How To Use This Manual

This manual provides detailed instructions on installation, maintenance, and parts identification for Falk Lifelign® gear couplings, Types G62 & G66. Use the table of contents below to locate required information.

Table of Contents

CAREFULLY FOLLOW THE INSTRUCTIONS IN THIS MANUAL FOR OPTIMUM PERFORMANCE AND TROUBLE FREE SERVICE.

INTRODUCTION

This manual applies to standard double engagement, Type G62 and standard single engagement, Type G66 couplings. Use these couplings for horizontal applications. Consult the Factory for vertical applications. DO NOT use single engagement Type G66 couplings to compensate for offset misalignment.

IMPORTANT: Refer to Factory when couplings are mounted on a floating shaft.

CAUTION: *Consult applicable local and national safety codes for proper guarding of rotating members. Observe all safety rules when installing or servicing couplings.*

WARNING: *Lockout starting switch of prime mover and remove all external loads from drive before installing or servicing couplings.*

LUBE FITTINGS

Sleeves have 1/8 NPT lube holes for sizes 1010G thru 1035G and 1/4 NPT for sizes 1040G thru 1070G. Use a standard grease gun and lube fittings.

LIMITED END FLOAT

Where limited end float is required or where sleeve bearing motors are used, consult the Factory.

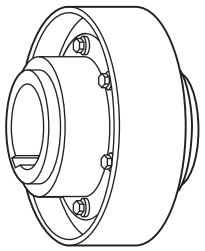
LUBRICATION

Adequate lubrication is essential for satisfactory operation. Because of its superior lubricating characteristics and low centrifuge properties, Falk Long Term Grease (LTG) is highly recommended.

Gear couplings initially lubricated with Falk Long Term Grease (LTG) will not require re-lubrication for up to three years.

The use of general purpose grease requires re-lubrication of the coupling at least once every six months. If coupling leaks grease, is exposed to extreme temperatures, excessive moisture, experiences frequent reversals or axial movements; more frequent lubrication may be required.

Type G62 & G66



USDA Approval

LTG has the United States Department of Agriculture Food Safety & Inspection Service approval for applications where there is no possibility of contact with edible products. (H-2 ratings.)

Long Term Grease (LTG)

The high centrifugal forces encountered in couplings separate the base oil and thickener of general purpose greases. Heavy thickener, which has no lubrication qualities, accumulates in the tooth mesh area of gear couplings resulting in premature mesh failure unless periodic lubrication cycles are maintained.

Falk Long Term Grease (LTG) was developed specifically for couplings. It resists separation of the oil and thickener. The consistency of Falk LTG changes with operating conditions. As manufactured it is an NLGI #1/2 grade. Working of the lubricant under actual service conditions causes it to become semifluid while the grease near the seals will set to a heavier grade, helping to prevent leakage.

LTG is highly resistant to separation, easily out performing all other lubricants tested. The resistance to separation allows the lubricant to be used for relatively long periods of time.

Although LTG grease is compatible with most other coupling greases, the mixing of greases may dilute the benefits of LTG.

CAUTION: *Do not use LTG in bearings.* Do not use LTG for low speed applications. Refer to Table 4, Page 5 for coupling speed range of LTG grease.

Packaging

14 oz. (0,4 Kg) CARTRIDGES — Individual or case lots of 10 or 60.

35 lb. (16 Kg) PAILS, 120 lb. (54 Kg) KEG & 400 lb. DRUMS.

Specifications — Falk LTG (Long Term Grease)

TEMPERATURE RANGE — –20°F (–29°C) to 250°F (121°C). Minimum pump = 20°F (–7°C).

MINIMUM BASE OIL VISCOSITY — 3300SSU (715cSt) @ 100°F (38°C).

THICKENER — Lithium soap/polymer.

CENTRIFUGE SEPARATION CHARACTERISTICS — ASTM #D4425–84 (Centrifuge Test) — K36 = 2/24 max., very high resistance to centrifuging.

NLGI GRADE (ASTM D-217) — ½

CONSISTENCY (ASTM D-217) — 60 stroke worked penetration value in the range of 315 to 360 measured @ 77°F (25°C).

