

ROBOTICS

Product manual, spare parts

IRB 390



Trace back information:
Workspace 24B version a10
Checked in 2024-06-12
Skribenta version 5.5.019

Product manual, spare parts

IRB 390 - 15/1300

IRB 390 - 10/1300

IRC5, OmniCore

Document ID: 3HAC066567-001

Revision: E

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 2020 - 2024 ABB. All rights reserved.
Specifications subject to change without notice.

Table of contents

Overview of this manual	7
1 Definition of spare part levels	9
2 Spare parts - electrical parts	11
2.1 Manipulator cable harness	11
2.2 SMB unit	12
2.3 Signal lamp unit	13
2.4 Brake release unit	14
2.5 Brake release box	15
3 Spare parts - base unit	17
3.1 Base unit	17
3.2 Base parts	18
4 Spare parts - lower arm	21
4.1 Lower arm	21
5 Spare parts - upper arm	23
5.1 Upper arm	23
6 Spare parts - telescopic shaft unit	25
6.1 Telescopic shaft unit	25
7 Spare parts - delta unit	27
7.1 Delta unit	27
8 Spare parts - motors	31
8.1 Axis-1-2-3 motor	31
8.2 Axis-4-5 motor	32
9 Spare parts - gears	33
9.1 Axis-4 and axis-5 gear unit	33
10 Spare parts - labels	35
11 Spare parts - accessories	37
11.1 Axis Calibration items	37
12 Consumables and wear parts	39
12.1 Lubrication	39
12.2 Wear parts	40

This page is intentionally left blank

Overview of this manual

About this manual

This manual contains spare parts for:

- IRB 390 and all its variants.

Usage

This manual shall be used as a complement to the product manual for IRB 390 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.

References

Documentation referred to in the manual, is listed in the table below.

Document name	Document ID
<i>Product manual - IRB 390</i>	<i>3HAC066566-001</i>
<i>Circuit diagram - IRB 390</i>	<i>3HAC060545-009</i>
<i>Technical reference manual - Lubrication in gearboxes</i>	<i>3HAC042927-001</i>

Revisions

Revision	Description
A	First edition.
B	Published in release 21A. The following updates are made in this revision: <ul style="list-style-type: none"> • Added spare part levels to all spare parts. • Updated article number for brake release push button and Molykote P1900. • Added nipple dimension on telescopic shaft. • Added section for wear parts (parts with limited life). • Removed rubber cloth for SMB battery cover from spare part lists.
C	Published in release 22B. The following updates are made in this revision: <ul style="list-style-type: none"> • New spare parts: <ul style="list-style-type: none"> - brake release box - cup, including o-ring • Corrected illustration for axis-1-2-3 motor spare parts.

Continues on next page

Overview of this manual

Continued

Revision	Description
D	Published in release 22D. The following updates are made in this revision: <ul style="list-style-type: none"><li data-bbox="655 338 1412 398">• Added protection screws and washers for lifting eye attachment holes on the base.
E	Published in release 24B. The following updates are made in this revision: <ul style="list-style-type: none"><li data-bbox="655 436 1412 470">• Added information for the OmniCore robot controller.

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.

- L3 spare parts

L3 spare parts shall only be replaced or repaired by qualified ABB service technician with knowledge of the application due to reduce risk of injury or damage to equipment. Improper installation may void warranty.

This page is intentionally left blank

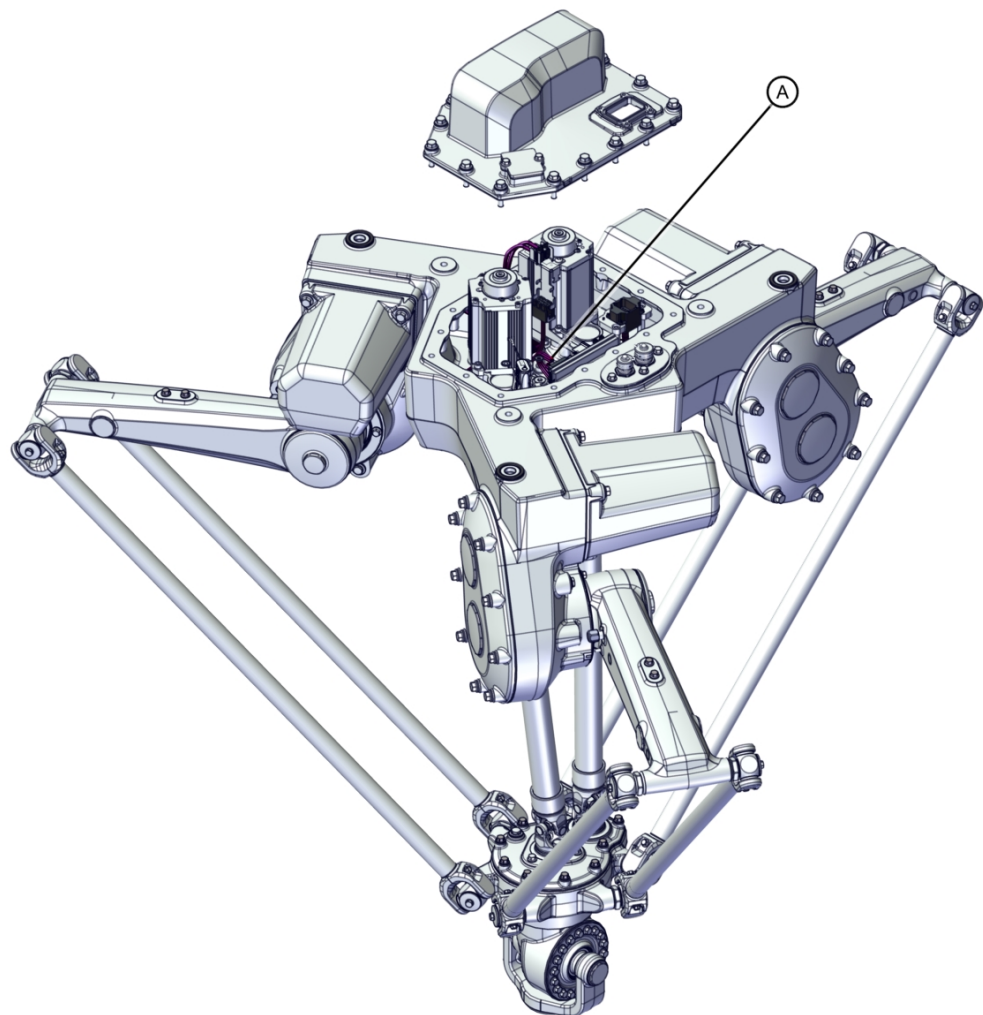
2 Spare parts - electrical parts

2.1 Manipulator cable harness

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060469-001	Cable harness	X	X	L2
-	3HAC030936-001	Cable harness axis 7	X	X	L2

