ACCUDRAFT WORLDWIDE AUTOMOTIVE & TRUCK FINISHING EQUIPMENT DIVISION

Auto & Truck Spray Booths & Workstations

OMA&T-063011

OPERATOR'S MANUAL



WARNING

Failure to read and follow the Operator's Manual and all operating instructions can result in property damage, bodily injury, or death. Save this manual for future reference.

> North American Edition Rev. 063011



Read this manual carefully and become familiar with your equipment. Know its applications, its limitations and any hazards involved.



IMPORTANT SAFETY NOTICE

SAIMA of North America, Inc. is concerned with the protection of people and property from the hazards of improper use of process heating equipment and urges customers to comply with national safety standards and/or insurance underwriter's recommendations.

The owner/user and/or the insurance underwriter must assume responsibility for the acceptance, use, and proper maintenance of the purchased system. These responsibilities include, but are not limited to: filter changes, cleaning of the system in all areas, flame supervision, periodic checks of limit controls and other safety devices.

It is also recommended that any and all personnel entering the paint booth wear the approved fresh-air supply equipment.

It is further recommended that the owner/user periodically upgrade his process heating equipment to comply with the latest national safety standards. (These standards are regularly updated to reflect technological improvements.)

Furthermore, SAIMA of North America, Inc. strongly recommends a complete check up by a highly trained heating technician at least every six months.

Accudraft[®] products are supported by a network of authorized service representatives. For information on Accudraft products and services, please contact SAIMA of North America, Inc. at 1-800-524-0340.

Accudraft carries all original filters and parts. For more information please call 1-800-524-0340.

NOTE: The technical & graphical information contained in this handbook is universal and is intended as a guide only. The information contained herein is accurate up to the printed date. However, continuous improvements and updating may change product specifications without prior notice. As a result, differences between Accudraft products and this handbook may occur. SAIMA of North America reserves the right to improve products without prior notice and is not liable for discrepancies between products and product guides/manuals. For any questions or before performing any work on Accudraft products, please contact SAIMA of North America Inc. or an authorized distributor/representative.

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Preface

Thank you for choosing Accudraft[®] products. Please read this entire guide before operating your new finishing system. The purpose of this guide is to give you the general knowledge needed to operate your system and maintain it properly for optimal performance. This is not intended as a technical manual for service and/or installation. If you have any questions, please contact SAIMA of North America Inc. at 1-800-524-0340 or via email at info@accudraftpaintbooths.com.

This manual is intended as a universal guide for the Accudraft[®] systems listed below:

- TITAN[™]
- XL[™]
- ITALIA[™]
- MX[™]
- SS™
- VENTUS[™]
- TX[™]
- PK3000[™]
- PREP 4000[™]
- MAGNUM 5000™

Safety Precautions

ATTENTION: Always follow the precautions below:

- Always use a fresh air supply or charcoal saturated mask during all spray operations
- Always use approved treated attire suitable for the spraying of paint and related coatings
- No smoking or open flames are allowed within 30 feet of the spray system
- No personnel are to be inside the heated work area during the bake cycle
- No repair or modification is to be performed by an unauthorized party
- Car batteries are to be disconnected before the vehicle is put in the booth/prep station/spray area
- No fuel of any kind is to be present in the booth/prep station/spray area



- 1. Intake Unit
- 2. Recirculation Damper
- 3. Pre-Filters
- 4. Burner
- 5. Intake Stack
- 6. Intake Fan
- 7. Intake Motor
- 8. Air Connector
- 9. Intake Plenum (Ceiling Plenum/Upper Plenum)
- 10. Ceiling Filters
- 11. Upper Angled Lights (Also called "Gable" or "Hip" Lights)

- 12. Lower Lights (Vertical or Horizontal)
- 13. Downdraft Pit
- 14. Connecting Tunnel
- 15. Mechanical Unit Pit
- 16. Exhaust Filters
- 17. Exhaust Fan
- 18. Adjustable Damper
- 19. Exhaust Motor
- 20. Exhaust Unit

General Performance

This is a general description of the intended process followed by Accudraft[®] products covered by this operations guide.

- 1. Fresh air is drawn through the intake duct by the intake fan or blower located in the Air Makeup Unit (AMU). For a non-heated Accudraft[®] product that does not have an air makeup unit, please go to Point #8.
- 2. The incoming air passes through a filter called a "Pre-Filter" located between the intake duct and the burner or heating element. This is the first stage of filtration and it ensures that debris from the outside air is not shortening the life of the critical filters encountered later in the airflow pattern. It also ensures that the air passing through the flame or heat exchanger is clean and free of contaminants and debris.
- 3. The incoming air then passes through the burner flame (direct fire) or around the body of a heat exchanger (indirect fire) causing the air to heat up. The temperature setting set by the user on the control panel will control exactly how high or low the burner's intensity will be.
- 4. The hot air then travels through the connecting duct to the upper ceiling plenum above the spray booth workspace. This is the 12-18" inch tall section above the workspace.
- 5. Once this upper plenum is full of air and pressurized, the air flows downward through the ceiling filters. This is the second and final stage of filtration before the incoming air enters the workspace. Supplied ceiling filters stop particles that are 5 microns in diameter or bigger. When purchasing replacement filters, please ensure a minimum of 5 micron rated filters for the ceiling. (A micron is a metric unit of measure. 1 Micron = 1 Millionth of a Meter).
- 6. Once the filtered air has entered the workspace, it is pulled out of the workspace via the exhaust point which can be in several different places depending on the airflow configuration of your product (See diagrams & details in the next chapter).
- 7. Once the air has reached the exhaust point, one of two things will take place depending on the system's cycle. The exhausted air will either be completely exhausted to the outside atmosphere or will be re-circulated past the burner. The list below describes the four main cycles found in any Accudraft[®] finishing system and the respective intake/exhaust pattern.
 - a. Spray Period 100% Fresh Air In/100% Exhausted Air Out
 - b. Flash Cycle 100% Fresh Air In/100% Exhausted Air Out
 - c. Bake/Cure Cycle 15-20% Fresh Air In/80-85% Recirculated/15-20% Exhaust
 - i. For non-recirculating or "full flow" applications, this period will also be 100% Fresh Air In/100% Exhausted Air Out.
 - d. Cool Period 100% Fresh Air In/100% Exhausted Air Out NOTE: Also see section titled Cycle Sequence.

