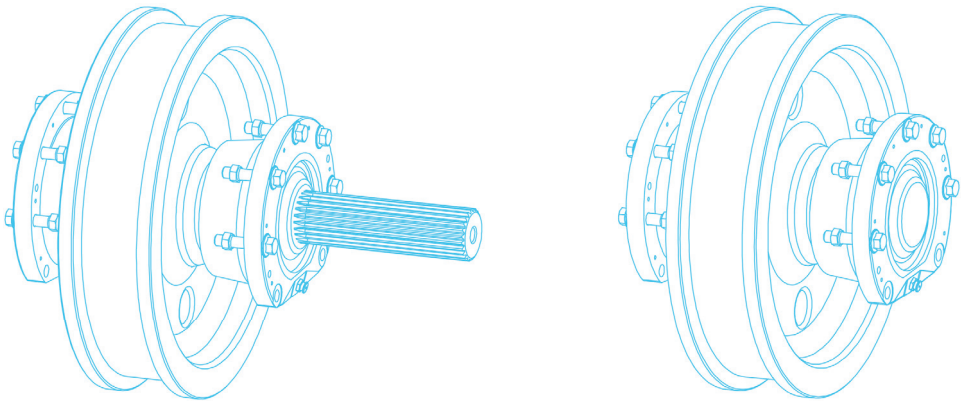
Installation and Maintenance Instructions

TITAN

WHEEL SET

SERIES KG 130



RAE/RNE 630

INSTALLATION IN SLOTTED CHASSIS SUPPORT

KARL GEORG

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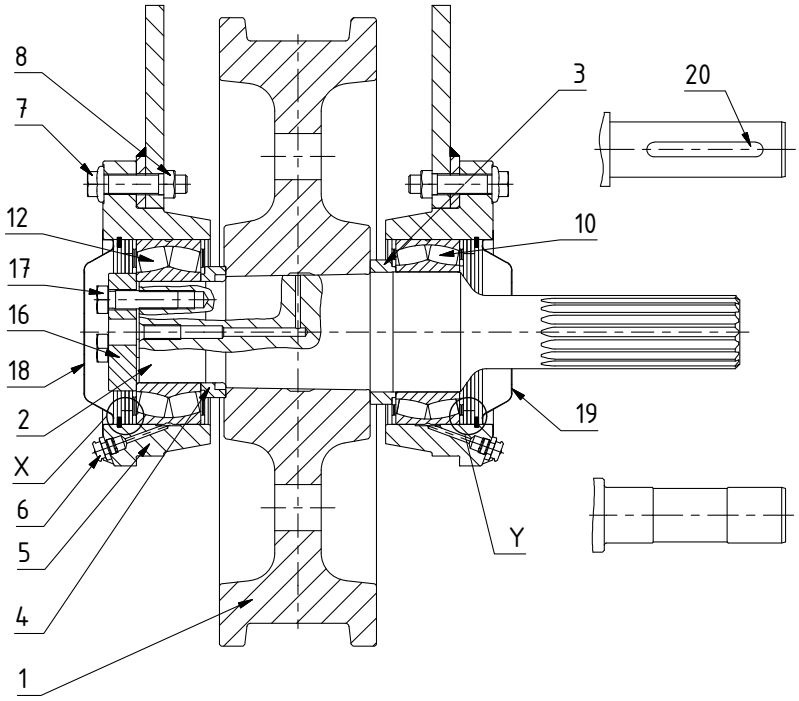
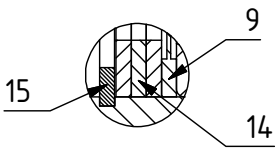
1. Technical construction RAE/RNE 630

