Field Bulletin

Line of Business: New Installation, Modernization, Service

January 8, 2024

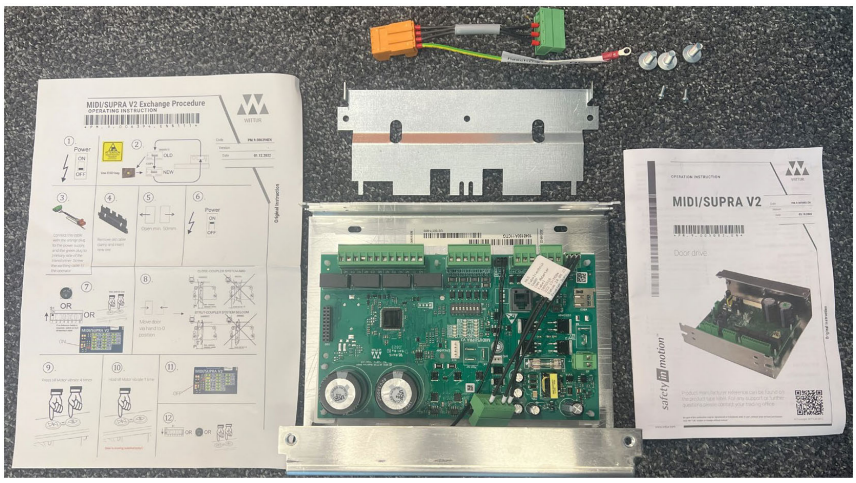
Product: LD-16 UDO Control Board

Problem: Control Board Obsolescence

Solution: Control Board Replacement - Wittur V2 Control Board Installation

Materials Required:

- Multimeter
- #1 Phillips head screwdriver
- #2 Phillips head screwdriver
- 4mm Allen wrench
- Side cutters
- Zip tie
- WPT Handheld Tool (9736918) or EMS Configuration Tool (non-Wittur clutch applications)
- Wittur Door Drive Control Board Assembly Kit (9762076)



Failure to comply with this bulletin may affect future warranty claims.
All work described in this bulletin must be performed in accordance with provisions described in the safety manual. All work must conform to the Local and National Code provisions in effect in your area. This Bulletin is for Vertical Express Use Only.

Procedure

Remove the V1 Door Board Assembly

Note: If the job does not use a Wittur clutch, use the Procedure for TKE Drive Only on page 12.

1. Adhere to all safety rules. Refer to your organizations *Employee Safety Manual* for complete safety information on installation and service procedures.

2. Fill out the appropriate JHA related to the work performed.

3. Remove the elevator from service, run the car to the top landing, and place the elevator on Cartop Inspection Operation.

4. Run the car down until the door operator can be easily accessed.

5. Move the doors to the open position.

6. Turn OFF, Lock, and Tag out the mainline disconnect. Test and verify.

7. Verify that CAN resistance is at 60 (+/- 3) Ohms across CCH and CCL on the FWIA Card, CON2. See
   Note: If CAN resistance is out of tolerance, see "CAN Resistive Loading Procedure" in *TAC 32T Manual*, *Service Information Section*.

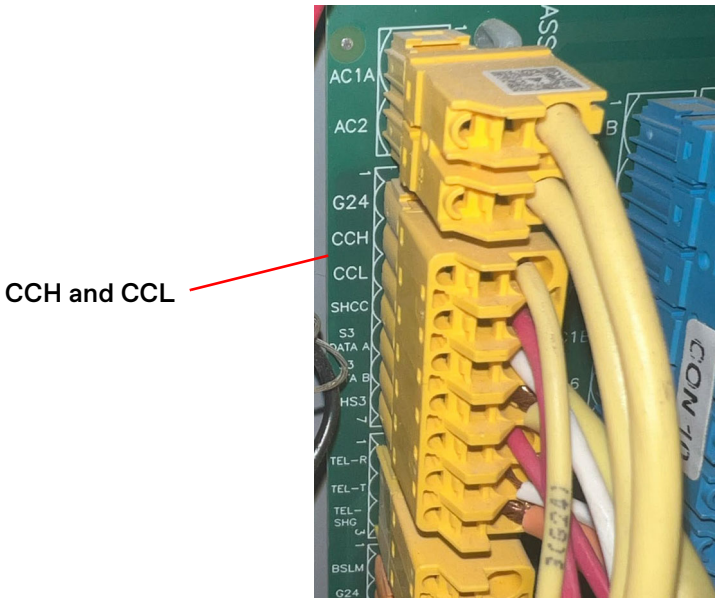


Figure 1 - FWIA Card, CON2

8. Use a 4mm Allen wrench to remove the four (4) bolts securing the door operator cover, and then remove the cover. See Figure 2.

