

ROBOTICS

Product manual, spare parts

IRT 510



Trace back information:
Workspace 24B version a5
Checked in 2024-06-05
Skribenta version 5.5.019

Product manual, spare parts

IRT 510

OmniCore

Document ID: 3HAC091204-001

Revision: A

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Overview of this manual

About this manual

This manual contains spare parts for:

- IRT 510.

Usage

This manual shall be used as a complement to the product manual for IRT 510 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 - IRT 510</i>	<i>3HAC091203-001</i>
<i>Circuit diagram - IRT 510</i>	<i>3HAC091050-001</i>
<i>Product manual - IRB 1520</i>	<i>3HAC043435-001</i>
<i>Product manual - IRB 1600/1660</i>	<i>3HAC026660-001</i>
<i>Product manual - IRB 2600</i>	<i>3HAC035504-001</i>
<i>Product manual - IRB 4600</i>	<i>3HAC033453-001</i>

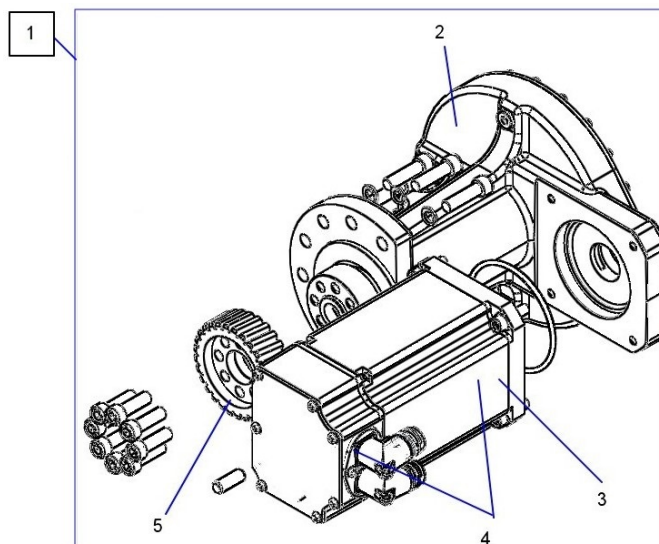
Revisions

Revision	Description
A	First edition.

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1 Drive unit

Illustration



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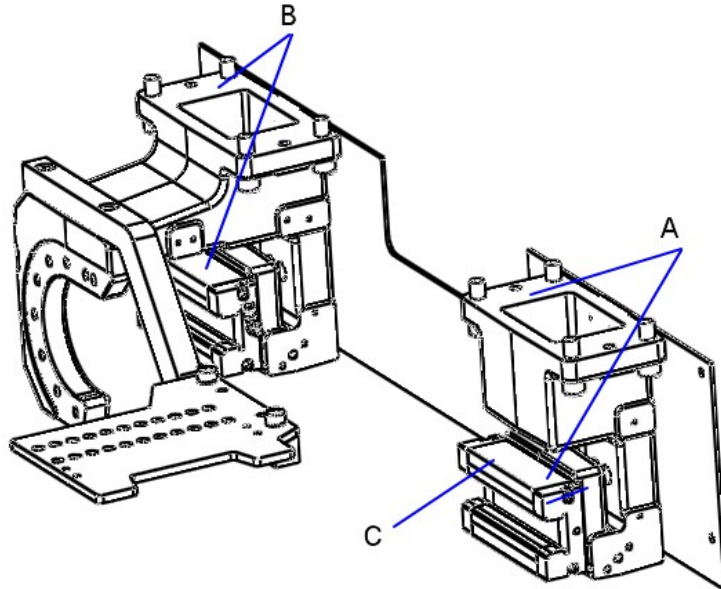
Spare part list

Item	Quantity	Part number	Description	Dimension/Note
1	1	3HAC088775-002	Drive train, MTM	The part number is for either the independent drive train or the complete drive train including motors and gears.
2	1	3HAC047334-002	Gearbox	Including 330 ml lubricating oil XP320 (11712016-604).
3	1	3HAC051522-003	Motor and pinion	
4	1	3HAC088776-003	Motor unit	Including connection box
5	1	3HAC047375-001	Pinion on rack	

