

# Roadranger®

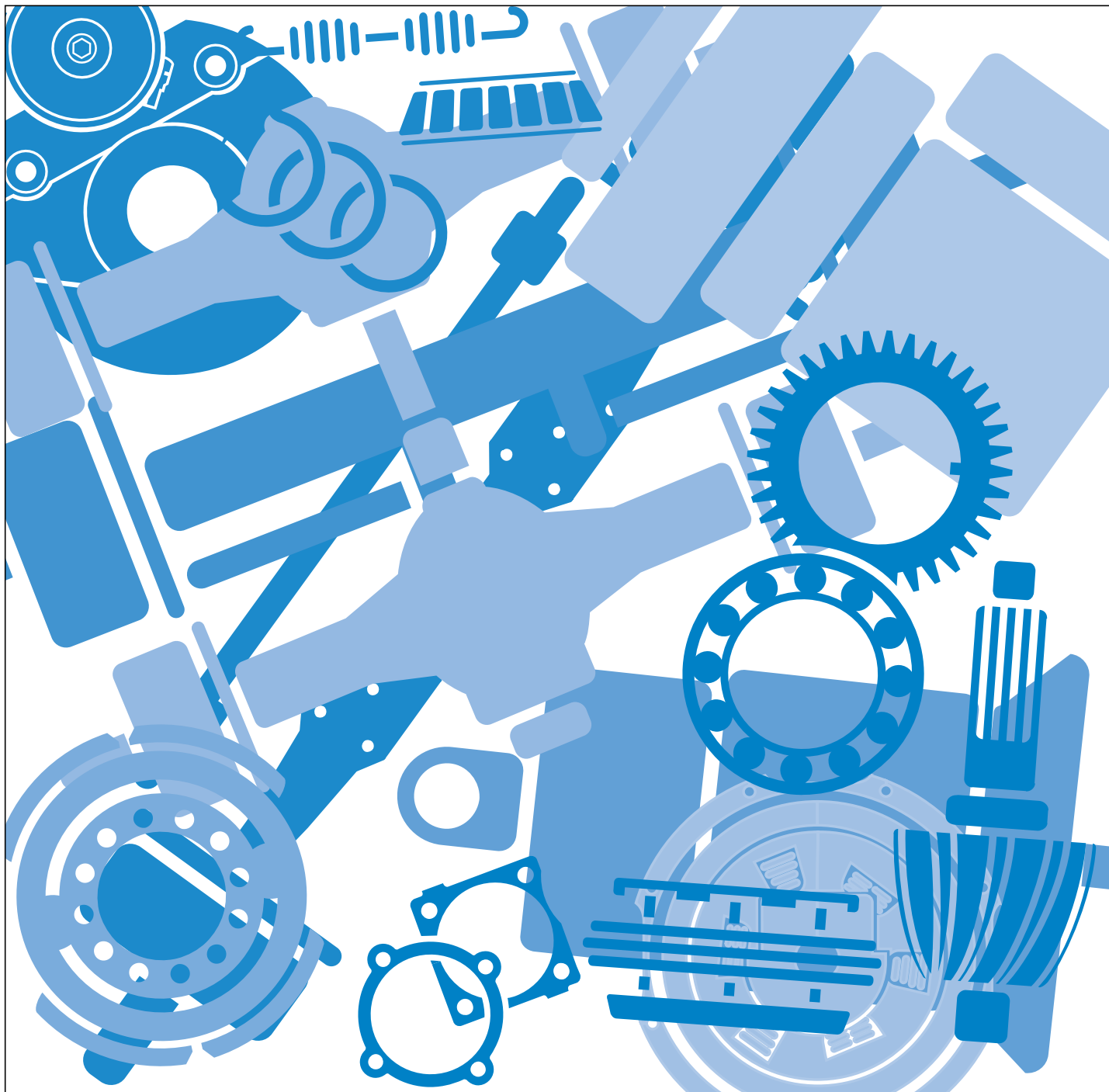
## Dana® Spicer® Brakes

16.5" Series S-Cam  
XTRALIFE™  
XTRALIFE II™



One Great Drivetrain from Two Great Companies

Illustrated Parts List BRIP-0890 June 2000



For the most current information, visit the Roadranger web site at [www.roadranger.com](http://www.roadranger.com)

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## GENUINE SPICER SERVICE PARTS

Should a brake assembly require replacement component parts, it is recommended that Spicer Brake Service Parts be used. Spicer Brake Service Parts are manufactured under the same rigid specification as are original equipment brake components. This assures the customer who uses genuine Spicer service parts, maximum reliability for a Spicer Brake assembly. They may be obtained through your vehicle manufacturer. The use of non-original Spicer service parts may cause premature component failure and may void the warranty.

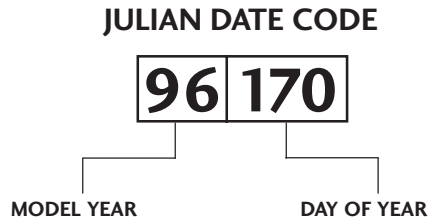
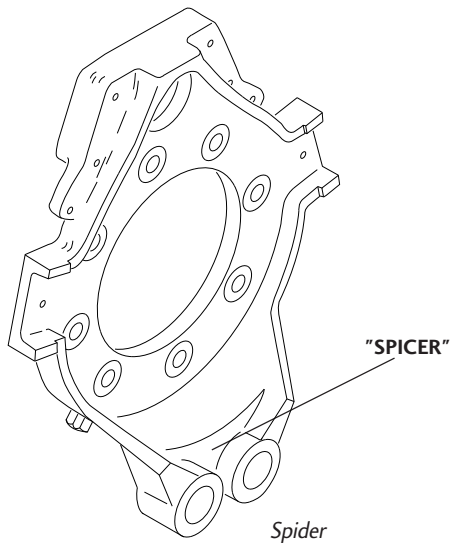
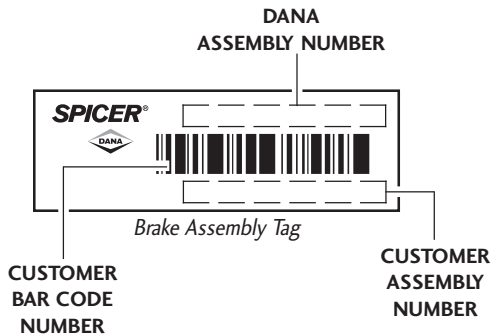
The items included in this book are currently being offered as service parts at the time of printing. The part numbers and illustrations are provided specifically for reference purposes only. Therefore, Spicer reserves the right to update this manual without notice or liability.



