Diagraph®
An ITW Company

WASA

WIPE-AROUND SIDE-APPLY

PLATINUM SERIES

6170-500N
Revision B

Diagraph, an ITW company, continually improves its products, and reserves the right to change or discontinue specifications and designs shown in this manual without notice and without incurring obligation. Diagraph has made every effort to verify the information contained in this manual, but reserves the right to correct any error at the time of the manual's next revision.

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1.0 Introduction

1.1 The Wipe-Around Side-Apply module (WASA)

The wipe-around side-apply, later referred to in this document as the WASA, is an application module designed to place one label onto either the front and side panels, front and top panels, side panel only, or top panel only. This application module applies labels with a moving product and proper material handling. The same module can be used in two orientations, either with the system positioned in a side orientation or in a top-down / bottom-up orientation.

1.2 Product Safety

Safety awareness is critical when working with equipment that contains moving parts and extending pneumatic cylinders. Please read all warnings and cautions thoroughly before operating this device.

This product meets the requirements of CAN/CSA-22.2 NO.60950-00 * UL 60950 using Diagraph an ITW Company approved items. Units are only tested and qualified with Diagraph an ITW Company approved parts and accessories. Use of other parts or accessories may introduce potential risks that Diagraph an ITW Company can assume no liability for.

WARNINGS

- **WARNING - Moving parts of this machine can present hazards. Components that cannot be guarded because of loss of functionality are marked with a warning symbol.**
- **Be aware of the tamp cylinder extension distance, and avoid accidental triggering of the photosensor.**
- **When servicing the unit's electronic assemblies, always remove the power cord from the unit to prevent accidental shock.**
- **When running for extended periods of time, use caution when accessing the drive module circuitry. The motor drive power transistors, motor case, and motor heatsink can become hot under constant use.**
- **Always close the air inlet valve shutoff when removing or servicing pneumatic module or tamp cylinder.**
- **Wear personal protective equipment, as instructed by your supervisor, when operating or working near this device.**

COMPLIANCE

- **CAUTION: Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/ Data Processing Equipment, ANSI/ NFPA 75.**

- **ATTENTION: Ne peut être utilissé dans une salle d'ordinateurs telle que définie dans las norme. ANSI/NFPA 75 Standard for the Protection of Electronic Computer/ Data Processing Equipment**
- **This unit has been tested and found to comply with the limits for a Class A device, pursuant to part 15 of the FCC Rules.**
- **This unit has been tested to comply with CE Standards.**
- **This unit is equipped with an Emergency Stop switch. Depressing this switch will cause all machine operations to cease.**
- **This unit was tested and it was determined that a potential for tipping exists in certain orientations. In compliance with UL safety standards, the stand must be secured to the surface where it is located. Additionally, this type of securing will result in greater product application accuracy.**

1.3 Document Conventions

Formatting conventions are used throughout this manual as a method of providing consistency for notes and warnings.

Goal: This indicates a particular objective for the section.

Note: This indicates that there is more information available for the in-depth reader.

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WARNING This symbol indicates a danger of injury to the user. Hazards are identified by the exclamation mark in a triangle and bold italics text.

1.4 Warranty Information

The PA/4600 and PA/6000 systems and options, including all components unless otherwise specified, carry a limited warranty.

For all warranty terms and conditions, contact Diagraph, an ITW Company, for a complete copy of the Limited Warranty Statement.

1.5 Specifications

MAXIMUM LINE SPEED IS 100 FEET PER MINUTE

Rate Specifications

Application	PA/6000		Application	PA/4600	
	Single Apply Maximum	Dual Apply Maximum		Single Apply Maximum	Dual Apply Maximum
4x6 Label 12 ips Print Speed	86 PPM	42 PPM	4x6 Label 6 ips Print Speed	42 PPM	21 PPM
4x8 Label 12 ips Print Speed	65 PPM	32 PPM	4x8 Label 6 ips Print Speed	30 PPM	15 PPM
4x10 Label 12 ips Print Speed	51 PPM	25 PPM	4x10 Label 6 ips Print Speed	23 PPM	12 PPM
4x12 Label 12 ips Print Speed	41 PPM	20 PPM	4x12 Label 6 ips Print Speed	20 PPM	10 PPM