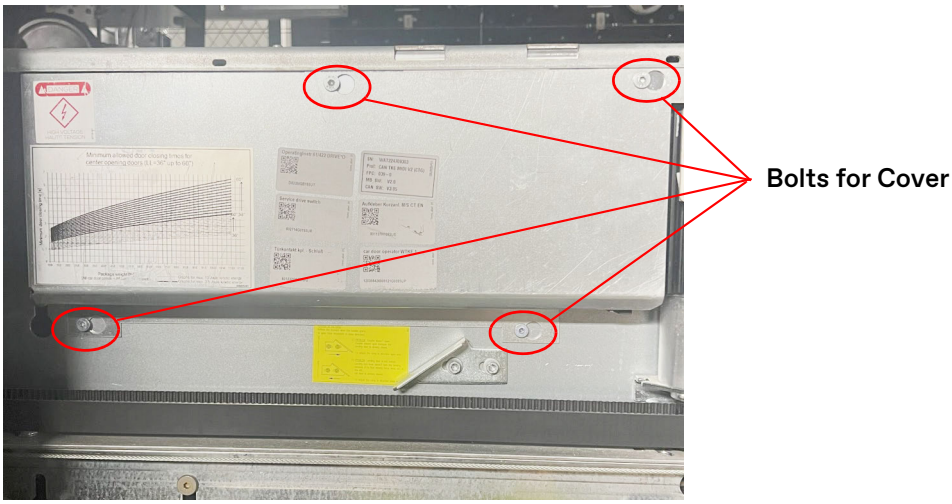


Figure 2 - Door Operator Cover

9. Label all plugs on the door operator board, and then unplug all plugs—except for the reference switch. See Figure 3.

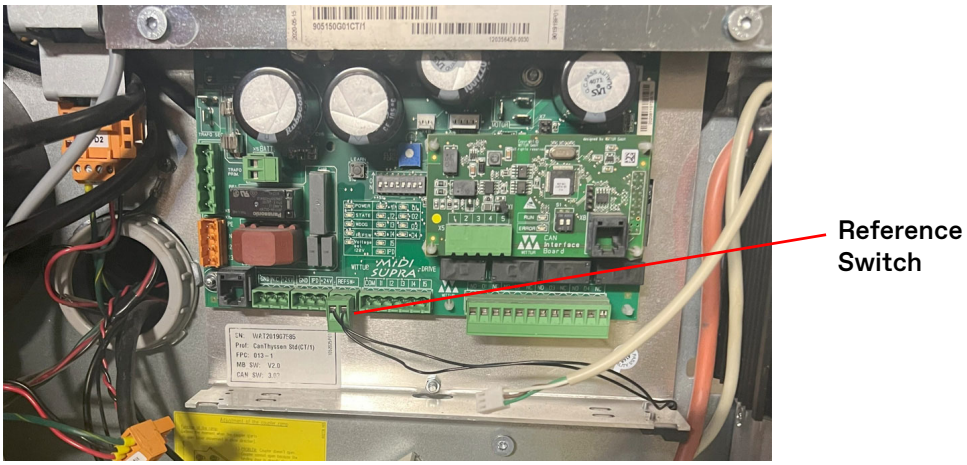


Figure 3 - Reference Switch on Door Operator Board

10. Use a 4mm Allen wrench to remove the bolts securing the door board assembly, and then remove the assembly. See Figure 4.

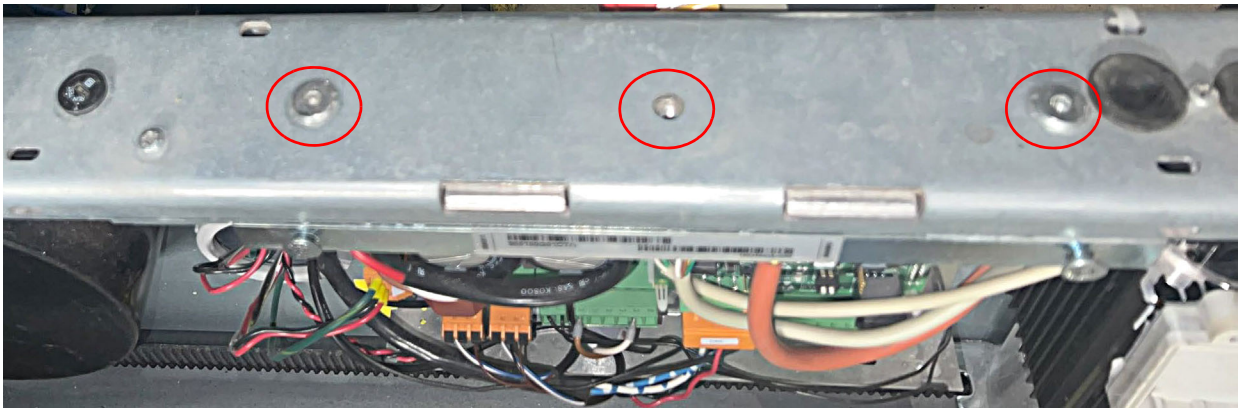


Figure 4 - Door Board Assembly

11. Use a #2 Phillips head screwdriver to remove the three screws securing the wiring cover, and then remove the cover. See Figure 5.

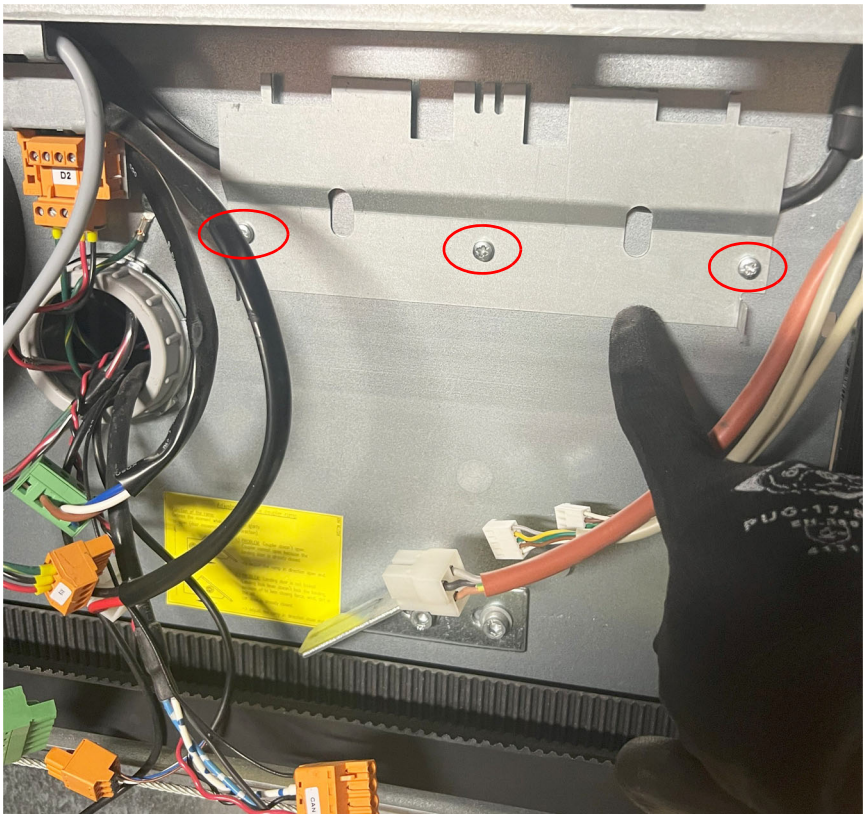


Figure 5 - Remove the Wiring Cover

Wittur V2 Control Board Assembly Installation

1. Locate and install the V2 wiring cover (included in kit, 9762076). Use a #2 Phillips head screw-driver to install the three screws and secure the V2 wiring cover. See Figure 6.