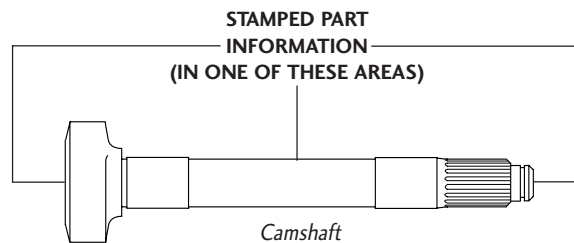
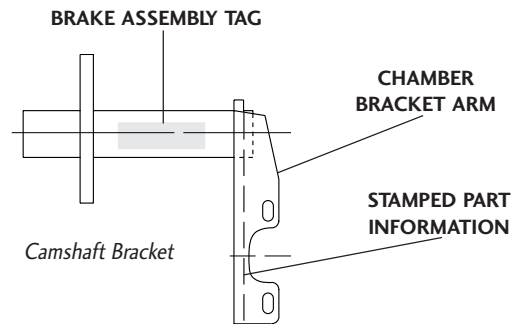
# IDENTIFICATION

The brake assembly may be identified by a tag which is located on the camshaft bracket cylinder, near the grease fitting.

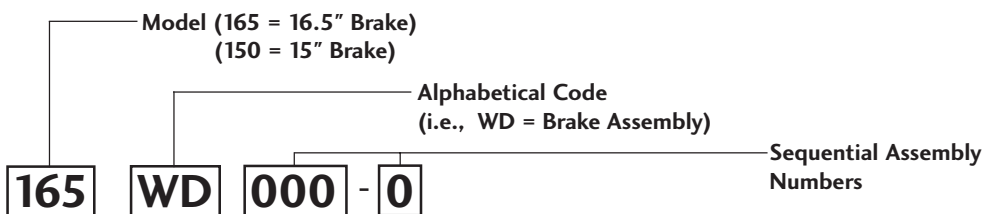
The mylar **brake assembly tag** contains the following: Dana assembly number, bar coded customer assembly number, and a numeric customer assembly number.



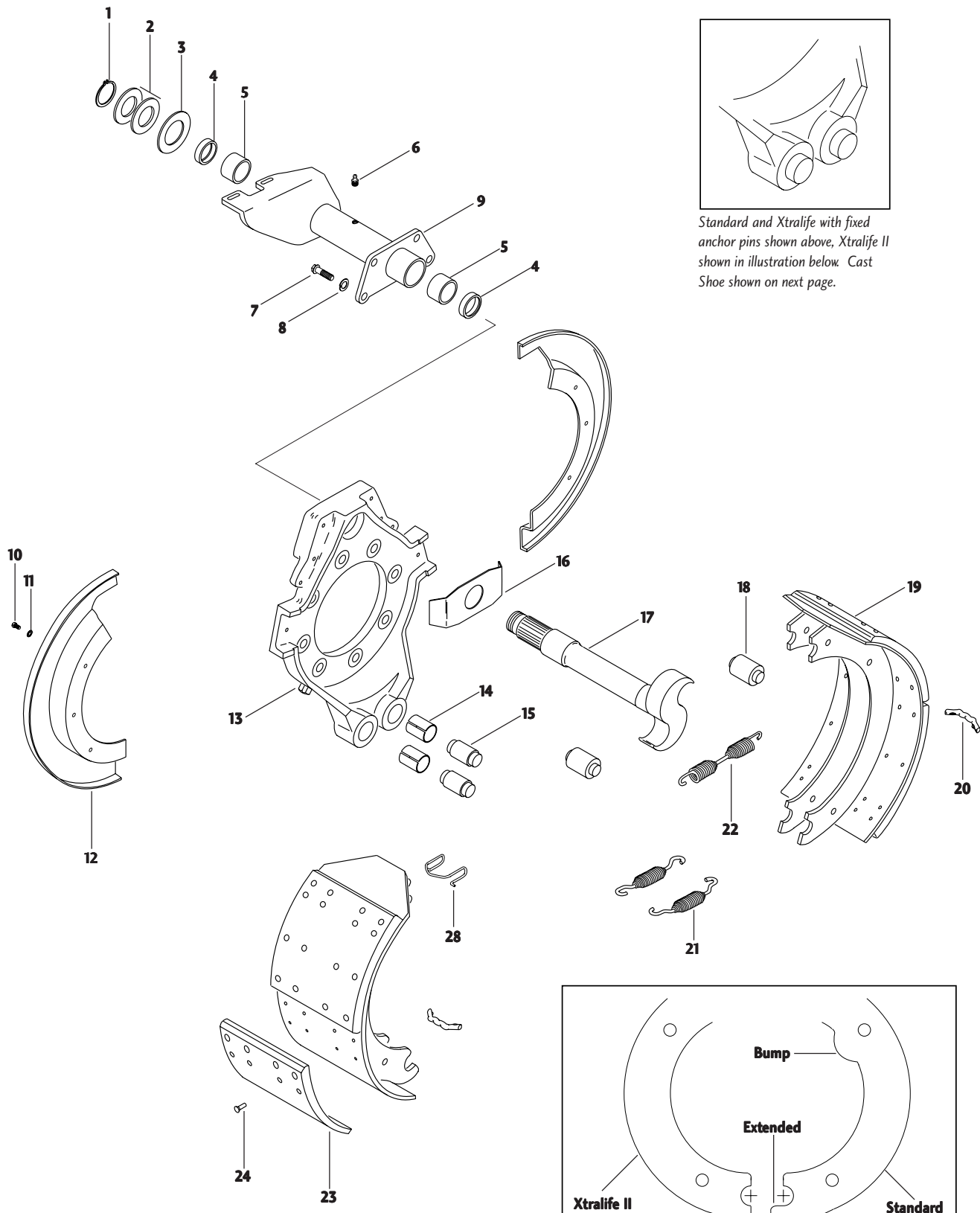
Two other markings that may be used to identify a Spicer Brake assembly are located on the assembly's components. "Spicer" will be cast into the spider assembly just above the anchor pins. Also, the inside of the chamber bracket arm contains the following stamped part information: "Spicer", julian date code, and the part number.



