Onan®

PRODUCT SUPPORT BULLETIN NO. 40

SERVICE/PARTS/PUBLICATIONS

DATE Dec 16, 1974

SUBJECT: 611C1086 MOTOR HOME CONTROL USING 300-0859 PRINTED CIRCUIT BOARD **REF. FILE#** S - 26

MODEL(S) or SERIES: ALL "CCK" AND "NH" GENERATOR SETS (Spec 12000) 4.0, 5.0 & 6.5KW **EFFECTIVE:** Immediately

During the period from Sept 1st through Nov 1st 1974, Onan installed a jumper wire between terminals 2 and 10 on the 300-0859 Printed Circuit Board used on the above Motor Home Generator Sets.

This jumper wire eliminated the F3 fuse-link protection on the board should a wire from terminal 10 of the board short to ground! This causes no damage to the printed circuit board.

As of Oct 15th, this jumper wire was replaced with a fuseholder and a 9-amp fuse connected between terminals 2 and 10 on the top of the Printed Circuit Board itself. This fuse is similar to fuse F1 which is connected to terminal 5 of the 300-0859 Printed Circuit Board, but is not on the Board itself.

On Any units brought in for service, visually check the control for this jumper wire (connected between 2 and 10 on the board itself). If the jumper wire is installed, Remove and discard it!

It isn't necessary to add a 9-amp fuse (when jumper wire is removed) as fuse protection is provided by the F3 fuse-link on the bottom side of the Printed Circuit Board.

In case fuse-link F3 is burnt out, a fuse and fuseholder assembly (Onan part #321-0210) which includes fuse, fuseholder and leads can be added. This is an alternative to soldering a wire to the board as described in the Operator's Manual #927-0310 page 12 for the "CCK" and 940-0310 Page 14 for the "NH" models.

SERVICE TIP: If a customer complains that his Running Time Meter or Generator On-Light doesn't function; this could be the problem! To correct this problem refer to the procedures above and thoroughly check the wiring!

Standard Warranty Policy Applies to removal of the jumper if necessary!

This bulletin is for informational purposes.

NOTE: The F3 fuse-link mentioned above is actually a short length of etching on the bottom side of the printed circuit board which has a calibrated resistance and is narrower in width than the normal etching of the board on each side of the fuse-link!

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PRODUCT SUPPORT BULLETIN NO. 48
SERVICE/PARTS/PUBLICATIONS

DATE Feb 3, 1975

SUBJECT: CHANGE IN MUFFLER/MANIFOLD MOUNTING HARDWARE

REF. FILE# S-32

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ALL CCK, CCKA, AND CCKB INDUSTRIAL ENGINES AND CCK GENERATOR SETS. ALL "NH" SERIES GENERATOR SETS ONLY.

To secure exhaust to the intake manifold more effectively, Onan is changing the mounting hardware from self locking capscrews to capscrews and splitlock washers.

New hardware is listed below.

PART NUMBER	DESCRIPTION	QTY PER UNIT
850-0045	Washer, Lock 5/16	4
800-0028	Screw--HHC 5/16-18 x 1"	4

Order your stock as needed.

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 50
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 1975

SUBJECT: PRODUCT IMPROVEMENTS AND SPEC ADVANCE

REF. FILE# S-34

MODEL(S) or SERIES:

6.0NH-1R/9000 GENERATOR SETS

EFFECTIVE: SPEC "G".

The following changes effective February 13, 1975 are being made on the above model:

1. New circuit breaker part #320-0549.
2. Addition of a guard to the Vacu-Flo scroll.
3. Change in crankshaft blower wheel keyway.
4. AC output leads changed from 3 to 2.
5. Changed starter (new part #191-1052).

The circuit breaker (Item #1) was changed because of a nuisance tripping problem on some models-(due to vibration).

On units prior to Spec "G", a new Kit is available, part #320-0570, which contains all necessary parts and installation instructions to install the new circuit breaker.

This is not a mandatory field modification.

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 51
SERVICE/PARTS/PUBLICATIONS

DATE Feb 14, 1975

SUBJECT: PRODUCT IMPROVEMENTS AND SPEC ADVANCE

REF. FILE# S-35

MODEL(S) or SERIES:

EFFECTIVE: SPEC "C"

4.0BF-1R/9000

The following changes effective immediately are being made on the above model:

1. New circuit breaker part #320-0547.
2. AC output leads changed from 3 to 2.
3. Addition of a flange to the air cleaner adapter.
4. Addition of a guard to the Vacu-Flo scroll.
5. New oil fill tube and twist cap type oil level indicator.

The circuit breaker (Item 1) was changed because of a nuisance tripping problem on some models-(due to vibration).

On units prior to Spec "C", a new Kit is available, part #320-0569, which contains all necessary parts and installation instructions to install the new circuit breaker.

This is not a mandatory field modification.