DROPPING POINT — 350°F (177°C) minimum.

MINIMUM TIMKEN EP O.K. LOAD — 40 lb. (18 kg).

ADDITIVES — Rust and oxidation inhibitors that do not corrode steel or swell or deteriorate synthetic seals.

General Purpose Grease

Bi-annual Lubrication — The following specifications and lubricants for general purpose grease apply to gear couplings that are lubricated bi-annually and operate within ambient temperatures of –30°F (–34°C) to 200°F (93°C). For temperatures beyond this range, consult Factory. For normal service, use a NLGI #1 extreme pressure (EP) grease EXCEPT when the coupling speed is less than the minimum specified in Table 4, Page 5. 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. DO NOT use cup grease.

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 listed in Tables 1, 2, & 3 are typical products only and should not be construed as exclusive recommendations.

Specifications — General Purpose Coupling Lubricants

COUPLING SPEED RANGE — See Table 4, Page 5.

TEMPERATURE RANGE — –30°F to +200°F(–34°C to +93°C)

WORKED PENETRATION AT 77°F(25°C) —
NLGI #1 . . . . . 310-340 (See Table 1)
NLGI #0 . . . . . 355-385 (See Table 2)

DROPPING POINT — 300°F(149°C) or higher

TEXTURE — Smooth or fibrous

MINIMUM TIMKEN O.K. LOAD — 30 lb.

SEPARATION AND RESISTANCE — Low oil separation rate and high resistance to separation from centrifuging.

LIQUID CONSTITUENT — Possess good lubricating properties . . . equivalent to a high quality, well refined petroleum oil with EP additives.

INACTIVE — Must not corrode steel or cause swelling or deterioration of synthetic seals.

Oil Lubrication

EP oils may be a more effective lubricant than grease when the required coupling speed is one half of the minimum speed range of NLGI #1 grease listed in Table 4, Page 5 (Minimum rpm ÷ 2). 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). For temperatures beyond this range, consult Factory. The minimum operating temperature must not be lower than the pour point of the oil. The specified amount of grease listed in Table 4, Page 5, is in pounds and also applies to the volume of oil in pints.

Specifications

Type: Mild EP gear oil that meets AGMA Specifications 250.04.

Grade: AGMA #8EP (ISO VG 680).

Viscosity: 612-748 cSt @ 104°F (40°C).

Pour Point: 20°F (–7°C) Maximum.

Must not corrode steel or swell or deteriorate synthetic seals.

TABLE 1 — NLGI #1 Grease

Manufacturer	Lubricant ★
Amoco Oil Co.	Rykon Grease #1 EP
BP Oil Co.	Energrease LS-EP1
Chevron U.S.A., Inc.	Dura-Lith EP1
Citgo Petroleum Corp	Premium Lithium Grease EP1
Conoco Inc.	EP Conolith Grease #1
Exxon Company, U.S.A..	Lidok EP1
Imperial Oil Ltd.	Ronek EP1
Kendall Refining Co.	Lithium Grease L-416
Keystone Div., Pennwalt Corp.	Zeniplex-1
Lyondell Lubricants	Litholine Complex EP1
Mobil Oil Corp..	Mobilux EP1
Petro-Canada Products	Multipurpose EP1
Phillips 66 Co.	Philube Blue EP
Shell Oil Co.	Alvania EP Grease 1
Shell Canada Ltd.	Alvania Grease EP1
Sun Oil Co.	Sun Prestige 741 EP
Texaco Lubricants	Multifak EP1
Unocal 76 (East & West)	Unoba EP1