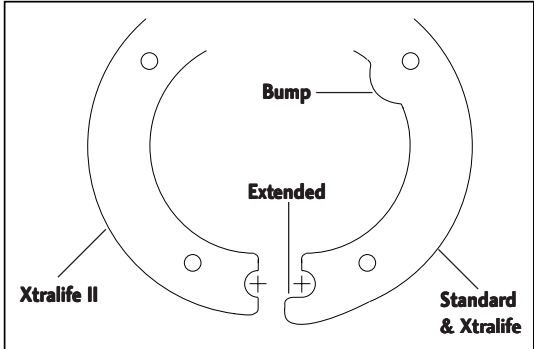
## MODEL IDENTIFICATION NUMBERING SYSTEM



# COMPONENTS



Standard and Xtralife with fixed anchor pins shown above, Xtralife II shown in illustration below. Cast Shoe shown on next page.



Shoe rib designs for Standard, Xtralife, and Xtralife II Brake (Side View).

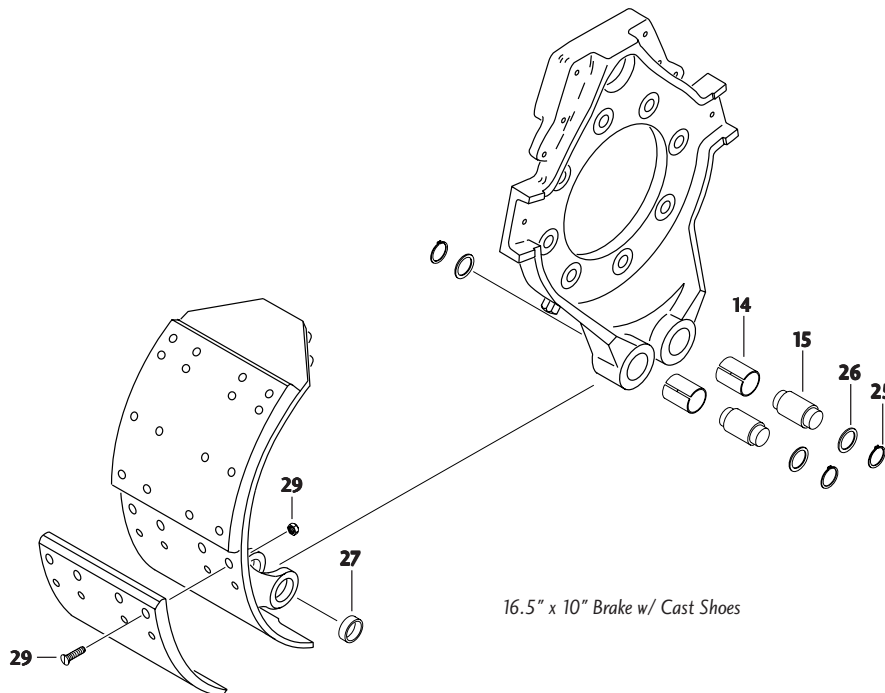


# PARTS LIST

Item	Part Name	Qty.	Spicer Part Number	Notes
1	Retianing Ring	1	150HR101	
2	Camshaft Adjusting Washer	A/R	150HS101 -1 150HS101 -2	.031" Thick .062" Thick
3	Steel Spacer	1	150HS102	.120" Thick
4+	Grease Seal	2	Not Serviced Separately	See Page 8 for kit
5+	Camshaft Bushing	2		
6	Grease Fitting	1	500168-2	Qty. of 3 used for 16.5" x 10" Brake
7	Bracket Mounting Bolt	4	070HM120-2	
8	Lockwasher	4	500357-13	
9	Camshaft Bracket	1	Varies	See Page 4 for correct part numbers
10+	Dustshield Mounting Bolt	6	Not Serviced Separately	See Page 8 for kit
11+	Lockwasher	6		
12+	Dust Shield (Half)	2		
13+	Spider Sub-Assembly	1	Varies	See Page 7 for correct part numbers
14+	Anchor Pin Bushing	2	Not Serviced Separately	See Page 8 for kit
15+	Anchor Pin	2		
16	Steel Spacer Plate	1	150HS103	.060" Thick
17+	Camshaft	1	Varies	See Page 5 for correct part numbers
18+	Cam Roller	2	Not Serviced Separately	See Page 8 & 9 for kits
19+	Shoe and Lining Assembly	2	Varies	See Page 6 for correct part numbers
20+	Return Spring Pin	2	Not Serviced Separately	See Pages 8 & 9 for kits
21+	Shoe Retainer Spring	2		
22+	Shoe Return Spring	1		
23+	Lining	4		
24+	Brake Lining Rivet	A/R		
25+	Snap Ring	4		
26+	Washer	4		
27+	Bronze Bushing	4		
28+	Brake Roller Spring	2		
29+	Maching Screw/Nut Combination	A/R		

