

ROBOTICS

Product manual, spare parts

CRB 1100



Trace back information:
Workspace 23D version a14
Checked in 2023-12-12
Skribenta version 5.5.019

Product manual, spare parts

CRB 1100-4/0.475

CRB 1100-4/0.58

OmniCore

Document ID: 3HAC078009-001

Revision: F

The information in this manual is subject to change without notice and should not be construed as a commitment by ABB. ABB assumes no responsibility for any errors that may appear in this manual.

Except as may be expressly stated anywhere in this manual, nothing herein shall be construed as any kind of guarantee or warranty by ABB for losses, damage to persons or property, fitness for a specific purpose or the like.

In no event shall ABB be liable for incidental or consequential damages arising from use of this manual and products described herein.

This manual and parts thereof must not be reproduced or copied without ABB's written permission.

Keep for future reference.

Additional copies of this manual may be obtained from ABB.

Original instructions.

© Copyright 2021-2023 ABB. All rights reserved.
Specifications subject to change without notice.

Table of contents

Overview of this manual	7
Product documentation	9
1 Spare parts and exploded views	11
1.1 Spare parts - electrical parts	12
1.1.1 Manipulator cable harness	12
1.1.2 Cables, cable parts and connector kits	14
1.1.3 SMB unit	16
1.2 Spare parts - base	17
1.2.1 Base	17
1.2.2 Base parts	18
1.3 Spare parts - swing	20
1.3.1 Swing	20
1.3.2 Swing parts	21
1.4 Spare parts - lower arm	22
1.4.1 Lower arm	22
1.4.2 Lower arm parts	23
1.5 Spare parts - housing	24
1.6 Spare parts - extender unit	25
1.7 Spare parts - wrist	27
1.8 Spare parts - motors	28
1.8.1 Axis-1 motor	28
1.8.2 Axis-2 motor	29
1.8.3 Axis-3 motor	30
1.8.4 Axis-4 motor	31
1.8.5 Axis-5 and axis-6 motors	32
1.9 Spare parts - gearboxes	33
1.9.1 Axis-1 gearbox	33
1.9.2 Axis-2 gearbox	34
1.9.3 Axis-3 gearbox	35
1.9.4 Axis-4 gearbox	36
1.10 Spare parts - lead-through device	37
1.11 Spare parts - laser scanner	39
1.12 Spare parts - Accessories	40
1.12.1 Axis Calibration items	40
1.12.2 Special tools	43

This page is intentionally left blank

Overview of this manual

About this manual

This manual contains spare parts for:

- CRB 1100 and all its variants.

Usage

This manual shall be used as a complement to the product manual for CRB 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 - CRB 1100</i>	<i>3HAC078007-001</i>
<i>Circuit diagram - CRB 1100</i>	<i>3HAC076518-003</i>

Revisions

Revision	Description
A	First edition.
B	Published in release 21C. The following updates are done in this revision: <ul style="list-style-type: none"> • Added spare part parallel pin on extender unit.
C	Published in release 22A. The following updates are done in this revision: <ul style="list-style-type: none"> • Added new laser scanner spare parts.
D	Published in release 22B. The following updates are done in this revision: <ul style="list-style-type: none"> • Added two-button-type lead-through device spare parts.

Continues on next page

Overview of this manual

Continued

Revision	Description
E	Published in release 22C. The following updates are done in this revision: <ul style="list-style-type: none">• Added note to lower arm covers and wrist covers, reminding that the cover spare parts are delivered with no stickers.• Updated spare part numbers for axes 1-6 motors.
F	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.

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.

Continues on next page

1 Spare parts and exploded views

1.1.1 Manipulator cable harness

1.1 Spare parts - electrical parts

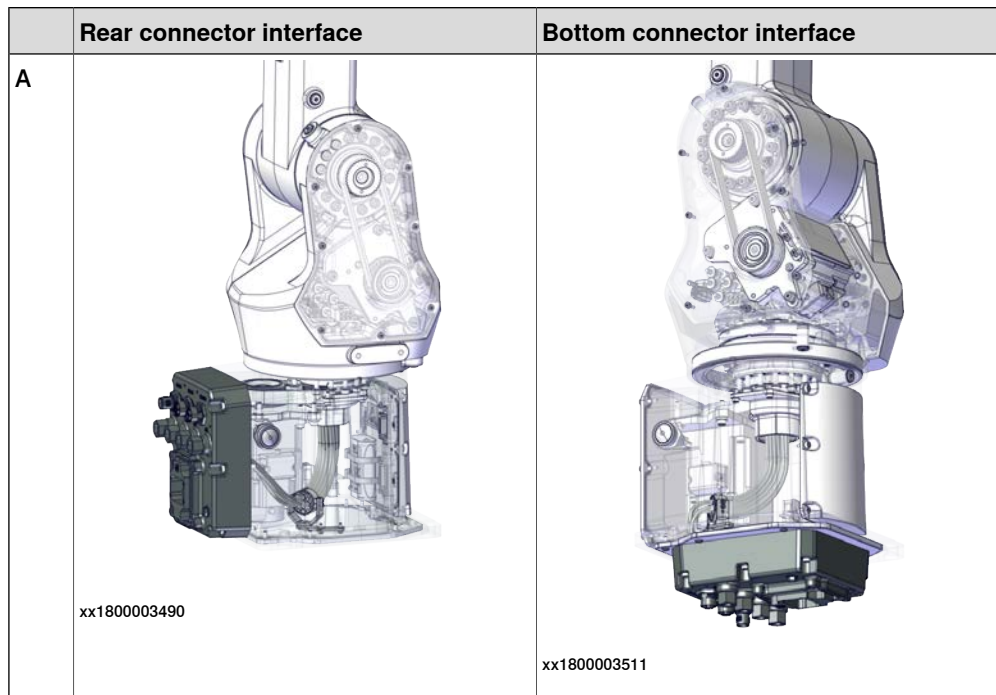
1.1.1 Manipulator cable harness

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC075523-001	Lower cable harness (CP/CS and air hose, with Ethernet)	X	X	L2
B	3HAC060419-003	Upper cable harness (CP/CS and air hose, with Ethernet)	X		L2
C	3HAC060416-003	Extension upper cable harness (CP/CS and air hose, with Ethernet)		X	L2
D	3HAC075972-001	Lamp unit cover	X	X	L2
E	3HAC076495-001	Multi-color lamp unit (14 mm)	X	X	L2
F	3HAC077335-001	Process hub with lamp unit (CP/CS and air hose, with Ethernet)	X	X	L2

