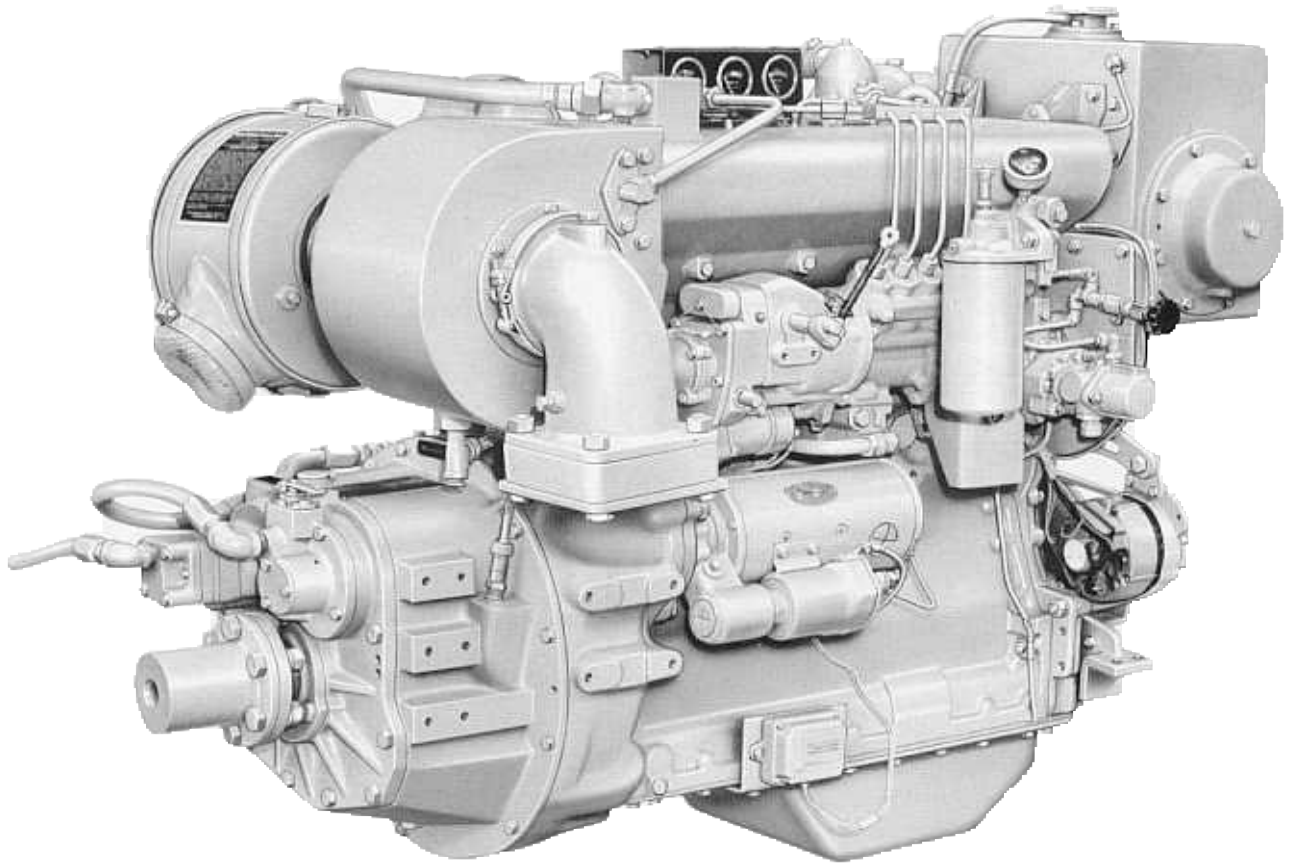




# CATERPILLAR

# 3304

MARINE ENGINE



## MARINE ENGINE

		Turbocharged Model	Natural Aspiration
Maximum (Flywheel)* @ 2200 RPM	BHP	200	115
	HP (metric)	203	117
Intermittent (Flywheel)* @ 2200 RPM	BHP	165	100
	HP (metric)	167	101
Continuous (Flywheel) @ 2000 RPM	BHP	125	85
	HP (metric)	127	86
Continuous (Shaft) @ 2000 RPM	BHP	121	82
	HP (metric)	123	84
Approx. Fuel Consumption @ Full Cont. Shaft HP	Gal/Hr	7.4	5.2
	Lit/Hr	28,1	19,7

\*For Maximum & Intermittent Applications, consult Factory.

