



# Lovejoy Grid Coupling

## Grid Coupling 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 2 against operating speed.

Inspect all coupling components and remove any protective coatings 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.

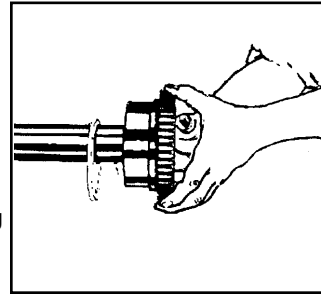
### Assembly Instructions

1. Lightly smear seals with grease. When using vertical covers place a greased seal on each of the covers and install covers and the gasket on shafts before mounting hubs. When using horizontal covers, lightly smear seals with grease and place seals on shafts before mounting hubs (and covers, if necessary) 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. Coupling hub sizes 1020 - 1090 are clearance fit with the shaft and are supplied with set screws. Do not heat the clearance fit hubs. Position the hubs on the shafts to approximately achieve the "G" dimension shown in Table 2. It is usually best to have an equal length of shaft extending into each hub. Tighten the set screws.

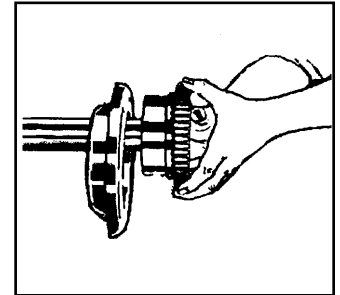
Coupling hub sizes 1100 and larger are an interference fit with the shaft and are not supplied with set screws. It is necessary to heat hubs, using a torch, oven, induction heater or an oil bath, to a maximum temperature of 275° F. To avoid overheating the hubs, direct flame towards the bore using a constant motion. If an oil bath is used it must have 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.

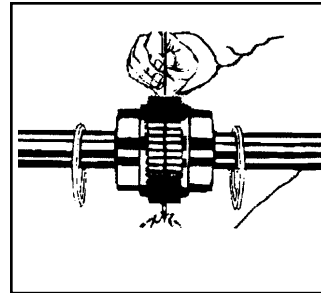
4. Set gap using a spacer bar equal in thickness to the nominal gap specified in Table 2. With the spacer bar inserted to the same depth, measure clearance between the bar and hub face at 90° intervals using feelers. Determine the maximum and minimum dimensions without rotating the coupling, the difference of these two measurements must be less than the Angular value in Table 2.
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 2, realign the shafts.
6. Tighten all foundation bolts using the tightening torque values specified in Table 1. Repeat steps 5 and 6 and if necessary re-align the coupling.
7. 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. 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.



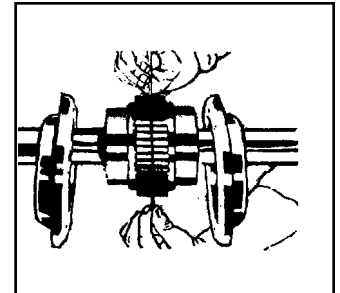
HORIZONTAL



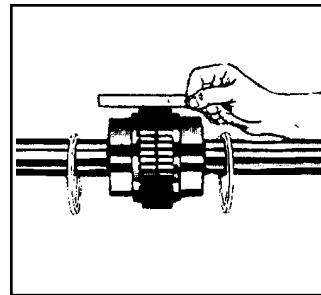
VERTICAL



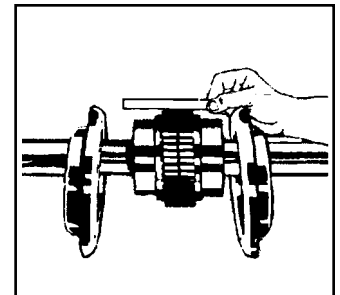
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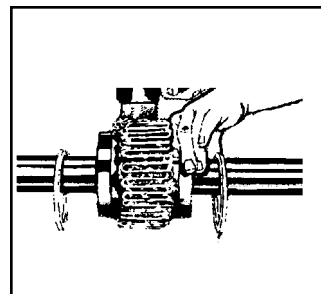
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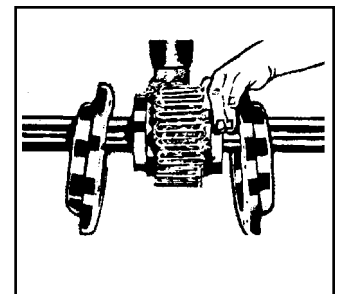
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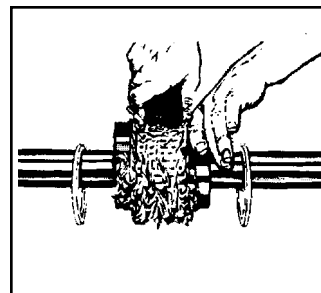
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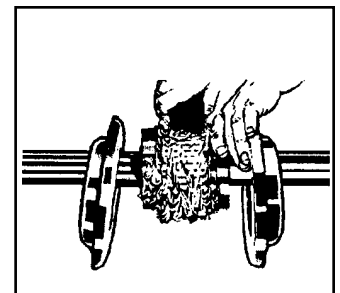
HORIZONTAL