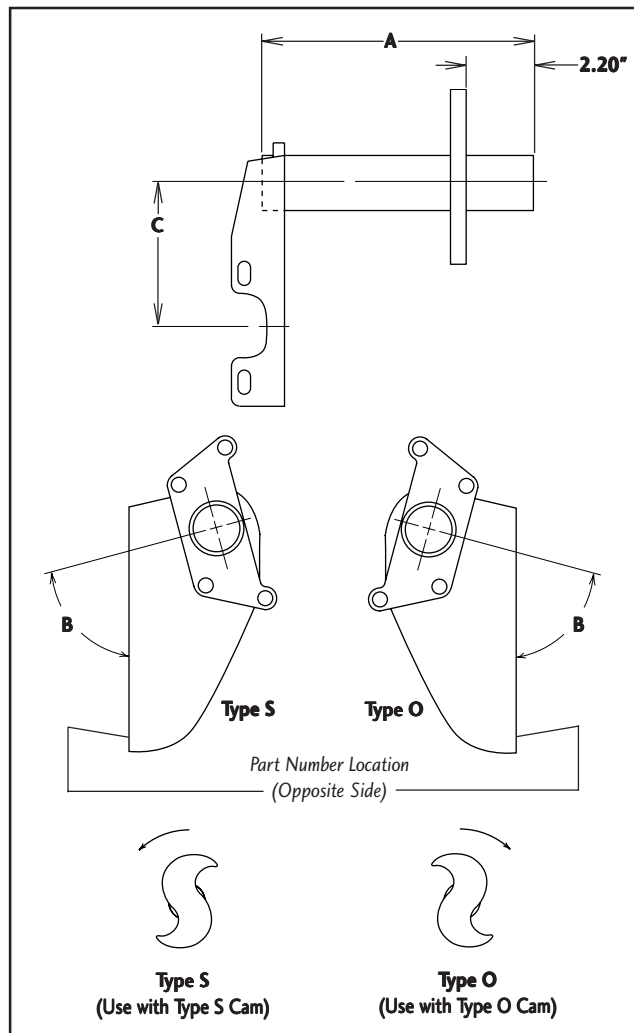
\* Item included in Kit

A/R = As Required



# CAMSHAFT BRACKET ASSEMBLY

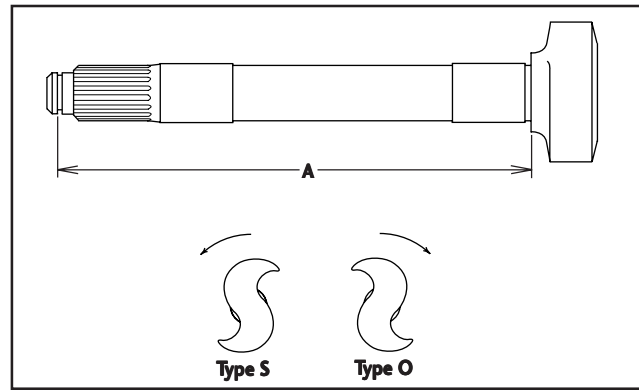
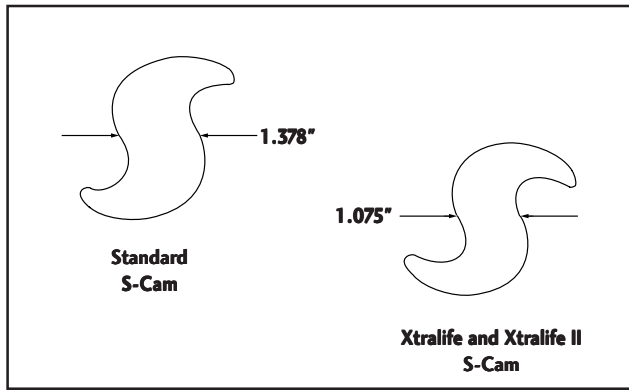
- A - Barrel	- B - Index Angle	- C - Slack Adjuster	Bracket Type	Spicer Part Number
5.36"	288°	5.50/6.00	S	165WH126-2X
5.36"	288°	5.50/6.00	O	165WH127-2X
5.36"	300°	5.50	S	165WH122-2X
5.36"	300°	5.50	O	165WH123-2X
5.36"	307°	5.50	S	165WH122-1X
5.36"	307°	5.50	O	165WH123-1X
5.77"	281°	6.00	S	165WH118-1X
5.77"	281°	6.00	O	165WH119-1X
6.14"	277°	6.00	S	165WH114-1X
6.14"	277°	6.00	O	165WH115-1X
6.68"	20°	5.50/6.00	S	165WH126-1X
6.68"	20°	5.50/6.00	O	165WH127-1X
7.50"	310°	5.50	S	165WH133-3X
7.50"	310°	5.50	O	165WH134-3X
8.12"	60°	5.50	S	165WH128-4X
8.12"	60°	5.50	O	165WH129-4X
8.12"	310°	5.50	S	165WH128-2X
8.12"	310°	5.50	O	165WH129-2X
8.12"	310°	5.50/6.00	S	165WH126-4X
8.12"	310°	5.50/6.00	O	165WH127-4X
8.83"	64°	5.50/6.00	O	165WH108-12X
8.83"	64°	5.50/6.00	S	165WH109-12X
8.83"	74°	5.50/6.00	O	165WH108-18X
8.83"	74°	5.50/6.00	S	165WH109-18X
8.83"	78°	5.50/6.00	O	165WH108-1X
8.83"	78°	5.50/6.00	S	165WH109-1X
8.83"	88°	5.50/6.00	O	165WH108-17X
8.83"	88°	5.50/6.00	S	165WH109-17X
9.14"	55°	5.50/6.00	O	165WH108-9X
9.14"	55°	5.50/6.00	S	165WH109-9X
9.14"	60°	5.50	S	165WH128-6X
9.14"	60°	5.50	O	165WH129-6X
9.14"	75°	5.50/6.00	O	165WH108-10X
9.14"	75°	5.50/6.00	S	165WH109-10X
9.14"	80°	5.50/6.00	O	165WH108-7X
9.14"	80°	5.50/6.00	S	165WH109-7X
9.88"	80°	5.50/6.00	O	165WH108-4X
9.88"	80°	5.50/6.00	S	165WH109-4X
10.08"	45°	5.50/6.00	O	165WH108-20X
10.08"	45°	5.50/6.00	S	165WH109-20X
10.08"	60°	5.50/6.00	O	165WH108-19X
10.08"	60°	5.50/6.00	S	165WH109-19X
10.58"	80°	5.50/6.00	O	165WH108-2X
10.58"	80°	5.50/6.00	S	165WH109-2X
10.58"	80°	5.50/6.00	O	165WH108-6X
10.58"	80°	5.50/6.00	S	165WH109-6X
10.78"	55°	5.50/6.00	O	165WH108-15X
10.78"	55°	5.50/6.00	S	165WH109-15X
10.78"	83°	5.50/6.00	O	165WH108-8X
10.78"	83°	5.50/6.00	S	165WH109-8X



Note: All brackets are sold ready for installation. Assembly includes items 4,5,6,9.  
(Some assemblies may vary slightly.)