Spare part illustration



xx2000000916

2 Spare parts - electrical parts

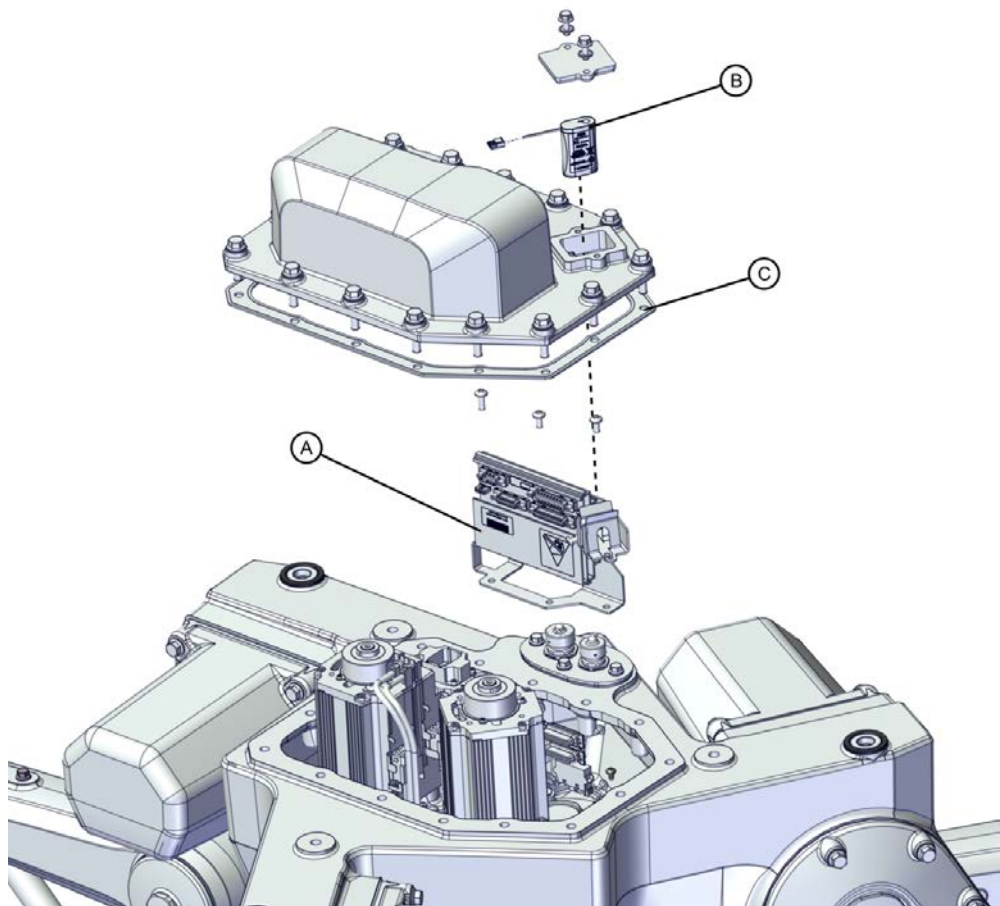
2.2 SMB unit

2.2 SMB unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC043904-001	Serial measurement unit DSQC 633C	X	X	L2
B	3HAC044075-001	Battery unit	X	X	L1
C	3HAC058649-003	Sealing washer	X	X	L1

Spare part illustration



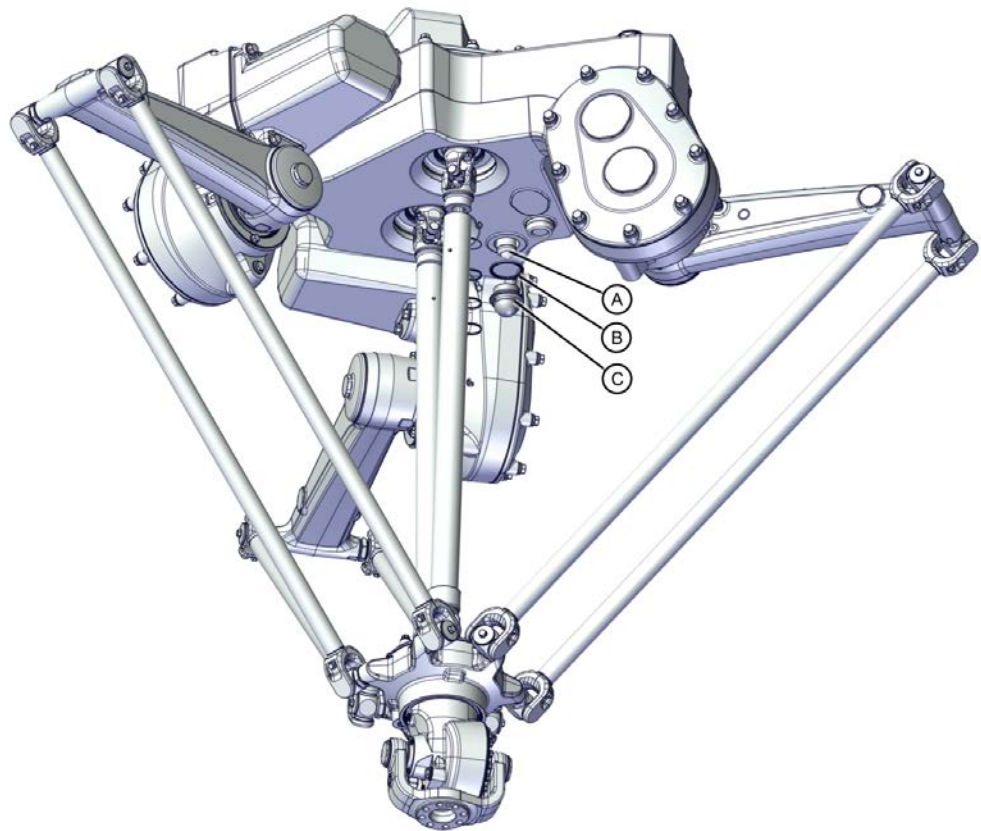
xx200000100

2.3 Signal lamp unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060934-001	Signal lamp	X	X	L2
B	3HAC059429-001	Sight glass	X	X	L2
C	3HAC059429-003	Sealing ring	X	X	L2

Spare part illustration



xx200000917

2 Spare parts - electrical parts

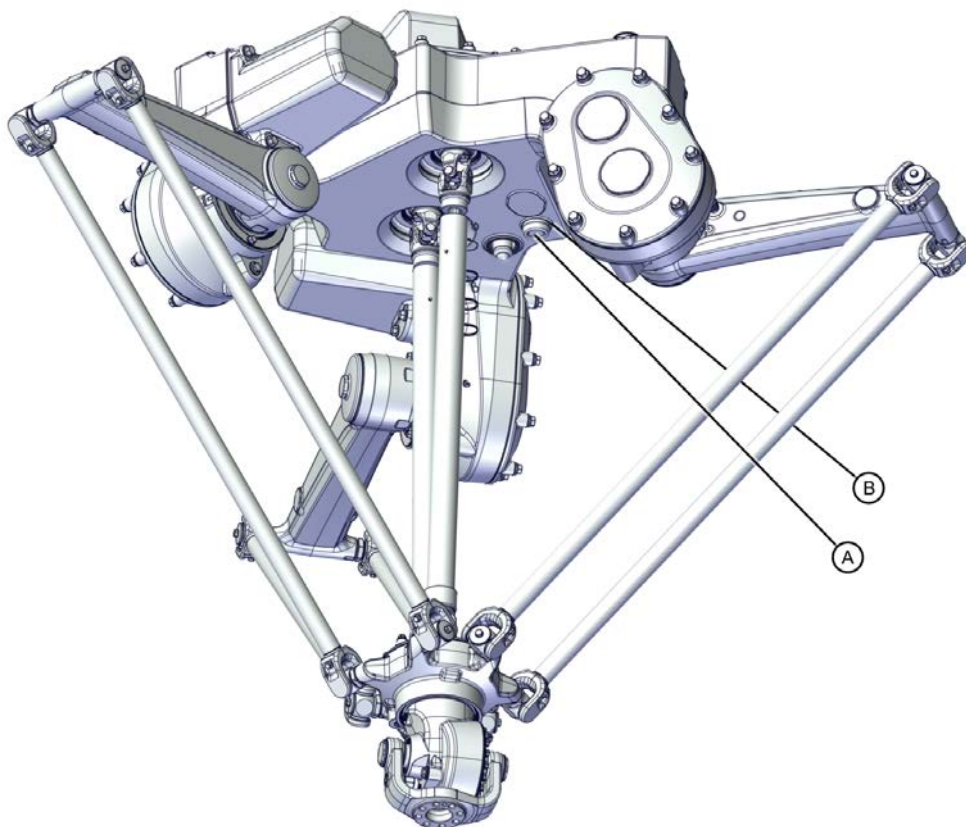
2.4 Brake release unit

2.4 Brake release unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	1SFA616105R4006	Brake release unit	X	X	L2
B	3HAC059429-003	Sealing	X	X	L2

