Truck Series I Kit

Installation Guide

P/N 3945 Rev. A 10/99

Truck Series I Kit
Installation Guide

Table of Contents

IMPORTANT SAFETY INSTRUCTIONS

This manual contains important safety instructions that should be followed during the installation and maintenance of this product.

To reduce the risk of electrical shock, and to ensure the safe installation and operation of this product, the following safety symbols have been placed throughout this manual to indicate dangerous conditions and important safety instructions.

WARNING - A dangerous voltage or condition exists in this area. Use extreme caution when performing these tasks.

CAUTION - This procedure is critical to the safe installation or operation of the unit. Follow these instructions closely.

NOTE - This statement is important. Follow instructions closely.

- All electrical work must be done in accordance with local, national, and/or international electrical codes.
- Before installing or using this device, read all instructions and cautionary markings located in (or on) the manual, the batteries, and the inverter.
- Do not expose this unit to rain, snow or liquids of any type. This product is designed only for indoor mounting.
- To reduce the chance of short-circuits when installing or working with the inverter or the batteries, use insulated tools.
- Remove all jewelry such as rings, bracelets, necklaces, etc., while installing this system. This will greatly reduce the chance of accidental exposure to live circuits.
- The inverter contains more than one live circuit (AC and batteries). Power may be present at more than one source.
- This product contains no user-serviceable parts. Do not attempt to repair this unit.

SAVE THESE INSTRUCTIONS

1.0 INSTALLATION

Pre-installation

1. Plan wire runs and locations of ac outlets, etc.

2. Pre-locate the inverter inside the cab – note its location to the cross-beams in the floor and proximity to the exhaust system. The pass-through block should be placed opposite the exhaust system.

Figure A
Typical Inverter Location

Installation

1. Remove the battery compartment cover.

2. Disconnect the positive battery terminal.

NOTE: If the configuration is a dual system, disconnect both positive terminals.
Verify the system is completely de-energized.

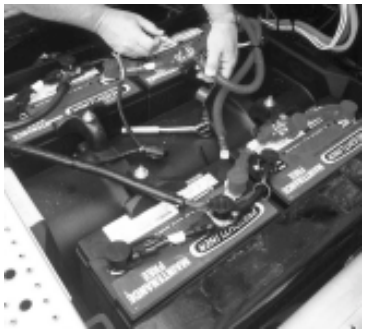


Figure B
Disconnect Batteries

1.0 INSTALLATION

Figure C
Pass-Trough Template

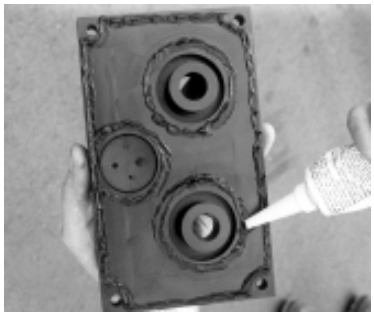


Figure D
Lower Pass-Through Block

Figure E
Pass-Through Block - Lower Assembly

1.0 INSTALLATION

Inverter and Pass-through Block

1. Place the inverter (terminal block facing forward) in the storage compartment under the lower bed. It should be located over the cross-beams in the floor and centered in the compartment. The pass-through block should be approximately 6" away from the inverter (opposite the exhaust system underneath).

NOTE: Do not place the pass-through block directly over a cross member. Lift the floor mat (if installed) and locate the floor rivets to determine the location of the cross member.

2. Position the inverter so that it is square to the compartment.

NOTE: It is important to leave enough space behind the inverter to access the battery connections and ground lug.

3. Drill ¼" holes to accommodate each of the inverter's four mounting holes. Fasten the inverter to the floor (on top of the mat if installed) using (4) ¼" x 1" bolts with lock washer , washers, lock washers, nuts.

4. Place the template for the pass-through on the floor (on top of the mat). Make sure it is square to the compartment. Drill ¼" pilot holes in the template.

5. Tape the template in place and drill out the outer pilot holes to 5/16".

6. Use a 2" hole saw (or punch) and drill out the inner three holes.

7. Remove the template and de-bur the inner three holes.

8. Place a bead of silicone over the lower half of the pass through block. Coverage should be along the outer edge and around all holes (see photo).

