

1. -OPERATION

The LDM, LAM and LFM brakes are drum brakes that are released through a electromagnet. According with the connexion of the electromagnet there are two types:

SERIES wound.

The coil of the brake is fed in series with the armature of the motor, so the current in the brake is the same than in the motor. The coil of the brake has a little number of turn and a big section so the inductance is reduced and it gives a short response time for the release and the set of the brake. The release is with the 40 % of the nominal current approximately and the set with the 10 % (acc. NEMA stds.).

SHUNT wound.

The coil of the brake is fed, in shunt with the motor, from the net through a power supply. According the design of the power supply the response time can change.

2. -ASSEMBLY (See figure)

To mount the brake on the pulley, proceed as follows:

- Check that the brake bedplate is parallel to the axle of the pulley, and that the pulley is properly square. Check that the anchoring holes coincide with the brake anchoring, and that they are properly centred on the pulley.

If the brake is to act on a free axle end, it can be fitted to the pulley by sliding it on axially, provided the stop (12) and nuts (10) are loosened first.

- If the brake isn't to act on a free axle end, open arm (2) of the brake removing the shaft (14) and turn the arm up. Slip the brake base under the pulley until it reaches its assembly position.
- Once the brake is properly fitted, the X-X and Y-Y axes of the pulley and the brake should match, and the shoes must be centred with the pulley.
- Release the manual unlocking nut (9) and separate it from the mobile armature (3) by distance "C" as shown in the table.
- Check that the power voltage matches the indicated voltage for the brake and connect the power, checking that the mobile armature (3) moves against the force of the spring (5) until it touches the coil housing.

3. -ADJUSTMENT

There are four points, which need to be adjusted in the following order.

3.1 Adjusting ARM POSITION

By mean the arm stop (12) with the base.

- Unscrew the screw (12).
- Connect the electric power.
- Use the stop screw (12) to get that the distance from the linings to the pulley are the same at the both sides.
- Lock the screw (12) with the counter nut.

3.2 Adjusting SHOE POSITION

- Loosen the two shoe stop screws (11).
- Cut power to the brake when the shoes are pressing against the pulley.
- Bring the shoe stops forward until they touch the shoes, but without pressing too much. Tighten and lock the screws.

3.3 Adjusting BRAKING TORQUE

Braking torque adjustment is done by mean of the screw (13). Adjust the length of spring "A" to the value give in the table with the brake without current and after adjusting the arm position

3.4 Adjusting AIRGAP IN THE MAGNET.

Adjust the air gap by mean the two nuts (16) loosening and/or tightening until obtain the correct spring stroke indicated in the tables.

4. -MAINTENANCE

If the brake is to work satisfactorily, the following should be done regularly:

- Keep check of lining thickness, when it drops below 3 mm at its lowest point, replace with shoes with new linings.

