

ROBOTICS

Product manual, spare parts

IRB 1010



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Product manual, spare parts

IRB 1010-1.5/0.370

OmniCore

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Overview of this manual

About this manual

This manual contains spare parts for:

- IRB 1010 and all its variants.

Usage

This manual shall be used as a complement to the product manual for IRB 1010 during:

- maintenance work
- repair work.

Who should read this manual?

This manual is intended for:

- maintenance personnel
- repair personnel.

Prerequisites

Maintenance/repair/installation personnel working with an ABB Robot must:

- be trained by ABB and have the required knowledge of mechanical and electrical installation/repair/maintenance work.

Organization of chapters

The manual is organized in the following chapters:

Chapter	Contents
1 Spare parts and exploded view	Complete spare part list and complete list of robot components shown in exploded views.

References

Reference	Document ID
<i>Product manual - IRB 1010</i>	3HAC081964-001
<i>Circuit diagram - IRB 1010</i>	3HAC080051-003

Revisions

Revision	Description
A	First edition.

Product documentation

Categories for user documentation from ABB Robotics

The user documentation from ABB Robotics is divided into a number of categories. This listing is based on the type of information in the documents, regardless of whether the products are standard or optional.



Tip

All documents can be found via myABB Business Portal, www.abb.com/myABB.

Product manuals

Manipulators, controllers, DressPack/SpotPack, and most other hardware is delivered with a **Product manual** that generally contains:

- Safety information.
- Installation and commissioning (descriptions of mechanical installation or electrical connections).
- Maintenance (descriptions of all required preventive maintenance procedures including intervals and expected life time of parts).
- Repair (descriptions of all recommended repair procedures including spare parts).
- Calibration.
- Troubleshooting
- Decommissioning.
- Reference information (safety standards, unit conversions, screw joints, lists of tools).
- Spare parts list with corresponding figures (or references to separate spare parts lists).
- References to circuit diagrams.

Technical reference manuals

The technical reference manuals describe reference information for robotics products, for example lubrication, the RAPID language, and system parameters.

Application manuals

Specific applications (for example software or hardware options) are described in **Application manuals**. An application manual can describe one or several applications.

An application manual generally contains information about:

- The purpose of the application (what it does and when it is useful).
- What is included (for example cables, I/O boards, RAPID instructions, system parameters, software).
- How to install included or required hardware.
- How to use the application.

Continues on next page

- Examples of how to use the application.

Operating manuals

The operating manuals describe hands-on handling of the products. The manuals are aimed at those having first-hand operational contact with the product, that is production cell operators, programmers, and troubleshooters.

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1 Definition of spare part levels

Spare part level

ABB spare parts are categorized into two levels, L1 and L2. Always check the part level before conducting a service work on a spare part.

- L1 spare parts

The L1 parts can be replaced in the field. The maintenance and replacement instructions given in the related product manuals must be strictly followed. If there are any problems, contact your local ABB for support.

- L2 spare parts

To replace the L2 parts require specialized training and might need special tools. Only ABB field service personnel or qualified personnel trained by ABB can replace L2 parts.

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2 Spare parts - electrical parts

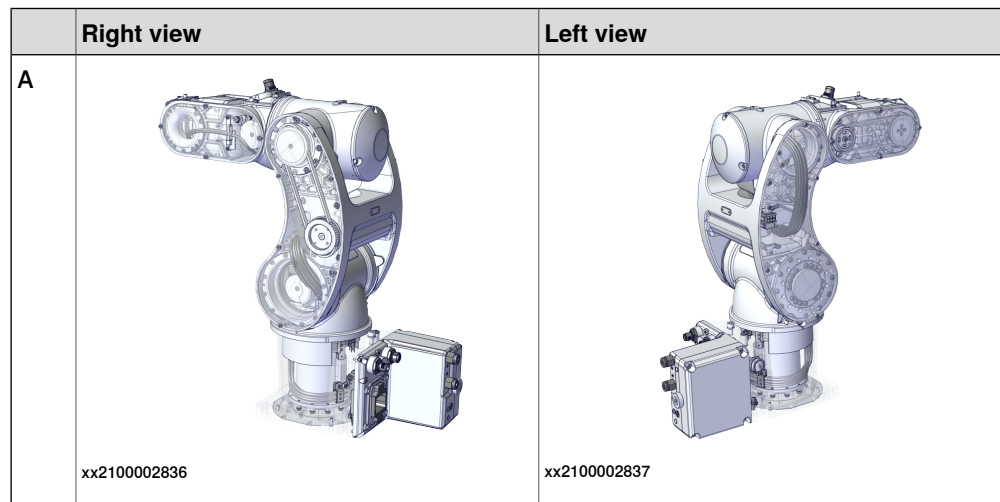
2.1 Manipulator cable harness

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC076884-001	Cable harness (basic)	X	L2
	3HAC079810-001	Cable harness (CP/CS and air hose)	X	L2
B	3HAC082449-001	Process hub (basic)	X	L2
	3HAC082450-001	Process hub (CP/CS and air hose)	X	L2

Spare part illustration

Cable harness



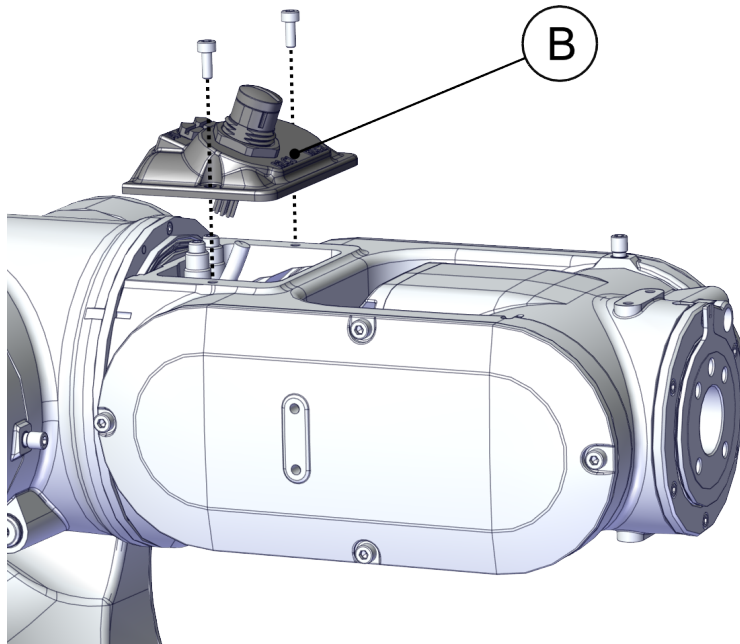
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2 Spare parts - electrical parts

