



700 W. 47th Street, Suite 1000
Kansas City, MO 64112
(816) 753-1000
Facsimile: (816) 753-1536
www.polsinelli.com

Anthony L. Springfield
(816) 360-4291
aspringfield@polsinelli.com

February 17, 2009

FEB 18 2009

**BY FEDERAL EXPRESS
BY ELECTRONIC MAIL**

Christopher R. Guinn, Esq.
Simmons Cooper LLC
707 Berkshire Blvd.
P.O. Box 521
East Alton, IL 62024

**Re: David Hackethal v. A.W. Chesterton Inc., et al. Case No. 08-L-0791
Discovery Responses**

Dear Chris:

Pursuant to our discussions, enclosed are documents labeled SQD HCK00001-00092, in response to Plaintiff's supplemental discovery requests in the above referenced matter. Please give me a call to discuss at your earliest convenience.

Very truly yours,

Anthony L. Springfield

ALS

047542 / 129648
ALSPR 1737026.1

SCF-ABEX-1302

CLB

BRAKE SIZE 8"
 AISE STD.
 MOTOR TYPE MILLTYPE
 ALL MFG'S.

INDEX 8 ST.

STANDARD WHEELS ONLY

SQD HCK00001



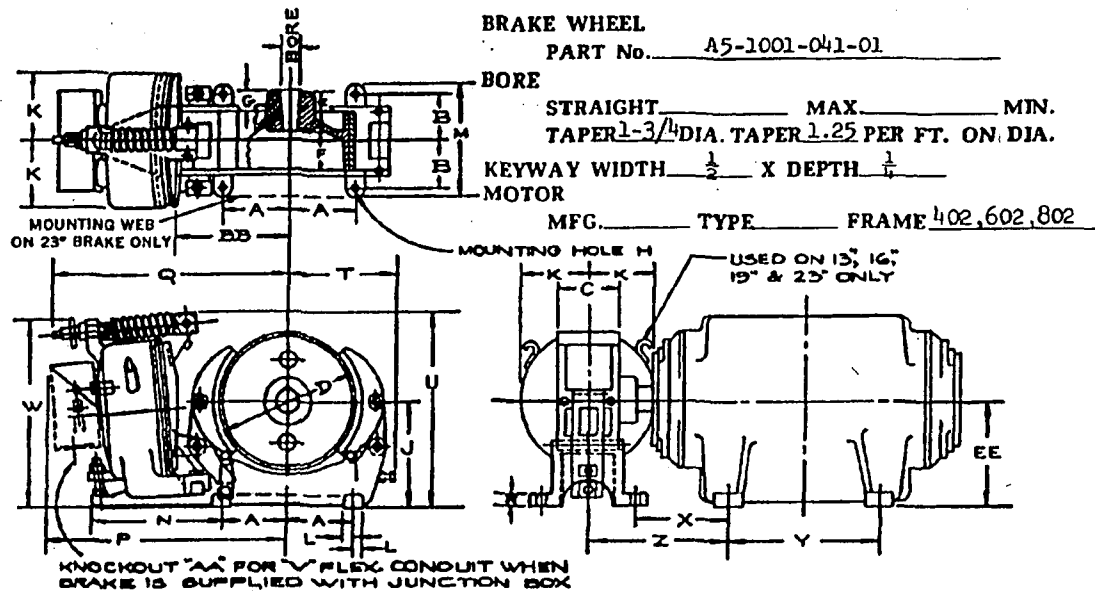
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
8"	3	2-5/8	2-3/8	5-3/8	16 $\frac{1}{2}$	8 $\frac{1}{4}$	7-5/8

SIZE BRAKE	A	B	C	D	H OIA	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive _____ Winding _____

Certified Correct on _____ H. P. _____

Purch. _____ P. O. _____

User _____ U. O. _____

Square D S. O. _____ Engr. _____

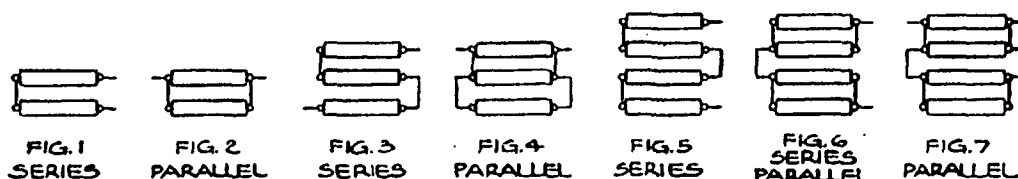
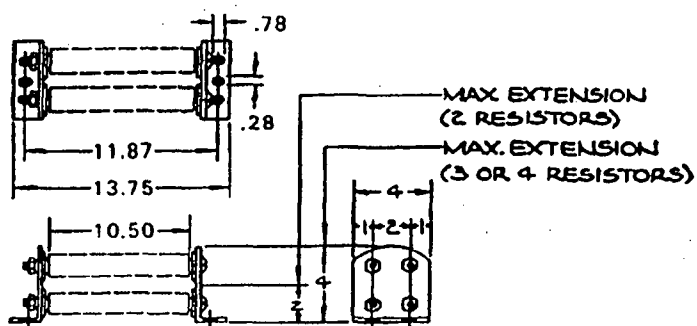
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00002

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

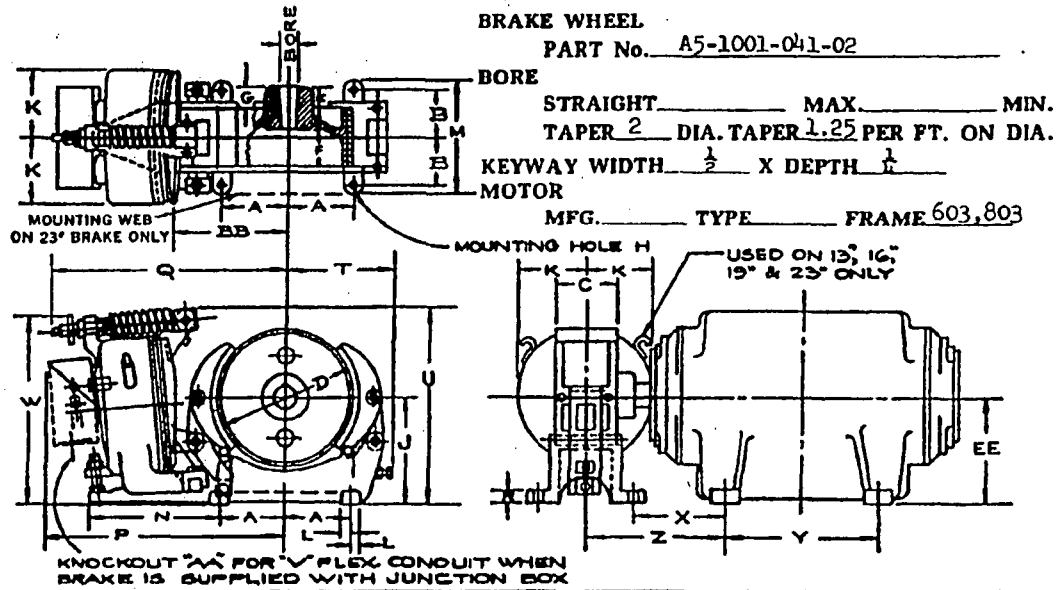


OUTLINE DRAWING 5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



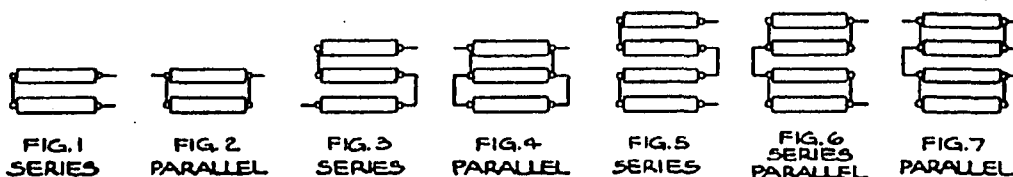
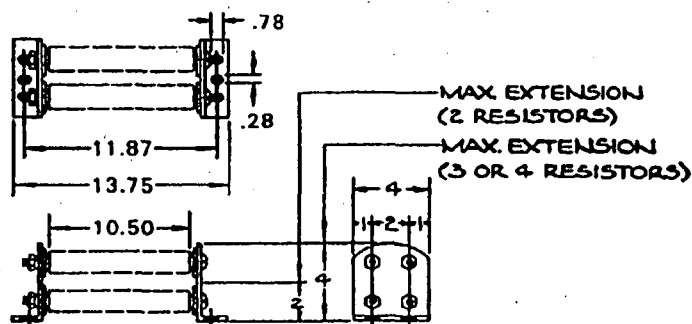
SIZE BRAKE	E	F	G	X	Y	Z	EE
8"	3½	2-1/8	2-3/8	6-1/8	18	9	8½

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
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	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



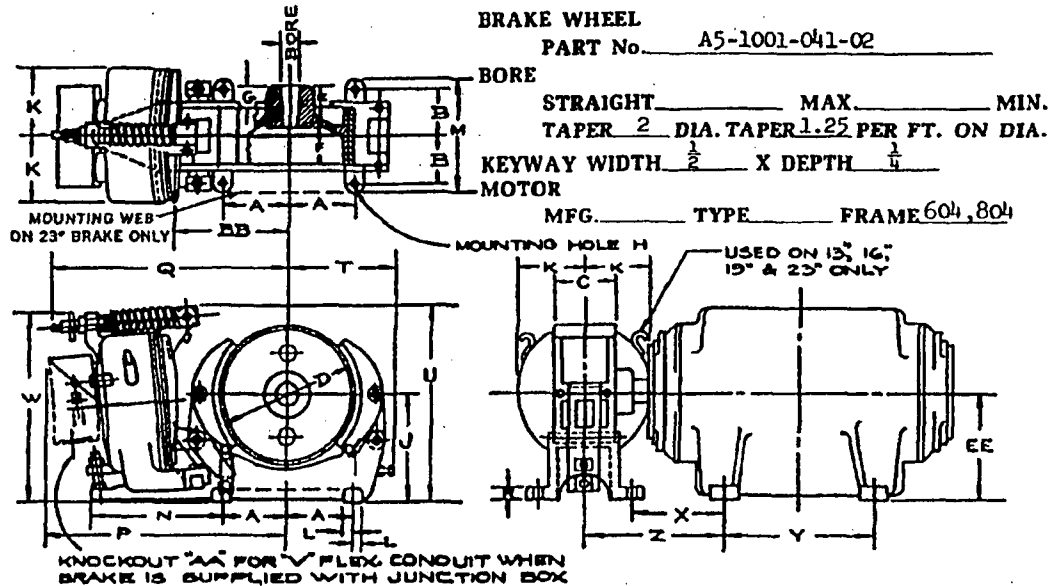
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
8"	3 1/2	2-1/8	2-3/8	6-5/8	19	9 1/2	9

SIZE BRAKE	A	B	C	D	H DIA.	I	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

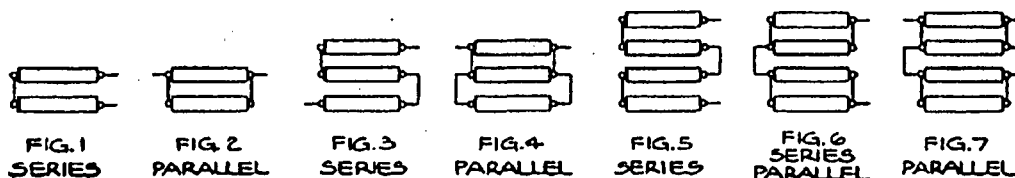
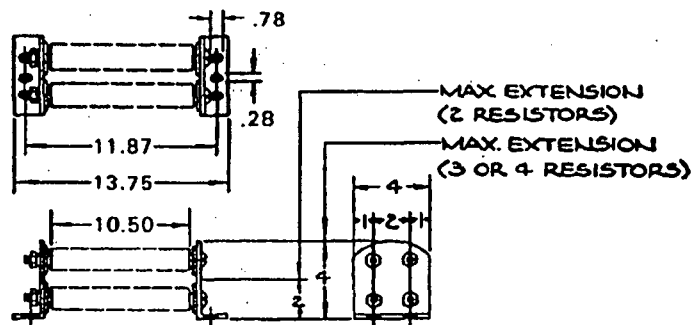
Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

C. A. SCHURR, Chief Engineer

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	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



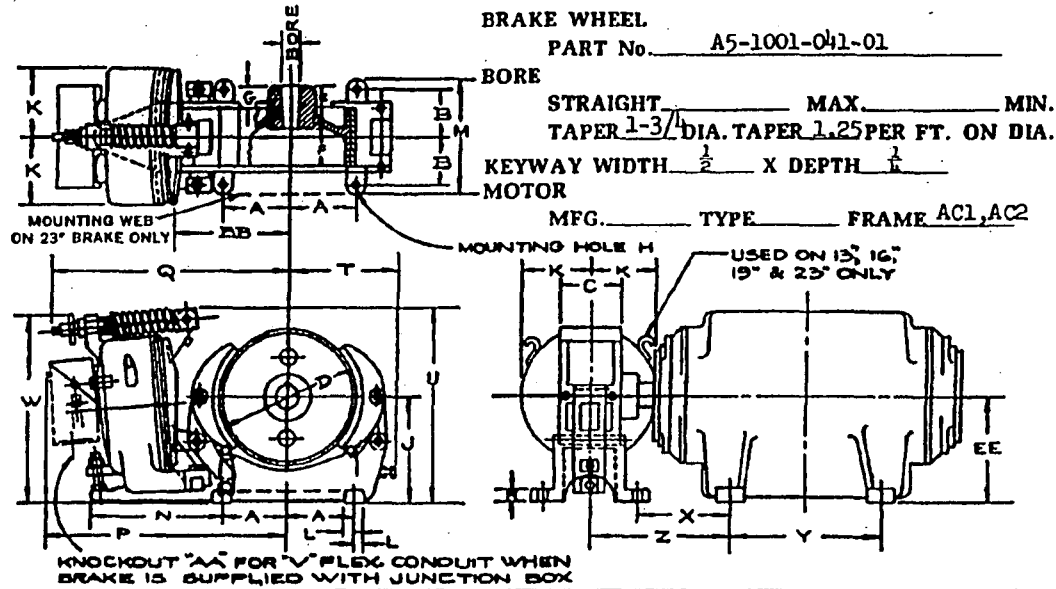
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
8"	3	2-5/8	2-3/8	6-3/4	14-5/8	9-5/8	7

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive _____ Winding _____

Certified Correct on _____ H. P. _____

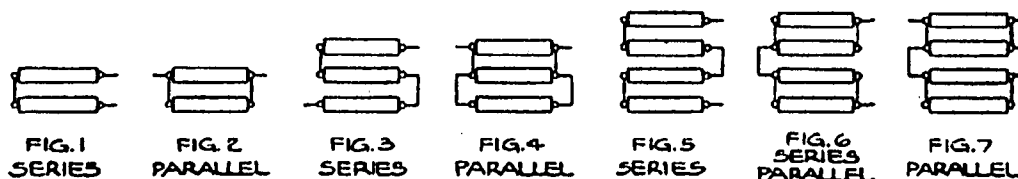
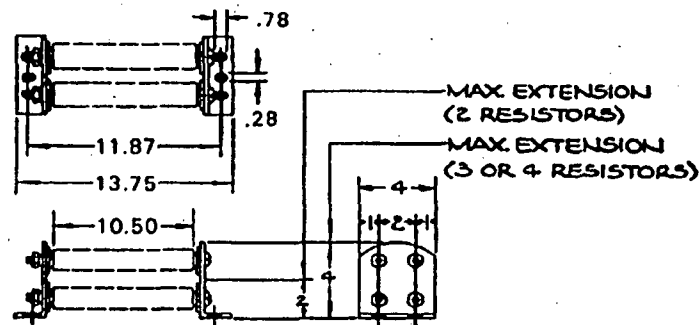
Purch. _____ P. O. _____

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Square D S. O. _____ Engr. _____

C. A. Schurr
C. A. SCHURR, Chief Engineer

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115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
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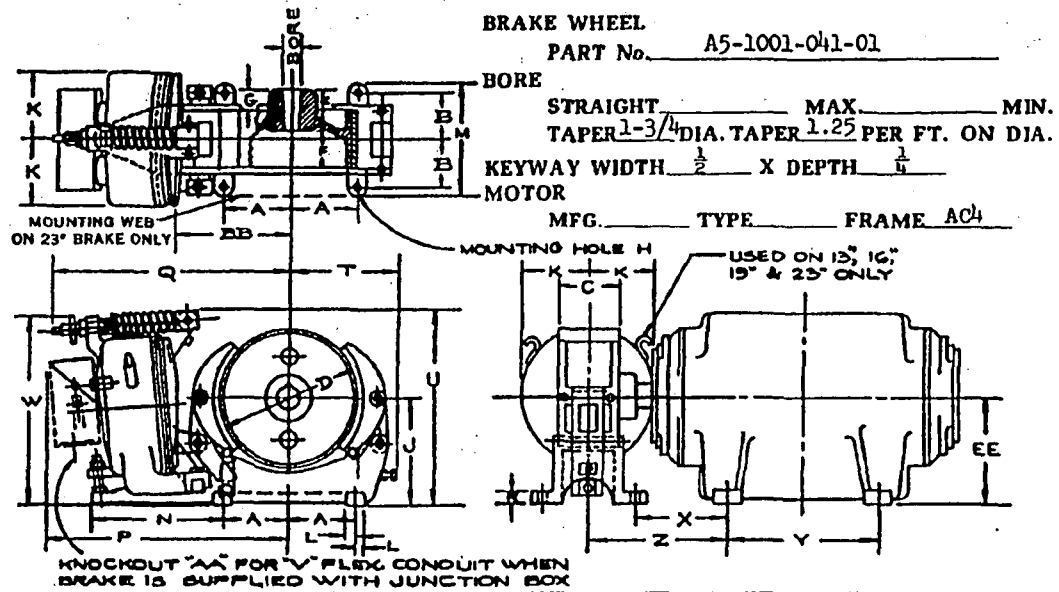
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
8"	3	2-5/8	2-3/8	7 1/4	15-3/8	10-1/8	8

SIZE BRAKE	A	B	C	D	H. DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	.7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
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 Square D S. O..... Engr.....

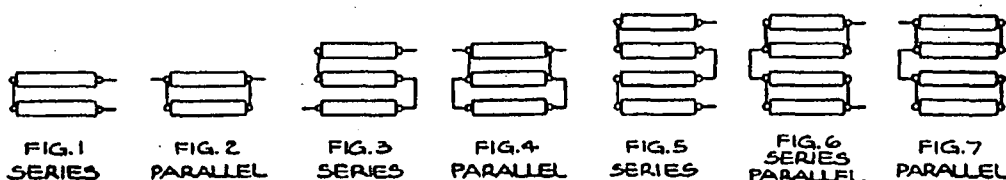
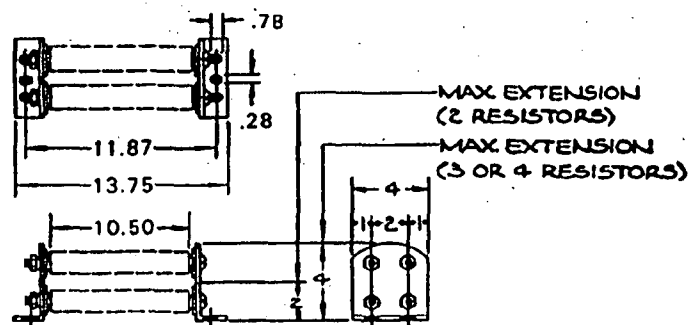
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00010

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8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
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8"		2	FIG. 1		2	FIG. 1
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19"		4	5		4	5
23"		4	5		4	5



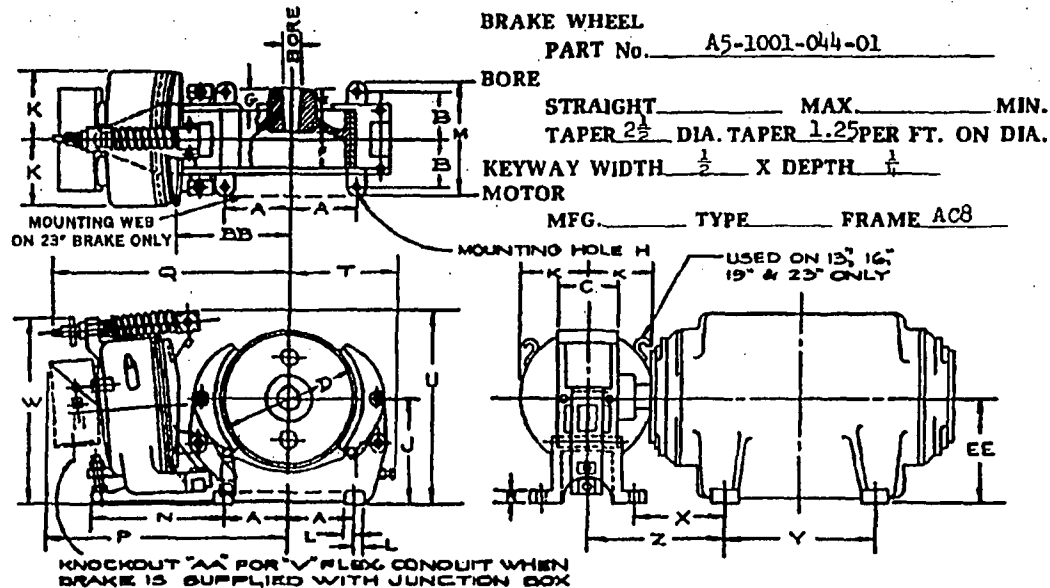
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	
8"	4	1-5/8	2-3/8	7-3/4	21-3/8	10-5/8	9	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
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Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

