

Dings^{CO.}

DYNAMICS GROUP

60 SERIES SD UNIPAC BRAKE INSTRUCTIONS

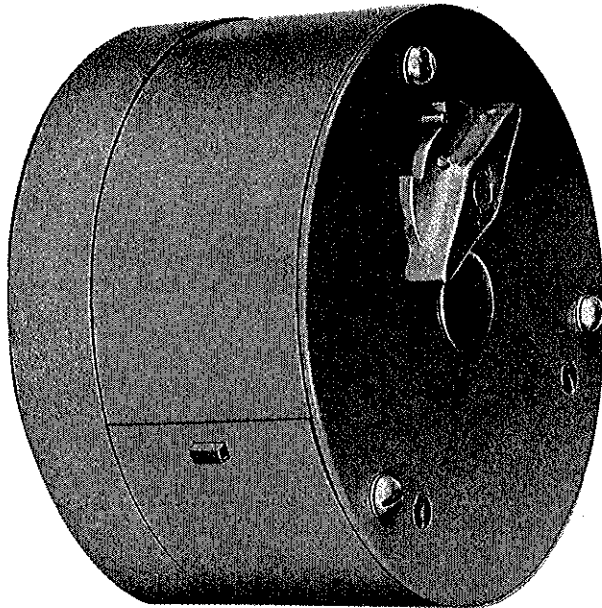


Figure 1. 60 Series Standard Housing Unipac/SD

IMPORTANT

Read this bulletin carefully before installing or operating this brake. Failure to comply with these instructions cancels all warranties.

WARNING

Brake performance and features must be carefully matched to the requirements of the application.

Consideration must be given to torque requirements, especially where an overhauling condition exists, as well as thermal capacity, ambient temperature, atmospheric explosion hazards, type of enclosure and any other unusual conditions.

Improper selection and installation of a brake and/or lack of maintenance may cause brake failure which could result in damage to property and/or injury to personnel.

If injury to personnel could be caused by brake failure, additional means must be provided to insure safety of personnel.

Do not operate manual release or energize brake coil before installation in order to preserve pre-alignment of rotating discs for ease of installation.

DESCRIPTION

This brake is direct acting, electromagnetically released and spring set. It uses rotating and stationary disc contact to supply positive braking action. It retains quick release and setting capabilities at all times.

SERIES 1-60. Torque range 1-1/2 through 6 lb. ft. For mounting to NEMA motor frames 56C • 143TC • 145TC

Standard Housing		Wt. Lbs.		Thermal Capacity	Inertia Rotating Parts	Quantity of Rotating Discs
Model	Torque Lb. Ft.	Net	Pkg'd.	H.P. Sec./Min.	WK ² In.-2 Lb. Ft. ²	
1-61001-25	1-1/2	8-1/4	9-1/4	6	.0052	1
1-61003-25	3	8-1/4	9-1/4	6	.0052	1
1-62006-25	6	9	10	6	.0101	2

CSA Listed

Table 1. List of Models

1/2" NPT LEADWIRE OUTLET FOR EXTERNAL CONNECTION LEFT HAND STANDARD; RIGHT HAND UPON REQUEST (BRAKE CAN BE ROTATED TO PLACE HOLE AT TOP, BOTTOM, OR EITHER SIDE.)