2.1 Manipulator cable harness

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Process hub



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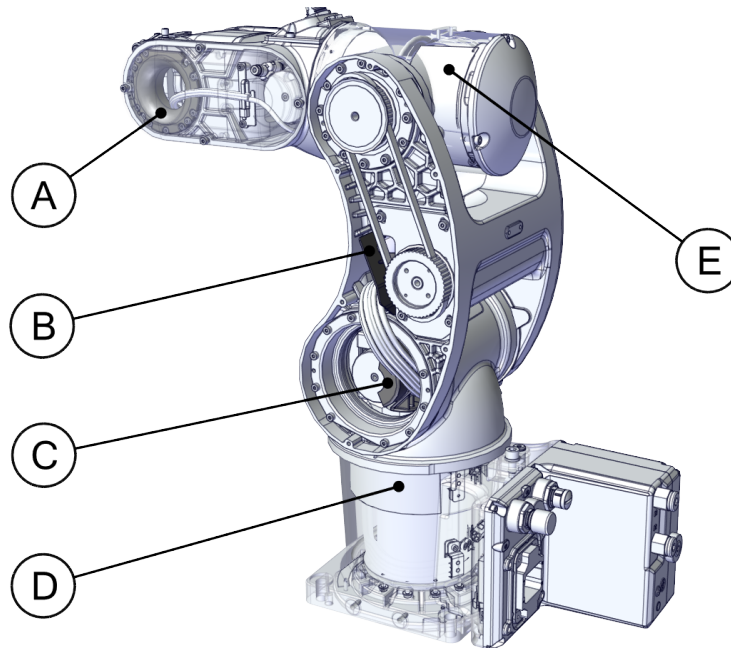
2.2 Manipulator cable harness parts

2.2.1 Cable protective covers

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC076870-001	Cable protector, axis 5	X	L2
B	3HAC078562-001	Cable protector, axis 3	X	L2
C	3HAC078561-001	Cable protector, axis 2	X	L2
D	3HAC078560-001	Cable protector, axis 1	X	L2
E	3HAC075565-001	Cable protector, axis 4	X	L2

Spare part illustration



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2 Spare parts - electrical parts

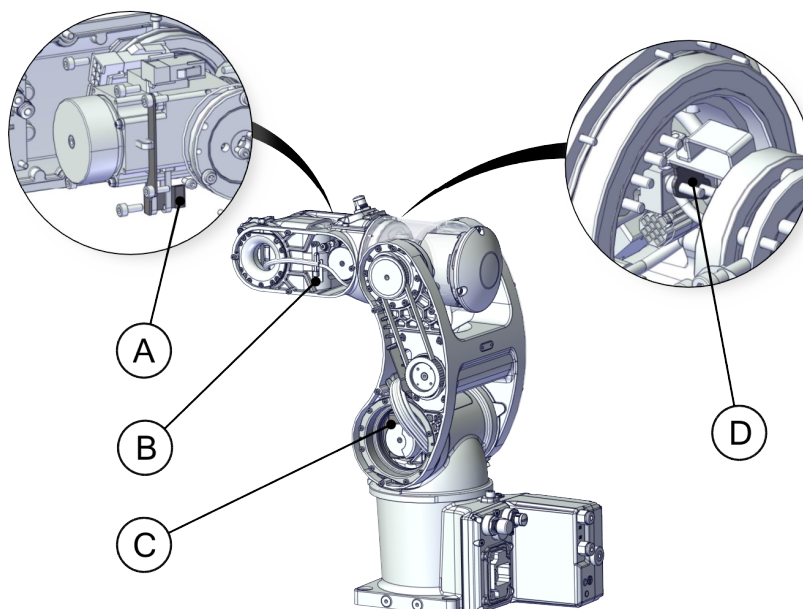
2.2.2 Cable brackets

2.2.2 Cable brackets

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC079127-001	Cable bracket, axis 6	X	L2
B	3HAC079126-001	Cable bracket, axis 5	X	L2
C	3HAC080837-001	Cable bracket, axis 2	X	L2
D	3HAC076867-001	Cable bracket, axis 4	X	L2

Spare part illustration



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2.2.3 Connector kits

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
-	3HAC066098-001	M12 CPCS Male straight connector kits	X	L1
-	3HAC066099-001	M12 CPCS Male angled connector kits	X	L1