9. Attach the upper portion of the pass-through block from inside the vehicle. It should be placed over the mat (if installed). Insert the lower half of the pass-through block from the bottom of the vehicle. Secure it to the upper half using (4) ¼" x 1-3/4" bolts from the bottom. Tighten the bolts until the lockwashers are firmly seated.

NOTE: Do not over torque the bolts.

1.0 INSTALLATION

Service Entrances

1. Locate the template on the side of the vehicle.

NOTE: Make sure the template is square to the vehicle and that there are no fuel lines, tanks, electrical or steel framing behind the area of the cut.

2. Drill (3) ¼" pilot holes in the template. Use a 1-7/8" hole saw (or punch) and drill out the three holes.

3. Insert the three service inputs into the chassis: AC, Telephone, Cable TV (left to right).

NOTE: Install the cabling in each of the service inputs before attaching them to the chassis.

4. Drill out (2) 1/8" mounting holes for each service input. Secure the three service inputs using 1/8" x 3/4" screws with washer, lock washer, and nut.

5. Apply a bead of silicone around the back side of the service inputs.

6. Place each of the cables in dedicated flex conduit (plastic) and route them to the pass-through block. Follow existing wire runs. Dress the new runs neatly with wire ties.

7. Route each of the three runs up into the cab through center hole in the pass-through block.

NOTE: Remove the (2) neoprene rubber gaskets from the pass-through block and set them aside for later.

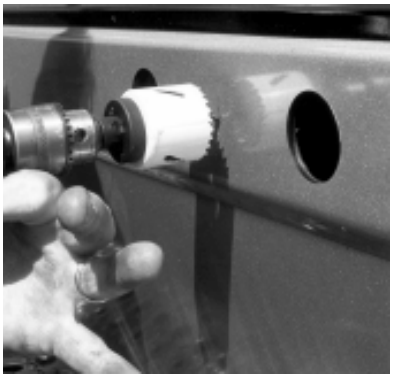


Figure F
Service Entrances

1.0 INSTALLATION

Chassis Ground

1. Connect a dedicated ground wire (#12 AWG) to a point on the main truck chassis (not on the cab). For best results, use a spade lug connector. Route the ground wire up through center hole in the pass-through block along with the AC / Telephone / Cable TV runs. Follow existing wire runs where possible. Dress the run neatly with wire ties.

Fuse Block / Battery Cables / Remote Battery Temperature Sensor

1. Mount the fuse block inside the battery compartment using (4) 3/16" x 1" screws (with washers, lock washers, nuts).

NOTE: Verify the connecting cables have a smooth bend radius before attaching the block.

2. Connect the new positive cables to the fuse block without connecting to the battery at this time.

3. Securely tighten the fuse block's lugs and put the cover on the fuse block.

4. Place the long cable runs in dedicated flex conduit (plastic) and route them out of the battery box to the pass-through block. Follow existing wire runs where possible. Dress the new runs neatly with wire ties.

5. Remove the self-adhesive covering from the battery temperature sensor. Attach the sensor to the side of one of the batteries (as close to center as possible) and, if possible, between two batteries.

6. Route sensor's cable out of the battery box to the pass-through block. Follow existing wire runs where possible. Dress the run neatly with wire ties.

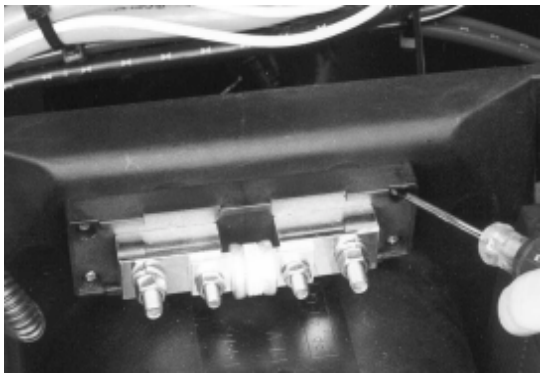


Figure G
Fuse Block Assembly

1.0 INSTALLATION

Lower Pass-Through Battery Connections

1. Route the battery temperature sensor cable up through center hole in the pass-through block along with the AC / Telephone / Cable TV runs.

