

Repair Instructions

CE 430/431 Series

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Chapter

1

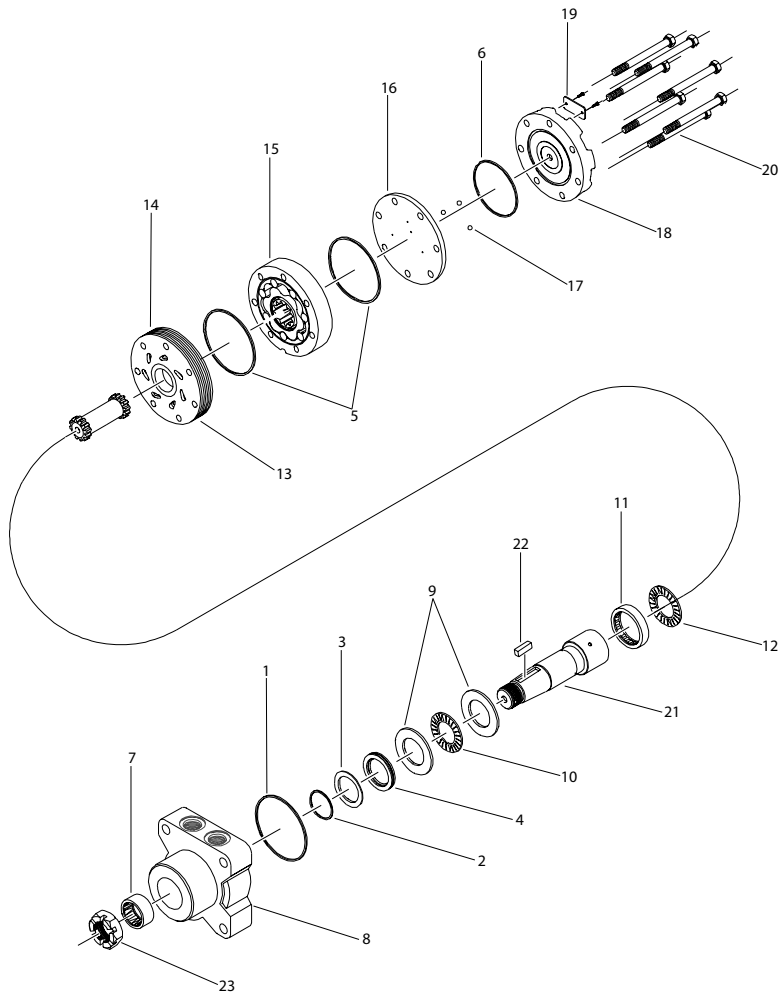
CE 430/431 Series Diagram

Topics:

- [CE 430/431 Exploded View](#)

CE 430/431 Exploded View

Exploded View



Component List

Description	Item Number
Housing seal	1
Metal back-up shim	2
Back-up seal	3
Shaft seal	4
Body seal	5
Endcover seal	6
Front housing bearing	7
Housing	8

Description	Item Number
Thrust washer	9
Front thrust bearing	10
Rear housing bearing	11
Thrust bearing	12
Drive link	13
Manifold	14
Rotor assembly	15
Balance plate	16
Steel ball	17
Endcover	18
I.D. tag	19
Assembly bolt	20
Shaft	21
Shaft key	22
Shaft nut	23

Chapter

2

CE 430/431 Series Service Instructions

Topics:

- [*CE 430/431 Seal Kit Installation*](#)

CE 430/431 Seal Kit Installation

dimensions: mm [in]

Note: All internal seals on products manufactured after July 1, 2016 are o-ring seals. Prior to this date the internal seals were square cut seals. It is recommended that if the product being serviced has square seals to replace with the square seals in this kit, likewise if the product has o-ring seals, replace with the o-ring seals in this kit.

