

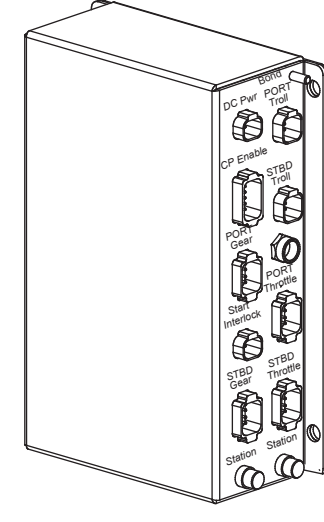


Complete Controls™ - Installation Instructions for EEC-3 and EEC-4 Electronic Engine Controls

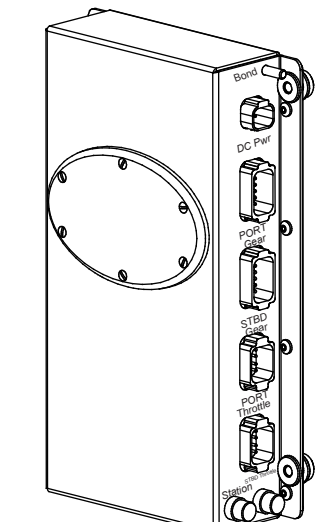
BASIC SYSTEM COMPONENTS

CONTROL PROCESSOR: YOU WILL NEED (1) CONTROL PROCESSOR FOR EACH SYSTEM:

EEC-3 Control Processor (PN-11230-xx)



EEC-4 Control Processor (PN-11235-xx)



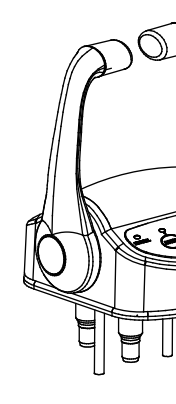
"xx" in part number of Control Processor denotes engine manufacturer or configurations as described below:

C = CAT
D = Detroit Deisel
J = John Deere
M = MAN
N = Cummins
V = Volvo

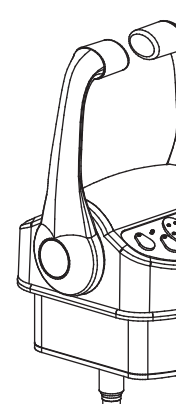
SGL = Single engine
T = Troll (if equipped)
TV = Voltage Troll

CONTROL HEAD(S): YOU CAN HAVE UP TO A MAXIMUM OF (6) CONTROL STATIONS:

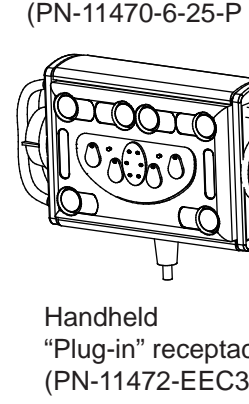
2-Button Top Mount Control Head (PN-11415)



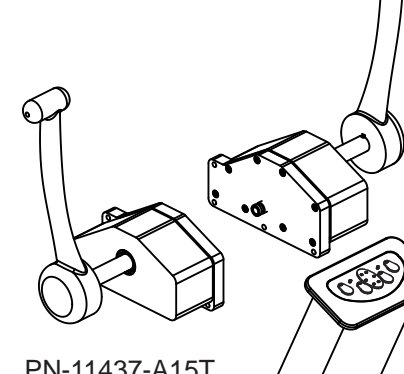
4-Button Top Mount Control Head (PN-11413)



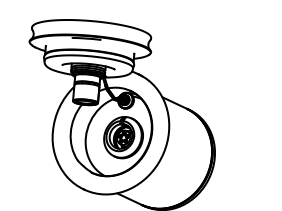
6-Button Handheld Remote Control Head (PN-11470-6-35 hardwired) (PN-11470-6-25-P pluggable)



Sidemount Control Head Assembly (PN-11437-A15T) does not include the control handles (PN-50144)



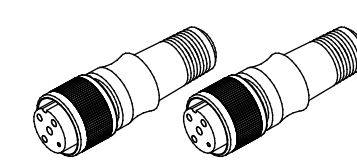
Handheld "Plug-in" receptacle (PN-11472-EEC3)



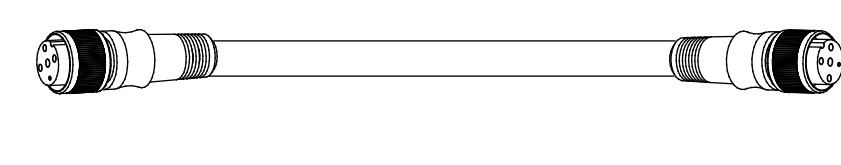
PN-11437-A15T consists of:
• mounting hardware
• PORT & STBD sidemount assemblies
• keypad assembly (PN-19412 or PN-19413)

CABLES & HARNESSES:

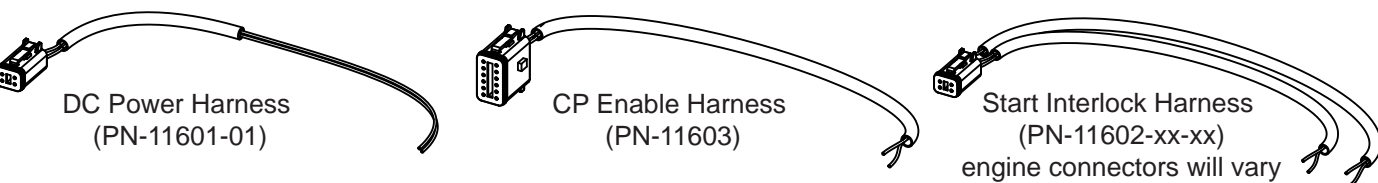
Terminating Resistors (2 for each system) (PN-11600-TRF)