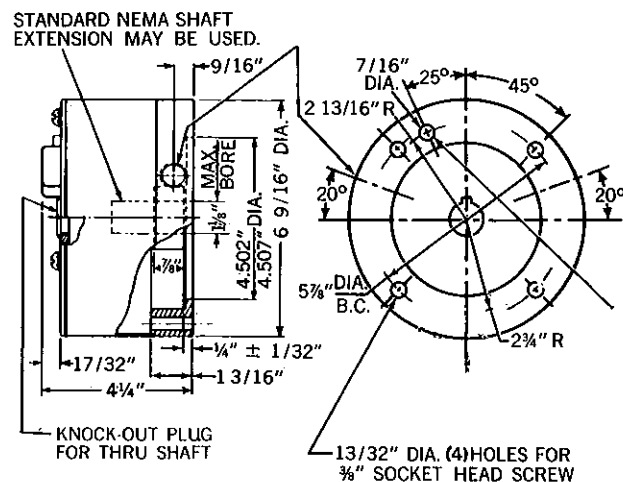


Figure 2. Outline Dimensions of Brake

Simplicity of design has reduced maintenance to an absolute minimum. As with any electromechanical equipment, however, periodic inspection and adjustment will assure optimum performance. As the friction discs wear, the magnet gap will increase. The magnet gap should be checked periodically and adjusted when necessary.

INSTALLATION (See Figures 2, 4 & 5)

1. Remove hub (1) from brake and position on motor shaft with key as illustrated in Figure 2. Stamped part number on hub should face away from motor. Tighten hub set screws to shaft with 6-8 lb. ft. torque.
2. Remove cover (30) and position brake over hub on shaft. Bolt brake to motor flange or floor mount.
3. Connect coil wire leads as indicated in Figure 4. Replace cover.

MANUAL RELEASE (See Figure 5)

To manually release the brake, rotate release knob (20) clockwise until it strikes stop pin (21). The brake will remain in the released position until manually reset, or automatically reset when electric power is restored.

MAINTENANCE AND SERVICE

FRICITION DISC REPLACEMENT (See Figure 5)

When total wear on rotating friction disc reaches 1/16", replace as follows:

Remove cover. With release knob (20) in released position, remove three mounting screws (26) and remove operator assembly (6) as a unit. Spring (5) is a loose part. Avoid loss. Remove stationary discs (3), install new rotating discs (4) and reassembly all parts in reverse order. After starting three screws (26), turn two wear adjustment screws (25) counterclockwise to allow the three posts on end plate assembly (7) to seat against the bracket (2). Tighten screws (26). Readjust magnet gap (see WEAR ADJUSTMENT). Replace cover.

MAGNET ASSEMBLY REPLACEMENT

Remove cover. Unscrew two flat head screws (13), remove shoulder nuts (12) and rubber washers (11). Remove and replace magnet assembly (9) and reassemble parts in reverse order. Magnet and armature faces must be clean and parallel to insure quiet operation (see WEAR ADJUSTMENT and TROUBLE SHOOTING). If manual release does not operate properly, see TROUBLE SHOOTING.

WEAR ADJUSTMENT (See Figure 3)

When armature plate (24) touches bracket (2), closing gap "B," adjustment for friction disc wear is required. Turn two screws (25) clockwise until magnet gap "A" reads .040" to .045" at narrowest gap, for 1 disc models, and reads .045" to .050" at narrowest gap, for 2 disc models. Any delay in adjusting gap will result in eventual loss of torque.

TROUBLE SHOOTING

BRAKE DOES NOT RELEASE

Check for failure of power supply to brake.
Check brake visually for broken or damaged parts.
Check for broken leadwire or bad electrical connection.
Check for correct voltage. Voltage must correspond to that listed on brake nameplate. If voltage is more than 10% below figure stamped on nameplate, magnet will

not pull in, causing coil to burn out within minutes. If voltage is more than 10% above, coil will overheat and burn out.

Check for burned out coil (coil may be charred or burned).

BRAKE DOES NOT STOP

Check that manual release is in normal reset position. Check brake visually for broken or damaged parts. Check disc wear (see WEAR ADJUSTMENT). Check for broken friction disc. Make certain hub has not shifted position on shaft and that all rotating discs are fully engaged on hub.

BRAKE CHATTERS OR HUMS

Clean magnet faces if dirty. Insert a clean sheet of paper between magnet faces and energize brake. Move paper around between faces to dislodge dirt. Finally, remove paper.

Check that magnet faces are parallel in closed position.

1. If not parallel along length of magnet, check bushings (14) under torque springs for binding or excessive wear.
2. If not parallel across width of magnet, adjust pivot nut (8) on post to obtain minimum magnet hum. After adjusting pivot nut, lock in place with nut (item 7, part "C"). Check magnet gap "A" and adjust if necessary (see WEAR ADJUSTMENT). Operate manual release (20) and adjust if necessary.

