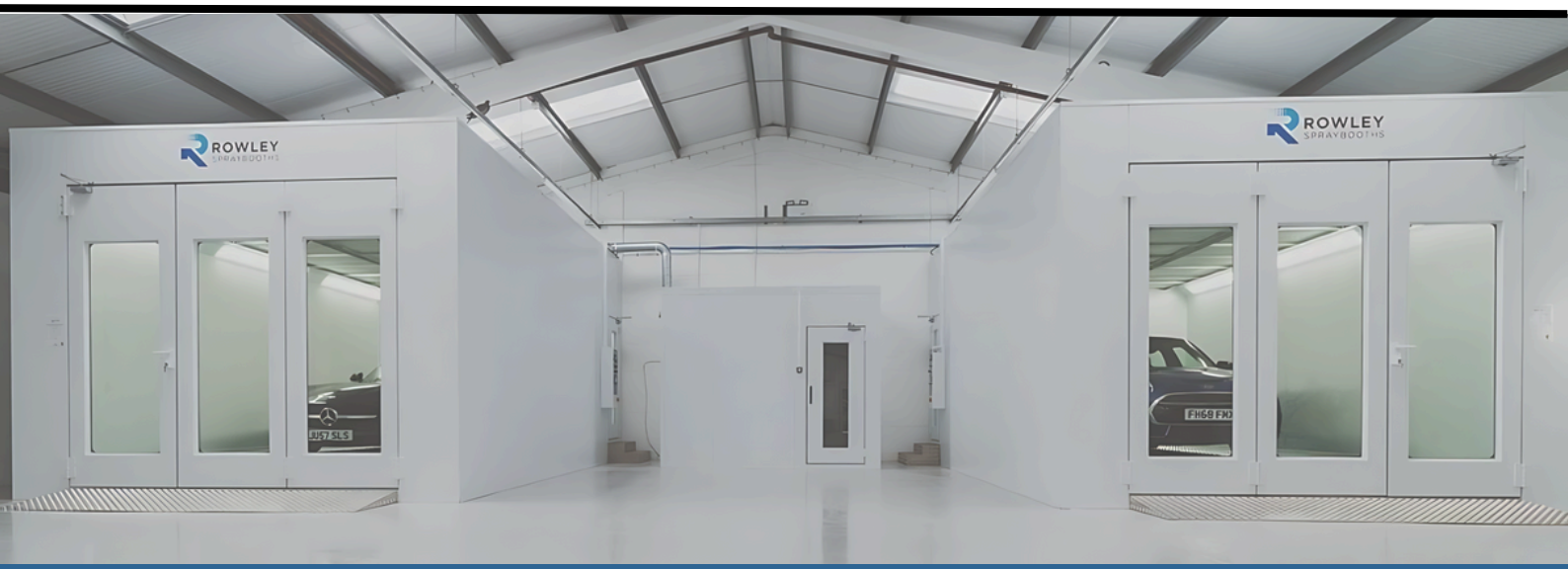
ROWLEY SPRAYBOOTHS

User Guide

The Aero Range



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Contents

Introduction

Purpose of the Manual

- This Operators Guide is designed to ensure the safe and efficient operation of your Spray Booth. It provides step-by-step instructions, safety guidelines, and routine maintenance procedures to help you maintain compliance with industry regulations and keep your spray booth performing at its best.
- Operators should read and understand this manual before using the spray booth. Regular maintenance and proper operation will help to extend the life of the booth, reduce downtime, and ensure a high-quality finish on all painted surfaces.

Important Notes:

- Only trained personnel should operate the spray booth.
- Regular checks and maintenance must be carried out to ensure safe operation.
- The spray booth must comply with Local Exhaust Ventilation (LEV) regulations and other HSE guidelines to remain legally compliant.
- If any faults occur, refer to the Troubleshooting Section or contact Rowley Spray Booths for assistance.

Safety

Safety Notes Regarding LPG Vehicles

When working with LPG-powered vehicles inside a spray booth, extra precautions must be taken due to the potential fire and explosion risks associated with liquefied petroleum gas (LPG).