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2 Carriage bracket

Illustration



xx140000594

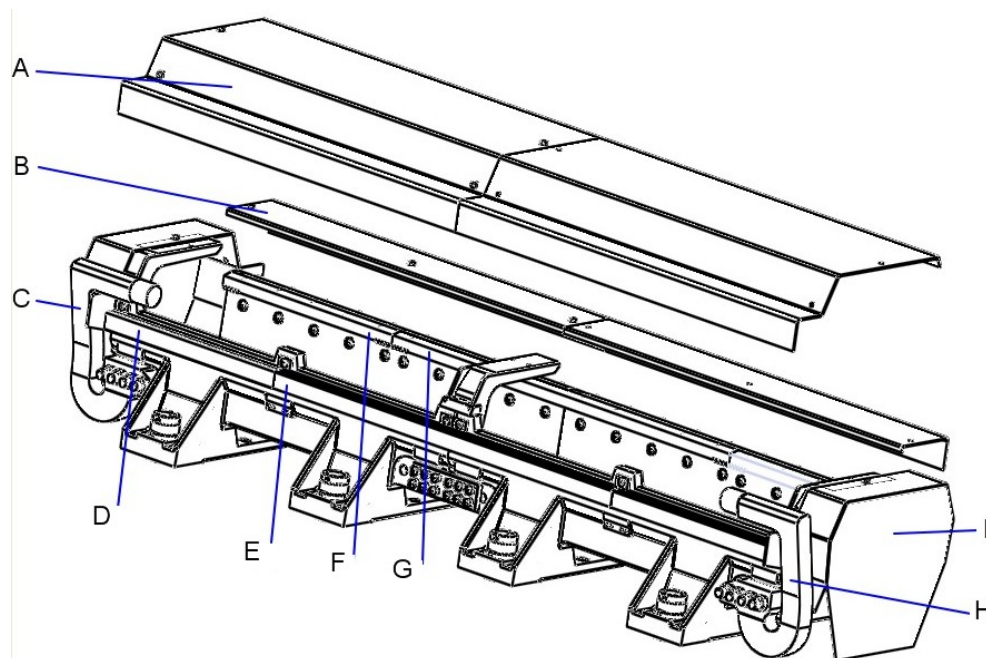
Spare part list

Item	Quantity	Part number	Description	Dimension/Note
A	1	3HAC051509-001	Linear guide unit	3 pcs, for carriage base with 4 holders.
	1			5 pcs, for carriage base with 6 holders.
B	1	3HAC051510-003	Drive train linear guide unit	The part number for the complete drive drain and linear guide unit.
C	1	3HAC042192-001	Runner block size 45	
-	1	3HAW107700540	Timing pointer hole	
-	1	3HAW107700344	Gauge	
-	2	3HAC054533-001	Fine calibration tooling	

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3 Stand unit

Illustration



xx140000593

Spare part list

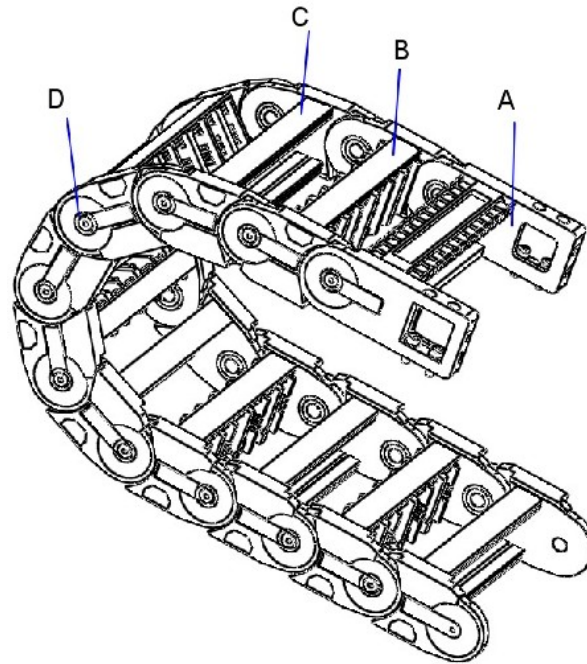
Item	Quantity	Part number	Description	Dimension/Note
A	1	3HAC047660-001	Top cover	
B	1	3HAC047661-001	Rack cover	
C	1	3HAC052880-004	M-stop, left unit	
D	1	3HAC045755-002	Rail_45, 500 mm	
E	1	3HAC045755-001	Rail_45, 1000 mm	
F	1	3HAC045735-001	Rack 500 mm	
G	1	3HAC045754-001	Rack 1000 mm	
H	1	3HAC052881-003	M-stop, right unit	
I	1	3HAC047829-001	End cover	

