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

The DX200/FS100 operator’s manual above corresponds to specific usage. Be sure to use the appropriate manual. The FS100 OPERATOR’S MANUAL above is applicable to both FS100 and FS100L controllers.
MANDATORY

• This manual explains the maintenance of MotoFit function of the FS100/DX200 system. Read this manual carefully and be sure to understand its contents before handling the FS100/DX200.

• General items related to safety are listed in the Chapter 1: Safety of the FS100/DX200 Instructions. To ensure correct and safe operation, carefully read the FS100/DX200 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.
We suggest that you obtain and review a copy of the ANSI/RIA National Safety Standard for Industrial Robots and Robot Systems (ANSI/RIA R15.06-2012). You can obtain this document from the Robotic Industries Association (RIA) at the following address:

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

Ultimately, well-trained personnel are the best safeguard against accidents and damage that can result from improper operation of the equipment. The customer is responsible for providing adequately trained personnel to operate, program, and maintain the equipment. NEVER ALLOW UNTRAINED PERSONNEL TO OPERATE, PROGRAM, OR REPAIR THE EQUIPMENT!

We recommend approved YASKAWA training courses for all personnel involved with the operation, programming, or repair of the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications.
NOTES FOR SAFE OPERATION

Read this manual carefully before installation, operation, maintenance, or inspection of the FS100/DX200.

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

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

- **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.

---

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

---
NOTES FOR SAFE OPERATION

<DX200>

WARNING

• Before operating the manipulator, check that servo power is turned OFF pressing the emergency stop buttons on the front door of the DX200 and the programming pendant. 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.

Fig. : 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.

Fig. : Release of Emergency Stop

• Observe the following precautions when performing teaching operations within the P-point maximum envelope of the manipulator:
  – Be sure to use a lockout device to the safeguarding when going inside. Also, display the sign that the operation is being performed inside the safeguarding and make sure no one closes the safeguarding.
  – View the manipulator from the front whenever possible.
  – Always follow the predetermined operating procedure.
  – Keep in mind the emergency response measures against the manipulator’s unexpected motion toward you.
  – 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 person is present in the P-point maximum envelope of the manipulator and that you are in a safe location before:
  – Turning ON the power for the DX200.
  – 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 is a problem.

The emergency stop buttons are located on the right of front door of the DX200 and the programming pendant.
<FS100>

WARNING

• Before operating the manipulator, check that servo power is turned OFF when the emergency stop button on the programming pendant is 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.

Fig. : Emergency Stop Button

• In the case of not using the programming pendant, be sure to supply the emergency stop button on the equipment. Then before operating the manipulator, check to be sure that the servo power is turned OFF by pressing the emergency stop button. Connect the external emergency stop button to the 5-6 pin and 16-17 pin of the robot system signal connector (CN2).

• Upon shipment of the FS100, this signal is connected by a jumper cable in the dummy connector. To use the signal, make sure to supply a new connector, and then input it.

If the signal is input with the jumper cable connected, it does not function, which may result in personal injury or equipment damage.

• 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.

Fig. : Release of Emergency Stop

• Observe the following precautions when performing teaching operations within the manipulator’s operating range:
  – Be sure to use a lockout device to the safeguarding when going inside. Also, display the sign that the operation is being performed inside the safeguarding and make sure no one closes the safeguarding.
  – View the manipulator from the front whenever possible.
  – Always follow the predetermined operating procedure.
  – Keep in mind the emergency response measures against the manipulator’s unexpected motion toward you.
  – Ensure that you have a safe place to retreat in case of emergency.

Improper or unintended manipulator operation may result in injury.
NOTES FOR SAFE OPERATION

WARNING

• Confirm that no person is present in the manipulator’s operating range and that you are in a safe location before:
  – Turning ON the FS100/DX200 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 manipulator’s operating range during operation. Always press the emergency stop button immediately if there is a problem. The emergency stop button is located on the right of 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 FS100/DX200 cabinet after use.

The programming pendant can be damaged if it is left in the manipulator’s work area, on the floor, or near fixtures.

• Read and understand the Explanation of the Warning Labels in the FS100/DX200 Instructions before operating the manipulator.
Definition of Terms Used Often in This Manual (DX200)

The MOTOMAN is the YASKAWA industrial robot product.

