

ROBOTICS

Product manual, spare parts

IRB 1090



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Product manual, spare parts

IRB 1090-3.5/0.58

OmniCore

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Revision: B

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Original instructions.

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Table of contents

Overview of this manual	7
Product documentation	8
1 Spare parts and exploded views	11
1.1 Spare parts - electrical parts	12
1.1.1 Manipulator cable harness	12
1.1.2 Cable parts and connector kits	14
1.1.3 SMB unit	16
1.2 Spare parts - base	17
1.2.1 Base	17
1.3 Spare parts - swing	18
1.3.1 Swing	18
1.3.2 Swing parts	19
1.4 Spare parts - lower arm	20
1.4.1 Lower arm	20
1.4.2 Lower arm parts	21
1.5 Spare parts - housing	22
1.6 Spare parts - extender unit	23
1.7 Spare parts - wrist	25
1.8 Spare parts - motors	26
1.8.1 Axis-1 motor	26
1.8.2 Axis-2 motor	27
1.8.3 Axis-3 motor	28
1.8.4 Axis-4 motor	29
1.8.5 Axis-5 and axis-6 motors	30
1.9 Spare parts - gearboxes	31
1.9.1 Axis-1 gearbox	31
1.9.2 Axis-2 gearbox	32
1.9.3 Axis-3 gearbox	33
1.9.4 Axis-4 gearbox	34
1.10 Spare parts - Accessories	35
1.10.1 Axis Calibration items	35
1.10.2 Special tools	38

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Overview of this manual

About this manual

This manual contains spare parts for:

- IRB 1090.

Usage

This manual shall be used as a complement to the product manual for IRB 1100 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 1090</i>	<i>3HAC088056-001</i>
<i>Circuit diagram - IRB 1090</i>	<i>3HAC085352-007</i>

Revisions

Revision	Description
A	First edition.
B	Published in release 23D. The following updates are done in this revision: <ul style="list-style-type: none"> • Added spare parts cable protector, axis 3 (3HAC088722-001) and cable protector, axis 4 (3HAC088723-001).

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, 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 Spare parts and exploded views

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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1 Spare parts and exploded views

1.1.1 Manipulator cable harness

1.1 Spare parts - electrical parts

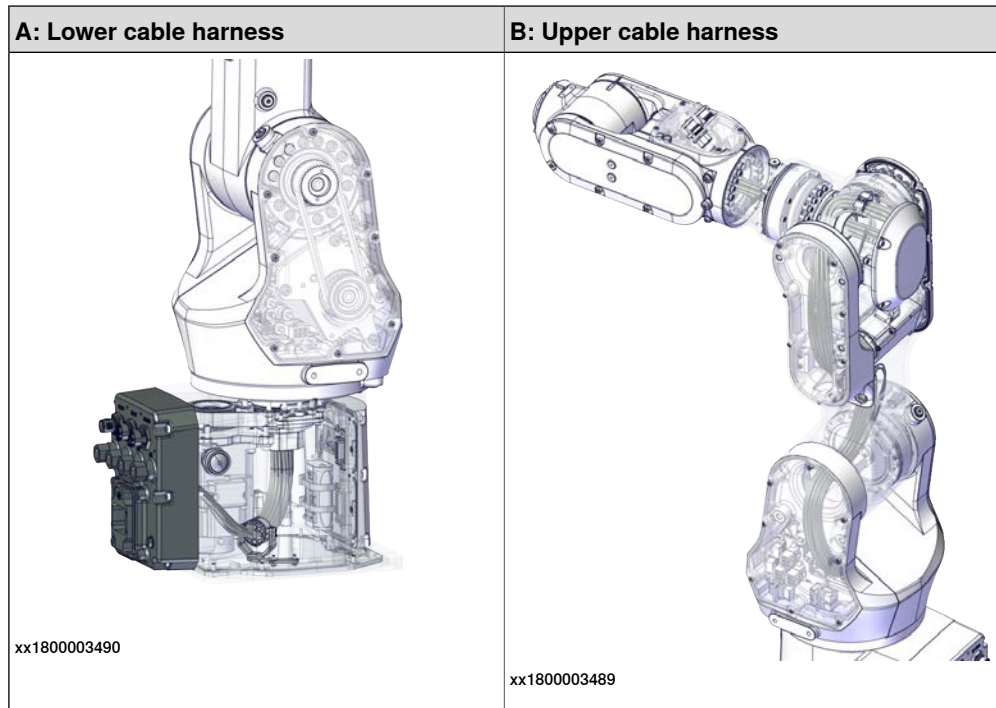
1.1.1 Manipulator cable harness

Spare part list

	Spare part number	Description	Spare part level
A	3HAC075521-001	Lower cable harness, basic	L2
	3HAC075522-001	Lower cable harness (CP/CS and air hose, without Ethernet)	L2
	3HAC075523-001	Lower cable harness (CP/CS and air hose, with Ethernet)	L2
B	3HAC060416-001	Upper cable harness, basic	L2
	3HAC060416-002	Upper cable harness (CP/CS and air hose, without Ethernet)	L2
	3HAC060416-003	Upper cable harness (CP/CS and air hose, with Ethernet)	L2
C	3HAC069094-001	Process hub, basic	L2
	3HAC069095-001	Process hub (CP/CS and air hose, without Ethernet)	L2
	3HAC069096-001	Process hub (CP/CS and air hose, with Ethernet)	L2

Spare part illustration

Cable harness



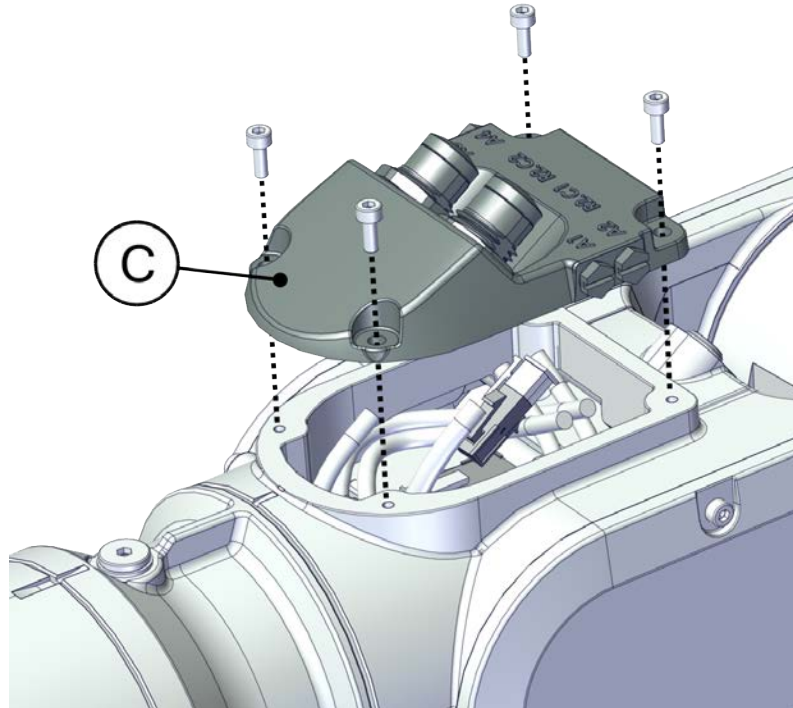
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1 Spare parts and exploded views