Spare part illustration

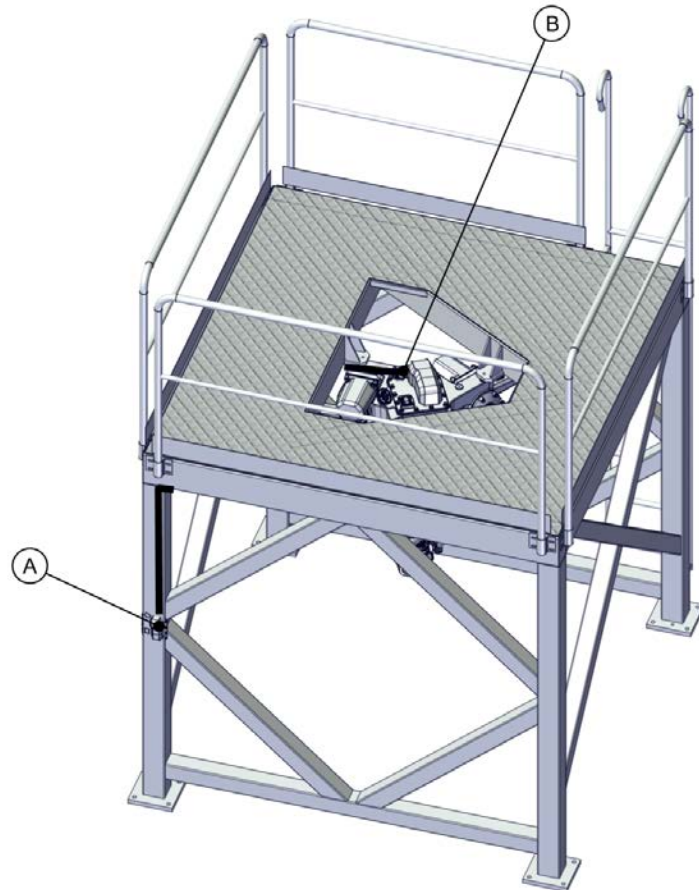


xx200000918

2.5 Brake release box

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC077658-001	Brake release box	X	X	L2
B	3HAC044075-001	Battery unit	X	X	L1



xx200000863

This page is intentionally left blank

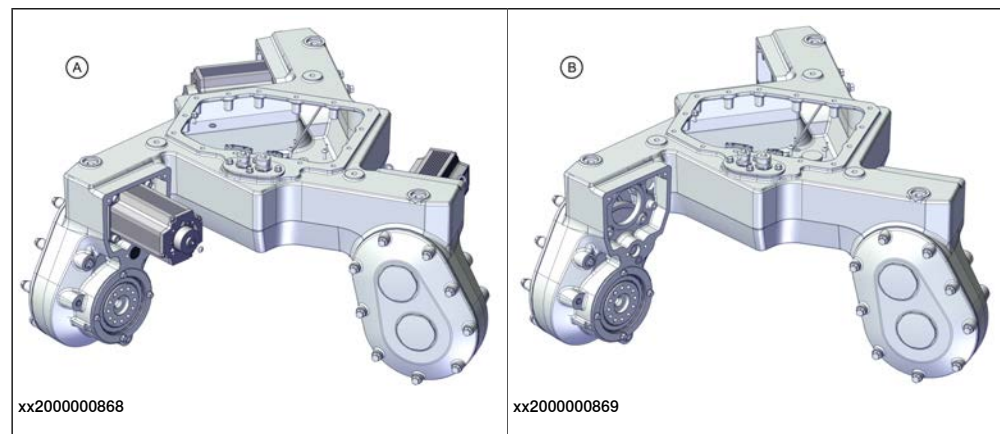
3 Spare parts - base unit

3.1 Base unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060564-003	Base unit The spare part includes following parts: <ul style="list-style-type: none"> • base • axis-1, axis-2 and axis-3 gear • axis-1, axis-2 and axis-3 motor • brake release button 	X	X	L2
B	3HAC060563-003	Base unit The spare part includes following parts: <ul style="list-style-type: none"> • base • axis-1, axis-2 and axis-3 gear • brake release button 	X	X	L2

Spare part illustration



3 Spare parts - base unit

3.2 Base parts

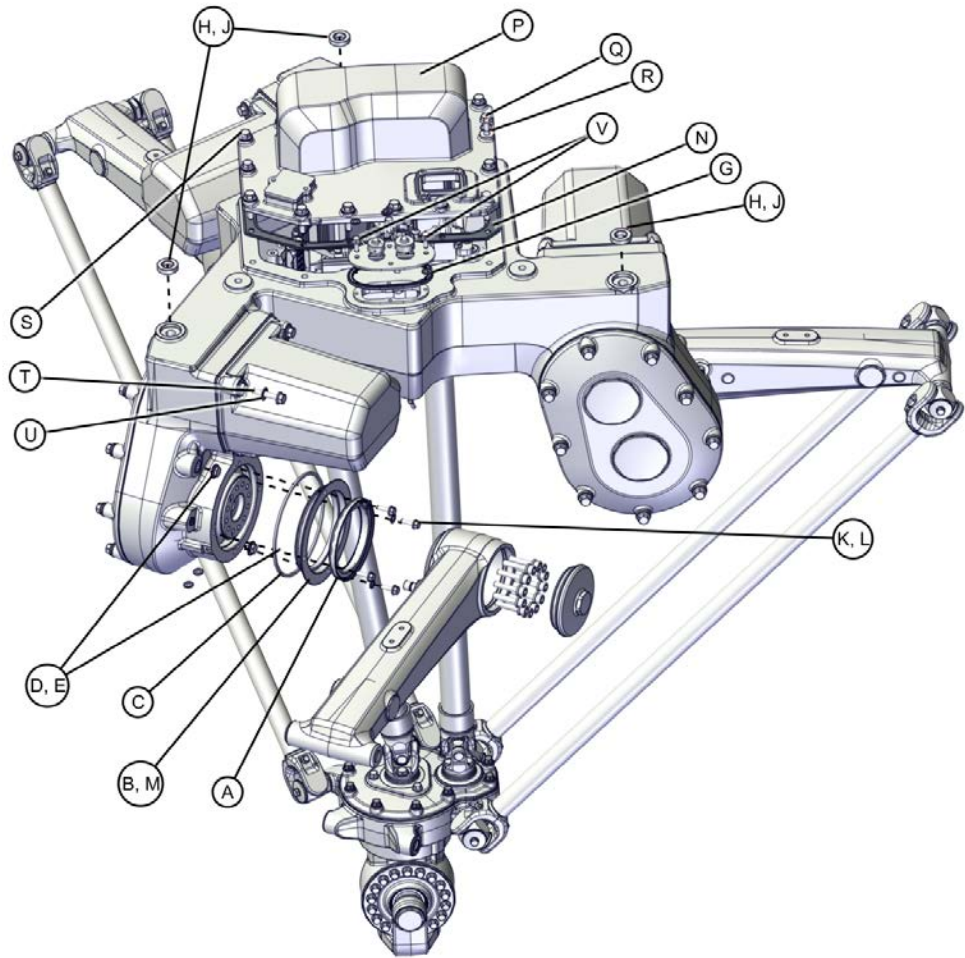
3.2 Base parts

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC043926-003	Cassette sealing	X	X	L2
B	3HAC067484-001	Cassette sealing holder	X	X	L2
C	3HAC067485-001	Sealing ring	X	X	L2
D	3HAC058640-002	Protection screw	2 pcs/gear	2 pcs/gear	L2
E	3HAC058640-005	Gasket, protection screw	2 pcs/gear	2 pcs/gear	L2
G	3HAC063707-001	Gasket	X	X	L2
H	3HAC070543-001	Distance washer	3 pcs	3 pcs	L1
J	3HAC074660-001	Sealing ring	3 pcs	3 pcs	L1
K	3HAC060233-009	Hexagon flange bolt M6x20 stainless steel/A4-80	4 pcs/holder	4 pcs/holder	L2
L	3HAC058626-003	Washer M6 hygienic	4 pcs/holder	4 pcs/holder	L2
M	3HAB3772-110	O-ring	X	X	L2
N	3HAC058649-003	Sealing washer	X	X	L1
P	3HAC061212-002	Cover	X	X	L1
Q	3HAC060233-008	Hexagon flange bolt M8x40 stainless steel/A4-80	15 pcs	15 pcs	L1
R	3HAC058626-004	Washer M8 hygienic	15 pcs	15 pcs	L1
S	3HAC061211-002	Cover	X	X	L1
T	3HAC060233-003	Hexagon flange bolt M8x45 stainless steel/A4-80	4 pcs/cover	4 pcs/cover	L1
U	3HAC058626-004	Washer M8 hygienic	4 pcs/cover	4 pcs/cover	L1
V	3HAC060233-006	Hexagon flange bolt M6x16 stainless steel/A4-80	2 pcs	2 pcs	L1
W	3HAB3772-107	O-ring	X	X	L1
X	3HAC079467-001	Cup	X	X	L1
Y	3HAC060233-011	Protection screw	3 pcs	3 pcs	L1
Z	3HAC081466-001	Sealing washer	3 pcs	3 pcs	L1