2 Spare parts - electrical parts

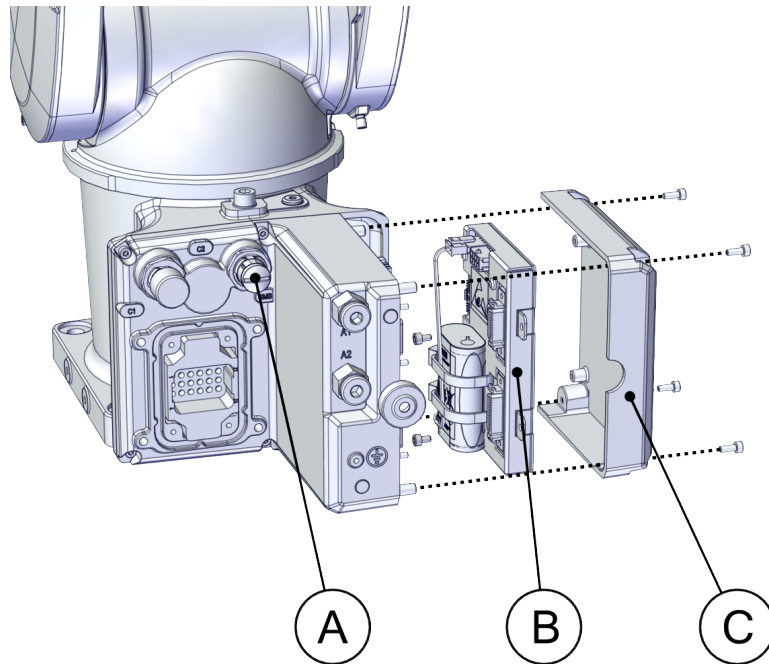
2.3 SMB unit

2.3 SMB unit

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC068830-005	SMB cable	X	L2
B	3HAC063968-001	Serial measurement unit	X	L2
C	3HAC082448-001	SMB cover	X	L1

Spare part illustration



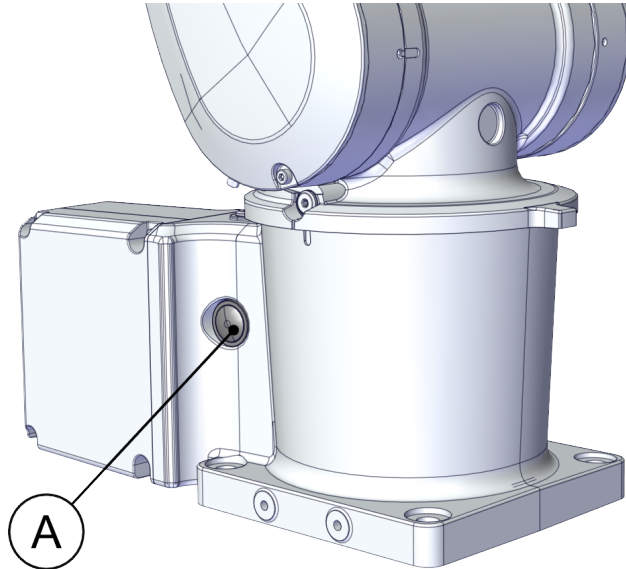
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2.4 Brake release button

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC068448-001	Brake release button	X	L2

Spare part illustration



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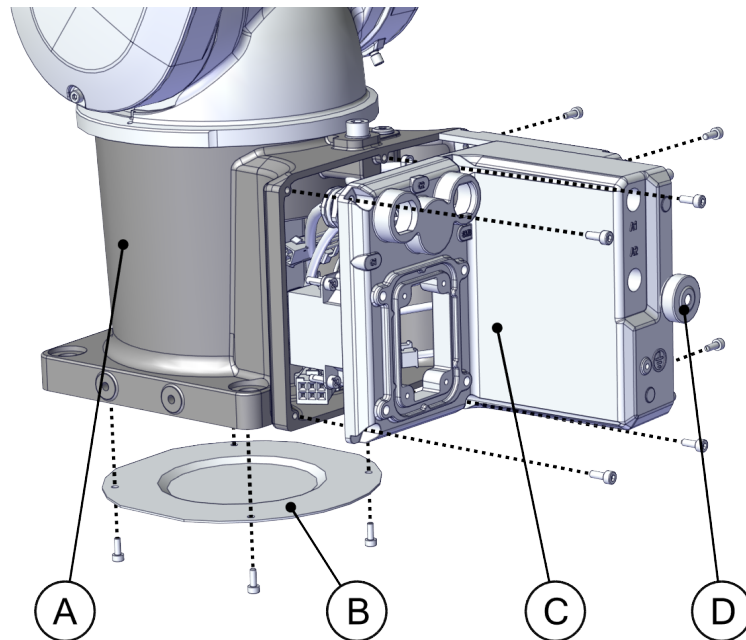
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3 Spare parts - base

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082454-001	Base	X	L2
B	3HAC074903-001	Base bottom cover	X	L1
C	3HAC082455-001	Base interface panel (basic)	X	L2
	3HAC082456-001	Base interface panel (CP/CS and air hose)	X	L2
D	3HAC024817-001	Grommet M16	X	L1

Spare part illustration



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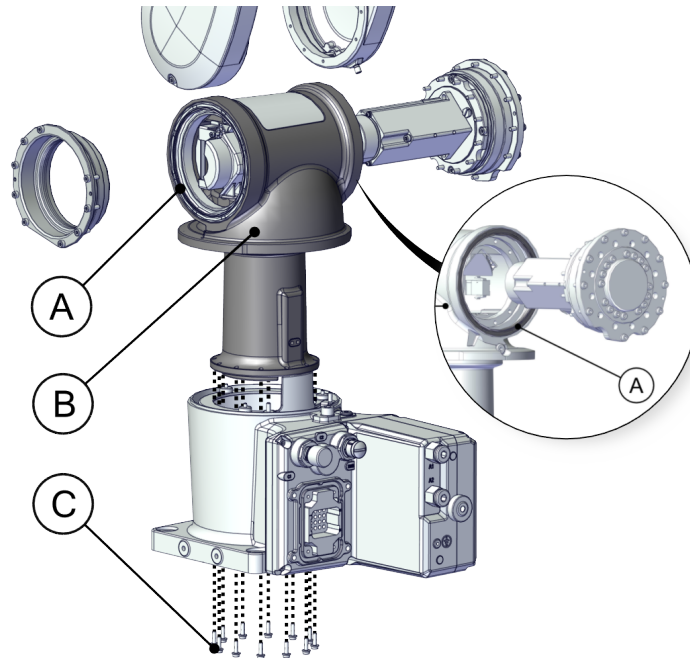
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4 Spare parts - axis-1 unit

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC076888-001	Axis-2 radial sealing	X	L2
B	3HAC082643-001	Axis-1 assembly unit Includes swing and axis-1 drive unit.	X	L2
C	3HAB3412-310	Flange socket head screw, M3x10 12.9 Lafre 2C2B/FC6.9+PrO-COat111	X	L2