- A - Barrel	- B - Index Angle	- C - Slack Adjuster	Bracket Type	Spicer Part Number
10.78"	85°	5.50/6.00	O	165WH108-5X
10.78"	85°	5.50/6.00	S	165WH109-5X
11.08"	65°	5.00/5.50	O	165WH150-1X
11.08"	65°	5.00/5.50	S	165WH151-1X
11.08"	65°	5.50/6.00	O	165WH108-11X
11.08"	65°	5.50/6.00	S	165WH109-11X
12.20"	56°	5.50/6.00	S	165WH131-6X
12.20"	56°	5.50/6.00	O	165WH132-6X
12.20"	69°	5.50/6.00	S	165WH131-5X
12.20"	69°	5.50/6.00	O	165WH132-5X
12.20"	91°	5.50/6.00	S	165WH131-3X
12.20"	91°	5.50/6.00	O	165WH132-3X
14.68"	79°	5.50/6.50	S	165WH169-1X
14.68"	79°	5.50/6.50	S	165WH170-1X

# CAMSHAFTS

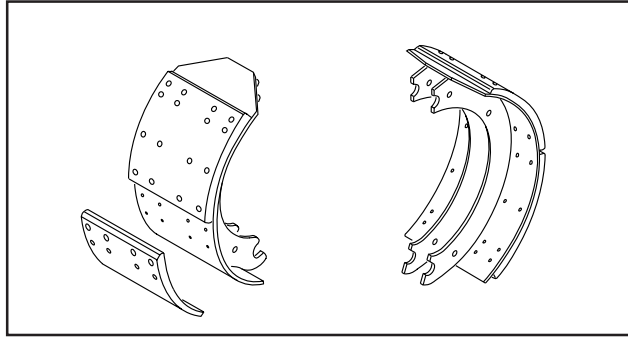


Note: Length A is measured to the outside of the snap ring groove.

- A - Shaft Length	Camshaft Type	Brake Model	Spicer Part Number
7.04"	S	XL/XL II	165 WK 110 - 12
7.04"	O	XL/XL II	165 WK 111 - 12
7.82"	O	STD	165 WK 104 - 8
7.82"	S	STD	165 WK 105 - 8
8.23"	O	STD	165 WK 104 - 4
8.23"	S	STD	165 WK 105 - 4
8.60"	O	STD	165 WK 104 - 2
8.60"	S	STD	165 WK 105 - 2
9.14"	O	STD	165 WK 104 - 9
9.14"	S	STD	165 WK 105 - 9
9.97"	S	XL/XL II	165 WK 110 - 11
9.97"	O	XL/XL II	165 WK 111 - 11
9.97"	O	STD	165 WK 104 - 10
9.97"	S	STD	165 WK 105 - 10
10.58"	O	STD	165 WK 104 - 13
10.58"	S	STD	165 WK 105 - 13
10.58"	S	XL/XL II	165 WK 110 - 13
10.58"	O	XL/XL II	165 WK 111 - 13
11.29"	O	STD	165 WK 104 - 1
11.29"	S	STD	165 WK 105 - 1
11.29"	S	XL/XL II	165 WK 110 - 1
11.29"	O	XL/XL II	165 WK 111 - 1

- A - Shaft Length	Camshaft Type	Brake Model	Spicer Part Number
11.60"	O	STD	165 WK 104 - 7
11.60"	S	STD	165 WK 105 - 7
12.34"	O	STD	165 WK 104 - 5
12.34"	S	STD	165 WK 105 - 5
12.54"	S	XL/XL II	165 WK 110 - 14
12.54"	O	XL/XL II	165 WK 111 - 14
13.04"	O	STD	165 WK 104 - 3
13.04"	S	STD	165 WK 105 - 3
13.24"	O	STD	165 WK 104 - 6
13.24"	S	STD	165 WK 105 - 6
13.24"	S	XL/XL II	165 WK 110 - 3
13.24"	O	XL/XL II	165 WK 111 - 3
13.54"	O	STD	165 WK 104 - 11
13.54"	S	STD	165 WK 105 - 11
14.66"	S	XL/XL II	165 WK 110 - 4
14.66"	O	XL/XL II	165 WK 111 - 4
15.88"	S	XL/XL II	165 WK 110 - 9
15.88"	O	XL/XL II	165 WK 111 - 9
17.14"	S	XL/XL II	165 WK 110 - 16
17.14"	O	XL/XL II	165 WK 111 - 16

# SHOE AND LINING ASSEMBLY

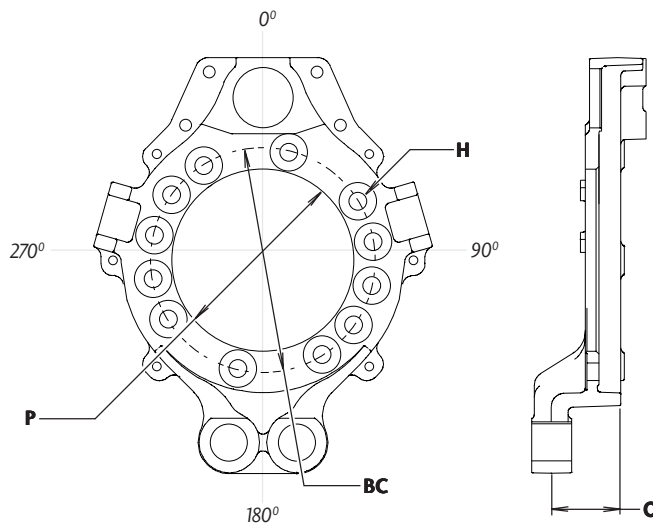


Brake Size	Lining Material	Lining Type	Spicer Part Number
16.5" x 5"	NAB10	STD	165 WN103 - 1 X
	E145A	STD	165 WN103 - 3 X
	931 - 92	STD	165 WN103 - 4 X
	MB21	XL II	165 WN125 - 1 X
	3030 - 197	XL II	165 WN125 - 2 X
	931 - 162	XL II	165 WN125 - 3 X
	CM22A	XL II	165 WN125 - 4 X
	931 - 162	STD	165 WN102 - 1 X
16.5" x 6"	E145A	STD	165 WN102 - 2 X
	NAB-456	STD	165 WN102 - 3 X
	NAB-894	XL	165 WN107 - 2 X*
	CMT22A	XL	165 WN107 - 3 X*
	MB21	XL II	165 WN123 - 1 X
	3030 - 197	XL II	165 WN123 - 2 X
	931 - 162	XL II	165 WN123 - 3 X
	CM22A	XL II	165 WN123 - 4 X
	NAB-456	XL II	165 WN123 - 5 X
	MB23	XL II	165 WN123 - 6 X
16.5" x 7"	NAB-9ML	STD	165 WN101 - 1 X
	931 - 162	STD	165 WN101 - 2 X