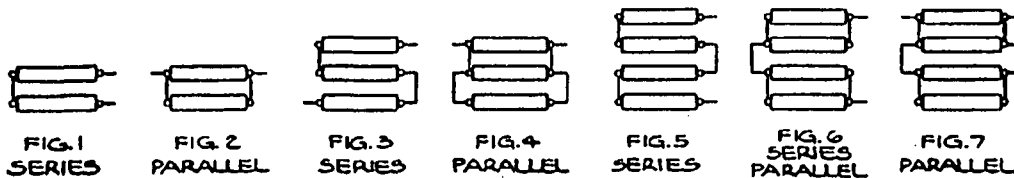
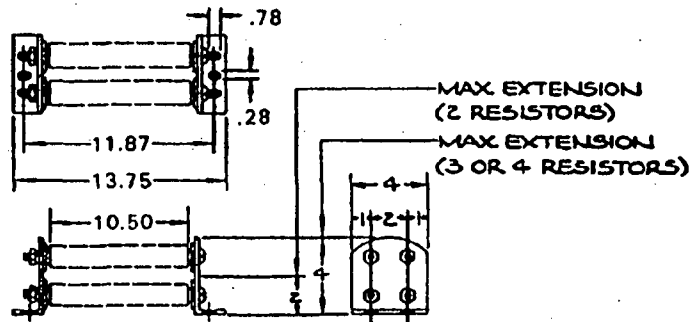
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes DD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00012

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



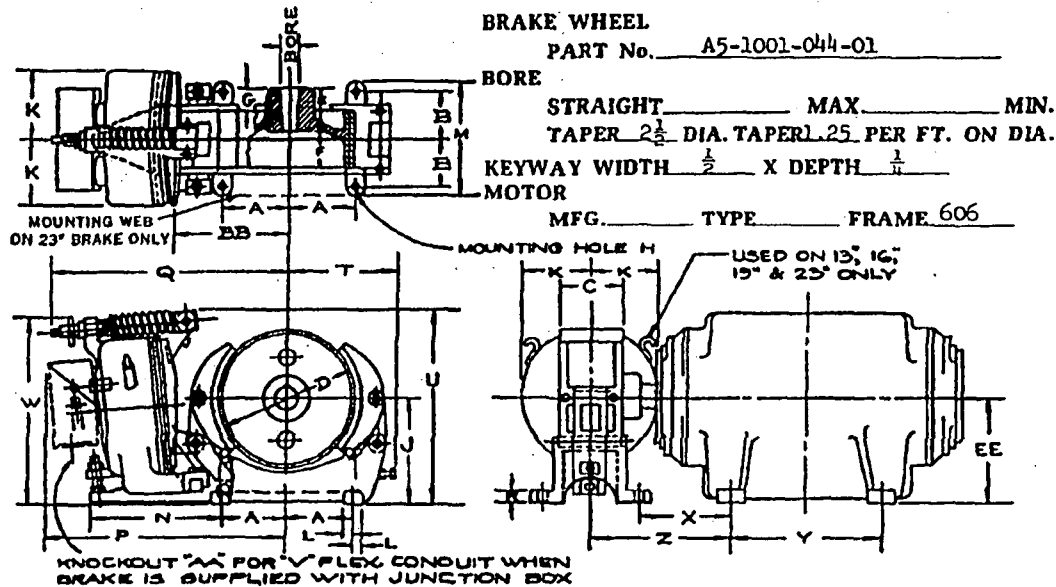
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



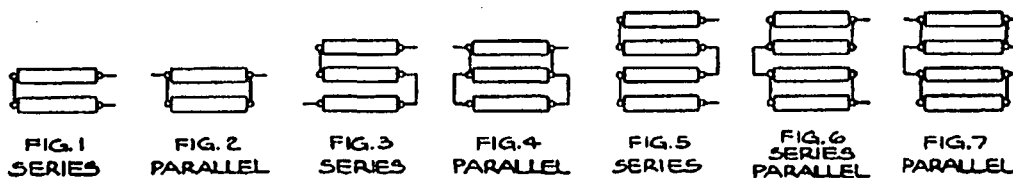
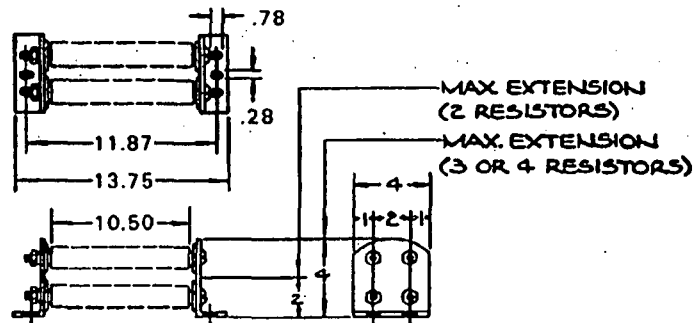
SIZE BRAKE	E	F	G	X	Y	Z	EE	
8"	4	1-5/8	2-3/8	6-5/8	21	9 1/2	10	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

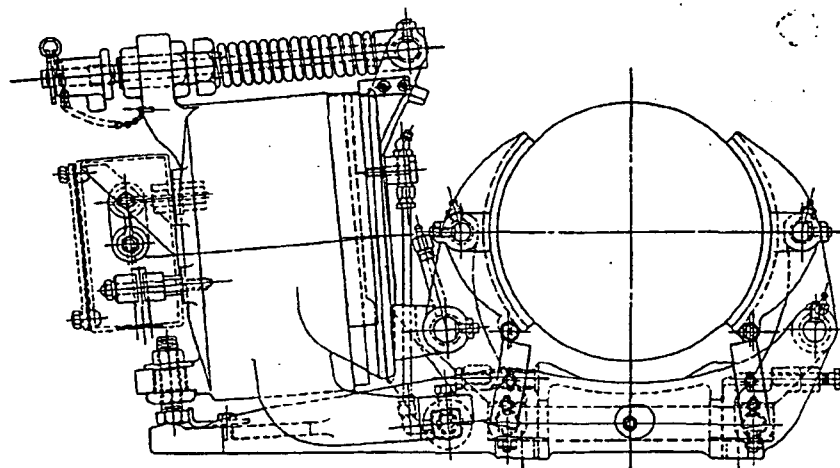
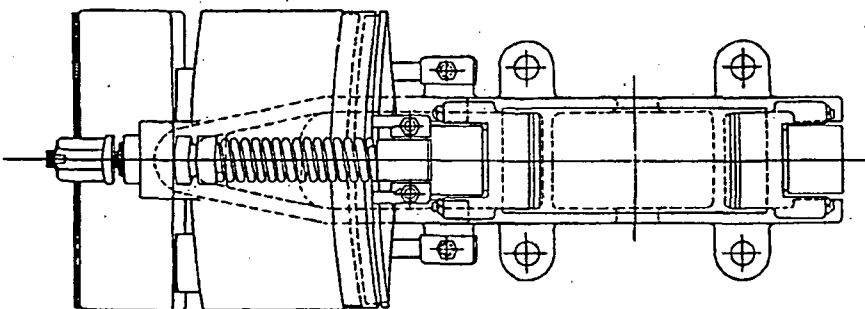
**OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"**
THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
BRAKE COIL.



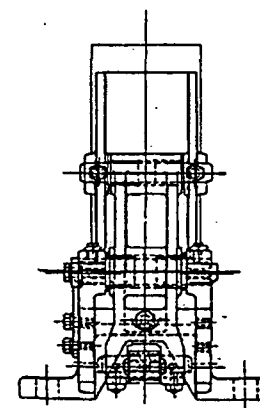
BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

SQD HCK00016

REV.	DATE	REVISION DESCRIPTION	BY
1	11-11-51	FOR COPIES AND CHARTS STOP BLANKET STAMP AND FOR THE DESIGNER'S SIGNATURE ONLY	GAH



GENERAL ARRANGEMENT
FOR S.M. DES. DRG. 71045



THE ELECTRIC CONTROLLER & MFG. CO.	
CLEVELAND, OHIO U.S.A.	
TITLE	1" TYPE 100 BRASS - 200 L.P.
DATE	MAY 1951
BY	W.E. BROWN
APPROVED	W.E. BROWN
DRG. NO. 71045	

DRG. 71045

UK-T

CD

BRAKE SIZE 13"
 AISE STD.
 MOTOR TYPE MILLTYPE
 ALL MFG'S.

MOTOR TYPE MILLTYPE
ALL MFG'S.

SQD HCK00017



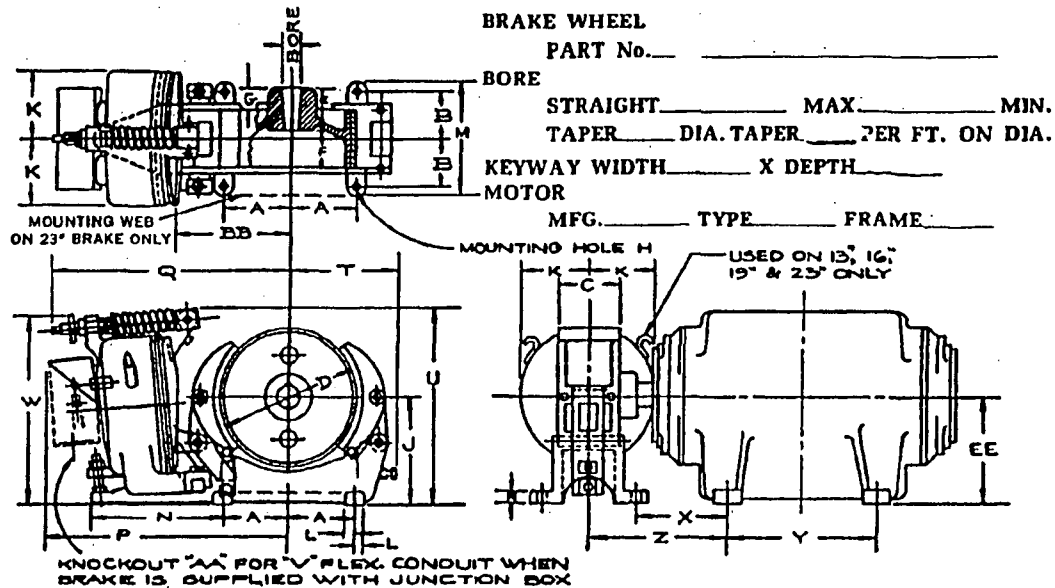
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.

Purch..... P. O.

User..... U. O.

Square D S. O. Engr.....

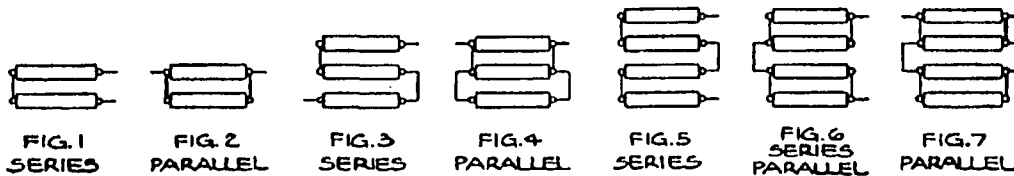
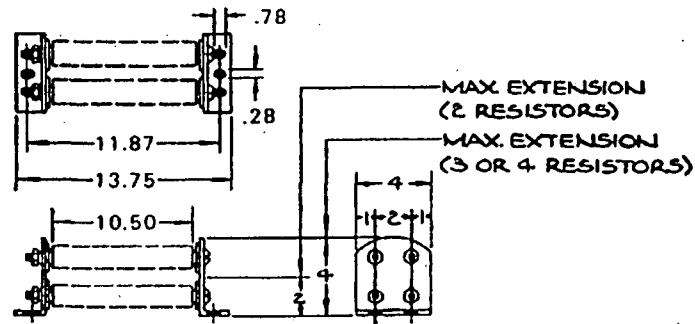
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00018

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



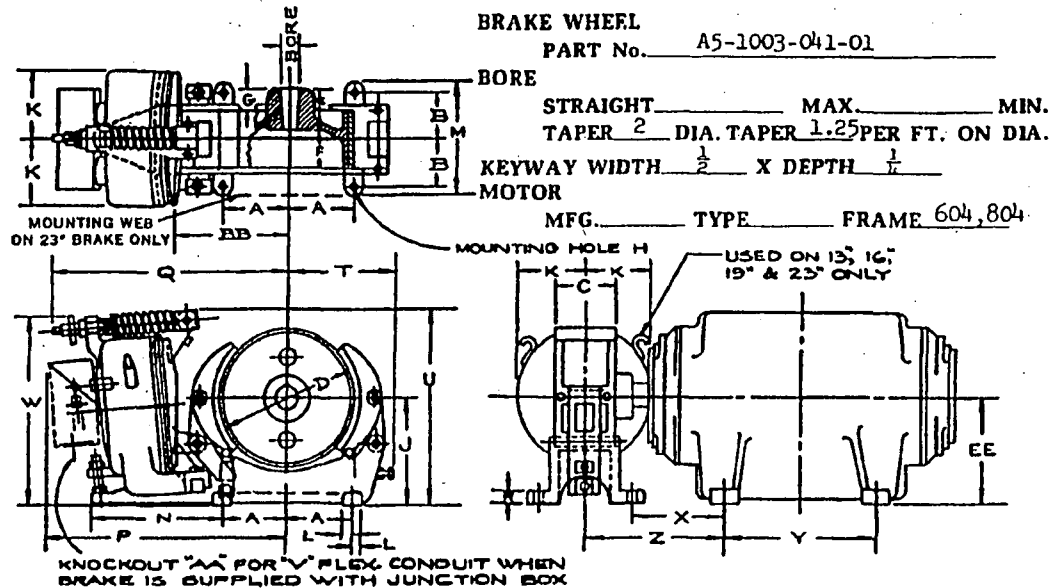
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	
13"	3 $\frac{1}{2}$	4-3/8	2-1/8	6	19	10 $\frac{1}{2}$	9	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.
 Purch..... P. O.
 User..... U. O.
 Square D S. O. Engr.....

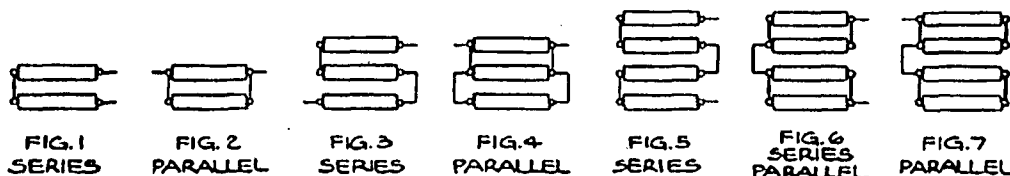
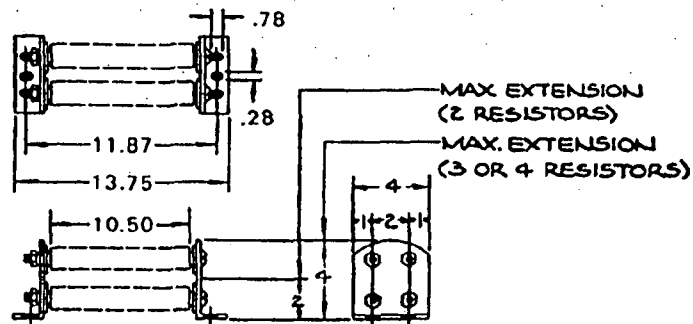
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00020

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



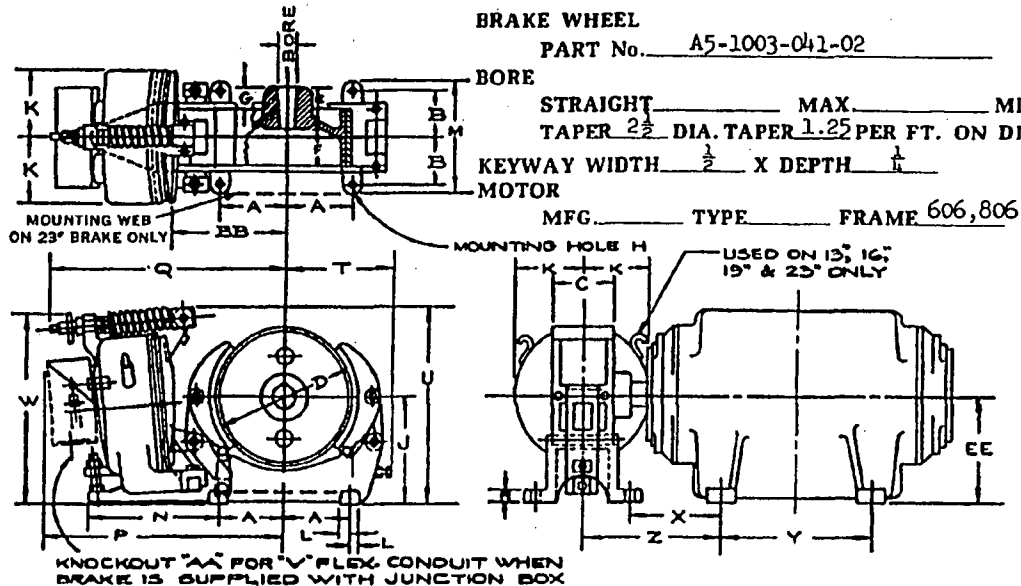
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	
13"	4	3-7/8	2-1/8	6	21	10 1/2	10	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	.7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00022

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.

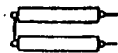
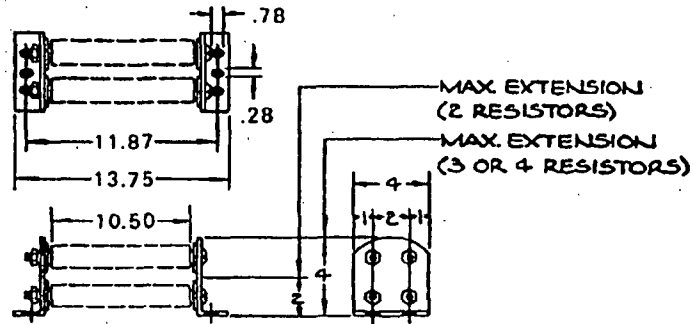


FIG. 1
SERIES

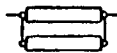


FIG. 2
PARALLEL



FIG. 3
SERIES

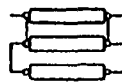


FIG. 4
PARALLEL

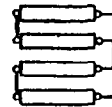


FIG. 5
SERIES

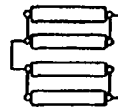


FIG. 6
SERIES
PARALLEL

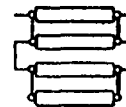


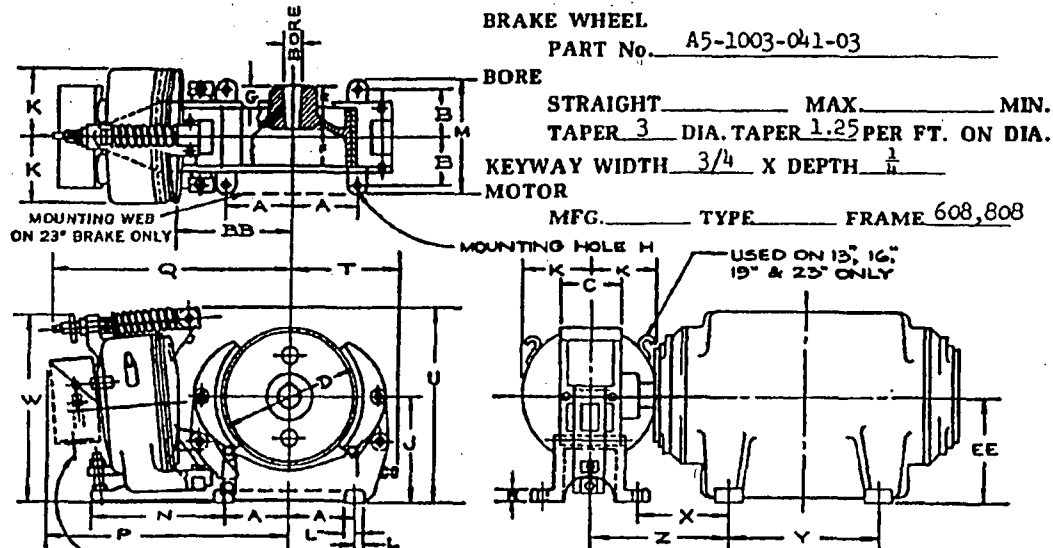
FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



AISE TYPE WB BRAKES

(All dimensions in inches)


KNOCKOUT "AA" FOR "V" FLEX. CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	4 1/2	3-3/4	2 1/2	6 1/2	24-3/4	11	11 1/4

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

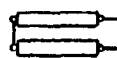
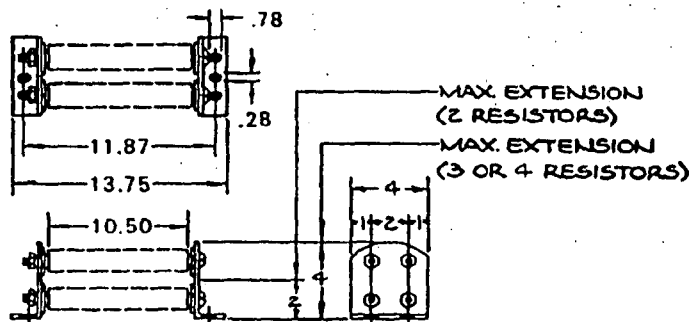


FIG. 1
SERIES

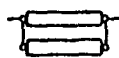


FIG. 2
PARALLEL

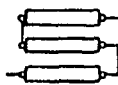


FIG. 3
SERIES

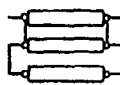


FIG. 4
PARALLEL

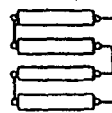


FIG. 5
SERIES

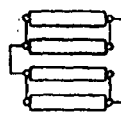


FIG. 6
SERIES
PARALLEL

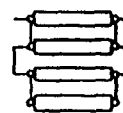


FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

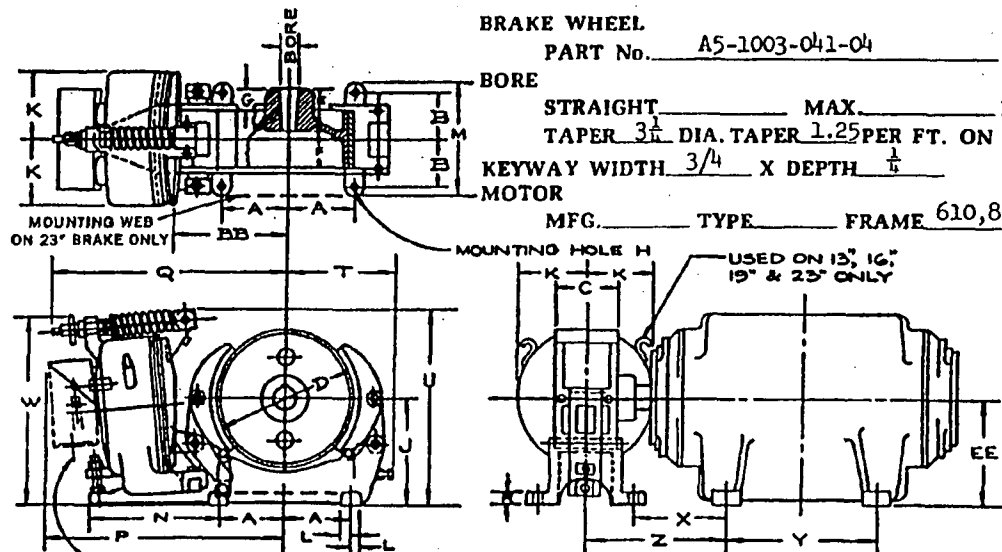
(All dimensions in inches)

BRAKE WHEELPART No. A5-1003-041-04**BORE**

STRAIGHT _____ MAX. _____ MIN.

