

<b>SB Number:</b>	<b>SB 2J0-008</b>	<b>Creation Date: 03/06/2010</b>
<b>Subject:</b>	<b>Error code F050 due to Macronix flash memory</b>	
<b>Model:</b>	<b>FS-2000D/3900DN/4000DN/6950DN/2020D/3920DN/4020DN/6970DN</b>	

Phenomenon	The commonly used Spansion flash memory at the high-voltage board has become difficult to obtain, therefore we changed the common type to Macronix flash memory. Due to the above mentioned change, error code F050 (Engine PWB ROM checksum error) may be displayed after turning on the main switch. The above mentioned error can not be cleared by turning the main switch OFF and ON.
Cause	The CPU may stall due to garbled read-out of the data from the Macronix flash memory, when the power goes down at the power-off process due to the variation of the functional low voltage of the flash memory. When the CPU stalls, the data may be incorrectly written to the flash memory. Under this condition part of the program in the flash memory may disappear and therefore start up failure may occur when the main switch is turned ON.
Solution	The engine high voltage board has been changed as follows:  1. The voltage of the reset IC (U5) has been changed from 3.9V to 4.2V. 2. The capacity of the chip capacitor (C14) has been changed from 0.1 microF to 0.01 microF. (FS-2020D/3920DN/4020DN/6970DN only)

## Parts

No.	Old Parts No.	New Parts No.	Description	Q'TY		Interchange-ability		SP
				Old	New	Old	New	
1	302F801422 2F801422	302F801423 2F801423	P.W.BOARD ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-2000D</b> )	1	1	O	O	O
2	302F901162 2F901162	302F901163 2F901163	P.W.BOARD ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-3900DN</b> )	1	1	O	O	O
3	302GA01162 2GA01162	302GA01163 2GA01163	P.W.BOARD ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-4000DN</b> )	1	1	O	O	O
4	302J080010 2J080010	302J080011 2J080011	P.W.B ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-2020D</b> )	1	1	O	O	O
5	302J180010 2J180010	302J180011 2J180011	P.W.B ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-3920DN</b> )	1	1	O	O	O
6	302J280010 2J280010	302J280011 2J280011	P.W.B ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-4020DN</b> )	1	1	O	O	O
7	302J580010 2J580010	302J580011 2J580011	P.W.B ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-6970DN</b> )	1	1	O	O	O
8	302F701222 2F701222	302F701223 2F701223	P.W.B ASSY ENGINE WITH SOFTWARE (SP) (For the <b>FS-6950DN</b> )	1	1	O	O	O

## Serial numbers of affected machines

Type	Serial number
FS-2020D	XEX0136030 / XEX0147420
FS-3920DN	XEY0135916
FS-4020DN	XEZ0114988 / XEZ0115558
FS-6970DN	XAA0102305 / XAA0102357 / XAA0102369 / XAA0102376

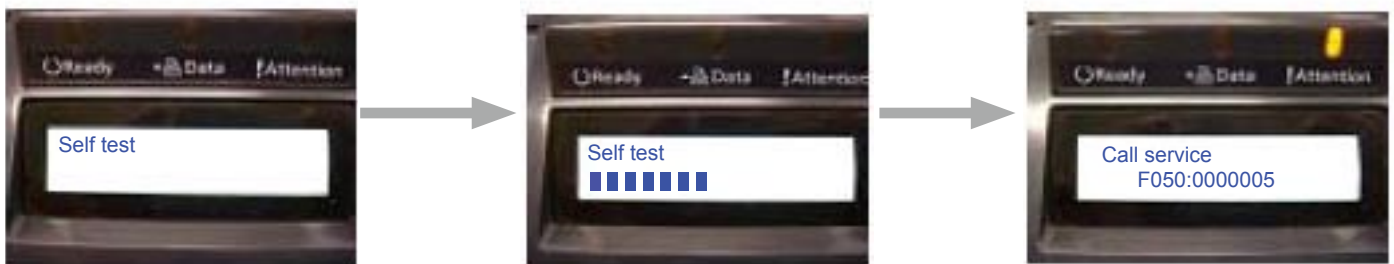
The above mentioned changes have been applied to machines produced after the above mentioned serial numbers.

**Phenomenon:** Error code F050 (Engine PWB ROM) may be displayed after turning on the main switch.

Power on

Self test display

Error code F050 on the display

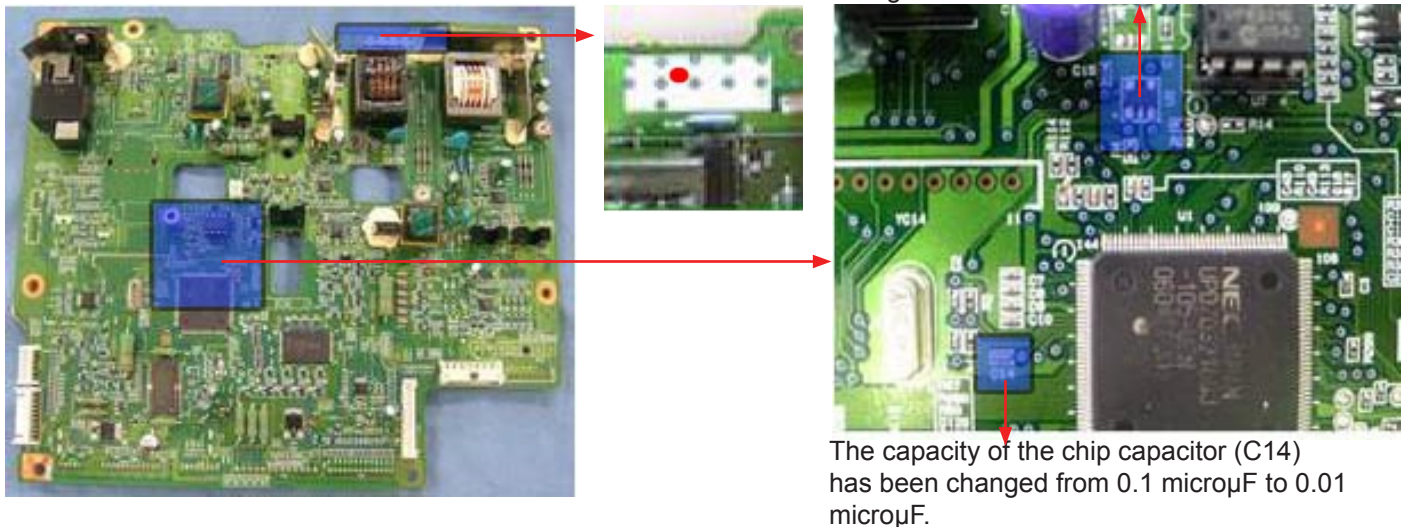


**Solution:** The engine high voltage board has been changed

Engine high voltage board

Added red mark

The voltage of the reset IC (U5) has been changed from 3.9V to 4.2V.



Recognizing machines with the latest engine high voltage board.

A black dot has been added to the barcode label.

