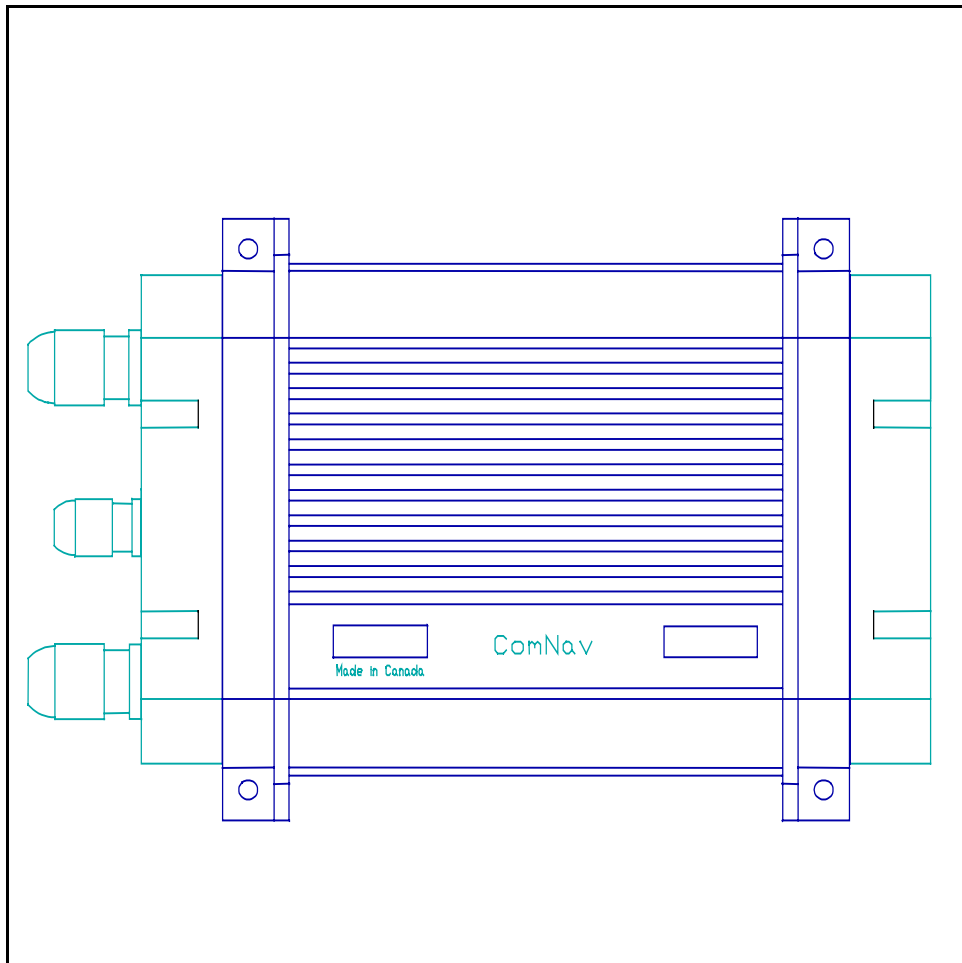


**TYPE CT4 CONTROL BOX**  
**(Part # 20350003)**  
**(For 115/220VAC Solenoid Valves)**  
**Installation Instructions (Revision 3)**  
**Revised July 08, 1997 (serial #800096 and up)**  
**(MANUAL #29010026)**



# COMNAV TYPE 4 CONTROL BOX (REVISION 3)

PART NO. CT4

(For 115/220 VAC Solenoid Valves)

The Type 4 Control Box is used to connect ComNav Marine Autopilots to a steering system that uses 115 or 220 VAC Solenoid Valves. Refer to enclosed hook-up diagram for details on exact interconnections. A four (4) conductor cable connects from the autopilot distribution box to the **small** 6 position plug. A three (3) conductor cable from the 115/220 VAC solenoid should be brought into the control box through the lower gland, and connected to the **large** 6 position plug labelled 4, 5 and 6. A second three (3) conductor cable from a 115/220 VAC power source should be brought in through the upper gland and connected to the 1, 2 and 3 positions of the **large** plug.