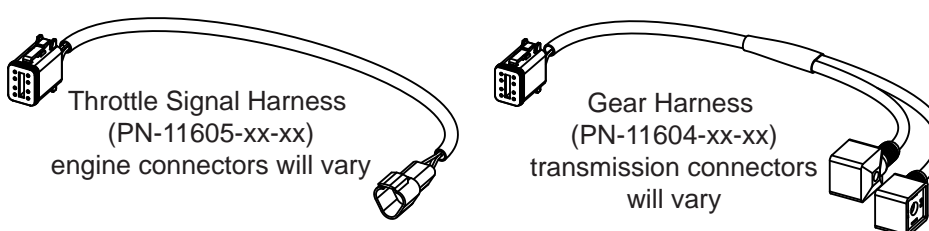
Station Communication Cable (1 for each control head) (PN-11600-02-xx) - available in 10 - 120 foot lengths



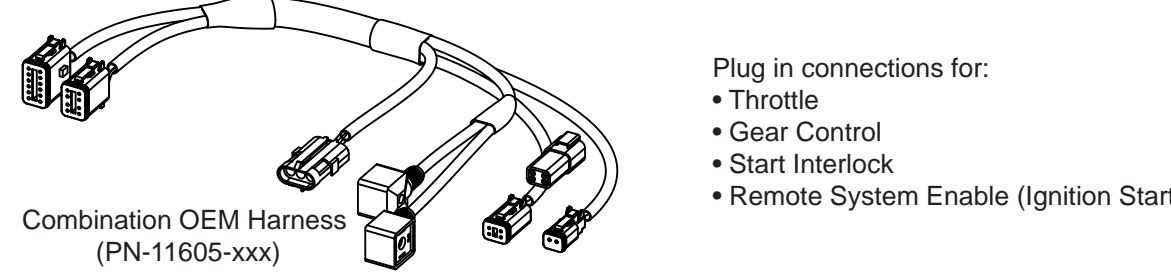
YOU SHOULD HAVE ONE (1) OF EACH OF THESE HARNESSES FOR EACH SYSTEM:



YOU SHOULD HAVE ONE (1) OF EACH OF THESE HARNESSES FOR EACH ENGINE:



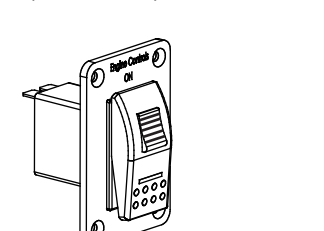
OR YOU MAY HAVE ONE (1) COMBINATION (ALL-IN-ONE) HARNESS FOR EACH ENGINE: (only available for certain specific engines)



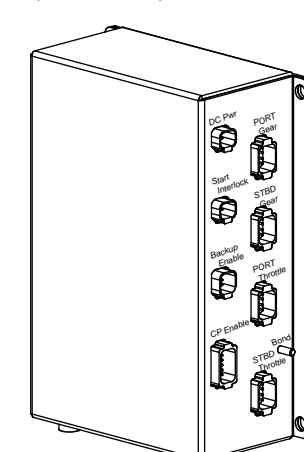
Plug in connections for:
• Throttle
• Gear Control
• Start Interlock
• Remote System Enable (Ignition Start)

OPTIONAL ACCESSORIES

Remote Enable Switch (PN-11490)

