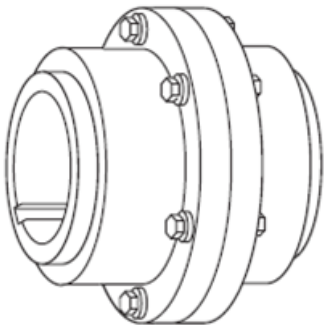
This is the Original Document in English Language

Type G/GP/GF20



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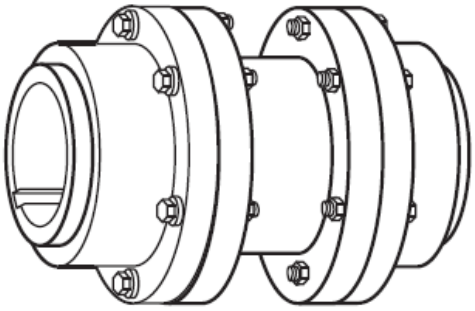

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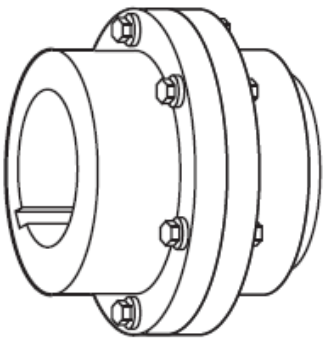

Figure 1 - Lifelign coupling range

1. General Information

1.1. Falk Lifelign Couplings are designed to provide a mechanical connection between the rotating shafts of mechanical equipment, using gear mesh accommodate inherent misalignment while transmitting the power and torque between the connected shaft.

1.2. These instructions are intended to help you to install and maintain your Falk Lifelign coupling. Please read these instructions prior to installing the coupling, and prior to maintenance of the coupling and connected equipment. Keep these instructions near the coupling installation and available for review by maintenance personnel. For special engineered couplings, Rexnord may provide an engineering drawing containing installation instructions that take precedence over this document.

1.3. Rexnord Industries, LLC owns the copyright of this material. These Installation and Maintenance instructions may not be reproduced in whole or in part for competitive purposes

1.4. Symbol descriptions:

STOP Danger of injury to persons.

Damages on the machine possible.

Pointing to important items.

Hints concerning explosion protection

2. Safety and Advice Hints

DANGER!

2.1. Safety should be a primary concern in all aspects of coupling installation, operation, and maintenance.

2.2. Do not make contact with the coupling when it is rotating and/or in operation.

2.3. Because of the possible danger to person(s) or property from accidents which may result from improper use or installation of these products, it is extremely important to follow the proper selection, installation, maintenance and operational procedures.

2.4. All personnel involved in the installation, service, operation, maintenance, and repair of this coupling and the connected equipment must read, understand, and comply with these Installation and Maintenance instructions.

PRECAUTION!

For this coupling to meet the ATEX requirements, you must precisely follow these installation and maintenance instructions, and the supplement form 0005-08-49-01. This supplement outlines the ATEX requirements. If the operator does not follow these instructions, the coupling will immediately be considered non-conforming to ATEX.

2.5. All rotating power transmission products are potentially dangerous and can cause serious injury. They must be properly guarded in compliance with OSHA, ANSI, ATEX, European machine safety standards and other local standards. It is the responsibility of the user to provide proper guarding.

2.6. For ATEX requirements the guard must have a minimum of 12.7 mm (1/2 inch) radial clearance to the coupling outside diameter and allow for proper ventilation.

2.7. Make sure to disengage the electrical power and any other sources of potential energy before you perform work on the coupling.

2.8. Proper lockout-tag out procedures must be followed to safeguard against unintentional starting of the equipment.

2.9. All work on the coupling must be performed when the coupling is at rest with no load.

2.10. Do not start or jog the motor, engine, or drive system without securing the coupling components. If the equipment is started with only a hub attached, the hub must be properly mounted and ready for operation, with the key and set screw (if included) fastened. When the full coupling assembly is started, all fasteners and hardware must be completely and properly secured. Do not run the coupling with loose fasteners.

2.11. The coupling may only be used in accordance with the technical data provided in the Falk Lifelign coupling catalog. Customer modifications and alterations to the coupling are not permissible.

