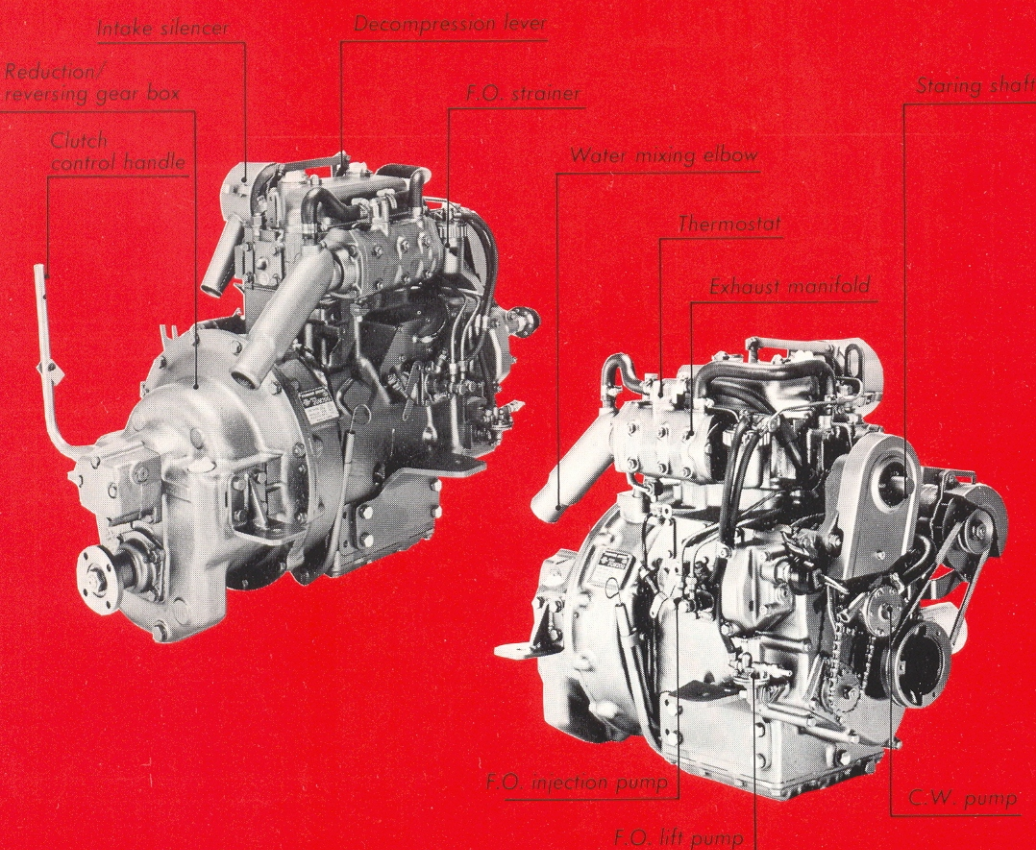
## DIESEL ENGINE

### For Marine Use

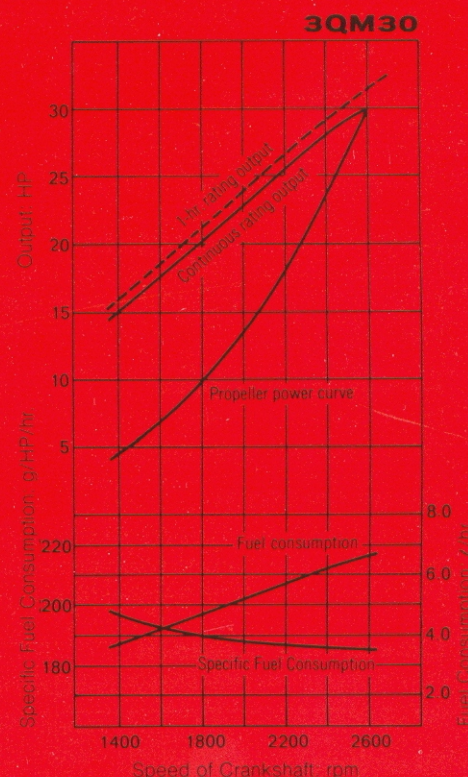
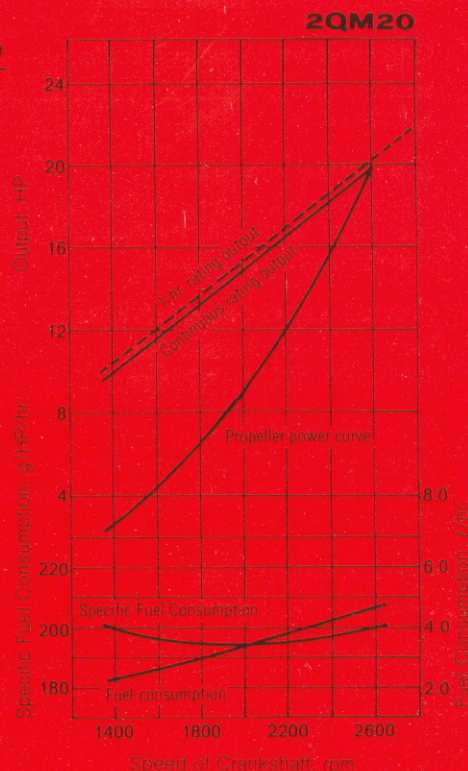
MODEL