Spare part illustration



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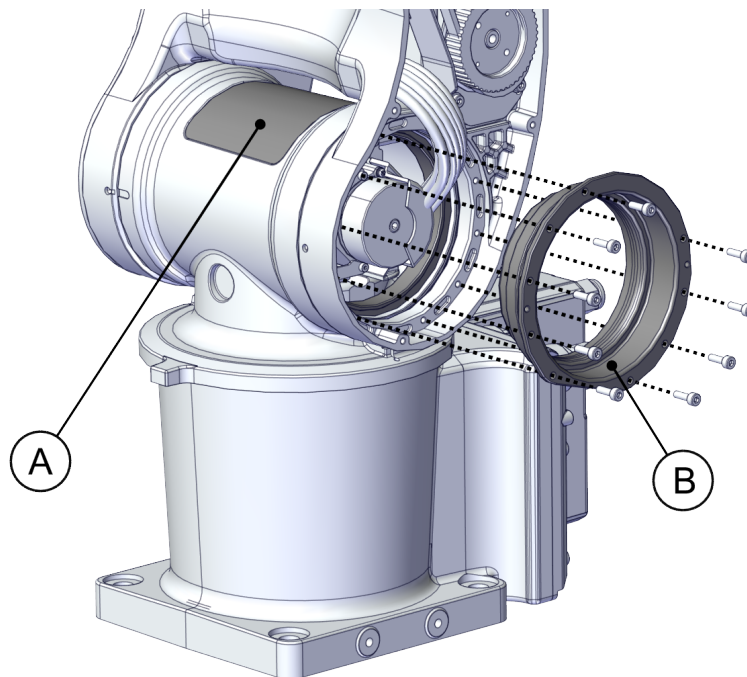
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5 Spare parts - axis-2 parts

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082452-001	Swing top cover	X	L1
B	3HAC074872-001	Axis-2 sleeve	X	L2

Spare part illustration



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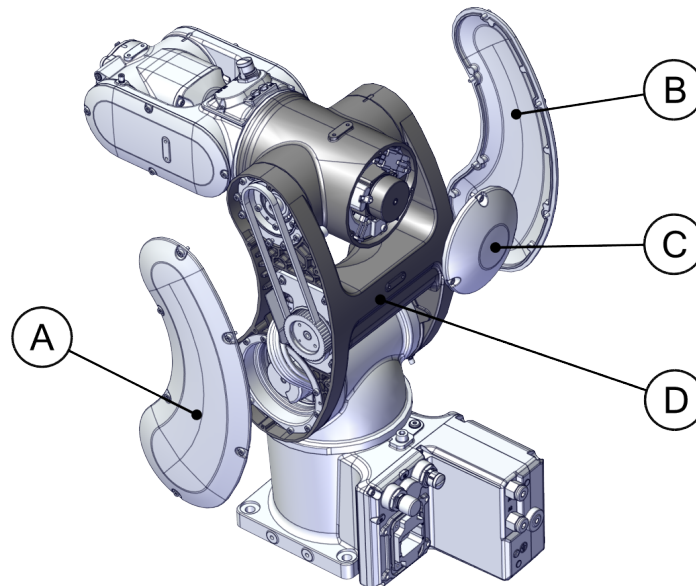
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6 Spare parts - axis 3-4 unit

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082446-001	Lower arm cover, left	X	L1
B	3HAC082447-001	Lower arm cover, right	X	L1
C	3HAC082445-001	Housing cover	X	L1
D	3HAC082453-001	Axis 3-4 assembly unit Includes lower arm, housing, axis-3 gearbox and axis-4 drive unit.	X	L2
E	3HAC076795-001	Axis-4 radial sealing	X	L2

Spare part illustration

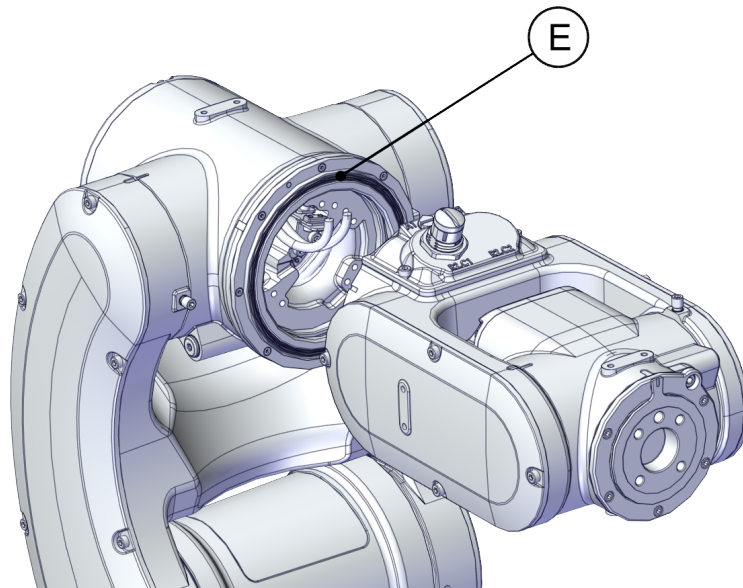


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6 Spare parts - axis 3-4 unit