2. Replace the lower neoprene gasket in the center hole of the pass-through block. Make sure the wires are dressed neatly in the gasket.

3. Make sure both the negative and positive battery terminals posts (located on the pass-through block inside the vehicle) are screwed down firmly.

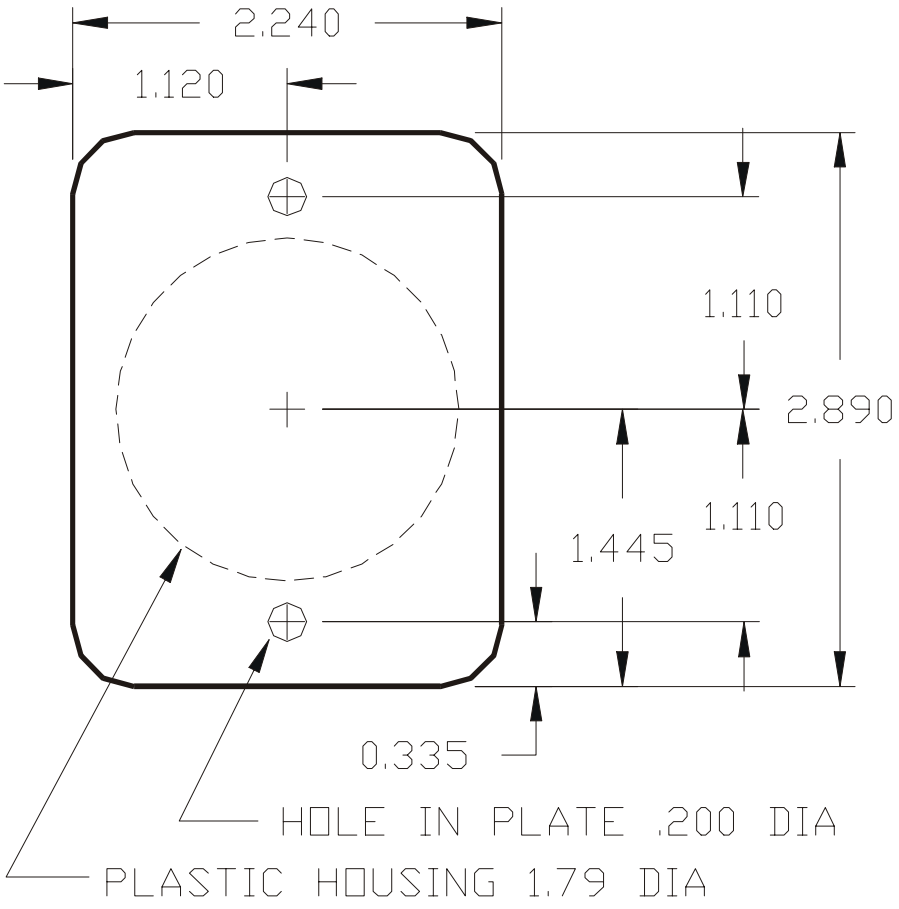
4. Connect the negative battery cable to the left-hand post (center hole above) from under the vehicle. Tighten securely. Connect the positive battery cable to the right-hand post (center hole above) from under the vehicle. Tighten securely.

NOTE: The terminal posts must be held with a socket wrench from inside the vehicle while tightening the connections.

Figure H
Lower Pass-Trough Block Connections

Figure I
RC8 Remote

RC8 Remote Control Template



RC8 Remote Control Template

Remove this page from the manual
and place it over the mounting location.