**2QM20/3QM30**

**20~33 HP**



## PERFORMANCE CURVES



## SPECIFICATIONS

Photograph may show optional equipment

Model		2QM20	2QM20G	3QM30	3QM30G
Type		4-cycle, vertical diesel engine			
Number of cylinders		2		3	
Bore × stroke		mm (inch) 88 × 90 (3.46 × 3.54)			
Displacement		l (cu inch) 1.094 (66.75)		1.642 (100.19)	
Continuous rating output		HP/rpm 20/2600		30/2600	
1-hr. rating output		HP/rpm 22/2800		33/2800	
15-min. rating output		HP/rpm 24/3000		36/3000	
Reduction ratio		2.2:1	3.21:1	2.2:1	3.21:1
Propeller shaft rpm (cont. rating)		1182	810	1182	810
Direction of rotation	Crankshaft	Counter-clockwise, viewed from stern			
	Propeller shaft	Clockwise, viewed from stern			
Compression ratio		20:1			
Combustion system		Pre-combustion chamber			
Starting system		Electric with manual combination			
Cooling system		Water cooling with rotary pump			
Lubricating system		Forced lubrication with trochoid pump			
Gear system		Reduction & reversing gear with single disc plate mechanical clutch (wet type)			
Dry weight		kg (lbs) 218 (480)		268 (590)	
Max. installation angle		Degrees 15			
Max. angle of operation aft trim		Degrees 20			
Port or starboard heel		Degrees 25			

Remark. Above mentioned HP indicates shaft horse power

Note. These curves show the average performance of respective engines in test operation at our plant



# DESIGN FEATURES

## Cylinder block

Cast iron. Incorporated water jacket and crankcase in one block.

## Cylinder liner

Special cast iron. Wet type. Separated from cylinder block.

## Cylinder head

The cylinder heads are made of cast iron in one block. Intake and exhaust valves are made of heat resistant steel.

## Combustion chamber

Precombustion chamber for sure starting and high combustion efficiency.

## Crankshaft

Carbon steel, forge-molded construction. Pin and journal parts are induction hardened and grounded.

## Main bearing

Made of metal powder sintered.

## Piston

Aluminum alloy, oval construction for high speed running.

## Connecting rod

Carbon steel. "I" shaped section. Stamp forgings.

## Fuel system

Fuel injection pump is in-line Bosch type. Pintle type fuel injection valve, paper filter strainer and mechanical fuel lift pump.

## Lubricating system

Complete forced lubrication by trochoid pump. Full-flow, cartridge paper element filter.

## Cooling system

Direct sea water cooling by rotary rubber pump connected to the camshaft end.

## Gear system

Constant mesh type reduction and reversing gear with wet single disc plate mechanical clutch connected to the flywheel directly.

