

## ECONOMY PLUS

If you're looking for economy, you've found it. Only the Crusader 220 has a higher compression ratio than a turbo marine diesel engine. It's a proven, reliable design that provides a great deal of low-end and mid-range torque to help you get the job done.

### Specifications

Capacity	220
Max. HP	220/2600 RPM
Max. Torque	60/1800 RPM
Max. RPM	3000
Displacement	2.2L
Stroke/Compression	1.91/10.5
Weight	160 lbs. (with oil)



**FE** **THE** **FACTORY**  
EQUIPMENT GROUP

**Engine Division**  
2000 - 2000 Series  
1000 - 2000 Series  
1000 - 2000 Series

# 220

marine engine

by   
**Crusader**

## Cruisier 3200 Marine Gasoline Engine



### 3200 cc Gasoline Engine

#### Maximum Output

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### Max Torque

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3-Cylinder Engine

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc Gasoline Engine

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc Gasoline Engine

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc Gasoline Engine

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc Gasoline Engine

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque. Maximum Output at 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

### AVAILABLE OPTIONS

#### 3200 cc

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

#### 3200 cc

3200 cc Gasoline Engine with 3200 cc 3-Cylinder Engine, 3000 RPM, 32 HP (24 kW) and 28 HP (21 kW) Torque.

## THE CAPTAIN'S CHOICE

For speed, control, performance, and ease of use, the 270 is the most advanced outboard ever. And it's available in 100-hp, 150-hp, and 200-hp versions. So you can choose the power that's right for your boat and your needs. For more information, call 1-800-4-A-Sea.

### Specifications

Length	27"
Weight	100 lbs. (150-hp version)
Weight	125 lbs. (200-hp version)
Dimensions (L x W x H)	57" x 22" x 33"
Compression	9.5:1
Stroke/Rev	2.0/5000 rpm
Transmission	270 and 200-hp: Shifted
Warranty	3 years/3000 hours



**Evinrude**  
Evinrude  
Outboards

Engine Division  
270, 150, 100 HP  
Evinrude Outboard Motor Corp.  
Evinrude 270

# 270

marine engine

by  
**Crusader**

## Cummins 770 Marine Baseline Engine



RPM

lb-ft

hp



### GENERAL FEATURES

#### SEA-WATER COOLING

- 100% sea-water cooling system allows engine to operate in ambient temperatures up to 120°F (49°C) with 2000 RPM.
- 2500 RPM sea-water cooling system is available for 1500 HP.

#### VALVE TRAIN

- 2 valves per cylinder • 2800 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### CRANKSHAFT

- 4200 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle
- 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### CRANKSHAFT SPEED

- 4200 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle
- 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### CRANKSHAFT TORQUE

- 4200 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle
- 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### CRANKSHAFT POWER

- 4200 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle
- 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

### INSTALLATION

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle
- 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

### AVAILABLE OPTIONS

#### EXHAUST

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### EXHAUST SYSTEM

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### EXHAUST MANIFOLD

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### EXHAUST SYSTEM

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

#### EXHAUST SYSTEM

- 100% sea-water cooling • 2500 RPM • 100% overlap • 180° crank angle • 1600 RPM • 100% overlap • 180° crank angle

## TOP OF THE LINE POWER AND PERFORMANCE

The 350 CR ... offers a horsepower rating that's  
unusually high for a 350 cc. outboard. It's also  
the most powerful outboard ever produced.  
It's also the most reliable. For top performance, use the  
recommended accessories for optimal cooling.

### Specifications

Capacity	350
Max. HP	225 (1500 RPM)
Max. RPM	3000
Weight	115 lbs.
Length	34 1/2"
Width	22 1/2"
Height	38"
Max. Fuel Tank Capacity	10.5 gal.
Max. Oil Capacity	1.5 gal.
Max. Propeller Diameter	18"
Max. Propeller Pitch	18"
Max. Shaft Length	30"
Max. Shaft Diameter	1 1/2"



**Yamaha**  
**Diagnos**  
Electronics

Engine Division  
2000 W. Lincoln Ave.  
Tulsa, Oklahoma 74119  
(918) 436-3000

# 350

marine engine

for  
**Crusader**

## Cruiseflex 350 Marine Gasoline Engine



www.cruiseflex.com



### CRANKSHAFT POSITION

#### CRANKSHAFT POSITION

The Cruiseflex 350 engine features a cast iron crankcase with a cast iron crankshaft. The crankshaft is supported by four main bearings and is connected to the pistons by connecting rods. The crankshaft is also connected to the flywheel, which is used for starting the engine.