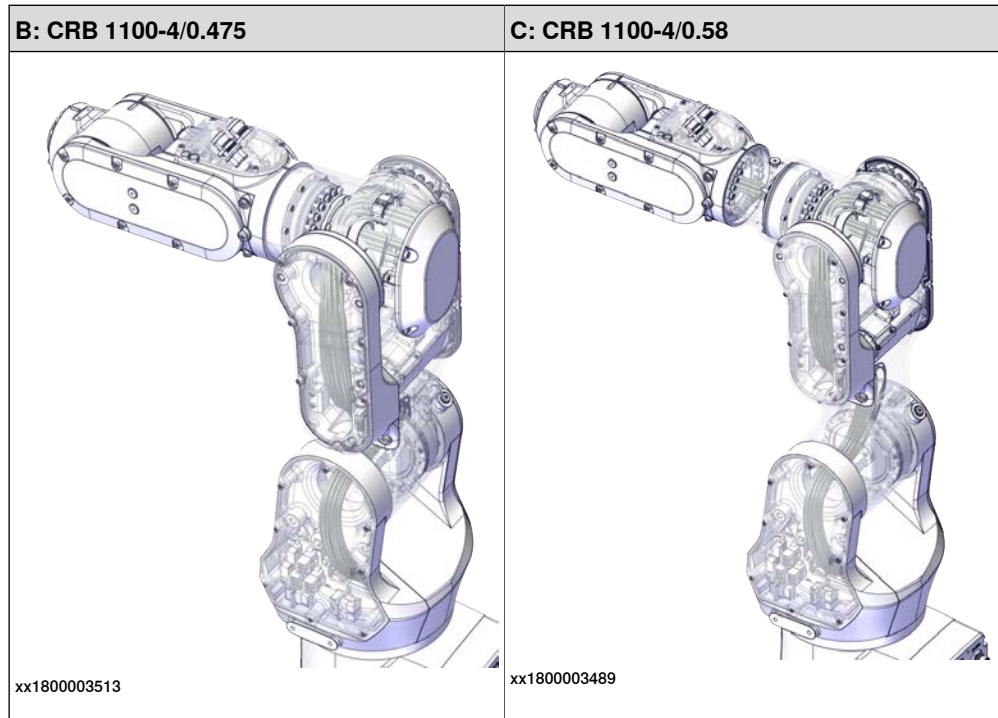
Spare part illustration

Lower cable harness

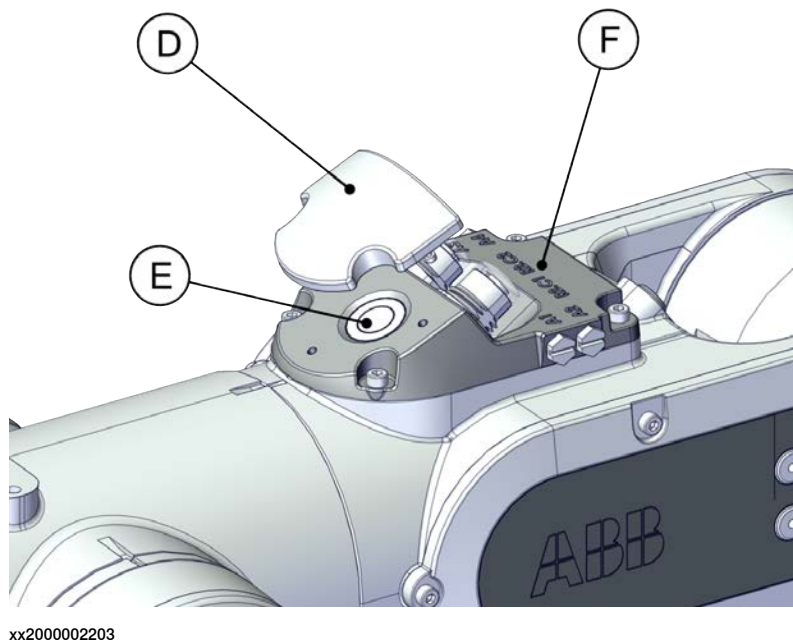


Continues on next page

Upper cable harness



Process hub and lamp unit



1 Spare parts and exploded views

1.1.2 Cables, cable parts and connector kits

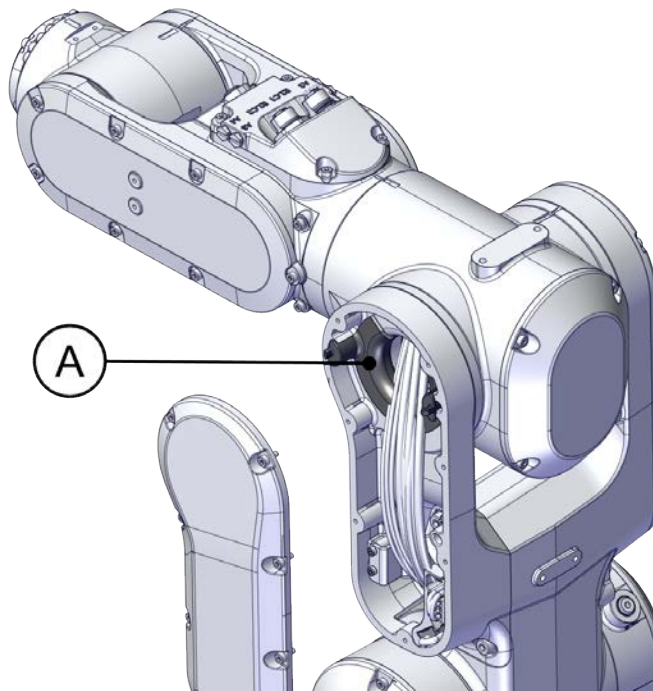
1.1.2 Cables, cable parts and connector kits

Spare part list

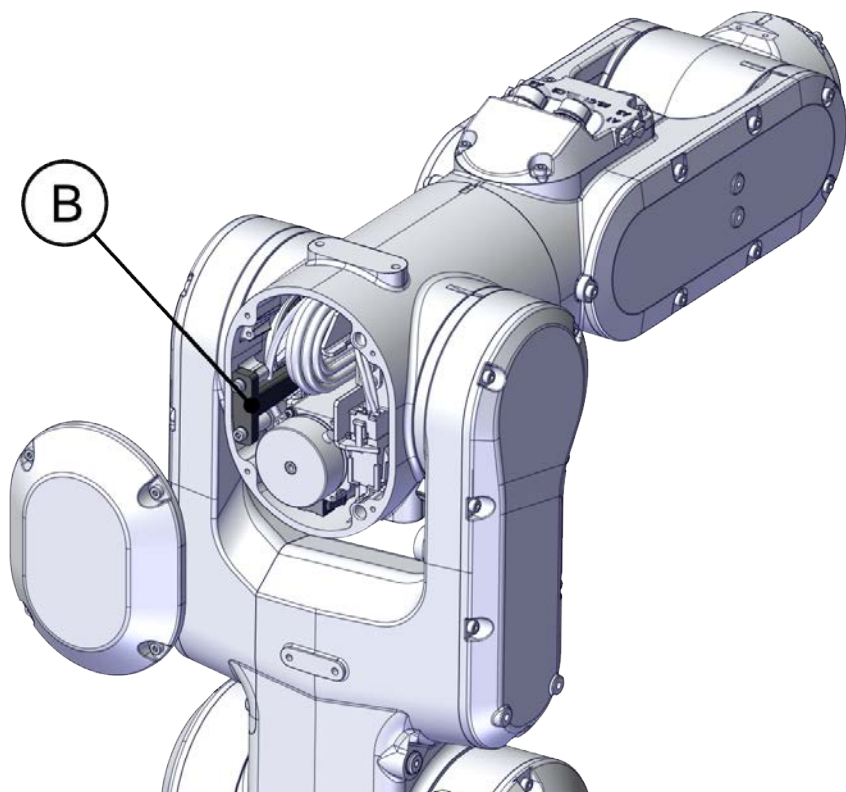
	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC088722-001	Cable protector, axis 3	X	X	L2
B	3HAC088723-001	Cable protector, axis 4	X	X	L2
-	3HAC066098-001	M12 CPCS Male straight connector kits	X	X	L1
-	3HAC066099-001	M12 CPCS Male angled connector kits	X	X	L1
-	3HAC067413-001	M12 Ethernet Cat5e Male straight connector kits	X	X	L1
-	3HAC067414-001	M12 Ethernet Cat5e Male angled connector kits	X	X	L1
-	3HAC077245-001	Power cable, straight connector, 3 m	X	X	L1
-	3HAC077245-002	Power cable, straight connector, 7 m	X	X	L1
-	3HAC077245-003	Power cable, straight connector, 15 m	X	X	L1
-	3HAC077247-001	Power cable, angled connector, 3 m	X	X	L1
-	3HAC077247-002	Power cable, angled connector, 7 m	X	X	L1
-	3HAC077247-003	Power cable, angled connector, 15 m	X	X	L1
-	3HAC084767-001	Signal cable, shielded: 3 m	X	X	L1
-	3HAC084767-002	Signal cable, shielded: 7 m	X	X	L1
-	3HAC084767-003	Signal cable, shielded: 15 m	X	X	L1
-	3HAC078069-001	3 m, with lamp unit cabling	X	X	L1
-	3HAC078069-002	7 m, with lamp unit cabling	X	X	L1
-	3HAC078069-003	15 m, with lamp unit cabling	X	X	L1
-	3HAC077018-001	Cabling M8-M12, 500 mm (for lead-through device)	X	X	L1
-	3HAC077020-001	Ethernet cable M12- RJ45, 7m (for lead-through device)	X	X	L1

Continues on next page

Spare part illustration



xx2300001786



xx2300001787

1 Spare parts and exploded views

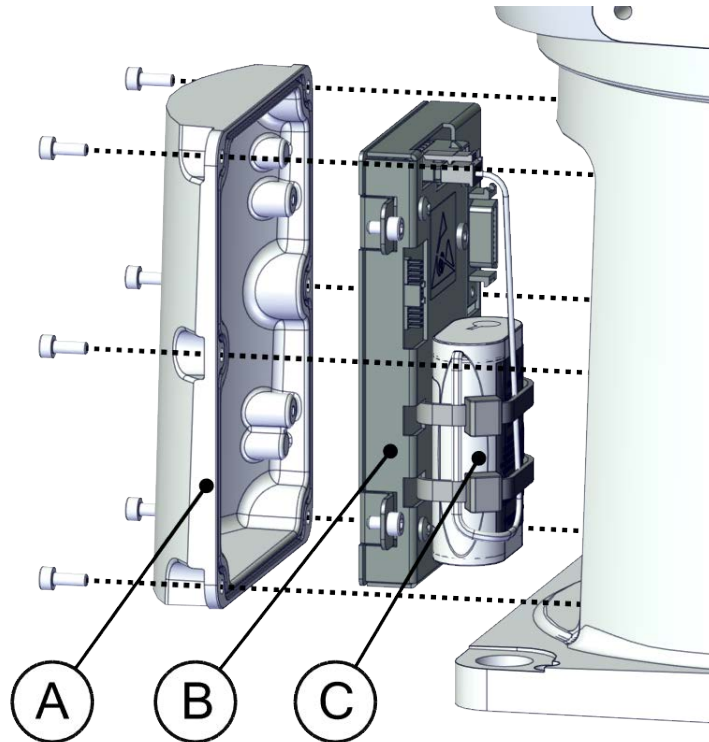
1.1.3 SMB unit

1.1.3 SMB unit

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069060-001	SMB cover	X	X	L1
B	3HAC063968-001	Serial measurement unit	X	X	L2
C	3HAC044075-001	Battery pack	X	X	L2

