Upgrading SmartPAC Firmware

> **NOTICE**
>
> **IMPORTANT: USE THIS DOCUMENT ONLY IF YOU ARE INSTALLING NEW FIRMWARE IN AN EXISTING SMARTPAC.**
>
> - Before you install the new firmware board in your SmartPAC, read this document and carefully follow the instructions.
> - Be sure to record the information indicated BEFORE installing your new firmware.
> - If this is a new SmartPAC, follow the instructions in your user manual and discard this document.

This document contains instructions for the following procedures:

Recording Important Information Before Installing New SmartPAC Firmware, next section

Installing the New SmartPAC Firmware Board, page 5

Setting Jumper When Upgrading Firmware in Older Version AutoSetPAC (identify by the daughter board mounted on the AutoSetPAC board), page 8

Recording Important Information Before Installing New SmartPAC Firmware

Step 1.

Make a note of the tool # currently loaded in the SmartPAC. Go to the counter screen in the run mode and press the ENTER key. Please note the <u>actual counts</u> (not presets) of the strokes, Good Parts, and Batch 1.

Press Name	
Tool Number	
Strokes – actual count	
Good Parts – actual count	
Batch 1 – actual count	

Step 2.

Go to the Initialization menu (press CLEAR and 1 simultaneously while in Program mode). Use the table on the next page to record the Security Access settings. Your Security Access menu may look different. There have been additions to this menu over the years and some options have been added. Mark the settings for the items that appear on your Security Access menu. Press RESET to go back to the Main Initialization menu when done.

Security Access Option	Setting
LOAD TOOL #	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
DELETE TOOL #	☐ PROGRAM MODE ☐ NOT ALLOWED ☐ PASSWORD REQUIRED
SET CNTR PRESET	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
CHANGE COUNT	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED ☐ NO CHANGES ALLOWED
RESET MODE	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
ADJUST SENSORS	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
DISABLE SENSORS	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
TURN OFF SENSRS	☐ ALLOWED ☐ NOT ALLOWED ☐ PASSWORD REQUIRED
ADJUST CAMS	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED

Security Access Option	Setting
ADJ. PRESS CNTL	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
ADJUST FEED	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
LOAD MONITOR	☐ ALLOW RECALC/ADJUST ☐ ALLOW RECALC ONLY ☐ NO RECALC/ADJUST ☐ PASSWORD REQUIRED
ADJUST RAMPAC	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
ADJ. TOOL INFO	☐ PROGRAM AND RUN MODES ☐ PROGRAM MODE ONLY ☐ PASSWORD REQUIRED
INIT PASSWORD	☐ NOT REQUIRED ☐ MUST BE USED

Step 3.

Select "INSTALLED OPTIONS" and record below which servo-feed interface (SFI) is installed, if any. If no SFI appears, go to step 4.

Servo Feed Interface	

At the end of this document, find the correct form to record the settings for this SFI (see list, below). You will need to re-enter them after you upgrade the firmware. Find the SFI parameters under "FEED CONTROL" in the Initialization menu. Press RESET when done.

CLM SOT, page 11	PA ADVANTAGE, page 13
COE BG2, page 11	PA BRU, page 14
COE CPEC, page 11	PA CUT-TO-LENGTH, page 14
CPW SM2, page 11	PA IQ2000, page 14
DYNAMIC, page 12	RAPID AIR, page 14
INDRAMAT CLM IDS, page 12	VAMCO, page 15
INDRAMAT ECO / BTV04, page 12	WADDINGTON MINI FEED, page 15
IQ, page 13	WADDINGTON SMS, page 15
PA AB ULTRA, page 13	

Step 4.

- If your unit has WaveFormPAC, follow the instructions in this step.

- If your unit does not have WaveFormPAC, go to the next step.

If you have WaveFormPAC, in the Initialization menu select TONNAGE/WAVEFORM. In the menu that appears, select SET REVERSE SETPOINT %. Make a note of the value that in the box that appears the SmartPAC screen. Refer to your WaveFormPAC manual for more information.