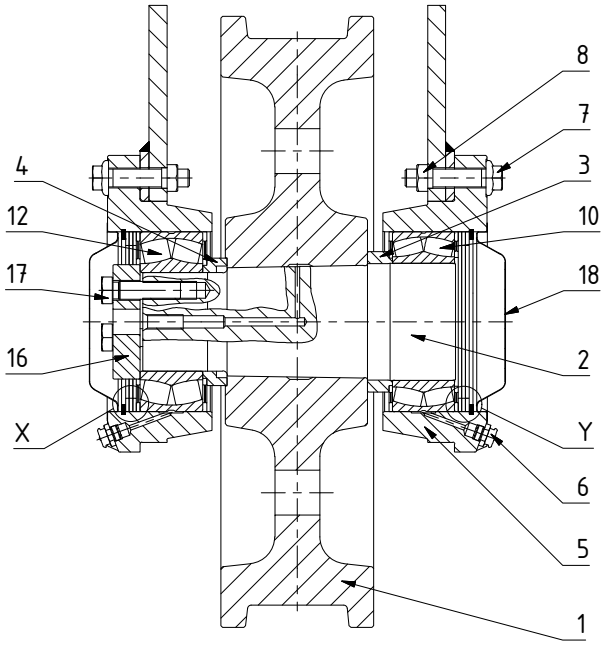
Wheel set RAE
drivable



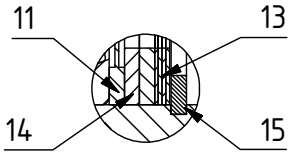
Detail X

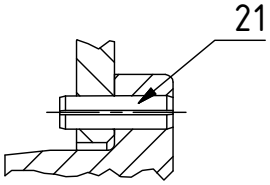


Wheel set RNE
non-drivable



Detail Y





Fixing using locking pins
(only for version 7)

Parts list

Part	Number per wheel set		Designation
	RAE	RNE	
1	1	1	Crane wheel
2	1	1	Drive shaft/idler shaft
3	1	1	Spacer ring Ø 156/130.3 28
4	1	1	Spacer ring Ø 142/110.2×27.2
5	2	2	Flanged bearing housing
6	2	2	Flat grease nipple DIN 3404 - M22 - G3/8
7	10	10	Locking screw M20×90-12.9 ZT (Durlok)
8	10	10	Retained nut M20 - St
9	2	2	Seal disc Ø 200/128×4
10	1	1	Self-aligning roller bearing DIN 635 - 24026
11	2	2	Seal disc Ø 200/143×4
12	1	1	Self-aligning roller bearing DIN 635 - 232 22
13	4	4	Adjusting washer DIN 988 - Ø 170/200×1
14	5	5	Compensating disc Ø 200/170×4
15	2	2	Circlip DIN 472 - 200×4
16	1	1	Tension disc Ø 127.5×30
17	3	3	Hexagon screw ISO 4017 - M20×75-10.9 ZT
18	1	2	Cover plate Ø 630
19	1	0	Cover plate with hole Ø 630
20	1	0	Feather key DIN 6885/1 (design depending on the drive shaft)
21	8	8	Locking pin ISO 8752 - Ø 21×80 (for version 7 only)
22	-	-	
23	4	4	Adjusting washer DIN 988 - Ø 170/200×0.5 (enclosed separately)

2. Chassis support installation

2.1 Installation version 6
Flange centring, mechanically machined

For this installation version, the locating holes for the flanged bearing housing in the steel construction are mechanically machined with the tolerances of fit Ø 268 H7.
Thus, this eliminates extensive alignment of the wheel set and pinning of the flanged bearing housing after assembly.
The wheel sets are complete, i.e. supplied as a ready-to-install unit, **without grease filling however**.
Preparation of the steel construction in accordance with the hole pattern (Figure 1) is possible as a quick installation in the slotted chassis support using commercial tools.

Hole pattern representation of chassis support installation (Figure 1)