Continues on next page

Spare part illustration



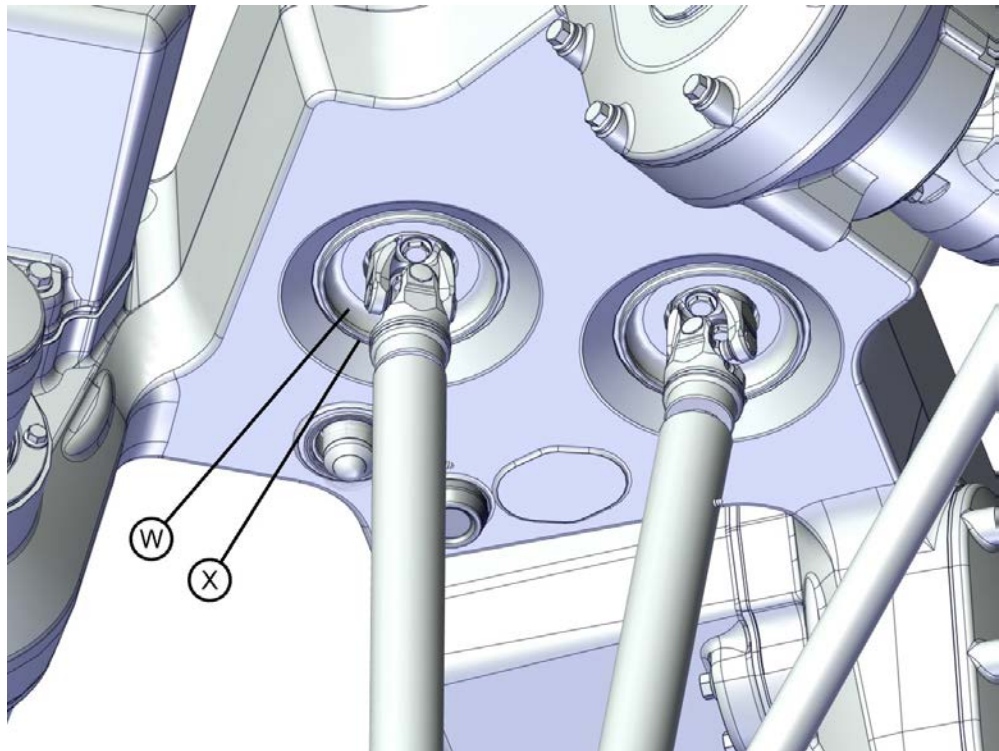
xx200000073

Continues on next page

3 Spare parts - base unit

3.2 Base parts

Continued



xx2100002297

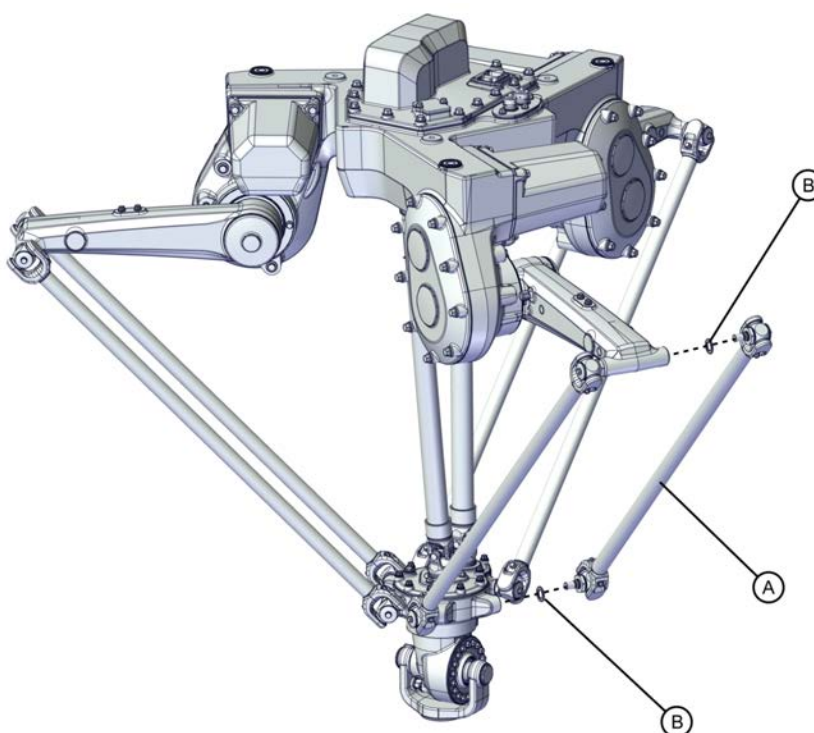
4 Spare parts - lower arm

4.1 Lower arm

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060138-001	Lower arm / parallel bar	X	X	L1
B	3HAC062123-001	Sealing washer	X	X	L1

Spare part illustration



xx1900001798

This page is intentionally left blank

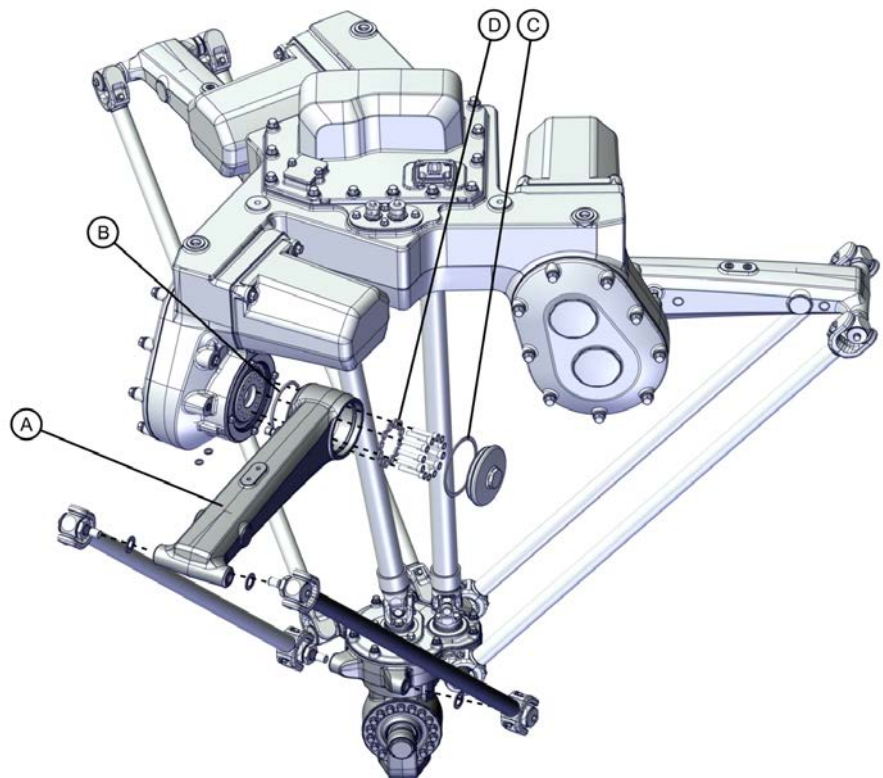
5 Spare parts - upper arm

5.1 Upper arm

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060604-003	Upper arm	X	X	L1
B	3HAC062067-001	Sealing ring	X	X	L1
C	3HAC058619-001	Gasket	X	X	L1
D	3HAC043799-001	Washers, 12 pcs	12 pcs	12 pcs	L1