VERTICAL



HORIZONTAL



VERTICAL



# Lovejoy Grid Coupling

## Grid Coupling Installation Instructions

### Assembly Instructions - Continued

8. 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 through the cover halves and torque to the specifications in Table 3.

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. Tighten the fasteners to the torque specified in Table 3.

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

Note: Install coupling guards per OSHA and 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. Couplings used in high ambient temperatures (greater than 158° F), at high speeds 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.

**Tightening Torque for Set Screws**

**Table 1**

Coupling Size	For Inch Screws				For Metric Screws			
	Set Screw Size	Length Inch	Tightening Torque		Set Screw Size	Length mm	Tightening Torque	
			in-lbs	Nm			in-lbs	Nm
1020	8-32	3/16	13.5-15	1.5-1.7	M5	5	24-26	2.8-3
1030	8-32	3/16	13.5-15	1.5-1.7	M5	5	24-26	2.8-3
1040	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.75-5
1050	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.75-5
1060	10-24	1/4	32-36	3.6-4	M6	6	42-44	4.75-5
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	9.5-90
1090	5/16-18	3/8	150-165	17-18	M10	10	165-176	19-20

**Misalignment and End Float**

**Table 2**

Coupling Size	Vertical Speed RPM	Horiz. Speed RPM	G Dim. ± 10%	Misalignment			Max. Total	
				Parallel Inch	Angular Inch	End Float Inch	Grease Weight oz.	kg
1020	6000	4500	0.13	0.012	0.010	0.210	1.00	0.03
1030	6000	4500	0.13	0.012	0.012	0.198	1.40	0.04
1040	6000	4500	0.13	0.012	0.013	0.211	1.90	0.05
1050	6000	4500	0.13	0.016	0.016	0.212	2.40	0.07
1060	6000	4350	0.13	0.016	0.018	0.258	3.00	0.09
1070	6000	4125	0.13	0.016	0.020	0.259	4.00	0.11
1080	5500	3600	0.13	0.016	0.024	0.288	6.10	0.17
1090	4750	3600	0.13	0.016	0.028	0.286	9.00	0.25
1100	4000	2440	0.19	0.020	0.033	0.429	15.00	0.43
1110	3250	2250	0.19	0.020	0.036	0.429	17.60	0.51
1120	3000	2025	0.25	0.022	0.040	0.556	25.60	0.74
1130	2700	1800	0.25	0.022	0.047	0.551	30.00	0.9
1140	2400	1650	0.25	0.022	0.053	0.571	40.00	1.14

**Tightening Torque For Cover Fasteners**

**Table 3**

Coupling Size	Horizontal Cover Fastener Tightening Torque Values				Vertical Cover Fastener Tightening Torque Values			
	Size		Torque Values		Size		Torque Values	
	Inch	Metric	in-lb	Nm	Inch	Metric	in-lb	Nm
1020	1/4-20	M6	100	11	1/4-20	M6	71	8
1030	1/4-20	M6	100	11	1/4-20	M6	71	8
1040	1/4-20	M6	100	11	1/4-20	M6	71	8
1050	5/16-18	M8	195	22	5/16-18	M8	159	18
1060	5/16-18	M8	195	22	5/16-18	M8	159	18
1070	5/16-18	M8	195	22	5/16-18	M8	159	18
1080	5/16-18	M8	195	22	5/16-18	M8	159	18
1090	5/16-18	M8	195	22	5/16-18	M8	159	18
1100	3/8-16	M10	336	28	3/8-16	M10	336	38
1110	3/8-16	M10	336	38	3/8-16	M10	336	38
1120	1/2-13	M12	549	62	1/2-13	M12	549	62
1130	1/2-13	M12	549	62	1/2-13	M12	549	62
1140	1/2-13	M12	549	62	1/2-13	M12	549	62

- Notes: 1. Horizontal covers 1020-1090 are supplied with socket head cap screws, horizontal covers 1100-1140 are supplied with hex head cap screws.  
2. Vertical covers are supplied with hex head cap screws.

