

ROBOTICS

Product manual, spare parts

IRB 760



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Product manual, spare parts

IRB 760 - 450/3.2

IRB 760 - 445/3.2

M2004, OmniCore

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Revision: H

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Original instructions.

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Overview of this manual

About this manual

This manual contains spare parts for:

- IRB 760.

Usage

This manual shall be used as a complement to the Product manual for IRB 760 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

Reference	Document ID
<i>Product manual - IRB 760</i>	<i>3HAC039838-001</i>
<i>Circuit diagram - IRB 760</i>	<i>3HAC025691-001</i>

Revisions

Revision	Description
-	First edition
A	This revision includes the following updates: <ul style="list-style-type: none"> • Added spare part numbers for the customer connection kits, see Options on page 33. • A new SMB unit and battery is introduced, with longer battery lifetime.
B	This revision includes the following updates: <ul style="list-style-type: none"> • Spare parts with color Graphite White are added to the spare part lists. • Article number for SMB unit (3HAC031851-001) changed to 3HAC046686-002.

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Revision	Description
C	Published in release R16.2. The following updates are done in this revision: <ul style="list-style-type: none">• Corrections due to updates in SAP terminology.• Updated spare parts due to new standard calibration method (Axis Calibration).<ul style="list-style-type: none">- Base- Frame- Lower arm- Parallel arm- Tilthouse• Updated spare parts due to sealing upgrade in the motors:<ul style="list-style-type: none">- Motors
D	Published in release R18.1. The following updates are done in this revision: <ul style="list-style-type: none">• Updated spare part number brake release board (was DSQC563, is DSQC1050)• Added spare part numbers for parts belonging to the gearboxes.
E	Published in release 20C. The following updates are done in this revision: <ul style="list-style-type: none">• Added variant IRB 760 - 445/3.2.• Updated relevant sections with parts for new variant
F	Published in release 20D. The following updates are done in this revision: <ul style="list-style-type: none">• Added customer cable harness Paramulti (with Ethernet).
G	Published in release 22C. The following updates are done in this revision: <ul style="list-style-type: none">• Corrected article numbers for axis-6 gearbox o-ring and turning disk o-ring.
H	Published in release 23D. The following updates are done in this revision: <ul style="list-style-type: none">• Added support for OmniCore controller.

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

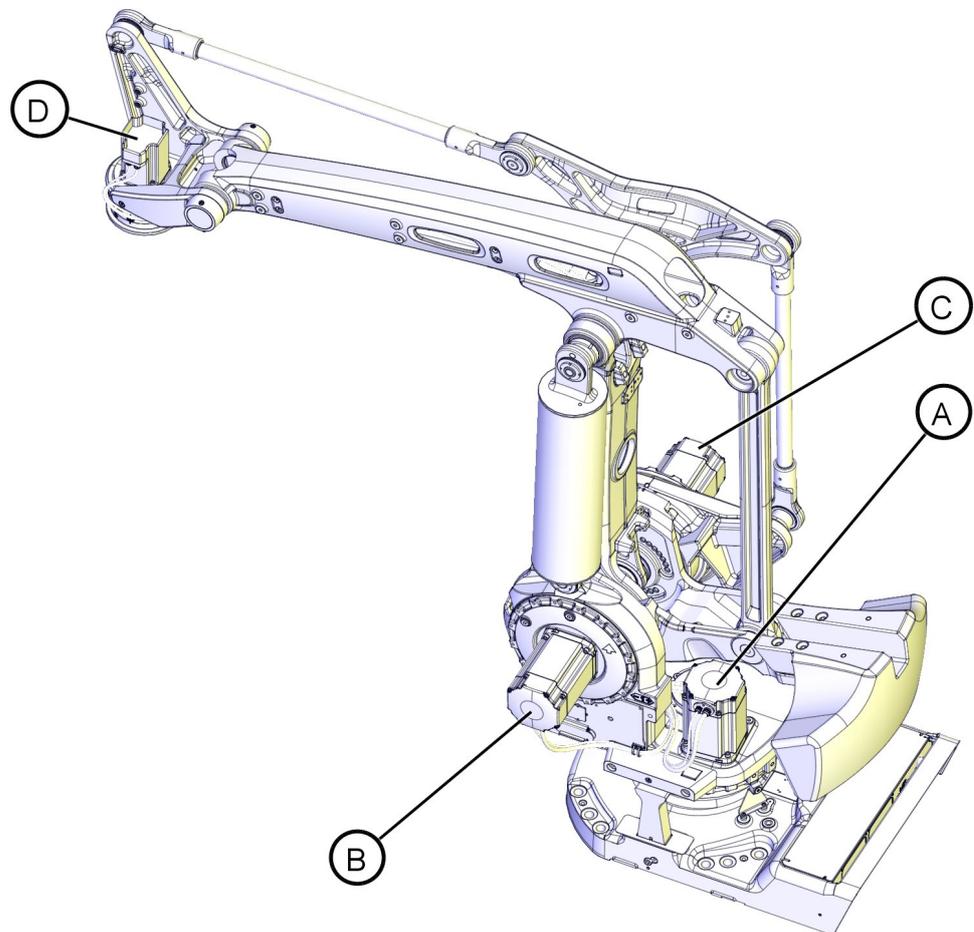
The operating manuals describe hands-on handling of the products. The manuals are aimed at those having first-hand operational contact with the product, that is production cell operators, programmers, and troubleshooters.

