

Xerox workcentre 7228 error code list Updated Version

Xerox WorkCentre 7228 Error Code List is an essential resource for users and technicians who encounter issues with this popular multifunction printer. Understanding the various error codes and their meanings can significantly streamline troubleshooting efforts, minimize downtime, and ensure smooth operation of your device. The Xerox WorkCentre 7228 is known for its reliability and advanced features, but like all complex machinery, it occasionally runs into errors that require prompt attention. This comprehensive guide aims to provide an in-depth overview of common error codes, their causes, and recommended solutions, helping you maintain optimal performance.

Understanding the Xerox WorkCentre 7228 Error Codes

Before diving into specific error codes, it's important to grasp how Xerox devices communicate issues. Error codes are system-generated alerts that indicate specific problems, which can range from simple paper jams to more complex hardware failures. These codes often appear on the control panel display and are accompanied by an error message or indicator lights.

The key to effective troubleshooting lies in interpreting these codes accurately and responding appropriately. This section will introduce the general categories of errors and the significance of error code lists.

Types of Error Codes

- **Warning Codes:** These indicate non-critical issues that do not halt printing but may affect quality or performance. For example, low toner or minor paper jams.
- **Error Codes:** More serious issues requiring immediate attention, such as hardware failures or system errors that block operation.
- **Status Indicators:** Light signals or messages that provide real-time status updates without necessarily indicating an error.

Importance of the Error Code List

Having access to the official error code list allows users and technicians to:

- Quickly identify the problem.

- Determine whether it's a simple fix or requires professional repair.
- Follow step-by-step troubleshooting procedures.
- Reduce downtime and maintain productivity.

Common Xerox WorkCentre 7228 Error Codes and Their Meanings

This section covers the most frequently encountered error codes, categorized based on their nature, along with practical advice on addressing each situation.

Paper Handling Errors

These errors often relate to paper jams, misfeeds, or tray issues.

- **Code 020-337:** Paper Jam in the Paper Path
 - Cause: Paper stuck in the paper path or tray.
 - Solution:
 - Open the device and gently remove any jammed paper.
 - Check all paper trays for misaligned or stuck sheets.
 - Ensure paper guides are correctly positioned.
- **Code 020-338:** Tray Empty or Incorrect Paper Size
 - Cause: The selected tray is empty or loaded with incompatible paper.
 - Solution:
 - Refill the tray with the correct paper type and size.
 - Verify tray settings match the paper loaded.

Hardware and System Errors

These are related to internal components or system malfunctions.

- **Code 016-750:** Fuser Error

- Cause: Fuser unit malfunction or overheating.
- Solution:
 - Turn off the device and let it cool down.
 - Check for fuser unit damage or misalignment.
 - If problem persists, replace the fuser assembly.

- **Code 016-751:** Main Controller Error
 - Cause: System controller malfunction or communication failure.
 - Solution:
 - Restart the device to reset the controller.
 - If the error persists, consult a technician for possible controller replacement.

Consumable and Maintenance Alerts

These codes notify users about toner, drum, or other consumables.

- **Code 015-290:** Toner Low
 - Cause: Toner cartridge nearing depletion.
 - Solution:
 - Order a replacement toner cartridge.
 - Replace the toner to prevent print quality issues.

- **Code 015-291:** Drum Near End of Life
 - Cause: Imaging drum approaching end of service life.
 - Solution:
 - Order and install a new drum unit.
 - Reset the drum counter after replacement, if necessary.

Troubleshooting Tips for Xerox WorkCentre 7228 Errors

While some errors require professional intervention, many common issues can be resolved through simple troubleshooting steps.

General Troubleshooting Steps

- **Power Cycle:** Turn off the device, wait for a few minutes, and restart to reset temporary glitches.
- **Check Connections:** Ensure all cables, network connections, and power cords are secure.
- **Inspect Consumables:** Verify toner, drum, and paper levels are adequate and correctly installed.
- **Clear Paper Jams:** Follow the user manual instructions to safely remove jammed paper without damaging internal parts.
- **Update Firmware:** Keep the device firmware up-to-date to resolve known bugs and improve stability.

When to Call a Technician

If error codes persist after basic troubleshooting, or if error codes point to hardware failure (e.g., fuser, controller), professional repair is advisable. Ensure you have the error code details ready for the technician to expedite diagnosis.