1.1.1 Manipulator cable harness

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Process hub



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1 Spare parts and exploded views

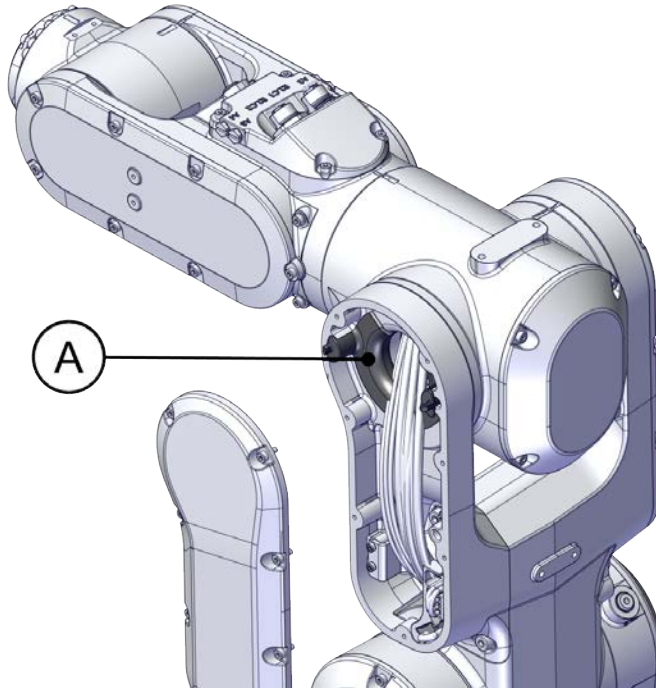
1.1.2 Cable parts and connector kits

1.1.2 Cable parts and connector kits

Spare part list

	Spare part number	Description	Spare part level
A	3HAC088722-001	Cable protector, axis 3	L2
B	3HAC088723-001	Cable protector, axis 4	L2
-	3HAC066098-001	M12 CPCS Male straight connector kits	L1
-	3HAC066099-001	M12 CPCS Male angled connector kits	L1
-	3HAC067413-001	M12 Ethernet Cat5e Male straight connector kits	L1
-	3HAC067414-001	M12 Ethernet Cat5e Male angled connector kits	L1

Spare part illustration



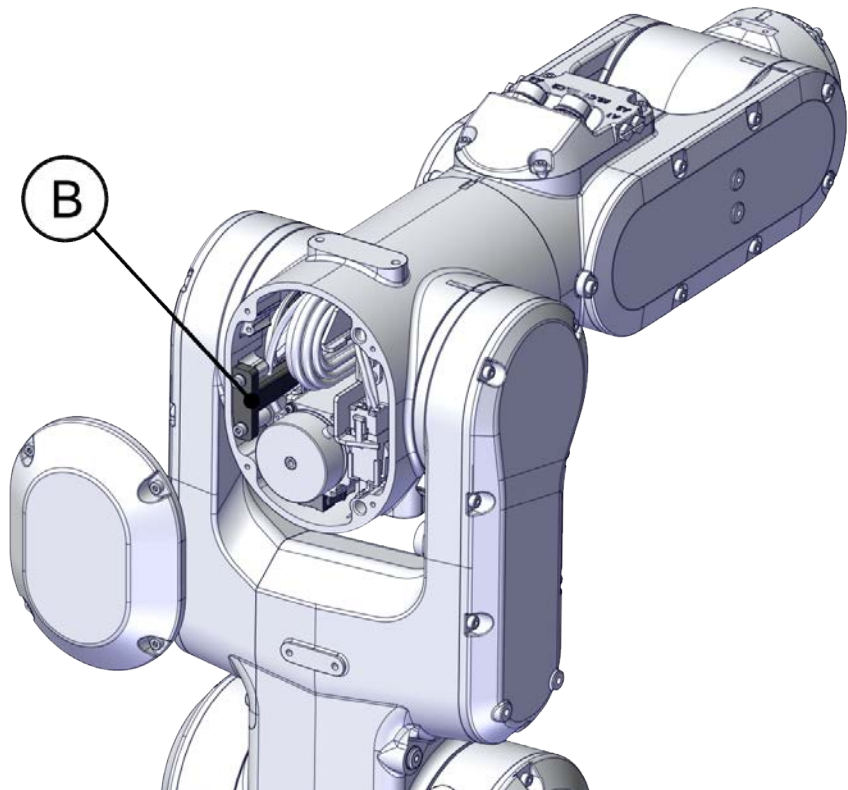
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1 Spare parts and exploded views

1.1.2 Cable parts and connector kits

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1 Spare parts and exploded views

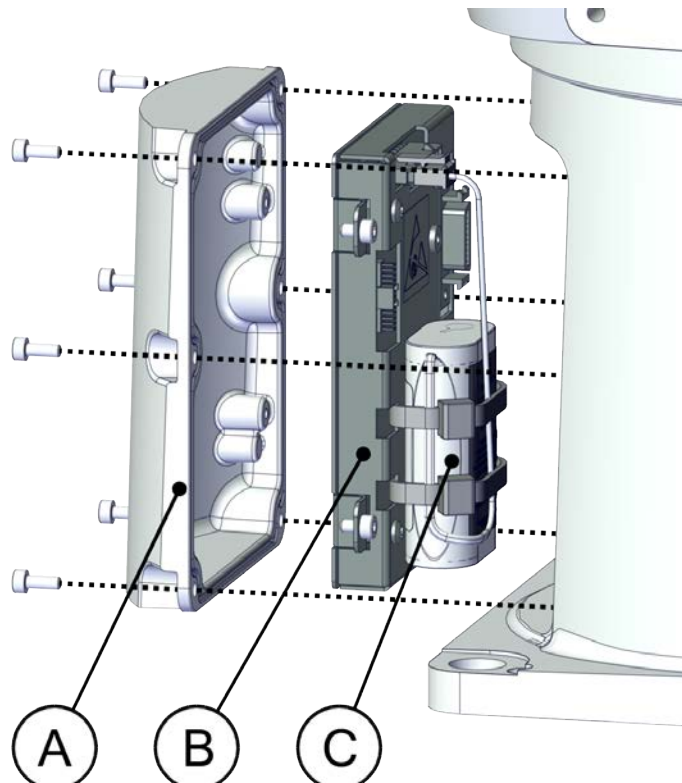
1.1.3 SMB unit

1.1.3 SMB unit

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069060-001	SMB cover	L1
B	3HAC063968-001	Serial measurement unit	L2
C	3HAC044075-001	Battery pack	L2

