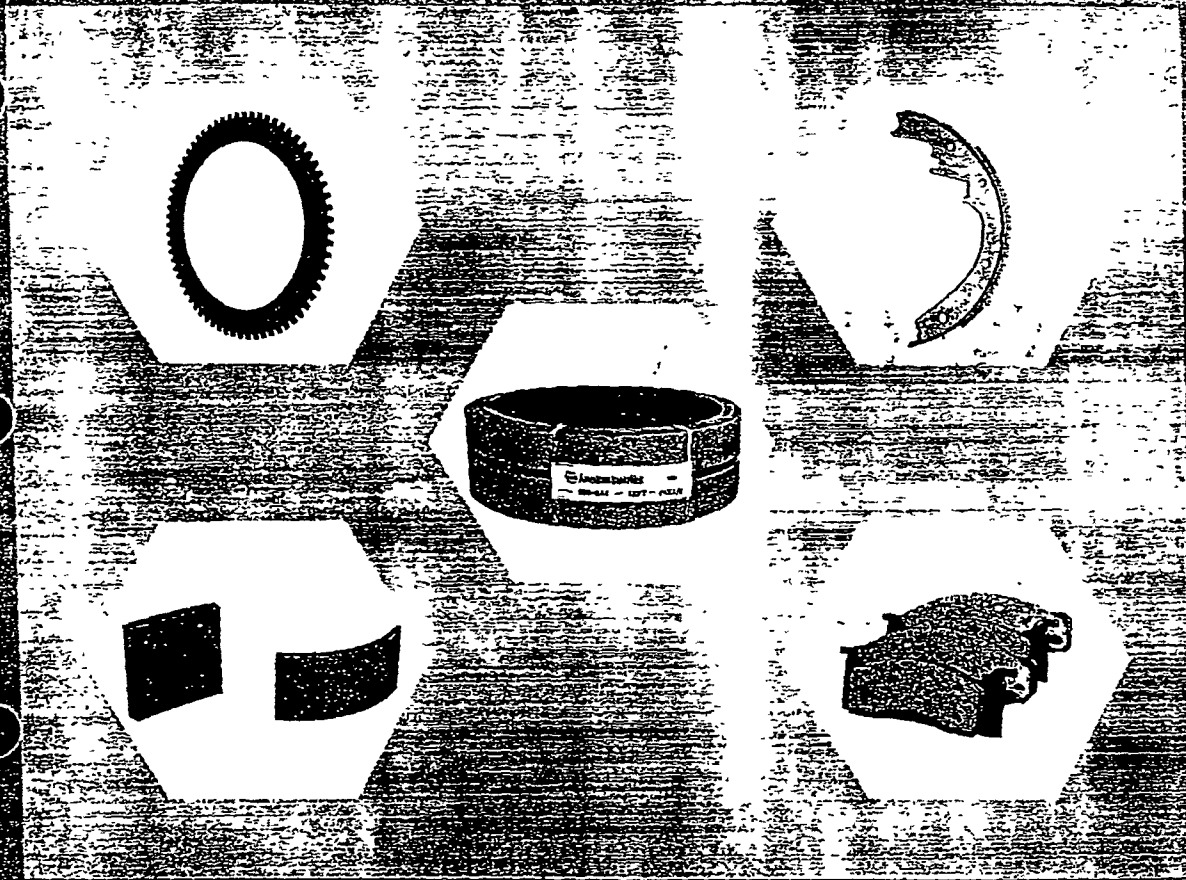


PLAINTIFF'S
EXHIBIT
AB-291

D&P CATALOG
RELINED BRAKE
SHOES AND LINING
PRICE \$3.00

CATALOG AND PRODUCT ORIENTATION



 **American Brakeblok®**

SPNY 001486

SCF-ABEX-0036

THESE LABELS ASSURE YOU OF QUALITY
American Brakeblok RELINED BRAKE SHOES



 **BHT** RELINED
BRAKE SHOES



 **RAYLOC** RELINED
BRAKE SHOES



 RELINED BRAKE SHOES

SPNY 001487



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Passenger Car and Truck Linings	
Truck, Trailer and Bus Thick Blocks	
Industrial Friction Material	

RELINED BRAKE SHOE CATALOG



RELINED BRAKE SHOE CATALOG

The Relined Brake Shoe Catalog contains brake shoe and disc brake pad information for passenger cars and light trucks from 1945 to the latest confirmed applications. Some earlier model vehicles are also shown.

This catalog has five (5) basic sections to help you determine the proper set for each application.

The following pages will explain each section in order as follows.