Preventive Measures to Avoid Error Codes

Prevention is better than cure. Here are some best practices to minimize the occurrence of errors:

- Use high-quality, recommended paper to prevent jams and misfeeds.
- Regularly clean the paper path, rollers, and sensors as per maintenance schedule.
- Keep firmware and drivers updated for optimal device performance.
- Replace consumables proactively before they reach end-of-life.
- Ensure proper installation and calibration of internal components during servicing.

Conclusion

The Xerox WorkCentre 7228 error code list is an invaluable tool for maintaining the device's health and ensuring continuous productivity. By familiarizing yourself with common error codes and their meanings, you can troubleshoot many issues efficiently and determine when professional assistance is necessary. Regular maintenance, careful handling of consumables, and prompt

response to error messages will extend your device's lifespan and keep your office operations running smoothly. Remember to consult the official user manual or contact authorized service providers for complex problems beyond basic troubleshooting.

Maintaining awareness of error codes and their solutions is part of responsible device management. Empower yourself with this knowledge to reduce downtime, save costs, and ensure your Xerox WorkCentre 7228 continues to deliver high-quality performance for your printing and copying needs.

Xerox WorkCentre 7228 Error Code List: A Comprehensive Guide to Troubleshooting and Maintenance

The Xerox WorkCentre 7228 Error Code List serves as an essential resource for users and technicians aiming to diagnose, troubleshoot, and resolve issues that may arise during the operation of this versatile multifunction printer. Recognizing and understanding these error codes can significantly reduce downtime, improve productivity, and extend the lifespan of the device. This article provides an in-depth overview of common error codes associated with the Xerox WorkCentre 7228, their meanings, troubleshooting steps, and tips for maintenance to ensure optimal performance.

Understanding the Xerox WorkCentre 7228 Error Codes

The Xerox WorkCentre 7228 uses a system of error codes to alert users to specific issues within the machine. These codes are typically displayed on the control panel or through the device's interface, often accompanied by warning lights or messages. Correct interpretation of these codes is crucial for timely resolution.

Error codes generally fall into categories such as hardware faults, paper handling issues, toner problems, or network errors. The device's firmware and user manual provide detailed descriptions, but this guide consolidates the most common and critical codes for quick reference.

Common Error Codes and Their Meanings

Below are some of the frequently encountered error codes on the Xerox WorkCentre 7228, along with their typical causes and suggested solutions.

1. Error Code 030-356

Meaning: Fuser Unit Error

Cause: A malfunction or overheating in the fuser assembly.

Troubleshooting Steps:

- Turn off the device and wait for it to cool down.
- Check for any visible damage or paper jams near the fuser.
- Reset the error by turning the machine back on.
- If error persists, replace the fuser unit.

Pros of Addressing: Ensures proper fusing, preventing print quality issues and potential damage.

2. Error Code 051-340

Meaning: Toner Cartridge Jam

Cause: Toner cartridge is stuck or improperly installed.

Troubleshooting Steps:

- Open the toner cartridge access door.
- Remove the toner cartridge carefully.
- Check for any toner spillage or obstructions.
- Reinstall the cartridge securely.
- Clear the jam and close the door.

Pros of Addressing: Restores print quality and prevents toner leakage.

3. Error Code 021-362

Meaning: Paper Jam in Input Tray

Cause: Paper stuck or misaligned in the input tray.

Troubleshooting Steps:

- Remove all paper from the input tray.
- Check for any torn or misfed sheets.
- Adjust paper guides to match paper size.
- Reload paper and ensure it's properly loaded.
- Clear any residual jams within the tray area.

Pros of Addressing: Prevents misfeeds and improves workflow efficiency.

4. Error Code 050-390

Meaning: Imaging Unit Error

Cause: The imaging unit is not functioning correctly or needs replacement.

Troubleshooting Steps:

- Remove and inspect the imaging unit for damage.
- Clean the unit if dirty.
- Reinstall it securely.
- If the error persists, replace the imaging unit.

Pros of Addressing: Maintains print quality and prevents streaks or ghosting.

5. Error Code 031-350

Meaning: Network Connectivity Issue

Cause: Problems with network configuration or cable connection.

Troubleshooting Steps:

- Verify network cables are securely connected.
- Restart the printer and network router.
- Check IP address settings.
- Reset network settings if necessary.

