

Motoman NX100 Controller

**Auto Backup
Function Manual**

Part Number: 149648-21CD
Revision 1



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Chapter 1

Introduction

1.1 About This Document

This manual provides information for the Auto Backup function and contains the following sections:

CHAPTER 1 - INTRODUCTION

Provides general information about the structure of this manual, a list of reference documents, and customer service information.

CHAPTER 2 - SAFETY

This section provides information regarding the safe use and operation of Motoman products.

CHAPTER 3 - AUTO BACKUP INSTRUCTIONS

Provides detailed information for the Auto Backup function.

1.2 Reference to Other Documentation

For additional information refer to the following:

- NX100 Controller Manual (P/N 149201-1)
- Concurrent I/O Manual (P/N 149230-1)
- Operator's Manual for your application
- Vendor manuals for system components not manufactured by Motoman

1.3 Customer Service Information

If you are in need of technical assistance, contact the Motoman service staff at (937) 847-3200. Please have the following information ready before you call:

- Robot Type (EA1400N, HP20, etc.)
- Application Type (welding, handling, etc.)
- Robot Serial Number (located on back side of robot arm)
- Robot Sales Order Number (located on back of controller)

Notes

Chapter 2

Safety

2.1 Introduction

It is the purchaser's responsibility to ensure that all local, county, state, and national codes, regulations, rules, or laws relating to safety and safe operating conditions for each installation are met and followed.

We suggest that you obtain and review a copy of the ANSI/RIA National Safety Standard for Industrial Robots and Robot Systems. This information can be obtained from the Robotic Industries Association by requesting ANSI/RIA R15.06-1999. The address is as follows:

Robotic Industries Association
900 Victors Way
P.O. Box 3724
Ann Arbor, Michigan 48106
TEL: (734) 994-6088
FAX: (734) 994-3338
INTERNET: www.roboticsonline.com

Ultimately, the best safeguard is trained personnel. The user is responsible for providing personnel who are adequately trained to operate, program, and maintain the robot cell. **The robot must not be operated by personnel who have not been trained!**

We recommend that all personnel who intend to operate, program, repair, or use the robot system be trained in an approved Motoman training course and become familiar with the proper operation of the system.

This safety section addresses the following:

- Standard Conventions (Section 2.2)
- General Safeguarding Tips (Section 2.3)
- Mechanical Safety Devices (Section 2.4)
- Installation Safety (Section 2.5)
- Programming, Operation, and Maintenance Safety (Section 2.6)

2.2 Standard Conventions

This manual includes the following alerts – in descending order of severity – that are essential to the safety of personnel and equipment. As you read this manual, pay close attention to these alerts to insure safety when installing, operating, programming, and maintaining this equipment.



DANGER!

Information appearing in a **DANGER** concerns the protection of personnel from the immediate and imminent hazards that, if not avoided, will result in immediate, serious personal injury or loss of life in addition to equipment damage.



WARNING!

Information appearing in a **WARNING** concerns the protection of personnel and equipment from potential hazards that can result in personal injury or loss of life in addition to equipment damage.



CAUTION!

Information appearing in a **CAUTION** concerns the protection of personnel and equipment, software, and data from hazards that can result in minor personal injury or equipment damage.



Note: Information appearing in a Note provides additional information which is helpful in understanding the item being explained.

2.3 General Safeguarding Tips

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. All personnel involved with the operation of the equipment must understand potential dangers of operation. General safeguarding tips are as follows:

- Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation of this robot, the operator's manuals, the system equipment, and options and accessories should be permitted to operate this robot system.
- Do not enter the robot cell while it is in automatic operation. Programmers must have the teach pendant when they enter the robot cell.
- Improper connections can damage the robot. All connections must be made within the standard voltage and current ratings of the robot I/O (Inputs and Outputs).
- The robot must be placed in Emergency Stop (E-STOP) mode whenever it is not in use.
- In accordance with ANSI/RIA R15.06-1999, section 4.2.5, Sources of Energy, use lockout/tagout procedures during equipment maintenance. Refer also to Section 1910.147 (29CFR, Part 1910), Occupational Safety and Health Standards for General Industry (OSHA).