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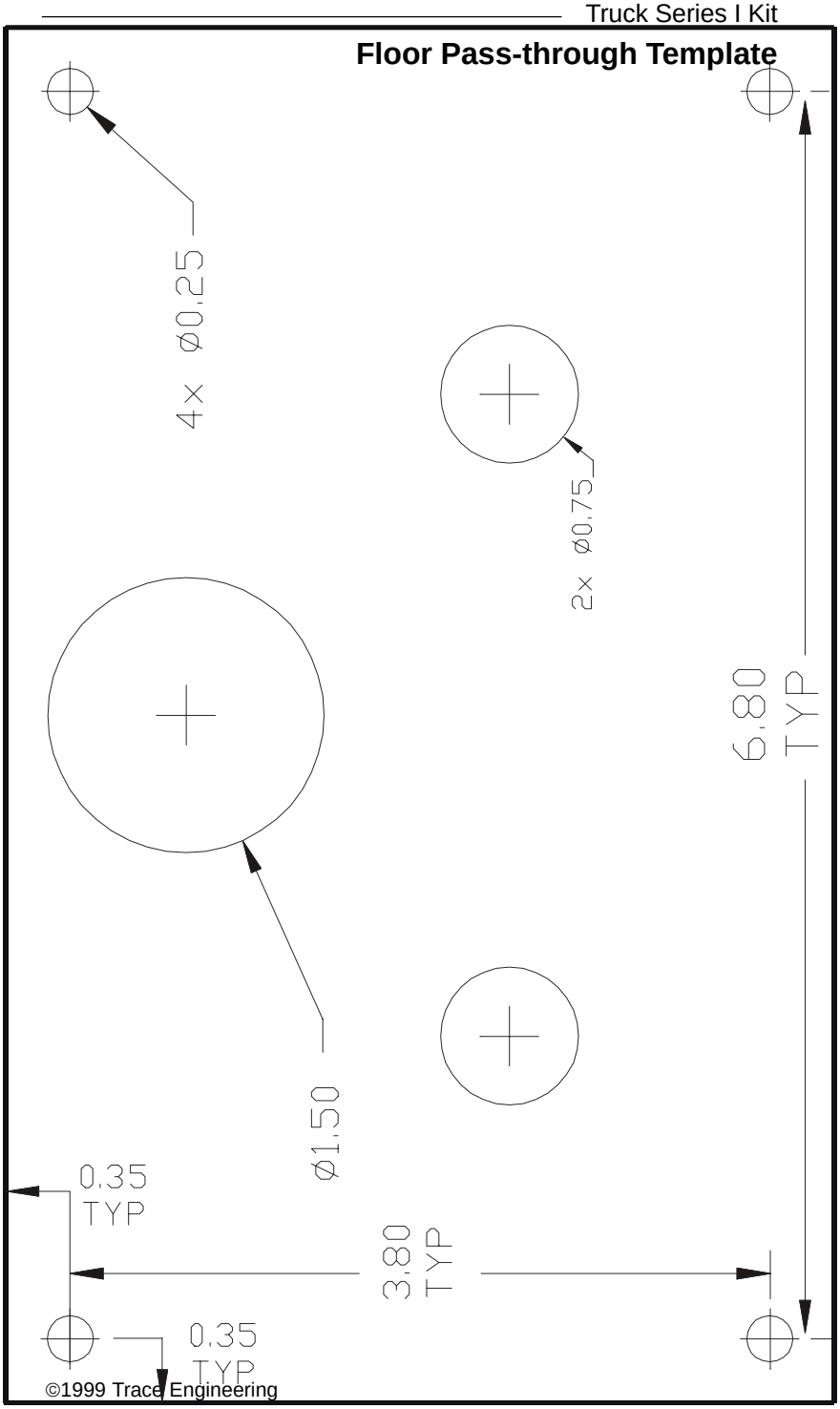
visit our website at: www.traceengineering.com

Floor Pass-through Template



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1.0 INSTALLATION

RC8 Installation

1. Find a convenient mounting location for the RC8.

NOTE: Verify there are no electrical wires, etc., in the area of the cut.

2. Drill a 1-7/8” diameter hole in a wall. There must be at least 1-1/2” of clearance behind the hole. Remove any wall insulation (if applicable) that may contact the back of the remote.

3. Press the RC8 into the opening. Make sure it is square to the wall.

4. Mark the upper and lower mounting holes with a pencil. Remove the RC8 and drill out the mounting holes with a 1/8” bit. Place an automotive clip over each of the mounting holes.

5. Route the communications cable down through the opening in the wall to the inverter. It is recommended that only the 6-conductor tinned cable (10, 25, 50 or 100 foot length) provided with the remote be used. For optimum performance, the distance should not exceed 100 feet. In some applica tions a wire puller is required.

6. Plug the communications cable into the “RC8 REMOTE” or “COM” port on the inverter. Neatly wind and wire wrap any excess cable.