- I APPLICATION SECTION In Alphabetical Order By Make and Model
- II. NUMERICAL LIST
Relined Brake Shoe Sets
Disc Brake Sets
- III. ILLUSTRATIONS
Brake Shoe (Sequence by Width and Drum Diameter)
Disc Brake Pads (In Numerical Order)
- IV CONVERSION TABLE
FMSI Lined Sets to ABB Sets
- V. CROSS REFERENCE: Bendix to ABB Set Number

SECTION I

APPLICATION SECTION

Year 19--	Make and Model	Set No.	Front Size	Set No.	Rear Size
COMET & MONTEGO — (Mercury)					
66-70	All (Exc. S/W, Conv. & W/390 Engine)	*B-154	10 x 2-1/4	*B-151	10 x 1-3/4
	Opt'l	*B-159	10 x 2-1/2	*B-152	10 x 2
66-70	Station Wagon & Conv.	*B-154	10 x 2-1/4	*B-152	10 x 2
	Opt'l	*B-159	10 x 2-1/2	*B-152	10 x 2
66-70	W/390 Engine	*B-159	10 x 2-1/2	*B-159	10 x 2-1/2
68-70	Opt'l Disc Front	*B-776	Disc		
67	Opt'l Disc Front	*B-730	Disc		
64-65	8 Cylinder (Inc. Station Wagon)	*B-154	10 x 2-1/4	*B-151	10 x 1-3/4
61L-65	6 Cylinder (Exc. Station Wagon)	*B-243	9 x 2-1/2	*B-244	9 x 1-1/2
61L-65	6 Cylinder Station Wagon	*B-243	9 x 2-1/2	*B-243	9 x 2-1/2
60-61E	All (Exc. Station Wagon)	*B-115	9 x 2-1/4	*B-113	9 x 1-1/2
60-61E	Station Wagon	*B-115	9 x 2-1/4	*B-113	9 x 1-1/2

Please remember that the application section is in alphabetical order by make and model. The application section has four basic columns.

Column one (1) gives the vehicle year. Column two (2) gives particular model information, that may be needed to find the proper set of shoes, such as 6 or 8 cylinder engines or Station Wagon, etc. The third column gives the front set number and size while the fourth column gives the rear set number and size.

American Brakeblok.

Lets take a hypothetical customer wanting a set of brake shoes for a 1964 Mercury Comet, Station Wagon, 6 cylinder. There are four easy steps to determine the proper set numbers, first turn to the Comet listing, then find the 1964 models, after which you look for a 6 cylinder station wagon. You should now be able to determine the proper sets to be used on this particular model. The sets needed are *B-243 9 x 2 1/2 Front and *B-243 9 x 2 1/2 Rear.

The (*) star indicates the set number B-243 is available both bonded and riveted through NAPA.

SECTION II

NUMERICAL LIST OF RELINED BRAKE SHOE AND DISC BRAKE SETS

Set No.	Size	III. No.	Application	Set No.	Size	III. No.	Application
B-1	9 x 2	56	Nash 49, Stude. 47-53; Stude. Trk. 51-53; Volvo 56-59	B-48	12 x 2-1/2	269	Chry. 56; Des. 56; Imp. 56
B-2	11 x 2	167	Checker 48-62; K-F 49-50, Stude. 47-53; Stude. Trk. 48-54	B-49	12 x 2-1/2	270	Chry. 57, Des. 56; Imp. 56
B-2C	11 x 2	168	Stude. Trk. 48-56	B-50	12 x 2-1/2	271	Chry. 57-59, Des. 57-59; Dod. 57-59; Imp. 57-59; Ply. 57-59
*B-7R	12 x 1 7/8 x 2	288	Stude. Trk. 57-64	*B-51	9 x 2	59	Mar. Da. 50-64; Hud. 53-54, IHC 61-62
B-8R	13 x 2-1/2	294	Stude. Trk. 51-64				

Set No.	Size	III. No.	Application	Set No.	Size	III. No.	Application
S-702	Disc	1	B.M. W59-60; Daimler 63; Rover 64-65, Austin 61-65; Jaguar 61-68; Mercedes 63-64; M.G. 59-60	S-734	Disc	28	Mercedes 63-66; Opel 63-66; BMW 65-66;
S-703	Disc	2	Jaguar 58-62;	S-735	Disc	29	Opel 65-68; Porsche 64-65
S-704	Disc	3	Austin 59-62;	S-736	Disc	30	Simca 65-67; BMW 63-66; Mercedes 63-65, Opel 63-69; Porsche 64
S-705	Disc	4	Triumph 59-62;	S-742	Disc	31	Mercedes 65-66

The numerical section is a list of all the Relined Brake Shoe and Disc Brake sets available through NAPA.

This section gives part number, size, illustration number and the various applications where each set is used.

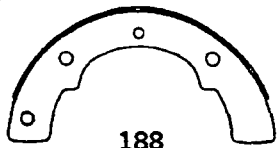
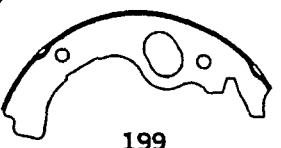
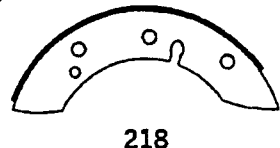
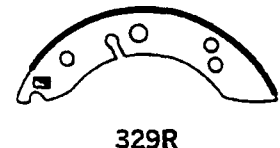
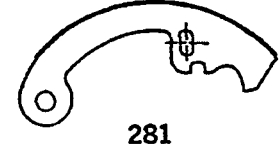
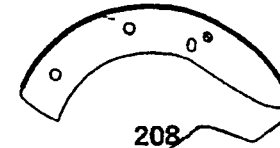
RELINED BRAKE SHOE CATALOG