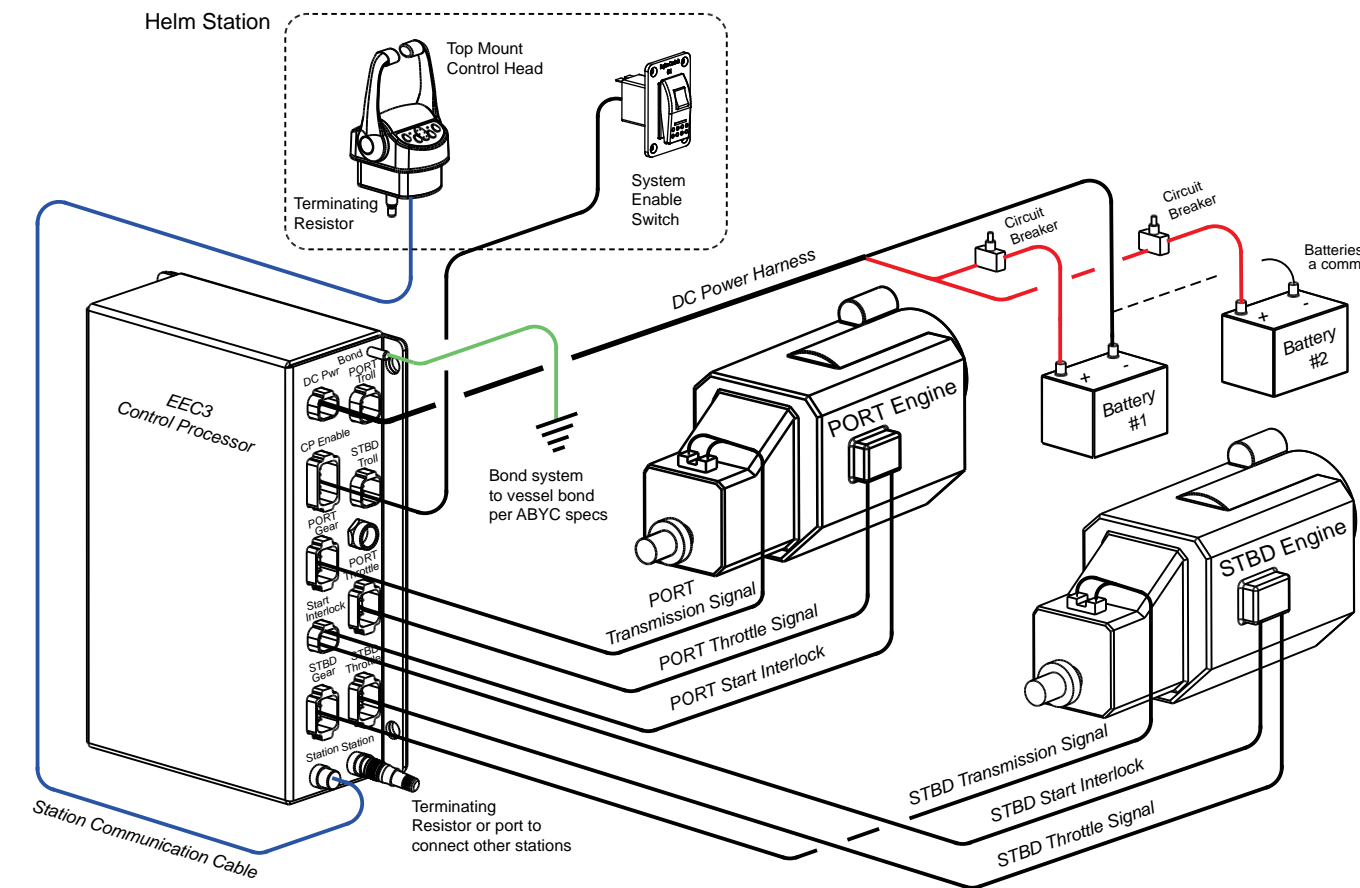


Gear / Throttle Backup (PN-11251)



See back of chart for more information on the Gear / Throttle Backup (GTB) system and additional components needed for proper installation

PRE-INSTALLATION PLANNING



MANUAL - SECTION 3.0

Before installing the system, proper consideration should be given to the following:

1. Control Processor Location

BE SURE TO:
• mount in dry and accessible location.
• allow a minimum of 6.0" of space for the connection of harnesses to the processor.

2. Dual Battery Input

BE SURE TO:
• provide 2 independent and uninterrupted sources of DC power.

3. Cable Routing

BE SURE TO:
• check that surfaces that come in contact with the cable are free of sharp edges or burrs which could nick the cable.
• determine the routing method for the station communication cables (see step 3).
• identify engine harness hookup connections (see step 4).

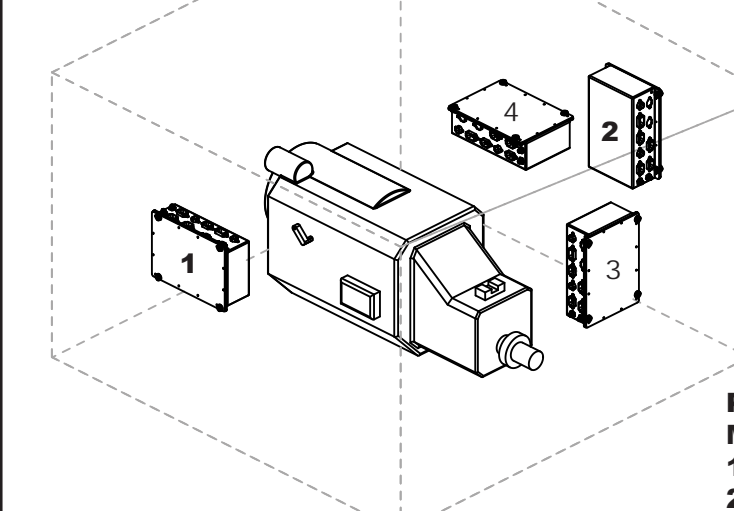
1 Install the Control Processor

BE SURE TO:

- mount in engine room in an accessible area free of water spray (propeller shaft) or high temperatures (engine exhaust).
- allow 6.0" space on connector side of control processor for the connection of harnesses to the control processor.
- Limit cable lengths between the control processor and the engine to a maximum of 30.0 feet.

BE SURE NOT TO:

- mount processor directly on the engine.



Possible Control Processor Mounting Locations:

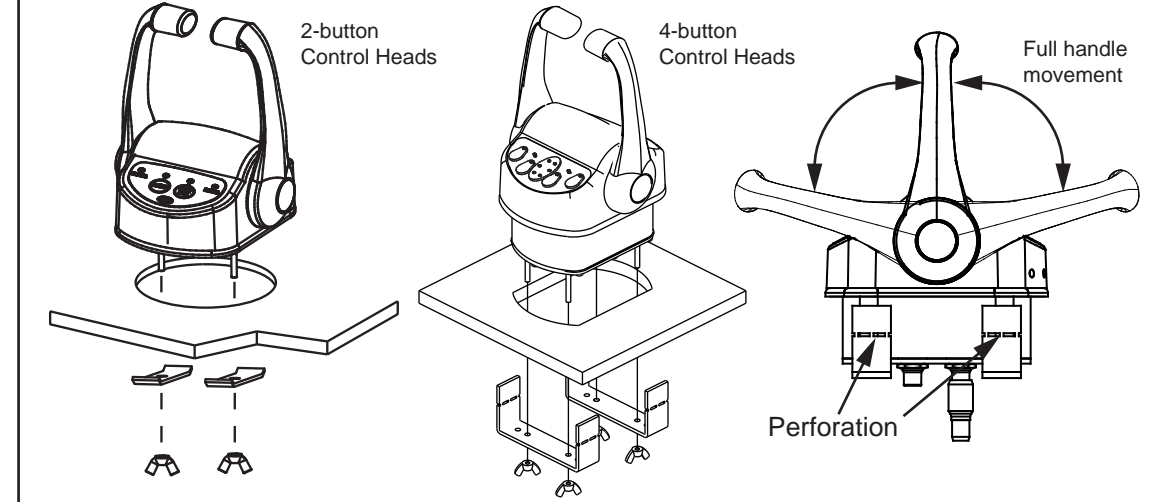
1. PORT Side Wall
2. STBD Side Wall
3. Back Wall
4. Ceiling

MANUAL - SECTION 3.1

2 Install the Control Head(s)

BE SURE TO:

- mount in a location free of standing water.
- in a location that allows full movement of handles (full astern / full ahead)
- use templates provided with control head for cutout.