Pros of Addressing: Restores network communication, ensuring seamless printing.

Advanced Error Codes and Their Solutions

While the above codes are common, some errors are more complex, requiring detailed diagnostics.

6. Error Code 070-322

Meaning: Hard Disk Drive Error

Cause: HDD malfunction or corruption.

Troubleshooting Steps:

- Power off the device.
- Check the HDD connections internally.
- If accessible, run a diagnostic test.
- Replace the HDD if faulty.

Features:

- Prevents data loss.
- Ensures device stability.

Cons:

- May require professional service.

7. Error Code 052-390

Meaning: Developer Motor Failure

Cause: Issue with the developer motor or its controller.

Troubleshooting Steps:

- Power cycle the device.
- Check for obstructions or debris around the motor.
- If unresolved, replace the developer motor.

Features:

- Critical for toner development process.
- Affects print quality and toner transfer.

Cons:

- Complex repair may need technical expertise.

Preventative Maintenance Tips

Regular maintenance can minimize the occurrence of error codes and extend the lifespan of the Xerox WorkCentre 7228. Here are some best practices:

- **Keep the Device Clean:** Regularly clean the exterior and interior components, especially the fuser, imaging unit, and paper paths.
- **Use Genuine Supplies:** Always use genuine Xerox toner cartridges and parts to ensure compatibility and quality.
- **Update Firmware:** Keep the device firmware up to date to benefit from bug fixes and performance improvements.
- **Monitor Paper Quality:** Use high-quality paper suited for your printing needs to prevent jams and damage.
- **Scheduled Servicing:** Periodically have the machine serviced by qualified technicians, especially for internal components like the HDD and motors.

Conclusion

Understanding the Xerox WorkCentre 7228 Error Code List is fundamental for effective troubleshooting and maintenance. Recognizing what each code indicates enables users to take swift action, reducing downtime and maintaining productivity. While many issues can be resolved with simple steps such as clearing paper jams or replacing toner cartridges, some errors require professional intervention. Regular preventive maintenance, combined with awareness of error codes, ensures your Xerox WorkCentre 7228 operates reliably and efficiently for years to come. Always consult the official user manual or contact Xerox support for complex issues beyond basic troubleshooting.

Question What are common error codes for Xerox WorkCentre 7228 and their meanings? Common error codes for the Xerox WorkCentre 7228 include 020-370 (fuser error), 019-371 (paper jam), and 041-351 (toner cartridge issue). Refer to the user manual for a comprehensive list. **How can I troubleshoot the 'Fuser Error' on Xerox WorkCentre 7228?** To troubleshoot a fuser error, turn off the printer, check for any paper jams or debris around the fuser area, and ensure the fuser unit is properly seated. If the error persists, replacing the fuser may be necessary. **What does error code 019-371 indicate and how to fix it?** Error code 019-371 indicates a paper jam in the paper path. To fix it, open the printer, carefully remove jammed paper, and reset the error. Make sure to check all paper trays and rollers. **How do I resolve toner cartridge errors on the Xerox WorkCentre 7228?** Toner cartridge errors such as 041-351 can be resolved by removing and reinstalling the toner cartridge, ensuring it is properly seated, or replacing it if it's empty or damaged. **Are there any error**

codes related to network issues on the Xerox WorkCentre 7228? Yes, error codes like 011-385 or 011-389 may indicate network connectivity problems. Check network cables, restart the device, and verify network settings to resolve these issues. What should I do if I encounter a 'Service Required' error on the Xerox WorkCentre 7228? A 'Service Required' message suggests a hardware issue. Turn off the machine, check for obvious problems like paper jams or toner issues, and contact authorized service support if needed. Can firmware updates resolve error codes on the Xerox WorkCentre 7228? Firmware updates can fix bugs and improve performance, potentially resolving certain error codes. Visit Xerox's official website to download and install the latest firmware for your device. Is there a way to reset error codes on the Xerox WorkCentre 7228 manually? Some error codes can be reset by turning off the device, disconnecting power, waiting a few minutes, and then turning it back on. For persistent errors, refer to the user manual or contact support for proper reset procedures.

