



Cummins MerCruiser Diesel (CMD) Ratings & Definitions ~ Aug 2008



Ratings are based on ISO 8665 conditions of 100kPa (29.612 in Hg) and 25 °C (77°F) and 30% relative humidity. Propeller shaft power represents the net power available after typical gear losses and is 97% of rated power. Power is rated in accordance with IMCI procedures.

High Output (HO)

This power rating is intended for infrequent use in variable load applications where full power is limited to one hour out of every eight hours of operation. Also, reduced power operation must be at or below cruise speed (rpm). Cruise speed (rpm) is dependent on the engine rated speed (rpm):

Rated Speed (rpm)

Cruise Speed (reduction from rated speed, rpm)

Less than 2800 rpm
200 rpm

2801 to 3500 rpm
300 rpm

3501 to 4500 rpm
400 rpm

4501 to 5000 rpm
500 rpm

This rating is for applications operating less than 500 hours per year.

Engines with this rating are intended for powering recreational/pleasure use vessels only. Use of High Output ratings in commercial applications will at Cummins MerCruiser Diesel's discretion void the warranty. Commercial use is defined as any work or employment-related use of the product, or any use of the product which generates income, for any part of the warranty period, even if the product is only occasionally used for such purposes.

Typical High Output applications are sportfishers, motoryachts, and cruisers.

Intermittent Duty (INT)

This power rating is intended for intermittent use in variable load applications where full power is limited to two hours out of every eight hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 1500 hours per year.

Typical vessel applications include: planing hulls such as customs, military and police vessels, charter fishing, and some non-net dragging fishing vessel applications.

Typical auxiliary applications include: hydraulic powerpacks, thrusters for maneuvering, and emergency fire pumps.

Medium Continuous (MCD)

This power rating is intended for moderate use in variable load applications where full power is limited to six hours out of every twelve hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 3000 hours per year.

Typical vessel applications include: planing hull ferries, fishing boats designed for high speeds to and from fishing grounds, (non-cargo) displacement hull yachts, and short trip coastal freighters where engine load and speed are cyclical.

Typical auxiliary applications include: powerpacks and some cargo pumps.

Heavy Duty (HD)

This power rating is intended for nearly continuous use in variable load applications where full power is limited to eight hours out of every ten hours of operation. Also, reduced power operation must be at or below cruise rpm, which is 200 rpm below the maximum rated speed. This rating is for applications operating less than 5000 hours per year.

Typical vessel applications include: displacement hull vessels such as mid-water fishing trawlers, purse seiners, and towboats where frequent slowing is common and engine speed and load is stable. They may also be used in high speed vessels such as ferries and crewboats.

Typical auxiliary applications include: cargo pumps and thrusters in dynamic positioning modes.

Continuous Duty (CON)

This power rating is intended for use in applications requiring uninterrupted and unlimited service at full power.

Typical vessel applications include: ocean-going displacement hulls such as deep water fishing trawlers, freighters, tugboats, pushboats, bottom drag trawlers and towboats.

Government Service (GS)

This power rating is intended for infrequent use in variable load applications where full power is limited to one hour out of every eight hours of operation. Also, reduced power operation must be at or below cruise speed (rpm). Cruise speed (rpm) is dependent on the engine rated speed (rpm):

Rated Speed (rpm)

Cruise Speed (reduction from rated speed, rpm)

Less than 2800 rpm

200 rpm

2801 to 3500 rpm

300 rpm

3501 to 4500 rpm

400 rpm

4501 to 5000 rpm

500 rpm

This rating is for applications operating less than 500 hours per year.

Engines with this rating are restricted to non-revenue generating government service propulsion applications. It is not to be used in any revenue generating commercial applications nor is it to be used in recreational/pleasure applications. Government Service rating misapplications will at Cummins MerCruiser Diesel's discretion void the warranty.

Typical Government Service applications are patrol, rescue, fire, and assault vessels used by federal and state/local agencies such as military, coast guard, homeland security, research, police departments, fire departments, and department of natural resources.

Pleasure Craft (PC)

Intended for use in variable load applications where full power is limited to one hour out of every twelve hours of operation. Reduced power must be at or below 400 rpm of the maximum rated rpm. This rating is reserved for recreational planing craft used only and exclusively for pleasure and recreation.

Light Commercial (LC)

Intended for use in variable load applications where full power is limited to one hour out of every twelve hours of operation. Reduced power must be at or below 400 rpm of the maximum rated rpm. This rating is government, commercial or any revenue producing craft that operate less than 500 hours per year. Typical applications include customs boats, pilot boats, police craft, patrol boats, charter sailboats and some fishing vessel applications.