

Service and Repair Instructions Right-Angle Helical Bevel Reducers

Type K/KF/KA/KAF 66-126

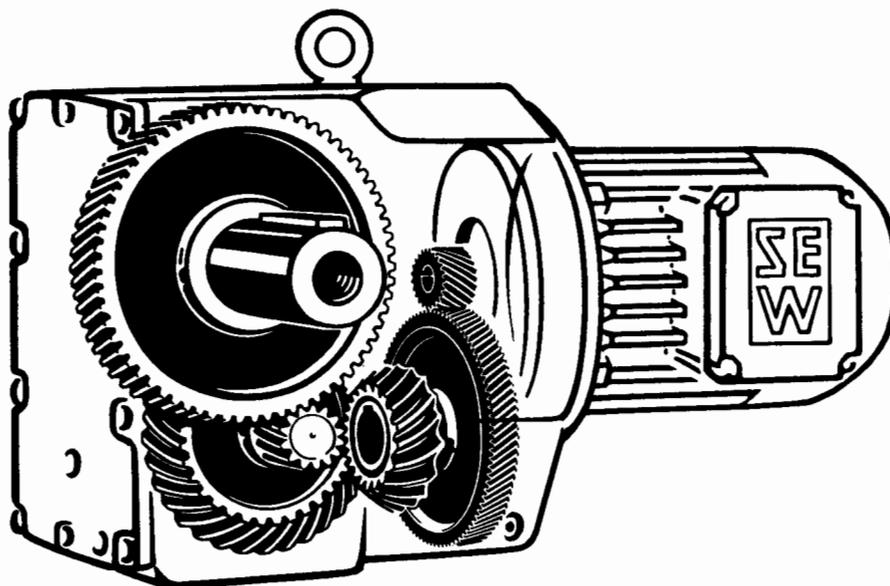


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SEW
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Notes

Introduction

SEW-Eurodrive Helical-Bevel Gear Units are part of the SEW-Eurodrive Modular System and can be combined with other SEW-Eurodrive helical gear units, mechanical variable speed units, AC motors, or with an input shaft assembly. The helical-bevel gearmotor and gear units can be supplied with foot or flange mounting in single or double output shaft configuration or with the hollowshaft design for shaft mounting.

The SEW-Eurodrive Helical-Bevel Gear Units can be repaired by the average maintenance department equipped with the normal lifting, pressing and pulling equipment, and hand tools. Before proceeding with the repair, one should consider whether to repair or replace with a new drive. Small drives are often more economically replaced than repaired.

Under no circumstances should repairs be made to the helical-bevel gear units still under warranty without authorization from SEW-Eurodrive.

Workmanship and Safety

The SEW-Eurodrive gear unit is a precision device and must be treated as such during repair. The work area should be kept clean and free of clutter. Good safety practices for lifting and removing parts must be followed. As parts are removed they should be placed where they will not be lost or damaged. Parts should only be washed in clean solvent. Exercise extreme caution when using any type of solvent and follow the manufacturers guidelines for use and handling exactly.

Gear teeth, keyways, edges on gearcase parts, etc. can be very sharp and capable of inflicting serious cuts. Suitable protective clothing and proper eye and face protection should be worn when working on any SEW-Eurodrive equipment.

Replacement Parts

Generally SEW-Eurodrive does not recommend the stocking of renewal parts for the gear units. Many parts, such as bearings and seals, recommended as spare parts by many manufacturers have a limited shelf life unless maintained in a closely controlled environment. Often through sound preventative maintenance programs, problems can be detected

early and repairs can be planned with factory "fresh" renewal parts.

SEW-Eurodrive has developed exacting specifications and tests on all parts used in the gear units to ensure proper and safe performance. Only original equipment parts should be used in the repair of the gear unit.

To assure continued safe operation of your helical-bevel gear reducer, all internal keys and dowels should be purchased only from SEW-Eurodrive. Bearings and shaft seals are marked with the manufacturer's type and name and should be replaced only with identical parts or exact equivalents. If it is necessary to replace threaded fasteners they must be replaced with the same grade.

Replacement parts are available through your nearest SEW-Eurodrive distributor or from the nearest SEW-Eurodrive facility listed on the back cover. To ensure continued safe operation of the SEW-Eurodrive gear unit never attempt to rework or duplicate parts at a local machine shop or substitute parts different from factory original.

To assist SEW-Eurodrive in supplying the exact parts you need, when placing an order please provide the following:

1. Nameplate model number and S.O. number.
2. Description and part number of the parts being ordered along with the item number on the Parts Lists.

When selecting the necessary parts for repair, please bear in mind:

1. When completely disassembling the gear unit, the oil seals, bearing closing caps, and gaskets will be destroyed and these parts must be replaced with new parts.
2. If a gear has failed, the mating gear may also be damaged and should be closely inspected or replaced. It is generally a good practice to always replace the keys securing the gears to the shaft with new parts.
3. Should a bearing or gear fail, abrasive steel particles may have been thrown throughout the gearcase. The gearcase must be thoroughly cleaned out and all bearings, gears, shafts, and gear housing should be closely inspected before ordering replacement parts to be sure all parts needed are ordered.

Tools and Equipment

Tools, equipment, and material needed to repair the SEW-Eurodrive helical-bevel gear unit will depend on the unit size and type and the nature of the repair, but may include:

1. Metric wrenches and sockets
2. Torque wrenches
3. Metric socket head wrenches
4. Punches and cold chisels
5. Snapping pliers
6. Hand and hydraulic presses
7. Lifting equipment
8. Pry bars
9. Soft and hard faced hammers
10. Wood or plastic blocks or wedges
11. Depth gauges, indicators, and feeler gauges
12. Sealants
13. Proper lubricants

General Repair Procedures

Bearings

Bearings must be removed and installed on shafts by pressing only on the inner race or in bearing bores by pressing only on the outer race with a pressing tool of the proper size. Do not hammer on any bearing during installation or removal. To facilitate installation, the inner and outer races of taper roller bearings can be heated to 80°C to 100°C.

Bearings used within the helical-bevel gear units may be either grease or oil lubricated depending upon the mounting position. Bearings that employ shields and/or external nilos rings are grease lubricated and must be packed with grease during assembly.

Input grease lubricated bearings should have only 1/3 of their free volume filled with grease in order to avoid overheating the bearing. For output bearings and bearings with replaceable grease shields fill to 2/3 of the free volume.

If reusing a grease lubricated bearing, thoroughly clean the old grease from the bearing with an ap-

propriate solvent prior to repacking. Only use a solvent made especially for cleaning grease from bearings. Gasoline is not a suitable solvent.

