



RIDEWELL STANDARD/LARGE DIAMETER AXLE SUSPENSIONS DRUM-/DISC-BRAKE PARTS GUIDE

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Preventive Maintenance

Warranty


RIDEWELL SUSPENSIONS
 The Engineered Suspension Company

PART NO:

SUSP. NO:

SERIAL NO:

GROSS AXLE WEIGHT RATING CERTIFICATION IS PER THE FINAL
STAGE MANUFACTURER OR ALTERER.

THIS PRODUCT MAY BE COVERED UNDER ONE OR MORE
PATENTS, ADDITIONAL PATENTS MAY BE PENDING.

www.ridewellcorp.com

(800) 641-4122

SUSPENSIONS — 5" STANDARD OR 5 3/4" LARGE DIAMETER AXLE (LDA)

Primary Axle	Auxiliary Axle - NonSteerable
RAR-240	RCA-215-Truck
RAR-260	RCA-215T-Trailer
RAR-266 (LDA)	RUL-245-Truck
RAR-200	RUL-245T-Trailer
RAR-243	
RAR-251 (Stub-Axle)	
RAR-221-55K	
RAR-244-16K	

Suspension ID Tag

The **Part Number** is listed as a (606-)Assembly Number when an axle and-or other system components are factory installed with the suspension.

The **Suspension Number** and **Serial Number** lists the model and date of manufacture of the suspension.

Please refer to the suspension number/part number and serial number on the Suspension Identification Tag when contacting Ridewell for customer service, replacement parts and warranty information.


**RIDEWELL
SUSPENSIONS**

MODEL:		PART NO.	
SERIAL NO.		CAPACITY	TON

Axle-Body ID Tag

The **Base-Axle Part Number** (165-) and the **Serial Number** of the axle tube are listed on the Axle-Body Identification Tag.

The **165XXXX Base-Axle Part Number** refers to Ridewell-branded 5" and 5 3/4"-round axles manufactured in various axle-wall thicknesses and axle track-widths.

Notes and Cautions

Ridewell recommends reading through the Installation/Service Manual (ISM) of each suspension model before performing any maintenance or installation procedure.

All work should be completed by a trained technician using proper tools and safe work procedures. The publication uses two types of service notes for important safety guidelines:

"NOTE": Provides additional instructions and procedures to complete tasks and ensure that suspension components function properly.

CAUTION Indicates a hazardous situation or unsafe practice that, if not avoided, could result in equipment damage and serious injury.

Refer to 165- Part Number to find the Drum- or Disc-Brake Axle Type. Click on the page link under the axle-type to go to the proper brake service parts page.

Drum-Brake Axle Equipment Components

“-Δ” — *drum-brake cam requires a custom cam-length.*

[LONG CAM PAGE 5](#)

1650035
1650036
1650053
1650054
1650057
1650059
1650061
1650062
1650063
1650064
1650069-Δ
1650070
1650072
1650072A
1650074
1650085
1650087
1650093
1650094
1650096-Δ
1650097-Δ
1650100
1650103-Δ
1650104-Δ
1650105-Δ
1650106-Δ
1650107-Δ
1650108-Δ
1650109
1650110
1650111
1650112
1650114
1650120
1650123
1650127
1650128
1650131
1650140
1650146
1650148-Δ
1650149
1650150
1650151
1650178
1650179
1650180
1650181
1650185-Δ
1650188
1650192-Δ
1650196-Δ

1650201-Δ
1650214
1650216-Δ
1650239
1650264-Δ
1650325
1650342
1650343
1650358
1650364
1650388
1650401
1650451
1650457

[LONG CAM W/ COVER..... PAGE 6](#)

1650056
1650058 LDA
1650071
1650098
1650099
1650101
1650102
1650134
1650136
1650141
1650144-Δ
1650160
1650166
1650169
1650182
1650215
1650217-Δ
1650218-Δ
1650219
1650352
1650353
1650365
1650366
1650367
1650368
1650369
1650370
1650371
1650372
1650373

[\(LDA\) SHORT CAM W/ CVR PAGE 7](#)

1650299
1650335
1650347
1650058D
1650205
1650205D
1650206
1650206D
1650207
1650207D
1650251
1650251D

1650270D
1650271D
1650296D
1650297D
1650326D
1650377
1650378
1650381
1650415
1650428

[12.25" X 7.5" BRAKE SIZE
\(NONSTANDARD AXLE\) ... PAGE 11](#)

1650076
1650077
1650119
1650436
1650075
1650089
1650155
1650186
1650202
1650227
1650268
1650437

Air Disc Brake (ADB) Axle Equipment Components

“Pattern” refers to hole pattern on the torque plate.

[ADB-PATTERN 1 PAGE 13](#)

1650168
1650175
1650176
1650177
1650187
1650193
1650213
1650222
1650228
1650229
1650234
1650235
1650236
1650237
1650238
1650395
1650396
1650397
1650398

[ADB-PATTERN 2 PAGES 14-15](#)

1650240
1650241
1650254
1650258
1650259
1650260
1650300
1650312

1650341
1650348
1650351
1650359
1650360
1650362
1650418
1650435
1650453
1650455
1650380
1650400
1650402

[ADB-PATTERN 3 OR 4 PAGE 16](#)

1650265
1650266
1650294
1650306
1650438
1650442

[ADB-PATTERN 5 PAGE 17](#)

1650289
1650290
1650307

Drop-Center Axles

[AIR DISC BRAKE \(ADB\) PG 21](#)

1650245 (D'CTR; ADB)
1650246 (D'CTR; ADB)
1650389 (INV D'CTR; ADB)
1650393 (D'CTR; ADB)
1650432 (INV D'CTR; ADB)

[DRUM BRAKE-LONG CAM.... PG 22](#)

1650051 (D'CTR)
1650055 (D'CTR)
1650081 (INV D'CTR)
1650083 (INV D'CTR)
1650124 (INV D'CTR)
1650137 (INV D'CTR)
1650263 (INV D'CTR)

