

Addendum—Reporting Downtime and Scrap in SmartPAC to LETS

This document shows you how to report press downtime from your SmartPAC control to Honeywell's Line Efficiency Tracking Software (LETS). The document discusses the six machine states to which LETS logs press time, explains the downtime reporting features of SmartPAC, shows you how to set up SmartPAC to report downtime to LETS, and provides instructions for reporting downtime.

The document also shows you how to report scrap to LETS and adjust the Good Parts count that is reported to LETS.

The document covers both SmartPAC 1 and SmartPAC 2 controls. SmartPAC's downtime- and scrap-reporting features are available only on SmartPAC versions 11.84 or higher or SmartPAC 2 versions 4.59 or higher; in addition, the LETS firmware option must be installed.

Machine States to Which LETS Logs Press Time

LETS logs all elapsed time at each press to one of six categories called machine states. The sum of all the times assigned to these machine states for an individual press is the number of hours in a production day (e.g., 12 hours, 24 hours, etc.). LETS selects the machine state to which to log press time on the basis of downtime reporting and other information it receives from SmartPAC. Machine states are differentiated as follows:

- **Running Time**—Press is running and making parts
- **Idle Time**—Press is stopped, no SmartPAC error has occurred, and the reason the press is stopped has not been documented in SmartPAC
- **Unplanned Downtime**—Press is stopped due to a SmartPAC error, or if the press is stopped for another reason, that reason has been documented in SmartPAC as a downtime reason other than Planned Downtime or Tool Change
- **Planned Downtime**—Press is stopped, and the reason has been documented in SmartPAC as Planned Downtime

NOTICE

The Planned Downtime machine state should only be assigned for lunch and coffee breaks, meetings, training, etc. Planned Downtime is not used in calculating Overall Equipment Effectiveness (OEE) and, therefore, does not reduce the OEE value.

- **Changeover Time**—Press is stopped, and the reason has been documented in SmartPAC as Tool Change
- **Offline Time**—Press is stopped because there is no power to the press or the network is down

All time during which the press is stopped for any reason other than a power interruption or network failure is logged by LETS to Idle Time unless a downtime reason is reported from the SmartPAC. Since Overall Equipment Effectiveness (OEE) and other efficiency metrics assign high ratings to machines with low Idle Time values, SmartPAC has been designed to allow very precise reporting of downtime to LETS and may be programmed to require the operator to select a specific downtime reason each time the press enters an Idle state. When operator intervention is required, periods of press inactivity are more likely to be assigned to a specific downtime reason than to be logged as Idle Time.

SmartPAC Downtime Reporting Features

Downtime reasons in SmartPAC may be reported to LETS either automatically by the system or manually by the operator. When the press is stopped because of an error generated by SmartPAC or an installed SmartPAC module, the specific fault (e.g., “Sensor 1 Part Ejection Missed”) is reported automatically as a downtime reason to LETS.

When the press is stopped by the operator or by a piece of auxiliary equipment not connected to the SmartPAC, a downtime reason must be reported manually by the operator since SmartPAC is unable to detect the reason for the interruption (see *Forced Idle Dialog Mode*, below). Downtime reasons may also be assigned manually to provide additional detail for periods documented automatically with specific error conditions (see *Forced Error Dialog Mode*, page 4).

Forced Idle Dialog Mode

If the SmartPAC is set to Forced Idle Dialog mode (see *Setting up SmartPAC to Report Downtime*, page 6), a downtime reason must be entered whenever the press is stopped by the operator or by auxiliary equipment. When the press stops (see Figure 1, page 3 for a schematic time line), a message displays at the SmartPAC stating that the operator must enter a downtime reason before the press can be restarted. When the operator closes the message window, the Dialog Menu automatically displays. The Dialog Menu, a selection on the SmartPAC Main Run Menu, displays a list of downtime reasons from which the operator must select to report downtime to LETS. Refer to *Programming Downtime Reasons*, page 10 for instructions on how to set up the Dialog Menu.

The Forced Dialog message can be programmed to display a specified number of minutes after the press stops (see Figure 1). This Idle Dialog Time setting enables the press to be stopped briefly without requiring entry of a downtime reason.

Backfilling vs. Forward Filling

LETS initially logs the time after the press is stopped by the operator or by auxiliary equipment to Idle Time. When the operator selects an item on the Dialog Menu, a window displays (see Figure 10, page 15) providing two options for assigning that downtime reason. The downtime reason can be assigned to the time that has elapsed since the press was stopped. This option is called “backfilling” because the operator is documenting time that has already occurred (see Figure 1).

Alternatively, the operator can assign the downtime reason to the time that will elapse from reporting of the downtime reason until the press is restarted (see Figure 2, page 4). This option is called “forward filling.” When downtime is “forward filled,” all elapsed time before entry of the downtime reason is assigned to the previous downtime reason, if one was reported, or to Idle Time.

Putting the Press “Back on Line”

A period of Idle Time or downtime (either “Planned” or “Unplanned”) comes to an end when the operator selects “Back on Line” from the Dialog Menu. If the press is restarted at the same time, LETS begins documenting the machine state as “Running time” (see Figure 1). When the operator selects “Back on Line” without restarting the press, the subsequent period until the press is restarted is logged to Idle Time (see Figure 2).