Spare part illustration



xx2000002186

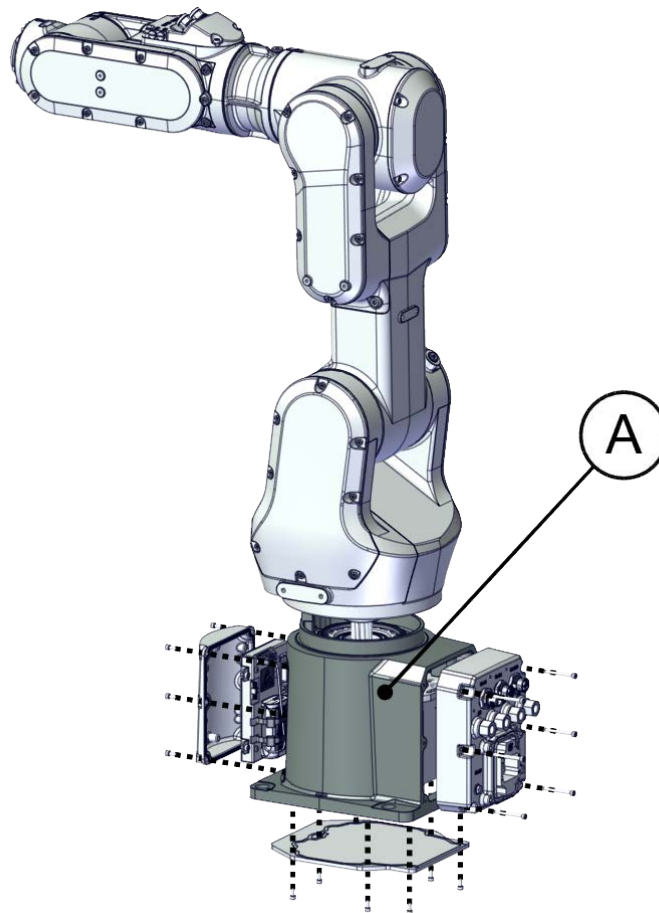
1.2 Spare parts - base

1.2.1 Base

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069048-001	Base	X	X	L2

Spare part illustration



xx1800003493

1 Spare parts and exploded views

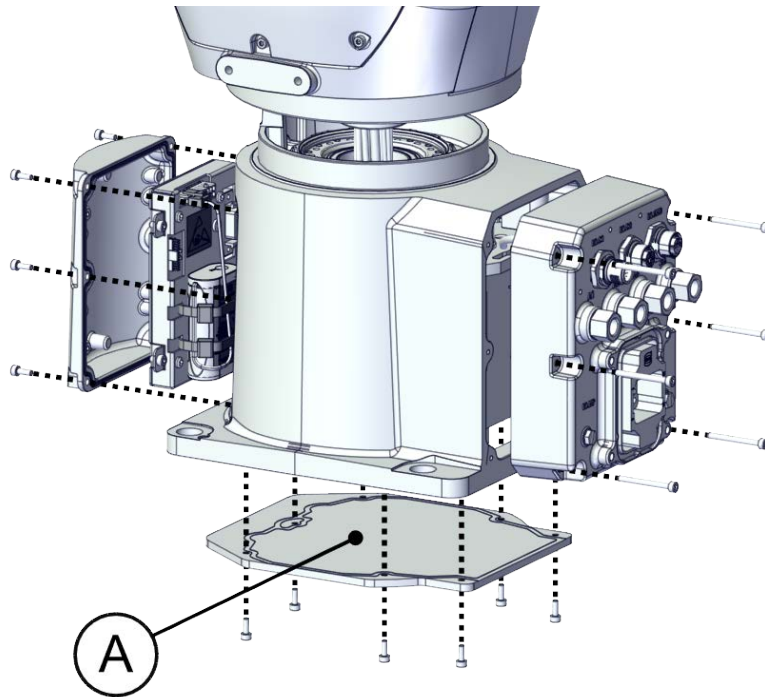
1.2.2 Base parts

1.2.2 Base parts

Spare part list

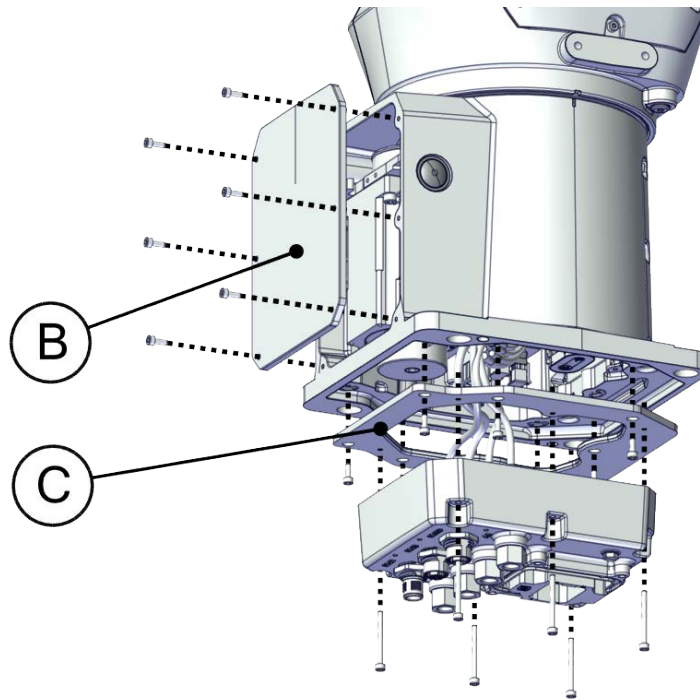
	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC060463-001	Base bottom cover Standard configuration, used for robots with rear connector interface.	X	X	L1
B	3HAC070312-001	Base rear cover Used for robots with bottom connector interface.	X	X	L1
C	3HAC070313-001	Base adapter Used for robots with bottom connector interface.	X	X	L2