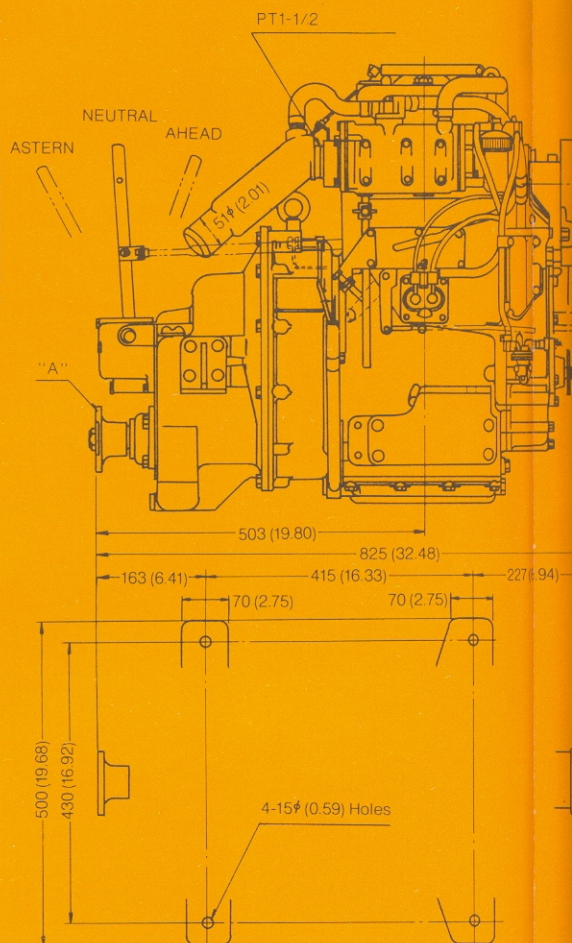
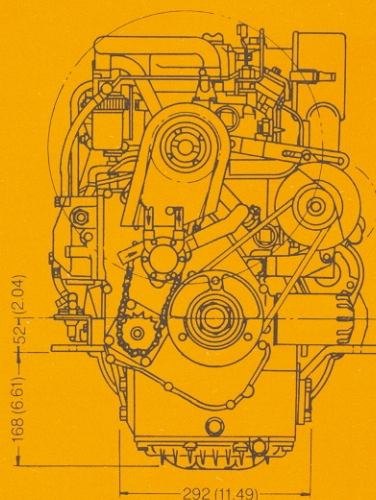
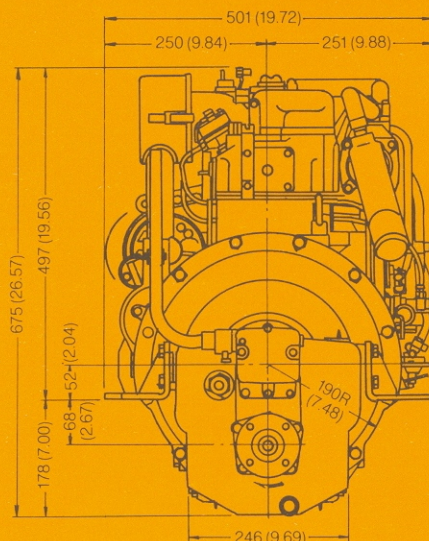
## Governor system

Centrifugal all-speed governor connected to the camshaft gear.

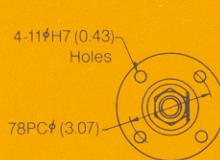
## Starting system

Electric starting. Manual starting is also available.

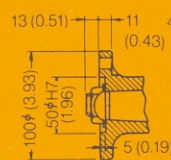
## 2QM20



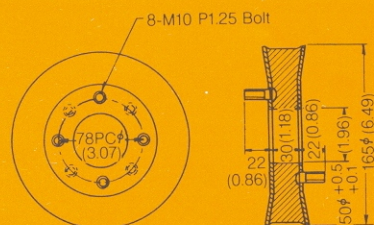
## 2QM20



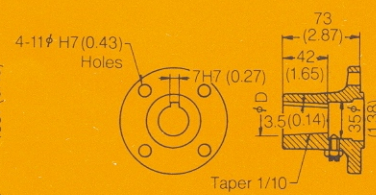
Detail of output shaft "A"



Slit type propeller shaft coupling (optional)



Flexible coupling (optional)



Solid type propeller shaft coupling (optional)