[SHORT CAM W/ COVER..... PG 23](#)

1650287 (INV D'CTR)

Modified Axle Part Number Decoder — 164 X X X X X XXX

164	1-thru-3	0-thru-9	1-thru-3	0-5 (Drum) Alpha (ADB)	"B" or "C"	SERIALIZED NUMBER
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Click on link to visit page
[165– Base-Axle Reference](#)
[Dust Shield/ABS CMPNTS](#)
[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)

Track-Width	
1	71.5"
2	77.5"
3	Other

Axle Camber	
B	No Camber
C	Camber

	Spindle Type	Axle Diameter	Wall-Thickness
0	Other	—	—
1	(N) Tapered	5" Standard	.591"
2	(P) Parallel		
3	(N) Tapered	5" Standard	.750"
4	(P) Parallel		
5	(N) or (P)	5" Standard	.470"
6	(N) Tapered	5 3/4" LDA	.394"
7	(P) Parallel		
8	(N) Tapered		
9	(P) Parallel	5 3/4" LDA	.335"

Anti-Lock Brake System (ABS) Prep	
1	No Tone Ring; No Sensor
2	Tone Ring; No Sensor
3	Tone Ring; Sensor

16.5" x 7.0" Drum Brake Capacity/Brake Shoe Type	
0	No Brake Shoes
1	20K Q FMSI 4515** (Q+ after SEP 2022)
2	23K Q FMSI 4515** (Q+ after SEP 2022)
3	20K Q+ FMSI 4707
4	23K Q+ FMSI 4707
5	25K Q+ FMSI 4707

	Air Disc Brake–Torque Plate Pattern	Wheel-Size
D	Pattern 1–Wabco PAN22	22.5"
W	Pattern 2–Wabco PAN22	
B	Pattern 2–Bendix 22X	
L	Pattern 2–Bendix-22XLT	
H	Pattern 2–Haldex	19.5"
P	Pattern 3 or 4–Wabco PAN19	
S	Pattern 5–Wabco PAN17	

NonStandard Axle — 5" Drum Brake Axle w/ (N) Spindle (12.25" x 7.5" Brake Size) 1644204 - "B" or "C" (Camber) - Serialized Number

164- GLOSSARY

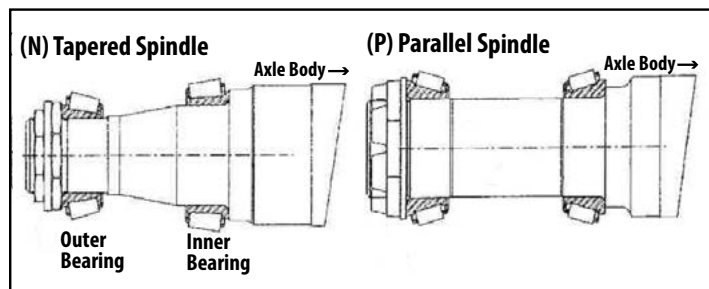
Axle Track (Width)

The distance between the centerline of two wheels mounted on one axle.
 The theoretical centerline of a dual-wheel configuration sets axle-track specification.

Spindle Type/Axle Wall

A Parallel Spindle extends out parallel to the axle-body. A Tapered Spindle is smaller at the end than the axle-body.

Axle-wall thickness affects the load capacity; the thicker wall has a higher capacity.



A Parallel Spindle extends out from the axle-end parallel to the axle-body. A Tapered Spindle is smaller at the end of the spindle than the axle-body.

ABS Preparation

How disc- and drum-brake axles are prepared for the Anti-Lock Braking System (ABS) installation.

1. Wheel hub is prepared without a tone ring.
2. Hub is prepped with an installed tone ring (Ridewell Standard)
3. Both the tone ring and ABS sensor are installed.

Brake Size/Capacity

The maximum stopping power of the drum or disc brake. The brake rating is dependent on drum/disc brake type and size, the type of brake pad/shoe, the brake's input power, the brake's structural rating and the tire static load radius.

NOTE: The brake input power for cam/disc brakes includes the air chamber size and slack adjuster length.

CAUTION The Brake Rating must not be over- or under-sized. Contact Ridewell Customer Service to confirm the suspension application.

Camber (Optional)

Axle-camber is the inward or outward angle of mounted tires. Axles are cambered to bow the axle. Weight on the axle will bring the wheel camber to zero.

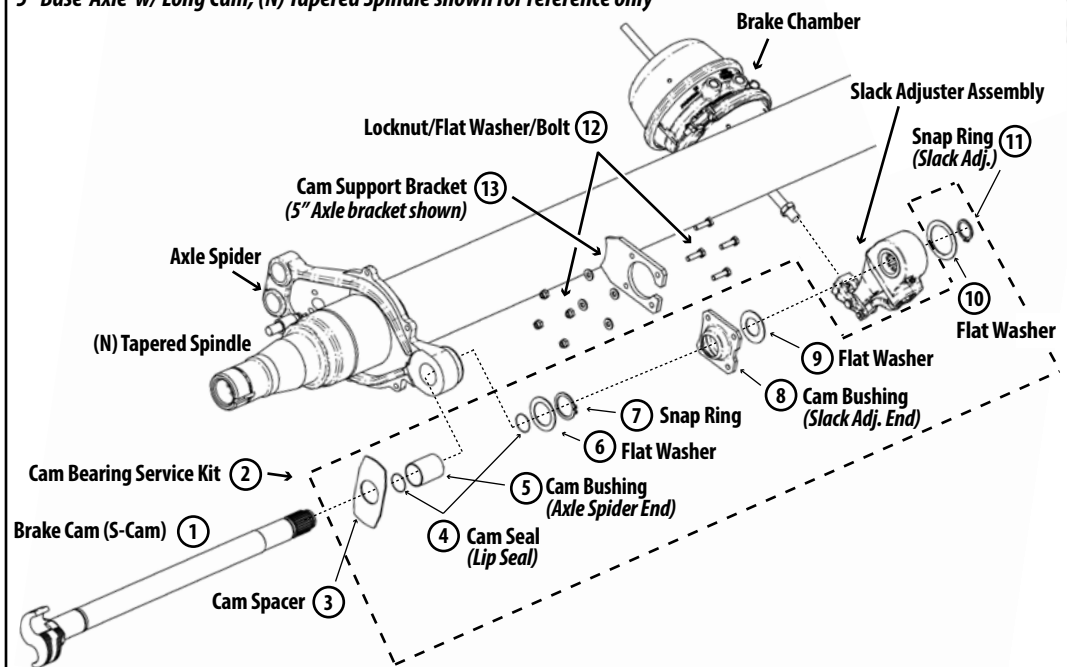
A positive axle camber means the top of the tire is farther apart than the bottom part of the tire.