<u>General Performance</u> (continued)

8. For a non-heated Accudraft[®] product that does not have an air make up unit (AMU), the system operates on a simple exhaust principle. Air is exhausted out of the workspace and the incoming is drawn naturally into the workspace from the environment outside the spray booth. This air travels through the booth/system's interior workspace to the system's exhaust point. The incoming air is drawn from the environment immediately adjacent to the system (usually the shop). Please check with local codes that this type of system is suitable for your location. If proper measures are not taken, the entire building may become "negatively pressurized" when the system is in use, making shop or building doors/windows hard to open. Doors and windows may also open on their own depending on hinge direction. Preventative measures may include dampers or vanes in the building to avoid these unwanted pressurization issues or an air make up unit (AMU) may be required by code.

General System Operation

- **1.** Turn the on/off key to the "on" position. Turn on Lights.
- 2. Have the piece or vehicle to be painted ready to be driven inside the workspace.
- **3.** Wear the approved fresh air supply mask and treated protective suit. Transfer all materials necessary for completion of the refinishing process to the inside of the booth.
- 4. Open the main entry doors.
- 5. Drive the vehicle slowly into the booth and park it in the center of the booth. Close the doors immediately.
- 6. Start the system to begin the Spray/Work Cycle. Adjust temperature if necessary. Work temperature should be between, 65 and 80 degrees and should be comfortable for the user to work in.
- **7.** Following the paint manufacturer's recommendations for preparing before painting, proceed to insure total cleanliness of the vehicle and the painter.
 - a. NOTE: Accudraft (SAIMA of North America Inc./SAIMA Meccanica S.p.A) does not guarantee any level of quality or performance in regards to finish quality and/or drying speed of the coating being applied. Many variables exist for the introduction of contaminants to the workspace and for the extension of curing times. Some of those factors include, but are not limited to debris being introduced into the workspace by the worker/vehicle/tools, negligent filter maintenance, and improper painting and preparation procedure. Any claims made against the equipment or SAIMA of North America Inc. for finish quality/time issues will not be recognized. The only guarantee supplied with this product is on the product materials themselves. The warranty can be found on the final page of this user's guide.
- **8.** Proceed with the refinishing process. Strictly follow the paint manufacturer's recommendations. Never smoke or have an open flame in the cabin.
- **9.** Complete the painting process.
- **10.** Remove any and all excess paint material (paint, reducers, spray gun, air hose, tacking rag, tape, etc...) from inside the cabin and close the doors.

General System Operation (continued)

- **11.** Advance the system into the BAKE/CURE process. THE USER SHOULD NOT OPEN ANY DOORS OR ENTER THE WORKSPACE DURING THE CURING CYCLE.
- 12. The internal lighting will turn off. The system will purge for a minimum of 3 minutes (PURGE/FLASH period). Once the PURGE/FLASH period is expired, the system will automatically move to the BAKE period. The BAKE period will run for the time selected and will then automatically enter the COOL period. Once the COOL period is finished, the system will automatically stop and workspace lighting will turn on again.
- **13.** If you have any problems with any of these steps, please contact an authorized technician. Remember, a repair of any kind should always be done by an authorized technician.

System Controls

Accudraft finishing systems are provided with either pushbutton or digital controls. In the following section, please find the control panel that applies to your system.





Pushbutton Controls

SmartPad® Digital Controls

SmartPad[®] Basic Operation



Press

Main Screen says "No.1" which is Mode 1 for standard coatings If you are spraying standard High VOC coatings, press start If you are spraying low VOC or water-based coatings press P again Main Screen says "No.2" which is Mode 2 for low VOC coatings Press start

NOTE: For VFD systems, system starts and runs at "standby" rate Once spraying is detected, the system will run at full power If spraying stops for 90 seconds or more, the system will return to "standby" rate

Once finished with spraying:

Mode 1: Press 🕥 Key

Mode 2: Press P Key This will put the system into the FLASH Period Once FLASH time has expired: In Mode 1 - Booth goes to bake cycle automatically In Mode 2 - System returns to SPRAY/WORK.

In Mode 2, flash periods are unlimited and will continue to return to SPRAY/WORK.

To go to FINAL FLASH period in Mode 2, press the 🚿 Key.

Once flash time has expired the system will go into the bake cycle and all other cycles automatically.

System lighting will return when all processes are finished.



1. <u>Temperature Reading Display</u> - Displays the current temperature of the workspace

2. SPRAY/WORK Period Temperature Setting Display - Displays desired temperature for the SPRAY period

3. FLASH Period Temperature Setting Display - Displays desired temperature for the FLASH period

4. BAKE Period Temperature Setting Display - Displays desired temperature for the BAKE period

5. COOL Period Temperature Setting Display - Displays desired temperature for the COOL period

6. <u>Static Pressure Reading Display</u> - Displays the current static pressure found in the workspace.

SmartPad[®] Legend & Advanced Functions (continued)

7.<u>Timer/Hour Meter/Password Display</u> - Displays cycle times and total hours of use. Also used when entering the password for the Auto-Tune function.

<u>7a.</u> When the system is running - Displays the time left in the current cycle

<u>7b.</u>When the system is off - Displays the total number of operation hours on the system <u>7c.</u>When entering the password for the Auto-Tune function - Displays the numeric password

8. <u>Temperature Unit Display</u> - Displays either "Degrees Fahrenheit" (°F) or "Degrees Celcius" (°C) 9. <u>START button</u> - Starts the system

10. <u>P button</u> - Selects the type of finishing program before the system is started and is used to toggle through setting parameters.

