

⚠ DANGER Indicates a hazard which, if not avoided, will result in serious injury or death.

⚠ WARNING Indicates a hazard which, if not avoided, could result in serious injury or death.

⚠ CAUTION Indicates a hazard which, if not avoided, could result in minor or moderate personal injury.

NOTICE Indicates information considered important, but not hazard-related (e.g. messages relating to property damage).

GENERAL SAFETY INSTRUCTIONS

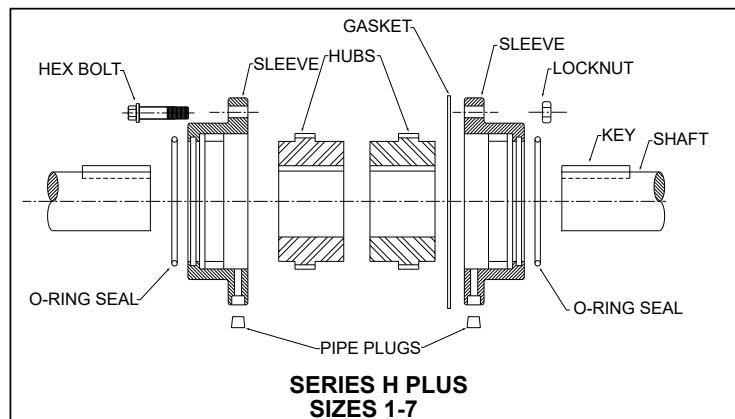
⚠ WARNING

- Read and follow all instructions carefully.
- Disconnect and lock out power before installation and maintenance. Working on or near energized equipment can result in severe injury.
- Do not operate equipment without guards in place. Exposed equipment can result in severe injury or death.

- Read and understand the information in this section and in this manual completely before installing, operating or maintaining this equipment. Failure to follow these instructions could result in severe injury or death.

⚠ CAUTION

- Perform periodic inspections. Equipment may fail prematurely and could become unsafe if not properly inspected and maintained. Failure to follow these instructions could result in mild or moderate personal injury.



INSTALLATION and ALIGNMENT INSTRUCTIONS

These instructions generally apply to Kop-Flex® Series H Plus couplings.

CAUTION: Series H and Series H Plus couplings are not interchangeable.

This sheet may be supplemented by Special Instructions supplied with the coupling for modifications and variations of these couplings.

CAUTION: when working on rotating equipment. Be sure to lock out the starting switch of the prime mover so the equipment cannot be started until work is complete, checked, and personnel are safely away. In addition, remove all external loads from drive before installing or servicing couplings.

MAINTENANCE and LUBRICATION

Lubricate the Series H Plus couplings only with grease. Use Kop-Flex KSG coupling grease or other grease meeting the minimum specifications shown. Do not use oil in Series H Plus couplings. Coupling lubrication is critical. The use of proper and sufficient lubrication is part of a successful installation. Lubricants should be checked to see the proper level is maintained and that the lubricant is free of contaminants.

In an average industrial application, the coupling should be checked for lubricant contamination and replenished with the proper volume every twelve months.

Conditions such as very slow speed, reversing drives, high heat and severe environments may require more frequent lubrication.

RECOMMENDED LUBRICANT

Kop-Flex KSG Coupling Grease

This grease is specifically compounded for standard couplings to provide improved lubrication and resistance to centrifugal separation. When KSG grease is used, lubrication intervals may be extended, based upon operating experience. Balanced couplings or others operating at speeds above 3500 rpm can benefit from KHP coupling grease. Both KSG and KHP coupling greases are available from Regal Rexnord or authorized distributors of Kop-Flex power transmission products.

If the coupling is mounted on a reciprocating machine, or if recurrent reverse loading is experienced, a heavy viscous lubricant, similar to NLGI #0 EP grease may be required for damping characteristics.

OTHER GREASES

Alternate lubricating greases should equal or exceed the specifications for Kop-Flex KSG and KHP coupling greases. (Specification sheet 3532 is available upon request.) Greases other than KSG or KHP, should meet these minimum specifications:

Grade: NLGI #1
Base oil Viscosity: Min.:
3000 SSU at 100° F
160 SSU at 210° F
Dropping point, Min.: 190° F
Four Ball Wear, ASTM D-2266:
.500mm Maximum
Base oil content: 87% Minimum
K36 Factor, ASTM D-4425:
KSG: $K36 = 8/24 = .33$
Required:
Rust and Oxidation Inhibitors
E. P. Additives

The most reliable test of a suitable lubricant is often the result of user experience. If a lubricant has been known to sludge, separate into heavy components or dry out, consider the use of Kop-Flex greases or one meeting the minimum specifications.

