US-5000 Semiautomatic "Kit" Net-Weigh / Counting Scale And US-5500 Partion “Light” Table

Operation Guide, Version 1

Advanced Poly-Packaging, Inc.

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Contents

US-5000 Kit Scale Operation

8.1 Introduction

The US-5000 "Kit" Net Weigh system is a versatile semiautomatic bagging system which provides for fast bagging of kits or one type of part per bag, in counts up to 10,000 pieces.

If your company bags a wide variety of parts with multiple parts of various counts in bags, the US-5000 Kit Packaging System is an excellent solution for your company.

Controlled through the T-1000-S14 Bagger touch screen, the user friendly program setup screens allow you to sample parts quickly, change kit contents, save new kit settings and recall previously run kits.

Because high capacity memory cards are available, you could store million of kit settings for recall with minimal setup time.

This manual addendum provides detailed and quick setup procedures for the US-5000 Kit Scale Bagging System. You should first read the T-1000 Operation Manual to become familiar with all safety and operation requirements before proceeding to setup the US-5000 system.

8.2 Access to Factory Settings

The US-5000 is considered an option to the T-1000 and is controlled via the T-1000 touch screen, scale controller, PLC and PLC expansion cards. Special screens are provided which control the operation of the US-5000. However, before the US-5000 screens are available for access, the Option must be enabled in the touch screen operator program. You must contact APPI Technical Support, if the scale screens are not activated.

To determine if the screens have been activated, select Options from the Main Menu. See Fig. 8-1. Then, press the US-5000 button. If the US-5000 Information screen is shown with an Activation button at the bottom of the screen, then the US-5000 programming has not yet been activated. Contact APPI Technical Support for information on how to activate the option.

If activated, the next step is to select the method of operation that best suits your products and applications. These settings are pass code protected in the Technical Assistance portion of the screens and are typically not changed, once set.

To gain access to the Technical Assistance: Scale Factory Settings, press the Tech Assist button from the Main Menu. You will be prompted for a Pass Code. See Fig. 8-2.

The default Level 1 pass code is 1001. Once this is entered, the code can be changed to prevent access to unauthorized individuals. Select Pass Code Setup from the Technical Assistance Screen to change the Level 1 or Level 2 pass codes. See Fig. 8-3

8.3 Scale Factory Settings Screen: Auto Zero Setup

An information screen is provided for the Auto Zero function. See Figs. 8-4 and 8-5.

Note: The Kit packaging operation method can be selected for Single part operation also. However, due to the increased complexity of the screens and operations when packaging kits, additional training may be required for Kit packaging operations.

Time Out timer setting and Zero Range setting: The US-5000 is programmed with an auto zero function that allows the scale to automatically zero the scale if the two conditions are met: 1) Current weight is in the range setting and 2) Weight has been within the range setting for a preset time (Time Out).

For instance, if the Zero Range is set to .003 lbs and the Time Out value is 3 seconds, the scale will automatically zero if the scale is not in cycle operation and the current weight displayed is stable at .002 lbs. This function allows for more infrequent cleaning of the tray or environmental conditions which may affect the load cell. However, this function may not eliminate the need to periodically manually zero the scale.

8.4 Kit Setup Screen

Kits comprised of up to six various parts of various quantities can be loaded by running a kit program that incorporates a recipe management system and a programmable sequence of operation. Kits can be setup from the Kit Setup Screen or data can be entered directly from your database or spreadsheets. See Figs. 8-6 and 8-7.

A recipe management program stores data in CSV format (Comma Separated Values) on a memory card. Size of the memory cards can vary depending on the number of kits. Typically, the size of the memory card is at least 512MB giving you the capability of storing millions of Kit# settings. Once saved, the settings can be loaded for quick setups of kits.

Note: Once recalled, we recommend sampling the parts again to ensure that the average piece weight has not changed since running the parts previously. Part weights often change with different lots.

If you open the CSV file, you will notice the following data format in the file.

CSV File Format:

Description	Field Length (Numeric)
Kit	10
Bag	6
Part 1	6
Qty	4
Over	2
Dump	1
Weight	10
Seq	1
Part 2	6
Qty	4
Over	2
Dump	1
Weight	10
Seq	1
Part 3	6
Qty	4
Over	2
Dump	1
Weight	10
Seq	1
Part 4	6
Qty	4
Over	2
Dump	1
Weight	10
Seq	1
Part 5	6
Qty	4
Over	2
Dump	1
Weight	10
Seq	1
Part 6	6
Qty	4
Over	2

```
Dump                    1
Weight                 10
Seq                     1
```

The Kit# is the Key Field which save all settings. Before writing to the memory card, the Kit# database is scanned to ensure that no duplicate items are saved. Therefore, to prevent having duplicate entries, the Kit# must be a unique number.

To enter numeric data into Kit Setup Screen, press the field to display a number keypad. Once you have entered the data correctly, press the <ENT> button.

To setup a new kit, we recommend entering one line at a time and sampling each part before proceeding to the next part.

The first column in the detail settings section, below the Kit# and Bag PN header section, is the Seq# (or Bin#). If your kit contains six various parts, then you will enter a value from 1 to 6 in column 1. You should not have duplicates numbers. When running the program, the scale will cycle the various parts in the kit in this order. If your kit contains only two different parts, then you should have a number 1 and a number 2 in the first two rows of the detail section. Additionally, all the remaining Seq#s must be set to 0. Entering a 0 in the Seq# bypasses that line.

The second column of the detail settings section, labeled Part#, allows you to enter a numeric value, up to 6 digits. This number does not need to be unique and is only used for the operator to reference which part should be loaded.

The third column, labeled Count, allows you to enter a quantity for each part number in the kit, up to a four digit numeric value.

The fourth column, labeled Over, allows you to enter a value which you authorize an operator to "give away". By entering an over value of 1, for instance, with a desired count of 10, allows the scale to cycle with a range of 10 to 11 parts. If no overages are authorized, then enter 0 in the Over column.

The fifth column, labeled Dump, allows you to toggle between Dump-NO to Dump-Yes. After the correct quantity of parts (within the acceptable range) has been weighed, the scale tray with either tilt forward, dumping the parts, or simply zero (not dump). Current Bin and Total weight is discussed in the following sections.

Note: Although the data format indicates that the Dump value is numeric in the format above, the touch screen allows for toggling from Yes to No.

The sixth and final column is a menu button labeled Sample. Pressing this button will display a Piece Count Setup screen which will allow the scale to calculate the Average (One) Piece Wt. Once complete with the Piece count Setup, discussed in the next section, you will return to the Kit Setup Screen where all settings can now be saved by pressing the Job Save button.

Additionally, once all settings are completed and the Kit is saved, you can press the Run button, located on the bottom right of the screen, to start the kit program sequence.