Spare part illustration



xx2000002187

Continues on next page



xx2000002193

1 Spare parts and exploded views

1.3.1 Swing

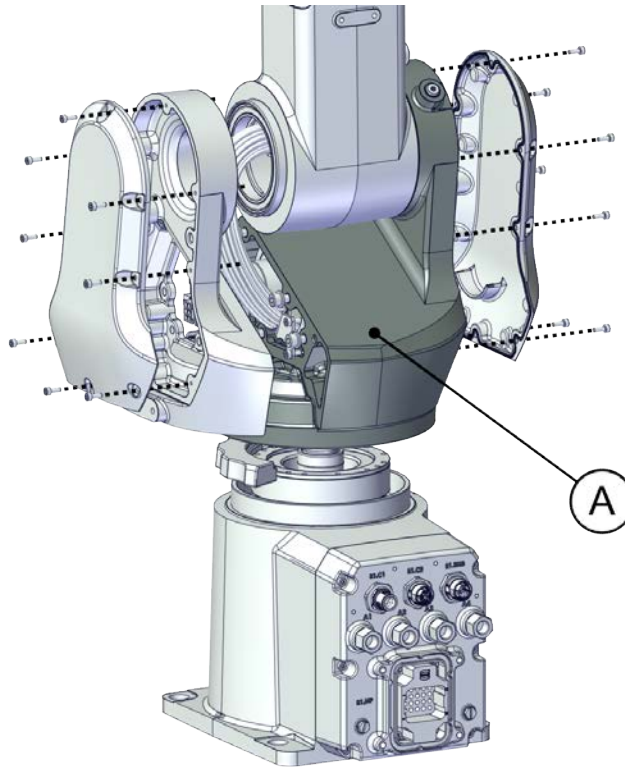
1.3 Spare parts - swing

1.3.1 Swing

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069050-001	Swing	X	X	L2

Spare part illustration



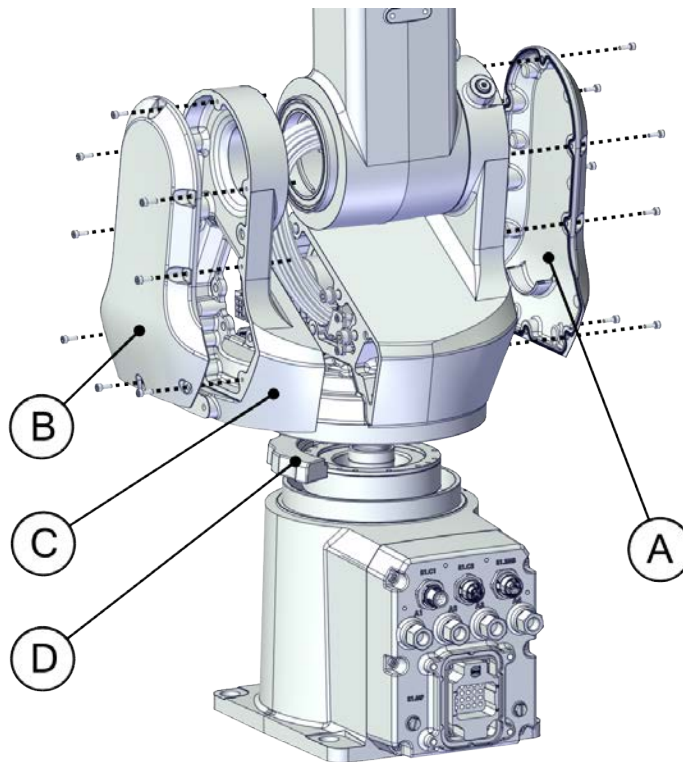
xx1800003495

1.3.2 Swing parts

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069051-001	Swing cover	X	X	L1
B	3HAC069052-001	Swing support cover	X	X	L1
C	3HAC069039-001	Swing support	X	X	L2
D	3HAC061947-001	Mechanical stop, axis 1	X	X	L2

Spare part illustration



xx2000002188

1 Spare parts and exploded views

1.4.1 Lower arm

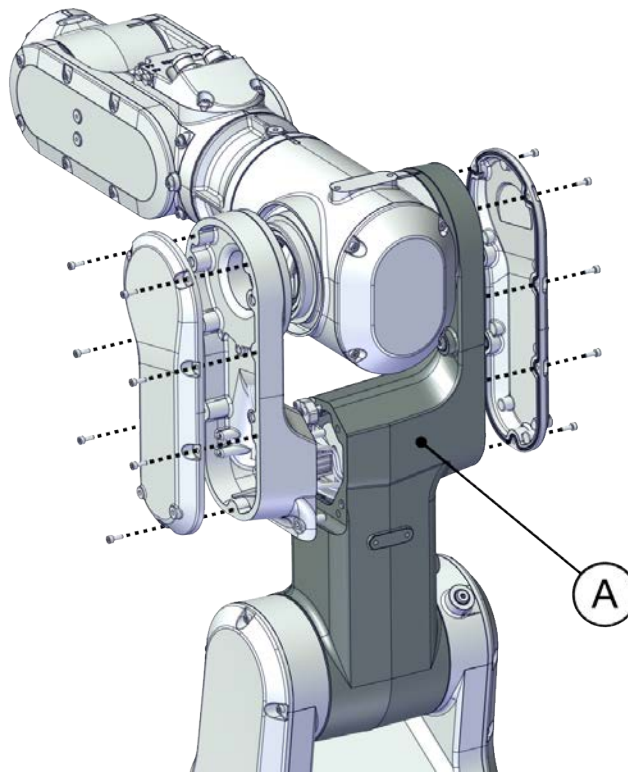
1.4 Spare parts - lower arm

1.4.1 Lower arm

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069055-001	Lower arm (CRB 1100-4/0.475)	X		L2
	3HAC069056-001	Lower arm (CRB 1100-4/0.58)		X	L2

Spare part illustration



xx1800003497

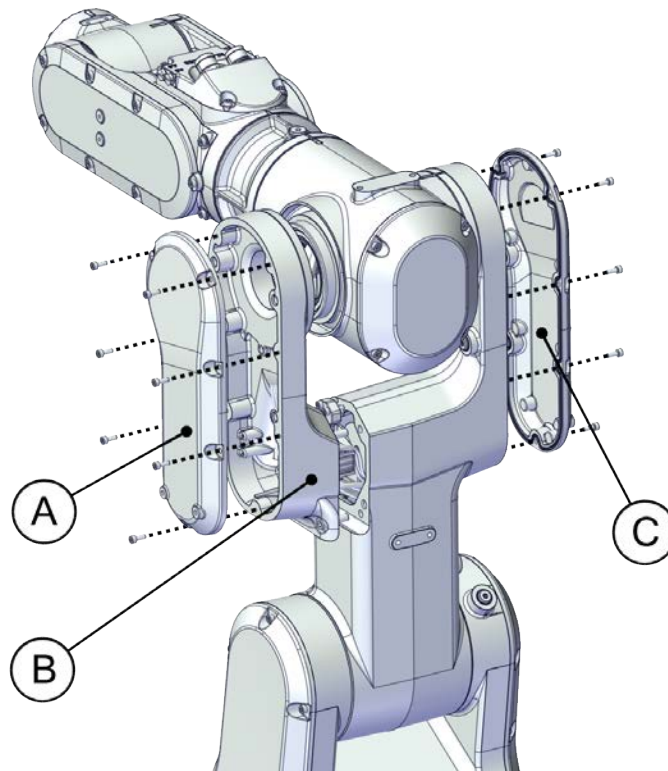
1.4.2 Lower arm parts

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069059-001	Lower arm support cover ⁱ	X	X	L1
B	3HAC069058-001	Lower arm support	X	X	L2
C	3HAC069057-001	Lower arm cover ⁱ	X	X	L1

ⁱ The cover spare part is delivered with no collaborative stickers attached. Contact your local ABB Customer Service to get more information.

Spare part illustration



xx2000002189

1 Spare parts and exploded views

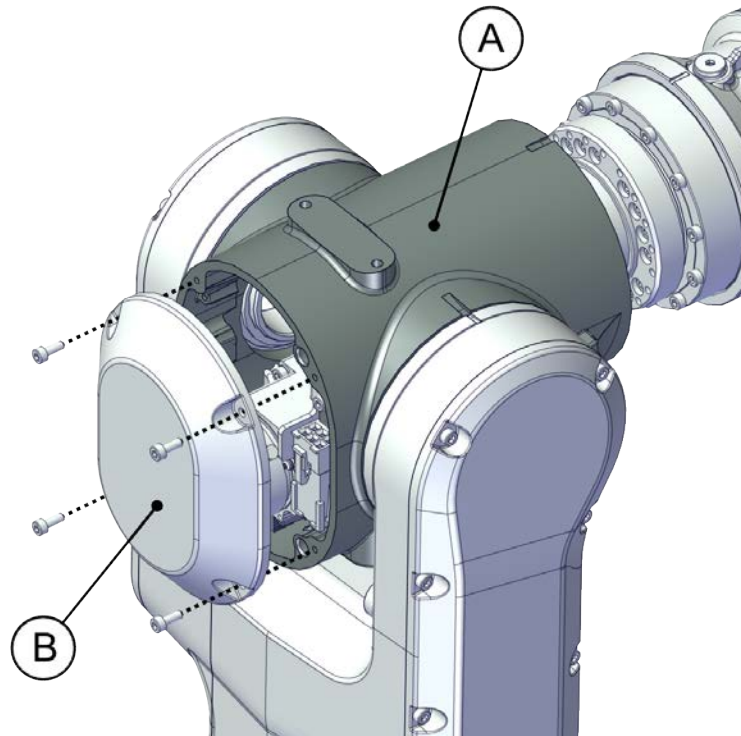
1.5 Spare parts - housing

1.5 Spare parts - housing

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069053-001	Housing	X	X	L2
B	3HAC069054-001	Housing cover	X	X	L1

Spare part illustration



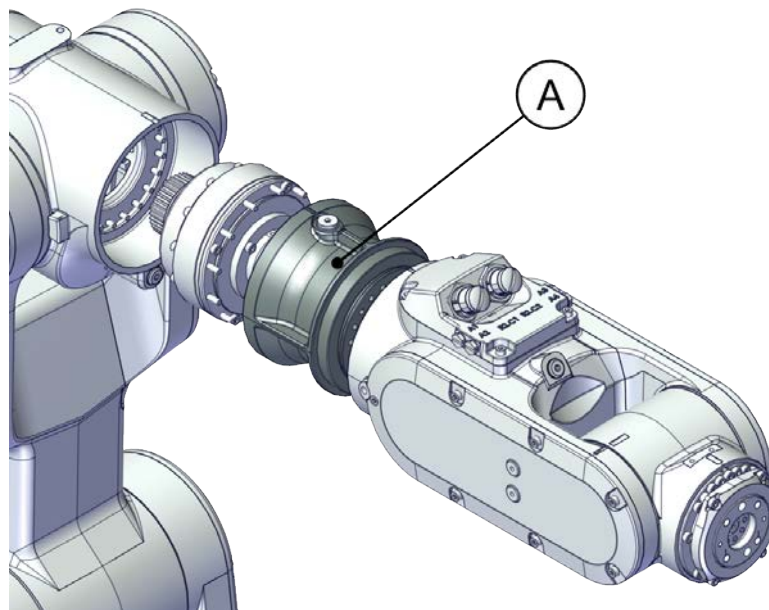
xx2000002190

1.6 Spare parts - extender unit

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069037-001	Extender unit		X	L2
B	3HAC050369-032	Parallel pin		X	L2