1.6 Models and Label Sizing

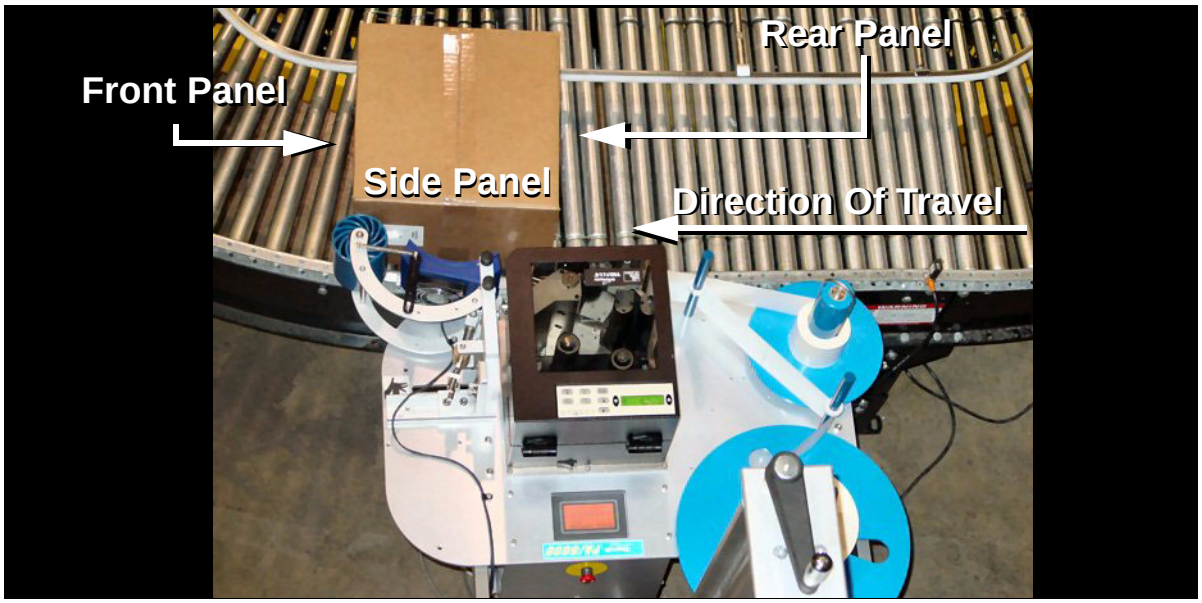
The WASA handles a variety of label lengths and widths. The length of the label will determine which WASA model is required for the application. The width can vary within the same model, but usually limited between 1 inch and 4 inches.

Label Sizing

WASA MODEL	Label Length (In the direction of feed)		Label Width	
	Minimum	Maximum	Minimum	Maximum
6170-500X8	7.5 inches	9 inches	1 inch	4 inches
6170-500X10	9.5 inches	11 inches	1 inch	4 inches
6170-500X12	11.5 inches	13 inches	1 inch	4 inches

2.0 WASA Basics

2.1 Terminology



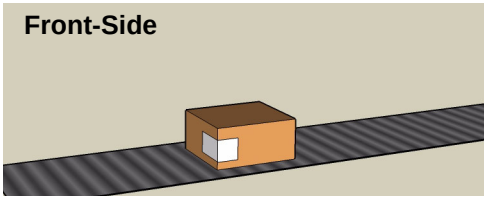
2.2 Theory of Operation

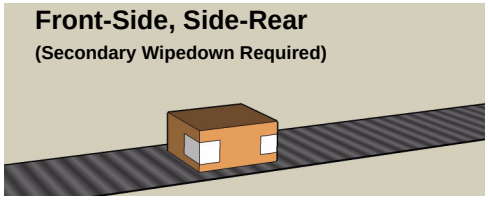
The WASA is comprised of a contoured fan box, urethane contact roller, support arms, support bracket, and shock dampening system. The system requires no pneumatic components, thus eliminating the need for compressed air. Being a passive system, the application of the label is completed when the product moves in front of the WASA arm.

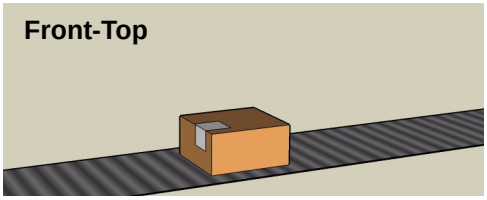
In the front (or front edge) corner-wrap application, the label's position on the product is solely determined by the position of the product on the conveyor in relationship to the end of the WASA roller. The guide rails of the conveyor must be adjusted to minimize fluctuations in product presentation, or the label's application consistency will suffer.

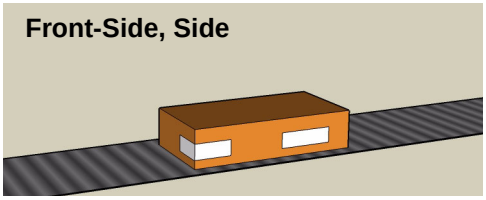
In the side (or top) only wipe-on application, the label's position on the product can be controlled to some degree. If a mid-product position is required, it can be accomplished by adjusting the Product Delay. Keep in mind that changes to the printer's print speed will affect the placement of the label. Once a print speed is determined, the label placement can be adjusted through delay.

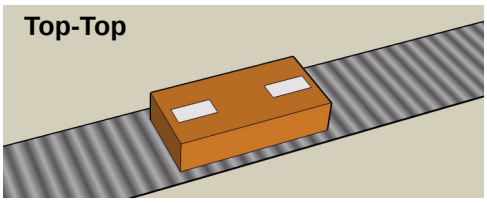
The WASA utilizes an Apply Mode of either ***1 Wipe*** or ***2 Wipes*** for operation. In these modes, the Product Detector trigger starts the Product Delay time (or 2nd Product Delay time for the ***2 Wipes*** mode on the second wipe) to feed the label. The ***2 Wipes*** mode can provide a second label to be dispensed on the side (or top/bottom). If the linespeed is slow enough, the system would be capable of applying a label to the front-side and side-rear with the addition of a stand-alone secondary wipedown.