8.5 Piece Count Setup: Kit Scale Operation

The average piece weight must be established for the scale to accurately "count" the parts. The scale should be in Stop, Manual or Setup mode prior to performing this step. Press the Sample button from the Kit Setup Screen to start the Piece Count setup routine. See Fig. 8-8

The scale tray should be empty, clean and the scale at Zero before proceeding. Press the Scale Cycle button to clear the scale. Clean the scale tray, then press the Zero button. Manually count a quantity

Fig. 8-7

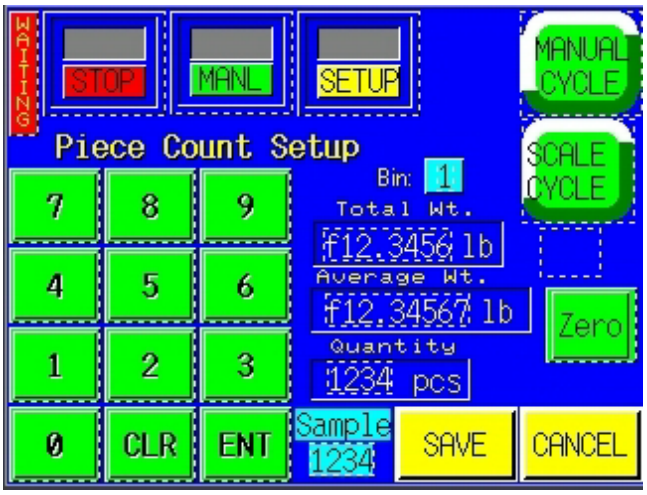

Fig. 8-8

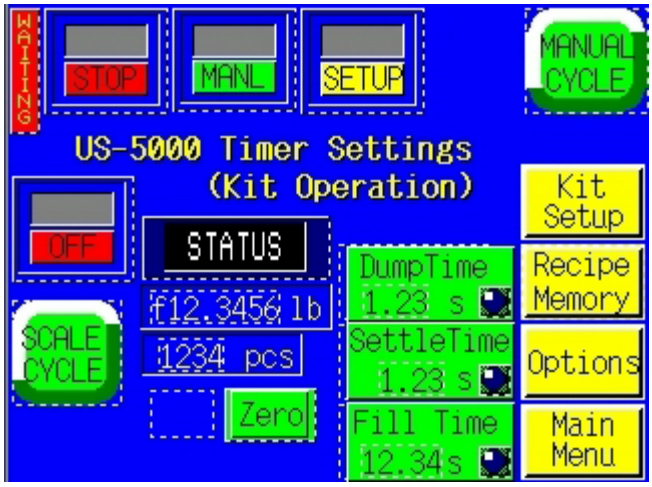

Fig. 8-9

Fig. 8-10

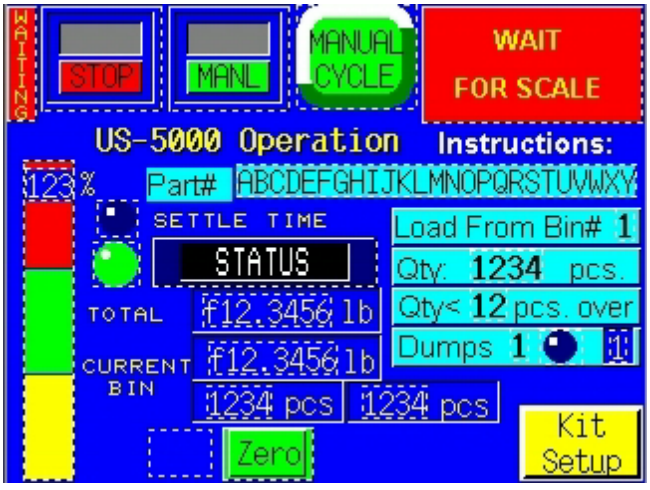

Fig. 8-11

Fig. 8-12

sufficient to accurately determine the average piece weight. For smaller or lighter products, we recommend a higher quantity for the sample count. Enter the value of the batch count using the number keypad and press Enter. Notice the One Piece weight value on the screen. Then press the Enter key again. If the One Piece value did not change, the One Piece weight or "Average Piece Weight" has been established. As a final test, remove and add one piece at a time ensuring the Quantity changes accordingly.

Note: A higher batch count will establish a more accurate Average (One) Piece weight.

Due to "Lot" weight variance, this count setup procedure should be conducted on a regular basis. We recommend performing the sampling procedure during the setup of every new part. If the piece Quantity does not accurately display the number of pieces in the tray when one piece is removed, it may be due to varying piece weight. For very light pieces, the Quantity display may be constantly changing. If this occurs, the range may need to be increased to allow for the scale accuracy increments.

Some parts may weigh less than the scale minimal increment. For instance, you may need to remove 5 parts for the scale to decrement by a quantity of 5.

Note: To avoid injury, the system should be in the Stop Mode before attempting to clean the scale tray.

From this screen, you can also test that the Auto Zero functionality of the scale does not Ensure that the final batch weight is not within or close to the Auto Zero Range. If the scale zeroes with the parts in the scale, the Auto Zero range setting must be adjusted. Additionally, the Auto Zero timer can be changed to prevent the scale from automatically zeroing during the cycle operation.

When satisfied with your testing, press the Save button.

8.6 US-5000 Timer Settings

The US-5000, when set to the Kit mode of operation, has all timers for the scale located on one screen. Dump time, settle time and fill time can be adjusted from this screen. See Figs. 8-9.

STOP/START toggle button: The system must be in START position to run the bagger and/or scale.

MANL/AUTO toggle button: If running in the footswitch mode or if you are setting up the scale, the MANL position can be selected. To have the scale automatically cycle when the weight/count is in the acceptable weight range, toggle the button to AUTO.

Caution: When the scale is in AUTO, the scale tray will tilt forward automatically. To avoid injury, do not reach into the tray area when the scale is in this mode unless the scale has gone into an OVER condition. An OVER condition disables the Auto cycle operation.

SETUP/RUN toggle button: If setting up the scale or bagger, the setup position is recommended. This setup mode stop cycle counters from running and allows for bagger setup without operating the scale.

Status display: When the scale is in the zero range, the Status display will display “Status” which indicates that the scale is idle. If over the zero range, the UNDER status will be displayed. If the in the acceptable weight range, then ACCEPT status will be displayed. If the weight/count has exceeded the acceptable weight, then OVER status will be displayed. When the scale is in the OVER status, the scale must be cycled using the MANL or SCALE CYCLE button. Additionally, you may press the footswitch to cycle the machine.

SCALE CYCLE button: Press the Scale Cycle button to cycle the scale. This will also cause the scale tray to tilt forward dispensing the product.

Current Weight / Current Pieces displays the weight or count (pieces) of the product in the tray. If no product is in the tray and the weight is not zero, press the ZERO button to zero the scale.

Dump Time: This timer is how long the tray actually tilts forward, dispensing the parts into the bag. This time should be sufficient to consistently allow all parts to fully exit the scale tray. A typical setting for the Dump Time is 0.5 seconds. A time setting too low will cause all parts not to be fully exit the tray causing an undercount or underweight in the bag. A time value high will cause decreased production.

Settle Time: This timer is how long the scale must be in the Accept Weight or Count mode before the scale can start the cycle operation. A typical Settle Time setting is 0.3 to 1 second, depending on the product. A time setting value too low will cause inaccurate weights/counts. Additionally, a time value too high will cause decreased production.

Fill Time: This is the time between when the scale completes it dump cycle and when the bag starts to seal. This timer value should be sufficient for the product to fully and consistently enter the bag before the bag is sealed. A typical setting is between 0.2 and 0.6 seconds. A time setting too low will cause the seal bar to seal on the product. A setting too high will cause decreased production. This timer value can also be changed on the Bag Setup Screen.

Test the timers by pressing the Scale Cycle button.

Select the “Recipe Memory “ button an d list will appear showing thelatest Kits ran. See Fig. 8-10

8.7 Kit Operation Screen

The US-5000 Kit Operation screen automatically runs through a programmed sequence of operation when the Run button is pressed on the Kit Setup Screen. Depending on the number of various types of parts in the kit, the Operation Screen may be refreshed up to six times. The Kit Operation Screen provides text instructions to the operator, flashing messages, status, weight/count data and graphs to inform the operator as to the proper sequence of loading and status of counts. See Fig. 8-11.

Two message blocks are provided which advise the operator to “Start Loading” or wait. Also, specific instruction are given indicating the sequence or bin to load from, the part number and quantity. Also, dump information is provided so that the operator will know in advance if the scale tray will dump when this part has been loaded properly.

Once familiar with this screen, the operator will quickly scan the information. Since the scale cannot cycle unless at the accepted weight,

Note: To avoid loading the incorrect part number, we highly recommend loading parts from one direction to the next (left to right for instance).