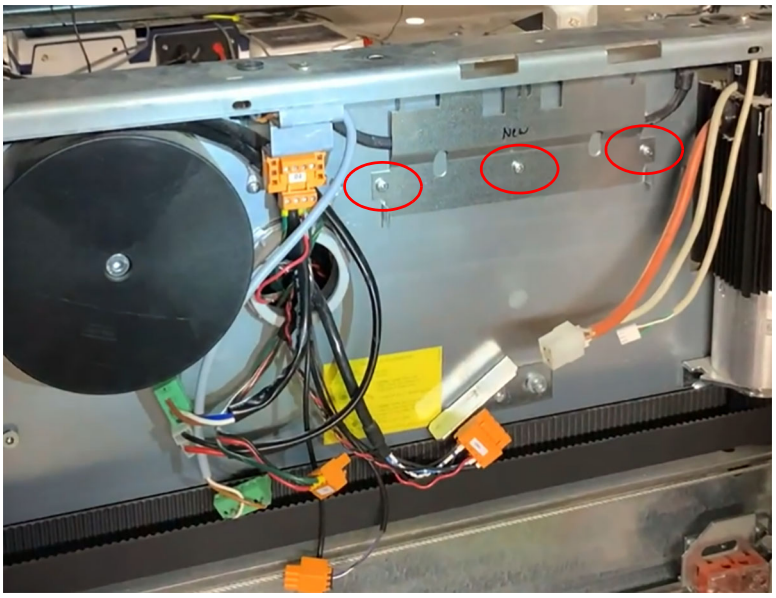


Figure 6 - Install New Wiring Cover

2. Install the ground wire on the adapter plug from the kit to the ground screw, and let the plug hang from the ground wire. See Figure 7.

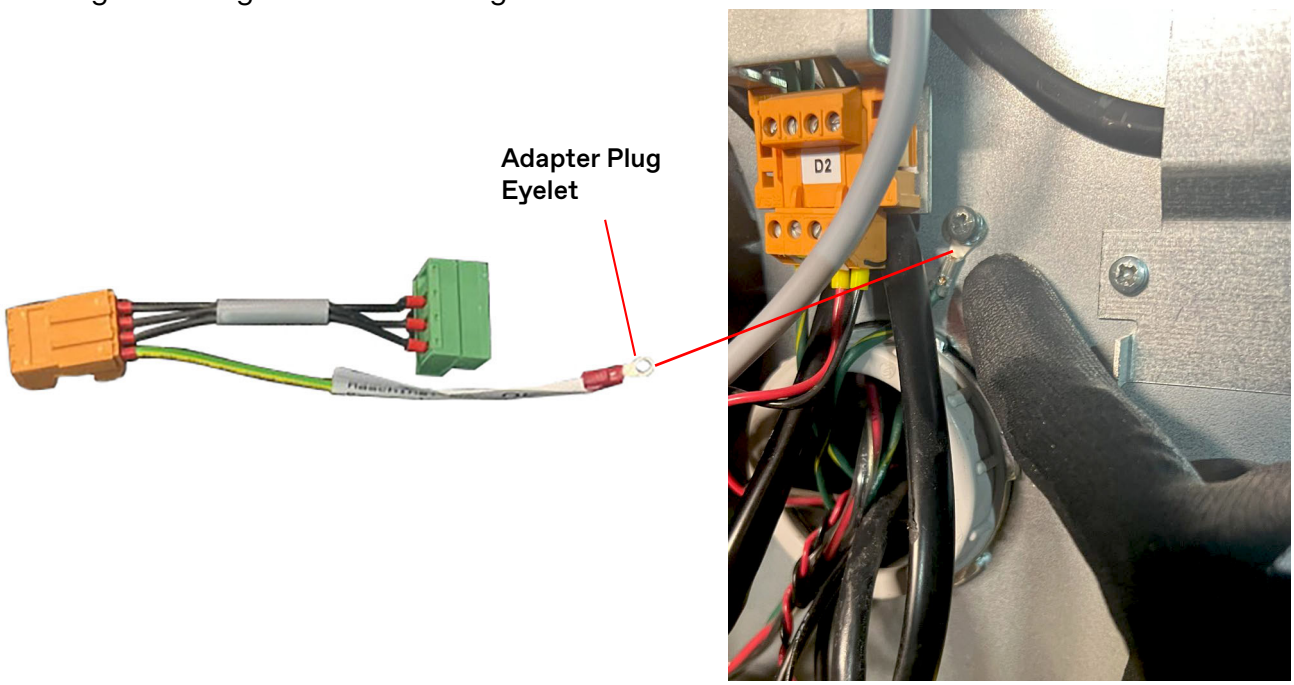


Figure 7 - Adapter Plug Grounding

3. Install the reference switch on the V2 Control Board on the same side as the V1 Control Board. The switch can be installed on either side of the assembly depending on configuration.
   a. Use the two #1 Phillips screws from the kit to install and adjust the reference switch to match the old reference switch on the V1 Control Board.
   b. After the V2 control board is installed and the doors are in the closed position, verify that the gap between the reference switch and the magnet is 3mm. See Figure 8.

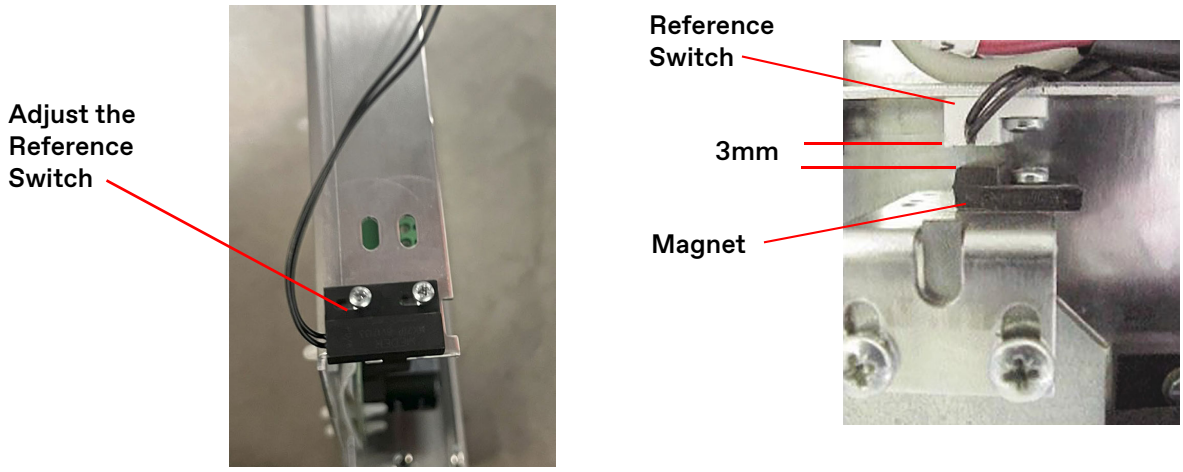


Figure 8 - Reference Switch Installation

4. Install the V2 Control Board Assembly.
   a. Push the V2 Assembly into the header, and then drop it down $^{3}/_{8}$".
   b. Push in on the V2 Assembly, and engage the tabs into the slots.
   c. After the tabs are engaged into the slots, push the V2 control board back up $^{3}/_{8}$" until the board is tight against the header.
   d. Install and tighten the (3) 4mm Allen bolts from the kit.