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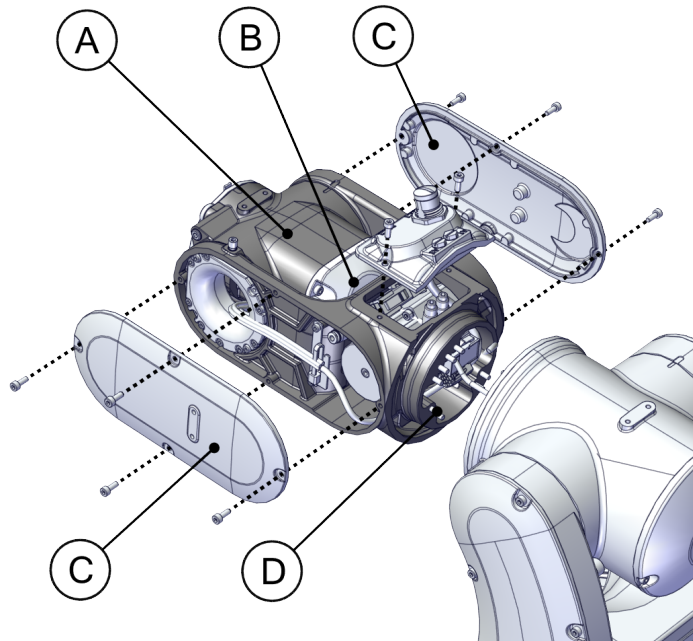
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7 Spare parts - wrist unit

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082451-001	Wrist unit Includes tubular, wrist, axis-5 gearbox and axis-6 drive unit.	X	L2
B	3HAC082442-001	Tilt cover	X	L1
C	3HAC082443-001	Wrist cover	X	L1
D	3HAB3412-316	Flange socket head screw, M3x16 12.9 Lafre 2C2B/FC6.9+PrO-COat111	X	L2

Spare part illustration



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8 Spare parts - motors and drive units

8.1 Axis-1 drive unit

Spare part list

The axis-1 drive unit is part of the complete axis-1 assembly unit, see [Spare parts - axis-1 unit on page 23](#).

8 Spare parts - motors and drive units

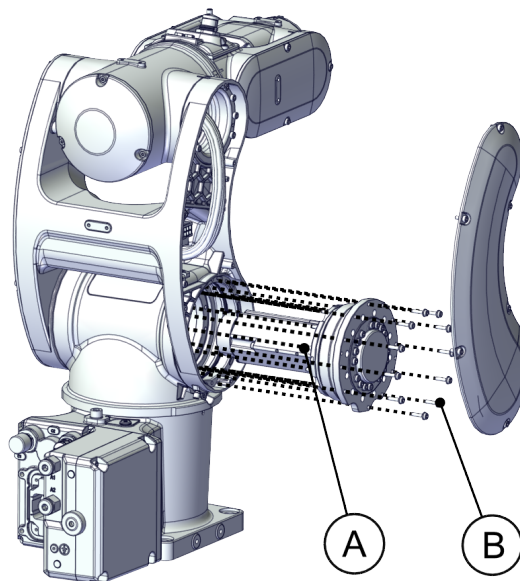
8.2 Axis-2 drive unit

8.2 Axis-2 drive unit

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082580-001	Drive unit, axis 2	X	L2
B	3HAB3412-312	Flange socket head screw, M3x12 12.9 Lafre 2C2B/FC6.9+PrO-COat111	X	L2

Spare part illustration



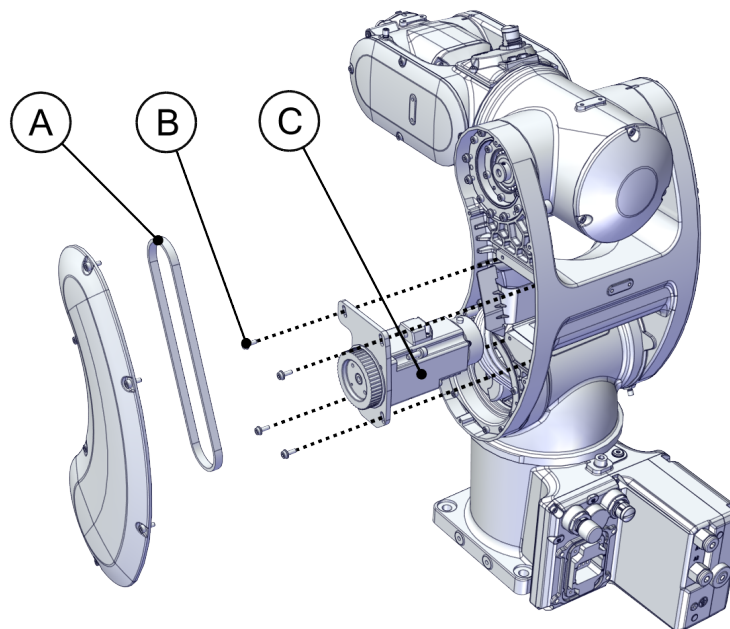
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8.3 Axis-3 motor

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC065788-001	Timing belt, axis 3	X	L2
B	3HAB3412-308	Flange socket head screw, M3x8 12.9 Lafre 2C2B/FC6.9+PrO-COat111	X	L2
C	3HAC082579-001	Motor, axis 3	X	L2

Spare part illustration



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8 Spare parts - motors and drive units

8.4 Axis-4 drive unit

8.4 Axis-4 drive unit

Spare part list

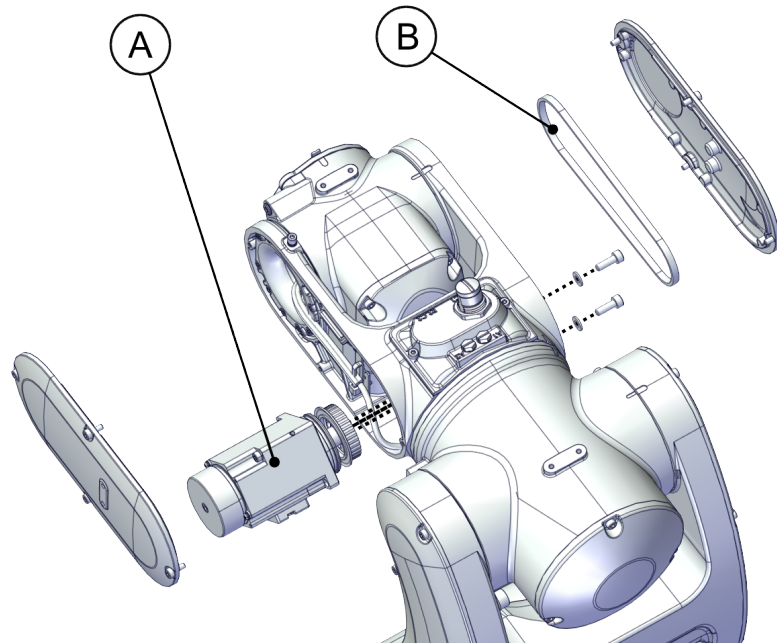
The axis-4 drive unit is part of the axis 3-4 assembly unit, see [Spare parts - axis 3-4 unit on page 27](#).