NOTE: Cambered axles should be installed with the center-bow up.

16.5" x 7.0" Drum Brake – Long Cam

5" or 5 3/4" Large Diameter Axle – Spindle Type can vary

5" Base-Axle w/ Long Cam; (N) Tapered Spindle shown for reference only



LONG CAM
16.5" x 7.0" BRAKE SIZE

Click on link to visit page

[165– Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

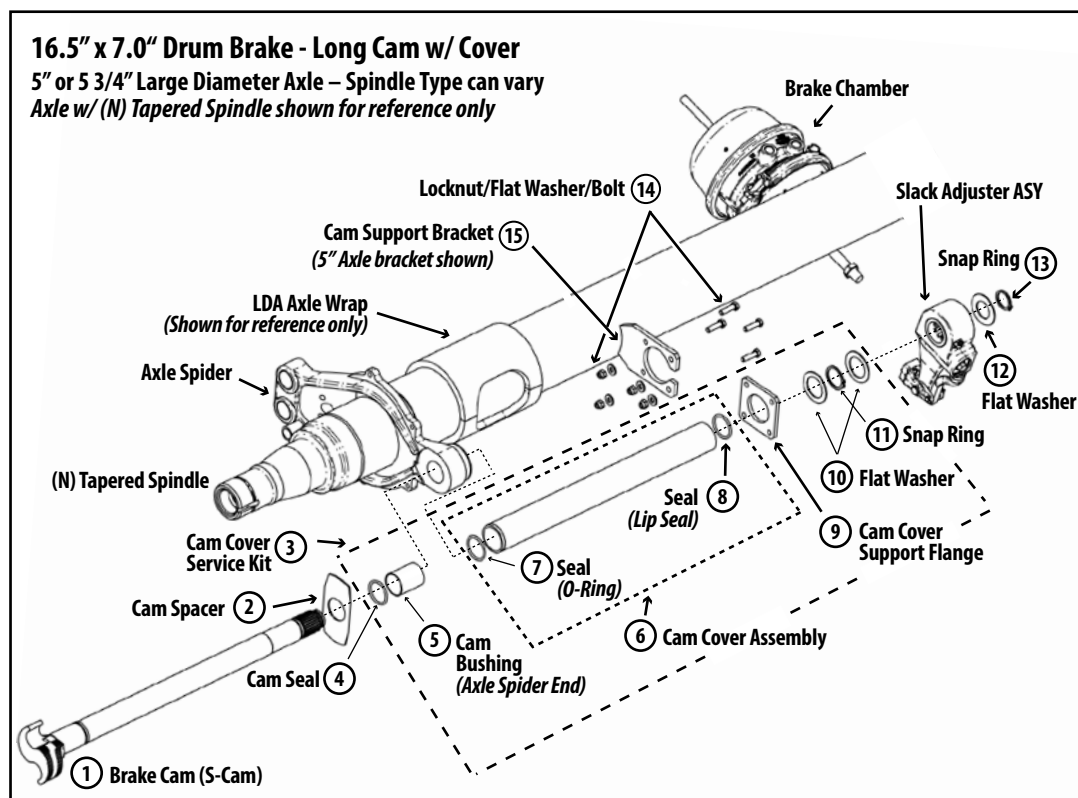
[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

DIAG No	QTY/Axle	Part No.	Item Description
1	1	1667591B104	CAM L 28S 24.13" C11-0301L-0004
	1	1667591B204	CAM R 28S 24.13" C11-0301R-0004
	Drum-Brake Axle that requires custom cam-length		
	1	165xxxx-Δ	LEFT-HAND CAM (Contact Ridewell for cam-length)
	1	165xxxx-Δ	RIGHT-HAND CAM (Contact Ridewell for cam-length)
2	1	1667591B054	CAM BEARING SERVICE KIT Q&Q+
3	2	1667591B043	OUTER CAM WASH/SPCR
4	4	1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5	2	1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	2	1667591B014	SPCR - CAM SHAFT #C15-0101
7	2	1667591B015	SNAP RING CAM SHAFT #C16-0201
8	2	1667591B045	CAM SUP'T BUSH @ SLK C20-0201
9	20	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
10	2	1667591B016	WASH - CAM SHAFT #C15-0401
11	2	1667591B017	SNAP RING SLACK RET.#C16-0301
12	8	1150063	L'NUT M8-6h NI ZN #C27-0102
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)
	8	1160031	WASH M8 FLAT ZN #C28-0102
13	2	7720039	CAM BRKT FUWA 5"OD 16.5X7
	2	7004538	CAM SUPT BRKT FOR FUWA LDA