TABLE 2 — NLGI #0 EP Grease

Manufacturer	Lubricant ★
Amoco Oil Co.	Rykon Premium Grease 0 EP
BP Oil Co.	Energrease LS-EP 0
Chevron U.S.A., Inc.	Dura-Lith EP 0
Citgo Petroleum Corp	Premium Lithium Grease EP 0
Conoco Inc.	EP Conolith Grease #0
Exxon Company, U.S.A..	Lidok EP 0
Kendall Refining Co.	Lithium Grease L-406
Keystone Div., Pennwalt Corp.	Zeniplex-0
Mobil Oil Corp..	Mobilux EP 0
Petro-Canada Products	Multipurpose Lotemp EP Grease
Phillips 66 Co.	Philube Blue EP
Shell Oil Co.	Alvania EP Grease RO
Shell Canada Ltd.	Alvania Grease EPW
Sun Oil Co.	Sun Prestige 740 EP
Texaco Lubricants	Multifak EP 0
Unocal 76 (East & West)	Unoba EP 0

TABLE 3 — Oil Lubricants

Manufacturer	Lubricant ★
Amoco	Permagear EP 160
Chevron, U.S.A.	NL Gear Compound 680
Exxon Co., U.S.A.	Spartan EP680
Gulf Oil Co.	EP Lubricant HD 680
Mobil Oil Co.	Mobilgear 636
Shell Oil Co.	Omala Oil 680
Texaco Inc.	Meropa 680
Union Oil Co. of Calif.	Extra Duty NL Gear Lube 8EP

★ Lubricants listed may not be suitable for use in the food processing industry; check with lube manufacturer for approved lubricants.

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INSTALLATION

Only standard mechanics tools, torque wrenches, inside micrometer, dial indicator, straight edge, spacer bar, and feeler gauges are required to install gear couplings. Lock out starting switch of prime mover. Clean all parts using a non-flammable solvent. Check hubs, shafts, and keyways for burrs. DO NOT heat clearance fit hubs. Use a lubricant that meets the specifications on Page 2. Pack sleeve teeth with grease and lightly coat seals with grease BEFORE assembly. The required amount of grease is listed in Table 4. Make certain flange fasteners are tightened to the required torque listed in Table 4.

Interference Fit Hubs — Unless otherwise specified, gear couplings are furnished for an interference fit without setscrews. Heat hubs to 275°F(135°C) using an oven, torch, induction heater, or an oil bath.

CAUTION: To prevent seal damage DO NOT heat hubs beyond a maximum temperature of 400°F (205°C.)

When an oxy-acetylene or blow torch is used, use an excess acetylene mixture. Mark hubs near the center of their length in several places on hub body with a temperature sensitive crayon, 275°F (135°C) melt temperature. Direct flame towards hub bore using constant motion to avoid overheating an area.

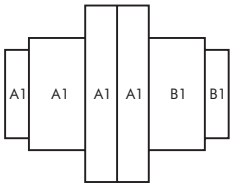
WARNING: If an oil bath is used, the oil must have a flash point of 350°F (177°C) or higher. Do not rest hubs on the bottom of the container. Do not use an open flame in a combustible atmosphere or near combustible materials.

Maximize Performance & Life

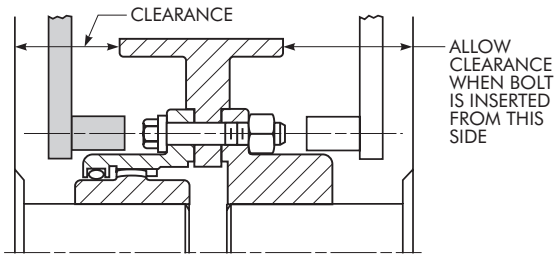
The performance and life of couplings depend largely upon how you install and maintain them. Before installing couplings, make certain that foundations of equipment to be connected meet manufacturers' requirements. Check for soft foot. The use of stainless steel shims is recommended. Measuring misalignment and positioning equipment within alignment tolerances is simplified with an alignment computer. These calculations can also be done graphically or mathematically, and allow the incorporation of "cold offsets", which will compensate for shaft position changes due to thermal growth.

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". Component parts of assembly balanced couplings must not be replaced without re-balancing the complete assembly.

