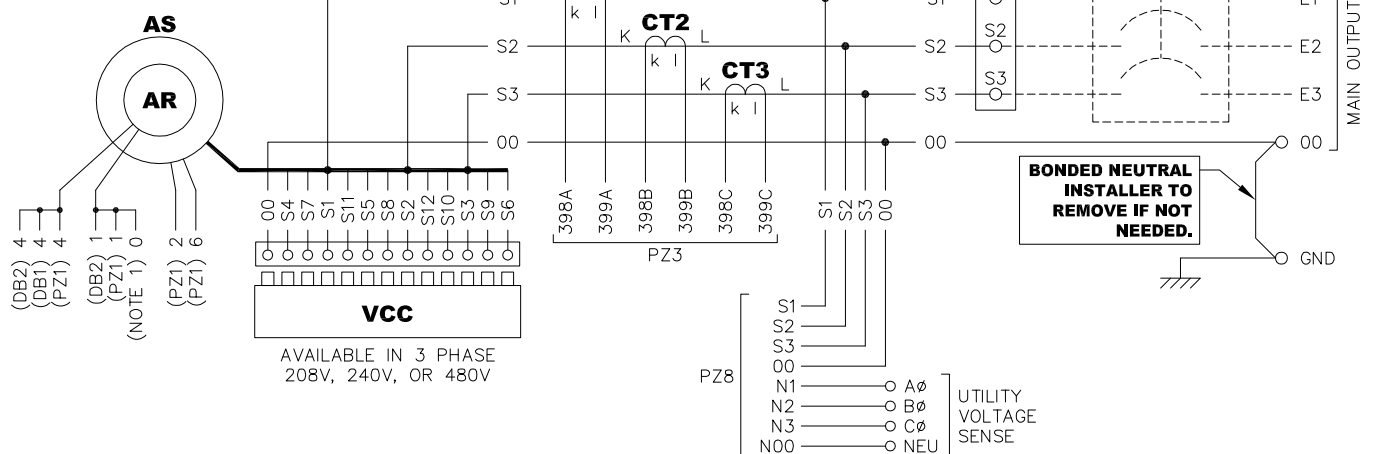


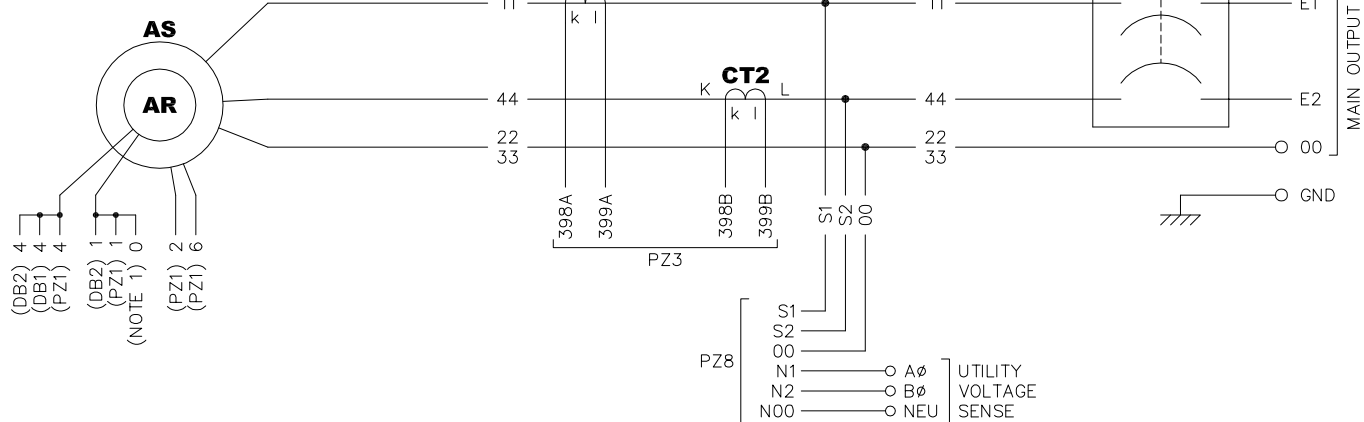
## 3 PHASE CONNECTIONS

## DIRECT EXCITATION



## SINGLE PHASE CONNECTIONS

## DIRECT EXCITATION

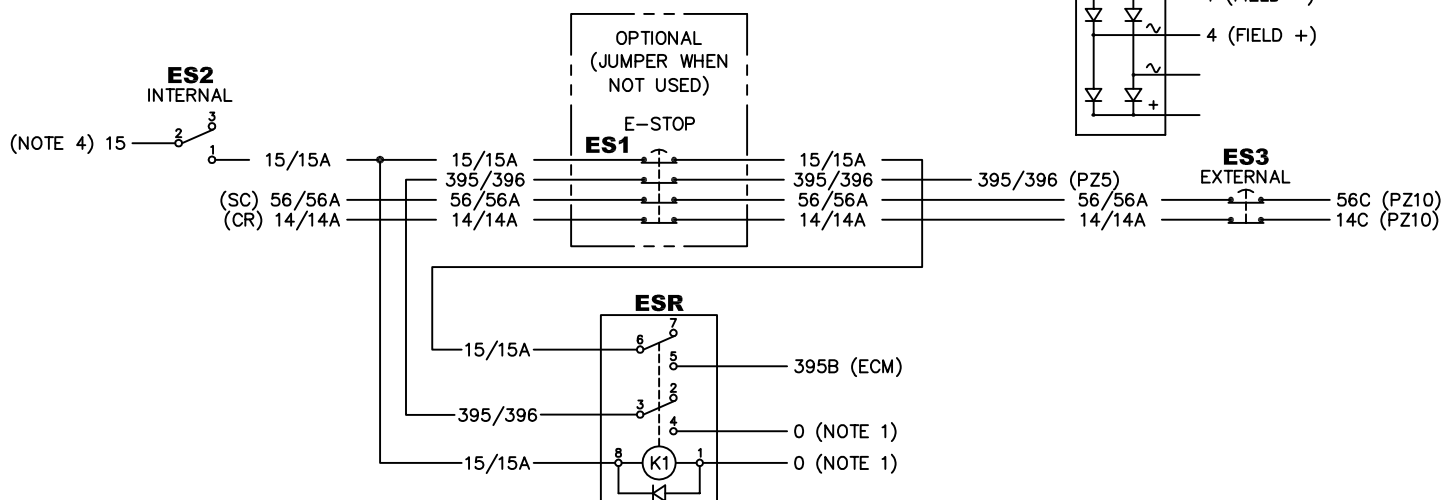
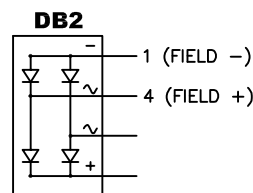
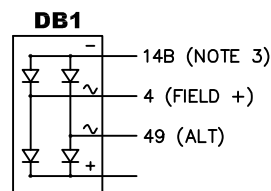
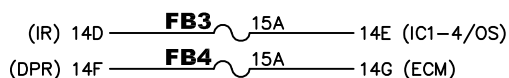
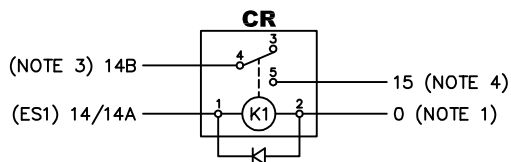