SECTION III

ILLUSTRATION SECTION

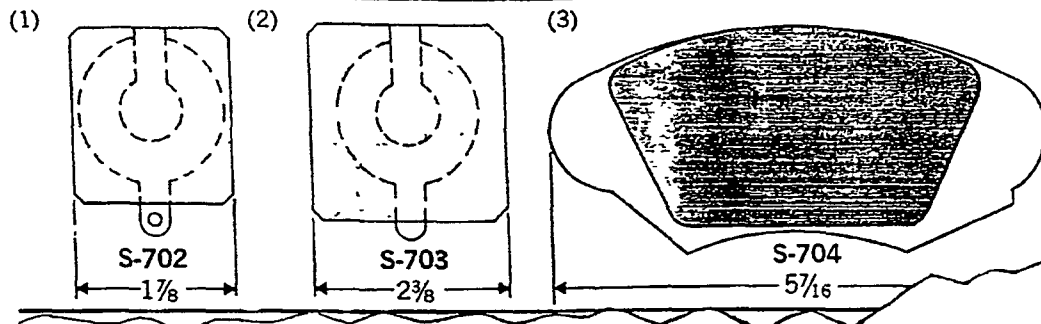
BRAKE SHOE ILLUSTRATIONS

(1)  188 6 x 1¼	(2)  199 6½ x 1⅜	(3)  216 7 x 1⅜
(4)  218 7 x 1⅜	(5)  328 7 x 1⅜	(6)  329R 7 x 1⅜
(7)  281 7 x 1¼	(8)  377 7 x 1¼	(9)  208 7 x 1¼

The illustration section is divided into two parts. The first part contains the brake shoe illustrations which is in sequence by width and drum diameter starting from the smallest drum diameter at 6 inches to the largest with a 16 inch drum diameter. The reason for the shoe illustrations is because the appearance of many shoes is similar, but some shoes are produced with tabs and some with or without nibs and still others may have different holes in the web.

American Brakeblok.

DISC PAD ILLUSTRATIONS



The second part of this section is the disc brake pad illustrations. They are listed numerically. You may notice many of the pads appear to look alike and only by checking the width could you determine the proper set to use.

SECTION IV

CONVERSION TABLE

FMSI Relined Set Number to American Brakeblok Relined Set Number

FMSI No.	ABB Part No.	FMSI No.	ABB Part No.	FMSI No.	ABB Part No.	FMSI No.	ABB Part No.	FMSI No.	ABB Part No.
2083-265	B-265	2102-246	B-246	2117-246	B-246	2134-272	B-272	8014-217	B-217
2084-137	B-193	2102-258	B-258	2118-260	B-260	2135-152	B-152	8014-229	B-229
2084-193	B-193	2103-191	B-191	2118-313	B-260	2136-177	B-177	8017-201	B-201
2087-149	B-189	2103-228	B-228	2119-262	B-252	2137-307B	B-307B	8017-202	B-202
2087-189	B-189	2107-272	B-272			2137-307B	B-307B		

This section is to help you interchange other manufacturers part numbers to ABB part numbers, because other manufacturers' numbering systems will be similar to ABB numbers or follow the FMSI system.

SECTION V

RELINED BRAKE SHOE SET CROSS REFERENCE

Bendix to American Brakeblok Set Number

Bendix No.	ABB Part No.	Bendix No.	ABB Part No.	Bendix No.	ABB Part No.	Bendix No.	ABB Part No.	Bendix No.	ABB Part No.
41216	B-29	305114	B-62	306087	B-83	310548	B-174	312923	B-139
44516	B-76	305128	B-74	308538	B-10	310856	B-127	312933	B-180
47635	B-77	305273	B-30	308577	B-83	311020	B-84	313484	B-244
48010	B-17	305274	B-62	308699	B-65	311023	B-85	313492	B-244
		305297	B-76	308733	B-83				

We have inserted the Bendix to American Brakeblok cross reference because so many of the brake shoes thru out the field have been produced by Bendix. So if you ever have a problem identifying a set of shoes, take a look at the inside arc of the table or on the web and you may find a Bendix number that may be cross referenced to an ABB set number.

BRAKE LINING CATALOG



BRAKE LINING CATALOG

The American Brakeblok Lining Catalog contains brake lining data for passenger cars, trucks, trailers, buses, and axles from 1950 to the latest confirmed application.

Some passenger cars and trucks have the original lining bonded to the brake shoe. These models are indicated and we refer you to the current catalog on American Brakeblok Relined Brake Shoes.

This catalog has five (5) basic sections to help you determine as easily as possible the proper lining set for each application.

The following pages will explain each section in order as follows.

- I. ALPHABETICAL LIST
 - A. Domestic Cars
 - B. Foreign Cars
 - C. Trucks, Trailers, Buses and Axles
- II. DIMENSIONAL INFORMATION
 - A. Truck Lining Strip Sets — By Width
 - B. Thick Blocks — By Width and Drill Pattern
- III. CROSS REFERENCE
 - Thick Block Number By Width and Drum Diameter to Drill Pattern
- IV. EMERGENCY BRAKE LINING: By Make
- V. NUMERICAL LIST: Dimensional and Application

SECTION I

ALPHABETICAL LIST

A. Domestic Cars

COMET & MONTEGO (MERCURY)