Spare part illustration



xx200000074

This page is intentionally left blank

6 Spare parts - telescopic shaft unit

6.1 Telescopic shaft unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC059382-003	Telescopic shaft unit Nipple dimension: DIN 3402	1 pcs	2 pcs	L1
B	3HAC059503-001	Universal joint	2 pcs	4 pcs	L1
C	3HAC060263-001	Sealing ring	2 pcs	4 pcs	L1
D	3HAC060200-001	Friction shim	2 pcs	4 pcs	L1
E	3HAC058626-004	Washer	4 pcs	8 pcs	L1
F	3HAC058625-001	Hexagon flange bolt	4 pcs	8 pcs	L1

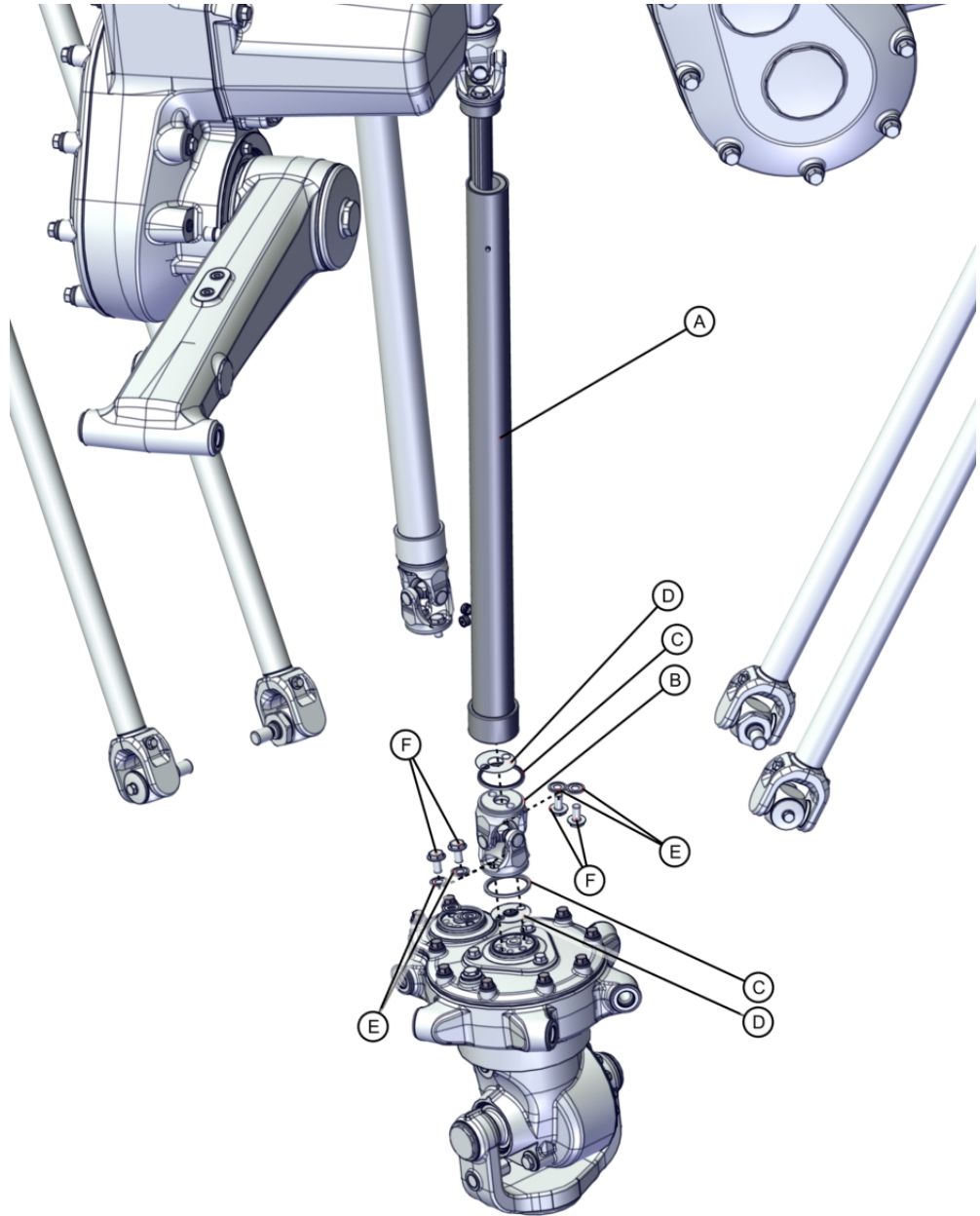
Continues on next page

6 Spare parts - telescopic shaft unit

6.1 Telescopic shaft unit

Continued

Spare part illustration



xx200000075

7 Spare parts - delta unit

7.1 Delta unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC058372-002	Delta unit, axis 4-5		X	L1
	3HAC058371-003	Delta unit, axis 4	X		L1
B	3HAC059345-001	Tilt arm		X	L2
C	3HAC070382-001	Cover		X	L2
D	3HAC070381-001	Sealing		X	L2
E	3HAC061399-001	Sealing ring		X	L2
F	3HAC061440-001	Sleeve		X	L2
G	3HAB3409-69	Hex socket head cap screw M12x50 12.9 Gleitmo 603+Geomet 500		X	L2
H	3HAC061398-001	Friction shim		X	L2