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

In this manual, the equipment is designated as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>DX200 controller</td>
<td>DX200</td>
</tr>
<tr>
<td>DX200 programming pendant</td>
<td>Programming pendant</td>
</tr>
<tr>
<td>Cable between the manipulator and the DX200 controller</td>
<td>Manipulator cable</td>
</tr>
</tbody>
</table>

Definition of Terms Used Often in This Manual (FS100)

The MOTOMAN is the YASKAWA industrial robot product.

The MOTOMAN usually consists of the manipulator, the FS100 controller, manipulator cables, the FS100 programming pendant (optional), and the FS100 programming pendant dummy connector (optional).

In this manual, the equipment is designated as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>FS100 controller</td>
<td>FS100</td>
</tr>
<tr>
<td>FS100 programming pendant</td>
<td>Programming pendant</td>
</tr>
<tr>
<td>Cable between the manipulator and the controller</td>
<td>Manipulator Cable</td>
</tr>
<tr>
<td>Robot</td>
<td>Manipulator</td>
</tr>
<tr>
<td>FS100 programming pendant dummy connector</td>
<td>Programming pendant dummy connector</td>
</tr>
</tbody>
</table>
Descriptions of the programming pendant keys, buttons, displays and keyboard of the PC are shown as follows:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Manual Designation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programming Pendant</td>
<td></td>
</tr>
<tr>
<td>Character Keys</td>
<td>The keys which have characters printed on them are denoted with [ ] .</td>
</tr>
<tr>
<td></td>
<td>e.g. [ENTER]</td>
</tr>
<tr>
<td>Symbol Keys</td>
<td>The keys which have a symbol printed on them are not denoted with [ ] but depicted with a small picture.</td>
</tr>
<tr>
<td></td>
<td>e.g. PAGE key</td>
</tr>
<tr>
<td></td>
<td>The cursor key is an exception, and a picture is not shown.</td>
</tr>
<tr>
<td>Axis Keys</td>
<td>“Axis keys” and “Numeric keys” are generic names for the keys for axis operation and number input.</td>
</tr>
<tr>
<td>Numeric Keys</td>
<td></td>
</tr>
<tr>
<td>Keys Pressed Simultaneously</td>
<td>When two keys are to be pressed simultaneously, the keys are shown with a “+” sign between them.</td>
</tr>
<tr>
<td></td>
<td>e.g. SHIFT key + COORD key</td>
</tr>
<tr>
<td>Mode Key</td>
<td>Three kinds of modes that can be selected by the mode key are denoted as follows:</td>
</tr>
<tr>
<td></td>
<td>REMOTE, PLAY, or TEACH</td>
</tr>
<tr>
<td>Button</td>
<td>Three buttons on the upper side of the programming pendant are denoted as follows:</td>
</tr>
<tr>
<td></td>
<td>HOLD button</td>
</tr>
<tr>
<td></td>
<td>START button</td>
</tr>
<tr>
<td></td>
<td>EMERGENCY STOP button</td>
</tr>
<tr>
<td>Displays</td>
<td>The menu displayed in the programming pendant is denoted with ().</td>
</tr>
<tr>
<td></td>
<td>e.g. {JOB}</td>
</tr>
<tr>
<td>PC Keyboard</td>
<td>The name of the key is denoted.</td>
</tr>
<tr>
<td></td>
<td>e.g. Ctrl key on the keyboard</td>
</tr>
</tbody>
</table>

**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 [SELECT] is pressed.

**Registered Trademark**

In this manual, names of companies, corporations, or products are trademarks, registered trademarks, or brand names for each company or corporation. The indications of (R) and TM are omitted.
Safeguarding Tips

All operators, programmers, maintenance personnel, supervisors, and anyone working near the system 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 equipment, the operator's manuals, the system equipment, and options and accessories should be permitted to operate this equipment.

• Improper connections can damage the equipment. All connections must be made within the standard voltage and current ratings of the equipment.

• The system must be placed in Emergency Stop (E-Stop) mode whenever it is not in use.

• In accordance with ANSI/RIA R15.06-2012, 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).