10a. Before starting the system, press the p button once to select standard mode (No.1) **10b.** Press the p button a second time to select the Waterborne or Low VOC mode (No.2)

- 11. <u>RIGHT ARROW button</u> Advances to the next cycle in sequence
 - 11a, Press once to advance from SPRAY period to the automatic process cycles (flash, bake, cool) NOTE: When in Waterborne/Low VOC mode (No.2) the system will advance to flash but will return to the spray period for a second spray coat. Press the second to advance to the automatic process cycles. After the second time, the automatic cycles will take over the system as normal. For more details, see section titled "System Operation."

11b. While in any automatically timed cycle, press and hold to skip immediatly to the next cycle

- 12. UP ARROW button Increases any setting or parameter being adjusted
- 13. DOWN ARROW button Decreases any setting or parameter being adjusted
- 14. CLOCK button Used to adjust cycle time settings and adjust cycle times on the fly
 - 14a. To adjust any cycle's default time setting, first press the cycle icon button you wish to adjust and then press the solution (both button LED lights will be blinking in unison). Adjust the default cycle time using the solution arrow buttons. The default cycle time is displayed on the left of the TIMER/HOUR METER display. When the desired time setting is set, press the button again to save it. All LED's will stop blinking and the system will save the new setting. Default time settings can be changed with the system off or while it is running. The SPRAY/ WORK period is not adjustable as it has no time setting.
 - 14b. To adjust any cycle's remaining time on the fly, press the 🔊 button while in any cycle (except the SPRAY/WORK period as this period has no time setting). The clock button LED light will blink. Adjust the remaining cycle time using the 💟 🔊 arrow buttons. The remaining cycle time is displayed on the right of the TIMER/HOUR METER display and is blinking. When the desired remaining time is set, press the 🔊 button again to resume the countdown. Remaining time settings can be changed only while the system is running.
- 15. <u>% OUT button</u> This is used to adjust the power of the exhaust unit when a VFD (Variable Frequency Drive) is installed for the exhaust motor (From Accudraft Only 3rd party VFD's added after installation of the system will not have this function).

15a. While the system is running, press the substitution and adjust the exhaust power using the arrow buttons. When the desired power is achieved, press the substitution again. The setting has now been changed and will remain at that percentage until adjusted again.
 NOTE: If the system was purchased with "Automatic Pressure Regulation" as a feature, this button is only active for manual adjustment during the BAKE period.

CAUTION: When replacing soiled filters, be sure to re-adjust exhaust setting and open all doors before starting the system with clean filters. Failure to do so, may cause a negative pressure situation. This may result in damage to the equipment.

SmartPad[®] Legend & Advanced Functions (continued)

- 16. LIGHT BULB (1) button Controls the first series of light fixtures (Push ON, Push again OFF)
- 17. LIGHT BULB (2) button Controls the second series of light fixtures (Push ON, Push again OFF)
- 18. <u>SPRAY/WORK period button</u> Press to adjust temperature setting for the SPRAY/WORK period
 - **18a.** Press the **S** button (the LED will blink) and use the **S** arrow buttons to adjust temperature setting shown in the adjacent display window. Press the **S** button again to save.
- 19. FLASH cycle button Press to adjust time & temperature settings for the FLASH cycle
 - **19a.** Press the **b**utton (the LED will blink) and use the **s** arrow buttons to adjust temperature setting shown in the adjacent display window. Press the **b**utton again to save.
 - **19b.** To adjust FLASH cycle time see #14 "Clock button" on the previous page.
- 20. BAKE cycle button Press to adjust time & temperature settings for the BAKE cycle
 - **20a.** Press the solution (the LED will blink) and use the solution arrow buttons to adjust temperature setting shown in the adjacent display window. Press the solution again to save.
 - 20b. For systems with the Intellicure rapid surface temperature feature, the BAKE period has two temperature settings. To access the first temperature setting, press the solution once. The first temperature displayed is the high temperature setting which is typically set 20 degrees higher than the standard bake temperature (160 -180°F). Adjust to the desired temperature using the Solution arrow keys. This is the first BAKE period and lasts on average 10-15 minutes. To access the second (standard) BAKE temperature setting, press the second time and adjust the temperature setting using the Solution a second time and adjust the temperature setting using the Solution area setting using the Soluti

Press the 🎆 button again to save settings.

- **<u>20c</u>.** To adjust BAKE cycle time see #14 "Clock button" on the previous page.
- 21. <u>COOL cycle button</u> Press to adjust time & temperature settings for the COOL cycle <u>21a.</u> Press the [™] button (the LED will blink) and use the [™] arrow buttons to adjust temperature setting shown in the adjacent display window. Press the [™] button again to save.
 - <u>**21b.</u>** To adjust COOL cycle time see #14 "Clock button" on the previous page.</u>
- 22. <u>SP button</u> Press to adjust the workspace static pressure setting (active only on systems purchased with the Automatic Pressure Regulation feature).
 - 22a. Press the sp button (the LED will blink) and use the Normal arrow buttons to adjust static pressure setting shown in the adjacent display window. (.04 .08 is the recommended static pressure setting). Press the sp button again to save the new static pressure setting.
 - NOTE: To adjust workspace pressure while the system is running, adjust dampers or fan speeds to maintain gauge needle slightly above 0. ALL DOORS MUST BE CLOSED FOR PRESSURE READING TO BE ACCURATE. IF PRESSURE PROBLEMS PERSIST, CHECK 1/4" PLASTIC TUBE PROTRUDING INTO THE WORKSPACE. THIS IS THE SENSOR TUBE AND IT CAN BE CLOGGED EASILY WITH BOOTH WRAP-PING/SPRAYS.
- 23. <u>STOP button</u> Press once to skip straight to the COOL cycle. Press again to stop the system completely.
 24. <u>BURNER ON/OFF button</u> Press is button to disable the burner.
 - 24a. During summer months you may choose to disable the burner during the SPRAY/WORK period
 24b. If burner has been disabled during the SPRAY/WORK period, It is not necessary to re-activate the burner before proceeding to the next cycle. The burner will automatically re-activate once the user has advanced the system to the automatically timed cycles (FLASH, BAKE,COOL).

