
ROBOTICS

Product manual, spare parts

IRB 6720



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Product manual, spare parts

IRB 6720

OmniCore

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Revision: B

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Overview of this manual

About this manual

This manual contains spare parts for:

- IRB 6720 and all its variants.

Usage

This manual shall be used as a complement to the product manual for IRB 6720 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 6720</i>	3HAC085697-001
<i>Product specification - IRB 6720</i>	3HAC085704-001
<i>Circuit diagram - IRB 6710/IRB 6720/IRB 6730/IRB 6740</i>	3HAC086333-001

Revisions

Revision	Description
A	First edition.
B	Published in release 23D. The following updates are made in this revision: <ul style="list-style-type: none"> • Updated information label part list.

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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

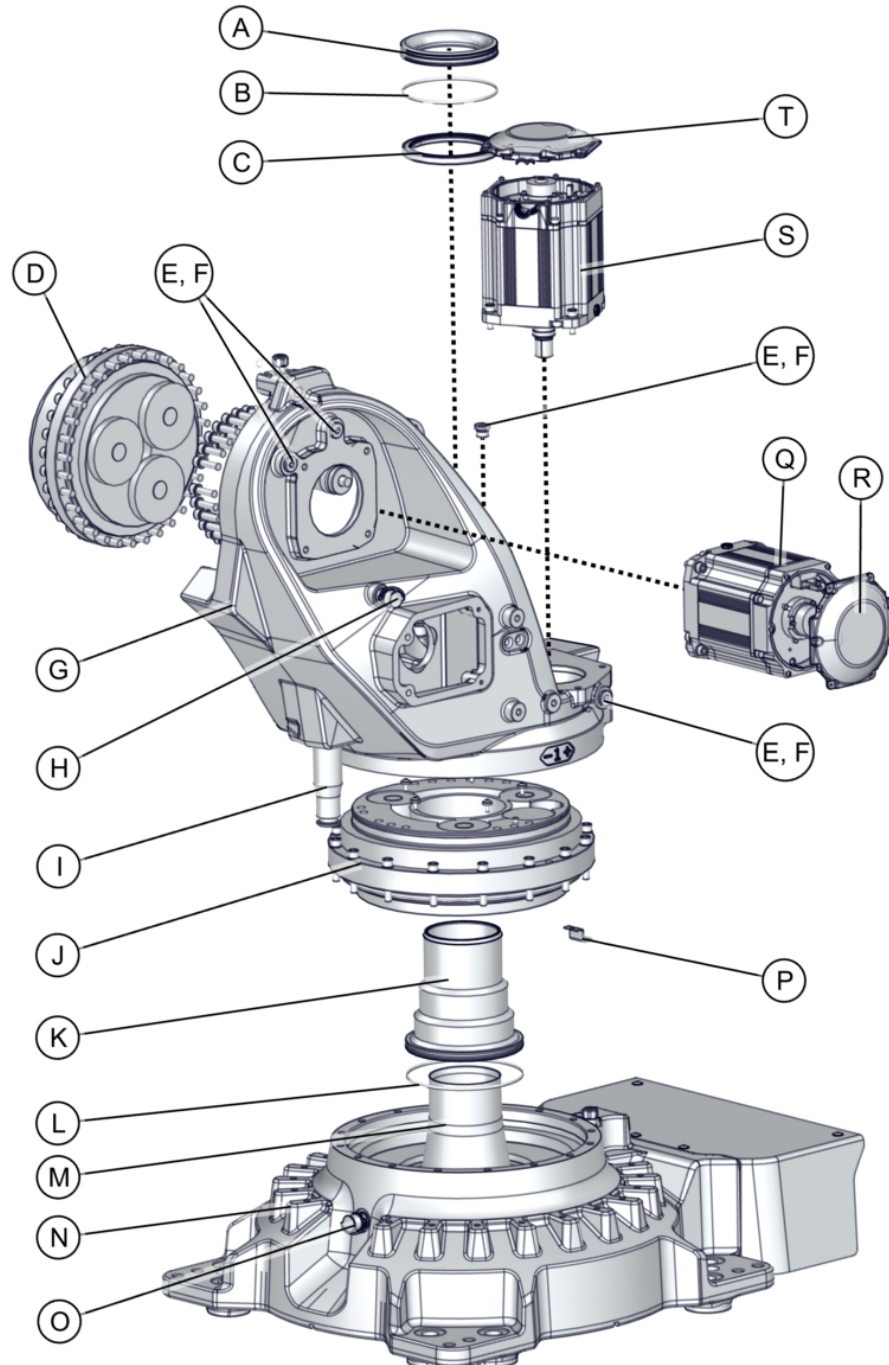
To replace the L2 parts require specialized training and might need special tools. Only ABB field service personnel or qualified personnel trained by ABB can replace L2 parts.

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2 Spare parts - axis 1-2

2.1 Axis 1-2

Parts list



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2 Spare parts - axis 1-2

2.1 Axis 1-2

Continued

	Spare part	Article number	Note	Level
A	Protection ring	3HAC042968-001		L2
B	O-ring	3HAB3772-58	On axis-1 protection ring.	L2
C	Radial sealing with dust lip	3HAB3701-46		L2
D	Gearbox	3HAC082815-003 (Graphite White) 3HAC082815-004 (ABB Orange)	Includes o-ring	L2
E	Magnetic plug, G 1/2"	3HAC16721-1		L1
F	O-ring, G 1/2"	3HAC061327-059	Used on oil plug. Always replace when refitting oil plug.	L1
G	Frame	3HAC081205-004 (Graphite White) 3HAC081205-005 (ABB Orange)		L2
H	Quick coupling G1/2"	3HAC072846-001		L1
I	Mechanical stop pin	3HAC024014-001		L1
J	Gearbox	3HAC081259-003 (Graphite White) 3HAC081259-004 (ABB Orange)	Includes o-rings: A 3HAB3772-164 B 3HAC061327-065  xx2200001407	L2
K	Protection tube	3HAC042961-001		L2
L	O-ring	3HAB3772-150	On axis-1 protection tube.	L2
M	Sealing tube	3HAC042973-001		L2
N	Base	3HAC080415-004 (Graphite White) 3HAC080415-005 (ABB Orange)		L2
O	Quick coupling G1/2"	3HAC072846-001		L1
P	Sync plate, axis 1	3HAC075111-001		L1
Q	Motor unit (including connection box and pinion)	3HAC081262-003 (Graphite White) 3HAC081262-004 (ABB Orange)		L2
R	Connection box cover FS180 with gasket	3HAC072864-003 (Graphite White) 3HAC072864-005 (ABB Orange) 3HAC074336-004 (Graphite White, threaded connection) 3HAC074336-005 (ABB Orange, threaded connection)	Replace if damaged. On axis-2 motor	L2
S	Motor unit (including connection box and pinion)	3HAC081261-003 (Graphite White) 3HAC081261-004 (ABB Orange)		L2