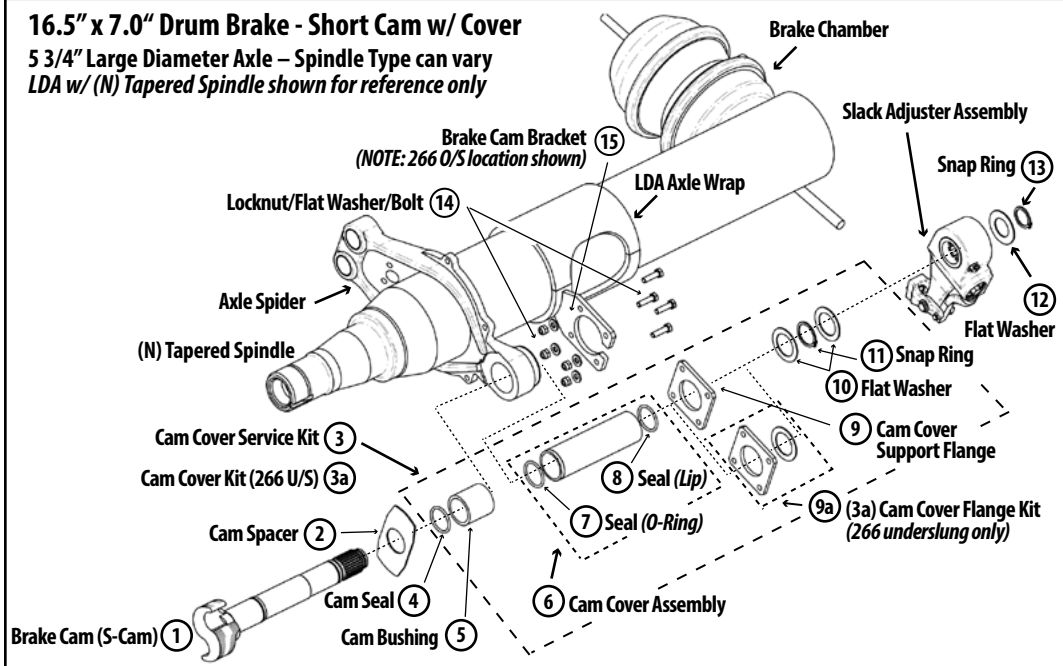
LONG CAM W/ COVER
16.5" X 7.0" BRAKE SIZE

Click on link to visit page
[165– Base-Axle Reference](#)
[Dust Shield/ABS CMPNTS](#)
[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)



DIAG No	QTY/Axle	Part No.	Item Description
1	1	1667591B106	CAM L 28S 24.13" for CAM CVR C11-0306L-00003
	1	1667591B206	CAM R 28S 24.13" for CAM CVR C11-0306R-00003
	Drum-Brake Axle that requires custom cam-length		
	1	165xxxx-Δ	LEFT-HAND CAM (Contact Ridewell for cam-length)
	1	165xxxx-Δ	RIGHT-HAND CAM (Contact Ridewell for cam-length)
2	2	1667591B043	OUTER CAM WASH/SPCR
3	2	1660306	CAM CVR SER. KIT CL=613 28SP
4	1	1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5	1	1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	1	1667591B036	CAM CVR ASY L=19.665"(CL613)
7		1660633	O-RING @ CAM TUBE 1.8x45
8		1660634	LIP SEAL @ CAM TUBE 4X47.15
9	1	1667591B037	CAM CVR FLG 90x90 w/2.0id
10	10	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
11	1	1667591B009	SNAP RING CAM SHAFT #C16-0501 (G08-01005)
12	2	1667591B016	WASH - CAM SHAFT #C15-0401
13	2	1667591B017	SNAP RING SLACK RET.#C16-0301
14	8	1150063	L'NUT M8-6h NI ZN #C27-0102
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)
	8	1160031	WASH M8 FLAT ZN #C28-0102
15	2	7720039	CAM BRKT FUWA 5"OD 16.5X7
	2	7004538	CAM SUPT BRKT FOR FUWA LDA

Click on link to visit page
[165- Base-Axle Reference](#)
[Dust Shield/ABS CMPNTS](#)
[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)



DIAG No	QTY/Axle	Part No.	Item Description
1	1	1667591B108	CAM L 28S 11.13" #C11-0306L-0001
	1	1667591B208	CAM R 28S 11.13" #C11-0306R-0001
2	2	1667591B043	OUTER CAM WASH/SPCR
3	2	1660387	CAM CVR SER. KIT CL=283 28SP
4	1	1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5	1	1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	1	1667591B049	CAM CVR ASY L=6.673:(CL283)
7		1660633	O-RING @ CAM TUBE 1.8x45
8		1660634	LIP SEAL @ CAM TUBE 4X47.15
9	1	1667591B037	CAM CVR FLG 90x90 w/2.0id
15	2	7002997	CAM SUP'T BRKT LDA (B13-6301)
10	10	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
11	1	1667591B009	SNAP RING CAM SHAFT #C16-0501 (G08-01005)
3a	2	6040225	CAM&CVR INSTL KIT 266 LM AX FOR CL283
4		1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5		1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	1	1667591B049	CAM CVR ASY L=6.673:(CL283)
7		1660633	O-RING @ CAM TUBE 1.8x45
8		1660634	LIP SEAL @ CAM TUBE 4X47.15
9a	1	7002913	CAM CVR BLT FLG 266 U/S
	1	7002914	CAM CVR WLD FLG 266 U/S
10	10	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
11	1	1667591B009	SNAP RING CAM SHAFT #C16-0501 (G08-01005)
12	2	1667591B016	WASH - CAM SHAFT #C15-0401
13	2	1667591B017	SNAP RING SLACK RET.#C16-0301
14	8	1150063	L'NUT M8-6h NI ZN #C27-0102
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)
	8	1160031	WASH M8 FLAT ZN #C28-0102
15	2	7002997	CAM SUP'T BRKT LDA (B13-6301)

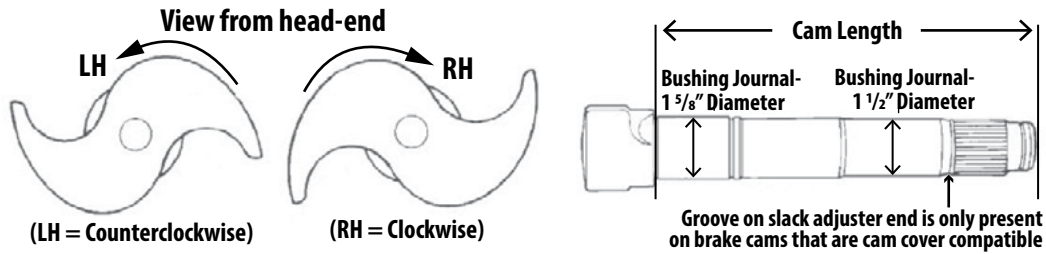
**BRAKE CHAMBER/SLACK ADJ-
16.5" X 7.0" BRAKE SIZE**