1. Mark location with template.
2. Cut hole in console.
3. Place control head in cutout.
4. Mount control head to surface by using the mounting clamps and wing nuts provided.

NOTE: 4-button control heads - the control head clamps have a break off point indicated by a perforation. For consoles 0.25" to 1.00" thickness, use clamps as supplied. For consoles 0.75" to 1.625" thick, break off clamp at perforation.

MANUAL - SECTION 3.2

3 Route Communication Cables

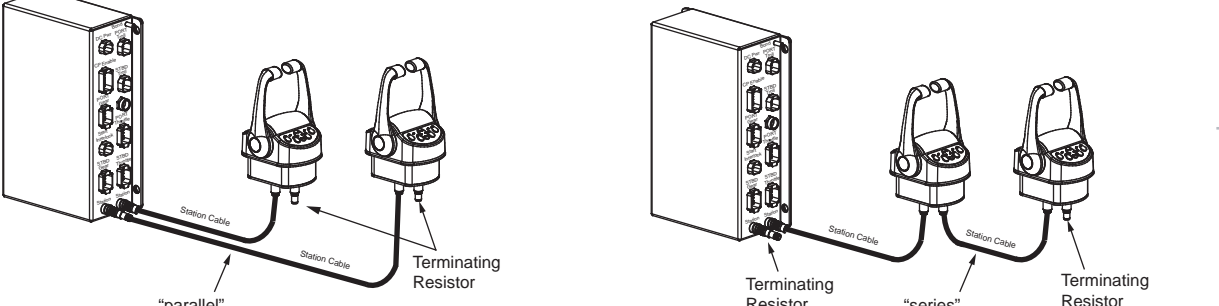
BE SURE TO:

- install a terminating resistor at both ends of the CANbus network.
- align notch in connector before insertion into receptacle (see note below).

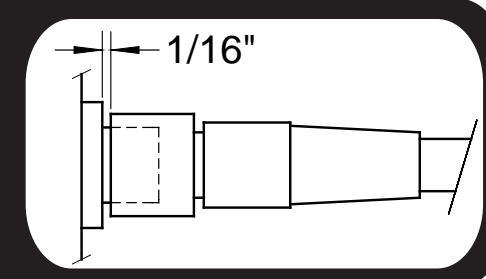
BE SURE NOT TO:

- splice or shorten cables in the field - cutting or nicking the cable WILL compromise the reliability of the system.

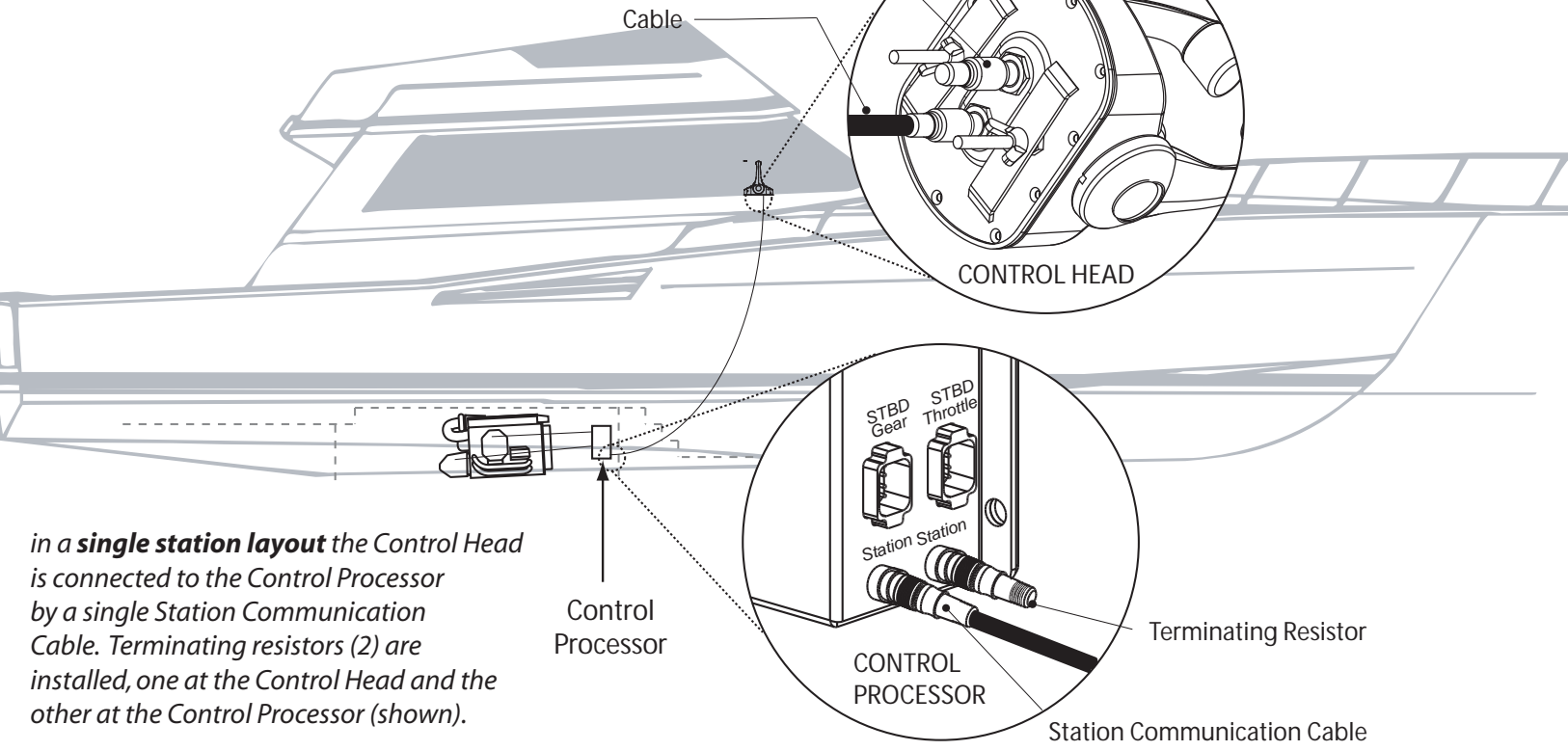
There are two methods for connecting Control Heads to the Control Processor:
1) PARALLEL - Both stations connect directly to Control Processor, or
2) SERIES - Stations can be connected together in "series" and connected to the Control Processor utilizing one station communication cable. You can have a total of 6 control stations connected in this manner.