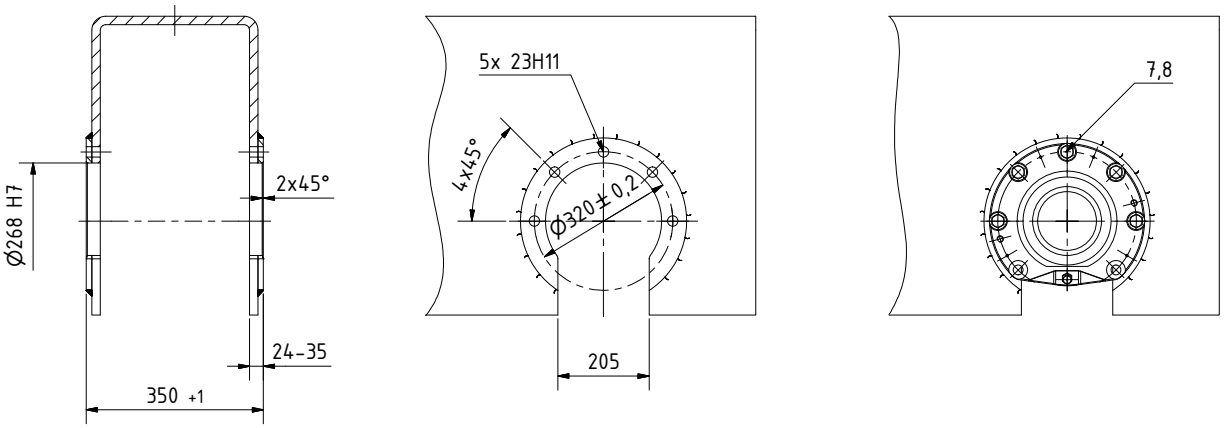


Table 1

Wheel set	Number for each flanged bearing housing, locking screw with retained nut	Tightening torque
RAE/RNE 630	5 off M20×90	420 Nm

2. Chassis support installation

2.2 Installation version 7
Flange centring, flame-cutting

If precise, mechanical machining of the locating holes for the flanged bearing housing in the steel structure is not possible, then the holes can also be flame-cut in accordance with Figure 2.
In this case, however, precise alignment of the wheel sets is necessary by displacing the flanged bearing housing after installation.
After alignment, the exact position of the flanged bearing housing is fixed using the locking pins.
The wheel sets are complete, i.e. supplied as a ready-to-install unit, **without grease filling however**.

Hole pattern representation of chassis support installation (Figure 2)

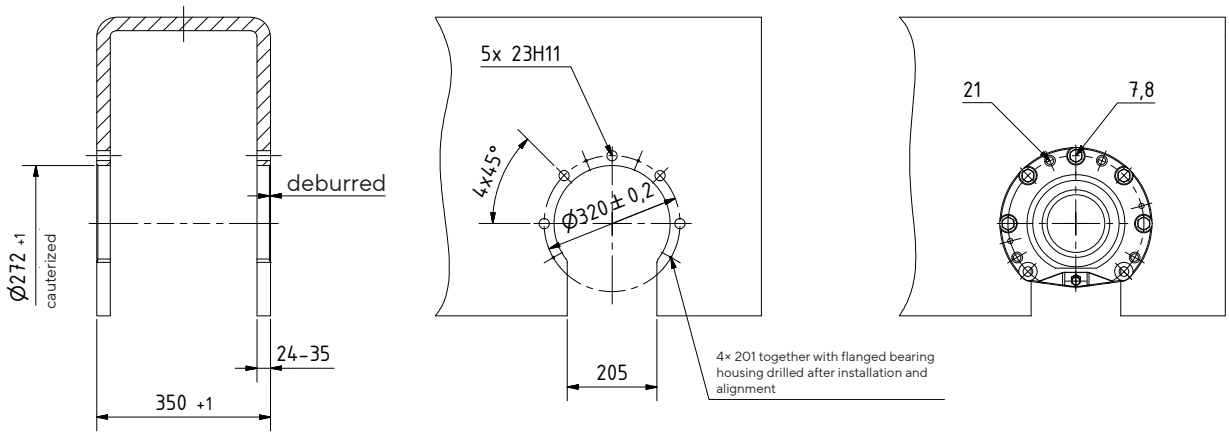


Table 2

Wheel set	Number per flanged bearing housing		Tightening torque
	Locking pin	Locking screw with retained nut	
RAE/RNE 630	4 off 21×80	5 off M20×90	420 Nm