Spare part illustration



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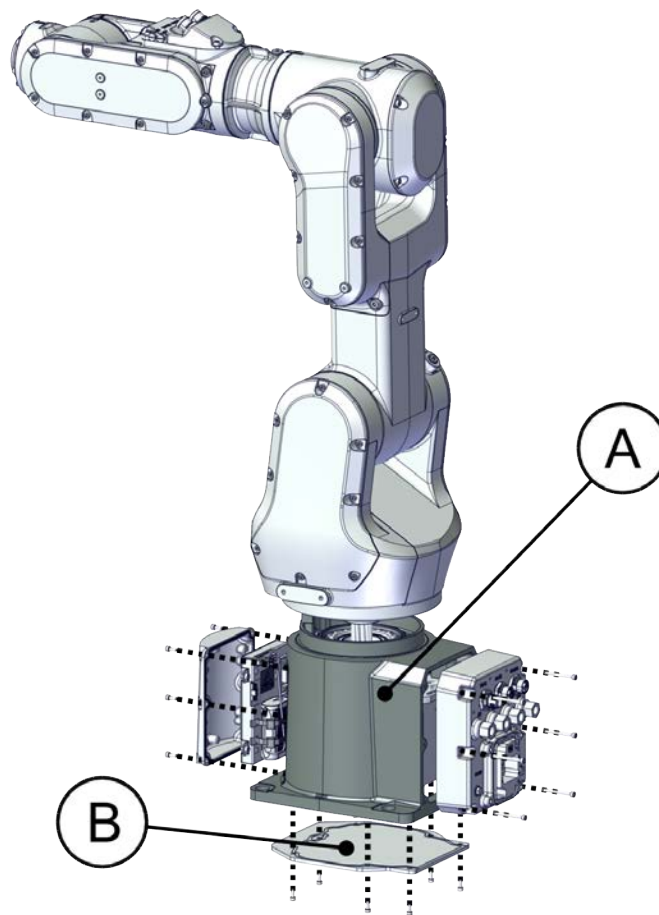
1.2 Spare parts - base

1.2.1 Base

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069048-001	Base	L2
B	3HAC060463-001	Base bottom cover	L1

Spare part illustration



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1 Spare parts and exploded views

1.3.1 Swing

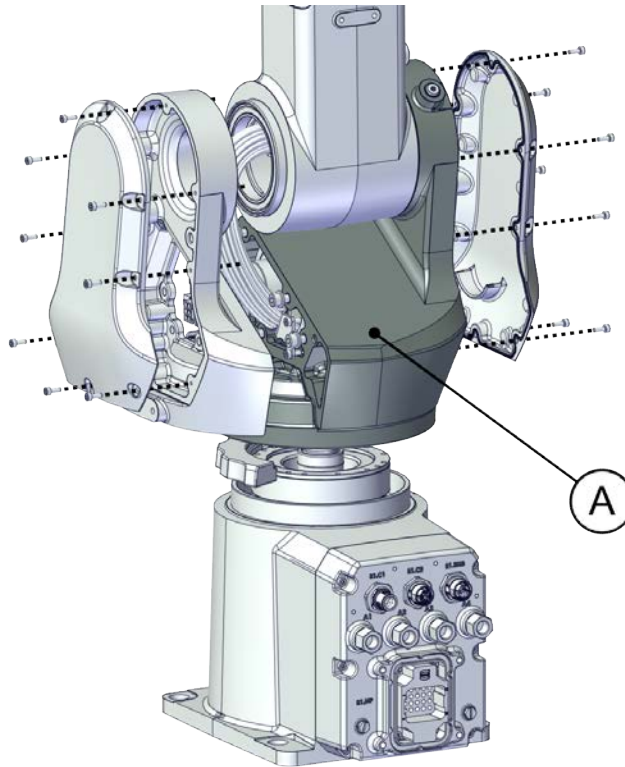
1.3 Spare parts - swing

1.3.1 Swing

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069050-001	Swing	L2

Spare part illustration



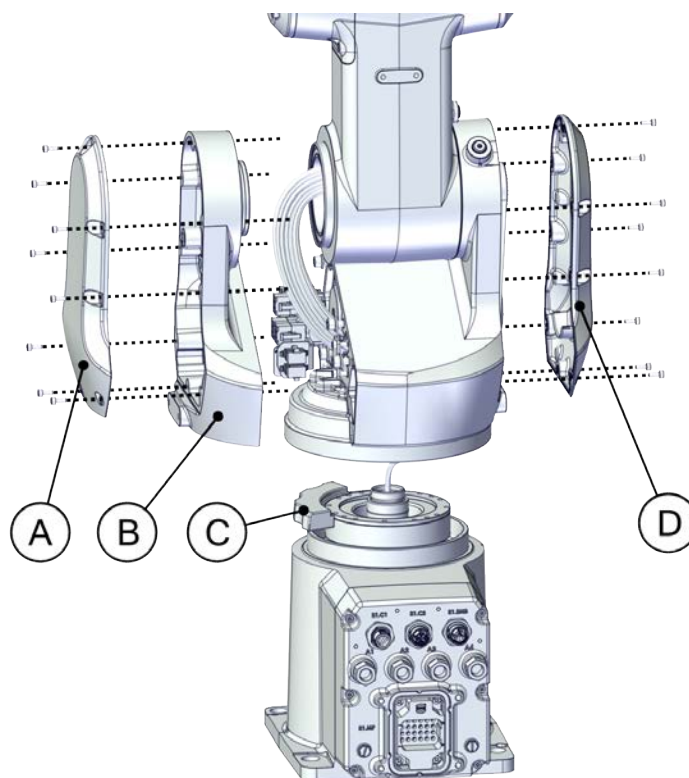
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1.3.2 Swing parts

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069052-001	Swing support cover	L1
B	3HAC069039-001	Swing support	L2
C	3HAC061947-001	Mechanical stop, axis 1	L2
D	3HAC069051-001	Swing cover	L1

Spare part illustration



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1 Spare parts and exploded views