2.4 Mechanical Safety Devices

The safe operation of the robot, positioner, auxiliary equipment, and system is ultimately the user's responsibility. The conditions under which the equipment will be operated safely should be reviewed by the user. The user must be aware of the various national codes, ANSI/RIA R15.06-1999 safety standards, and other local codes that may pertain to the installation and use of industrial equipment. Additional safety measures for personnel and equipment may be required depending on system installation, operation, and/or location. The following safety equipment is provided as standard:

- Safety fences and barriers
- Light curtains and/or safety mats
- Door interlocks
- Emergency stop palm buttons located on operator station, robot controller, and programming pendant

Check all safety equipment frequently for proper operation. Repair or replace any non-functioning safety equipment immediately.

2.5 Installation Safety

Safe installation is essential for protection of people and equipment. The following suggestions are intended to supplement, but not replace, existing federal, local, and state laws and regulations. Additional safety measures for personnel and equipment may be required depending on system installation, operation, and/or location. Installation tips are as follows:

- Be sure that only qualified personnel familiar with national codes, local codes, and ANSI/RIA R15.06-1999 safety standards are permitted to install the equipment.
- Identify the work envelope of each robot with floor markings, signs, and barriers.
- Position all controllers outside the robot work envelope.
- Whenever possible, install safety fences to protect against unauthorized entry into the work envelope.
- Eliminate areas where personnel might get trapped between a moving robot and other equipment (pinch points).
- Provide sufficient room inside the workcell to permit safe teaching and maintenance procedures.

2.6 Programming, Operation, and Maintenance Safety

All operators, programmers, plant and tooling engineers, maintenance personnel, supervisors, and anyone working near the robot must become familiar with the operation of this equipment. Improper operation can result in personal injury and/or damage to the equipment. Only trained personnel familiar with the operation, manuals, electrical design, and equipment interconnections of this robot should be permitted to program, operate, and maintain the system. All personnel involved with the operation of the equipment must understand potential dangers of operation.

- Inspect the robot and work envelope to be sure no potentially hazardous conditions exist. Be sure the area is clean and free of water, oil, debris, etc.
- Be sure that all safeguards are in place. Check all safety equipment for proper operation. Repair or replace any non-functioning safety equipment immediately.
- Do not enter the robot cell while it is in automatic operation. Be sure that only the person holding the programming pendant enters the workcell.
- Check the E-STOP button on the programming pendant for proper operation before programming. The robot must be placed in Emergency Stop (E-STOP) mode whenever it is not in use.
- Back up all programs and jobs onto suitable media before program changes are made. To avoid loss of information, programs, or jobs, a backup must always be made before any service procedures are done and before any changes are made to options, accessories, or equipment.

- Any modifications to PART 1, System Section, of the robot controller concurrent I/O program can cause severe personal injury or death, as well as damage to the robot! Do not make any modifications to PART 1, System Section. Making any changes without the written permission of Motoman will VOID YOUR WARRANTY!
- Some operations require standard passwords and some require special passwords. Special passwords are for Motoman use only. YOUR WARRANTY WILL BE VOID if you use these special passwords.
- The robot controller allows modifications of PART 2, User Section, of the concurrent I/O program and modifications to controller parameters for maximum robot performance. Great care must be taken when making these modifications. All modifications made to the controller will change the way the robot operates and can cause severe personal injury or death, as well as damage the robot and other parts of the system. Double-check all modifications under every mode of robot operation to ensure that you have not created hazards or dangerous situations.
- Check and test any new or modified program at low speed for at least one full cycle.
- This equipment has multiple sources of electrical supply. Electrical interconnections are made between the controller and other equipment. Disconnect and lockout/tagout all electrical circuits before making any modifications or connections.
- Do not perform any maintenance procedures before reading and understanding the proper procedures in the appropriate manual.
- Use proper replacement parts.
- Improper connections can damage the robot. All connections must be made within the standard voltage and current ratings of the robot I/O (Inputs and Outputs).