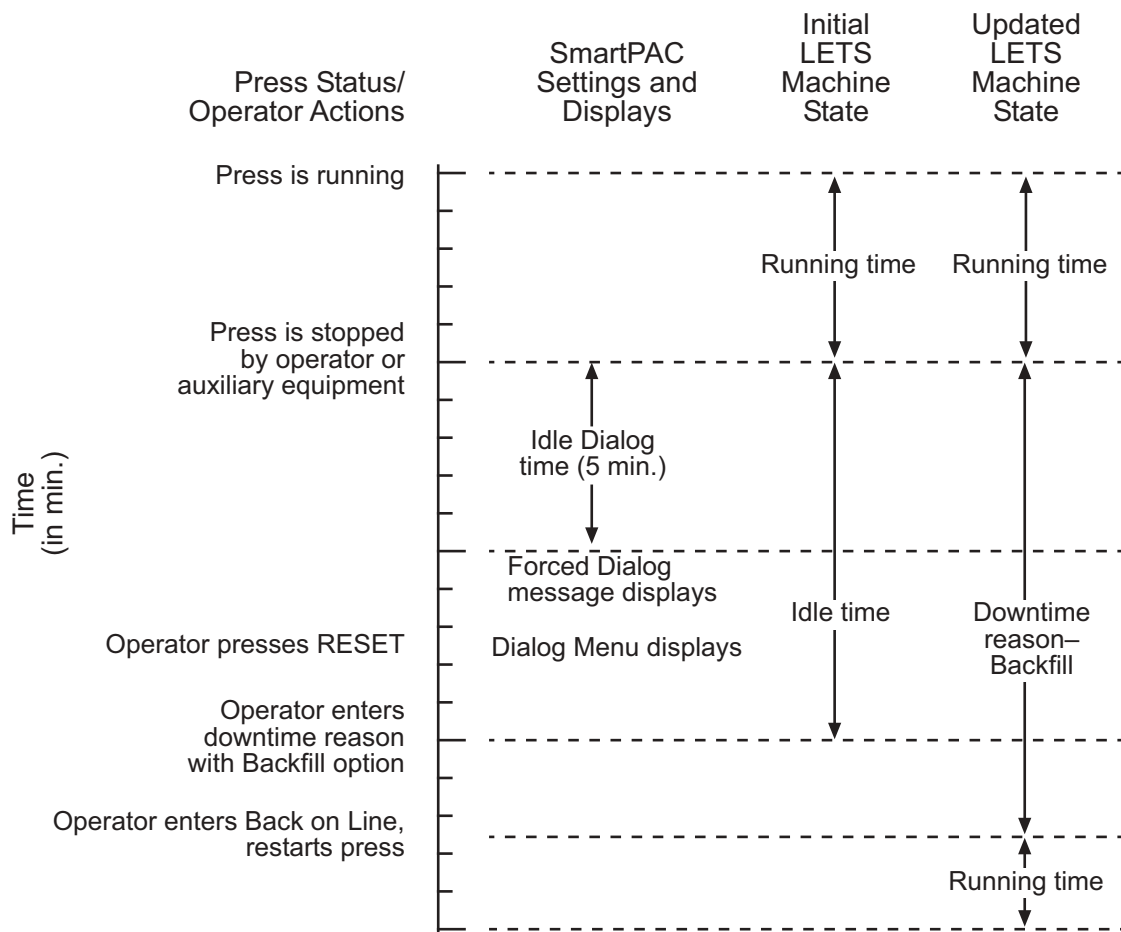


Figure 1. Forced Idle Dialog Mode Time Line (Downtime Reason Backfilled)

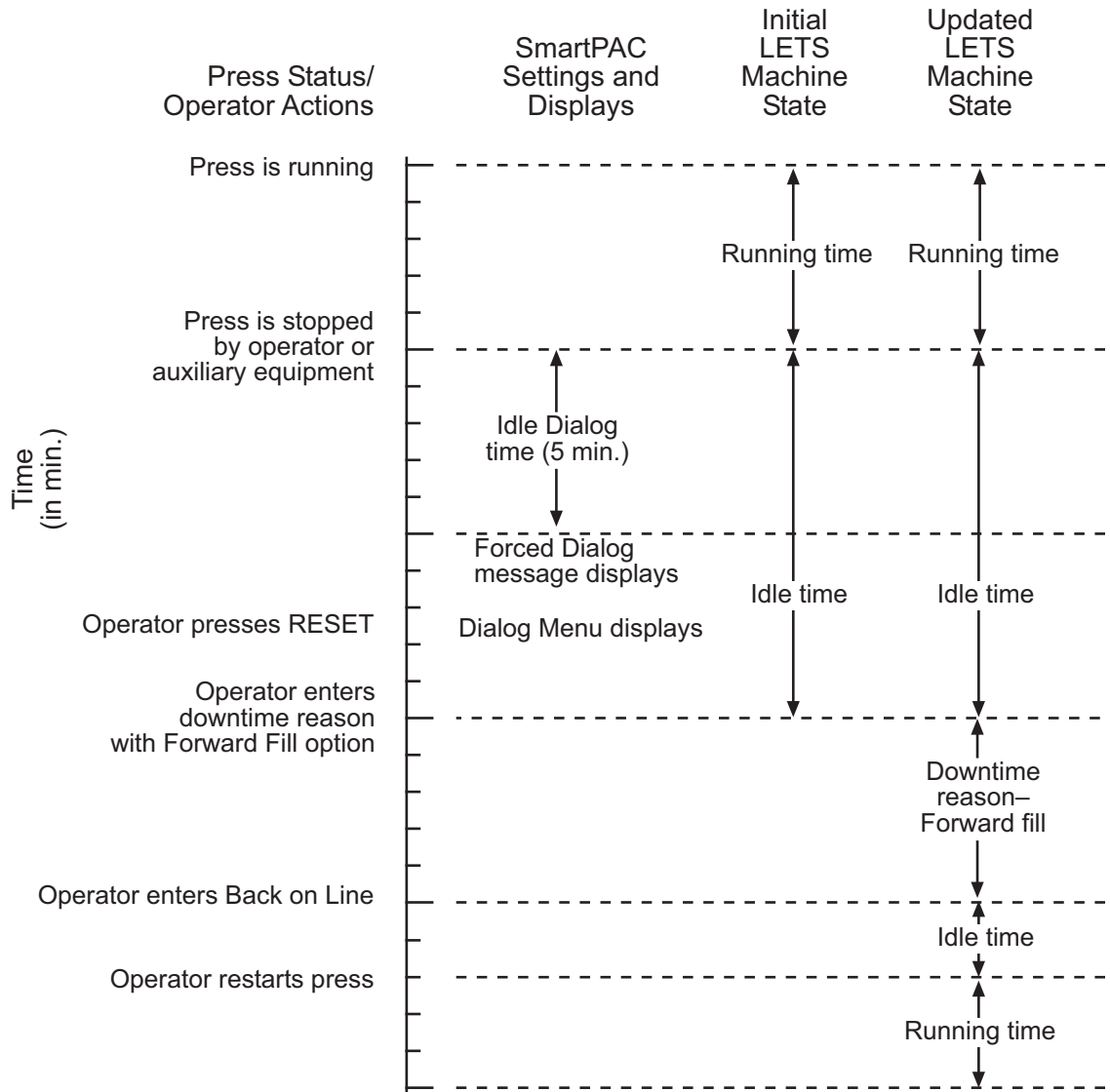


Figure 2. Forced Idle Dialog Mode Time Line (Downtime Reason Forward Filled)

Forced Error Dialog Mode

The Dialog Menu can also be programmed to display whenever the press is stopped due to a SmartPAC fault. This feature, called Forced Error Dialog mode (see *Setting up SmartPAC to Report Downtime*, page 6), allows the operator to add detail to a period of downtime that is initially logged to a specific SmartPAC error but may actually have a different cause.

For example, SmartPAC may be set up to generate an “End of Stock” error whenever the press runs out of material. This downtime reason is applied to the period of time during which a new coil is located and brought to the press unless the operator selects a more appropriate downtime reason, such as “Waiting for Coil,” and, using the backfill option (see *Backfilling vs. Forward Filling*, page 2), applies it to the incompletely documented period. When the downtime reason is backfilled (see Figure 3, page 5 for a schematic time line), SmartPAC

logs one second to the initial error (e.g., “Sensor 5–End of Stock”), assuring that the fault is documented, and the remaining time to the new downtime reason (e.g., “Waiting for Coil”).