TAPER $\frac{3}{16}$ DIA. TAPER 1.25 PER FT. ON DIA.KEYWAY WIDTH $\frac{3}{4}$ X DEPTH $\frac{1}{8}$ **MOTOR**

MFG. _____ TYPE _____ FRAME 610,810

KNOCKOUT "AA" FOR V-FLEX CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	4 $\frac{1}{2}$	3-3/4	2 $\frac{1}{2}$	7-1/8	26	11-5/8	12 $\frac{1}{4}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

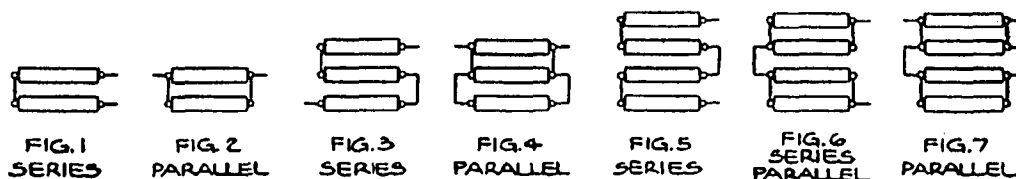
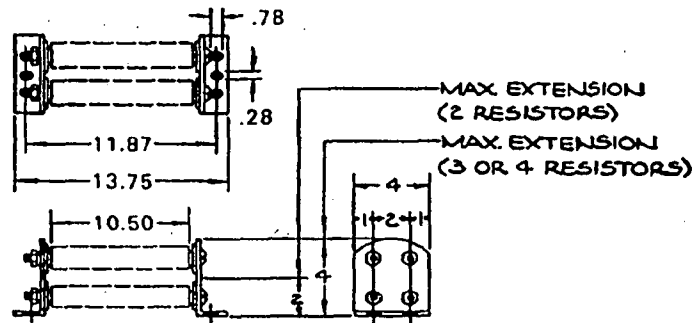
Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

C. A. SCHURR, Chief Engineer


OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



OUTLINE DRAWING

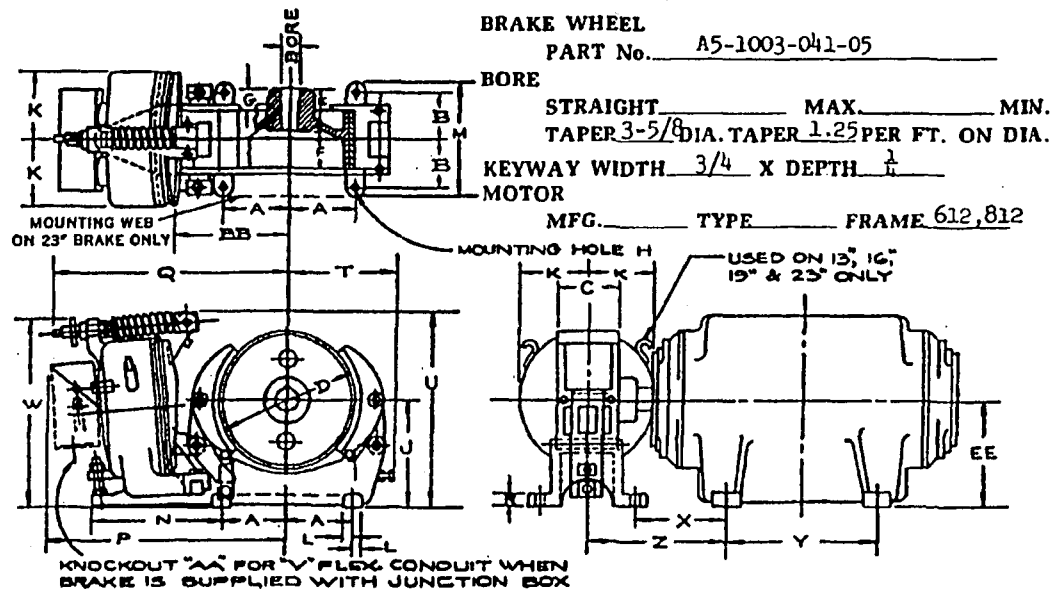
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November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	5	3 1/4	2 1/2	7-5/8	28 1/2	12-1/8	13-3/8

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

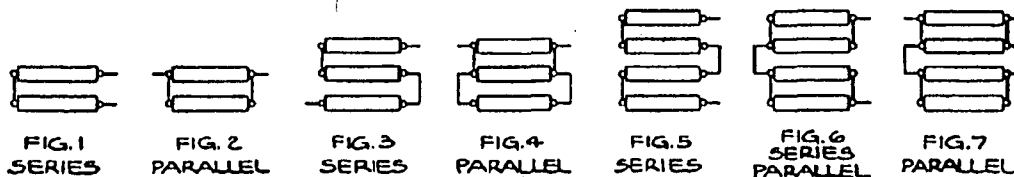
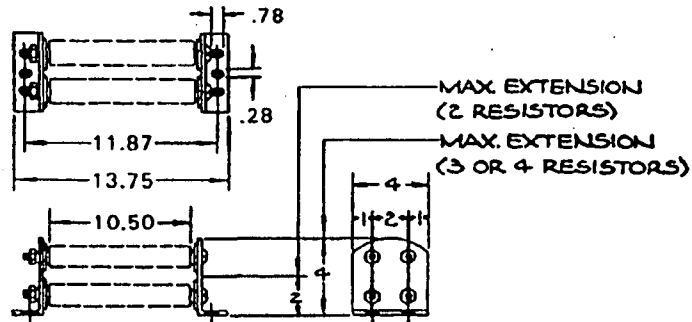
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00028

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23". THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



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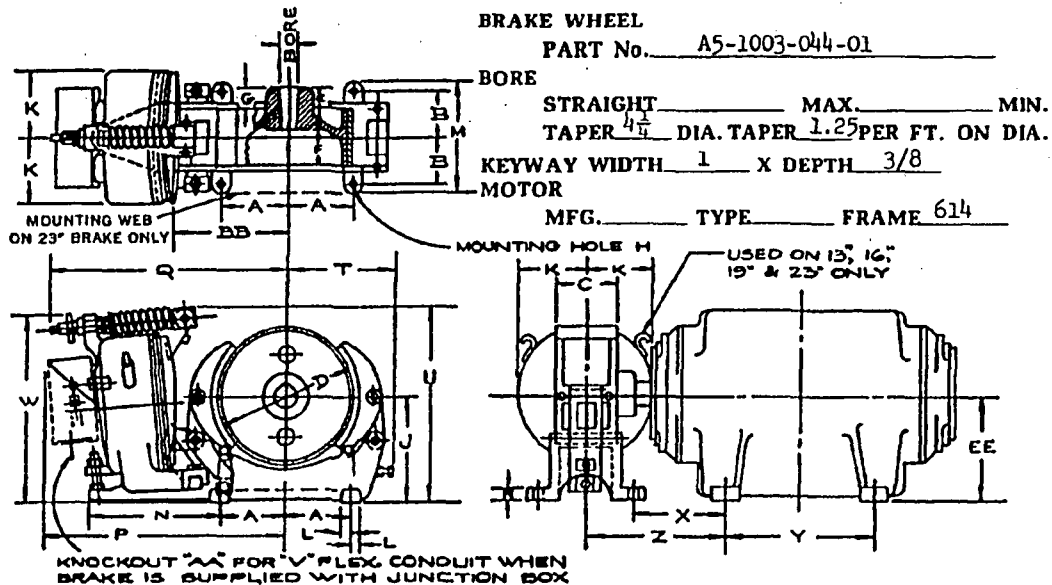
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	5	$3\frac{1}{4}$	$2\frac{1}{2}$	$8\frac{5}{8}$	16	$13\frac{1}{8}$	$14\frac{3}{4}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	.8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	1.0	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	1.3	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	1.6	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	1.9	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	2.3	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.

Purch..... P. O.

User..... U. O.

Square D S. O. Engr.....

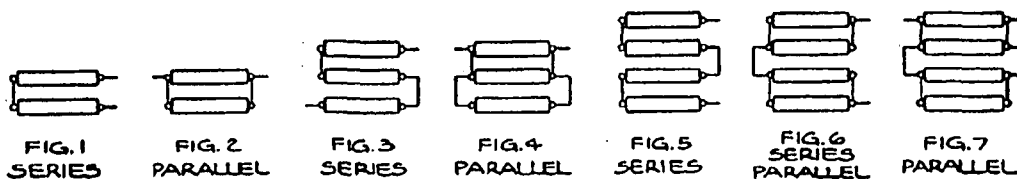
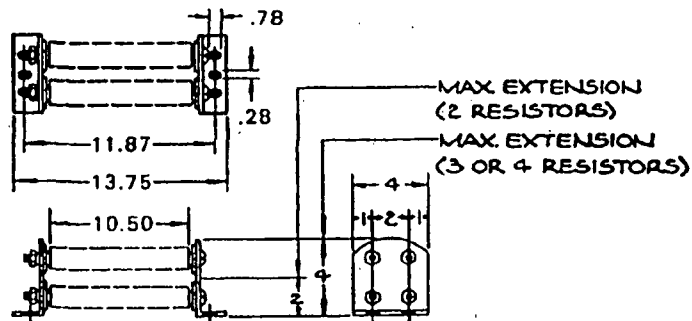
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00030

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



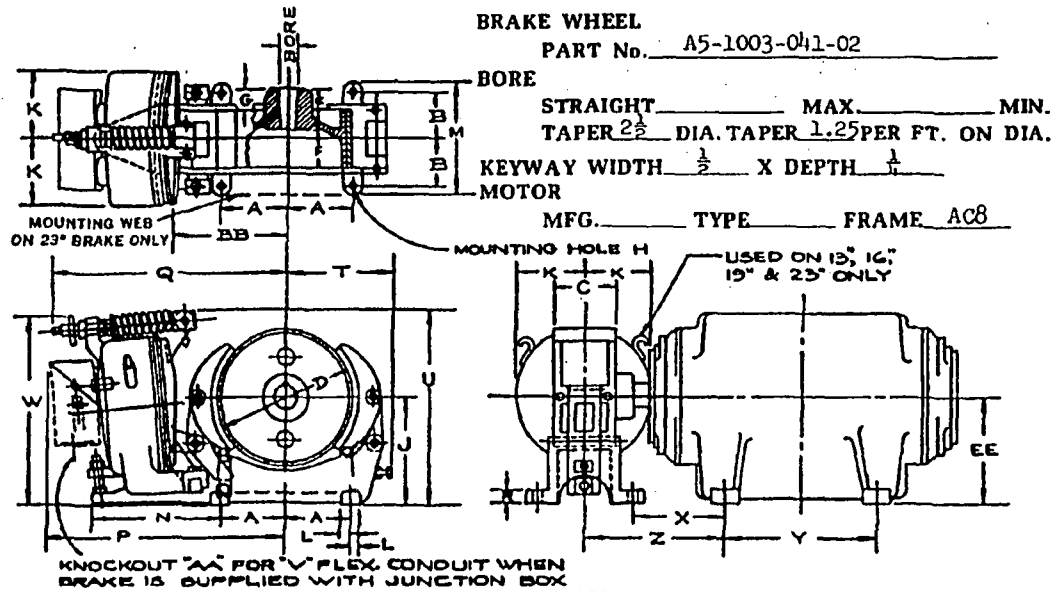
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	
13"	4	3-7/8	2-1/8	7-1/8	18-7/8	11-5/8	9	

SIZE BRAKE	A	B	C	D	H DIA	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

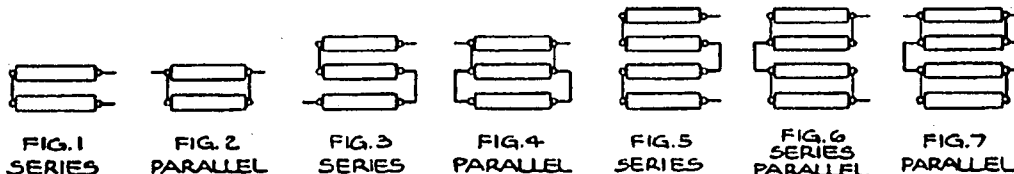
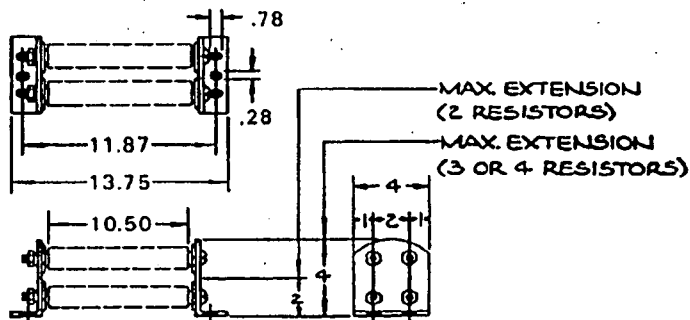
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes DD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00032

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



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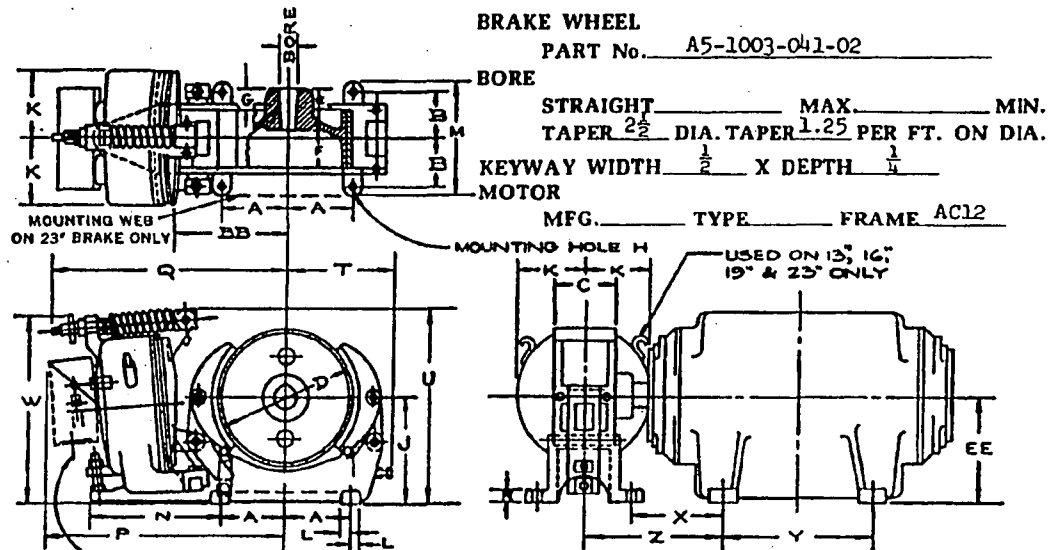
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)

KNOCKOUT "AA" FOR "V" FLEX CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE	
13"	4	3-7/8	2-1/8	7-7/8	20 1/4	12-3/8	10	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00034

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

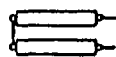
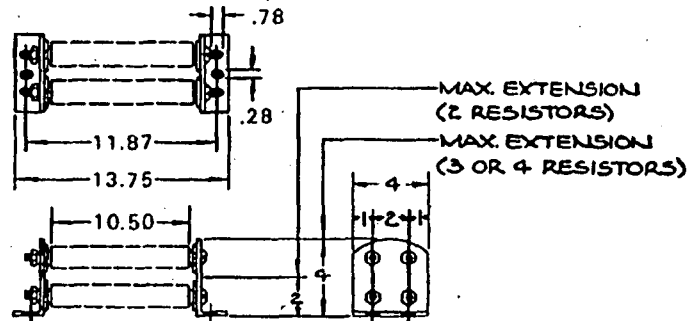


FIG. 1
SERIES

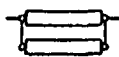


FIG. 2
PARALLEL



FIG. 3
SERIES



FIG. 4
PARALLEL



FIG. 5
SERIES

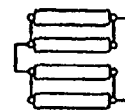


FIG. 6
SERIES
PARALLEL

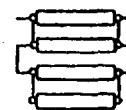


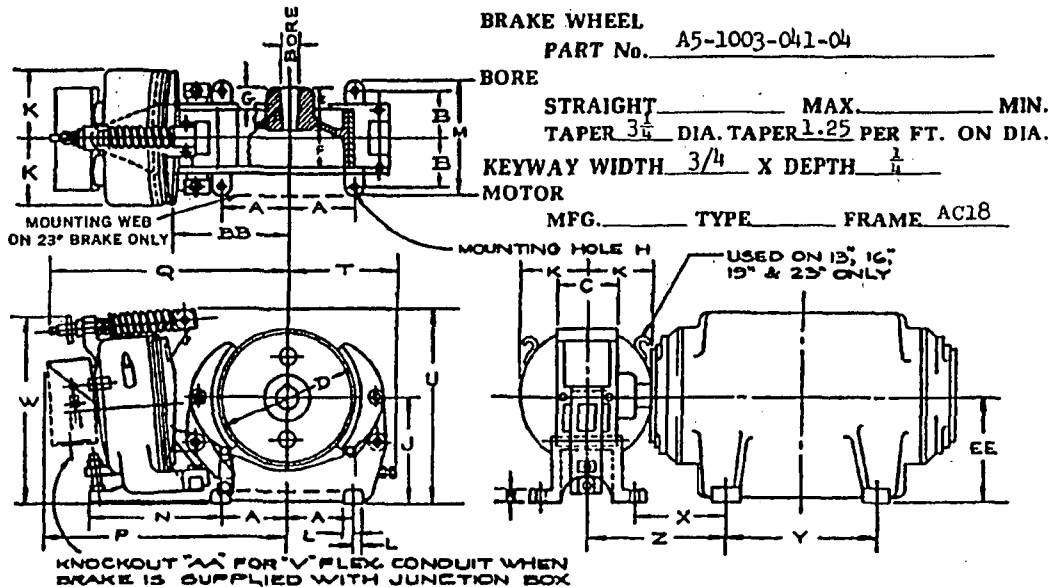
FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



AISE TYPE WB BRAKES

(All dimensions in inches)



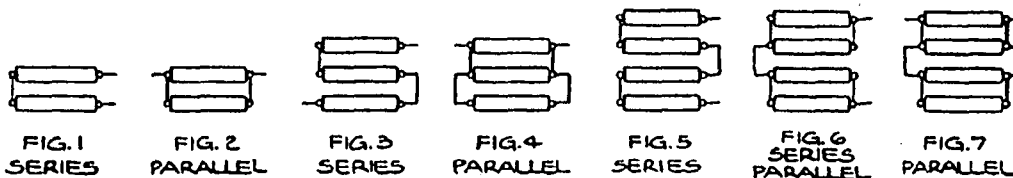
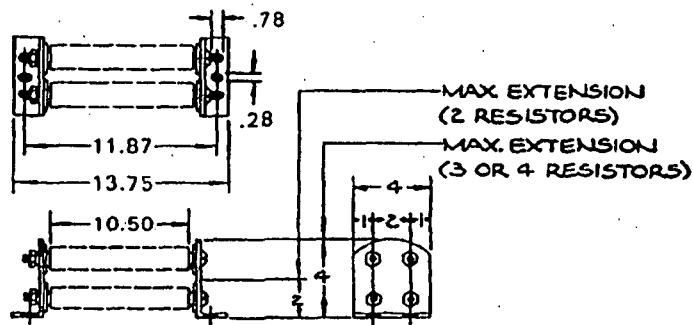
SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	4 $\frac{1}{2}$	3-3/4	2 $\frac{1}{2}$	9-27/32	25-3/4	14-11/32	12 $\frac{1}{2}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