Related keywords: Xerox WorkCentre 7228, error codes, troubleshooting, maintenance, error code list, printer errors, fault codes, diagnostic guide, troubleshooting tips, printer repair

Ideal 7228 guillotine parts manual

ideal 7228 guillotine parts manual is an essential resource for operators, technicians, and maintenance personnel who work with this specific model of paper cutting equipment. Whether you are performing routine maintenance, troubleshooting issues, or planning for upgrades, having a comprehensive parts manual ensures that you can identify, locate, and replace components accurately and efficiently. The Ideal 7228 guillotine is renowned for its precision, durability, and ease of operation, but like all mechanical devices, it requires proper upkeep to maintain optimal performance. This article provides an in-depth guide to understanding the parts, maintenance procedures, common issues, and sourcing authentic replacement components for the Ideal 7228 guillotine, helping users extend the lifespan and functionality of their equipment.

Understanding the Ideal 7228 Guillotine

Before diving into the specifics of the parts manual, it's important to understand the basic design and functionality of the Ideal 7228 guillotine. This machine is widely used in print shops, bindery operations, and other industries requiring precise paper trimming.

Key Features of the Model 7228

- Cutting capacity: Typically handles stacks of paper up to a certain thickness.

- Blade assembly: Heavy-duty and adjustable for different cutting lengths.
- Safety features: Emergency stop, blade guards, and safety latches.
- Control mechanisms: Manual or motorized operation options.
- Build quality: Robust steel frame designed for durability and stability.

Importance of the Parts Manual

The parts manual serves as a detailed blueprint, illustrating each component's location, part number, and specifications. It is invaluable for:

- Performing precise repairs or replacements.
- Ordering authentic spare parts.
- Understanding the assembly and disassembly process.
- Training maintenance staff.

Components Covered in the Ideal 7228 Parts Manual

The parts manual encompasses a wide range of components, from the main cutting blade to minor fasteners. Understanding these parts is crucial for effective maintenance.

Main Mechanical Components

- **Blade Assembly:** The primary cutting element, including the blade, clamp, and blade holder.
 - **Back Gauge:** Guides the material for accurate cuts and is often adjustable.
 - **Clamping Mechanism:** Secures the paper stack during cutting.
 - **Drive System:** Motor, belts, and pulleys that power the blade movement.
 - **Frame and Base:** Structural support ensuring stability during operation.
-
- Control panel switches and buttons
 - Limit switches and sensors
 - Motor wiring and connectors
 - Emergency stop mechanisms
-
- Blade guards
 - Safety latches and covers
 - Lubrication points and fittings
 - Foot pedals or remote controls

Using the Parts Manual Effectively

To maximize the benefits of the Ideal 7228 parts manual, follow these best practices:

Identifying Parts Accurately

- Use part diagrams and illustrations provided in the manual.
- Cross-reference part numbers with the existing components.
- Take detailed photographs before disassembly for reference.

Ordering Genuine Parts

- Always use OEM (Original Equipment Manufacturer) parts for compatibility.
- Verify the part number before placing an order.
- Purchase from authorized dealers or directly from the manufacturer.

Maintenance and Replacement Procedures

- Follow the step-by-step procedures outlined in the manual.
- Use the correct tools and safety equipment.
- Record the date and parts replaced for maintenance logs.

Common Maintenance Tasks and Troubleshooting

Regular maintenance is key to ensuring the longevity of your Ideal 7228 guillotine. The parts manual provides guidance on routine inspections, adjustments, and repairs.

Routine Inspection and Lubrication

- Check for wear and damage on the blade and clamp assembly.
- Lubricate moving parts such as the back gauge screw, hinges, and drive belts.
- Ensure safety guards are intact and properly aligned.

Blade Sharpening and Replacement

- Monitor the cutting quality; dull blades may cause uneven cuts.

- Use the manual's specifications to select the correct sharpening tools.
- Replace the blade assembly if it is damaged beyond sharpening.

Troubleshooting Common Issues

- **Blade not cutting properly:** Check for dullness or misalignment; inspect the blade holder and clamp.
- **Motor or drive system failure:** Verify electrical connections, fuses, and motor function.
- **Inconsistent back gauge movement:** Inspect the screw, gear mechanism, and limit switches.

Sourcing Parts and Ensuring Authenticity

One of the most critical aspects of maintaining your Ideal 7228 guillotine is sourcing high-quality, authentic parts.