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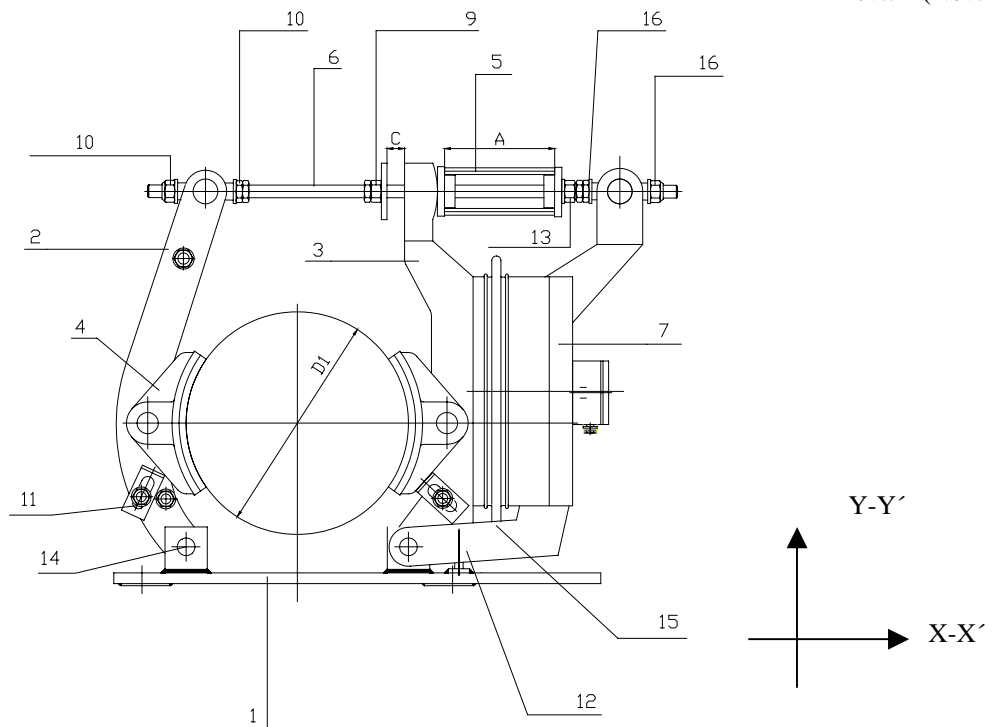
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- Keep check of the surface condition of the pulley. It should be smooth (no scratches or marks) and totally clean.
- Lightly grease brake articulation without self lubricated bushing. Prevent particularly any oil or grease from splashing into the pulley.
- Keep check of the condition of the gap dust-seal (15) and the position and tightness of its two fixing rings.

5. -CHANGING SHOES

- Switch off the power to the brake, and loosen the screw (12).
- With the power ON, is to say with the brake released, tight the unlocking nut (9) in order to maintain the brake released. This operation can be done with the power OFF but then will be necessary more effort to tight the nut (9). You can open more the brake by means of the nut (10) in order to have more space to mount the new shoes.
- Dismount the shaft from the shoe and spin the shoe (4) around the pulley until it reaches position where it could be slid off sideways.
- Fit a new shoe by going through the above steps in reverse order.
- Adjust the brake as per the instructions above. This operation may be done with the pulley cold.



6. -AUTOMATIC WEAR ADJUSTMENT

If the brake has this device some points of the instructions change.

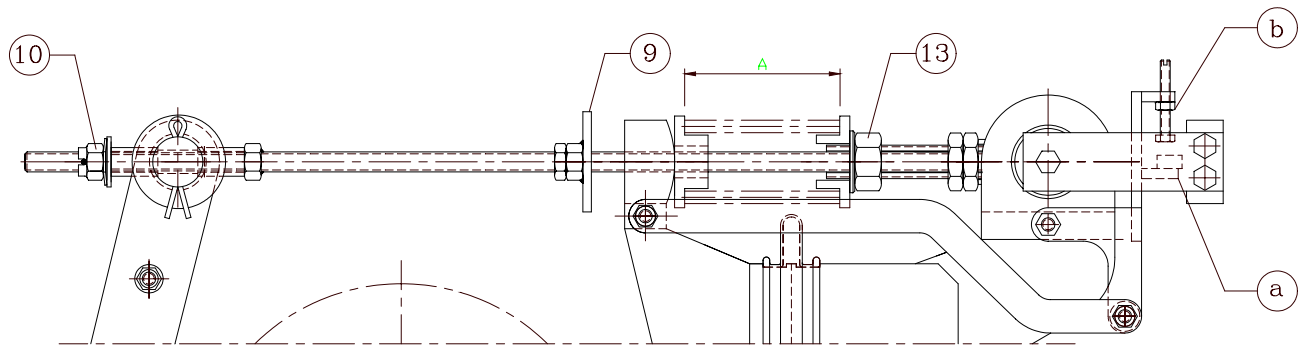
The basis of the system is that as the lining wears, the air gap between the armature and the electro-magnet increases, which means that the upward travel/distance of the lever (a) on opening the brake increases, and wear is offset by operating screw (b) on the free wheel.