Continues on next page

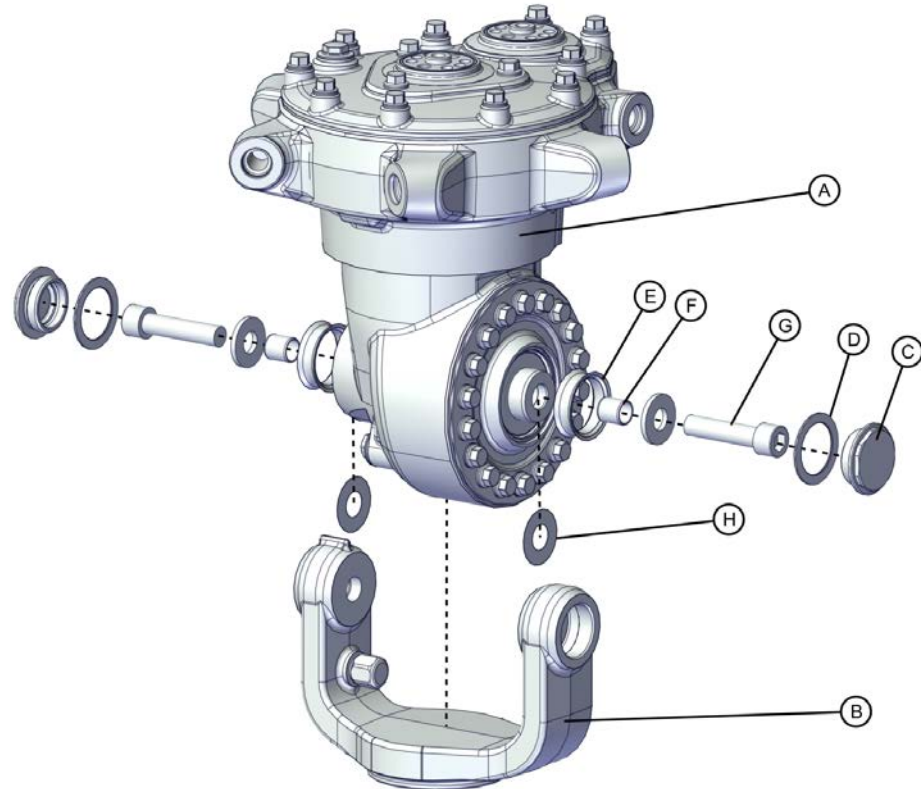
7 Spare parts - delta unit

7.1 Delta unit

Continued

Spare part illustration

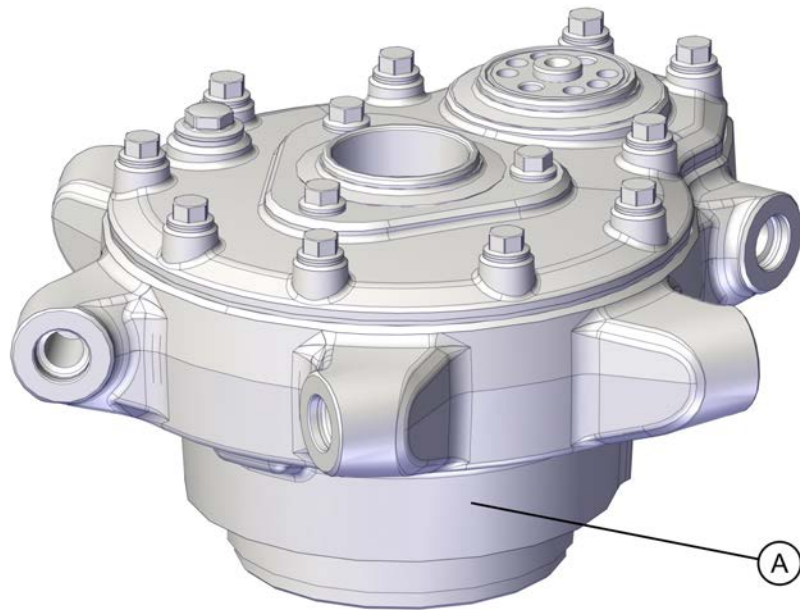
IRB 390 - 15/1300



xx200000076

Continues on next page

IRB 390 - 10/1300



xx200000077

This page is intentionally left blank

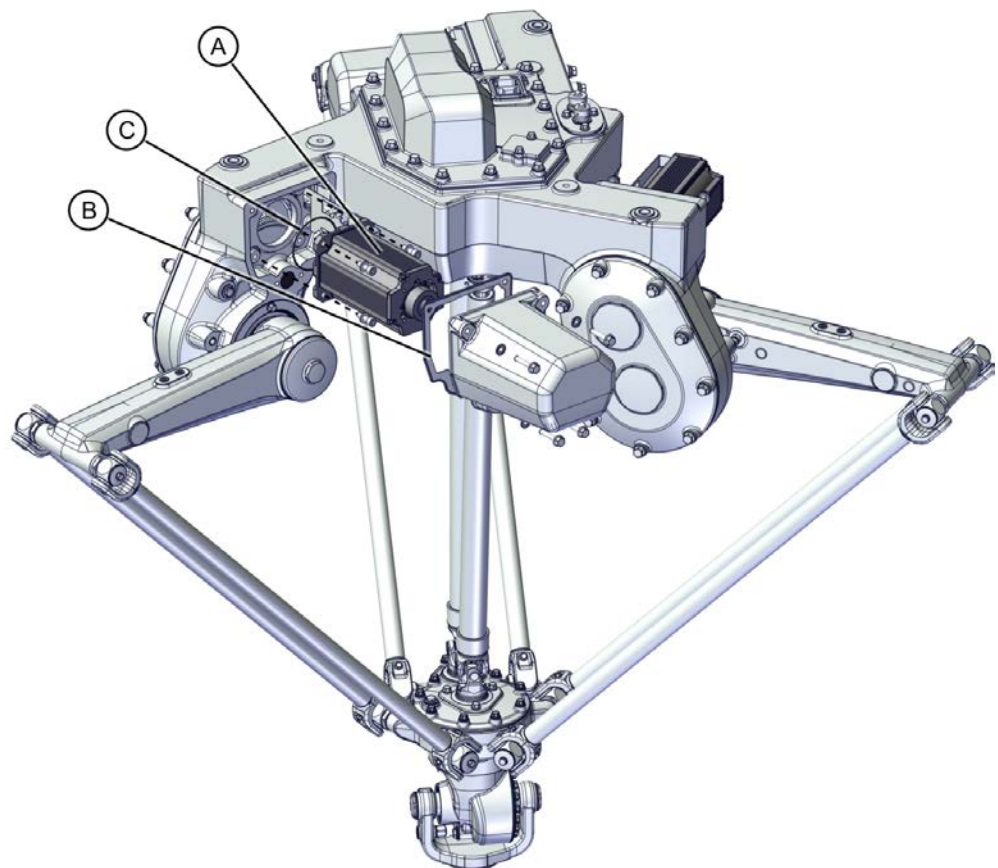
8 Spare parts - motors

8.1 Axis-1-2-3 motor

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC058368-003	Rotating AC motor M106.1 with pinion	X	X	L2
B	3HAC063720-001	Sealing washer	X	X	L2
C	3HAB3772-102	O-ring	X	X	L2

Spare part illustration



xx200000078

8 Spare parts - motors

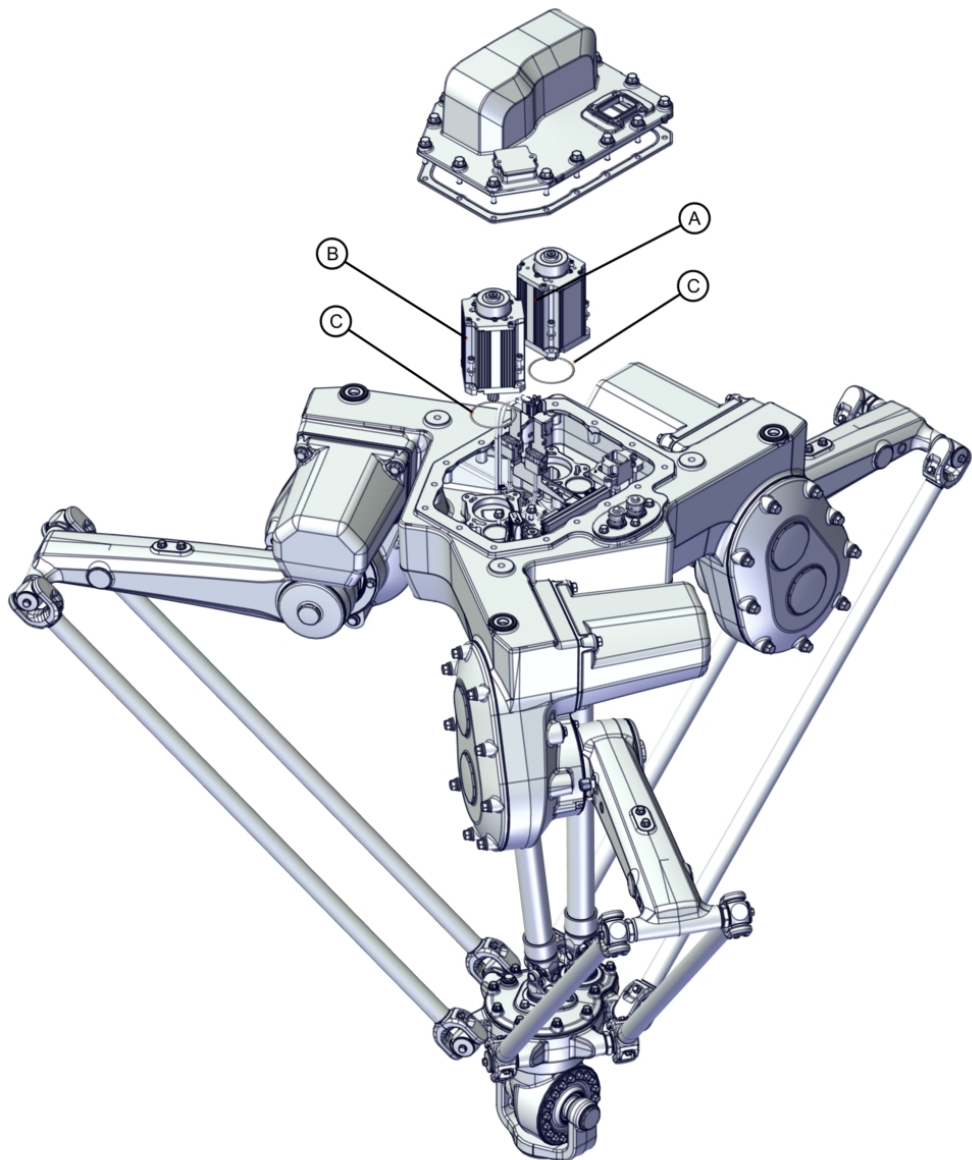
8.2 Axis-4-5 motor

8.2 Axis-4-5 motor

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC058581-003	Rotating AC motor M104 with pinion	X	X	L2
B	3HAC058581-003	Rotating AC motor M104 with pinion		X	L2
C	3HAB3772-163	O-ring	1 pcs	2 pcs	L2