Check if shading coil (10) is cracked, broken or out of position. Replace magnet assembly if cracked or broken. Check for low voltage. Magnet will not pull in and coil will burn out if voltage is more than 10% below figure stamped on nameplate.

MANUAL RELEASE DOES NOT WORK

Check for broken or damaged parts.
Check return spring (23). Brake will not reset automatically if this spring is broken.
Check magnet gap "A" with knob in released position. Gap must be .030" at narrowest point. If gap is too wide, motor shaft will not turn freely. If gap is too small, knob will not return automatically when power is applied.
Adjustment for correct magnet gap is made by turning nuts (17 and 18). Make sure nuts are tight against armature plate (24) after adjusting release.

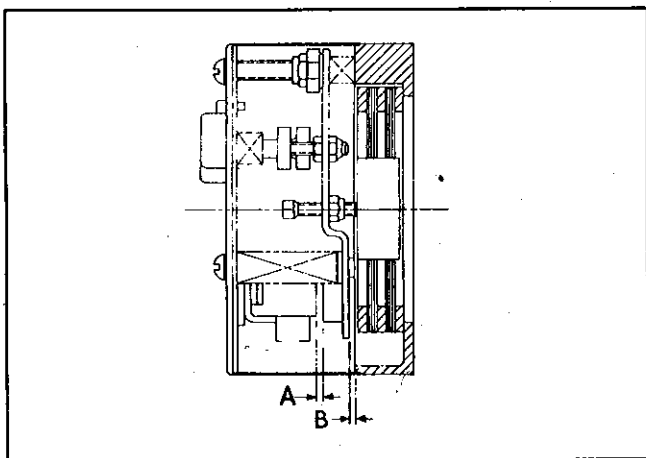


Figure 3. Brake Gap Adjustment

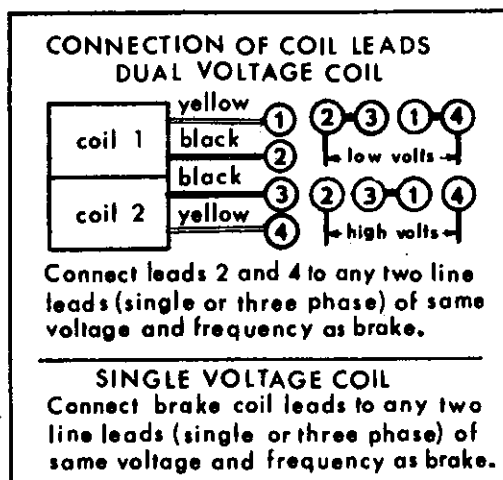


Figure 4. Wiring Diagram

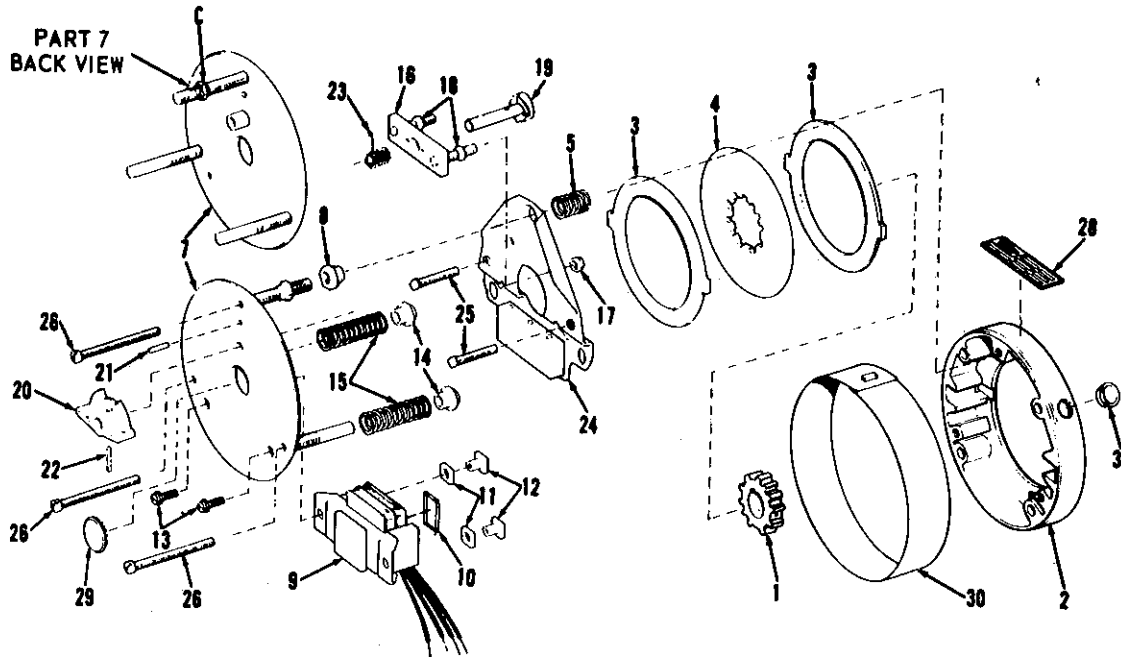


Figure 5. Exploded View of Brake

Table 2. Parts List

Item No.	Pcs. Req.	Net Wt. Per Piece (Oz.)	Description	Part No.	Item No.	Pcs. Req.	Net Wt. Per Piece (Oz.)	Description	Part No.
1	1	14	Splined Hub with Set Screws (Specify Bore and Keyway)	K60107***	16	1	6	Lift Bar Assembly (Includes Item 17)	G60295-1
2	1	14	Bracket	L60038***	17	2	1	Locknut	W003001-018
3	**	7	Stationary Disc	H60147-1	18	2	1	Jam Nut	W003007-001
4	*	4	Rotating Disc	H60157-3	19	1	2	Release Camshaft	K60105-2
5	1	1	Compression Spring	G60297-1	20	1	1	Release Knob	H60170-2
