



The Bearing

Field Guide



Rex[®] Link-Belt[®]

Rex Nomenclature

Symbol	Description	Z	A	2	207	F				
Z	Clearance seal									
K	Light contact seal									
M	Heavy contact seal									
G	Triple lip seal									
A	Pillow block, fixed									
AF	Pillow block, fixed SAF interchange									
P	Pillow block, fixed									
EP	Pillow block, fixed Type E interchange									
B	Flanged block, fixed 4-bolt									
EF	Flange block, fixed 4 bolt Type E interchange									
F	Flanged block, fixed 4- or 6-bolt									
BR	Flanged cartridge block, fixed 4-bolt round									
2	2000 Series, single set collar									
3	3000 Series, eccentric locking collar									
5	5000 Series, double set collar									
6	6000 Series, Shurlok® tapered adapter sleeve									
9	9000 Series, tapered adapter sleeve									
207	2 7/16" – last two digits in 16th of an inch									
F	Four bolt housing (pillow blocks only)									

Link-Belt Nomenclature

Symbol	Description	P	-B22	4	39	F	H
EF	Flange unit; 4-bolt square	 	 	 	 	 	
EP	Pillow block; cast iron						
F	Flanged unit; 3- and 4-bolt						
FC	Flanged cartridge unit; 4-bolt round						
P	Pillow block						
B22	Spherical roller bearing; extended inner ring separable outer rings	 	 	 	 	 	
4	400 series designation (one locking collar)						
5	500 series designation (two locking collars)						
6	600 series designation (adapter mounted)	 	 	 	 	 	
39	Shaft diameter in 16ths of an inch						
F	Four bolt base pillow block	 	 	 	 	 	
H	Floating labyrinth seal						
E	Spring-loaded lip seal						
E7	Triple lip seal	 	 	 	 	 	

Interchange

Use the charts below to find the corresponding Rex or Link-Belt roller bearing nomenclature between another company's housing style. If you are unsure of the components of your bearing, contact one of our many trained Rexnord Customer Care Specialists today for assistance.

Housing Style					
Bearing Type	Pillow Block - Standard 2 bolt	Pillow Block - Standard 4 bolt	Pillow Block - Type 'E'	Flange Block - 4 bolt	Flange Block - Type 'E'
Rex	ZA ^{XXX}	ZA ^{XXX} F	ZEP ^{XXX}	ZB ^{XXX}	ZEF ^{XXX}
Link-Belt	PB22 ^{XXX} H	PB22 ^{XXX} FH	EPB22 ^{XXX} H	FB22 ^{XXX} H	EFB22 ^{XXX} H
Dodge	P2B-S2 ^{XXX}	P4B-S2 ^{XXX}	P2B-E ^{XXX}	FB-S2 ^{XXX}	FB-E ^{XXX}
SKF	SYR ^X	FSYR ^X	SYE ^X	FYR ^X	FYE ^X
Browning	SPB100NE ^X	SPB100FNE ^X	PBE920 ^X	SFB100NE ^X	FBE920 ^X
Sealmaster	RPB ^{XXX} 2	RPB ^{XXX} 4	ERP ^{XXX} 2	RFBA ^{XXX}	RFB ^{XXX}

Housing Style					
Bearing Type	A Piloted Flange	B Flange Bracket	C Takeup-Center Pull	D Takeup-Protected Screw	E Takeup Frame-Protected Screw
Rex	ZBR ^{XXX}	N/A	ZT ^X ^{XXX} ZT ^{XX} ^{XXX}	ZN ^X ^{XXX} ZN ^{XX} ^{XXX}	N/A
Link-Belt	FCB22 ^{XXX} H	FBB22 ^{XXX} H	TB22 ^{XXX} H	DSB22 ^{XXX} H	LHD
Dodge	FC-S2 ^{XXX}	NONE	WSTU-S2 ^{XXX}	TPHU-S2 ^{XXX}	HD
SKF	FYRP ^X	NONE	TBR ^X	TRH ^X	TFT
Browning	SFC100NE ^X	NONE	STU100NE ^X TUE920 ^X	TU900 ^X	T2000
Sealmaster	RFPA ^{XXX}	NONE	STU ^{XXX} USTU5000 ^X	NONE	NONE