Key Safety Precautions:

- Check for Leaks: Always inspect LPG-powered vehicles for any fuel leaks before entering the spray booth.
- Ventilation: Ensure the booth's extraction system is running properly to prevent gas accumulation.
- No Ignition Sources: LPG vapours are highly flammable—never introduce open flames or electrical sparks near an LPG vehicle.
- Purge Before Entry: If the vehicle has recently been running, allow time for fuel vapours to dissipate before starting a spray cycle.
- Emergency Shutdown: Familiarise yourself with the booth's emergency stop procedures in case of gas detection.

By following these safety protocols, operators can minimise risk and ensure that LPG-powered vehicles are sprayed safely and effectively.

Safety

Safety Notes Regarding Electric Vehicles

As electric vehicles (EVs) become increasingly prevalent, it's essential for spray booth operations to adapt to their unique requirements. EVs introduce specific safety considerations due to their high-voltage systems and sensitive battery components.

Key Safety Considerations:

- Temperature Control: EV batteries are sensitive to high temperatures. Traditional curing processes in spray booths often exceed safe temperature thresholds for EVs. Manufacturers like Audi and Tesla recommend that drying temperatures should not exceed 50°C (122°F) to prevent battery degradation.
- High-Voltage System Isolation: Before commencing any work, ensure that the EV's high-voltage system is properly isolated. This step is crucial to prevent electrical hazards during the painting process. Only EV trained technicians should be interacting with the voltage on the EV.
- Ventilation and Extraction: Maintain optimal ventilation within the spray booth to manage any fumes or vapours effectively. Proper extraction systems help in maintaining air quality and reducing the risk of fire or explosion.
- Personal Protective Equipment (PPE): Technicians should use appropriate PPE as recommended by car manufacturer to safeguard against potential electrical hazards.

Spray Booth Operation

Your Spray Booth is designed for efficient and high-quality refinishing, with three primary operational cycles: Spray, Flash-Off, and Bake. Each cycle plays a crucial role in ensuring an optimal paint finish while maintaining safety and efficiency.

Spray Cycle

The Spray Cycle is used for applying paint in a controlled, ventilated environment to reduce contamination and ensure even coverage.

Steps to Operate the Spray Cycle:

1. Ensure all filters are clean and booth pressure is balanced.
2. Place the vehicle or parts inside the booth and close all doors securely.
3. Turn on the main isolator switch on the control panel.
4. Press the "Spray" button to activate the airflow system.
5. Adjust the spray temperature as required using the control panel.
6. Begin spraying while maintaining proper airflow across the booth.
7. Once spraying is complete, allow the booth's extraction system to remove excess paint vapours before transitioning to the Flash-Off Cycle.

Safety Considerations

- Ensure the spray gun is properly connected and adjusted for even application.
- Do not leave excess paint residue in the booth; overspray should be minimised.
- Ensure adequate ventilation to prevent paint fumes from accumulating.

Spray Booth Operation

Flash-Off Cycle

The Flash-Off Cycle allows the solvents in the paint to evaporate before the baking process, ensuring a smooth and durable finish.

Steps to Operate the Flash-Off Cycle:

1. Press the "Flash-Off" button on the control panel.
2. The booth will continue to ventilate while maintaining a moderate temperature.
3. The recommended duration for this cycle varies depending on the paint system being used (typically 5-10 minutes).
4. Once the flash-off period is complete, transition to the Bake Cycle.

Safety Considerations

- Avoid opening booth doors during flash-off to maintain a controlled environment.
- Ensure that the booth pressure remains stable to prevent contamination.

Spray Booth Operation

Bake Cycle

The Bake Cycle cures the paint at a high, controlled temperature, ensuring a durable, professional finish.

Steps to Operate the Bake Cycle:

1. Ensure the spray cycle is fully completed before switching to bake mode.
2. Press the "Bake" button on the control panel.
3. Set the required bake temperature (usually between 60-80°C, depending on paint specifications).
4. The booth will automatically adjust airflow and heating to maintain the correct curing environment.
5. The typical bake time is 20-30 minutes, but this may vary based on the paint manufacturer’s recommendations.
6. Once the cycle is complete, allow the booth to cool down before opening the doors and removing the vehicle.

Safety Considerations

- Do not open the booth doors during baking, as this will cause a rapid loss of heat and affect curing.
- Ensure the burner system is functioning properly before starting the bake cycle.
- Allow sufficient cool-down time before handling freshly painted surfaces.