Notes

NX100 OPTIONS INSTRUCTIONS

FOR AUTOMATIC BACKUP FUNCTION

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

MOTOMAN INSTRUCTIONS

MOTOMAN-□□□ INSTRUCTIONS
NX100 INSTRUCTIONS
NX100 OPERATOR'S MANUAL
NX100 MAINTENANCE MANUAL

The NX100 operator's manual above corresponds to specific usage.
Be sure to use the appropriate manual.





MANDATORY

- **This manual explains the automatic backup function of the NX100 system and general operations. Read this manual carefully and be sure to understand its contents before handling the NX100.**
- **General items related to safety are listed in Section 1: Safety of the NX100 Instructions. To ensure correct and safe operation, carefully read the NX100 Instructions before reading this manual.**



CAUTION

- **Some drawings in this manual are shown with the protective covers or shields removed for clarity. Be sure all covers and shields are replaced before operating this product.**
- **The drawings and photos in this manual are representative examples and differences may exist between them and the delivered product.**
- **YASKAWA may modify this model without notice when necessary due to product improvements, modifications, or changes in specifications. If such modification is made, the manual number will also be revised.**
- **If your copy of the manual is damaged or lost, contact a YASKAWA representative to order a new copy. The representatives are listed on the back cover. Be sure to tell the representative the manual number listed on the front cover.**
- **YASKAWA is not responsible for incidents arising from unauthorized modification of its products. Unauthorized modification voids your product's warranty.**

Notes for Safe Operation

Read this manual carefully before installation, operation, maintenance, or inspection of the NX100.

In this manual, the Notes for Safe Operation are classified as “WARNING”, “CAUTION”, “MANDATORY”, or “PROHIBITED”.



WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury to personnel.



CAUTION

Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury to personnel and damage to equipment. It may also be used to alert against unsafe practices.



MANDATORY

Always be sure to follow explicitly the items listed under this heading.



PROHIBITED

Must never be performed.

Even items described as “CAUTION” may result in a serious accident in some situations. At any rate, be sure to follow these important items.



To ensure safe and efficient operation at all times, be sure to follow all instructions, even if not designated as “CAUTION” and “WARNING”.



WARNING

- **Before operating the manipulator, check that servo power is turned off when the emergency stop buttons on the front door of the NX100 and the programming pendant are pressed. When the servo power is turned off, the SERVO ON LED on the programming pendant is turned off.**

Injury or damage to machinery may result if the emergency stop circuit cannot stop the manipulator during an emergency. The manipulator should not be used if the emergency stop buttons do not function.

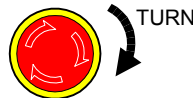
Emergency Stop Button



- **Once the emergency stop button is released, clear the cell of all items which could interfere with the operation of the manipulator. Then turn the servo power ON**

Injury may result from unintentional or unexpected manipulator motion.

Release of Emergency Stop



- **Observe the following precautions when performing teaching operations within the P-point maximum envelope of the manipulator :**
 - **View the manipulator from the front whenever possible.**
 - **Always follow the predetermined operating procedure.**
 - **Ensure that you have a safe place to retreat in case of emergency.**

Improper or unintended manipulator operation may result in injury.

- **Confirm that no persons are present in the P-point maximum envelope of the manipulator and that you are in a safe location before:**
 - **Turning on the NX100 power**
 - **Moving the manipulator with the programming pendant**
 - **Running the system in the check mode**
 - **Performing automatic operations**

Injury may result if anyone enters the P-point maximum envelope of the manipulator during operation. Always press an emergency stop button immediately if there are problems. The emergency stop buttons are located on the right of the front door of the NX100 and the programming pendant.



CAUTION

- **Perform the following inspection procedures prior to conducting manipulator teaching. If problems are found, repair them immediately, and be sure that all other necessary processing has been performed.**
 - Check for problems in manipulator movement.**
 - Check for damage to insulation and sheathing of external wires.**
- **Always return the programming pendant to the hook on the NX100 cabinet after use.**

The programming pendant can be damaged if it is left in the P-point maximum envelope of the manipulator, on the floor, or near fixtures.

- **Read and understand the Explanation of Warning Labels in the NX100 instructions before operating the manipulator.**

Definition of Terms Used Often in This Manual


The MOTOMAN manipulator is the YASKAWA industrial robot product.