Spare part illustration



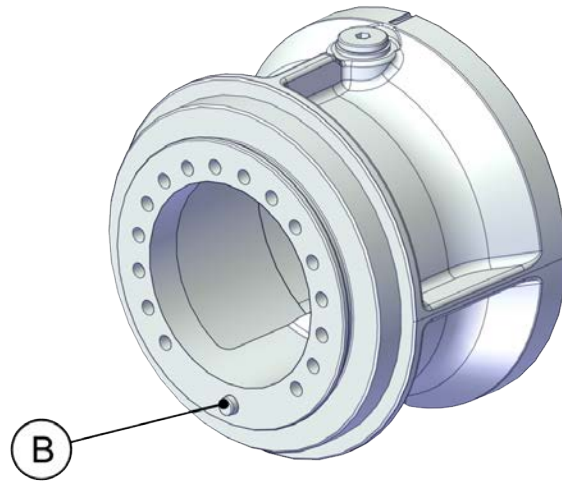
xx2000002191

Continues on next page

1 Spare parts and exploded views

1.6 Spare parts - extender unit

Continued



xx2100001507

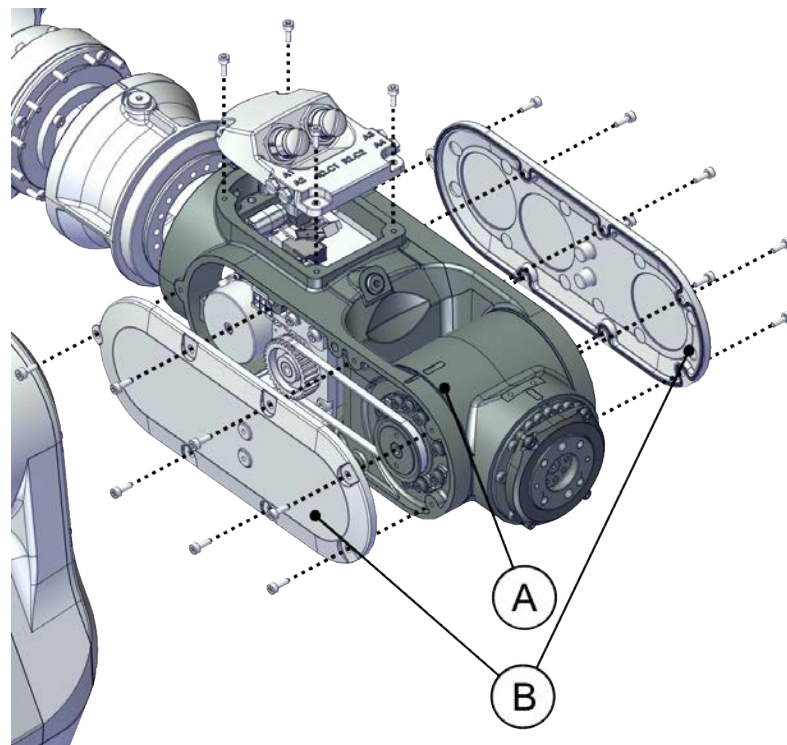
1.7 Spare parts - wrist

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC075794-001	Wrist	X	X	L2
B	3HAC069061-001	Wrist cover ⁱ	X	X	L1

ⁱ The cover spare part is delivered with no collaborative stickers attached. Contact your local ABB Customer Service to get more information.

Spare part illustration



xx2000002192


1 Spare parts and exploded views

1.8.1 Axis-1 motor

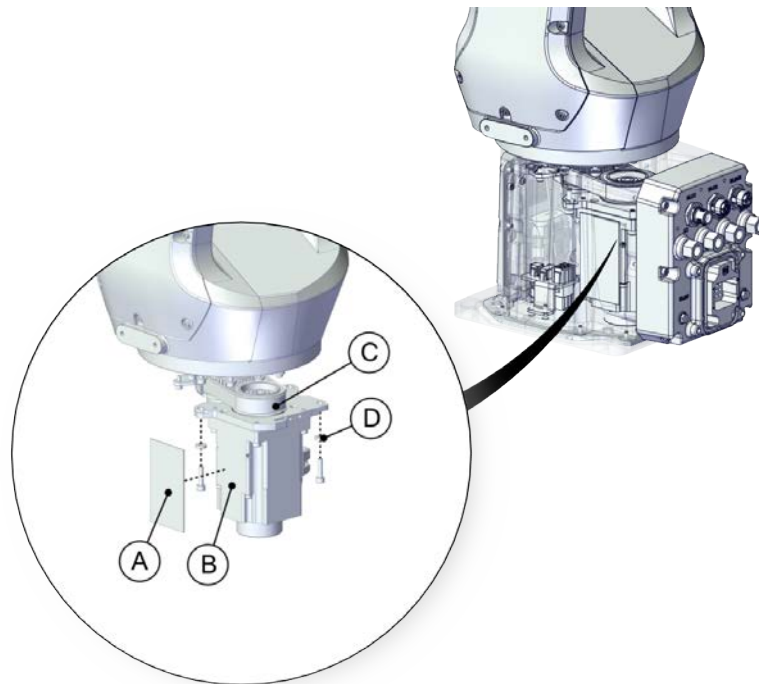
1.8 Spare parts - motors

1.8.1 Axis-1 motor

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	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.	X	X	L2
B	3HAC083589-001	Motor with flange, axis 1	X	X	L2
C	3HAC061934-001	Timing belt, axis 1	X	X	L2
D	3HAC063985-001	Washer	X	X	L2


Spare part illustration



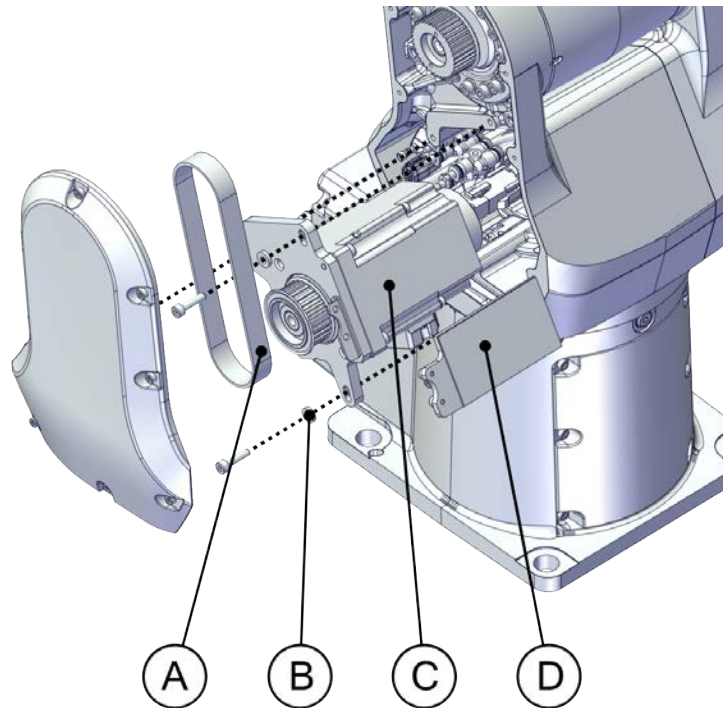
xx1800003502

1.8.2 Axis-2 motor

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC061935-001	Timing belt, axis 2	X	X	L2
B	3HAC063985-001	Washer	X	X	L2
C	3HAC083588-001	Motor with flange, axis 2	X	X	L2
D	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.	X	X	L2

Spare part illustration




xx1800003503

1 Spare parts and exploded views

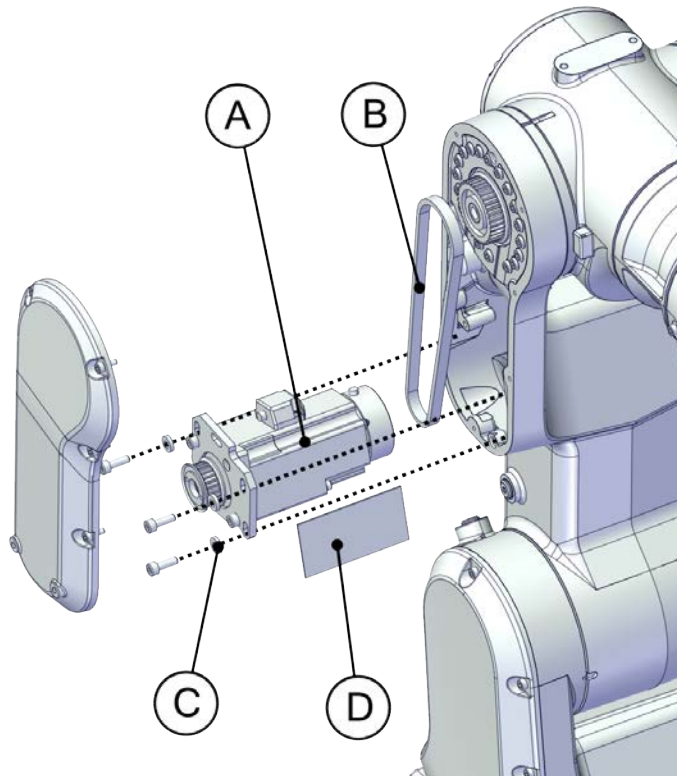
1.8.3 Axis-3 motor

1.8.3 Axis-3 motor

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC083587-001	Motor with flange, axis 3	X	X	L2
B	3HAC061936-001	Timing belt, axis 3	X	X	L2
C	3HAC063985-001	Washer	X	X	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.	X	X	L2