1 Spare parts - motors

Spare part list

Pos.	Description	Spare part number
A	Motor, axis 1 incl. pinion	3HAC058992-003
B	Motor, axis 2 incl. pinion	3HAC058991-005
C	Motor, axis 3 incl. pinion	3HAC058991-005
D	Motor, axis 6 incl. pinion	3HAC057544-006

Illustration



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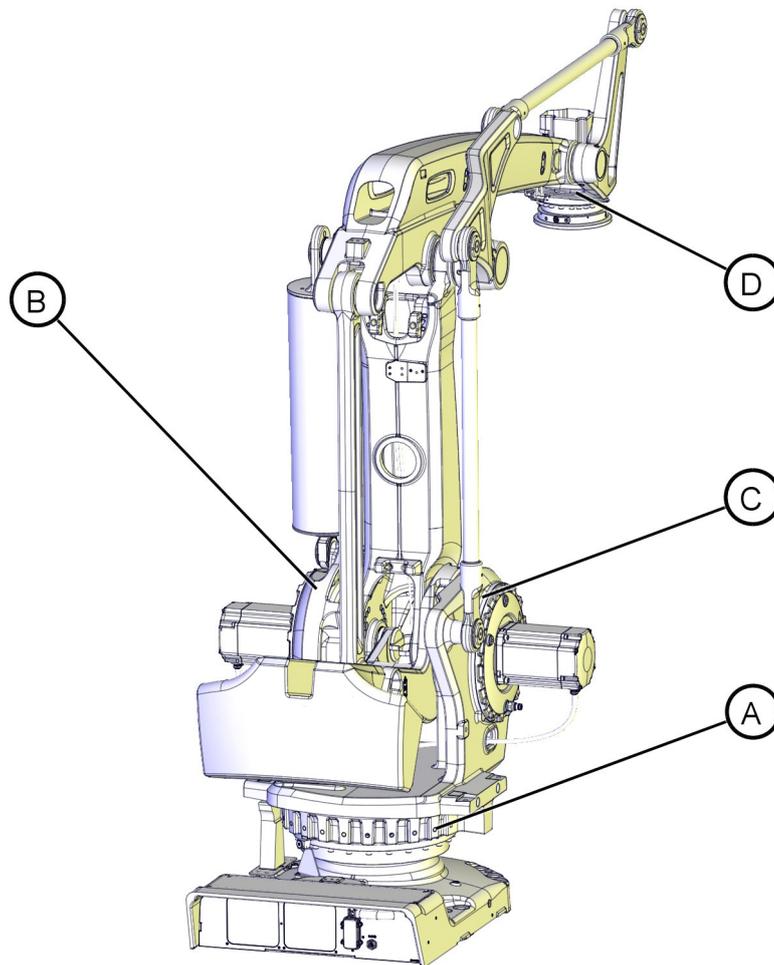
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2 Spare parts - gearboxes

Spare part list - all gearboxes

Pos.	Description	Spare part no.
A	Gearbox axis 1	3HAC037638-003
B	Gearbox axis 2	3HAC022644-001
C	Gearbox axis 3	3HAC022644-001
D	Gearbox axis 6	3HAC037639-002

Illustration



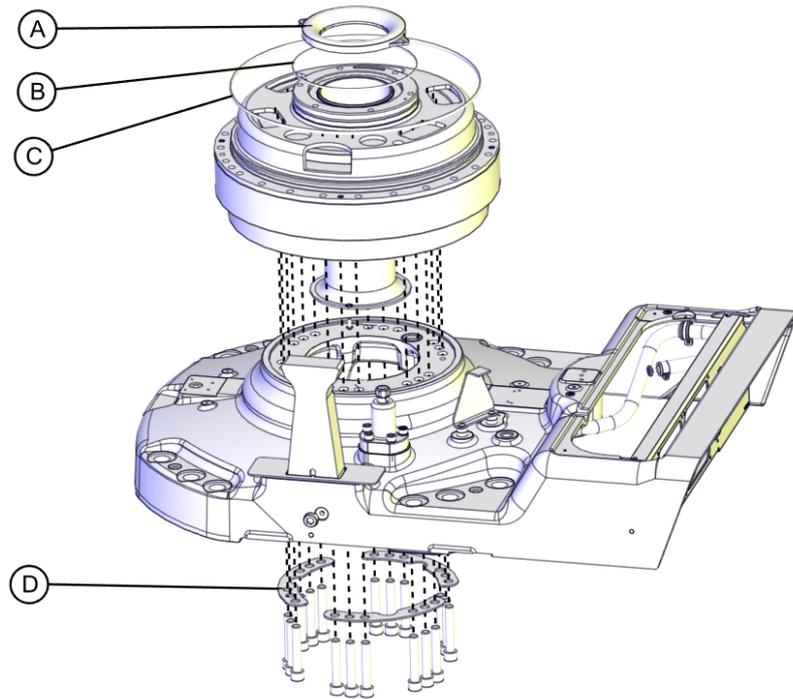
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2 Spare parts - gearboxes

Continued

Axis-1 gearbox - other parts

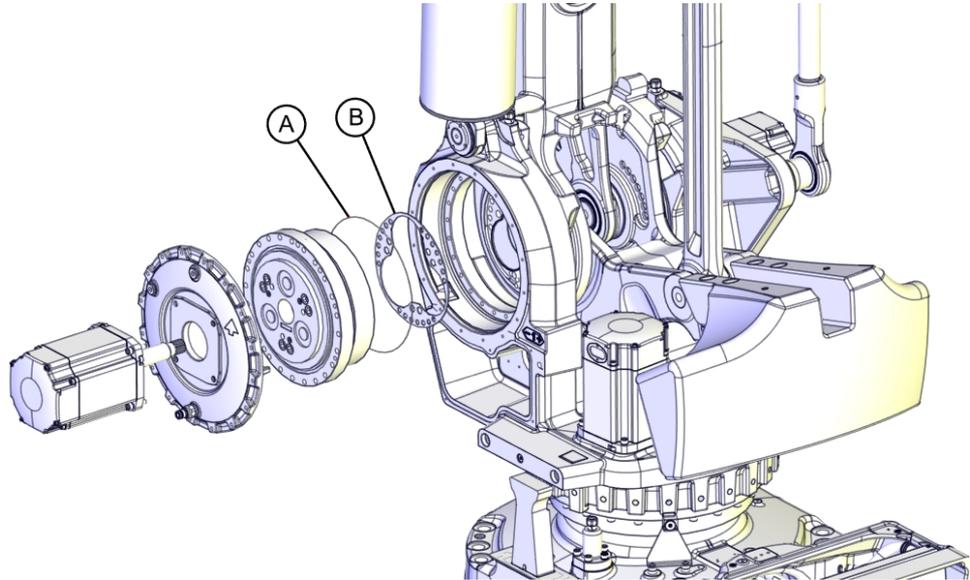


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Pos.	Description	Spare part number
A	Cable guide	3HAC11769-1
B	O-ring	3HAB3772-55
C	O-ring	3HAB3772-54
D	Washer	3HAC11732-2