3. Installation of the wheel sets RAE/RNE 630
Installation version 6

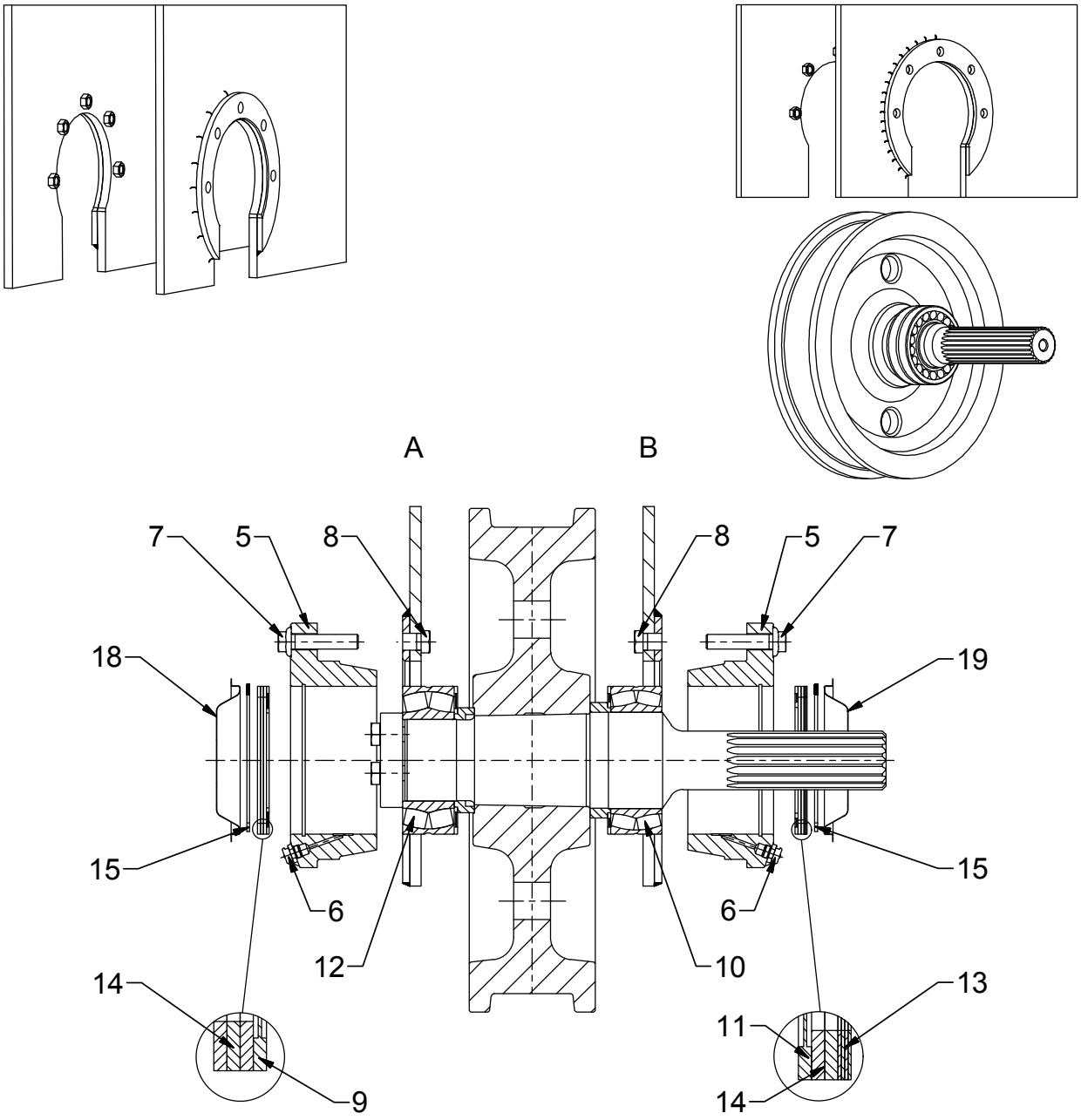


Table 3

Wheel set	Number per flanged bearing housing Thickness of compensating disc Detail X	Number per flanged bearing housing Adjusting washer, compensating disc thicknesses –Detail Y	max. adjustment option
RAE/RNE 630	3 × 4 mm	2 × 4 mm + 4 × 1 mm	± 12 mm

3.1 Assembly in accordance with installation version 6
Flange centring, mechanically machined

Preparations for assembly:

- Establish the steel construction in accordance with manufacturer specification 2.1
- Dismantle flanged bearing housing on the A and B side with cover plate, circlip, exchangeable adjusting washer and seal disc
  (Flanged bearing housings are installed solely as transport guards)
- Remove any preserving agents from the crane wheel and flanged bearing housing