The manipulator usually consists of the controller, the programming pendant, and supply cables.

In this manual, the equipment is designated as follows.

Equipment	Manual Designation
NX100 Controller	NX100
NX100 Programming Pendant	Programming Pendant
Cable between the manipulator and the NX100	Manipulator Cable

Descriptions of the programming pendant keys, buttons, and displays are shown as follows:

Equipment		Manual Designation
Programming Pendant	Character Keys	The keys which have characters printed on them are denoted with []. ex. [ENTER]
	Symbol Keys	The keys which have a symbol printed on them are not denoted with [] but depicted with a small picture. ex. page key  The cursor key is an exception, and a picture is not shown.
	Axis Keys Numeric Keys	“Axis Keys” and “Numeric Keys” are generic names for the keys for axis operation and number input.
	Keys pressed simultaneously	When two keys are to be pressed simultaneously, the keys are shown with a “+” sign between them, ex. [SHIFT]+[COORD]
	Displays	The menu displayed in the programming pendant is denoted with { }. ex. {JOB}
Playback Panel	Buttons	Playback panel buttons are enclosed in brackets. ex. [TEACH] on the playback panel

Description of the Operation Procedure

In the explanation of the operation procedure, the expression "Select . . ." means that the cursor is moved to the object item and the SELECT key is pressed, or that the item is directly selected by touching the screen.

Registered Trademarks

CompactFlashTM is a trademark or a registered trademark of SanDisk Corporation. In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or brand names for each company or corporation. (R) and TM are omitted.

1 Automatic Backup Function

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1 Automatic Backup Function

1.1 Purpose

With the automatic backup function, NX100 memory contents are automatically saved in CompactFlash.

After unexpected trouble such as the accidental erasing of the memory, the backup data saved in CompactFlash by the automatic backup function can be loaded to the NX100 memory and restore the file data.



The automatic backup function is enabled only while the NX100 power supply is ON.

1.2 Outline

The automatic backup function works on the basic assumption that no major changes in the memory data were made during playback. This function, therefore, backs up as much of the latest data as possible during editing.

1.2.1 Functions

There are two types of automatic backup: cyclic backup and backup at switching mode.

Function	Explanation
<u>Cyclic backup</u> In teach mode, the data in memory is backed up in a specified cycle.	This function backs up as much of the latest data as possible during editing. The backup data saved in CompactFlash can be loaded to the NX100 in case of data loss so that the data loss can be minimized.
<u>Backup at switching mode</u> When switching the mode from teach mode to play mode, the data in memory is backed up.	The edited data is backed up when editing is completed.

1.2.2 Features

The following table shows the features of the automatic backup function.

Feature	Explanation
<u>Backup While Robot Program is Stopped</u> The backup during playback is disabled. However, in play mode, the backup is enabled when the robot program has stopped. (The backup is performed in a specified cycle.)	Backs up the variables for essential data.*
<u>Backup and Retry at Low-level Priority</u> When other operations affect the backup operation, the backup is suspended and the backup is retried.	The backup operation does not affect other operations, which enables you to use the programming pendant.
<u>Backup in Binary</u> The data is saved as binary data. The range is the same as that of the "ALL CMOS AREA" in {FD/CF}, but the data type is different.	Backup in binary allows to system to be easily and speedily restored.

- * Two types of data are saved in variables: essential data and data saved temporarily for an operation. The latter is changed so frequently that it is difficult to save. Because the automatic backup is designed to give priority to essential data, the backup during playback is disabled. The backup is enabled only while the robot program is stopped.

2 Settings for Automatic Backup

Insert CompactFlash in the CompactFlash slot, and select the options and values necessary for the execution of automatic backup in the AUTO BACKUP SET display.



As explained in “1.2 Outline”, there are two types of automatic backup: backup in a specified cycle and backup when switching the mode from teach mode to play mode. The NX100 executes automatic backup according to the settings during operations except for execution of job.

2.1 CompactFlash

To use the automatic backup function, insert CompactFlash in the CompactFlash slot on the programming pendant. Only while the NX100 power supply is OFF, the CompactFlash can be inserted or removed.

