

Navitas Vehicle Systems Ltd.

NAVITAS 440A-600A DC CONTROLLER COLUMBIA PAR CAR (SEVCON)

Installation/Service Manual



INSTALLATION INSTRUCTIONS FOR:
CPC/CVG Negative Logic Installation

NAVITAS

INSTALLATION INSTRUCTIONS

CPC/CVG (SEVCON) Installation



DANGER

- Make sure the RUN/TOW Switch is in the TOW position.
- Make sure to Disconnect the Main Positive \oplus and \ominus Negative Cable on the Vehicle's Battery System.

Before removing the original Controller take note or take a photo of the 5 Controller Terminals and their corresponding Wires. Make sure that the groups of wires stay together.

Wire Connections

1. (F2) wire from F1/S1 on motor
2. (B-) wire from battery main negative (-)
3. (M) wire from A2 on motor
4. (B+) wire from solenoid - main positive (+), & wire from A1 on motor
5. (F1) WIRE FROM F2/S2 ON MOTOR
6. If it goes backwards, reverse the F1 & F2

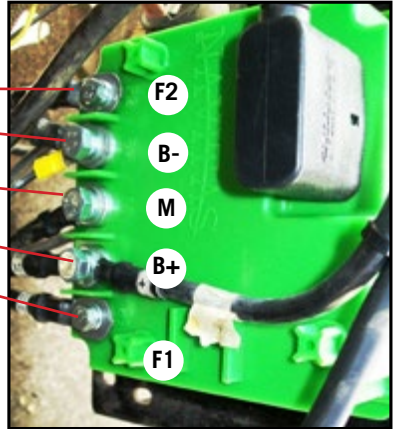


fig. 1

Overhead view showing Module Harness in place

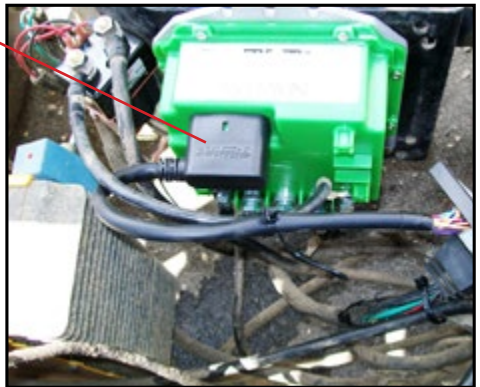


fig. 2

Torque Specifications

F1 & F2	6 mm Bolt	60 in-lbs/ 5ftlbs/ 6.8Nm
B-/M/B+	8 mm Bolt	150 in-lbs/ 12.5ftlbs/ 16.9Nm

INSTALLATION INSTRUCTIONS

CPC/ CVG (SEVCON) Installation Cont'd

7. Install the 20 Pin Connector (fig 3 & 4, A) on the Navitas Vehicle Module Harness to TSX Controller
8. Install the 16 Pin OEM Connector (fig 3 & 4, B) to the Navitas Vehicle 23 Pin Module Harness
9. Optional - connect 8 pin connector (fig 3 & 4 C) to the "On The Fly" Programmer).

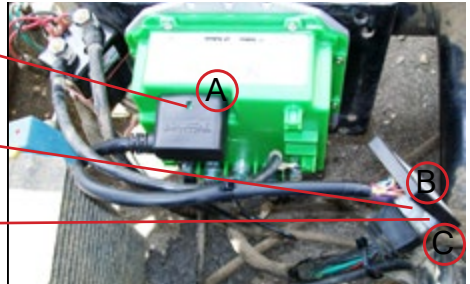


fig.3

NOTE: The harness should be oriented and secured with Zip Ties to prevent water and debris from accumulating in the connectors

Vehicle Module Harness



fig.4

- A. 20 Pin Connector
- B. 16 Pin OEM Connector
- C. 8 pin connector

The Vehicle's Main Battery Positive and Negative Cables can now be re-connected.

INSTALLATION/ SERVICE MANUAL
INSTALLATION INSTRUCTIONS

CPC/CVG (SEVCON) Installation Cont'd

Pinout for Controller

- P1: OTF LOCK
- P2: XCAN_LN
- P3: XCAN_HI
- P4: SPEED SENSOR SIGNAL
- P5: CHARGER INTERLOCK
- P6: REV_IN
- P7: PWD_IN
- P8: CHG_D
- P9: CHG_D
- P10: LOGIC POWER
- P11: -5V EXT
- P12: OTF ACCELERATION
- P13: OTF SPEED
- P14: OTF REV
- P15: THROTTLE_IN
- P16: +12V POLY
- P17: FOOT SWITCH
- P18: SNOOZE
- P19: BUZZER
- P20: LINE CONTACTOR

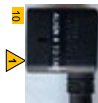


- F1** Motor F1
- B+** Battery Pos & Motor A2
- M** Motor A1
- B-** Battery Neg
- F2** Motor F2

Navitas TSX DC Shunt Controller
J7 / CP

20 POS Mated
 TSX Connector

- P1: RED
- P2: RED/BLACK
- P3: WHITE/BLACK
- P4: WHITE
- P5: GREEN
- P6: GREEN/BLACK
- P7: BLUE
- P8: BLUE/BLACK
- P9: BROWN
- P10: BROWN/BLACK
- P11: ORANGE
- P12: ORANGE/BLACK
- P13: PURPLE
- P14: PURPLE/BLACK
- P15: PINK
- P16: PINK/BLACK
- P17: YELLOW
- P18: YELLOW/BLACK
- P19: GREY
- P20: GREY/BLACK



20 POS Mated
 TSX Connector

Navitas PN: 40-000517



16 POS Molex
 39-28-1163

9 POS Mated
 39-29-3053

TSX harness for CPC Negative Logic
Navitas Part Number: 40-000592



Navitas PN: 10-000686
OnTheFly Programmer

- P1: (CH 6) +12V BF
- P2: (CH 4) OTF Regain
- P3: (CH 3) OTF speed
- P4: (CH 2) OTF acceleration
- P5: (CH 1) OTF Lock
- P6: (CH 9) REV BLZ
- P8: (CH 8) ACND

To OEM vehicle harness

- P1: (CP8/10) KVL/Logic Power
- P2: Reverse In (Negative)
- P3: Fast Switch (Negative)
- P4: Charger Interlock (Negative)
- P5: Charger Interlock (Negative)
- P6: N/C
- P8: N/C
- P8: (CP20) Line Contactor
- P9: (CP19) Reverse Buzzer
- P10: (CP15) Throttle In
- P11: N/C
- P13: N/C
- P13: N/C
- P14: N/C
- P15: N/C
- P16: (CP4) Speed Sensor



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