1.4.1 Lower arm

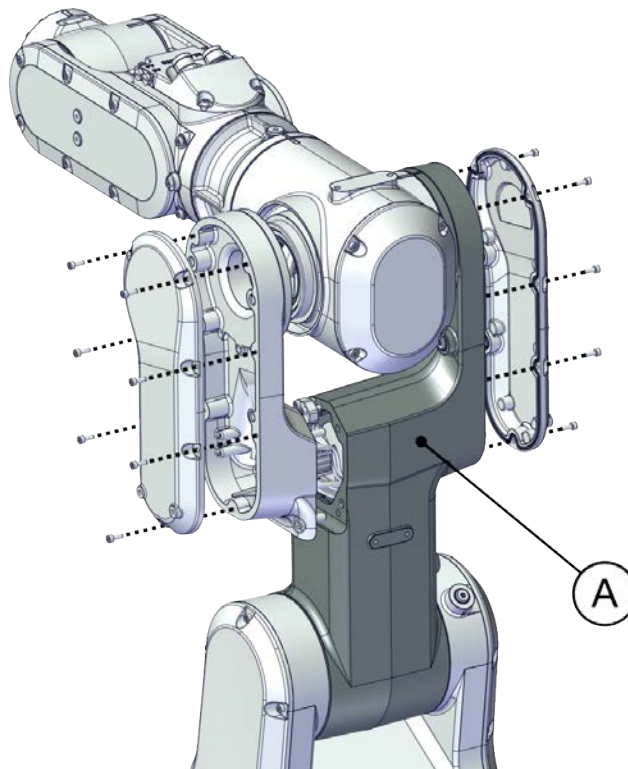
1.4 Spare parts - lower arm

1.4.1 Lower arm

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069056-001	Lower arm	L2

Spare part illustration



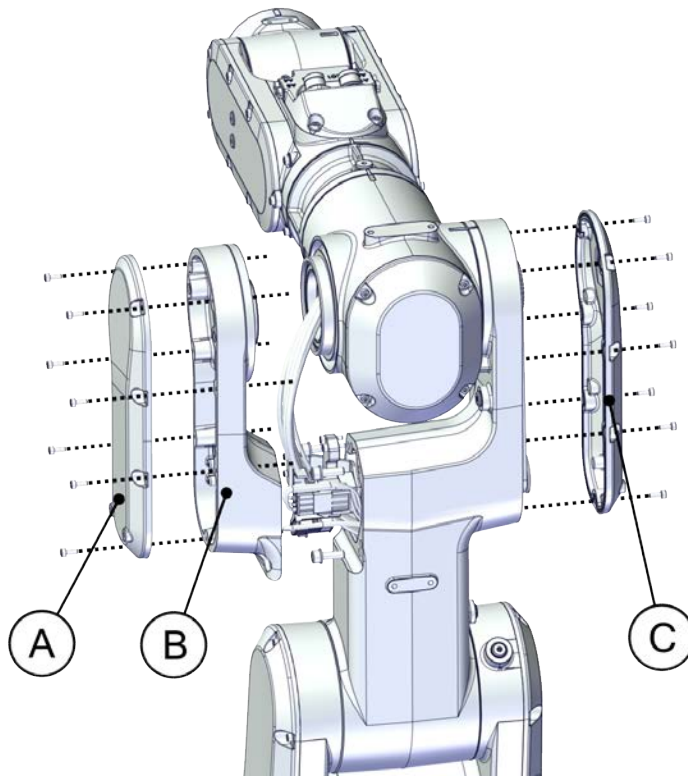
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1.4.2 Lower arm parts

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069059-001	Lower arm support cover	L1
B	3HAC069058-001	Lower arm support	L2
C	3HAC069057-001	Lower arm cover	L1

Spare part illustration



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1 Spare parts and exploded views

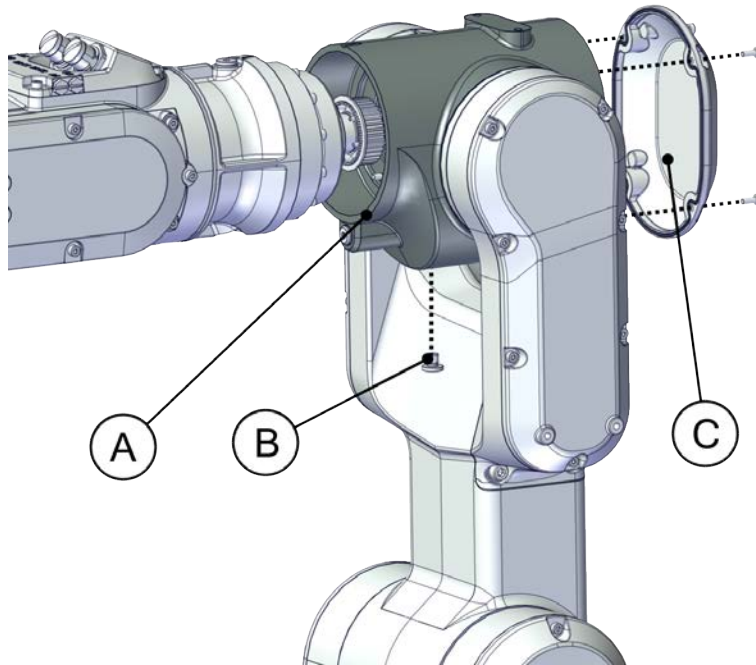
1.5 Spare parts - housing

1.5 Spare parts - housing

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069053-001	Housing	L2
B	3HAC064146-001	Plug screw	L1
C	3HAC069054-001	Housing cover	L1

Spare part illustration



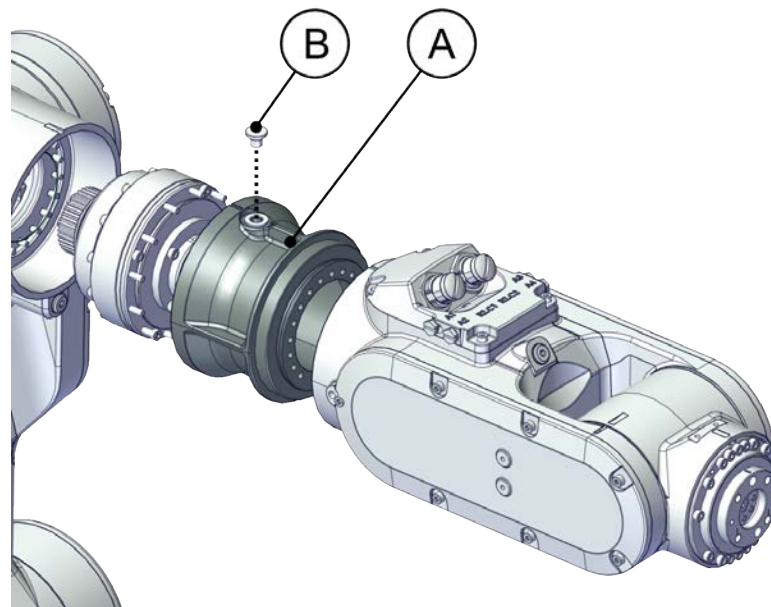
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1.6 Spare parts - extender unit

Spare part list

	Spare part number	Description	Spare part level
A	3HAC069037-001	Extender unit	L2
B	3HAC064146-001	Plug screw	L1
C	3HAC050369-032	Parallel pin	L2

Spare part illustration



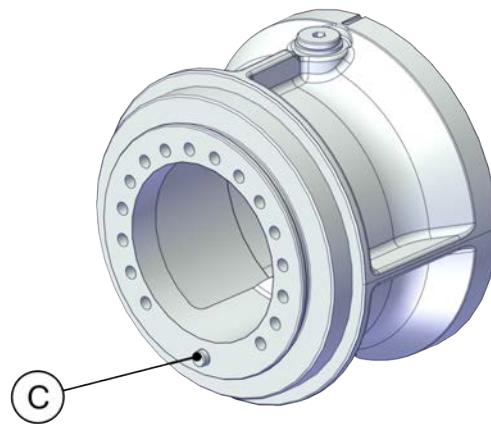
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1 Spare parts and exploded views