6.1 Adjusting of the BRAKING TORQUE.

Braking torque is adjusted by varying length "A" on the spring via nut (13), as per the attached tables, after adjusting the arm position and disconnect the brake from the power supply.

6.2 Adjusting of the AIRGAP IN THE MAGNET.

To adjust the air gap in the magnet set the distance between screw (b) and lever (a) until obtain the values of the spring stroke indicated in the attached tables.



6.3 CHANGING SHOES.

- Switch off the power to the brake, and loosen the screw (12).
- With the power ON, is to say with the brake released, tight the unlocking nut (9) in order to maintain the brake released. This operation can be done with the power OFF but then will be necessary more effort to tight the nut (9). You can open more the brake by means of the nut (10) in order to have more space to mount the new shoes.
- Dismount the shaft from the shoe and spin the shoe (4) around the pulley until it reaches position where it could be slide off sideways.
- Fit a new shoe by going through the above steps in reverse order.
- Adjust the brake as per the instructions above. This operation may be done with the pulley cold.

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TABLE OF TRAVELS

LDM	TYPE	200	250	315	400	500	630	710
Reading C máx/min		20/10	20/10	25/15	30/20	30/20	30/20	40/30
Spring stroke mm.		5	5,5	9	10	11	11	13,5
SERVICE I.	Torque Nm.	210	405	610	1.400	2.500	4.900	9.800
O	SPRING Code	520.121	520.122	520.123	520.125	520.126	520.127	520.128
SERVICE C.	Dim. A	92	93	127	168	171	163	251
Shoe separation mm.		0,5	0,6	1	1,2	1,5	1,6	2
Max. wear per lining mm.		0,5	0,5	0,6	0,6	0,6	0,7	0,8

LAM	TYPE	203 (8")	254 (10")	330 (13")	406 (16")	482 (19")	584 (23")	762 (30")	
Reading C máx/min		20/10	20/10	25/15	30/20	30/20	30/20	40/30	
Spring stroke mm.		5	5,5	9,5	10	11	12	13,5	
SHUNT CONEX.	1 HOUR	Torque Nm.	140	280	760	1.380	2.770	5.540	12.450
		RESORTE Code	520.120	520.121	520.123	520.125	520.126	520.127	520.128
		Dim. A	65	90	121	169	165	158	238
	8 HOURS	Torque Nm.	105	210	550	1.040	2.080	4.150	9.350
		RESORTE Code	520.120	520.121	520.123	520.125	520.126	520.127	520.128
		Dim. A	72	100	133	177	176	170	259
SERIE CONEX.	½ HOUR	Torque Nm.	140	280	760	1.380	2.770	5.540	12.450
		RESORTE Code	520.120	520.121	520.123	520.125	520.126	520.127	520.128
		Dim. A	65	90	121	169	165	158	238
	1 HOUR	Torque Nm.	90	180	500	900	1.800	3.600	8.300
		RESORTE Code	520.120	520.121	520.123	520.125	520.126	520.127	520.128
		Dim. A	75	104	135	180	181	175	267
Shoe separation mm.		0,5	0,6	1	1,2	1,5	1,6	2	
Max. wear per lining mm.		0,5	0,5	0,6	0,6	0,6	0,7	0,8	



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LFM	TYPE	200	250	350	450	530	600	750
Reading C	máx/min	20/10	20/10	25/15	30/20	30/20	30/20	40/30
Spring stroke	mm.	5	5,5	9,5	10	11	11,5	13
SERVICE I.	Torque Nm.	210	405	675	1.575	2.650	4.660	10.350
O	Code	520.121	520.122	520.123	520.125	520.126	520.127	520.128
SERVICE C.	Dim. A	92	93	128	168	171	165	250
Shoe separation	mm.	0,5	0,6	1	1,2	1,5	1,6	2
Max. wear per lining	mm.	0,5	0,5	0,6	0,6	0,6	0,7	0,8