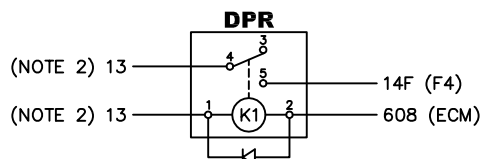
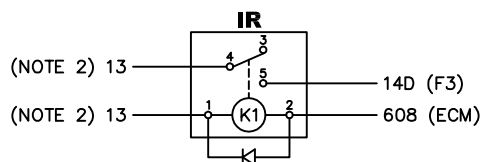
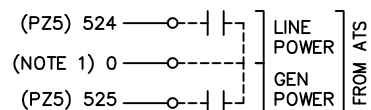
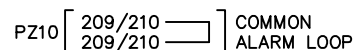
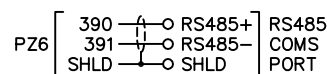
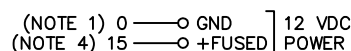
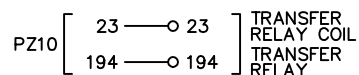
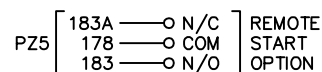
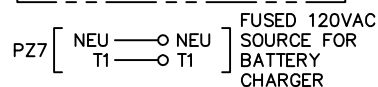
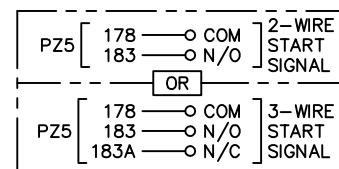


