

RATHI TRANSPower PVT. LTD. PUNE - INDIA

INSTALLATION INSTRUCTIONS

GRID COUPLING

LGF-TYPE V & TYPE H



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GRID-FLEX COUPLING**INSTALLATION INSTRUCTIONS FOR STD V, H, VX, HX TYPE COUPLINGS****(A) BEFORE INSTALLATION :**

1. Remove the coupling from packing & thoroughly inspect for signs of damage.
2. Disassemble the coupling by removing grid, nuts & bolts. Clean all the parts carefully.
3. Remove protective coatings / lubricants from bores & keyways.

(B) MOUNTING PROCEDURE :**a) For V/H Coupling :-**

1. Slide the cover with rubber seal on shafts before mounting the hubs.
2. Mount the hubs on their respective shafts flushed with the faces of hubs as shown in fig 1 on Page No. 6. Check half cover are place correctly on shafts.
3. With one machine firmly bolted down, set the equipment at a distance 'G' (refer Table 'A' on Page No. 8) for standard V/H coupling by using spacer bar equal to thickness to the reqd. gap 'G' as shown in fig. 2 on Page No. 6. For spacer type, set the equipment at a distance equal to DBSE by using vernier calliper as shown in fig. 3 on Page No. 6.

b) For VX/HX Coupling :-

1. Slide the cover with rubber seal on the shaft before mounting hub.
2. Mount the hubs on their respective shafts. Bottom hub shall be flushed with driven shaft (Refer fig 11& 14 on Page No.7). Position the top shaft with the spacer plate & tighten bolt (Refer fig 12 & 15 Page No.7). Check covers are placed correctly on shafts.
3. When one hub with machine firmly bolted down, set the equipment at a distance 'G' ,by using spacer bar equal to thickness to the required gap 'G'

(C) ALIGNMENT PROCEDURE:

Alignment procedure is given separately for each type of alignment, for simplicity. However all 3 types of misalignments may be present at the same time.

IMPORTANT: For optimum service life of the coupling the installation misalignment (Initial misalignment) should not be more than 25% of the maximum allowable misalignments limits. Allowance should be made for any anticipated movements which will occur during operation (e.g. Thermal movements).

For Permissible *MAXIMUM* misalignments of V/H, HX, VX couplings refer Table A.

(I) CHECKING PARALLEL /RADIAL ALIGNMENT:

Check the parallel/radial alignment with the help of straight edge resting squarely on one of the hubs at 4 places 90° apart. Measure the gap 'P' by using filler gauge. The parallel misalignment should not exceed the permissible initial parallel misalignment mentioned in Table A on page no 8 (Fig. 4 & 5). This can also be checked with dial gauge.

(II) CHECKING ANGULAR ALIGNMENT:

Check the angular misalignment with the help of slip gauge by inserting in the gap at four places 90° apart for std. V/H coupling and for spacer type with the help of vernier calliper by measuring the DBSE at 4 places 90° apart. The difference in the values of DBSE is 'Total Indicated Reading' (TIR). The angular misalignment 'X' in mm is half of the TIR. The values of angular misalignment should not exceed permissible initial misalignments mentioned in Table A on page no 8. (Fig. 6 & 7)

(D). ASSEMBLY PROCEDURE :

IMPORTANT: If the coupling is dynamically balanced, ensure that the match marks are in straight line & unidirectional before bolting the assembly.

1. Grid Assembly:- series V (vertically split cover), insert gasket (If provided) through the gap and support on either hub or shaft. Before inserting the grid segments, thoroughly fill the grooves with the specified lubricant. When grids are supplied in two or more segments assemble it, so the cut ends at a segment joint extend in the same direction. Stretch 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. (Refer Fig.10)

2. Cover Assembly:- a) series H (horizontally split cover) - Fill the spaces around the grid with lubricant and wipe off the excess lubricant. Position seals on hubs so that they line up with grooves on 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 with bolts & nuts.

b) series V (vertically split cover). Remove lube plugs to ease cover assembly. Slide cover halves, complete assembly with seal on to hubs. Position lube holes at 180° apart. Align cover and gasket bolt holes and fasten flanges together using the bolts & nuts.

For spacer type coupling, insert gasket between one of the cover & spacer along with spacer plate (as shown in fig. 9). Position the flanged cover with lubrication plugs.

3. Grid Assembly for VX & HX :- Insert the gasket (if provided). through the gap and support on bottom hub. Before inserting the grid segments, thoroughly fill the grooves with the specified lubricant. When grids are supplied in two or more segments assemble so the cut ends at a segment joint extend in the same direction. stretch 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.

