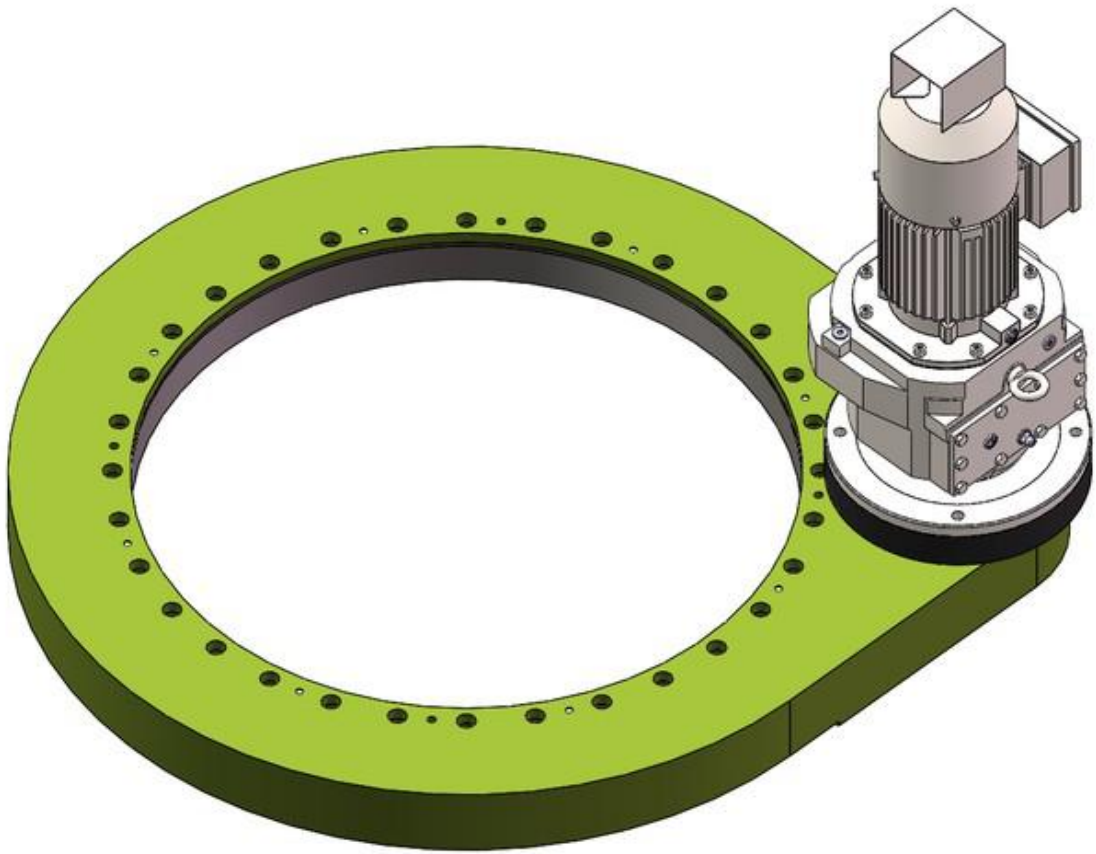


**Unique Transmission Equipment (Luoyang) Co., LTD**

# Installation manual



# Please read this manual before installing gear type slew drive.

# This manual contains information needed for correct installation and maintenance of the gear type slew drive.

# All the following work steps require professionals to operate.

# Please contact our after-sales service immediately if you have any technical problems.

## **Contact:**

Unique Transmission Equipment (Luoyang) Co.,Ltd

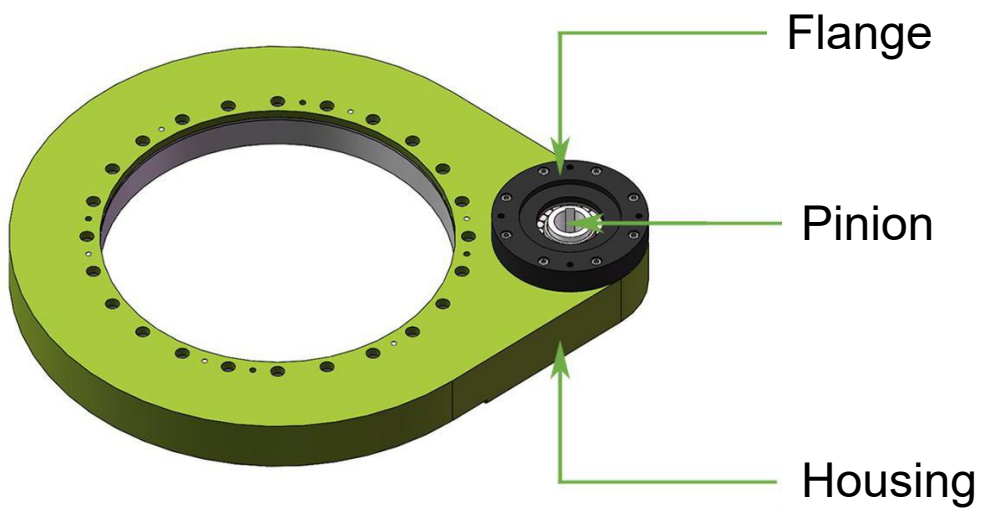
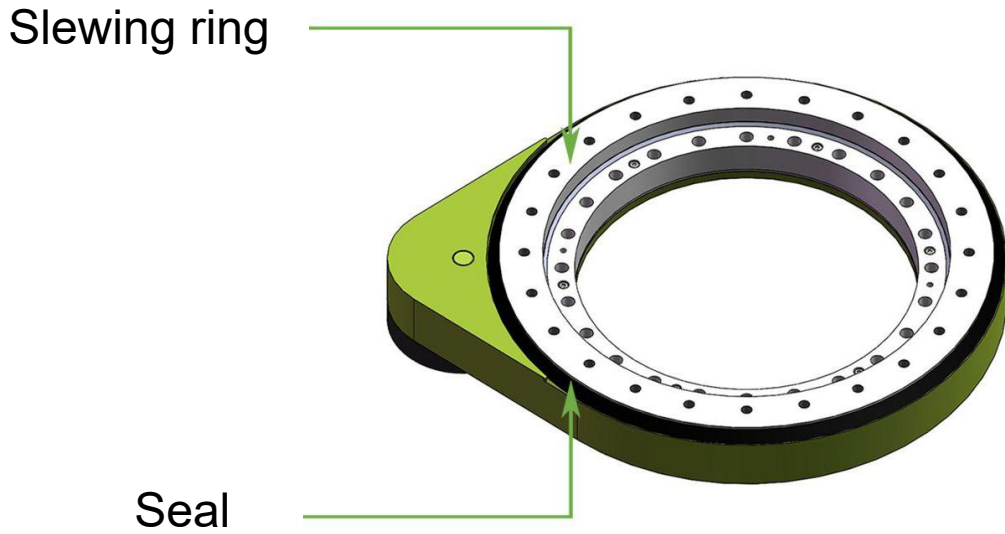
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# Gear type slew drive structure diagram



# 1. Transport, handling and storage

## 1.1 Transport and handling

When transporting, please keep the gear type slew drive packaging box in the specified direction to avoid collision; please wear work gloves and handle carefully ; gear type slew drives generally have threaded holes on outer ring and it's necessary to use three or more lifting rings and lifting device to safely carry the gear type slew drives.

## 1.2 Storage

When storing, please keep the gear type slew drive packaging box in the specified direction and store it in a ventilated and dry place. In a closed package, the product anti-rust cycle is 6 months. If you need to store for a longer time, please take special protective measures.

# 2. Installation and maintenance

## 2.1 Installation preparations:

Check whether the gear type slew drive is physically damaged; clean the gear type slew drive and connecting bracket, clean up the impurities on supporting surface (such as iron scraps, burrs, paint, welding slags, etc.).

## 2.2 Clean anti-rust oil on mounting surface of gear type slew drive:

Use cleaning fluid (such as diesel, gasoline, etc.) to clean the outside of the installation surface. The cleaning fluid cannot damage the performance of rubber seals; please follow the use regulations of the cleaning fluid to protect the staff.

## 2.3 Bolt selection

We don't recommend and provide assembling bolts, the following terms are for reference only:

Please select bolt specifications, models and performance grades correctly.

Bolt level is not lower than 8.8.