When installing nilos rings or bearings with shields they must be in the same position as when removed from the gear unit.

Oil Seals

Shaft oil seals are easily damaged by dirt, exposure to solvents, and rough handling. The steel cases are easily bent. Seals should be kept wrapped and away from the immediate work area until they are to be installed. Never reuse an oil seal.

Shaft extensions with keyways should be taped and care should be taken when installing seals over shaft shoulders without chamfers to avoid damaging the seal lip during installation. Seals should be installed with sleeve-type press fitting tools and an arbor press to assure smooth uniform installation pressure. Seals must be installed square to the shaft. Prelubricating the seal lip and seal bore with the same oil that will be used in the gearcase aid in the installation of the seal.

A thin coat of anaerobic joint sealant on the seal outside diameter, especially those with an exposed steel casing, will help assure a leak-free installation.

Gears

Removing and installing gears requires the proper tools to prevent damage. Screw type gear pullers should be used with care to avoid damaging the gear teeth. On the larger gear units hydraulic presses are required to change the output gear. To aid the installation of gears, heat the gears to 120°C to 140°C and drop them into place on the shafts.

Flanges and Tenons

After disassembly, clean all mating flanges and tenons of sealant and/or gasket material. Inspect the mating surfaces for any damage resulting from the disassembly procedure. File smooth any nicks or raised areas. Failure to properly prepare mating surfaces may result in oil leakage in the repaired unit.

Sealants

SEW-Eurodrive uses various anaerobic sealants and gasket sealants in the assembly of the helical-bevel gear unit.

The output covers and flanges must be sealed with Loctite™ 574, a liquid anaerobic sealant. All other mating flanges and tenons can be sealed with any good quality anaerobic sealant or RTV silicone sealant that is designed for high temperature automotive engine use and is impervious to the gear oil. A gasket sealant should be used with all gaskets to assure leak-free operation after repair.

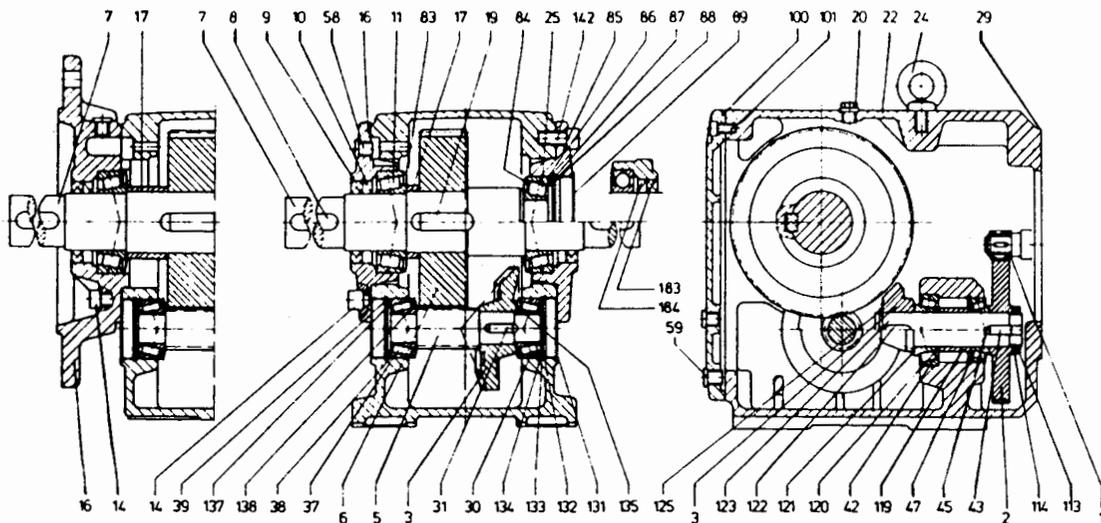
Follow the sealant manufacturer's guidelines for application and cure time. All surfaces to be sealed must be clean and free of oil and grease. Use the sealant sparingly. Normally an 1/8 inch continuous bead is sufficient to seal the mating surfaces. Apply the sealant to the machined surface of the gear housing between the bolt holes and the inside (oil side) edge of the housing. Any through tapped holes in the machined surface must have the top threads of the tapped hole coated with a suitable thread sealant. For easy disassembly later be sure to use only a thread sealant on the tapped holes and not a thread locking adhesive/sealant.

Preparation for Repair

Remove the helical-bevel gear unit from the driven equipment. Remove any sprockets, belt sheaves, couplings, and keys from the input or output shaft extensions. Clean the outside of the drive thoroughly before moving it into the work area.

Drain the oil from the gearcase and discard the oil appropriately. Do not reuse the oil. If the drive is still warm, use extreme care when draining the oil as hot oil can cause severe burns.

Before disassembly inspect the input and output shafts for nicks or damage caused by set screws, clamps, etc. Smooth the shaft extensions with a fine toothed file as necessary. It is generally a good idea to completely wrap the shaft extensions with one or two layers of plastic electrical tape to protect the shafts as well as the hands.



Typical Parts Breakdown View for K/KF66-126 (K/KF96 shown)
See appropriate Parts List for your specific gear unit.

Disassembly

Input Device

The helical-bevel gear unit may have a motor, input cover assembly, C-Face adapter, mechanical VSD, etc. as the input to the gearcase. All input devices are removed and replaced by the same procedures.

When working with the input device take care not to damage the attached pinion. Pull the input device straight out until the tenon is disengaged and then swing the input device to bring the gears out of mesh.

1. Support the input device so that it will not fall when it is removed. Use of slings is recommended.

2. Remove the bolts and/or nuts securing the input device to the gearcase.
3. Place a sharp cold chisel on one side of the gearcase where the input device flange mates with the gearcase and strike the chisel sharply with a heavy hammer to break the seal. As soon as one side separates, move to the other side of the gearcase and use the chisel and hammer to separate that side.
4. Use slender pry bars to complete the separation of the input device from the gearcase.

Output shaft and gear

5. Remove end cover #100 by removing the socket head screws #101. It will be necessary to use a sharp cold chisel and a heavy hammer to break the seal between the end cover and the gearcase.
6. Remove the output flanges and/or sealing flanges #16 and #85 by removing the socket head screws items #14 and #142 respectively. It may be necessary to use a sharp cold chisel and a heavy hammer to break the seal between the gearcase housing and the output flanges and/or sealing flanges.
On K/KF126 it will be necessary to remove closing flange #97 by removing the socket head screws #96.
7. Turn the gearcase on its side so that the bevel gear #3 is on the bottom side.
8. Support the output gear #6 with blocks between the gearcase and the output gear so that as the output shaft is pressed out the output gear does not move.
9. Place the gearcase in a press and press the output shaft out of the gearcase while supporting the output shaft so that it does not fall.
10. After the output shaft has been pressed out, the output gear can be removed from the gearcase.
11. Remove and discard the oil seals #9 (#10) and #183 (#184) from the flanges. Also at this time remove any snaprings #88, thrust washer #87, shims #86, nilos rings #83 and #84, and closing caps #89 from the flanges as required by the nature of the repair.
12. Remove bearings #11 and #25 from the output shaft #7 and/or from the flanges #16 and #85 as the case may be.