## NOTES:

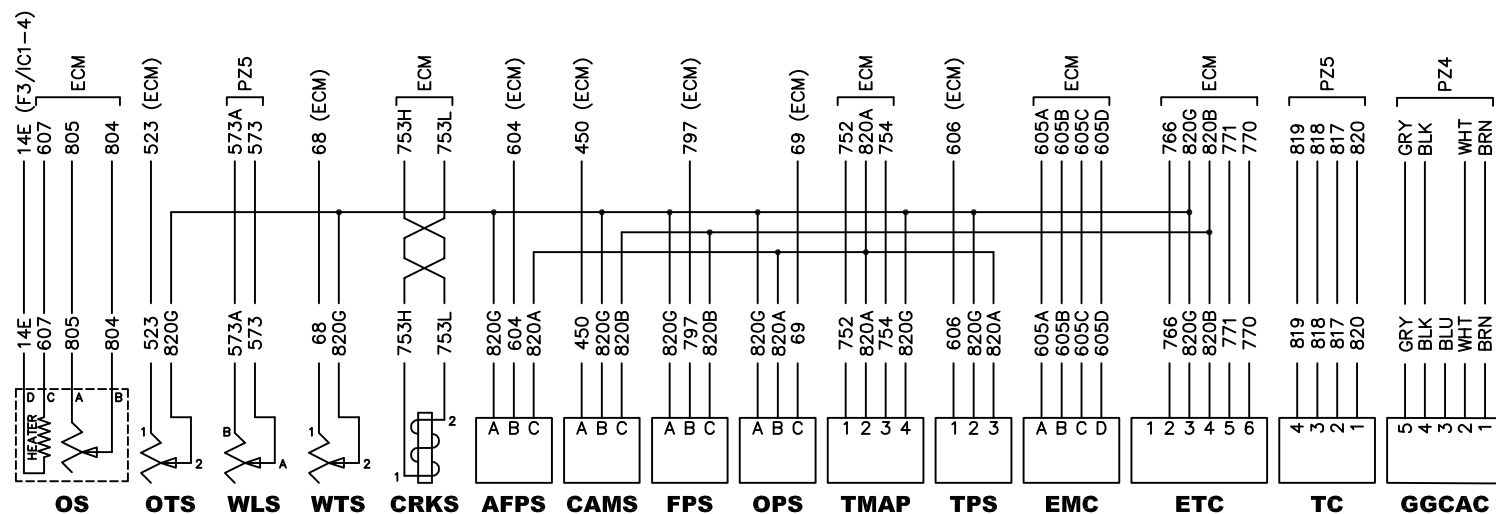
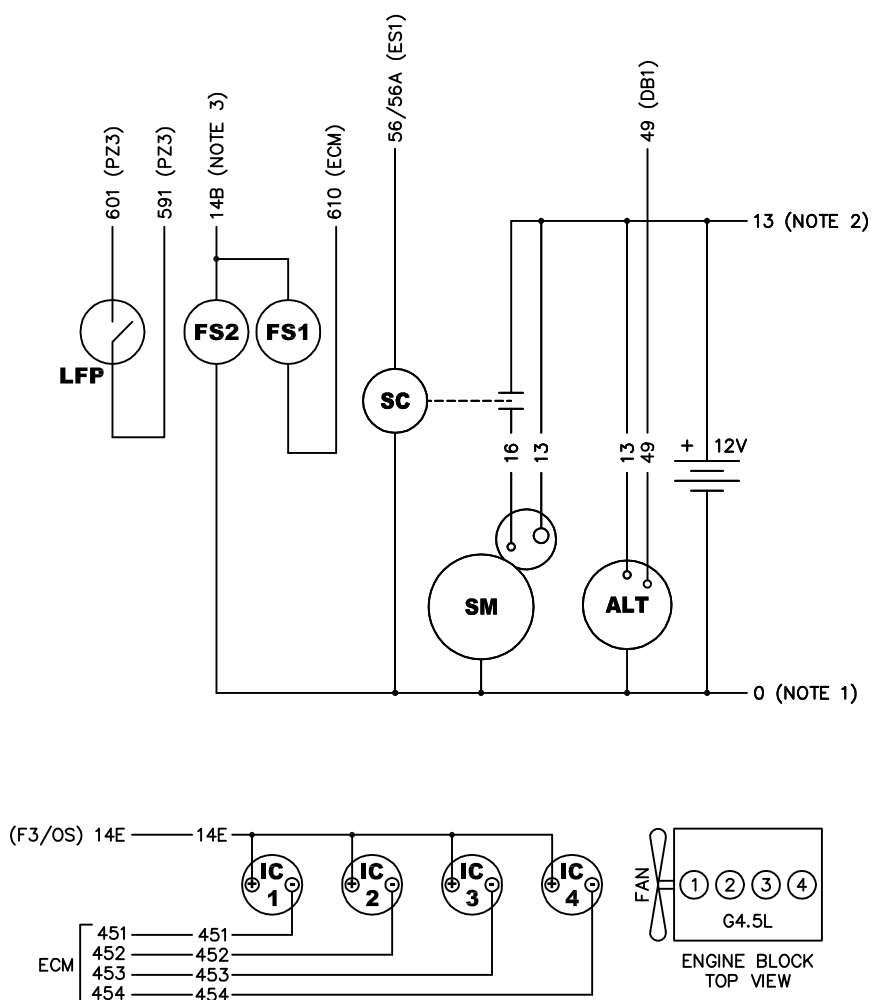
- 1) WIRE# 0 IS CHASSIS GROUND (BATTERY -) UNLESS NOTED OTHERWISE.
- 2) WIRE# 13 IS UNFUSED +12VDC (BATTERY+)
- 3) WIRE# 14 IS FUSED +12VDC WHEN GENERATOR IS CRANKING OR RUNNING.
- 4) WIRE# 15A IS FUSED +12VDC FOR GENERAL USE.
- 5) WIRE# 15D IS FUSED +12VDC TO THE CONTROL MODULE FOR FUEL, STARTER, PREHEAT, AND EGC RELAYS.