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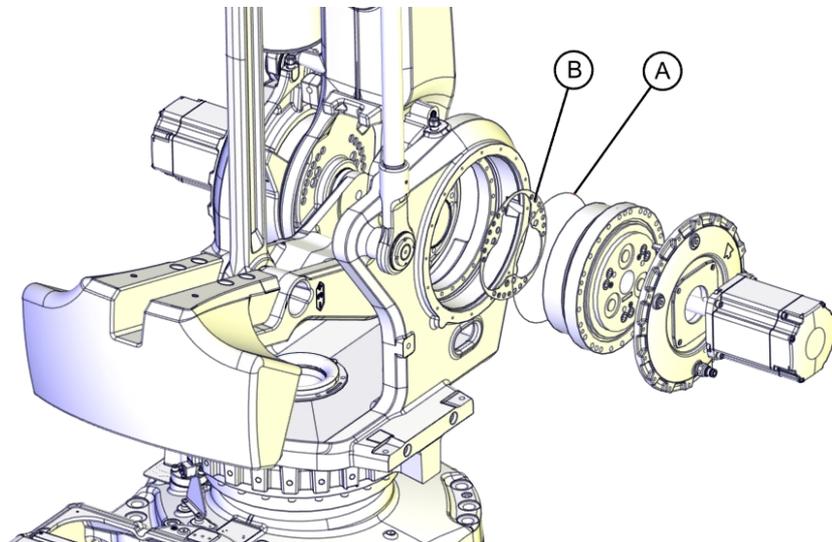
Axis-2 gearbox - other parts



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Pos.	Description	Spare part number
A	O-ring	3HAB3772-127
B	Sealing axes 2-3	3HAC022379-001

Axis-3 gearbox - other parts



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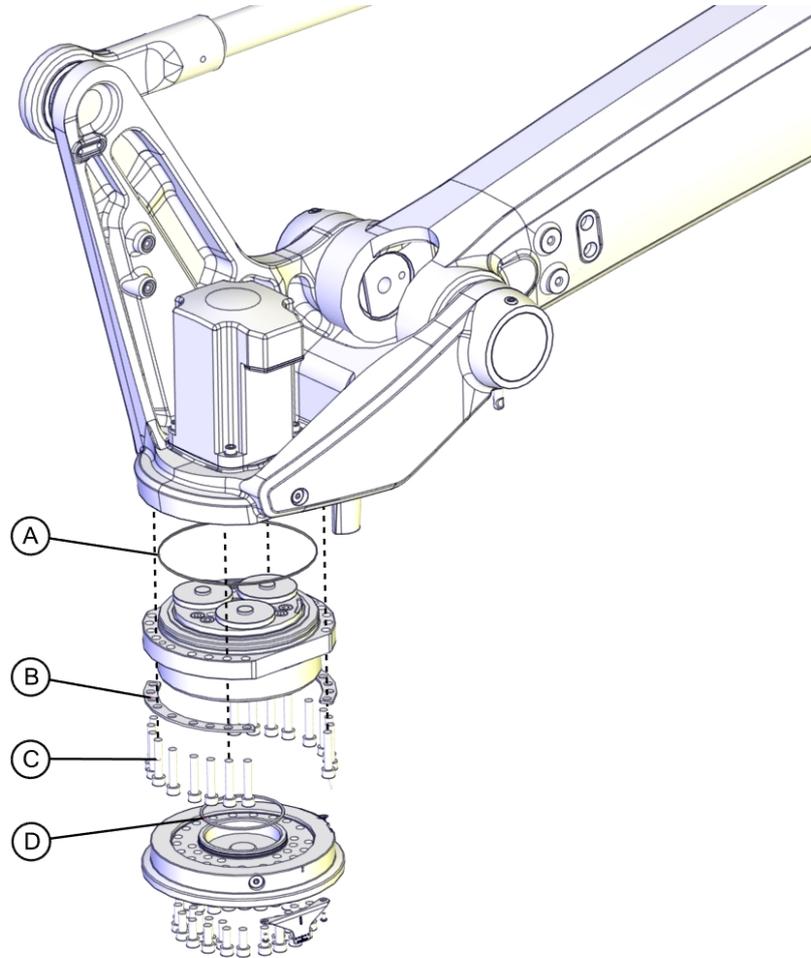
Pos.	Description	Spare part number
A	O-ring	3HAB3772-127
B	Sealing axes 2-3	3HAC022379-001

Continues on next page

2 Spare parts - gearboxes

Continued

Axis-6 gearbox - other parts



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Pos.	Description	Spare part number	Qty
A	O-ring	3HAB3772-49	
B	Washers	3HAC039489-001	
C	Hex socket head cap screw, M10x50 quality 12.9 Gleitmo	3HAB3409-55	18 pcs
D	O-ring	3HAB3772-83	