1.6 Spare parts - extender unit

Continued



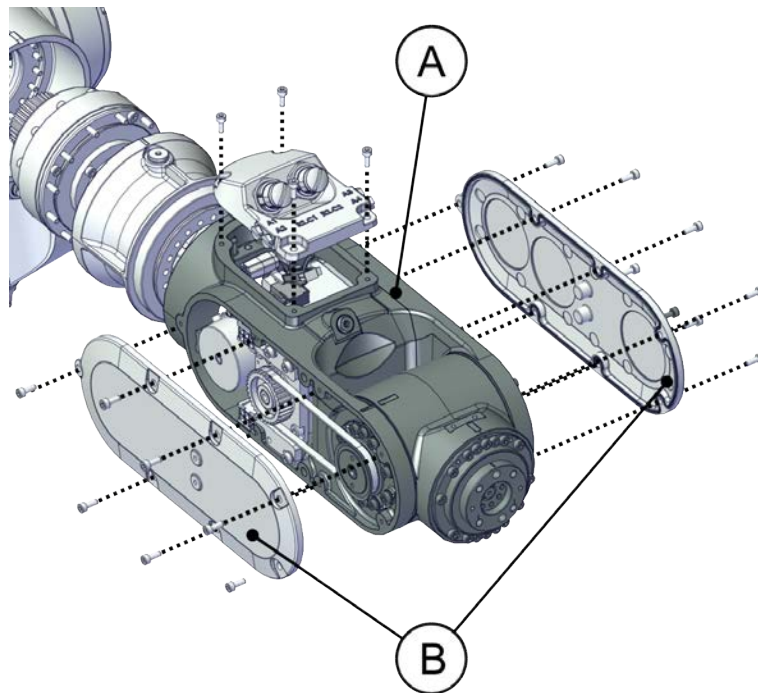
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1.7 Spare parts - wrist

Spare part list

	Spare part number	Description	Spare part level
A	3HAC087749-001	Wrist	L2
B	3HAC069061-001	Wrist cover	L1

Spare part illustration



xx230000958


1 Spare parts and exploded views

1.8.1 Axis-1 motor

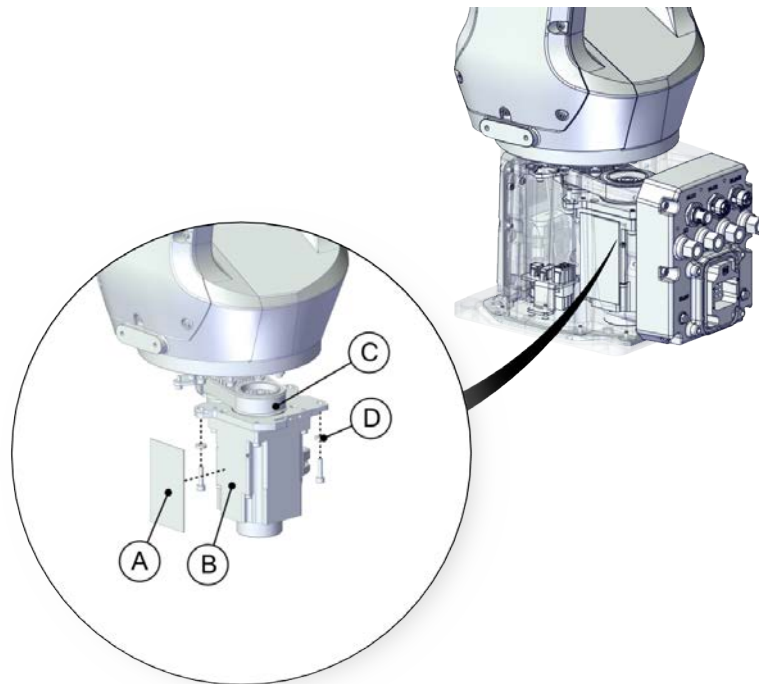
1.8 Spare parts - motors

1.8.1 Axis-1 motor

Spare part list

	Spare part number	Description	Spare part level
A	3HAC071020-001	Cooling pad for axis-1 and -2 motors  Note Cooling pads are wear parts. One cooling pad sheet contains 6 pieces of small pad. Replace if damaged with one piece each time.	L2
B	3HAC083589-001	Motor with flange, axis 1	L2
C	3HAC061934-001	Timing belt, axis 1	L2
D	3HAC063985-001	Washer	L2


Spare part illustration



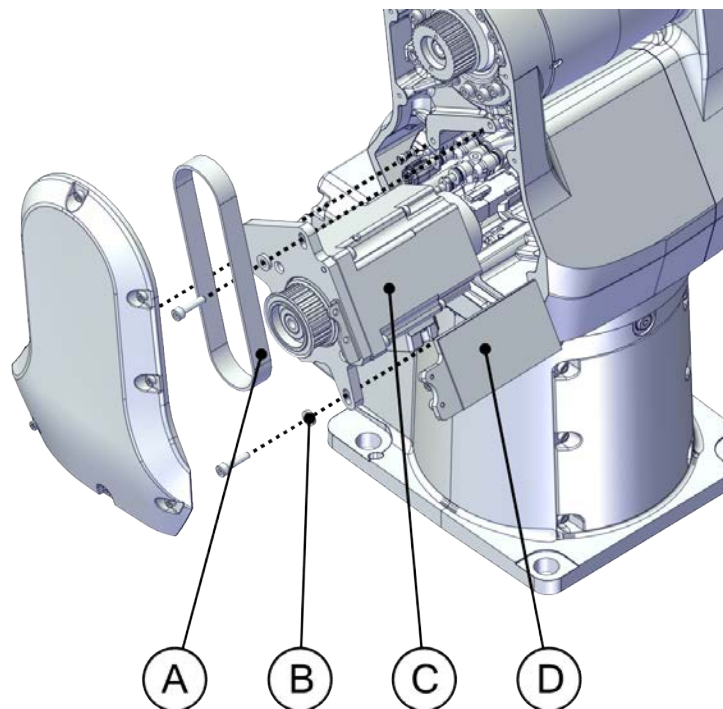
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1.8.2 Axis-2 motor

Spare part list

	Spare part number	Description	Spare part level
A	3HAC061935-001	Timing belt, axis 2	L2
B	3HAC063985-001	Washer	L2
C	3HAC083588-001	Motor with flange, axis 2	L2
D	3HAC071020-001	Cooling pad for axis-1 and -2 motors	L2
		 Note Cooling pads are wear parts. One cooling pad sheet contains 6 pieces of small pad. Replace if damaged with one piece each time.	