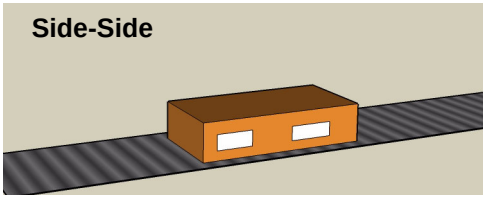












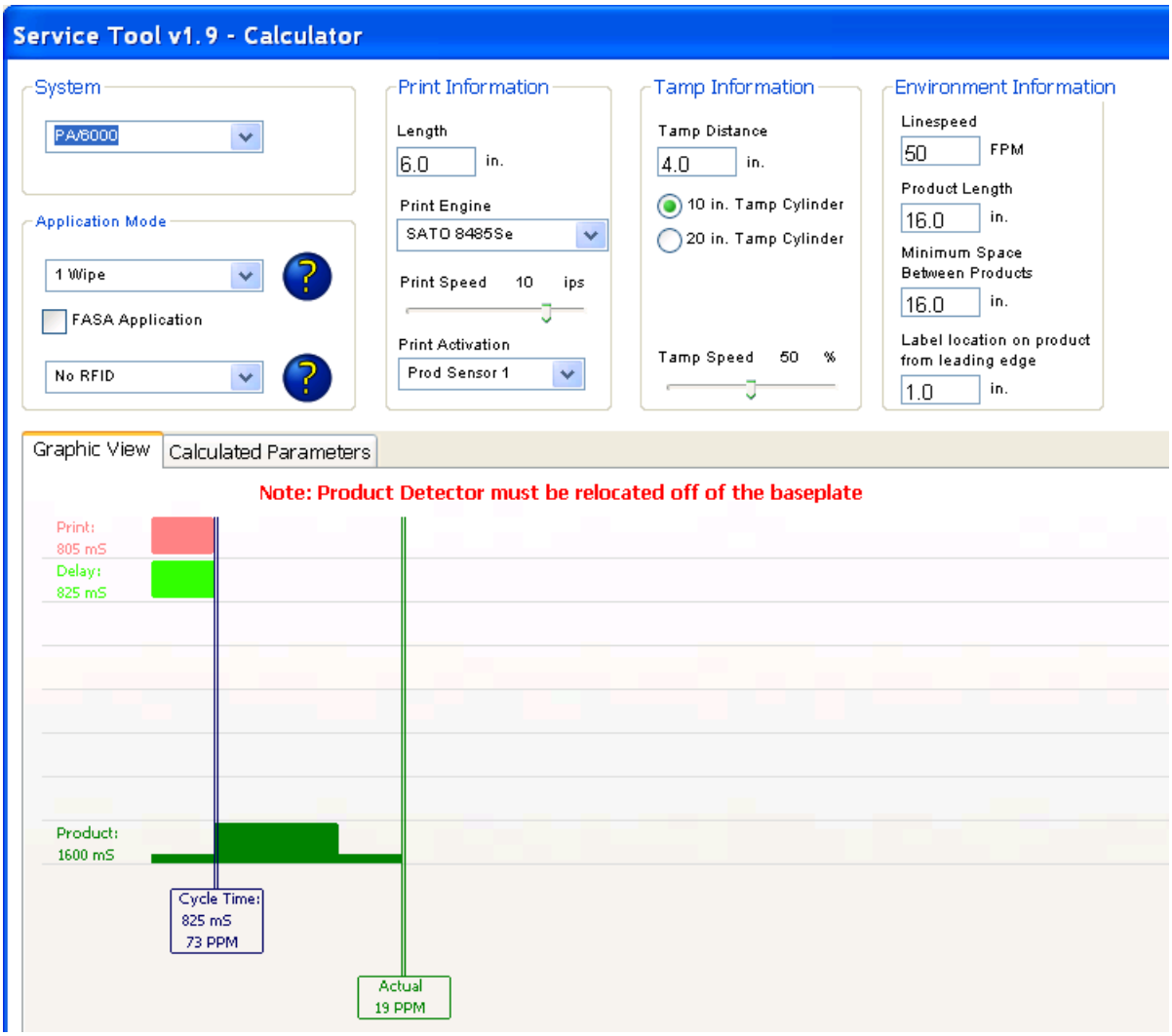
Note: The ServiceTool software will return the default settings to use for delays and product detector position, versus having to guess initial values. It is highly recommended that this software is utilized to optimize setup and determine if application rates are within the range of this system.

3.0 Setup

Step 1 - Confirm the Application Rate

Goal: Determine that the application is within the constraints of the hardware, label length, and product speed.