3 Spare parts - parallel arm and lower arm

Spare parts list

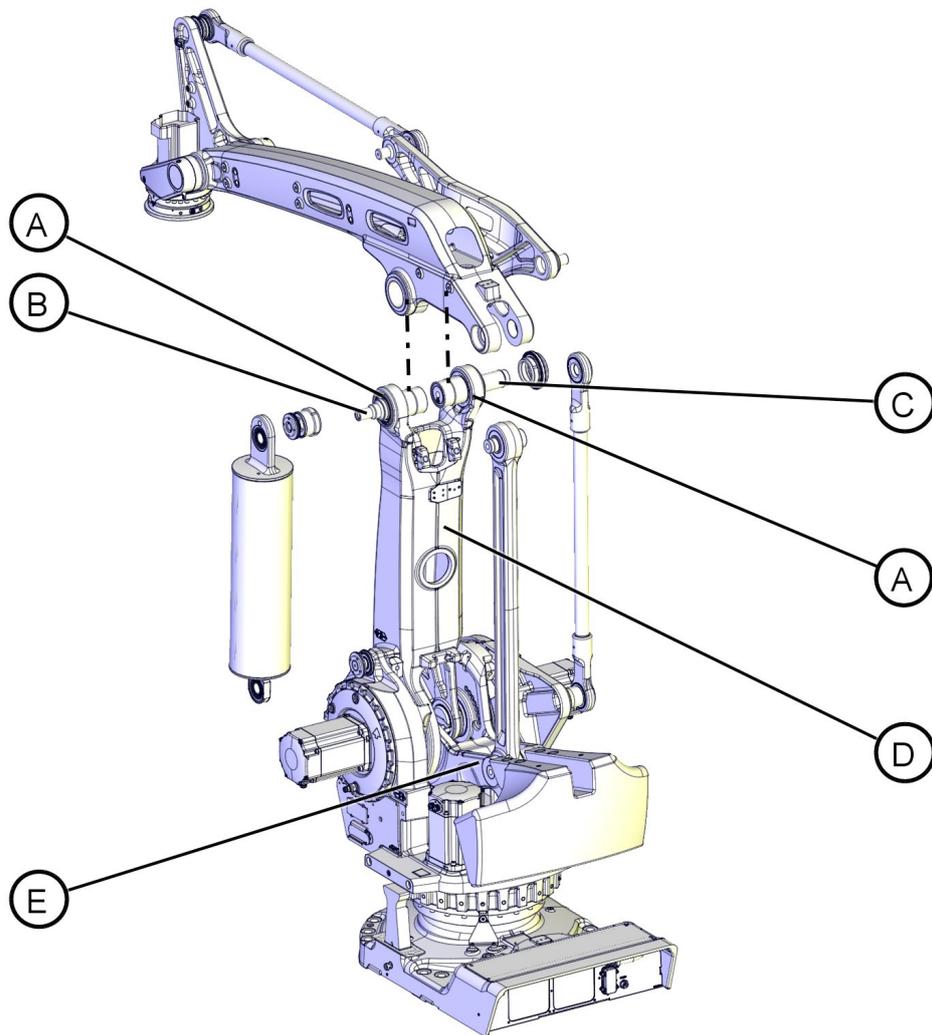
Pos.	Description	Spare part no.	Color	Qty
A	Bearing/sealing kit lower arm/upper arm. Includes components listed below:	3HAC039989-001		
	Sealing	3HAC037321-001		2 pcs
	O-ring	3HAB3772-110		2 pcs
	Taper roller bearing	3HAA2103-27		2 pcs
	Radial seal	3HAB3702-46		2 pcs
B	Shaft between lower arm and upper arm, balancing side	3HAC037313-001		1 pc
C	Shaft between lower arm and upper arm, link side	3HAC037312-001		1 pc
D	Lower arm	3HAC059483-002	White RAL 9003	1 pc
		3HAC059483-001	Graphite White	1 pc
E	Parallel arm	3HAC059484-002	White RAL 9003	1 pc
		3HAC059484-001	Graphite White	1 pc

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3 Spare parts - parallel arm and lower arm

Continued

Illustration



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4 Spare parts - upper arm and tilthouse

Spare part list

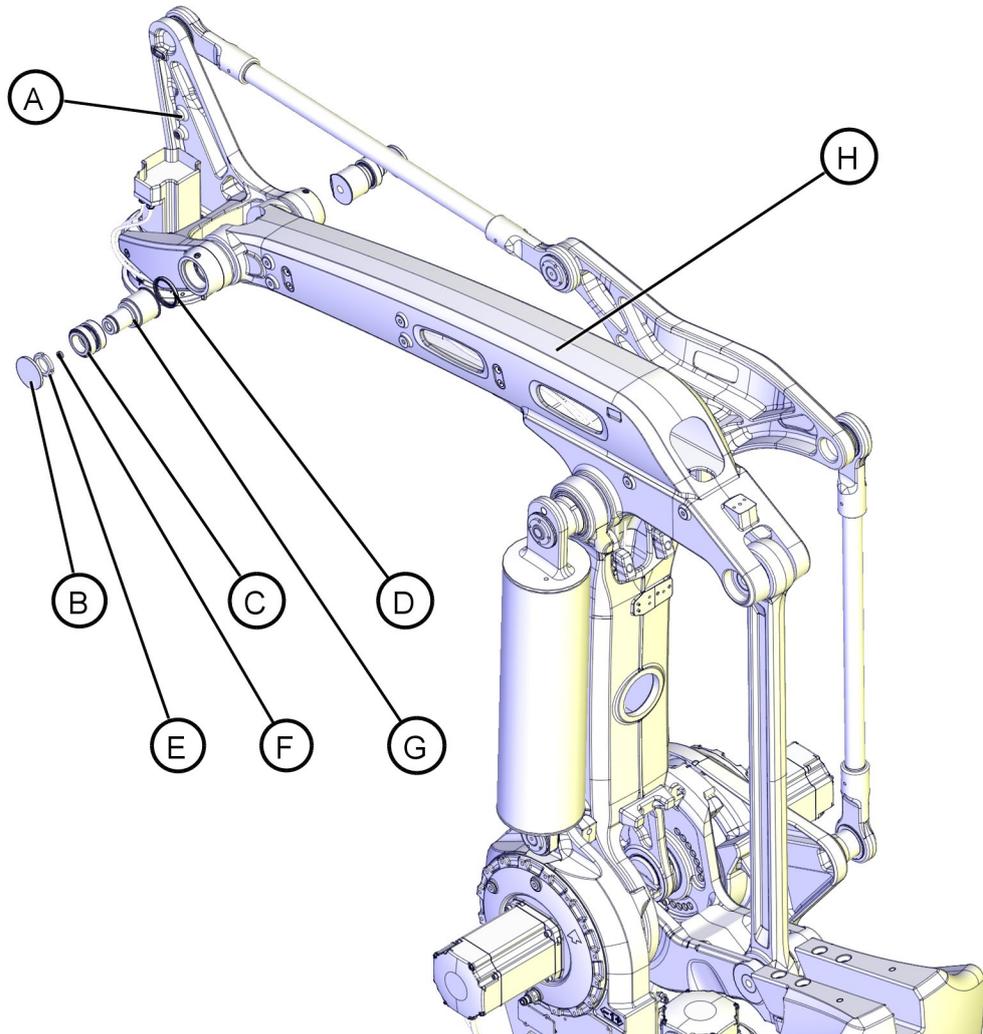
Pos.	Description	Spare part no.	Color	Qty
A	Tilthouse 450/3.2	3HAC059485-002	White RAL 9003	1 pc
		3HAC059485-001	Graphite White	1 pc
		3HAC059485-003	ABB Orange	1 pc
	Tilthouse 445/3.2	3HAC070045-006	White RAL 9003	1 pc
		3HAC070045-004	Graphite White	1 pc
		3HAC070045-005	ABB Orange	1 pc
B-D	Tilthouse kit Includes components listed below:	3HAC040041-001		
	B - VK cover	3HAA2166-20		2 pcs
	C - Taper roller bearing	3HAA2103-13		4 pcs
	D - Sealing ring with dust lip	3HAB3701-19		2 pcs
E	KM nut	3HAC034772-011		2 pcs
F	VK cover	3HAA2166-17		2 pcs
G	Shaft - Tilt	3HAC034772-013		2 pcs
H	Upper arm including bushing (see below)	3HAC034678-006		1 pc
	Bushing	3HAC037314-001		2 pcs
J	Turning disc	3HAC055247-002		1 pc
K	O-ring	3HAB3772-83		1 pcs
L	Hex socket head cap screw M10x25 quality 12.9	3HAB3409-53		33 pcs