TONNAGE/WAVEFORM INITIALIZATION MENU:

SET REVERSE SETPOINT %	

Step 5.

Go to the Program mode main menu (turn the key to run then back to program) and select "PROGRAM OR LOAD TOOL NUMBERS." The SmartPAC will be able to transfer information for 198 tools. If you have more than 198 tools loaded in the SmartPAC, record all the information for the last two tools on the tool table.

After you have recorded all the information listed above, you can install the new firmware board. Go to the next section.

Installing the New SmartPAC Firmware Board

⚠ WARNING

ELECTRIC SHOCK HAZARD WHEN WORKING INSIDE THE ENCLOSURE

Turn off and disconnect power from SmartPAC, the press and any other machinery it is connected to before working inside the enclosure. This includes power to the press's motor.

Failure to comply with these instructions could result in death or serious injury.

CAUTION

STATIC DISCHARGE DAMAGE

Ground yourself by touching a large metal object before you touch either of the firmware boards.

Failure to comply with these instructions could result in property damage.

NOTICE

STOP! RECORD IMPORTANT INFORMATION BEFORE INSTALLING NEW FIRMWARE

Before you install your new SmartPAC firmware board, carefully record the information listed in the previous section. If you do not do this, you will lose important information.

NOTICE

IMPORTANT: DO NOT REINSTALL THE OLD FIRMWARE!

If you have a problem, call Wintriss Tech Support. If the old firmware is reinstalled, the tool table could be corrupted and important information lost.

Step 1.

Shut the power off to the SmartPAC and ground yourself by touching a piece of metal before opening the enclosure. Inside the enclosure, find the firmware board. Remove the four screws that hold it, and remove it. Ground yourself again and remove the new firmware board from its packaging. Install it in the in the SmartPAC and secure it with the four screws.

Step 2.

Turn the Program/Run key-switch to the Program position.

Step 3.

Apply power to the SmartPAC.

Step 4.

Upon power-up, you may see two or more messages appear. The second message will appear only if your old software is lower than version 4.76. Do not be concerned if the second message does not appear.

Message 1:

"RESOLVER IS IN A DIFFERENT POSITION, IF THIS IS OK PRESS RESET. Note: This error is normal if you have moved the press or the resolver with the power off or upgraded the firmware".

Press RESET.

Message 2:

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NOTICE
IMPORTANT:  PRESS ENTER IN RESPONSE TO MESSAGE 2
  Be very careful when responding to the next message.  You must press ENTER to shift the
  tool number tables for the new firmware version.  Otherwise, you will have to re-enter all the
  information for all the tools.
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"IF YOU HAVE JUST UPDATED THE FIRMWARE IN THIS SMARTPAC **PRESS THE ENTER KEY** TO SHIFT THE TOOL NUMBER TABLES. If you have more than 198 tools programmed you will need to re-enter the last two. If you do not have, then this operation will be transparent. If you have not just upgraded your firmware, press the reset key".

Press ENTER. <u>Do not press reset if you are upgrading and your previous firmware version was lower than 4.76</u>

Message 3 (similar to):

"BATCH COUNTER 1 PRESET REACHED".

Press RESET.

Step 5.

Go to the Initialization menu by pressing CLEAR and 1 simultaneously while in Program mode. Select "SECURITY ACCESS" and check the settings. Make sure the "CHANGE COUNT" option will be available by setting it to either "PROGRAM" or "PROGRAM AND RUN MODES". Press RESET when done.

Step 6.

If you have SFI, enter the feed parameter screen and check the settings. Re-enter them if necessary.   Press RESET and return to the main Program menu (by turning the keyswitch from RUN to PROGRAM). If a "NO TOOL NUMBER IS LOADED" error appears, just press RESET.

Step 7.

Turn the PROG/RUN key to RUN and back to PROG, to enter Programming mode. Select the "PROGRAM OR LOAD NEW TOOL" option. Select the tool number that is in the press

or that was loaded before upgrading the firmware. Select "COUNTERS." Re-enter or clear the <u>actual</u> counts for strokes, good parts, and batch 1. Press RESET when done.