Part No.	Item Description	Extra Item Description
Brake Chamber – 5" Standard Axle		
1660174	CHMB 3030 A=5.75 RANGER MFG	CLAMP D=45 & PORTS E=90
1660250	CHMB HLDX GS3030 J=5.70 PORT@270 GOLD SEAL	HALDEX #H116691
1660285	CHMB 3030 L4=5.75 CLAMP @45, PORT@90	FUWA #T3030EBR3, RNGR #CTS3030-5.75RW
1660342	CHMB MGM TR3030LP3 X=5.63	#3230277 A=45 & B=90 X=5.625
1660345	CHMB MGM TR3030LP3TS X=5.625	#3535068 A=45 & B=90 X=5.625
1660357	CHMB 3030 3" STROKE, PORT @ 90 CLAMP @ 45	TSE 3030TN3-2390 or RANGER CTS3030LS-5.75RW
1660381	CHMB TSE 3030TN2-2338	PORT @ 90 CLAMP @ 45
1660550	CHMB WABCO 3030 W=5.75 X=270	Z=45 #925 392 056 0
1664702B303	CHMB MGM TR3030 X=5.625	MGM #3430597 A=45 & B=90
DSC*	1660176	CHMB TP30 A=5.75 DI-PRO T30EB5
	1660259	CHMB TP30 L4=5.75
DSC*	1660191	CHMB TP20 A=5.75 RANGER MFG
		(1660775 W/5.75" PUSH ROD)
Brake Chamber – 5 3/4" Large Diameter Axle (266 Overslung Suspension)		
	1660551	CHMB WABCO 3030 W=9.80 X=0
		Y=0 #925 392 044 0
DSC*	1660605	CHMB TSE 3030TL3-2493 B=9.75
		PORT @ 0 TOOL @ 180 STROKE=3.0
	1660814	CHMB 30/30 X=9.800 MGM MFG
	1667591B047	CHMB 3030 L4=9.75 FUWA
	1667591B053	CHMB HLDX GS3030 J=9.80
		CLAMP @0 & PORT @0 T3030EBR7 (A20-0159)
		#H116722 ROLLED PORT@0
DSC*	1667591B055	CHMB HLDX LS3030 J=9.80
		#1513030014 ROLLED PORT@0
DSC*	1660598	CHMB HLDX TYP 30 J=9.90
		#129300259 PORT@0 CLMP ROLLED
Brake Chamber – 5 3/4" Large Diameter Axle (266 Underslung [Low-Mount] Suspension)		
	1667591B057	CHMB 3030 L4=5.75 (266) CLAMP @0 & PORT @0
		FUWA T3030EBR5 or Ranger CTS3030X-5.75RW
Brake Chamber – Long Push-Rod (Cut push-rod to required length)		
	1660776	CHMB RANGER 3030 A=12.00 (CTS3030-12.0RW)
		CLAMP D=45 & PORTS E=90
<i>DSC* or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.</i>		

Slack Adjuster – 16.5" x 7.0" Brake Size

Part No.	Item Description	Extra Item Description
1660173	SLACK BENDIX 6.0" 1.5X28 .62NF	#K047391 W/2.0" EASY-ON CLEVIS
1660179	SLACK BENDIX 5.5" 1.5X28 .62NF	#K047176 W/2.0" EASY-ON CLEVIS
1660272	SLACK R'WELL 6.0" 1.5X28 .62NF	#A14-3275-J-1154S
1664206B011	SLACK 6.0" 28 SP 409-10673 TLR	DANA #A28SJOO-606
1664206B038	SLACK 5.5" 28 SP 409-26002 TLR	

LH and RH indicates cam rotation direction; NOT the side of the vehicle where the cam is installed.