If an error occurs during the sequence, press the kit setup button, press the Scale Cycle button to clear the tray, then press the MANUAL CYCLE button to cycle/clear the bagger. These parts can be put back into the bins/trays. Then, press the RUN button to initiate the sequence again.

8.8 Weight History

The US-5000 maintains a history of the last 50 weights or counts. Press the Reset button to reset all values on the screen to zero. Press the Last button to move the Current weight or count to history. Press Back to return to the previous menu. See Fig. 8-12.

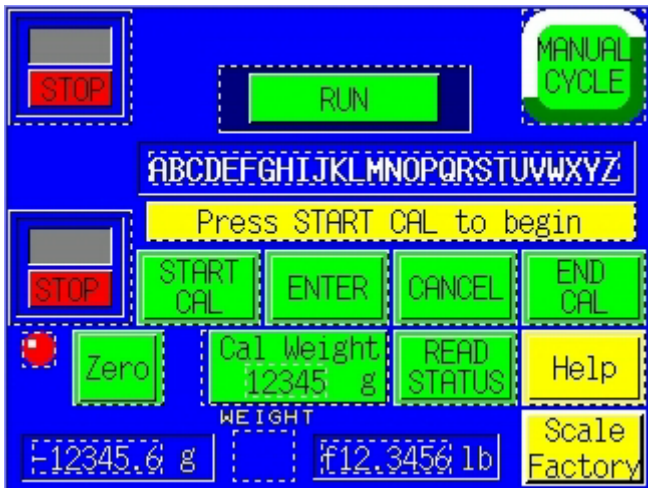

Fig. 3-13

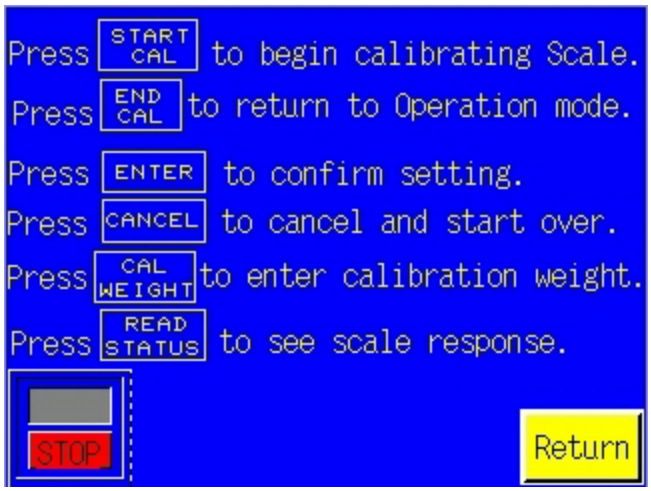

Fig. 3-14

Fig. 3-15

Fig. 3-16

8.9 Calibration Procedure

To calibrate the scale, a Calibration Screen is provided. From the Auto Zero Setup page. See Fig. 8-13.

The scale should only be calibrated when a known weight weighs incorrectly on the scale. If running in the kit operation mode, the accuracy of the weight is not critical since a sampling method is used to determine the average piece weight.

The following step by step procedure must be followed closely to properly calibrate the scale. A known metric calibration weight (in grams) must be used to properly calibrate the scale. The actual weight may vary, but it should be at least 1000 grams. This weight may vary depending on the magnitude of load cell. Contact APPI Tech Support to discuss the calibration weight used during this procedure. This weight may also be purchased from APPI.

Procedure to Calibrate the US-5000:

Steps:
1. Press both RUN/STOP toggle button, located on the top left and left side of the screen to place the unit in the Stop Mode.
2. Clean out the scale tray and remove any debris with a cleaning solution. Press the Zero button.
3. Press the Cal Weight button and enter the weight stamped on your Weight (1000 grams, for instance) followed by the <ENT> button.
4. Press the <START CAL> button, read and follow the instructions displayed in the status bar.
5. When prompted, place the Cal Weight on the tray.
6. When complete, press the END CAL button.
7. Test the results by placing the Weight on the scale to ensure it measure the proper weight.
8. When satisfied the known weight reads accurately, toggle both RUN/STOP buttons to the START position.

A help button is also available for this procedure. Press the Help menu button. See Fig. 8-14.

8.10 LdCell Comm Screen:

To assist with troubleshooting of the communication between the load cell and the PLC, the Load Cell Communication Screen is provided from the Auto Zero setup page. For further information, please contact APPI technical assistance.

8.11 Scale Fault Messages

Several message screen may display during the cycle operation of the scale. These faults must be cleared before continuing operation. See Figures 8-15 to 8-16.

The screens describe the problem and a possible solution. Otherwise, contact APPI Technical Support for assistance.

Refer to the T-1000-S14 manual for other fault messages.

8.12 US-5000 "Kit" Net Weigh Scale: Quick Setup Procedure

The following procedure is provided as a step by step method of operation. Before proceeding with this procedure, ensure that the bagger is setup with proper size bags in the loading position, funnels and guards are in place, and air and power is attached to the machine. Also, all timer settings should be already set and tested. See Chapter 2, 3 and previously in this addendum for more information regarding the US-5000 and T-1000 bagger setup.

Procedure: New Kit Setup

STEPS

1. From the Main Menu, press the Options menu button, then the US-5000 menu button.

2. Reset the values by entering 0 in Kit Part Number field and press Job Load. (See Note 1)

3. Enter the Kit # by pressing the Kit # field, entering the values (up to 10 digits) on the keypad and press the <ENT> button. Enter the Bag PN in the same method.

4. Create your kit by entering the data, one row at a time for the Bin#, Part#, Count, Over, Dump (Yes/No). Before going to the next line, press the <Sample> button.

5. Press the <Scale Cycle> button to dump and clear the scale. Press the <Zero> button.

6. Count out the required quantity of parts (or a higher quantity) and place the batch in the scale tray. Enter the Qty of parts that are in the scale and press the <ENT> button to determine the Average Piece Weight.

7. Verify that the setting is correct by removing one part at a time and adding one part at a time to decrement or increment the Quantity. Press the <Save> button to continue. (See Note 2)

8. Repeat Steps 4 through 7 to setup the remainder of the parts in the kit.

9. Review all settings on the Kit Setup Screen for accuracy. (See Note 3)

10. Clear the Scale by pressing the <Scale Cycle> button.

11. Clear the bagger by pressing the <Manual Cycle> button.

12. Press the <Job Save> button. (See Note 4)

13. Press <Run> to start the kit bagging operation. Then press the AUTO toggle button to go from MANL to Auto. (See Note 5)

14. If an error occurs or the operation stops, press the <Kit Setup> button and check all settings and press the <Run> button when ready to start again. (Note 6)

A setup chart has been included to assist you, if you wish to write down all the settings, prior to starting the setup procedure above.