When the data could not be saved in CompactFlash during an automatic backup due to the absence or insufficient capacity of the CompactFlash, the error message “Cannot backup CompactFlash” appears. At the same time, the signal “occurrence of error” is output, but the robot program will not be stopped. Check if CompactFlash is inserted and if it has enough capacity, and take the necessary actions. If no actions are taken while the error occurs, the data cannot be saved.

Yaskawa recommends that the data be saved in two or more CompactFlash to minimize problems if the CompactFlash should be damaged.

The following CompactFlash can be used with the NX100. CompactFlash is optional. Yaskawa supplies the CompactFlash No.1: CFC-064MBA (HOOAA) manufactured by Hagiwara Sys-Com when ordered (Refer to the following table).

For the automatic backup function, a storage capacity twice as large as the amount of data to be backed up is required; 13 MB for standard memory configuration, 20 MB for expanded memory. When the individual files are to be backed up, an average total of approx. 64 MB is recommended.

No.	Manufacturer	Model	Remarks
1	Hagiwara Sys-Com	CFC-064MBA (HOOAA)	Consumer product (64MB) <Yaskawa-recommended>
2	Hagiwara Sys-Com	CFI-064MBA (HOOAA)	Industrial product (64MB)
3	SanDisk (U.S.A.)	SDCFBI-64-EXPP-80	Industrial product (64MB)

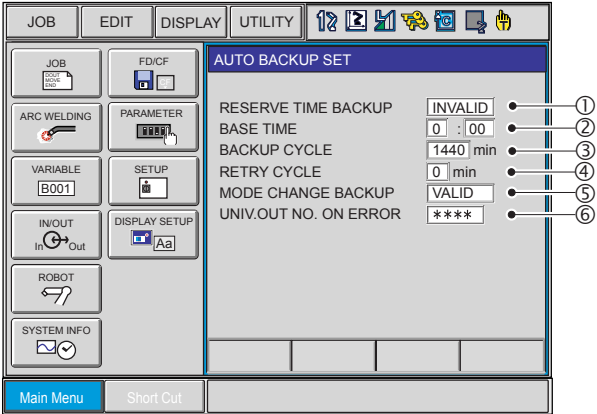
2.2 AUTO BACKUP SET Display

Select the following items in the AUTO BACKUP SET display and set values for the automatic backup.

- RESERVE TIME BACKUP (VALID/INVALID of the cyclic backup)
- BASE TIME
- BACKUP CYCLE
- RETRY CYCLE
- MODE CHANGE BACKUP (VALID/INVALID of the backup when switching the mode from teach mode to play mode)
- UNIV.OUT NO. ON ERROR (Enabled from the version No. : NS3.00.00A(**)-00)

	Operation	Explanation
1	Insert CompactFlash in the CompactFlash slot on the programming pendant, then turn ON the NX100.	
2	Change the security mode to management mode.	
3	Select {SETUP} under the main menu.	

2.2 AUTO BACKUP SET Display

Operation	Explanation
4 Select {AUTO BACKUP SET}.	<p>The AUTO BACKUP SET display appears.</p>  <p>① RESERVE TIME BACKUP Select whether the backup function in a specified cycle from a specified starting time is to be validated or not. Each time [SELECT] is pressed, "INVALID" and "VALID" are displayed alternately. The backup starting time and cycle are specified in the BASE TIME, the BACKUP CYCLE, and the RETRY CYCLE. Every time a value is set in these three items, reset the RESERVE TIME BACKUP to VALID. If these settings are incorrect, the RESERVE TIME BACKUP cannot be reset to VALID. If so, check and then change the values to the correct settings.</p> <p>② BASE TIME Specify the reference time to start backup. The BACKUP CYCLE starts from the BASE TIME not the startup time. The BACKUP CYCLE is first counted backwards from the BASE TIME, going back for as many cycles as possible until the startup time. But if the BACKUP CYCLE is longer than the time between the startup time and the BASE TIME, the BACKUP CYCLE cannot be counted backwards but data will be backed up at the BASE TIME and continue automatically at the intervals set for the BACKUP CYCLE. The setting ranges from 00:00 to 23:59</p> <p>③ BACKUP CYCLE Specify the length of time for a cycle to back up. Set the backup cycle in units of minutes. After the first backup, the next backup is executed automatically in the time specified in the BACKUP CYCLE. The cycle setting ranges from 10 to 9999 minutes, and is longer than the RETRY CYCLE setting range.</p> <p>④ RETRY CYCLE Specify the length of time for a cycle to retry backing up when the backup operation is suspended. Set the retry cycle in units of minutes. After being suspended, the backup is retried in the time specified in the RETRY CYCLE. When the RETRY CYCLE is set to 0, setting range.</p>

