

Repair Instructions

RE 505/506 Series

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Chapter

1

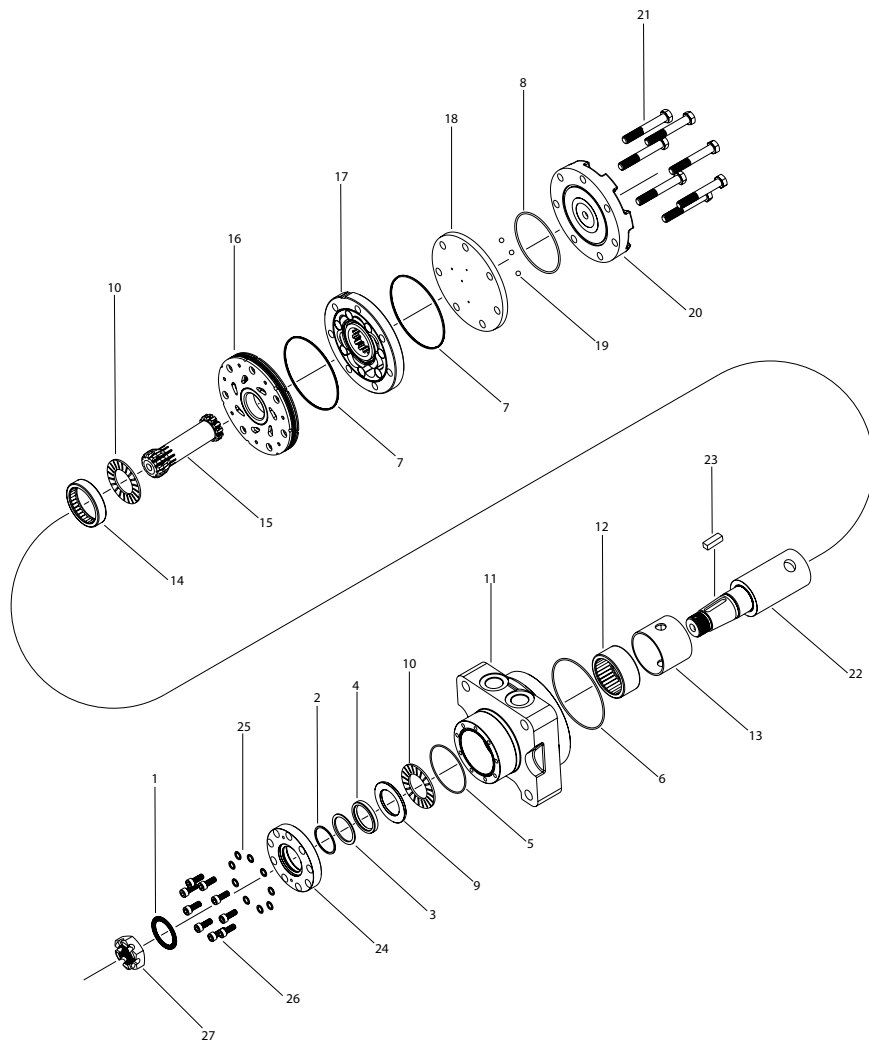
RE 505/506 Series Diagram

Topics:

- [RE 505/506 Exploded View](#)

RE 505/506 Exploded View

Exploded View



Component List

Description	Item Number
Dust seal	1
Backup shim	2
Backup seal	3
Shaft seal	4
Seal carrier seal	5
Housing seal	6
Body seal	7
Endcover seal	8

Description	Item Number
Thrust washer	9
Thrust bearing	10
Housing	11
Front housing bearing	12
Bearing spacer	13
Rear housing bearing	14
Drive link	15
Manifold	16
Rotor set	17
Balance plate	18
Steel ball	19
Endcover	20
Assembly bolt	21
Shaft	22
Shaft key	23
Seal carrier	24
Seal carrier bolt washer	25
Seal carrier bolt	26
Shaft nut	27

Chapter

2

RE 505/506 Series Service Instructions

Topics:

- *RE 505/506 Seal Carrier Disassembly and Assembly*
- *RE 505/506 Replacing the Seals in the Rear Portion of the Unit*

RE 505/506 Seal Carrier Disassembly and Assembly

dimensions: mm [in]

1. Remove all shaft related components from shaft (22) (i.e. keys, wire rings, nuts).
2. Secure housing (11) in a vise with the output shaft (22) facing up.
 - a) Loosen and remove the nine seal carrier bolts (26) and nine seal carrier bolt washers (25) and lay aside.
 - b) Place 2 of the seal carrier bolts (26) into the jack screw holes in the seal carrier (24) and tighten evenly to lift seal carrier (24) off housing (11) and shaft (22).
 - c) Remove the seal carrier seal (5) out of the groove in the housing (11) and discard seal.
Be careful to leave the shaft (22) in the motor to not disturb the internal housing bearings (12 & 14).
3. If thrust washer (9) or thrust bearing (10) came out when removing the seal carrier (24), replace them back in housing (11) on top of the shaft (22) with the thrust bearing resting on the shaft and the thrust washer on top of the thrust bearing.
4. Carefully remove dust seal (1) from the outer bore of the seal carrier (24) and discard seal. Carefully remove the shaft seal (4), backup seal (3) and backup shim (2) from the inner bore of the seal carrier (24) and discard all seals.