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2 Spare parts - axis 1-2

2.1 Axis 1-2

Continued

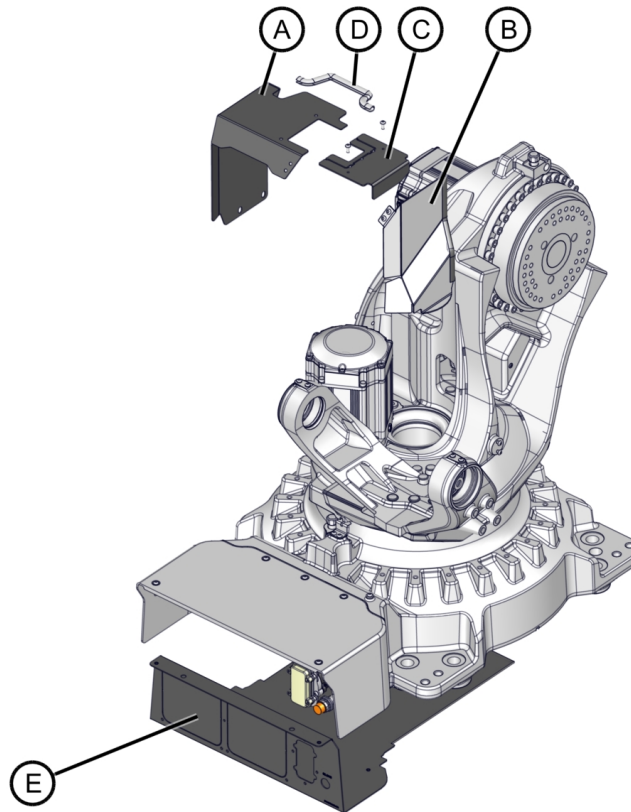
	Spare part	Article number	Note	Level
T	Connection box cover FS180 with gasket	3HAC072864-003 (Graphite White) 3HAC072864-005 (ABB Orange) 3HAC074336-004 (Graphite White, threaded connection) 3HAC074336-005 (ABB Orange, threaded connection)	Replace if damaged. On axis-1 motor	L2

2 Spare parts - axis 1-2

2.2 Axis 1-2 protection type Foundry Plus

2.2 Axis 1-2 protection type Foundry Plus

Parts list

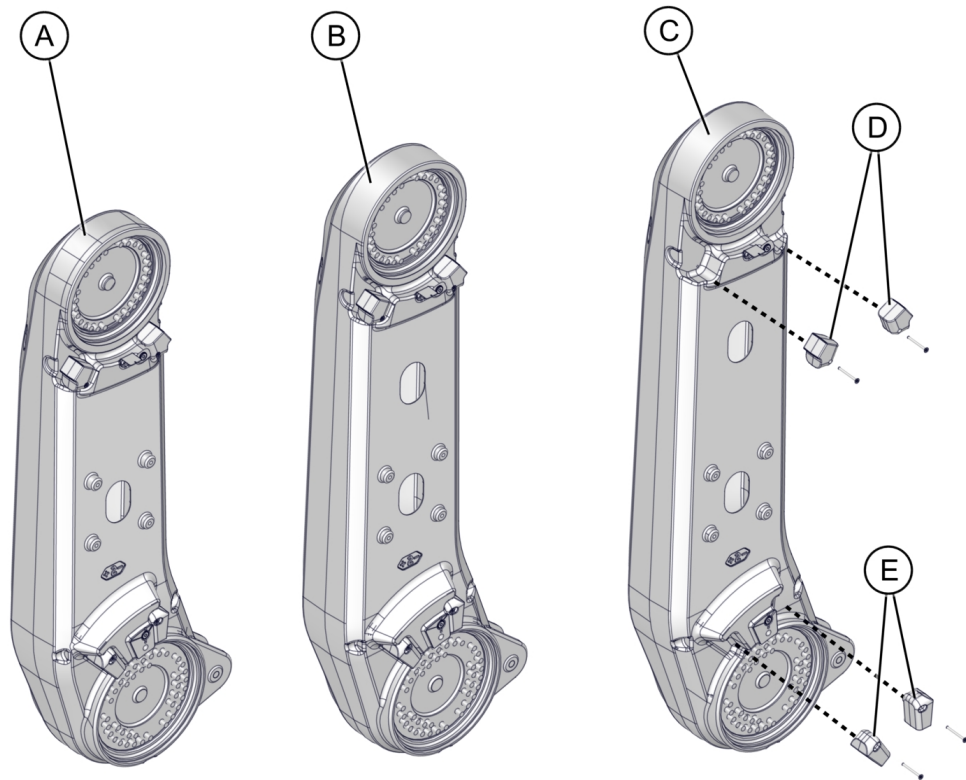


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	Spare part	Article number	Note	Level
A	Protection plate axis 1	3HAC83422-001		L1
B	Protection plate axis 1	3HAC83474-001		L1
C	Plate	3HAC083916-001	Used with DressPack cable package MH3, or if manipulator has no DressPack installed at all. Removed for cable package LeanID MH.	L1
D	Profile	3HAC042533-001		L1
E	Base connector housing	3HAC072234-001		L2

3 Spare parts - lower arm

Parts list



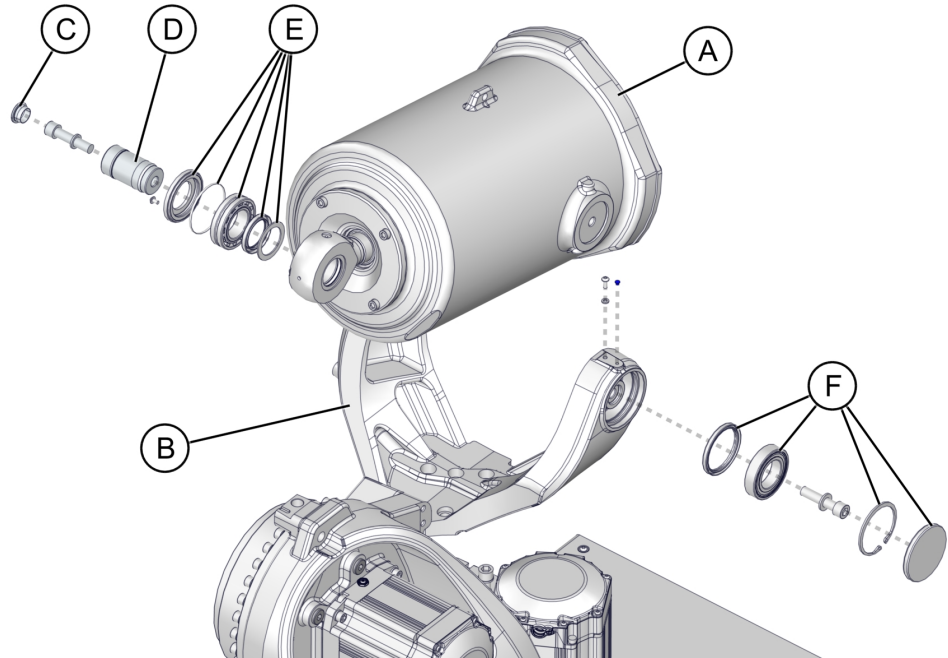
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	Spare part	Article number	Note	Level
A	Lower arm	3HAC081333-004 (Graphite White) 3HAC081333-005 (ABB Orange)	IRB 6720-215/2.5 LID	L2
B	Lower arm	3HAC081334-004 (Graphite White) 3HAC081334-005 (ABB Orange)	IRB 6720-240/2.65 IRB 6720-215/2.65 LID	L2
C	Lower arm	3HAC081335-004 (Graphite White) 3HAC081335-005 (ABB Orange)	IRB 6720-210/2.8 IRB 6720-170/3.1 IRB 6720-200/2.8 LID IRB 6720-150/3.1 LID	L2
D	Damper	3HAC12320-1	Axis 3	L1
E	Damper	3HAC046884-001	Axis 2	L1