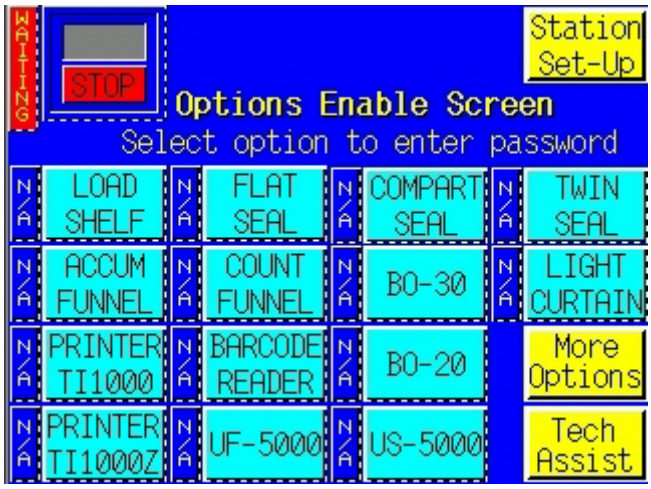

Fig. 8-1

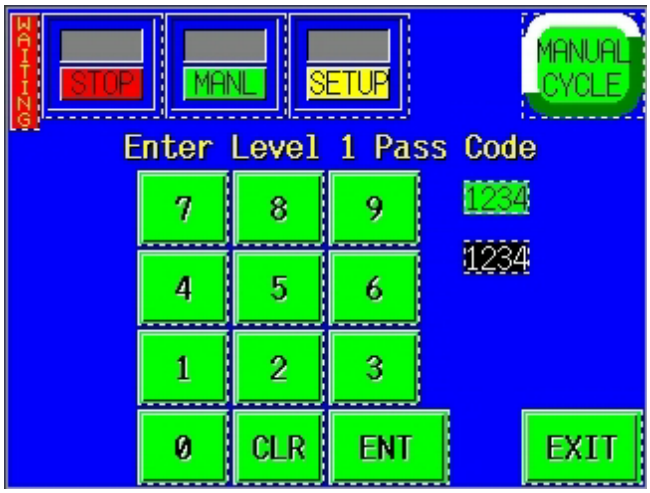

Fig. 8-2

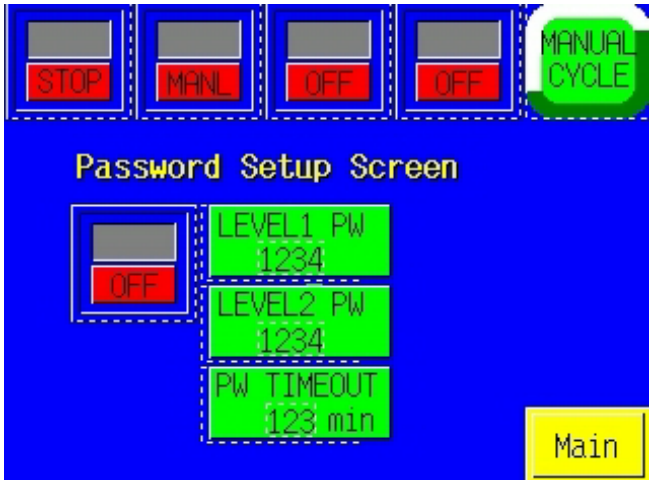

Fig. 8-3

Fig. 8-4

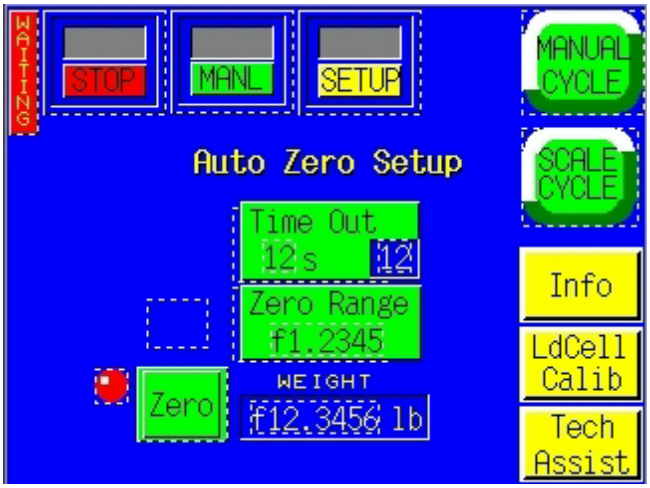

Fig. 8-5

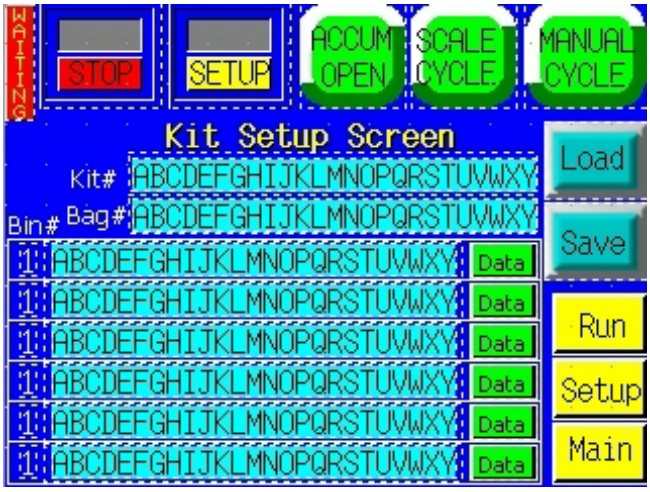

Fig. 8-6

8.14 Quick Setup Chart

Kit #			**Bag PN**		
Seq #	**Part #**	**Count**	**Over**	**Dump (circle one)**	**Sample Qty**
				Yes / No	
				Yes / No	
				Yes / No	
				Yes / No	
				Yes / No	
				Yes / No	

Notes regarding Quick Setup Procedure:

Note 1: Kit # 0 has been save with all field blank for easy setup of a new kit. Loading Kit #0 should reset all values on the Kit Setup Screen to 0. However, you can enter any setting you want as a default setting and save the setting as Kit #0. If you load Kit #0 and there are values, press each field and enter 0, then press Job Save to save the settings for easy setup of a cleared screen job.
Note 2: To increase the accuracy of the scale, ensure you count out the test sample batch carefully. The higher the quantity, the more accurate the average piece weight value will be.
Note 3: When reviewing the Kit Setup Screen settings for accuracy, ensure that the following is considered:
a) Confirm that for each Part# line, a unique number precedes each Part#. This number represents the sequence of loading (SEQ#) or bin location.
b) If a line is not used, confirm that the Seq# is to 0 (bypass).
c) The highest Seq# will be last Part# loaded. Confirm that the Dump setting is Yes for this Part#.
Note 4: If after pressing the Job Save button a message is displayed prompting you to overwrite or cancel, this means that the Kit# already exists in the database. See your database manager or setup supervisor before proceeding.
Note 5: You can operate the scale from MANL by pressing the footswitch or MANL cycle button from the touch screen. The scale will not cycle unless in the Setup mode or the count is in the range (Accept weight). In the Auto mode, the scale will automatically cycle when Accept is achieved. If an Over condition occurs, remove the parts from the tray and press the footswitch or MANL cycle button to continue.
Note 6: Each time you press the <Run> button, the first Seq# line will be cycled. Therefore, if an error occurs, you should clear the scale and cycle the bagger prior to pressing the Run button.

8.15 US-5000 Level 1 Spare Parts Kit

The following list of recommended spare parts kit is provided. To order this kit or individual parts, please contact Customer Service.

Qty:	Part Number:	Description:
1	TP-7500052	Load Cell, 10kg
1	TP-402255	Valve
1	TP-403008	Cylinder
2	TP-107131-1	Flange Bearing

8.16 Parts / Parts Drawings

The following pages describe and illustrate spare parts for the US-5000 Kit Scale.

Contact APPI Customer Service to order parts for your system.

Please reference APPI part numbers.

