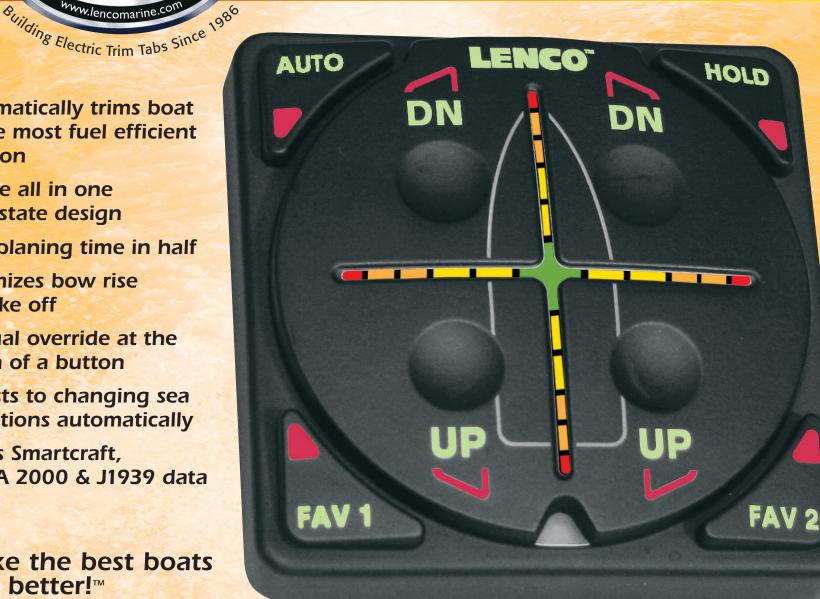
# Auto Glide<sup>™</sup> **Boat Control System**





**Automatically trims boat** to the most fuel efficient position

ENCO MARINE INC

Simple all in one solid state design

**Cuts planing time in half** 

Minimizes bow rise on take off



Manual override at the touch of a button



Adjusts to changing sea conditions automatically

**Reads Smartcraft**. NMEA 2000 & J1939 data

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# AUTO GLIDE<sup>™</sup> BOAT CONTROL SYSTEM OPERATIONAL MODES

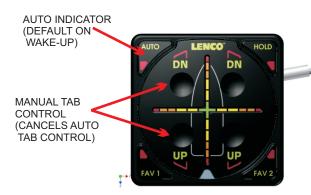
4700 SE MUNICIPAL COURT STUART, FL 34990 WWW.LENCOMARINE.COM

## **IDLE MODE**

**OBJECTIVE:** MINIMIZE TRIM TAB MOVEMENT DURING IDLE CONDITIONS WHICH WOULD INCLUDE SITUATIONS LIKE MANEUVERING THE BOAT WITHIN A MARINA OR BOAT LAUNCH AREA.

#### SYSTEM WAKE-UP

THE AUTO GLIDE SYSTEM WILL WAKE-UP WHEN IT RECEIVES A TACH READING GREATER THAN 400 RPM OVER THE CANBUS CONNECTION OR ANALOG TACH INPUT. WHEN THE SYSTEM FIRST WAKES UP, IT DEFAULTS TO AUTO AND THE IDLE MODE. THE AUTO BUTTON WILL ILLUMINATE TO INDICATE AUTO MODE.



#### MANUAL TAB

THE AUTO GLIDE SYSTEM KEY PAD CONTAINS UP AND DOWN CONTROL BUTTONS THAT ALLOW THE OPERATOR TO MANUALLY CONTROL THE TRIM TABS. ONCE A MANUAL BUTTON IS PRESSED, THE SYSTEM CANCELS AUTO TAB CONTROL.

#### **REVERSE GEAR RETRACT**

THE AUTO GLIDE SYSTEM WILL FULLY RETRACT THE TRIM TABS FROM ANY EXTENDED POSITION WHENEVER THE ENGINE IS SHIFTED INTO REVERSE GEAR. THIS IS ESPECIALLY IMPORTANT ON LARGER BOATS WHEN BACKING DOWN AND TO IMPROVE REVERSE STEERING.