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 57
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 20, 1975

SUBJECT: 300-0859 PRINTED CIRCUIT BOARD **REF. FILE#** S-37

MODEL(S) or SERIES: **EFFECTIVE:** IMMEDIATELY

CCK, MCCK, AND NH GENERATOR SETS USING THE 300-0859 PRINTED CIRCUIT BOARD IN THE CONTROL (SOLID-STATE)

This bulletin pertains to modification packages that have been made to reduce, prevent or eliminate the common field problems on generator set controls using this printed circuit board. The four main modification packages and procedures are as follows:

1. IN-LINE FUSE PACKAGE #321-0212: This package is to reduce board failures on early units without fuse protection on terminal #5. Most board failures were caused by customer errors such as reverse battery connections or incorrect remote start connections etc. The procedure is as follows:

   UNITS IN WARRANTY - Add fuse package at No Charge for Parts and Labor, IF WARRANTABLE. Allowable labor time will be 15 minutes.

   UNITS OUT OF WARRANTY - Promote sale of Fuse package at Customer's expense.

2. F3 FUSE BY-PASS PACKAGE #321-0210: This package is offered as a customer convenience to eliminate the necessity of removing the printed circuit board to repair a blown fuse F3. The procedure is as follows:

   Warranty claims will NOT be paid on repair or replacement of the complete 300-0859 Printed Circuit Board. Also refer to Product Support Bulletin #40 (Code S-26) dated December 16, 1974.
   Promote sale of Fuse By-Pass package as a convenience at Customer's expense.

3. COVER AND SWITCH REPAIR PACKAGE #300-1232: This package includes the necessary hardware and parts to repair a missing switch S-1 or S-2 which may have been damaged when cover was removed. The procedure is as follows:

   UNITS IN WARRANTY - Onan will supply Parts and Labor at No Charge. Allowable labor time will be 1/2 hour. NO WARRANTY will be allowed for replacement of the complete 300-0859 Printed Circuit Board because of a missing switch push-button on S-1 or S-2. Replace the board if the switch becomes broken off at the solder connections.

   UNITS OUT OF WARRANTY - Promote sale of 300-1232 Switch Repair Package at Customer's expense.

(OVER)

4. START-DISCONNECT MODIFICATION PACKAGE #300-1231: This package was designed to reduce, prevent or eliminate three separate problems which were:

   A. Sticking Start Solenoids
   B. Solenoid Chatter Affecting Cranking Speed.
   C. Blown CR10 Diodes (provided motor home applications do NOT have a faulty transfer switch.

   Procede as follows:

   UNITS IN WARRANTY - Onan will allow normal Parts and Labor. Allowable labor time will be 1/2 hour.

   UNITS OUT OF WARRANTY - Submit Warranty Claim for CONSIDERATION by Onan to cover all Parts at No Charge, But Labor at Customer's expense. This policy expires ONE YEAR from DATE of THIS BULLETIN.

5. GENERAL INFORMATION AND PROCEDURES FOR REPAIRING THE 300-0859 PRINTED CIRCUIT BOARD.

   General warranty coverage does NOT apply if the 300-0859 Printed Circuit Board is replaced because of corroded printed circuit paths, which may have been caused by foreign material (road salt, water, etc.); (except as noted in modification package #4 above because of chattering Start Solenoids affecting cranking speed.)

   Warranty coverage does NOT apply to boards replaced because of blown CR10 Diodes (If used in conjunction with a faulty transfer switch.)

   Resolder Cracked Solder Joints at the Terminal Strips. Warranty Labor allowance will be 15 minutes.

For further information on problems caused by faulty transfer switches, refer to Product Support Bulletin #58 (Code C-2) dated February 20, 1975.

A new Service Bulletin (Control 17) providing detailed informaton on problem symptoms, troubleshooting and repair procedures for the 300-0859 Printed Circuit Board, will be available in the near future.

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 58
SERVICE/PARTS/PUBLICATIONS

DATE Feb. 20, 1975

SUBJECT: LOAD TRANSFER SWITCHES USED WITH ONAN "RV" ELECTRIC POWER PLANTS

REF. FILE# C-2

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

ANY ONAN-BUILT "RV" PLANT - CCK, NH, AJ, BF OR LK

CAUTION *Be careful when choosing or installing a transfer switch mechanism used with any Onan-Built "RV" electric power plant. All installations and transfer switches themselves MUST meet the requirements of NFPA 501C (STANDARD FOR RECREATIONAL VEHICLES) and ANSI 119.2.*

SUCH EQUIPMENT MUST ENSURE THAT THE OUTSIDE POWER SOURCE AND THE ELECTRIC PLANT CANNOT BE CONNECTED TOGETHER AT THE SAME TIME.

Use of a transfer switch NOT meeting above requirements will effect Warranty Coverage.

We offer the following suggestions for making your choice of transfer equipment.