IMPORTANT
Align notch in connector with receptacle BEFORE insertion. Failure to align notch will bend the pins in the receptacle and will result in erratic system performance. Cable nut requires 6-7 turns while pushing in on connector for proper seating. There should be NO MORE THAN 1/16" [2mm] gap between the nut and the connector.



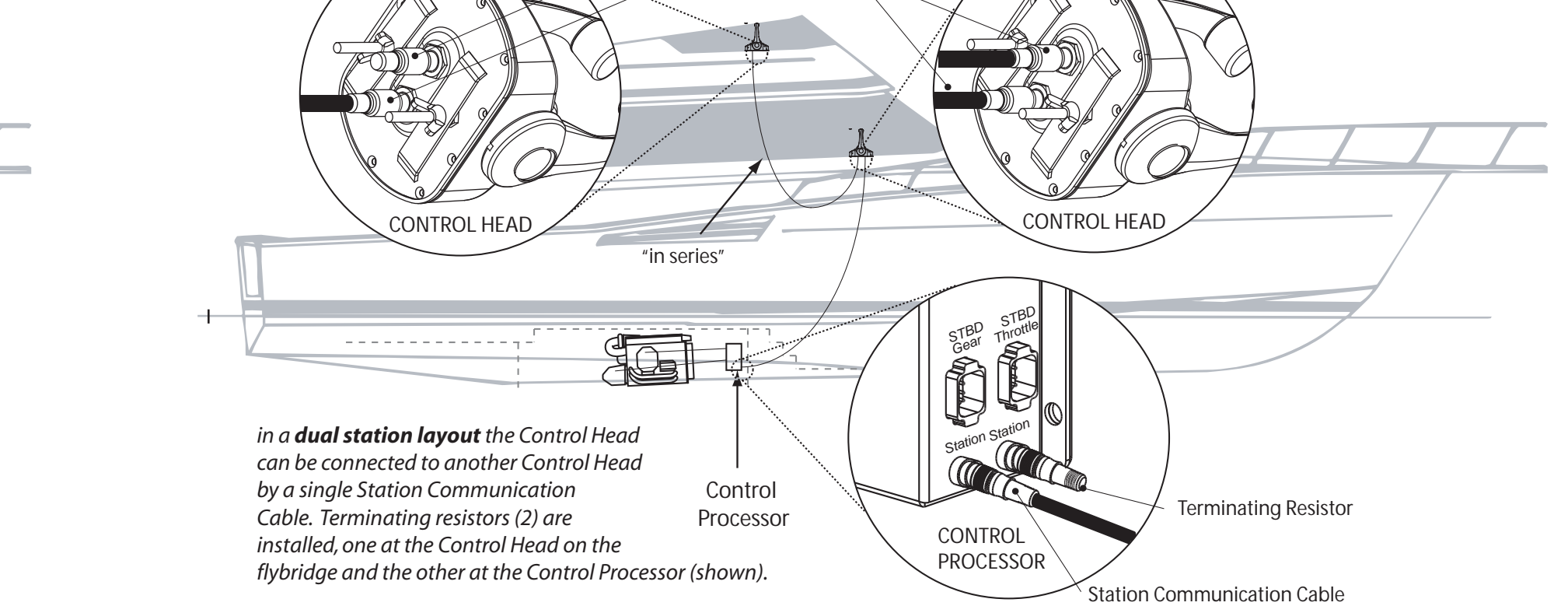
SINGLE STATION LAYOUT



in a single station layout the Control Head is connected to the Control Processor by a single Station Communication Cable. Terminating resistors (2) are installed, one at the Control Head and the other at the Control Processor (shown).

MANUAL - SECTIONS 3.0, 3.3

DUAL STATION LAYOUT



in a dual station layout the Control Head can be connected to another Control Head by a single Station Communication Cable. Terminating resistors (2) are installed, one at the Control Head on the flybridge and the other at the Control Processor (shown).

You may also connect both Control Heads directly to the Control Processor using (2) Station Communication Cables. In this arrangement the (2) terminating resistors would be installed, one at each Control Head.

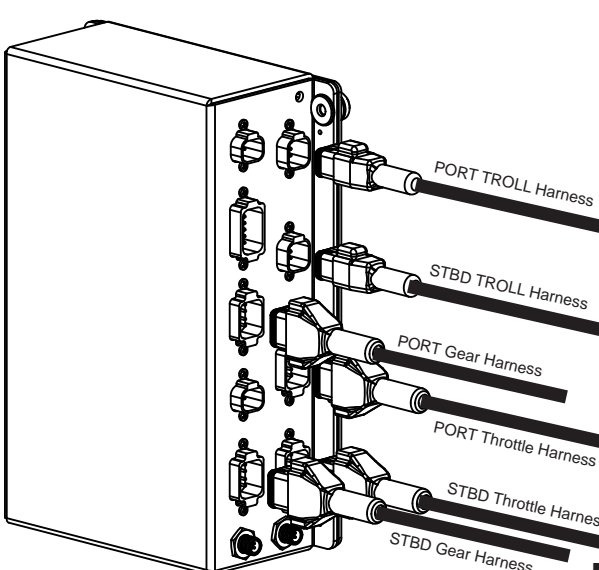
4 Connect Engine, Transmission & Troll Harnesses

BE SURE TO:

- locate the appropriately labeled receptacles on the Control Processor for both the PORT and STBD engine THROTTLE, GEAR & TROLL (if applicable). This signifies that the locking tab has engaged the connector.
- follow the steps below for connecting the harnesses.
- check voltage of transmission solenoids - voltage MUST be THE SAME AS BATTERY SUPPLY VOLTAGE to the system or damage WILL occur.