Note: At this point, all parts should be cleaned in an oil-base solvent and dried using compressed air (For safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation.

5. Install a new seal carrier seal (5) in groove in housing (11).
 - a) Place the seal carrier (24) on a clean flat surface with the countersunk bolt holes facing up.
 - b) Install a new dust seal (1) in the groove in the seal carrier with the lip facing up.
 - c) Press seal evenly into groove until seated.
6. Turn the seal carrier over install the new backup shim (2), followed by the backup seal (3) and finally the shaft seal (4). Press the shaft seal evenly until seated in the seal carrier (24).

Refer to [Figure 1: Figure 1](#) on page 10 for proper direction and orientation of the seal carrier components.

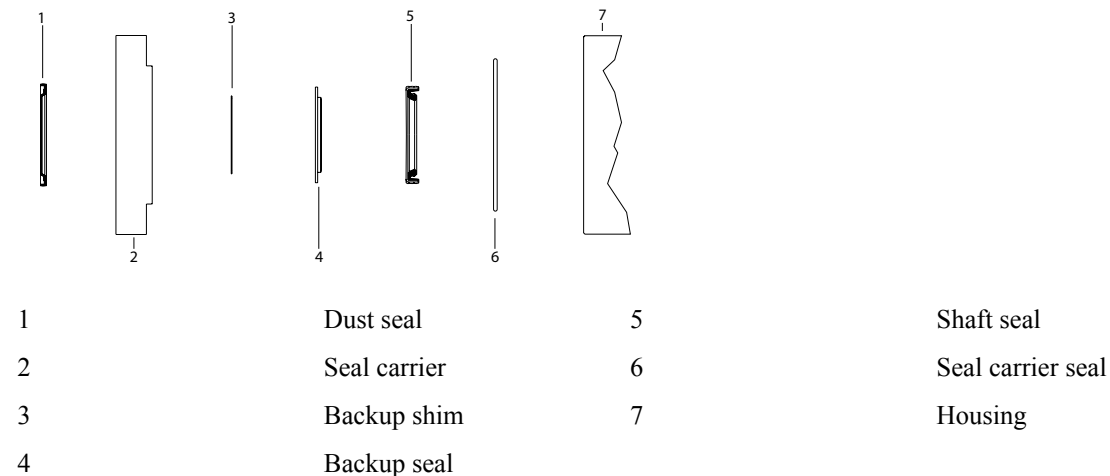


Figure 1: Figure 1

7. Place the seal carrier (24) over the shaft (23) and onto housing (11) lining up the bolt holes and making sure the dust seal is facing up

Note: Extra caution should be used to minimize contact of the shaft seal with the slotted keyway in the shaft.

- a) Place the nine washers (25) into the seal carrier followed by the nine bolts (26).
8. Using a criss-cross pattern evenly tighten the seal carrier bolts (26).

Final torque bolts to 17-21 Nm [150-185 lb-in]. If servicing the entire unit, continue to [RE 505/506 Replacing the Seals in the Rear Portion of the Unit](#) on page 11.

RE 505/506 Replacing the Seals in the Rear Portion of the Unit

dimensions: mm [in]

1. To aid in reassembly of the motor, make a “V” shaped set of lines from the endcover (20) to the housing (11) using either paint or a marker
 - a) With the shaft facing down, secure the motor in a vise by clamping onto the housing (11).
 - b) Loosen and remove the seven bolts (21) holding the motor assembly together.
 - c) Remove the endcover (20) and the endcover seal (8) and discard seal.
2. Remove the balance plate (18), being careful not to allow the three check balls (19) to fall out of the balance plate. Remove the rotor set (17) and the manifold (16) from the motor.
3. Remove both body seals (7) from the rotor set (17) and the housing seal (6) from the housing (11) and discard all seals.

It is not necessary to remove the thrust bearing (10), drive link (15) or shaft (22) from the unit.

Note: At this point, all parts should be cleaned in an oil-based solvent and dried using compressed air, (for safety, observe all OSHA safety guidelines). All new seals should be lightly coated in clean oil prior to installation. Use the “V” shaped set of lines as reference when reassembling the unit.

4. Install a new housing seal (6) into the groove in the rear of the housing (11).
 - a) Place the manifold (16) over the drive link (15) and onto the housing (11) making sure the teardrop shapes in the manifold face the housing.
 - b) Place new body seals (7) into both sides of the rotor set (17) and lower onto the manifold (16) making sure that the side of the rotor with the chamfer in the splines faces the manifold.
5. Place balance plate (18) onto the rotor set (17) making sure that the three steel balls (19) are still seated in the holes in the balance plate (18).
6. Install a new endcover seal (8) into the groove in the endcover (20) and lower the endcover onto the balance plate (18).
7. Install the seven assembly bolts (21) and pre-torque to 13.6 Nm [10 lb-ft]. Using a criss-cross pattern, final torque all bolts to 67.8 Nm [50 lb-ft].