## DESCRIPTION

Four stroke cycle, Diesel

Number of cylinders. . . . . In-Line 4

Bore and stroke: inches. . . . . 4.75 x 6.00  
millimetres. . . . . 121 x 152

Displacement: cu. in. . . . . 425  
litres. . . . . 7,0

Low idle speed. . . . . 650 RPM

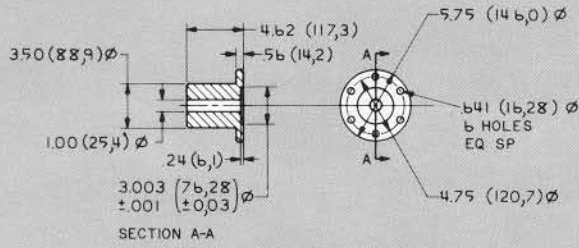
Engine Rotation. . . . . SAE Standard

Approximate dry weight      lb      kg      lb\*      kg\*

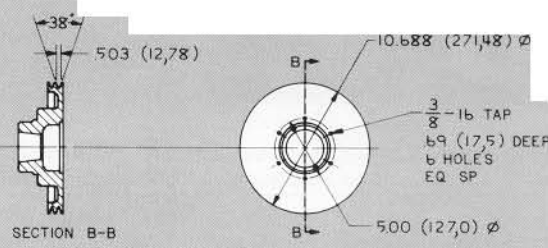
Engine (T) (NA\*) . . . . . 1900      861      1850      840

Marine gear. . . . . 340      154      340      154

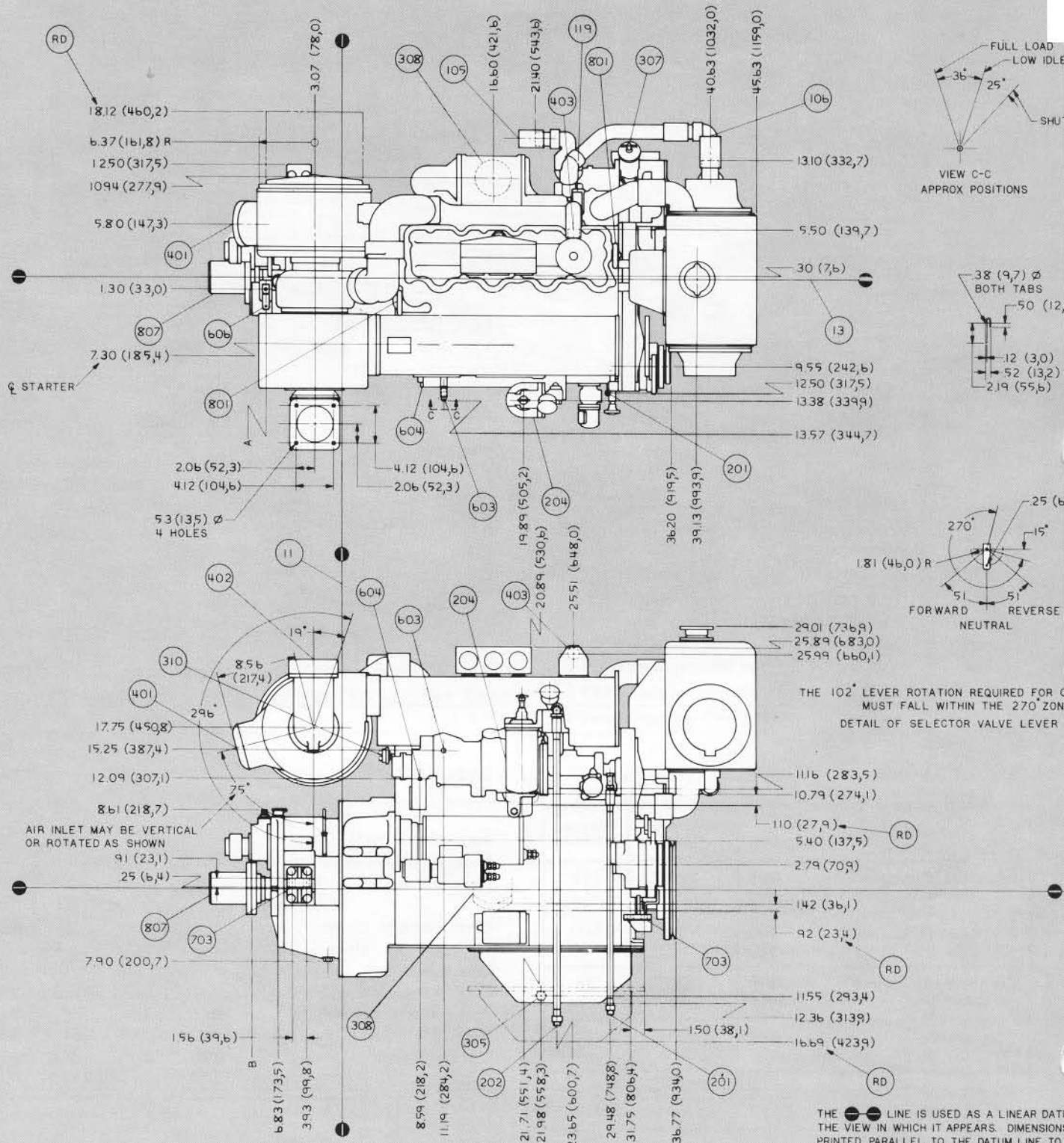
Total. . . . . 2240      1015      2190      994