6	1	—	Operator Assembly (Includes Item 7 thru 25)	K60131***	21	1	1	Groove Pin	W005004-002
7	1	20	End Plate Assembly (Includes Item 8)	H60180-1	22	1	1	Roll Pin	W005003-073
8	1	1	Pivot Nut	G60267-1	23	1	1	Return Spring	G60277
9	1	24	Magnet Assembly (Includes Item 10)	***	24	1	20	Armature Plate Assembly (Includes Item 25)	H60162***
10	1	1	Shading Coil	G60346-1	25	2	1	Adjustment Screw	W002003-001
11	2	1	Rubber Washer	G60310-1	26	3	1	Round Head Machine Screw with Lock Washer	W001003-006
12	2	1	Shoulder Nut	G60305-1	27	1	1	Instruction Label inside Wrap Cover (30)	H60186-1
13	2	1	Pan Head Mach. Screw with Springtite Lockwasher	W001006-004	28	1	1	Nameplate	K60407-1
14	2	1	Bushing	G60268-1	29	1	1	Plug Button	W008001-002
15	2	1	Torque Spring (Model 1-61003-25)	G60312-1	30	1	6	Wrap Cover with Integral Latch	K60130-1
15	2	1	Torque Spring (Models 1-61003-25 and 1-62006-25)	G60312-2	31	1	1	Cap Plug	W008003-001

* For number of rotating discs, see Table 1, page 1.

** Number of stationary discs is one more than the number of rotating discs.

*** Part number is determined by one or more of the following: model number, voltage, or motor shaft size. Call factory to order.

ORDERING INFORMATION

The following data should be furnished with your parts order:

Brake Model Number.

Serial Number if available.

Part Number from Table 2.

Part Description from Table.

(On hub order, specify bore dia. & keyway dimensions. On electrical parts, specify voltage, phase & frequency.)