   Note: The tabs of the V1 Assembly wiring cover go into the two long slots on the back of the V2 Assembly. See Figure 9.

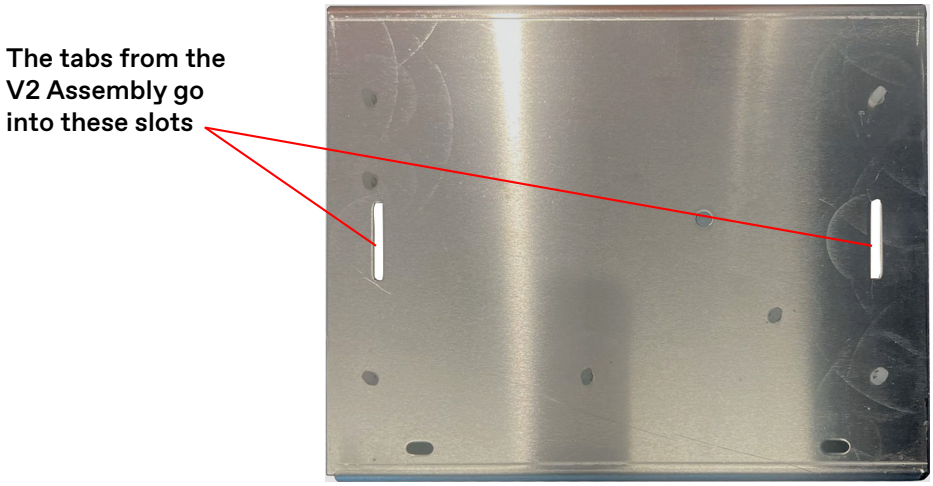


Figure 9 - Back View of V2 Assembly

5. Plug the following connectors back into the V2 board. See Figure 10.
   a. Plug CON X5 (CAN Com) into the connector hanging from the board.
   b. Plug CON X9 and CON X19 into the adapter cable from kit hanging from the ground screw.