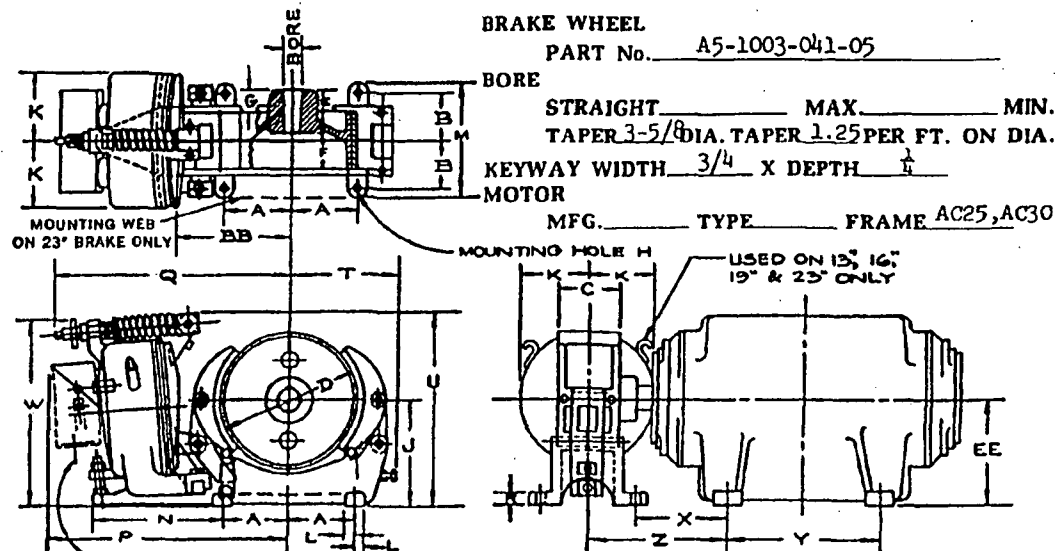
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



KNOCKOUT "AA" FOR "V" FLEX CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE
13"	5	3 $\frac{1}{4}$	2 $\frac{1}{2}$	11-5/16	30 $\frac{1}{2}$	15-13/16	14 $\frac{1}{2}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

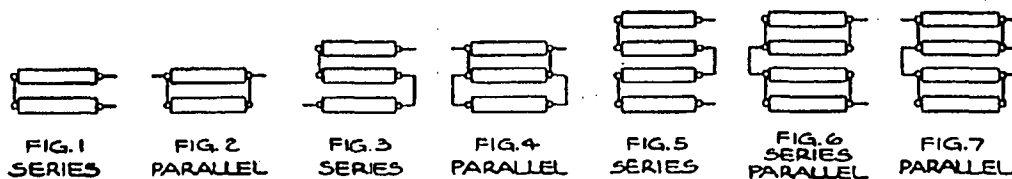
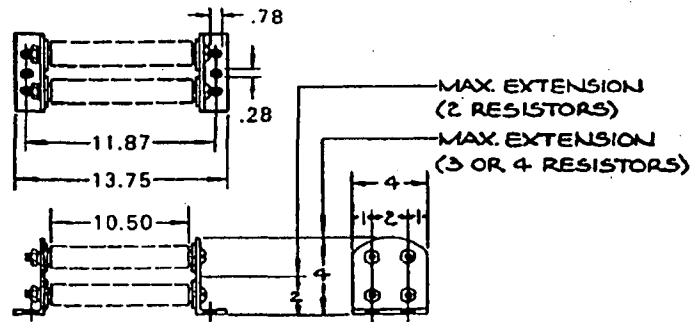
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00038

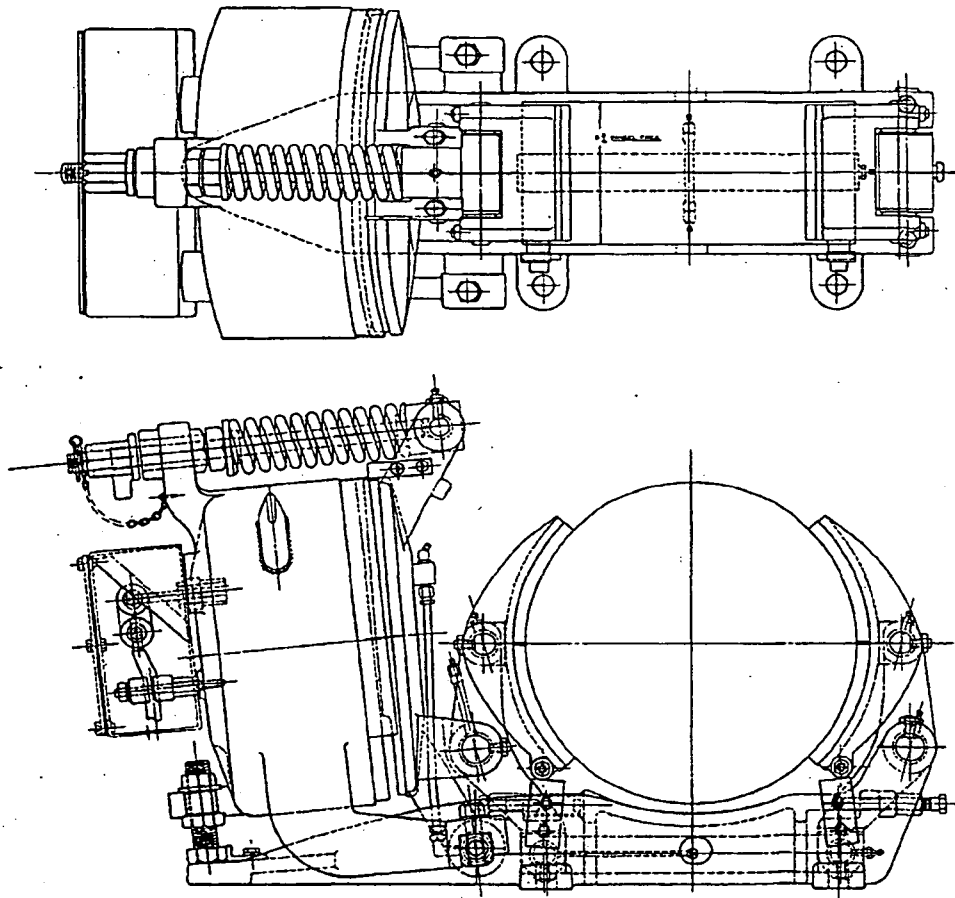
OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



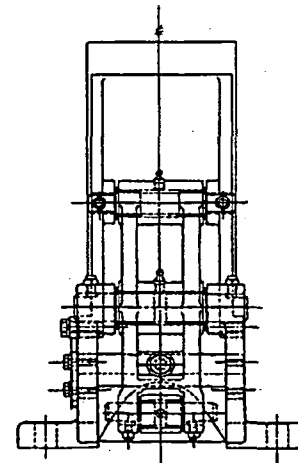
BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

C15

UK-T

SHEET
OF 1

GENERAL ARRANGEMENT
VIEWED FROM ALL SIDE TOP



THE ELECTRIC CONTROLS & MFG. CO.
BOSTON, MASS. U.S.A.
THIS DRAWING IS BASED ON CHINA
TYPE DATA
ALL DIMENSIONS ARE IN INCHES
UNLESS OTHERWISE SPECIFIED
71097
DRG. 71097

SOD HCK00040

BRAKE SIZE 16"
 RISE STD.
 MOTOR TYPE MILLTYPE
 ALL MFG'S.

MOTOR TYPE MILLTYPE
ALL MFG'S.

SQD HCK00041



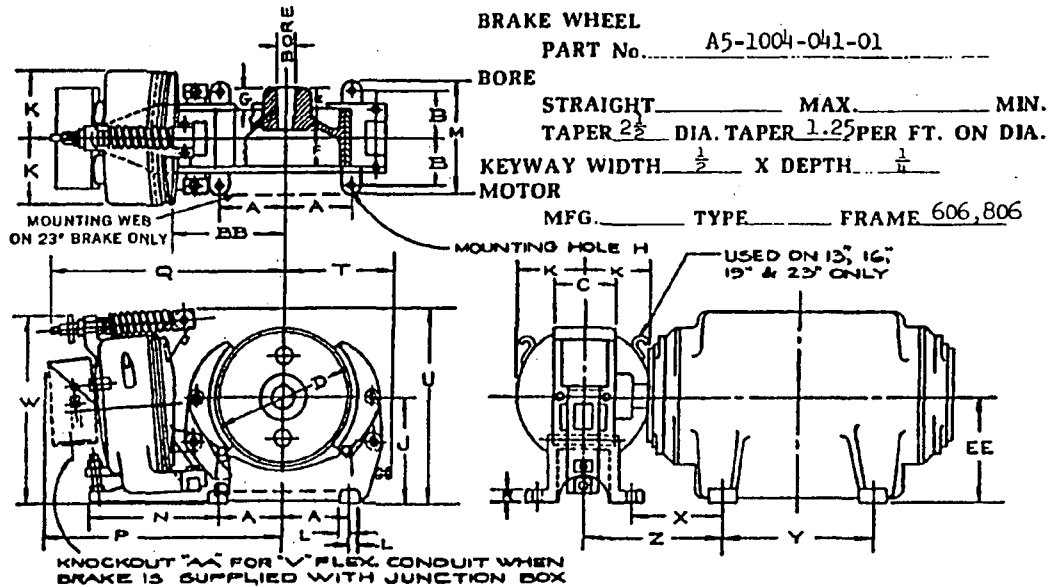
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



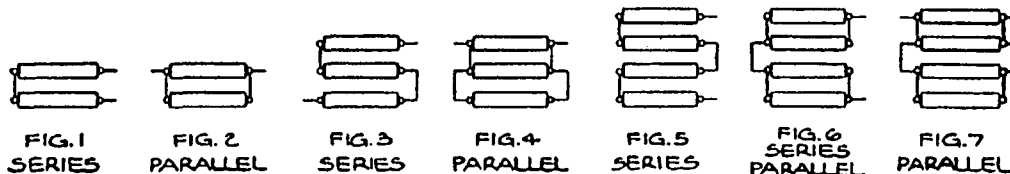
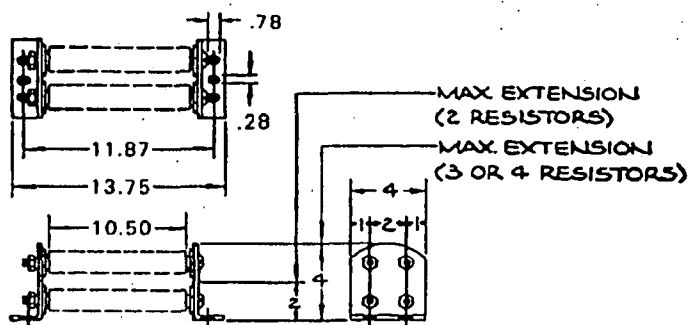
SIZE BRAKE	E	F	G	X	Y	Z	EE	
16"	4	5-7/8	3-1/8	6-5/8	21	12	10	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

**OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"**
THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



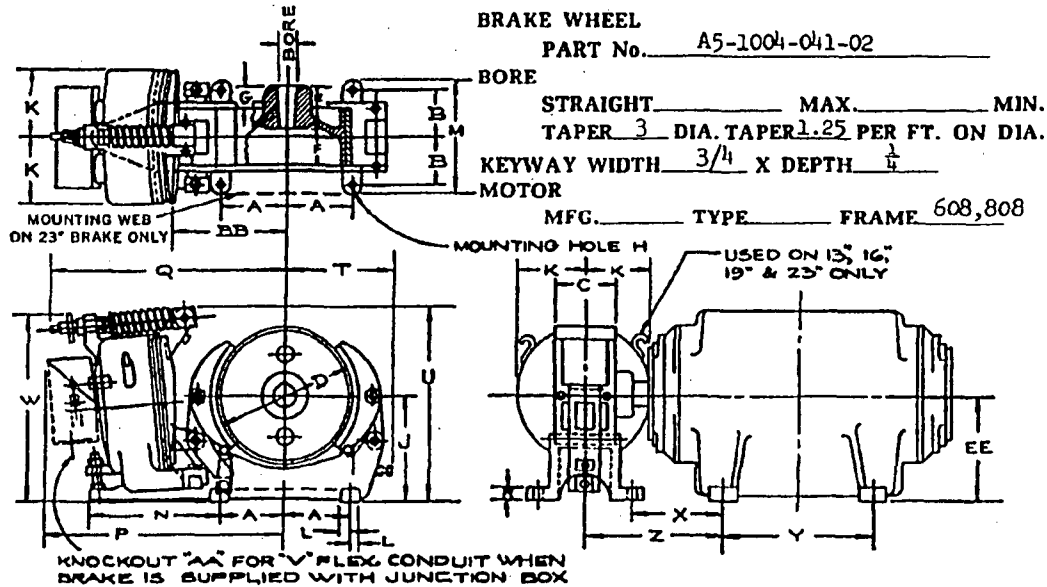
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	4 1/2	5-3/8	3-1/8	6-3/4	24-3/4	12-1/8	11 1/4

SIZE BRAKE	A	B	C	D	H DIA.	I	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
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C. A. Schurr
 C. A. SCHURR, Chief Engineer

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

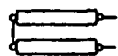
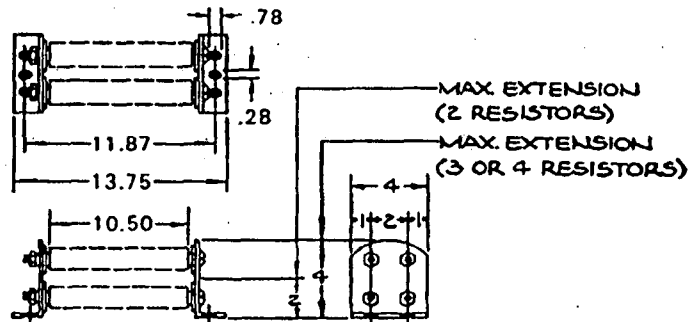


FIG. 1
SERIES

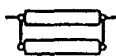


FIG. 2
PARALLEL



FIG. 3
SERIES

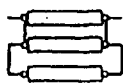


FIG. 4
PARALLEL

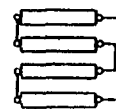


FIG. 5
SERIES

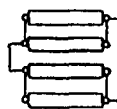


FIG. 6
SERIES
PARALLEL

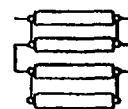


FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



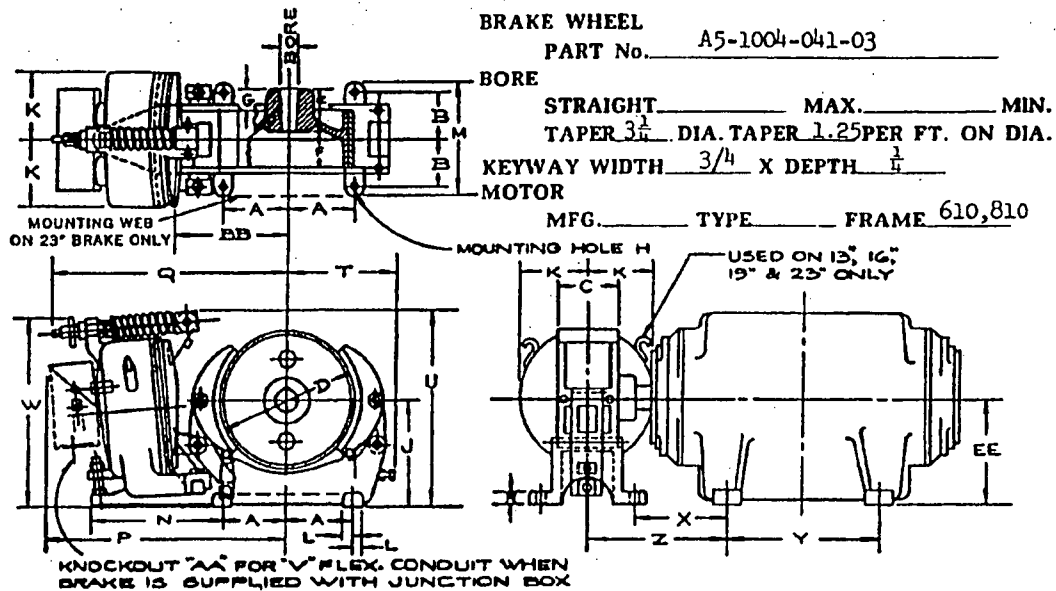
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	4 $\frac{1}{2}$	5-3/8	3-1/8	7-3/8	26	12-3/4	12 $\frac{1}{4}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

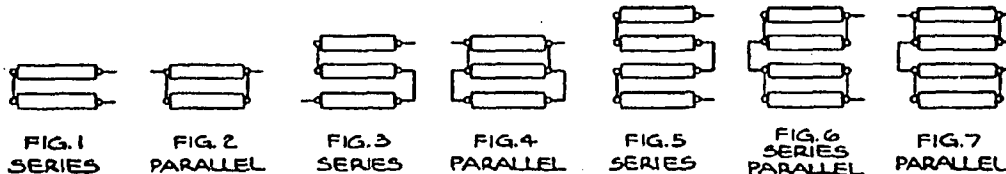
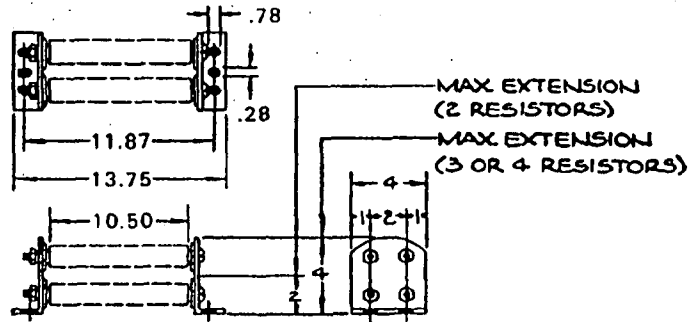
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00046

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



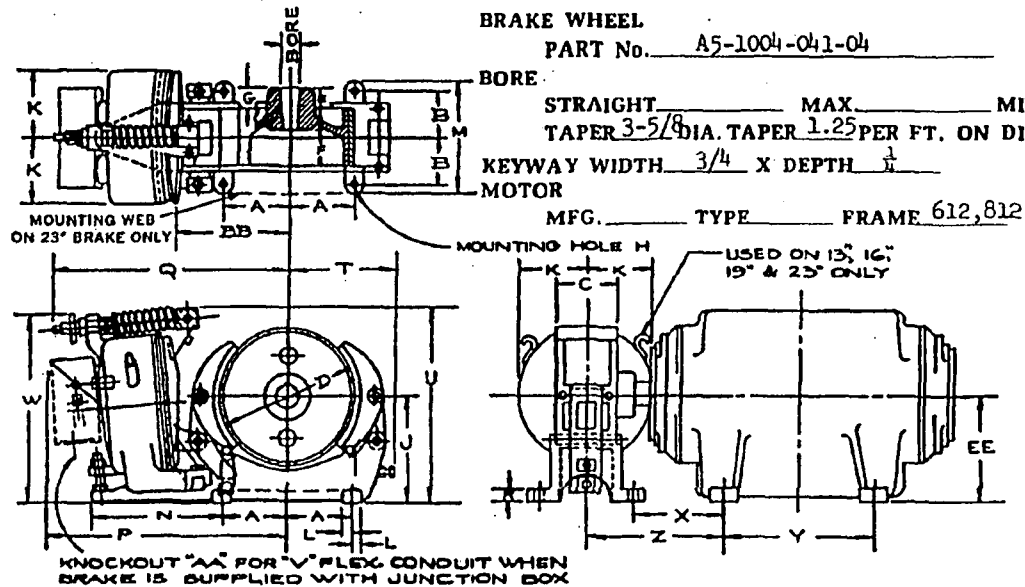
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	5	4-7/8	3-1/8	7-7/8	28 1/2	13 1/4	13-3/8

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

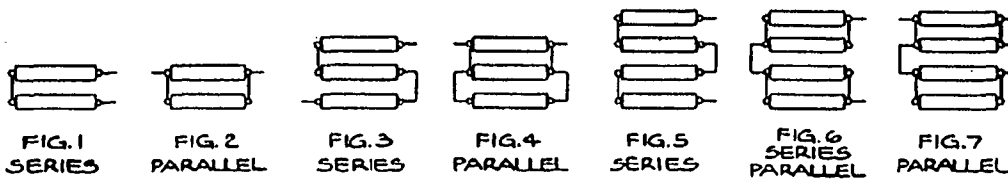
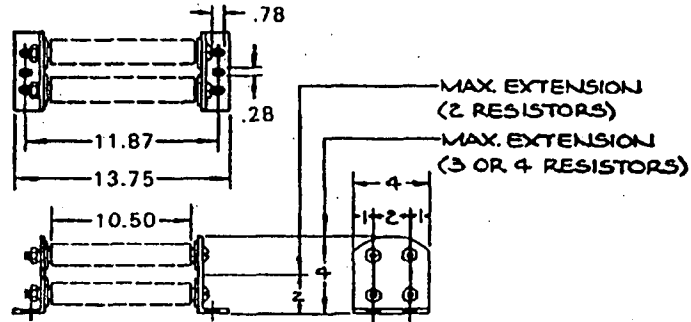
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00048