Spray Booth Operation

Shutdown Procedure

After completing all cycles, follow these steps to safely shut down the booth:

1. Allow the booth to cool down before switching off.
2. Press the "Stop" button on the control panel.
3. Turn off the main isolator switch if the booth will not be used for an extended period.
4. Conduct a visual inspection to ensure filters are clean and no debris is left inside the booth.

Control Panel Functions

The control panel is the primary interface for operating the Rowley Spray Booth, allowing the user to manage airflow, temperature, and cycle settings. Understanding each function is essential for safe and efficient operation.

Main Isolator

The main isolator switch controls power to the entire spray booth system.

Operation:

- To turn on: Rotate the isolator switch to the ON position.
- To turn off: Rotate the switch to the OFF position.

Important:

- The isolator must be turned off when the booth is not in use for long periods.
- Always ensure the booth is fully shut down before performing any maintenance.

Control Panel Functions

Spray, Flash-Off & Bake Cycle Buttons

These buttons activate the three main operational cycles of the spray booth.

- **Spray Cycle Button:** Initiates the spray mode, activating airflow and setting the booth to spray-ready conditions.
- **Flash-Off Cycle Button:** Maintains ventilation at a moderate temperature, allowing solvents to evaporate.
- **Bake Cycle Button:** Increases temperature to cure paint effectively.

Each button is programmed to control airflow, temperature, and timing automatically based on the selected mode.

Control Panel Functions

Stop Button

The stop button is used to halt all booth operations immediately.

- Pressing STOP will shut down the airflow and heating system.
- This should be used in case of an emergency or if immediate shutdown is required.

Important:

- If the stop button is pressed, the booth must be restarted manually by selecting the required cycle again.

Control Panel Functions

Burner Controls & Reset

The burner system provides heated airflow for the bake cycle. If a fault occurs, the burner may lock out and require a manual reset.

Operation:

- The burner will automatically ignite when the bake cycle is selected.
- If a burner lockout occurs, check the burner reset button and press to restart the system.

Troubleshooting:

- Ensure the booth has sufficient fuel supply before resetting.
- If the burner fails to restart, refer to the fault section or contact Rowley Spray Booths for assistance.

Control Panel Functions

Pressure Gauge & Adjustments

The pressure gauge monitors the booth's internal airflow balance to ensure proper operation.

- A stable pressure reading indicates correct airflow.
- If pressure is too high or too low, adjustments may be required.

Adjusting Booth Pressure:

- Locate the pressure adjustment dial on the control panel.
- Turn clockwise to increase pressure or counterclockwise to decrease pressure.
- Ensure adjustments are made gradually, and allow time for readings to stabilise.

Common Pressure Issues:

- Low Pressure: Check if filters are clogged or extraction fans are underperforming.
- High Pressure: Inspect for blockages in the ventilation system.

Temperature Control & Adjustments

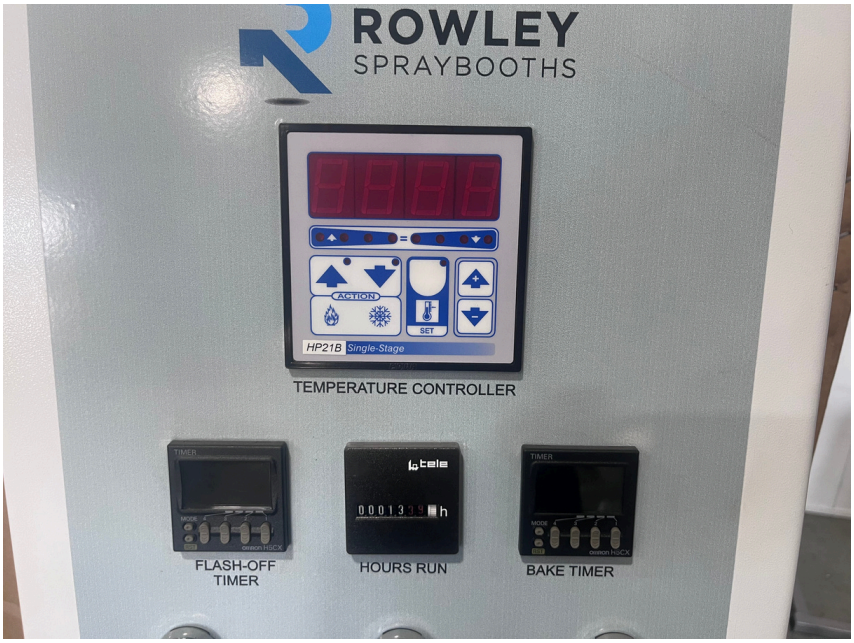
Proper temperature control is essential for achieving a high-quality finish and ensuring that paint cures correctly. The Rowley Spray Booth is equipped with temperature controls that allow operators to set Spray, Flash-Off, and Bake temperatures accurately.