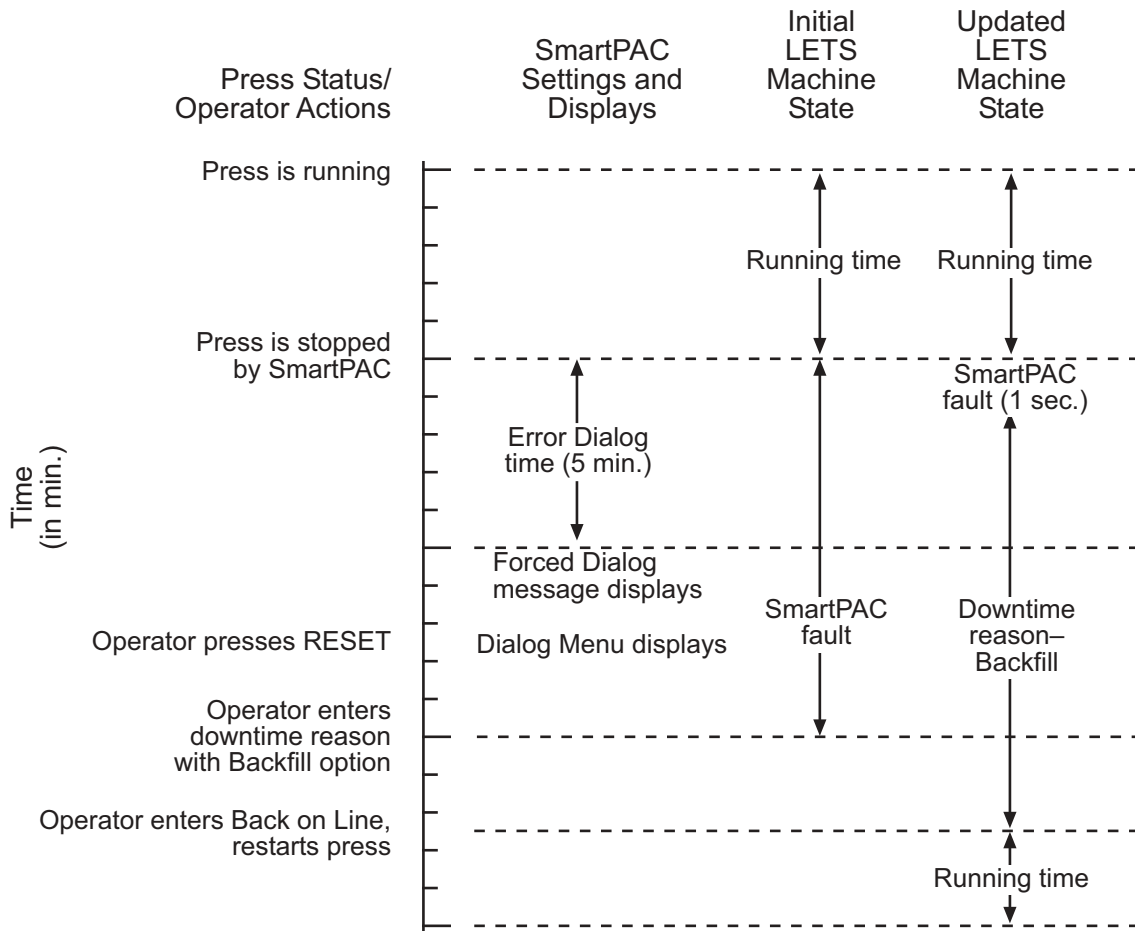


Figure 3. Forced Error Dialog Mode Time Line

Downtime reasons can also be “forward filled” in Forced Error Dialog mode.

As in Forced Idle Dialog mode, the Forced Dialog message can be programmed to display a specified number of minutes after the press stops (see Figure 3). This Error Dialog Time setting prevents nuisance faults such as “Counter preset reached” from being reported as downtime.

Persist Dialog Mode

Periods during which the press is powered down are normally documented as Offline Time and the period following the next power-up assigned to Idle Time. Periods subsequent to machine power-ups are documented as Idle Time even when the period immediately preceding the shutdown has been assigned to an Unplanned Downtime reason. The only machine states that carry over from the period immediately preceding a shutdown to the period immediately succeeding a power-up are Changeover Time and Planned Downtime. In

these cases, the period during which the press is offline and the time immediately following press power-up are assigned to the machine state in effect when the press was powered down.

SmartPAC can be programmed so that Unplanned Downtime reasons selected from the Dialog Menu also “persist” through press shutdowns (see *Setting up SmartPAC to Report Downtime*, below). When this setting is enabled, both the interval during which the press was powered down and the time following resumption of power to the press are assigned to the downtime reason in effect when the press was shut down. One second of the period during which the press was offline is assigned to Offline Time to document this event.

Single-stroke Mode

For hand-fed applications, a special setting can be programmed at the SmartPAC (see *Setting up SmartPAC to Report Downtime*, page 6) that allows the press to operate continuously in Single-stroke mode without the operator having to enter a downtime reason at the end of each stroke, when the SmartPAC considers the press to be stopped. Instead of looking for a change of state (i.e., from Running to Stopped), SmartPAC looks for at least one press cycle during a pre-programmed interval and, if it detects no stroke, considers that the press is stopped, reporting subsequent time as Idle Time.

Dialog Reset Strokes Counter

Normally, a period of Idle Time, Unplanned Downtime, or Planned Downtime is ended when the operator selects “Back on Line” from the Dialog Menu and restarts the press (see *Putting the Press “Back on Line,”* page 3). However, since the operator may forget to select the “Back on Line” item, an alternative way of terminating a period of downtime is available.

SmartPAC can be programmed to begin logging time following a downtime period to Running Time after a specified number of press strokes. The Dialog Reset Strokes counter (see *Setting up SmartPAC to Report Downtime*, below) begins incrementing when the press is restarted, and after the counter reaches its preset, LETS changes the machine state to which it logs press time from the downtime reason to Running Time.

Setting up SmartPAC to Report Downtime

To set up SmartPAC to report downtime to LETS, you make downtime reporting settings on the Set Communications Menu and program downtime reasons on the Dialog Fixed Name Choice Menu and the Dialog Special Choice Name Menu.

Making Downtime Reporting Settings

To enable and configure the SmartPAC downtime reporting features described in the previous section, perform the following steps:

1. At the SmartPAC, turn the Program/Run key to “PROG,” then press the “1” and “CLEAR” keys simultaneously for a second or two until the Main Initialization Menu (see Figure 4, page 7) displays.

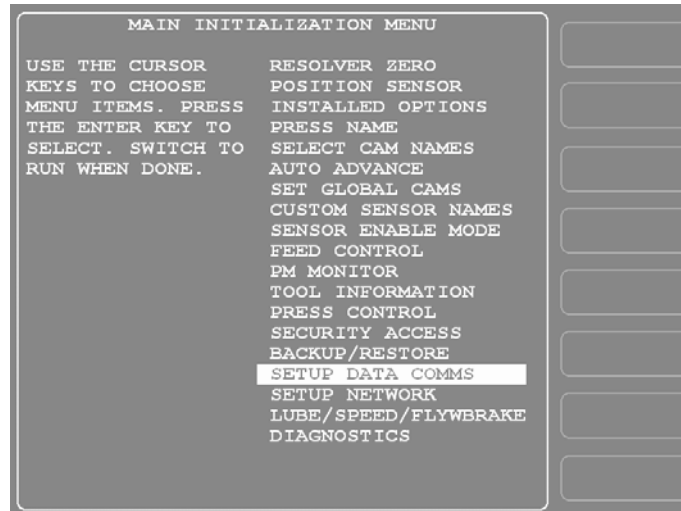


Figure 4. SmartPAC Main Initialization Menu

- Highlight the “SETUP DATA COMMS” menu item, using the Up (▲) or Down (▼) cursor key, and press ENTER. The Set Communications Menu (see Figure 5) displays:

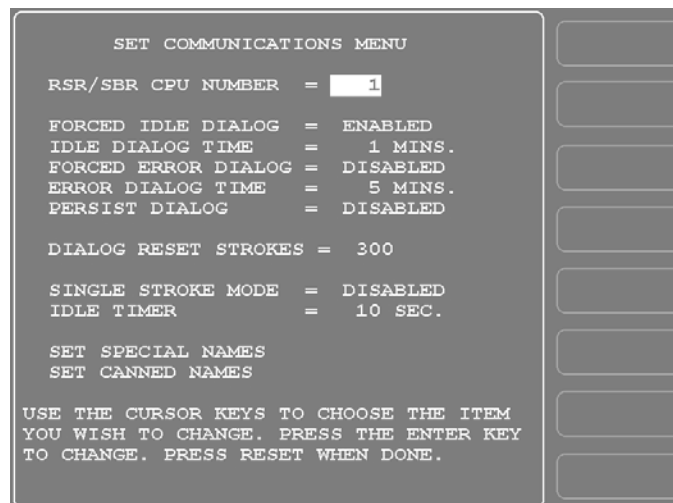


Figure 5. Set Communications Menu

- Highlight each menu item you want to set, using the Up (▲) or Down (▼) cursor key, then do the following:
 - To enable or disable a feature, press ENTER until the desired setting is displayed.
 - To specify a value for an item (with the exception of IDLE TIMER), press ENTER to display the Numeric Entry window, key in your entry with the SmartPAC keypad, and press ENTER again.
 - To select a value for IDLE TIMER, press ENTER until the desired value is displayed.
 - To display screens on which you can program Dialog Menu entries, press ENTER with the cursor resting in the SET SPECIAL NAMES or SET CANNED NAMES field.

Table 1 explains each field on the Set Communications Menu and provides instructions on how to make settings.

Table 1. Set Communications Menu Settings

Field	Settings
RSR/SBR CPU NUMBER	When SmartPAC is connected to LETS, this field must be set to "1." Other CPU Number values may be used when SmartPAC is connected to certain legacy software products that require each SmartPAC to be assigned a unique identifier.
FORCED IDLE DIALOG	Indicates whether SmartPAC displays the Forced Dialog message and Dialog Menu after the press has been stopped by the operator or by auxiliary equipment not connected to SmartPAC. The number of minutes after the press has stopped before the Forced Dialog message appears is specified in the IDLE DIALOG TIME field (see next entry). At the appearance of the Forced Dialog message, the operator must select a downtime reason on the Dialog Menu in order to restart the press. This setting allows time that elapses after the press is stopped by the operator or by equipment not connected to SmartPAC to be documented with a downtime reason rather than as Idle Time. There are two settings: ENABLED Forced Idle Dialog mode enabled DISABLED Forced Idle Dialog mode disabled
IDLE DIALOG TIME	Specifies the number of minutes (1-60) after the press has stopped in Forced Idle Dialog mode before the Forced Dialog message displays. This setting allows you to prevent Forced Idle Dialog from being triggered by brief stops. Suggested initial value: 5 minutes.
FORCED ERROR DIALOG	Indicates whether SmartPAC displays the Forced Dialog message and Dialog Menu after the press has been stopped by a SmartPAC fault. The number of minutes after the press has stopped before the Forced Dialog message appears is specified in the ERROR DIALOG TIME field (see next entry). At the appearance of the Forced Dialog message, the operator must select a downtime reason on the Dialog Menu in order to restart the press. This setting allows time that elapses after the press is stopped due to a SmartPAC fault to be assigned a different downtime reason. There are two settings: ENABLED Forced Error Dialog mode enabled DISABLED Forced Error Dialog mode disabled
ERROR DIALOG TIME	Specifies the number of minutes (1-60) after the press has stopped in Forced Error Dialog mode before the Forced Dialog message displays. This setting allows you to prevent reporting of SmartPAC nuisance faults such as "Counter preset reached." Suggested initial value: 5 minutes.

Table 1. Set Communications Menu Settings (Cont)

Field	Settings
PERSIST DIALOG	<p>Indicates whether an Unplanned Downtime reason from the Dialog Menu that is assigned before a press shutdown continues to be applied to the period during which the press is down and to the time after the press is powered up again. Normally, the interval during a press shutdown is assigned to "Offline Time" and the period after the press is powered up to "Idle Time." There are two settings:</p> <p>ENABLED Persist Dialog mode enabled DISABLED Persist Dialog mode disabled</p>
DIALOG RESET STROKES	<p>Specifies the number of strokes that must occur after the press is restarted before LETS begins documenting the machine state as "Running Time." This setting prevents additional press time from being attributed to a downtime reason when the operator forgets to select the "BACK ON LINE" item from the Dialog Menu. The number of strokes you specify should be the maximum number of press cycles that are likely to occur during a tool or coil change. Maximum value: 9999.</p>
SINGLE STROKE MODE	<p>This setting, which is used for hand-fed applications when the press is being run in Single-stroke mode, indicates whether LETS counts press cycles (or parts made) within the period specified in the IDLE TIMER field (see next entry) to determine whether the press is "running." When this field is set to "ENABLED," LETS only documents the press as "Idle" when no cycles occur (i.e., no parts are made) during an Idle Timer period. There are two settings:</p> <p>ENABLED Single-stroke Mode enabled DISABLED Single-stroke Mode disabled</p>
IDLE TIMER	<p>Specifies the number of seconds during which SmartPAC counts the number of press strokes in Single-stroke mode to determine a production rate for hand-fed applications. This value should be twice the cycle time for the slowest hand-fed job run on a press. For example, if the slowest job produces an average of 6 parts per minute, the Idle Timer should be set to 20 seconds (6 parts per minute = 10-second cycle time; 2 x 10 seconds = 20 seconds). Available selections: 5, 10, 15, 20, 30, and 60.</p>
SET SPECIAL NAMES	<p>Displays the Dialog Special Choice Name Menu, on which you can create up to 16 custom downtime reasons for display on the Dialog Menu and specify the order in which they will appear (see <i>Creating Special Names on the Dialog Special Choice Name Menu</i>, page 12).</p>
SET CANNED NAMES	<p>Displays the Dialog Fixed Name Choice Menu, on which you can select up to 14 pre-programmed, or "canned," downtime reasons for display on the Dialog Menu and specify the order in which they will appear (see <i>Selecting Canned Names on the Dialog Fixed Name Choice Menu</i>, page 10).</p>

Programming Downtime Reasons

The SET SPECIAL NAMES and SET CANNED NAMES items on the Set Communications Menu allow you to specify the downtime reasons that appear on the Dialog Menu and the order in which they are presented. The items you program on these two menus will be the menu selections available to the operator when the Dialog Menu displays in Forced Idle Dialog or Forced Error Dialog mode, or when the operator accesses the menu at other times.

“Canned” names are downtime reasons whose text has been pre-programmed into the SmartPAC. “Special” names are downtime reasons whose text you assign. You can select up to 14 “canned” names and create up to 16 “special” names. The Dialog Menu can include both “canned” and “special” entries, displaying up to 30 items.