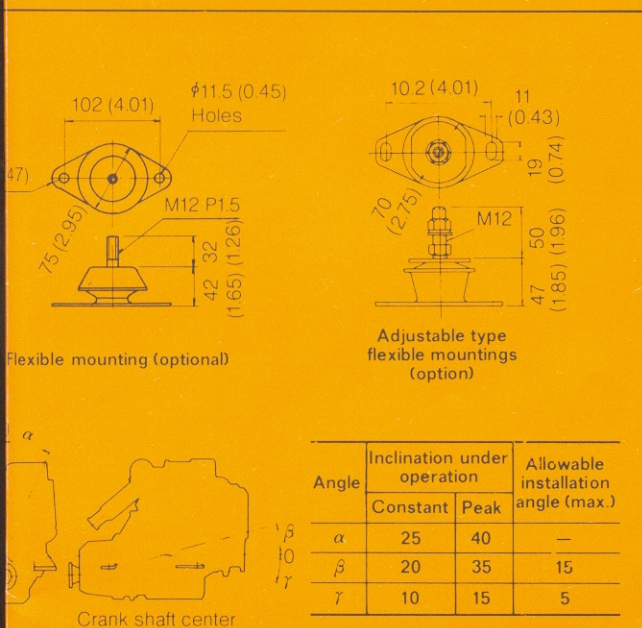
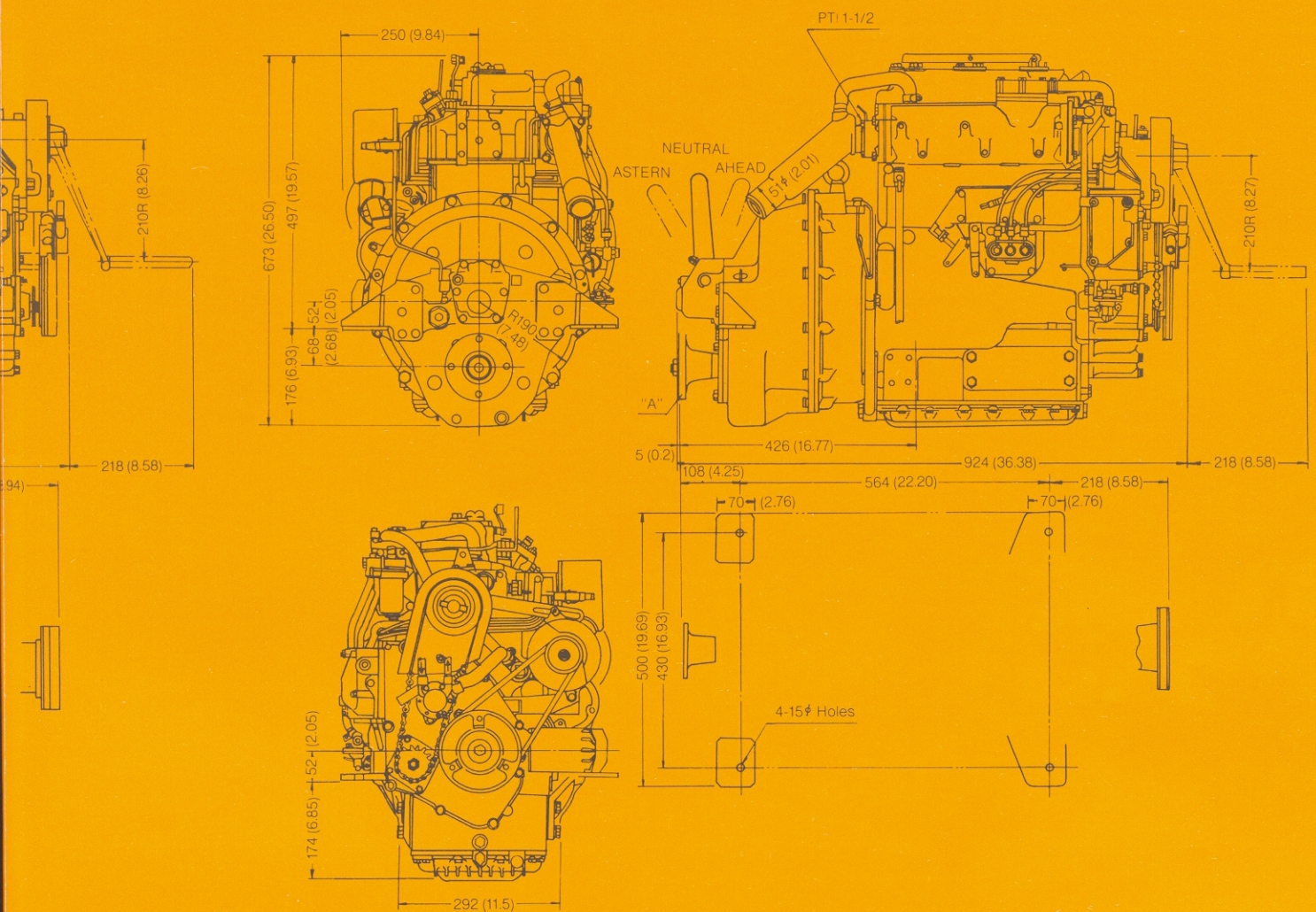
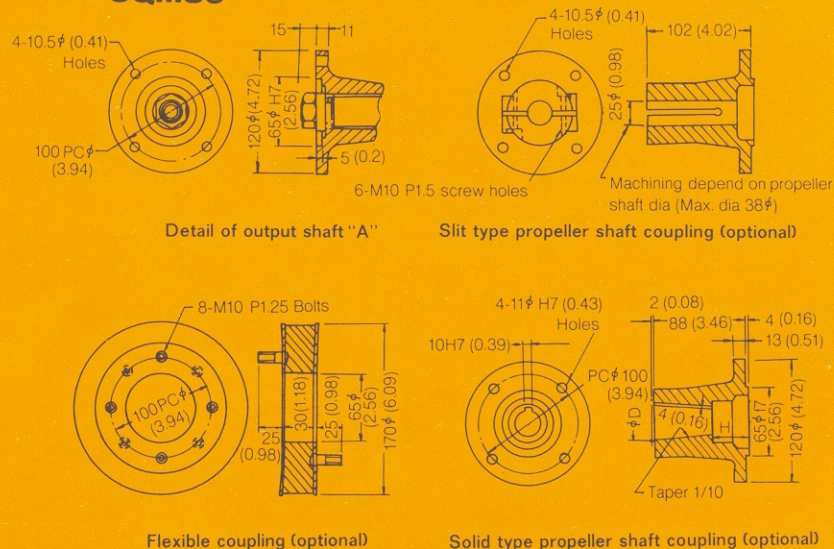
Model	D (mm)
2QM20	28 (1.10) ± 0.1 (0.004)
2QM20G	30 (1.18) ± 0.1 (0.004)