4. Cover Assembly:- a) H (horizontally split cover) - fill the spaces around the grid with lubricant. HX (horizontally split cover). Position seals (if provided) on hubs so that they line up with grooves on cover. Assemble covers so that match marks are on the same side. assemble cover halves with the lug and match mark up, or on the high side. Fasten the cover halves with bolt& nuts. Ref. Fig. 16.

b) Series VX (vertical cover). - Slide cover halve, complete assembly with seal (if provided), on to hubs. Align cover and gasket (if provided) holes and fasten flanges together using the bolts provided. Ref. Fig. 13.

5. Insert the bolts & tighten the nuts.

Remember. Assemble only with the help of the fasteners supplied with the coupling.

6. For the spacer type insert the gasket (if provided) between the 2nd cover and spacer along with spacer plate. Insert the bolts & tighten the nuts. (Ref. fig. 9)

7. Fill with recommended grease/oil (**RSG/RSL** with reqd. qty.) for lubrication. Tighten the lubrication plug.

8. Change the grease after the interval of 3 months.

Use Loctite to prevent the loosening of threads, if required.

IMPORTANT: The necessity for shields & guards varies with individuals installations. The owner or user must provide the required safety gaurds. Safety guards or shields are not furnished by us with this equipments.

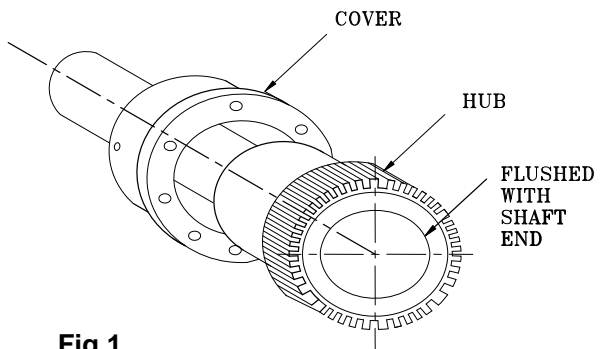


Fig.1

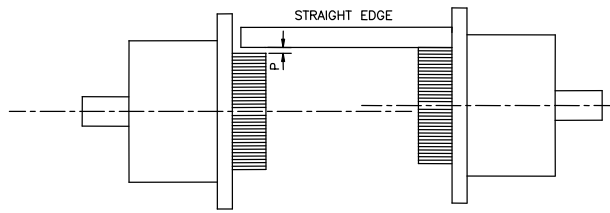


Fig. 5

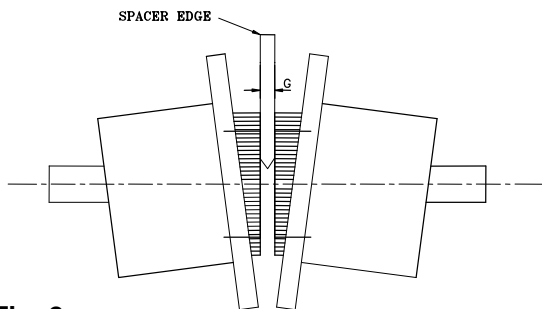


Fig. 2

MAINTAIN GAP 'G'

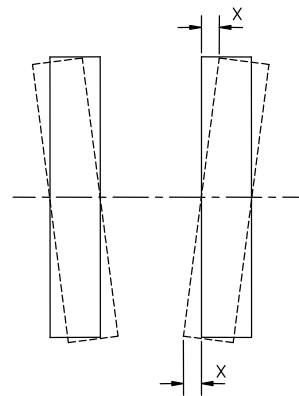


Fig. 6

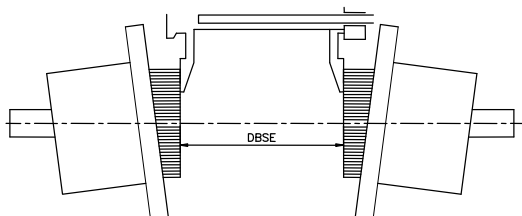


Fig. 3

MAINTAIN 'DBSE'