*XXX - Indicates Series/shaft size

Seals

Rex® Seals*



Rex K Seal Light
Contact Seal



Rex M Seal Heavy
Contact Seal



Rex G Seal
Triple Lip Seal



Rex Z Seal
Non-Contact Seal

Link-Belt® Seals**



Link-Belt E Seal
Heavy Contact Seal



Link-Belt E7 Seal
Triple Lip Seal



Link-Belt H Seal
Non-Contact Seal

**Additional Rex seal options available. Contact a Rexnord Customer Care Specialist for more information*

***Three proven seal choices*

Bearing Seal Replacement Guide

Step A: Applies to Seals Z, K, H, G, and E7 Replacement

Tools Needed: Safety glasses, screwdrivers (very small flathead to remove snap ring and seal, large flat or Phillips to remove Micro-Lok), tools to remove shaft locking device.



Safety Glasses



Phillips Screwdriver



Flathead Screwdriver



Drift / Flat-Nosed Punch



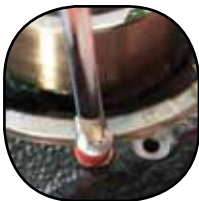
Ball Peen Hammer



1. Remove shaft-locking device.



2. Place pillow block on face (lay flat on back).



3. Remove Micro-Lok key, washer and screw. Keep washer in screw and do not lose.



4. Mark Micro-Lok position by marking slot in threaded cover and hole in housing.



5. Remove snap ring. Place small flathead screwdriver tip behind the bend of the snap ring; place hand over the face of the bearing to maintain control of the snap ring. Refer to page 12 for step 5 if replacing an M or E seal.



6. Walk seal out of bearing past inner race hubs using small flathead screwdriver.



7. Place Z,K,H,G, or E7 seal in place
- Make sure raised indent on seal is in front.
 - Slide over inner race hub until back face of seal hits seal groove face.
 - If installing M or E seal, go to **Step B**.



Note: Raised indent and final position of snap ring.



8. Replace snap ring. Start snap ring into housing groove up against raised tab in seal. Wind snap ring into place until completely seated in groove. Use flathead screw driver to push on snap ring to make sure it has popped into the seal groove all the way around. Make sure raised tab of seal is between the two snap ring ends. If not, use flathead screwdriver to move seal tab between ends of snap ring.

9. Replace Micro-Lok key, screw and washer into marked position. If threaded cover has rotated during seal installation, rotate back to marked position. Make sure compression washer is between screw head and key, and that the bend is down on the Micro-Lok key. Tighten screw until washer is compressed.

Caution: Do not overtighten.



Step B: If Replacing Z, K, H, G, or E7 with M or E Seal

Placing an M or E Seal in the Bearing
Follow Steps 1 – 7 in **Step A**;
Continue steps 10 – 12 below.

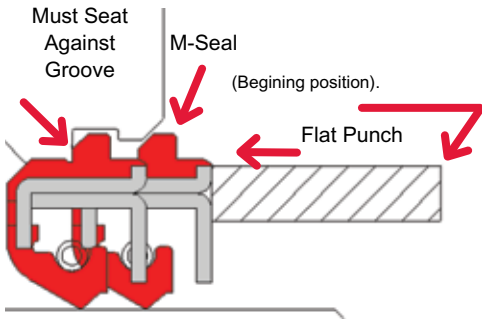
Tools Needed: Safety glasses, flat nosed punch, ball peen hammer.



- 10.** With the metal side out, push M or E over inner race hub until it rests on housing.



- 11.** Place flat nose punch over junction of two metal pieces. Begin bumping the seal free while moving punch around seal in 90° increments until seal is completely seated in seal groove of housing. Refer to diagram at top of next page.



Key is making sure the rubber is seated all the way into the groove.

12. Replace Micro-Lok key, screw and washer into marked position. If threaded cover has rotated during seal installation, rotate back to marked position. Make sure compression washer is between screw head and key, and the bend is down on the Micro-Lok key. Tighten screw until washer is compressed.

Caution: Do not overtighten.



How to Remove M or E Seal

Tools Needed: Safety glasses, large flathead screwdriver.



1. Place screwdriver between the junction of the metal and rubber at the outside diameter of the seal.




2. Pry seal using a rotating motion of the screwdriver until seal pops out of housing groove. Will need to pry in several locations to completely pop seal out of groove in housing. Refer to page 10 for installation of new seal.