## LEGEND

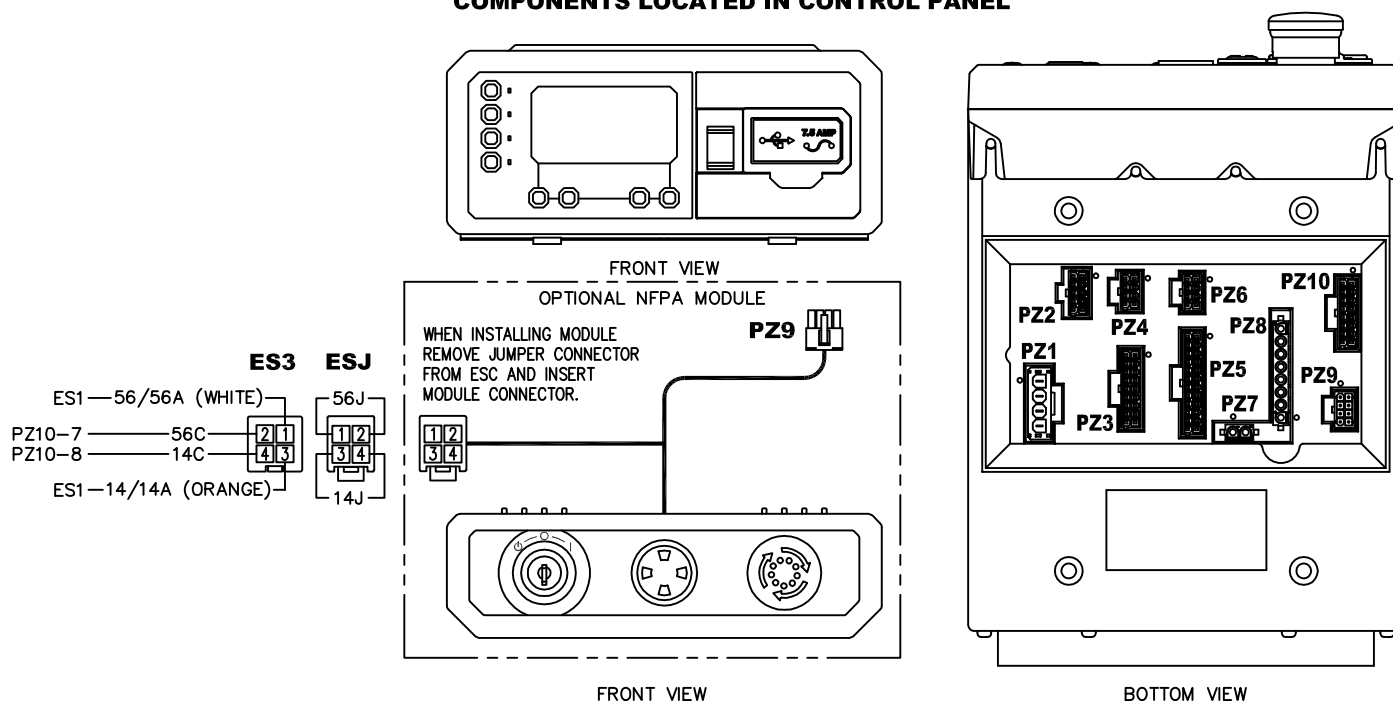
|                                      |                                                            |                                       |
|--------------------------------------|------------------------------------------------------------|---------------------------------------|
| AFPS - AIR FILTER PRESSURE SENSOR    | ETC - ELECTRONIC THROTTLE CONTROL VALVE                    | OS - OXYGEN SENSOR                    |
| ALT - DC CHARGE ALTERNATOR           | EM_ - (I/O) EXTENDER MODULE                                | OTS - OIL TEMPERATURE SENDER          |
| AR - ALTERNATOR ROTOR                | ES_ - REMOTE EMERGENCY STOP                                | PZ_ - POWER ZONE 410 CONNECTOR        |
| AS - ALTERNATOR STATOR               | ESC - EMERGENCY STOP CONNECTOR                             | SC - STARTER CONTACTOR                |
| ATS - AUTOMATIC TRANSFER SWITCH      | ESJ - EMERGENCY STOP JUMPER                                | SM - STARTER MOTOR                    |
| CAMS - CAMSHAFT POSITION SENSOR      | FB_ - FUSE BLOCK                                           | TMAP - MANIFOLD TEMP AND PRESSURE     |
| CR - CONTROL RELAY                   | FPS - FUEL PRESSURE SENSOR                                 | TPS - MIXER POSITION SENSOR           |