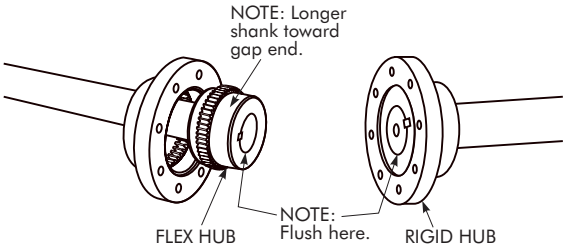


1 — Check Wrench Clearance



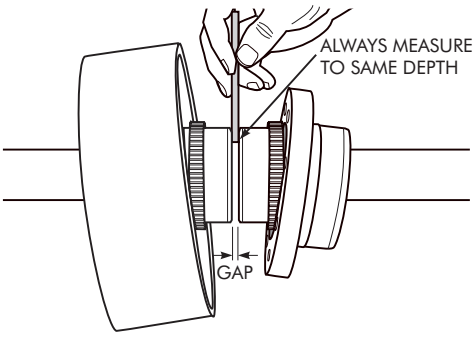
Check wrench clearance as shown above. If inadequate, refer to Falk for an engineering review.

2 — Mount Flanged Sleeves, Seals, Hubs & Brakewheel

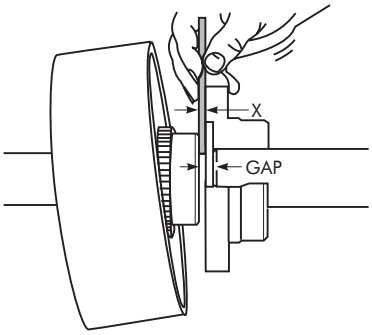


Place the flanged sleeves WITH seal rings on shafts BEFORE mounting flex hubs. Mount flex or rigid hubs on their respective shafts, as shown above, so that each face is flush with the end of its shaft. Place the brakewheel on the flex hub shaft (for Type G62, on the shaft that allows the most hub exposure for coupling alignment). NOTE: Brakewheel bolt flange may not be on center line of wheel. In these cases, misalignment between wheel and brake will occur if wheel is placed on shaft incorrectly. Allow hubs to cool before proceeding. Seal keyways to prevent leakage. Insert setscrews (if required) and tighten. Position equipment in approximate alignment with approximate hub gap specified in Table 4.

3 — Gap & Angular Alignment



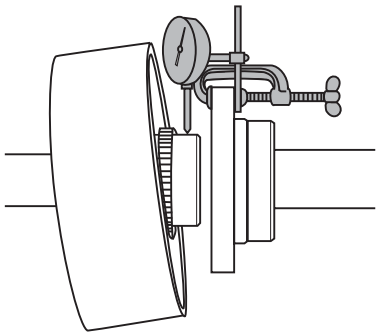
Type G62



Type G66

For Type G62 couplings, use a spacer bar equal in thickness to gap specified in Table 4. For Type G66, use a spacer bar equal in thickness to the "X" dimension specified in Table 4. Insert bar, as shown above, to same depth at 90° intervals and measure the clearance between bar and hub face with feelers. The difference in minimum and maximum measurements must not exceed the INSTALLATION ANGULAR limit specified in Table 4.

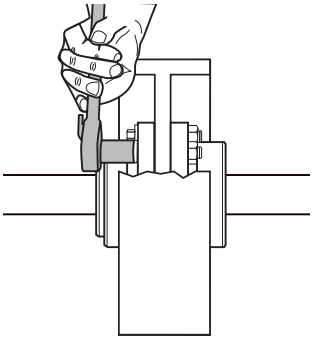
4 Offset Alignment



Clamp a dial indicator to the rigid hub as shown (on the flex hub for Type G62) and rotate the hub one complete turn. The total indicator reading DIVIDED by two must not exceed the INSTALLATION OFFSET limit specified in Table 4. For the ANGULAR check, sweep the face of the adjacent hub as near the OD as possible. The total indicator reading must not exceed the ANGULAR limit in Table 4. Realign coupling if necessary.