Spare part illustration




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1 Spare parts and exploded views

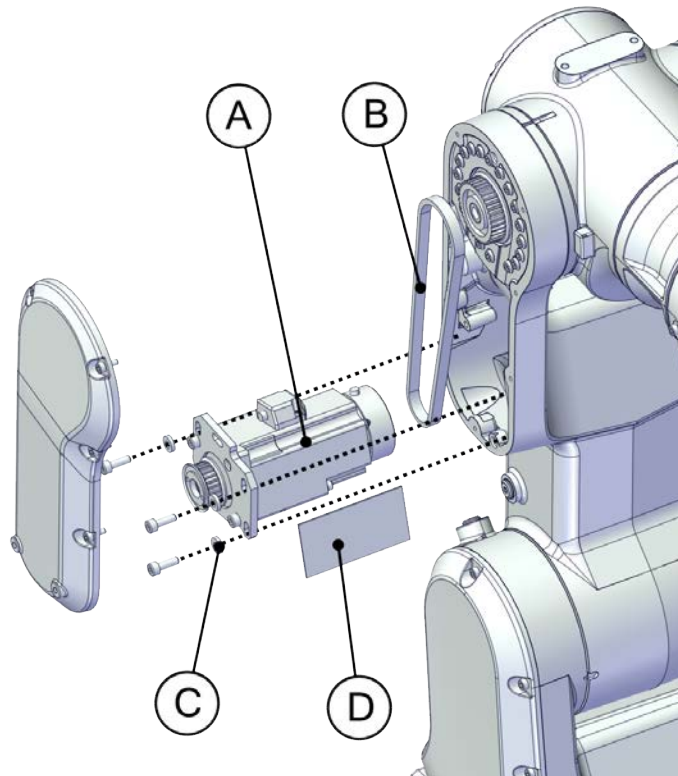
1.8.3 Axis-3 motor

1.8.3 Axis-3 motor

Spare part list

	Spare part number	Description	Spare part level
A	3HAC083587-001	Motor with flange, axis 3	L2
B	3HAC061936-001	Timing belt, axis 3	L2
C	3HAC063985-001	Washer	L2
D	3HAC071021-001	Cooling pad for axis-3 and -4 motors  Note Cooling pads are wear parts. One cooling pad sheet includes 10 pieces of small pad. Replace if damaged with one piece each time.	L2


Spare part illustration



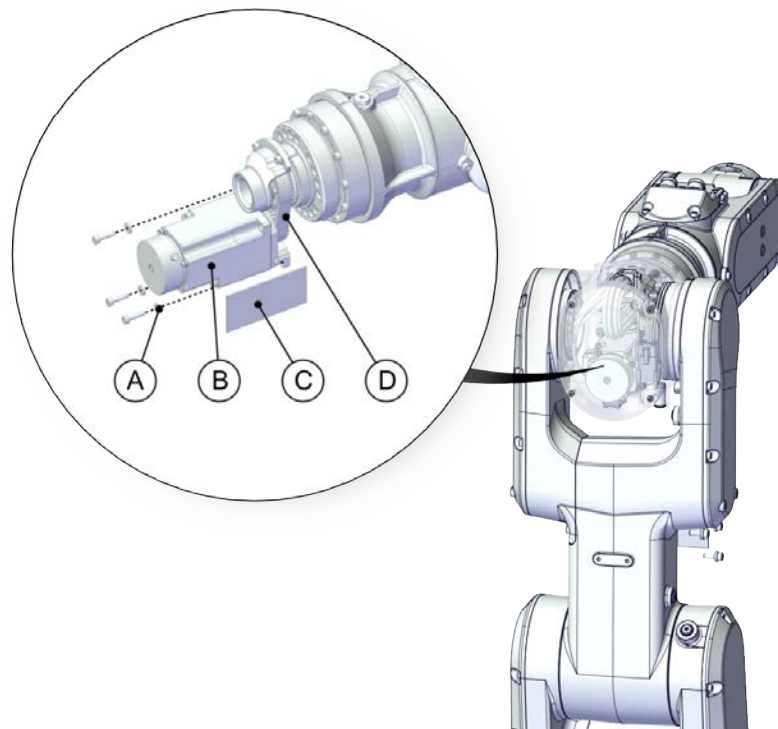
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1.8.4 Axis-4 motor

Spare part list

	Spare part number	Description	Spare part level
A	3HAC064765-001	Washer	L2
B	3HAC083586-001	Motor with flange, axis 4	L2
C	3HAC071021-001	Cooling pad for axis-3 and -4 motors  Note Cooling pads are wear parts. One cooling pad sheet includes 10 pieces of small pad. Replace if damaged with one piece each time.	L2
D	3HAC061937-001	Timing belt, axis 4	L2

Spare part illustration



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1 Spare parts and exploded views

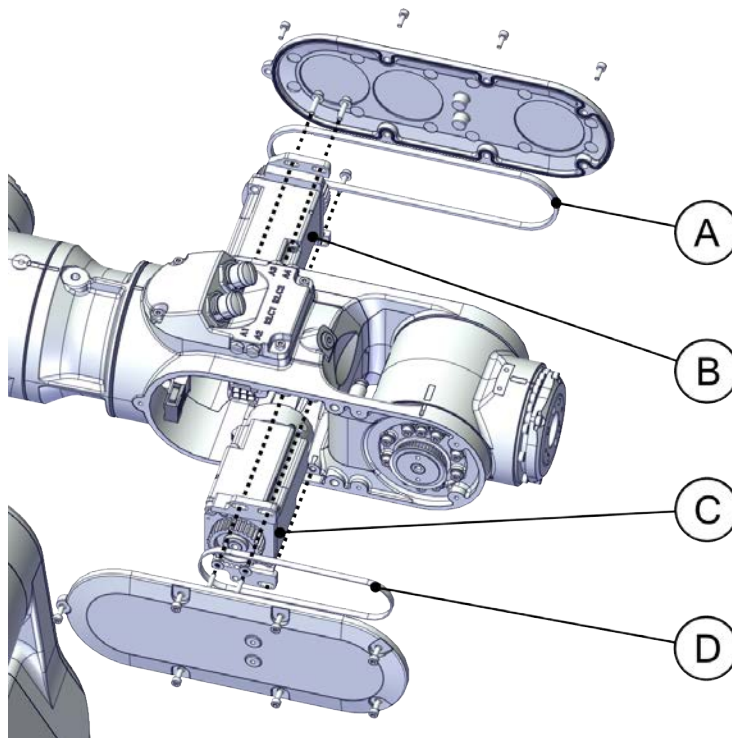
1.8.5 Axis-5 and axis-6 motors

1.8.5 Axis-5 and axis-6 motors

Spare part list

	Spare part number	Description	Spare part level
A	3HAC061939-001	Timing belt, axis 6	L2
B	3HAC083584-001	Motor with flange, axis 6	L2
C	3HAC083585-001	Motor with flange, axis 5	L2
D	3HAC061938-001	Timing belt, axis 5	L2

Spare part illustration



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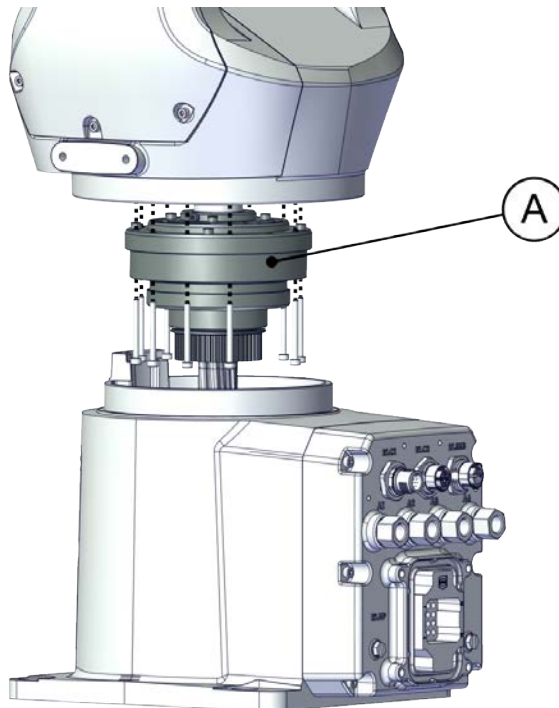
1.9 Spare parts - gearboxes