Bevel gear and shaft

13. Remove both closing caps #131 by placing a sharp chisel or punch near the center of the closing cap and striking the chisel sharply to puncture the closing cap and pry out.
14. Remove snaprings #39 and #132, shims #38 and #134, and thrust washers #133 and #137.
15. Turn the gearcase on its side so that the bevel gear #3 is on the top side.
16. Support the bevel gear with blocks between the gearcase and the bevel gear so that as the pinion shaft #5 is pressed out the bevel gear does not move.
17. Place the gearcase in a press and press the pinion shaft #5 out of the gearcase while supporting the shaft so that it does not fall.
18. Remove bearings #30 and #37, and nilos rings #135 and #138 from the gearcase housing and/or pinion shaft #5 as required.

Bevel pinion and shaft

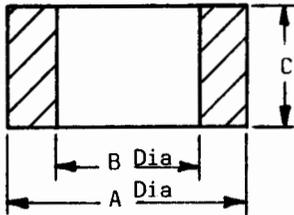
19. Remove snapring #115 and shims #116 or lock nut #113 and locking washer #114.
20. Stand the gearcase on its end with gear #2 on top. Support the gear #2 with blocks between the gearcase and the gear so that as the bevel pinion shaft #3(#123) is pressed out the gear #2 does not move.
21. Place the gear case in a press and press the bevel pinion shaft #3(#123) out of the gearcase while supporting the shaft so that it does not fall. Inner race and rollers of bearing #42 and spacer #119 will come out with the bevel pinion shaft #3(#123).
22. Remove gear #2, roller bearing, #45, snapring #47, spacer #117 (if present), and outer race of bearing #42.
23. Bevel pinion shaft:
2 piece
Remove snapring #125 and press pinion shaft out of bevel pinion. Remove spacer #119, inner race of roller bearing #42, and shims #120 and #121 from bevel pinion shaft.
1 piece
Remove spacer #119, inner race of bearing #42, and shims #120 and #121 from bevel pinion shaft (Bevel pinion and shaft are one piece).

Assembly

1. Oil all bearing bores before installing bearings.
2. Bevel pinion and bevel gear are matched and, if required, must be replaced as a set.

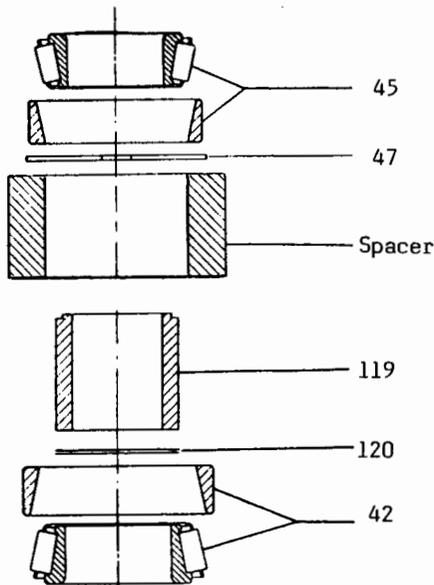
Bevel pinion and shaft

2. Determine the shimming required for bearings #42 and #45.
 - a) Make a spacer to the appropriate dimensions.

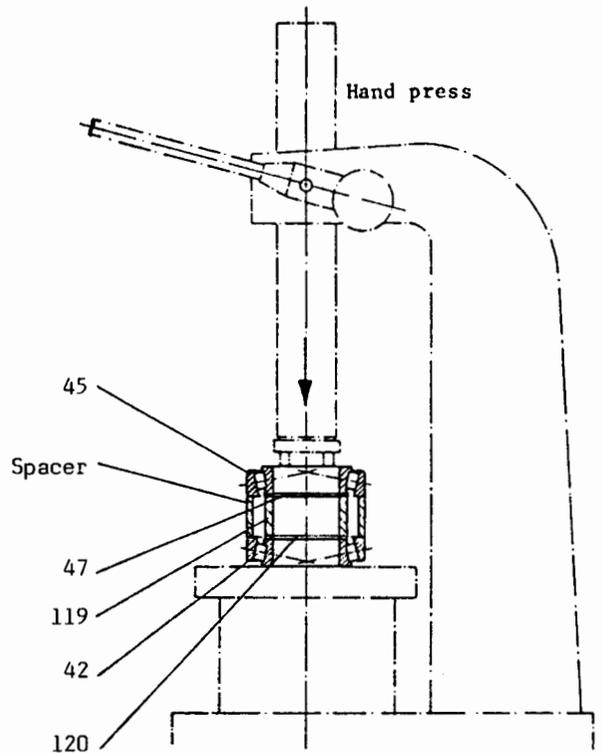


Gearcase Size	Dimensions in millimeters		
	A	B	C ^{+0.005}
66	56	38	23.010
76	70	50	26.310
86	90	66	38.510
96	95	72	46.310
106	130	100	44.800
126	160	125	53.510

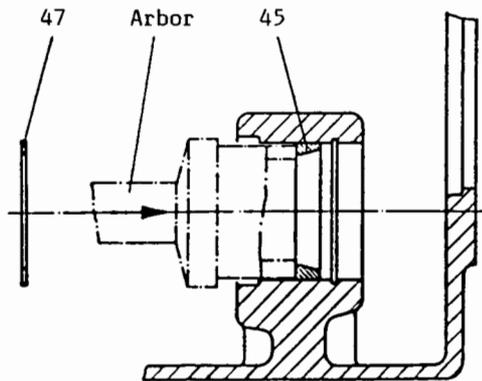
- b) As shown, stack the bearing #42, spacer #119, shims #120, snapping #47, spacer made in a), and bearing #45 in a hand press. Initially use 0.5mm shims #120 for K66-K106 and 0.7mm shims #120 for K126.



- c) With the hand press apply slight pressure to the stack while rotating the bearings. Shims #120 are either added or removed until the spacer #119 and the one made in a) are well secured between the two bearings and the bearings rotate with ease.