| CRKS - CRANKCASE POSITION SENSOR     | FS_ - FUEL SOLENOID                                        | TC - TRICLOPS LED PANEL               |
| CT_ - CURRENT TRANSFORMER            | GCCAC - GENERAC GENERATOR CONNECTIVITY ACCESSORY, CELLULAR | VCC - VOLTAGE CONFIGURATION CARTRIDGE |
| DB_ - DIODE BRIDGE                   | IC_ - IGNITION COIL                                        | WLS - COOLANT LEVEL SENDER            |
| DPR - DRIVER POWER RELAY             | IR - IGNITION RELAY                                        | WTS - COOLANT TEMPERATURE SENDER      |
| ECM - ENGINE CONTROL MODULE          | LFP - LOW FUEL PRESSURE SWITCH/SENSOR                      |                                       |
| EMC - ELECTRONIC MIXER CONTROL VALVE | MLCB - MAIN LINE CIRCUIT BREAKER                           |                                       |
| ESR - EMERGENCY STOP RELAY           | OPS - OIL PRESSURE SENDER                                  |                                       |



## COMPONENTS LOCATED ON ENGINE



## COMPONENTS LOCATED IN CONTROL PANEL

**PZ1**

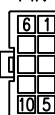
PIN



| PIN | WIRE | FROM  | FUNC                   |
|-----|------|-------|------------------------|
| 1   | 2    | PME   | PME 1 CURRENT LIMITING |
| 2   | 1    | FIELD | FIELD (-)              |
| 3   | 6    | PME   | PME 2                  |
| 4   | 4    | FIELD | FIELD (+)              |