Chapter

3

RE 505/506 Series Parts Listing

Topics:

- [RE 505/506 Replacement Kits](#)

RE 505/506 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
Dust seal	1	1	500444505 (Includes item numbers 1-5 with Buna shaft seal)
Backup shim	2	1	
Backup seal	3	1	500444505EG (Includes item numbers 1-5 with Viton shaft seal)
Shaft seal	4	1	
Seal carrier seal	5	1	500444506 (Includes item numbers 1-8 with Buna shaft seal)
Housing seal	6	1	
Body seal	7	2	500444506EG (Includes item number 1-8 with Viton shaft seal)
Endcover seal	8	1	

Table 2: Miscellaneous kits

Description	Exploded View Item Number	Qty. In Kit	Order Number
Thrust washer	9	1	530018102
Thrust bearing	10	1	500018059
Front HSG bearing	12	1	500018003
Bearing spacer	13	1	500018305
Rear HSG bearing	14	1	500018002
Manifold (505 series)	16	1	500015006
Manifold (506 series)	16	1	500015007
Balance plate (includes #19)	18	1	500012001
Steel ball	19	3	500018048
Endcover	20	1	500016001
Seal carrier	24	1	505017001
Seal carrier bolt washer	25	9	530018100
Seal carrier bolt	26	9	157018110
1000 psi relief valve	Not shown	1	500018228
2000 psi relief valve	Not shown	1	500018231

Description	Exploded View Item Number	Qty. In Kit	Order Number
3000 psi relief valve	Not shown	1	500018221
Slotted hex nut	Not shown	1	500449304
Solid hex nut	Not shown	1	500449303
Lock nut	Not shown	1	300339303P

Rotors, drive links and spacers, and bolts

When changing motor displacements, a matching rotor and bolt set kit must be ordered. A new drive link kit may be necessary. Drive link spacers are included in drive link kits, but may also be ordered separately by using the drive link spacer kit number.

Exploded View Item Number	17	17	15	21
Displacement	Standard rotor kit	Freeturn rotor kit	Drive link kit	Bolt set kit
120	500087005	500087008	500014009	500445006
160	500137005	500137011	500014009	500445006
200	500167004	500167011	500014040	500445012
230	500147002	500147004	500014041	500445014
260	500227000	500227004	500014039	500445014
300	500247005	500247011	500014007	500445018
350	500207000	500207004	500014042	500445026
375	500307005	500307011	500014008	500445024
470	500357003	500357005	500014042	500445026
540	500407005	500337056	500014044	500445032
620	500387036	500387056	500014048	500445038
750	500607005	500607011	500014047	500445045

Housing kits

Exploded view item #11

Standard housing kits include item numbers 12, 13, and 14.

Description	Housing Kit
#A31 - 4-hole, Magneto mount, 7/8-14 UNF	505013609
#A31 - 4-hole, Magneto mount, 7/8-14 UNF with relief	505013624
#A38 - 4-hole, Magneto mount, G 1/2	505013606
#A38 - 4-hole, Magneto mount, G 1/2 with relief	505013621
#A51 - 6-hole, SAE A mount, 7/8-14 UNF	505013614
#A58 - 6-hole, SAE A mount, G 1/2	505013616

Description	Housing Kit
#W31 - 4-hole, Wheel mount, 7/8-14 UNF	505013607
#W31 - 4-hole, Wheel mount, 7/8-14 UNF with relief	505013623
#W38 - 4-hole, Wheel mount, G 1/2	505013603
#W38 - 4-hole, Wheel mount, G ½ with relief	505013620

Shafts and related componets kits

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

Exploded View Item Number	22	23	27	Not Shown	Not Shown	Not Shown
Description	Shaft Kit	Key Kit	Nut Kit	Bolt Kit	Washer kit	Wire Ring Kit
#02 - 1" 6B Spline	500011600	-	See <i>Table 2: Miscellaneous kits</i> on page 14	-	-	-
#03 - 1" 6B Spline extended	500011602	-		-	-	-
#07 - 1-1/4" Straight extended	500011204	500449105		500449301	500449302	500449201
#08 - 32MM Straight extended	500011205	500449103		-	-	500449201
#09 - 14 Tooth spline extended	500011107	-		-	-	-
#10 - 1" Straight	500011201	500449100		-	-	-
#12 - 25MM Straight	500011109	500449104		-	-	-
#15 - 1" Straight extended	500011206	500449100		-	-	-
#20 - 1-1/4" Straight	500011200	500449102		500449301	500449302	500449201
#21 - 32MM Straight	500011203	500449103		-	-	500449201
#22 - 1-1/4" Tapered	500011300	500449101		-	-	-
#23 - 14 Tooth spline	500011101	-		-	-	500449201
#25 - 1-1/4" Tapered extended	500011302	500449101		-	-	-

