DYNAMIXEL Preparations (XM430-W350-T)

⚠️ CAUTION
1. Please read the assembly manual carefully.
2. Please check DYNAMIXEL IDs and lengths of cables, and assemble DYNAMIXELs.
3. Please confirm the directions of DYNAMIXELs and the gripper are correct.

[DYNAMIXEL 11, 15] Remove described bolts.

[DYNAMIXEL 12, 13, 14] Pass the cable through hollow back case, DC12-IDLER, DC12-IDLER-CAP and DC12-P-BEARING and connect it into DYNAMIXEL.
1. Insert **NUT-M3** from underneath the **CRANK ARM**

2. Assemble **LINK ROD** in the middle of the **RAIL BLOCK** using **FLANGE BUSH** and **WB-M3x10**

3. Attach **RUBBER PAD** to the inner side of the **PALM GRIPPER**

4. Assemble **LINK ROD** + **RAIL BLOCK** and **PALM GRIPPER** using **WB-M2.5x8** and **NUT-M2.5**
5. Assemble RAIL BRACKET(RIGHT) to RAIL BRACKET(LEFT)

Assemble DYNAMIXEL(ID 15) to RAIL BRACKET(RIGHT) + RAIL BRACKET(LEFT) using WB-M2.5x12 and WB-M2.5x4

Assemble CRANK ARM to the horn of DYNAMIXEL(ID 15) using WB-M2x4

6. Slide LINK ROD + RAIL BLOCK + PALM GRIPPER into RAIL BRACKET. Assemble FLANGE BUSH to CRANK ARM and LINK ROD using WB-M3x10

Horn Align Marking View
8. Assemble **FR12-S102K** and **DYNAMIXEL(ID 11)** using **WB-M2x3**

Connect **CABLE-X3P-180** to **DYNAMIXEL(ID 11)**

9. Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 12)** and assemble to **FR12-S102K** using **FHS-M2.5x14**

Connect **DYNAMIXEL(ID 12)** and **DYNAMIXEL(ID 11)** using **CABLE-X3P-180**

Connect **CABLE-X3P-240** to **DYNAMIXEL(ID 11)**

**Horn Align Marking View**

**XM430-W350T** ×1

**WB-M2x3** ×8

**CABLE-X3P-180** ×3
10 Pass **CABLE-X3P-240** from **DYNAMIXEL(ID 12)** through the hole of **LINK FRAME(LONG)**

Assemble **FR12-H101K** to **LINK FRAME(LONG)** using **WB-M2.5x8** and **NUT-M2.5**

Assemble **LINK FRAME(LONG)** to **FR12-S101K** using **WB-M2.5x6**

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11 Pass **CABLE-X3P-180** from **DYNAMIXEL(ID 13)** through the hole of **LINK FRAME(SHORT)**

Assemble **FR12-H101K** to **LINK FRAME(SHORT)** using **WB-M2.5x8** and **NUT-M2.5**

Assemble **LINK FRAME(SHORT)** to **FR12-S102K** using **WB-M2.5x6**
12 Assemble **DYNAMIXEL(ID 13)** to **FR12-H101K** using **WB-M2x3**

Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 14)** and assemble to **FR12-S102K** using **FHS-M2.5x14**

Connect **DYNAMIXEL(ID 13)** and **DYNAMIXEL(ID 14)** using **CABLE-X3P-180**

13 Connect **DYNAMIXEL(ID 14)** and **DYNAMIXEL(ID 15)** using **CABLE-X3P-100**

Insert **X-SP** into the bolt holes of **DYNAMIXEL(ID 15)** and assemble **FR12-H104K** to Gripper using **WB-M2.5x12**
14 Assemble **DYNAMIXEL(ID 14)** and Gripper using **WB-M2x3**

15 Connect **DYNAMIXEL(ID 12)** and **DYNAMIXEL(ID 13)** using **CABLE-180**

Assemble **DYNAMIXEL(ID 12)** using **WB-M2x3**

Assemble **DYNAMIXEL(ID 13)** using **FHS-M2.5x14** through **X-SP**
Appendix 1

Assemble **DYNAMIXEL(ID 11)** and **Base Plate-02** using **WB-M2.5x20**
Appendix 2

To prevent substance from getting caught between the DYNAMIXEL and frame, 3D printed optional parts can be attached to OpenManipulator. These parts can be downloaded from Thingiverse or Onshape. Please check the QR codes below.
Parts List

- XMS30-W350-T: 5
- RAIL BRACKET (RIGHT): 1
- RAIL BRACKET (LEFT): 1
- RAIL BLOCK: 2
- PALM GRIPPER: 2
- LINK FRAME LONG: 1
- LINK FRAME SHORT: 1
- CRANK ARM: 1
- FLANGE BUSH: 4
- RAIL ROD: 2
- RUBBER PAD: 2
- COP: 24
- DC12-IDLER: 3
- DC12-IDLER-CAP: 3
- DC12-IDLER-BEARING: 3
- FR12-HIDK: 2
- FR12-HIDK-1: 1
- FR12-SIDK: 1
- FR12-SIDK-2: 2
- CABLE X3P-100: 1
- CABLE X3P-240: 2

- M5×12: 12
- M2.5×12: 8
- M2×4: 4
- M2×3: 38
- M2×20: 4
- M2×6: 8
- M2×4: 4
- M2×3: 4
- M2×12: 8
- M2×10: 4
- M2×6: 4
- M2: 16
- M3: 4
- M430-W350-T: 5
- DC12-IDLER-CAP: 3
- DC12-IDLER-BEARING: 3
- DC12-P-BEARING: 3