2.12. All spare parts for service or replacement must originate from or be approved by Rexnord Industries, LLC

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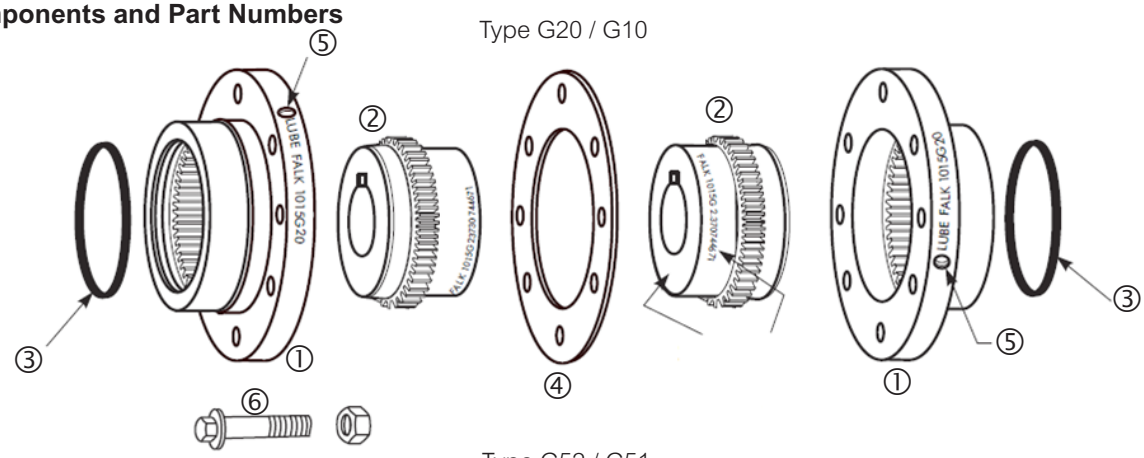
3. Components and Part Numbers

Type G20 / G10



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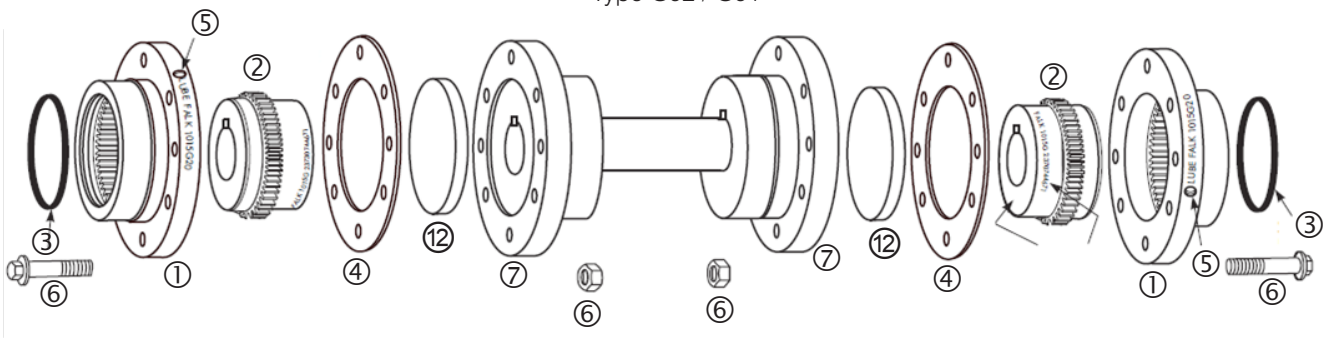

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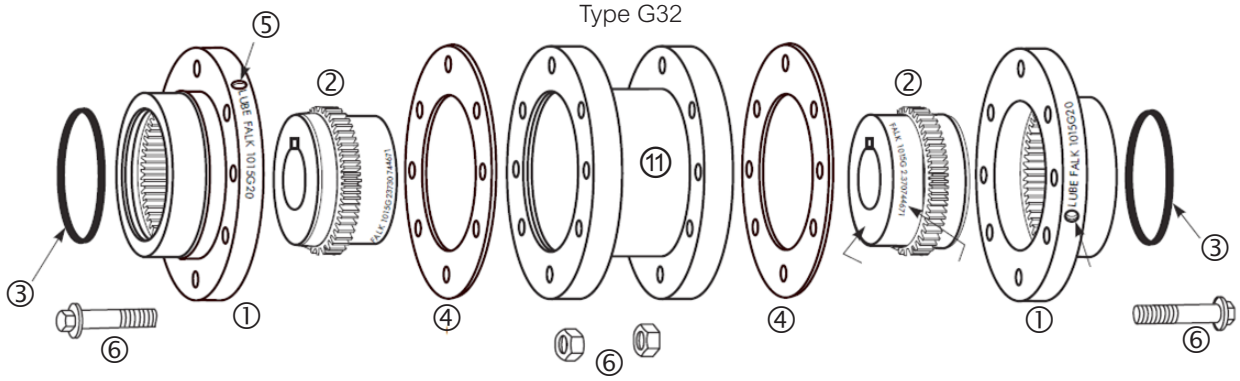