Rexnord Setting Clearance

Steps A – C (i, ii, iii)

NOTE: *Tight* settings are to the left.
Loose settings are to the right.

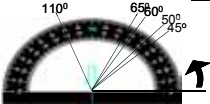


Setting Clearance

PART NO Roller Bearing		REV 8		PROCESS NAME Setting clearance			
BUSINESS UNIT Assembly		PROCESS Set clearance		MACH # Roller		DATE 12/15/2010	
				MACH TYPE roller		DATE 12/15/2010	
PROCESS DESCRIPTION Watson axial clearance settings				APPROVAL J. Peek		DATE 12/15/2010	

Size Code	REX (DG) SHAFT SIZE			LINK-BEARING FAMILY SIZE		Clearance Symbol						
	2000, 3000 6000	5000	9000	B22400	B22500	2	0	3	4	5	6	
2	012 - 100	-----	-----	12 - 17		25	35	45	55	65	75	
3	102 - 104	-----	-----	18 - 20		30	40	50	60	75	85	
4	107 - 108	107	-----	21 - 24	23	35	45	55	65	80	95	
5	111 - 112	108-111	-----	25 - 28	24 - 27	40	50	60	70	95	115	
6	115 - 200	115	-----	29 - 32	28 - 31	45	65	85	105	115	135	
7	203 - 204	200-203	115 - 200	33 - 36	32 - 35	30	45	60	75	85	95	
8	206 - 208	207	203	37 - 40	36 - 39	35	50	65	80	95	105	
9	211 - 300	208-215	207 - 208	41 - 48	40 - 47	40	60	80	100	120	145	
10	303 - 308	303-307	211 - 300	49 - 56	48 - 55	50	75	100	125	140	160	
11	311 - 400	311-400	303 - 307	57 - 64	56 - 64	60	90	120	150	170	190	
12	403 - 408	403-408	311 - 400		65 - 72	40	60	80	100	115	135	
13	415 - 500	415-500	403 - 407		73 - 80	50	75	90	115	135	155	
14	507	507	415 - 500			88	55	80	90	120	145	165
15	515 - 600	515 - 600	503 - 507		96	70	95	120	150	180	210	
16	607 - 700	607 - 700	515 - 607		112	80	110	150	180	220	255	

Set clearance to nearest notch.



- A.** You must know what brand, series, shaft size or size code. The example we are using is Rex 2000 series 2 7/16" shaft, size code 8.

Clearance Symbol				
	Link Bel (STD)	REX (DG) (STD)	6000 & 9000 Series (STD)	
2	0	3	4	5
25	35	45	55	65
30	40	50	60	75
35	45	55	65	80
40	50	60	70	95
45	55	65	75	85

- B. Review **"REX (STD)."** (STD) means standard clearance setting from factory.

	REX (DG) SHAFT SIZE		
Size Code	2000, 3000 6000	5000	9000
2	012 - 100	----	----
3	102 - 104	----	----
4	107 - 108	107	----
5	111 - 112	108-111	----
6	115 - 200	115	----
7	203 - 204	200-203	115 - 200
8	206 - 208	207	203
9	211 - 300	208-215	207 - 208
10	303 - 308	303-307	211 - 300

- C. In this example find size code 8.

- i. Move across chart to column Rex (STD) and note the angle of rotation; in this case, 65°.

Size Code	2000, 3000 6000	5000	9000	B22400
2	012 - 100	-----	-----	12 - 17
3	102 - 104	-----	-----	18 - 20
4	107 - 108	107	-----	21 - 24
5	111 - 112	108-111	-----	25 - 28
6	115 - 200	115	-----	29 - 32
7	203 - 204	200-203	115 - 200	33 - 36
8	207 - 208	207	203	37 - 40
9	211 - 300	208-215	207 - 208	41 - 48
10	303 - 308	303-307	211 - 300	49 - 56
11	311 - 400	311-400	303 - 307	57 - 64
12	403 - 408	403-408	311 - 400	
13	415 - 500	415-500	403 - 407	
14	507	507	415 - 500	
15	515 - 600	515 - 600	503 - 507	

i.

i.

- ii. Looser settings are to the right. Move one column to right and note angle; in this case, 80°.