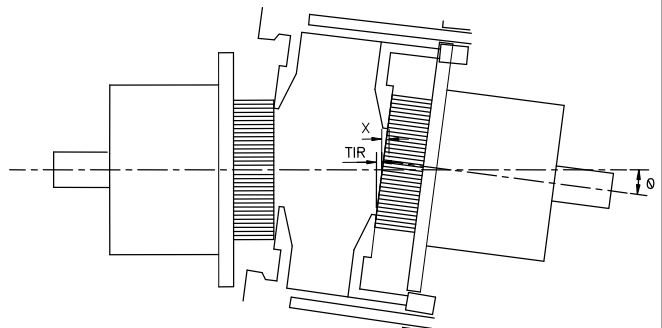


Fig. 7

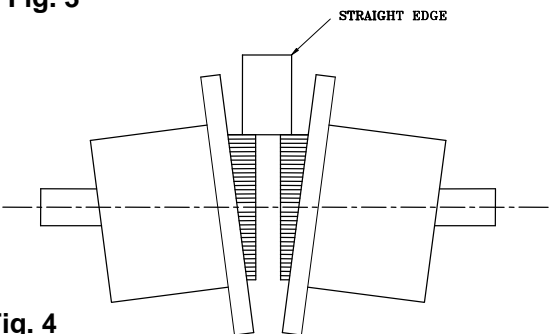


Fig. 4

STRAIGHT EDGE

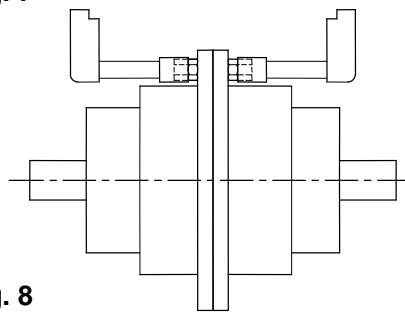
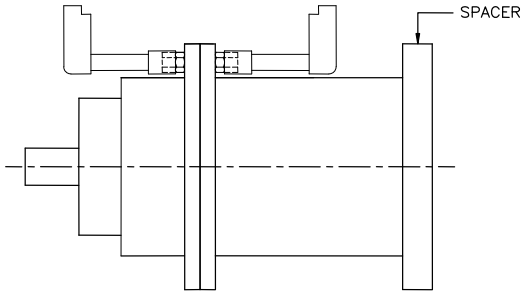