8.5 Axis-5 motor

Spare part list

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC082444-001	Motor, axis 5	X	L2
B	3HAC075714-001	Timing belt, axis 5	X	L2

Spare part illustration



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8 Spare parts - motors and drive units

8.6 Axis-6 drive unit

8.6 Axis-6 drive unit

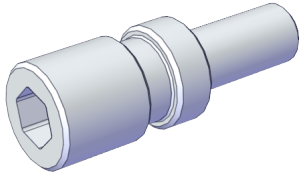
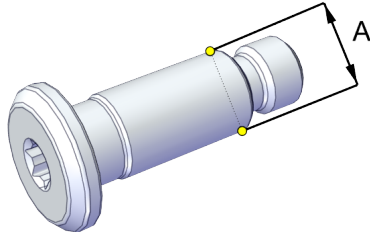
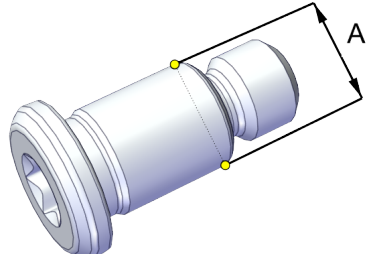
Spare part list

The axis-6 drive unit is part of the wrist unit, see [Spare parts - wrist unit on page 29](#).

9 Spare parts - accessories

9.1 Axis calibration items

Spare part list

Spare part number	Description	Spare part level	Standard (IP40)	Illustration		
3HAC076792-001	Fixed calibration pin	L1	X	 <p>xx2100002852</p>		
3HAC053237-003	Protective plug for bushing (OD $\phi 6$)	L1	X	 <p>xx2100002859</p> <table border="1" data-bbox="1066 1211 1437 1256"> <tr> <td>A</td> <td>Outer diameter</td> </tr> </table>	A	Outer diameter
A	Outer diameter					
3HAC076804-001	Protective plug for bushing (OD $\phi 5$)	L1	X	 <p>xx2100002858</p> <table border="1" data-bbox="1066 1608 1437 1653"> <tr> <td>A</td> <td>Outer diameter</td> </tr> </table>	A	Outer diameter
A	Outer diameter					

Spare part illustration

The protective plugs are installed in the bushings used for the calibration tools for Axis Calibration method.

There are two bushings on axes 1. Axis 2, 3 and 5 have one bushing and a fixed calibration pin. Axis 6 has only one bushing.

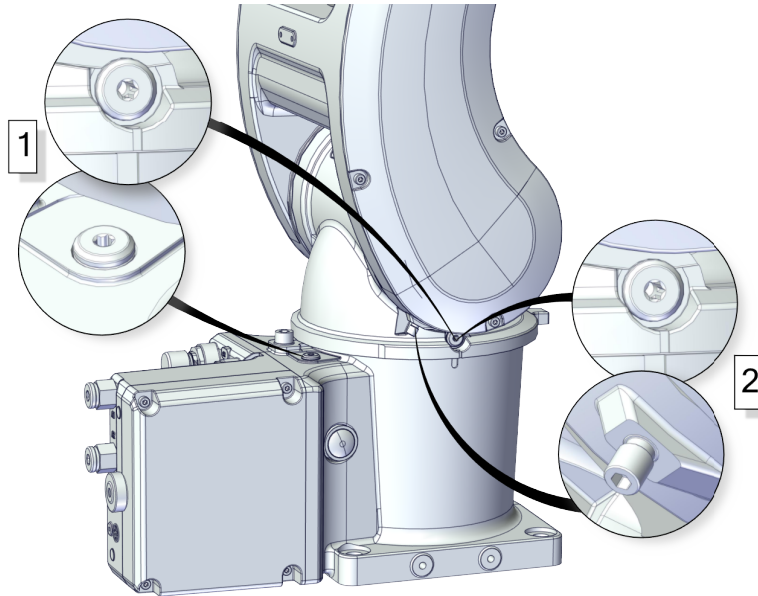
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9 Spare parts - accessories

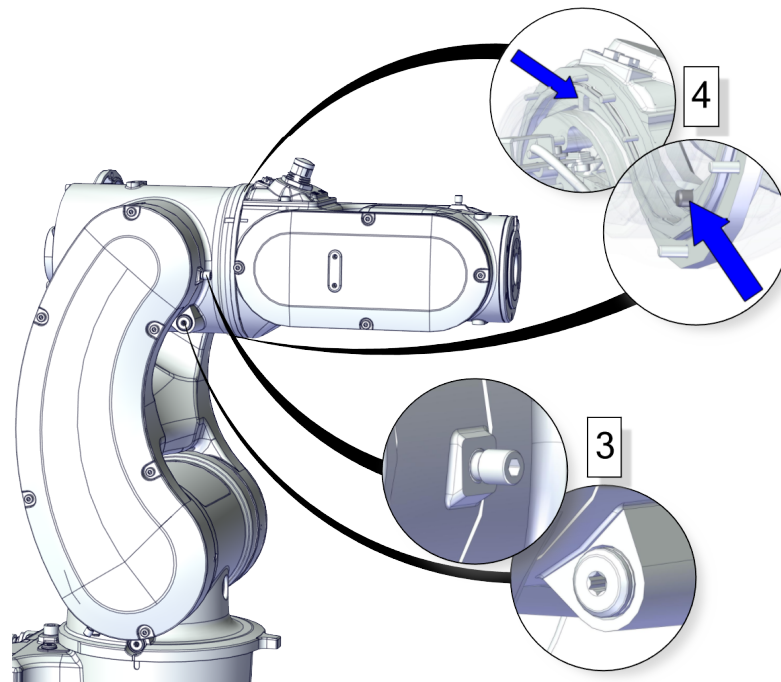
9.1 Axis calibration items

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Axis 4 of IRB 1010 is calibrated with an internal fixed calibration pin and a fixed calibration block. It does not use the calibration tools for Axis Calibration method.