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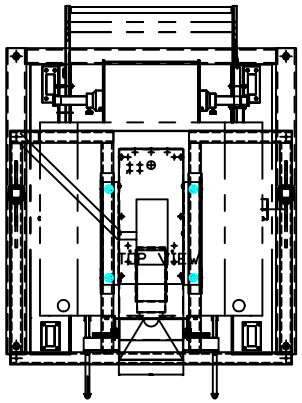
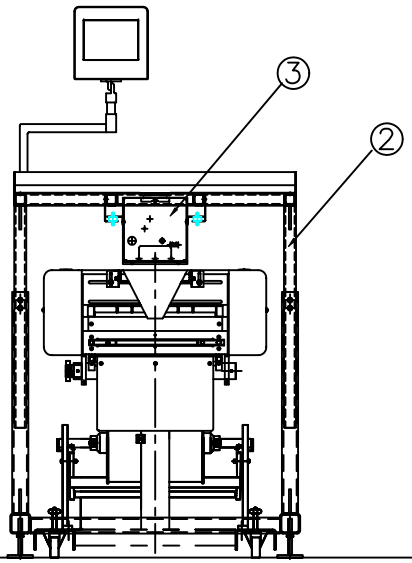
Bill of Materials Top Level Report for 1/12/2007
(see Drawing No. T-US5000)

Assembly --> T-US5000 US-5000 Semi-Automatic Scale

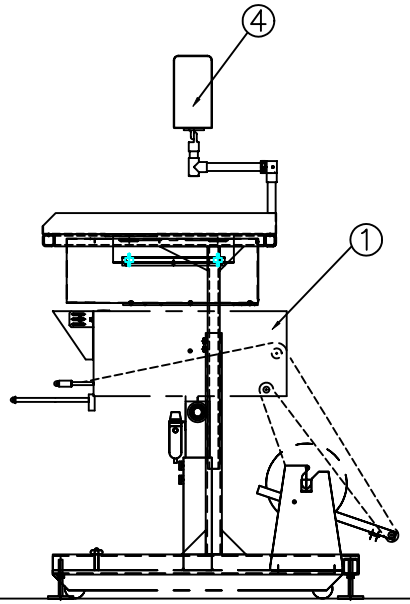
Item	Item No.	Description
1	TA-T4-1000	Electronics Assy' US5000
2	TA-T4-2000	Stand Assembly, US-5000
3	TA-T4-5000	Scale Head Assy,Std.Tray- US-5000
4	TO-T1-RM10	Touch Screen Upgrade- Recipe Mgt.

Material List				
Item	APPI No.	No. Req'd	Drawing No.	Description





FRONT VIEW



SIDE VIEW

QUANTITY	-
MATERIAL	-
FINISH	-

TOLERANCES UNLESS OTHERWISE NOTED
+/- .XXX ON FRACTIONAL DIMENSIONS
+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

REV	DATE	BY	DESCRIPTION

Advanced
Poly-Packaging Inc.
1305 Enroth Road • Akron • Ohio 44306
Phone 330-785-3000 • Fax 330-785-3010

TYPE EQUIPMENT	DWG REF. NO.	PART NO.
US-5000	-	-
SCALE	DRAWN BY	APPROVED
1:8	NAME La CHANCE	NAME
	DATE 03/29/06	DATE

TITLE	DRAWING NO.	REV.
MASTER LAYOUT US-5000	US-5000 LAYOUT	-

Advanced Poly-Packaging, Inc.

Bill of Materials Top Level Report for 1/11/07
(see Drawing No. TA-T4-1000)

Assembly --> TA-T4-1000 Electronics Assy' US5000

Item	Item No.	Description
1	TP-112240	Strain Relief Large, 5/8" Hole Dia.
2	TP-208141	Term.Block,Screw Clamp,15mm AKZ 1.5
3	TP-208410	Terminal Blocks, Direct Mount, PCB
4	TP-212091	9 Pin D-Sub Backshell/Hood
5	TP-212125	25 Pin D-Sub Backshell / Hood
6	TP-212246	9 Pin D-Sub Male (Solder Cup)
7	TP-212247	9 Pin D-Sub Female (Solder Cup)
8	TP-212249	25 Pin D-Sub Male (Solder Cup)Metal
9	TP-214327	Screws, Jack 4/40 x .625" Set
10	TP-218021	Rail (1m) Long
11	TP-401288	2Pin SY Ser Valve Conn Housing,Grey
12	TP-401289	Pins for SY3120 Valve
13	TP-750102	PCB, Scale Controller, MO 460

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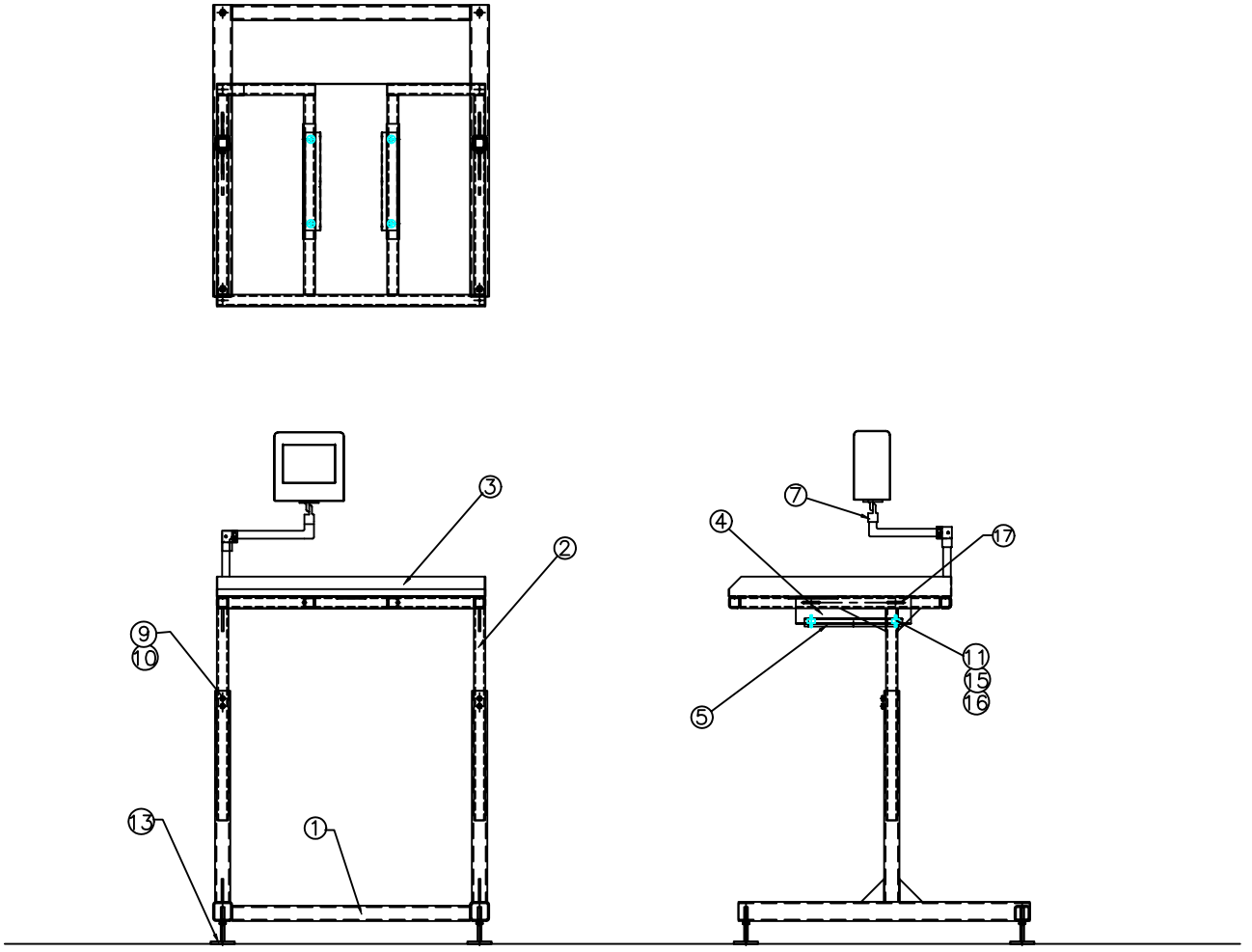
Bill of Materials Top Level Report for 1/11/2007
(see Drawing No. TA-T4-2000)