12 (0.47)

Flexi





**3QM30****3QM30**

Solid type propeller shaft coupling (optional)

Model	φD (mm)	H (mm)
3QM30	30 (1.18) ±0.1 (0.004)	35 (1.38)
3QM30G	34 (1.34) $\begin{smallmatrix} +0 \\ -0.2 \end{smallmatrix}$ (0.008)	37 (1.46)



## ACCESSORIES

Fuel	Fuel tank		◆
	Fuel strainer		●
	Fuel lift pump (Mechanical type)		●
Lubrication	L.O. drain pipe		●
	Evacuation pump		◆
	Pressure switch		●
Cooling	Water pump of rubber impeller type		●
	Temperature switch		●
	Thermostat for cooling water		●
	Kingston cock, hose & strainer		◆
Bilge	Pump with bilge hose & strainer (Mechanical tandem type)		◆
Air intake & exhaust	Air intake silencer		●
	Water cooled exhaust manifold		●
	Water mixing elbow with C.W. hose (L type)		◆
	Water mixing elbow with C.W. hose (U type)		◆
Starting	Chain starting device with starting handle and chain cover		●
	Electric starting device	1.2kw Starter motor, 35A-A.C. generator & regulator	●
		1.2kw Starter motor, 55A-A.C. generator & regulator kit	◆
Remote control	Bracket for speed remote control cable		●
	Bracket for clutch remote control cable (Cable for front side)		●

Remark: ● for Standard ◆ for Optionals

Remote control	Bracket & cable clamp for decompression remote control		●
	Remote control cable for decompression (3-meter)		◆
	Engine stop device with idling adjuster		●
Instrument & wiring	Dash board (Key switch, L.O. lamp, C.W. lamp, charge lamp, and wireharness 3-meter)		●
	Tachometer and sending unit (Electric)		◆
	Battery switch		◆
	Wireharness, extension (3-meter)		◆
	Wireharness, extension (6-meter)		◆
	Wireharness coupler for open board		◆
Installation	Flexible mounting (4 pcs as a unit)		◆
	Flexible mounting (4 pcs as a unit) (Adjustable type)		◆
	Flexible coupling		◆
	Propeller shaft half coupling (Solid type 28mm <sup>2</sup> taper bored)		◆
	Propeller shaft half coupling (Slit 20mm under bored)		◆
	Propeller shaft half coupling (Slit one inch bored)		◆
	On board tools		●
Others	Overhauling tools		◆
	On board spare parts kit		◆
	Packing kit		◆
	Operation manual		●

## RECOMMENDED REMOTE CONTROL CABLES

Decompression	Yanmar made
Speed control	Morse made cable No 33C clamp A31804 clevis A31800
Clutch	Morse made cable No 64CB clevis A029132-001 (3QM30 only)

## RECOMMENDED PROPELLER SIZE

Model	Propeller Dia. × Pitch mm (inch)
2QM20	430 × 300 (17" × 12")
2QM20G	530 × 410 (21" × 16")
3QM30	460 × 330 (18" × 13")
3QM30G	580 × 430 (23" × 17")

## EXPORT SHIPMENT

Model	No. of packings	Gross weight kg (lbs)	Cu. m (cft)
2QM20(G)	1	300 (660)	0.624 (22)
3QM(G)	1	370 (814)	0.723 (25.5)

Note: All data subject to alteration without notice



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