The length of the bolt screwed into the screw hole is generally 2 times the nominal diameter of the bolt.

The bolts are not allowed to be screwed out of the screw holes, otherwise it may cause interference and damage the parts.

If the contact stress exceeds the allowable mounting surface, please use a suitable high strength washer

## 2.4 Bolt tightening torque

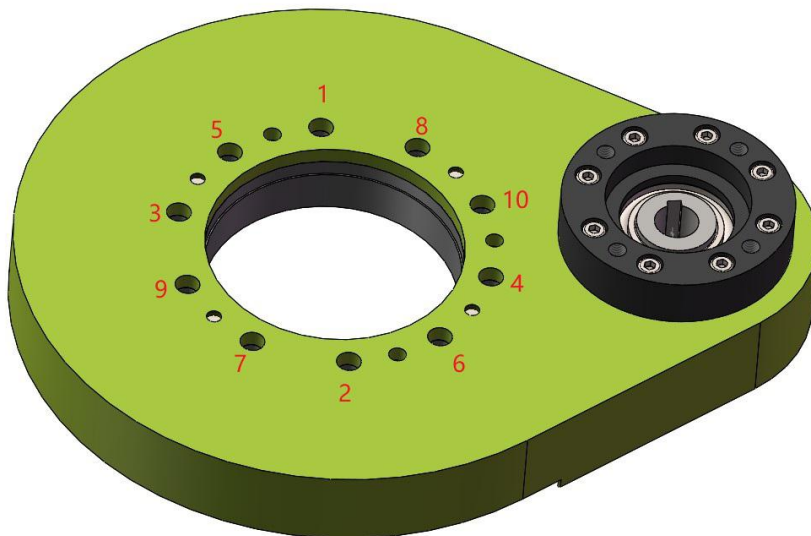
The following table is for reference only

Bolt specification	Tightening torque (N.M)			Bolt specification	Tightening torque (N.M)		
	8.8	10.9	12.9		8.8	10.9	12.9
M4	2.25	3.31	3.87	M16	168.00	246.00	288.00
M5	4.16	6.77	7.92	M18	229.00	336.00	394.00
M6	7.80	11.50	13.40	M20	327.00	481.00	562.00
M8	19.10	28.00	32.80	M22	450.00	661.00	773.00
M10	38.00	55.80	65.30	M24	565.00	830.00	972.00
M12	66.50	97.70	114.00	M27	837.00	1230.00	1439.00
M14	107.00	156.00	183.00	M30	1131.00	1661.00	1944.00

## 2.5 Install gear type slew drive

Please follow the procedure below to avoid internal stress and installation problems when the bolts are tightened.