Assembly --> TA-T4-2000 Stand Assembly, US-5000

Item	Item No.	Description
1	TP-T4MA5401	Stand, Lower Weldment, US-5000
2	TP-T4MA5402	Stand, Upper Weldment, US-5000
3	TP-T4MA5403	Tabletop, Stainless, US-5000
4	TP-T4MA5404	Bracket, US-5000
5	TP-T4MA5405	Bracket, Lower, US-5000
6	TP-T1MD00109	Mounting Bar,Touchscreen
7	TP-T4MA5123	Clamp Block
8	TP-101125	Nut, Hex Jam Pltd 1/2-13
9	TP-103150	Screw, SHCS 3/8-16 x 1
10	TP-101123	Nut, Hex Jam Zinc 3/8-16
11	TP-103140	Screw, SHCS 1/4-20 x 1
12	TP-110761-1	Vibration Mount,Neoprene 1/4-20Thrd
13	TP-110764	Leveling Mount w/Polypro Base
14	TP-102155	Washer,1/4 Med Split Lock
15	TP-102142	Washer, 1/4" SAE Flat
16	TP-101111	Nut, 1/4-20 Finished Hex
17	TP-109152	Knob, Fluted Grip 1/4"-20 x 1/2"
18	TP-103222	Screw, BHCS 10-32 x 1

Material List				
Item	APPI No.	No. Req'd	Drawing No.	Description



QUANTITY	-
MATERIAL	-
FINISH	-

TOLERANCES UNLESS OTHERWISE NOTED:
+/- .XX ON FRACTIONAL DIMENSIONS
+/- .XXX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

REV	DATE	BY	DESCRIPTION

Advanced
Poly-Packaging Inc.
1526 Ewell Road • Akron • Ohio 44306
Phone 330-785-4600 • Fax 330-785-4650

TYPE EQUIPMENT	D/N REF. NO.	PART NO.
US-5000	-	-
SCALE	DRAWN BY	APPROVED
1:8	NAME JLD	NAME
	DATE 1/11/07	DATE

TITLE	DRAWING NO.	REV.
STAND ASSEMBLY US-5000	TA-T4-2000	-

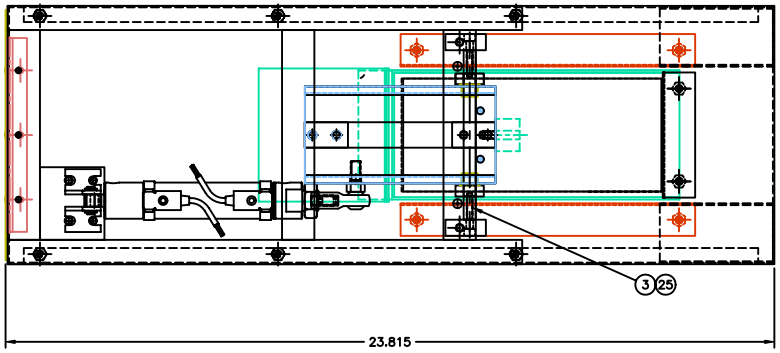
Advanced Poly-Packaging, Inc.

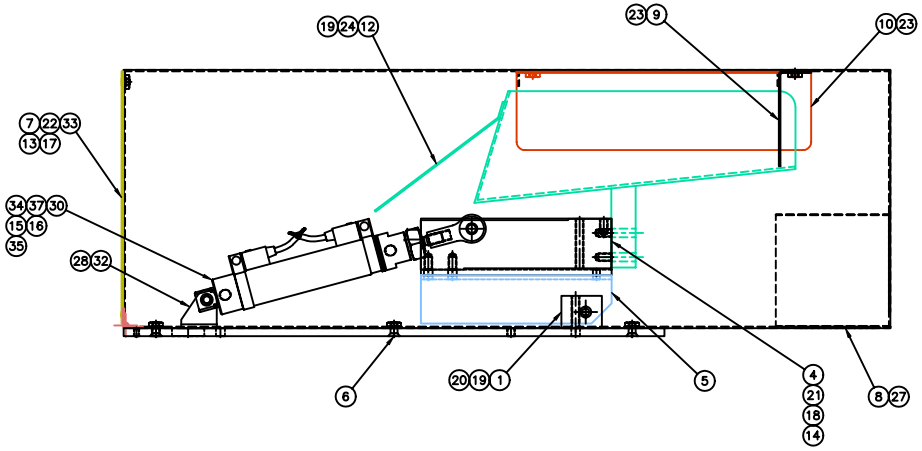
Bill of Materials Top Level Report for 1/11/2007
(see Drawing No. TA-T4-5000)

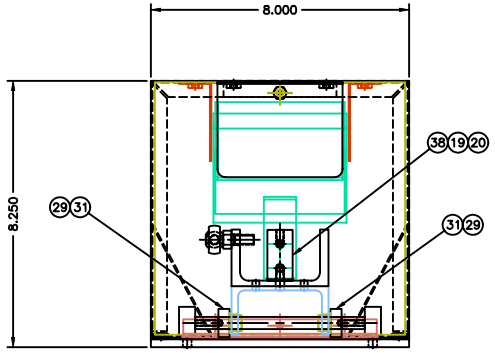
Assembly --> TA-T4-5000 Scale Head Assy,Std.Tray- US-5000

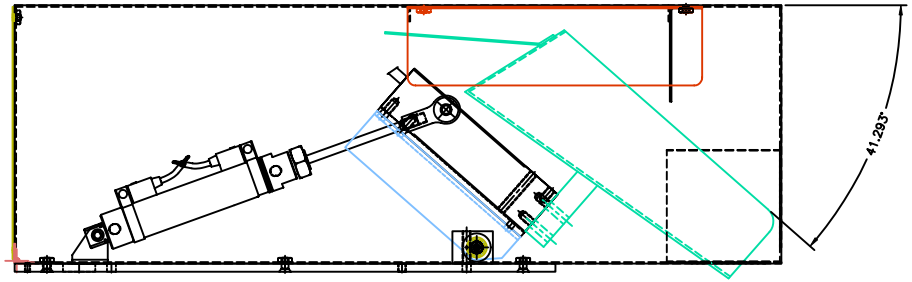
Item	Item No.	Description
1	TP-T4MA5102-1	Side, Frame, US-5000/9000
2	PENDING	Pending Item Number or N/A
3	PENDING	Pending Item Number or N/A
4	TP-T4MA5106	Load Cell Mounting (Flip Scale)
5	TP-T4MA5106-1	Load Cell Mtg, Lower, US-5000/9000
6	TP-T4MA5114	Base Plate US-5000/9000
7	TP-T4MA5115	Back Panel US-5000/9000
8	TP-T4MA5118	Enclosure, Standard US-9000
9	TP-T4MA5119	Gate, Parts Standard US-5000/9000
10	TP-T4MA5122	Material Stop US-5000/9000
11	TP-T4MA5105	Scale Pivot Shaft (Flip Scale)
12	TP-T4MA5112	Tray, Parts US-5000/9000 Standard
13	TP-101103	Nut, 8-32 Hex Mach Screw Pltd Zinc
14	TP-101104	Nut, 10-24 Hex Mach Screw Pltd
15	TP-101120	Nut,5/16-24 Finished Hex Pltd
16	TP-101120-1	Nut, Jam 5/16"-24 S/S Hex
17	TP-102153	Washer, #8 Med Split Lock
18	TP-102154	Washer, #10 Med Split Lock
19	TP-102155	Washer,1/4 Med Split Lock
20	TP-103139	Screw, SHCS 1/4-20 x 3/4
21	TP-103162	Screw, SHCS 10-24 x 5/8
22	TP-103211	Screw, BHCS 8-32 x 3/8
23	TP-103215	Screw, BHCS 10-24 x 3/8
24	TP-103226-1	Screw, BHCS 1/4-20 x 1-1/4
25	TP-103392	Screw, FHCS 10-24 x 7/8
26	PENDING	Pending Item Number or N/A
27	TP-103428	Screw, FHCS 10-24 x 1/2
28	TP-103136	Screw, SHCS 1/4-20 x 3/8
29	TP-107131-1	Bearing,Flange 3/8"IDx1/2"ODx5/8"Lg
30	PENDING	Pending Item Number or N/A
31	TP-111107-1	Clamp-On Collar 2pc 3/8" Bore S.S.
32	TP-403282	Cylinder Bracket, NCM-PE075
33	TP-T4MA5129	Back Panel Hinge US-9000
34	TP-402184	Flow Control Main Seal/Tear-Off Cyl
35	TP-402255	Valve, SY3120-5MNZ-N7
36	TP-403008	Cylinder, NCDME106-0300C-B64S
37	TP-504102	Rod End, Female w/Stud (Ball End)
38	TP-7500052	Load Cell, 10Kg
39	TP-402173	Bracket, SX3000-16-2A
40	TP-403141	Cylinder, Autoswitch, D-B64
41	TP-403010	Autoswitch Mounting Band, NBA-106
42	TP-208374	Clamp, Rubber Cushion Steel Loop
43	TP-214373	Clamp, 1/4" #10 Screw
44	TP-406259	MiniReg/Bracket/Gauge/10-32 Ports