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4 Spare parts - upper arm and tilthouse

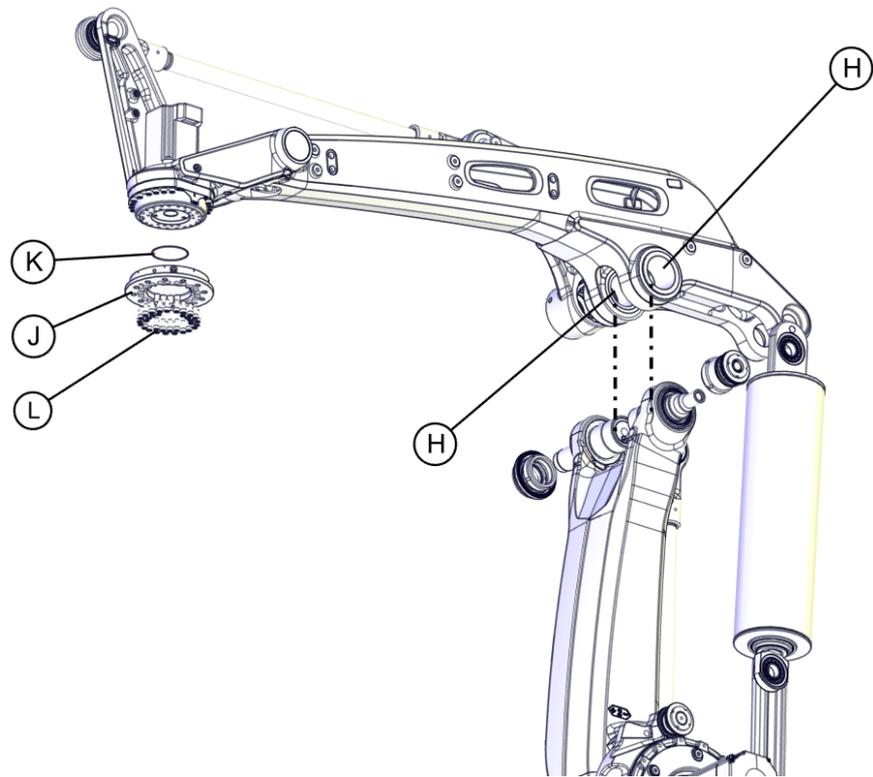
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Illustrations



