Important general data:

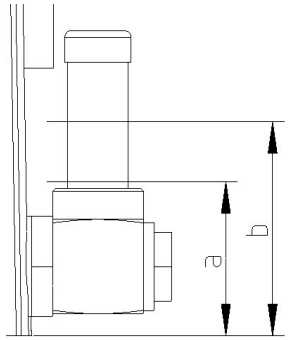
Shaft	Direct mounting	Bearing seating tolerance depends on the application. The same tolerance is used for the inner spacer sleeve with the labyrinth flange. For the outer spacer sleeve with labyrinth flange tolerance h9/IT5 is used.
	Sleeve mounting	h9/IT5
Supporting	Flatness	IT7 - IT8
	Surface roughness	$R_a \leq 12{,}5$ µm
Cap bolts	Please note that the housings are supplied with the cap bolts partly unscrewed to make it more easy to remove cap when mounting bearing. After mounting it is most important to tighten the cap bolts to correct tightening torque, if not the bearing seating tolerance in housing will not remain within the specification.	
Painting system	Alkyd RAL 9005	Pigment black
	Thickness	80µm
Coating	The colour is possible to coat. **Important to notice.** The colour is resistant to normally used low-alkalic detergents. Follow the recommendations from the detergent supplier.	

Mounting of bearing reference

SKF Bearing Maintenance Handbook (publication 4100) or SKF General Catalogue (publication 6000).

Table 1 **Minimum and maximum oil level when the application is standstill**

Housing	**Minimum oil fill**		**Maximum oil fill**	
	Oil level	Oil quantity	Oil level	Oil quantity
Size	**a**		**b**	
	mm	litre	mm	litre
SONL 217-517	48	0,3	63	0,4
SONL 218-518	48	0,3	68	0,5
SONL 220-520	53	0,4	70	0,6
SONL 222-522	53	0,6	77	0,9
SONL 224-524	63	0,9	80	1,3
SONL 226-526	63	0,9	85	1,4
SONL 228-528	63	1,0	85	1,5
SONL 230-530	63	1,0	90	1,7
SONL 232-532	68	1,3	95	2,0
SONL 234-534	80	2,5	105	3,5
SONL 236-536	85		115	
SONL 238-538	88		120	
SONL 240-540	88	3,0	125	4,5
SONL 244-544				
SONL 248-548				



Note: Fill up the oil level to maximum before restarting after standstill.

Table 2 **Housing**	**Cap bolts 8.8 Recommended tightening torque**		**Attachment bolts 8.8 Recommended tightening torque**	
		Nm		Nm
SONL 217-517	M 10	50	M 20	385
SONL 218-518	M 12	80	M 20	385
SONL 220-520	M 12	80	M 24	665
SONL 222-522	M 12	80	M 24	665
SONL 224-524	M 16	150	M 24	665
SONL 226-526	M 16	150	M 24	665
SONL 228-528	M 20	200	M 30	1 310
SONL 230-530	M 20	200	M 30	1 310
SONL 232-532	M 20	200	M 30	1 310
SONL 234-543	M 24	350	M 30	1 310
SONL 236-536	M 24	350	M 30	1 310
SONL 238-538	M 24	350	M 36	2 280
SONL 240-540	M 24	350	M 36	2 280
SONL 244-544	M 30	400	M 36	2 280
SONL 248-548	M 30	400	M 36	2 280

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Mounting instruction for oil lubricated SONL housings



SKF

Mounting SONL housings

Before starting installation work, read the following instructions carefully.

1. Make sure that the environment is clean. Check the dimensional and form accuracy of the shaft seating. For bearings mounted on adapter sleeves seatings machined to tolerance h9, having a cylindricity tolerance to IT5/2 and a surface roughness $R_a \leq 3{,}2$ µm will be satisfactory. For bearings mounted on cylindrical seatings follow the guidelines in the General Catalogue. The inner spacer sleeve with the labyrinth flange for the inner side of the bearing arrangement (the spacer sleeve that carries the oil pick-up ring) has tolerance F7 and fits normally used tolerance for the bearing seating. The outer spacer sleeve with labyrinth flange has tolerance H7 and should be mounted on recommended shaft tolerance h9.

2. Check that the surface roughness of the support surface $R_a \leq 12{,}5$ µm. The flatness (planicity) tolerance should be to IT7.