Material List				
Item	APPI No.	No. Req'd	Drawing No.	Description









- *SCALE HEAD (STANDARD)*
TA-T9-5000

QUANTITY	-
MATERIAL	-
FINISH	-

TOLERANCES UNLESS OTHERWISE NOTED
+/- .XX ON FRACTIONAL DIMENSIONS
+/- .XX ON TWO PLACE DECIMAL DIMENSIONS
+/- .XXX ON THREE PLACE DECIMAL DIMENSIONS
125 ✓ ON MACHINED SURFACES
ALL DIMENSIONS ARE IN INCHES
PART MUST BE FREE OF BURRS AND SHARP EDGES

REV	DATE	BY	DESCRIPTION
A	1/12/06	C.N.L.	UPDATED ITEMS 2, 3, 25, 32,30, 26

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TYPE EQUIPMENT	S/N REF. NO.	PART NO.
US-9000	TA-T9-5000	-
SCALE	DRAWN BY	APPROVED
1:2	NAME La CHANCE'	NAME
	DATE 10/26/05	DATE

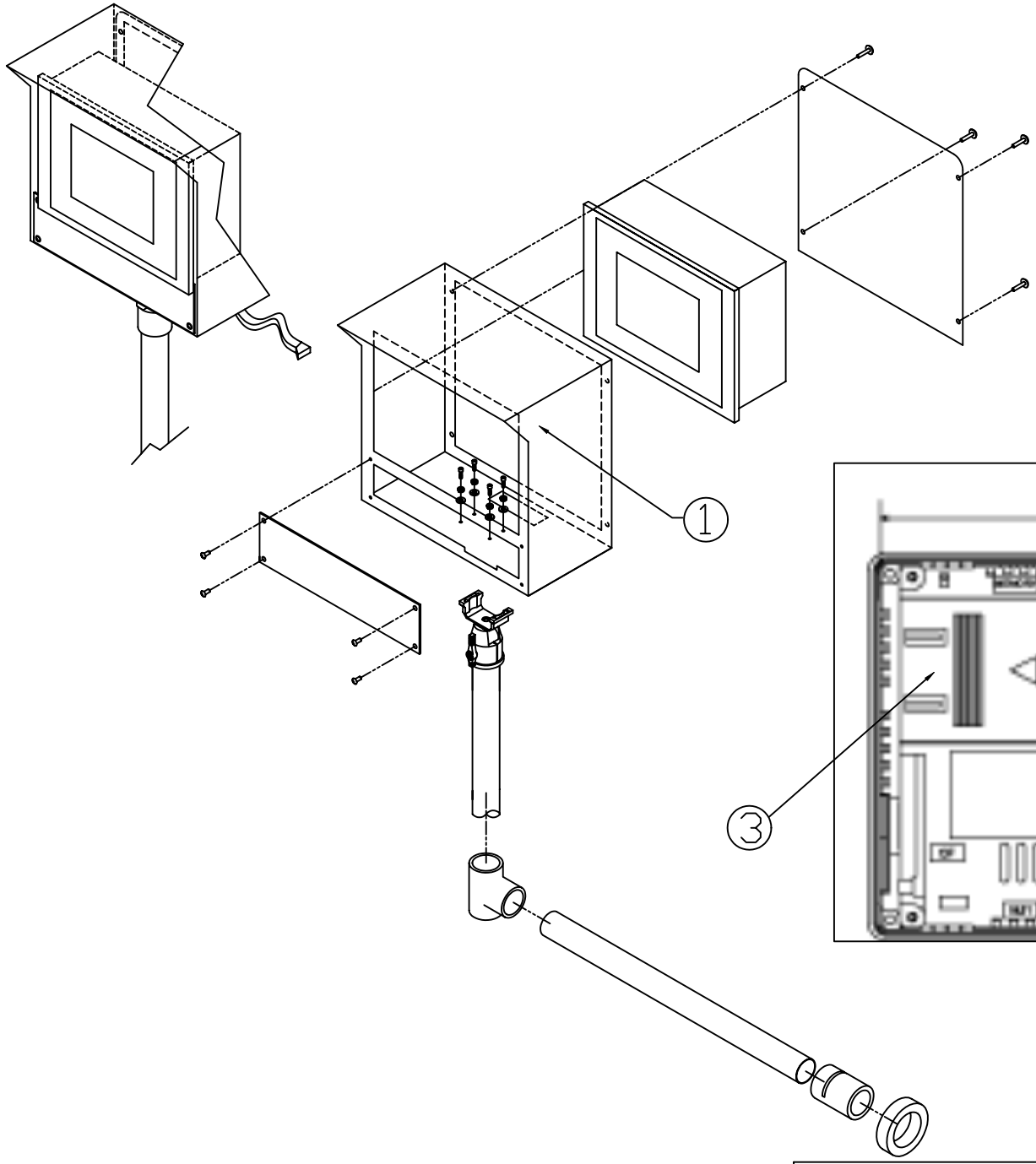
TITLE	DRAWING NO.	REV.
SCALE HEAD STANDARD	TA-T9-5000	A

Advanced Poly-Packaging, Inc.

Bill of Materials Top Level Report for 1/11/2007
(see Drawing No. TO-T1-RM10)

Assembly --> TO-T1-RM10 Touch Screen Upgrade- Recipe Mgt.

Item	Item No.	Description
1	TP-220354	Touch Screen, 6" Display
2	TP-220357	Ethernet Expansion Module
3	TP-220372	Compact Flash Card, 512 MB Toshiba



Advanced
Poly Packaging Inc.