Mechanical Safety Devices

The safe operation of this equipment is ultimately the users 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 R15.06-2012 safety standards, and other local codes that may pertain to the installation and use of this 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 barriers
• Door interlocks
• Emergency stop palm buttons located on operator station

Check all safety equipment frequently for proper operation. Repair or replace any non-functioning safety equipment immediately.
Programming, Operation, and Maintenance Safety

All operators, programmers, maintenance personnel, supervisors, and anyone working near the system 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 equipment should be permitted to program, or maintain the system. All personnel involved with the operation of the equipment must understand potential dangers of operation.

- Inspect the equipment 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.
- Check the E-Stop button on the operator station for proper operation before programming. The equipment 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 the controller unit can cause severe personal injury or death, as well as damage to the robot! Do not make any modifications to the controller unit. Making any changes without the written permission from YASKAWA will void the warranty.
- Some operations require a standard passwords and some require special passwords.
- The equipment allows modifications of the software for maximum performance. Care must be taken when making these modifications. All modifications made to the software will change the way the equipment operates and can cause severe personal injury or death, as well as damage parts of the system. Double check all modifications under every mode of operation to ensure that the changes have not created hazards or dangerous situations.
- 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 equipment. All connections must be made within the standard voltage and current ratings of the equipment.
**Maintenance Safety**

Turn the power OFF and disconnect and lockout/tagout all electrical circuits before making any modifications or connections.

Perform only the maintenance described in this manual. Maintenance other than specified in this manual should be performed only by YASKAWA-trained, qualified personnel.

**Summary of Warning Information**

This manual is provided to help users establish safe conditions for operating the equipment. Specific considerations and precautions are also described in the manual, but appear in the form of Dangers, Warnings, Cautions, and Notes.

It is important that users operate the equipment in accordance with this instruction manual and any additional information which may be provided by YASKAWA. Address any questions regarding the safe and proper operation of the equipment to YASKAWA Customer Support.
Customer Support Information

If you need assistance with any aspect of your MotoFit system, please contact YASKAWA Customer Support at the following 24-hour telephone number:

**(937) 847-3200**

For *routine* technical inquiries, you can also contact YASKAWA Customer Support at the following e-mail address:

**techsupport@motoman.com**

When using e-mail to contact YASKAWA Customer Support, please provide a detailed description of your issue, along with complete contact information. Please allow approximately 24 to 36 hours for a response to your inquiry.

**NOTE**

Please use e-mail for *routine* inquiries only. If you have an urgent or emergency need for service, replacement parts, or information, you must contact YASKAWA Customer Support at the telephone number shown above.

Please have the following information ready before you call Customer Support:

- **System**
  - MotoFit

- **Primary Application**
  - ___________________________

- **Controller**
  - DX200/FS100

- **Software Version**
  - Access this information on the Programming Pendant’s LCD display screen by selecting `{MAIN MENU} - {SYSTEM INFO} - {VERSION}`

- **Robot Serial Number**
  - Located on the robot data plate

- **Robot Sales Order Number**
  - Located on the DX200/FS100 controller data plate
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1 System Configuration of MotoFit Function

The system configuration of MotoFit function consists of the manipulator, the FS100/DX200, the 6-axis force sensor, the interface panel on the programming pendant and the PC for teaching (prepared by the user).

![System Configuration of MotoFit Function](image)

Table 1-1: Components of FS100

<table>
<thead>
<tr>
<th>Device</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robot (Manipulator)</td>
<td>-</td>
</tr>
<tr>
<td>Robot controller (FS100)</td>
<td>• Connected to the 24V power for sensor</td>
</tr>
<tr>
<td></td>
<td>• The setting of MotoFit function is completed</td>
</tr>
<tr>
<td>Power supply cable</td>
<td>-</td>
</tr>
<tr>
<td>Programming pendant</td>
<td>Interface panel for MotoFit</td>
</tr>
<tr>
<td></td>
<td>The setting is completed</td>
</tr>
<tr>
<td>6-axis force sensor</td>
<td>Rated 200N or 1000N</td>
</tr>
<tr>
<td>Sensor cable</td>
<td>Connected to the FS100</td>
</tr>
<tr>
<td>PC for teaching*</td>
<td>OS: Windows 7</td>
</tr>
<tr>
<td>LAN cable for PC connection*</td>
<td>-</td>
</tr>
<tr>
<td>Tool for the manipulator’s tip*</td>
<td>-</td>
</tr>
</tbody>
</table>