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4 Cable chain

4.1 Internal cable chain

Illustration



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Spare part list

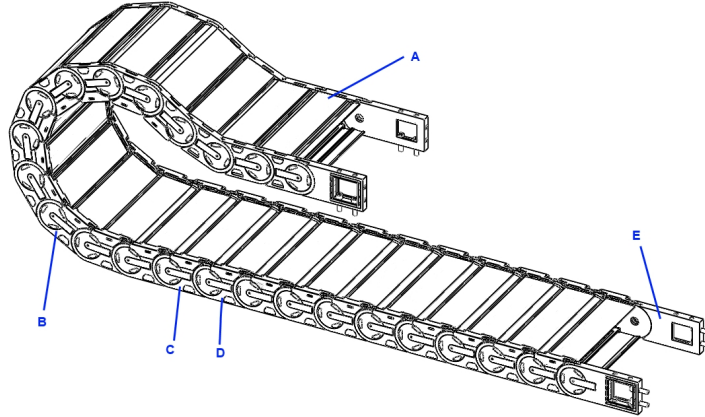
Item	Quantity	Part number	Description	Dimension/Note
A	1	3HAC051561-001	Cable chain end unit	For internal cable chain
B	1	3HAC047832-001	Cable chain pitch, with divider	For internal cable chain
C	1	3HAC047833-001	Cable chain pitch, no divider	For internal cable chain
D	1	3HAC051565-001	Cable chain, 10 links	For internal cable chain

4 Cable chain

4.2 External cable chain

4.2 External cable chain

Illustration



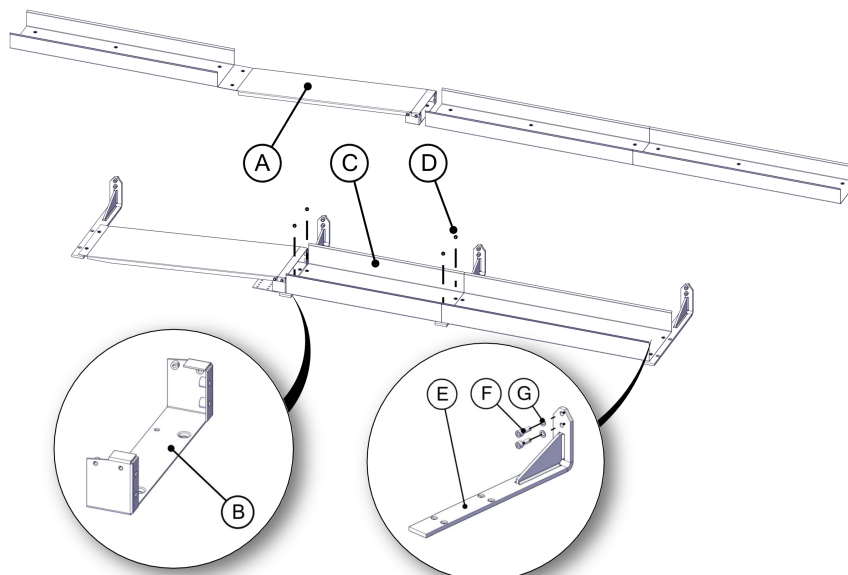
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Spare part list

Item	Quantity	Part number	Description	Dimension/Note
A	1	3HAC045110-001	Bracket plastic 246mm moving part	For external cable chain
B	1	3HAC045102-001	Cable chain plastic 246mm 10 links	For external cable chain
C	1	3HAC051431-001	Ext chain pitch, with divider	For external cable chain
D	1	3HAC051432-001	Ext chain pitch, no divider	For external cable chain
E	1	3HAC045816-001	Chain bracket	For external cable chain