TRANSFER MECHANISMS NOT RECOMMENDED

Some transfer mechanisms have back-to-back circuit breakers or have transfer switches without positive-off positions. They have an interlocking device to prevent both generator-side and utility line-side contacts from closing simultaneously. But some problems can occur.

CAUTION *Don't assume a positive-off position transfer mechanism is necessarily safe unless the off position provides a means of delay long enough for residual voltages of inductive loads to decay before switching to the other power source.*

WARNING *If the RV plant is supplying power to the motor home load and someone switches the load from the plant to the utility power source, both generator-side and utility line-side contacts may be closed for an instant (due to damage or misalignment of the interlock device), or an arc can occur across one set of contacts if loads, especially an air conditioner or other large load, are operating when switching occurs. This means the male terminals of the power cord plug (for utility power connection) are "HOT" for an instant and could:*

1. Cause shock to someone holding power cord if touching plug terminals, or shock to someone working on utility lines if plug is already connected to the utility receptacle; or

(OVER)

2. Cause an arc between plug male terminals and chassis, which could possible start a fire.

Printed circuit boards of Onan electric plant controls, if so equipped, can also be damaged when switching from the utility power source to the electric plant if arcing occurs or if both generator-side and line-side contacts are closed for an instant.

RECOMMENDED TRANSFER MECHANISMS

An economical manual, positive-off transfer mechanism is a receptacle for the electric plant in the compartment. An approved power cable connected from the load, plugs into this receptacle or the park utility power receptacle. This ensures both sources are NOT connected simultaneously.

An alternative to the receptacle is a manual, positive-off type transfer switch. The positive-off switch allows residual voltages of inductive loads (Motors, etc.) to decay before switching to the other power source.

NOTE: *A motor-reversing type switch is most desirable of the positive-off type switches. Switching from one power source to the other cannot be done unless first stopping at the OFF position of the Switch itself.*

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 60

SERVICE/PARTS/PUBLICATIONS

DATE March 5, 1975

SUBJECT: "RV" REMOTE WIRING CONNECTIONS DIFFERING FROM STANDARD "ONAN" WIRING DIAGRAMS

REF. FILE# S-39

MODEL(S) or SERIES:

EFFECTIVE: IMMEDIATELY

"CCK" AND "NH" GENERATOR SETS USING THE 300-0859 PRINTED CIRCUIT BOARD CONTROL

GENERAL INFORMATION:

Sports Coach, Executive and several other Motor Home manufacturers are making wiring connections to this printed circuit board that differ from those shown on the standard "Onan" wiring diagrams.

Connections for the Remote Start-Stop functions for these manufacturers are the same as those used on standard "Onan" wiring diagrams. Terminals 13 and 14 are for "Stop" connections and terminals 15 and 16 are for "Start" connections.

The differences occur when connections are made for the Generator Run light, Running Time meter and B+ to the Printed Circuit Board.

SPECIFIC CHANGES:

Terminal #8 on the board is used to provide 12 volts for operating the Generator Run light and the Running Time meter. In some cases a fuse is installed in this line.

A separate wire is connected from the Battery Positive terminal to terminal #5 to place B+ on the board. This wire replaces the factory installed wire between the Start Solenoid B+ terminal and terminal #5 on the Printed Circuit Board.

If the wire from terminal #8 shorts to ground, damage can occur to the Q2 transistor which in turn would disable the Start-Disconnect Circuit. This results in the Start Solenoid staying energized until the Start pushbutton is released. The G1R1 Charge Resistor, located in the Generator End Bell, can also be Overheated, which in turn would disable the Battery Charging Circuit.

WARRANTY POLICY:

These connections are made with "Onan's knowledge." Standard Motor Home Warranty policy applies to these units Except for Circuit Board failures as described above, resulting from a "Shorted Customer installed wire" or "Faulty wiring made by others."

This bulletin is for informational purposes.

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PRODUCT SUPPORT BULLETIN NO. 87
SERVICE/PARTS/PUBLICATIONS

DATE Sept. 26, 1975

SUBJECT: PART NUMBER CORRECTIONS (Parts Catalog #965-0220)

REF. FILE# S-52

MODEL(S) or SERIES: 4.0 "BF" "RV" SERIES

EFFECTIVE: IMMEDIATELY

Item 9 on page 3 of the Camshaft Group (Part #105-0402), in the BF "RV" Parts Catalog (965-0220) should be changed to Part #105-0376. Part #105-0402 is NOT the correct Camshaft for this model.

Item 47 on page 7 of the Fuel System Group (Part #154-1440), in the BF "RV" Parts Catalog (965-0220) should be changed to Part #154-1446. Part #154-1440 is a complete manifold and carburetor assembly, but not for this model.

Part #154-1446 (Item 47 Page 7) is the Intake Manifold Gasket ONLY.

Please change your records accordingly.

This bulletin is for informational purposes.