Type GP52 / GP51

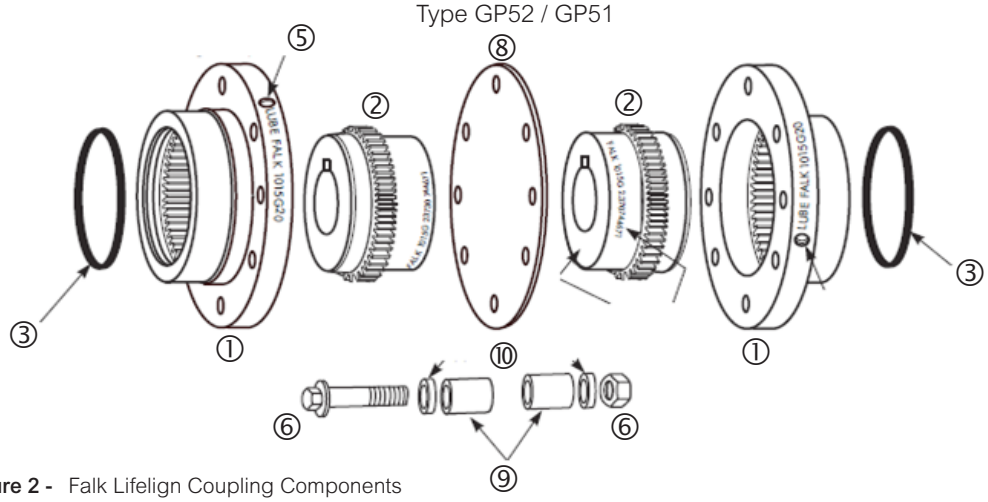


Figure 2 - Falk Lifelign Coupling Components

Table 1 - Falk Lifelign Coupling Component part numbers

Description	Part	1010GV	1015GV	1020GV	1025GV	1030GV	1035GV	1040GV	1045GV	1050GV	1055GV	1060GV	1070GV
Sleeve EXP G20 (2+4+6)	1	0744990	0744991	0744992	0744993	0744994	0744995	0744996	0744997	0744998	0744999	0745000	0745001
Sleeve SHR G10 (2+4+6)	1	0744980	0744981	0744982	0744983	0744984	0744985	0744986	0744987	0744988	0744989		
Hub (1)	2	1203216	1203217	1203218	1203219	1203220	1203221	1203222	1203223	1203224	1203225	1203226	1203227
Long hub (1)	2	1203228	1203229	1203230	1203231	1203232	1203233	1203234	1203235	1203236	1203237	1203238	1203239
Seal kit EXP (6+4+6)	3+4	0785308	0785309	0785320	0785321	0785322	0785323	0785324	0785325	0785326	0785327	0785328	0785329
Seal kit SHR (6+4+6)	3+4	0785308	0785309	0785310	0785311	0785312	0785313	0785314	0785315	0785316	0785317		
Lube Plug EXP Sleeves	5	0914053	0914053	0914053	0914053	0914053	0914053	0914054	0914054	0914054	0914054	0914054	0914054
Lube Plug SHR Sleeves	5	1162970	1162970	1162970	0914053	0914053	0914053	0914054	0914054	0914054	0914054		
Fastener Set EXP (5)	6	0729196	0729197	0729198	0729199	0729200	0729201	0729201	0729203	0729204	0729205	0729206	0729207
Fastener Set SHR (5)	6	0729186	0729187	0729188	0729189	0729190	0729191	0729192	0729192	0729194	0729195		
Rigid hub EXP (3)	7	1203680	1203681	1203682	1203683	1203684	1203685	1203686	1203687	1203688	1203689	1203690	1203691
Rigid hub SHR (3)	7	1203650	1203651	1203652	1203653	1203654	1203655	1203656	1203657	1203658			
Rigid hub long EXP (3)	7	1203692	1203693	1203694	1203695	1203696	1203697	1203698	1203699	1203700	1203701	1203702	1203703
Insulator part kit	8+9+10				1191451	1191476	1191450	1191449	1191436	1191422	1191353	1191472	1191460
Spacer BE 3.5”	11	1204175	0270537										
Spacer BE 4.375”	11	1204176		0271358									
Spacer BE 5”	11	1204177	0270539	0270540	0270541	0343131							
Spacer BE 7”	11			0343129	0343130	0343132							
Gap disc	12												

4. Mount Flanged Sleeves, Seals & Hubs

STOP

DANGER!

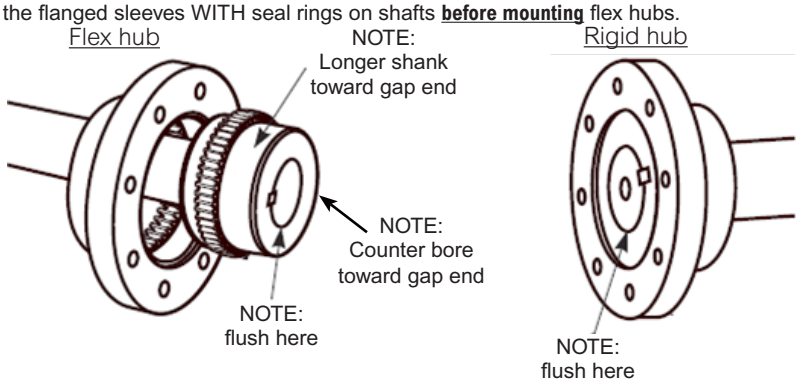
Be sure to disengage the electrical power and any other sources of potential energy before you perform work on the hub and coupling assembly.