#### RETRACT ON 0 RPM

THE AUTO GLIDE SYSTEM WILL FULLY RETRACT THE TRIM TABS FROM ANY EXTENDED POSITION WHENEVER THE ENGINE'S RPM SIGNAL RETURNS TO ZERO. HOLE SHOT MODE

**OBJECTIVE:** PROVIDE THE FASTEST AND MOST EFFICIENT TRANSITION FROM "HOLE SHOT" TO "ON PLANE" BY AUTOMATICALLY DEPLOYING TRIM TABS BEFORE ACCELERATION (IF WATER CONDITIONS PERMIT) AND RETRACT THEM AS THE BOAT'S PITCH ANGLE APPROACHES THE BOAT'S OPTIMUM PLANING ANGLE.



#### HOW TO INITIATE HOLE SHOT MODE:

THE ENGINE(S) MUST BE SHIFTED INTO FORWARD GEAR AND REMAIN IN FORWARD GEAR FOR 5 SECONDS.

#### **CHECK WATER CONDITIONS:**

DURING THE 5 SECOND FORWARD GEAR VERIFICATION, THE AUTO GLIDE MEASURES PITCH AND ROLL CHANGES TO DETERMINE IF THE WATER CONDITIONS ARE CALM OR ROUGH.

#### CALM WATER HOLE SHOT:

ONCE THE AUTO GLIDE CONFIRMS THE ENGINE(S) REMAIN IN FORWARD GEAR FOR 5 SECONDS AND DETERMINES THE WATER CONDITIONS ARE <u>CALM</u>, THE TRIM TABS ARE FULLY DEPLOYED.

AS THE BOAT'S SPEED BEGINS TO INCREASE AND THE PITCH ANGLE BEGINS TO DROP, THE TRIM TABS ARE RETRACTED UNTIL THE BOAT REACHES ITS OPTIMUM PLANING ANGLE.

#### **ROUGH WATER HOLE SHOT:**

ONCE THE AUTO GLIDE CONFIRMS THE ENGINE(S) REMAIN IN FORWARD GEAR FOR 5 SECONDS AND DETERMINES THE WATER CONDITIONS ARE <u>ROUGH</u>, THE TRIM TABS ARE FULLY RETRACTED TO ELIMINATE THE DANGER OF "STUFFING THE BOW" WHILE ACCELERATING INTO WAVES.

AS THE BOAT'S SPEED BEGINS TO INCREASE AND THE PITCH ANGLE BEGINS TO DROP, THE AUTO GLIDE WILL ONLY CORRECT FOR ROLL CHANGES. IT WILL NOT CORRECT PITCH ANGLE CHANGES UNTIL THE BOAT REACHES ITS OPTIMUM PLANING ANGLE.

### **PLANING MODE**

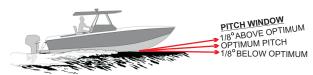
**OBJECTIVE:** AUTOMATICALLY DETECT AND CORRECT PITCH AND ROLL ANGLE CHANGES TO MAINTAIN THE MOST ECONOMICAL, SMOOTH AND LEVEL RIDE.

#### PLANING MODE

AFTER THE BOAT REACHES THE OPTIMUM PITCH ANGLE DURING HOLE SHOT, THE AUTO GLIDE TRANSITIONS TO PLANING MODE. DURING PLANING MODE, THE AUTO GLIDE MONITORS PITCH AND ROLL CHANGES AND AUTOMATICALLY MOVES THE TRIM TABS TO CORRECT FOR THOSE CHANGES.

#### PITCH CORRECTION

DURING PLANING MODE, THE AUTO GLIDE MONITORS CHANGES IN PITCH ANGLE 25 TIMES PER SECOND. THE SYSTEM WILL EXTEND OR RETRACT THE TABS TO COMPENSATE FOR ANY CHANGES IN PITCH 1/8TH OF A DEGREE ABOVE OR BELOW THE BOAT'S OPTIMUM PITCH ANGLE.



#### ROLL CORRECTION

DURING PLANING MODE, THE AUTO GLIDE MONITORS CHANGES IN ROLL ANGLE 25 TIMES PER SECOND. THE SYSTEM WILL EXTEND OR RETRACT THE TABS TO COMPENSATE FOR ANY CHANGES IN ROLL 1 DEGREE ABOVE OR BELOW THE BOAT'S OPTIMUM PITCH ANGLE.



#### DECELERATION

DURING PLANING MODE, THE AUTO GLIDE MONITORS BOAT SPEED AT ALL TIMES. IF THE BOAT SPEED DROPS BELOW 5 MPH, THE SYSTEM WILL DROP BACK INTO HOLE SHOT MODE AND EXTEND OR RETRACT TABS BASED ON THE WATER CONDITIONS.

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