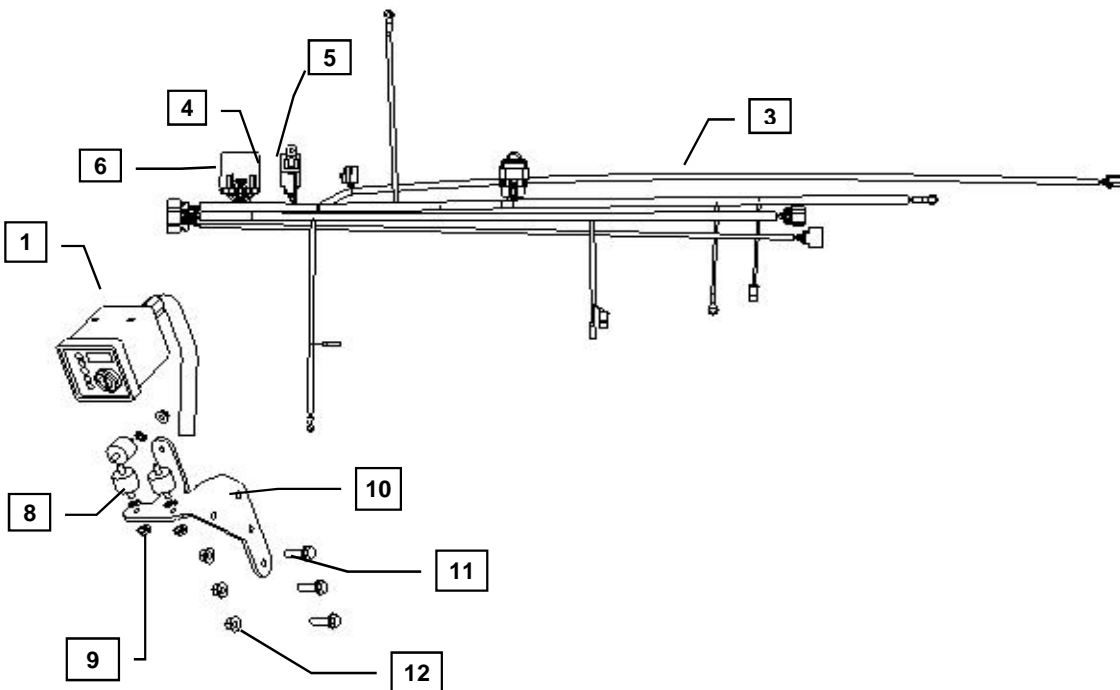




**YANMAR CO., LTD.**  
**YANMAR AMERICA CORP.**

| Item | Part No.     | Description                             | Quantity | Remarks |
|------|--------------|---|----------|---------|
| 1    | 119749-91110 | Control Panel (IDI)                     | 1        |         |
| 2    | 129689-91190 | Ignition Key, Engine Control Panel      | 2        |         |
| 3    | 129689-91090 | Wiring Harness (DI)                     | 1        | (A)     |
| 4    | 119749-91420 | Control Module Timer                    | 1        |         |
| 5    | 119749-91460 | Relay 70A 12V Sealed                    | 1        |         |
| 6    | 119749-91440 | Control Module Housing                  | 1        |         |
| 7    | 1908-00      | Switch Retainer                         | 2        |         |
| 8    | 129689-92100 | Isolator Mount M6 x 1.0                 | 3        |         |
| 9    | 26366-060002 | Nut, M6 x 1.0 (Flanged hex head)        | 3        |         |
| 10   | 119749-91130 | Panel Mounting Bracket                  | 1        |         |
| 11   | 26106-080252 | Bolt, M8 x 1.25 - 25 (Flanged hex head) | 3        |         |
| 12   | 26366-080002 | Nut, M8 x 1.25 (Flanged hex head)       | 4        |         |
| 13   | INS-KP5-0011 | Installation Document                   | 1        |         |



**MODELS**  
 3TNV82A-BDSAX  
 3TNV88-B  
 4TNV88-B

Remarks: (A) When utilizing Yanmar harness PN: 129689-91090 (included) to a control panel that requires 10 feet or more of wiring from the power source you must modify the Yanmar 60" harness extension PN: 119749-91500 to desired length and install LOFA starter relay kit PN: LPN010-0002-06 (sold separately\*). When using an unmodified 60" harness extension, the starter relay kit is not required.



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**Installation Instructions**

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Hand tighten all bolts and nuts until assembly is completed, then torque according to specifications in Table 1. The numbers in () represent the item numbers.