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4 Spare parts - balancing device

Parts list



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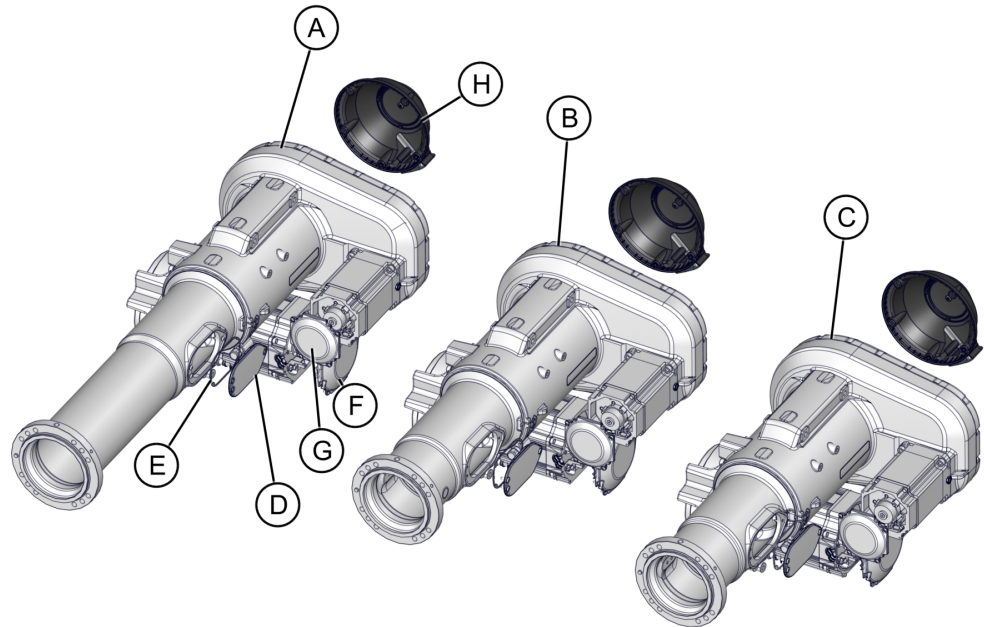
	Spare part	Article number	Note	Level
A	Balancing device	3HAC032124-003 (Graphite White) 3HAC032124-005 (ABB Orange)		L2
B	Cradle	3HAC081447-004 (Graphite White) 3HAC081447-005 (ABB Orange)		L2
C	Protection plug	3HAC4836-26	Located at the front link ear of the balancing device. Replace if damaged.	L1
D	Shaft	3HAC072597-001		L2
E	Maintenance set, link ear	3HAC087168-001	The maintenance kit contains: <ul style="list-style-type: none"> • End cover • Radial sealing with dust lip, (2 pcs) • O-ring • Spherical roller bearing • Washer 	L2
F	Maintenance set cradle	3HAC087164-001	The maintenance set contains: <ul style="list-style-type: none"> • radial sealing with dust lip, 2 pcs • groove ball bearing complete, 2 pcs • retaining ring, bore, 2 pcs • VK-cover, 2 pcs (3HAA2166-13) 	L2

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5 Spare parts - axis 3-4

5.1 Axis 3-4 complete

Parts list



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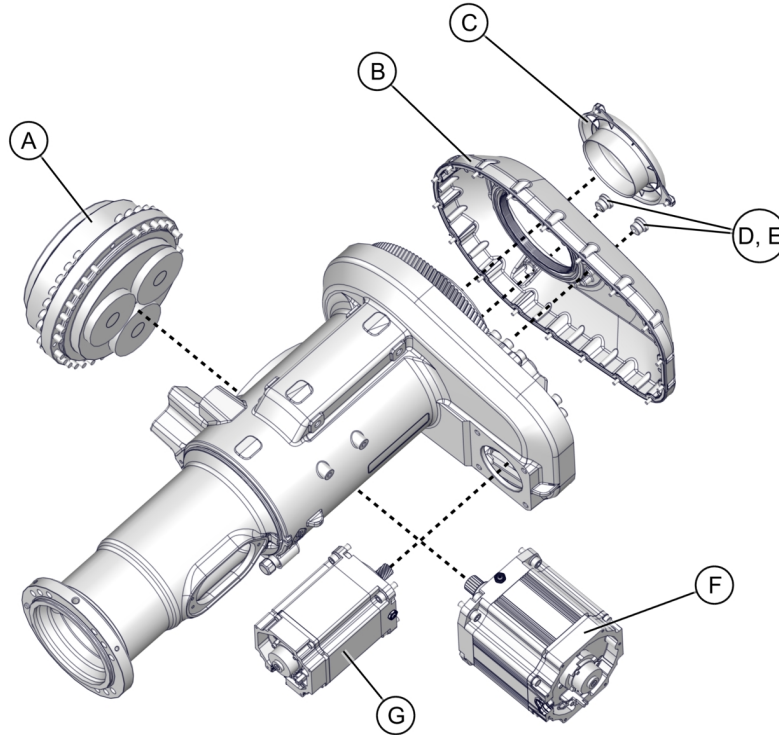
	Spare part	Article number	Note	Level
A	Axis 3-4 24/+30	3HAC082938-002 (Graphite White) 3HAC082938-003 (ABB Orange)	Complete unit with motors and gears. IRB 6720-170/3.1 IRB 6720-150/3.1 LID	L2
B	Axis 3-4 24/0	3HAC082937-002 (Graphite White) 3HAC082937-003 (ABB Orange)	Complete unit with motors and gears. IRB 6720-210/2.8 IRB 6720-200/2.8 LID	L2
C	Axis 3-4 24/-5	3HAC082936-002 (Graphite White) 3HAC082936-003 (ABB Orange)	Complete unit with motors and gears. IRB 6720-240/2.65 IRB 6720-215/2.5 LID IRB 6720-215/2.65 LID	L2
D	Cover	3HAC071727-001		L1
E	Gasket	3HAC073715-001	Protection type Foundry Plus	L1
F	Connection box cover FS180 with gasket	3HAC074336-004 (Graphite White) 3HAC074336-005 (ABB Orange)	Replace if damaged. On axis-3 motor	L2
G	Connection box cover FS130 with gasket	3HAC072863-003 (Graphite White) 3HAC072863-005 (ABB Orange)	Replace if damaged. On axis-4 motor	L2
H	Cover with gasket	3HAC074623-003	Protection type Foundry Plus Includes gasket 3HAC071728-002.	L1