PART NO.		REV		PROCESS NAME	
Subst. Name		E		Section clearance	
NUMBER UNIT	PROCESS	SEC	BACKS	PLAN	DATE
Assembly	Set clearance	Roller		J. Park	12/18/2010
PROCESS DESCRIPTION					APPROVAL
Watson axial clearance settings					J. Park 12/18/2010
Clearance Symbol					
REX (DG) SHAFT SIZE		LINK-BELT FAMILY SIZE		Link (STD) (910)	Link (9000 & 9000 Series) (910)
Size Code	3000, 3000 6000	5000	9000	B22400	B22500
2	012 - 100	-----	-----	12 - 17	25 35 45 55 65 75
3	102 - 104	-----	-----	18 - 20	30 40 50 60 70 85
4	107 - 108	107	-----	21 - 24	23 35 45 55 65 80 95
5	111 - 112	108-111	-----	25 - 28	24 - 27 40 50 60 70 95 115
6	115 - 200	115	-----	29 - 32	28 - 31 45 65 85 105 115 135
7	203 - 204	200-203	115 - 200	33 - 36	32 - 35 30 45 60 75 85 95
8	207 - 208	207	203	37 - 40	36 - 39 34 65 80 95 105
9	211 - 300	208-215	207 - 208	41 - 48	40 - 47 40 60 80 100 120 145
10	303 - 308	303-307	211 - 300	49 - 56	48 - 55 50 75 100 125 140 160
11	311 - 400	311-400	303 - 307	57 - 64	56 - 64 60 90 120 150 170 190
12	403 - 408	403-408	311 - 400	-----	65 - 72 40 60 80 100 115 135
13	415 - 500	415-500	403 - 407	-----	73 - 80 50 75 90 115 145
14	507	507	415 - 500	-----	88 55 80 90 120 145 165
15	515 - 600	515 - 600	503 - 507	-----	96 70 95 120 150 180 210
16	607 - 700	607 - 700	515 - 607	-----	112 80 110 150 180 220 255

Set clearance to nearest notch.

ii.

iii.

- iii. Subtract the two angles ($80 - 65 = 15^\circ$). This is the amount of rotation counterclockwise to loosen threaded cover.

Loosening

When to Adjust

Looser Clearance

- High-speed
- High-temperature

Tools Needed: Safety glasses, screwdriver (Phillips & flathead), hammer, dead-blow hammer, Rexnord setting clearance chart, block of wood to support bearing housing unit.

REXNORD Setting Clearance

Watson axial clearance settings

REX (DG) SHAFT SIZE	LINK-BELT FAMILY SIZE	Clearance (microns)					
		2	3	4	5	6	8
1 202-100	12-17	25	30	40	50	60	75
2 102-104	18-20	30	40	50	60	70	85
3 107-108	21-24	23	30	40	50	60	80
4 111-112	108-111	25	28	24	27	40	50
5 115-200	115	29	32	28	31	45	60
6 202-204	202-204	33	38	33	35	50	60
7 208-208	207	37	40	35	39	35	35
8 211-300	208-210	41	48	45	47	40	50
9 303-308	303-307	211-305	49	56	48	55	70
10 311-400	311-400	303-307	57	64	59	66	80
11 403-408	403-408	311-400	65	72	60	70	80
12 415-500	415-500	403-407	73	80	50	70	90
13 507	507	415-500	88	95	80	90	120
14 515-600	515-600	507-507	98	110	100	120	150
15 607-700	607-700	515-607	112	130	120	150	220

110° 650° 30°

Rexnord Setting Clearance Chart



Safety Glasses



Flathead Screwdriver



Ball Peen Hammer



Phillips Screwdriver



Drift / Flat-Nosed
Punch



Dead-Blow
Hammer



Supports for
Bearing Back



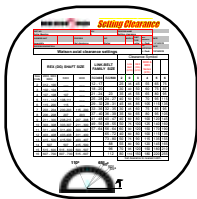
1. Remove shaft-locking device.



2. Remove Micro-Lok key, screw and washer. Make sure not to lose washer.



3. Mark position on threaded cover and housing.



4. To adjust one setting loose, reference "**Rexnord Setting Clearance Chart**" for Steps A – C (i, ii, iii).

After reviewing “Rexnord Setting Clearance Chart” continue onto steps 5-12.