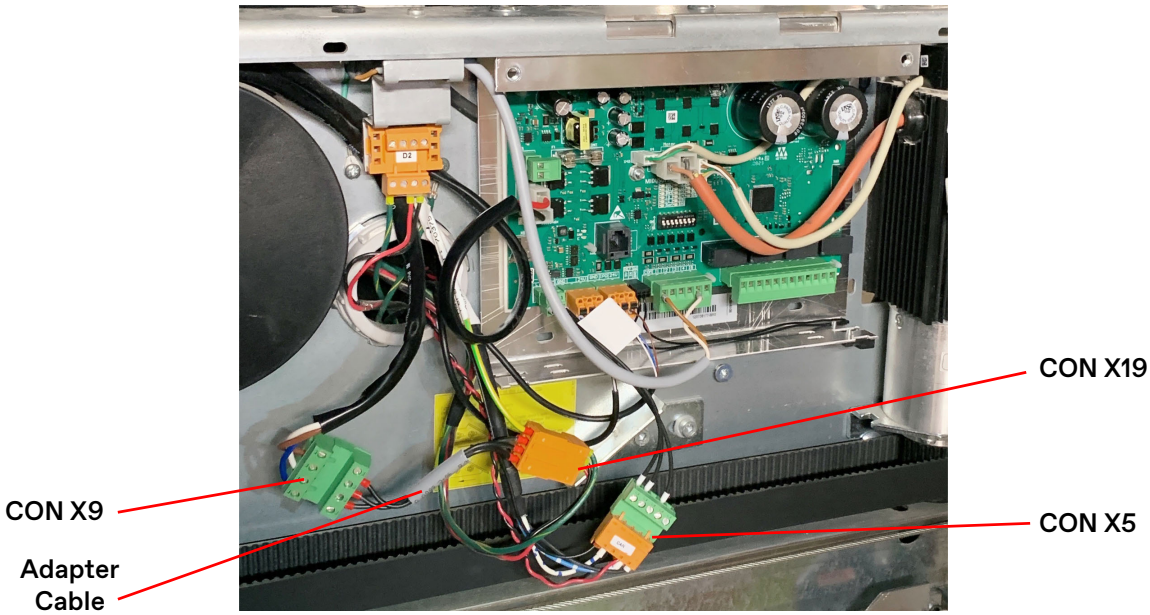


Figure 10 - V2 Board Connectors

6. Push the extra adapter cable from the kit into the wiring pipe. See Figure 11.

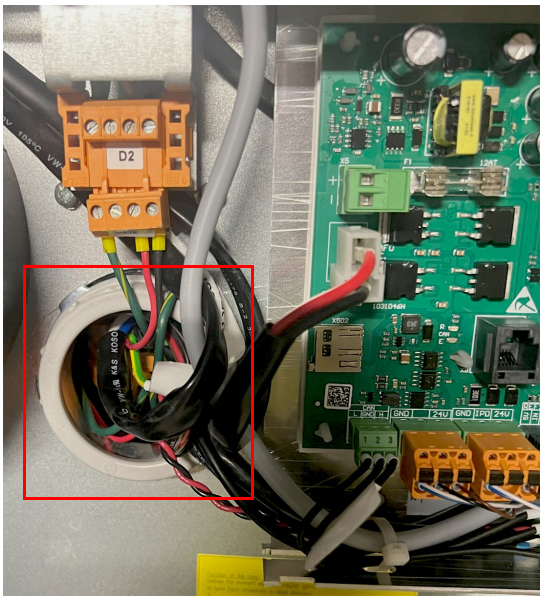


Figure 11 - Extra Adapter Cable into Pipe

7. Install door cover screws and shim from the V1 assembly to the V2 assembly. See Figure 12.

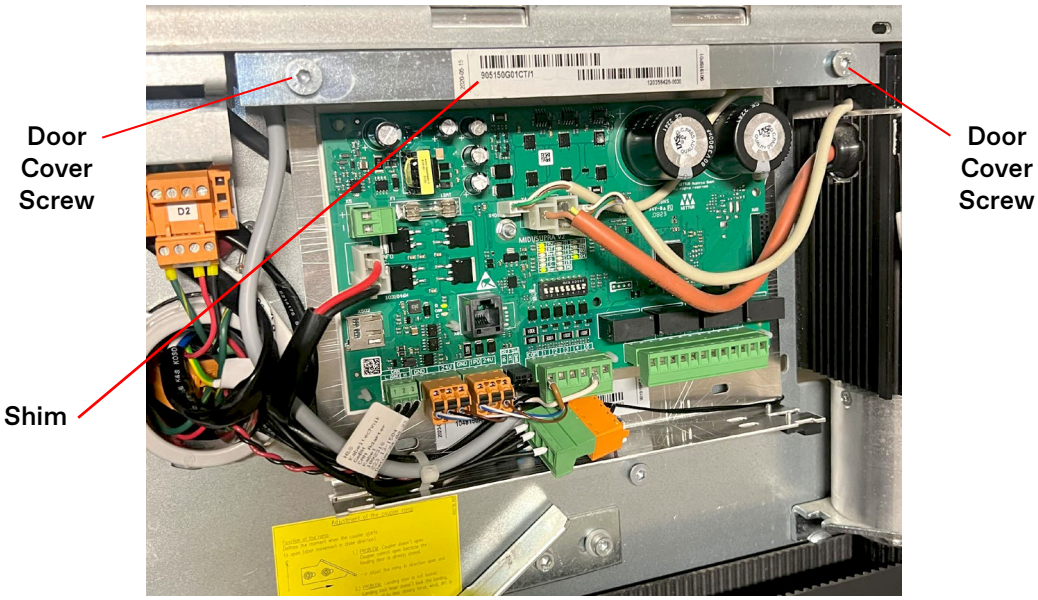


Figure 12 - Install Door Cover Screws and Shim

8. Zip tie CON X5 and the reference switch wire to the door board assembly. See Figure 13.

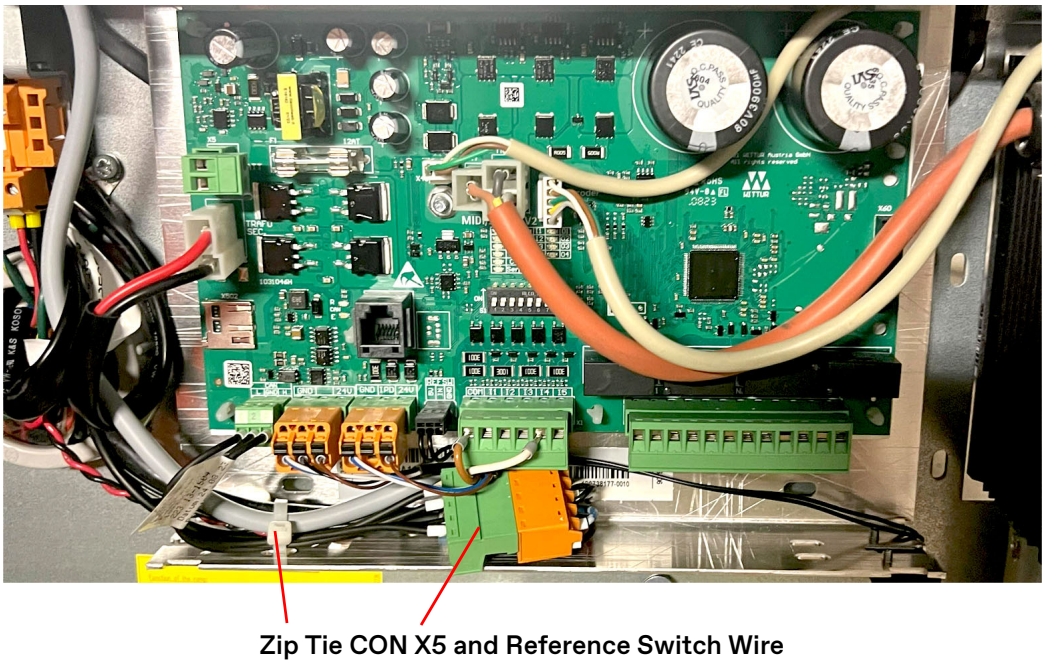
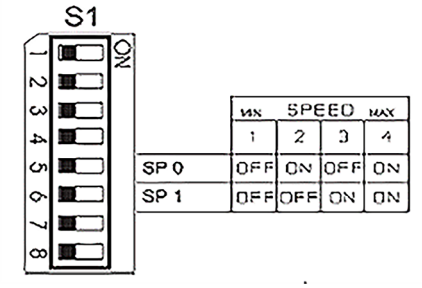


Figure 13 - Wiring Installation

9. Set the dip switches for the job configuration per Table 1.

Switch	ON	OFF
S1/1	Service activated	Normal Operation
S1/2***	Automatic reopen/reclose on obstruction or IPD (Reopen 03 is switched as long as reopen is in progress)	No automatic reopen/re close (only Reopen 03 is switched)
S1/3	Automatic end keeping timeout disabled (For discrete I/O usage)	Automatic end keeping timeout enabled (For CAN com usage)
S1/4	Rear door (only used with CAN com)	Front door (only used with CAN com)
S1/5	Speed adjustment, see Speed Setting.	
S1/6		
S1/7**	Open force limitation activated	No open force limitation
S1/8*	Automatic end keeping in close/open end	Hold open/closed only on active open/close command

Speed Setting



*For the compliance to EN81-20 (part. 5.3.15.1) the switch S1 /8 must be OFF.

**For the compliance to EN81-20 (part. 5.3.6.2.2.1 only glass doors) the switch S1 /7 must be ON.

***In case of automatic reopen/ reclose, 03 is set if an obstacle is detected and switched off after reopen. In case of no automatic reopen/reclose, 03 is switched on when an obstacle is detected, and switched off when the obstacle is removed or a reclose/reopen command is applied from the controller.

‡ To be compliant with ASME 17.1 / CSA 844 it is mandatory to switch off S1/2.

Table 1 - Dip Switch Settings

10. Install any applicable labels included with the kit.

11. Power up the unit, and perform the door learn procedure as outlined in *9.2 Operation Manual* "Learning of coupler width and door width."
    a. Switch the power ON, and move the door out of the reference switch area. REF LED must be OFF.
    b. Manually move the door in the Close direction until the door is fully closed. REF LED is ON.
    c. Press both test drive buttons until the motor vibrates one time.
    d. Press both test drive buttons until the motor vibrates four times.
    e. Release only one of the test drive buttons—keep pressing one of the buttons—until the door starts the automatic learning cycle.
    f. Hold the button until the door finishes the learning cycles—at least two door openings.
    g. When the motor vibration signals the end of the learning cycle, release test drive buttons.
    h. Press both service drive buttons to release the service mode.