1. Set the retained nuts (8) in the prefabricated holes from the inside.
2. Install the pre-assembled crane wheel unit into the steel construction from below.
3. Use locking screws (7) to assemble the A and B sides of the flanged bearing housing (5).
4. Tighten the locking screws (7) to their nominal torque (420 Nm).
5. Use the seal disc (9) to seal the self-aligning roller bearing (12) towards the outside, A-side.
6. Use the seal disc (11) to seal the self-aligning roller bearing (10) towards the outside, B-side.
7. Install three compensating discs (14) on the A side, two compensating discs (14) and four adjusting washers (13) on the B side and install circlips (15).

Using the adjusting washers (Item 23 in the spare parts list, loose enclosure) assemble in a way that the wheel set is installed with practically no axial play.

8. Install the cover plates (18,19) in both of the flanged bearing housings.

9. Use lubrication nipples (6) to fill the antifriction bearing on the A and B sides with grease (Texaco Multifak EP 2 or comparable grease at temperatures ranging from - 30 °C to +90 °C).

The position of the crane wheel with respect to the track and thus the average track dimension can be adjusted by up to ± 12 mm by moving both the adjusting washers (13) and the compensating discs (14) to one side.

4. Installation of the wheel sets RAE/RNE 630
Installation version 7

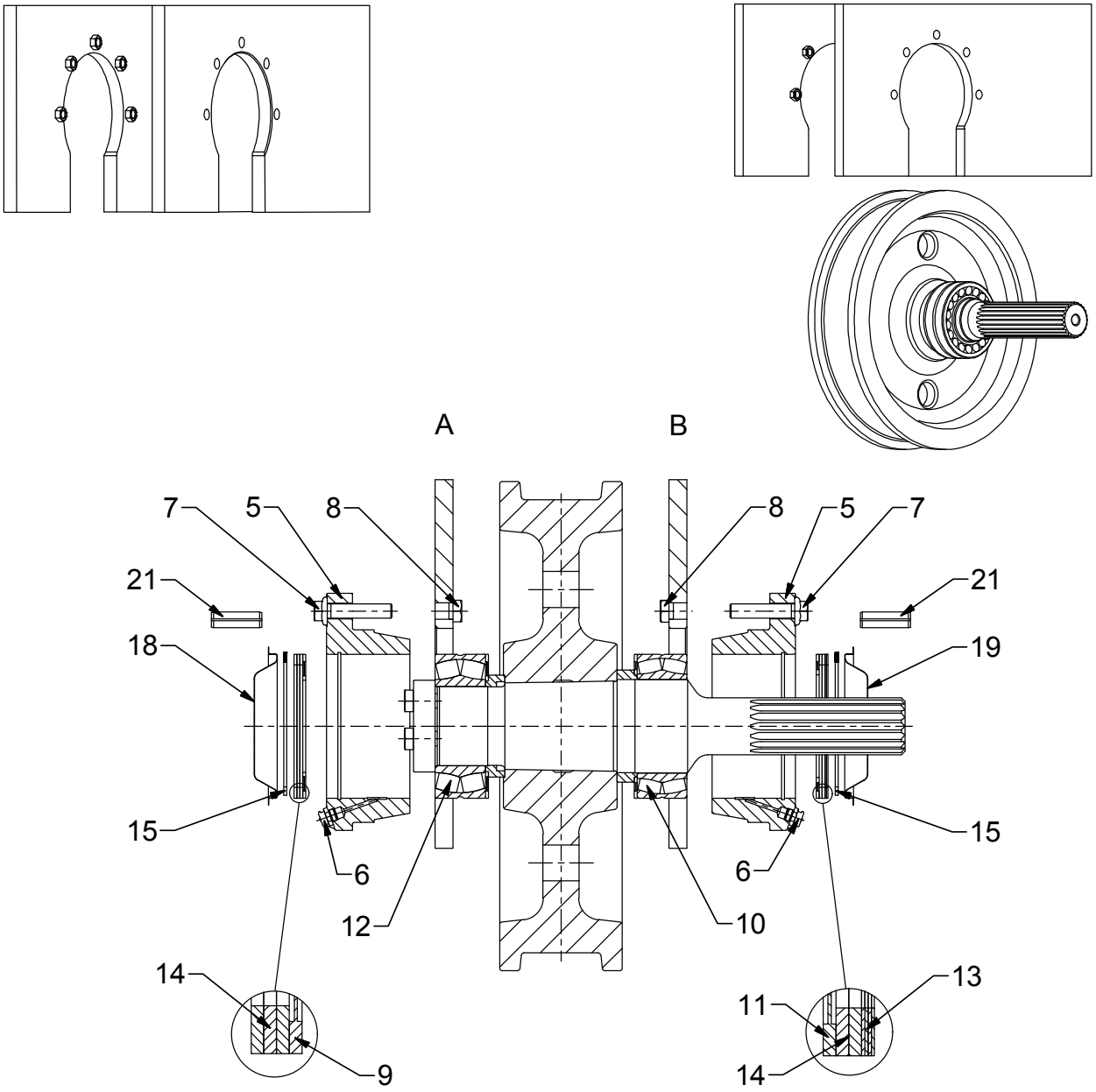


Table 4

Wheel set	Number per flanged bearing housing Thickness of compensating disc Detail X	Number per flanged bearing housing Adjusting washer, compensating disc thicknesses –Detail Y	max. adjustment option
RAE/RNE 630	3 × 4 mm	2 × 4 mm + 4 × 1 mm	± 12 mm

4.1 Assembly in accordance with installation version 7
Flange centring, flame-cutting

Preparations for assembly:

- Establish the steel construction in accordance with manufacturer specification 2.2
- Dismantle flanged bearing housing on the A and B side with cover plate, circlip, exchangeable adjusting washer and seal disc
  (Flanged bearing housings are installed solely as transport guards)
- Remove any preserving agents from the crane wheel and flanged bearing housing

1. Set the retained nuts (8) in the prefabricated holes from the inside.
2. Install the pre-assembled crane wheel unit into the steel construction from below.
3. Use locking screws (7) to assemble the A and B sides of the flanged bearing housing (5).
4. Tighten the locking screws (7) no more than hand-tight.
5. Use the seal disc (9) to seal the self-aligning roller bearing (12) towards the outside, A-side.