## SETUP:

On 1001 and 2001 Autopilots, put the autopilot master switch in the **POWER STEER** mode. Press the **PORT** arrow key. If the rudder turns to starboard, reverse the wires going to the CT4 drive box marked **PORT IN** and **STARBOARD IN**. On ComNav Processor type autopilots, this procedure is not necessary as the Processor software automatically changes reversals.

**To measure the maximum hard-over to hard-over time of the drive system**, place the autopilot master select switch in the **POWER STEER** position and hold either the red or green **ARROW** key or the PORT and STBD pushbuttons(2200 Autopilot) to make the rudder move fully from Port to Starboard or vice versa.

**If the hard-over to hard-over time is less than 8 seconds**, the rudder must be slowed down by decreasing the pumpset displacement, changing to a smaller pumpset or a slower acting drive unit.

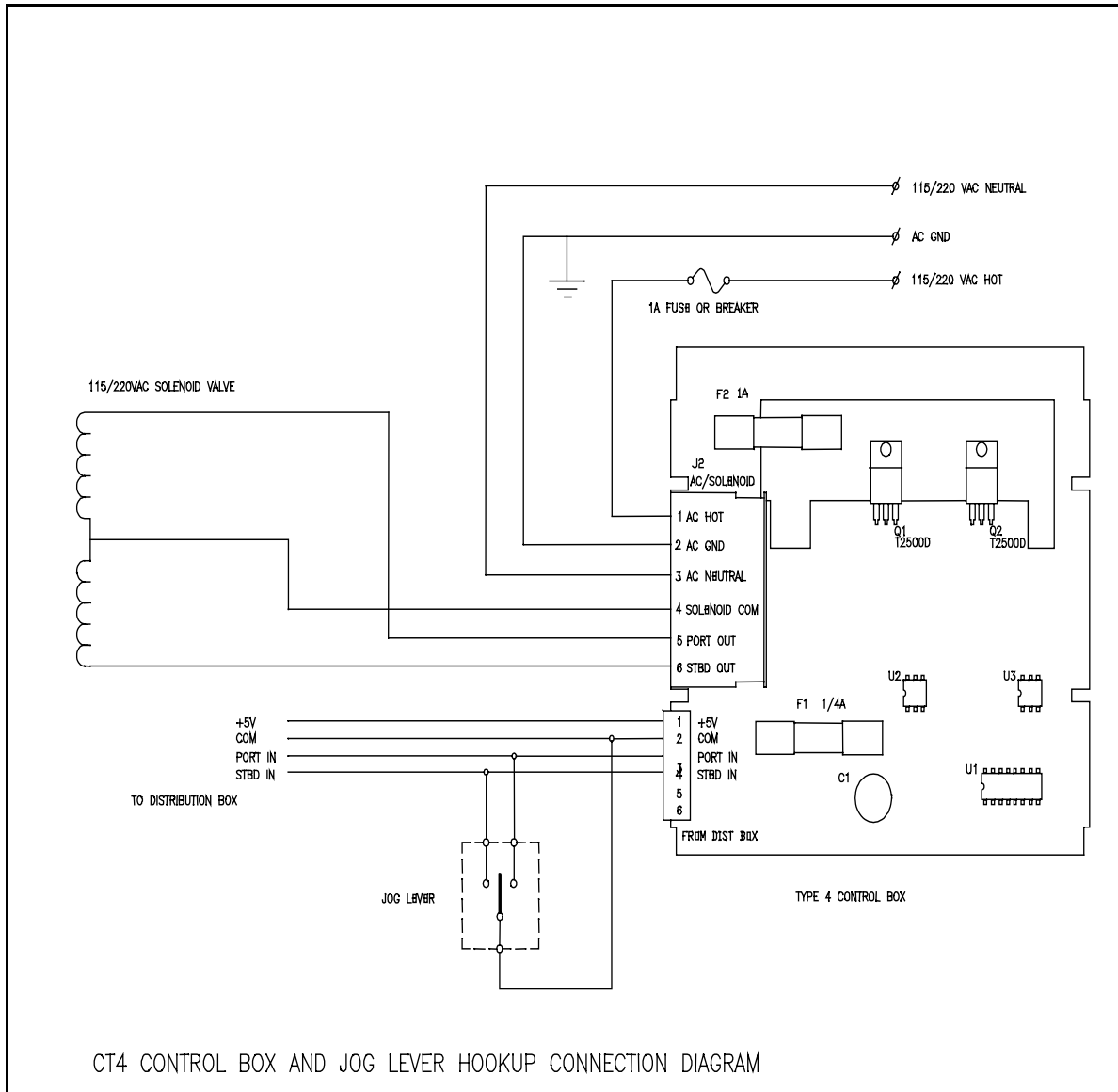
**If the hard-over to hard-over time is more than 16 seconds**, the rudder must be speeded by increasing the pumpset displacement, changing to larger pumpset or a faster acting drive unit.