Spare part illustration



xx200000079

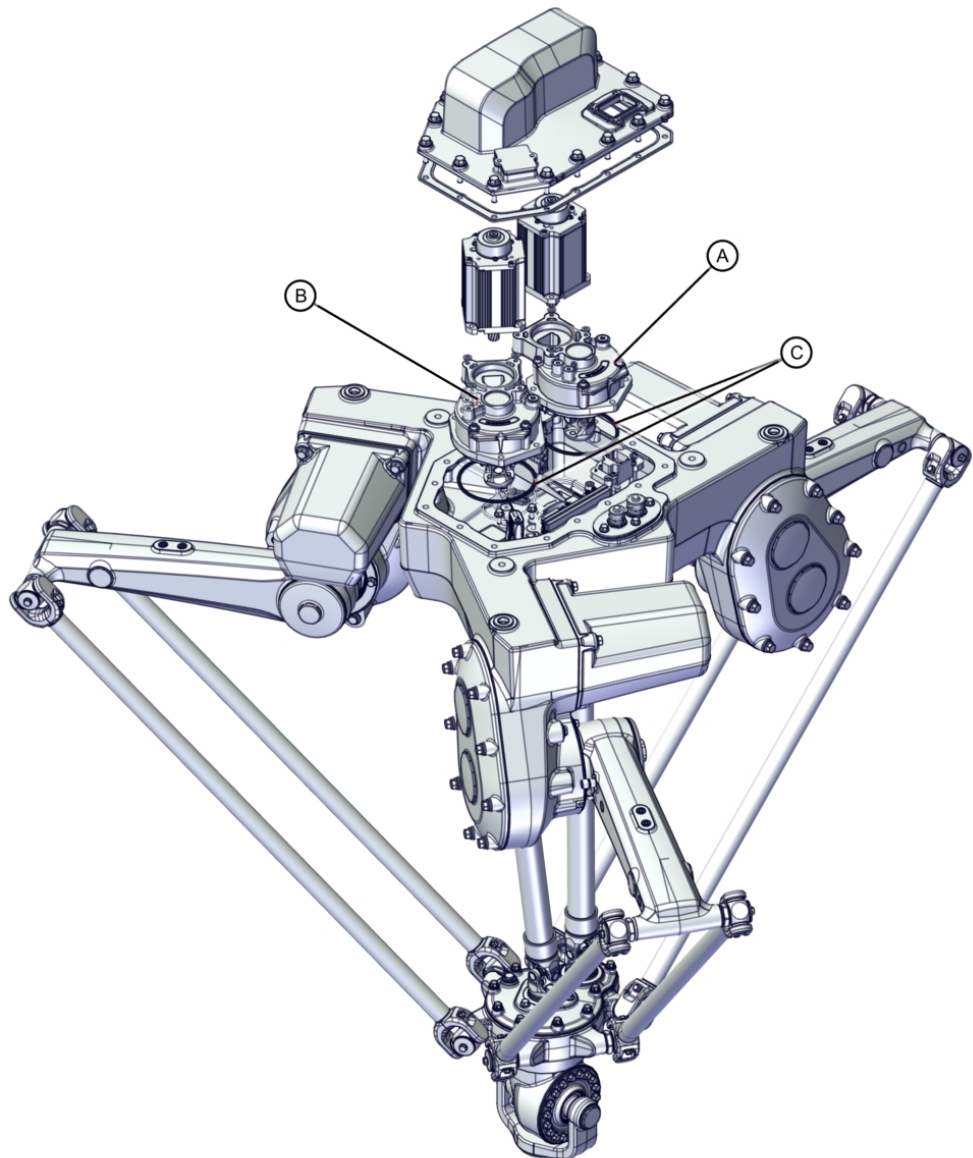
9 Spare parts - gears

9.1 Axis-4 and axis-5 gear unit

Spare part list

	Spare part number	Description	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	3HAC060588-003	Gear unit, pre-stage	1	1	L2
B	3HAC060588-003	Gear unit, pre-stage	-	1	L2
C	3HAC059017-002	Sealing ring	1	2	L2

Spare part illustration

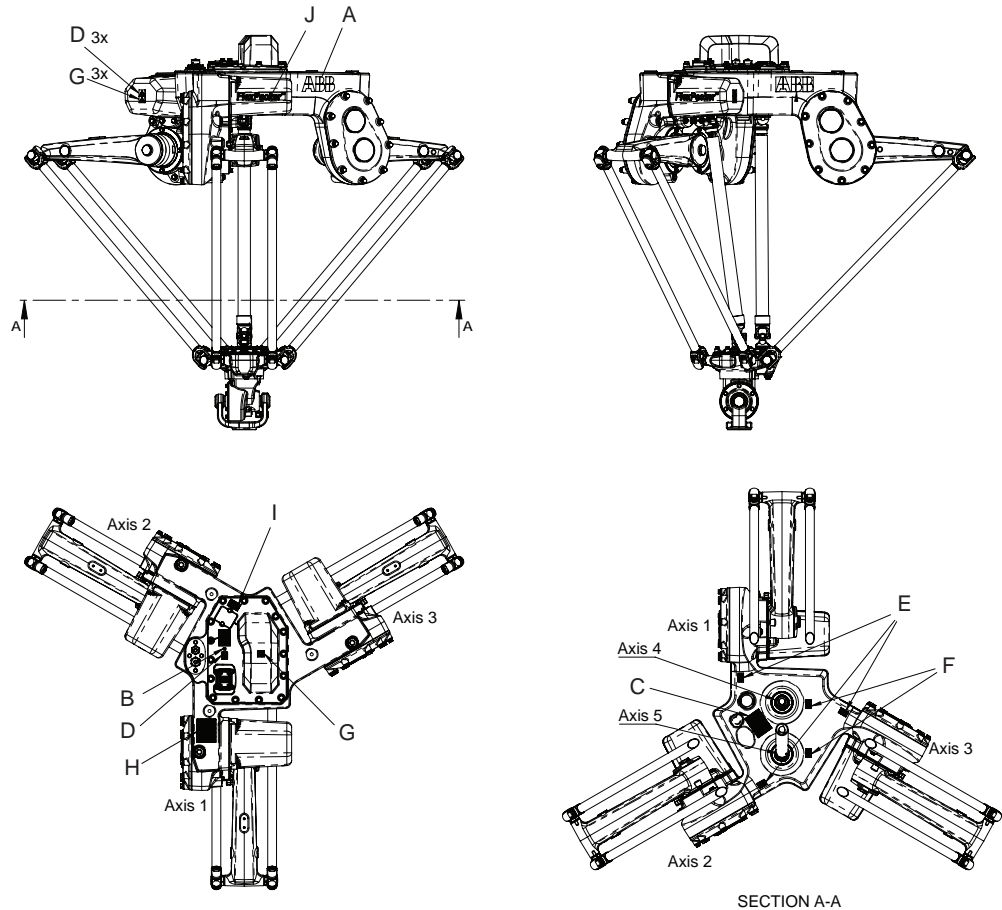


xx200000867

This page is intentionally left blank

10 Spare parts - labels

Spare part illustration



xx2000001850

	Spare part number	Description	Spare part level
A	3HAC077213-001	ABB logotype label	L1
B	3HAC067800-001	Waste Electrical & Electronic Equipment (WEEE) label	L1
C	3HAC075336-001	Instruction label Brake release	L1
D	3HAC075337-001	Warning label Electrical (flash)	L1
E	3HAC040066-001	Axis mark label, axes 1, 2 and 3	L1
F	3HAC076731-001	Axis mark label, axes 4 and 5	L1
G	3HAC076469-001	Warning label Hot surface	L1
H	3HAC076465-001	Instruction label Lifting of robot	L1