#### VALVE TRAIN

The Cruiseflex 350 engine features a cast iron valve train with cast iron valves. The valves are supported by a cast iron valve train cover and are operated by a cast iron camshaft. The camshaft is supported by a cast iron camshaft bearing and is connected to the valves by cast iron pushrods.

#### CRANKSHAFT POSITION

The Cruiseflex 350 engine features a cast iron crankcase with a cast iron crankshaft. The crankshaft is supported by four main bearings and is connected to the pistons by connecting rods. The crankshaft is also connected to the flywheel, which is used for starting the engine.

#### VALVE TRAIN POSITION

The Cruiseflex 350 engine features a cast iron valve train with cast iron valves. The valves are supported by a cast iron valve train cover and are operated by a cast iron camshaft. The camshaft is supported by a cast iron camshaft bearing and is connected to the valves by cast iron pushrods.

#### CRANKSHAFT POSITION

The Cruiseflex 350 engine features a cast iron crankcase with a cast iron crankshaft. The crankshaft is supported by four main bearings and is connected to the pistons by connecting rods. The crankshaft is also connected to the flywheel, which is used for starting the engine.

#### VALVE TRAIN POSITION

The Cruiseflex 350 engine features a cast iron valve train with cast iron valves. The valves are supported by a cast iron valve train cover and are operated by a cast iron camshaft. The camshaft is supported by a cast iron camshaft bearing and is connected to the valves by cast iron pushrods.

### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

The Cruiseflex 350 engine is available in a variety of configurations, including:

### PERFORMANCE GRAPH

#### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

#### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

#### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

#### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

#### PERFORMANCE

The Cruiseflex 350 engine is a high-performance engine that is designed for use in a wide range of marine applications. It features a cast iron crankcase and a cast iron valve train, which provide excellent durability and performance. The engine is also equipped with a cast iron flywheel, which is used for starting the engine.

## NOW TOMORROW'S POWER IS HERE TODAY!

The 1998 Crusader features the industry's most advanced fuel injection system. The Crusader's fuel injection system delivers more fuel to the cylinders to produce more power and torque. The Crusader's fuel injection system also features a fuel filter to help protect the engine from contaminants.

### Specifications

Model	V-6
Year	1998
Displacement	3.0L (182 cu in.)
Configuration	V-6
Power Output	150 hp (110 kW) @ 5000 rpm
Weight	250 lbs (113 kg)



**Johnson**  
**Outboard**  
A Johnson Group Company

Engine Division  
2001 Johnson Drive  
Evansville, IN 47711  
(800) 444-4444

# V-6

marine engine

the  
**Crusader**

## Crusader 9-8 Marine Gasoline Engine



### TECHNICAL FEATURES

#### EXHAUSTING SYSTEM

• An exhaust manifold is mounted to the cylinder head of the engine. The manifold is made of cast aluminum and is designed to provide maximum exhaust flow and to minimize back pressure on the engine.

#### VALVE ACTION

• The Crusader 9-8 Marine Gasoline Engine has a valve-in-head design. The valves are made of cast aluminum and are designed to provide maximum flow and to minimize back pressure on the engine.

#### OPERATING SPEEDS

• The Crusader 9-8 Marine Gasoline Engine is designed to operate at a maximum speed of 2500 RPM. The engine is also capable of operating at a lower speed of 1500 RPM.

#### VALVE ADJUSTMENT

• The Crusader 9-8 Marine Gasoline Engine has a valve-in-head design. The valves are made of cast aluminum and are designed to provide maximum flow and to minimize back pressure on the engine.

#### VALVE SPRING

• The Crusader 9-8 Marine Gasoline Engine has a valve-in-head design. The valves are made of cast aluminum and are designed to provide maximum flow and to minimize back pressure on the engine.

#### CRANKSHAFT DESIGN

• The Crusader 9-8 Marine Gasoline Engine has a valve-in-head design. The valves are made of cast aluminum and are designed to provide maximum flow and to minimize back pressure on the engine.

#### STARTING SYSTEM

- The Crusader 9-8 Marine Gasoline Engine has a starting system that is designed to provide maximum starting torque and to minimize back pressure on the engine.

### AVAILABLE OPTIONS

#### EXHAUST

- A stainless steel exhaust manifold and pipe is available as an option.

#### STARTING SYSTEM

- A starting system with a battery and a starter motor is available as an option.

#### VALVE ADJUSTMENT

- A valve adjustment kit is available as an option.

#### VALVE SPRING

- A valve spring kit is available as an option.