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5 Spare parts - linkage

Spare part list

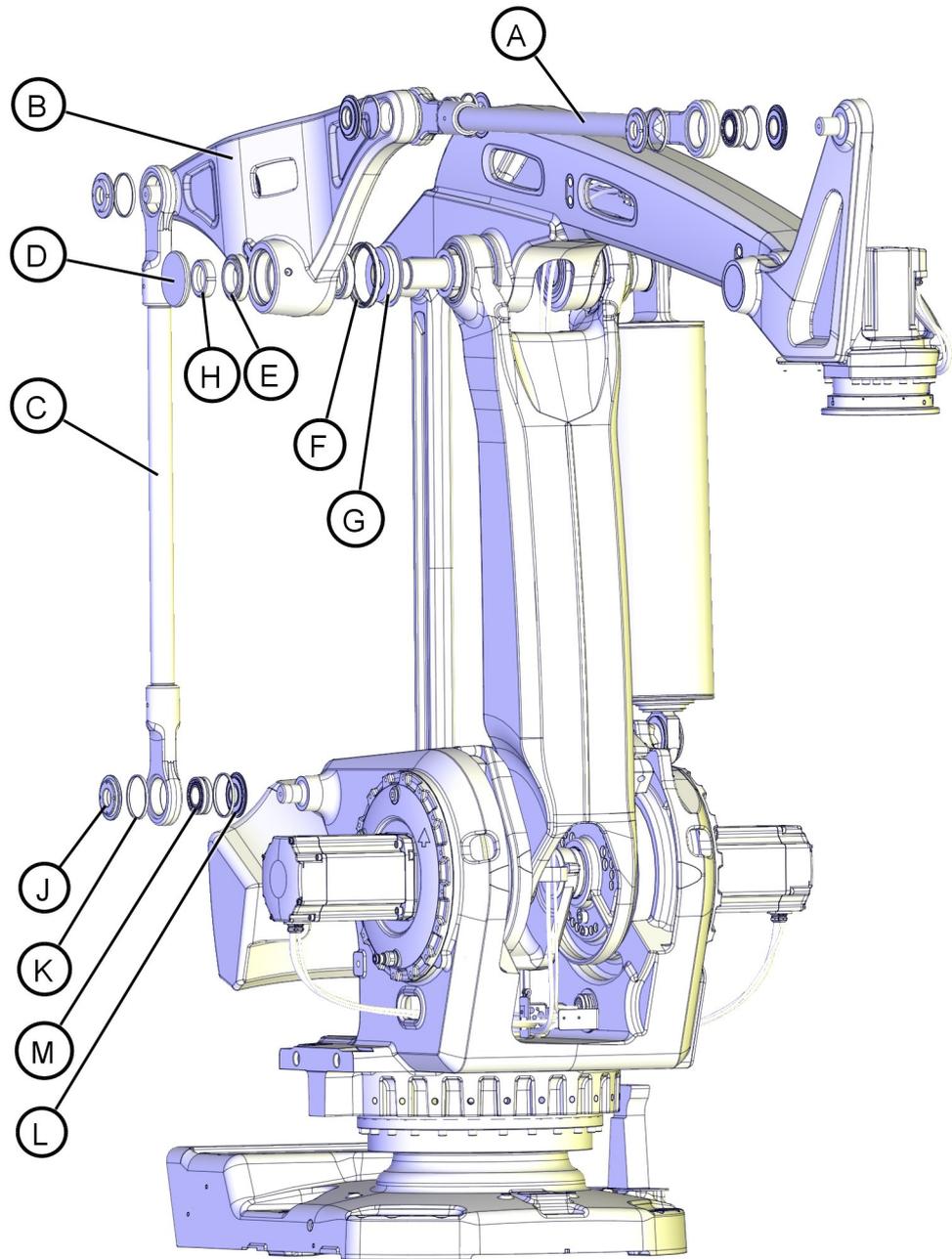
Pos.	Description	Spare part no.	Color	Qty
A	Link arm H (long)	3HAC034477-003		1 pc
B	Link 450/3.2	3HAC034900-004	White RAL 9003	1 pc
	Link 445/3.2	3HAC070046-004	White RAL 9003	1 pc
		3HAC070046-006	Graphite White	1 pc
		3HAC070046-005	ABB Orange	1 pc
C	Link arm V (short)	3HAC034478-003		1 pc
D-G	Link kit Includes components listed below:	3HAC039997-001		
	D - VK cover	3HAA2166-23		1 pc
	E - Taper roller bearing	22133802-8		2 pcs
	F - Radial sealing with dust lip	3HAB3701-41		1 pc
	G - O-ring (inside of support ring)	3HAB3772-15		1 pc
H	Lock nut	3HAC037319-001		1 pc
J-M	Link arm kit Includes components listed below:	3HAC039998-001		
	J - Lock nut complete (incl. sealing)	3HAC037263-001		4 pcs
	K - Support washer	3HAC037260-001		8 pcs
	L - Spherical roller bearing	3HAA2167-11		4 pcs
	M - Spacer ring complete (incl. sealing)	3HAC037262-001		4 pcs

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5 Spare parts - linkage

Continued

Illustration



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6 Spare parts - base, frame, balance unit and parallel rod

Spare part list

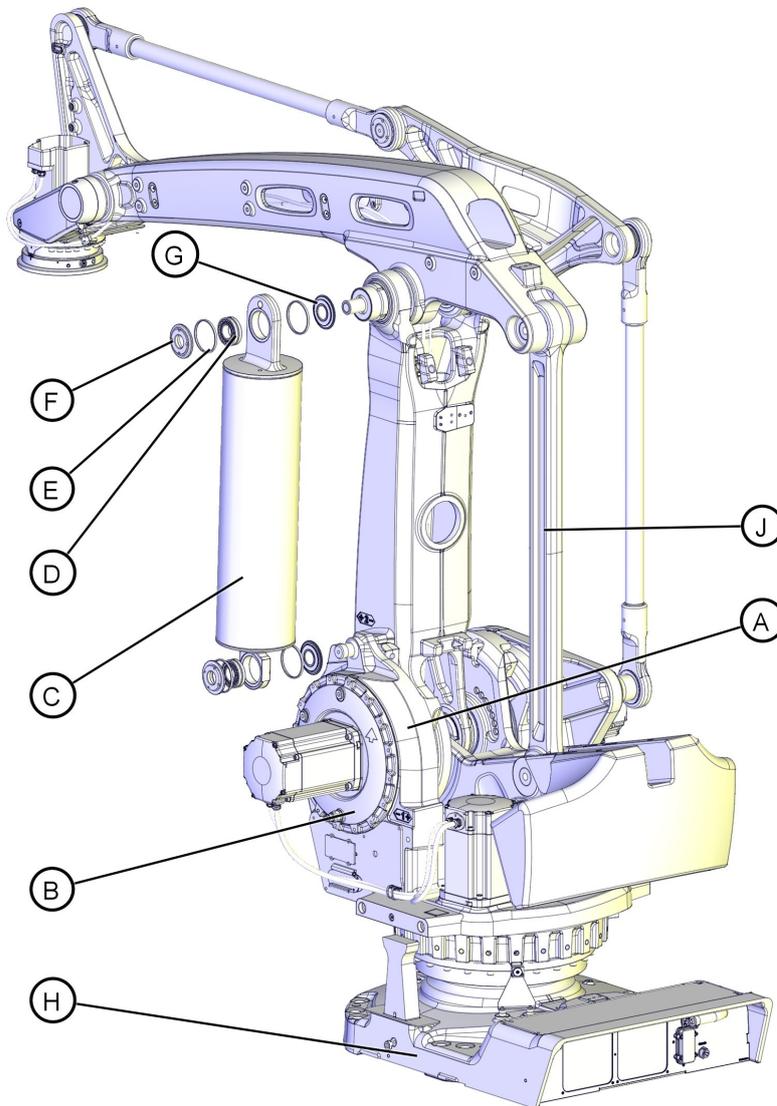
Pos.	Description	Spare part no.	Color	Qty
A	Frame	3HAC037559-007	Graphite White	1 pc
		3HAC037559-004	White RAL 9003	1 pc
B	Cover axis 2/3 (gear)	3HAC021663-004		1 pc
C	Balance unit	3HAC034475-003		1 pc
D	Spherical roller bearing	3HAA2167-11		2 pcs
E	Support washer	3HAC037260-001		4 pcs
F	Lock nut complete (incl. sealing)	3HAC037263-001		2 pcs
G	Spacer ring complete (incl. sealing)	3HAC037262-001		2 pcs
H	Base	3HAC058104-001	Graphite White	1 pc
		3HAC058104-003	White RAL 9003	1 pc
J	Parallel rod	3HAC021084-004		1 pc
K	Shaft calibration	3HAC053515-002	Graphite White	1 pc
		3HAC053515-005	White RAL 9003	1 pc
L	Block for calibration	3HAC053973-001		1 pc