- 5.** Noting the original marks, loosen threaded cover 15° using a hammer and flat screwdriver. For reference, the holes in the housing are spaced at 15° , and slots in the threaded cover are spaced at 30° .



- 6.** Re-mark the new position for future reference.



- 7.** Turn housing over and provide supports so inner race on opposite side sits above table.



- 8.** Remove seal per seal removal instructions.

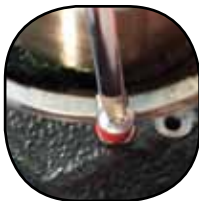


9. Place a block of wood, which just fits over the face of the inner ring, on the inner ring face.
10. Using a hammer, hit the block of wood with several sharp blows, trying to keep inner race square to housing. This procedure moves the outer race up against the threaded cover, which was just loosened.



11. After hitting, turn bearing over and try to rotate threaded cover clockwise by hand. If it does not move, clearance has been set properly. If threaded cover moves, move it back to loosened position and repeat steps **9** and **10** until threaded cover will not rotate clockwise by hand. *(In some cases, an arbor press may be required to perform steps 9 and 10).*

12. Once clearance is set, install Micro-Lok assembly, making sure compression washer is between screw head and key, and the bend is down on the Micro-Lok key. Tighten screw until washer is compressed.



Tightening

When to Adjust

Tightening Clearance

- Impact or shock loads
- Minimize shaft movement or run-out
- Noise reduction in vibratory applications



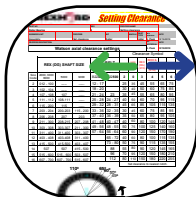
1. Remove shaft-locking device.



2. Remove Micro-Lok key, screw and washer. Make sure not to lose washer.



3. Mark position on threaded cover and housing.



4. To adjust one setting tight, reference **“Rexnord Setting Clearance Chart”** for Steps A – C (i, ii). See iii on next page. **NOTE:** Tight settings are to the left. Loose settings are to the right.

PART NO		REV		PROCESS NAME	
Roller Bearing				Setting clearance	
REVISED BY	PROCESS	ENC	CHECK	DATE	2013
APPROVED	Set clearance	Roller		J. Park	12-19-2010
PROCESS DESCRIPTION					REVISION
					J. Park
Watson axial clearance settings					
				Clearance Symbol	
	REX (DG) SHAFT SIZE			LINK-BELT FAMILY SIZE	
Size Code	3000, 3000 8000	5000	9000	522400	522500
2	012 - 100	----	----	12 - 17	25 35 45 55 65 75
3	102 - 104	----	----	18 - 20	30 40 50 60 75 85
4	107 - 108	107	----	21 - 24	23 35 45 55 65 80 95
5	111 - 112	108-111	----	25 - 28	24 - 27 40 50 60 70 95 115
6	115 - 200	115	----	29 - 32	28 - 31 45 65 85 105 115 135
7	203 - 204	200-203	115 - 200	33 - 36	32 - 35 30 45 60 75 85 95
8	305 - 306	307	300	37 - 40	36 - 39 38 65 80 100
9	211 - 300	208-215	207 - 208	41 - 48	40 - 47 40 60 80 100 120 145
10	303 - 308	303-307	211 - 300	49 - 56	48 - 55 50 75 100 125 140 160
11	311 - 400	311-400	303 - 307	57 - 64	56 - 64 60 90 120 150 170 190
12	403 - 408	403-408	311 - 400	65 - 72	40 65 80 100 115 135
13	415 - 500	415-500	403 - 407	73 - 80	50 75 90 115 135 155
14	507	507	415 - 500	88	55 80 90 120 145 165
15	515 - 600	515 - 600	503 - 603	96	70 95 120 150 180 210
16	607 - 700	607 - 700	515 - 607	112	80 110 150 180 220 255

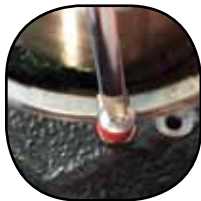
Set clearance to nearest notch.

- iii. Subtract the two angles. $65 - 50 = 15^\circ$. This is the amount of rotation clockwise to tighten threaded cover.

After reviewing
"Rexnord Setting
Clearance Chart, i., ii.,"
continue onto steps 5-6.