65-71	Comet & Montego (exc. S/W, Conv. & 390 Eng.)	BH	2151ATD	2012BTD
	Optional	BH	2089TTD	2091D
66-71	Comet & Montego Station Wagon & Conv.	BH	2051ATD	2091D
	Optional	BH	2089TTD	2089TTD
66-71	Comet & Montego w/390 Engine	BH	2089TTD	2089TTD
67	Optional disc front on all			

B. Foreign Cars

AUSTIN-HEALEY

65-68	(Oct. on) Healy Sprite IV	D	S-745	8043D
64-69	Mark III	D	S-719	857D
62-66	Sprite 1600	D	S-745	8043D
58-62	Healy Sprite		834D	834D
59	Sprite	D	S-708	831D
59-64	BN 7, 3000	D	S-707	857D
62-63	BN 7	D	S-707	N/A
61	BN 7			

The Alphabetical List is divided into three sections — the first being domestic cars, the second section is Foreign cars.

These two sections are similar but have been listed separately for easier identification. Both are listed alphabetically by make and model. Each section is divided into five columns. The first column gives the vehicle year. Column two gives the model names and other information pertaining to each such as 6 or 8 cylinder engines, station wagons, etc. Column three gives brake type whether they are Bendix Servo, Non-Servo, etc. Columns four and five give you the proper lining sets to be used for both the front and rear axles.

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C. Trucks, Trailers, Buses, and Axles

DUPLEX TRUCK

52-54	(6 x 4)	A	4465D	4326D
56	(6 x 6)	A	4055D	
55	(6 x 6)	A	4211D	4326D
67-70	HRG	A-A	4211D	4326D
55-56	HRG	A-A	4211D	4452D
51-52	JH	DP-A	4465D	4515D
50-54	KN, LH	DP-A	4465D	4452D
51-54	RH	DP-A	4465D	4451D
50-70	TH	LH	153D	4446D

153D	16 x 2 1/4 x 1/4
4055D	17 1/4 x 4 x 3/4
4211D	17 1/4 x 4 x 3/8
4326D	16 1/2 x 4 x 3/4
4446D	16 1/4 x 3 1/2 x 3/8
4451D	16 1/2 x 6 x 3/4
4452D	16 1/2 x 7 x 3/4
4465D	

The third section containing truck, trailer, bus, and axle applications is the same as the domestic and foreign car, except at the end of each listing there is a numerical list that gives each part number and size for each application pertaining to that model.

SECTION II

DIMENSIONAL INFORMATION

A. Truck Lining Strip Sets

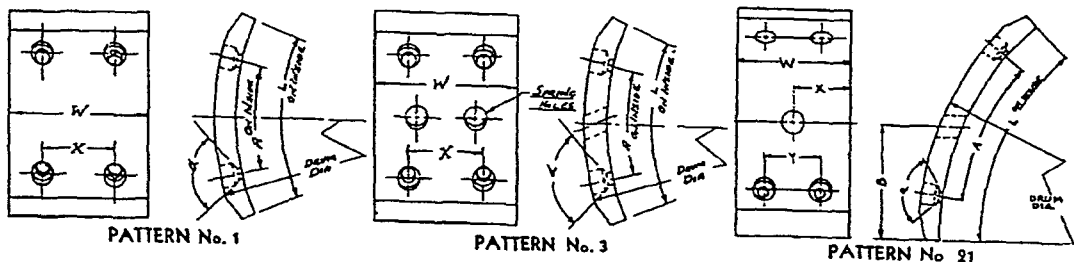
Strip type brake lining sets for trucks are listed below. Grouped by width, from the smallest to the largest drum size, thickness and length of lining is shown to assist you in determining the set required if the part number or model identity is not known.

Drum Size	Thick-ness	Length	Part No.	Drum Size	Thick-ness	Length	Part No.	Drum Size	Thick-ness	Length	Part No.
2" Width				3" Width				4" Width (cont.)			
12	1/4	12-5/8	1014A	12	5/16	11-1/2	4355	16-1/2	3/8	15-3/8	4481
12	1/4	13-10	2040	12	1/4	11-5/8-13	2137	16-1/2	1/2	18-5/8	4379
12	5/16	11-1/4	1284D	14-1/8	3/8	14-7/8	1191	16-1/2	1/2	17-1/2	4410B
12-1/8	1/4	13-1/8-11-5/8	2026	14-1/8	3/8	14-1/2	1236	17	1/2	16-1/2	4432
12-1/8	1/4	13-1/8	2075	15	5/16	9-3/4	6036	17-1/4	5/16	17-3/4-13-1/2	1107
13-1/8	1/4	12-3/4	1164	15		16-5/8	1245A & C	17-1/4			