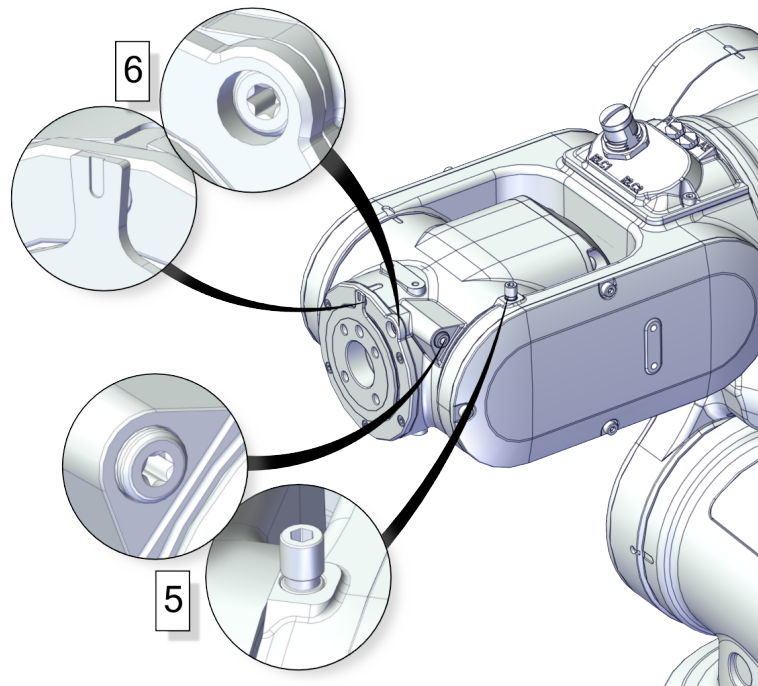


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9 Spare parts - accessories

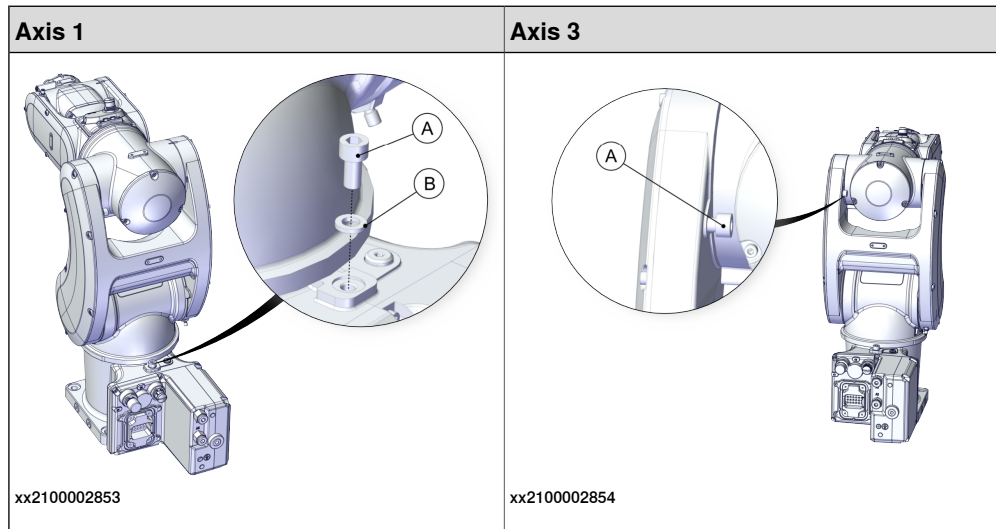
9.2 Mechanical stop

9.2 Mechanical stop

Spare part list

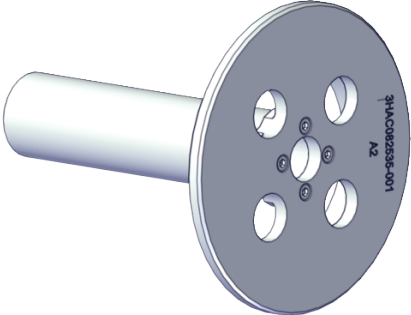


	Spare part number	Description	Standard (IP40)	Spare part level
A	9ADA186-23	Mechanical stop, screw	X	L1
B	9ADA762-6	Mechanical stop, washer	X	L1

Spare part illustration



9.3 Special tools

Spare part list

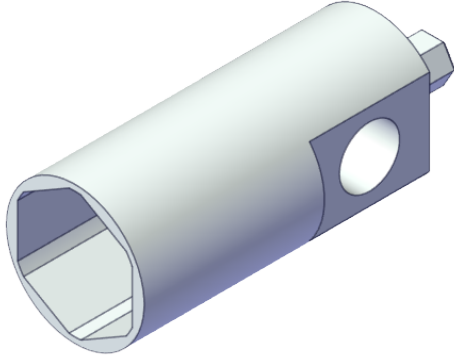
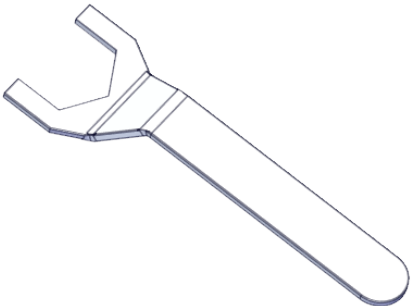
Spare part number	Description	Illustration
3HAC082535-001	Axis-2 radial sealing assembly tool	 <p>xx2200000026</p>
3HAC082535-003	Axis-4 radial sealing assembly tool	 <p>xx2200000027</p>
3HAC082535-002	Radial sealing pressfit tool	 <p>xx2200000025</p>