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



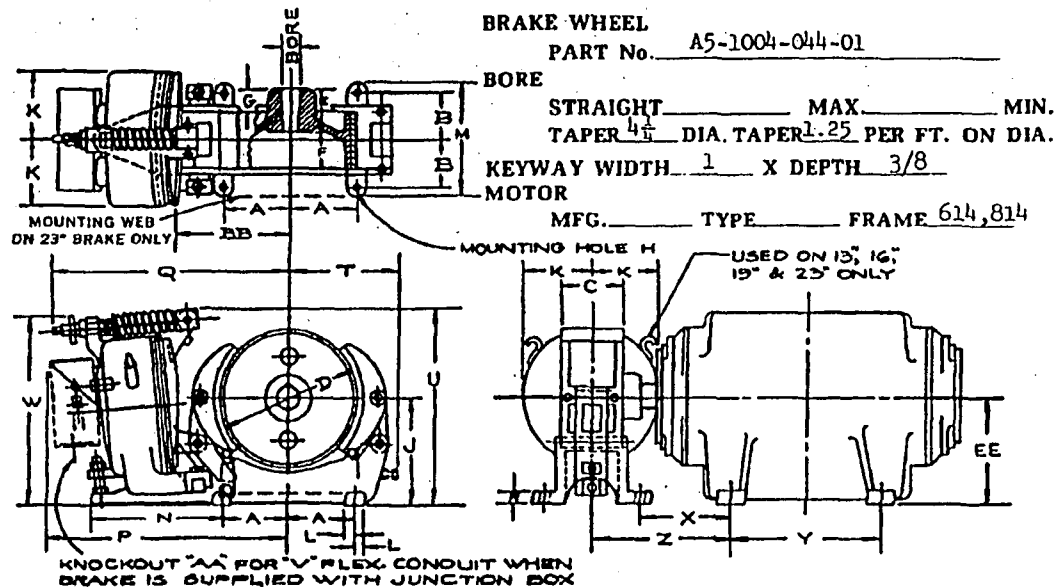
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	5	4-7/8	3-1/8	8-7/8	32	14 $\frac{1}{4}$	14-3/4

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes QD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00050

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23". THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

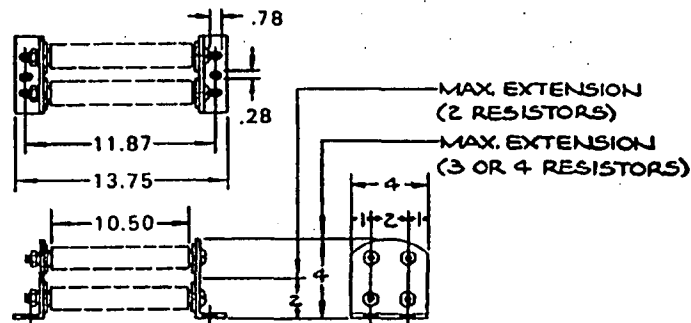


FIG. 1
SERIES

FIG. 2
PARALLEL

FIG. 3
SERIES

FIG. 4
PARALLEL

FIG. 5
SERIES

FIG. 6
SERIES
PARALLEL

FIG. 7
PARALLEL

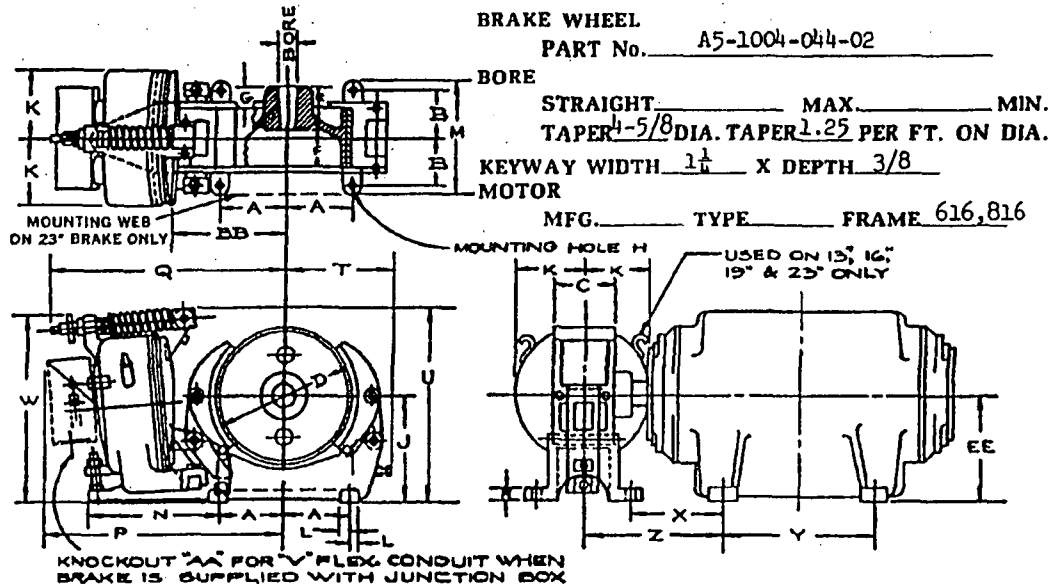
BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

OUTLINE DRAWING **5010-1**

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	5½	4-3/8	3-1/8	10-1/8	35	15½	16

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

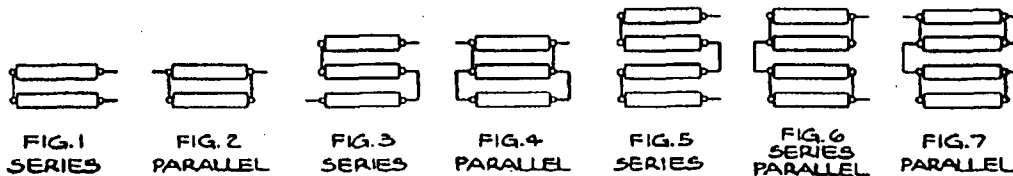
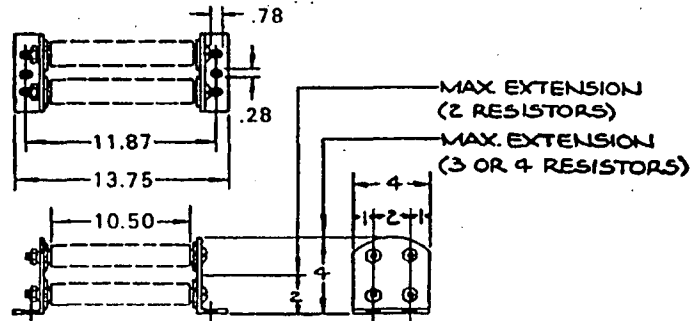
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00052

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



INDEX 16ST-7

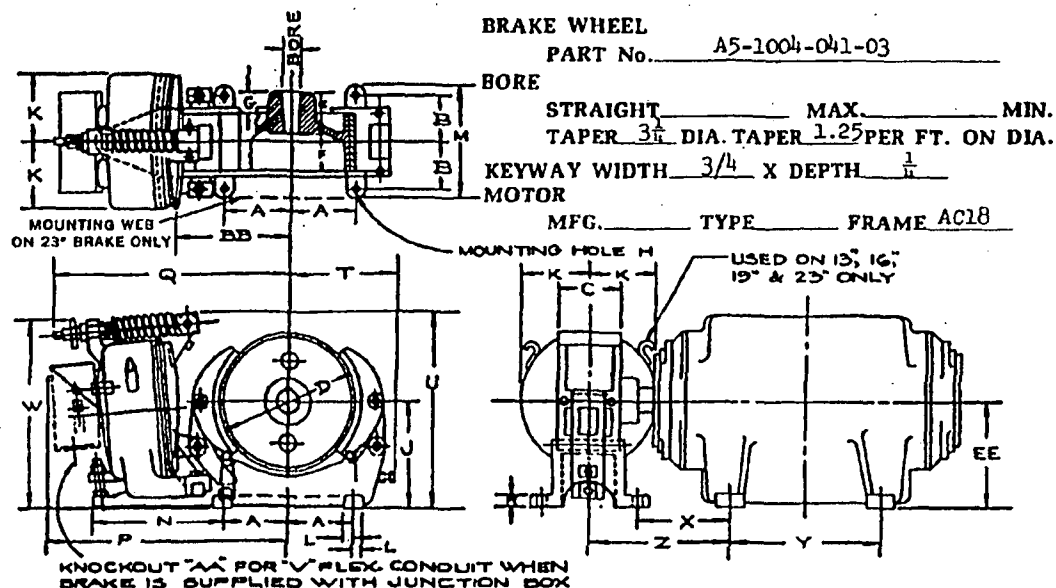
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	4 $\frac{1}{2}$	5-3/8	3-1/8	10-3/32	25-3/4	15-15/32	12 $\frac{1}{2}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

MADE
IN
U.S.A.**SQUARE D COMPANY**

SQD HCK00054

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

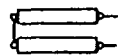
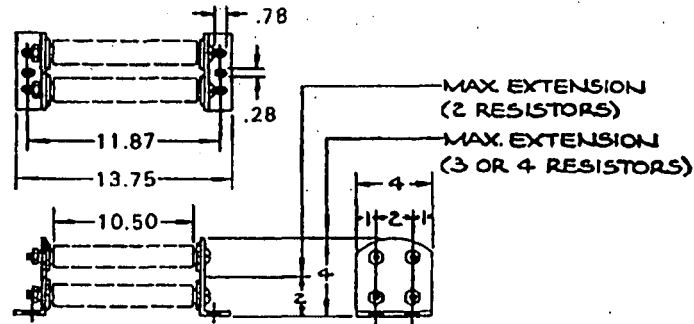


FIG. 1
SERIES

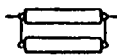


FIG. 2
PARALLEL



FIG. 3
SERIES

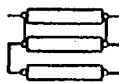


FIG. 4
PARALLEL

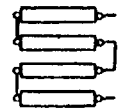


FIG. 5
SERIES

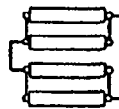


FIG. 6
SERIES
PARALLEL

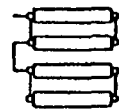


FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)

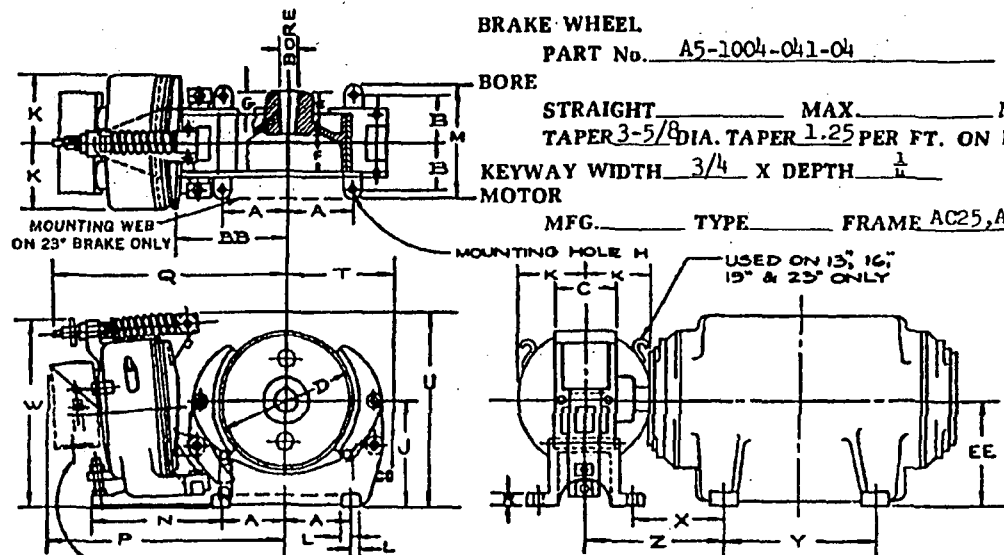
BRAKE WHEELPART No. A5-1004-041-04

BORE

STRAIGHT _____ MAX. _____ MIN.
TAPER $3-5/8$ DIA. TAPER 1.25 PER FT. ON DIA.KEYWAY WIDTH $3/4$ X DEPTH $1/4$

MOTOR

MFG. _____ TYPE _____ FRAME AC25, AC30

KNOCKOUT "AA" FOR V-FLEX CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE	
16"	5	4-7/8	3-1/8	11-9/16	30 1/2	16-15/16	14 1/2	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00056

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.

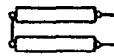
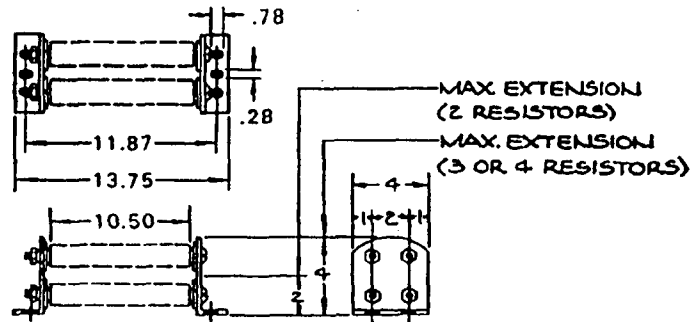


FIG. 1
SERIES

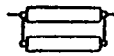


FIG. 2
PARALLEL



FIG. 3
SERIES

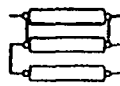


FIG. 4
PARALLEL

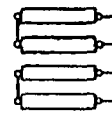


FIG. 5
SERIES

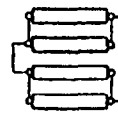


FIG. 6
SERIES
PARALLEL

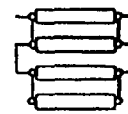


FIG. 7
PARALLEL

BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



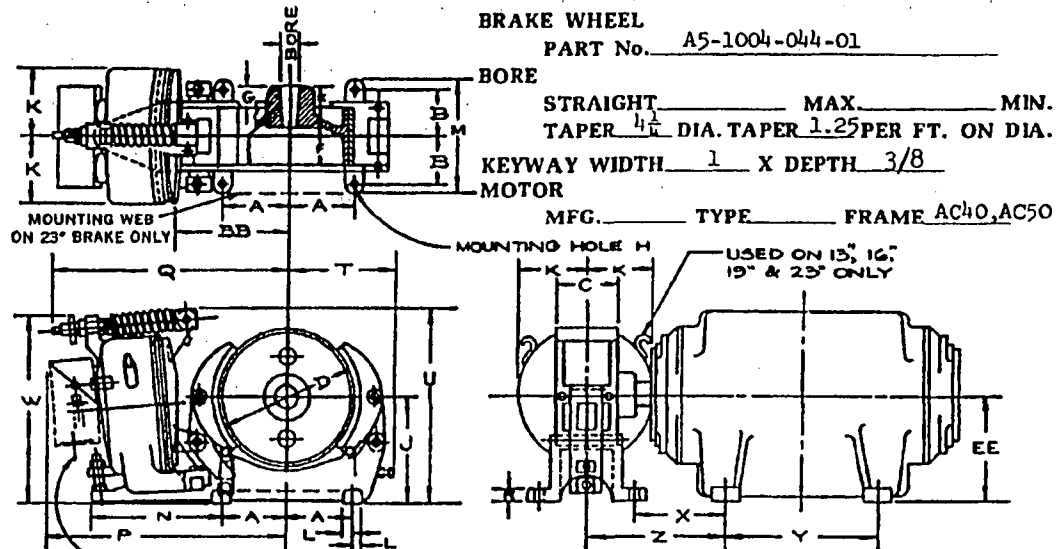
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



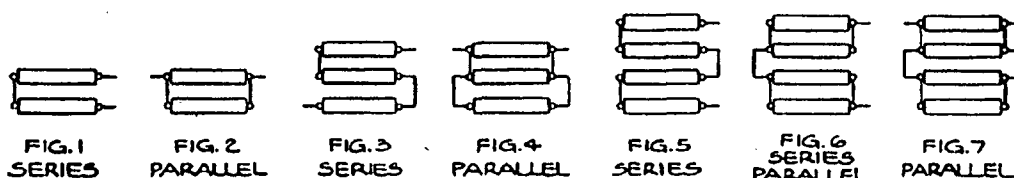
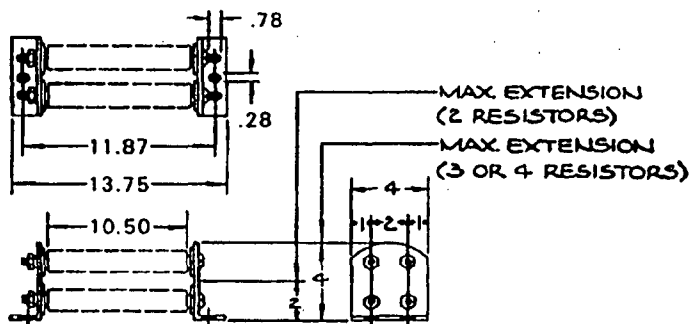
SIZE BRAKE	E	F	G	X	Y	Z	EE
16"	5	4-7/8	3-1/8	13-1/8	35-3/8	18 1/2	17

SIZE BRAKE	A	B	C	D	H DIA.	I	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

C. A. Schurr
 C. A. SCHURR, Chief Engineer

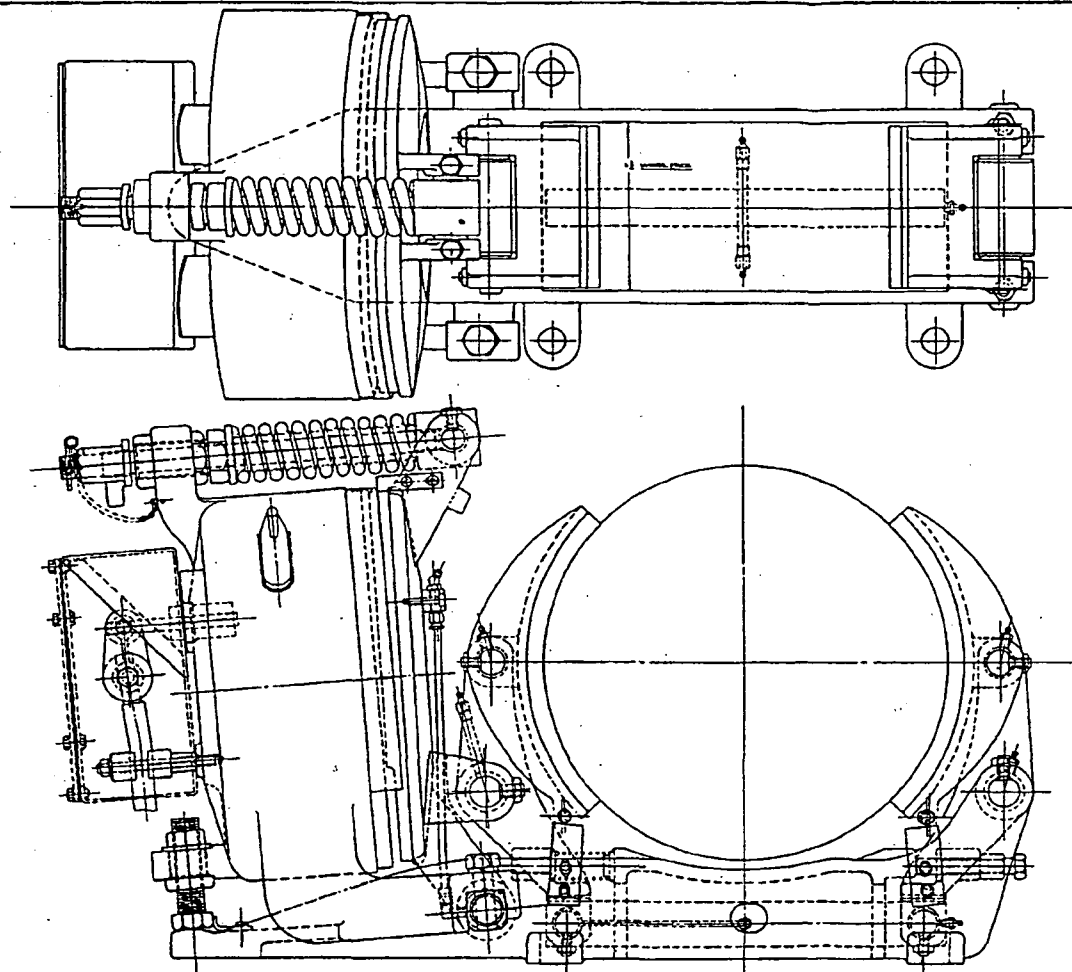
OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

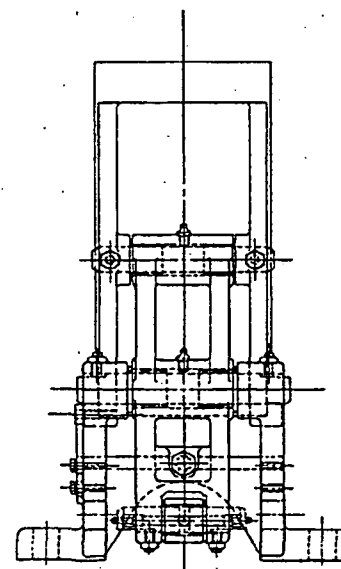
1151

UK-T FILE-66



GENERAL ARRANGEMENT
(SEE DRAWING OF INTERNALS, DRAWING 71123)

1:1000



SQUID & COMPANY ECLM Division
1000 10th Ave.
P.O. Box 1000, San Francisco, Calif. 94101
SOLE AGENTS
SQUID & COMPANY, INC. 1000 10th Ave., San Francisco, Calif. 94101
PHONE 777-1111 TEL. NO. 71123

DRG. 71123

SAD HCK00060

BRAKE SIZE 19"
 AISE STD.
 MOTOR TYPE MILLTYPE
 ALL MFG'S

MOTOR TYPE MILLTYPE
ALL MFG'S

SQD HCK00061



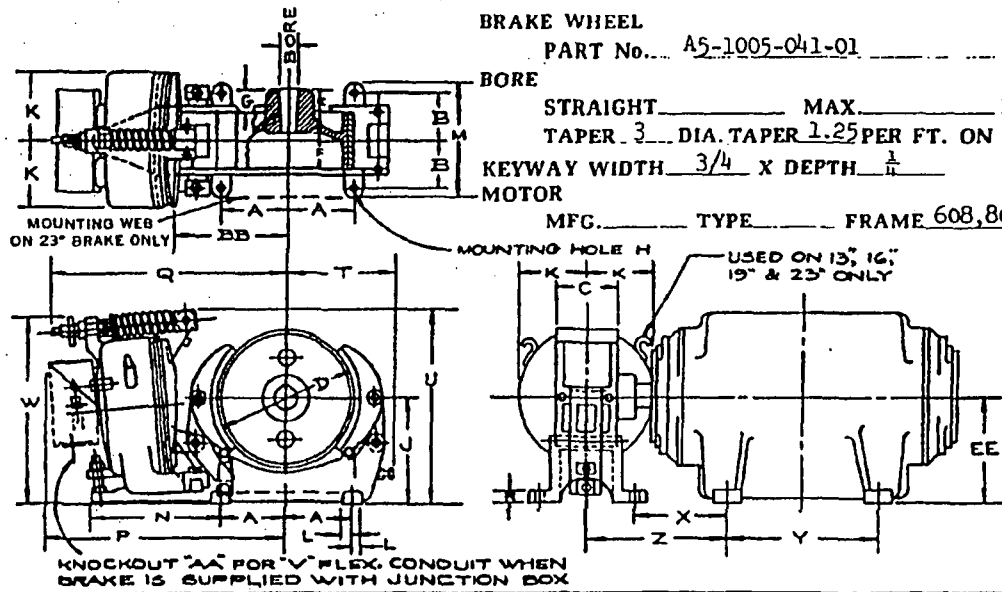
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)

BRAKE WHEELPART No. A5-1005-041-01**BORE**STRAIGHT _____ MAX. _____ MIN.
TAPER 3 DIA. TAPER 1.25 PER FT. ON DIA.KEYWAY WIDTH 3/4 X DEPTH 1/4**MOTOR**MFG. _____ TYPE _____ FRAME 608,808

SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	4 1/2	7-3/8	3-1/8	6-5/8	24-3/4	13-1/8	11 1/4

SIZE BRAKE	A	B	C	D	H DIA.	I	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.
 Purch..... P. O.
 User..... U. O.
 Square D S. O. Engr.

