



# Miami Boating Lessons – Multiple Engine Boating Lesson

Miami Boating Lessons - Advanced Transition Course: From Single to Twin Engine Operation

**Duration: 3-4 hours** 

Audience: Boat owners with basic experience (single engine) upgrading to a larger, twin- or multi-

engine vessel

Vessel: Client's personal twin/multi-engine vessel

Objective: Provide a hands-on, safety-focused learning experience that equips the client to confidently

and competently operate a multi-engine vessel in real-world conditions.

#### **Lesson Outline**

0:00 – 0:20 | Safety Review & Multi-Engine Systems Overview

- Quick refresher on USCG-required safety equipment
- Twin-engine system overview:
  - Independent throttle control
  - Engine start/stop procedures
  - Joystick operation (if equipped)
- Electrical systems: battery banks, parallel switches, power management
- Engine sync systems (if applicable)

## 0:20 - 0:45 | Multi-Engine Handling Basics

- Benefits and handling characteristics of twin/multiple engines
- Differential thrust techniques (pivoting, spinning in place)
- Using only engines to maneuver (no wheel input)
- Shift timing & throttle sensitivity

### 0:45 - 1:15 | Dock Departure & Close Quarters Handling

Departure checklist tailored to larger vessels



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- Assessing wind and current impacts on multi-engine control
- Departing the slip: use of spring lines, thrusters (if applicable), and crew communication
- Hands-on slow-speed maneuvering:
  - o Pivoting around a piling
  - Straight-line tracking with offset wind/current
  - Reversing with control using engines alone

## 1:15 – 1:45 | Open Water Operations & Trim Management

- Transitioning onto plane with dual engines
- Understanding trim tabs vs engine trim proper use
- Engine syncing and efficiency tips
- Navigating at cruise: proper RPM balancing and fuel economy
- Man-overboard drill: twin-engine stop & turn

## 1:45 - 2:15 | Anchoring & Holding Position with Twin Engines

- Advanced anchoring techniques: holding bow into wind with engines
- Practice setting anchor with precision in tight locations
- Demonstrate virtual anchoring or GPS position hold (if equipped)
- Mooring procedure review with larger vessel approach techniques

# 2:15 – 2:45 | Twin-Engine Docking Techniques

- Planning approach: factors for heavier vessels
- Throttle-only maneuvers: approaching slip or T-dock
- Side tie and stern-in docking using differential thrust
- Bow thruster coordination (if available)
- Multiple docking attempts under instructor supervision



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# 2:45 – 3:15 | Electronics Integration & Situational Awareness

- . Using radar, GPS, depth, and engine monitoring systems together
- Autopilot systems and waypoint tracking
- Active trim systems or joystick features
- Safety alarms and engine diagnostics
- Advanced VHF use (DSC, hailing nearby vessels, etc.)

# 3:15 – 3:45 | Confidence Drills & Debrief (Optional Time Buffer)

- Full-cycle drill: Depart, navigate, anchor, return, dock
- Practice quick-reaction scenarios: sudden stop, MOB, strong wind docking
- Final Q&A and instructor feedback
- Discuss next steps (night ops, offshore handling, weather navigation, etc.)

### **Client Receives**

- Verbal performance review
- Custom "Next Skills to Practice" checklist