Spare part illustration



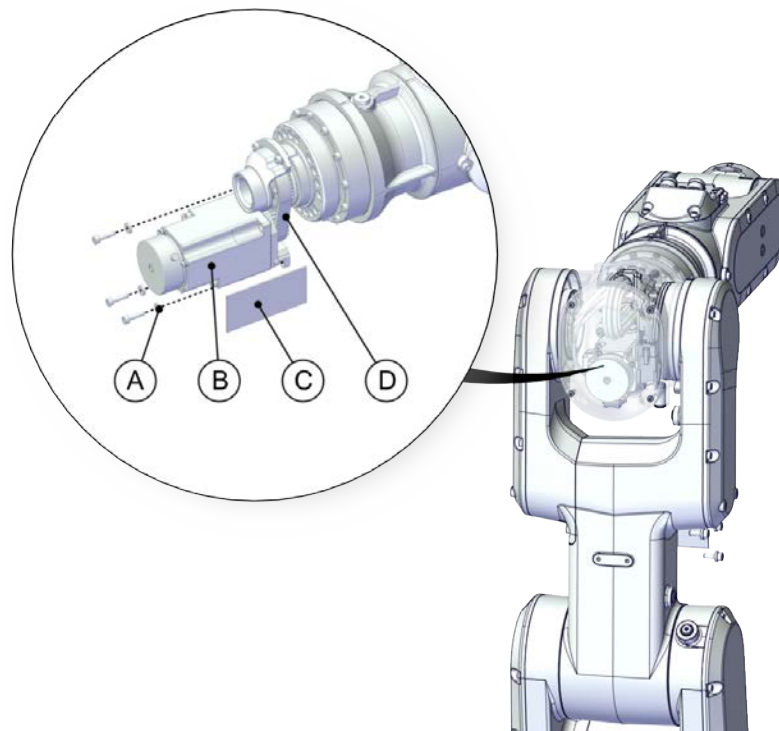
xx1800003504

1.8.4 Axis-4 motor

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC064765-001	Washer	X	X	L2
B	3HAC083586-001	Motor with flange, axis 4	X	X	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.	X	X	L2
D	3HAC061937-001	Timing belt, axis 4	X	X	L2

Spare part illustration



xx180003505

1 Spare parts and exploded views

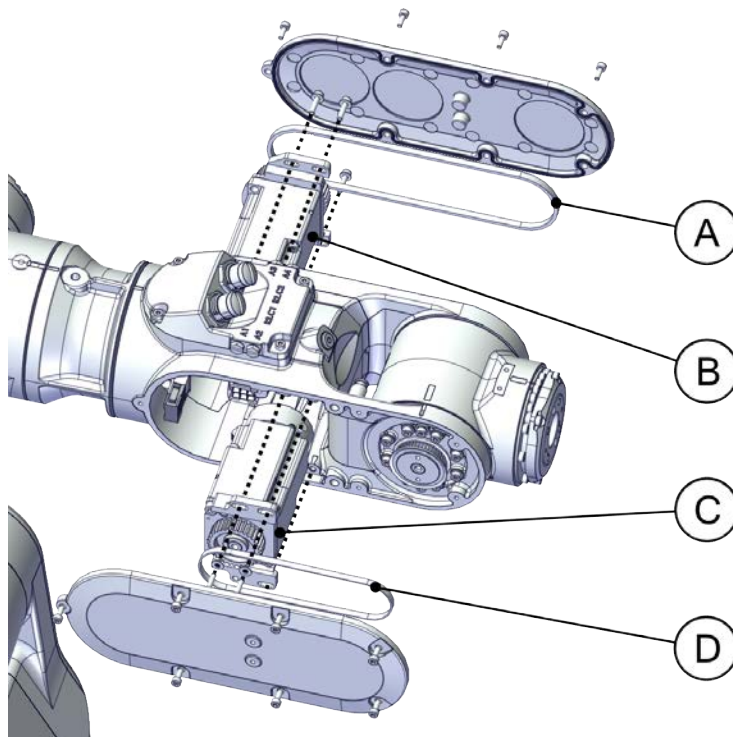
1.8.5 Axis-5 and axis-6 motors

1.8.5 Axis-5 and axis-6 motors

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC061939-001	Timing belt, axis 6	X	X	L2
B	3HAC083584-001	Motor with flange, axis 6	X	X	L2
C	3HAC083585-001	Motor with flange, axis 5	X	X	L2
D	3HAC061938-001	Timing belt, axis 5	X	X	L2

Spare part illustration



xx1800003506

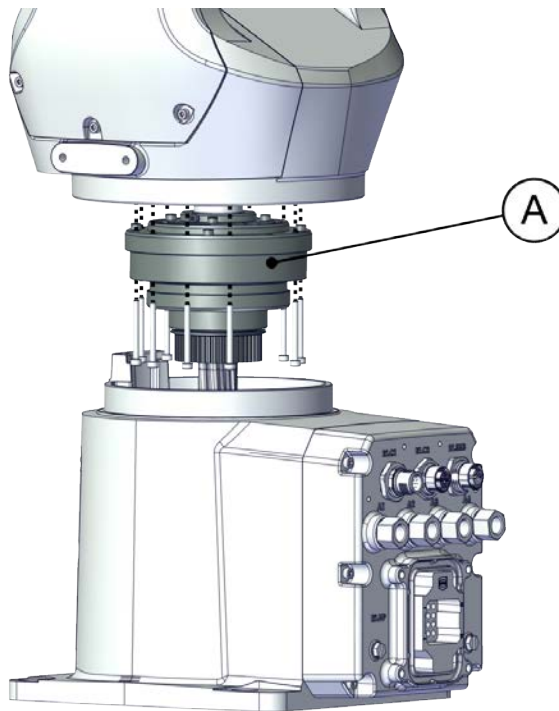
1.9 Spare parts - gearboxes

1.9.1 Axis-1 gearbox

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC069062-001	Gear unit with pulley, axis 1	X	X	L2

Spare part illustration



xx1800003507

1 Spare parts and exploded views

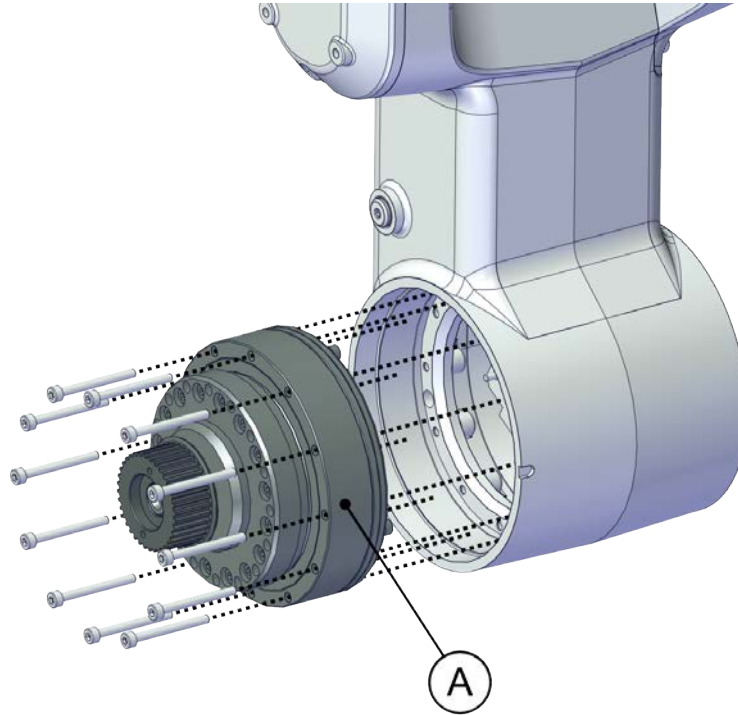
1.9.2 Axis-2 gearbox

1.9.2 Axis-2 gearbox

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC073517-001	Gear unit with pulley, axis 2	X	X	L2