BRAKE LINING CATALOG



B. Thick Blocks and Tapered Blocks
Specifications Arranged by Width for Identifications,
Refer to Block Diagrams.



Pattern No.	Drum Diam.	W	X	Y	L	A	B	C	D	E	F	Counter-bore Angle	ABB-FMS Set No.
3" Width													
1	17	3	1 1/2	-	7 1/2	5.726	-	-	-	-	-	82°	4157D
1	17	3	1 1/2	-	7 1/2	5.993	-	-	-	-	-	82°	4157AD
1	17 1/2	3	1 1/2	-	8 3/8	6 1/8	-	-	-	-	-	82°	4188D
1	17 1/2	3	1 1/2	-	8 3/8	6 1/8	-	-	-	-	-	82°	4188AD
1	17 1/2	3	1 1/2	-	8 3/8	6 1/8	-	-	-	-	-	82°	4188BD
1	17 1/2	3	1 1/2	-	7 7/8	4 1/2	-	-	-	-	-	82°	4345D
4" Width													
A3 (2 pcs.)	14 1/2	4	2	-	6 3/4	4.538	-	-	-	-	-	82°	4227D
1 (6 pcs.)	14 1/2	4	2	-	6 3/4	4.538	-	-	-	-	-	82°	4227AD
1	14 1/2	4	2	-	6 3/4	4.538	-	-	-	-	-	82°	4227BD
13 (2 pcs.)	14 1/2	4	2	-	6 3/4	4.538	-	-	-	-	-	82°	4227ED
1 (6 pcs.)	14 1/2	4	2	-	6 3/4	4.538	-	-	-	-	-	82°	4227GD
1	14 1/2	4	2 1/4	-	6 3/4	4.538	-	-	-	-	-	82°	4508D
21 (2 pcs.)	14 1/2	4	2	2 1/4	6 3/4	4.538	3 1/4	-	-	-	-	82°	4298D
1 (6 pcs.)	14 1/2	4	2 1/4	-	6 3/4	4.538	-	-	-	-	-	82°	4298AD
1	15	4	2	-	7 1/4	4 1/4	-	-	-	-	-	82°	4298D
1	16	4	2 1/4	-	6 3/4	4 1/2	-	-	-	-	-	82°	4298AD
1	16	4	2 1/4	-	6 3/4	4.429	-	-	-	-	-	82°	4298AD

Δ = 1 1/4" between centers of spring holes

± = 1 1/4" between centers of spring holes

ARRANGEMENT OF DATA

The data is arranged by number of bolt or rivet holes. The first section has four holes, the next six holes, etc. Immediately after the regular pattern, specials will be listed. For example, after the four-hole listing, there is a section where blocks with four bolt holes and one spring hole are shown.

In each grouping by holes, the narrowest blocks are listed first. For example, under the four hole section, the 3" wide blocks are listed first, followed by 3 1/2" wide blocks, etc. There is no other dimensional progression, the order within each group of widths being by ABB Part Number.

American Brakeblok

HOW TO USE THIS SECTION

1. Count the number of holes per block.
(A) If there are spring holes or special patterns, sketch the layout on paper
2. Measure the width of the block.
3. Locate the correct hole pattern and width section in this manual.
4. Measure the blocks.
(A) Center to center width spacing of drill holes.
(B) Center to center length spacing of drill holes — along inside surface of block, or outside arc of shoe
5. Identify the block by agreement to the listing in this manual

NOTE: Where hole measurements along the arc are listed, they are for a block dimensioned as shown on the ABB prints, from left to right. On eight hole blocks, for example, the A, B, and C length dimensions depend on which end of the block one starts measurements from.

METHOD OF LISTING

Brake blocks are listed by the diagrams showing number of holes and drilling pattern. After each diagram the blocks are listed by size progression according to width. The column or headings are as follows.

Column	Heading	Description
1	Pattern No.	
2	Drum Diam.	Drum Diameter
3	W	Width
4	X-Y	Hole spacing, center to center, across width
5	L	Inside arc length
6	A-H	Hole spacing, center to center along length of block on inside surface.
7	Counterbore Angle	Counterbore angle of holes for bolts or rivets.
Final	ABB Part No.	

BRAKE LINING CATALOG



SECTION III

CROSS REFERENCE = THICK BLOCK NUMBER TO PATTERN NUMBER BY WIDTH

Thick Block No.	Drum Dia.	Pattern No.	Thick Block No.	Drum Dia.	Pattern No.	Thick Block No.	Drum Dia.	Pattern No.	Thick Block No.	Drum Dia.	Pattern No.
3" WIDTH			4" WIDTH (Cont.)			5" WIDTH			5 1/2" WIDTH		
4157D	17	1	4237D	16 1/2	1	4545D	12 1/2	1	4544D	12 1/2	1
4157AD	17	1	4189D	16 1/2	1	4398D	14 1/2	1	4623D	12 1/2	9TT
4188D	17 1/4	1	4189AD	16 1/2	1	4398AD	14 1/2	1	4536D	12 1/2	9TT
4188AD	17 1/4	1	4316D	16 1/2	1	4398AD	14 1/2	3	4536AD	12 1/2	9TT
4188BD	17 1/4	1	4326AD	16 1/2	8TT	4398BD	14 1/2	1	4330D	15	1
4345D	17 1/4	1									

This section gives the American Brakeblok thick block number to pattern number by width, this will help to verify ABB Part Numbers to the correct drill pattern.