PREPARATION:

NOTICE: The Series H Plus coupling sleeve has an integral end ring.

Coat the sleeve teeth with coupling grease. Use a portion of the grease to coat the 'O' ring seals and install the seals into the groove of the Series H Plus Sleeve.

GENERAL INSTALLATION

Place the coupling sleeves over the shaft end as shown in cover illustration.

If using a keyed connection apply a suitable anti-galling compound to the shaft. For keyless hub-to-shaft connections, follow the equipment manufacturer's instructions.

Place keys in shaft keyways with a snug side-to-side fit, and slight clearance top to bottom. Clean the shaft and hub. Straight bored hubs may be coated with a suitable anti-galling lubricant. Taper bored hubs must be installed without lubricant.

Expand hub in an oven until the bore is substantially larger than the shaft diameter. Straight bored hubs are normally bored for an interference fit of approximately 0.0005 in/in of shaft diameter. For most values of interference, this will require a hub temperature of about 300°F (150°C). NEVER EXCEED 600°F (300°C).

WARNING! To avoid the risk of explosion, fire, damage to coupling and equipment, and/or injury to personnel, do not use an open flame or oil bath to expand the hub.

For normal applications, hubs are mounted with teeth away from end of shaft.

The Series H Plus couplings can accommodate increased hub separation by reverse mounting one, or both of the hubs. (See dimensions C_1 and C_w in Table I.) Make sure the hub is mounted with the teeth in the correct position.

Remove hub from oven and position at shaft end. Properly orienting the hubs, slip them over the shafts and keys. Hub faces are normally mounted flush with the shaft end.

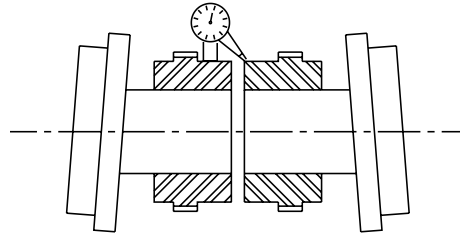
TAPERED BORES

Select the unheated taper bored hub. Mount the hub hand tight on its shaft and lightly rap it with a soft mallet to establish the initial line-to-line fit. Draw the hub up an additional distance to obtain the desired interference fit for the connection. In some cases the hub may require heating to achieve desired fit.

The required amount of axial movement is dependent upon the bore diameter and taper angle.

Install the hub retention means (locknut, etc.) provided with the shaft, and securely lock the retainer into place. For most installations, the hub face will project lightly beyond the shaft end after hub pull-up.

CHECK ANGULAR ALIGNMENT

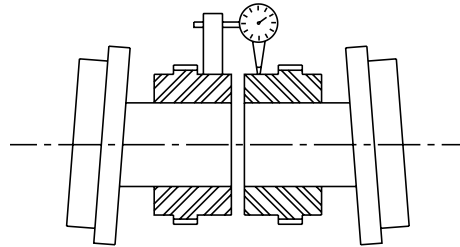


For normal hub separation, use a feeler gauge at 4 points 90° apart, or for best accuracy, a dial indicator or laser alignment system.

Position machines to obtain best alignment. Normal variation should not exceed .001 inches (0.025mm) times coupling size. Maintain correct hub separation referring to the " C "; " C_1 " and " C_w " dimension shown in table 1 on page 4.

For greater hub separation than standard (such as spacer and floating shaft couplings), use micrometers or other suitable alignment fixtures to span the separation and measure the four 90° points.

OFFSET ALIGNMENT INSTRUMENT METHOD

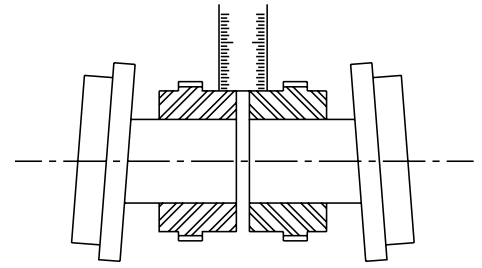


Note: For maximum coupling life, either a laser alignment system or the Instrument Method of coupling alignment is recommended.

Attach a dial indicator bracket to one hub with dial indicator probe contacting the opposite hub's alignment surface. Rotate the hub on which the dial indicator is attached, and take readings at 4 points 90° apart. The offset (TIR) should be less than .002 inches times the coupling size. For greater hub separation than (such as spacer or floating shaft couplings) use suitable fixtures to span the separation and measure the four 90° points. Shim either machine until best possible alignment is obtained.