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6 Spare parts - base, frame, balance unit and parallel rod

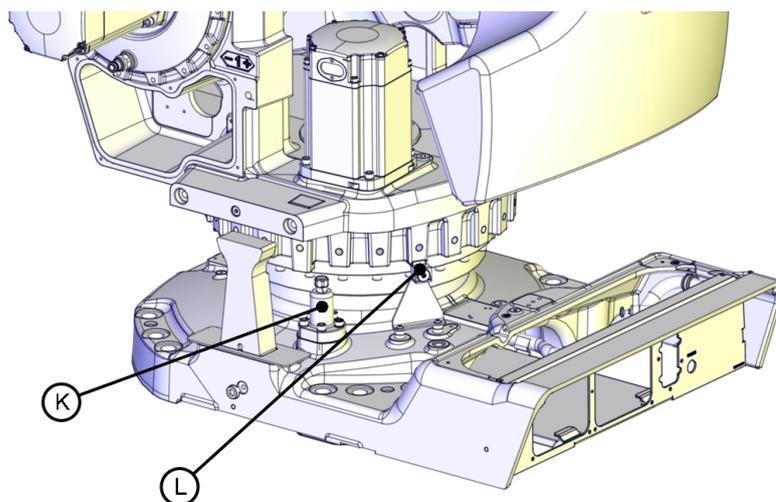
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Illustration



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7 Spare parts - cable harness, brake release and SMB

Spare part list

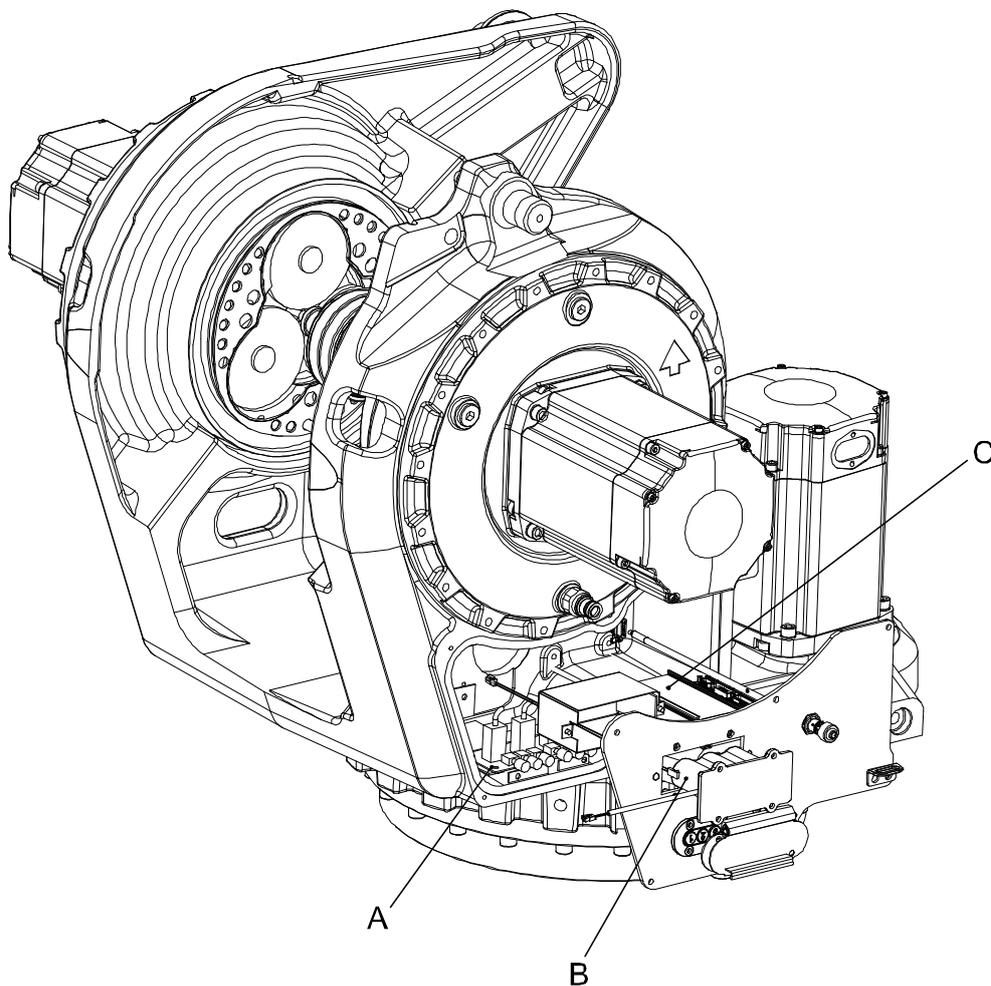
Pos.	Description	Spare part number	Qty
-	Manipulator harness axis 1-6	3HAC022544-001	1 pc
-	Customer harness	3HAC022545-007	1 pc
-	Customer harness, Paramulti with Ethernet	3HAC067238-001	1 pc
	Connector kit, Ethernet on base	3HAC047344-001	1 pc
	Connector kit, Ethernet on tilt unit	3HAC077657-001	1 pc
A	DSQC1050 Brake release board	3HAC065020-001	1 pc
B	Battery pack (2-pole battery contact)	3HAC16831-1	1 pc
	Battery unit (3-pole battery contact) Can only be used with serial measurement unit 3HAC044168-001.	3HAC044075-001	1 pc
C	Serial measurement unit DSQC 633A	3HAC046686-002	1 pc
	Serial measurement unit RMU 101	3HAC044168-001	1 pc
-	Cable battery/SMB Used with battery unit 3HAC044075-001.	3HAC046287-001	1 pc
-	SMB replacement set	3HAC046686-002	-