*PC, LAN cable and Tool are prepared by user.
### System Configuration of MotoFit Function

Table 1-2: Components of DX200

<table>
<thead>
<tr>
<th>Device</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robot (Manipulator)</td>
<td></td>
</tr>
<tr>
<td>Robot controller (DX200)</td>
<td>• Built-in the 24V power for sensor</td>
</tr>
<tr>
<td></td>
<td>• The setting of MotoFit function is completed</td>
</tr>
<tr>
<td>Power supply cable</td>
<td>-</td>
</tr>
<tr>
<td>Programming pendant</td>
<td>Interface panel for MotoFit</td>
</tr>
<tr>
<td></td>
<td>The setting is completed</td>
</tr>
<tr>
<td>6-axis force sensor</td>
<td>Rated 200N or 1000N</td>
</tr>
<tr>
<td>Sensor cable</td>
<td>Manipulator side</td>
</tr>
<tr>
<td></td>
<td>DX200 side</td>
</tr>
<tr>
<td>PC for teaching*</td>
<td>OS: Windows7</td>
</tr>
<tr>
<td>LAN cable for PC connection*</td>
<td>-</td>
</tr>
<tr>
<td>Tool for the manipulator’s tip*</td>
<td>-</td>
</tr>
</tbody>
</table>

*PC, LAN cable and Tool are prepared by user.
2 Replacement and Removal of Force Sensor

2.1 Replacement of Force Sensor

Replacement procedure for the force sensor is described as follows. The replacement and mounting must be performed carefully since the force sensor is a precision equipment.

1. Move the robot to face up the flange side for easy removal of the force sensor.
2. Turn OFF the FS100/DX200.
3. Remove the tool installed to the manipulator’s tip.
4. Remove the connector of the force sensor cable.
5. Loosen the bolt which is fixing the force sensor, and remove the force sensor.

![Force sensor fixing bolts](image)

6. Mount the force sensor for replacement. Mount the force sensor in the accordance with the assembly drawing in Dimension Diagram folder in the distributed CD-ROM.
7. By following the procedures of “FS100/DX200 OPTIONS INSTRUCTIONS for MotoFit (165456-1CD)” section 2.4 “Operation Check”, perform the operation check.

Note: The mounting direction of the force sensor is different depending on a model of the manipulator. Before the operation check, make sure the sensor is mounted according to the assembly drawing. If the mounting direction is different, the actual operation may be different from the taught operation.
2.2 Removal of Force Sensor

The force sensor needs to be removed in case of the following reasons.

- To remove the force sensor since the MotoFit function is not necessary.
- To operate the manipulator temporarily without the force sensor.

The following is the removal procedure.

1. Disable the force sensor communication board port by following “FS100/DX200 OPTIONS INSTRUCTIONS for MotoFit” (165456-1CD) section 6.2 “Disabling Procedure of Force Sensor Communication Board Port”.

2. Remove the force sensor by following the procedures from No.1 to No.5 in section 2.1 “Replacement of Force Sensor”.

Note: Once the force sensor communication board port is disabled, MotoFit cannot be used. To enable the port again, refer to “FS100/DX200 OPTIONS INSTRUCTIONS for MotoFit” (165456-1CD) section 2.3 “Enable the Force Sensor Communication Board Port”.

3 Replacement of Force Sensor Cable

If a cable disconnection etc. occurs, the cable needs to be replaced. Replace the cable according to the following steps.

3.1 FS100

1. Turn OFF the FS100.
2. Remove the connector of the force sensor cable from the main unit of the sensor.
3. Remove the assembled part.
4. Remove the cable connecting part according to FS100 INSTRUCTIONS Support documentation (MOTOFIT Power-Supply BOX) (165600-1CD).
5. Connect a new cable according to FS100 INSTRUCTIONS Support documentation (MOTOFIT Power-Supply BOX) (165600-1CD).
6. Fix the assembly part of the cable.
7. Connect the connector of the force sensor cable to the main unit of the sensor.