3. Press outer race of bearing #45 into bearing bore.

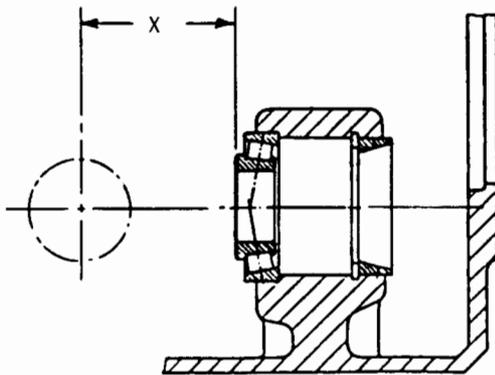


4. Install snapping #47 and push outer race of bearing #45 against the snapping.

5. Press outer race of bearing #42 into place.

6. Determine the shimming required for bevel pinion #3.

a) Place inner race of bearing #42 into position and secure in place by means of an appropriate clamp.



b) Measure the distance X in millimeters from the face of the inner race of bearing #42 to the centerline of the cross bore for shaft #5.

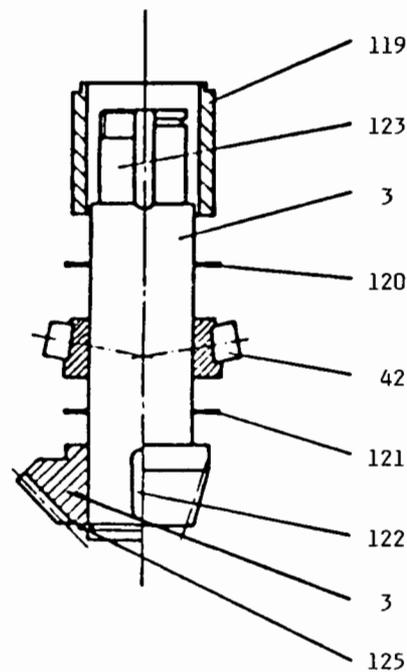
The difference between the value X and the dimension inscribed on the bevel pinion #3 is compensated for by means of shims #121. (X must always be greater than the value shown on the bevel pinion or assembly will not be possible).

7. Bevel pinion

a. 2 piece

Install snapping #125, and key #122 onto shaft #123. Press on bevel pinion #3, install shims #121 as determined in step 6, press on inner race of bearing #42, install shims #120 as determined in step 2, and install spacer #119 onto shaft #123.

If spacer #119 has relief it must be toward bearing #45.



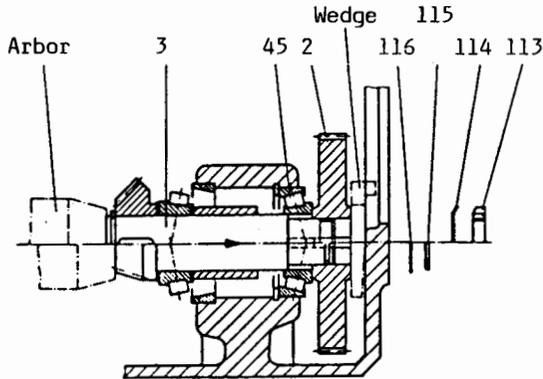
b. 1 piece

Install shims #121 as determined in step 6, press on inner race of bearing #42, install shims #120 as determined in step 2, and install spacer #119 onto shaft #3.

8. Place preheated inner race of bearing #45 in its outer race.

9. Install key #43 in gear #2.

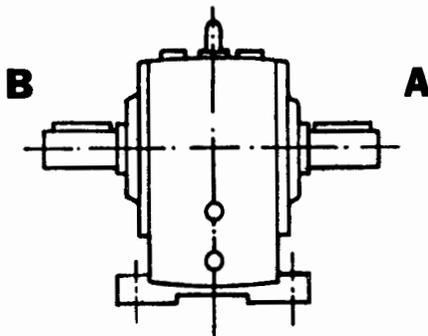
10. Place preheated gear #2 (and spacer #117 on K/KF/KA/KAF 126 only) in position and trap with a wooden or plastic wedge. Slide bevel pinion assembly into bearing bore and press completely together.



11. After bearing races and gears are completely cooled down:
- K66-86 - Install shims #116 to eliminate any free float and install snapping #115.
 - K96-126 - With gear #2 blocked so that it does not rotate, install locking washer #114 and lock nut #113 and tighten securely. Secure nut in position by bending over a tang on locking washer.

Bevel Gear and Shaft

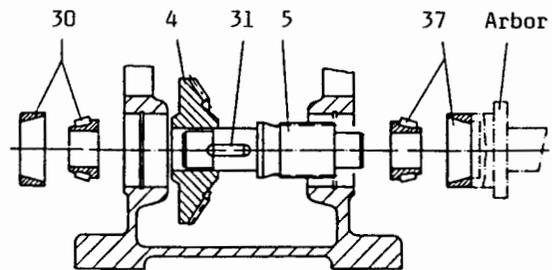
12. From the gear reducer nameplate, determine the mounting position. The mounting position designation consists of a series of letters and numbers with the suffix letters A and B to indicate output shaft and/or flange position. When looking at the helical-bevel reducer from the end opposite the input side, the right hand side is A and the left hand side is B.



In the standard assemblies the bevel gear is always on the opposite side of the gear reducer from the output shaft and/or flange position.

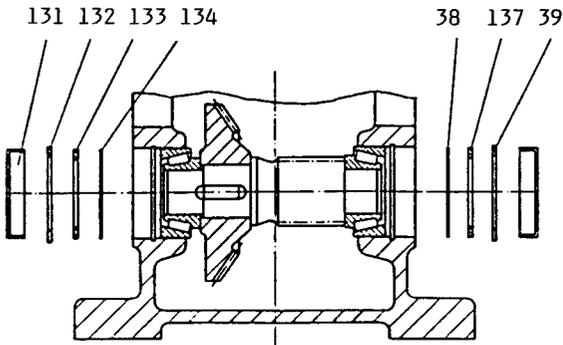
Gearcase	Output Shaft At	Flange At	Bevel Gear At
K, KF	A	A	B
K, KF	B	B	A
K double extended shaft	A&B	-	B
KFF	A&B	A&B	B
KA	-	-	B
KAF	-	A	B
KAF	-	B	A

13. Install key #31 in keyway on pinion shaft #5.
14. Place the preheated bevel gear inside the housing on A-side or B-side as determined in step 12. Then slide pinion shaft #5 into bevel gear.
NOTE: Bevel pinion and bevel gear are matched and, if required, must be replaced as a set.
15. For mounting positions V5, H5, and V1 install nilos ring #135 on pinion shaft #5.
16. For mounting positions V6, V1I, and H6 install nilos ring #138 on pinion shaft #5.
17. Slide the preheated inner races of bearings #30 and #37 onto the pinion shaft #5.