**PZ2**

PIN



RESERVED FOR GOVERNOR MODULE

| FUNC                    | FROM | WIRE | PIN |
|-------------------------|------|------|-----|
| COOLANT TEMP (+)        | -    | -    | 10  |
| COOLANT TEMP (RET)      | -    | -    | 11  |
| OIL PRESSURE (+5V)      | -    | -    | 12  |
| OIL PRESSURE (ANALOG)   | -    | -    | 13  |
| OIL PRESSURE (RET)      | -    | -    | 14  |
| LOW FUEL PRESSURE       | LFP  | 601  | 15  |
| LOW FUEL PRESSURE       | LFP  | 601  | 16  |
| LOW FUEL PRESSURE (RET) | LFP  | 591  | 17  |
| SHUTDOWN INHIBIT        | -    | -    | 18  |

**PZ3**

PIN



| PIN | WIRE | FROM      | FUNC          |
|-----|------|-----------|---------------|
| 1   | 743  | ECM       | CAN HI        |
| 2   | 744  | ECM       | CAN LO        |
| 3   | SHLD | ECM (CUT) | CAN SHIELD    |
| 4   | 398A | CT1       | CURRENT A (+) |
| 5   | 399A | CT1       | CURRENT A (-) |
| 6   | 398B | CT2       | CURRENT B (+) |
| 7   | 399B | CT2       | CURRENT B (-) |
| 8   | 398C | CT3       | CURRENT C (+) |
| 9   | 399C | CT3       | CURRENT C (-) |

| FUNC      | FROM  | WIRE | PIN |
|-----------|-------|------|-----|
| RS485-N2  | -     | -    | 5   |
| RS485-P2  | -     | -    | 6   |
| RS232-RX4 | GGCAC | BRN  | 7   |
| RS232-TX4 | GGCAC | WHT  | 8   |

**PZ4**

PIN



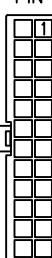
| PIN | WIRE | FROM  | FUNC                 |
|-----|------|-------|----------------------|
| 1   | -    | -     | GND (FILTERED COMMS) |
| 2   | BLK  | GGCAC | GND                  |
| 3   | GRY  | GGCAC | +12V BATT            |
| 4   | -    | -     | GND (FILTERED COMMS) |

BUILDING MANAGEMENT COMMS

| FUNC                      | FROM | WIRE    | PIN |
|---------------------------|------|---------|-----|
| FUEL LVL 10% ALARM        | -    | -       | 13  |
| FUEL LVL 90% ALARM        | -    | -       | 14  |
| OIL TEMP (A/I)            | -    | -       | 15  |
| OIL LEVEL (A/I)           | -    | -       | 16  |
| EXT CHARGER CURRENT (A/I) | -    | -       | 17  |
| SYSTEM 24V                | -    | -       | 18  |
| ROCKER IN                 | ES1  | 395/396 | 19  |
| ROCKER LOOP               | -    | -       | 20  |
| ROCKER LOOP               | -    | -       | 21  |
| EXTERNAL CHARGER FAIL     | -    | -       | 22  |
| COOLANT LVL (+)           | WLS  | 573     | 23  |
| COOLANT LVL (-)           | WLS  | 573A    | 24  |

**PZ5**

PIN



| PIN | WIRE | FROM     | FUNC                       |
|-----|------|----------|----------------------------|
| 1   | -    | -        | RUPTURED TANK              |
| 2   | 178  | CUST CON | 2-WIRE (RET)               |
| 3   | 183  | CUST CON | 2-WIRE START (1)           |
| 4   | 183A | CUST CON | 2-WIRE START (2)           |
| 5   | 524  | CUST CON | XFER POSITION 1 (GEN PWR)  |
| 6   | 525  | CUST CON | XFER POSITION 2 (LINE PWR) |
| 7   | -    | -        | DOOR ALARM                 |
| 8   | -    | -        | EXTERNAL CHARGER PRESENT   |
| 9   | 819  | TC       | TRICLOPS YELLOW LED        |
| 10  | 817  | TC       | TRICLOPS GREEN LED         |
| 11  | 818  | TC       | TRICLOPS RED LED           |
| 12  | 820  | TC       | TRICLOPS +5V               |