5 Spare parts - axis 3-4

5.2 Axis 3-4 parts

5.2 Axis 3-4 parts

Parts list



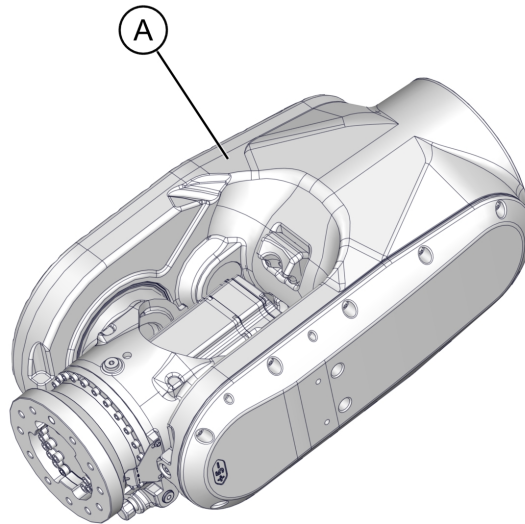
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	Spare part	Article number	Note	Level
A	Gearbox	3HAC081174-003 (Graphite White) 3HAC081174-004 (ABB Orange)	Includes o-ring	L2
B	Arm house cover including cassette sealing	3HAC077945-003 (Graphite White) 3HAC077945-004 (ABB Orange)	Gasket and cassette sealing included	L2
C	Cable guide	3HAC069067-002		L2
D	Magnetic plug, G 1/2"	3HAC16721-1		L1
E	O-ring, G 1/2"	3HAC061327-059	Used on oil plug. Always replace when refitting oil plug.	L1
F	Motor unit (including connection box and pinion)	3HAC081262-003 (Graphite White) 3HAC081262-004 (ABB Orange)		L2
G	Motor unit (including connection box and pinion)	3HAC081177-003 (Graphite White) 3HAC081177-004 (ABB Orange)		L2

6 Spare parts - wrist

6.1 Wrist complete

Parts list



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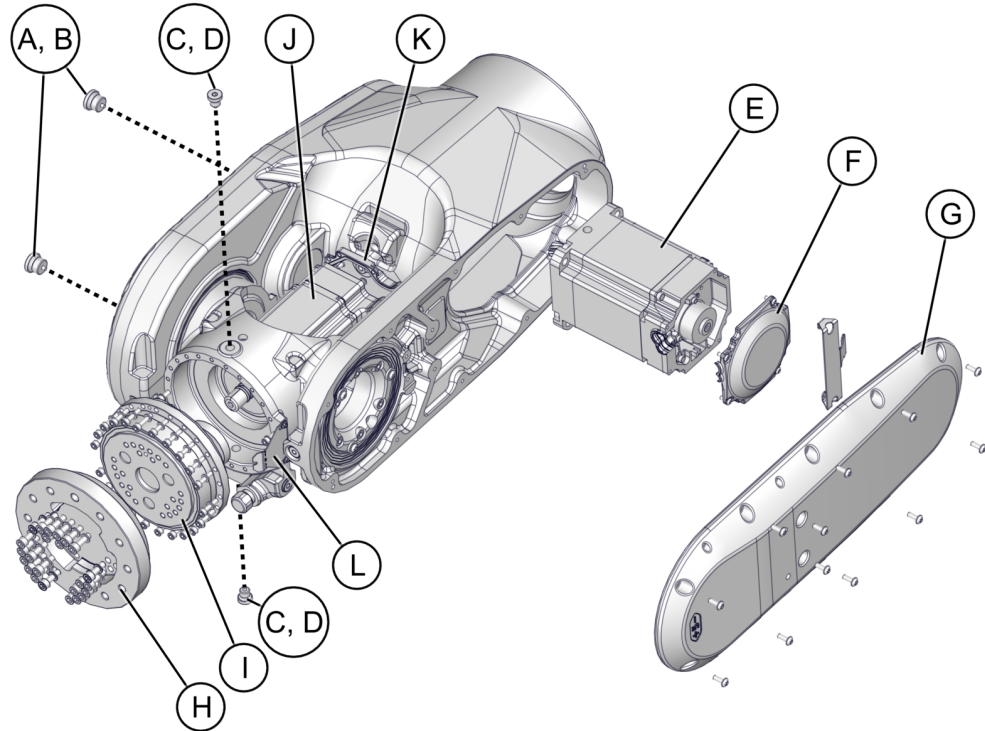
	Spare part	Article number	Note	Level
A	Wrist	3HAC082942-002 (Graphite White) 3HAC082942-003 (ABB Orange)	Complete unit with motors and gears.	L2

6 Spare parts - wrist

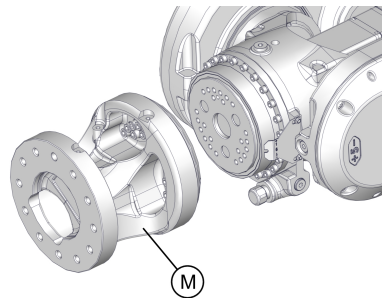
6.2 Wrist parts

6.2 Wrist parts

Parts list



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	Spare part	Article number	Note	Level
A	Magnetic plug, G 1/2"	3HAC16721-1		L1
B	O-ring, G 1/2"	3HAC061327-059	Used on oil plug. Always replace when refitting oil plug.	L1
C	Magnetic plug, G 1/4"	3HAC037925-001		L1
D	O-ring, G 1/4"	3HAC061327-060	Used on oil plug. Always replace when refitting oil plug.	L1
E	Motor unit (including connection box and pinion)	3HAC071373-003		L2
F	Connection box cover with gasket	3HAC072863-003	Replace if damaged. On axis-5 motor	L2

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6 Spare parts - wrist

6.2 Wrist parts Continued

	Spare part	Article number	Note	Level
G	Wrist cover	3HAC078635-004 (Graphite White) 3HAC078635-005 (ABB Orange)	Replace if damaged.	L2
H	Turning disc	3HAC082952-002		L2
I	Gearbox	3HAC079353-002 (Graphite White) 3HAC079353-003 (ABB Orange)	Includes o-ring	L2
J	Motor unit (including connection box and pinion)	3HAC079162-003 (Graphite White) 3HAC079162-004 (ABB Orange)		L2
K	Connection box cover MT100X with gasket	3HAC079381-003 (Graphite White) 3HAC079381-004 (ABB Orange)	Replace if damaged. On axis-6 motor	L2
L	Sync plate, axis 6	3HAC055028-001		L1
M	Process turning disc	3HAC079304-004	IRB 6720-215/2.5 LID IRB 6720-215/2.65 LID IRB 6720-200/2.8 LID IRB 6720-150/3.1 LID	L2

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7 Spare parts - electronic parts

7.1 Manipulator harness ax 1-6

Parts list



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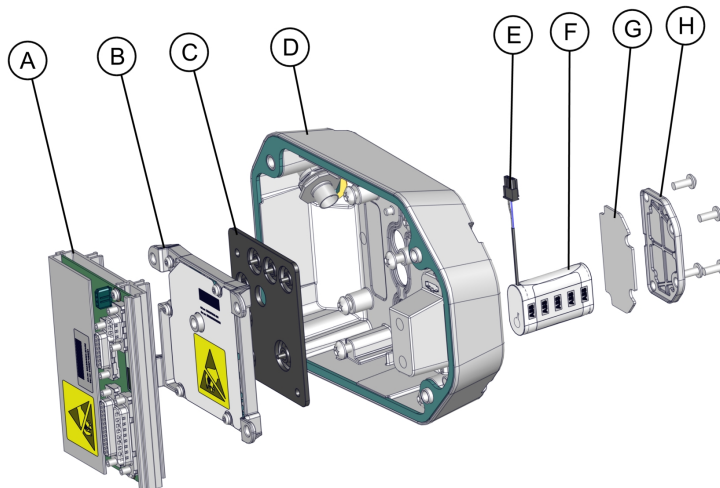
	Spare part	Article number	Note	Level
A	Cable harness	3HAC083039-001	IRB 6720-240/2.65 IRB 6720-215/2.5 LID IRB 6720-215/2.65 LID	L2
B	Cable harness	3HAC078462-001	IRB 6720-210/2.8 IRB 6720-170/3.1 IRB 6720-200/2.8 LID IRB 6720-150/3.1 LID	L2