4.1. Examine the coupling assembly to insure there is no visible damage.

4.2. Clean the hub bores and shafts using lint free cloth. Remove any nicks or burrs.

4.3. When assembled, the key(s) should have a close side-to-side fit in the keyway in the hub and shaft, with a slight clearance over the top of the key.

4.4. Place the flanged sleeves WITH seal rings on shafts **before mounting** flex hubs.



⚠ **CAUTION: When heating hubs is required, an oven is preferred and an open flame is not recommended. If flame heating is considered mandatory, it is important to provide uniform heating to avoid distortion and excessive temperature. A thermal stick applied to the hub surface will help determine the hub temperature.**

DANGER!

Touching hot hubs causes burns. Wear safety gloves to avoid contact with hot surfaces.

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5. Straight Bore with Clearance/Slip Fit

5.1. Install the key(s) in the shaft.

5.2. Check to be sure that the set screw(s) in the hub does not protrude into the keyway or the bore. Remove or back out the set screw to provide clearance during assembly.

5.3. Slide the hub up the shaft to the desired axial position.

5.4. Assemble and tighten the set screw(s) using a calibrated torque wrench to the values shown in Table 2

Table 2 - Set Screw Tightening Torque

Screw Size		M6	M8	M10	M12	M16	1/4"	3/8"
Hex Head Key Size		M3	M4	M5	M6	M8	1/8"	3/16"
Tightening torque	Nm	6	12	25	50	100	8	25
	lb-in	55	110	220	440	880	70	220

⚠ **CAUTION: Never use two set screws with one on top of the other in the same tapped hole.**

6. Straight Bore with Interference Fit

6.1. Accurately measure the bore and shaft diameters to assure proper fit.

6.2. Install the key(s) in the shaft.

6.3. Heat the hub in an oven until the bore is sufficiently larger than the shaft.

6.4. 275°F (135°C) is usually sufficient for carbon steel hubs. Do not exceed 400°F (205°C).

6.5. With the hub expanded, install it quickly on the shaft to the desired axial position. A pre-set axial stop device can be helpful.

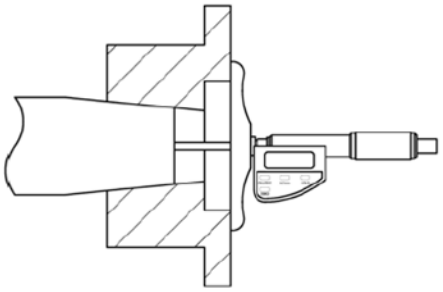


Figure 3 - Shaft end to hub face measurement example

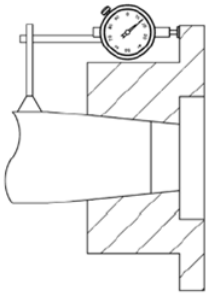


Figure 4 - Dial indicator placement for axial draw measurement example.

7. Taper Bore

7.1. Check for acteptable contact pattern between the hub and the shaft.

7.2. Put the hub on the shaft, keeping the keyways (if existing) aligned.

7.3. Lightly tap the face of the hub with a soft mallet. The resultant position will provide a starting point for the hub axial draw up.

7.4. Use a depth micrometer to measure the distance from the shaft end to the hub face, as shown in Figure 3. Record the dimension

7.5. Mount a dial indicator to read axial hub advancement, as shown in Figure 4. Alternatively, the indicator can be positioned to contact the end of the hub. Set the indicator to “zero”.

7.6. Remove the hub and install the key(s) in the shaft.

7.7. Heat the hub in an oven until the bore is sufficiently larger than the shaft.

7.8. 350°F (177°C) is usually sufficient for carbon steel hubs. Do not exceed 500°F (260°C).

7.9. Higher temperatures may be required for higher interference fit levels where alloy steel hubs may be encountered. A general rule to consider is that for every 160°F increase in temperature, steel will expand 0.001 inch for every inch of shaft diameter (or 0.029 mm/100°C). When calculating temperatures, also consider additional expansion to provide clearance and allow for a loss of heat and subsequent shrinkage during the handling process.

7.10. With the hub expanded, install it quickly on the shaft to the “zero” set point. Continue to advance the hub up the taper to the desired axial position, as defined by Rexnord’s customer. Use the indicator as a guide only. A pre-set axial stop device can be helpful.

7.11. Inspect the assembly to verify that the hub is properly positioned. Consult Rexnord if necessary.

7.12. Install any hub axial retention device (if any) in accordance with the equipment manufacturer’s specifications.

8. Shaft Alignment

ATTENTION! Soft Foot – The equipment must rest flat on its base. If one or more feet of the machine are shorter, longer, or angled in some way to prevent uniform contact (a condition commonly known as “soft foot”) it must now be corrected.

ATTENTION! To improve the life of the coupling, the shafts must be aligned to minimize deflection of the flexing elements. Shaft alignment is required in the axial, parallel, and angular directions, with each of these values not to exceed the recommended installation limits shown in Table 3. Shaft alignment can be measured using various established methods, including Laser Alignment, Reverse Dial Indicator, and Rim and Face. Refer to Rexnord bulletin 538-214 “Coupling Alignment Fundamentals” for instructions regarding shaft alignment.