When the hard-over time is between 8 - 16 seconds, testing of the CT4 AC Interface Box is complete.

## CAUTION:

**EXTREME CARE SHOULD BE TAKEN WHILE HANDLING HIGH VOLTAGES. ANY CONNECTIONS FROM A HIGH VOLTAGE SOURCE SHOULD BE MADE THROUGH AN APPROPRIATE FUSE OR BREAKER, AND DISCONNECTED DURING HANDLING. FAILURE TO OBSERVE THESE PRECAUTIONS COULD RESULT IN SERIOUS INJURY OR DEATH.**





### CT4 WITH JOG SWITCH WIRING DIAGRAM

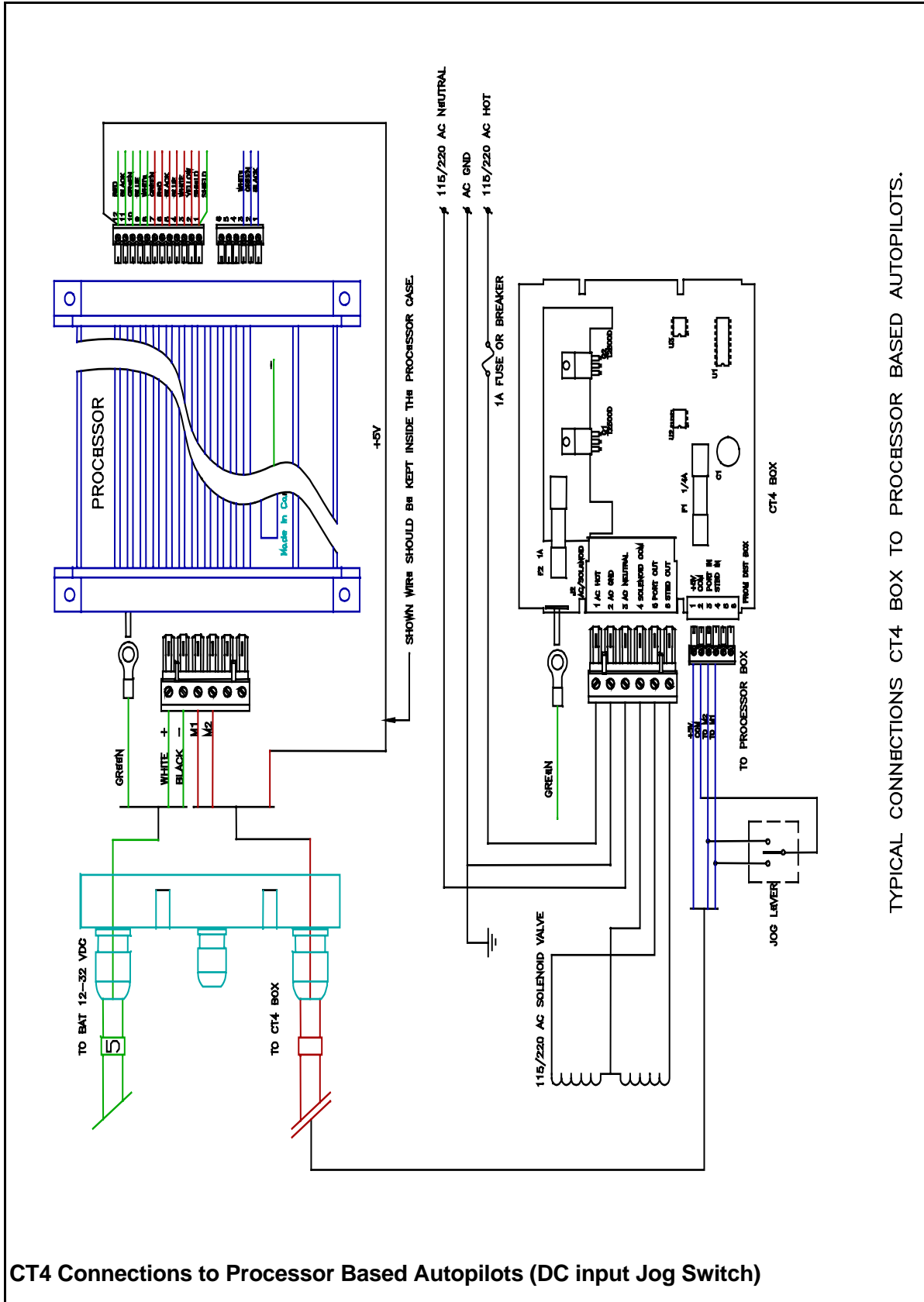
#### WIRING:

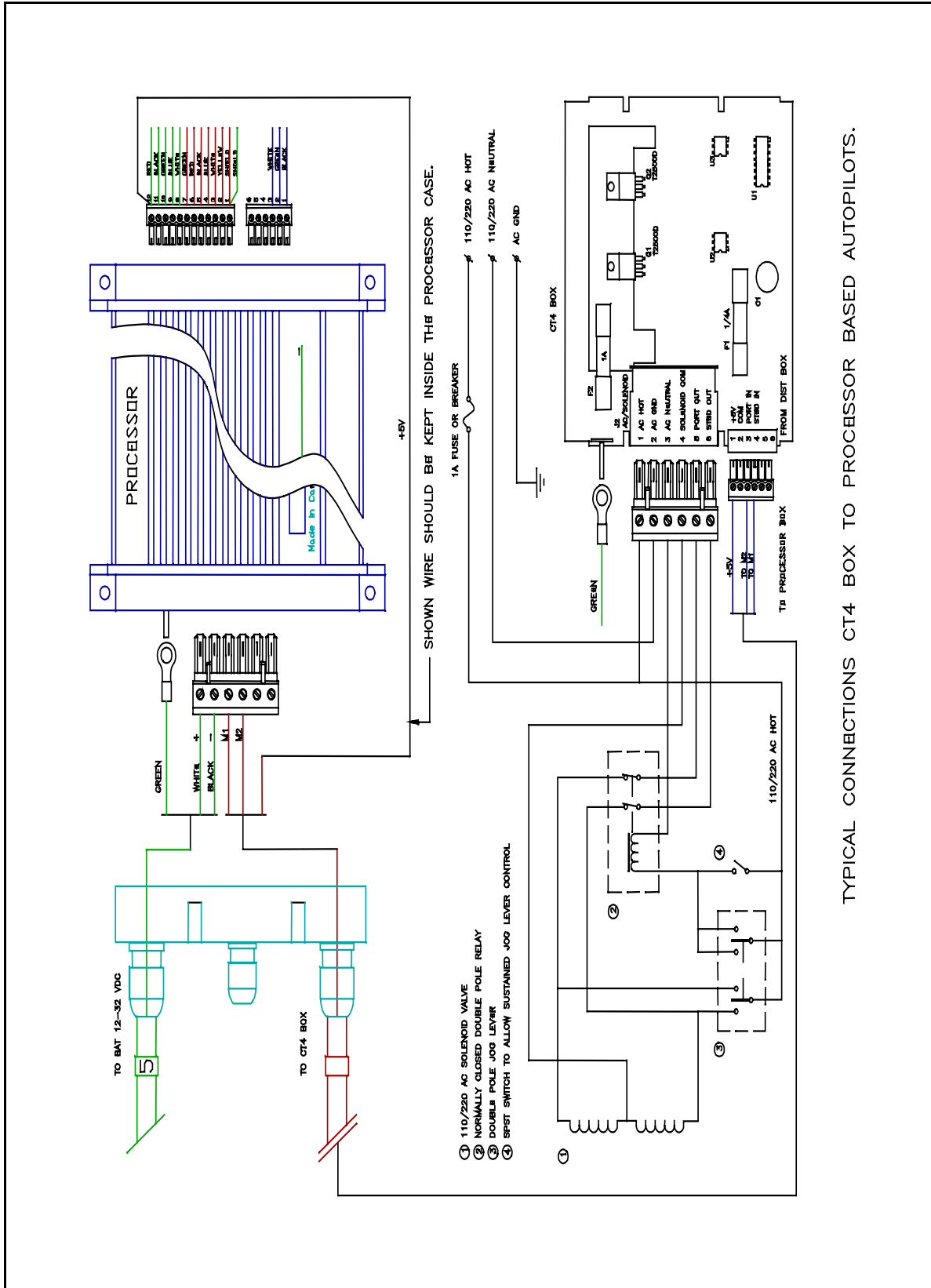
#### CT4 MOTOR CONTROLLER TO 1001 AND 2001 AUTOPILOTS