<u>SmartPad®</u> <u>Auto-Tune Function</u>

- 1. Set temperature to 100°F
- 2. Press and hold the Arrow buttons simultaneously for five seconds until the letters c.n.f. appear in the SP screen.
- 3. Using the Arrow buttons, enter the number 12 in the green hour meter screen.
- 4. Press the 🖻 button until the letters A.t. appear in the SP screen.
- 5. Using the Max arrow buttons, enter the number 1 in the green hour meter screen
- 6. Press the 🖻 button until the control panel returns to the normal "home" display.
- 7. To confirm that the system is performing an Auto-Tune, observe the current temperature reading in the large screen at the top of the control panel. If this number is blinking, the system is in the process of an Auto-Tune. When the Auto-Tune is done, the temperature reading will stop blinking and the system will return to normal operation.

NOTE: During the auto-tune, the temperature will overshoot and undershoot the target temperature as part of the calibration.

NOTE: Auto-tuning can last between 5 and 15 minutes depending on outside temperatures. Please wait until the auto-tune is finished before resuming normal use of the spray booth or system.

NOTE: Auto-tunes should be conducted a minimum of twice a year or with the change of seasons to account for changes in outdoor temperatures.

NOTE: For best results, perform auto-tunes at temperatures below 85°F and make sure all filters in the system and mechanical units are clean or brand new.

Pushbutton Control Panel Basic Operation





Spray/Work



Bake Process



Lights On/Off



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Burner On/Off
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Master On/Off

- 1. Turn MASTER switch/key to ON (1)
- 2. Turn BURNER switch to ON (1)
- 3. Turn LIGHTS switch to ON (1)
- 4. Press the SPRAY/WORK button.
 - To adjust temperature use on the temperature controller. For temperature controller settings, see section titled
 "MPS-5 Temperature Controller"
 - The system will run in SPRAY/WORK until the user starts the BAKE process

Once finished with spraying:

5. Turn TIMER lens clockwise to select desired BAKE time 6. Press the BAKE Process button:

- System will advance into the automatic curing processes. The process begins first with FLASH/PURGE period and will progress through the BAKE period final COOL period.
- Lighting will be off during the curing process

- Bake time may be decreased during the BAKE process by turning the timer lens counter clockwise. Bake time cannot be increased during the BAKE process.

When all processes are finished, the system will shut down and workspace lighting will return.

7. To start the next job, turn MASTER switch to the OFF position (0) and turn the switch back to the ON positioon (1).

To adjust workspace pressure while the system is running, adjust dampers or fan speeds to maintain gauge needle slightly above 0. ALL DOORS MUST BE CLOSED FOR PRESSURE READING TO BE ACCUR-ATE. IF PRESSURE PROBLEMS PERSIST, CHECK 1/4" PLASTIC TUBE PROTRUDING INTO THE WORKSPACE. THIS IS THE SENSOR TUBE AND IT CAN BE CLOGGED EASILY WITH BOOTH WRAPPING/SPRAYS.



1a. Recommended positive pressure is slightly above (0).

NOTE: Avoid negative pressure. If needle is resting on the peg below the 0 mark, the pressure in the workspace is negative. Close exhaust damper slowly until needle rises and stays slightly above 0. If this does not work, change intake & ceiling filters.

2. COOL Period Indicator Light - Illuminates when in the COOL period.

Pushbutton Controls Legend & Basic Functions (continued)

- 3. <u>MPS-5 Temperature Controller</u> Used to input desired temperatures. Displays desired temperature and actual temperature during any operation. See chapter titled "MPS-5 Temperature Controller"
- 4. TIMER for BAKE Cylce Used to set the desired bake time. Turn round lens clockwise to set desired time
- 5. <u>SPRAY/WORK Period Button and Indicator Light</u> Starts the system in the Spray/Work Period. Indicator will illuminate.
- 6. <u>BAKE Period Button and Indicator Light</u> Advances the system into the automatic FLASH, BAKE, COOL cycles. TIMER must be run up first, then the BAKE button is pressed. FLASH period will start. Indicator will illuminate.
- 7. <u>LIGHTS On/Off Switch and Indicator Light</u> Controls the workspace lighting (0 = Off, 1 On). Indicator will illuminate when lights are ON.

NOTE: During automatic FLASH, BAKE, COOL cycles, on/off switch is overridden and lighting will be OFF.

8. <u>BURNER On/Off Switch and Indicator Light</u> - Controls the heating system's burner (0 = Off, 1 - On). Indicator will illuminate when burner is ON.

NOTE: Fan will continue to run. This switch only shuts down/turns on the burner unit in the SPRAY/WORK period. The burner will automatically turn on during the BAKE cycle regardless of switch position.

9. <u>MASTER On/Off Switch and Indicator Light</u> - Turns on the control panel (0 = Off, 1 - On). Indicator will illuminate when control panel is ON.

NOTE: This switch may be a standard on/off switch or a lock & key switch that is supplied with two copies of the key.

- 10. MAINTENANCE ACCESS LOCK Allows access to the internal wiring of the control panel.
- 11. HOUR METER Shows total hours of use on the Accudraft® system.
- 12. DISCONNECT 2 Disconnects the second power feed from the building

13. <u>DISCONNECT 1</u> - Disconnects the first power feed from the building

MPS-5 Temperature Controller



The MPS-5 temperature controller is available in Standard and Intellcure[®] versions. Both are physically identical. To find out which one is used in your system, please locate the product label on the side of the controller and see the following pages for instructions on how to program.