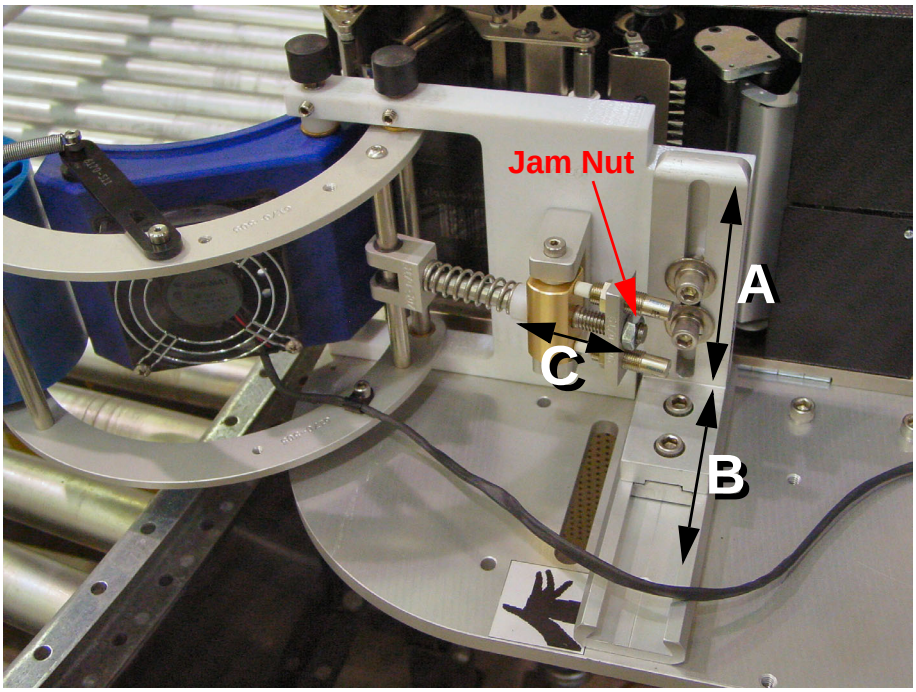
Using the ServiceTool located on the Diagraph web site, www.diagraph.com, download and run the PPM Calculator from the main screen. To run the calculator, the full version of ServiceTool is required, which needs the USB sentinel (4600-015) for operation. Enter in the parameters for label length, printer type and speed, select the Application mode of either 1 or 2 Wipes. Verify that the application is feasible before proceeding. See the below image:

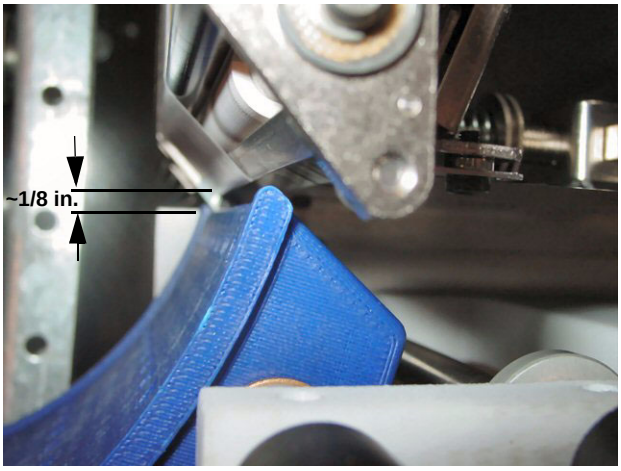


Step 2 - Align the WASA Module

Goal: Adjust and level the WASA fan box to the peel blade edge.

Adjust the position across the width to match the label dispensing position coming out of the printer (Movement A in below picture). Next, adjust the length direction (Movement B in below picture) to place the fan box within 1/8th inch of the printer's peel blade. Last, adjust the fan box angle by loosening the jam nut on the end of the compression spring threaded rod (Movement C in below picture).



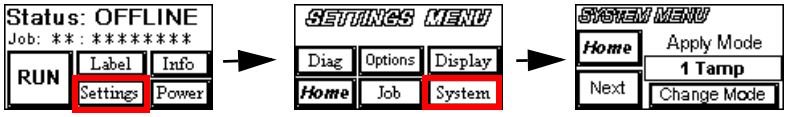


The label should drop below the peel blade edge, onto the WASA fan box. The only adjustment to this angle is made through the compression spring threaded rod.

Step 3 - Set the Apply Mode

Goal: Set the correct apply mode for this product.

Map:



The choices for WASA applications are:

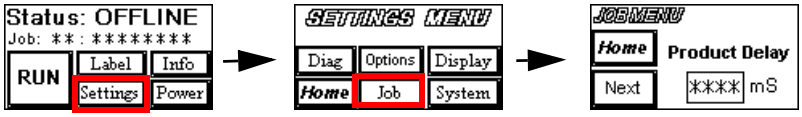
1 Tamp	Not used for WASA operations
1 Tamp/Blow	Not used for WASA operations
2 Tamps	Not used for WASA operations
2 Tamp/Blows	Not used for WASA operations
1 Blow	Not used for WASA operations
2 Blows	Not used for WASA operations
1 Wipe	Applies one label per one product detector trigger
2 Wipes	Applies two labels per one product detector trigger

Select the correct mode and return to the Home Screen.