Brake Size	Lining Material	Lining Type	Spicer Part Number
16.5" x 7"	E145A	STD	165 WN101 - 3 X
	NAB-456	STD	165 WN101 - 8 X
	NAB-9ML	XL	165 WN104 - 1 X
	931 - 162	XL	165 WN104 - 2 X
	E145A	XL	165 WN104 - 3 X
	NAB-456	XL	165 WN104 - 8 X
	MB23	XL	165 WN104 - 10 X
	SD1	XL	165 WN104 - 9 X
	MB21	XL II	165 WN116 - 1 X
	MB23	XL II	165 WN116 - 2 X
	931 - 162	XL II	165 WN116 - 3 X
	E145A	XL II	165 WN116 - 4 X
	NAB-456	XL II	165 WN116 - 5 X
	3030 - 197	XL II	165 WN116 - 6 X
16.5" x 10"	NAB-718	XL II	165 WN116 - 7 X
	SD1	XL II	165 WN116 - 8 X
	NAB-894	XL	165 WN108 - 2 X*
	CMT22A	XL	165 WN108 - 3 X*

\* Cast Shoe and Lining Assembly uses Machine Screw/Nut combination to fasten lining to the shoe.

# SPIDER SUB-ASSEMBLY





# SPIDER SUB-ASSEMBLY

- O - Offset	- P - Pilot Dia.	- BC - Bolt Circle	- H - Hole Dia.	Number of Mounting Holes	Mounting Hole Clocking Positions	Spicer Part Number
1.31"	5.88"	7.12"	.59"	12	0°, 35°, 65°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 300°, 330°	165 WS156-X
1.31"	5.88"	7.12"	.59"	12	0°, 30°, 60°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 295°, 325°	165 WS157-X
1.75"	5.50"	7.25"	.66"	7	7°, 107°, 133°, 161°, 187°, 287°, 313°	165 WS183-X
1.75"	5.50"	7.25"	.66"	7	47°, 73°, 173°, 199°, 227°, 253°, 353°	165 WS184-X
1.75"	5.50"	7.25"	.66"	7	107°, 133°, 161°, 187°, 287°, 313°, 341°	165 WS201-X
1.75"	5.50"	7.25"	.66"	7	19°, 47°, 73°, 173°, 199°, 227°, 253°	165 WS202-X
1.75"	5.50"	7.25"	.66"	7	19°, 47°, 73°, 173°, 199°, 227°, 353°	165 WS228-X
1.75"	5.50"	7.25"	.66"	7	7°, 133°, 161°, 187°, 287°, 313°, 341°	165 WS229-X
1.75"	5.50"	7.25"	.66"	8	7°, 107°, 133°, 161°, 187°, 287°, 313°, 341°	165 WS160-X
1.75"	5.50"	7.25"	.66"	8	19°, 47°, 73°, 173°, 199°, 227°, 253°, 353°	165 WS161-X
1.75"	5.75"	7.25"	.78"	6	72°, 98°, 152°, 206°, 252°, 332°	165 WS134-X
1.75"	5.75"	7.25"	.78"	6	28°, 54°, 108°, 208°, 262°, 288°	165 WS135-X
1.75"	5.75"	7.25"	.78"	6	13°, 113°, 139°, 193°, 293°, 347°	165 WS136-X
1.75"	5.75"	7.25"	.78"	6	13°, 67°, 167°, 221°, 247°, 347°	165 WS137-X
1.75"	5.75"	7.25"	.78"	7	7°, 107°, 133°, 161°, 187°, 287°, 313°	165 WS219-X
1.75"	5.75"	7.25"	.78"	7	47°, 73°, 173°, 199°, 227°, 253°, 353°	165 WS220-X
1.75"	5.88"	7.12"	.59"	12	0°, 30°, 60°, 90°, 115°, 145°, 180°, 210°, 240°, 270°, 300°, 330°	165 WS194-X
1.75"	5.88"	7.12"	.59"	12	0°, 30°, 60°, 90°, 120°, 150°, 180°, 215°, 245°, 270°, 300°, 330°	165 WS195-X
1.75"	5.88"	7.12"	.59"	12	0°, 35°, 65°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 300°, 330°	165 WS215-X
1.75"	5.88"	7.12"	.59"	12	30°, 60°, 90°, 120°, 150°, 180°, 210°, 240°, 270°, 295°, 325°	165 WS216-X
1.75"	6.75"	8.25"	.66"	10	14°, 59°, 104°, 126°, 149°, 194°, 239°, 284°, 306°, 329°	165 WS211-X
1.75"	6.75"	8.25"	.66"	10	32°, 54°, 77°, 122°, 167°, 212°, 234°, 257°, 302°, 347°	165 WS212-X
1.75"	6.75"	8.25"	.66"	11	22°, 67°, 90°, 112°, 135°, 157°, 202°, 247°, 292°, 315°, 337°	165 WS158-X
1.75"	6.75"	8.25"	.66"	11	22°, 45°, 67°, 112°, 157°, 202°, 225°, 247°, 270°, 292°, 337°	165 WS159-X
1.75"	6.75"	8.25"	.66"	11	13°, 59°, 81°, 104°, 126°, 149°, 194°, 239°, 284°, 306°, 329°	165 WS189-X
1.75"	6.75"	8.25"	.66"	11	31°, 54°, 76°, 121°, 166°, 211°, 234°, 256°, 279°, 301°, 347°	165 WS190-X
1.75"	6.75"	8.25"	.66"	12	32°, 54°, 77°, 99°, 122°, 167°, 212°, 234°, 257°, 279°, 302°, 347°	165 WS175*
1.75"	6.75"	8.25"	.66"	12	13°, 58°, 81°, 103°, 126°, 148°, 193°, 238°, 261°, 283°, 306°, 328°	165 WS176*
1.75"	6.75"	8.25"	.66"	12	45°, 68°, 90°, 113°, 135°, 158°, 203°, 225°, 248°, 270°, 293°, 315°	165 WS241*
1.75"	6.75"	8.25"	.66"	12	45°, 68°, 113°, 135°, 158°, 180°, 203°, 225°, 248°, 270°, 293°, 315°	165 WS242*
1.75"	6.75"	8.25"	.66"	12	45°, 68°, 90°, 113°, 135°, 158°, 180°, 203°, 225°, 248°, 293°, 315°	165 WS243*

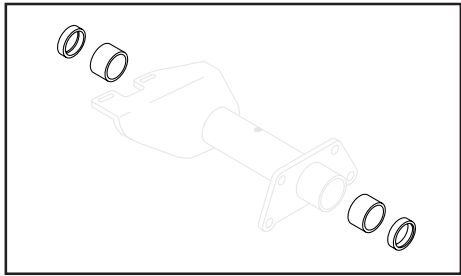
NOTE: Use illustration on Page 6 as reference

\* Standard Spider Sub-Assembly used with serviceable anchor pins.