SECTION IV

EMERGENCY BRAKE LINING - BY MAKE

Year	D.D.	Size W x Th. x Length	No Pcs.	Cat. No	Type
AMERICAN LA FRANCE					
52-55	7-100AJ0, 7-65AEO & AJ0, 7-75AEO & AJ0, 7-85AEO & AJ0, 7-100AEO	16	3x1/4x90°	S-557	Tru-Stop
52-55	700TE0 & TJO	16	3x1/4x90°	S-557	Tru-Stop
52-55	705PFO, 710PE0 & PJO, 712PE0, 775PG0	14-15	2-1/2x1/4x90°	S-559	Tru-Stop
AUTOCAR					
52-55	OH, DC10364L, 61-56, 687D-OH, C6567-OH, C10364S-OH, DC87D-OH, DC102 & T, DC103D & OH & T, DC7564 & 9564 & 10364S-OH, DC10464-OH, DC10464S-OH, DCU75T; 56, DC74T & 75T, DC10264; 1954-52, C90D; 1953-52, C70T, C7046S, DC20064S, C70 & D & TS, C6054, U70T, C705 & 90, C90T, C7064, C9064, DC100D	16 14-15	3x1/4x90° 3x1/4x90°	4 4	S-557 Tru-Stop

The emergency brake section is listed in alphabetical order by make and model giving you the year, model, drum diameter, size, number of pieces per set, part number and type of brake.

American Brakeblok.

SECTION V

NUMERICAL REFERENCE LIST

ABB FMS No	Drum Diam	Dimensions	No Pcs	Rivets Size	Qty	ABB- FMS No.	Drum Diam.	Dimensions	No. Pcs	Rivets Size	Qty
120D	16	3x1/4x12-5/8 & 16-7/8 2ea.	7-6	56		296BD*	USE 2114TTD (FMS 296BTT)				
		Brockway, Dart, Divco, Federal, Reo, others				299D	12	2-1/4x3/16x13. 4	4-5	40	
145D	10	2x3/16x10-1/4 4	4-5	32				Diamond T, Lincoln, Packard			
		Chrysler, DeSoto, Dodge, Plymouth				330D	16	2-1/4x1/4x16-21/32. 4	7-4	56	
153D	16	2-1/4x1/4x12-5/8 & 16-7/8 .2ea.	7-6	56				GMC Truck			
		Brockway, Federal, Ford, GMC, Others				S-542D	12	2-1/4x1/4x90° 2	7-8	32	
								Emergency brake-Brockway, Stude. Trk., others			
170D	16-1/4	3-1/2x3/8x12-3/4 & 17-1/4 .2 ea.	8-7	56		S-556	USE S-542D				
		Brockway, Diamond T, GMC, White, others									
184D	14	2x1/4x16-1/8 4	4-6	56		S-557D	16	3x1/4x90° 2	7-8	32	
		Federal, GMC, Mack, Reo, others						American LaFrance Four-Wheel Drive			
189D	16-1/4	2-1/4x3/8x12-3/4 & 17-1/4 .2ea.	7-6	56				Autocar GMC Seagrave			
		Brockway, Reo, White						Beaver Hendrickson Southern			
								Beck Int'l Harvester Sterling			
192D	11	2x3/16x11-1/2 4	4-5	32				Brockway Kenworth Superior			
		Chrysler, DeSoto, Dodge						Diamond T Mack Tru-Stop			
								Euclid Marmon-Herrington Wabco LaFrance			
192AD	11	2x3/16x11-1/2 4	4-5	32				Federal Pull			

The numerical section is a list of all American Brakeblok brake lining, thick blocks and emergency brake lining sets available through NAPA.

This section shows part number, size, application, number of pieces per set, rivet size and quantity of rivets to be used for each set.

INDUSTRIAL FRICTION CATALOG



INDUSTRIAL FRICTION CATALOG

This catalog contains a wide range of Industrial Friction products such as lining, thick block, lined brake disc, disc brake lining, facings and gear disc.

The American Brakeblok Industrial Friction Products Catalog has been arranged into four sections for quick reference and easy identification.

The following pages will explain each section in order as follows.

- I SPECIFICATIONS: Equipment in Alphabetical Order by Make & Model
- II. NUMERICAL LIST Part Numbers
- III. NUMERICAL LIST. Gear Disc Facings, Disc Brake Lining & Rivet Kit and Lined Brake Disc
- IV. SIZE INDEX. Part Numbers

SECTION I

SPECIFICATIONS

Make & Model	To Fit Mfgs. Part No.	Drum Dia. E = Ext. W = Int.	Dimensions	No. Pcs. Per Band	No. Sets Reqd.	ABB Part No.
AMERICAN HOIST SHOVELS						
<u>100 Series: 175, 195, 197, 199</u>						
Swing, Hoist & Crowd Friction	380070	18N	3 x 3/8 x 4-5/8 & 9-1/2	6-2	4	16552
Hoist Brake	480155	21-1/2E	3 x 3/8 x 4-3/4	12	2	HDW Roll
Hoist & Crowd Friction Booster	580202-5	9-1/2E	2 x 1/4 x 14-1/2	1	2	FC Roll
<u>200 Series: 275BC & BT, 295BC & BT, 297BC, 299BC</u>						
Swing Friction (late)	380070	18N	3 x 3/8 x 4-5/8 & 9-1/2	6-2	2	16552
Swing Friction (early)	580159, 580375 W3662D-6	18N	3 x 5/16 x 47-3/4	1	2	FM Roll
Hoist Friction	380071	20N	3 x 3/8 x 5 & 10-3/4	6-2		
Friction Boosters	480154, 580405 W39260					

The specification section is in alphabetical order by make and model and is divided into seven columns for easy identification. Column one contains the make, model and type of brake or friction you may be looking for.