7 Spare parts - electronic parts

7.2 Electrical parts

7.2 Electrical parts

Parts list



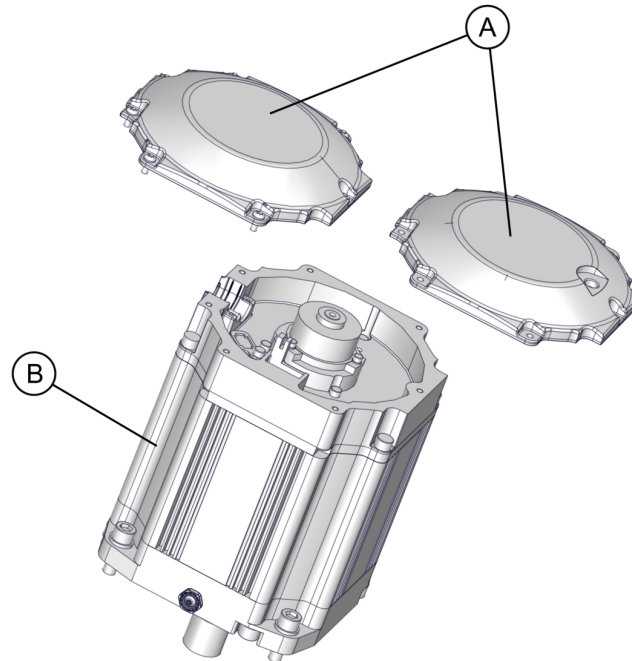
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	Spare part	Article number	Note	Level
A	Serial measurement unit	3HAC043904-001		L2
B	Brake release unit	3HAC073540-001		L2
C	Push button guard	3HAC070515-001		L2
D	Cover, electronics	3HAC081189-003 (Graphite White) 3HAC081189-004 (ABB Orange)	Includes gasket. Replace if damaged.	L2
E	Battery cable	3HAC073539-001	Replace if damaged.	L2
F	Battery pack	3HAC044075-001	Battery includes protection circuits. Only replace with the specified spare part or an ABB-approved equivalent.	L1
G	Gasket for battery cover	3HAC073342-001	Replace if damaged.	L1
H	Cover, battery	3HAC070509-002		L1

8 Spare parts - motors

8.1 Axis-1

Parts list



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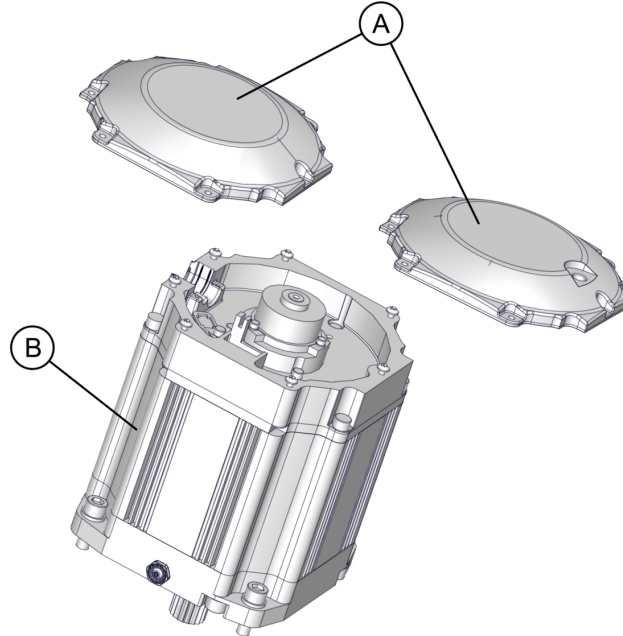
	Spare part	Article number	Note	Level
A	Connection box cover FS180 with gasket	3HAC072864-003 (Graphite White) 3HAC072864-005 (ABB Orange) 3HAC074336-004 (Graphite White, threaded connection) 3HAC074336-005 (ABB Orange, threaded connection)	Replace if damaged. On axis-1 motor	L2
B	Motor unit (including connection box and pinion)	3HAC081261-003 (Graphite White) 3HAC081261-004 (ABB Orange)		L2

8 Spare parts - motors

8.2 Axis-2

8.2 Axis-2

Parts list

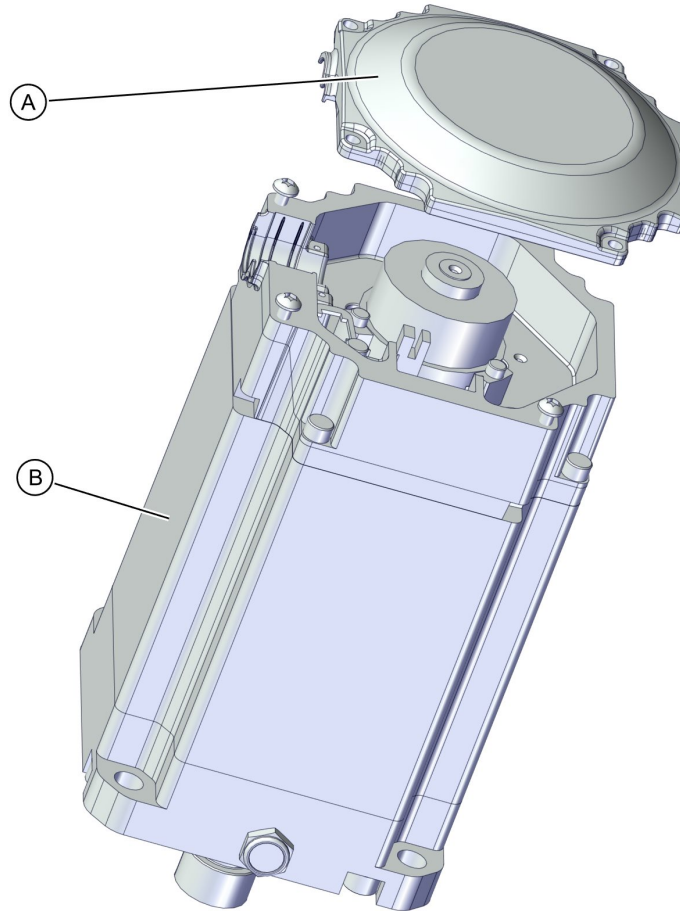


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	Spare part	Article number	Note	Level
A	Connection box cover FS180 with gasket	3HAC072864-003 (Graphite White) 3HAC072864-005 (ABB Orange) 3HAC074336-004 (Graphite White, threaded connection) 3HAC074336-005 (ABB Orange, threaded connection)	Replace if damaged. On axis-2 motor	L2
B	Motor unit (including connection box and pinion)	3HAC081262-003 (Graphite White) 3HAC081262-004 (ABB Orange)		L2