VERTICAL MOUNTING

INSTALLATION AND ADJUSTMENT

Installation and adjustment of the vertically mounted DINGS UNIPAC BRAKE is the same as on the standard model (this bulletin, pages 1 thru 3).

FRICITION DISC REPLACEMENT

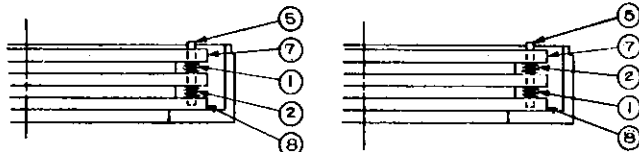
When replacing friction discs, follow procedure outlined on page 2 with this addition:

Care must be taken to insure proper insertion of disc separating springs. Springs are color coded for easy identification, and reference is made to spring color, (see Figure 6 and Table 3). The installation order of the disc springs is dependent on brake mounting position, (above or below motor), so make sure to consult the correct diagram for spring location.



MODELS VI-6001-25
AND VI-61003-25

Brake Above or Below Motor



MODEL VO1-62006-25

MODEL VU1-62006-25

Brake Above Motor

Brake Below Motor

Figure 6. Vertical Mounting Brakes

WARRANTY

Seller warrants products manufactured by it and supplied hereunder to be free from defects in materials and workmanship under normal use and proper maintenance for a period of twelve months from date of shipment. If within such period any such products shall be proved to Seller's reasonable satisfaction to be defective, such products shall be repaired or replaced at Seller's option. Seller's obligation and Buyer's exclusive remedy hereunder shall be limited to such repair and replacement and shall be conditioned upon Seller's receiving written notice of any alleged defect no later than 10 days after its discovery within the warranty period and, at Seller's option, the return of such products to Seller, f.o.b. its factory, when such return is feasible. Seller reserves the right to satisfy its warranty obligation in full by reimbursing Buyer for all payments it makes hereunder, and Buyer shall thereupon return the products to Seller. Seller shall have the right to remedy such defects. Seller makes no warranty with respect to wear or use items, such as belts, chains, sprockets, discs and coils, all which are sold strictly AS IS.

ITEM	DESCRIPTION	PART NO.	NO. OF ROT. DISCS	
			1	2
1	SPRING (SILVER)	G60350-1	2	2
2	SPRING (BLACK)	G60350-2	-	2
4	ROLL PIN - 1/8" x 5/8"	W005003-071	2	-
5	ROLL PIN - 1/8" x 1"	W005003-071	-	2
7	STATIONARY DISC	H60203-4	1	2
8	STATIONARY DISC	H60203-3	1	1

Table 3. Parts for Vertical Mounting

BRAKE SPECIFICATIONS

TORQUE: 1-1/2 thru 6 lb. ft.

MOTOR FRAMES: 56C, 143TC, 145TC.

HOUSING: Sheet steel and die cast aluminum.

VOLTAGES: All NEMA single phase voltages and frequencies are standard. Others optional.

DUTY: Rates for continuous duty cycle.

MOUNTING: Direct to NEMA "C" motor flanges. Adaptors for larger or smaller frames, foot mounting, wall mounting, or vertical mounting, available on request.

HUB MOUNTING: NEMA standard length motor shaft extensions may be used. Knock out plug provided in end plate can be removed for thru-shaft applications.

The foregoing warranties are exclusive and in lieu of all other express and implied warranties (except of title) including but not limited to implied warranties of merchantability, fitness for a particular purpose, performance, or otherwise, and in no event shall the Seller be liable for claims (based upon breach of express or implied warranty, negligence, product liability, or otherwise) for any other damages, whether direct, immediate, incidental, foreseeable, consequential, or special.

LOCAL ASSISTANCE

Local assistance is available from a Dings sales representative or distributor throughout the United States and Canada. Look in the Yellow Pages phone directory under Brakes Mfrs. & Distrs., or call us at the factory at (414) 672-7830 between 8:00 AM and 4:30 PM (central time) Monday through Friday. Tell our operator that you want to get the name, location and phone number of a Dings Dynamics distributor or sales representative in your area.

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