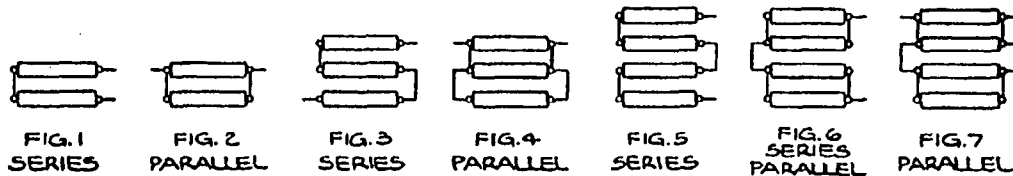
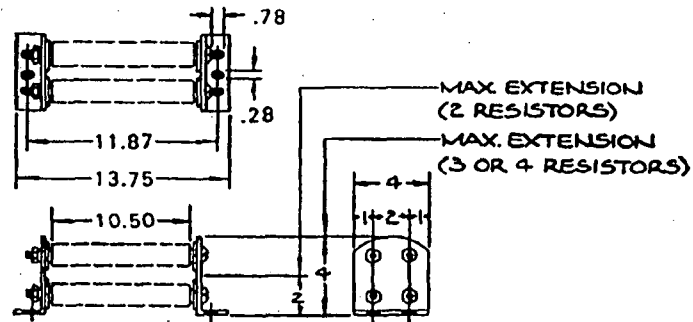
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQD HCK00062

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



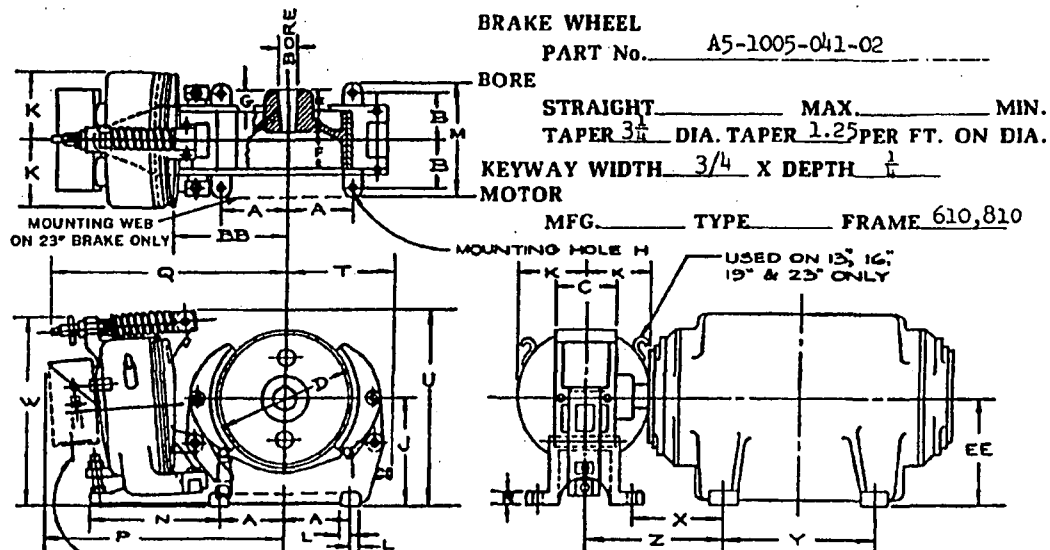
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	4 $\frac{1}{2}$	7-3/8	3-1/8	7 $\frac{1}{4}$	26	13-3/4	12 $\frac{1}{4}$

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
 Certified Correct on..... H. P.....
 Purch..... P. O.....
 User..... U. O.....
 Square D S. O..... Engr.....

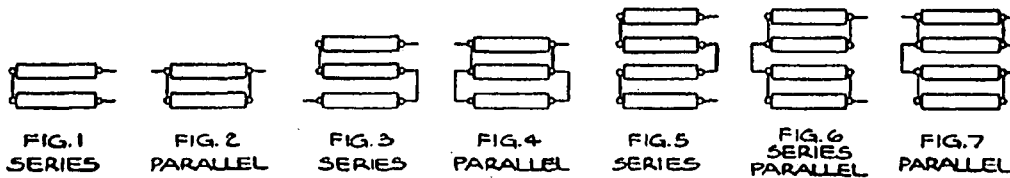
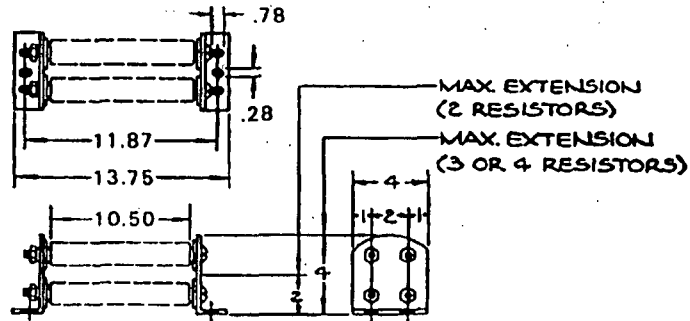
C. A. Schurr
 C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

**SQUARE D COMPANY**

SQD HCK00064

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



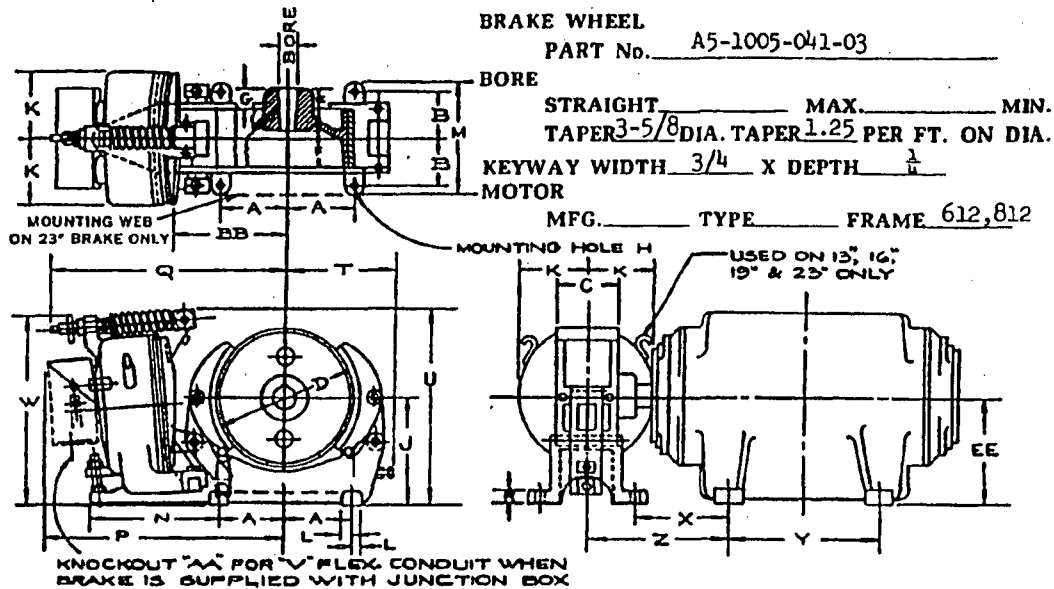
BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



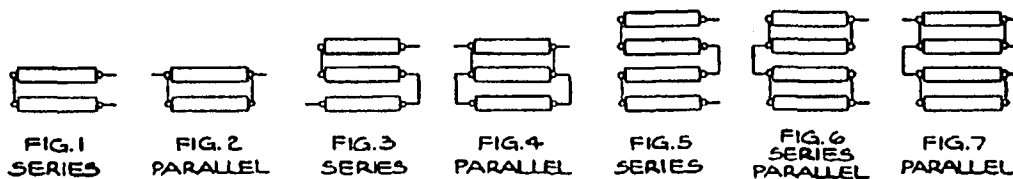
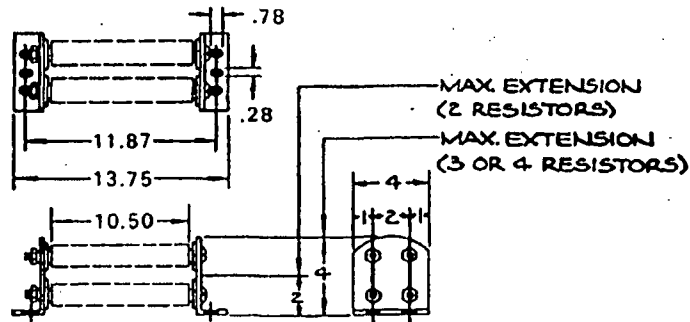
SIZE BRAKE	E	F	G	X	Y	Z	EE	
19"	5	6-7/8	3-1/8	7-3/4	28 1/2	14 1/4	13-3/8	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

C. A. Schurr
C. A. SCHURR, Chief Engineer

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



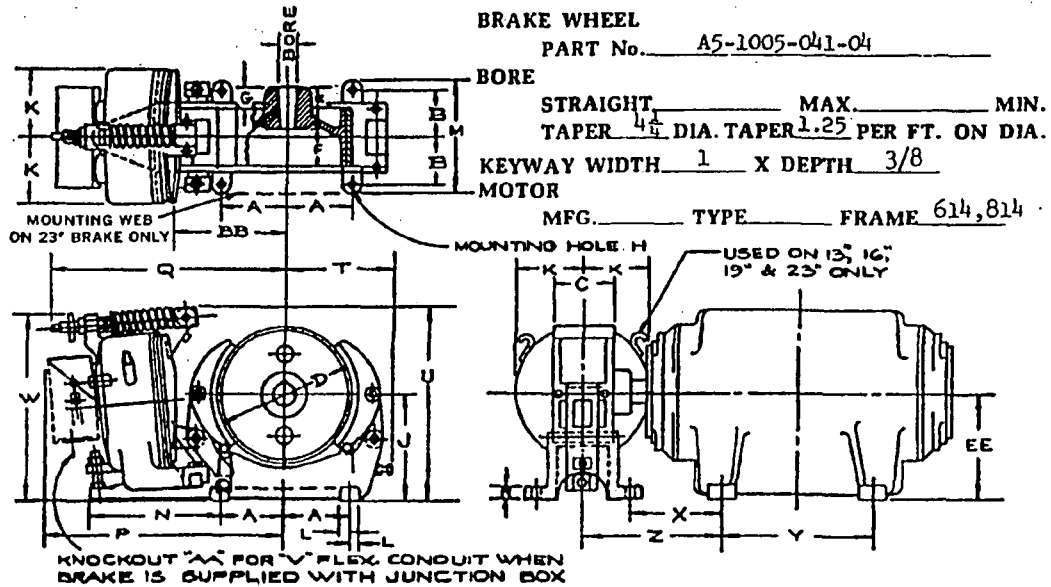
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	5	6-7/8	3-1/8	8-3/4	32	15 1/4	14-3/4

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.

Purch..... P. O.

User..... U. O.

Square D S. O. Engr.....

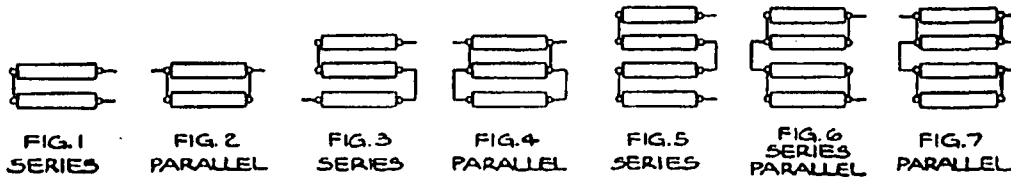
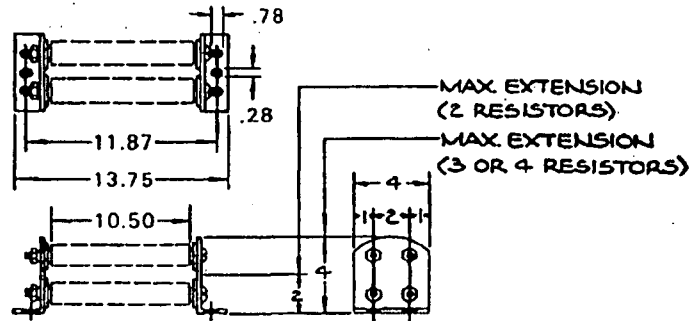
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARED
N.A.A.**SQUARE D COMPANY**

SQD HCK00068

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



INDEX 19ST-5

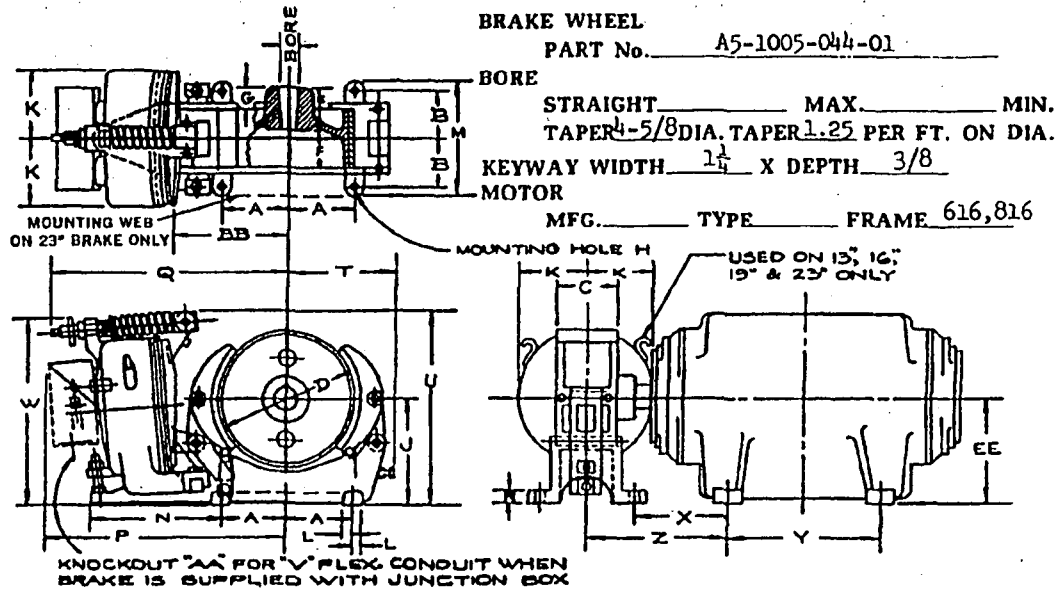
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	5 $\frac{1}{2}$	6-3/8	3-1/8	10	35	16 $\frac{1}{2}$	16

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

C. A. Schurr
C. A. SCHURR, Chief Engineer

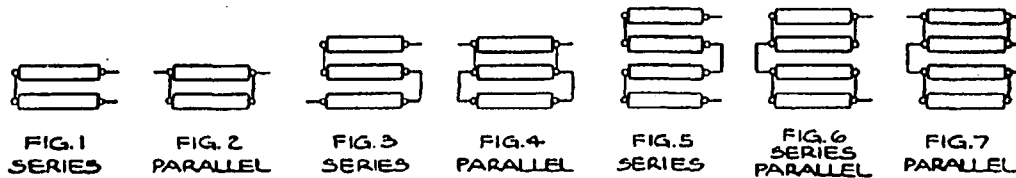
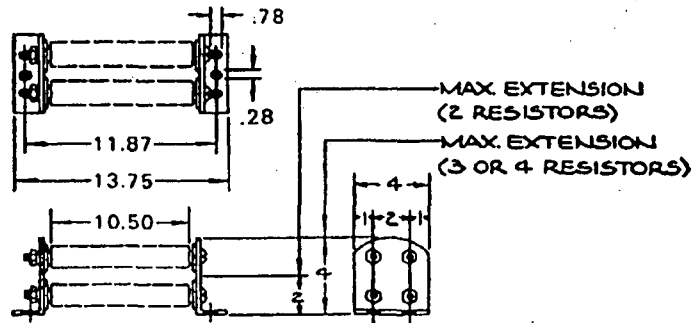
Supersedes OD 5010-1 Dated 3-70

PRINTED
IN
U.S.A.

SQUARE D COMPANY

SQD HCK00070

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23". THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5

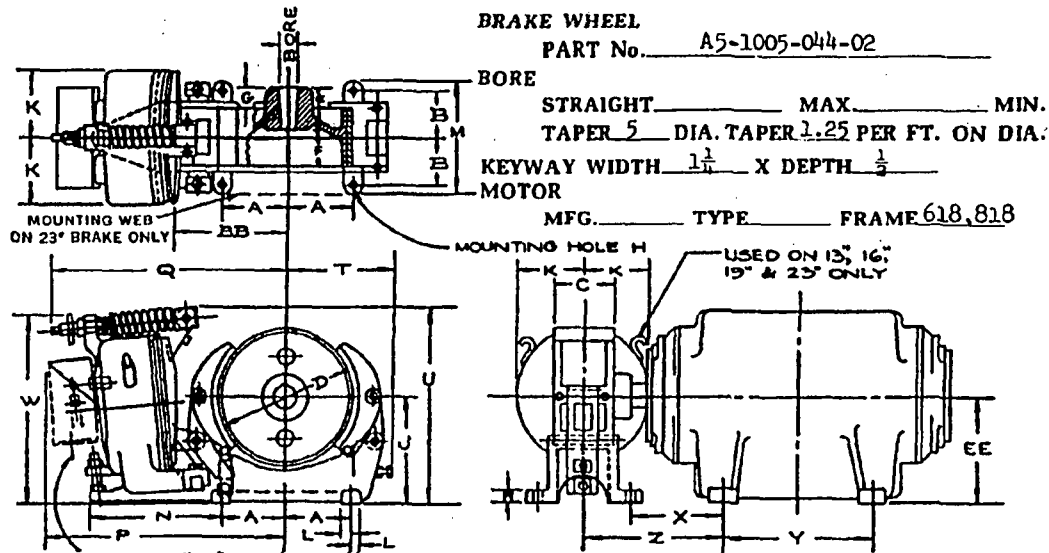


OUTLINE DRAWING 5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	6	5-7/8	3-1/8	9 1/2	39	16	17-3/4

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

C. A. Schurr
C. A. SCHURR, Chief Engineer

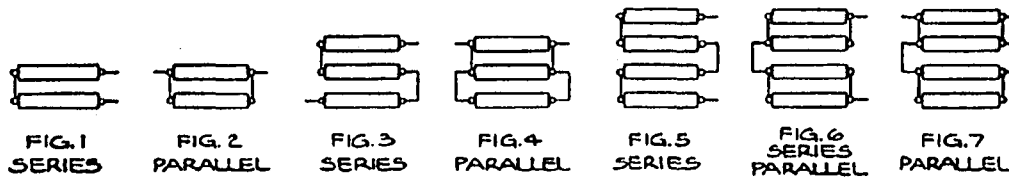
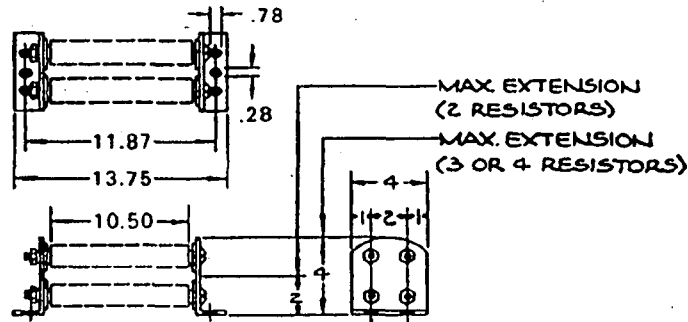
Supersedes OD 5010-1 Dated 3-70



SQUARE D COMPANY

SQD HCK00072

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS
 FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23"
 THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF
 OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE
 SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE
 BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)

BRAKE WHEEL

PART No. A5-1005-044-03

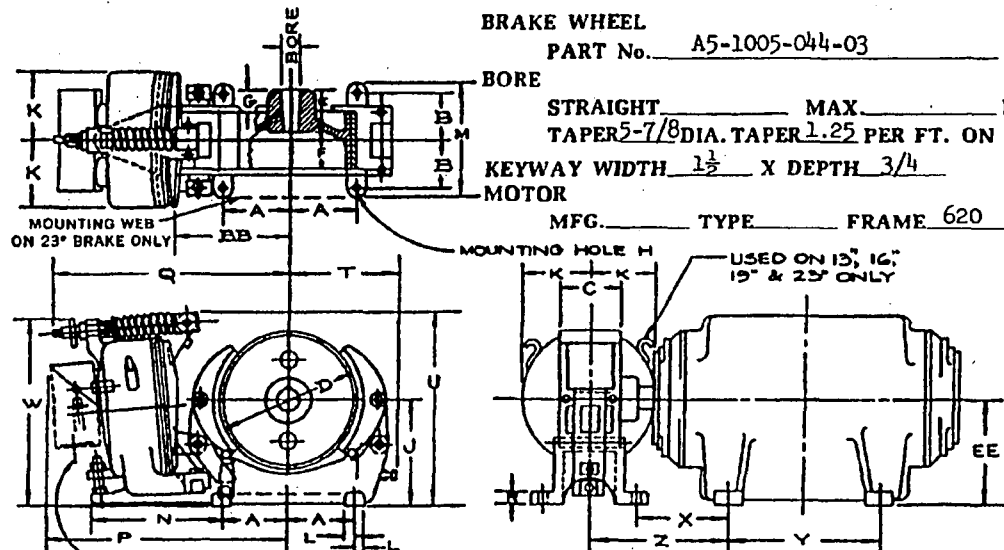
BORE

STRAIGHT _____ MAX. _____ MIN.
TAPER $5-7/8$ DIA. TAPER 1.25 PER FT. ON DIA.