Step 4 - Enter the Job Parameters

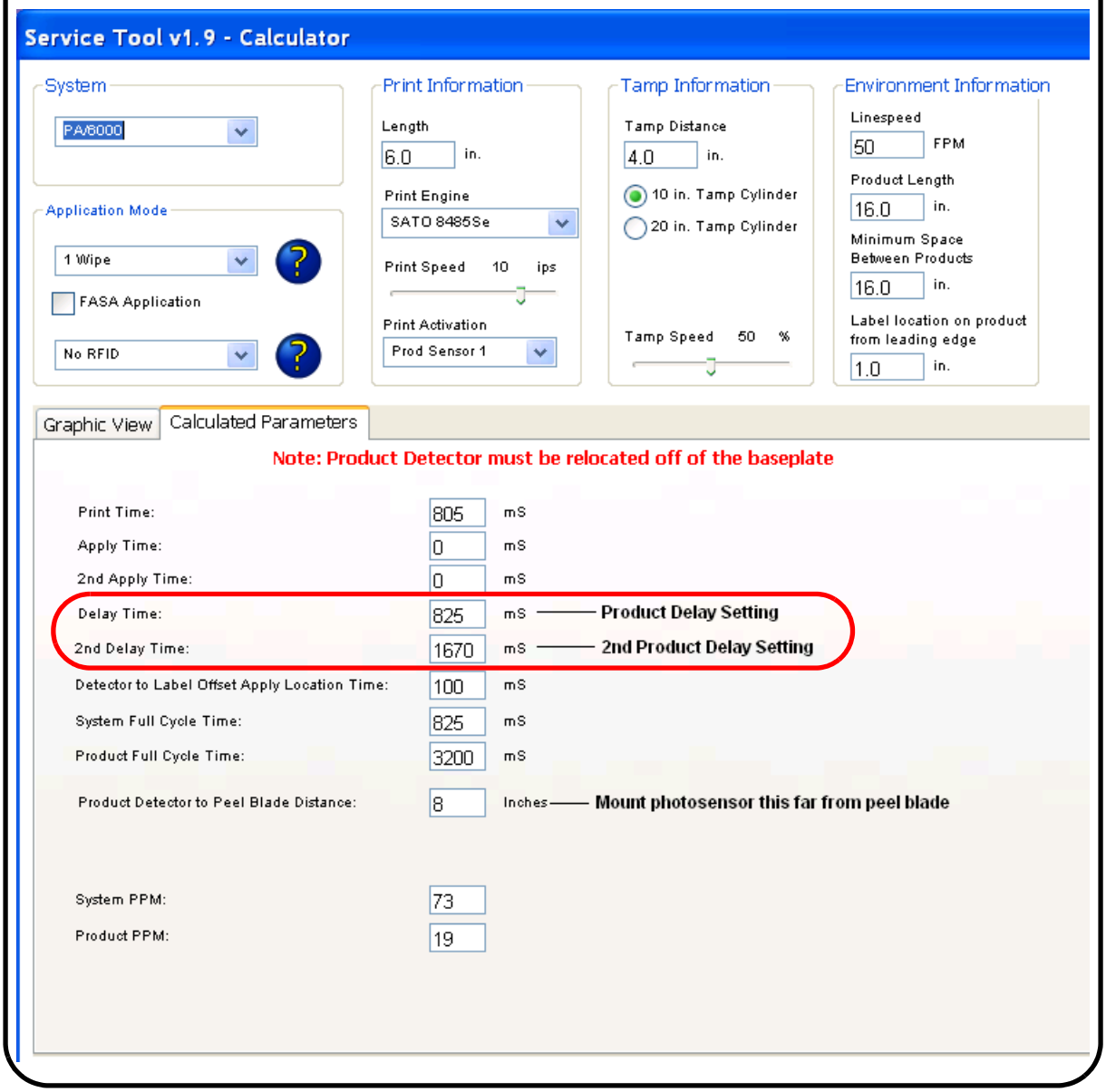
Goal: Set some preliminary values for the job parameters.

Map:



Product Delay
2nd Product Delay

By using the ServiceTool, enter in the values of the application to obtain some starting point numbers for the job parameters. These values can be calculated manually, or by trial and error, but the calculator is much faster and eliminates set up mistakes. Once the values are entered, click on the "Calculated Parameters" tab to see what values should be entered on the user interface.