Setting Spray, Flash-Off & Bake Temperatures

The temperature control system allows the operator to set specific temperatures for each cycle to meet paint manufacturer requirements.

Adjusting Temperature Settings:

1. Ensure the main isolator is turned ON.
2. Select the required cycle (Spray, Flash-Off, or Bake).
3. Use the temperature control panel to adjust the temperature:
    - Spray Cycle Temperature: Typically 18-25°C, depending on paint requirements.
    - Flash-Off Temperature: Generally the same as spray temperature but allows solvent evaporation.
    - Bake Cycle Temperature: Usually 60-80°C for curing paint effectively.
4. Confirm settings and allow the booth to automatically regulate the temperature.



Temperature Control & Adjustments

Continued

Important Notes:

- Always refer to paint manufacturer guidelines for recommended curing temperatures.
- Do not exceed maximum temperature limits, as this can damage vehicle components.

Temperature Control & Adjustments

Proper temperature control is essential for achieving a high-quality finish and ensuring that paint cures correctly. The Rowley Spray Booth is equipped with temperature controls that allow operators to set Spray, Flash-Off, and Bake temperatures accurately.

HP12 & HP21B Controllers

The Spray Booth may be fitted with an HP12 or HP21B controller, which manages temperature regulation and airflow.

Key Functions of HP Controllers:

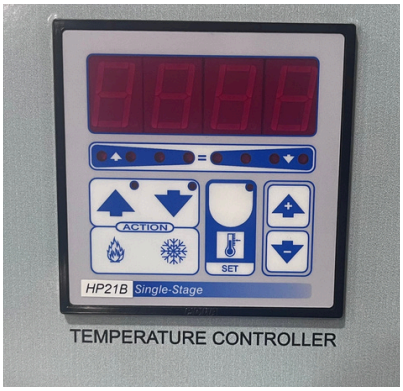
- **Digital Display:** Shows real-time temperature inside the booth.
- **Manual & Automatic Adjustments:** Allows operators to fine-tune settings.
- **Temperature Safety Cut-Off:** Prevents overheating by automatically shutting down the heating system if a fault is detected.

Adjusting Temperature Using HP Controllers:

1. Press the temperature adjustment button on the controller.
2. Use the increase (+) or decrease (-) buttons to set the required temperature.
3. The system will automatically adjust and maintain the temperature.

Troubleshooting:

- If the temperature is not reaching the set point, check for airflow blockages or a burner fault.
- If the controller displays an error, refer to the troubleshooting section for solutions.



TEMPERATURE CONTROLLER

Booth Pressure Balance & Issues

Maintaining the correct booth pressure balance is crucial for efficient operation, ensuring clean air circulation and preventing contaminants from affecting the paint finish. An imbalance can lead to poor airflow, overspray buildup, or ineffective extraction.

Steps to Adjust Booth Pressure

1. Locate the pressure gauge on the control panel.
2. Check the reading:
    - If pressure is too high, it may cause turbulence inside the booth.
    - If pressure is too low, airflow may not be sufficient to extract overspray properly.
3. Adjust the pressure regulation dial:
    - Increase pressure by turning the dial clockwise.
    - Decrease pressure by turning the dial counterclockwise.
4. Allow the system to stabilise before continuing operations.

Recommended Pressure Levels:

- The correct setting will depend on booth size, filter condition, and extraction rate.
- If frequent adjustments are needed, filters may need replacing.

Booth Pressure Balance & Issues

Common Pressure Problems & Solutions

Low Booth Pressure (Poor Extraction, Paint Clouding)

Possible Causes:

- Clogged intake or extraction filters reducing airflow.
- Fan failure or underperforming extraction system.
- Leaks in ducting or seals allowing air loss.