3. Determine the position of the bearing or sleeve on the shaft.

4. Position the housing base on the support surface. The side with the oil-collecting trough at the bearing seating must be placed to the inner side of the bearing arrangement. Fit the attachment bolts but do not tighten them. When oil pick-up ring lubrication is used, install the oil level gauge on the housing base. Whenever possible, install the oil level gauge on the side opposite the oil pick-up ring so that the reading is not affected by the eddies caused by the ring. The maximum and minimum oil level is indicated on the oil level gauge.

If an oil-cooling cartridge is used, install it now (see "Mounting instruction cooling cartridge AVA 0001 on SONL housings").

Note: To avoid oil leakage it is important that an oil-resistant sealant is applied on the connecting threads for attached components such as oil level gauge, oil pipes etc.

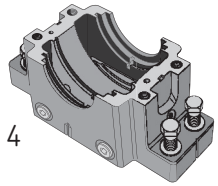
5. Slide the inner spacer sleeve with the labyrinth flange (**a**) together with the seal ring (**b**) and O-ring (**c**) on the shaft and place the oil pick-up ring (**d**) in position on spacer sleeve with the the labyrinth flange.

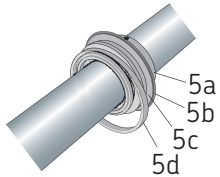
Note: When circulating oil lubrication is used, omit the oil pick up ring (**d**) from the assembly.

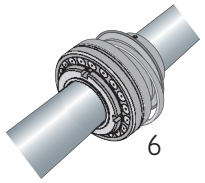
6. Mount the bearing on the shaft – either directly on a stepped shaft or using an adapter sleeve.

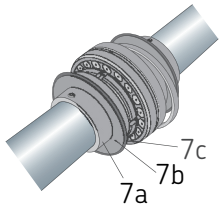
7. Slide the outer spacer sleeve with the labyrinth flange (**a**) onto the shaft and place the seal ring (**b**) incl. the O-ring (**c**) in position on the spacer sleeve. If the housing is at the end of the shaft, omit the second seal and insert the end cover together with the two O-rings in the housing base seal groove.

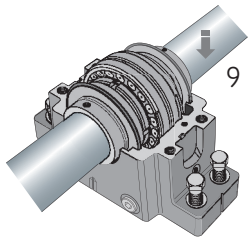
8. Push the seals againts the bearing. For arrangements with bearings on adapter sleeves, tighten the grub (set) screws in the sleeve with the labyrinth flange. The recommended tightening torque is
- 8 Nm for seal kits up to and including size TSN 526 or 226
- 18 Nm for seal kit sizes TSN 528 to 532 or 228 to 232
- 35 Nm for seal kit sizes TSN 534 to 548 or 234 to 248











9. Place the shaft with bearing and seal assemblies intoposition in the housing base.

Note: The oil pick-up ring must be placed on the side of the bearing seat, with the widest reservoir i.e the inner side of the bearing arrangement.

10. For locating bearing arrangements and arrangements with CARB bearings, put one locating ring at each side of the bearing.

Note:
- Position the locating rings so that they are in full contact with the bearing seating in the housing base and with their openings orientated upwards.
- Do not install locating rings at the non-locating position if it contains a spherical roller bearing!

11. Carefully align the housing base. Vertical markings at the middle of the housing base and faces can facilitate this. Then lightly tighten the attachment bolts.

12. When circulating oil lubrication is used, connect the oil outlet pipes to the housing base.

Note: Be sure that the outlet pipe(s) can drain properly or the housing may become overfilled.

13. When oil pick-up ring lubrication is used, fill the housing with oil to the indicated maximum level according to the table. The oil level gauge and cast markings inside the housing base indicate the maximum level.

Note: Oil level may drop during operation. Do not overfill the housing or leaks may result.

14. Cover the mating surfaces of the housing with an oil-resistant sealant.

15. Place the housing cap over the base and tighten the cap bolts (to join cap and base) to the torque values specified in table 2. Be careful not to damage the O-rings.

Note: The cap and base of one housing are not interchangeable with those of other housings. Check the cap and base to see that they bear the same identification.

16. When circulating oil lubrication is used, connect the oil inlet pipes to the housing cap.

17. Check alignment and fully tighten the attachment bolts in the housing base to the torque values specified in table 2.