6. Use the seal disc (11) to seal the self-aligning roller bearing (10) towards the outside, B-side.
7. Install three compensating discs (14) on the A side, two compensating discs (14) and four adjusting washers (13) on the B side and install circlips (15).
8. Exactly align the wheel sets using suitable measurement tools.
9. Tighten the locking screws (7) to their nominal torque (420 Nm).
10. Check the axial play of the wheel set and correct if necessary

Using the adjusting washers (Item 23 in the spare parts list, loose enclosure) assemble in a way that the wheel set is installed with practically no axial play.

11. Install the cover plates (18,19) in both of the flanged bearing housings.
12. Drill four holes Ø 5 mm (Figure 2) in all of the flanged bearing housings to the nominal dimension of the loosely delivered locking pins (Item 21 of the spare parts list). Then tap in the locking pins (21) so that the flange connection can be disconnected and connected at any time on both sides.

13. Use lubrication nipples (6) to fill the antifriction bearing on the A and B sides with grease (Texaco Multifak EP 2 or comparable grease at temperatures ranging from - 30 °C to +90 °C).

The position of the crane wheel with respect to the track and thus the average track dimension can be adjusted by up to ± 12 mm by moving both the adjusting washers (13) and the compensating discs (14) to one side.

5. Maintenance and Servicing

Recurring check

in accordance with UVV (Accident Prevention Regulations) cranes BGV D6 § 26 Para. 1 (VBG 9) and the basic principles for specialist examinations (ZH 1/27)

Lubrication and Maintenance

The wheel sets are supplied as complete units, without grease filling however. **The self-aligning roller bearings must be filled with grease during assembly!**

Type of lubrication:	lubricating using grease
Lubricant:	Texaco Multifak EP 2 or equivalent roller bearing grease of another manufacturer (suitable for using at temperatures of -30 °C to +90 °C) For application temperatures of up to -50 °C, we recommend the roller bearing grease Renolit Unitemp 2 from the Co. Fuchs or an equivalent grease from another manufacturer. For temperatures of more than 90 °C, use appropriate temperature-resistant seals and suitable high-temperature lubricants.
Re-lubrication:	After every 2000 operating hours through the lubrication nipple through the flanged bearing housing
Change lubricant:	Annually

Before attaching the gear motor, apply a layer of suitable assembly grease to the drive shafts with gearing or feather key.