# KITS

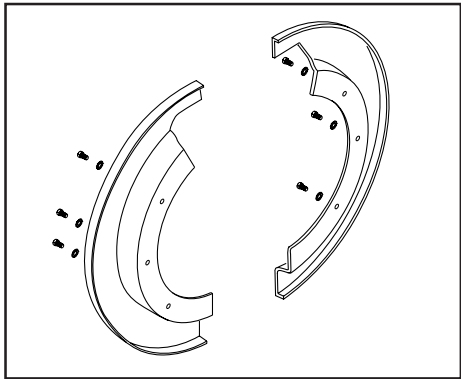
## SEAL AND BUSHING

Bushing Type	Spicer Part Number	Included Items
Nylon	165 KB 100 -X	4, 5
Bronze	165 KB 129 -X	



## DUST SHIELD

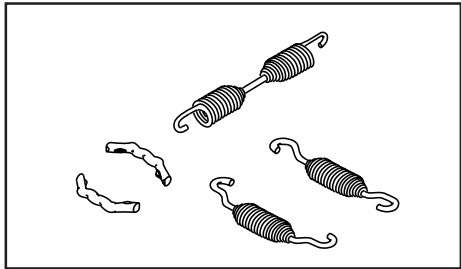
Brake Size	Spicer Part Number	Included Items
16.5" x 5"	165 KB 111 -X	10, 11, 12
	165 KB 114 -X	
16.5" x 6"	165 KB 102 -X	
	165 KB 111 -X	
16.5" x 7"	165 KB 102 -X	



## SPRING

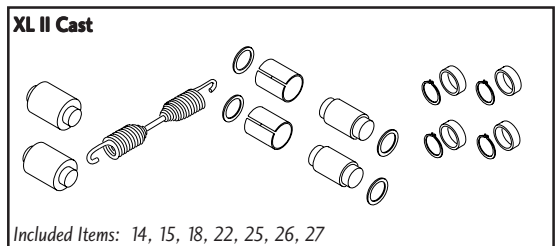
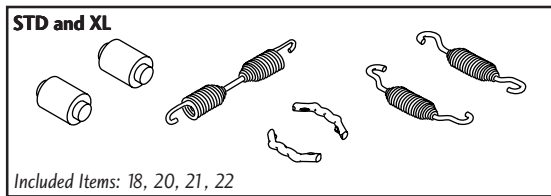
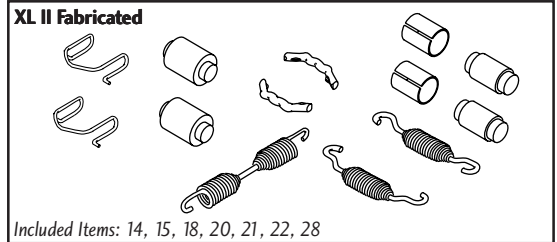
Brake Size	Brake Model	Spicer Part Number	Included Items
16.5" x 5"	STD	150 KB 101 -X	20, 21, 22
16.5" x 6"	STD	150 KB 101 -X	
	STD	150 KB 101 -X	
16.5" x 7"	XL	150 KB 112 -X	
	XL II	150 KB 116 -X	

Note: 150KB112-X Kit does not include Return Spring Pins.

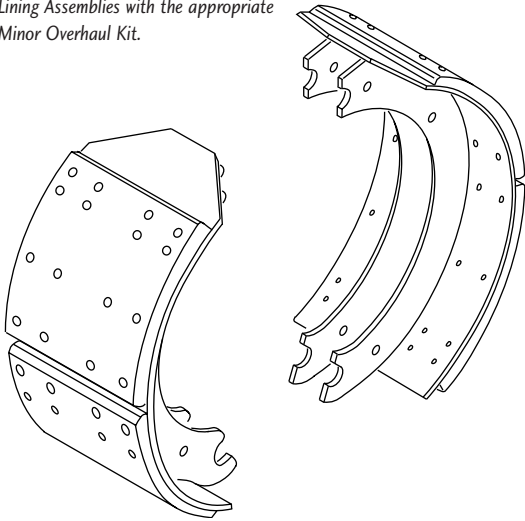


## MINOR OVERHAUL

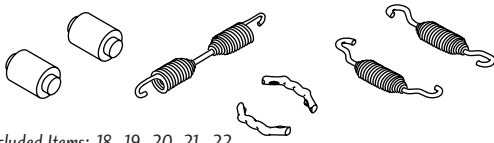
Shoe Type	Lining Type	Spicer Part Number	Included Items
Fabricated	STD	150 KB 106 -X	(See boxes)
	XL	150 KB 113 -X	
	XL II	150 KB 117 -X *	
Cast	XL II	165 KB 128 -X **	



Major Overhaul Kits contain Shoe and Lining Assemblies with the appropriate Minor Overhaul Kit.