18. Press the outer races of bearings #30 and #37 into the housing.

19. After the bevel gear and bearings are completely cooled down set the circumferential backlash (tooth clearance) of the bevel gear set to the appropriate value. Install shims #38 and #134, thrust washers #133 and #137, and snaprings #39 and #132 on both sides in such a way to achieve the prescribed backlash. With proper backlash setting, sufficient shims are installed so that the snaprings can only be installed with difficulty.



Gearcase Size	Circumferential Backlash (tooth clearance) (mm)
66	0.08-0.11
76	0.08-0.11
86	0.10-0.13
96	0.10-0.13
106	0.12-0.14
126	0.14-0.17

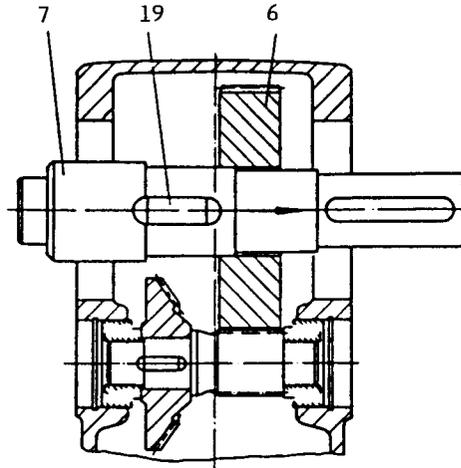
20. Install closing caps #131.

K/KF66 and 76

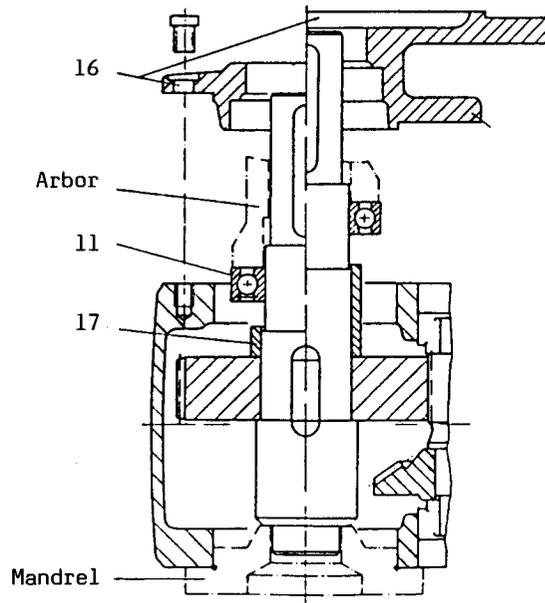
Output gear and shaft

21. Jam the bevel gear with a wooden or plastic wedge to prevent rotation.
22. Install key #19 in keyway on output shaft #7.

23. Place preheated gear #6 into position inside the housing and slide shaft #7 into gear #6.

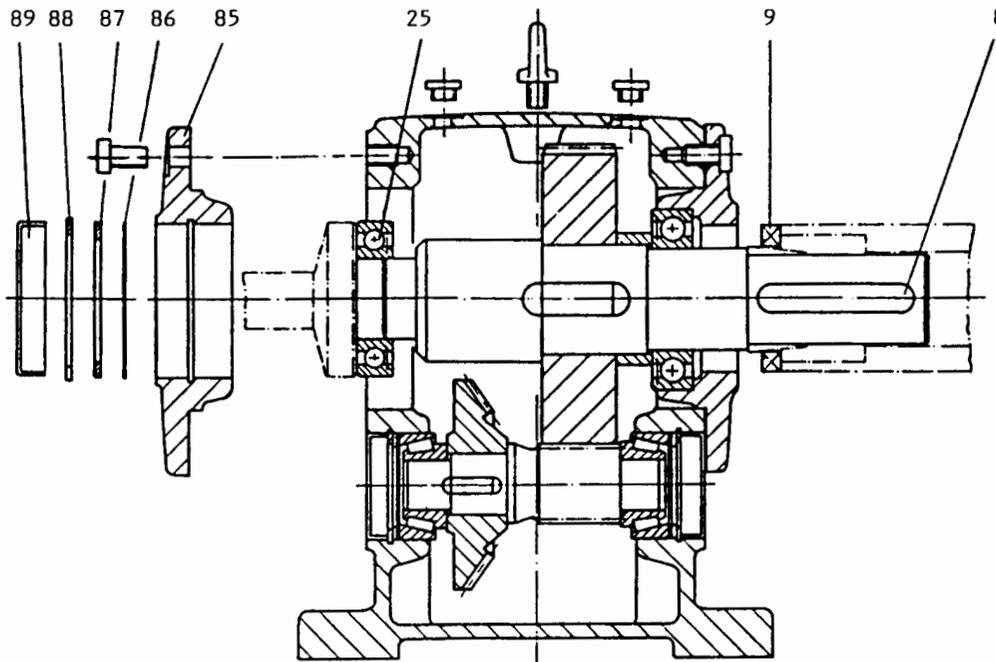


24. Rotate the housing on its side and support the shaft #7 as shown.



25. Install spacer #17.
26. Press on bearing #11. Be sure to prelubricate the bearing before installation.
27. Install sealing flange or output flange #16 and secure with the socket head screws #14. (Provide surface sealing).

28. Turn housing upright. Press on bearing #25. Be sure to prelubricate the bearing before installation.



For single shaft extension

29. Install sealing flange #85 and secure with the socket head screws #142. (Provide surface sealing).
30. Install shims #86 to eliminate any free float, thrust washer #87, and snapping #88.
31. Install closing cap #89.
32. Install oil seals #9 (#10) in the sealing flange or output flange #16.

For double shaft extension

29. Determine the required number of shims #86.
 - a) Measure the distance from the housing sealing surface to the face of the bearing #25.
 - b) Measure the distance from the flange sealing surface to its bearing locating shoulder.
 - c) The difference between the distances in a) and b) is the amount of shims #86 required.
30. With the appropriate number of shims #86, install the sealing flange or output flange #85 and secure with socket head screws #142. (Provide surface sealing).

31. Install oil seals #9 (#10) and #183 (#184) in the sealing flanges or output flanges #16 and #85.

K/KF 86-126

Output gear and shaft

21. Jam the bevel gear with a wooden or plastic wedge to prevent rotation.
22. Install key #19 in keyway on output shaft #7.
23. Place preheated gear #6 into position inside the housing and slide shaft #7 into gear #6.