Fig. 8

TIGHTEN THE BOLTS



TIGHTEN THE BOLTS

Fig. 9

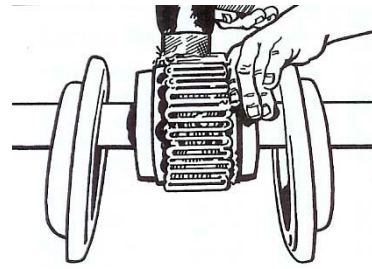


Fig. 10

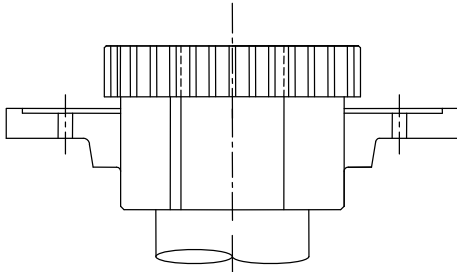


Fig. 11

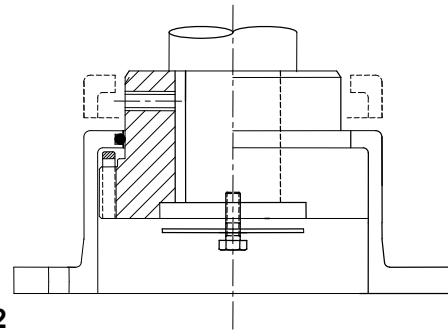


Fig. 12

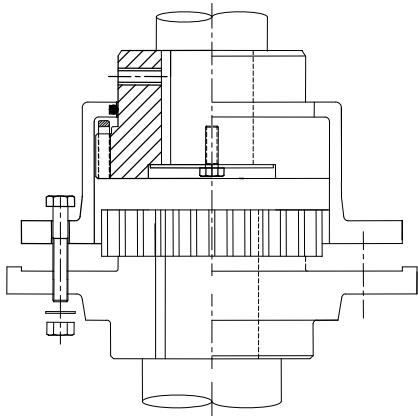


Fig. 13

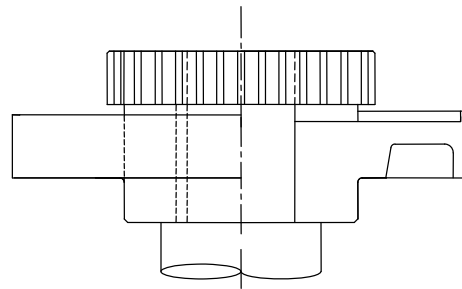


Fig. 14

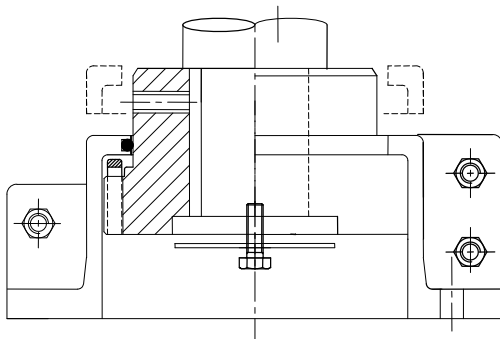


Fig. 15

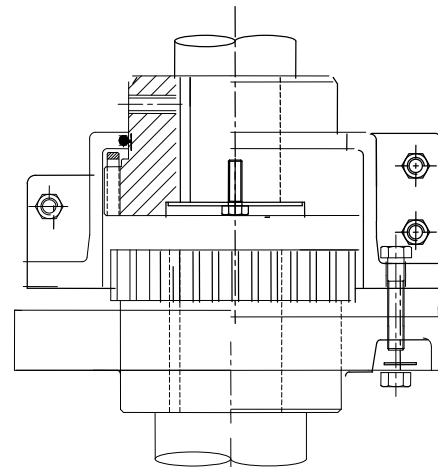


Fig. 16

PERMISSIBLE ALIGNMENTS LIMITS & GREASE QTY. TABLE 'A'

Coupling size	Gap 'G' ± 20%	Max. Alignment Limits		Approx. grease capacity in Kg
		Angular 'X' mm	Parallel 'P' mm	
<i>LGF 105</i>	<i>0.8</i>	<i>0.12</i>	<i>0.10</i>	<i>0.03</i>
<i>LGF 120</i>	<i>0.8</i>	<i>0.12</i>	<i>0.10</i>	<i>0.03</i>
<i>LGF 144</i>	<i>0.8</i>	<i>0.12</i>	<i>0.10</i>	<i>0.03</i>
<i>LGF 172</i>	<i>0.8</i>	<i>0.12</i>	<i>0.10</i>	<i>0.06</i>
<i>LGF 190</i>	<i>0.8</i>	<i>0.12</i>	<i>0.10</i>	<i>0.08</i>
<i>LGF 197</i>	<i>0.8</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>
<i>LGF 222</i>	<i>0.8</i>	<i>0.12</i>	<i>0.12</i>	<i>0.12</i>
<i>LGF 254</i>	<i>0.8</i>	<i>0.20</i>	<i>0.15</i>	<i>0.15</i>
<i>LGF 276</i>	<i>0.8</i>	<i>0.20</i>	<i>0.15</i>	<i>0.20</i>
<i>LGF 295</i>	<i>0.8</i>	<i>0.20</i>	<i>0.15</i>	<i>0.25</i>
<i>LGF 324</i>	<i>1.6</i>	<i>0.30</i>	<i>0.20</i>	<i>0.50</i>
<i>LGF 336</i>	<i>1.6</i>	<i>0.30</i>	<i>0.20</i>	<i>0.50</i>
<i>LGF 375</i>	<i>1.6</i>	<i>0.30</i>	<i>0.20</i>	<i>0.75</i>
<i>LGF 425</i>	<i>1.6</i>	<i>0.30</i>	<i>0.20</i>	<i>0.75</i>
<i>LGF 290</i>	<i>1.6</i>	<i>0.30</i>	<i>0.20</i>	<i>1.25</i>
<i>LGF 432</i>	<i>1.5</i>	<i>0.35</i>	<i>0.25</i>	<i>1.25</i>
<i>LGF 492</i>	<i>1.5</i>	<i>0.35</i>	<i>0.25</i>	<i>2.00</i>

Important Notes (Types V, H, HX, VX.)

In the case of a brake drum/disc type coupling, ensure that the brake drum or disc is mounted on the shaft with the greatest flywheel effect.

Grids are either supplied as full circles or segments of a circle. They must be assembled to form a single or multi-grid spring layer, depending on the size of the coupling. In the case of a multi-layered grid spring, take care to ensure that the outer layer segment end rung is positioned near or at a point equidistant from the end of the inner grid segment.

fill the spaces around the grids with lubricant and wipe off excess lubricant.

Installation is completed by sliding the cover over the grid member and securing the flange joints using the relevant fasteners, ensuring that each of the fasteners is fitted with its locking device and tightened.

To improve circumferential grease distribution, 'V' type covers should be positioned such that the grease nipples are ideally at 90° to each other, although their actual position will vary with the coupling size.

In the case of axially split 'VX', 'HX' type covers, the cover halves are manufactured as a set and therefore it is important to maintain their original (as manufactured) relationship when positioning over the grid member. Each half must be secured with the fitted bolts and locknuts are to be tightened.

Covers are supplied with pre-assembled grease nipples, through which lubricant should now be injected until excess appears at the lip of the cover. Wipe off excess and ensure that all grease nipples are securely fitted prior to operating equipment.

Approximate grease capacities are given in the table 'A'.