Solutions:

- Check and replace blocked filters.
- Inspect ducting and door seals for leaks.
- Ensure extraction fans are operating correctly.

High Booth Pressure (Air Turbulence, Uneven Paint Application)

Possible Causes:

- Overcompensated pressure settings.
- Blocked exhaust vents restricting airflow.
- Faulty pressure regulator or sensor.

Solutions:

- Reduce pressure settings gradually.
- Check and clear any obstructions in the exhaust system.
- Inspect the pressure regulator for faults.

By maintaining correct booth pressure, operators can improve paint quality, extend filter lifespan, and ensure efficient spray booth performance.

Faults & Troubleshooting

Faults can occur due to wear and tear, incorrect operation, or component failure. This section outlines common issues, their causes, and solutions to help operators quickly diagnose and resolve problems.

Burner Lockout

Symptoms:

🚨 Booth does not heat up during the bake cycle
🚨 Burner lockout indicator is illuminated

Possible Causes:

🔹 No fuel supply to the burner
🔹 Flame failure or ignition issue
🔹 Blocked filters causing airflow issues

Solutions:

✔️ Check fuel supply and ensure the burner has access to the required fuel source
✔️ Reset the burner using the burner reset button
✔️ Inspect the ignition system for faults
✔️ Replace clogged filters and ensure proper airflow

Faults & Troubleshooting

Fan Failure

Symptoms:

🚨 Weak or no airflow inside the booth

🚨 Excess paint mist buildup during spraying

Possible Causes:

🔹 Electrical issue with the fan motor

🔹 Obstructed or damaged ducting

🔹 Loose or worn fan belts

Solutions:

✔️ Check the fan motor circuit breaker and reset if necessary

✔️ Inspect ducting for blockages or damage

✔️ If belts are loose or worn, tighten or replace them

Faults & Troubleshooting

Overpressure Issue

Symptoms:

🚨 Excessive airflow causing paint movement or turbulence inside the booth

🚨 Difficulty opening booth doors

Possible Causes:

- 🔹 Over-adjusted pressure settings
- 🔹 Blocked exhaust filters restricting airflow
- 🔹 Faulty pressure regulation system

Solutions:

- ✔️ Reduce pressure settings gradually until the balance is restored
- ✔️ Inspect and replace exhaust filters if clogged
- ✔️ Check the pressure regulation system for faults

Maintenance

Regular maintenance and inspections are essential to keep the Rowley Spray Booth operating efficiently, ensuring compliance with health and safety regulations, reducing downtime, and extending the lifespan of key components.

Legal Compliance & LEV Requirements

The spray booth is classified as Local Exhaust Ventilation (LEV) equipment, meaning it must comply with Health & Safety Executive (HSE) regulations.

Operator Responsibilities:

✓ Conduct daily checks on booth operation and airflow
✓ Ensure LEV inspections are carried out at least every 14 months
✓ Keep records of LEV test certificates for compliance
✓ Report any airflow issues or equipment faults immediately

Failure to meet LEV compliance may result in fines, legal action, or unsafe working conditions.

Maintenance

Operator's Routine Checks

Operators should perform daily, weekly, and monthly checks to maintain safe and efficient booth operation.

Daily Checks:

✅ Ensure booth pressure is balanced
✅ Inspect airflow and extraction performance
✅ Check that all control panel functions are working correctly
✅ Confirm the burner ignites properly

Weekly Checks:

✅ Inspect intake and exhaust filters for blockages
✅ Check lighting inside the booth for proper visibility
✅ Test the emergency stop function

Monthly Checks:

✅ Inspect door seals for leaks or wear
✅ Clean the extraction system and ducting
✅ Test the burner system and fan belts for signs of wear

Maintenance

General Maintenance (Cleaning, Lighting, Lubrication)

Proper cleaning and upkeep will enhance booth performance and safety.
Cleaning Guidelines:

✓ Wipe down booth walls and floor regularly to remove overspray buildup
✓ Clean glass panels and lights for better visibility
✓ Vacuum or sweep booth interior to reduce dust

Lighting Maintenance:

✓ Replace faulty or dim bulbs to ensure proper working conditions
✓ Use approved explosion-proof lighting for safety

Lubrication & Mechanical Maintenance:

✓ Check fan belts and moving parts for wear
✓ Lubricate hinges and mechanical components as required

Filter Maintenance

Filters play a crucial role in airflow efficiency, contamination control, and spray booth performance. Regular maintenance and replacement of filters ensure compliance with health and safety regulations and prevent poor paint finishes.