DETAIL OF COMPANION FLANGE 6L8385



DETAIL OF CRANKSHAFT PULLEY 8L5016

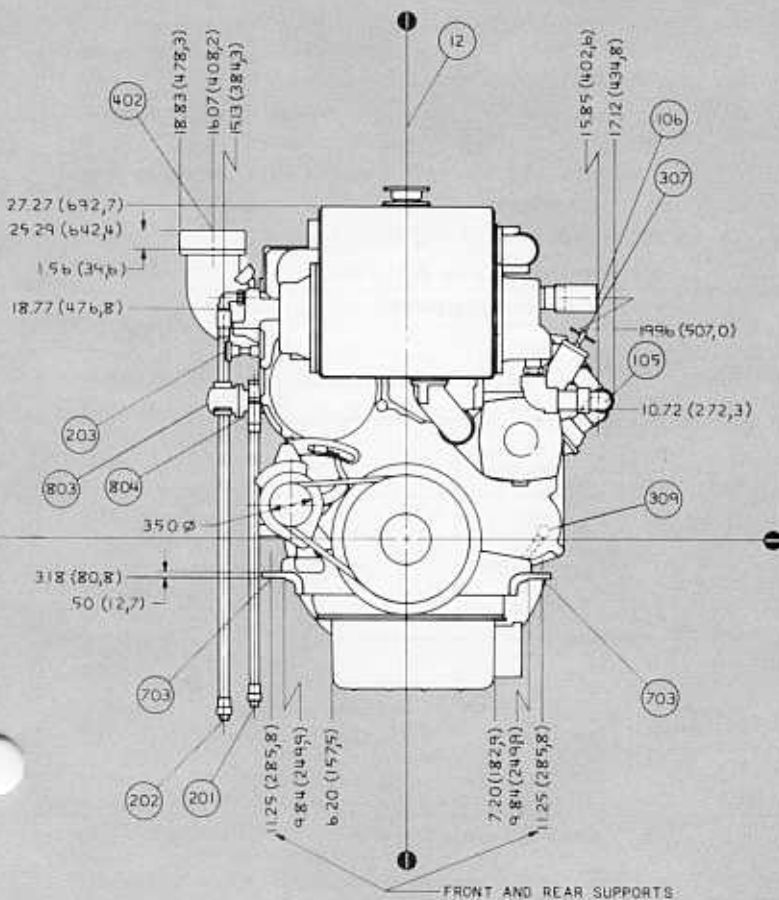


THE 102° LEVER ROTATION REQUIRED FOR C MUST FALL WITHIN THE 270 ZONE  
DETAIL OF SELECTOR VALVE LEVER

\*EXCESS FUEL SHOULD BE PIPED TO FUEL SUPPLY TANK TO ELIMINATE ENTRAINED AIR FROM SYSTEM

THE —●— LINE IS USED AS A LINEAR DATUM LINE IN THE VIEW IN WHICH IT APPEARS. DIMENSIONS PRINTED PARALLEL TO THE DATUM LINE TO WHICH THEY PERTAIN. DIMENSIONS WITH ARROWHEADS NOT PERTAIN TO THE DATUM LINE, EXCEPT IN AUXILIARY VIEWS.