8.3 Axis-3

Parts list



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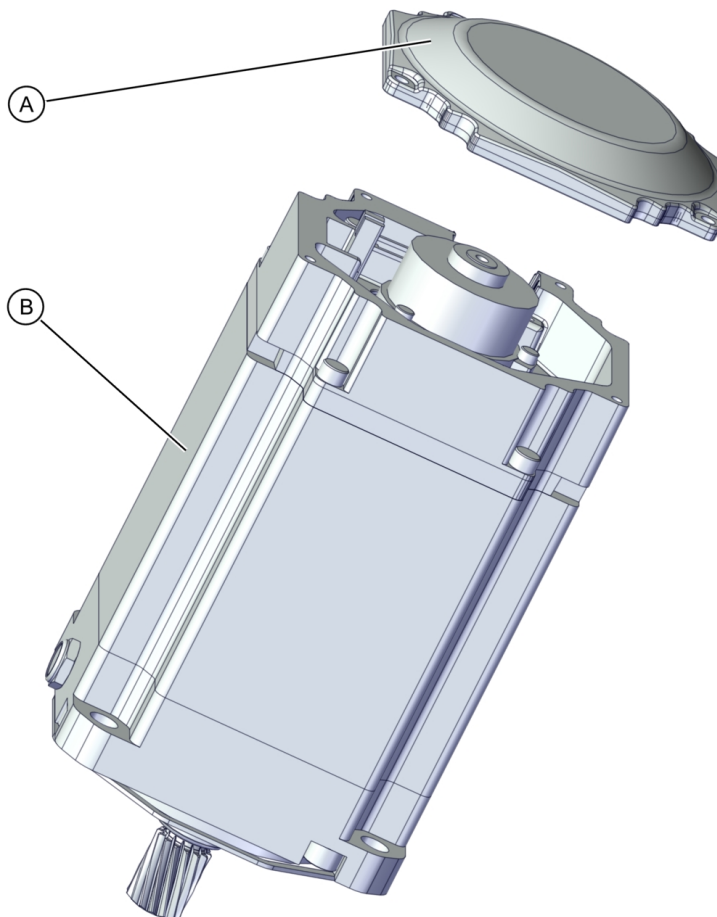
	Spare part	Article number	Note	Level
A	Connection box cover FS180 with gasket	3HAC074336-004 (Graphite White) 3HAC074336-005 (ABB Orange)	Replace if damaged. On axis-3 motor	L2
B	Motor unit (including connection box and pinion)	3HAC081262-003 (Graphite White) 3HAC081262-004 (ABB Orange)		L2

8 Spare parts - motors

8.4 Axis-4

8.4 Axis-4

Parts list

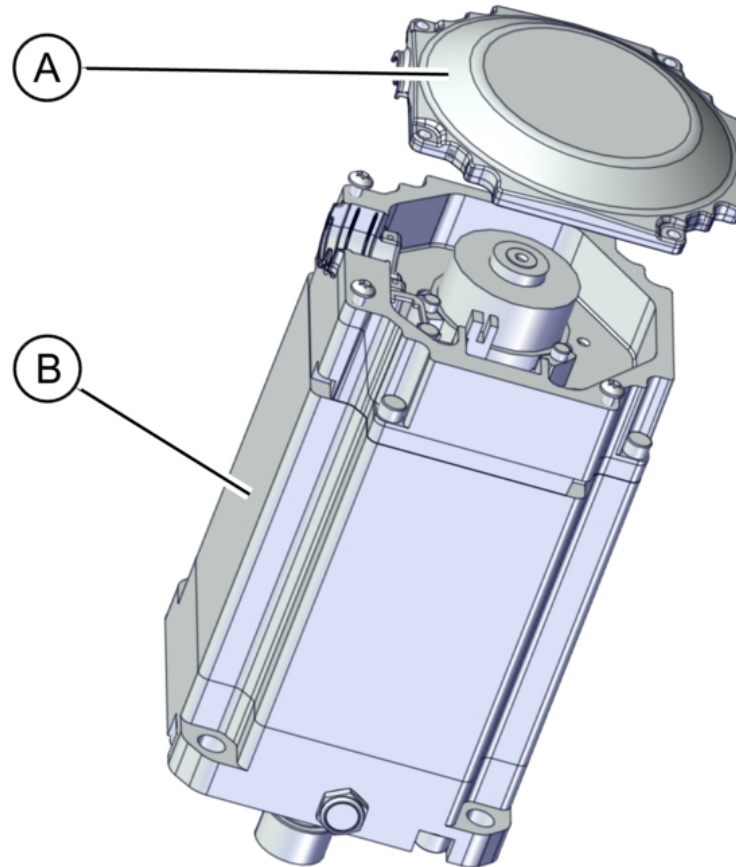


xx2100002257

	Spare part	Article number	Note	Level
A	Connection box cover FS130 with gasket	3HAC072863-003 (Graphite White) 3HAC072863-005 (ABB Orange)	Replace if damaged. On axis-4 motor	L2
B	Motor unit (including connection box and pinion)	3HAC081177-003 (Graphite White) 3HAC081177-004 (ABB Orange)		L2

8.5 Axis-5

Parts list



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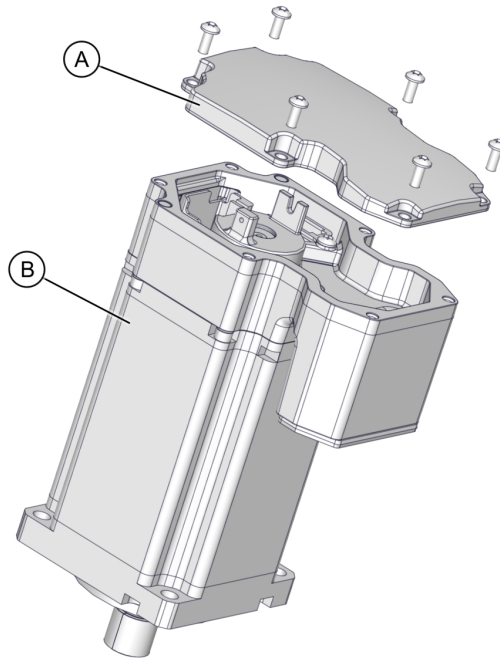
	Spare part	Article number	Note	Level
A	Connection box cover with gasket	3HAC072863-003	Replace if damaged. On axis-5 motor	L2
B	Motor unit (including connection box and pinion)	3HAC071373-003		L2

8 Spare parts - motors

8.6 Axis-6

8.6 Axis-6

Parts list



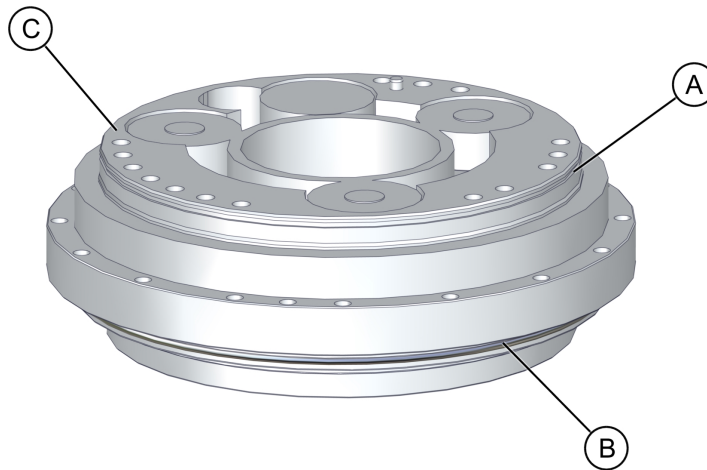
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	Spare part	Article number	Note	Level
A	Connection box cover MT100X with gasket	3HAC079381-003 (Graphite White) 3HAC079381-004 (ABB Orange)	Replace if damaged. On axis-6 motor	L2
B	Motor unit (including connection box and pinion)	3HAC079162-003 (Graphite White) 3HAC079162-004 (ABB Orange)		L2