	Operation	Explanation
4	(Continued from the previous page.)	<p>⑤ MODE CHANGE BACKUP Select whether backup is to be executed or not when the mode is switches from teach mode to play mode. Each time [SELECT] is pressed, "INVALID" and "VALID" are displayed alternately.</p> <p>⑥ UNIV.OUT NO. ON ERROR : (Enabled from the version No. : NS3.00.00A(**)-00) Specify the user output No. where "1" is output when the automatic backup error occurs. The term "automatic backup error" here means that the backup is not performed successfully by the next backup (RESERVE TIME BACKUP, MODE CHANGE BACKUP).</p>
5	Enter a desired value, and press [ENTER].	

2.3 NX100 Status and Automatic Backup

Backup Timing	NX100 Status		Automatic Backup	
			CompactFlash ready to save the data	Absence or insufficient capacity of CompactFlash
From a specified starting time	Teach mode	Editing (Accessing to the memory)	Retry	Retry
		When editing is interrupted	Backup	Error
	Play mode	Executing jobs	Disabled	Disabled
		When stopped	Backup	Error
When switching the mode from teach mode to play mode	-		Backup	Error

* Retry is not performed when an error occurs.

2.3.1 Starting Backup at a Specified Time

While the data in the NX100 memory is being edited or overwritten, the automatic backup is not executed at the specified backup starting time and is suspended and retried later. To start the cyclic backup from the specified starting time, set the BASE TIME so that the robot program is stopped (not during the editing or execution of a job) and the NX100 power supply is ON when the backup starts.

2.4 Setting Examples

2.3.2 Backup when Switching from Teach Mode to Play Mode

With MODE CHANGE BACKUP set to VALID, the job is disabled for 1 to 2 seconds when the teach mode is switched to play mode because of the backup operation. To start a job immediately after the mode is switched to play mode, set MODE CHANGE BACKUP to INVALID. When the mode is repeatedly switched from teach mode to play mode and vice versa within 1 to 2 seconds, backup starts after the last time the mode is switched.

2.3.3 Overwriting Limit in CompactFlash

The number of times that CompactFlash can be overwritten is limited to approx. 100,000. Because frequent backup operations may shorten the life of CompactFlash, the number of times that CompactFlash is overwritten should be as minimized if possible.

2.4 Setting Examples

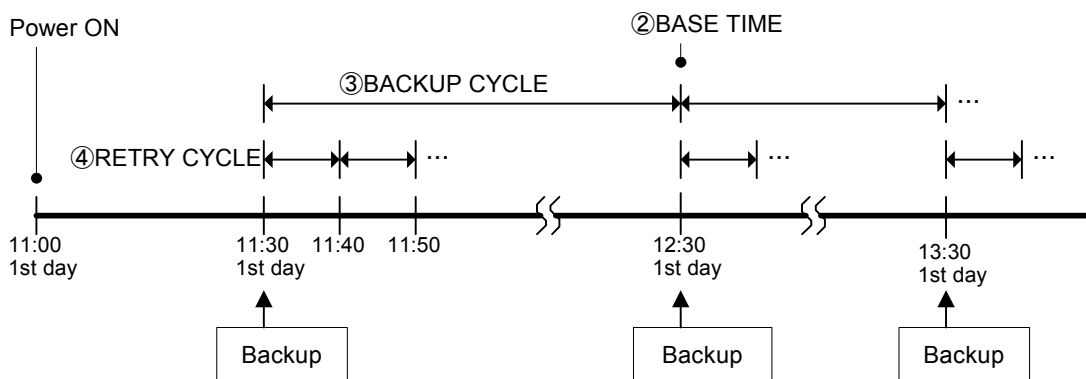
2.4.1 Setting Example 1

The following diagram shows a setting example with the following conditions:

BASE TIME: 12:30

BACKUP CYCLE: 60 (minutes)

RETRY CYCLE: 10 (minutes)



During the execution of a job, the automatic backup or retry is not executed. And also, after the error at writing to the CompactFlash, the retry is not executed until the next backup starting time.

