

SKF ConCentra SHL bushing

Fully concentric locking bushing for transmission components

Features

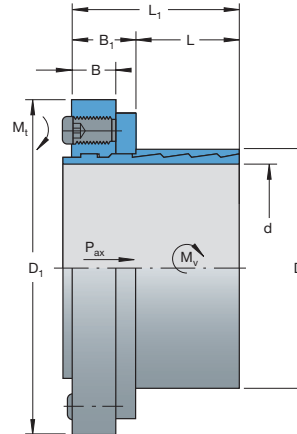
- True concentric locking
- Multi-tapered thin locking sleeve

Possible applications

- Sprockets
- Gears
- Hubs, e.g. for fan wheels
- Other power transmission components

Benefits

- Fast and reliable mounting
- Reduced operational vibrations
- Commercial grade and hollow shaft capable
- Manufacturing cost reduction by
 - Process simplification (e.g. no keyways, less balancing)
 - Fewer components (e.g. no keyways)
- No shaft damage
- No fretting



Dimensions							Locking screws			Moment	Axial load	Designation
d	D	D ₁	L	L ₁	B	B ₁	No.	Size	Tightening torque M _t	M _v max	P _{ax} max	
mm							–		Nm	Nm	kN	–
25	30	55	21,0	35,5	10	14,5	4	M5	4	160	12	SHL 25
30	35	60	25,4	39,9	10	14,5	5	M5	4	230	15	SHL 30
35	40	64	34,2	49,5	10	14,5	4	M6	8	310	18	SHL 35
40	45	69	38,6	53,1	10	14,5	4	M6	8	360	18	SHL 40
45	50	74	38,6	53,1	10	14,5	5	M6	8	500	22	SHL 45
50	55	79	47,4	61,9	10	14,5	5	M6	8	560	22	SHL 50
55	60	85	47,4	61,9	10	14,5	6	M6	8	740	27	SHL 55
60	65	89	51,8	66,3	10	14,5	7	M6	8	940	31	SHL 60
65	75	100	53,0	69,5	12	16,5	6	M8	18	1 620	50	SHL 65
70	80	105	53,0	69,5	12	16,5	6	M8	18	1 750	50	SHL 70
75	85	110	65,0	81,5	12	16,5	7	M8	18	2 200	58	SHL 75
80	90	115	65,0	81,5	12	16,5	7	M8	18	2 300	58	SHL 80
90	100	125	65,0	81,5	12	16,5	8	M8	18	3 000	67	SHL 90
100	110	135	77,0	93,5	14	18,5	9	M8	18	3 750	75	SHL 100
in	mm						–		in. lbf	in. lbf	in. lbf	–
1	30,4	55	21,0	35,5	10	14,5	4	M5	35	1 410	2 700	SHL 1
1 3/16	35,2	60	25,4	39,9	10	14,5	5	M5	35	2 040	3 370	SHL 1 3/16
1 1/4	36,8	61	25,4	39,9	10	14,5	5	M5	35	2 210	3 370	SHL 1 1/4
1 3/8	39,9	64	34,2	48,7	10	14,5	4	M6	70	2 740	4 050	SHL 1 3/8
1 7/16	41,5	66	34,2	48,7	10	14,5	4	M6	70	2 920	4 050	SHL 1 7/16
1 1/2	43,1	68	38,6	53,1	10	14,5	4	M6	70	3 000	4 050	SHL 1 1/2
1 11/16	47,9	72	38,6	53,1	10	14,5	5	M6	70	4 250	4 940	SHL 1 11/16
1 15/16	54,2	79	47,4	61,9	10	14,5	5	M6	70	4 870	4 940	SHL 1 15/16
2	55,8	80	47,4	61,9	10	14,5	5	M6	70	5 050	4 940	SHL 2
2 3/16	60,6	85	47,4	61,9	10	14,5	6	M6	70	6 640	6 070	SHL 2 3/16
2 7/16	66,9	91	51,8	66,3	10	14,5	7	M6	70	8 590	6 970	SHL 2 7/16
2 11/16	78,3	103	53,0	69,5	12	16,5	6	M8	160	15 000	11 200	SHL 2 11/16
2 15/16	84,6	110	65,0	81,5	12	16,5	7	M8	160	19 500	13 100	SHL 2 15/16
3 7/16	97,3	122	65,0	81,5	12	16,5	8	M8	160	25 700	15 000	SHL 3 7/16
3 15/16	110,0	135	77,0	93,5	12	16,5	9	M8	160	33 200	16 900	SHL 3 15/16
4 7/16	122,7	151	77,0	95,5	12	16,5	7	M10	300	43 800	19 800	SHL 4 7/16

Mounting instructions for SKF ConCentra SHL bushing

Caution: This is a unit assembly. No attempt should be made to disassemble the unit prior to installation. The mounting screws must under no condition be tightened unless the unit is mounted on a shaft since this may damage the unit.