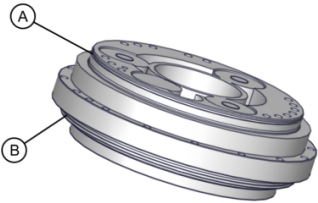
9 Spare parts - gears

9.1 Axis-1

Parts list



xx230000119

	Spare part	Article number	Note	Level
A	O-ring	3HAB3772-164	Included in gearbox spare part.	L2
B	O-ring	3HAC061327-065	Included in gearbox spare part.	L2
C	Gearbox	3HAC081259-003 (Graphite White) 3HAC081259-004 (ABB Orange)	Includes o-rings: A 3HAB3772-164 B 3HAC061327-065 	L2

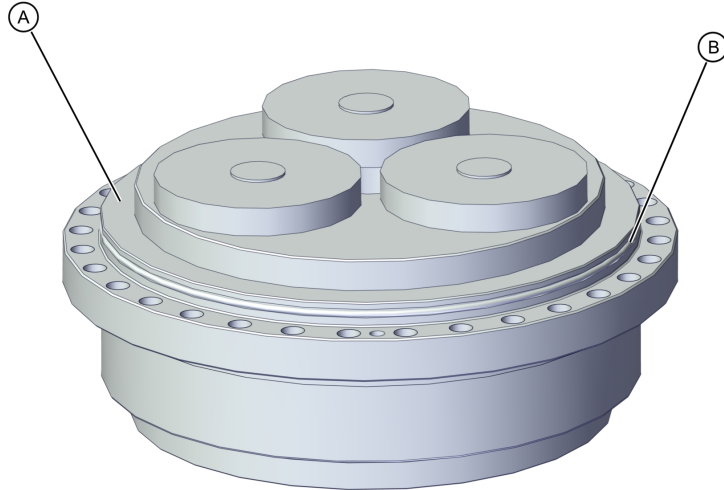
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9 Spare parts - gears

9.2 Axis-2

9.2 Axis-2

Parts list

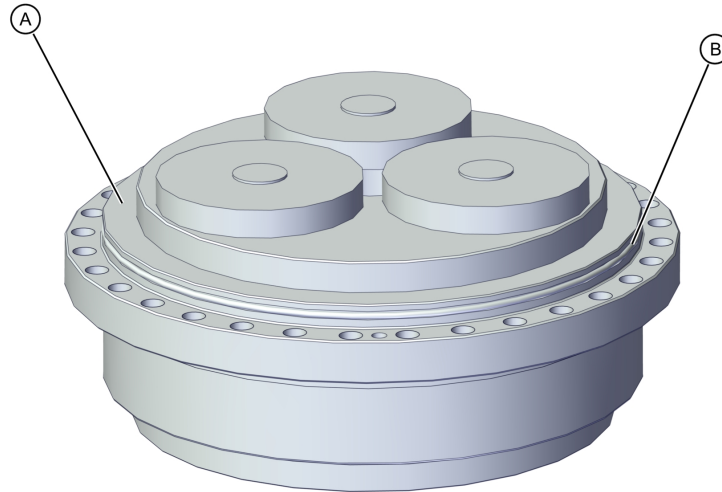


xx2100002250

	Spare part	Article number	Note	Level
A	Gearbox	3HAC082815-003 (Graphite White) 3HAC082815-004 (ABB Orange)	Includes o-ring	L2
B	O-ring	3HAC061327-066	On gearbox. Included in gearbox spare part, but replace if damaged.	L2

9.3 Axis-3

Parts list



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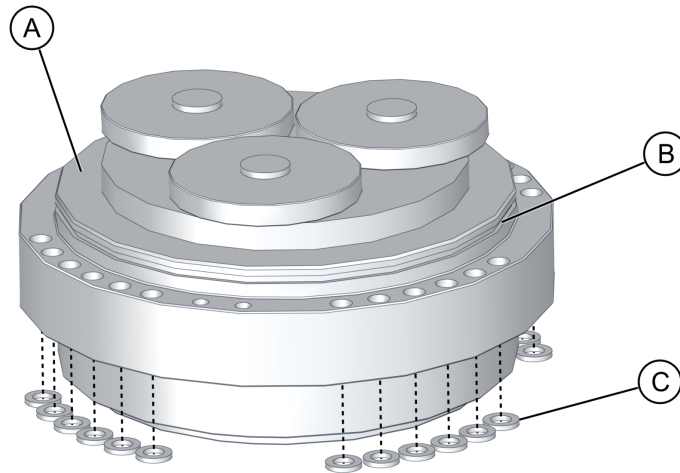
	Spare part	Article number	Note	Level
A	Gearbox	3HAC081174-003 (Graphite White) 3HAC081174-004 (ABB Orange)	Includes o-ring	L2
B	O-ring	3HAC061327-063		L2

9 Spare parts - gears

9.4 Axis-6

9.4 Axis-6

Parts list



xx2300000121

	Spare part	Article number	Note	Level
A	Gearbox	3HAC079353-002 (Graphite White) 3HAC079353-003 (ABB Orange)	Includes o-ring	L2
B	O-ring	3HAB3772-170	Replace if damaged.	L2
C	Washer	3HAC045621-001, 24 pcs		L2