BE SURE NOT TO:

- splice, shorten or cut the harnesses for any reason - cutting harnesses will VOID the warranty of the system.



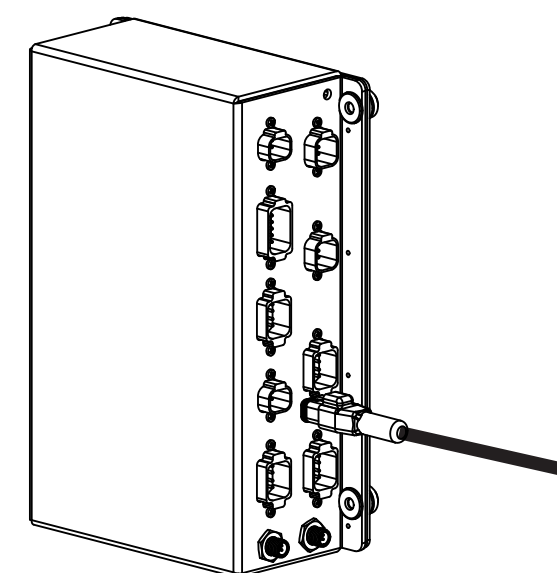
1. Consult engine / transmission / troll manufacturers documentation for engine / transmission / troll connections.
2. Verify that you have the right harness for your engine / transmission or troll type - if not STOP, call GMP.
3. Make Control Processor side and engine side connections.

MANUAL - SECTIONS 3.4, 3.5

5 Connect Start Interlock Harness

BE SURE TO:

- locate the appropriately labeled receptacle on the Control Processor for Start Interlock.
- insert the cable connector fully into the receptacle until you hear a "click". This signifies that the locking tab has engaged the connector.
- follow the steps below for connecting the Start Interlock harness.



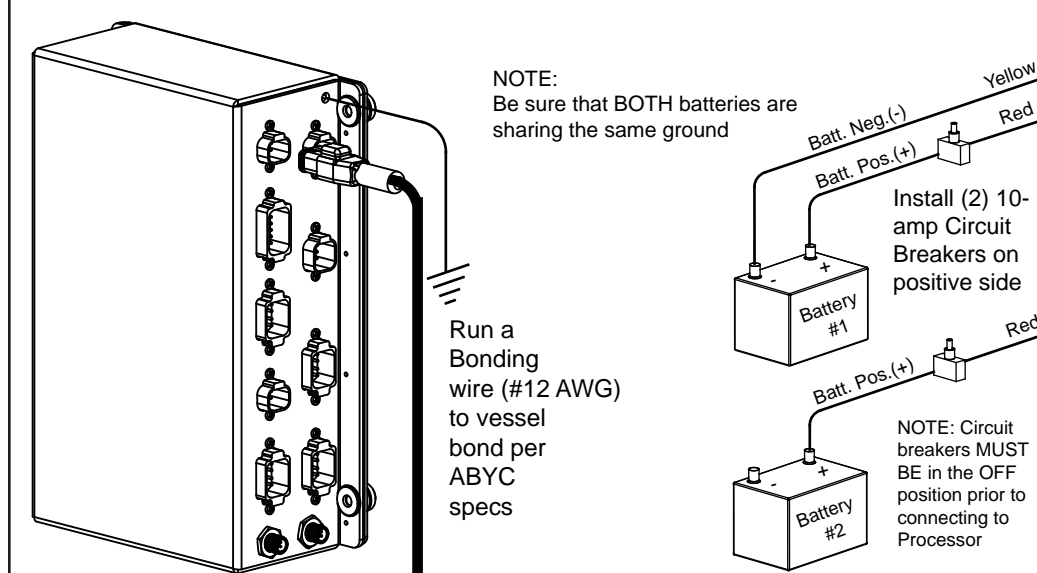
1. Verify that you have the right harness - if not STOP, check the CD for more technical information or call your dealer.
2. Insert 4-pin deutsch Start Interlock harness connector into receptacle labeled Start Interlock on Control Processor.
3. Route harness to the engine distribution box and connect using appropriate connectors (see wiring diagram for your engine type).

MANUAL - SECTION 3.7

6 Connect DC Power Harness & Bonding Wire

BE SURE TO:

- follow ABYC standards for all electrical connections. If unfamiliar with ABYC standards, consult a marine electrician.
- know whether your system uses 12v or 24v DC. The EEC can use both - refer to specific wiring diagram for your engine type in Section 7.1 of manual.
- use 2 independent batteries for power for the EEC system. Power voltage drops cause reliability issues, using 2 sources will help eliminate power problems.



