

Navitas Vehicle Systems Ltd.

NAVITAS TAC 1.0
600A 48-72V CONTROLLER
for
AC INDUCTION MOTORS

Installation/Service Manual



INSTALLATION INSTRUCTIONS FOR:

YAMAHA® YDRE2® NEOS®

NAVITAS

INSTALLATION INSTRUCTIONS

YAMAHA YDRE2 Installation



CAUTION

Disconnect all batteries before beginning installation. If the car has a run/tow switch, you must place the switch in the TOW position first!

PARTS (Fig.1)

- AC Navitas controller
- Mounting plate with hardware
- B+ cable for replacement from controller to solenoid
- Navitas adaptor harness for YAMAHA
- Optional OTF "On-The-Fly" Controller

1. Power down

- Turn key to "Off"
- Disconnect battery
- Put car into "Tow" mode



Fig. 1

2. Remove cables from OEM Controller

(Black – U, Red – V, White – W, B- and B+)

3. Remove OEM Controller

- #### 4. Unscrew and slide over the OEM black mounting plate to provide mounting access of New Navitas silver mounting plate. (Fig. 2)

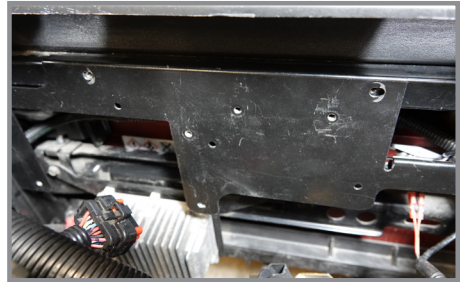


Fig. 2

- #### 5. Install New Navitas silver mounting plate utilizing 4 screws to fasten onto black OEM mounting plate. (Fig. 3)



Fig. 3

INSTALLATION INSTRUCTIONS

YAMAHA YDRE2 Installation cont'd

6. Install TAC 1.0 controller to Navitas silver mounting plate. (Fig.4)
7. Slide back to left and re-fasten OEM black mounting plate. (Fig. 5)
8. Re-install solenoid and attach new B+ cable. (Fig. 6)
9. Attach B-, B+, U, V, W cables to controller. (see Fig. 7)
10. Attach OEM harness to Navitas Adaptor Harness. (See pg. 4)
11. Attach OTF Programmer (optional) to Navitas adaptor harness. (See pg. 4)
12. Attach Navitas adaptor harness to controller. (Fig. 7b)
13. Testing Installation – lift rear wheels, reconnect battery pack, put in “Run” mode, turn key to “ON”, put in “F” for forward, press on throttle to activate wheels



Fig. 4



Fig. 5



Fig. 6



Fig. 7b

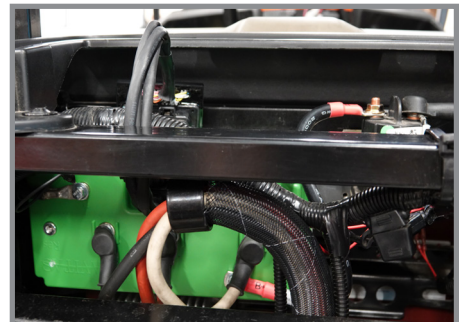


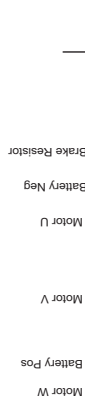
Fig. 7

INSTALLATION INSTRUCTIONS

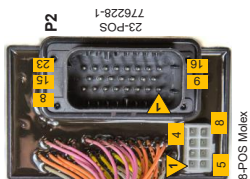
YAMAHA YDRE2 Installation cont'd

Pinout for Controller

TAC harness for Yamaha Drive2 YDRE2
Navitas Part Number: 40-000618



16-000237



To OEM vehicle harness
Yamaha Drive 2 YDRE2

- P2**
- P1: (CP22) LOGIC POWER
 - P2: (CP22) LOGIC POWER
 - P3: (CP22) LOGIC POWER
 - P4: (CP15) THROTT IN
 - P5: (CP22) LOGIC POWER
 - P6: (CP38) MAIN SOLEIN
 - P7: (CP36) REV BUZZER
 - P8: (CP22) LOGIC POWER
 - P9: (CP22) LOGIC POWER
 - P10: (CP32) SPD B IN
 - P11: (CP33) SPD B IN
 - P12: (CP17) FOOT IN
 - P13: (CP10) FOOT SW IN
 - P14: (CP7) AGND
 - P15: (CP27) MT TEMP IN
 - P16: (CP21) BAT-
 - P17: (CP8) REVERSE IN
 - P18: (CP34) FORWARD IN
 - P19: NA
 - P20: (CP2) +5V PF
 - P21: NA
 - P22: (CP20) CAH-H
 - P23: (CP40) CAN-L



Navitas PN: 10-000686
OnTheFly Programmer

P3

- P1: (CP30) +12V PF
- P2: (CP4) OTF Region
- P3: (CP30) OTF speed
- P4: (CP30) OTF acceleration
- P5: (CP2) +5V PF
- P6: (CP11) OTF Lock
- P7: (CP36) REV BUZ
- P8: (CP7) Analog Ground

40-000546 x 30 Wires



Navitas TAC AC Motor Controller
Controller Pinout (CP)

- 1 Pink wire with 1 black dot
- 2 +5V Output
- 3 Fused Ground
- 4 Throttle Input
- 5 Throttle Input
- 6 Analog Brake Input
- 7 Analog Brake Input
- 8 Reverse Switch Input
- 9 Digital Ground
- 10 Throttle Start Switch (Foot Switch)
- 11 OnTheFly Programmer Lock
- 12 Encoder Input C
- 13 Encoder Programming
- 14 Serial TX Line
- 15 Serial TX Line
- 16 Digital Ground
- 17 Key Switch Input
- 18 Charger Interlock Input
- 19 Tow Switch Input
- 20 CAN+
- 21 Digital Ground
- 22 Logic Power
- 23 Analog Ground
- 24 Analog Ground
- 25 OnTheFly Programmer Acceleration
- 26 OnTheFly Programmer Speed
- 27 Motor Temperature Input
- 28 SOC Display Output
- 29 Analog Ground
- 30 +12V Output
- 31 Brake Switch
- 32 Encoder Input B
- 33 Encoder Input A
- 34 Encoder Switch Input
- 35 Digital Ground
- 36 Reverse Bruzzer Output
- 37 Motor Brake Solenoid Release
- 38 Main Solenoid Output
- 39 Brake Light
- 40 CAN-

Diagrams and other updates available at:
NavitasVS.com/support



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