1331 Emmitt Road ■ Akron ■ Ohio 44306
Phone: 330-785-4000 ■ Fax: 330-785-4010

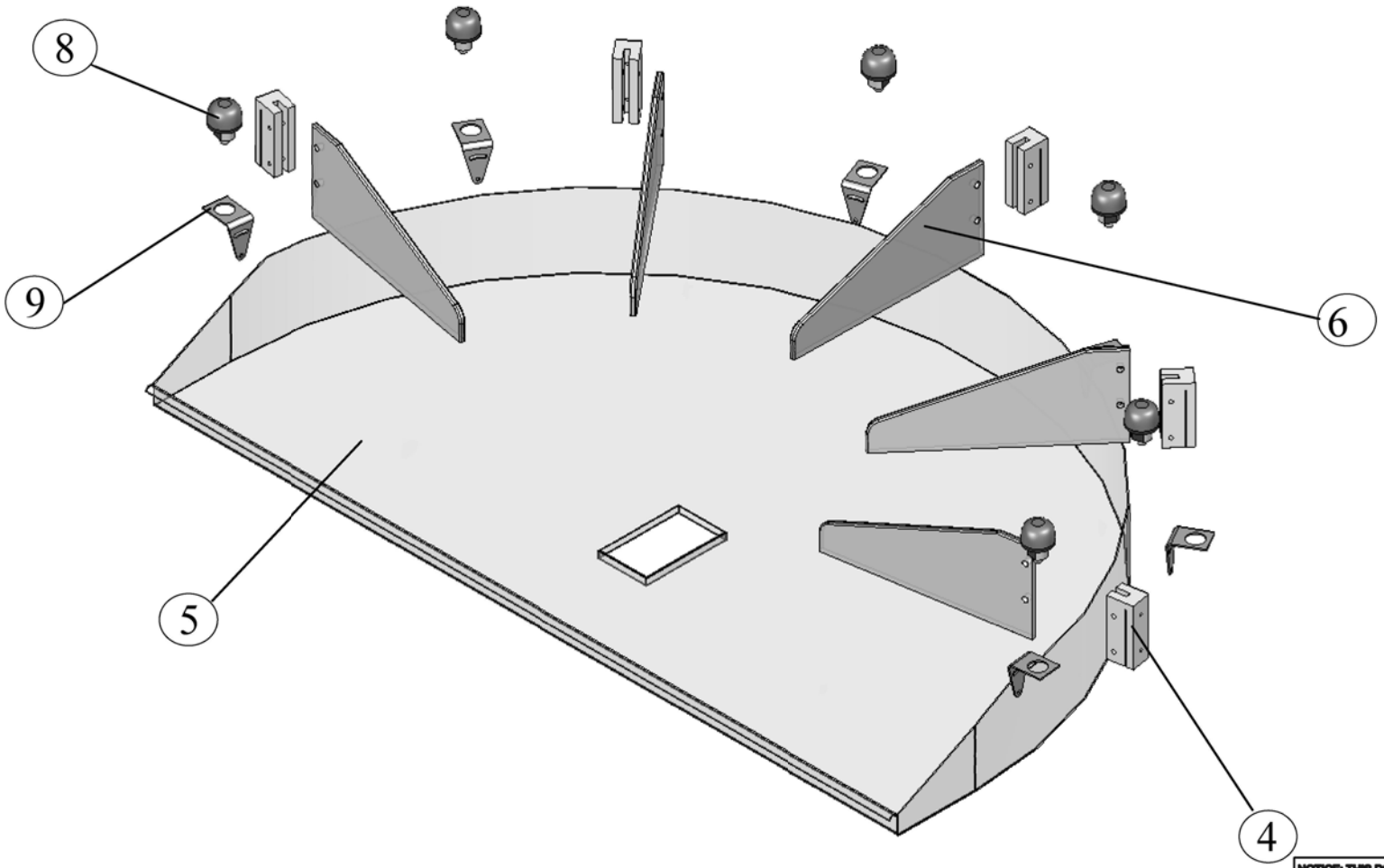
TYPE EQUIPMENT	B/M REF. NO.	PART NO.
US-5000		
SCALE	**DRAWN BY**	**APPROVED**
N.T.S	NAME JLD	NAME
	DATE 1/11/07	DATE

TITLE	DRAWING NO.	REV.
IOP ASSEMBLY	TO-T1-RM10	

Advanced Poly Packaging
Bill of Materials Report

T-US5500 US-5500 Partition Light Table Addendum

1	TP-401265	Str Connector
2	TP-404263	Muffler
3	TP-401277	Elbow, 1/4 Tube
4	TP-T1MPT3006	Partition Clamp
5	D9-107633-1501	Sort Table Top
6	D9-107633-1502	Partition, Lexan
7	D9-107633-1503	IOP Mount
8	TP-216156	EZ-Light Gen Purchase
9	TP-216157	EZ-Light Mounting
10	D9-104823-801	Scale Clip, Cust
11	TP-T4MA5140-25	ACCUM. FUNNEL
12	TP-T4MA5130	EZ-Light Mounting



Advanced Poly-Packaging, Inc.
330-785-4000

DESCRIPTION	BM REF. NO.	PART NO.
US-5500 PARTION LIGHT TABLE	T-US5500	
SCALE	DRAWN BY	APPROVED
FULL	NAME JLD	NAME
	DATE 5/7/09	DATE

TITLE	DRAWING NO.	REV.
US-5500 PARTION LIGHT TABLE	TA-US5500	A

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8.17 Electronic Schematics / Drawings

8.20 US-5000 Touch Screen Specifications

Display	Screen memory	FLASH memory about 1,472kB (can be increased depending on font)
	Display device	STN color LCD
	Resolution W * H (pixels)	320 * 240
	Display size	5.7 inches
	Colors	32,768 colors + 16 colors blink
	Backlight	CCFL (User unreplaceable)
	Backlight Auto OFF	Lit in normal (Set by the user)
	Power lamp	Lit (green) when power is ON, ALM (red) when power battery is low
	Contrast adjustment	Adjustable *1
	Brightness adjustment	Fixed
Number of characters	1/4 size	40 columns * 30 lines
	1-byte	40 columns * 15 lines
	2-byte	20 columns * 15 lines
characters		X: 1 * 8 times Y: 1 * 8 times
Touch switch	Operation method	Matrix resistance membrane
	Switch resolution	20(W) * 12(H)
	Mechanical life	1 million times or more
	Surface treatment	Hard coating, Non-glare finish 5%
Function switch	switches	6 switches
External interface	For PLC	RS-232C, RS-422/485, Asynchronous type, Data length : 7, 8 bits, Parity : even, odd, none, Stop bit : 1, 2 bits,
	(CN1: D-Sub25 pins *3)	Baudrate : 4800, 9600, 19200, 38400, 57600, 76800, 115200 bps
	For data transfer/other enternal interface1, 2 *5 (modular 8 pins)	RS-232C, RS-422/485 (two-wire system), CREC, Bar code reader, V-I/O, Multi-link 2, Temperature control net/PLC2Way, V-link
	Printer interface	Optional
	CF card interface *3	Compatible with CompactFlashTM
	Ethernet	Complies with IEEE802.3
	10BASE-T *3	Baudrate : 10Mbps Cable : 100? Unsealed twist pair, Category 5, Max. length : 100m
	(V7i standard equipment)	
	USB interface	Type A, Type B (Ver.1.1)
Clock & Back up memory	Battery	Coin-type lithium primary battery
	Back up memory	SRAM 128KB
	Back up period	5 years (Ambient temperatue 25?)
	Calendar accuracy	Gap ± 90 sec per month (Ambient temperature 25?)
Power supply	Rated voltage	24V DC
	voltage	24V DC±10%
	Permissible momentary power failure	within 1ms
	Demand	16W or less
	(maximum rating)	
	Inrush current	20A, 0.1ms
Insulation resistance		500V DC, 10Mohms or more
Physical	Operating ambient	0 deg to 50 deg C
	Relative humidity	85%RH or less (No dew condensation)
	Resistance to solvent	Not exposed to oil or organic solvent
	Atmosphere	Not exposed to gas or conductive dust
	Vibration proof	Pulse shape: half-sine, peak acceleration: 147m/s2(15G),
		X,Y,Z: 3 directions, six times each way
Electric *2	Noise proof	1000Vp-p (pulse width 1?s, pulse rise time : 1ns)
	Static discharge	Complies with IEC61000-4-2, contact: 6kV, air: 8kV
Installation	Grounding	Grounding resistance : Less than 100?
Conditions	Structure	Ratings : Front panel :Compatible with IP65
		Rear cover : Compatible with IP20
		Form : Single unit
		Installation method : Panel mounting
	Cooling system	Natural air cooling
	Weight	Approx.0.7kg
	Dimensions (W x H x D)	182.5 * 38.8 * 42.5
Material		PC/PS resin (Taflon)

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