



Lovejoy Grid Couplings

Spacer Grid Installation Instructions

Pre-Assembly Inspection

Hubs, covers and grids come in a variety of sizes and types. First, determine the size and type of components being used. 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

- When installing coupling hubs onto each shaft, use keys where required. Keys should fit snugly. Seal the keyways to prevent grease leakage.
- The 1020 - 1090 shaft hubs are a clearance fit with the shaft and are supplied with set screws. Do not heat the clearance fit hubs. Position the hubs on the shafts so that hub teeth are flush with shaft ends. It is usually best to have an equal length of shaft extending into each hub. Tighten the set screws. Position equipment to achieve the appropriate distance between shaft ends.

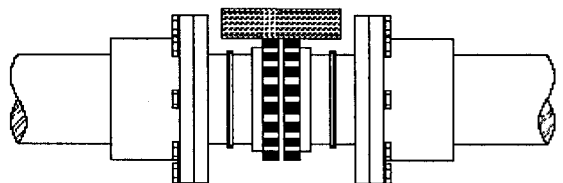
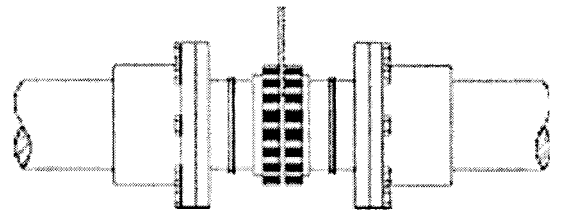
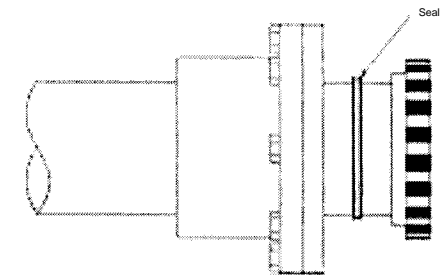
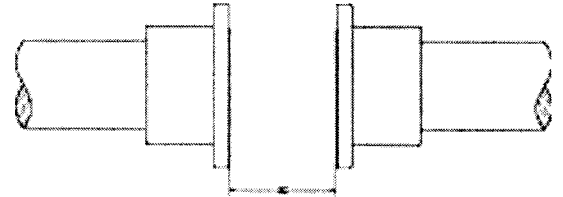
If an interference fit with the shaft was required the hubs are not supplied with set screws. It is necessary to heat hubs, using a torch, oven, induction heater or an oil bath, to a maximum temperature of 275° F. To avoid overheating the hubs, direct flame towards the bore using a constant motion. If 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. Allow the hubs to cool before proceeding to the next step. Position equipment to achieve the appropriate distance between shaft ends.
- Lightly smear seals with grease and carefully roll seal over hub teeth of each space hub. Fit appropriate spacer hub onto each shaft hub and insert fasteners. Torque fasteners to flange fastener specifications given in Table 2.
- Check the angular misalignment by setting the 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.
- 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.
- Tighten all set screws using the tightening torque values specified in Table 3. Repeat steps 5 and 6 and if necessary re-align the coupling.
- 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 join extend in the same direction. 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.

Misalignment and End Float

Table 1

Coupling Size	Horiz Speed RPM	G. Dim. ±10%	Misalignment			Max. Total End Float		Grease Weight	
			Parallel Inch	Angular Inch	Float Inch	oz.	kg		
1020	3600	0.19	0.012	0.010	0.210	1.00	0.03		
1030	3600	0.19	0.012	0.012	0.198	1.40	0.04		
1040	3600	0.19	0.012	0.013	0.211	1.90	0.05		
1050	3600	0.19	0.016	0.016	0.212	2.40	0.07		
1060	3600	0.19	0.016	0.018	0.258	3.00	0.09		
1070	3600	0.19	0.016	0.020	0.259	4.00	0.11		
1080	3600	0.19	0.016	0.024	0.288	6.10	0.17		
1090	3600	0.19	0.016	0.028	0.286	9.00	0.25		





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Spacer Grid Installation Instructions cont.

- Pack the spaces around the grid with lubricant and wipe off the excess, flush with the top of grid. Position seals on spacer 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. Install the fasteners through the cover halves and torque to the Horizontal Cover Fastener specifications in Table 2.

Make certain all plugs are inserted and secured before operating the equipment.

Note: Install coupling guard per OSHA or ASME 815.1 requirements.

Annual Maintenance

- To prevent the possibility of unexpected motion, ensure that the power source is isolated before attempting to service the system components.
- 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 our catalog. If using Lovejoy Coupling Grease, lube intervals can be extended. However, a coupling exposed to extreme temperatures, excessive moisture, frequent reversals or grease leakage may require more frequent lubrication.

Remove covers and check lubricant condition, alignment and general condition of grid members and teeth every year. Also, check tightening torque of all fasteners and set screws. Coupling used in high ambient temperatures (greater than 158 ° F), at high speed and/or frequent reversing applications may require more frequent inspection and relubing.

- If lubricant is required, remove both lube 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.
- 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 fits into the open loop ends of the grid. Using the teeth on the hub as a support, pry the grid out radially in even, gradual stages, proceeding alternately from side to side

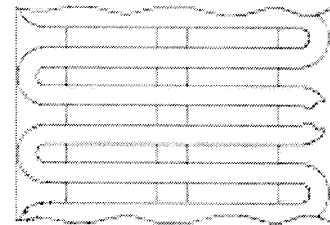
Removal & Installation of Spacer Assembly

- To remove spacer assembly, remove pipe plugs and all but two fasteners per hub 180° apart from each other. Loosen remaining fasteners approximately 1/4" and tap fasteners with a soft mallet to disengage spacer assembly from the shaft hubs. Remove remaining fasteners and spacer assembly.
- To reinstall spacer assembly, insert fasteners so that they do not protrude beyond flange face. Remove pipe plugs to vent and press spacer hubs together to remove gap. Insert spacer assembly between shaft hubs. Carefully engage the spacer hubs to shaft hubs and then alternately tighten fasteners. Torque fasteners to specifications in Table 2. Install pipe plugs.

Fastener Tightening Torque

Table 2

Cplg Size	Horizontal Cover Fastener Tightening Values				Flange Fastener Tightening Values		
	Size Inch	Metric	in-lb	Nm	Size Inch	in-lb	Nm
1020	1/4-20	M6	100	11	1/4-20	100	11
1030	1/4-20	M6	100	11	1/4-20	100	11
1040	1/4-20	M6	100	11	1/4-20	100	11
1050	5/16-18	M8	240	27	5/16-18	240	27
1060	5/16-18	M8	240	27	3/8-16	440	50
1070	5/16-18	M8	240	27	3/8-16	440	50
1080	5/16-18	M8	240	27	1/2-13	825	93
1090	5/16-18	M8	240	27	5/8-11	1625	184



Cplg. Size	For Inch Screws				For Metric Screws			
	Set Screw Size	Length Inch	Tightening Torque in-lbs.	Nm	Set Screw Size	Length mm	Tightening Torque in-lbs.	Nm
1020	8-32	3/16	18-20	2-2.3	M5	5	24-26	2.8-3
1030	8-32	3/16	18-20	2-2.3	M5	5	24-26	2.8-3
1040	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.8-5
1050	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.8-5
1060	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.8-5
1070	1/4-20	5/16	78-87	9-10	M8	8	84-88	9.5-10
1080	1/4-20	5/16	78-87	9-10	M8	8	84-88	9.5-10
1090	5/16-18	3/8	150-165	17-18	M10	10	165-176	19-20