Servicing

Replace damaged bearing seals.

Running surfaces and flange wear of the crane wheel:
Inspection every 3 months

If there is wear on the running surfaces of more than 10 mm and at a wheel flange width of less than 13 mm, replace the crane wheel.

Use a torque wrench and check the specified tightening torques of the locking and tensioning screws after 3 months operating time. Subsequently, annually within the framework of the recurring check.

The intervals given are reference values that must be adapted in extreme operating conditions.

Table 5

Crane wheel Ø	Locking screw (7) Flanged bearing housing		Tensioning screws (17) Tightening disc	
	Screw	Tightening torque	Screw	Tightening torque
630	M 20 × 90	420 Nm	M 20 × 75	580 Nm

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EG-Einbauerklärung

Declaration of Incorporation

im Sinne der EG-Richtlinie 2006/42/EG, Anhang II B für unvollständige Maschinen
according to EC directive 2006/42/EC, Annex II B, in respect of incomplete machinery

Name und Anschrift des Herstellers / *Name and address of the manufacturer:*

Karl Georg GmbH
Karl-Georg-Straße 3
D - 57612 Ingelbach-Bahnhof

Hiermit erklären wir, dass die nachstehend beschriebene unvollständige Maschine:
Herewith we declare, that the partly completed machinery described below:

Produktbezeichnung/ *product denomination*	:	**Titan Radsatz KG130** *Titan Wheelset KG 130*
Serien- / Typenbezeichnung */ model / type*	:	**RAEKOF / RNEKOF 500 - 630**
Baujahr/ *Year of manufacture*	:	**2024**

alle grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG erfüllt, soweit es im Rahmen des Lieferumfangs möglich ist. Ferner erklären wir, dass die speziellen technischen Unterlagen gemäß Anhang VII Teil B dieser Richtlinie erstellt wurden.
is complying with all essential requirements of the Machinery Directive 2006/42/EC, as far as the scope of delivery allows. Additional we declare that the relevant technical documentation is compiled in accordance with part B of Annex VII.

Folgende harmonisierte Normen sind angewandt / *the following harmonized standards have been applied:*

- DIN EN ISO 12100, Sicherheit von Maschinen/ *Safety of Machinery*
- DIN EN 13001 Teil 1...3-8, Krane - Konstruktion allgemein/ *Cranes - general design*
- DIN EN 13135, Krane - Sicherheit/ *Safety of cranes*

Der Hersteller verpflichtet sich die technische Dokumentation zur unvollständigen Maschine einzelstaatlichen Stellen auf begründetes Verlangen in PDF-Form zu übermitteln.
The manufacturer undertakes *to submit the technical documentation relating to the incomplete machine to the relevant national authorities in PDF format on request.*

Bevollmächtigter für die Zusammenstellung der relevanten technischen Unterlagen (EU-Adresse):
The person authorised to compile the relevant technical documentation (must be established within EU):
Herr (*Mr.*) Michael Kubalski, QM (*Quality Department*)

Die unvollständige Maschine darf erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine oder Anlage, in welche die unvollständige Maschine eingebaut werden soll, den Bestimmungen der Richtlinie 2006/42/EG über Maschinen entspricht und die EG-Konformitätserklärung gemäß Anhang II A ausgestellt ist.
The partly completed machinery must not be put into service until the final machinery into which it is to be incorporated has been declared in conformity with the provisions of Directive 2006/42/EC on Machinery, where appropriate, and until the EC Declaration of Conformity according to Annex II A is issued.

Ort, Datum *Place, Date*	Name, Vorname, Funktion *surname, first name, function*	Unterschrift *Signature*
D-57612 Ingelbach/Bhf., 04.01.2024	Hees, Olaf, GF Winkel, Tim, GF Müller, Kevin, GF	

Notes:

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Subject to alterations by the manufacturer for the purposes of further technical development!

No claims can be derived from the information, figures and descriptions given in these operating instructions.