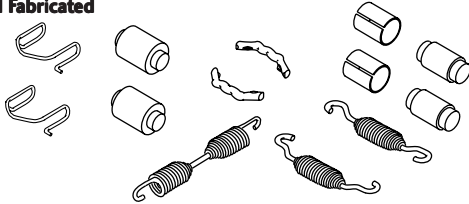


### STD and XL



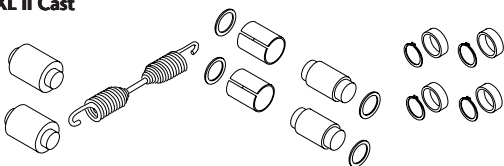
Included Items: 18, 19, 20, 21, 22

### XL II Fabricated



Included Items: 14, 15, 18, 19, 20, 21, 22, 28, 29\*

### XL II Cast



Included Items: 14, 15, 18, 19, 22, 25, 26, 27, 29\*

\* Used on Cast Shoes only

## MAJOR OVERHAUL

Brake Size	Lining Material	Lining Type	Spicer Part Number	Included Items
16.5" x 5"	NAB10	STD	165 KB 113 -X	See Boxes (Left)
	E145A	STD	165 KB 116 -X	
	NAB-718	STD	165 KB 168 -X	
	MB21	XL II	165 KB 171 -X	
	3030-197	XL II	165 KB 172 -X	
	931-162	XL II	165 KB 173 -X	
	CM22A	XL II	165 KB 174 -X	
16.5" x 6"	931-162	STD	165 KB 121 -X	
	NAB-456	STD	165 KB 127 -X	
	MM-152	STD	165 KB 141 -X	
	E145A	STD	165 KB 122 -X	
	NAB-894	XL	165 KB 132 -X	
	CMT22A	XL	165 KB 185 -X	
	MB21	XL II	165 KB 175 -X	
	3030-197	XL II	165 KB 176 -X	
	931-162	XL II	165 KB 177 -X	
	CM22A	XL II	165 KB 178 -X	
16.5" x 7"	NAB-456	XL II	165 KB 179 -X	
	MB23	XL II	165 KB 180 -X	
	NAB-9ML	STD	165 KB 107 -X	
	931-162	STD	165 KB 108 -X	
	E145A	STD	165 KB 109 -X	
	E145A	XL	165 KB 125 -X	
	MB23	XL	165 KB 139 -X	
	931-162	XL	165 KB 143 -X	
	NAB-456	XL	165 KB 147 -X	
	NAB-9ML	XL	165 KB 149 -X	
	3030-197	XL II	165 KB 162 -X	
	MB21	XL II	165 KB 154 -X	
	MB23	XL II	165 KB 153 -X	
931-162	XL II	165 KB 152 -X		
16.5" x 10"	E145A	XL II	165 KB 155 -X	
	NAB-456	XL II	165 KB 161 -X	
	NAB-718	XL II	165 KB 169 -X	
	SD1	XL II	165 KB 165 -X	
	NAB-894	XL	165 KB 133 -X	
	CMT22A	XL	165 KB 184 -X	

## NOTES

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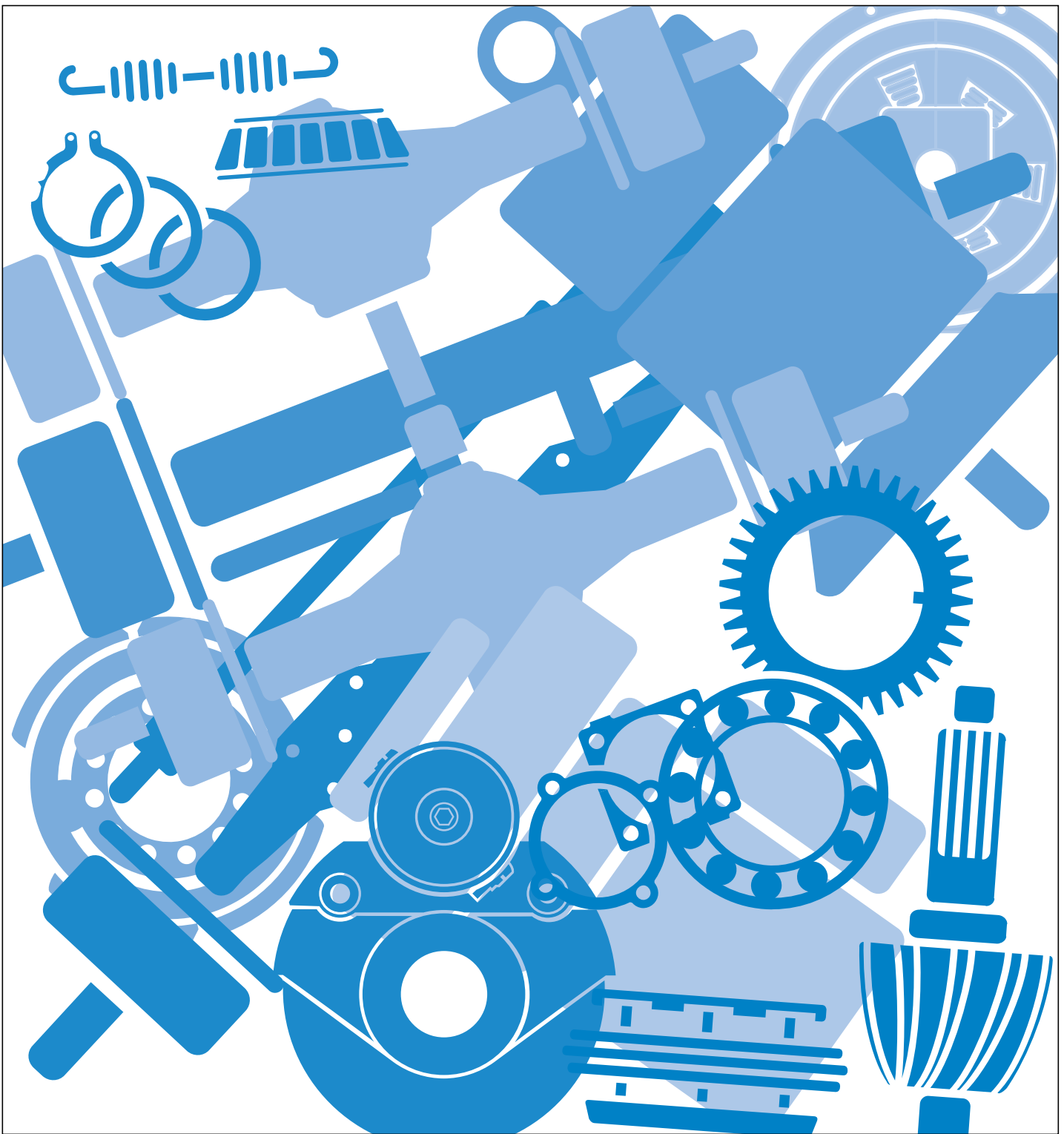


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