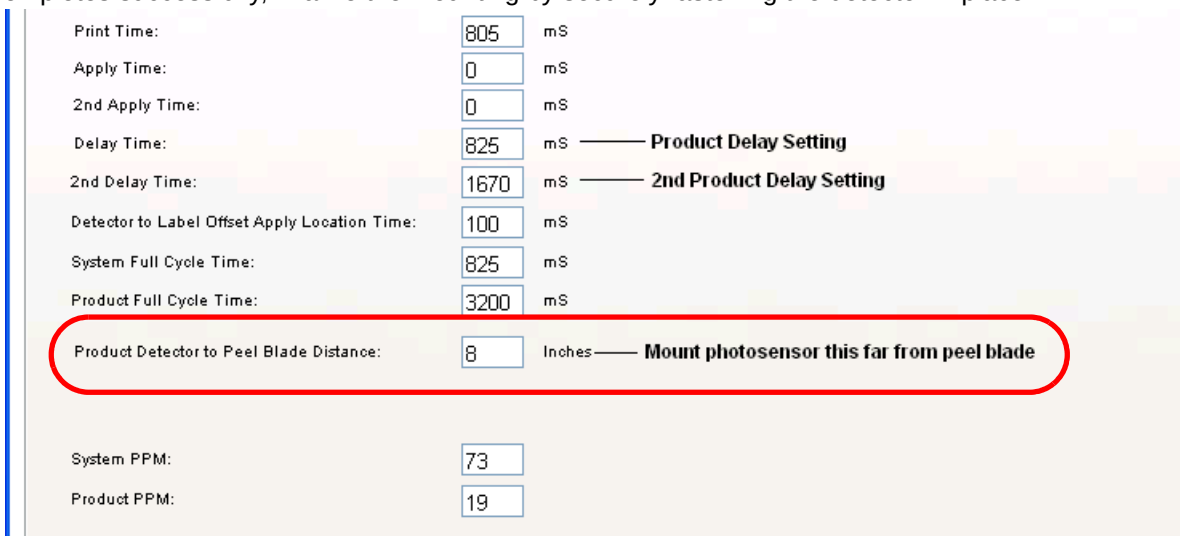


Step 5 - Mount the Product Detector

Goal: Mount the Product Detector in a location that gives enough time for the WASA to produce a label ready for application onto the product.

In the same screen tab window that displayed the values to use for initial delay settings (Step 4), there is a calculated parameter for *Product Detector to Peel Blade Distance*. This is measured in the upstream direction on the conveyor. This is the **minimum** distance required to allow the first application to contact the front panel of the product. If the first application is not the front panel, more time can be added to the Product Delay.

Use the calculated distance as a minimum value and test this position by mounting the sensor loosely to begin (i.e.- don't screw it into position). After the test is complete, and the label application completes successfully, finalize the mounting by securely fastening the detector in place.



4.0 Troubleshooting

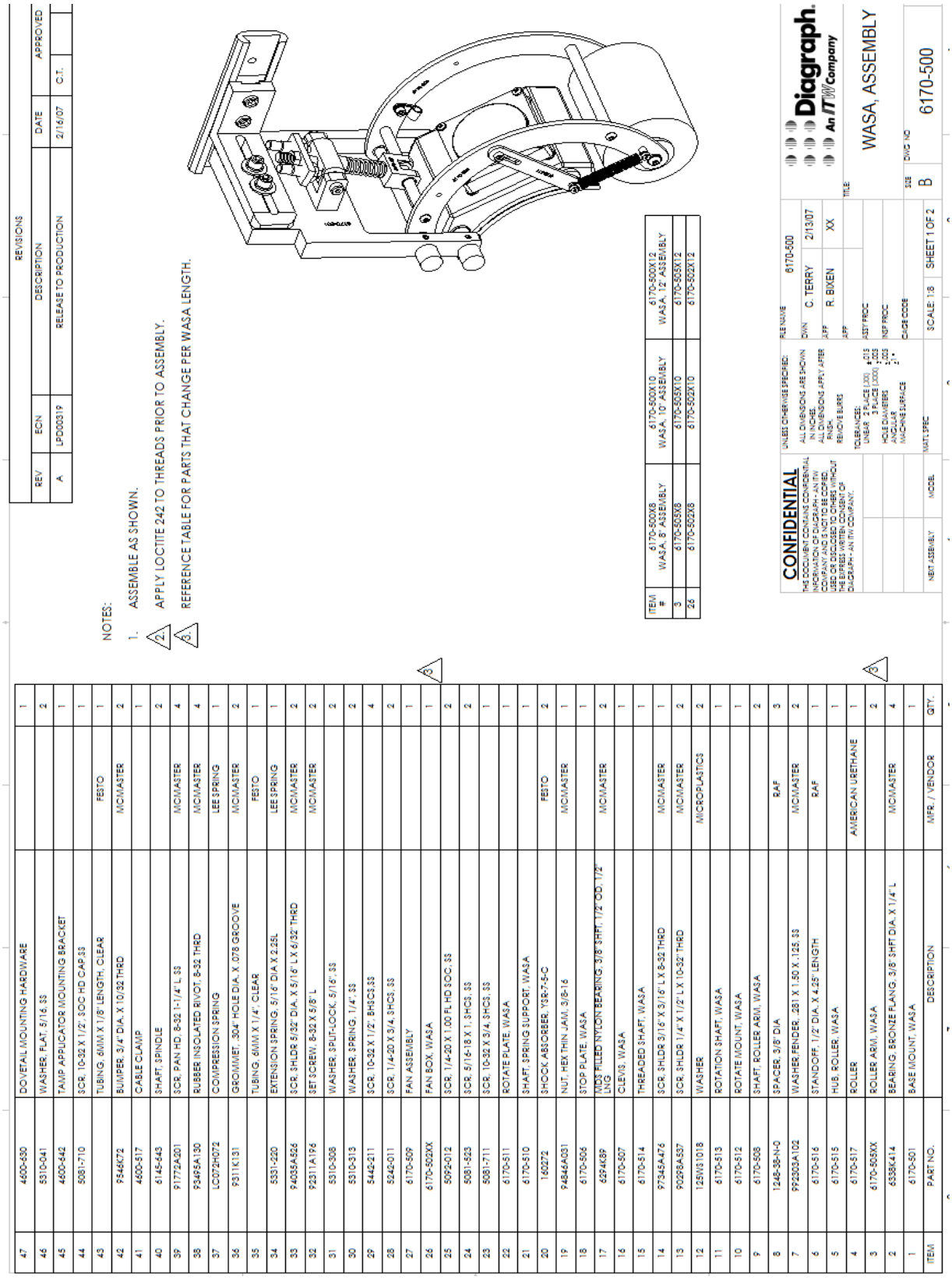
4.1 Spare Parts List

	Description
Recommended Spare Parts	
6170-509	Fan Assembly
6170-517	Roller
4600-950	Platinum Series Maintenance Kit Contains: - Bumpers - Extension Springs - Spring anchors