5 Cable tray

Illustration



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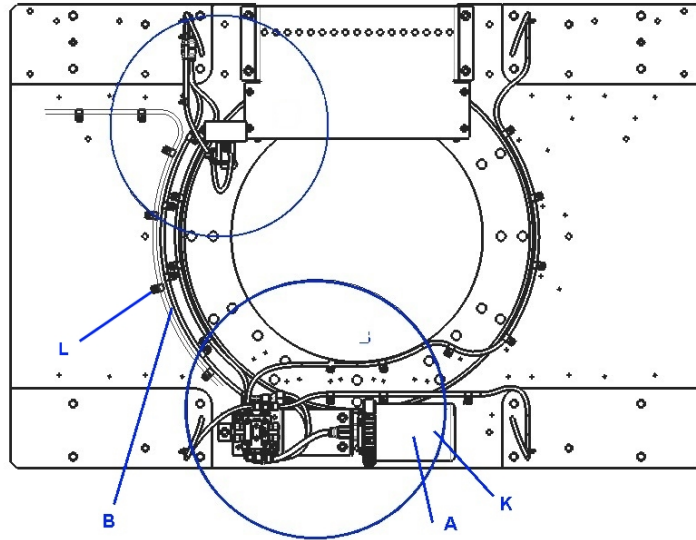
Spare part list

Item	Quantity	Part number	Description	Dimension/Note
A	1	3HAC047746-001	Cable tray, 1 m	For internal cable tray
B	1	3HAC051309-001	External chain raiser	For external cable tray
C	1	3HAC051313-003	External cable tray, 1.45 m	For external cable tray
D	4	9ADA624-55	M6x12 Torx counters. head screw	For external cable tray
E	1	3HAC047756-001	Bottom bracket for external cable tray	For external cable tray
F	2	3HAB3409-51	M10x30 Hex socket head cap screw	For external cable tray
G	2	3HAB4233-1	Washer	For external cable tray

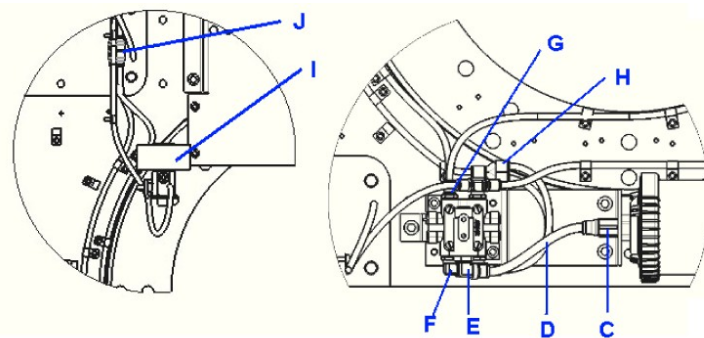
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6 Automatic lubrication system

Illustration



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Spare part list

Item	Quantity	Part number	Description
A	1	3HAC063730-001	Lubrication pump EPS 240
B	1	3HAWC116981	Polyamide tube 4x6
C	1	3HAW050040387	Straight adaptor F1/4-Ø8
D	1	3HAWC116982	Polyamide tube 6x8
E	1	3HAWC110551	Male stud elbow (white brass) D8 G1/4
F	1	3HAWC115765	Male stud elbow (white brass) D6 G1/8
G	1	3HAWC116550	Male stud straight (white brass) D6 G1/8
H	1	3HAWC102542	Y fitting Ø6-Ø6

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6 Automatic lubrication system

Continued

Item	Quantity	Part number	Description
I	1	3HAC048545-001	Inline fitting Ø6
J	1	3HAC052317-001	Felt gear set
K	1	3HAC048539-001	Grease package 240 CC
L	1	3HAWC107872	Flange

7 Cabling

7.1 Flexible cables

7.1.1 Overview

General

Flexible cables are mounted in the cable chain of the track. The tables in following sections show the cable lengths required for different connections with different travel lengths. The cables are divided as follows:

- IRB power cables: handles power supply to the motors of the robot.
- IRT 510 power cables: handles power supply to the motor of the track.
- IRB/IRT 510 signal cables: handles feedback from the serial measurement board.
- Position switch cables: handles supply to and feedback from position switches, if any.
- Customer cables: handles communication with equipment fitted on robot.