MPS 5c A 3 SCALE INPUT SUPPLY	P4 01 00 00 0 L 7 P1100 0 -200° F 30/250 V ~ 50/60Hz 5V A	Indicates Type of Controller <u>Direct Fire</u> S7= Intellicure® (Up to 4 Time/Temperature Settings) L7 = 2 Set point (2 Time/Temperature Settings) <u>Indirect Fire</u> L7 = 2 Set point (2 Timed/Temperature Settings Only)
S.N.	276103	Indicates Type of Burner
		 A = Direct Fire - milliAMP Output V = Direct Fire - Voltage Output R = Indirect Fire - Relay Output



1. <u>Temperature Reading Display</u> - Displays the current temperature of the workspace

- This is the actual temperature reading from inside the workspace. The temperature sensor should be visible from inside the workspace. Mounting the sensor in other locations can cause inaccurate readings and burner malfunctions.

2. <u>Temperature Setting Display</u> - Displays desired temperature for the current period

- This is the temperature your system is currently calling for. (This value changes depending on the period the system is in "Spray", "Flash", "Bake", "Cool")

<u>2a.</u>To change temperature settings press the P button.

3. <u>M Indicator Light</u> - Indicates that the main output relay is energized

4. <u>SP1 Indicator Light</u> - Indicates that Set Point 1 (temperature setting for SPRAY/WORK) is currently active.

5. <u>SP2 Indicator Light</u> - Indicates that Set Point 2 (temperature setting for the BAKE/CURE process) is currently active.

NOTE: Intellcure[®] controllers may have more than one temperature setting within the BAKE process itself. This is still only expressed with the SP2 Indicator on.

6. UP Arrow Button - Used to adjust settings

7. DOWN Arrow Button - Used to adjust settings

8. <u>P Button</u> - Used to program the controller

9. <u>AL1 Button</u> - Alarm relay 1 - Not used, but available for connection of alarm switches if necessary.

10. <u>AL2 Button</u> - Alarm relay 2 - Not used, but available for connection of alarm switches if necessary.

11. <u>AL3Button</u> - Alarm relay 3 - Not used, but available for connection of alarm switches if necessary.

12. <u>Auto-Tune Indicator Light</u> - Illuminates only when the system is performing an auto tune

- See sections titled "Auto Tune Function".

NOTE: Intellcure® and 2-Set Point controllers have different Auto-Tune instructions.

2 Set-Point Controller

** All temperature controllers come preprogrammed.

To access the programming mode:

- 1. Press & hold the 🕑 button until b.L.o. appears on the SV screen.
- 2. Using the 🔯 arrow, enter the number 0 on the PV screen.
- 3. Press Puntil the controller returns to the normal "home' display.

Temperature programming:

- 1. Press the P button until SP1 appears on the SV screen.
- 2. Using the 🐼 🧭 arrows, enter the desired temperature for the SPRAY/WORK period.
- 3. Press the 🔁 button until SP2 appears on the SV screen.
- 4. Using the 🔕 🥹 arrows, enter the desired temperature for the BAKE/CURE period.

Auto-Tune Procedure for 2 Set-Point Controllers:

- 1. Press & hold the 🕑 button until b.L.o. appears on the SV screen.
- 2. Using the 🞯 arrow, enter the number 0 on the PV screen.
- 3. Press P until the controller returns to the normal "home" display.
- 4. Press the 🕑 button until A.t. appears on the SV screen.
- 5. Using the 👩 arrow, enter the number 1 on the PV screen.
- 6. Press P until the controller returns to the normal "home" display.
- 7. To confirm that the controller is performing an Auto-Tune, locate the Auto-Tune indicator LED on the PV screen. A red indicator light above the letters "AT" (bottom right corner of PV screen) should be illuminated.

The indicator will turn off after the system has performed the Auto-Tune.

- 8. Press the 🕑 button until b.L.o. appears on the SV screen.
- 9. Using the Sarrow, enter the number 2 on the PV screen.
 10. Press P until the controller returns to the normal "home display.
- 11. The controller's programming is now set, saved, & password protected so it cannot be tampered with.

The user will be able to change SPRAY and BAKE temperatures using the 👩 🞯 arrow buttons.

NOTE: During the auto-tune, the temperature will overshoot and undershoot the target temperature as part of the calibration.

NOTE: Auto-tuning can last between 5 and 15 minutes depending on outside temperatures. Please wait until the auto-tune is finished before resuming normal use of the spray booth or system.

NOTE: Auto-tunes should be conducted a minimum of twice a year or with the change of seasons to account for changes in outdoor temperatures.

NOTE: For best results, perform auto-tunes at temperatures below 85°F and make sure all filters in the system and mechanical units are clean or brand new.

SPRAY/WORK Period No Time Limit



BAKE Period 30-40 Minutes



Controller Information Label



Indicates Type of Burner

A = Direct Fire - milliAMP
Output
V = Direct Fire - Voltage
Output
R = Indirect Fire - Relay
Output

of Burner | Indicates Type of Controller - milliAMP | <u>Direct Fire</u>

- S7= Intellcure®(Up to 4 Time & Temperature Settings)
- L7 = 2 Set point (2 Time/Temperature Settings)
- Indirect Fire

 L7 = 2 Set point (2 Timed/Temperature Settings Only)



CAUTION: Direct fire and indirect fire temperature controllers are not interchangeable. USING THE WRONG TYPE WILL DAMAGE THE CONTROLLER.

NOTE: Indirect fire temperature controllers do not have an auto-tune function.

Intellcure[®] Controller

** All temperature controllers come preprogrammed. The Intellcure® feature raises temperatures to a very high setting for a short period of time prior to the actual "BAKE" period. This period is designed to bring painted surface temperatures up faster than basic spray/bake systems. This high temperature period is referred to as the "Pre-Bake" period.

SPRAY/WORK Period No Time Limit



To access the programming mode:

- Press and hold the P button until you read AL1 on the SV screen.
- Press P until you read c.n.f. on the SV screen. Using the arrow, enter the number 123 on the PV screen.
- 3. Press P until you read d.S.3 on the SV screen.
- Using the Sarrow, enter the number 0 on the PV screen.
- Press P until you return to the normal "home" display. The controller is now ready to accept new parameters.