CT4 terminal marked **+5** connects to the 1001/2001 Distribution Box terminal marked **+5**.  
 CT4 terminal marked **COM** connects to the 1001/2001 Distribution Box terminal marked **COM**.  
 CT4 terminal marked **PORT** connects to the 1001/2001 Distribution Box terminal marked **PORT**.  
 CT4 terminal marked **STBD** connects to the 1001/2001 Distribution Box terminal marked **STBD**.

#### CT4 MOTOR CONTROLLER TO COMNAV PROCESSOR TYPE AUTOPILOTS

CT4 terminal marked **+5** connects to the Processor Rudder Follower terminal marked **#3**.  
 CT4 terminal marked **COM** connects to the Processor Rudder Follower terminal marked **#1**.  
 CT4 terminal marked **PORT** connects to the Processor Pump Motor terminal marked **M1**.  
 CT4 terminal marked **STBD** connects to the Processor Pump Motor terminal marked **M2**.





TYPICAL CONNECTIONS CT4 BOX TO PROCESSOR BASED AUTOPILOTS.

CT4 Connections to Processor Based Autopilots (AC input Jog Switch)

## MANUAL CHANGES

DECEMBER 31, 1996

PAGE 2 - WARNING ADDED ABOUT ATTAINING A 10 TO 15 SECOND H.O. TIME.

JANUARY 30, 1997

PAGE 5 AND 6 - ADDED CT4 TO PROCESSOR BASED AUTOPILOT WIRING

MAY 27, 1997

PAGE 1 - CHANGED 115VAC SOLENOID VALVES TO 115/220VAC SOLENOID VALVE(MANUAL # 71611)

## MANUAL CHANGES

DECEMBER 31, 1996

PAGE 2 - WARNING ADDED ABOUT ATTAINING A 10 TO 15 SECOND H.O. TIME.

JANUARY 29, 1997

PAGE 4 - ADDED CT5 WIRING TO PROCESSOR BASED AUTOPILOTS

November 17, 1998

Converted document to Word

September 6, 2000

Changed address on letterhead