NOTICE

It is recommended that you create a standardized list of downtime reasons for all your presses. Having the Dialog Menu display the same downtime reasons in the same order on all SmartPACs will help to minimize reporting errors.

When planning the order in which you want Dialog Menu items to display, you should attempt to predetermine the downtime causes that are likely to occur most frequently and place these at the beginning of the downtime reason sequence.

Selecting Canned Names on the Dialog Fixed Name Choice Menu

When you select the SET CANNED NAMES item on the Set Communications Menu, the Dialog Fixed Name Choice Menu (see Figure 6) displays. This menu allows you to select the “Canned” names that will appear on the Dialog Menu. “Canned” names are downtime reasons whose text has already been programmed into the SmartPAC. You can select up to 14 of these pre-programmed entries for inclusion in the Dialog Menu.

DIALOG FIXED	OPER. NUMBER	0
NAME CHOICE	BACK ON LINE	1
MENU	PRESS IDLE	0
	COIL CHANGE	4
USE THE CURSOR	TOOL CHANGE	2
KEYS TO CHOOSE	FORKLIFT	5
A SEQUENCE	QUAL CONTROL	6
VALUE. PRESS	LUBE PROBLEM	7
ENTER TO CHANGE	AIR PROBLEM	15
VALUE. PRESS	ELEC PROBLEM	11
THE RESET KEY	MECH PROBLEM	12
WHEN ALL DONE.	PART EJECTION	16
	BIN FULL	0
PRESS THE F1	PART QUALITY	13
KEY TO INITIAL-	PLANNED DOWN	3
IZE ALL THE		
VALUES.		

Figure 6. Dialog Fixed Name Choice Menu

You select a “canned” name by entering a sequence number to the right of the name’s text entry. The sequence number specifies the position in which that item will appear on the Dialog Menu. For example, in the screen shown in Figure 6, the item LUBE PROBLEM has a sequence number of 7 and, so, will appear seventh on the Dialog Menu. Since “special” downtime reasons may also appear on the Dialog Menu, be sure to maintain the necessary intervals in your “canned” name numbering scheme to accommodate these items.

To prevent a “canned” name from appearing on the Dialog Menu, set its sequence number to 0.

It is recommended that you include the following “canned” items in the Dialog Menu:

- **TOOL CHANGE**—This downtime reason is logged to the Changeover Time machine state, enabling LETS to track time for tool changes separately from other unplanned downtime and create special Changeover reports. “Tool Change” is the only Unplanned Downtime reason that is assigned to time when power to the press is off. Powering down the press is often necessary during tool changeover.
- **PLANNED DOWN**—This entry is logged to the Planned Downtime machine state, which includes time for planned lunch or coffee breaks, meetings, training, etc. Planned Downtime is not used in calculating Overall Equipment Effectiveness (OEE) and, therefore, does not reduce the OEE value.
- **BACK ON LINE**—This selection enables the operator to end a downtime event. When BACK ON LINE is selected, the machine state will change from “Unplanned Downtime,” “Planned Downtime,” or “Changeover Time” to “Running Time” if the press is running or from one of these “downtime” states to “Idle Time” if the press is stopped.
- **OPER. NUMBER**—This “canned” name allows the operator to enter an operator number, enabling LETS to assign a period of press time such as a shift to a particular operator.

To select the pre-programmed downtime reasons that will appear on the Dialog Menu and the order in which they will appear, do the following:

1. On the Set Communications Menu, highlight the SET CANNED NAMES item, using the Up (▲) or Down (▼) cursor key, and press ENTER. The Dialog Fixed Name Choice Menu (see Figure 6) displays with the cursor resting in the OPER. NUMBER field.
2. Press ENTER, and when the Numeric Entry window appears, type the numeric position in which you want that item to appear on the Dialog Menu, or type “0” if you want to prevent the item from displaying on the Dialog Menu. Press ENTER to save your entry and return to the Dialog Fixed Name Choice Menu.
3. Move the cursor to the BACK ON LINE field, using the Down (▼) cursor key, and repeat step 2. Do the same for the remaining menu items.

NOTICE

Remember to leave intervals between sequence numbers to allow room for “special” downtime reasons. See *Creating Special Names on the Dialog Special Choice Name Menu*, page 12.

If the same sequence number is assigned to both a “canned” and a “special” name, both entries will display in that position on the Dialog Menu with the “special” name shown first.

- When you are finished setting the sequence of “canned” names, press RESET to save your entries and return to the Set Communications Menu.

Creating Special Names on the Dialog Special Choice Name Menu

When you select the SET SPECIAL NAMES item on the Set Communications Menu, the Dialog Special Choice Name Menu (see Figure 7) displays. This menu allows you to select the “special” names that will appear on the Dialog Menu. “Special” names are downtime reasons created by the user. Each name can be up to 12 characters in length, and you can include up to 16 of them in the Dialog Menu.

DIALOG SPECIAL	SPEC. 1	QC APPROVAL	8
CHOICE NAME	SPEC. 2	NO OPERATOR	9
MENU	SPEC. 3	MACH. MAINT.	10
	SPEC. 4	FEED PROBLEM	14
USE THE CURSOR	SPEC. 5		0
KEYS TO CHOOSE	SPEC. 6		0
A NAME OR SE-	SPEC. 7		0
QUENCE VALUE.	SPEC. 8		0
PRESS ENTER TO	SPEC. 9		0
CHANGE. PRESS	SPEC. 10		0
THE RESET KEY	SPEC. 11		0
WHEN ALL DONE.	SPEC. 12		0
	SPEC. 13		0
PRESS THE F1	SPEC. 14		0
KEY TO CLEAR	SPEC. 15		0
ALL THE NAMES	SPEC. 16		0
AND VALUES.			

Figure 7. Dialog Special Choice Name Menu

You specify the order in which “special” names appear on the Dialog Menu by entering a sequence number to the right of each text entry. The sequence number specifies the position in which that item will appear on the Dialog Menu. Since “canned” downtime reasons may also appear on the Dialog Menu, be sure to maintain the necessary intervals in your “special” name numbering scheme to accommodate these items.

To prevent a “special” name from appearing on the Dialog Menu, set its sequence number to 0.

To program “special” downtime reasons for inclusion in the Dialog Menu, perform the following steps:

- On the Set Communications Menu, highlight the SET SPECIAL NAMES item, using the Up (▲) or Down (▼) cursor key, and press ENTER. The Dialog Special Choice Name Menu (see Figure 7) displays with the cursor resting in the SPEC. 1 field.
- Press ENTER, and when the Text Entry window displays, type the text (12 characters maximum, including spaces) of the downtime reason that you want to appear on the Dialog Menu; then, press F6 to save your entry and return to the Dialog Special Choice Name Menu.

3. Press the Right (►) cursor key to move the cursor to the column for the SPEC. 1 sequence number.
4. Press ENTER, and when the Numeric Entry window displays, type the numeric position in which you want that downtime reason to appear on the Dialog Menu; then, press ENTER to save your entry and return to the Dialog Special Choice Name Menu.

NOTICE

Remember to leave intervals between sequence numbers to allow room for “canned” downtime reasons. See *Selecting Canned Names on the Dialog Fixed Name Choice Menu*, page 10.