Pre BAKE Period 10-15 Minutes



Programming Procedure:

- Press and the P button until you read t.1. on the SV screen.
 Using the R SV arrows, enter the number 0 on the PV screen.
- 2. Press P until you read S.P.2. on the SV screen.
- 3. Using the 🔕 🞯 arrows, enter the desired high temperature setting for the pre-BAKE period (Max. 180)
- Press Press until you read t.2. on the SV screen.
- 5. Using the 🐼 😻 arrows, enter the desired time (in minutes) of the pre-BAKE period (10-15 minutes recommended).
- 6. Press 🕑 until you read S.P.3 on the SV screen.
- 7. Using the 🐼 😻 arrows, enter the desired temperature setting for the BAKE period (140-160 recommended).
- 8. Press P until you read t.3 on the SV screen.
- Using the Solution of the bake cycle time. This is done since the time for the bake cycle is not controlled by the

BAKE Period 20-30 Minutes



temperature controller but by the BAKE timer dial turned by the user.

- 10. Press 😑 until you read S.P.4. on the SV screen.
- 11. Using the 👩 🞯 arrows, enter the number 75.
- 12. Press P until you read t.4. on the SV screen.
- 13. Using the 🔕 🥹 arrows, enter the number 75.
- 14. Press P and the controller will return to the normal "home" display.
- 15. Press and hold **P** until you access the programming mode.
- 16. Press the P button until you read c.n.f. on the SV screen.
- 17. Using the 👩 🞯 arrows, enter the number 123.
- 18. Press P until you read d.S.3. on the SV screen.
- 19. Using the 🔕 😻 arrows, enter the number 127.
- 20. Press 😰 until the controller returns to the normal "home" display.
- 21. The controller's programming is now locked. The SP1 (SPRAY/WORK) temperature setting will be the only setting accessible to the user.

Intellcure® Controller Auto-Tune Function

<u>Auto-Tune Indicator LED:</u> will light up for the duration of the auto-tune. Do not turn the system off, switch cycles or disturb the system in any way until this light turns off.



Controller Information Label



A = Direct Fire - milliAMP
Output
V = Direct Fire - Voltage
Output
R = Indirect Fire - Relay
Output

- S7= Intellcure®(Up to 4 Time & Temperature Settings)

 L7 = 2 Set point (2 Time/Temperature Settings)
 Indirect Fire

- L7 = 2 Set point (2 Timed/Temperature Settings Only)

 \triangle

CAUTION: Direct fire and indirect fire temperature controllers are not interchangeable. USING THE WRONG TYPE WILL DAMAGE THE CONTROLLER.

Auto-Tune Procedure for Intellcure® Controllers:

- 1. Press & hold the P button until you read AL1 on the SV screen.
- 2. Press 🖻 until you read A.t. on the SV screen.
- 3. Using the 🔕 arrow, enter the number 1 on the PV screen.
- 4. Press P until the controller returns to the normal "home" display.
- To confirm that the controller is performing an Auto-Tune, locate the Auto-Tune indicator LED on the PV screen. A red indicator light above the letters "AT" (bottom right corner of PV screen) should be illuminated.

The indicator will turn off after the system has performed the Auto-Tune.

NOTE: During the auto-tune, the temperature will overshoot and undershoot the target temperature as part of the calibration.

NOTE: Auto-tuning can last between 5 and 15 minutes depending on outside temperatures. Please wait until the auto-tune is finished before resuming normal use of the spray booth or system.

NOTE: Auto-tunes should be conducted a minimum of twice a year or with the change of seasons to account for changes in outdoor temperatures.

NOTE: For best results, perform auto-tunes at temperatures below 85°F and make sure all filters in the system and mechanical units are clean or brand new.

NOTE: Indirect fire temperature controllers do not have an auto-tune function.

Non-Heated System Control Panel Legend & Basic Operation



<u>Legend</u>

- 1. <u>Disconnect 1</u> Disconnects the first power feed from the building.
- 2. <u>Disconnect 2</u> Disconnects the second power feed from the building.
- 3. <u>START Button</u> Starts the motor/fan unit.
- 4. <u>STOP Button</u> Stops the motor/fan unit.
- 5. <u>EMERGENCY STOP Button</u> Stops the entire system in case of emergency. Punch in to STOP (button will remain engaged). Turn button face clockwise to disengage.
- 6. <u>LIGHTS Button</u> Workspace lighting ON/OFF switch. (1) = ON, (0) = OFF
- 7. <u>MAIN LINE Indicator Light</u> Illuminated when the main building power is present. The button label may read either "Main Line" or "Inserted Line".

Basic Operation

- 1. Turn on LIGHTS switch/key to ON (1).
- 2. Press the START button.

Once finished with work that creates debris:

- 5. Press the STOP button.
- 6. When finished with all work, turn LIGHTS switch/key to OFF (0).
 - Control panel should be mounted in a convenient location for the user to exit the work area first and then turn lights off. NEVER WALK THROUGH THE WORKSPACE IN THE DARK. UNSEEN OBSTACLES MAY CAUSE BODILY HARM OR DAMAGE TO PROPERTY.



Shown below are the various types of mechanical units or AMU (Air Makeup Unit) systems that are available with any Accudraft finishing system. Please locate the mechanical system that best matches the system in your facility. The information on mechanical systems shown in this chapter is intended as a guide for basic system knowledge and maintenance . The information contained in this section is in no way intended as a technical specification document or installation manual and in no way qualifies the user to perform technical service or repairs to the equipment. For any information that is not contained in the following section, please contact the authorized accudraft distributor from whom the system was purchased.

