



Cummins Inboard Joystick

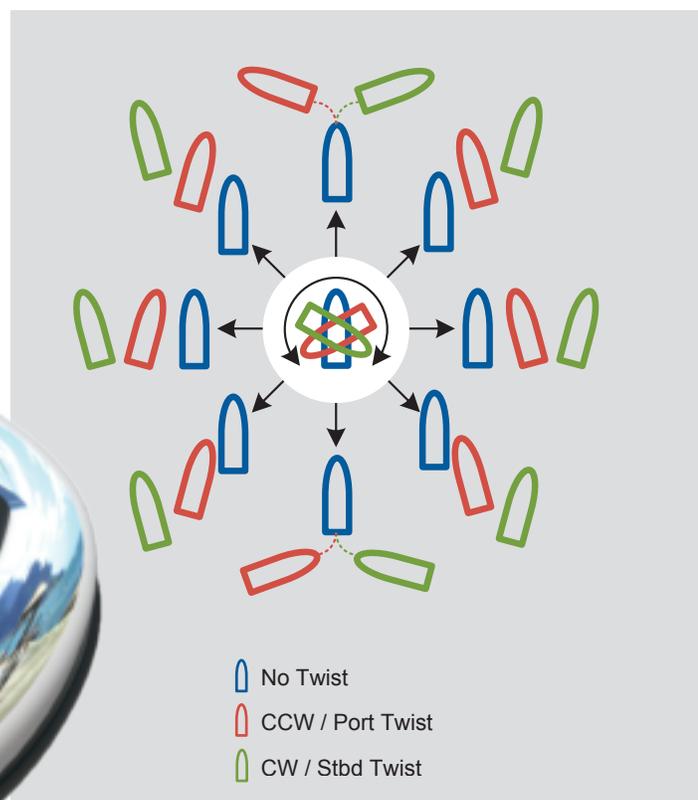
The Cummins Inboard Joystick is a docking system designed specifically for use with traditional inboard engines and transmissions. We used our joystick control expertise and utilized a new class of DC thrusters with extended run time capability to bring boaters a new level of confidence in close quarters and around the docks with simple inboard powered boats. Cummins also backs up every component in the inboard joystick system with the same warranty and global service and support network as our engines. You will be surprised where you can dock with the joystick confidence provided by the Cummins Inboard Joystick.

Inboard joystick features

- Cummins applications expertise ensures each vessel need is met with four thruster size options – 95kg, 125kg, 160kg, and 220kg
- Compatible with all Cummins engines recreational ratings
- Multiple station capability – 3 lever stations and up to 5 Joystick stations

Inboard joystick advantages

- Inboard simplicity
- Minimum components
- Confidence at the helm
- Engines, controls, harnessing, thrusters and Cummins-supplied thruster tubes supported and warranted by Cummins.



Application Tools and Support

THRUSTER SYSTEM SIZING & PERFORMANCE ESTIMATION TOOL * Version 0.8.1 *****

INSTRUCTIONS: Blue boxes are for reference only, Yellow boxes are required inputs, Green boxes are default inputs that may be edited. STEP 1) Enter the vessel information. STEP 2) Select the configuration and conditions, then select a thruster system based on the calculation. STEP 3) Enter the charging source information. STEP 4) Specify a battery system based on the calculation for the selected thruster.

STEP 1) DEFINE VESSEL

| INPUT UNITS | MEASUREMENTS | PROPULSION |
|-----------------|--------------|-------------|
| DIS/Integral | 3 | 25.0 |
| DESCRIPTION | 16.87 | 6.7, 1502HO |
| MAX/TK/0 | 1 | 2F 288 A |
| MU/50 | 16.5 | 2.39 |
| Model of Vessel | 1 | |
| Year of vessel | 49.2 | |
| Length (feet) | 35.3 | |
| Weight (pounds) | 155 | |
| Beam (feet) | 11.5 | |
| Draft (feet) | 3.2 | |

STEP 2) SELECT THRUSTERS

Configuration: Bow and Stern, Number of Thrusters: 3

Thruster Sizing: 95 EXT, 95 EXT, 95 EXT (Bow Thruster, Stern Thruster)

Thruster Performance: YES (Lateral Maneuver Overcomes Conditions, Meets Acceleration Response Target, Yaw is Balanced During Lateral Maneuver, Yaw Maneuver Overcomes Conditions)

