Mounting instructions for MULTI CROSS RILLO shaft couplings

1. The outer taper of the bush and the hub bore with inner taper shall be bright and free from grease prior to assembly. Any preservatives shall be removed completely.
2. Insert the bush into the coupling hub making sure that all connecting bores are lined up. This means that the threaded half holes shall be opposite the plain half holes (Fig. 1).
3. Lightly oil or grease the mounting screws and screw them in loosely. Do not tighten the screw yet (Fig. 2).
4. Push the coupling hub with inserted taper bush onto the cleaned shaft with key and position it properly so that the clearance M (see Table 1 and Fig. 3) is maintained. Attach the (outer or inner) clamp ring loosely prior to assembly of the hub.
5. Tighten the screws uniformly with a torque wrench to half of the specified tightening torque M_{A2} (Table 2)1.
6. Hold a piece of wood or brass against the bush and hit it lightly with a hammer and tighten the screws to the specified tightening torque M_{A2} (Table 2). Repeat, if necessary.

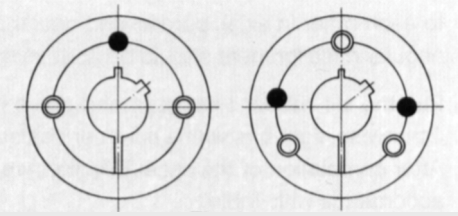


Fig. 1

No. 1008, 1210, 1610
2012, 2517, 3020

No. 3525,4030
4535, 5040

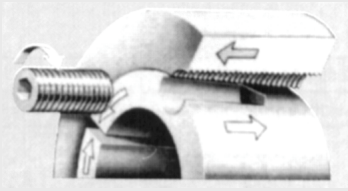


Fig. 2

Clearence M = Mounting dimension for the rubber tyre

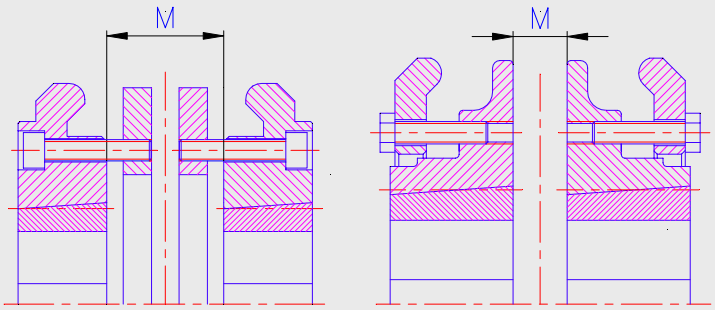


Fig. 3

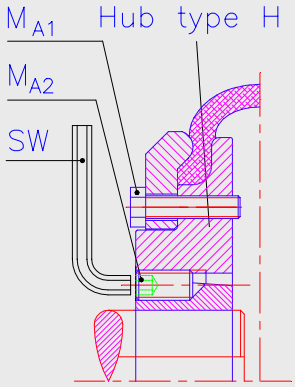


Fig. 4

Table 1: Clearance M and tightening torques for mounting the clamp ring

MCR coupling size	40	50	60	70	80	90	100	110	120	140	160	180	200	220	250
Clearance M [mm]	22	25	33	23	25	27	27	25	29	32	30	46	48	55	59
Screw size	M6	M6	M6	M8	M8	M10	M10	M10	M12	M12	M16	M16	M16	M20	M20
Tightening torque M_{A1} [Nm]	15	15	15	24	24	40	40	40	50	55	80	105	120	165	165

Table 2: Tightening torques for mounting the taper bushes

MCR coupling size	40	50	60 70	70 80	80 90 100	100 110 120	120 140	160	180 200	220
Taper bush No.	1008	1210	1610	2012	2517	3020	3525	4030	4535	5040
Screw size B.S.W. *)	$^1/_4$ x 13	$^3/_8$ x 16	$^3/_8$ x 16	^{7}/16 x 22	$^1/_2$ x 25	$^5/_8$ x 32	$^1/_2$ x 38	$^5/_8$ x 45	$^3/_4$ x 51	$^7/_8$ x 57
Tightening torque M_{A2} [Nm]	5,7	20	20	31	49	92	115	172	195	275
Screw size SW [mm]	3	5	5	6	6	8	10	12	14	14

*) No. 1008/1210/1610/2012/2517/ 3020 set screw ; *) Nr. 3525/4030/4535/5040 socket head cap screws

Removing the coupling hubs with taper bushes

1. Loosen and remove all screws. Depending on the taper bush size, screw 1 or 2 greased screws into the half threaded push-off holes of the taper bush (Fig. 5).
2. Tighten the screws uniformly until the bush detaches from the hub.
3. The hub can be pulled off the shaft together with the taper bush as soon as the taper bush is detached.