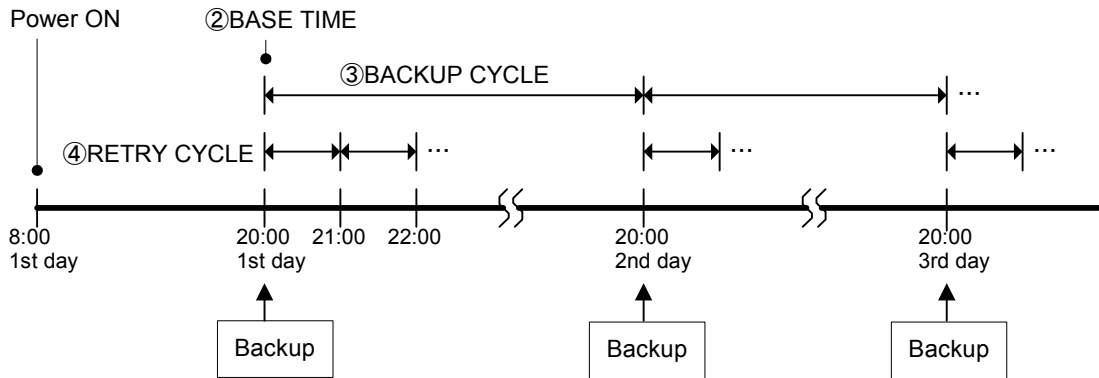
2.4.2 Setting Example 2

The following diagram shows a setting example with the following conditions:

BASE TIME: 20:00

BACKUP CYCLE: 1440 (minutes) (24 hours)

RETRY CYCLE: 60 (minutes)



3 Loading the Backup Data from the CompactFlash



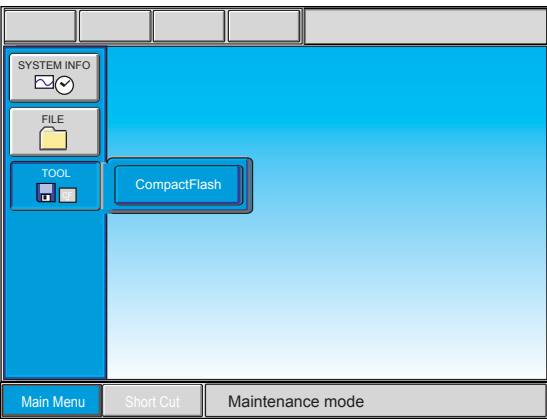
CAUTION

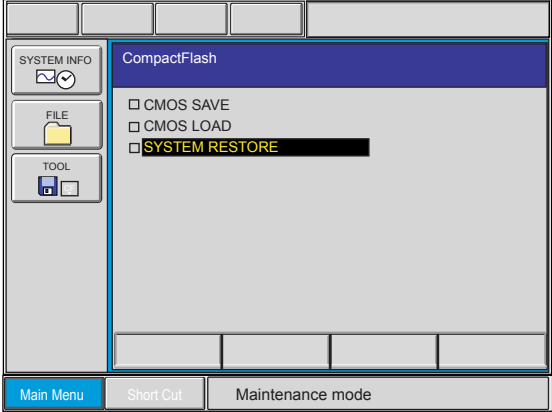
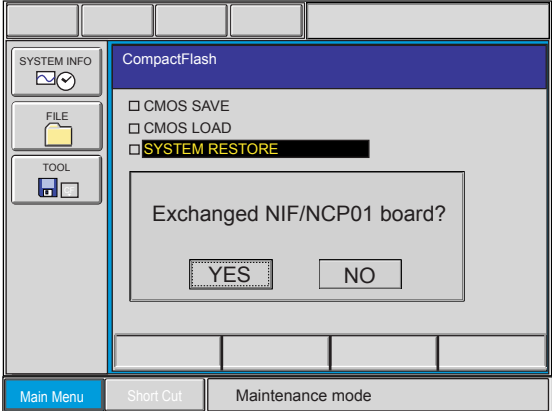
Note that executing "SYSTEM RESTORE" replaces the current CMOS data with the data of the file "CMOSBK.BIN" in the CompactFlash.