Step 8.

Go back to the Initialization menu by pressing CLEAR and 1 simultaneously while in Program mode. Select "SECURITY ACCESS." Refer to the notes you made on page 2 and check the setting for the "CHANGE COUNT" option. Set it to the setting you want: "PROGRAM," "PROGRAM AND RUN MODES," "PASSWORD REQUIRED," or "NO CHANGES ALLOWED." Press RESET when done.

Step 9.

If you purchased the Enhancements option as part of your upgrade, you will see a new feature that says "TOOL INFORMATION. Refer to addendum 1116800 for programming information. If garbled information appears in the tool Information field, you can just delete it. This tool information screen is used as a notepad for the operator and does not affect any SmartPAC function.

Step 10.

Reload the tool.

If an error appears and you cannot run the press, make note of the error and call Wintriss Tech Support at 1-800-586-8324.

NOTICE

IMPORTANT: DO NOT REINSTALL THE OLD FIRMWARE!

If you have a problem, call Wintriss Tech Support. If you reinstall the old firmware, the tool table could be corrupted and important information lost.

Setting Jumper When Upgrading Firmware in Older Version AutoSetPAC

If you have an AutoSetPAC board installed with your SmartPAC, look at the board to see if it has a daughter board installed on top of the AutoSetPAC board in the location indicated in Figure 1 on page 10.

- If there is a daughter board present, this is an older version board and you should follow the instructions in this section to upgrade the firmware and check and set the jumper.

- If there is no daughter board present, this is a newer version AutoSetPAC board and you should ignore any references to the jumper. Install the new firmware chip.

⚠ **WARNING**

ELECTRIC SHOCK HAZARD WHEN WORKING INSIDE THE ENCLOSURE

Turn off and disconnect power from SmartPAC, the press and any other machinery it is connected to before working inside the enclosure. This includes power to the press's motor.

Failure to comply with these instructions could result in death or serious injury.

CAUTION

STATIC DISCHARGE DAMAGE

Ground yourself by touching a large metal object before you touch the firmware chip.

Failure to comply with these instructions could result in property damage.

CAUTION

CHIP INSTALLED WRONG

- Orient the chip in the same direction as the chip you removed, with the notch in the chip on the same side as the notch in the socket.

- Align pins correctly with socket before plugging chip in.

Failure to comply with these instructions could result in property damage.

NOTICE

JUMPER MUST BE SET CORRECTLY ON OLDER VERSION AUTOSETPAC BOARDS

Follow the instructions below to ensure that your older version AutoSetPAC board is correctly set after installing new firmware. If your AutoSetPAC board is an older version if it has a daughter board mounted at its center.

If you have an older version AutoSetPAC installed with your SmartPAC and you upgrade the AutoSetPAC firmware, jumper J3 must be set to "512" for the unit to operate properly. Follow the instructions below to install the chip on your older version AutoSetPAC board, and to check and set the jumper. Refer to Figure 1 (page 10) and your user manual.

1. Verify that power has been turned off to SmartPAC, the AutoSetPAC and the press and any other equipment connected to the press.

2. Open the front cover and locate the AutoSetPAC board. Remove the four screws that hold the daughter board at the center of the AutoSetPAC board. Remove the daughter board. Find the firmware chip, U4, on the AutoSetPAC board.

3. Make a note of the orientation of the firmware chip. The new chip must be installed in the same orientation as the one you remove. There is a semi-circular notch on one end of each chip to indicate orientation. The notch goes on the same side as the notch in the socket.

4. Use a chip puller to remove the old chip, or insert a small screwdriver between the bottom of the chip and the socket and carefully pry the chip out of its socket. Be careful not to get the screwdriver under the socket itself. Put the chip aside.

5. Open the package containing the new firmware chip. Before you remove the chip from the package, ground yourself by touching any large metal object (the press will do nicely). This will remove any static electricity that you may be carrying around. A static electricity "zap" will destroy the chip.