If the same sequence number is assigned to both a “canned” and a “special” name, both entries will display in that position on the Dialog Menu with the “special” name shown first.

5. Move the cursor to the SPEC. 2 field, using the Down (▼) cursor key, and repeat steps 2 through 4. Do the same for the remaining menu items.
6. When you have finished programming “special” downtime reasons, press RESET to save your entries and return to the Set Communications Menu.

Documenting Downtime on the Dialog Menu

A downtime reason can be selected on the Dialog Menu either in response to the Forced Dialog message or when the operator wants to change a previous downtime entry or add detail to reported downtime.

Documenting Downtime in Response to the Forced Dialog Message

With Forced Idle Dialog mode or Forced Error Dialog mode enabled (see *Setting up SmartPAC to Report Downtime*, page 6), the operator is prompted to enter a downtime reason on the Dialog Menu whenever SmartPAC detects that the press has stopped under the appropriate circumstances. This message is shown in Figure 8, page 14.

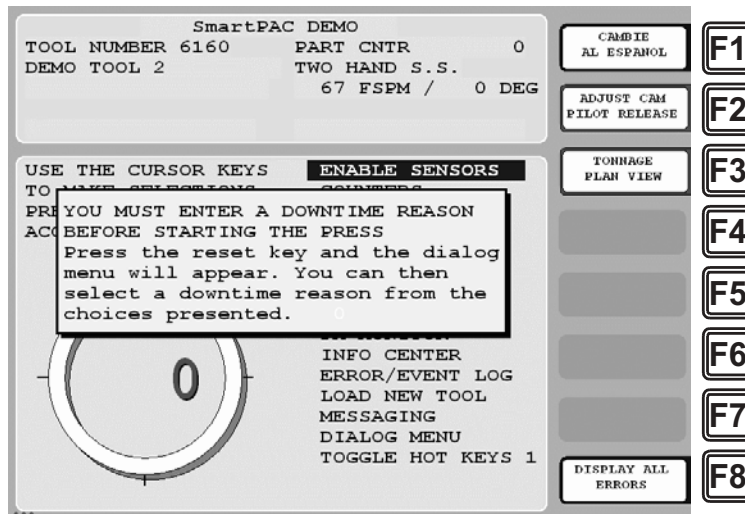


Figure 8. SmartPAC Run Mode Main Menu with Forced Dialog Message Displayed

To respond to this prompt, perform the following steps:

1. Press RESET to clear the message. The Dialog Menu (see Figure 9) displays.

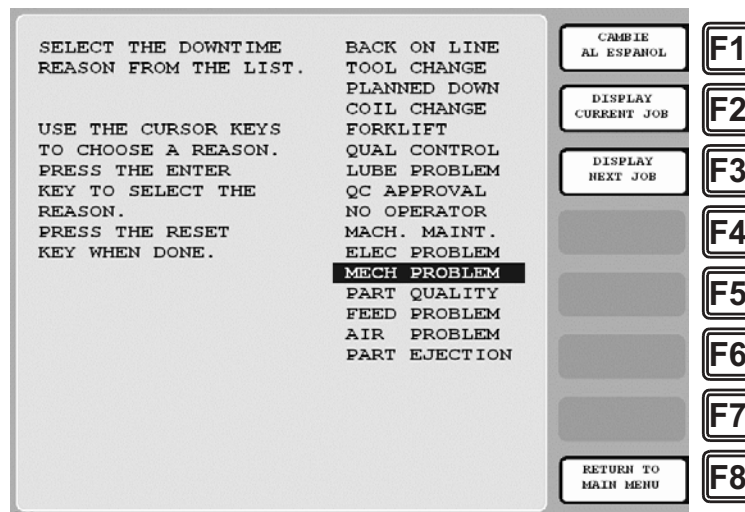


Figure 9. Dialog Menu

2. Highlight the downtime reason you want (in Figure 9, MECH PROBLEM is selected as an example), using the Up (▲) or Down (▼) cursor key, and press ENTER. The window shown in Figure 10, page 15 displays.

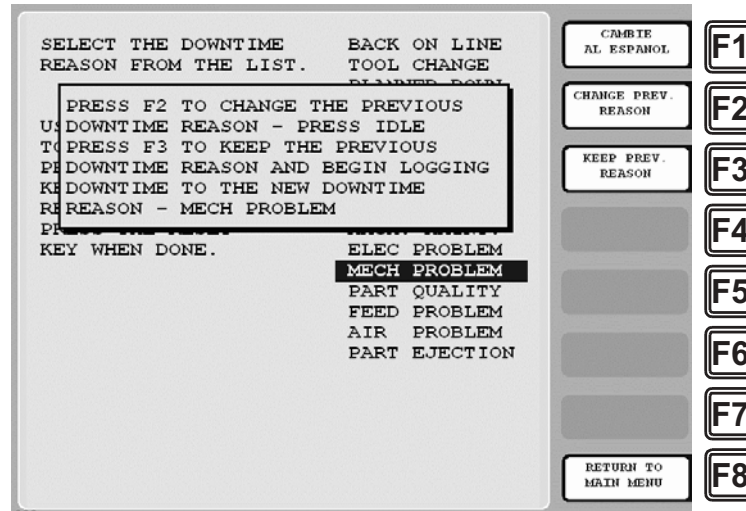


Figure 10. Dialog Menu with F2/F3 Option Window Displayed

- Press the F2 (Change Prev. Reason) function key to “backfill” the selected downtime reason, in other words, to assign it to the period from the time that the press was stopped up to entry of the next downtime reason or the BACK ON LINE selection. If a SmartPAC fault has already been assigned to this period of press inactivity, that fault will be documented as having consumed 1 second and the remainder of the period filled with the downtime reason you selected. If the period has been documented as Idle Time, your downtime reason will replace that entry.

or

Press F3 (Keep Prev. Reason) to leave documentation of the period up to the present unchanged and “forward fill” the selected downtime reason, in other words, assign it to the period from the present up to entry of the next downtime reason or the BACK ON LINE selection.

The SmartPAC will display a message stating that the downtime reason has been sent to the host computer.

Documenting Downtime in Other Situations

You can report downtime reasons to LETS at any time without being prompted by the Forced Dialog message.

EXAMPLE: UPDATING A DOWNTIME REASON

The operator stops the press for what he assumes is a feed problem and selects the downtime reason “FEED PROBLEM” from the Dialog Menu. After further investigation, he finds that the feed is working properly but the air supply to the feed is intermittent. The operator accesses the Dialog Menu, selects “AIR PROBLEM” from the list of downtime reasons, and chooses the F2 (Change Prev. Reason) option. LETS changes the reason for the downtime period from “FEED PROBLEM” to “AIR PROBLEM.”

To report downtime without being prompted, perform the following steps:

- On the Main Run Menu (see Figure 11, page 16), select the DIALOG MENU item.