Recheck angular alignment and hub separation.

OFFSET ALIGNMENT VISUAL METHOD



Shim one machine and align shafts using a straight edge until it appears to be at right angles to the shafts. Repeat at three additional points 90° apart.

Recheck angular alignment and hub separation.

COUPLING ASSEMBLY

Check to ensure the center flange gasket is not damaged. Clean the flange faces and place the gasket in place, aligning the gasket with the flange bolt holes. For spacer couplings or other arrangements, a gasket must be placed between each set of flanges.

Draw flanges together, positioning lube holes 90° apart.

Insert the fitted capscrews and locknuts. Tighten all fasteners to the torque value shown on page 4.

Remove two fittings 180° apart. Rotate the coupling to place the bottom hole 45° off horizontal. Pump lubricant into the top hole until excess appears at the bottom hole. Sufficient lubricant has now been added. (Hand packing of grease in each half of the coupling is recommended.)

NOTICE: Do not attempt to fill the coupling without venting the interior; an air lock can result in incomplete filling or in damage to the 'O' ring seal.

After lubricating, tighten lube plugs to the specified torque value shown in table 1 on page 4.

NOTICE: Spacer; limited end float; floating shaft couplings, and some other styles, require each end to be separately lubricated. Do not fill the interior of spacer coupling arrangements. Lubricant capacities for each size and coupling style are given in Table 1 1 on page 4.

One-half this amount should be placed in each coupling half.

DYNAMICALLY BALANCED COUPLINGS

In addition to the previous instructions, certain other precautions must be followed to maintain coupling dynamic balance at assembly.

1. Replace each locknut on its own bolt as they have been weight balanced as a set. The set can be used in any bolt hole.
2. Fit the shaft keys precisely to fill the keyway with a tight fit only on the sides. Key weight should equal the weight of metal removed from shaft and hub keyways.
3. Position each sleeve with its hub; noting any match marks on either the sleeve or hub. Keep match marks in line as final assembly is completed.
4. Position all other parts such as spacer, floating shaft, etc., properly aligning any match marks.
5. Lubricate the coupling.

Note: Use an adapter plate only with half-coupling of the same serial number.

FINISH BORING and KEYWAYS

Coupling hubs are often furnished with a "rough stock bore." This rough bore is not necessarily concentric to other hub diameters.

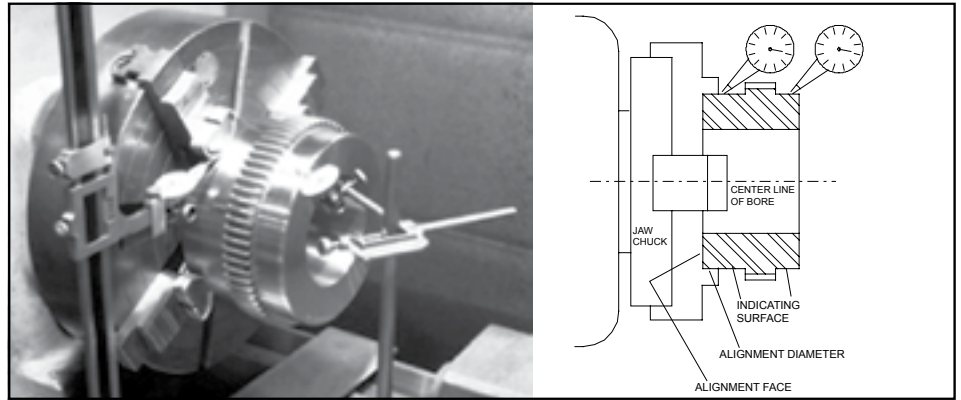
To prepare for boring, set up and indicate the hub as shown by the illustration.

The alignment diameter of the hub should be chucked in the boring lathe and dial indicated as shown, so that run-out is as near zero as possible. It is essential that the finished bore be concentric with the two indicating surfaces.

Bore sizing and recommended fit: Finish bore size should be based on the actual shaft dimension measured, regardless of whether straight or taper shaft.

A light interference fit based on a nominal interference of .0005 in. per inch of shaft diameter is suggested, or refer to published AGMA standards.

Do not exceed an interference rate of .0012 in. per inch of shaft diameter for the Series H Plus.



Alternate fits:

If other than a light interference fit is desired, please consult the published AGMA boring and keyway standards, or contact our engineering department for specific recommendations.