6. Once you are "grounded," remove the chip from its holder. Orient it so that the notch faces the same direction as the notch on the chip you removed. If you plug the chip in backward, it will be destroyed.

7. Plug the chip into its socket by starting to plug in one row of pins and then aligning the other row of pins over the socket and pushing straight in.

8. If the two rows of pins are spread too far apart to plug easily into the socket:

    A. Hold the chip on its side on a desk or a flat surface with the pins pointing toward you.

    B. Being careful NOT to overbend the pins, gently flex the top of the chip toward you. Turn the chip over so that the other row of pins is now on the desk pointing toward you. Flex it again, thus bending the other row of pins toward each other.

    C. Try plugging the chip into the socket again, as in Step 8. If necessary, repeat Steps A and B.

9. Make sure that the notch is facing the correct direction and that all of the pins are in the socket.

10. When you have replaced the chip, check and set the jumper, if applicable. Look on the AutoSetPAC board to see if there is a jumper, J3, next to the firmware chip (see Figure 1).

    • If there is a jumper, check that it is set to 512.

    • If the jumper is set to 256, unplug the jumper and plug it back in at the 512 location.

11. Replace the daughter board, carefully plugging it into its connector. Secure it with the four screws.
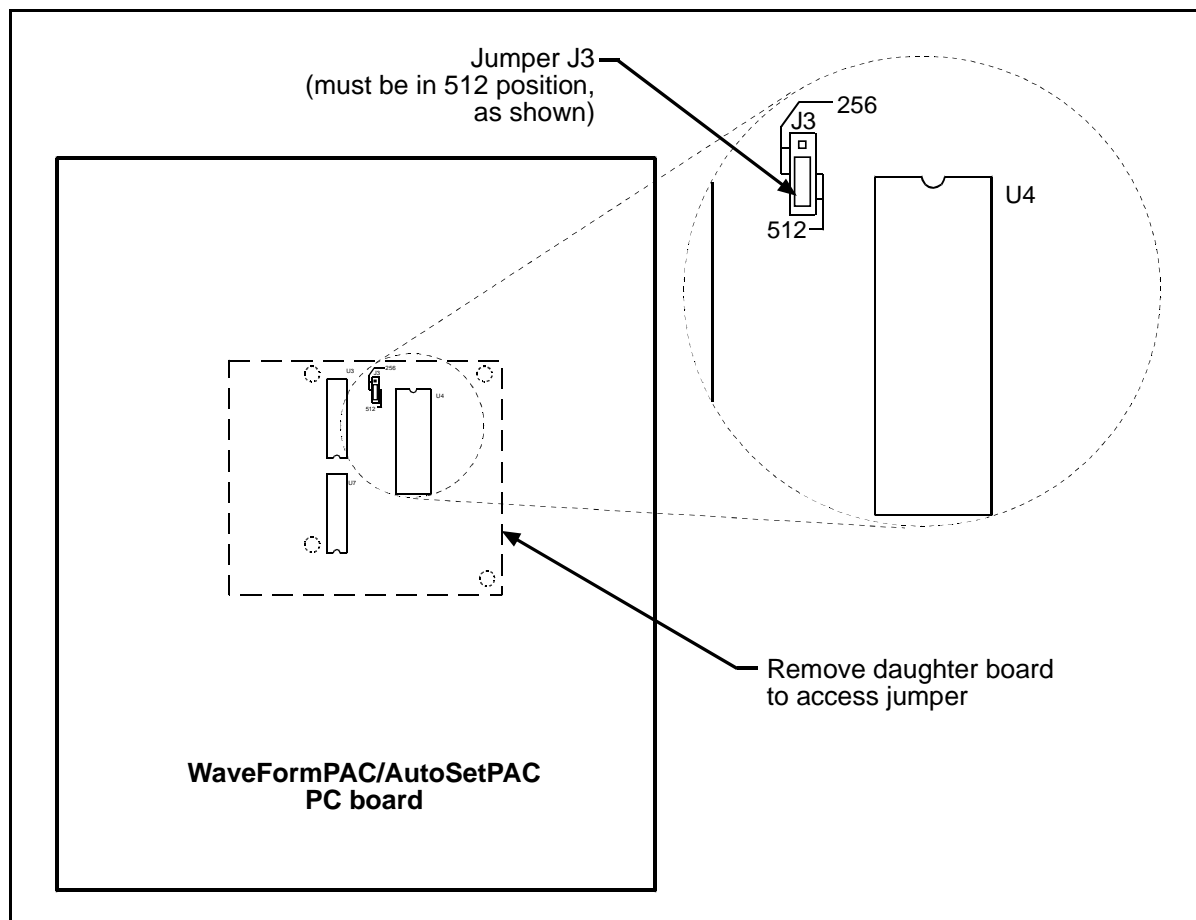
Figure 1. Location of AutoSetPAC Jumper, Older Version Board