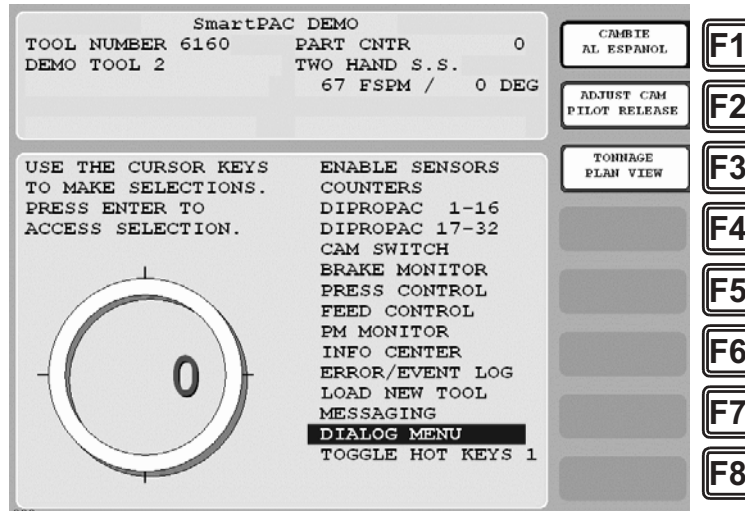


Figure 11. SmartPAC Run Mode Main Menu with DIALOG MENU Item Selected

2. On the Dialog Menu, highlight the downtime reason you want, using the Up (▲) or Down (▼) cursor key, and press ENTER. The window shown in Figure 10 displays.
3. Press the F2 (Change Prev. Reason) function key to “backfill” the selected downtime reason, in other words, to assign it to the period of Idle Time or downtime up to entry of the next downtime reason or the BACK ON LINE selection. If a downtime reason other than a SmartPAC fault has been assigned to this period, the downtime reason you selected will replace it. If a SmartPAC fault has been assigned to this period, that fault will be documented as having consumed 1 second and the remainder of the period filled with the downtime reason you selected. If the period has been documented as Idle Time, your downtime reason will replace that entry.

or

Press F3 (Keep Prev. Reason) to leave documentation of the period up to the present unchanged and “forward fill” the selected downtime reason, in other words, assign it to the period from the present up to entry of the next downtime reason or the BACK ON LINE selection.

The SmartPAC will display a message stating that the downtime reason has been sent to the host computer.

Reporting Scrap and Good Parts to LETS

If you are running LETS-compatible firmware, SmartPAC enables you to document scrap so that scrap counts can be reported to LETS. The scrap counter, which appears on the Counters screen in Run mode, maintains a cumulative total of all user scrap entries for the currently running job, resetting to zero when the job is complete.

The cumulative scrap count reduces by that amount the number of good parts reported to LETS. The good parts count is maintained in the Good Parts Count field on the Counters screen (see Figure 13, page 18). If you wish to adjust the Good Parts counter upward, you can do so in up to 1,000-part increments in Run mode and in larger increments in Program mode.

To enable scrap entries and Good Parts counter adjustments to be made in Run mode, you must set the CHANGE COUNT item on the Security Access Menu in Initialization mode to “PROGRAM AND RUN MODES,” as shown in Figure 12. (To display the Security Access Menu, select SECURITY ACCESS from the Main Initialization Menu—see Figure 4, page 7.)

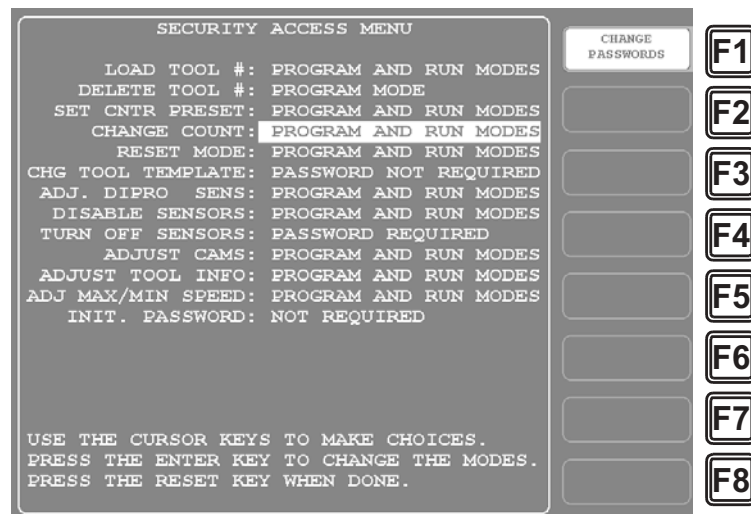


Figure 12. Security Access Menu with CHANGE COUNT Item Set to “PROGRAM AND RUN MODES”

Making Scrap Entries

To document scrap for a currently running job, do the following:

1. With the tool loaded and running, select “COUNTERS” on the Main Run Menu (see Figure 11, page 16) to display the Counters screen (see Figure 13, page 18).

SmartPAC DEMO		
DEMO TOOL 2	PART CNTR	900
TOOL ID 6160		
SENSORS ENABLED	PRESS ANGLE	0

	COUNT	PRESET VALUE
STROKES	900	0
GOOD PARTS	900	10,000
BATCH 1	0	0
(TOP STOP)		
BATCH 2	0	0
(TOP STOP)		
BATCH 3	0	0
(TOP STOP)		
TOTAL HITS	0	0

USE CURSOR KEYS TO MAKE SELECTION.
PRESS THE RESET KEY WHEN DONE.
PRESS CLEAR KEY TO CLEAR THE COUNT.
PRESS ENTER TO CHANGE THE COUNT.

CAMBIE AL ESPAÑOL	F1
RELOAD BATCH COUNTERS	F2
SCRAP VALUE 0	F3
	F4
	F5
	F6
	F7
RETURN TO MAIN MENU	F8

Figure 13. Counters Screen with “Scrap Value” Function (F3) Shown

- Press F3 (Scrap Value). The Scrap Value Entry window displays (see Figure 14).

SmartPAC DEMO		
DEMO TOOL 2	PART CNTR	900
TOOL ID 6160		
SENSORS ENABLED	PRESS ANGLE	0

	COUNT	PRESET VALUE
STROKES	900	0
GOOD PARTS	900	10,000
BATCH 1	0	0
(TOP STOP)		
BATCH 2	0	0
(TOP STOP)		
BATCH 3	0	0
(TOP STOP)		
TOTAL HITS	0	0

USE THE KEYPAD TO ENTER NUMBERS.
TO INCREASE/DECREASE. PRESS ENTER WHEN DONE. PRESS RESET TO CANCEL.

30

PRESS CLEAR KEY TO CLEAR THE COUNT.
PRESS ENTER TO CHANGE THE COUNT.

CAMBIE AL ESPAÑOL	F1
RELOAD BATCH COUNTERS	F2
SCRAP VALUE 0	F3
	F4
	F5
	F6
	F7
RETURN TO MAIN MENU	F8

Figure 14. Counters Screen with Scrap Value Entry Window Displayed (30 Items Shown)

- If this is your first scrap entry for the job, perform this step; otherwise, go to step 4.

Key in the amount of scrap you wish to document, following the directions in the window, and press ENTER. (Figure 14 shows a scrap entry of “30” as an example.)

When you press ENTER, the Scrap Value Entry window disappears, and the value you keyed in is displayed beneath the “Scrap Value” caption to the left of the F3 function key, as shown in Figure 15, page 19, where a scrap value of “30” is used as an example. The Good Parts counter is reduced by the amount of your scrap entry (e.g., $900 - 30 = 870$ in Figure 15).