8.1.0. Close gap coupled couplings
Use an inside micrometer or a spacer bar equal in thickness as shown below and at 90° intervals to measure the distance between hubs to gap specified in Table 3.

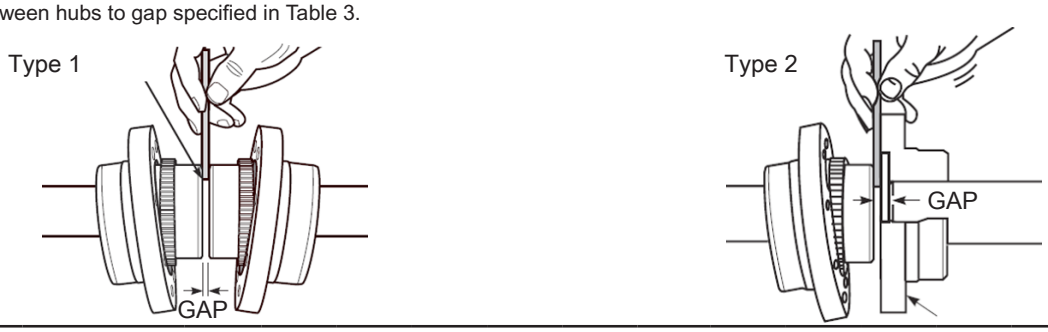
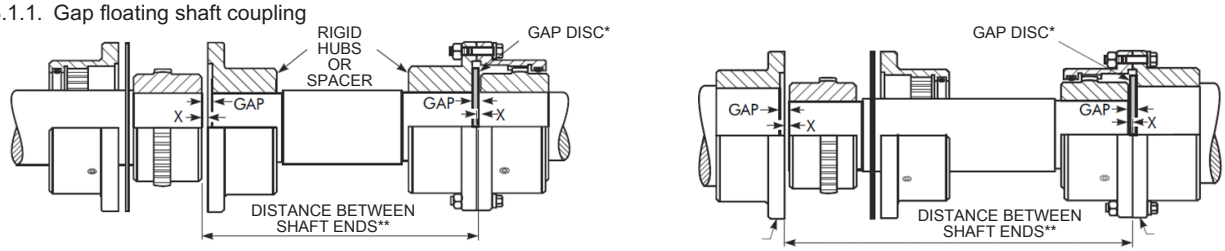


Table 3 - Gap Dimension

Type		Coupling Type		1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
1	GAP	G (GF) 10 & 20	in	0,125	0,125	0,125	0,188	0,188	0,250	0,250	0,312	0,312	0,312	0,312	0,375
			mm	3,2	3,2	3,2	4,8	4,8	6,4	6,4	7,9	7,9	7,9	7,9	9,5
		GP 20	in	-	-	-	0,325	0,325	0,385	0,385	0,450	0,450	0,450	0,450	0,510
			mm				8,3	8,3	9,8	9,8	11,4	11,4	11,4	11,4	13,0
2	GAP	G (GF) 51 & 52	in	0,156	0,156	0,156	0,188	0,188	0,215	0,281	0,312	0,344	0,344	0,406	0,500
			mm	4	4	4	4,8	4,8	5,5	7,1	7,9	8,7	8,7	10,3	12,7
		GP 52	in	-	-	-	0,325	0,325	0,350	0,420	0,450	0,480	0,480	0,540	0,635
			mm				8,3	8,3	8,9	10,7	11,4	12,2	12,2	13,7	16,1
	X	G (GF) 51 & 52	in	0,056	0,056	0,056	0,088	0,088	0,118	0,121	0,152	0,144	0,144	0,146	0,170
			mm	1,4	1,4	1,4	2,2	2,2	3,0	3,1	3,9	3,7	3,7	3,7	4,3
		GP 52	in	-	-	-	0,215	0,215	0,245	0,246	0,280	0,270	0,270	0,270	0,295
			mm				5,5	5,5	6,2	6,2	7,1	6,9	6,9	6,9	7,5

8.1.1. Gap floating shaft coupling



*GAP DISC REQUIRED ON BOTH ENDS
**DISTANCE BETWEEN SHAFT ENDS = DISTANCE BETWEEN FLANGE FACES + 2 * X

For Figure above, measure the length of the floating shaft and add 2 times the gap dimension from Table 3 to get the distance between the shafts to be coupled. For measure the overall floating shaft or spacer assembly length from flange to flange and add 2 times the “X” dimension from Table 3 to get the distance between the shafts to be coupled.

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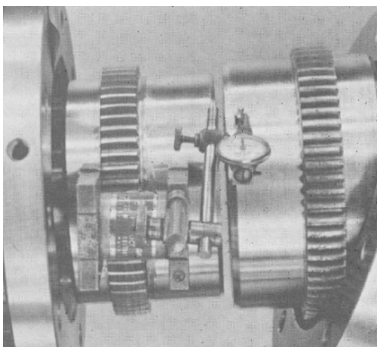
8.2. The “Angular Misalignment” value is the maximum difference between the measurements X and Y taken at opposite ends of the hub flanges, as shown in Figure 5.