12. Install the door operator cover; insert the bolts and tighten them with a 4mm Allen wrench. See Figure 14.

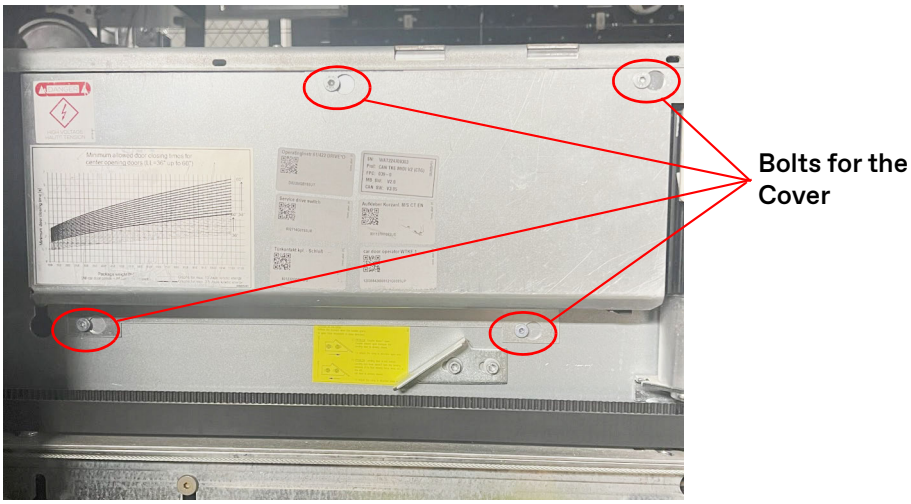
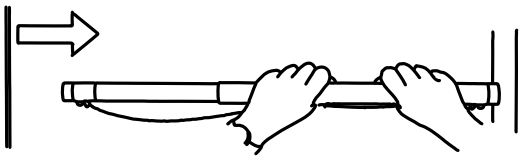


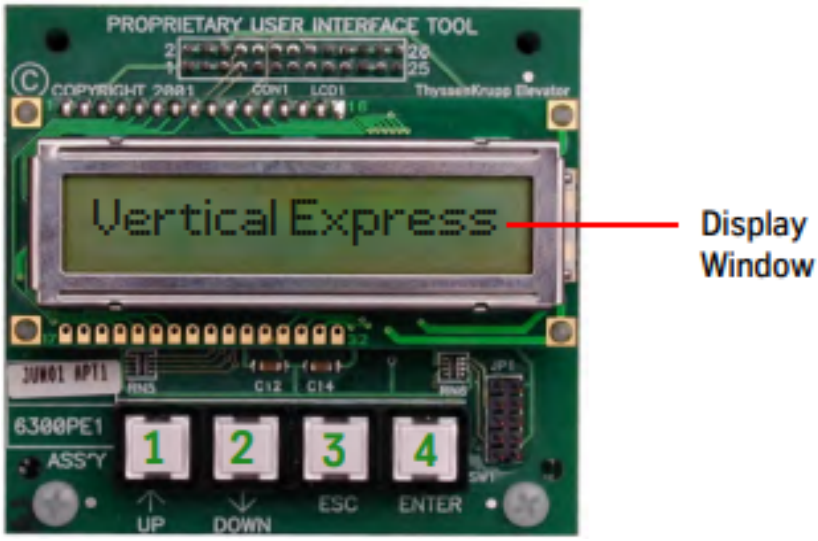
Figure 14 - Door Operator Cover

13. Test the closing force adjustment - 30 lbs. maximum. See Figure 15.
    a. Place the car at floor level on Inspection Operation.
    b. Rotate the TEST/RUN switch to the TEST position.
    c. Use the kinetic force gauge (TKE part no. 9869657) to measure the closing force, and press **DOOR CLOSE** to close the doors. Do not apply closing force for more than 10 seconds at a time.
    d. If required, reduce the closing force by reducing the CLSFORC parameter in the Door Smart FAST. This can be accessed in "door parameters" on the UIT. The trim pot in V1 has been removed and moved into software in V2.
    e. To control kinetic energy, reduce door closing top speed to within code requirements.
    f. Rotate the TEST/RUN switch to the RUN position.

Door Gauge



Safe Use of Door Gauge

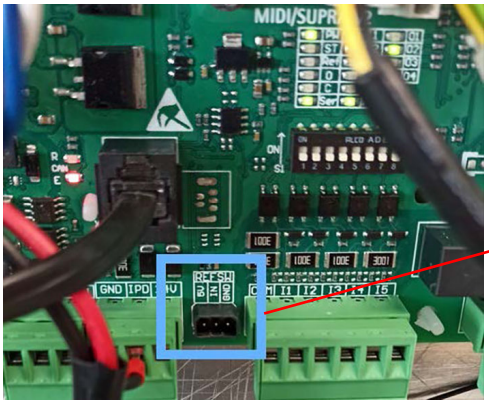


USER INTERFACE TOOL/UIT

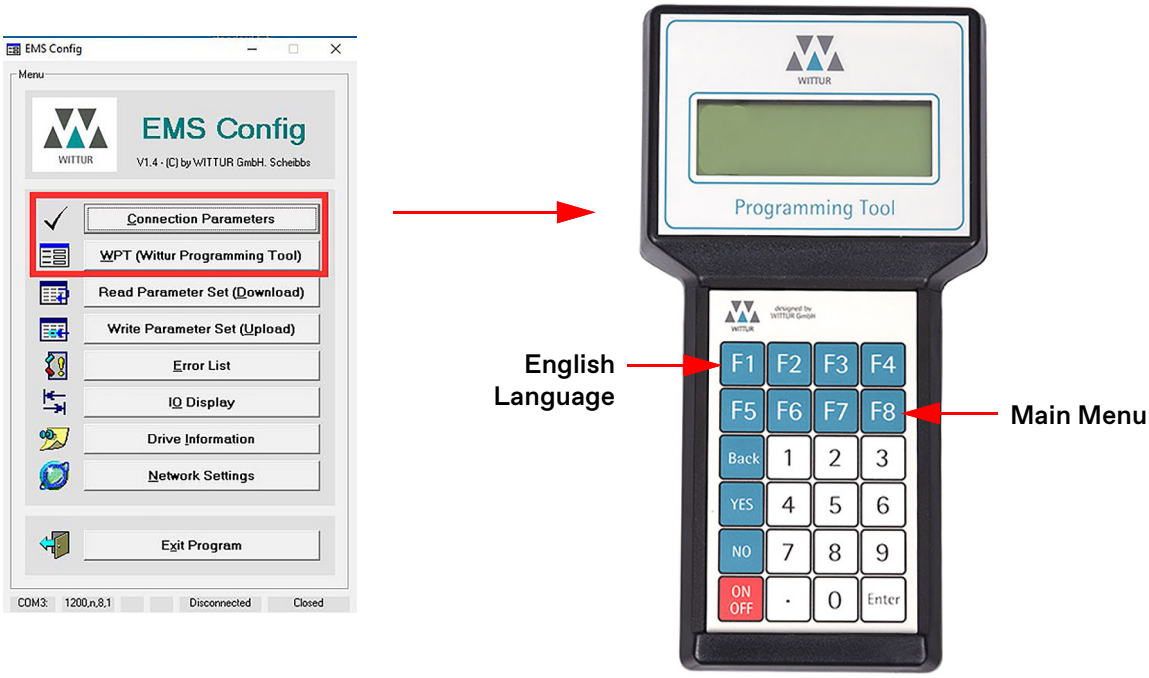
Procedure for TKE Drive Only
(LD-16 without Wittur clutch)
Learning Coupler Parameters