3.2 DX200

1. Turn OFF the DX200.
2. Remove the connector of the force sensor cable from the main unit of the sensor.
3. Remove the assembled part.
4. Remove the connector of the force sensor cable from the back side of the DX200.
5. Connect the connector of a new force sensor cable to the back side of the DX200.
6. Fix the assembly part of the cable.
7. Connect the connector of the force sensor cable to the main unit of the sensor.
4 Replacement and Removal of Force Sensor Board

The procedures for replacement and removal of force sensor board are described as follows. The force sensor board is a precision equipment so that it must be handled carefully.

4.1 FS100

4.1.1 Replacement of Board

The communication board is fixed on the board rack of the FS100 CPU unit (JEPMC-BUB3008R-E) (refer to FS100 INSTRUCTIONS chapter 13 Description of Units and Circuit Boards). Turn OFF the FS100, and then replace the communication board (JAPMCCM2319R-E) (refer to Fig. 4-1 "Replacing the Board").

4.1.2 Removal of Board

If the force sensor board needs to be removed since the MotoFit function becomes unnecessary, disable the board in accordance with the following procedures before removal.

Note: If the force sensor board is disabled and removed as the following procedures, the setting parameters of the MotoFit function are deleted from the FS100. To use the MotoFit function again, contact YASKAWA representative.
1. The communication board is fixed on the board rack of the FS100 CPU unit (JEPMC-BUB3008R-E) (refer to FS100 INSTRUCTIONS chapter 13 Description of Units and Circuit Boards). Turn OFF the FS100 and the breaker of the force sensor power supply box on the side of the FS100 (following figure), and then replace the communication board (JAPMCCM2319R-E) (refer to Fig. 4-1 “Replacing the Board”).

2. Start up the FS100 in the maintenance mode, and set the mode to the management mode. Select {SYSTEM},{SETUP}. Select "IO MODULE" in the setting window.
3. Make sure “217IF-01R” is not shown on the IO MODULE window, and press [ENTER].

4. When the following window is shown, press [ENTER].
4 Replacement and Removal of Force Sensor Board

4.1 FS100

When the following window is shown, press [ENTER].

5. When the confirmation dialog shows up, select [YES].

6. The disabling procedure is completed. Restart the FS100.
4.2 DX200

4.2.1 Replacement of Board

The communication board is fixed on the board rack of the DX200 CPU unit (JZNC-YRK21-1E) (refer to DX200 INSTRUCTIONS chapter 14 Description of Units and Circuit Boards). Turn OFF the DX200, and then replace the communication board (PCI-466102P011).

4.2.2 Removal of Board

If the force sensor board needs to be removed since the MotoFit function becomes unnecessary, disable the board in accordance with the following procedures before removal.

Note: If the force sensor board is disabled and removed as the following procedures, the setting parameters of the MotoFit function are deleted from the DX200. To use the MotoFit function again, contact YASKAWA representative.

1. The communication board is fixed on the board rack of the DX200 CPU unit (JZNC-YRK21-1E) (refer to DX200 INSTRUCTIONS chapter 14 Description of Units and Circuit Boards). Turn OFF the DX200, and then replace the communication board (PCI-466102P011).

2. Start up the DX200 in the maintenance mode, and set the mode to management mode. Select in the following order: {SYSTEM},{SETUP},{OPTION BOARD}. Make sure “Interface466102” is not shown in the setting window, and press [ENTER].

3. When the confirmation dialog shows up, select {YES}.
4. The message “Select ‘Machine Safety Board FLASH Reset’” is shown in the human interface display area. Set the mode to the safety mode and select in the following order: {FILE}, {INITIALIZE}, ‘Machine Safety Board FLASH Reset’.

5. After [ENTER] is pressed, the confirmation dialog shows up. Select {YES} and press [ENTER].

6. The disabling procedure is completed. Restart the DX200.
5 Replacement of MotoFit Power Supply Box (only for the FS100)

Turn OFF the FS100, replace the power supply box according to FS100 INSTRUCTIONS Support documentation (MOTOFIT Power-Supply BOX) (165600-1CD).