7. Connect the communications cable to the modular jack on the rear of the RC8.

8. Position the RC8 into the opening in the wall and secure it with the 2 screws provided. Make sure the screws seat into the automotive clips.

Figure J
RC8 Installation

1.0 INSTALLATION

AC Outlet / Cable TV / Telephone Assemblies

1. Find a convenient mounting location for the AC outlet.

NOTE: Verify there are no electrical wires, etc., in that location.

2. Press the assembly up to the wall. Make sure it is square.

3. Mark the upper and lower mounting holes with a pencil. Remove the assembly and drill out the (4) mounting holes with a 1/8" bit. Cut a small slit (next to each hole) and insert an automotive clip over each of the mounting holes.

4. Cut a small opening (approximately 1" x 1") in the wall. It should be midway between and slightly above the lower mounting holes

5. Route the AC cable down through the opening in the wall to the inverter. In most applications a wire puller is required. Depending upon the location of the assembly, an additional hole may be required in the side compartment to route the cables to the inverter.

6. Position the assembly over the opening in the wall and secure it with the 4 screws provided. Make sure the screws seat into the automotive clips.

Figures K & L
AC Outlet / Cable TV Installation

1.0 INSTALLATION

Wiring the Inverter

1. Remove the inverter's front access panel to expose the terminal block. Install two conduit lock fittings into the front of the inverter to secure the AC wiring.

2. Depending upon the number of AC runs inside the cab, it is highly recommended that an AC combiner box be used. This box can accommodate up to four individual runs, yet only requires one wire run to the inverter's terminal block. The combiner box eliminates the need to squeeze too many wires into a particular terminal, thus reducing the possibility of a loose connection.

Battery Cables

3. Connect the negative battery cable to the pass-through block next to the inverter. Tighten securely.

4. Route the negative battery cable to the back of the inverter and connect it to the negative battery terminal. Tighten securely.

5. Place a black cable cover over the pass-through block's negative terminal and secure it. Place a black cable cover over the inverter's negative terminal and secure it.

6. Connect the positive battery cable to the pass-through block next to the inverter. Tighten securely.

7. Route the positive battery cable to the back of the inverter and connect it to the positive battery terminal. Tighten securely.

8. Place a red cable cover over the pass-through block's positive terminal and secure it. Place a red cable cover over the inverter's positive terminal and secure it.

Chassis Ground

9. Route the ground wire from the pass-through block to the rear of the inverter and secure it. The ground wire can be cut to length, however, some slack is recommended.

Figure M
Wiring the Inverter

1.0 INSTALLATION

Wiring the Inverter, *continued*

AC Input

1. Route the AC input wire from the pass-through block to the front of the inverter. The wire should be cut to length, however, some slack is recommended.

2. Run the wire through the left (facing the front of the inverter) conduit lock fitting and secure it. Connect the black (HOT) to the AC HOT IN terminal. Connect the white (NEUTRAL) wire to the AC NEU IN terminal. Connect the green (GROUND) wire to the GROUND terminal.

AC Output

1. Route the AC output wire from combiner box (if installed) or directly from the (3) AC runs to the front of the inverter. The wire(s) should be cut to length, however, some slack is recommended.

2. Run the wire(s) through the right (facing the front of the inverter) conduit lock fitting and secure it. Connect the black (HOT) to the AC HOT OUT 1 terminal. Connect the second (or third) black (HOT) to the AC HOT OUT 2 terminal (if applicable).

3. Connect the white (NEUTRAL) wire(s) to the AC NEU OUT terminal.

4. Connect the green (GROUND) wire(s) to the GROUND terminal.

5. Replace the inverter's front panel access terminal.

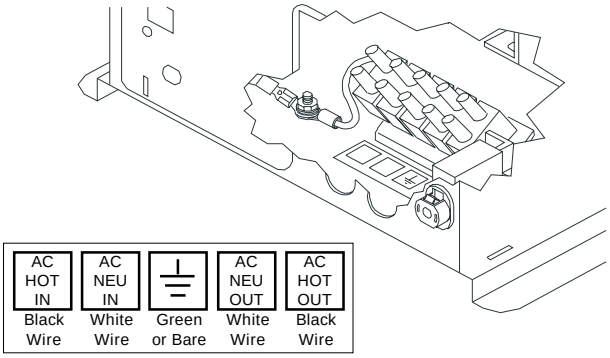

Figure N
Inverter Terminal Block

1.0 INSTALLATION

Wiring the Inverter, *continued*

Remote Battery Temperature Sensor

1. Route the sensor's cable from the pass-through block to the front of the inverter and plug it into the appropriate slot. Neatly wind and wire wrap any excess cable.