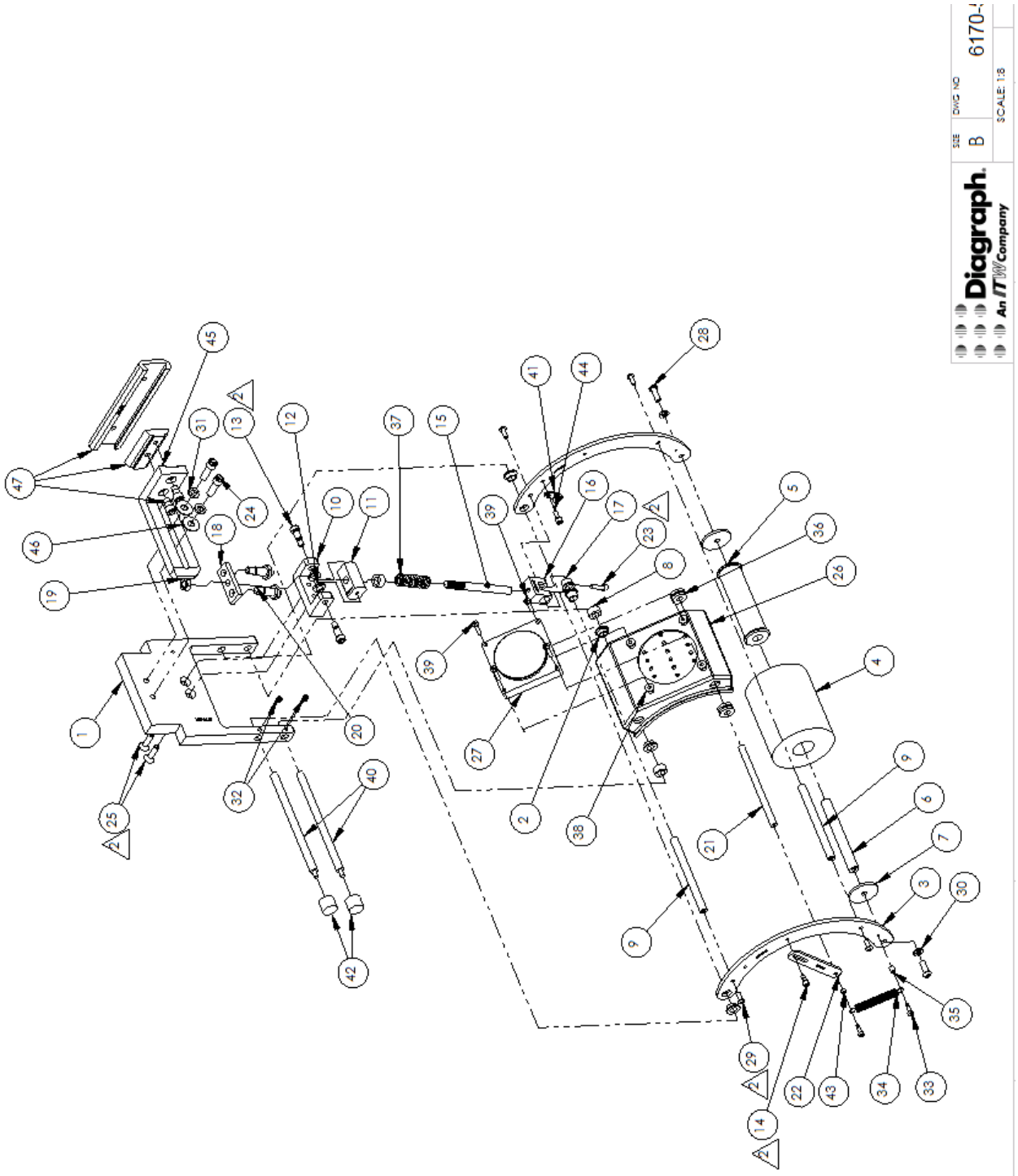
4.2 Part Number List

	Description
DOCUMENTATION	
6170-500N	Platinum Series WASA User Manual
6170-502X8 ..... 8 inch WASA 6170-502X10 ..... 10 inch WASA 6170-502X12 ..... 12 inch WASA	Fan Box
6170-505X8 ..... 8 inch WASA 6170-505X10 ..... 10 inch WASA 6170-505X12 ..... 12 inch WASA	WASA Roller Arm (2 required per system)
6170-511	Rotate Plate
6170-501	WASA Base Mount