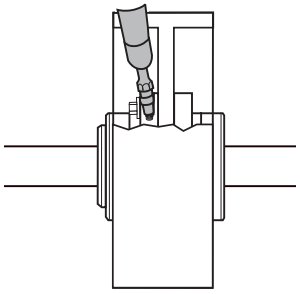
CAUTION: *Consult applicable local and national safety codes for proper guarding of rotating members. Observe all safety rules when installing or servicing couplings.*

5 — Insert Gaskets and Assemble Coupling



Grease the hub teeth. Insert gasket between brakewheel and flanges as illustrated and bolt parts together. For G62, assemble sleeves with lube holes approximately 90° apart. Use only the fasteners furnished with the coupling. IMPORTANT: Tighten fasteners to torque specified in Table 4.

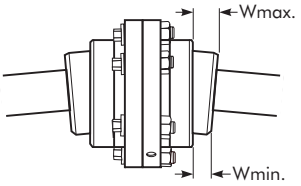
6 — Lubricate



Remove all grease plugs from side of flanged sleeves. Fill with recommended grease until an excess appears at an open hole; then insert plug. Continue procedure until all plugs have been inserted. ***CAUTION:*** *Make certain all plugs are inserted after lubricating coupling.*

7 — Assembled Coupling Alignment Check

"W" = Wmax. – Wmin.



Check "W" at each flexible hub.

The alignment can be checked without disassembling the coupling as shown at left. Determine "W" by measuring distances "W"max. and "W"min. between flex hub and sleeve using a depth mic or feeler gages. The difference between "W"max. and "W"min. must not exceed the "W" value given in Table 4. Check "W" at each coupling end.

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BI-ANNUAL MAINTENANCE

Re-lubricate coupling if using general purpose grease. If coupling leaks grease, is exposed to extreme temperatures, excessive moisture or frequent reversals; frequent lubrication may be required.

ANNUAL MAINTENANCE

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

1. Check alignment. If the maximum operating misalignment values are exceeded, realign the coupling to the recommended installation values. See Table 4, for installation and maximum operating misalignment values.
2. Check tightening torques of all fasteners.
3. Inspect seal ring and gasket to determine if replacement is required.
4. Re-lubricate coupling if using general purpose grease.

TABLE 4 — Installation & Alignment Data For Types G62 & G66 ★ — Dimensions – Inches (Metric – mm)

COUPLING SIZE			1010	1015	1020	1025	1030	1035	1040	1045	1050	1055	1060	1070
Gap		G62	.500 (12,70)	.625 (15,88)	.625 (15,88)	.750 (19,05)	.750 (19,05)	1.000 (25,40)	1.000 (25,40)	1.062 (26,97)	1.312 (33,32)	1.312 (33,32)	1.312 (33,32)	1.375 (34,93)
		G66	.536 (13,61)	.656 (16,66)	.656 (16,66)	.748 (19,00)	.748 (19,00)	.968 (24,59)	1.031 (26,19)	1.062 (26,97)	1.344 (34,14)	1.344 (34,14)	1.406 (35,71)	1.500 (38,10)
"X" Dimension		G66	.436 (11,07)	.556 (14,12)	.556 (14,12)	.648 (16,46)	.648 (16,46)	.868 (22,05)	.871 (22,12)	.902 (22,91)	1.144 (29,06)	1.144 (29,06)	1.146 (29,11)	1.170 (29,72)
Installation Alignment Limits	Parallel Offset Max	G62	.002 (0,05)	.003 (0,07)	.003 (0,08)	.004 (0,10)	.005 (0,13)	.006 (0,15)	.007 (0,18)	.008 (0,20)	.009 (0,23)	.010 (0,26)	.011 (0,28)	.013 (0,33)
		G66	.001 (0,03)	.001 (0,03)	.001 (0,03)	.002 (0,04)	.002 (0,05)	.002 (0,05)	.003 (0,06)	.003 (0,08)	.003 (0,08)	.003 (0,08)	.004 (0,10)	.005 (0,11)
	Angular Max		.006 (0,15)	.007 (0,19)	.009 (0,23)	.011 (0,28)	.013 (0,33)	.015 (0,39)	.018 (0,46)	.020 (0,51)	.022 (0,55)	.024 (0,61)	.026 (0,66)	.031 (0,78)
Minimum Speed Range Falk LTG or NLGI #1 Grease (rpm) ‡			1030	700	550	460	380	330	290	250	230	210	190	160
Grease - pounds (kg)	G62		.10 (0,045)	.20 (0,091)	.30 (0,136)	.60 (0,272)	.90 (0,408)	1.25 (0,567)	2.00 (0,907)	2.50 (1,13)	4.12 (1,87)	5.12 (2,32)	7.50 (3,40)	9.80 (4,45)
	G66		.06 (0,027)	.12 (0,054)	.20 (0,091)	.35 (0,159)	.50 (0,227)	.75 (0,340)	1.20 (0,544)	1.40 (0,635)	2.50 (1,13)	3.00 (1,36)	4.25 (1,93)	5.75 (2,61)
Flange Bolt Torque - lb-in (Nm)			108 (12,2)	372 (42)	900 (102)	1800 (203)	1800 (203)	3000 (339)	3000 (339)	3000 (339)	3000 (339)	3000 (339)	3000 (339)	.3000 (339)