KEYWAYS

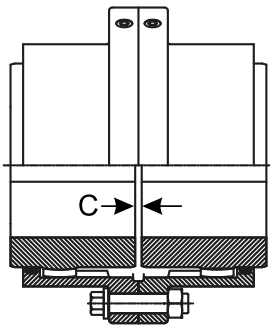
Keyways should be cut to give a tight fit on the sides, and slight clearance over or under the key. Keyways should not have sharp corners. Refer to published AGMA standards for specific dimensioning of coupling bores and keyways.

WARNING! Important Safety Instructions Before start-up

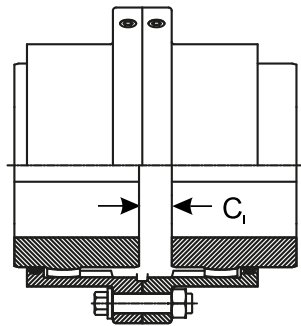
To ensure safety and extend shaft coupling life, follow these requirements.

1. Guards must be installed on all couplings.
2. Recheck alignment after all foundation bolts and mechanical connections are tightened.
3. Make sure all fasteners are properly installed and tightened.
4. Take the time to double check your work.
5. Only authorized Kop-Flex replacement parts are to be used.
6. Call Regal Rexnord for any clarification or questions.

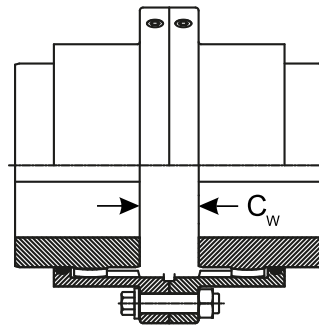
SERIES H PLUS



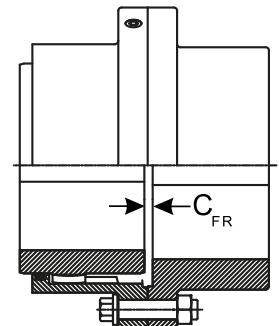
STANDARD COUPLING



STANDARD COUPLING
(One Hub Reversed)



STANDARD COUPLING
(Both Hubs Reversed)



FLEX-RIGID COUPLING

TABLE I

COUPLING SIZE		1H Plus	1 ½ H Plus	2H Plus	2 ½ H Plus	3H Plus	3 ½ H Plus
Grease Capacity Full Flex	Lbs.-Oz.	0-2	0-3	0-4	0-8	0-13	1-4
Flex-Rigid	Lbs.-Oz.	0-1	0-2	0-3	0-4	0-7	0-10
Spacer Couplings (per inch spacer length)	Lbs.-Oz.	0-1	0-1	0-1	0-1	0-1	0-2
Hub Separation "C" Full-Flex	Inch	.125	.125	.125	.188	.188	.250
Hub Separation "C ₁ " One Hub Reversed	Inch	.267	.625	.585	.758	.978	1.320
Hub Separation "C _w " Both Hubs Reversed	Inch	.409	1.125	1.045	1.328	1.768	2.390
Hub Separation "C _{FR} " Flex-Rigid	Inch	.156	.156	.156	.188	.188	.218
Bolt Tightening Torque Shrouded Bolts	Lb.-Ft.	9	31	31	75	75	150
Bolt Tightening Torque Exposed Bolts	Lb.-Ft.	9	31	75	150	150	250
Lube Plug Tightening Torque		7 lb-in					

COUPLING SIZE		4H Plus	4 ½ H Plus	5H Plus	5 ½ H Plus	6H Plus	7H Plus
Grease Capacity Full Flex	Lbs.-Oz.	2-0	2-5	3-15	4-15	7-0	9-10
Flex-Rigid	Lbs.-Oz.	1-1	1-4	2-0	2-8	3-12	5-0
Spacer Couplings (per inch spacer length)	Lbs.-Oz.	0-4	0-4	0-4	0-4	0-4	0-4
Hub Separation "C" Full-Flex	Inch	.250	.312	.312	.312	.312	.375
Hub Separation "C ₁ " One Hub Reversed	Inch	1.680	1.842	2.162	2.792	2.662	3.145
Hub Separation "C _w " Both Hubs Reversed	Inch	3.110	3.372	4.012	5.272	5.012	5.915
Hub Separation "C _{FR} " Flex-Rigid	Inch	.281	.312	.344	.344	.406	.500
Bolt Tightening Torque Shrouded Bolts	Lb.-Ft.	150	150	250	-	-	-
Bolt Tightening Torque Exposed Bolts	Lb.-Ft.	250	250	250	250	250	250
Lube Plug Tightening Torque		16 lb-in					