24. Install spacer #17, nilos rings #83 and #84, and preheated inner races of bearings #11 and #25 onto output shaft #7.

28. Lubricate the bearing #25 and install the outer race of bearing #25 into the sealing flange #85.

29. For K/KF86-106

a) Install the shims #86, thrust washer #87, and snapping #88. Use sufficient shims so that the snapping can only be installed with difficulty.

b) Install closing cap #89.

29. For K/KF126

a) Determine the required number of shims #86.

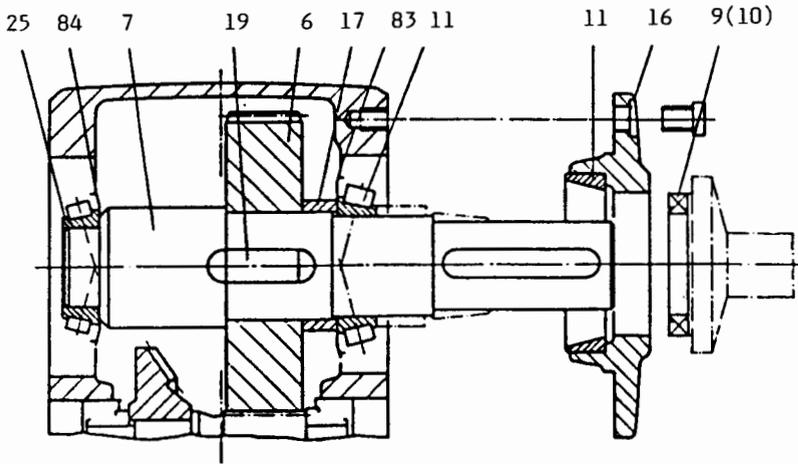
1) With the outer race of bearing #25 in place, measure the distance from the housing sealing surface to the face of the bearing #25.

2) Measure the distance from the closing flange #97 sealing surface to its bearing locating shoulder.

3) The difference between the distances in a) and b) is the amount of shims #86 required.

b) With the appropriate number of shims #86, install the closing flange #97 and secure with socket head screws #96. (Provide surface sealing).

30. Install oil seals #9 (#10) in the sealing flange or output flange #16.

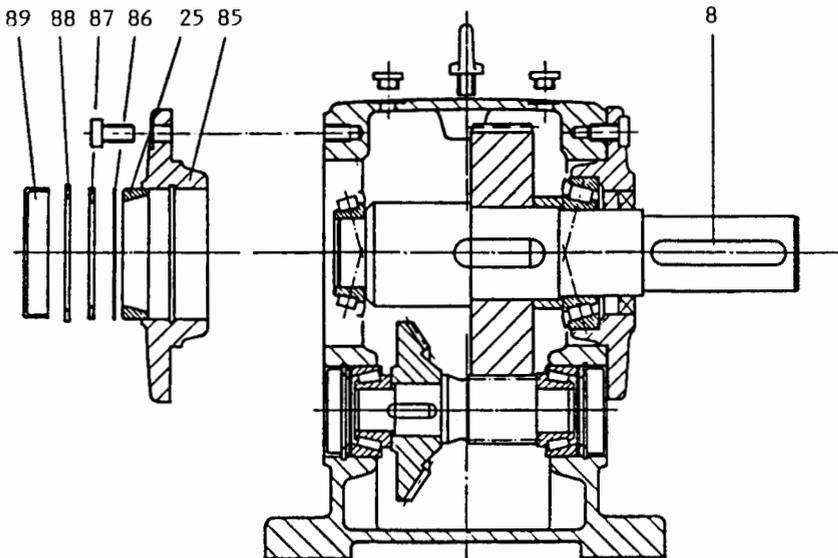


25. Press outer race of bearing #11 into sealing flange or output flange #16.

26. Install sealing flange or output flange #16 and secure with socket head screw #14. (Provide surface sealing and lubricate bearing).

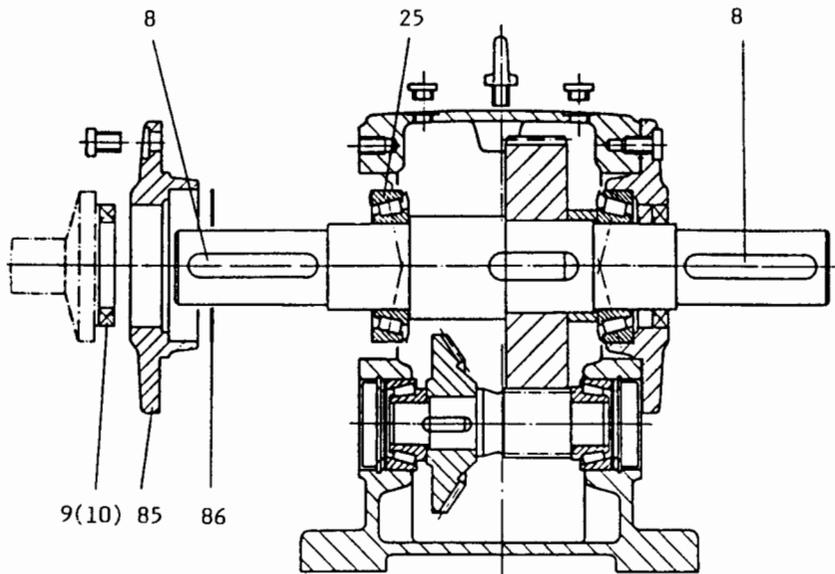
For single shaft extension

27. Install sealing flange #85 and secure with socket head screws #142. (Provide surface sealing).



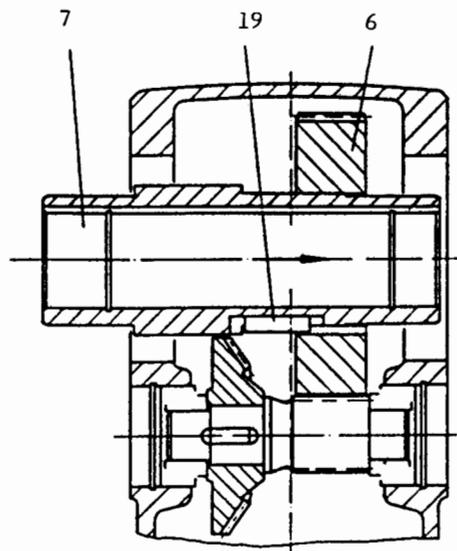
For double shaft extension

27. Determine the required number of shims #86.
- a) With the outer race of bearing #25 in place, measure the distance from the housing sealing surface to the face of the bearing #25.
 - b) Measure the distance from the flange #85 sealing surface to its bearing locating shoulder.
 - c) The difference between the distances in a) and b) is the amount of shims #86 required.