★ Refer to Selection Guide 451-110 for maximum bores and Manual 427-108 for reboring instructions.
‡ Use NLGI #0 grease for speeds up to the minimum shown for NLGI #1 grease.

PARTS IDENTIFICATION AND PART NUMBER LOCATION

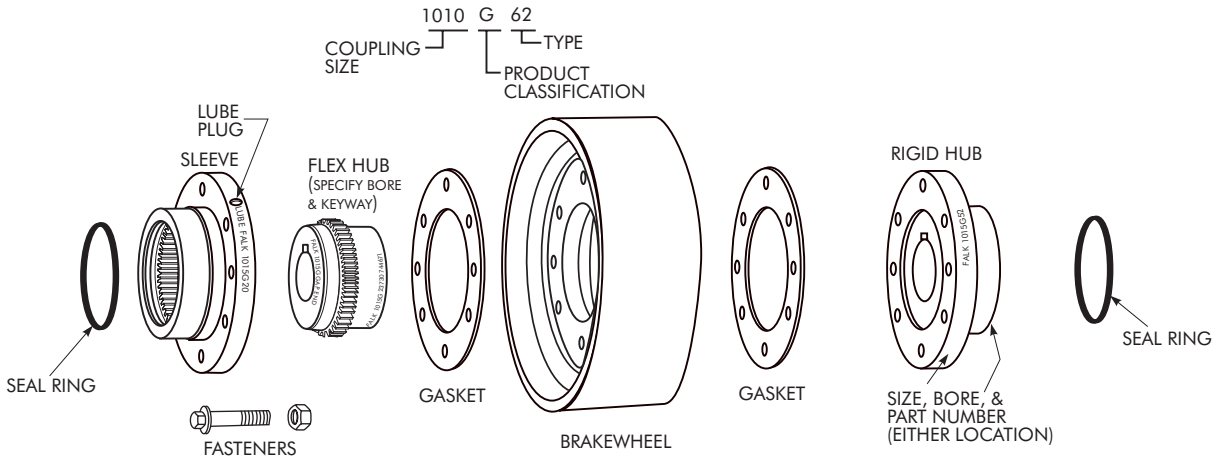
Coupling parts have identifying size and part numbers as illustrated below. When ordering parts, always SPECIFY SIZE, TYPE, HUB BORE, KEYWAY, and PART NUMBER found on each item.

Contact your Rexnord Distributor or the Factory for price and availability.

EXAMPLE:

Complete 1010G62 Gear Coupling
Consisting of:
1 – 1010G62 Flanged Sleeve
1 – 1010G62 Flex Hubs
1 – 1010G62 Rigid hub
Bore: 1.875 Keyway: .500 x .250
Bore: 2.375 Keyway: .625 x .312
1 – Seal Ring
1 – Gasket
1 – Brakewheel
Fasteners

Single Engagement Type G66 — For double engagement Type G62, substitute seal ring, flanged sleeve, G flex hub, and lube plug for rigid hub.



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