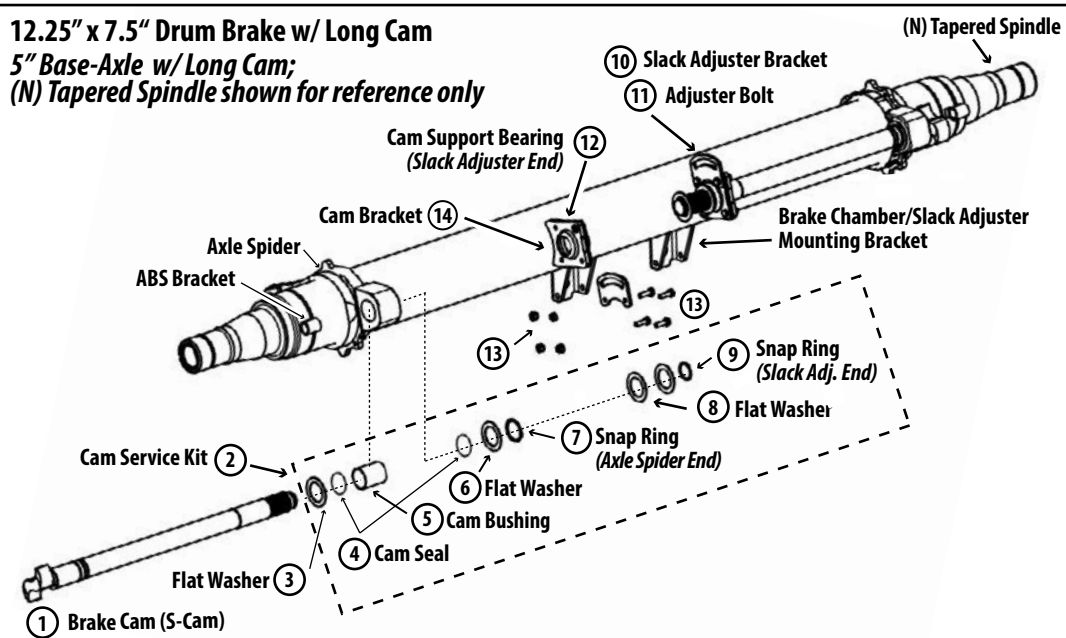


Length (inches)	Cam Cover Compatible?	Spline	Head End	Part No.	Item Description	Industry Alternative Part Number
8.750		28	LH	1667591B112	CAM L 28S 8.75" L M16WKL25-086N	M16WKL25-086N
			RH	1667591B212	CAM R 28S 8.75" L M16WKR25-086N	M16WKR25-086N
11.125	YES	28	LH	1667591B108	CAM L 28S 11.13" #C11-0306L-0001	
			RH	1667591B208	CAM R 28S 11.13" #C11-0306R-0001	
13.750		28	LH	1667591B111	CAM L 28S 13.75" M16WKL25-136N	M16WKL25-136N
			RH	1667591B211	CAM R 28S 13.75" M16WKR25-136N	M16WKR25-136N
21.125		28	LH	1667591B102	CAM L 28S 21.12" L M16WKL25-211	M16WKL25-211
			RH	1667591B202	CAM R 28S 21.12" L M16WKR25-211	M16WKR25-211
22.625		28	LH	1667591B110	CAM L 28S 22.63" C11-0301L-0012	
			RH	1667591B210	CAM R 28S 22.63" C11-0301R-0012	
23.750		28	LH	1667591B103	CAM L 28S 23.75" L M16WKL25-236	M16WKL25-236
			RH	1667591B203	CAM R 28S 23.75" L M16WKR25-236	M16WKR25-236
24.125		28	LH	1667591B104	CAM L 28S 24.13" C11-0301L-0004	
			RH	1667591B204	CAM R 28S 24.13" C11-0301R-0004	
24.125		10	LH	1667591B105	CAM L 10S 24.13" #C110302C613L	
			RH	1667591B205	CAM R 10S 24.13" #C110302C613R	
24.125	YES	28	LH	1667591B106	CAM L 28S 24.13" for CAM CVR C11-0306L-00003	
			RH	1667591B206	CAM R 28S 24.13" for CAM CVR C11-0306R-00003	
29.531	YES	28	LH	1667591B109	CAM L 28S 29.53" #C110301C750L	
			RH	1667591B209	CAM R 28S 29.53" #C110301C750R	

HUB/DRUM OPTIONS – 16.5" X 7.0" BRAKE SIZE

SPND TYPE	Hub & Drum Part No.	Item Description	Hub Part No.	Item Description	Drum Part No.	WHL-Stud Part No.
P	1660752	H&D H/P, P, ALU/CAST, PS+, LONG STUD	1660641	HUB ASY FP AH/P-T C'MET P'SET+	1660760	
	1660755	H&D H/P, P, CAST/CAST, PS+, LONG STUD	1660780	HUB STL FP H/P-T C'MET P'SET+		
		1660796	PSET+ FP COMPLETE HUB REBUILD KIT	CONMET # 10045876 — Two per Axle required		
P	1660060	H&D STL FP H/P #004-21043FLNZ			1667591B031	1660083
			1660235	HUB STL FP H/P-T 3.96" ALU SFL	1667511B027	W1402
			1660277	HUB ALU FP H/P 3.44 STUD W/ABS	1667511B027	102291
				HUB ALU FP H/P 3.44 STUD W/ABS	1667591B031	
			1660389	HUB STL FP H/P 3.96"SL ESY ROL	1667511B027	02-00045
			1660771	HUB ADI QUICKSET H/P FP 3.675 STUD W/ABS	1667511B027	1660610
				HUB ADI QUICKSET H/P FP 3.675 STUD W/ABS	1667591B031	
N	1660751	H&D H/P, N, ALU/CAST, PS+, LONG STUD	1660643	HUB ASY FN AH/P-T C'MET P'SET+	1660760	
	1660754	H&D H/P, N, CAST/CAST, PS+, LONG STUD	1660644	HUB STL FN H/P-T C'MET P'SET+		
		1660795	PSET+ FN COMPLETE HUB REBUILD KIT	CONMET # 10045875 — Two per Axle required		
N	1667511B000	H&D STL FN H/P #001-21025FLNZ			1667591B031	1660083
	1667511B004	H&D STL FN H/P #001-21025FNZ			1667591B031	1660056
			1660770	HUB ADI QUICKSET H/P FN 3.675 STUD W/ABS	1667511B027	1660610
	Discontinued*		1667511B019	HUB ALU FN H/P 3.44 STUD W/ABS	1667511B013	102189
	Discontinued*			HUB ALU FN H/P 3.44 STUD W/ABS	1667511B027	
			1667511B034	HUB STL FN H/P 3.96"SL FAT BOY		02-00045
	Discontinued*		1667511B035	HUB STL FN #HUB-01025FLTZ SFL	1667511B027	1660083
	Discontinued*			HUB STL FN #HUB-01025FLTZ SFL	1667591B031	
DSC* or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.						