Procedure Overview: Change the 1503 Value so the MidiV2 operates without a reference switch; if not, the MidiV2 cannot finish learning and the ST-LED will flash an error.

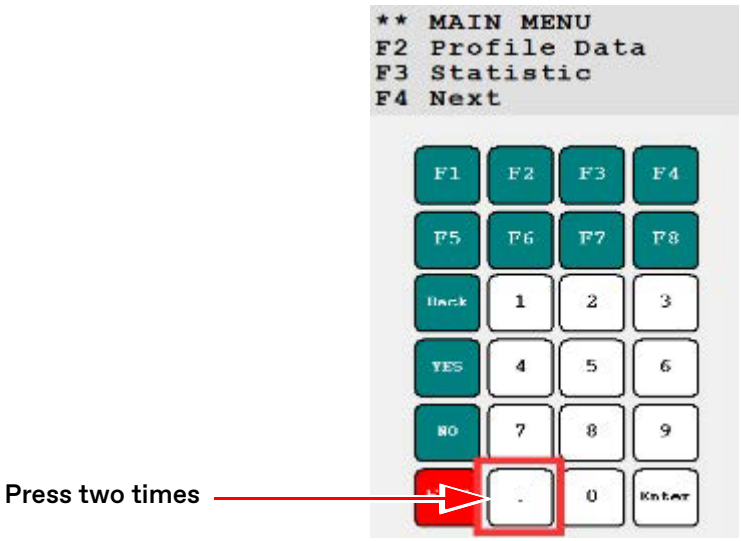
1. Disconnect the reference switch and permanently secure or remove the plug or wire because it will not be connected again.



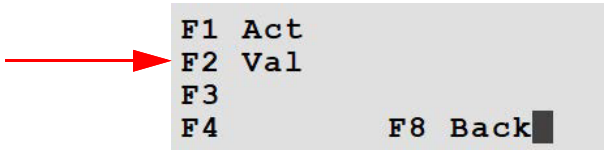
2. Use the WPT Handheld Tool to access the system. If using EMS Config, go to EMS Config > WPT (Wittur Programming Tool) to access WPT.
   a. Press **F1.** (English language)
   b. Press **F8.** (Main menu)



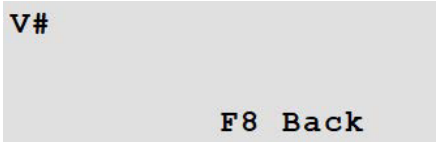
c. From the main menu, press "**.**" (dot button) twice.



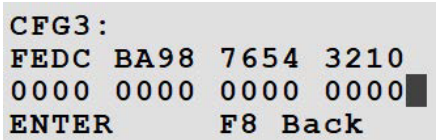
d. When the following menu displays, choose **F2 Val.**



e. When the following screen displays, type "1503" and press **ENTER**.



f. When the following screen displays, press **ENTER** to edit the value.



g. Once in this mode, the cursor will move to the first (left) digit. Make sure every digit is entered. After entering "1" for bit number 7, continue entering "0" all the way to the end of the line, or bit number 7 will revert back to 0 when **F8** is pressed.

```
CFG3:
FEDC BA98 7654 3210
0000 0000 1000 0000
ENTER      F8 Back
```

h. Press **F8** to go back; confirm with "YES" to save the changed value.

i. Verify the settings.
   - Press "**.**" (dot button) twice.
   - Choose **F2 Val.**
   - Type "1503".
   - Press **ENTER.**
   - Verify that bit 7 is set to 1.

3. Verify the motor direction.

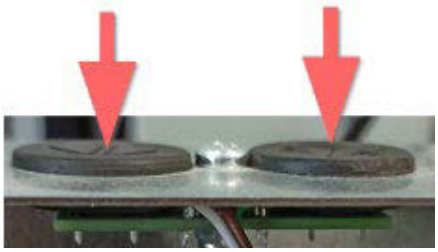
   a. Press both Service Drive Buttons (OPEN and CLOSE) together to enter the Service Drive Mode.

   b. Press the OPEN button and verify the door opens.

   c. Press the CLOSE button and verify the door closes.

   Note: If movement direction is not correct, press both OPEN and CLOSE together for approximately 15 seconds. The doors will reset and apply the direction changes.

   d. Repeat this step to verify that the settings are correct.