Record SFI Setup Parameters
Before Installing New SmartPAC Firmware

CLM SOT

PRESS #	
CONNECTION TYPE	
UNITS TYPE	

COE BG2

PRESS #	
ACCEL MAX	
VELOCITY MAX	
SETTLING TIME	
USER SCALE	

COE CPEC

PRESS #	
SETTLING TIME	

CPW SM2

PRESS #	
UNITS MODE	
SETTLING TIME	

Record SFI Setup Parameters
Before Installing New SmartPAC Firmware

DYNAMIC

PRESS #	
OPEN/CLOSE HEAD	
PASSWORD NUMBER	

INDRAMAT CLM IDS

PRESS #	
ACCEL LIMIT	
FEED RATE LIMIT	

INDRAMAT ECO / BTV04

PRESS #	
CONNECTION TYPE	
DRIVE ADDRESS	
UNITS TYPE	
SETTLING TIME	

Record SFI Setup Parameters
Before Installing New SmartPAC Firmware

IQ

PRESS #	
UNITS TYPE	
SETTLING TIME	
CONNECTION TYPE	
ACCEL UNITS	
ACCEL LIMIT	
SPEED LIMIT	

PA AB ULTRA

PRESS #	
UNITS TYPE	
SETTLING TIME	
ACCEL LIMIT	
SPEED LIMIT	

PA ADVANTAGE

PRESS #	
ACCEL LIMIT	
UNITS MODE	
SETTLING TIME	

Record SFI Setup Parameters
Before Installing New SmartPAC Firmware

PA BRU

PRESS #	
UNITS TYPE	
SETTLING TIME	

PA CUT-TO-LENGTH

PRESS #	
ACCEL LIMIT	
UNITS MODE	
SETTLING TIME	

PA IQ2000

PRESS #	
UNITS TYPE	
SETTLING TIME	
CONNECTION TYPE	
ACCELERATION	

RAPID AIR

PRESS #	
UNITS MODE	
SETTLING TIME	

Record SFI Setup Parameters
Before Installing New SmartPAC Firmware

VAMCO

PRESS #	
ACCEL LIMIT	
RUN SPEED LIMIT	
CONNECTION TYPE	

WADDINGTON MINI FEED

PRESS #	
INDEX MODE	
SERVO PILOT	

WADDINGTON SMS

PRESS #	
SERVO PILOT	
OPERATION MODE	
DECIMAL PLACES	

Assembly Sheet

Doc. # 1126500B DA70062   **Document name INST SHT SPAC FW UPDATE**

side	page #	contents/comment	side	page #	contents/comment
F	1		F		
B	2		B		
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B	4		B		
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B	6		B		
F	7		F		
B	8		B		
F	9		F		
B	10		B		
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Print pages 1 – 12.

If other pages, such as this assembly sheet, appear in the PDF file, do not print them.

Revision History

Doc. #   1126500 DA70062   **Document name** INST SHT SPAC FW UPDATE

Rev. Level	DCN/ECR/ECO number	Date
A	PDA - 3387 / ECO 207285	11/11/02-12/16/02
B	207251	1/21/03