4.3 Drawings



ITEM	PART NO.	DESCRIPTION	MFR. / VENDOR	QTY.
47	4600-630	DOVETAIL MOUNTING HARDWARE		1
46	5310-041	WASHER, FLAT, 5/16, SS		2
45	4600-542	TAMP APPLICATOR MOUNTING BRACKET		1
44	5081-710	SCR, 10-32 X 1/2", SOC HD CAP SS		1
43		TUBING, 6MM X 1/8" LENGTH, CLEAR	FESTO	1
42	9346K72	BUMPER, 3/4" DIA. X 10/32 THRD	MCMASTER	2
41	4600-517	CABLE CLAMP		1
40	6145-643	SHAFT, SPINDLE		2
39	91772A201	SCR, PAN HD, 8-32 1-1/4" L, SS	MCMASTER	4
38	93495A130	RUBBER INSOLATED PIVOT, 8-32 THRD	MCMASTER	4
37	LC072H072	COMPRESSION SPRING	LEE SPRING	1
36	9311K131	GROMMET, .304" HOLE DIA. X .078 GROOVE	MCMASTER	2
35		TUBING, 6MM X 1/4", CLEAR	FESTO	1
34	5331-220	EXTENSION SPRING, 5/16" DIA X 2.25L	LEE SPRING	1
33	94035A526	SCR, SHLDR 8/32" DIA. X 5/16" LX 6/32 THRD	MCMASTER	2
32	92311A196	SET SCREW, 8-32 X 5/8" L	MCMASTER	2
31	5310-308	WASHER, SPLIT-LOCK, 5/16", SS		2
30	5310-313	WASHER, SPRING, 1/4", SS		2
29	5442-211	SCR, 10-32 X 1/2", BHCS, SS		4
28	5240-011	SCR, 1/4-20 X 3/4, SHCS, SS		2
27	6170-509	FAN ASSEMBLY		1
26	6170-502XX	FAN BOX, WASA		1
25	5052-012	SCR, 1/4-20 X 1.00 FL HD SOC, SS		2
24	5081-923	SCR, 5/16-18 X 1, SHCS, SS		2
23	5081-711	SCR, 10-32 X 3/4, SHCS, SS		1
22	6170-511	ROTATE PLATE, WASA		1
21	6170-510	SHAFT, SPRING SUPPORT, WASA		1
20	160272	SHOCK ABSORBER, Y36-7-5-C	FESTO	2
19	94846A031	NUT, HEX THIN JAM, 5/8-16	MCMASTER	1
18	6170-506	STOP PLATE, WASA		1
17	6294K89	UNS FILLED NYLON BEARING, 3/8" SHFT, 1/2" OD, 1/2" LNG	MCMASTER	2
16	6170-507	CLEVIS, WASA		1
15	6170-514	THREADED SHAFT, WASA		1
14	97345A476	SCR, SHLDR 3/16" X 3/16" LX 6-32 THRD	MCMASTER	1
13	90269A537	SCR, SHLDR 1/4" X 1/2" LX 10-32" THRD	MCMASTER	2
12	125W31018	WASHER	MICROPLASTICS	2
11	6170-513	ROTATION SHAFT, WASA		1
10	6170-512	ROTATE MOUNT, WASA		1
9	6170-508	SHAFT, ROLLER ARM, WASA		2
8	1246-38-N-0	SPACER, 3/8 DIA	RAF	3
7	99259A102	WASHER,FENDER, .281 X 1.50 X .125, SS	MCMASTER	2
6	6170-516	STANDOFF, 1/2 DIA. X 4.25" LENGTH	RAF	1
5	6170-515	HUB, ROLLER, WASA		1
4	6170-517	ROLLER	AMERICAN URETHANE	1
3	6170-505XX	ROLLER ARM, WASA		2
2	6388K414	BEARING, BRONZE FLANG, 3/8 SHFT DIA. X 1/4" L	MCMASTER	4
1	6170-501	BASE MOUNT, WASA		1


Diagraph
An ITW Company
SIZE
B
DWG NO
6170-
SCALE: 1:8

4.4 Problem - Solution Matrix

See the System User Manual for common problem-solution information. The information below is limited to the functionality of the Wipe-Around Side-Apply applicator module.

WASA

	Cause	Correction
Air Pressure Out Error -or- Cylinder Home Error	**Incorrect Apply Mode selected**	**Select 1 Wipe or 2 Wipes for Apply Mode.**
Label is not holding in position prior to application	**Fan blades are not turning or air passage is clogged.**	**Clean fan and fan box orifice holes with compressed air or replace fan if defective.**
Label is buckling on fan box	**Incorrect label length for WASA model**	**Verify that the label dimensions match the WASA model installed. Use information in section 1.6 to determine correct sizing.**
	Feed angle of label is causing label to bow as it is fed.	**Incorrect positioning of WASA unit. Slide unit further away from the peel blade and/or adjust the fan box angle as described in Step 2 of Setup**
	Label is not breaking free of the liner or label is drawn back into the printer on backfeed.	**Adjust presentation position of label or switch printer mode to backfeed before print**

5.0 Operational Settings

Record the settings for later use..

Identity	Value
System Location	
System Serial Number	
System Line Number	

Parameter Name	Setting
Apply Mode	1 Wipe / 2 Wipes
Product Delay	
2nd Product Delay	
Product Detector Distance	
Print / Feed Speed	