10 Spare parts - accessories

10.1 Axis Calibration items

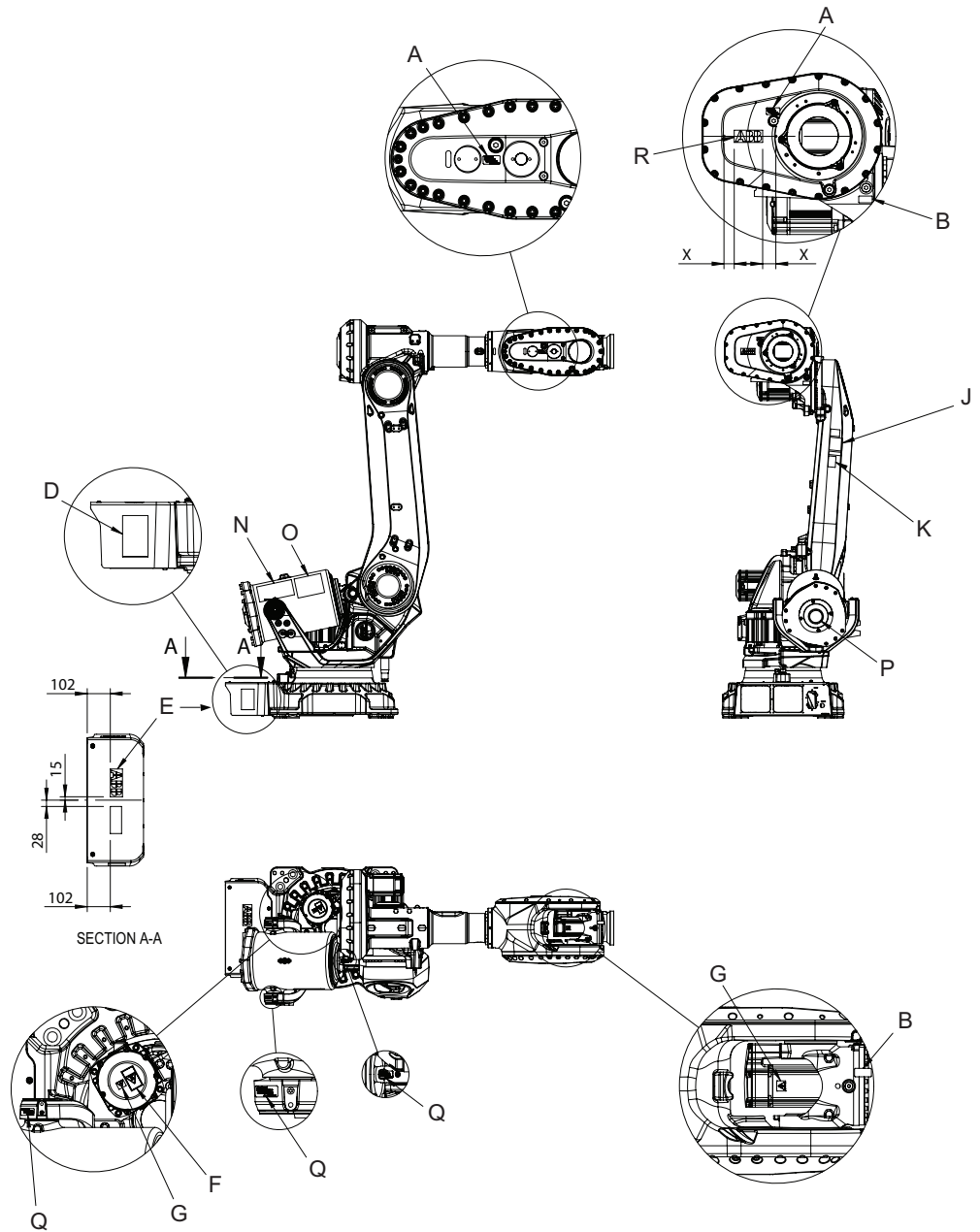
Spare part list

Spare part number	Description	Spare part level
3HAC064875-001 (axes 1, 2, 3 and 4)	Protection cover and plug set	L2
3HAC059487-001 (axes 5 and 6)	Contains replacement calibration pin covers and protective plugs for the bushings.	

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11 Spare parts - labels

Spare part illustration

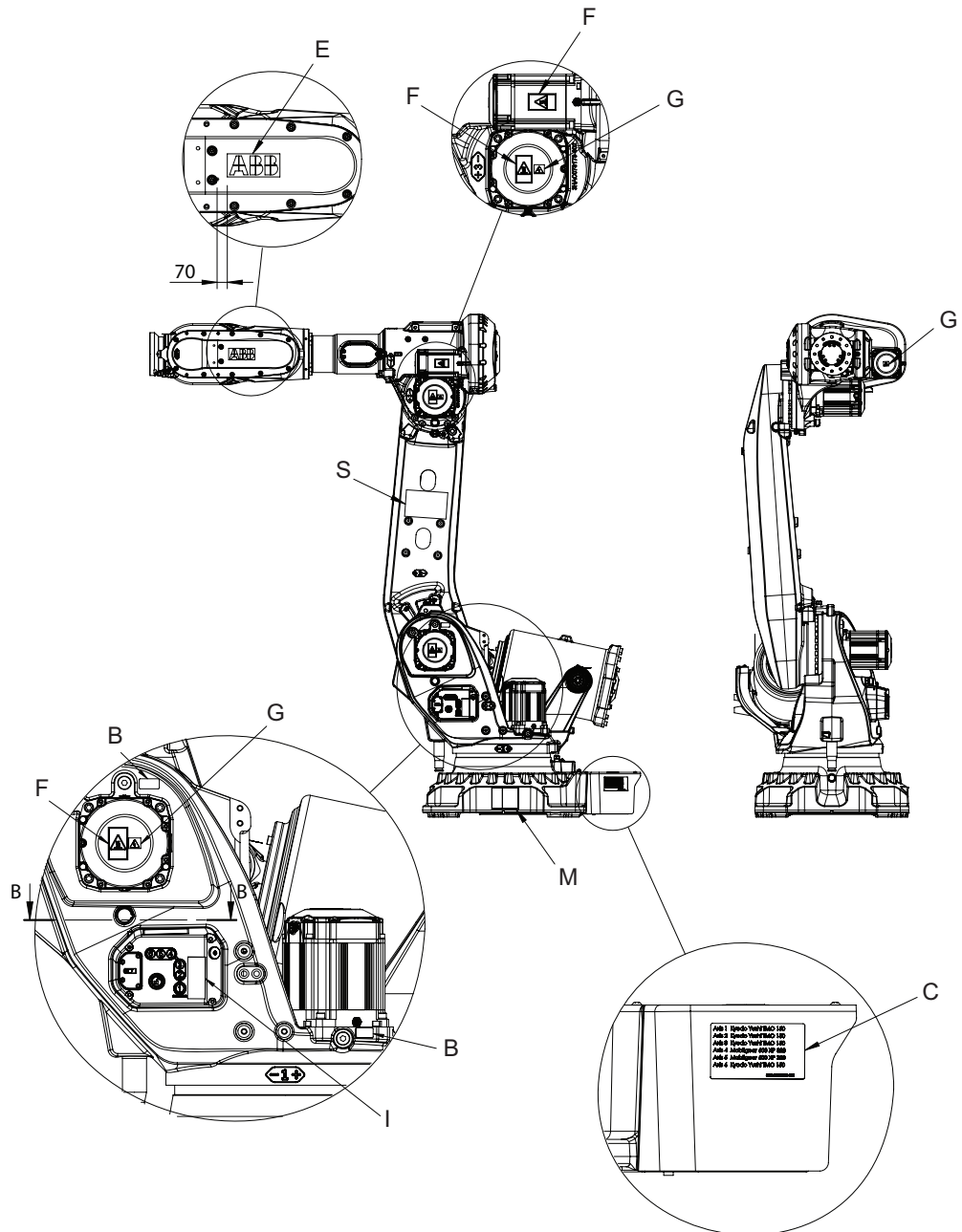


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11 Spare parts - labels

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	Spare part	Article number	Level
A	Lubrication label Mobilgear 600 XP 320	3HAC021485-001	L1
B	Lubrication label Kyodo Yushi TMO 150	3HAC032726-001	L1
C	Lubrication label	3HAC032905-001	L1
D	Warning label Tipping robot	3HAC9191-1	L1
E	ABB logotype label	3HAC0453-5 / 3HAC077301-002	L1

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	Spare part	Article number	Level
F	Warning label Hot surface	29454489-16	L1
G	Warning label Electrical (flash)	3HAC1589-1	L1
H	Warning label / Instruction label Moving robot / MOTORS OFF	3HAC076756-001	L1
I	Instruction label Brake release	3HAC076755-001	L1
J	Rating label	3HAB9549-1	L1
K	Calibration label	3HAC13488-1	L1
L	ABB information sign	3HAC14257-1	L1
M	Warning label Extended working range	3HAC021761-001	L1
N	Warning label Balancing device - no tools	3HAC020611-001	L1
O	Instruction label Before disassembly, see product manual	3HAC4591-1	L1
P	Warning label Stored energy	3HAC9526-1	L1
Q	Lubrication label Optimol longtime PD 0	3HAC021525-001	L1
R	ABB logotype label	3HAC0453-2 / 3HAC5127-1	L1
S	Instruction label Lifting of robot	3HAC046732-001	L1

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12 Consumables and wear parts

12.1 Wear parts

Wear part list

Spare part	Article number
Lubricating oil	-
O-ring, G 1/2"	3HAC061327-059
O-ring, G 1/4"	3HAC061327-060
Battery pack	3HAC044075-001



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