SmartPAC DEMO		
DEMO TOOL 2	PART CNTR	870
TOOL ID 6160		
SENSORS ENABLED	PRESS ANGLE	0

	COUNT	PRESET VALUE
STROKES	900	0
GOOD PARTS	870	10,000
BATCH 1	0	0
(TOP STOP)		
BATCH 2	0	0
(TOP STOP)		
BATCH 3	0	0
(TOP STOP)		
TOTAL HITS	0	0

USE CURSOR KEYS TO MAKE SELECTION.
PRESS THE RESET KEY WHEN DONE.
PRESS CLEAR KEY TO CLEAR THE COUNT.
PRESS ENTER TO CHANGE THE COUNT.

CAMBIE AL ESPAÑOL	F1
RELOAD BATCH COUNTERS	F2
SCRAP VALUE 30	F3
	F4
	F5
	F6
	F7
RETURN TO MAIN MENU	F8

Figure 15. Counters Screen with Scrap Value Updated to 30 Items

NOTICE**INDIVIDUAL SCRAP ENTRIES MUST INCLUDE CURRENT SCRAP TOTAL**

The Scrap Value counter maintains a cumulative total of the scrap items documented for each job. In order to increment this counter, the value you enter in the Scrap Value Entry window (see Figure 14, page 18) must include the current scrap total—in other words, you must add the number of scrap items you wish to document to the current value shown in the Scrap Value counter. The Good Parts counter, on the other hand, is reduced by the actual number of scrap pieces you are reporting in this session, in other words, the difference between your scrap entry and the current Scrap Value total.

For example, if the count in the Scrap Value field is “30,” and you want to include an additional 10 parts in the count, you would enter “40” (not “10”) in the Scrap Value Entry window. When you are returned to the Counters screen, the Scrap Value counter would display 40 parts; the Good Parts counter would be reduced by 10 parts.

- If you have made previous Scrap Value entries for this job, key in the sum of the scrap count you wish to document this time and the current total shown in the Scrap Value field, and press ENTER. See Figure 16, page 20, in which “40” is used as the sample scrap input.

SmartPAC DEMO		
DEMO TOOL 2	PART CNTR	1720
TOOL ID 6160		
SENSORS ENABLED	PRESS ANGLE	0

	COUNT	PRESET VALUE
STROKES	1,750	0
GOOD PARTS	1,720	10,000
BATCH 1	0	0
(TOP STOP)		
BATCH 2	0	0
(TOP STOP)		
BATCH 3	0	0
(TOP STOP)		
TOTAL HITS	0	0

USE THE KEYPAD TO ENTER NUMBERS.
 USE THE UP/DOWN CURSOR KEYS TO
 INCREASE/DECREASE. PRESS ENTER
 WHEN DONE. PRESS RESET TO CANCEL.

PRESS CLEAR KEY TO CLEAR THE COUNT.
 PRESS ENTER TO CHANGE THE COUNT.

CAMBIE AL. ESPANOL	F1
RELOAD BATCH COUNTERS	F2
SCRAP VALUE 30	F3
	F4
	F5
	F6
	F7
RETURN TO MAIN MENU	F8

Figure 16. Counters Screen with Scrap Value Entry Window Displayed (40 Items Shown)

You are returned to the Counters screen. The value you entered in the Scrap Value Entry window is displayed beneath the “Scrap Value” caption to the left of the F3 function key (see Figure 17, in which a scrap total of “40” is used as an example). The Good Parts counter is reduced by the difference between the amount of your Scrap Value entry and the current Scrap Value (e.g., $1,720 - (40 - 30) = 1,710$ in Figure 17).

SmartPAC DEMO		
DEMO TOOL 2	PART CNTR	1710
TOOL ID 6160		
SENSORS ENABLED	PRESS ANGLE	0

	COUNT	PRESET VALUE
STROKES	1,750	0
GOOD PARTS	1,710	10,000
BATCH 1	0	0
(TOP STOP)		
BATCH 2	0	0
(TOP STOP)		
BATCH 3	0	0
(TOP STOP)		
TOTAL HITS	0	0

USE CURSOR KEYS TO MAKE SELECTION.
 PRESS THE RESET KEY WHEN DONE.
 PRESS CLEAR KEY TO CLEAR THE COUNT.
 PRESS ENTER TO CHANGE THE COUNT.

CAMBIE AL. ESPANOL	F1
RELOAD BATCH COUNTERS	F2
SCRAP VALUE 40	F3
	F4
	F5
	F6
	F7
RETURN TO MAIN MENU	F8

Figure 17. Counters Screen with Scrap Value Updated to 40 Items

- Repeat step 4 for the remaining scrap entries associated with the current job until the job is completed.

Adjusting the Good Parts Counter

NOTICE

You can only increase the value maintained by the Good Parts counter. You cannot decrease the Good Parts counter except by entering scrap values.

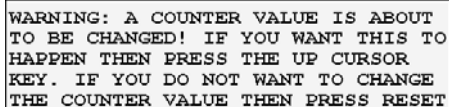
The Run mode Counters screen enables you to increase the Good Parts count to adjust for count inaccuracies, such as when good parts may be produced but not counted in Setup mode or during Fault conditions. The count can be increased by up to 1,000 parts at a time.

The Counters screen in Program mode allows you to increase Good Parts by larger amounts (see *Adjusting the Good Parts Counter in Program Mode*, next page). This capability is useful if new firmware is installed in the middle of a job, causing the Good Parts counter to reset to zero.

Adjusting the Good Parts Counter in Run Mode

To increase the Good Parts count in Run mode, do the following:

1. Select the GOOD PARTS COUNT field on the Counters screen.
2. When the Good Parts Entry window (like the window shown in Figure 14) displays, key in the number of good parts you want to add (1,000 parts maximum), and press ENTER. A Confirmation window like the one shown in Figure 18 displays.



```
WARNING: A COUNTER VALUE IS ABOUT  
TO BE CHANGED! IF YOU WANT THIS TO  
HAPPEN THEN PRESS THE UP CURSOR  
KEY. IF YOU DO NOT WANT TO CHANGE  
THE COUNTER VALUE THEN PRESS RESET
```

Figure 18. Good Parts Counter Adjustment Confirmation Window

3. Press the Up Arrow (▲) cursor key to confirm that you want to change the Good Parts counter value. You are returned to the Counters screen with your adjustment reflected in the GOOD PARTS COUNT field.

NOTICE

If you attempt to enter a value greater than 1,000 or one that reduces (rather than increases) the Good Parts count, an error message will display briefly.

Adjusting the Good Parts Counter in Program Mode

NOTICE

In Program mode, you can increase the Good Parts count in increments greater than 1,000.

To increase the Good Parts count in Program mode, do the following:

1. On the Counters screen in Run mode, press RESET to return to the Main Run Menu.

2. Turn the Program/Run key to “PROG” to display the Main Program Menu.
3. Select “GO TO THE TOOL MANAGER” to display the Tool Manager screen.
4. Press F4 (Edit Tool) with the loaded tool selected to display the Tool Program Menu.
5. Select COUNTERS to display the Counters screen.
6. Perform steps 1 through 3 of the procedure for adjusting the Good Parts counter in Run mode, above.