Where to Find Parts

- Authorized Ideal distributors and service centers
- Official online parts catalogs
- Reputable third-party suppliers specializing in printing equipment

Tips for Ensuring Part Quality

- Confirm part numbers match the manual specifications.
- Avoid generic or low-quality replacements that may compromise safety and performance.
- Request warranty or guarantee documentation when purchasing parts.

Cost Considerations

- While OEM parts may be more expensive initially, they ensure longer lifespan and compatibility.
- Consider bulk purchasing for commonly replaced parts to reduce costs.
- Factor in maintenance downtime when planning for part replacements.

Conclusion

The ideal maintenance and repair of the Ideal 7228 guillotine hinge on having access to a comprehensive parts manual. This manual not only aids in identifying and sourcing the correct

components but also provides detailed guidance on assembly, disassembly, and troubleshooting. Regularly consulting the manual ensures that your guillotine operates efficiently, safely, and reliably, thereby safeguarding your investment and maintaining high-quality output. Whether you're a seasoned technician or a first-time user, keeping the parts manual handy is a best practice that pays dividends in operational excellence and equipment longevity. By understanding the components, performing routine maintenance, and sourcing genuine parts, you can keep your Ideal 7228 guillotine in top condition for years to come.

Ideal 7228 Guillotine Parts Manual: An Expert Guide to Maintenance and Repair

When it comes to industrial paper cutting equipment, the Ideal 7228 Guillotine stands out as a reliable and precise machine favored by print shops, bindery operations, and other manufacturing facilities. To ensure its optimal performance and longevity, understanding the components and proper maintenance procedures is essential. The Ideal 7228 Guillotine Parts Manual serves as an invaluable resource, providing detailed diagrams, specifications, and instructions for replacing or repairing parts. In this comprehensive review, we delve into the key aspects of this manual, exploring the critical parts of the guillotine, their functions, and how the manual can guide users towards efficient maintenance.

Overview of the Ideal 7228 Guillotine

The Ideal 7228 Guillotine is a heavy-duty, precision cutting machine designed to handle large volumes of paper with accuracy. Its robust construction and advanced features make it a staple in professional environments. The machine's core components are engineered for durability and ease of use, but like any mechanical device, regular maintenance and timely part replacements are crucial.

The parts manual associated with the 7228 model is a detailed guide that provides technical drawings, part numbers, and assembly instructions, enabling technicians and operators to troubleshoot issues or perform upgrades confidently.

Key Components of the Ideal 7228 Guillotine

Understanding the main parts of the 7228 Guillotine is essential to grasp how the machine operates and how the manual facilitates repairs and maintenance.

1. Cutting Bar and Blade Assembly

Function and Importance:

At the heart of the guillotine is the cutting mechanism, comprising the cutting bar and blade

assembly. The blade is precision-ground and mounted onto the cutting bar, which guides the cut line. Maintaining sharpness and alignment is critical for clean cuts and safety.

Parts to Note:

- Main Blade: The primary cutting edge that slices through paper.
- Upper and Lower Clamps: Hold the paper securely during cutting to prevent shifting.
- Blade Holder: Supports and secures the blade in position, allowing for adjustments or replacements.

Maintenance Tips:

- Regularly inspect for dullness or nicks.
- Follow manual instructions for blade sharpening or replacement.
- Ensure proper alignment to prevent uneven cuts.

2. Clamp and Back Gauge System

Function and Importance:

This system ensures precise positioning of the paper before cutting. The back gauge moves horizontally to align the stock accurately, while the clamp holds the material firmly.

Parts to Note:

- Back Gauge: Usually adjustable via a calibrated scale for repeatability.
- Clamp Bar: Applies downward pressure to secure the paper.
- Adjustment Knobs and Guides: Facilitate fine-tuning of positioning.

Maintenance Tips:

- Keep moving parts lubricated as specified in the manual.
- Check for smooth operation of the back gauge and clamp mechanisms.

3. Cutting Head and Drive Mechanism

Function and Importance:

The cutting head houses the blade and is moved via a mechanical or hydraulic drive to execute the cut.

Parts to Note:

- Drive Motor: Powers the cutting movement.
- Gearbox and Linkages: Transmit power from the motor to the cutting head.
- Control Handle or Foot Pedal: Allows operator to initiate cutting.

Maintenance Tips:

- Regularly inspect drive components for wear or damage.
- Follow manual lubrication schedules for gears and linkages.