- |   |   |
|---|---|
| (11) REAR FACE OF FLYWHEEL HSG.                               | (401) AIR INLET 500 (127,0) OD  |
| (12) ENGINE   | (402) EXHAUST 4-STD PIPE TAP  |
| (13) CRANKSHAFT   | (403) BREATHER OUTLET 131 (33,3) ID HOSE                                    |
| (105) SEA WATER INLET<br>162 (41,1) ID HOSE-275 (69,8) LONG   | (603) GOVERNOR CONTROL SHAFT<br>5/8-36 SERRATIONS                           |
| (106) SEA WATER OUTLET<br>188 (47,8) ID HOSE-350 (88,9) LONG  | (604) MANUAL SHUT-OFF SHAFT (SEE DETAIL)                                    |
| (114) WATER MAKER SUPPLY<br>1/2-STD PIPE TAP                  | (606) SELECTOR VALVE LEVER (SEE DETAIL)                                     |
| (115) WATER MAKER OUTLET<br>3/4-STD PIPE TAP                  | (703) CUSTOMER MOUNTING HOLES<br>66 (16,8) Ø 4 HOLES EACH SIDE              |
| (119) WATER TEMPERATURE CONTACTOR                             |   |
| (201) FUEL INLET LINE 3/8-STD PIPE TAP<br>24.00 (609,6) LONG  |   |
| (202) FUEL RETURN LINE 3/8-STD PIPE TAP<br>33.00 (838,2) LONG |   |
| (203) FUEL PRIMING PUMP                                       |   |
| (204) FUEL FILTER   |   |
| (303) OIL SUPPLY CONN 1/4-STD PIPE TAP                        | (801) LIFTING EYE   |
| (304) OIL PRESSURE CONN 1/8-STD PIPE TAP                      | (803) SERVICE METER   |
| (305) OIL DRAIN 1 1/8-12 TAP                                  | (804) TACHOMETER DRIVE 1/2 ENGINE SPEED<br>CW ROT. SAE HEAVY 3/16 KEY DRIVE |
| (307) OIL FILLER  | (807) COMPANION FLANGE (SEE DETAIL)   |
| (308) OIL FILTER  | (808) EITHER STARTING AID 1/4 STD PIPE TAP                                  |
| (309) OIL LEVEL GAGE  |   |
| (310) OIL PRESSURE CONTACTOR                                  | (RD) REMOVAL DISTANCE   |



FOR AR PL5227-CHANGE 0

FIGURES IN PARENTHESES ( ) ARE IN MILLIMETRES

## STANDARD EQUIPMENT INCLUDES\*

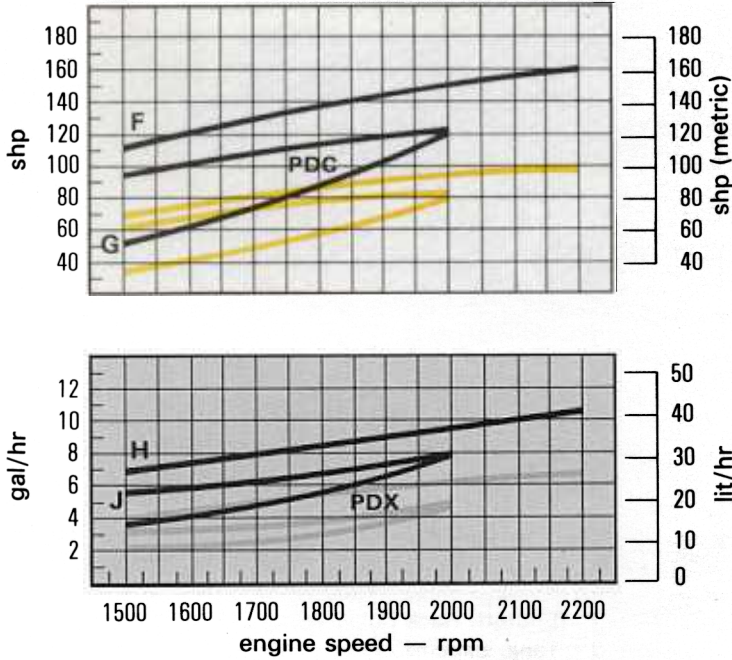
Air Cleaner, Single-Stage, dry  
 Alternator, Charging, 24 volt, 35 amp  
 Breather, Crankcase  
 Cooler, Lubricating Oil  
 Drive, Tachometer, with Adapter  
 Filters, Fuel, Lubricating Oil  
 Flywheel and Flywheel Housing, SAE No. 2  
 Gauge, Fuel Pressure  
 Governor, Hydra-mechanical  
 Lifting Eyes  
 Paint, Caterpillar yellow  
 Pumps, Fuel Priming, Jacket Water, gear-driven  
 SAE Standard Rotation  
 Service Meter  
 Starting, Electric, 24-volt  
 Supports  
 Cooler, Marine Gear Oil  
 Lines, Flexible Fuel  
 Fuel Ratio Control  
 Gear, Reverse and Reduction, Twin Disc MG506,  
 includes propeller shaft flange.  
 Governor Control Lever  
 Heat Exchanger, installed, removable tube bundle.  
 Manifold, Exhaust, Copper Nickel Watercooled  
 Pump, Auxiliary (Sea Water), Gear-Driven  
 Shutoff, Rack Solenoid  
 Tank, Expansion