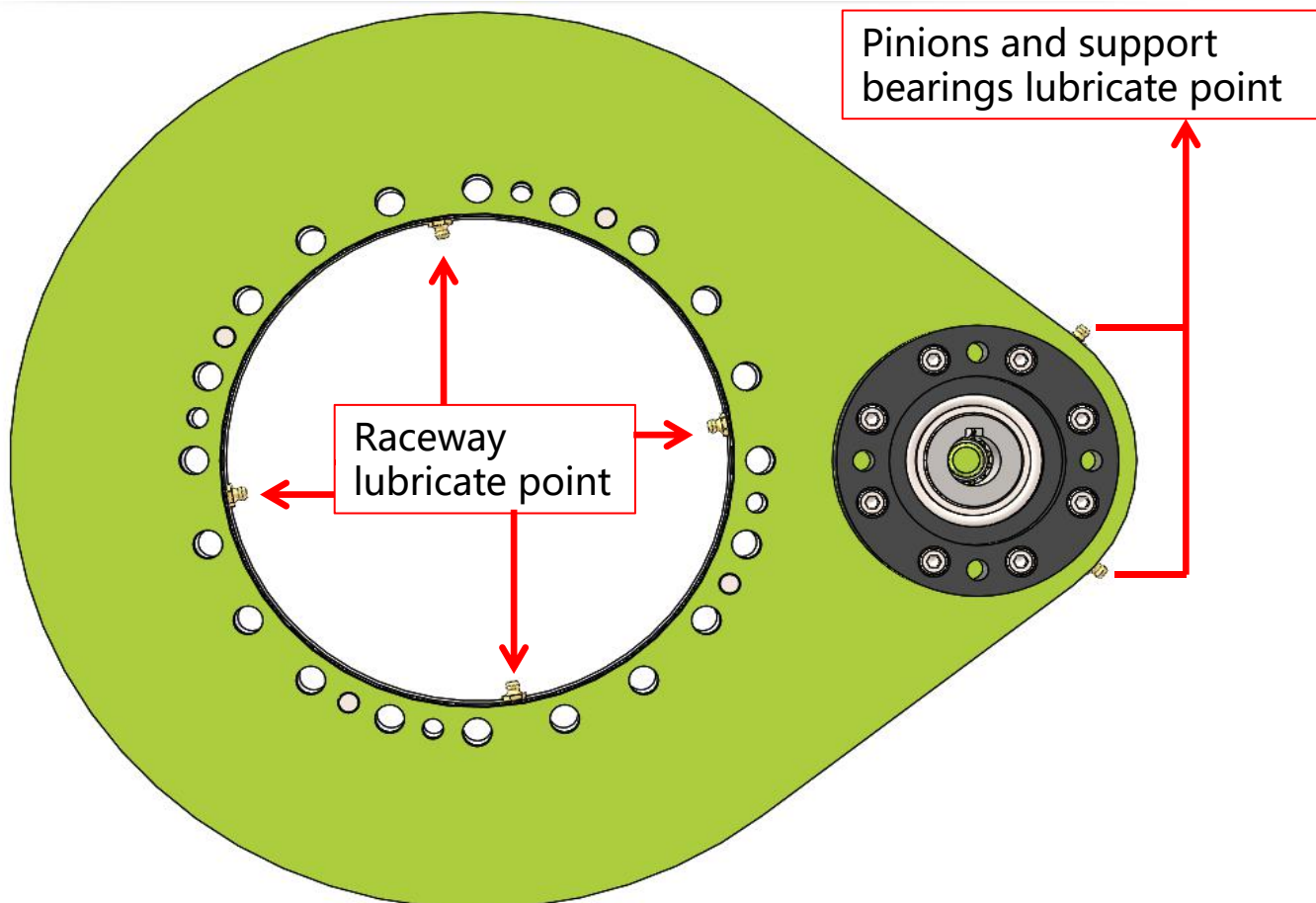
- 1). Add thread fastening glue to the thread
- 2). Pre-tighten bolts and washers should be tightened crosswise; See the picture below for tightening sequence of the bolts; starting from the inner ring or outer ring, all bolts are tightened diagonally to 30% tightening torque, then repeated diagonally tightened to 50% tightening torque, finally tightened diagonally to 100% tightening torque.
- 3). The mounting bolts are all installed, no missing installation is allowed. If the bolts cannot be installed due to structural constraint, the bolt holes must be sealed treatment, such as filled with silica gel, otherwise water and dust will enter into the rotary reducer.
- 4). The installation bolts should consider the thread engagement length, should not be too long, otherwise it will affect the rotation of the slewing ring or cause interference.
- 5). After the bolts are tightened, please mark the bolt head and its connection area with a line, which is convenient for checking whether the bolts are loose in the future.



## 2.6 Gear type slew drive lubrication

The important parts of the product have been lubricated before leaving factory, normally added Mobil EP2 grease. We recommend that you decide whether to add lubricating grease or not according to actual situation during installation.

- 1). The slewing ring raceway has been filled with grease before leaving factory.
- 2). The place where the gear meshes with the slewing ring has been filled with grease before leaving factory.
- 3). The bearings supporting the gears have been greased before leaving factory.



## 2.7 Relubrication interval time

The relubrication interval mainly depends on the current working and environmental conditions.

The accurate relubrication interval can only be determined by tests under actual working conditions.

In the absence of a reference, refer to the following table

Work conditions	Grease-filled lubrication intervals
Workshop, industrial positioners (turntables/robots, etc.)	Once every year
Difficult conditions in open grounds (crane, wind turbine, solar device, aerial work platform, etc.)	Once every year
Severe climatic conditions (sea/desert/Arctic climate/very dirty surrounding/more than 70 continuous operating hours per week)	Once every six months
Extreme conditions (tunneling machines, steel mills, oil field)	Once every two months

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