Figure 5 - Angular misalignment



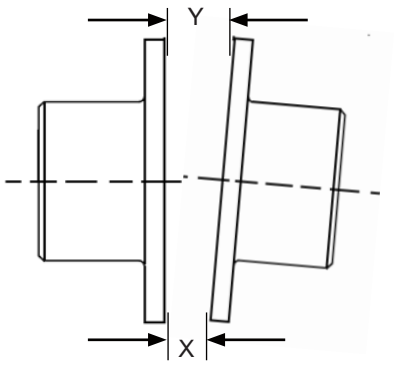
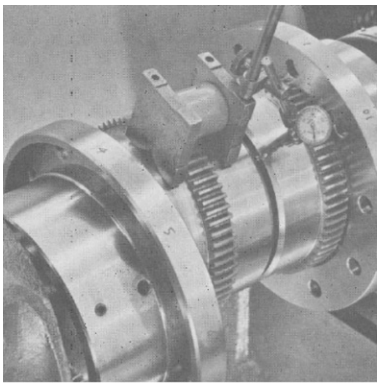


Table 4 - Maximum angular misalignment value

		size	1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
Angular	Y-X	in	0.006	0.007	0.009	0.011	0.013	0.015	0.018	0.020	0.022	0.024	0.026	0.031
		mm	0.15	0.18	0.23	0.28	0.33	0.38	0.46	0.51	0.56	0.61	0.66	0.79

8.3. The “Parallel Misalignment” value (P) is the offset between the centers of the hubs, as shown in Figure 6.

Figure 6 - Parallel misalignment



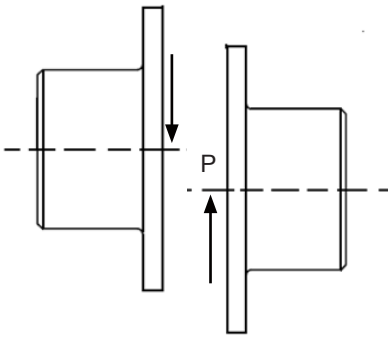
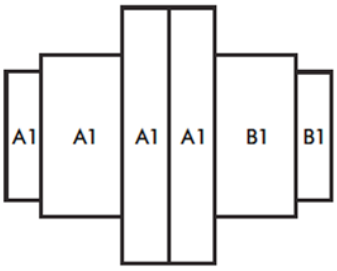


Table 5 - Maximum difference P

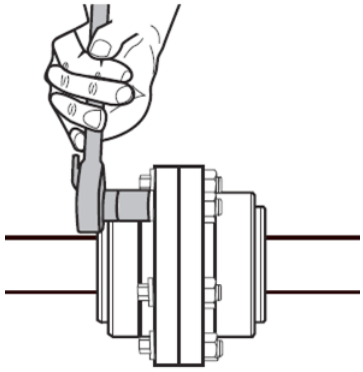
Size			1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
Parallel	G10 & 20 & GP 20	in	0,002	0,003	0,003	0,004	0,005	0,006	0,007	0,008	0,009	0,010	0,011	0,013
		mm	0,05	0,08	0,08	0,10	0,13	0,15	0,18	0,20	0,23	0,25	0,28	0,33
	G/GF51 & 52 & GP52	in	0,001	0,001	0,001	0,002	0,002	0,002	0,003	0,003	0,003	0,003	0,004	0,005
		mm	0,03	0,03	0,03	0,05	0,05	0,05	0,08	0,08	0,08	0,08	0,10	0,13
	G/GF31 & 32	in	0,006	0,006	0,007	0,008	0,009	0,011	0,012	0,013	0,015	0,016	0,017	0,017
		mm	0,15	0,15	0,18	0,20	0,23	0,28	0,30	0,33	0,38	0,41	0,43	0,43

9. Coupling sleeve installation

Balanced couplings



The fasteners provided are matched sets and must not be mixed or substituted. Assembly balanced couplings are match marked and must be assembled with mating match marks aligned. In some sizes, the flanges are not match marked. Coupling flanges must be assembled with O.D.'s aligned to within .002" (0,05 mm). Component parts of assembly balanced couplings must not be replaced without re-balancing the complete assembly.



9.1.1. Coupling types (G10, G20, G31, G32, G51 & G52) Insert gasket between flanges and gap disc into counterbore of each rigid hub for floating shaft assemblies.

9.1.2. Coupling types (GP20 & GP52) Clean flange faces and coat with Permatex #2 or equivalent. DO NOT install gaskets. Insert insulator bushings into flanged holes. Draw one sleeve onto hub and position insulator center plate on flange face. Draw other sleeve onto hub and assemble fasteners with insulator washers. Use only fasteners furnished with coupling.

9.2. Bolt flanges together.

STOP Use only the fasteners furnished with the coupling.