The mechanical units shown in this chapter can be used with any of the following Accudraft[®] systems:

- TITAN™
- XL™
- ITALIA™
- МХ^{тм}
- SSTM
- VENTUS™
- PK 3000™
- PREP 4000™
- MAGNUM 5000™
- TX[™] (Truck & Large Equipment Systems)



KD Intake & Exhaust Airflow Diagram 80/20 Recirculation





100% of the air is exchanged during prep work or application of coatings



80% of heated air is recirculated



<u>Connecting Tunnel</u> Air returns via the tunnel or connecting duct that is under the Air Makeup Unit <u>Connecting Tunnel</u> Air returns via the tunnel or connecting duct that is under the Air Makeup Unit <u>Exhaust Filter</u> Second & final stage of exhaust filtration. Thsi is the final filtration stage before exhaust passes through the exhaust turbine.



KD Intake & Side Exhaust 80/20 Recirculation





100% of the air is exchanged during prep work or application of coatings





80% of heated air is recirculated



<u>Connecting Duct</u> Air returns via the connecting duct that attaches the sidewall exhaust plenums to the plenum under the air makeup unit.



<u>Timeless® Direct Drive Intake & Exhaust</u> <u>80/20 Recirculation</u>



<u>Connecting Tunnel</u> Air returns via the tunnel or connecting duct that is under the Air Makeup Unit <u>Connecting Tunnel</u> Air returns via the tunnel or connecting duct that is under the Air Makeup Unit Exhaust Filter Second & final stage of exhaust filtration. Thsi is the final filtration stage before exhaust passes through the exhaust turbine.



Stand-Alone Intake/Stand-Alone Exhaust 50/50 Recirculation







1	Prefilter & Recirc. Filter	
2	Recirc. Damper	
3	Intake Fan/Motor	
4	Burner Unit	
5	Elbow Connector	
6	Exhaust Filters	
7	Exhaust Fan/Motor	
8	Heat Exchanger	
9	Intake Duct	
10	Exhaust Duct	
11	Chimney Stack	

Any Accudraft KD, Standalone, or Timeless mechanical unit may have the Indirect Fire configuration that carries the burner and heat exchanger shown. All mechanical parts, airflow, and filters remain the same as the direct fire versions. The only change is to the burner box section. Indirect fire burner unit (#4), the barrel-like heat exhanger (#8), and the addition of a chimney stack (#11).

An easy way to tell if you have an indirect fire unit, is to look for the chimney stack. If there is a chimney stack, then you have an indirect fired burner.

Accudraft's indirect fire option is available in gas or oil versions but is most ideal for applications using heating oil or diesel as a source of fuel. If gas is available in your location please speak to an Accudraft representative as heat efficiency could be increased greatly by purchasing a direct fire conversion kit or purchasing a new direct fired system like the Accudraft KD, Timeless, Standalone, or SS AMU.



Space-Saver Intake & Bridged Exhaust 80/20 Recirculation



Maintenance Schedule

Do Not Make Any Repairs Unless Professionally Qualified

Filter Maintenance

All filters should be replaced with filters of the original type or with filters that have the same specifications, otherwise performance of the equipment will be compromised. For Accudraft original filters please call 800-524-0340.

- Pre-Filter Clean every 50 hours. After every 50 hours of use, remove (pocket filters) from the air-generating group. Vacuum all accumulated particles. Replace these filters after 400 hours of use.
- Ceiling Filter Replace every 1200 hours. These filters need to be replaced after a maximum of 1200 hours of use. Depending on location of the facility and quality of air being drawn into the system, some of these filters may need to be replaced sooner than others.
- Floor Filter Replace every 50 hours or when workspace pressure stays above 1 in the SRAY/WORK cycle and cannot be adjusted any lower. These filters need to be replaced after 50 hours of use or when the pressure is unable to be lower than 1 (in SPRAY/WORK period) whichever comes first.
- Exhaust Filter Replace every 50 hours or when workspace pressure stays above 1 in the SRAY/WORK cycle and cannot be adjusted any lower. Always change Floor Filter before changing the Filters in the Exhaust Unit.

Burner Maintenance

Every six months a professionally trained technician must tune the burner. For Accudraft original parts please call 800-524-0340.

Cabin Maintenance

Every Day of Operation:

- Set the booth to run on SPRAY/WORK mode
 - Check the pressure gage for pressure
 - If it is too high:
 - Change floor filters

<u>Maintenance Schedule</u> (continued)

- Calibrate the pressure from zero to two (mm) by using the adjustable damper handle
- Remove any foreign materials
- Wipe spray gun hose clean keep spray gun air hose off of the floor

Every Week of Operation:

- Set the booth to run on spray mode
- Using a saturated sponge with household cleaner, wipe all the walls and doors
- Clean all light and door glass
- Replace floor filters
- NEVER blow compressed air to clean the floor or ceiling filter pads

Every 6 Months of Operation:

- Have burner checked by an authorized technician
- Check and tighten all belts
- Lubricate fans with a non-silicon lubricant
- Wipe down all external surfaces of the booth
- Re-coat floor with top quality enamel and have floor grates steam cleaned
- Open the control panel and visually check electrical components
 - If anything appears out of place/unusual or if any connections are loose, Call your local distributor or a qualified electrician

Prep/Painting Procedure

NOTE: These painting procedures have been developed just for you. However, as a result of technological advancements, your paint supply representative or technician should maintain up to date information on the latest techniques.

SAFETY: There are many variations on techniques and procedures for painting vehicles. Both the technician's knowledge and the shop's condition have a direct impact on safety. These procedure suggestions cannot possibly anticipate all the variables. Make sure you follow and do not depart from the safety instructions provided by the material, equipment manufacturers, and OSHA.

- Wear fresh air supply or a charcoal saturated mask any time you enter the workspace and proceed to spray paint.
- Wear the proper attire (treated suit, boots, headgear, and gloves) for all spray painting operations.

STEP 1 – THE CLEAN JOB

Your Accudraft[®] product is designed to MINIMIZE dirt/debris and to cure jobs faster than leaving the freshly painted job to dry in the outside environment.