Cable TV / Telephone Connections

1. Route the cables from the pass-through block to the appropriate Cable TV or Telephone assembly's cable fitting. Connect the two cables using a double male fitting (cable TV) or 6 conductor, double female, modular connector (telephone). Neatly wind and wire wrap any excess cable.

Final Inspection

1. Make sure all wires are secure and neatly dressed. Wire wrap all loose wires. Check all through holes to make sure the wires will not chafe. If necessary, insert a rubber grommet for added protection.

2. Replace the upper neoprene gasket in the center hole of the pass-through block.

3. Make sure the wires are dressed neatly in the gasket.

4. Remove all loose materials from the area using a shop vac.

Figure O
Wired Pass-Through Block

1.0 INSTALLATION

Reconnecting the Batteries

1. Connect the negative (black) cable to the battery's negative terminal. Tighten securely.

2. Connect the positive (red) cable to the battery's positive terminal. Tighten securely.

3. If a dual system, make sure all remaining cables are properly connected.

4. Close the battery compartment.

Figure P
Battery Reconnection

Start-up and Test

1. Switch the inverter's front panel switch ON. Verify the inverter starts. The LED will flash quickly, indicating the inverter is searching for a connected load.

2. Verify the RC8's LED is ON.

3. Use a multimeter to verify 120 VAC at each of the AC outlets.

4. Press the RC8's push button to switch the inverter OFF.

5. Close the inverter's compartment. Installation is complete.

The RC8 is now the ON / OFF switch for the inverter.
NOTE: It is highly recommended that the inverter be switched OFF when the vehicle is not in use for extended periods.

Figure Q
RC8 Remote

2.0 SERVICE INFORMATION

Trace Engineering takes great pride in its products and makes every effort to ensure your unit fully meets your independent powering needs.

If your product needs repair, contact our Service department at: (360) 435-8826 to obtain an RMA# and shipping information; or fax this page with the following information to: (360) 474-0616.

Please provide:

Model Number: _____
Serial Number: (if applicable) _____
Purchase Date: _____
Problem: _____

Include a telephone number where you can be reached during business hours and a complete return shipping address (P.O. Box numbers are not acceptable).

Name:_____
Address:_____
City:_____
State / Province:_____
Zip / Postal Code:_____
Phone: ( )_____
Country:_____

3.0 WARRANTY

Limited Warranty

Trace Engineering warrants its power products against defects in materials and workmanship for a period of two (2) years from the date of purchase and extends this warranty to all purchasers or owners of the product during the warranty period. Trace does not warrant its products from any and all defects:

(1) arising out of material or workmanship not provided by Trace Engineering;
(2) resulting from abnormal use of the product or use in violation of the instructions;
(3) in products repaired or serviced by other than Trace Engineering repair facilities;
(4) in components, parts, or products expressly warranted by another manufacturer.

Trace Engineering agrees to supply all parts and labor, or repair or replace defects covered by this warranty with parts or products of original or improved design, at its option, if the defective product is returned to any Trace Engineering authorized warranty repair facility or to the Trace Engineering factory in the original packaging, with all transportation costs and full insurance paid by the purchaser or owner.

All remedies and the measure of damages are limited to the above. Trace Engineering shall in no event be liable for consequential, incidental, contingent, or special damages, even if Trace Engineering has been advised of the possibility of such damages. Any and all other warranties, expressed or implied, arising by law, course of dealing, course of performance, usage of trade or otherwise, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, are limited in duration for a period of two (2) years from the original date of purchase.

Some countries or states do not allow limitations on the term of an implied warranty, or the exclusion or limitation of incidental or consequential damage, which means the limitations and exclusions of this warranty may not apply to you. Even though this warranty gives you specific legal rights, you may also have other rights which vary from state to state.

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