1.9.1 Axis-1 gearbox

Spare part list

	Spare part number	Description	Spare part level
A	3HAC087745-001	Gear unit with pulley, axis 1	L2

Spare part illustration



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1 Spare parts and exploded views

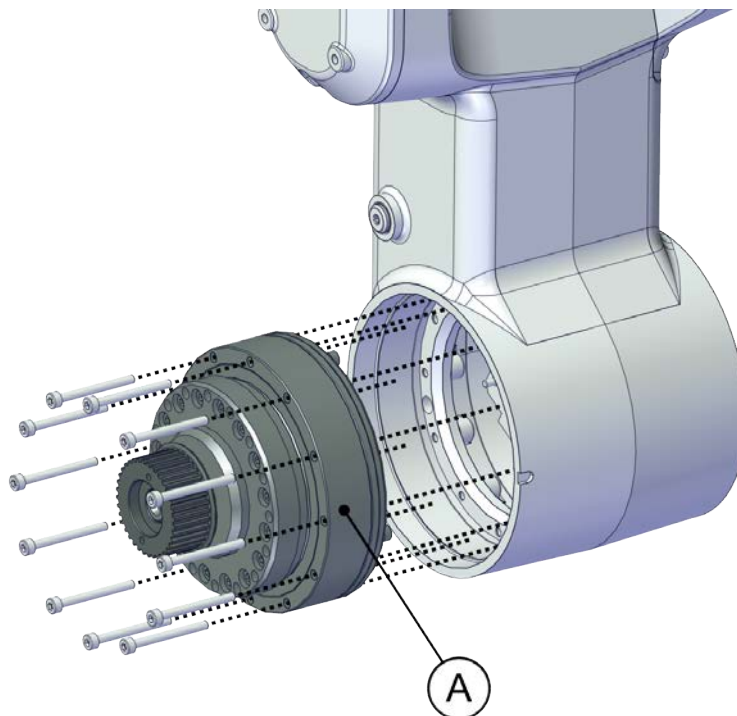
1.9.2 Axis-2 gearbox

1.9.2 Axis-2 gearbox

Spare part list

	Spare part number	Description	Spare part level
A	3HAC087746-001	Gear unit with pulley, axis 2	L2

Spare part illustration



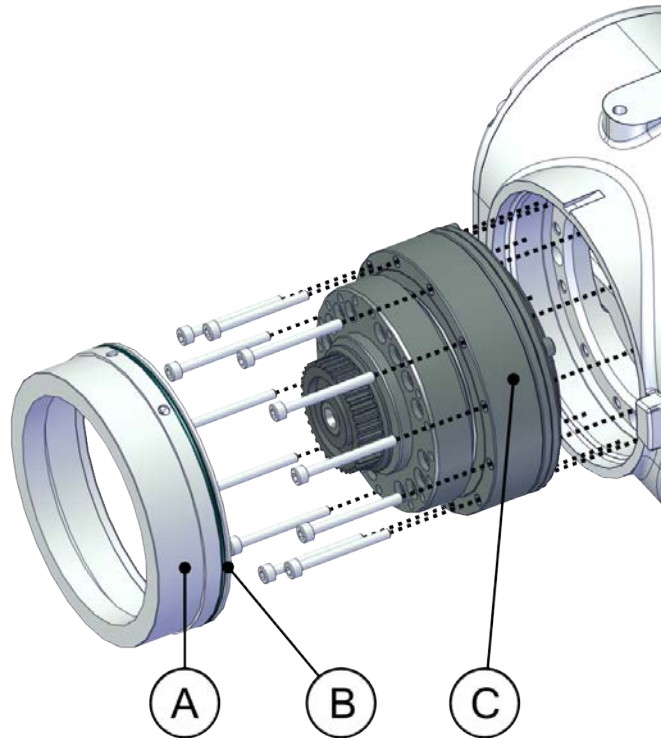
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1.9.3 Axis-3 gearbox

Spare part list

	Spare part number	Description	Spare part level
A	3HAC073218-001	Labyrinth sealing ring	L2
B	3HAC061327-032	O-ring	L2
C	3HAC087747-001	Gear unit with pulley, axis 3	L2

Spare part illustration



xx1800003509

1 Spare parts and exploded views

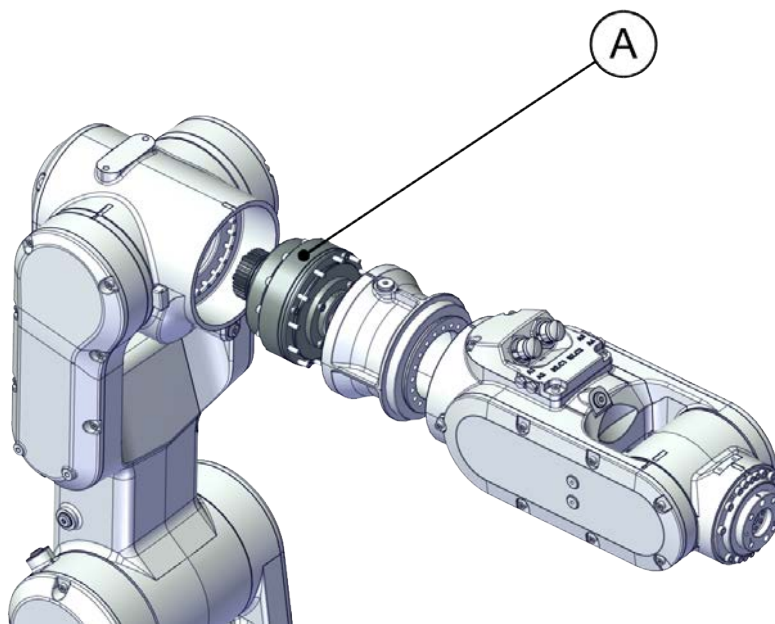
1.9.4 Axis-4 gearbox

1.9.4 Axis-4 gearbox

Spare part list

	Spare part number	Description	Spare part level
A	3HAC087748-001	Gear unit with pulley, axis 4	L2

Spare part illustration

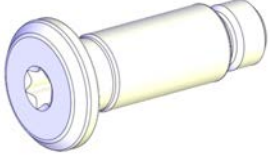



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1.10 Spare parts - Accessories

1.10.1 Axis Calibration items

Spare part list

Spare part number	Description	Spare part level	Illustration
3HAC059556-001	Protective plug for bushing	L1	 xx1600001042
3HAC061926-001	Calibration pin cover, 6 mm	L1	 xx1900001420

Spare part illustration

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

There are two bushings each on axes 1, 2, 3 and 4.