Spare part illustration



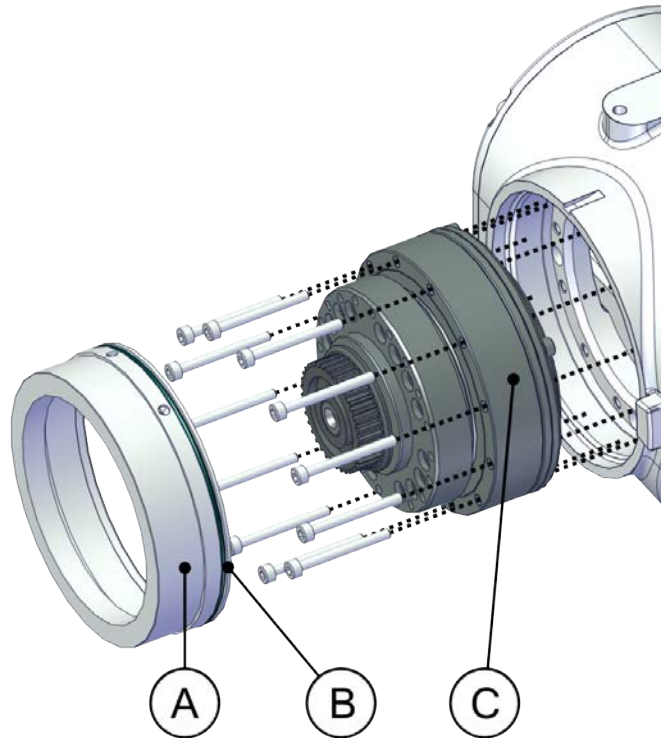
xx1800003508

1.9.3 Axis-3 gearbox

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC073218-001	Labyrinth sealing ring	X	X	L2
B	3HAC061327-032	O-ring	X	X	L2
C	3HAC073518-001	Gear unit with pulley, axis 3	X	X	L2

Spare part illustration



xx1800003509

1 Spare parts and exploded views

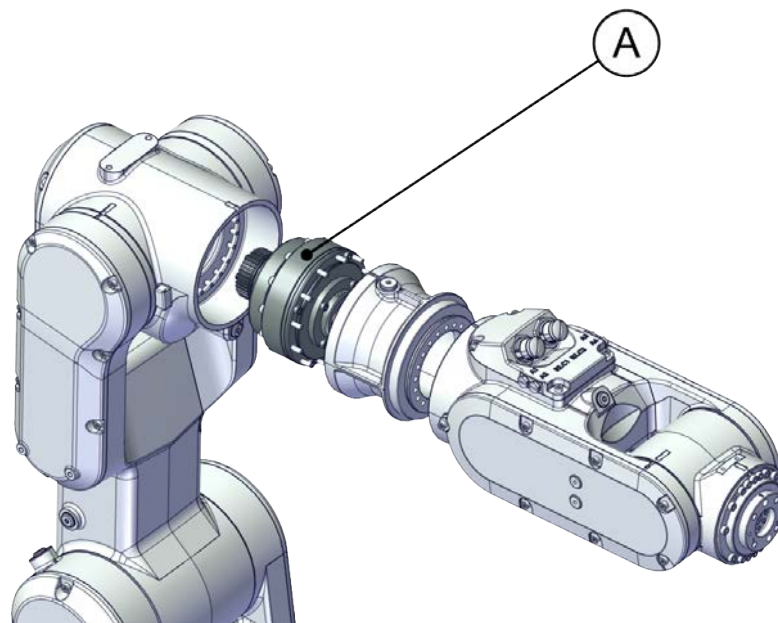
1.9.4 Axis-4 gearbox

1.9.4 Axis-4 gearbox

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC073519-001	Gear unit with pulley, axis 4	X	X	L2

Spare part illustration



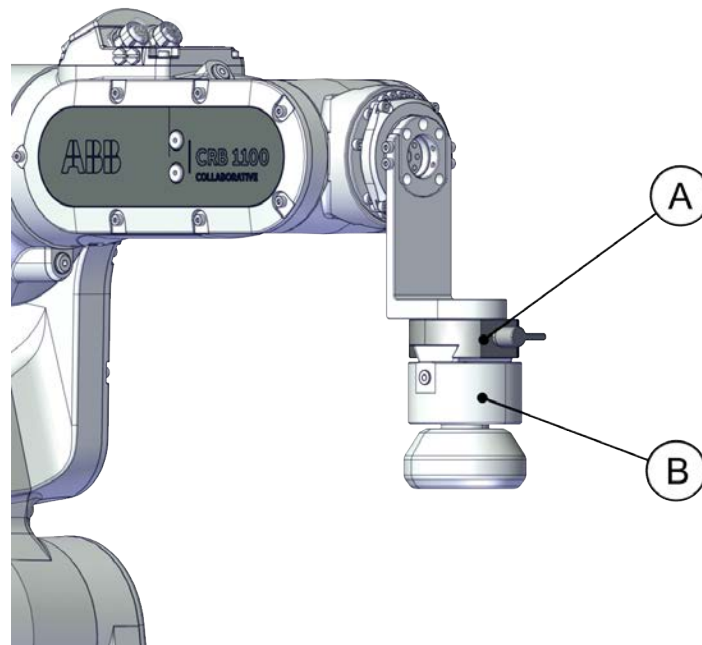
xx1800003510

1.10 Spare parts - lead-through device

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC075975-001	Lead-through device base (for no-button type)	X	X	L1
B	3HAC075974-001	Lead-through device	X	X	L1
C	3HAC082591-001	Lead-through device base (for two-button type)	X	X	L1
D	3HAC082590-001	Lead-through device with buttons	X	X	L1