1. Fasten Control Panel (1) to the Mounting Bracket (11) using Isolators (8), and Lock Nuts (10).

NOTE: Make sure isolators are not twisted during installation to avoid premature failure of components.

2. Assemble Control Panel (1) and Mounting Bracket (10) assembly to injection pump side rear engine leg using MX1.25 - 25 Bolts (11) and M8X1.25 Flange Nuts (12).
3. Connect harness terminals to appropriate locations. See engine wiring harness diagram and schematics provided with panel kit.

NOTE: If Denso starter is being used you must replace the starter solenoid spade connector with the Denso ring terminal included in the loose parts bag.

4. Use the Retainer Clips (7) to attach the Wire Harness (3) to two 8 mm open thread bores on the rear fuel injection side of the cylinder head.
5. After connecting all terminals to appropriate locations, check the following:
  - a) Make sure the wires do not contact the exhaust manifold or muffler and are away from all heat sources.
  - b) Make sure the wires do not contact any sharp or abrasive surfaces.
  - c) Use wire ties to secure the wire harness to the engine.
  - d) Cover all harness terminals not used after assembly is completed
  - e) Make sure that the Ves-pak and relays are mounted vertically so that water will not be trapped inside of the housing.

WARNING: Be sure battery cables are connected correctly. Disconnecting either the positive or negative battery cable while the equipment is operating will cause premature failure of electronic components.

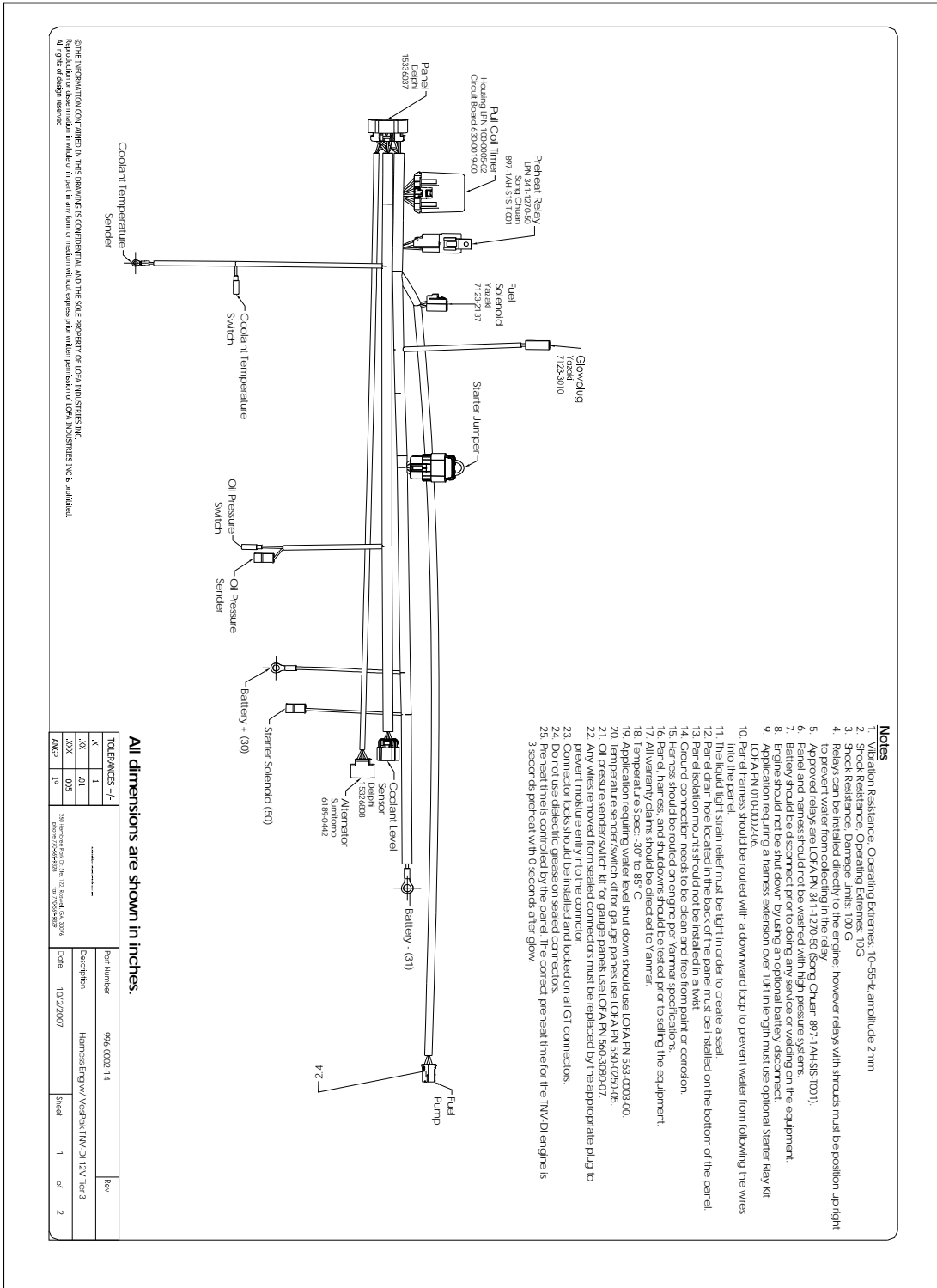
NOTE: When utilizing Yanmar harness PN: 129689-91090 (included) to a control panel that requires 10 feet or more of wiring from the power source you must modify Yanmar harness extension PN: 119749-91500 to desired length and install LOFA starter relay kit PN: LPN010-0002-06 (sold separately). When using an unmodified 60" harness extension, the starter relay kit is not required. LOFA contact number 1-770-569-9828.