IMPORTANT: Tighten fasteners to torque specified in Table 6.

Table 6 - Flange fastener tightening torque

Size		1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
G/GF10. 31 & 51	lb-in	108	372	372	900	900	1800	1800	1800	3000	3000	-	-
	Nm	12	42	42	102	102	203	203	203	339	339	-	-
G/GF20. 32 & 52	lb-in	108	372	900	1800	1800	3000	3000	3000	3000	3000	3000	3000
	Nm	12	42	102	203	203	339	339	339	339	339	339	339
GP20 & GP52	lb-in	-	-	-	420	420	840	840	840	1440	1440	1440	1800
	Nm	-	-	-	47	47	95	95	95	163	163	163	203

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9.3. Alignment check

Check the alignment of the coupling as shown. Determine “W” by measuring distances “W”max. and “W”min. between flex hub and sleeve using a depth micrometer or feeler gauges. The difference between “W”max. and “W”min. must not exceed the “W” value given in Table 7. Check “W” at each coupling end.

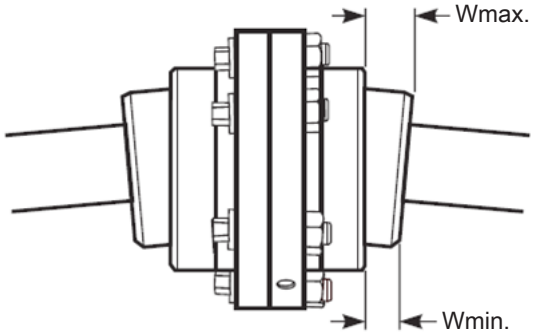
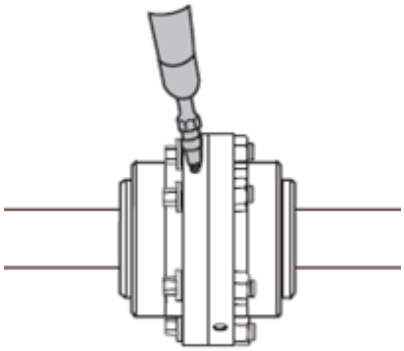


Table 7 - Alignment check

Coupling Size		1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1060	1070
Wmax - Wmin	in	0,006	0,007	0,009	0,011	0,013	0,015	0,018	0,020	0,022	0,024	0,026	0,031
	mm	0,15	0,18	0,23	0,28	0,33	0,38	0,46	0,51	0,56	0,61	0,66	0,79

10. Coupling lubrication



The following specifications and lubricants for general purpose grease apply to Falk gear couplings that are lubricated bi-annually and operate within ambient temperatures of –30°F to 200°F (–34°C to 93°C). For temperatures beyond this range, consult Rexnord. For normal service, use a NLGI #1 extreme pressure (EP) grease EXCEPT when the coupling speed is less than the minimum specified in Table 9. At these lower speeds, use a NLGI #0 extreme pressure (EP) grease. When one or more gear couplings in an application require NLGI #0 grease, the same grease may be used in all of the couplings.

⚠ **ATTENTION:** DO NOT use cup grease

EP oils may be a more effective lubricant than grease when the required coupling speed is one half of the minimum speed range listed in Table 9. Oil lubricated couplings must be sealed to prevent leakage, i.e. keyways, etc. Couplings must be drained and refilled with new oil every six months for operating temperatures up to 160°F (71°C) and every three months for couplings operating at temperatures of 160°F (71°C) up to 200°F (93°C).

10.1. Replace all plugs with grease fittings. Use a standard grease gun. Size of fittings are listed in table 8

Table 8 - Lubrication fitting size

Coupling Size	1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
GV10	1/4"-28 SAE	1/4"-28 SAE	1/4"-28 SAE	1/8" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT
GV20	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT	1/4" NPT

10.2. Select recommended lubricant by speed and temperature from table 9.

Table 9 - Recommended lubrication

Lubricant	temperature range	Coupling Size	1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
LTG	–20°F to 250°F (–29°C to 121°C)	min speed	1030	700	550	460	380	330	290	250	230	210	190	160
		allowable speed	8000	6500	5600	5000	4400	3900	3600	3200	2900	2650	2450	2150
NLGI #0	–30°F to 200°F (–34°C to 93°C).	min speed	0	0	0	0	0	0	0	0	0	0	0	0
		max speed	7000	6000	5000	4750	4400	3900	3600	3200	2900	2650	2450	2150
NLGI #1	–30°F to 200°F (–34°C to 93°C).	min speed	1030	700	550	460	380	330	290	250	230	210	190	160
		allowable speed	8000	6500	5600	5000	4400	3900	3600	3200	2900	2650	2450	2150
Oil	+20°F* to 200°F (-7°C* to 93°C)	min speed	2	2	2	2	2	2	2	2	2	2	2	2
		allowable speed	515	350	275	230	190	165	145	125	115	105	95	80

*maximum pour point

If Falk LTG grease is not used in coupling use an NLGI EP type grease or oil lubricant specific for couplings with rust and oxidation inhibitors that do not corrode steel or swell or deteriorate synthetic seals.