Axis 5 has one bushing and a fixed calibration pin with a protective cover.

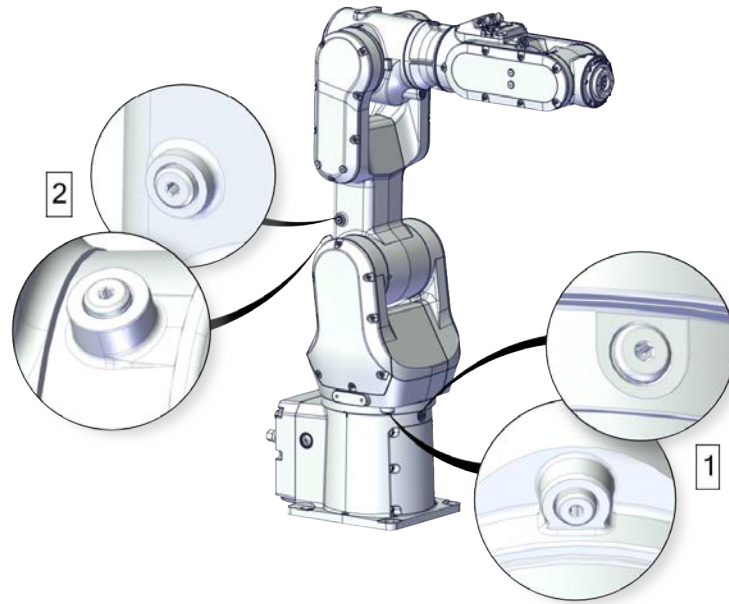
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1 Spare parts and exploded views

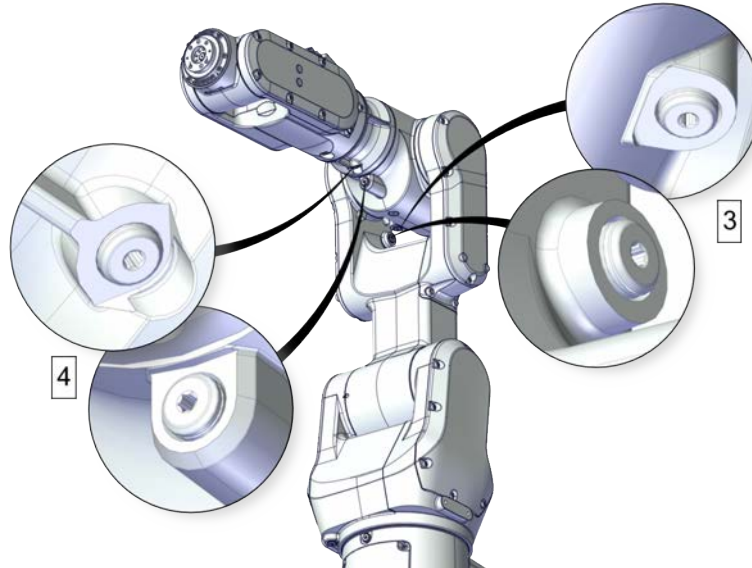
1.10.1 Axis Calibration items

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Axis 6 has only one bushing.



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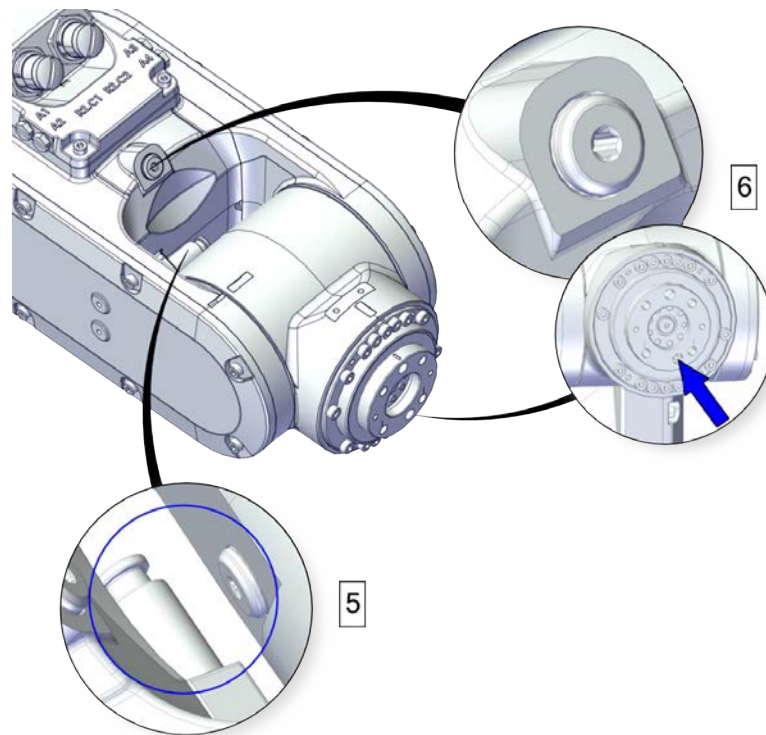
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1 Spare parts and exploded views

1.10.1 Axis Calibration items

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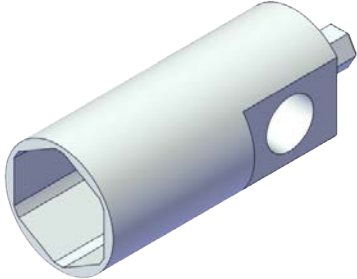
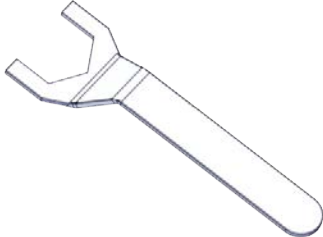
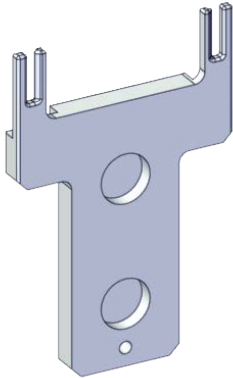
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1 Spare parts and exploded views

1.10.2 Special tools

1.10.2 Special tools

Spare part list

Spare part number	Description	Illustration
3HAC071022-001	Special toolkit Includes J5.C2 connector assembly tool, brake release button assembly tool, axis-4 motor fitting tool and M3x25 eye bolt.	
-	J5.C2 connector assembly tool Included in the special toolkit 3HAC071022-001. Used to remove and refit the J5.C2 connector, if the Ethernet cabling is equipped.	 xx1900000006
-	brake release button assembly tool Included in the special toolkit 3HAC071022-001. Used to remove and refit the brake release button.	 xx1900000042
-	axis-4 motor fitting tool Included in the special toolkit 3HAC071022-001. Used to refit the axis-4 motor.	 xx1800003620

Continues on next page

1 Spare parts and exploded views

1.10.2 Special tools

Continued


Spare part number	Description	Illustration
-	M3x25 eye bolt Included in the special toolkit 3HAC071022-001.	 xx1900000107



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