NOTE: In the event that the 60" wire harness extension need to be extended please follow the manufacturer's assembly and wiring procedures. Please visit [www.deutschip.com](http://www.deutschip.com) and click on the Connector Repair or Helpful Hints link to download a more detailed procedure on how to properly assemble a connector. As always never use scotch locks or butt connectors to extend the wire harness. All extended wires must be soldered and sealed.

Refer to harness drawing for additional design requirements for consideration of application. A troubleshooting guide is available through Yanmar's Distributor Website or by contacting Yanmar America's Service Department.

**Table 1: Proper torque specifications for bolts and nuts.**

| Diameter x Pitch | Kgf-m      | Foot-lbf    | N-m         |
|------------------|------------|-------------|-------------|
| M6 x 1.0         | 1.0~1.2    | 7~9         | 9.8~11.8    |
| M8 x 1.25        | 1.5 ~ 2.9  | 10.6 ~ 20.9 | 14.4 ~ 28.3 |
| M12 x 1.75       | 8.0 ~ 10.0 | 57.8 ~ 72.3 | 78.4 ~ 98.0 |



- Notes**
1. Vibration Resistance, Operating Extremes: 10-55Hz, amplitude 2mm
  2. Shock Resistance, Operating Extremes: 100 G
  3. Shock Resistance, Damage Limits: 100 G
  4. Relays can be installed directly to the engine; however relays with shrouds must be position up right to prevent water from collecting in the relay.
  5. Approved relays are: LOFA PN 341-1270-50 (Song Chuan 897-1AH-SIS-1001)
  6. Panel and harness should not be washed with high pressure systems.
  7. Battery should be disconnected prior to doing any service or working on the equipment.
  8. Do not use electrical tape to repair any wires.
  9. Application requiring a harness extension over 10ft in length must use optional Starter Relay Kit LOFA PN 010-0002-06
  10. Panel harness should be routed with a downward loop to prevent water from following the wires into the panel.
  11. The liquid tight strain relief must be tight in order to create a seal.
  12. Panel drain holes located in the back of the panel must be installed on the bottom of the panel.
  13. Panel harness should be protected from damage by sharp edges.
  14. Ground connection needs to be clean and free from paint or corrosion.
  15. Harness should be routed on engine per Yanmar specifications.
  16. Panel, harness, and shutdowns should be tested prior to selling the equipment.
  17. All warranty claims should be directed to Yanmar.
  18. Temperature Spec: -30° to 85° C
  19. Temperature sensor should be replaced that down should use LOFA PN 543-0002-00
  20. Temperature sending/switch kit for gauge panels use LOFA PN 540-0020-05
  21. Oil pressure sender/switch kit for gauge panels use LOFA PN 560-3080-07
  22. Any wires removed from sealed connectors must be replaced by the appropriate plug to prevent moisture entry into the connector.
  23. Connector locks should be installed and locked on all GT connectors.
  24. Do not use dielectric grease on sealed connectors.
  25. Do not use electrical tape to repair any wires.
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All dimensions are shown in inches.

| TOLERANCES +/- |                 | Part Number |  | Rev |  |
|----------------|-----------------|-------------|--|-----|--|
| X              | .1              | 976-0002-14 |  |     |  |
| .XX            | .01             |             |  |     |  |
| .XXX           | .005            |             |  |     |  |
| APD            | 1 <sup>st</sup> |             |  |     |  |

| Description                           | Date      | By | Checked | 1 of 2 |
|---------------------------------------|-----------|----|---------|--------|
| Harness Eng w/ Vespak INVDI 12V Rev 3 | 10/2/2007 |    |         |        |