28. Install the appropriate number of shims #86 and press outer race of bearing #25 into sealing flange or output flange #85.
29. Install sealing flange or output flange #85 and secure with socket head screws #142. (Provide surface sealing).
30. Install oil seals #9 (#10) and #183 (#184) in the sealing flanges or output flanges #16 and #85.

23. Place preheated gear #6 into position inside the housing and slide shaft #7 into gear #6.

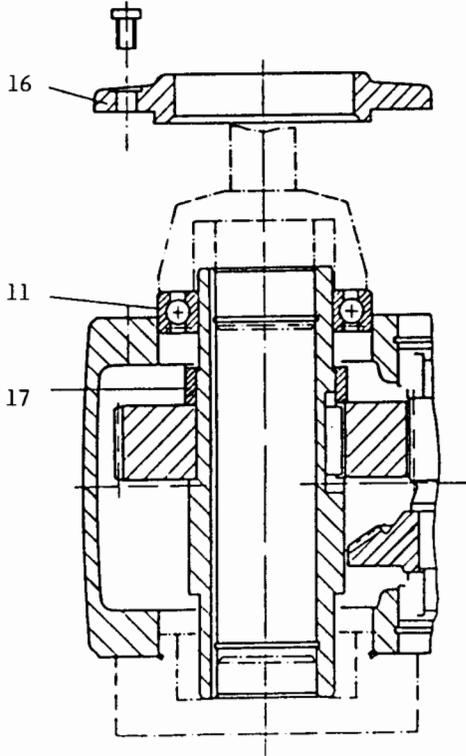


KA/KAF 66-126

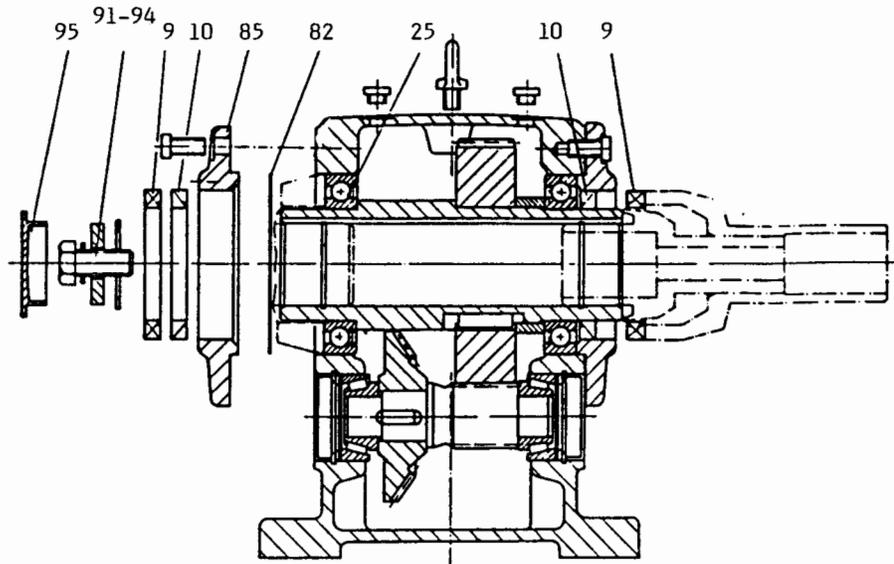
Output gear and shaft

21. Jam the bevel gear with a wooden or plastic wedge to prevent rotation.
22. Install key #19 in keyway on output shaft #7.

24. Rotate the housing on its side and support the shaft #7, as shown.



25. Install spacer #17.
26. Press on bearing #11. Be sure to prelubricate the bearing before installation. For KA/KAF 106-126, install nilos ring #83 before installing bearing #11.
27. Install sealing flange or output flange #16 and secure with the socket head screws #14. (Provide surface sealing).
28. Turn housing over and press on bearing #25. Be sure to prelubricate the bearing before installation. For KA/KAF 106-126, install nilos ring #84 before installing bearing #25.
29. Determine the required number of shims #82.
 - a) Measure the distance from the housing sealing surface to the face of the bearing #25.
 - b) Measure the distance from the flange #85 sealing surface to its bearing locating shoulder.
 - c) The difference between the distances in a) and b) is the amount of shims #82 required.



30. With the appropriate number of shims #82, install the sealing flange or output flange #85 and secure with socket head screws #142. (Provide surface sealing).
31. Install oil seals #9 (#10) and #183 (#184).
32. Install snapping #91, disc #92, lockwasher #93, and hex head bolt #95 into the hollowshaft.
33. Install closing cap #95.

Final Assembly

34. Install cover #100 and secure with socket head screws #101. (Provide surface sealing).
35. Install key #8 into keyway on output shaft #7.

36. Screw in eyebolt, oil level and drain plugs, and breather. See Mounting Positions chart for correct location of oil plugs.
37. Place input gasket #29, if required, in place and install the input assembly. Secure input assembly with appropriate bolts and/or nuts.
38. Fill with proper lubricant. See Lubricant Schedule for recommended lubricants and approximate quantities.
39. Trial run and test for unusual noises and/or oil leaks.

Lubrication

Schedule

LUBRICATION TYPE	AMBIENT ¹⁾ AIR TEMPERATURE RANGE °F	KIN VISCOSITY AT 40°C (cSt) APPROX.	GULF OIL CO.	CHEVRON OIL CO.	AMERICAN OIL CO.	MOBIL OIL CO.	SHELL OIL	TEXACO CO.
Oil	+104 to +32	210	Gulf E.P. Lubricant S 100	Chevron Non-Leaded Gear Compound 220	SPARTAN EP 220	Mobilgear 630	Shell Omala Oil 220	Meropa 220
	+77 to +5	145	Gulf E.P. Lubricant S 60	Chevron Non-Leaded Gear Compound 150	SPARTAN EP 150	Mobilgear 629	Shell Omala Oil 100	Meropa 150
Grease Used for normal application temp. range — 20°F to 250°F			Gulfcrowne Grease E.P. No. 2	Chevron Dura-Lith BEACON 3	ESSO Multipurpose Grease BEACON 2	Mobilux EP2	Shell Alvania Grease R 3	Multifak EP-2

Mineral oils and greases should be changed every 10,000 operating hours or 2 years. Repack high speed (input) bearings to 1/3 of the available free bearing space. Repack low speed (output) bearings to 2/3 of the available free space.

Synthetic oils and greases should be changed every 20,000 operating hours or 4 years.

Under severe operating conditions (e.g. high humidity, aggressive environment, large temperature fluctuations or high ambient temperatures) shorter oil change intervals are necessary.