4. Safety Features and Emergency Stops

Function and Importance:

Safety features are vital for operator protection. The manual details how to inspect and maintain these components.

Parts to Note:

- Safety Guards: Cover moving parts to prevent accidental contact.
- Emergency Stop Button: Immediately halts operation in case of danger.
- Interlock Systems: Prevent the machine from operating unless guards are in place.

Maintenance Tips:

- Test safety devices regularly.
- Replace damaged safety parts promptly following the manual.

5. Electrical Components and Control Panel

Function and Importance:

Controls and electrical systems manage machine operation, ensuring precision and safety.

Parts to Note:

- Control Panel: Houses switches, indicators, and settings.
- Wiring and Switches: Connect various electrical components.
- Sensors and Limit Switches: Detect positions and safety conditions.

Maintenance Tips:

- Keep electrical connections clean and dry.
- Replace worn or damaged wiring according to manual guidelines.

Using the Ideal 7228 Guillotine Parts Manual Effectively

The manual is structured to assist users in identifying, ordering, and installing parts efficiently. Here's how to maximize its utility:

Part Identification and Diagrams

The manual provides detailed exploded diagrams with numbered parts. Cross-referencing these with the manual's part list allows precise identification, reducing errors during repairs.

Specifications and Part Numbers

Each component is listed with its specifications and unique part number, simplifying ordering processes and ensuring compatibility.

Maintenance and Troubleshooting Procedures

Step-by-step instructions guide users through routine maintenance tasks like blade sharpening, lubrication, and safety checks. Troubleshooting sections help diagnose issues using symptoms and corresponding solutions.

Replacement Procedures

Detailed procedures outline how to safely remove and replace parts, including necessary tools and safety precautions.

Importance of Accurate Parts Manual Access

Having the correct Ideal 7228 Guillotine Parts Manual is essential for several reasons:

- Ensures Compatibility: Prevents ordering incorrect parts that could damage the machine or void warranties.
- Reduces Downtime: Facilitates quick repairs, minimizing operational interruptions.
- Enhances Safety: Proper maintenance guided by the manual reduces accident risks.
- Extends Machine Life: Regular, correct maintenance preserves the integrity of critical components.

Conclusion: An Indispensable Resource for Maintenance and Repair

The Ideal 7228 Guillotine Parts Manual is more than just a technical document; it is a vital tool that empowers operators, technicians, and maintenance personnel to keep the machine running efficiently and safely. By understanding the detailed descriptions of each component and following the prescribed procedures, users can extend the lifespan of their guillotine, ensure high-quality cuts, and maintain a safe working environment.

Investing time to familiarize oneself with the manual not only saves money and reduces downtime but also enhances operational confidence. For any facility utilizing the Ideal 7228 Guillotine, securing and studying the official parts manual is a proactive step toward ongoing productivity and safety excellence.

Question Where can I find the official manual for the Ideal 7228 Guillotine Parts? You can obtain the official Ideal 7228 Guillotine Parts Manual from the manufacturer's website or authorized distributors. Additionally, some online machinery manual repositories may host downloadable versions. **What are the key maintenance procedures outlined in the Ideal 7228 Guillotine Parts Manual?** The manual details routine inspections, lubrication points, blade adjustments, and safety checks to ensure optimal performance and longevity of the Ideal 7228 Guillotine. **How do I identify the replacement parts available for the Ideal 7228 Guillotine?** The manual provides part diagrams and numbers for all components, enabling precise identification and ordering of replacement parts directly from authorized suppliers. **Are there troubleshooting guides included in the Ideal 7228 Guillotine Parts Manual?** Yes, it includes troubleshooting sections that help diagnose common issues such as misalignment, blade dullness, or hydraulic problems, along with recommended solutions. **Can I perform repairs on the Ideal 7228 Guillotine myself using the parts manual?** While the manual offers detailed instructions for maintenance and minor repairs, it is recommended to consult or hire qualified technicians for complex repairs to ensure safety and proper functionality.

Related keywords: ideal 7228, guillotine parts, manual, paper cutter parts, blade assembly, maintenance guide, replacement parts, guillotine blade, cutting machine manual, Ideal 7228 repair

Read the full article online: [IDEAL 7228 GUILLOTINE PARTS MANUAL](#)