Checking & Replacing Extract & Input Filters

There are two main types of filters in the spray booth:

1. **Input Filters** – Ensure clean air enters the booth.
2. **Extract Filters** – Capture paint overspray and prevent buildup in the extraction system.

Signs That Filters Need Replacing:

- Reduced airflow or pressure imbalance
- Excess overspray or dust contamination inside the booth
- Burner not reaching required bake temperature due to restricted airflow
- Filters appear visibly clogged or discoloured

Filter Replacement Procedure:

- Turn off the booth and allow airflow to stop.
- Open the filter access panels carefully.
- Remove the old filters, ensuring minimal dust dispersion.
- Insert new filters securely, checking for proper fit.
- Close all access panels and restart the booth.
- Check airflow balance and booth pressure to ensure correct operation.

Important

- Always use Rowley-approved replacement filters for maximum efficiency.
- Follow recommended filter change schedules (dependent on booth usage).

Filter Maintenance

Safe Disposal of Contaminated Filters

Used filters contain paint residues and airborne contaminants, making them hazardous waste.

Disposal Guidelines:

✓ Place used filters in sealed, designated waste bags.
✓ Dispose of filters according to environmental regulations.
✓ Do not incinerate or discard in general waste bins.
✓ Consult your waste disposal contractor for proper handling procedures.

Failure to dispose of filters correctly may result in fines or environmental damage.

By maintaining clean filters, operators can improve airflow, extend equipment life, and maintain compliance with safety regulations.

FAQ’s

Why won’t the booth start?

Possible Causes:

- No power or main isolator switched off
- Emergency stop engaged
- Electrical fault

Solutions:

- Check power supply and turn on the main isolator
- Reset the stop button
- Contact Rowley Support if the issue persists

Why is the burner not igniting?

Possible Causes:

- No fuel supply
- Burner lockout activated
- Clogged intake filter reducing airflow

Solutions:

- Check fuel levels and supply lines
- Reset the burner using the control panel
- Inspect and replace the intake filter if necessary

Why is the booth pressure too low?

Possible Causes:

- Clogged extraction or input filters
- Faulty fan or duct blockage
- Incorrect pressure setting

Solutions:

- Replace blocked filters
- Inspect and clear ventilation paths
- Adjust pressure controls to restore balance

FAQ’s

Why is the booth pressure too high?

Possible Causes:

- Overcompensated pressure settings
- Blocked exhaust vents restricting airflow

Solutions:

- Reduce pressure gradually
- Check and clear any obstructions in the exhaust system

Why is the temperature uneven?

Possible Causes:

- Burner cycling inconsistently
- Temperature controller set incorrectly

Solutions:

- Ensure airflow is balanced and unrestricted
- Adjust the temperature settings correctly

Why is the paint finish poor?

Possible Causes:

- Contaminated air due to dirty filters
- Incorrect booth pressure affecting overspray
- Air turbulence due to high extraction rate

Solutions:

- Replace filters to maintain clean airflow
- Adjust airflow and check pressure balance
- Lower extraction settings if neede

Contact

For any technical support, servicing, or general inquiries, please contact Rowley Spray Booths using the details below:

📞 Phone: 01543 450039

📩 Email: gareth@rowleyspraybooths.com

🌍 Website: www.rowleyspraybooths.com

Technical Support & Maintenance

If you experience any operational issues or require assistance with troubleshooting, our team is available to provide expert guidance.

✔ Troubleshooting & Repairs
✔ Scheduled Maintenance Services
✔ Spare Parts & Replacements

For urgent technical support, please call our dedicated service line.

Warranty & Servicing

Your Spray Booth is designed for long-term reliability, but regular servicing is essential to maintain optimal performance. If you have questions about your warranty coverage or need to schedule a service appointment, contact our team today.

✔ Book a Service Visit
✔ Warranty Support & Claims
✔ Annual LEV Testing & Compliance

Opening Hours

🕒 Monday – Friday: 09:00-17:00
🕒 Saturday & Sunday: Closed

For any inquiries outside of business hours, please email us, and we will respond as soon as possible.