Column two lists the manufacturers' part number which many times your customer may have or know.

Column three thru six gives specifications of each recommended part. Column three gives the drum diameter and indicates internal or external drum. Column four shows the dimensions of each part by width, thickness and length.

If you are looking for a lining kit or lined disc, the dimension column will give you the outside diameter and inside diameter. Column five indicates the number of pieces per band and column six gives number of sets required for each application.

Column seven gives the proper American Brakeblok part number for each application.

SECTION II

NUMERICAL LIST OF PART NUMBERS

Part No.	Type Band	Drum Diameter	Width	Thick-ness	Length	Pcs. per Band	Equipment Reference
16501DR	Ext.	10-13/16	3	1/4	3-59/64	8	Caterpillar
16502DR	Ext.	17-5/8	6	1/2	3-37/64	13	Caterpillar
16503DR	Ext.	17	3	11/32	16-25/32	2	Caterpillar
16504	Ext.	17	4	11/32	16-25/32	2	Caterpillar
16505DR	Ext.	15-1/8	3	3/8	16-1/64	2	Caterpillar
16506DR	Ext.	17	4	3/8	4-7/8	9	Int. Harvester
16507DR	Ext.	17	4	3/8	7/8	9	

The numerical section is a list of all the American Brakeblok Industrial lining numbers available through NAPA.

This section gives part number, type of band, lining dimensions, the number of pieces per band and type of equipment using the set.

SECTION III

NUMERICAL LISTING

GEAR DISCS, FACINGS, DISC BRAKE LINING & RIVET KIT AND LINED BRAKE DISC

Part No.	O. D.	I. D.	Overall Thickness	No. & Type of Teeth	Manufacturer's Part Number
AS-518	5-1/2	2-3/4	5/32	...	Chicago Pneumatic
AS-882	8-3/4	5-3/8	7/16	51 External	Cleveland Trencher, Int. Harvester, Koehring, Lorain, Twin Disc
AS-1073	10-7/8	7-15/64	3/16	59 Internal	Int. Harvester 43 729 DA
AS-1074	10-3/4	5-1/2	7/16	51 External	Chicago Pneumatic

This numerical list covers the gear disc, facings, disc brake lining and rivet kit and lined brake disc.

This section gives part number, disc or facing size, number and type of teeth and the manufacturers' part number.

SECTION IV

BRAKE LINING SIZE DATA BY WIDTH, THICKNESS AND DRUM DIAMETER

Drum Diameter	Type Band	Lining Dimensions			No. Pcs.	Manufacturer	Part No.
		Width	Thickness	Length			
10	Ext.	1	3/16	5-1/4	1	Northwest	17220A
7-1/2	Ext.	1-1/4	11/64	7-1/4	2	Allis-Chalmers	16564DR
12	Ext.	1-1/4	1/4	32	1	General	16246
8-1/2	Int.	1-1/2	3/16	19	1	Northwest	17241
5-3/4	Int.	1-1/2	1/4	4-1/2	1	Buffalo	

The brake lining size data section is to help you identify the lining if the model is unknown or not listed in the catalog. This section is listed by width, thickness, and drum diameter.

AMERICAN BRAKEBLOK PRODUCT ORIENTATION



BONDED AND RIVETED RELINED BRAKE SHOES

The American Brakeblok linings that are used for both the bonded and riveted applications are identical materials. There is no difference whatever in the lining composition whether it is for bonded or riveted application.

These linings are friction engineered especially for the particular vehicle application. This means the make and model of vehicle and type of brake have been considered in the development of a lining having all the desirable performance characteristics essential for safety.

These linings are supplied to the shoe rebuilders in a plus thickness to allow for their undergrinding to the specific drum diameters. These finished bonded and riveted lined shoes are available in a standard thickness for drum diameters from standard up to and including .030" over the standard diameter. The oversize set is available with the .030" thicker lining for application in drums having diameters ranging from .031" to and including .060" over the standard drum diameter. When a drum diameter is beyond .060" over the standard diameter it should be replaced.

PASSENGER CAR AND LIGHT TRUCK LININGS

Passenger cars and light trucks all use either drum type brakes front and rear or disc on the front and drum on the rear. In most cases the pick-up model vehicles use the same size and type brakes as used on the passenger car models. Both the disc and drum brake linings are specially engineered for the applications. The linings are totally different for the disc brake. In fact, brake lining engineered for drum brakes could not function satisfactorily in disc brake service. The brake requirements are entirely different. The disc brake differs from the drum brake in that there is practically no clearance between the rotor and lining whereas the drum brake has running clearance between the lining and drum. The absence of this clearance with disc brakes makes mandatory a lining having high heat resistance. In addition, a highly dense material having minimum compressibility is needed with disc brakes because the high fluid displacement necessitates minimum component travels. The limited surface area of the disc pad requires that the lining have high physical strength. The disc brake linings can be bonded, integrally molded or riveted to the metal plate. The disc brake linings are available only in standard thickness. This is because only a minimum amount of metal can be removed from the rotor. Further the pistons could leave their bores should oversize linings be used.