12.25" x 7.5" Drum Brake w/ Long Cam
5" Base-Axle w/ Long Cam;
(N) Tapered Spindle shown for reference only



NONSTANDARD DRUM BRAKE AXLE
(12.25" X 7.5" BRAKE SIZE)

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[165- Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

[164- Modified Axle Decoder](#)

Diag No	QTY/Axle	Part No.	Item Description	Manufacturer Part Number
1	1	N/A	(594 mm) Left-Hand Cam	Meritor - R607253 RW 16500076
	1	N/A	(594 mm) Right-Hand Cam	Meritor - R607254
2	1	Meritor - R615020-Cam Service Kit (594mm Cam)		
3	2		CAM WASHER (SPIDER END)	Meritor-E-719
4	4		CAM SEAL (SPIDER END)	Meritor-R627018
5	2		CAM BUSHING (SPIDER END)	Meritor-R657001
6	8	1667591B016	WASH - CAM SHAFT #C15-0401	
7	4		S-CAM SNAP RING (SPIDER END)	Meritor-1229-Z-1118
8	2	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK	
9	2	1667591B017	SNAP RING SLACK RET.#C16-0301	
10	2	1667591B056	BRKT (SMILEY FACE) #C19-0101	
11	2	1667511B006	ANCHOR BLT ASY #427-10557	
12	2	1667591B045	CAM SUP'T BUSH @ SLK C20-0201	
13	8	1150063	L'NUT M8-6h NI ZN #C27-0102	
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)	
	8	1160031	WASH M8 FLAT ZN #C28-0102	
14	2	7720039	CAM BRKT FUWA 5"OD 16.5X7	

Brake Chamber (12.25" x 7.5" Brake Size - 5" Straight Axle Only)

Part No.	Item Description	Extra Item Description
1664204B003	CHMB 3030 A=4.250 RANGER MFG	(1660776 W/4.250" PUSH ROD)
1664204B004 DSC	CHMB TP30 A=4.25 DI-PRO	CLAMP D=45 & PORT E=90
Slack Adjuster (Separate Clevis Purchase Required)		
1664204B005	SLACK 6" 35De 28 SPL #ASH10305	28 SPLINE IND SLOT @111 W/BRKT
1667591B001	CLEVIS ASY 5/8 18NF 2.0"X1/2"D	M10WJ114-2 (MGM #8292001)

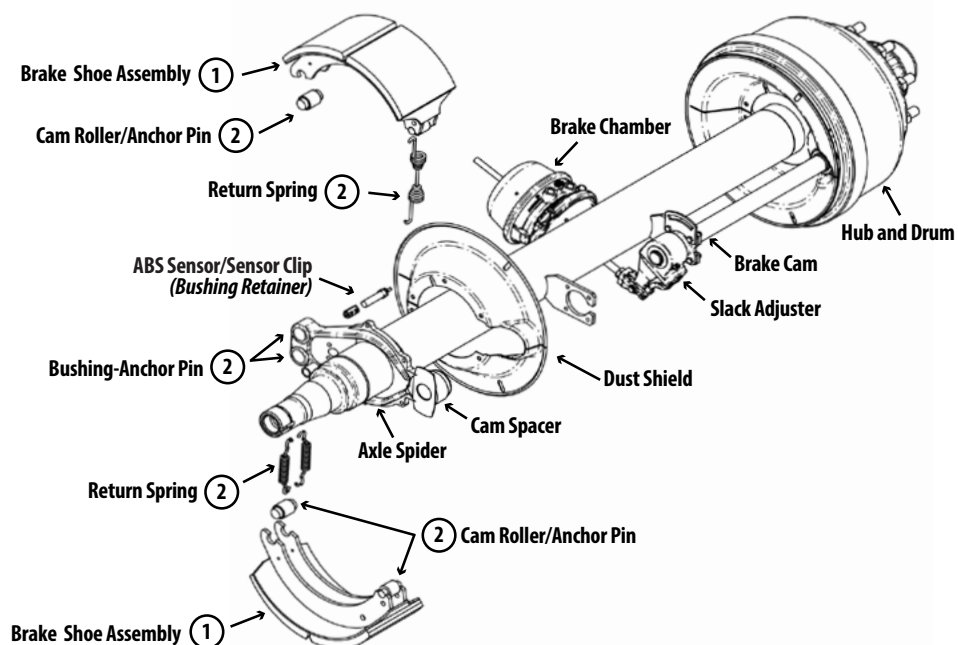
SPND TYPE	Hub & Drum Part No	Item Description
N	1660773	H&D H/P N 12.25x7.5 SHORT WEMC#10-20048-132N
	1660774	H&D H/P N 12.25x7.5 LONG WEMC#10-20048-131N

BRAKE SHOES –
16.5" X 7.0"; 12.25" X 7.5"

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[165– Base-Axle Reference](#)
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[Wheel-End – Hubcap](#)

5" Drum-Brake Axle w/ Tapered Spindle

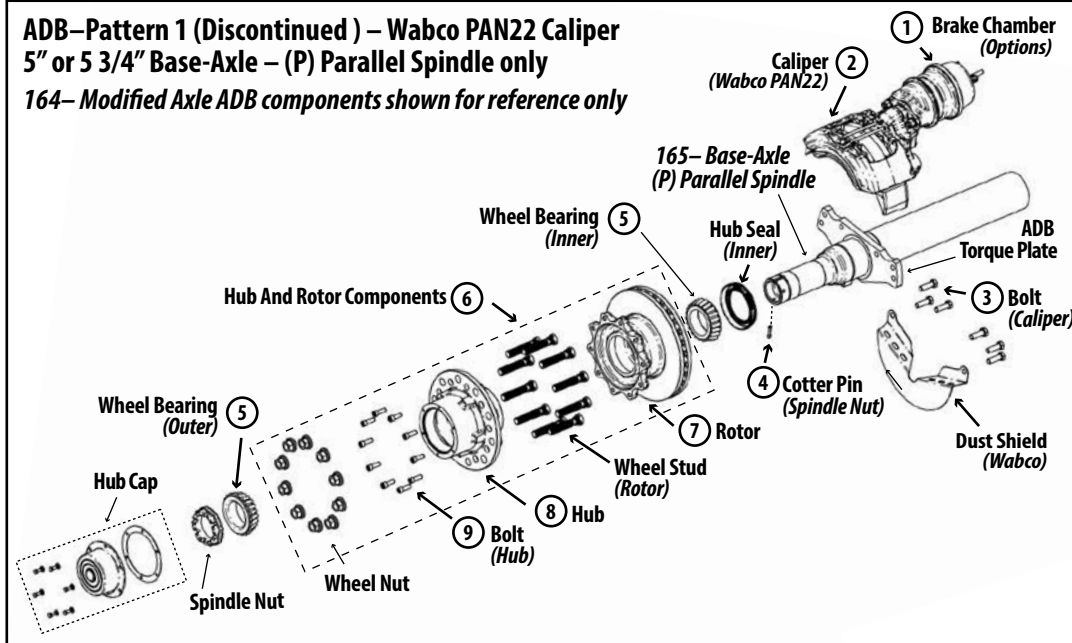
164- Modified Axle shown for reference only (Hub and Drum; 16.5"x7.0" Brake Size - Long Cam)



