



1150 – 1180 and G5400 Series Straight Grid Coupling Installation Instructions

Pre-Assembly Inspection

First, determine the size and type of components being used, because hubs, covers and grids do come in different sizes and types. Remove all components from their boxes and packaging. Check maximum RPM values in Table 1 against operating speed.

Inspect all coupling components and remove any protective coating or lubricants from bores, mating surfaces and fasteners. Clean all parts using a non-flammable solvent. Make sure that shaft, hubs and keyways are clean and smooth.

Assembly Instructions

1. Lightly smear seals with grease. When using vertical covers, place greased seal on each of the covers and install covers on shafts before mounting hubs. When using horizontal covers, lightly smear seals with grease and place seals on shafts before mounting hubs and covers on the shafts.
2. When installing coupling hubs onto each shaft, use keys where required. Keys should fit snugly. Seal the keyways to prevent grease leakage.
3. The G54 series and 1150 - 1180 hub sizes are an interference fit with the shaft and are not supplied with set screws. It is necessary to heat hubs, using a torch, oven, induction heater or an oil bath, to a maximum temperature of 275°F. To avoid overheating the hubs, direct flame towards the bore using a constant motion. If an oil bath is used, it must have a flash point of at least 350°F. DO NOT rest hubs on the bottom of container or apply heat directly to the teeth.

Heat hubs as specified above. Mount hubs immediately with the hub teeth flush with the shaft end unless otherwise specified. It is usually best to have an equal length of shaft extending into each hub. Allow the hubs to cool before proceeding to the next step.

4. Set gap using a spacer bar equal in thickness to the nominal gap specified in Table 1. With the spacer bar inserted to the same depth, measure clearance between the bar and hub face at 90° intervals using feelers. Determine the maximum and minimum dimensions without rotating the coupling. The difference of these two measurements must be less than the Angular value in Table 1.
5. Check the parallel alignment by placing a straight edge across the two coupling hubs, and measuring the maximum offset at various points around the periphery of the coupling without rotating the coupling. If the maximum offset exceeds the Parallel value in Table 1, realign the shafts.
6. Before inserting the grid segments, thoroughly pack the grooves with specified lubricant. When grids are supplied in two or more segments assemble so that the cut ends of a segment joint extend in the same direction. The sections of grid for the 54 series must be installed in the correct order, the grid sections are marked INNER and OUTER. The inner grid section must be installed first. Spread the grid slightly so that it will pass over the coupling teeth, and tap all the rungs into the respective slots with a soft mallet.

7. Pack the spaces around the grid with lubricant and wipe off the excess flush with the top of grid. When using vertical covers, slide the covers over the hubs to match with each other, positioning the gasket between the two cover halves. Install the fasteners to the cover halves and hubs and torque to specifications in Table 2.

When using horizontal covers, position seals on hubs so that they line up with grooves in cover. Position gaskets on lower cover half and assemble covers so that match marks are on the same side.

If using the coupling in any position other than horizontal, assemble cover halves with the lug and match mark up, or on the high side. Fasten the cover halves to the torque specified in Table 2. Make certain all plugs are inserted and secured before operating the equipment.

Note: Install coupling guards per OSHA and ASME 815.1 requirements.

Misalignment and End Float

Table 1

Coupling Size	Vertical Speed RPM	Horiz. Speed RPM	G Dim. ±20%	Misalignment	
				Parallel Inch	Angular Inch
1150	--	1500	0.25	0.010	0.014
1160	--	1350	0.25	0.010	0.014
1170	--	1225	0.25	0.010	0.014
1180	--	1100	0.25	0.010	0.014
G5430	2400	--	0.10	0.010	0.014
G5431	1450	--	0.12	0.010	0.014
G5433	1300	--	0.12	0.010	0.014
G5435	1200	--	0.12	0.010	0.014
G5437	1100	--	0.12	0.010	0.014
G5439	980	--	0.12	0.010	0.014
G5441	860	--	0.24	0.014	0.020
G5443	740	--	0.24	0.014	0.020

Tightening Torque for Cover Fasteners

Table 2

Coupling Size	Size		Tightening Torque Values	
	Inch	Metric	in-lb.	Nm
1150	1/2-13	M14	648	73
1160	5/8-11	M16	1283	145
1170	5/8-11	M16	1283	145
1180	5/8-11	M16	1283	145
G5437	--	M8	159	18
G5431	--	M12	549	62
G5433	--	M12	549	62
G5435	--	M12	549	62
G5437	--	M12	549	62
G5439	--	M16	1283	145
G5441	--	M16	1283	145
G5443	--	M16	1283	145

Note: The G21 series is in the horizontal configuration and the G54 series is in the vertical configuration.



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Annual Maintenance

1. To prevent the possibility of unexpected motion, ensure that the power source is isolated before attempting to service the system components.
2. Adequate lubrication is essential to prolong the life of the coupling and obtain trouble free service. It is recommended that the couplings be relubed annually when using the common industrial lubricants shown in Table 3. If using Lovejoy Coupling Grease it will allow relube intervals to be extended. However, a coupling exposed to extreme temperatures or excessive moisture, leaking grease, or experiencing frequent reversals may require more frequent lubrication.

Remove covers and check lubricant condition, alignment and general condition of grid members and teeth every year. If it is necessary to remove the grid sections, they must be re-installed in the correct order. The grid sections are marked INNER and OUTER, the inner sections must be installed first. Couplings used in high ambient temperatures (greater than 158°F), at high speed and/or frequent reversing applications may require more frequent inspection and relubing.

3. If lubricant is required, remove both pressure plugs and insert the appropriate lubrication fitting in one of the tapped holes. Fill with the recommended lubricant until excess appears at the opposite lube hole. Replace both lube plugs.
4. For best results, clean coupling of all lubricant and replenish every two years.

Grid Removal

When it is necessary to remove the grid, remove the cover. Use a round rod or screwdriver that conveniently fits into the open loop ends of the grid. Using the teeth on the hub as support pry the grid out radially in even, gradual stages, proceeding alternately from side to side.

Coupling Grease

Table 3

Coupling Size	Grease Weight	
	lb	kg
1150	4.30	2.81
1160	6.20	2.81
1170	7.70	3.49
1180	8.30	3.76
G5430	4.65	2.10
G5431	6.13	2.78
G5433	9.52	4.32
G5435	12.48	5.66
G5437	13.75	6.24
G5439	18.19	8.25
G5441	27.50	12.47
G5443	38.06	17.26