1. Remove all shaft components from the shaft, (21), (i.e., keys, nuts).
 - a) To aid in reassembly of the motor, make a "V" shaped set of lines from the endcover to the housing using either paint or a marker.
 - b) With the shaft facing down, secure the motor in a vise by clamping the housing, (8).
 - c) Remove the seven bolts, (20), while holding the motor assembly together.
 - d) Remove the endcover, (18).
2. Remove the balance plate, (16), rotor set, (15), and manifold (14).
 - a) Remove all body seals and discard.



Caution: When removing the balance plate, do not allow the three check balls, (17), to fall out.



Caution: Do not allow the rolls to drop out of the rotor set assembly when removing the assembly from the motor.

- b) Remove drive link, (13), from the motor.
 - c) Remove the thrust bearing, (12), from the housing.
 - d) From the front of the housing, gently tap the shaft, (21), upward and remove through the rear of the housing.
 - e) Inspect the front bearings and seal for wear and damage. Replace as needed.
3. Using a slide hammer type bearing puller, (see [Figure 1: Figure 1](#) on page 10), remove the rear housing bearing, (11).
 - a) Remove the thrust bearing, (10), and remove the thrust washers, (9).
 - b) Remove and discard the shaft seal, (4), the back-up seal, (3), and the metal shim, (2).

Note: Clean all parts in an oil-based solvent and dry using compressed air, (for safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation.



Figure 1: Figure 1

- a) Remove the thrust bearing, (10), and remove the thrust washers, (9).
 - b) Remove and discard the shaft seal, (4), the back-up seal, (3), and the metal shim, (2).
4. Place thrust washer (9) then bearing, (10), onto the shaft.
 - a) Place a thrust washer, (9), onto the shaft on top of the thrust bearing.
 - b) Coat the shaft seal, (4), with a light coat of oil and install onto the shaft with the lip toward the thrust bearing. Use plastic over the keyseat sleeve to avoid seal damage.
 - c) Place a light coat of oil on the back-up seal, (3), place backup seal on shaft with lip towards shaft seal (2), place shim over shaft onto backup.
- 5.
6. The rear cylinder needle roller housing bearing may now be installed. With the part number side of the bearing facing up, place the bearing, (11), into the housing bore.
 - a) Using a press and sleeve, press the needle roller bearing into the bore.

It is necessary that the bearing be pressed 3.0 - 3.3 [.120 - .130] below the surface of the housing to accommodate the thrust bearing.

7. Install a lightly oiled body seal, (1), into the seal groove in the housing.

Note: Make sure that this seal is in the seal groove and protruding approximately 0.2 [.007] over the top of the housing surface.



Caution: If a bump is felt in the seal remove the seal and make sure that there is no grit on the seal or in the seal groove.

8. Install the drive link, (13), into the housing.

On the 07-16 displacements, the rotor set end of the drive link has a "hat" machined on one end. The drive link goes in the shaft with the hat toward the rotor set. On the 18-45 displacements and above, the drive link is a symmetrical and either end can be put into the shaft.

- a) Once the drive link (13) has been installed, the shaft can be seated by bringing the arbor of a hand press down on the drive link.



Caution: Do not use excessive pressure as this could deform the thrust bearing and/or bearing races.

9. Install a thrust bearing, (12), on top of the shaft.

The thrust bearing should contact the shaft, not the rear cylindrical bearing and should be flush or below the rear surface of the housing.

10. Place the manifold, (14), (seven teardrop hole side down) on the housing. Align the bolt holes of the manifold with the bolt holes in the housing.

11. Install two oil coated body seals, (5) into the seal grooves of the rotor set, (15), one on each side. Place the chamfer side of the splines of the rotor set toward the manifold, (14).

12. Place the balance plate, (16), on top of the rotor set with the side with the three check balls (17), facing up.

- a) If the check balls were removed, install three check balls into the countersunk holes on the balance plate, one ball per hole.

Do not use balls with visible damage.

13. Install an oil coated body seal, (6), into the seal groove of the endcover, (18). Place the endcover onto the motor with the tag holes aligned with the housing ports.



Caution: It is very important that the body seal does not fall out of the endcover while being installed.