Consult a local lubricant representative for available products in your area with the required weight and lubricant standard requirements as listed above.

10.3. Lubricate coupling with correct amount of lubricant specified in table 10

Table 10 - Lubrication weight

Size		1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
G10 & G20	lbs	0,09	0,16	0,25	0,50	0,80	1,20	2,00	2,30	3,90	4,90	7,00	9,60
	kg	0,04	0,07	0,11	0,23	0,36	0,54	0,91	1,04	1,77	2,22	3,17	4,35
G51 & G52	lbs	0,05	0,09	0,15	0,26	0,40	0,60	1,03	1,25	2,00	2,50	3,75	5,00
	kg	0,02	0,04	0,07	0,12	0,18	0,27	0,47	0,57	0,91	1,13	1,70	2,27
G31 & G32	lbs	0,09	0,16	0,25	0,50	0,80	1,20	2,00	2,30	3,90	4,90	7,00	9,60
	kg	0,04	0,07	0,11	0,23	0,36	0,54	0,91	1,04	1,77	2,22	3,17	4,35
G31 & G32 per inch (mm) of spacer length	lbs	0,00	0,00	0,03	0,06	0,06	0,12	0,20	0,20	0,20	0,20	0,20	0,20
	kg	0,00	0,00	0,01	0,03	0,03	0,05	0,09	0,09	0,09	0,09	0,09	0,09
GP20	lbs	-	-	-	0,50	0,80	1,20	2,00	2,30	3,90	4,90	7,00	9,60
	kg	-	-	-	0,23	0,36	0,54	0,91	1,04	1,77	2,22	3,17	4,35
GP52	lbs	-	-	-	0,26	0,40	0,60	1,03	1,25	2,00	2,50	3,75	5,00
	kg	-	-	-	0,12	0,18	0,27	0,47	0,57	0,91	1,13	1,70	2,27

If coupling leaks grease, is exposed to extreme temperatures, excessive moisture or experiences frequent reversals or axial movements; more frequent lubrication may be required.

Lubricants performance weights listed in Tables 9 & 10 are typical products only and should not be construed as exclusive recommendations.

⚠ **CAUTION:** Remove grease fitting and make certain all plugs are inserted after lubricating.

Rexnord Industries, LLC, 5555 S. Moorland Rd., New Berlin, WI 53151-7953
Telephone: 262-796-4060 Fax: 262-796-4064
e-mail: info@rexnord.com web: www.rexnord.com

11. BI-ANNUAL MAINTENANCE

11.1. Re-lubricate coupling if using general purpose grease.

11.2. If coupling leaks grease, is exposed to extreme temperatures, excessive moisture or frequent reversals; more frequent lubrication may be required.

12. ANNUAL MAINTENANCE

For extreme or unusual operating conditions, check coupling more frequently.

12.1. Check alignment. If the maximum operating misalignment values are exceeded, realign the coupling to the recommended installation values.

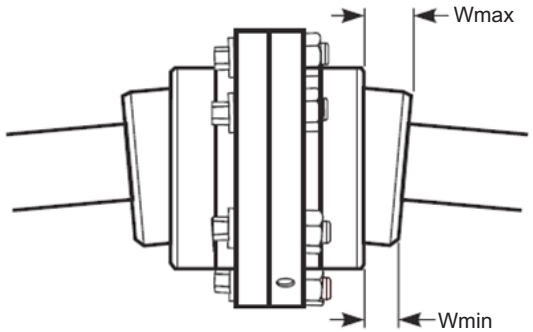


Table 11 - Alignment check

Coupling Size		1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
Wmax Wmin	in	0,006	0,007	0,009	0,011	0,013	0,015	0,018	0,02	0,022	0,024	0,026	0,031
	mm	0,15	0,18	0,23	0,28	0,33	0,38	0,46	0,51	0,56	0,61	0,66	0,79

12.2. Check tightening torques of all fasteners.

Table 12 - Flange fastener tightening torque

Size		1010G	1015G	1020G	1025G	1030G	1035G	1040G	1045G	1050G	1055G	1060G	1070G
G/GF10. 31 & 51	lb-in	108	372	372	900	900	1800	1800	1800	3000	3000	-	-
	Nm	12	42	42	102	102	203	203	203	339	339	-	-
G/GF20. 32 & 52	lb-in	108	372	900	1800	1800	3000	3000	3000	3000	3000	3000	3000
	Nm	12	42	102	203	203	339	339	339	339	339	339	339
GP20 & GP52	lb-in	-	-	-	420	420	840	840	840	1440	1440	1440	1800
	Nm	-	-	-	47	47	95	95	95	163	163	163	203

12.3. Inspect seal ring and gasket to determine if replacement is required.

12.4. Re-lubricate coupling if using general purpose grease until an excess appears at an open hole.

STOP **CAUTION:** Remove grease fitting and make certain all plugs are inserted after lubricating.