Spare part illustration



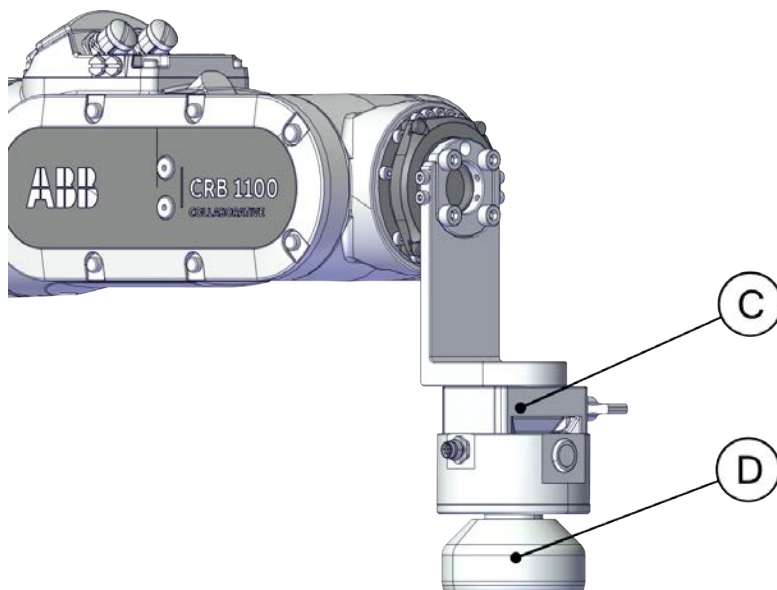
xx2000002202

Continues on next page

1 Spare parts and exploded views

1.10 Spare parts - lead-through device

Continued



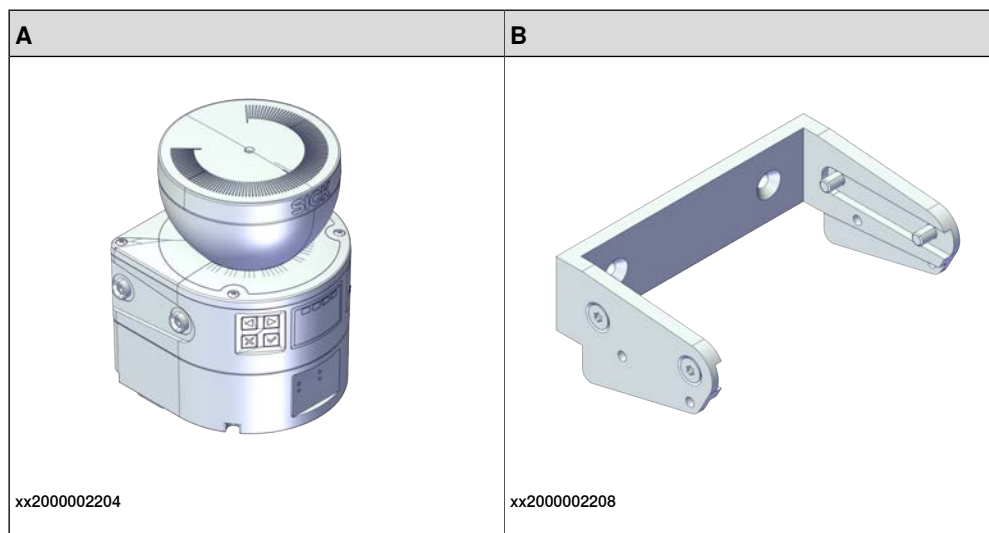
xx2200000970

1.11 Spare parts - laser scanner

Spare part list

	Spare part number	Description	-4/0.475	-4/0.58	Spare part level
A	3HAC075977-001	PROFINET-based laser scanner	X	X	L1
	3HAC082519-001	SafetyIO-based laser scanner	X	X	L1
B	3HAC076487-001	Mounting kit for laser scanner	X	X	L1
-	3HAC076489-001	Power cable 5 m (for PROFINET-based laser scanner)	X	X	L1
-	3HAC075978-001	Ethernet cable 5 m (for PROFINET-based laser scanner)	X	X	L1
-	3HAC076488-001	USB to Mini-USB cable, 3 m (for PROFINET-based laser scanner)	X	X	L1
-	3HAC082520-001	Power cable 5 m (for SafetyIO-based laser scanner)	X	X	L1
-	3HAC082521-001	Ethernet cable, 5 m (for SafetyIO-based laser scanner)	X	X	L1
-	3HAC082529-001	Signal cable 5 m (for SafetyIO-based laser scanner)	X	X	L1
-	3HAC082530-001	Ethernet cable, STS, 5 m Used for connecting two laser scanners.	X	X	L1

Spare part illustration



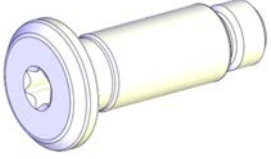

1 Spare parts and exploded views

1.12.1 Axis Calibration items

1.12 Spare parts - Accessories

1.12.1 Axis Calibration items

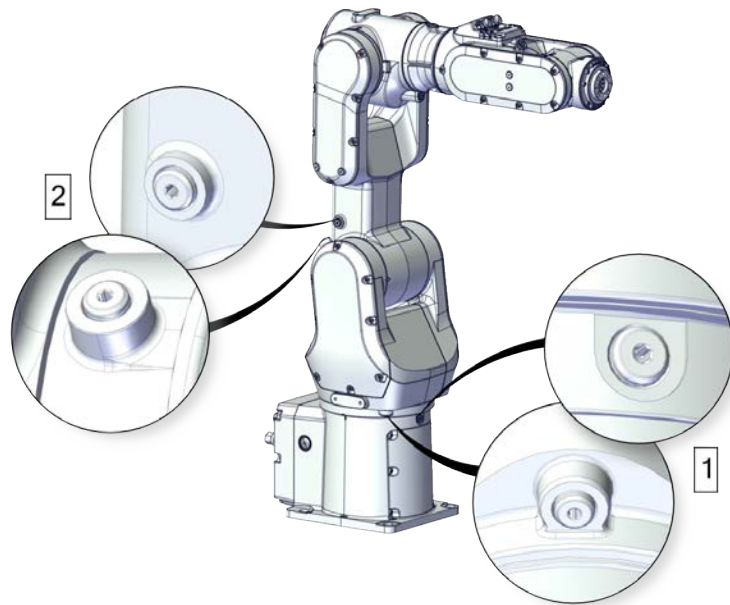
Spare part list

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

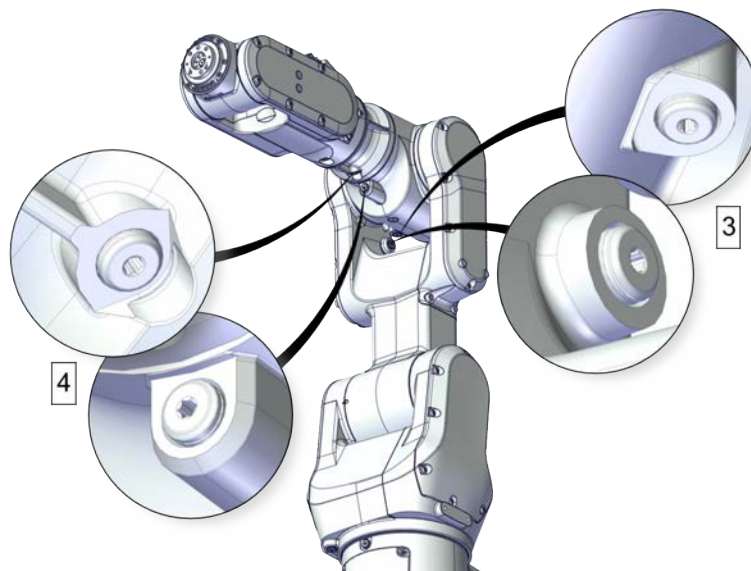
Continues on next page

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. Axis 6 has only one bushing.



xx180003320



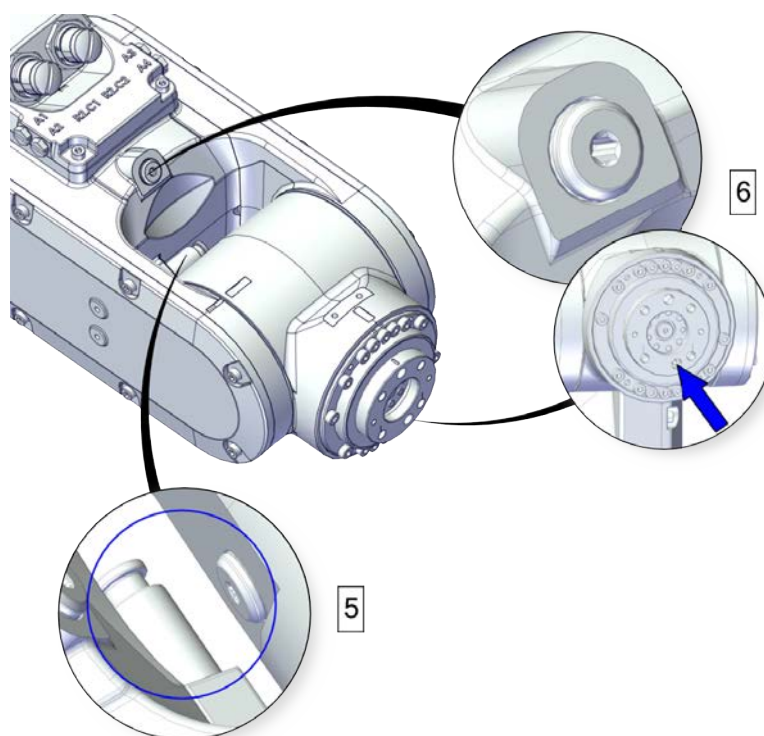
xx180003514

Continues on next page

1 Spare parts and exploded views

1.12.1 Axis Calibration items

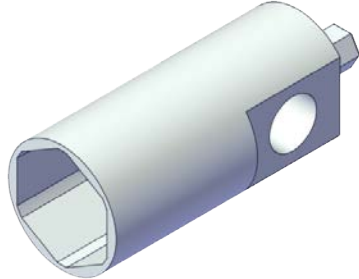
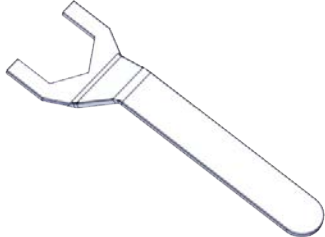
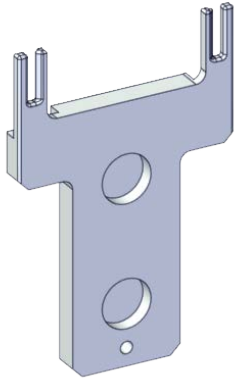
Continued



xx1800003515

1.12.2 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.	 <p>xx1900000006</p>
-	brake release button assembly tool Included in the special toolkit 3HAC071022-001. Used to remove and refit the brake release button.	 <p>xx1900000042</p>
-	axis-4 motor fitting tool Included in the special toolkit 3HAC071022-001. Used to refit the axis-4 motor.	 <p>xx1800003620</p>

Continues on next page

1 Spare parts and exploded views

1.12.2 Special tools

Continued


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



ABB AB

Robotics & Discrete Automation

S-721 68 VÄSTERÅS, Sweden

Telephone +46 10-732 50 00

ABB AS

Robotics & Discrete Automation

Nordlysvegen 7, N-4340 BRYNE, Norway

Box 265, N-4349 BRYNE, Norway

Telephone: +47 22 87 2000

ABB Engineering (Shanghai) Ltd.

Robotics & Discrete Automation

No. 4528 Kangxin Highway

PuDong New District

SHANGHAI 201319, China

Telephone: +86 21 6105 6666

ABB Inc.

Robotics & Discrete Automation

1250 Brown Road

Auburn Hills, MI 48326

USA

Telephone: +1 248 391 9000

abb.com/robotics