# **POWER ZONE 410 CONTROL PANEL** (CONTINUED)

## **PZ6**

| FUNC      | FROM     | WIRE | PIN | PIN | PIN | WIRE | FROM     | FUNC                 |
|-----------|----------|------|-----|-----|-----|------|----------|----------------------|
| RS485-N1  | CUST CON | 391  | 5   | 5   | 1   | -    | -        | GND (FILTERED COMMS) |
| RS485-P1  | CUST CON | 390  | 6   | 1   | 2   | -    | -        | GND                  |
| RS232-RX1 | -        | -    | 7   | 2   | 3   | -    | -        | +12V BATT            |
| RS232-TX1 | -        | -    | 8   | 8   | 4   | SHLD | CUST CON | GND (FILTERED COMMS) |

GENERAL COMMS

## **PZ7**

| PIN | PIN | WIRE | FROM     | FUNC    |
|-----|-----|------|----------|---------|
| 1   | 1   | T1   | CUST CON | HOT     |
| 2   | 2   | NEU  | CUST CON | NEUTRAL |

## **PZ8**

| PIN | PIN | WIRE    | FROM     | FUNC |
|-----|-----|---------|----------|------|
| 8   | N3  | MLCB CØ | GEN-CØ   |      |
| 7   | N2  | MLCB BØ | GEN-BØ   |      |
| 6   | N1  | MLCB-AØ | GEN-AØ   |      |
| 5   | N00 | NEU     | GEN-NEU  |      |
| 4   | 00  | NB      | UTIL-NEU |      |
| 3   | S3  | MLCB-CØ | UTIL-CØ  |      |
| 2   | S2  | MLCB-BØ | UTIL-BØ  |      |
| 1   | S1  | MLCB AØ | UTIL-AØ  |      |

## **PZ9**

PIN

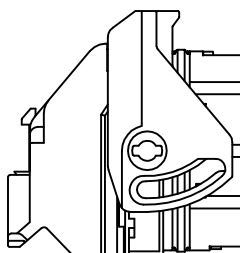
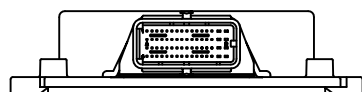
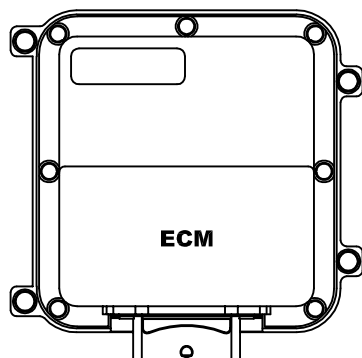
|   |   |
|---|---|
| 5 | 1 |
| 8 | 4 |

RESERVED FOR  
OPTIONAL MODULE

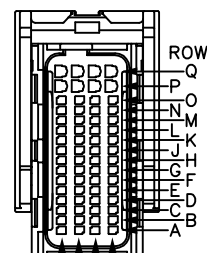
## **PZ10**

| FUNC                | FROM     | WIRE | PIN | PIN | PIN | WIRE | FROM   | FUNC               |
|---------------------|----------|------|-----|-----|-----|------|--------|--------------------|
| PREHEAT (FUSED)     | -        | -    | 9   | 9   | 1   | 13   | NOTE 2 | +12V BATT          |
| ANALOG OUT (SIGNAL) | -        | -    | 10  | 2   | 2   | 13   | NOTE 2 | +12V BATT          |
| ANALOG OUT (RET)    | -        | -    | 11  | 3   | 3   | 15D  | NOTE 5 | +V BATT FUSED @10A |
| ECU ON              | ECM      | 172  | 12  | 4   | 4   | 0    | NOTE 1 | GND                |
| FAN OUTPUT          | -        | -    | 13  | 5   | 5   | 209  | CAR    | ALARM RELAY (NO)   |
| XFER (12V)          | CUST CON | 194  | 14  | 6   | 6   | 210  | CAR    | ALARM RELAY (COM)  |
| XFER DRIVE/AMF(1)   | CUST CON | 23   | 15  | 7   | 7   | 56C  | ES3    | START RELAY        |
| AMF(2)              | -        | -    | 16  | 8   | 8   | 14C  | ES3    | FUEL RELAY         |