14. Install the seven bolts, (20), into the motor.

Pre-torque bolts to 13.6 Nm [10 ft. lb.]. The final torque on the bolts is to be 69.8 ± 7.5 Nm [51.5 ± 5.5 ft. lb.].

Chapter

3

CE 430/431 Series Parts Listing

Topics:

- [CE 430/431 Replacement Kits](#)

CE 430/431 Replacement Kits

Available Parts Kits

Note: Refer to the [Exploded View](#) on page 6 for item numbers

Table 1: Seal kit

Description	Exploded View Item Number	Qty. In Kit	Order Number
Housing seal	1	1	400444250 (Includes item numbers 1-6)*
Metal shim	2	1	
Back-up seal	3	1	
Shaft seal	4	1	
Body seal	5	2	
Endcover seal	6	1	

Table 2: Miscellaneous kits

Description	Exploded View Item Number	Qty. In Kit	Order Number
Front housing bearing	7	1	500018203
Front thrust washer	9	2	500118002
Front thrust bearing	10	1	500118003
Rear housing bearing	11	1	500018002
Rear thrust bearing	12	1	500018059
Forward manifold	14	1	500015006
Reverse manifold	14	1	500015007
Balance plate	16	1	500012001
Steel balls	17	3	500018048
Endcover	18	1	500016001
1000 psi relief valve	Not shown	1	500018228
2000 psi relief valve	Not shown	1	500018231
3000 psi relief valve	Not shown	1	500018221
1.125 - 18 unef slotted hex nut	23	1	700018038
1.125-18 unef solid hex nut	23	1	700018054

* Rear bearing (#11) must be removed to replace seal kit item numbers 2-4 or front thrust bearing and washers (#9-10). It is recommended that a new rear bearing be installed when assembling.

Description	Exploded View Item Number	Qty. In Kit	Order Number
M24 X 1.5 slotted hex nut (#46)	23	1	500449306

Rotors, drive links, and bolts

When changing motor displacements, a matching rotor and bolt set kit must be ordered. A new drive link kit may be necessary.

Exploded View Item Number	15	15	13	20
Displacement	Standard Rotor Kit	Freeturn Rotor Kit	Drive Link Kit	Bolt Set Kit
120	500087005	500087008	400140007	500445006
160	500137005	500137011	400140007	500445006
200	500167004	500167011	400140012	500445012
230	500147002	500147004	400140014	500445014
260	500227000	500227004	400140016	500445014
300	500247005	500247011	400140018	500445018
350	500207000	500207004	400140020	500445026
375	500307005	500307011	400140024	500445024
470	500357003	500357005	400140020	500445026
540	500407005	500407011	400140032	500445032
750	500607005	500607011	400140045	500445045

Housing kits

Housing kits include the front bearing (#7), metal shim (#3), and shaft seal (#4) installed in the housing.

Description	Exploded View Item Number	Order Number
#W31- setback flange (7/8 - 14 ports)	8	400130020
#K31- setback flange with brake mount (7/8 - 14 ports)	8	400130021
#W35- setback flange (9/16 - 18 ports)	8	4001300245
#W38- setback flange (1/2 - 14 BSP.F)	8	400130025
#W31- setback flange with relief valve (7/8 - 14 ports)	8	400130050
#K38- wheel mount with brake mount (1/2"-14 BSP.F ports)	8	400130055

Description	Exploded View Item Number	Order Number
#W38- wheel mount with valve cavity (1/2"-14 BSP.F ports)	8	400130056

Shafts and related components kits

Shaft kits come with related shaft components (i.e. keys, nuts, etc.) to order individual shaft components (i.e. keys, nuts, bolts, washers or wire rings) use the kit number for each individual part

Exploded View Item Number	21	22	23
Description	Shaft Kit	Key Kit	Nut Kit
#31- 1-1/2" Tapered	400110031	500449106	See <i>Table 2: Miscellaneous kits</i> on page 14
#28- 35mm Tapered	400110053	500449104	