KEYWAY WIDTH $1\frac{1}{2}$ X DEPTH $3/4$

MOTOR

MFG. _____ TYPE _____ FRAME 620


KNOCKOUT "A" FOR V-FLEX CONDUIT WHEN
BRAKE IS SUPPLIED WITH JUNCTION BOX

SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	6-3/4	5-1/8	3-1/8	9 1/2	44	16	20-7/8

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive _____ Winding _____

Certified Correct on _____ H. P. _____

Purch. _____ P. O. _____

User _____ U. O. _____

Square D S. O. _____ Engr. _____

C. A. Schurr
C. A. SCHURR, Chief Engineer

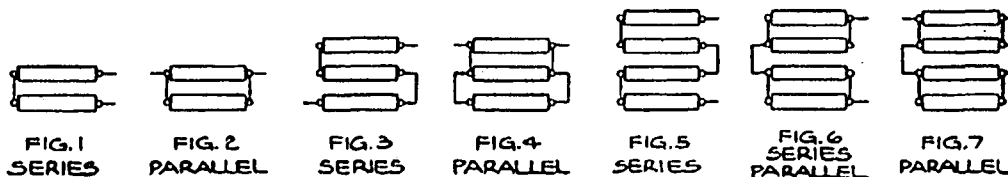
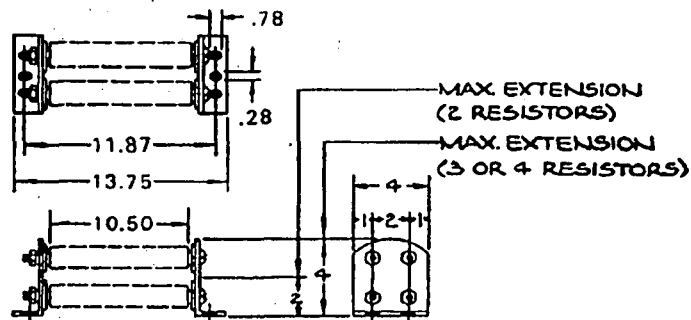
Supersedes OD 5010-1 Dated 3-70

SQUARE D COMPANY

SQUARE D COMPANY

SQD HCK00074

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



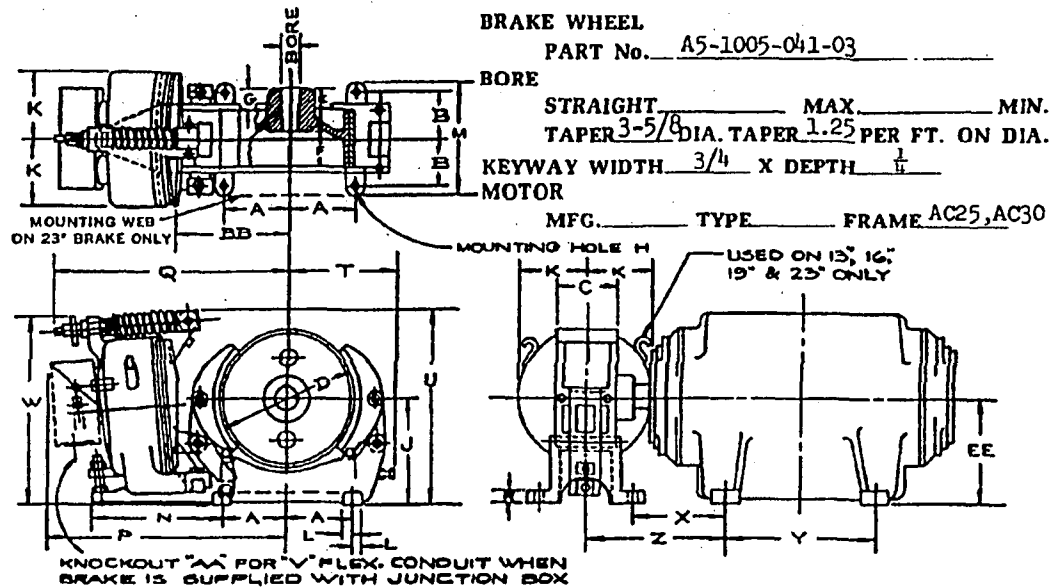
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE	
19"	5	6-7/8	3-1/8	11-7/16	30 1/2	17-15/16	14 1/2	

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....

Certified Correct on..... H. P.....

Purch..... P. O.....

User..... U. O.....

Square D S. O..... Engr.....

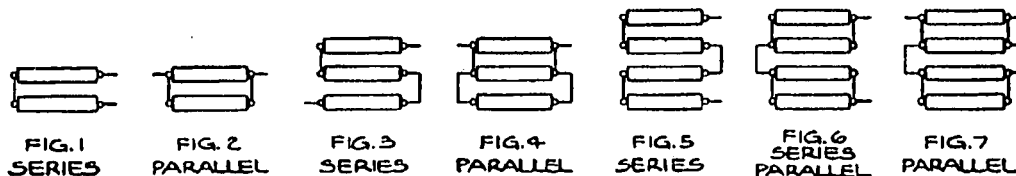
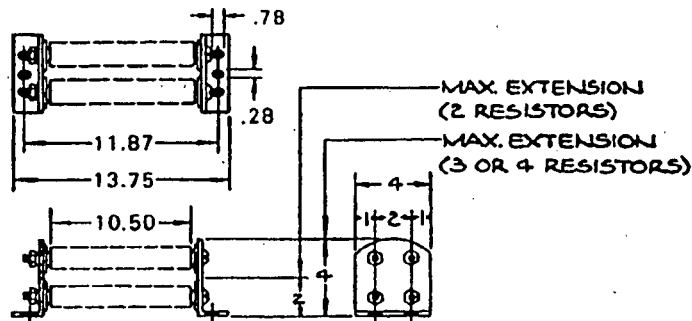
C. A. SCHURR, Chief Engineer

Supersedes OD 5010-1 Dated 3-70

SQUARED
U.S.A.**SQUARE D COMPANY**

SQD HCK00076

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



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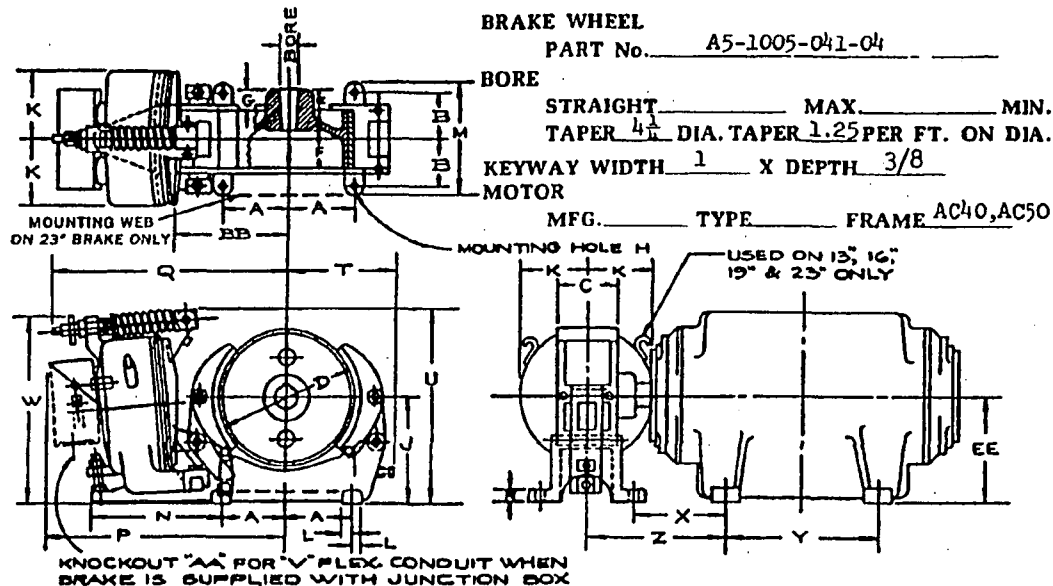
OUTLINE DRAWING

5010-1

November, 1970

AISE TYPE WB BRAKES

(All dimensions in inches)



SIZE BRAKE	E	F	G	X	Y	Z	EE
19"	5	6-7/8	3-1/8	13	35-3/8	19 1/2	17

SIZE BRAKE	A	B	C	D	H DIA.	J	K	L	M	N	P	Q	R	T	U	V	W	AA	BB
8"	3.25	2.88	3.25	8	.69	7	4.63	.81	7.38	11.31	17	18	.62	6.38	13.50	1	13.50	1.38	7.13
10"	4	3.13	3.75	10	.69	8.38	5.38	.88	8	12.25	19.13	20.13	.88	7.38	16.38	1.25	15.13	1.75	8.50
13"	5.75	4.50	5.75	13	.81	9.88	6.63	1	11	14	24	25.13	1	10	20.13	1.50	19.19	2	11
16"	7.50	5.38	6.75	16	1.06	12.13	7.75	1.13	13	15	26.88	27.50	1.25	11.50	22.75	2	22	2.50	12.63
19"	9.25	6.50	8.75	19	1.06	13.25	9.25	1.25	15.50	17.38	31.75	32.75	1.63	13.31	26.50	2.50	25.50	3	15.13
23"	11.75	8	11.25	23	1.31	15.88	10.94	1.50	19	19.63	36.13	38.50	1.63	17.25	31.63	3	30.50	3.63	18.75

Drive..... Winding.....
Certified Correct on..... H. P.....
Purch..... P. O.....
User..... U. O.....
Square D S. O..... Engr.....

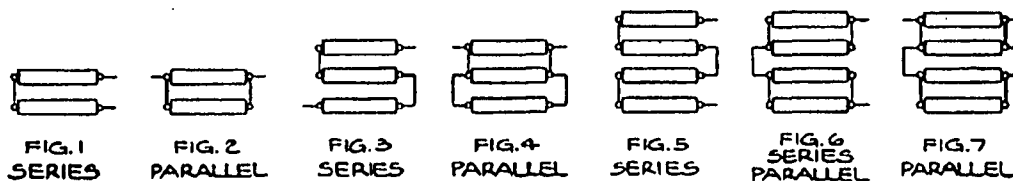
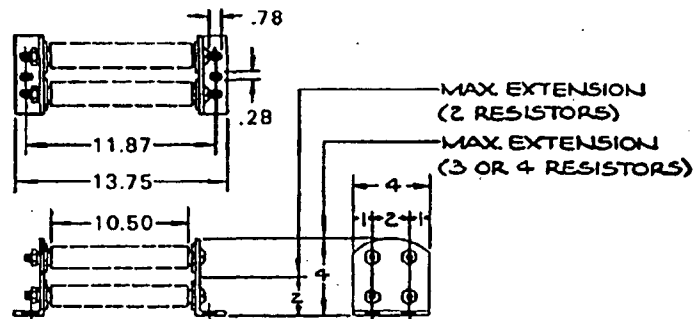
C. A. Schurr
C. A. SCHURR, Chief Engineer

Supersedes OD 5010 1 Dated 3-70

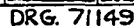
SQUARE D COMPANY

SQD HCK00078

OUTLINE DIMENSIONS IN INCHES AND CONNECTIONS OF RESISTORS FOR USE WITH AISE TYPE WB SHUNT WOUND BRAKES SIZES 8" THRU 23" THESE BRAKES ARE SUPPLIED WITH COILS WHOSE CONTINUOUS RATING IN VOLTS IS ONE-HALF OR LESS OF LINE VOLTAGE. A NON-ADJUSTABLE UNENCLOSED RESISTOR IS SUPPLIED TO BE SEPARATELY MOUNTED BY THE USER AND PERMANENTLY CONNECTED IN SERIES WITH THE BRAKE COIL.



BRAKE SIZE	FOR 1 HOUR SERVICE			FOR 8 HOUR SERVICE		
	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION	CLASS 5010 TYPE NO.	NO. OF COILS	CONNECTION
115 VOLTS D.C.						
8"		2	FIG. 2		2	FIG. 2
10"		2	2		2	2
13"		2	2		2	2
16"		2	2		2	2
19"		4	7		4	6
23"		3	4		3	4
230 VOLTS D.C.						
8"	RO-11	2	FIG. 1	RO-81	2	FIG. 1
10"	RO-12	2	1	RO-82	2	1
13"	RO-13	2	1	RO-83	2	1
16"	RO-14	3	3	RO-84	3	3
19"	RO-15	4	6	RO-85	4	5
23"	RO-16	4	6	RO-86	4	6
550 VOLTS D.C.						
8"		2	FIG. 1		2	FIG. 1
10"		2	1		2	1
13"		2	1		2	1
16"		3	3		3	3
19"		4	5		4	5
23"		4	5		4	5



SQD HCK00080

22172 ON DATA TAG #146

UK-T FILE 65 SECT.

STAMP PT. NO. W-16043 ON THIS SIDE OF BRAKE BLOCK

3.13 ± .010 (DEPTH @ CENTER OF THE HOLES)

+.010
-.000

.281 DIA.
.068 C'DRILL
6 HOLES

5 1/16

4 11/16

2 3/16

1 5/16

1 1/16

82°

6° R.

45°

5 ± .001
D ± .000

6 1/2

2 1/8

2 1/8

W 16043

BRAKE BLOCK
MAT'L: FRICTION MATERIAL
PER SPEC. 550900-305

INSP. PLAN

MED
MME-2
MPC-3
MPA
MPP-2
2/77
221
263
TOR
UK

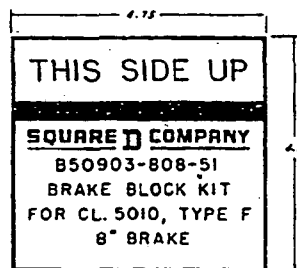
REVISION DESCRIPTION
BY
DATE
A 10-15-68 LCHG SPEC #349 TO #303-41
13 2-17-73 REVISED INVT DRILL (COUNT & DIMS. (CD 31855))
65 1/2 ± 1/8 ARC ON OAK

TOLERANCE FOR FINISHED SURFACES
DECIMAL DIMENSIONS ± .001 UNLESS OTHERWISE SPECIFIED
WHOLE INCHES AND FRACTIONAL DIMENSIONS ± .005

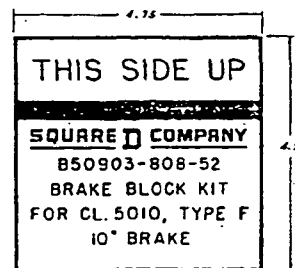
THE ELECTRIC CONTROLLER & MFG. CO.
CLEVELAND OHIO

TITLE 16" TYPE WD BRAKE
REV. 2-21-55
71133
alw

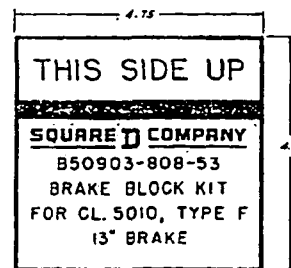
SAD HCK00082



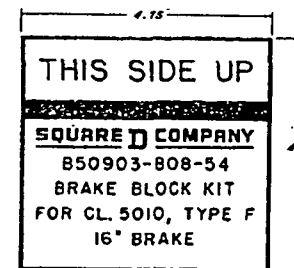
(04) 8" BRAKE BLOCK KIT CARTON LABEL



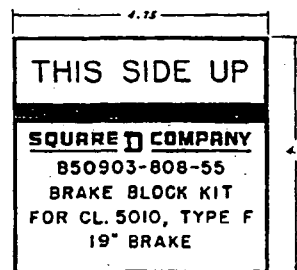
(03) 10" BRAKE BLOCK KIT CARTON LABEL



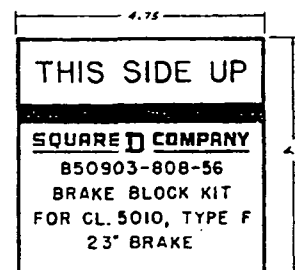
(01) 13" BRAKE BLOCK KIT CARTON LABEL



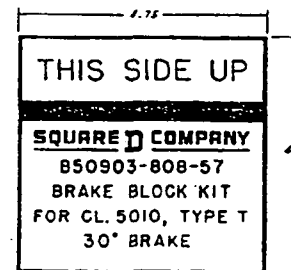
(01) 16" BRAKE BLOCK KIT CARTON LABEL



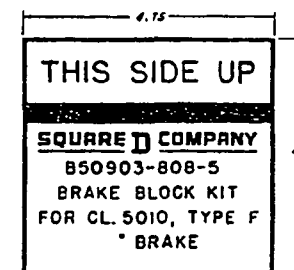
(06) 19" BRAKE BLOCK KIT CARTON LABEL



(06) 23" BRAKE BLOCK KIT CARTON LABEL



(07) 30" BRAKE BLOCK KIT CARTON LABEL



(0) 36" BRAKE BLOCK KIT CARTON LABEL

MATERIAL FOR PARTS 01, 03, 03, 04, 05, 06 & 07
APPROX. .0025 THK. PAPER / PRESSURE SENSITIVE
ADHESIVE BACKING / SPLIT LINER.
COLOR: WHITE BACKGROUND / BLACK
LETTERS AND BORDER

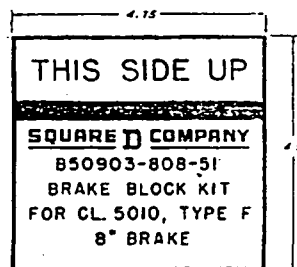
LABELS ARE DRAWN FULL SIZE

SQUARE D COMPANY	
THE CARTON LABELS FOR	
BRAKE BLOCK KITS	
Part No.	B50903-808
Part No.	B50903-420

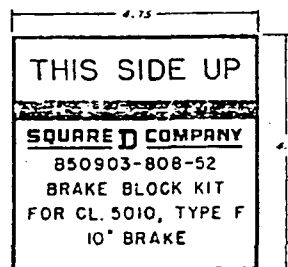
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA AB AC AD AE AF AG AH AI AJ AK AL AM AN AO AP AQ AR AS AT AU AV AW AX AY AZ BA BB BC BD BE BF BG BH BI BJ BK BL BM BN BO BP BQ BR BS BT BU BV BW BX BY BZ CA CB CC CD CE CF CG CH CI CJ CK CL CM CN CO CP CQ CR CS CT CU CV CW CX CY CZ DA DB DC DD DE DF DG DH DI DJ DK DL DM DN DO DP DQ DR DS DT DU DV DW DX DY DZ EA EB EC ED EE EF EG EH EI EJ EK EL EM EN EO EP EQ ER ES ET EU EV EW EX EY EZ FA FB FC FD FE FF FG FH FI FJ FK FL FM FN FO FP FQ FR FS FT FU FV FW FX FY FZ GA GB GC GD GE GF GG GH GI GJ GK GL GM GN GO GP GQ GR GS GT GU GV GW GX GY GZ HA HB HC HD HE HF HG HH HI HJ HK HL HM HN HO HP HQ HR HS HT HU HV HW HX HY HZ IA IB IC ID IE IF IG IH II IJ IK IL IM IN IO IP IQ IR IS IT IU IV IW IX IY IZ JA JB JC JD JE JF JG JH JI JJ JK JL JM JN JO JP JQ JR JS JT JU JV JW JX JY JZ KA KB KC KD KE KF KG KH KI KJ KL KM KN KO KP KQ KR KS KT KU KV KW KX KY KZ LA LB LC LD LE LF LG LH LI LJ LK LM LN LO LP LQ LR LS LT LU LV LW LX LY LZ MA MB MC MD ME MF MG MH MI MJ MK ML MN MO MP MQ MR MS MT MU MV MW MX MY MZ NA NB NC ND NE NF NG NH NI NJ NK NL NO NP NQ NR NS NT NU NV NW NX NY NZ OA OB OC OD OE OF OG OH OI OJ OK OL OM ON OO OP OQ OR OS OT OU OV OW OX OY OZ PA PB PC PD PE PF PG PH PI PJ PK PL PM PN PO PP PQ PR PS PT PU PV PW PX PY PZ QA QB QC QD QE QF QG QH QI QJ QK QL QM QN QO QQ QP QR QS QT QU QV QW QX QY QZ RA RB RC RD RE RF RG RH RI RJ RK RL RM RN RO RP RQ RR RS RT RU RV RW RX RY RZ SA SB SC SD SE SF SG SH SI SJ SK SL SM SN SO SP SQ SR SS ST SU SV SW SX SY SZ TA TB TC TD TE TF TG TH TI TJ TK TL TM TN TO TP TQ TR TS TT TU TV TW TX TY TZ UA UB UC UD UE UF UG UH UI UJ UK UL UM UN UO UP UQ UR US UT UY UZ VA VB VC VD VE VF VG VH VI VJ VK VL VM VN VO VP VQ VR VS VT VY VZ WA WB WC WD WE WF WG WH WI WJ WK WL WM WN WO WP WQ WR WS WT WY WZ XA XB XC XD XE XF XG XH XI XJ XK XL XM XN XO XP XQ XR XS XT XU XV XW XX XY XZ YA YB YC YD YE YF YG YH YI YJ YK YL YM YN YO YP YQ YR YS YT YU YV YW YX YY YZ ZA ZB ZC ZD ZE ZF ZG ZH ZI ZJ ZK ZL ZM ZN ZO ZP ZQ ZR ZS ZT ZU ZV ZW ZX ZY ZZ