Electrical Specification: 24 (Thruster Voltage (VDC)), 200 (Bow Thruster Load (Amps)), 200 (Stern Thruster Load (Amps))

STEP 3) DEFINE CHARGING AND DEMAND

Short Power Charging: 24 (Charger Output Voltage (VDC)), 30 (Available 24V Charger Output Current (DC Amps))

Engine Driven Charging: 3 (Number of Alternators Connected to Thruster Charging System), 24V 70A (Alternator Model), 14 (Alternator Voltage (VDC)), 21 (Total Available 24V Charging Current from Engine/Converter (DC Amps))

STEP 4) SELECT BATTERIES

Battery Type: Glass Mat (AGM), 20-hour Capacity (C20), Cold, Off (CCAN)

Recommended Battery System for Selected Thrusters: 1 (Number of Parallel Banks), 225 (Total C20 Amp-hours @ 20-hr rate), 1087 (Total CCA (Amps @ 0°F)), 13 (Nominal Voltage (VDC)), 13 (Limiting Factor)

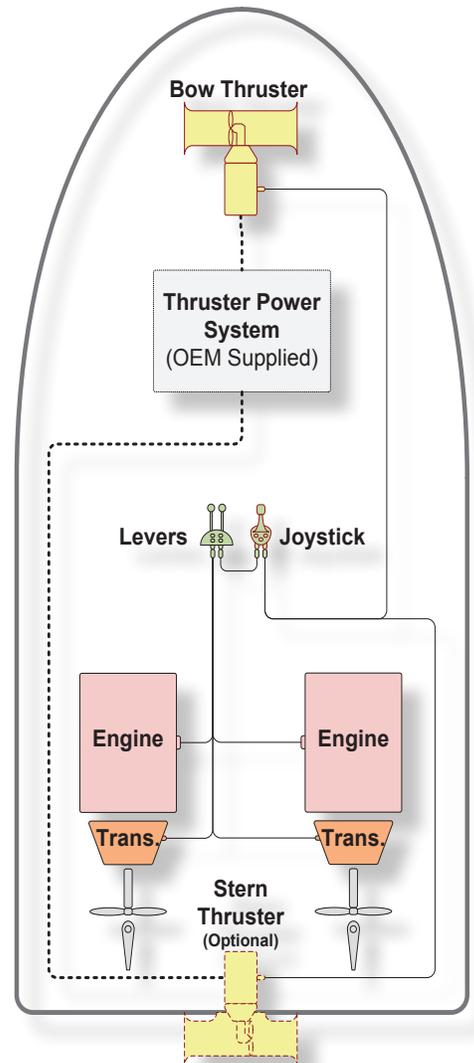
Battery Selection: 40 (Battery Brand and Model No.), 12 (Battery Group Size), 2 (Nominal Voltage per Battery (VDC)), 1 (No. of Parallel-Connected Batteries per Bank), 265 (Total C20 Rating (Amp-hours @ 20-hr rate)), 1450 (CCA Rating (Amps @ 0°F))

Selected Battery System: 2 (Bank Voltage (VDC)), 2 (Total Batteries), 240 (Total C20 (Amp-hours)), 1450 (Total CCA (Amps @ 0°F))

Battery Performance, Typical Demand: Graph showing % of Charge (SOC) vs Time (J C J M J C J J) with calculated capacity and recommended minimum.

Battery Performance, Heavy Demand: Graph showing % of Charge (SOC) vs Time (J C J M J C J J) with calculated capacity and recommended minimum.

Thruster Voltage: Graph showing 100% SOC REQ SOC with calculated and required values.



Applications Feasibility Tool

Full System Diagram

The Cummins Inboard Joystick is a joystick-controlled docking system that integrates engines, transmissions and thrusters. It is best suited for twin-engine fiberglass boats from 35 – 60 foot used for recreational boating. Most systems will include only a bow thruster, but a bow and stern thruster system is available. Cummins provides application guidelines and tools to help with the integration process and to ensure optimal performance of the finished system.

Complete System from Cummins

- Engines, transmissions, Electronic Throttle and Shift system, thrusters, joystick
- Cummins sales and applications support
- Cummins warranty and service support



Extended Run Time DC Thruster



Cummins Inc.
4500 Leeds Avenue - Suite 301
Charleston, SC 29405-8539
U.S.A.

Bulletin 4087327 Printed in U.S.A. Rev. 10/14
©2014 Cummins Inc.