¹⁾Consult factory for ambient temperatures outside the ranges shown.

Quantity in (US) Gallons

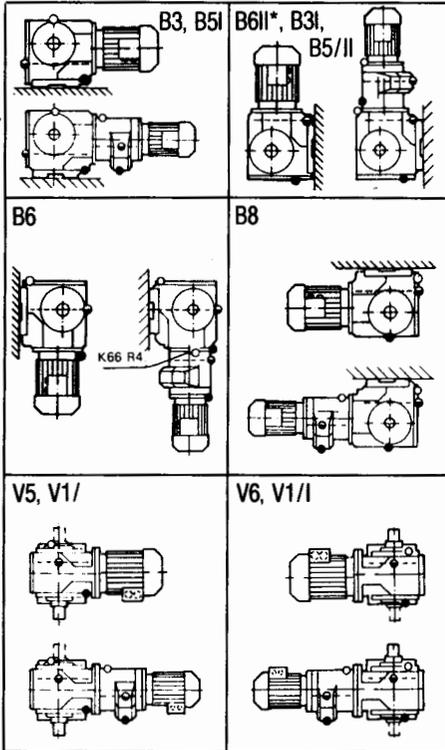
FRAME SIZE	MOUNTING POSITIONS													
	B3, H1 B5I	B3I B6II	B5	B5II	B5III	B6	B8	V1 V1I	V5	V6	H2	H3	H4	H5, H6
K, KF, KA 66	0.24	0.90	0.63	0.90	0.79	0.63	0.79	0.82	0.87	0.87	0.77	0.87	0.61	0.85
K, KF, KA 76	0.45	1.64	1.32	1.69	1.56	1.29	1.51	1.64	1.74	1.74	1.45	1.59	1.24	1.69
K, KF, KA 86	0.66	2.51	2.11	2.62	2.51	2.06	2.40	2.75	2.64	2.64	2.27	2.38	1.93	2.51
K, KF, KA 96	1.27	4.76	3.65	4.91	4.39	3.57	4.23	5.18	5.02	5.02	4.10	4.62	3.43	4.89
K, KF, KA 106	2.11	8.45	6.47	8.72	7.66	6.34	7.40	8.72	8.45	8.45	7.13	8.19	6.08	8.19
K, KF, KA 126	3.70	15.85	11.89	14.80	14.27	11.62	13.74	16.91	16.38	16.38	13.21	15.32	11.10	15.85

Note: The capacities are approximate, being dependent on the gear ratio.

Weight of oil: Approximately 7.5 lbs/gallon.

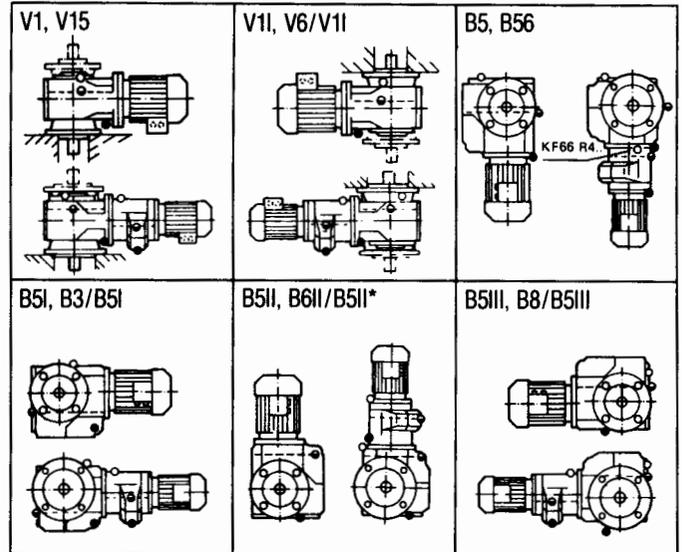
Mounting Positions

K66 - K126
K66R.. - K126R..



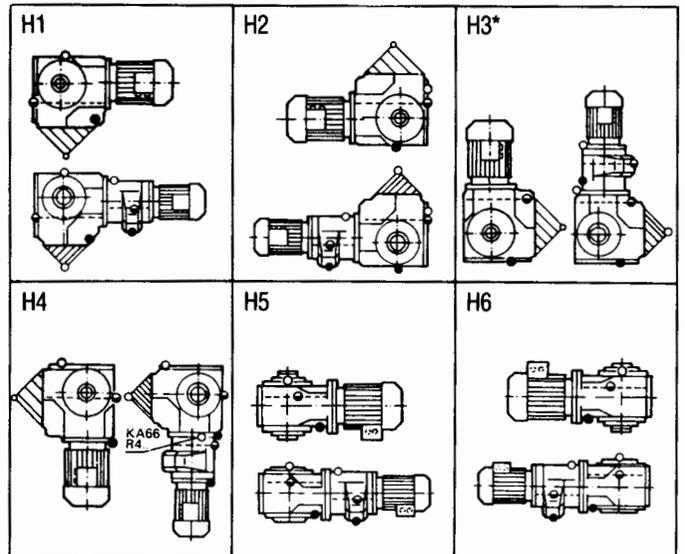
*K66-K126 Reducers: B6II mounting positions are non-ventilated.

KF66 - KF126
KF66R.. - KF126R..



KF66-KF126 Reducers: B5II, B6II/B5II mounting positions are non-ventilated.

KA66 - KA126
KA/KAF66R.. - KA/KAF126R..



*KA66-KAF126 Reducers: H3 mounting positions are non-ventilated.

- Symbols:
-  Mounting surface
 -  Breather Plug
 -  Oil - Level Plug - Red
 -  Drain Plug - Blue

Tightening Torques for Metric Threaded Fasteners

Hex Head or Hex Socket Screws (Normal Thread Series)

Thread Size	Torque (lb-in) for				Hex Head Socket Wrench Size (mm)
	Grade 4.8	Grade 6.8	Grade 8.8	Grade 10.9	
M5	27	40	53	75	8
M6	50	73	97	125	10
M8	115	170	220	310	13
M10	220	320	425	610	17
M12	-	575	760	1060	19
M14	-	895	1195	1680	22
M16	-	1400	1860	2610	24
M18	-	1930	2565	3540	27
M20	-	2725	3630	5135	30
M24	-	4715	6285	8850	36
M27	-	6990	9295	13275	41
M30	-	9645	12850	17700	46
M36	-	16650	22150	31400	55

Oil Plugs

Thread Size	Torque in lb-in
M10x1	105
M12x1.5	175
M22x1.5	710
M33x2	1150
M42x2	1415

Notes

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