7 Cabling

7.1.2 Robot track cables

7.1.2 Robot track cables

IRB power cables

Travel length (m) with no specified robot pedestal	Travel length (m) with specified robot pedestal	Cable length (m)	IRB 1520 3HAC046920-	IRB 1600 3HAC046921-	IRB 2600/4600 3HAC046924-
1-5	1-3	6	006	006	006
6-9	4-7	8	001	001	001
10-13	8-11	10	007	007	007
14-17	12-15	12	002	002	002
18-20	16-20	15	003	003	003

IRT 510 power cables

Travel length (m)	Cable length (m)	J1.XP7-M7, 3HAC088222-
1-5	6	001
6-10	9	011
11-15	11	015
16-20	14	019

IRB signal cables

Travel length (m) with no specified robot pedestal	Travel length (m) with specified robot pedestal	Cable length (m)	IRB 1520/1600/2600/4600 3HAC029834-
1-5	1-3	6	001
6-9	4-7	8	003
10-13	8-11	10	005
14-17	12-15	12	007
18-20	16-20	15	010

IRT 510 signal cables

From	Cable length (m)	R1.FB7-FB	FB Cable Box-Motor (FB7-M7)
IRB 1520 FB7	3	3HAC046926-001	-
IRB 1600/2600/4600 FB7	3	-	3HAC039602-001

Grounding cables

Travel length (m)	Cable length (m)	Cable grounding 3HAC046927-
1-5	6	001

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Travel length (m)	Cable length (m)	Cable grounding 3HAC046927-
6-10	8.5	005
11-15	11	002
16-20	14	003

7 Cabling

7.1.3 STD customer cables and hoses

7.1.3 STD customer cables and hoses

Customer cables, IRB 1600

Travel length (m) with no specified robot pedestal	Travel length (m) with specified robot pedestal	Cable length (m)	CP/CS 3HAC046922-
1-5	1-3	6	006
6-9	4-7	8	001
10-13	8-11	10	007
14-17	12-15	12	002
18-20	16-20	15	003

Customer cables, IRB 2600/4600

Travel length (m) with no specified robot pedestal	Travel length (m) with specified robot pedestal	Cable length (m)	CP/CS/Parallel 3HEA801277-	CP/CS/DeviceNet/Can 3HEA801279-	CP/CS/Profibus 3HEA801280-	ProfiNet cable flex 3HAC032951-
1-5	1-3	6	002	002	002	001
6-9	4-7	8	004	004	004	003
10-13	8-11	10	006	006	006	005
14-17	12-15	12	009	009	008	007
18-20	16-20	15	012	012	011	010

Customer hoses, IRB 1600/2600/4600

Travel length (m)	Cable length (m)	CP/CS-AIR 3HAC046923-
1-5	6	001
6-10	8.5	005
11-15	11	002
16-20	14	003

Customer hose floor, IRB 1600/2600/4600

Cable length (m)	CP/CS-AIR floor 3HAC046933-
3	001

7.1.4 Lubrication sensor cables**Lubrication sensor cables**

Travel length (m)	Cable length (m)	Lubrication flexible cable	Lubrication carriage cable
1-5	8	3HAC078308-001	3HAC077180-001
6-10	10	3HAC078287-001	
11-15	12	3HAC078309-001	
16-20	15	3HAC078306-001	

7 Cabling

7.2 Floor cables

7.2 Floor cables

Overview

Fixed cables are connected between the control equipment and the track motion. The tables specify cables for the track motion. As for the manipulator cables, same cables are used as when connecting the manipulator directly to the control equipment. Further information about the manipulator cables are found in the Product Manual for the manipulator.

Robot track power cables


Cable length (m)	IRBT XP7-J1.XS7 3HAC087425-
7	001
15	011
22	012

STD customer cables and hoses

Cable length (m)	CP/CS-AIR (floor) 3HAC046933-
7	002
15	003
22	004

8 Tools

Special tools

Item	Quantity	Part number	Description
-	1	3HAC091295-001	Installation tool kit  Note Ordered with option 4203-1 and includes Leveling tool, Locking nut adjustment tool and Calibration pin.

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