The spray booth or system is only one part of the clean job. The painter has to start managing dirt contamination before the car even enters the shop. When a paint booth is properly operated and maintained, dirt contamination will only come from the painter, vehicle, or dirty tools BROUGHT INTO the workspace.

A hard working painting technician with a quality down draft system can virtually eliminate buffing. However, polishing is expected to remedy the few dirt particles that inevitably exist.

A technician that understands the benefits of meticulous preparation BEFORE the coating application process, will save hours of buffing after the job is done.

The paint booth or system will give the painter an extremely clean environment, but you cannot expect dirt free jobs if the technician neglects to follow the prep procedure precisely.

Painting Procedure (continued)

The vehicle will be the biggest factor in achieving a clean job. The vehicle must be washed very well before any work on the body is performed. The painter or prep worker must insure that all the dirt, oil, tar, wax, etc. is removed from the seams, grills, moldings, wheel wells, etc. With the help of a pressure washer and the proper detergent, this important process can be accomplished. This process also includes the under-carriage of the vehicle.

After the vehicle is dry, a de-waxing procedure should be followed. Prior to sanding, perform the procedure to remove any grease, oil, silicones, road tar, or wax embedded in the surface. Now the vehicle is ready for the repair procedure.

After the body repair has been done, the vehicle has to be washed and degreased for a second time. A heated pressure wash is recommended. Special attention should be paid to the hood, trunk, doors, windows, moldings, and wheel well openings.

Make sure that the vehicle is completely dry.

STEP 2 – MASKING

Drive the car into the workspace.

NOTE: Disconnect the ground terminal from the battery and clamp a grounding cable to the vehicle and a grounded surface in the workspace. THIS ELIMINATES STATIC ELECTRICITY.

ONLY THE BEST MASKING TAPE AND PAPER SHOULD BE USED FOR THE PROCEDURE. Tape causes a great deal of problems for the technician. Inexpensive paper has loosely bonded fibers allowing "hairs" to stand up. These hairs will break loose and become dirt under the pressure of the paint gun. When masking, the paper should be as smooth as possible. Any wrinkle will hold dirt or overspray.

STEP 3 - FINAL TACKING

If you are inside the workspace, make sure you have it running.

Painting Procedure (continued)

Again, after you are totally satisfied and you are convinced of absolute cleanliness, proceed to the final tacking. USE THE BEST TACKING RAGS AVAILABLE IN THE INDUSTRY.

Tack from the top surfaces down. Wipe with an overlapping motion as if you were applying paint. Turn the rag frequently and when finished, dispose of it. DO NOT USE THE TACKING RAG AGAIN.

STEP 4 – WORKSPACE AND SYSTEM MAINTENANCE

To expect a clean paint job, you must maintain the booth and the filters in CLEAN CONDITION.

A set maintenance schedule must be made and followed for the cleaning of the workspace and the changing of the filters. UNDER NO CIRCUMSTANCES SHOULD THE MAINTENANCE BE PUT OFF.

The system's main entry doors must be kept closed at all times except when loading a vehicle or piece in or out of the workspace.

Daily cleaning of the booth includes pick up and removal of all items (tape, paper, excessive paint, etc.) not needed for the paint job. Oils and resins will be released from rags, wipes, and tack rags during the bake cycle, contaminating the paint job.

Enjoy high quality finishes and time/money saving by ensuring that these important steps are followed in detail.

Congratulations on the purchase of your new Accudraft system!



Manufacturer Warranty

One-year limited warranty:

During the warranty period SAIMA of North America, Inc. shall provide limited replacement of parts and/or structural materials confirmed to be defective by an authorized Accudraft technical representative.

Warranty on defective parts/components expires 12 months after date of initial shipment.

Warranty on defective structural materials expires 60 months after date of initial shipment

Limitation of Warranty:

The warranty described in the section above does not cover improper maintenance/cleaning of filters and/or the work environment in or around the Accudraft finishing system, negligence, changes made to the equipment, or work performed by a party not authorized by SAIMA of North America Inc. The product warranty is void if the system is used in a manner other than that for which it is specifically intended. The product warranty is void if the system is maintained in an environment other than that for which the system is specifically designed. Damages found to be caused by exposure to water or corrosive chemicals are not covered under this warranty. Damages caused as a result of an act of god such as destructive storms, earthquakes, lightning, flood etc. are not covered under this warranty. The warranty does not cover wearable items including but not limited to filters, light bulbs or ballasts, motor belts and/or bearings. This warranty is non-transferable. Replacement of any part or component of the system does not extend the warranty on that piece or on the system in any way. Warranty is void if the purchased system has been previously assembled/disassembled or used in any way.

Labor

Labor is not covered under this warranty. The company or entity from which the end user purchased the equipment may agree to provide labor at no cost to the buyer. The terms and the period of any warrantied labor are determined only by an agreement made between the end user and the company from which the end user purchased the equipment. The terms of that labor agreement are in no way considered the responsibility of the manufacturer and in no way affect the terms of the warranty described in the section above titled "One-year unlimited warranty".

Customer	Name:
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_____Date of Shipment:_____

Equipment Serial Number(s): Warranty Expiration Date:

Manufacturer Warranty - User's Guide Copy

961 Route 10 East, Suite 2K; Randolph, New Jersey 07869 • 800-524-0340 www.accudraftpaintbooths.com

Accudraft® Quality Continues with Quality Service

Accudraft provides a process to handle your questions or problems, should they arise, to ensure product quality continues with your Accudraft dealer's parts and service support.

Follow the steps below to get answers to any questions you may have about your product.

- 1. Refer to your system's opertaor manuals
- 2. Contact your Accudraft dealer with unanswered questions.
- 3. In the US/Mexico/Canada, call SAIMA of North America
 - Call (800) 524-0340 and provide the system serial number.

Place Equipment Serial Number Sticker(s) Here.

Place Equipment Serial Number Sticker(s) Here.

SERVICE RECORD



Manual No. OMAT - Revision 063011

Service Record