\*Option of Engine only can be specified

## ATTACHMENTS

- Rain cap, air cleaner, service indicator.
- Engine mounted controls, positive locking and vernier options, remote actuated, single cable, right side.
- Pilot house controls, single and two-lever, cable and fittings.
- Keel cooling conversion (excludes keel cooler).
- Exhaust fittings, elbows, water cooled elbows, mufflers for horizontal and vertical installations.
- Primary fuel filters
- Electric and mechanical tachometers, single and dual engines.
- Instrument panels, engine mounted or for pilot house, electric or mechanical instrumentation.
- Auxiliary drives, gear and pulley driven.
- Front enclosed clutch, Twin-Disc.
- Alarm switch, oil pressure and water temperature.
- Air starting motor, includes fuel priming pump, air receiver, pressure reducing air valve.
- Hydraulic starting.
- Battery sets for electric starting, glow plugs.
- Bilge and deck-washing pumps.

**RATING CURVES—SHAFT HORSEPOWER**  
 — TURBOCHARGED — NATURALLY ASPIRATED



PDC—TYPICAL PROP. DEMAND CURVE FROM 121 SHP AT 2000 RPM  
 PDX—TYPICAL PROP. DEMAND FUEL CONSUMPTION CURVE FROM 121 SHP AT 2000 RPM  
 PDC—TYPICAL PROP. DEMAND CURVE FROM 82 SHP AT 2000 RPM  
 PDX—TYPICAL PROP. DEMAND FUEL CONSUMPTION CURVE FROM 82 SHP AT 2000 RPM  
 F—INTERMITTENT (DIN 6270—N<sub>h</sub>)—SHAFT HORSEPOWER  
 G—CONTINUOUS (DIN 6270—N<sub>c</sub>)—SHAFT HORSEPOWER  
 H—FUEL CONSUMPTION BASED ON CURVE F  
 J—FUEL CONSUMPTION BASED ON CURVE G

**RATINGS:**

**INTERMITTENT** is the horsepower and speed capability in applications having variable speed and/or load requirements.

**CONTINUOUS** is the horsepower and speed capability that can be utilized without interruption or load cycling.

**OTHER RATINGS:** Published intermittent and continuous ratings are a general guide for world-wide use over a broad application range. Other ratings, yielding higher performance and economic return, are available to meet the requirements of particular applications.

Intermittent and continuous metric performance at 736mm (28.97 In. Hg.) and 20°C (68°F)—DIN 6270.

Fuel consumption is based on fuel oil having a HHV of 19,590 btu/lb (45,570 kJ/kg) and weighing 7.076 lb. per U.S. Gal. (848 gm per litre). Engine equipped with fuel, lube oil, and jacket water pumps.

**MARINE GEAR SPECIFICATIONS . . .**


**TWIN-DISC MG506**

- Adjustment-free oil-bathed multiple-disc sintered metal clutches . . . hydraulically controlled . . . separate clutch pack for forward and reverse.
- Gears in constant mesh, full power for both forward and reverse duty . . . twinning flexibility.
- Lubricant strained and cooled before entering pressurized system.
- Hardened, ground and honed gears.
- Come-Home lock-up feature.
- Warranted by Caterpillar.

MARINE GEAR	GEAR RATIOS
Twin-Disc MG506	1.97:1 Forward and Reverse 2.96:1 Forward and Reverse 3.79:1 Forward and Reverse 4.48:1 Forward and Reverse

- Certification by major marine classification societies is available.
- Auxiliary-power engine configurations can be specified. Consult your application specialist.

Materials and specifications are subject to change without notice.

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