# **COMPONENTS LOCATED ON ENGINE ELECTRONIC CONTROL MODULE**



SIDE VIEW OF  
CONNECTOR W/COVER



TOP VIEW  
OF CONNECTOR  
W/O COVER

## ECM

| PIN | WIRE | TO                                        | FUNCTION                              |
|-----|------|-------------------------------------------|---------------------------------------|
| 1A  | 605C | EMC-C                                     | ELECTRONIC MIXER CONTROL VALVE B (+)  |
| 1B  | 753L | CRKS-2                                    | CRANKSHAFT POSITION SENSOR (-)        |
| 1C  | 753H | CRKS-1                                    | CRANKSHAFT POSITION SENSOR (+)        |
| 1G  | 607  | OS-C                                      | OXYGEN HEATER                         |
| 1H  | 608  | IR/DPR                                    | ECM POWER RELAY COIL                  |
| 1J  | 610  | FS1-B                                     | FUEL SHUT OFF VALVE                   |
| 1L  | 820A | AFPS/TMAP/TPS/OPS                         | SENDER POWER 1                        |
| 1M  | 820B | CAMS/ETC/FPS                              | SENDER POWER 2                        |
| 1N  | 797  | FPS-B                                     | FUEL PRESSURE SENSOR                  |
| 1O  | 606  | TPS-1                                     | MIXER POSITION SENSOR                 |
| 1P  | 771  | ETC-5                                     | ELECTRONIC THROTTLE CONTROL VALVE (-) |
| 1Q  | 770  | ETC-6                                     | ELECTRONIC THROTTLE CONTROL VALVE (+) |
| 2A  | 605D | EMC-D                                     | ELECTRONIC MIXER CONTROL VALVE B (-)  |
| 2B  | 744  | PZ3-2                                     | CAN COMMS TO POWER ZONE (LOW)         |
| 2C  | 743  | PZ3-1                                     | CAN COMMS TO POWER ZONE (HIGH)        |
| 2D  | 754  | TMAP-3                                    | INTAKE AIR TEMPERATURE                |
| 2E  | 820G | AFPS/CAMS/ETC/FPS<br>OPS/OTS/TMAP/TPS/WTS | SENDER GROUND                         |
| 2L  | 450  | CAMS-A                                    | CAMSHAFT POSITION SENSOR              |
| 2M  | 752  | TMAP-1                                    | MANIFOLD AIR PRESSURE                 |
| 2N  | 766  | ETC-2                                     | ELEC. THROTTLE CONTROL VALVE POSITION |
| 2O  | 172  | PZ10-12                                   | RUN SIGNAL                            |
| 2P  | 14G  | F4                                        | DRIVER POWER                          |
| 2Q  | 14G  | F4                                        | DRIVER POWER                          |

## ECM

| PIN | WIRE | TO     | FUNCTION                             |
|-----|------|--------|--------------------------------------|
| 3A  | 605A | EMC-A  | ELECTRONIC MIXER CONTROL VALVE A (+) |
| 3E  | 805  | OS-A   | OXYGEN SENSOR (-)                    |
| 3G  | 523  | OTS-1  | OIL TEMPERATURE SENSOR               |
| 3J  | 395B | ESR-5  | EMERGENCY STOP                       |
| 3O  | 15   | F1     | NOTE 4                               |
| 3P  | 0    | GND    | NOTE 1                               |
| 3Q  | 0    | GND    | NOTE 1                               |
| 4A  | 605B | EMC-B  | ELECTRONIC MIXER CONTROL VALVE A (-) |
| 4B  | 604  | AFPS-B | AIR FILTER PRESSURE SENSOR           |
| 4D  | 804  | OS-B   | OXYGEN SENSOR                        |
| 4E  | 69   | OPS-C  | OIL PRESSURE SENSOR                  |
| 4F  | 68   | WTS-1  | COOLANT TEMPERATURE SENSOR           |
| 4L  | 452  | IC2    | IGNITION COIL 2                      |
| 4M  | 453  | IC3    | IGNITION COIL 3                      |
| 4N  | 454  | IC4    | IGNITION COIL 4                      |
| 4O  | 451  | IC1    | IGNITION COIL 1                      |
| 4P  | 0    | GND    | NOTE 1                               |
| 4Q  | 0    | GND    | NOTE 1                               |