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9 Spare parts - accessories

9.3 Special tools

Continued

Spare part number	Description	Illustration
3HAC071022-001	Special toolkit Includes M12 connector assembly tool and Brake release button assembly tool.	
-	M12 connector assembly tool Included in the special toolkit 3HAC071022-001. Used to remove and refit the C1 (if the CP/CS cabling is equipped) and SMB connectors on the base interface panel.	 xx1900000006
-	Brake release button assembly tool Included in the special toolkit 3HAC071022-001. Used to remove and refit the brake release button.	 xx1900000042

10 Consumables and wear parts

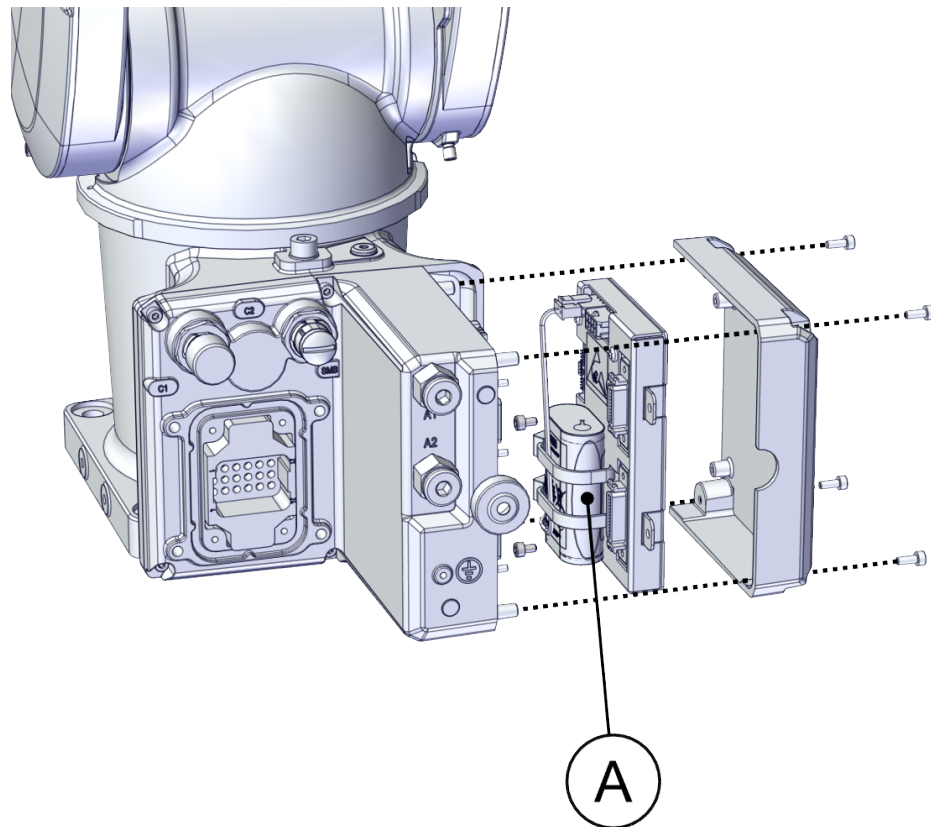
10.1 Wear parts

Wear part list

Expected component life for following wear parts are specified in *Product manual - IRB 390*.

	Spare part number	Description	Standard (IP40)	Spare part level
A	3HAC044075-001	Battery pack	X	L2
B	3HAC071021-001	Cooling pad for axis-2 motor Cooling pads are wear parts. One cooling pad sheet contains 6 pieces of small pad. Replace if damaged with one piece each time.	X	L2

Wear part illustration



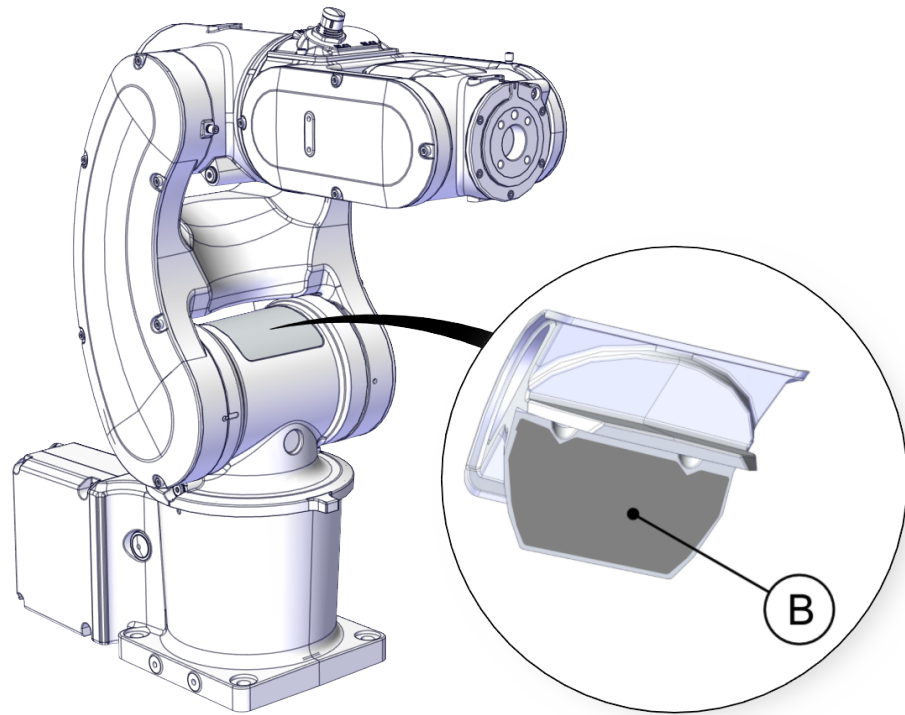
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10 Consumables and wear parts

10.1 Wear parts

Continued



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