SAD HCK00083

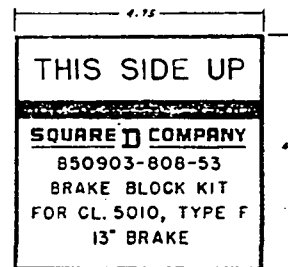
02720503



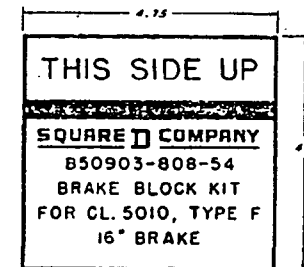
01 8" BRAKE BLOCK KIT CARTON LABEL



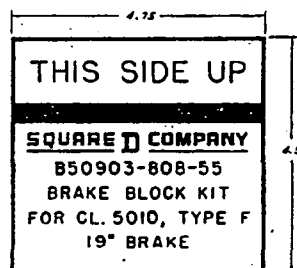
02 10" BRAKE BLOCK KIT CARTON LABEL



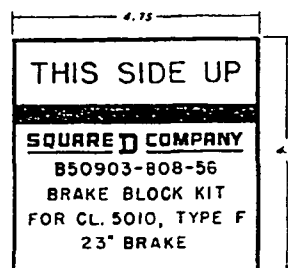
03 13" BRAKE BLOCK KIT CARTON LABEL



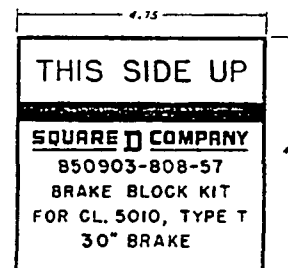
04 16" BRAKE BLOCK KIT CARTON LABEL



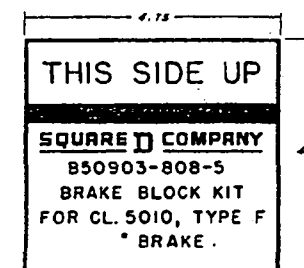
05 19" BRAKE BLOCK KIT CARTON LABEL



06 23" BRAKE BLOCK KIT CARTON LABEL



07 30" BRAKE BLOCK KIT CARTON LABEL



08 36" BRAKE BLOCK KIT CARTON LABEL

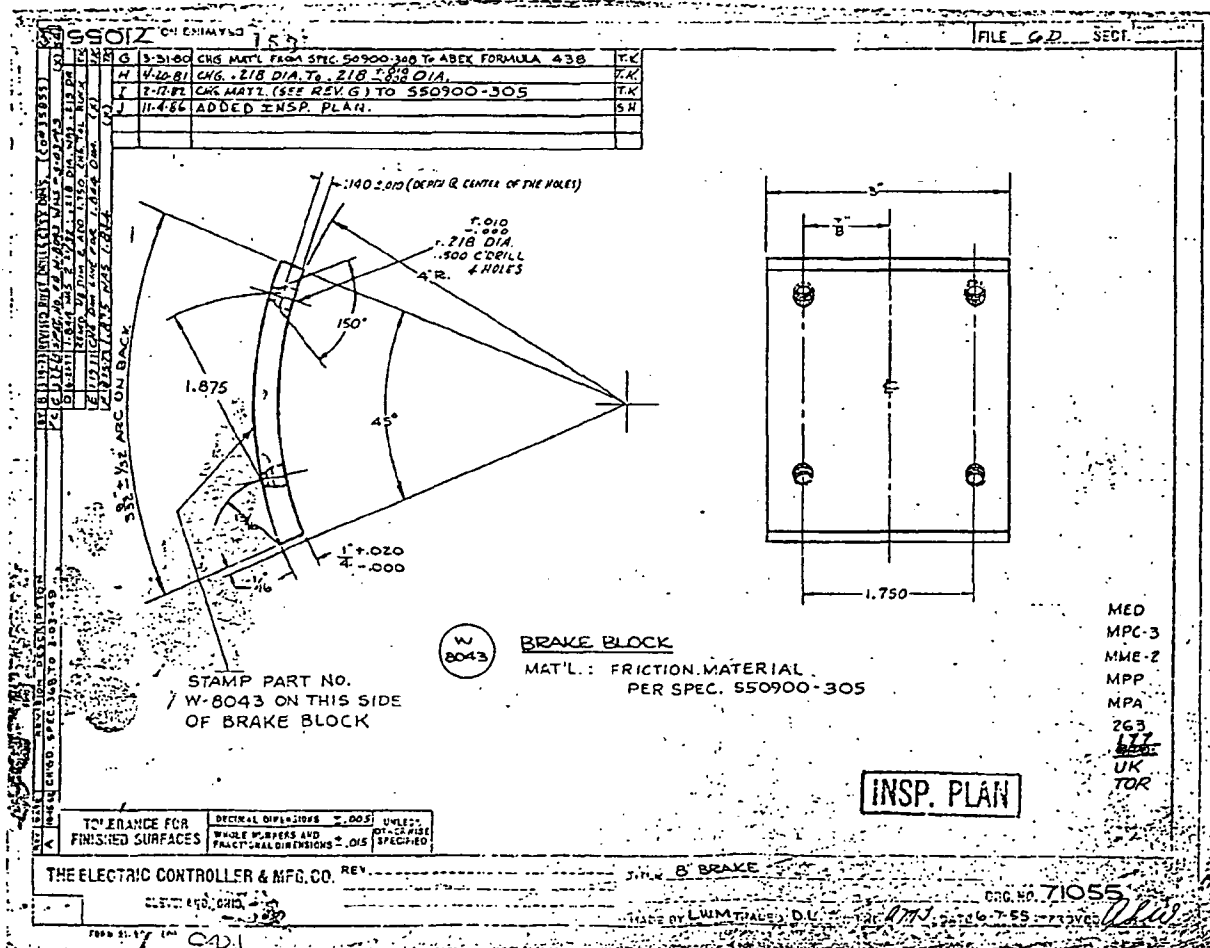
MATERIAL FOR PARTS 01, 02, 03, 04, 05, 06 & 07
APPROX. .0005 INK. PAPER / PRESSURE SENSITIVE
ADHESIVE BACKING / SPLIT LINED.
COLOR: WHITE BACKGROUND / BLACK
LETTERS AND BORDER

LABELS ARE DRAWN FULL SIZE

SQUARE D COMPANY	
THIS CARTON LABELS FOR	
BRAKE BLOCK KITS	
CLAS 5010	TYPE F
PART NO. 050903-420	

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z AA BB CC DD EE FF GG

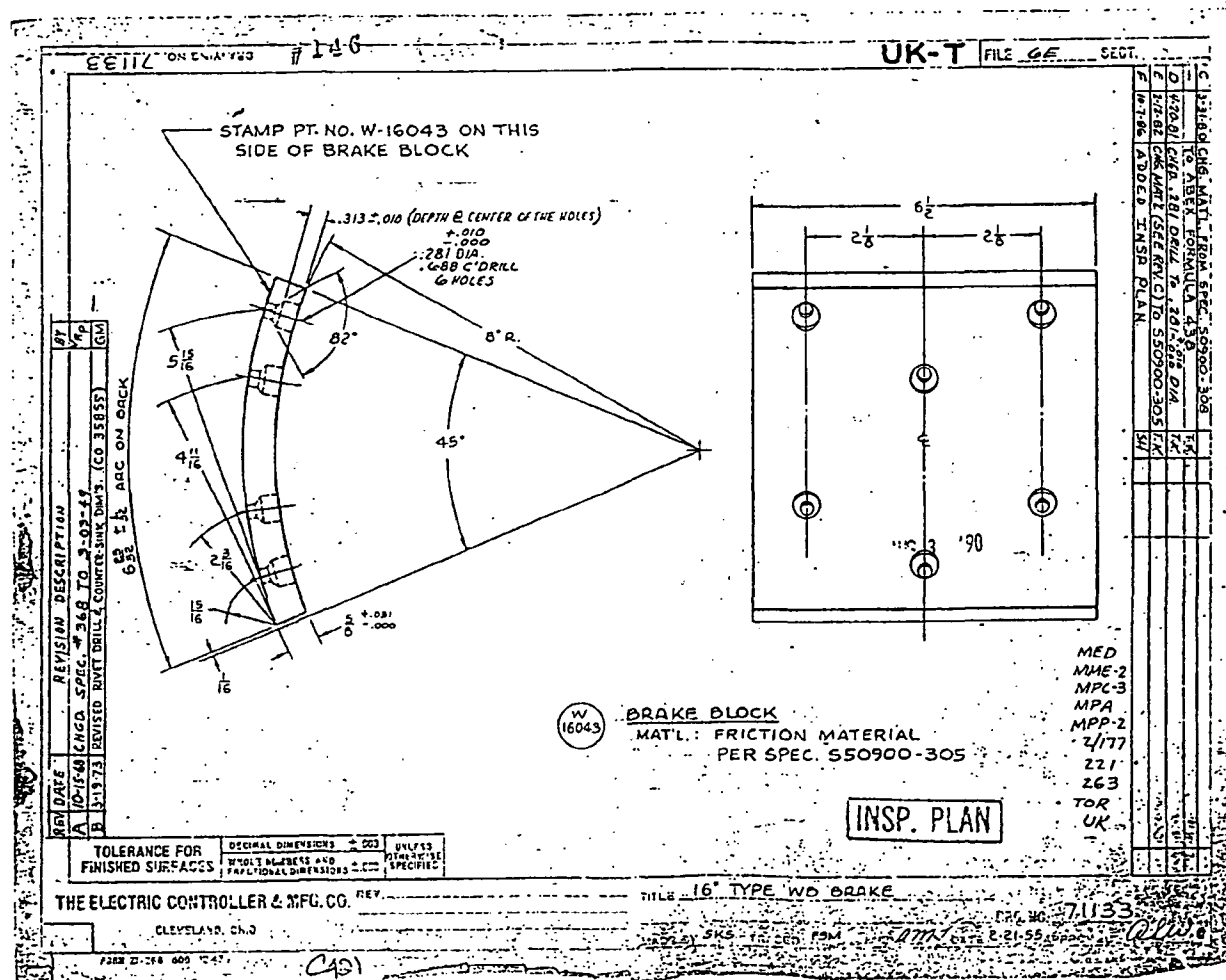
SAD HCK00084



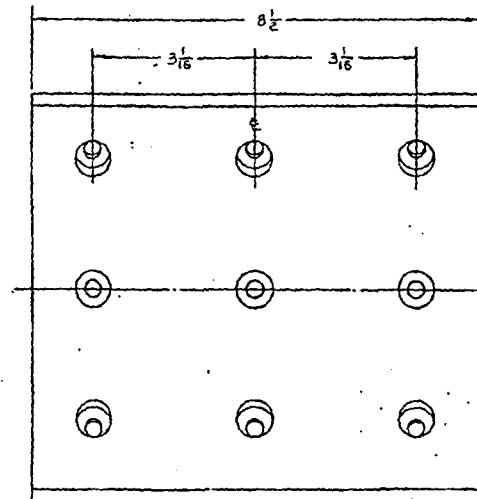
MED
MPC-3
MME-2
MPP
MPA
263
UK
TOR

[illegible]

SQD HCK00086



UK-T 713 027

[illegible]

W
19043

MAT'L: FRICTION MATERIAL .
PER SPEC. 550900-305

MED
MPC-3
MME-2
MPP-2
MPA
4/77
221
263
TOR
UK

INSP. PLAN

TOLERANCE FOR FINISHED SURFACES	DECIMAL DIMENSIONS	0.001	UNLESS
	WHOLE NUMBERS AND FRACTIONAL DIMENSIONS	0.001	OTHERWISE SPECIFIED

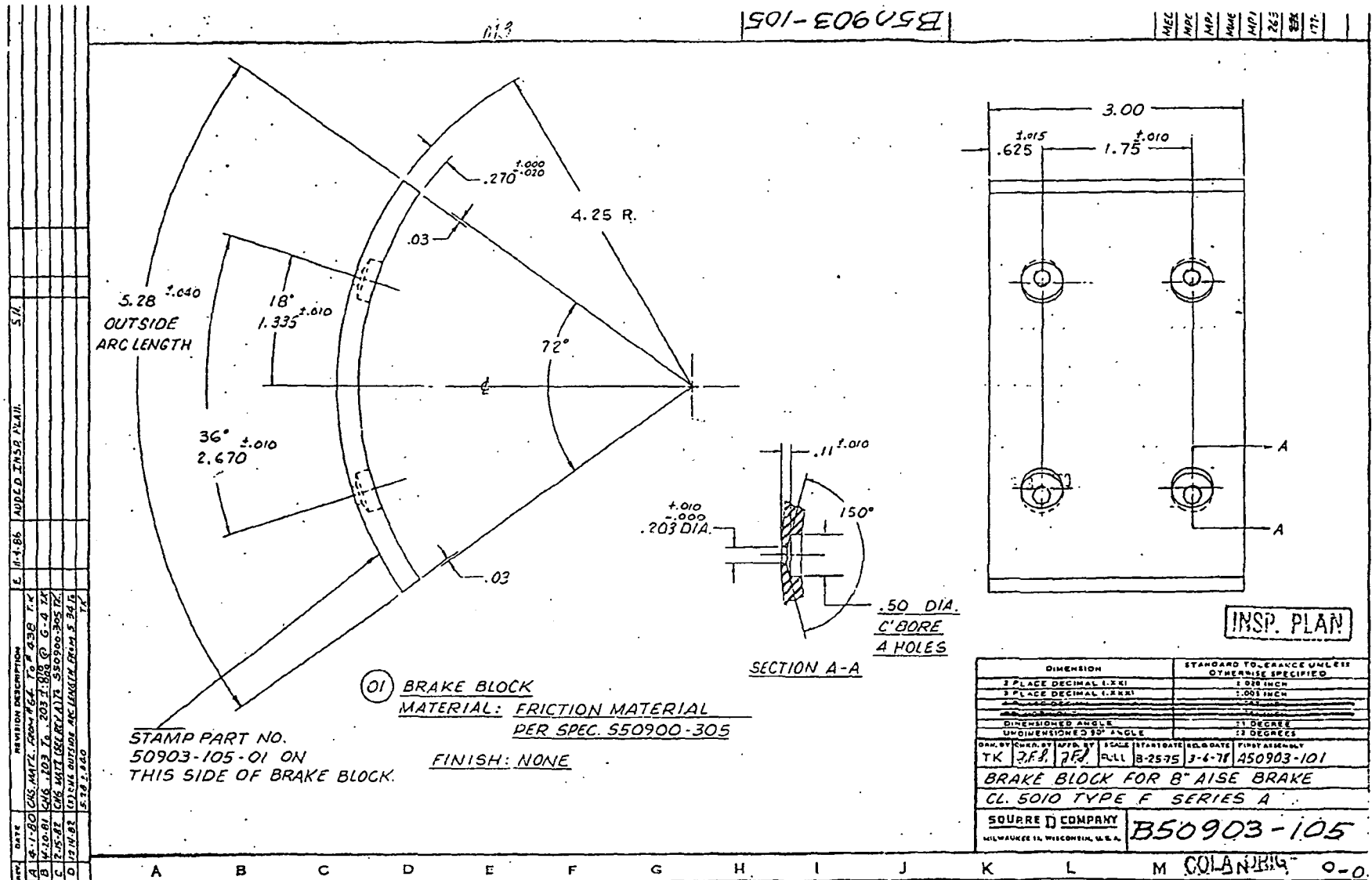
TITLE: 19 TYPE WB BRAKE

71160

5-12-55
COLA ORIG

SQD HCK00087

SQD HCK00088



FORM RELEASED BY N.C. 10-19-78

STAMP PART NO. 50904-105-01
ON THIS SIDE OF
BRAKE BLOCK

18° 1.669
9° 8.34
18° 1.669
18° 1.669
9° 8.34 REF
5.31 R
1.000
.031
1.010
1.000
.000
.203 DIA
1.50 DIA
C BORE
6 HOLES
150°
1.11
1.00

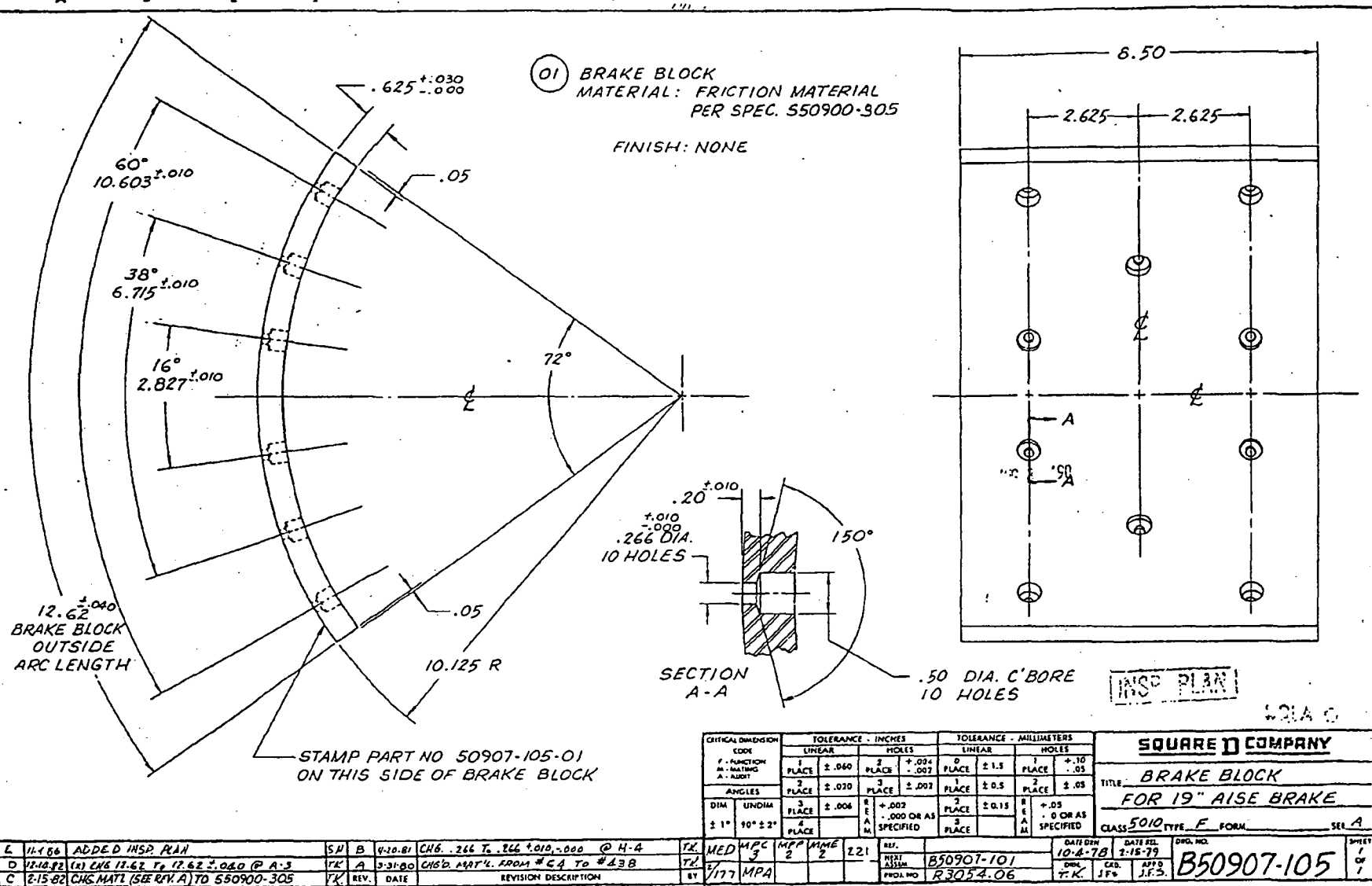
SECTION A-A

INS. PLAN

3.50 ±.030
1.000 ±.000

COLA ORIG

DIMENSION		STANDARD TOLERANCE UNLESS OTHERWISE SPECIFIED	
1 PLACE DECIMAL IN IN.		±.010 IN.	
2 PLACE DECIMAL IN IN.		±.005 IN.	
DIMENSIONED ANGLE		±.000 IN.	
UN DIMENSIONED 90° ANGLE		±.000 IN.	
DIMENSIONED ANGLE		±.000 IN.	
UN DIMENSIONED 90° ANGLE		±.000 IN.	
T.K. JFS JF		SCALE 1/4" = 1"	DATE 1/9/44
BRAKE BLOCK FOR 10" AISE BRAKE		PART NUMBER 50904-101	
CLASS 5010 TYPE F SERIES A			
SQUARE D COMPANY		B5.0904-105	
MILWAUKEE 12, WISCONSIN, U.S.A.		COLA ORIG	



SAD HCK00090