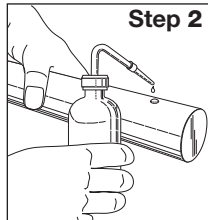
Read all instructions carefully before mounting or dismounting.

Mounting instructions

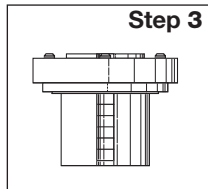
Step 1) Remove any burrs on the shaft with emery cloth or a fine file, wipe clean with a cloth and check the shaft and housing bore diameters. See chart for tolerances.



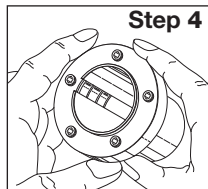
Step 2) Lubricate the shaft with light oil.



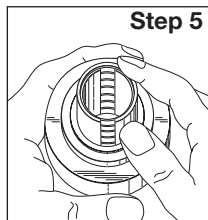
Step 3) Make sure that the mounting screws do not show on the back side of the collar.



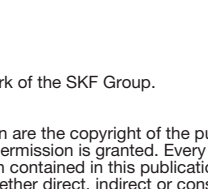
Step 4) While holding the collar, rotate the sleeves until a mounting screw is adjacent to the slot in the inner sleeve.



Step 5) While holding the inner sleeve and collar, rotate the outer sleeve until the slot in the outer sleeve is orientated 180° from the slot in the inner sleeve.

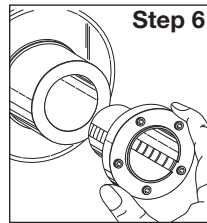


Step 6) Position the SHL unit in the bore of the component to be mounted. Be careful to retain the orientation of the sleeves.

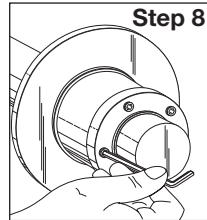
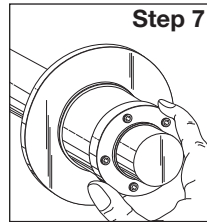


Step 7) Slide the SHL and component assembly, with the mounting side facing outward, to its position on the shaft.

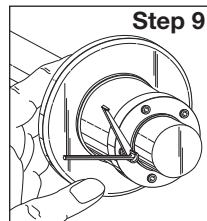
Step 8) Starting with the mounting screw adjacent to the slot in the inner sleeve. Hold the short end of the hexagonal key and tighten the screws a 1/2 turn each according to the mounting pattern (see illustration). Continue to tighten the screws to finger tightness.



Turn the allen wrench and start to tighten the grub screws by using the long end of the wrench. Tighten a 1/4 turn on each screw according to the mounting pattern (illustration) until the hexagonal key starts to flex.



Step 9) Lastly, mount the supplied red torque indicator on the short end of the hexagonal key. Tighten the screws, start with the screw adjacent to the slot in the inner sleeve, and continue until the hexagonal key comes in contact with the torque indicator. If another torque indicator is used then follow the recommended torque value shown in the table below.



Dismounting instructions

Step 1) It may be necessary to clean the shaft extension with emery cloth to remove rust or repair surface damage.

Step 2) Loosen the mounting screws 3 to 4 full turns.

Step 3) Lightly impact the backside of the mounted component or the front side of the SHL collar until the assembly releases from the shaft. Slide the complete SHL and component assembly from the shaft. Remove the SHL bushing from the component.

Recommended shaft tolerances

Shaft d		Tolerance	
from	incl.	from	incl.
mm/in.		µm/in.	
-	30	0	-84
-	1 ³ / ₁₆	0	-0.0033
30	50	0	-100
1 ⁷ / ₁₆	2	0	-0.004
50	80	0	-120
2 ³ / ₁₆	3	0	-0.0047
80	120	0	-140
3 ⁷ / ₁₆	4 ⁷ / ₁₆		

Recommended housing bore tolerances

SHL diameter D		Tolerance	
from	incl.	from	incl.
mm/in.		µm/in.	
-	30	+84	0
-	1.1811	+0.033	0
30	50	+100	0
1.1811	1.9685	+0.004	0
50	80	+120	0
1.9685	3.1496	+0.0047	0
80	120	+140	0
3.1496	4.7244	+0.0055	0

Recommended tightening torque for mounting screws

Shaft D		Screw size	Torque
from	incl.		
mm/in.			Nm/in.lbs.
15	60	M6	8
5 ⁵ / ₈	2 ⁷ / ₁₆	M6	70
70	100	M8	18
2 ¹¹ / ₁₆	3 ¹⁵ / ₁₆	M8	160
110	-	M10	34
4 ⁷ / ₁₆	-	M10	300

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