Linings for drum brakes are available in axle sets and also in bulk quantities. Drilled segments are supplied in both standard and .030 oversize thicknesses. Undrilled bulk segments are available in .015" oversize thickness for rebuilders to grind. There is complete vehicle coverage available in both riveted and bonded

TRUCK, TRAILER AND BUS THICK BLOCKS

Most of the heavier units are air equipped and use thick blocks either riveted or bolted to the brake shoe table. These thick blocks which are considered as 3/4" thick in the standard thickness are available in two oversizes. They are available in first oversize which is 1/16" thicker and is noted by the suffix "X" after the part number. The second oversize is also made available and is 1/8" thicker than standard and is identified by the "XX" after the part number.

The American Brakeblok thick blocks are individually molded. This is unique in the industry. It is a more costly method of manufacture but the uniformity of the finished product allows the customer to establish a maintenance program based on this constant. This is so different from the experience of fleets using a competitive thick block. Since competition manufactures their blocks in large forms which are then cut to size, the finished blocks vary in density. One can expect poor block life, brake noise and erratic action when the finished product lacks uniformity, not only in the block itself, but from block to block in the given set. When a brake problem arises the customer can look elsewhere than the lining when American Brakeblok is on the vehicle.

American Brakeblok

There are three specific American Brakeblok formulations used predominately in the thick block field. One is the All-Purpose material that is recommended for all vehicles other than Transit Buses. It is identified merely by the part number and needs no special prefix or suffix. This formula has a friction level that provides satisfactory braking in all types of service. All the attributes we desire in a brake lining are contained in this formulation. It has 75% of its original dry friction after being fully submerged in water. This is a desirable feature. Both the Fade and Recovery properties are also very good. A significant safety and economic factor is the excellent lining and drum compatibility of this material.

Another formulation is American Brakeblok 80. It is identified by the "W" prefix to the part number. This is a much heavier block and contains bonded graphite which is widely dispersed throughout the composition. It is the unique properties of bonded graphite which give this composition the superior friction and wear results at elevated brake temperatures. This is a material designed for the transit bus operation because of the sustained operating temperatures — the result of the multi-stop demands. Since the lining performs best when worked hard, it is recommended for those applications having repeated frequent braking and especially in mountainous terrain.

The other American Brakeblok formulation is specifically engineered for the Wedge Brake. This being an entirely different designed brake it requires a special lining. American Brakeblok engineering has worked with the designers and manufacturers of these Wedge Brakes in developing a special engineered set of linings for the application. It is of a higher friction so as to acquire the optimum performance of the brake. The particular part number in itself is confined to this Wedge Brake application, so there is no special prefixing or suffixing necessary to the part number. The lining sets are available in both the standard and first oversize thicknesses. The first oversize is $1/16$ " thicker than standard and is identified with the "X" suffix to the part number.

INDUSTRIAL LININGS

The Industrial field is a highly specialized one and demands specially engineered materials for the various applications. We make available eight materials for this field.

Lining and Thick Block Sets - Industrial lining sets are 16000 or 17000 series numbers. Lining sets and thick block sets listed by FMSI part number are for automotive or industrial equipment.

A "D" suffix indicates the set is drilled. "R" suffix indicates rivets included in the set.

Example:

D Suffix — Drilled Set
DR Suffix — Drilled Set with Rivets
R Suffix — Undrilled Set with Rivets

AMERICAN BRAKEBLOK PRODUCT ORIENTATION



FACINGS AND GEAR DISC

Available in metallic and molded (asbestos base) compositions, made of the finest grade materials available and precision ground to insure customer satisfaction.

Molded Rolled Lining – For use on Internal Expanding Industrial and Automotive Applications

"FM" Flexible Molded Roll Lining – For Internal or External band type applications.

Molded and Woven Sheets – Ideal for clutch pads or special brake jobs calling for flat lining

Standard Woven Lining – Can be used either dry or in oil.

"HDW" Heavy Duty Woven – Can be used dry or in oil.

"FC" Folded and Compressed – A general purpose, heavy duty folded and compressed lining.

INDUSTRIAL ROLLED LINING

Chart of Recommended Usages

TYPE	WOVEN LINING			MOLDED LINING		
	FOLDED & COMP. "FC" 30 FT. ROLLS	HEAVY DUTY WOVEN "HDW" 25 FT. ROLLS	STANDARD WOVEN 25 FT. ROLLS	"FM" 12 1/2 OR 25 FT. ROLLS OR SLABS	MOLDED LINING 15 FT. ROLLS ONLY	RIGID MOLDED SHEETS
Application	Band or Disc	Band Only	Band or Cone	Band	Band	Band
Construction	Semi-Flexible	Semi-Flexible	Flexible	Flexible	Semi-Flexible	Rigid
Friction Spec.	Medium	High-Medium	High	Medium	Medium	Medium
Finish	Ground 1 Side	Ground 2 Sides	Ground 1 Side	Smooth Molded Finish	Smooth Molded Finish	Ground 2 Sides
Normal Usage	External Bands Heavy Duty	Can be used in oil on Int. or Ext. Bands. Extreme Durability.	Can be used dry or in oil. External Bands. Medium Duty.	General Purpose. External or Internal Bands.	Light Duty. Internal Bands Only.	

ALL PRICE LISTS INDICATE RANGE OF WIDTHS AND THICKNESSES



American Brakeblok Division P.O. BOX 607, WINCHESTER, VIRGINIA 22601

SPNY 001504