Continues on next page

10 Spare parts - labels

Continued

	Spare part number	Description	Spare part level
I	3HAC055008-001	Information label Battery	L1
J	3HAC075329-001	FlexPicker label	L1

11 Spare parts - accessories

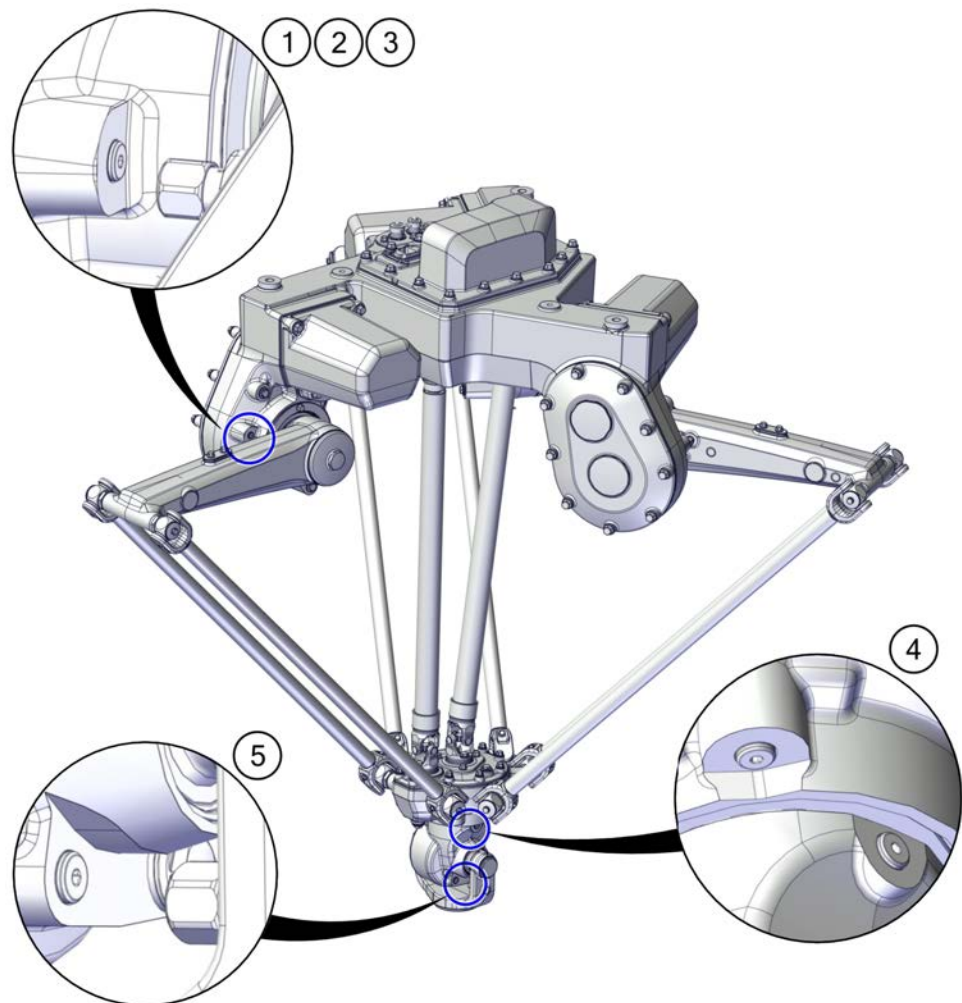
11.1 Axis Calibration items

Spare part list

Spare part number	Description	Spare part level
3HAC056806-001	Protection cover and plug set Contains replacement calibration pin covers and protective plugs for the bushing.	

Spare part illustration

The protective plugs are installed in the bushings used for the calibration tools for Axis Calibration method. There is one bushing and one fixed calibration pin each on axes 1, 2, 3 and 5. Axis 4 has two bushings.



xx2000000025

This page is intentionally left blank

12 Consumables and wear parts

12.1 Lubrication

Spare part list

This table specifies required lubricants for installation and service. Detailed information about usage of lubricants is found in *Product manual - IRB 390*.

Description	Spare part number
P-80 rubber lubrication gel P-80 Emulsion IFC	3HAC074427-001
Anti-seize paste Molykote P1900	3HAC070875-002
Lubricating oil for gearboxes	See <i>Technical reference manual - Lubrication in gearboxes</i> .

12 Consumables and wear parts

12.2 Wear parts

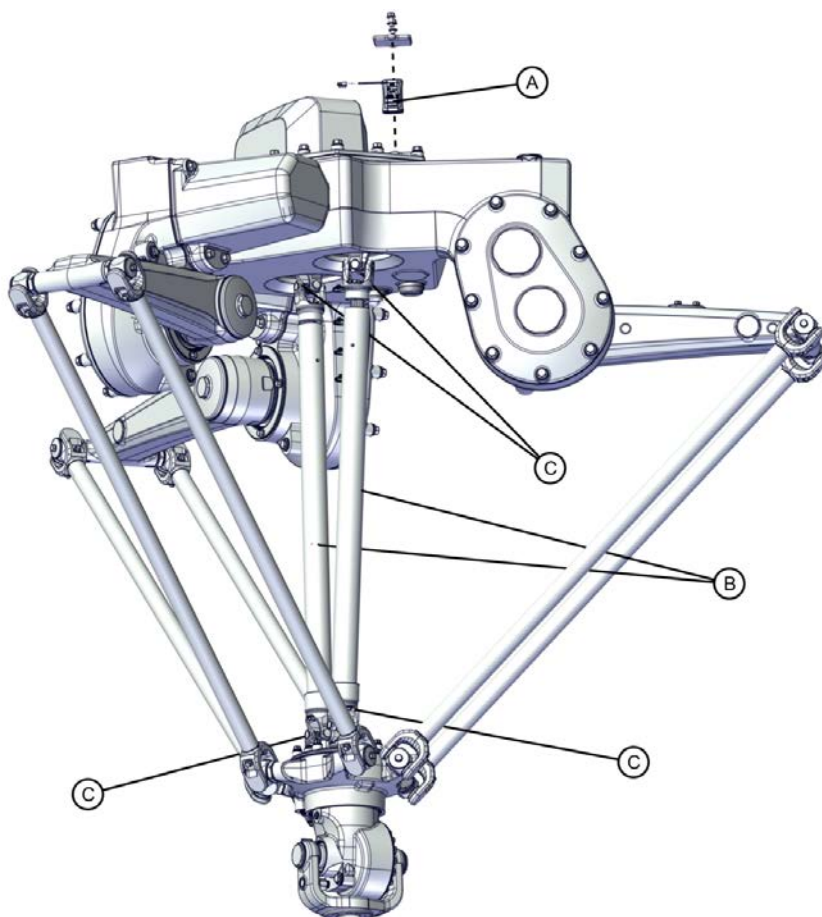
12.2 Wear parts

Wear part list

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

	Description	Article part number	IRB 390 - 15/1300	IRB 390 - 10/1300	Spare part level
A	Battery unit Battery includes protection circuits. Only replace with the specified spare part or an ABB-approved equivalent.	3HAC044075-001	X	X	L1
B	Telescopic shaft unit Nipple dimension: DIN 3402	3HAC059382-003	1 pcs	2 pcs	L1
C	Universal joint	3HAC059503-001	2 pcs	4 pcs	L1

Wear part illustration



xx2100000316



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