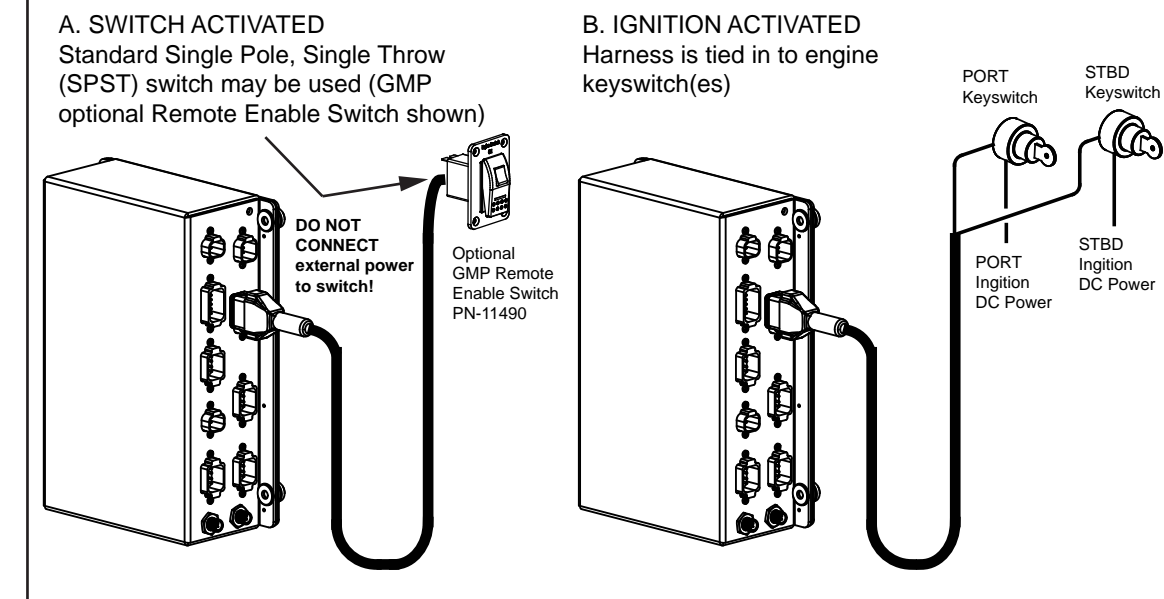
MANUAL - SECTION 3.6

7 Connect Remote Enable Switch

BE SURE TO:

- follow ABYC standards for all electrical connections. If unfamiliar with ABYC standards, consult a marine electrician.
- turn OFF circuit breakers that control power to the Control Processor BEFORE installing Remote Enable Switch and Harness.
- if using a Single Pole, Single Throw (SPST) switch - locate the switch in an area where it will not be inadvertently turned OFF during operation.

1. There are three methods for connecting Remote Enable:
A. Switch Activated - which uses a Single Pole, Single Throw (SPST) switch
B. Ignition Activated - which supplies DC power from the ignition switch(es)
C. Combination OEM Harness - tied into engine connector (not shown)



NOTE: PN 11603 - Enable Harness is different for "switch activation" and "ignition activation." Be sure to use the correct enable harness for the specific type of start up arrangement.

MANUAL - SECTION 3.8

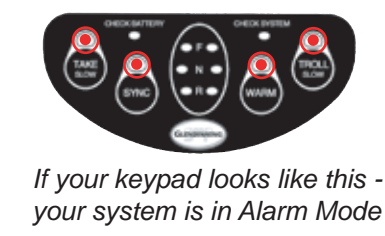
It is strongly recommended that the installer have a thorough understanding of the complete Manual prior to installation. To view the complete Manual, consult the CD supplied with the system or visit our website.



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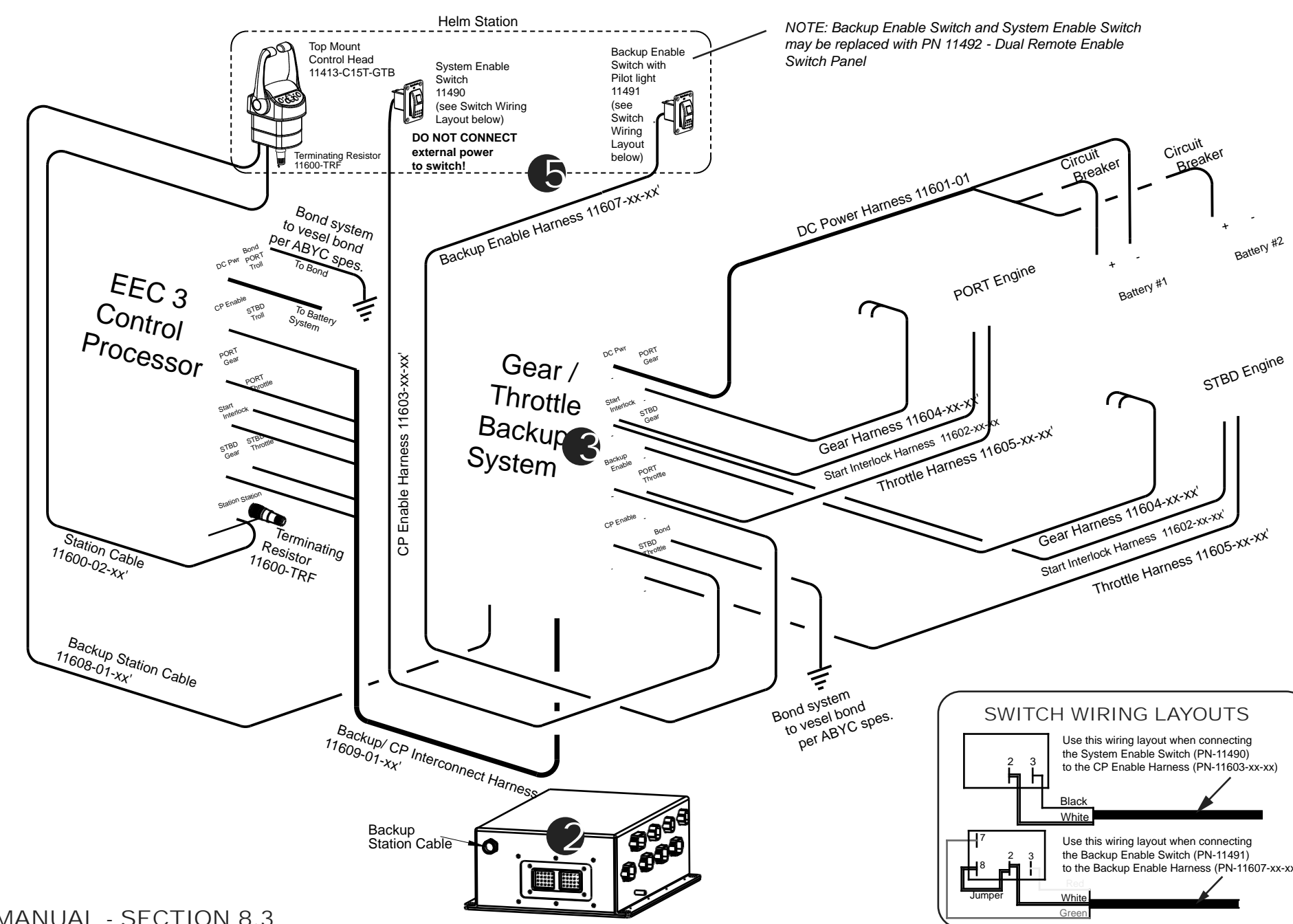
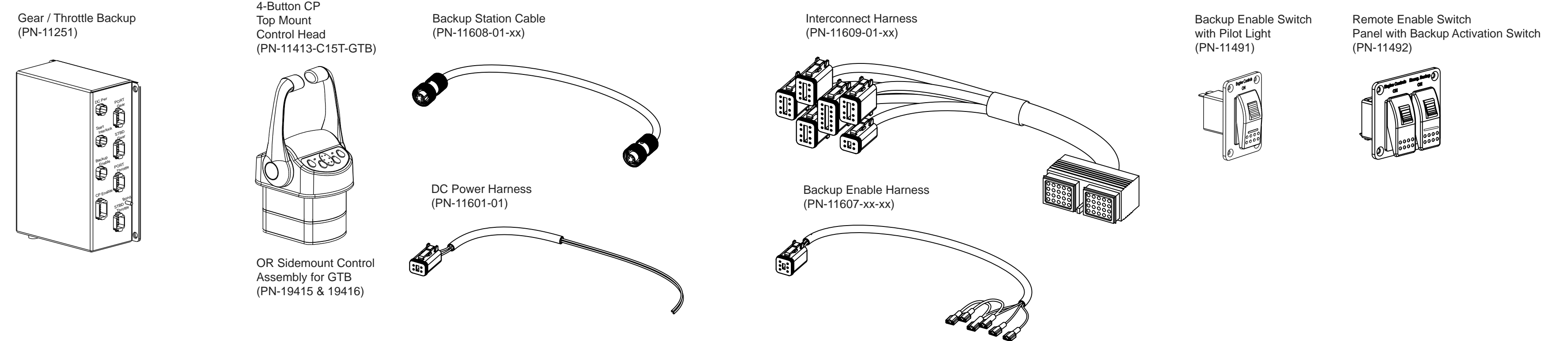
ALARM MODE:



If your keypad looks like this - your system is in Alarm Mode

Alarm Mode is indicated by all 4 lights on the keypad flashing simultaneously. During operation of the EEC, the system will continuously monitor system functions and will alert the operator if a system problem has been detected. When Alarm Mode is activated, the control system will STOP functioning. In the case of most alarm conditions, the control system will return to engine IDLE and NEUTRAL gear on the transmission.

The first series of alternating Slow and Fast blinking LEDs shows the alarm count - that is how many times the system went into Alarm Mode.



PRE-INSTALLATION PLANNING

Before installing the system, follow the Pre-installation Planning instructions on the reverse side of the chart.

GEAR / THROTTLE BACKUP OPTION INSTALLATION INSTRUCTIONS

MOUNT THE GTB PROCESSOR

- Follow the instructions on the opposite side of this chart (Step 1) for installation of the EEC-3 Control Processor.
- Install a minimum of 5-feet and a maximum of 10-feet from the EEC-3 Control Processor.
- (NOTE: The Interconnect Harness, which connects the GTB Processor to the EEC-3 Control Processor, comes in 5-foot **standard** or 10-foot **optional** lengths).

INSTALL THE GTB INTERCONNECT HARNESS

- Plug the 40-pin connector into the appropriate receptacle on the bottom of the GTB Processor.
- The socket head screw must be tightened in order to seat the connector into the receptacle properly.
- Install the six various connectors from the Interconnect Harness to the appropriately labeled receptacles on the EEC-3 Control Processor.

INSTALL DC POWER, START INTERLOCK, & BONDING WIRE TO GTB PROCESSOR

- Follow the instructions on the opposite side of the chart for connecting Start Interlock, DC Power, and Bonding wire to the GTB Processor (for connection instructions follow steps 5 & 6 on other side of chart).
- Remove the CP enable that is attached to the EEC-3 Control Processor and install it into the receptacle labeled "CP Enable" on the GTB Processor.

INSTALL GEAR & THROTTLE HARNESSSES

- Connect the appropriate Gear and Throttle harnesses connectors to the receptacles labeled on the GTB Processor.
- Connect the opposite ends of the harnesses to the engine(s) - consult your engine manufacturer for connection instructions.

INSTALL BACKUP ENABLE HARNESS, ENABLE SWITCH AND PILOT LIGHT

- Connect the switch and pilot light to the Backup Enable Harness.
- Install a "normally open" single pole/single throw (SPST) switch and pilot light (provided by installer) on the console near the Backup Control Head. If using Glendinning Remote Switches, consult wiring diagram supplied with switch for proper wiring connections.
- Install the connector for the Backup Enable Harness to the GTB Processor receptacle labeled "Backup Enable".

INSTALL BACKUP CONTROL HEAD

- It is recommended that the GTB Control Head be located at the control station that is normally used for maneuvering.
- Follow instructions for installing control head and routing communication cables on the opposite side of this chart (Step 3).
- Connect the station communication cable to the control head and the other end to the EEC-3 Control Processor. Follow the alignment instructions on the opposite side for the proper insertion of the station communication plug into the receptacle.
- Connect the Backup Station Cable to the bottom of the control head and the other end to the bottom of the GTB Processor.