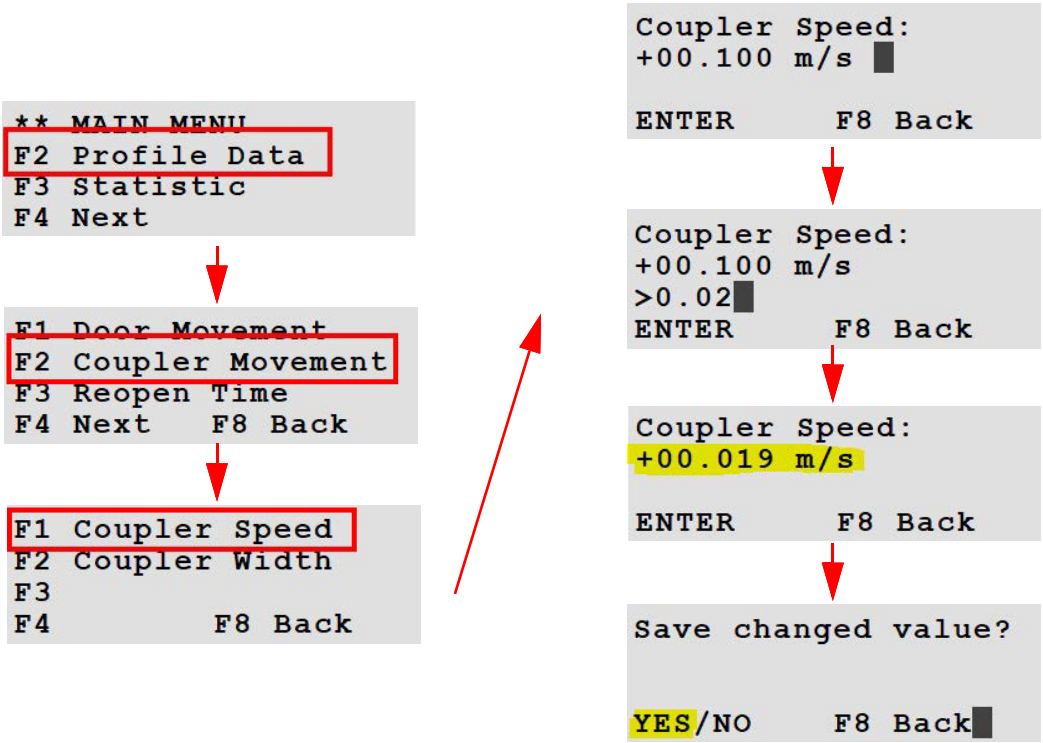
Press OPEN and CLOSE together for 15 seconds

4. Learn the coupler width.
   a. Place the DIP S1-1 switch to the OFF position.
   b. Move the door to the CLOSE position.
   c. Cycle the power.
   d. Place the DIP S1-1 switch to the ON position.
   e. Manually open the door 50mm or 2"; after learning, this distance will become the new coupler width.
   f. Start the learn procedure.
      — Press both Service Drive Buttons (OPEN and CLOSE) together for ~6 seconds.
      — After four motor vibrations, release OPEN button and continue to press CLOSE button.

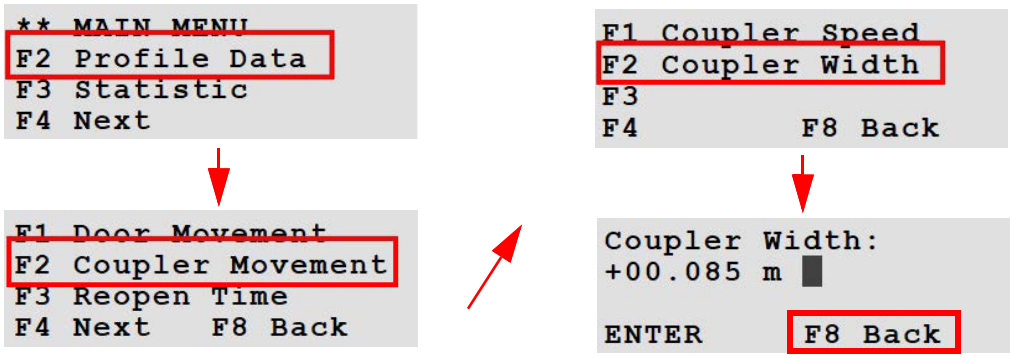
   Note: During the learn procedure, the door detects the door width and coupler width. After two door closings and openings, the learn procedure finishes with one motor vibration.

   g. Close the door, and place the DIP S1-1 switch to the OFF position.

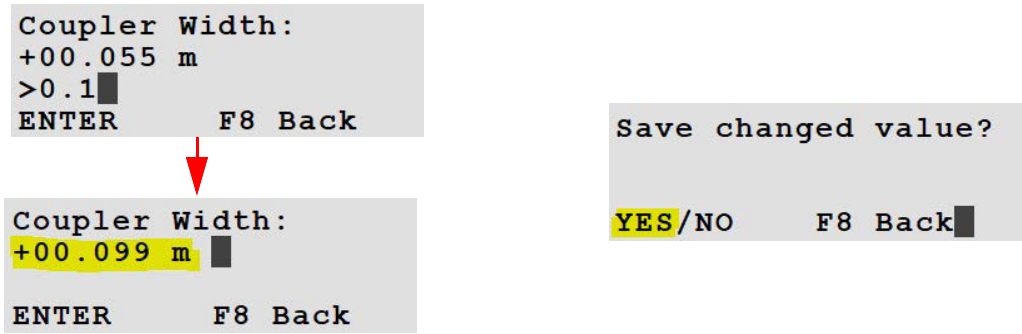
5. If necessary, change the coupler speed if the doors are slamming or slow into the final stop.
   a. From the Main Menu, press **F2 Profile Data.**
   b. Press **F2** to access **Coupler Movement**.
   c. Press **F1** to access **Coupler Speed**.
   d. When the next screen displays, type the new coupler speed, e.g., 0.02, and press **ENTER**.
   e. To apply the new coupler speed value, press **YES**. The coupler speed will be applied immediately, no new learn or power cycle is needed.



6. If necessary, adjust the coupler length (slowdown distance into final close).
   Recommended coupler width = 0.045.
   a. From the Main Menu, press **F2 Profile Data.**
   b. Press **F2** to access **Coupler Movement**.
   c. Press **F1** to access **Coupler Width**.
   d. To change the coupler width, proceed to Step 7.
   e. To return to the main menu, press **F8 Back**.



7. Change the coupler width, if needed.
   a. When the next screen displays, type the new coupler width, e.g., 0.1, and press **ENTER**.
   b. To apply the new coupler width value, press **YES**. After changing the coupler width, the board cannot move anymore because the learned parameters changed.



8. Apply the new coupler width and relearn the door.
   a. Place the DIP S1-1 switch to the OFF position.
   b. Move the door to the CLOSE position.
   c. Cycle the power.
   d. Start the learn procedure.
      — Press both Service Drive Buttons (OPEN and CLOSE) together for ~6 seconds.
      — After three motor vibrations, release the OPEN button and continue to press the CLOSE button.

   Notes:
   - During the learn procedure, the door relearns the correct door width. After two door closings and openings, the learn procedure finishes with one motor vibration.
   - Changing the coupler width value flags an "FE" error; clear this error, it is intended behavior.
   - For optimum door performance, it may be necessary to adjust the speed profile in IMS as well as the coupler width and the coupler speed.