5. Noting the original marks, tighten threaded cover 15° using a hammer and flat screwdriver. For reference, the holes in the housing are spaced at 15° , and slots in the threaded cover are spaced at 30° .



6. Once clearance is set, install Micro-Lok assembly, making sure compression washer is between screw head and key, and the bend is down on the Micro-Lok key. Tighten screw until washer is compressed.

Bearing Installation Guide

Centrik-Lok

Tools Needed: Safety glasses, torque wrench, proper size hex key.



Safety Glasses



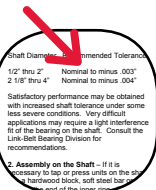
Torque Wrench



Proper Size
Hex Key



1. Review service instructions: **Link-Belt® Series CL 200 Centrik-Lok® (B-BBU-20-A.)**



2. Make sure shaft is clean, round, and free of burrs and nicks; check size per installation instructions.
3. Slide bearings onto shaft and position. Lightly bolt housings to mounting structure.



Recommended Collar Screw Torque

Shaft Size (in)	Screw Size	Socket Size	Inch-Pounds
3/4 - 1 3/16	#10	5/32	65 - 72
1 1/4 - 1 3/4	1/4	3/16	151 - 168
1 7/8 - 2 7/16	5/8	1/4	313 - 348

- 4.** Align bearing units and securely fasten to mounting structure.
- 5.** Find collar screw torque in service instructions.



- 6.** Set torque wrench to proper torque.



- 7.** Snug both collar screws.

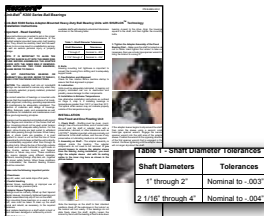


- 8.** Incrementally tighten collar screws by tightening one screw slightly more than the other until the specified torque is reached.

Bearing Installation Guide

SHURLOK[®]

Tools Needed: Safety glasses, proper size hex key for set screw in nut, impact SHURLOK tool, "C" type SHURLOK tool with breaker bar or hammer and drift.



1. Review service instructions: **Link-Belt Series K300 Series Ball Bearings Installation Instruction Number PIN B-BBU-22-2** or **Rex Shurlok 6000 Series Installation Instructions 105-99501-19**.
2. Make sure shaft is clean, round, and free of burrs and nicks and on size, per installation instructions.



3. Loosen set screws in SHURLOK locknut.
4. Back-off locknut so bearing will slide onto shaft easily. Make sure locknut is still engaged with threads on inner ring.



5. Check Spyglass™ Optical Strain Sensing Technology (OSS) – make sure the eye is clear.
6. In general when mounting SHURLOK product, fixed and expansion bearings are used.



7. Slide bearings onto shaft and position. Fixed bearing generally is positioned closest to drive.



8. Tighten mounting bolts to mounting structure. This assumes the use of fixed and expansion bearings. Refer to service instructions for two fixed bearings.



9. Tighten adapter assembly of fixed unit first.
10. Hand-tighten locknut to take out the looseness, then snug using SHURLOK installation tools or hook spanner. This process removes the clearance between the shaft, sleeve and inner race.



- 11.** Once snug, mark position of the locknut, sleeve and shaft with a marker.



- 12.** Rotate locknut clockwise $\frac{1}{2}$ turn using SHURLOK tools or a hammer and drift. Check the eyes for any color change. Always check both indicators.



- 13.** Using the impact spanner, the "C" tool, breaker bar or hammer and drift, tighten locknut in $\frac{1}{8}$ turn increments. Inspect both eyes for color change. (Only one eye needs to show color so you must check both eyes). Any color change as per the installation instructions is good. Continue this process until you see color change in one of the eyes in the locknut. If the color changes before you have reached the minimum locknut adjustment per the service instructions continue tightening locknut in $\frac{1}{8}$ -turn increments until minimum is achieved.



WRONG



CORRECT

14. Check set screw location to make sure they are not over the slot in the adapter sleeve. If they are, tighten locknut until screw clears slot.



15. Tighten set-screws using the torque table in the service instructions or use a hex key and tighten until hex key yields.
16. Repeat process for expansion unit, only make sure to center expansion cartridge in center of housing.

Note: Once set-screws are tightened, the OSS eye may become clear or darker. This is normal.



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www.rexnord.com

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