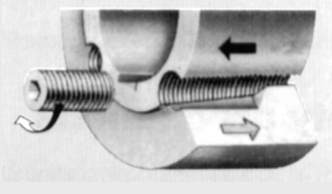


Fig. 5

Instructions for inserting the rubber tyre

1. Make sure that the coupling hubs are positioned at right angles on the shaft ends. Align the coupling hubs to each other in the axial, radial and angular directions. See also permissible shaft displacements on pages 5 and 10. The radial and angular displacements should be kept as small as possible, particularly in high speed applications.
2. Pull the rubber tyre that is slit for assembly apart and place it over the coupling hub. Make sure that the tyre lies completely against the hub. If not, apply light hammer blows onto the outer contours of the tyre. After completion of the assembly, a gap as specified in Table 3 shall exist between the ends of the rubber tyre.
3. Fit the remaining clamp rings, if any, and tighten the screws hand-tight. Thereafter, tighten them uniformly in an alternating sequence (half a turn each) until the specified tightening torque M_{A1} (Table 1 and Fig. 4 on page 11) is reached.

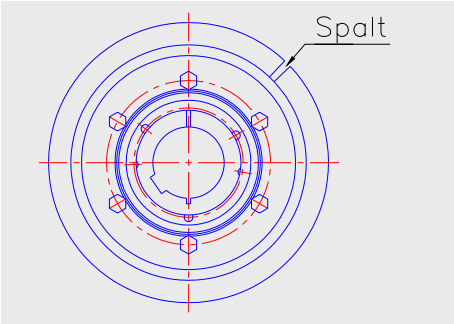


Table 3

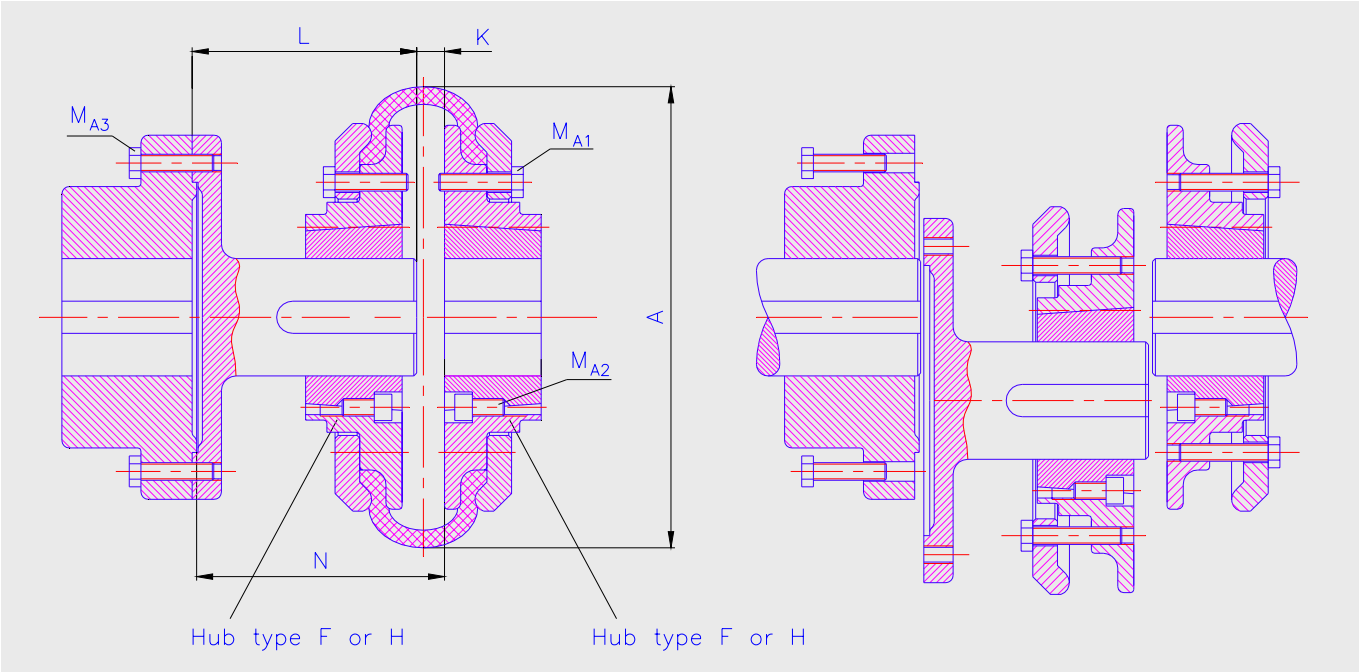
MCR coupling size	40 bis 60	70 bis 120	140 bis 160	180 bis 250
Rubber tyre gap [mm]	2	3	5	6

Mounting instructions for MULTI CROSS RILLO shaft couplings with spacer

1. According to the mounting instructions for **MULTI CROSS RILLO** shaft coupling hubs with taper bushes shall be mounted completely on the shaft ends. It is important to make sure that the coupling hubs are flush with the shaft ends to enable subsequent assembly or disassembly of the spacer.
2. Mount the flange hub properly on the shaft. It is important to ensure that the flange hub does not protrude from the shaft end.
3. Mount the spacer (with the coupling hub placed on the top) to the flange hub using the proper tightening torque M_{A3} (Table 4).
4. Align the **MULTI CROSS RILLO** coupling and insert the tyre according to the above instructions.

Table 4 : Tightening torques for mounting the spacers

MCR coupling size	40	50	60	70	80	90	100	110	120	140
Tightening torque M_{A3} [Nm]	13	18	18	44	44	44	98	98	145	145



For dimensions L, N, K and A see page 9

Safety instructions

It is the customer´s and user´s responsibility to provide proper guards over rotating machinery and to observe the national and international safety rules and laws.

Check all screwed connections for proper fit preferably after the test run.