After "CMOSBK.BIN" has been loaded, check if the new data is the same as the previously saved data in the CMOS, and call the master job to confirm that the current manipulator position is correct and safe. Then, start moving the manipulator.

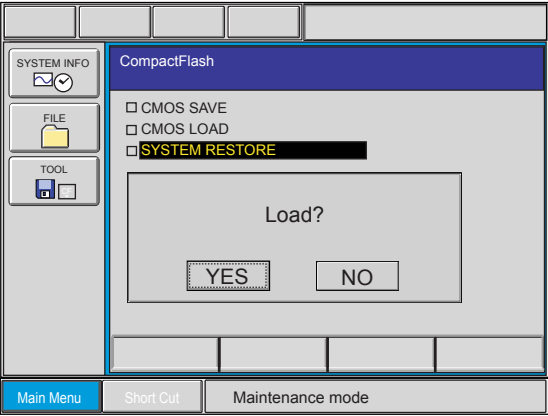
3.1 Loading Procedure

Load the backup data saved in the CompactFlash to the NX100 in maintenance mode.

	Operation	Explanation
1	Insert CompactFlash with the backup data in the CompactFlash slot on the programming pendant.	The backup data is saved under the file name "CMOSBK.BIN".
2	Turn ON the NX100 power supply while pressing [MAIN MENU].	
3	Change the security mode to management mode.	
4	Select {TOOL} under the main menu.	The sub menu appears. 

	Operation	Explanation
5	Select {CompactFlash}.	<p>The CompactFlash display appears. Move the cursor to SYSTEM RESTORE.</p>  <p>The screenshot shows a 'CompactFlash' menu with three options: 'CMOS SAVE', 'CMOS LOAD', and 'SYSTEM RESTORE'. The 'SYSTEM RESTORE' option is highlighted with a yellow background. On the left side, there are icons for 'SYSTEM INFO', 'FILE', and 'TOOL'. At the bottom, there are buttons for 'Main Menu', 'Short Cut', and 'Maintenance mode'.</p>
6	Select {SYSTEM RESTORE} in the CompactFlash display.	<p>The dialog box appears for the NIF/NCP01 board replacement confirmation.</p>  <p>The screenshot shows the same 'CompactFlash' menu as in step 5, but with a dialog box overlaid. The dialog box contains the text 'Exchanged NIF/NCP01 board?' and two buttons: 'YES' and 'NO'. The 'SYSTEM RESTORE' option remains highlighted in the background menu.</p> <p>Select "YES" if the NIF/NCP01 board has been replaced, or select "NO" if the NIF/NCP01 board has not been replaced. Selecting "YES" initializes the system management time. Selecting "NO" continues the counting of the current system's management time.</p>

3.1 Loading Procedure

	Operation	Explanation
7	Select "YES" or "NO" for the message "Exchanged NIF/ NCP01 board?".	<p>The dialog box appears for the loading confirmation.</p>  <p>Selecting "YES" in the loading confirmation dialog box starts the loading of the data in the file "CMOSBK.BIN" from the Compact-Flash to the NX100 CMOS.</p>
8	Select "YES".	

4 Error List

4.1 Error Contents

Error No.	Message	Cause
3390	File not found	The file to be loaded no longer exists
3460	Cannot backup Compact-Flash	1: Insufficient capacity of the CompactFlash
		2: Cannot access to the CompactFlash

NX100 OPTIONS INSTRUCTIONS

FOR AUTOMATIC BACKUP FUNCTION

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