Continues on next page

7 Spare parts - cable harness, brake release and SMB

Continued

Illustration



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8 Spare parts - Calibration items

Calibration items

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

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9 Options

Part list

Pos.	Description	Part number
-	Customer connection kit: CP/CS, Proc. 1 on base	3HAC16667-1
-	Customer connection kit: R2.CP/CS, Proc. 1 on axis 6	3HAC025246-001
-	Base plate	3HAC12937-7
-	Signal lamp kit For variant IRB 760 - 445/3.2 bracket 3HAC022970-001 is not applicable and screws 9ADA618-53 must be replaced by 9ADA618-55.	3HAC023750-001

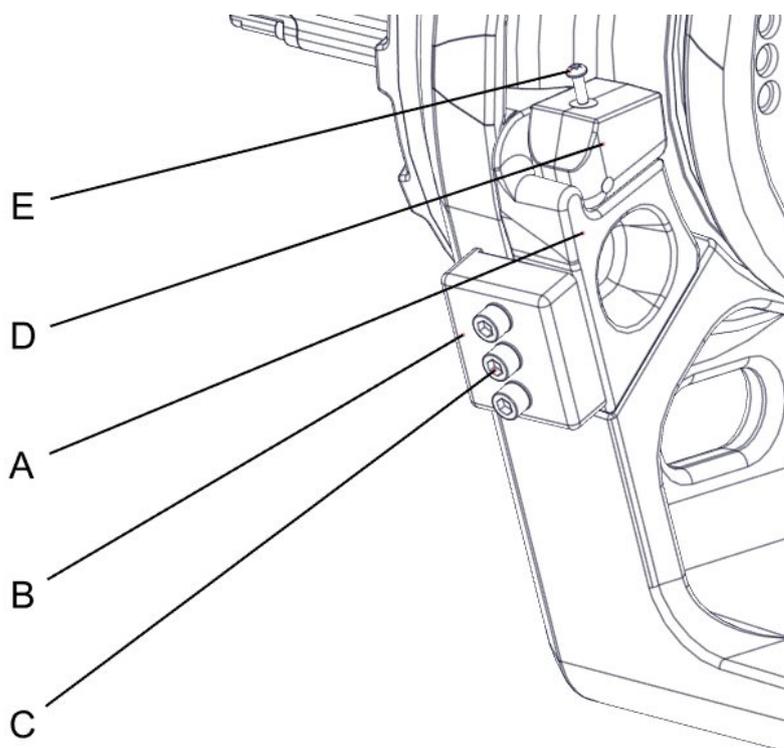
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10 Spare parts - Additional mechanical stop axis 3 (IRB 760-445/3.2)

Part list

Pos.	Description	Part number	Color	Qty
A	Mechanical stop extension	3HAC070252-004	White RAL9003	1 pc
		3HAC070252-005	Graphite White	
		3HAC070252-006	ABB Orange	
B	Clamp	3HAC070254-002		1 pc
C	Screw	3HAB3409-69		3 pc
D	Damper	3HAC12991-1		1 pc
E	Screw for damper	9ADA618-57		1 pc

Illustration



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11 Spare parts - Conversion variant 450/3.2 into 445/3.2

Part list

Pos.	Description	Part number	Qty
-	Tilthouse ¹⁾	See <i>Spare parts - upper arm and tilthouse on page 19</i>	1 pc
-	Link ²⁾	See <i>Spare parts - linkage on page 23</i>	1 pc
-	Mechanical stop extension	<i>Spare parts - Additional mechanical stop axis 3 (IRB 760-445/3.2) on page 35</i>	1 pc
	Clamp	<i>Spare parts - Additional mechanical stop axis 3 (IRB 760-445/3.2) on page 35</i>	1 pc
	Screw	3HAB3409-69	3 pc
	Washer	3HAA1001-134	3 pc
	Damper	3HAC12991-1	1 pc
	Screw for damper	9ADA618-57	1 pc
	Loctite	3HAB7116-1	1 pc
	Dress pack bracket	3HAC070251-001	1 pc
-	Screws for UL lamp	9ADA618-55	2 pc

¹⁾ Replacing this part might require additional parts, such as VK cover, etc. Please refer to *Product manual - IRB 760*, section Replacing the tilthouse unit.

²⁾ Replacing this part might require additional parts, such as VK cover, etc. Please refer to *Product manual - IRB 760*, section Replacement of linkage - link.

For information on the conversion, see User instruction, Converting IRB 760 - 450/3.2 to IRB 760 - 445/3.2, 3HAC073714-001.

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