Brake Shoes

DIAG No.	QTY/ Axle	Part No.	Item Description	Extra Item Description
1	4	1667591B305M	BRAKE SHOE ASY Q+ 16.5x7 MA212	PSMA2124707QP (FMSI 4707) 21K
		1667591B306M	BRAKE SHOE ASY Q+ 16.5x7 MA312	PSMA3124707QP (FMSI 4707) 23K
2	2	1667591B052	ROLLER/SPG KIT Q+ #8000MBHD	MKT4515QHD-N
1	4	1664205B007	BRAKE SHOE ASY M12WN127-31X	SPICER SILVER 12.25X7.5

**ADB–Pattern 1 (Discontinued) – Wabco PAN22 Caliper
5" or 5 3/4" Base-Axle – (P) Parallel Spindle only
164– Modified Axle ADB components shown for reference only**



**ADB–PATTERN 1 (DISCONTINUED)
WABCO PAN22 CALIPER ONLY**

Click on link to visit page

[165– Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

[164– Modified Axle Decoder](#)

DIAG No.	QTY/Axle	Part No.	Item Description	Extra Item Description
1	1	1660203	CHMB TSE 2424TLD2-3721	PORT @ 45 DISC BRAKE APPLIC.
	1	1660204	CHMB TSE 2424TLD2-3722	PORT @ 135 DISC BRAKE APPLIC.
	1	1660205	CHMB TSE 24HSCLD2-2704	PORT @ 45 DISC BRAKE APPLIC.
	1	1660206	CHMB TSE 24HSCLD2-2707	PORT @ 135 DISC BRAKE APPLIC.
	1	1660351	CHMB TSE 2024TLD2-3724	PORT @ 45 DISC BRAKE APPLIC.
	1	1660352	CHMB TSE 2024TLD2-3725	PORT @ 135 DISC BRAKE APPLIC.
DSC*	1	1660433	CHMB HLDX T-20 125200009	NPT PORT @ 45 DB (MGM 1621718)
	1	1660434	CHMB HLDX T-20 125200010	NPT PRT @ 135 DB (MGM 1621719)
2	1	1660360	CALIPER LH PAN22-1 #6402250320 (D09-0101)	WABCO W/JURID 529-20 PADS
	1	1660361	CALIPER RH PAN22-1 #6402250330 (D09-0102)	
	1	1660362	PAD KIT WABCO PAN22-1	W/JURID 529-20 WABCO #12999796
3	10	1130045	HHCS M16-1.5x55mm GR10.9 P&O FLANGED	
	2	1130046	HHSCS M16-1.5x55MM GR10.9 P&O FLANGED	
4	2	1660373	COTTER PIN FP #A13-0104 8 x 28	
5	4	1660304	BRNG ASY KHM518445 FP 3.500"ID	STEMCO #KHM518445
6	2	1660359	HUB&ROTORFPAN22-1 W/202mm P.D. TONER RING MACHINE	AXN #H30-D202-02P-ST FUWA #H30-4402-0017
7	2	1660363	ROTOR PAN22-1 #H38-0302 202mm	P.D. W/TONE RING MACHINED
8	2	1660364	HUB ASY FP PAN22-1 #K02-00050	
9	20	1130044	SHCS M16-2 x 35MM GR10.9	

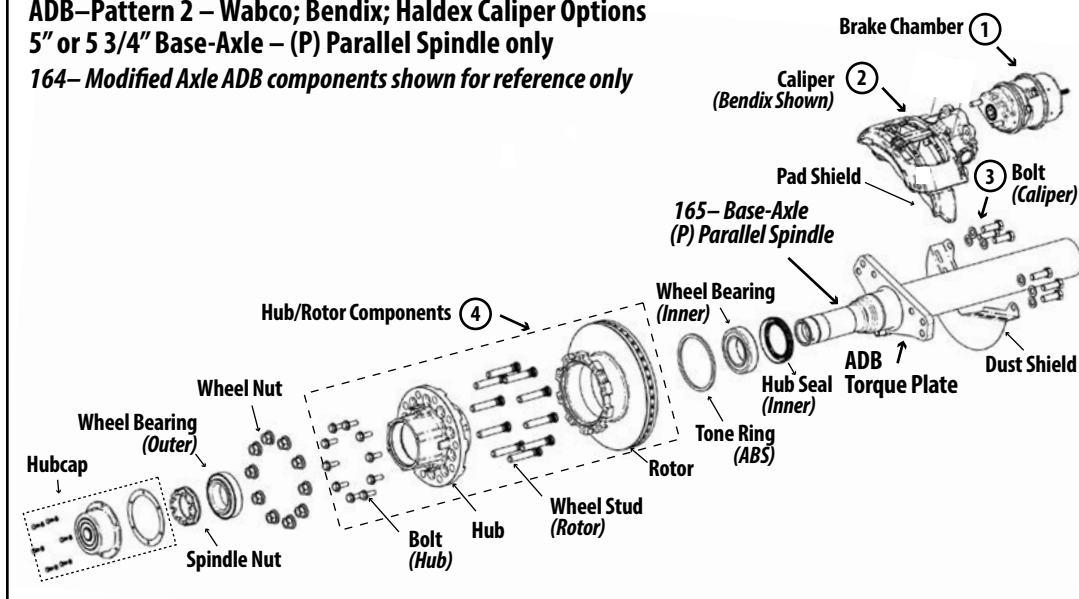
DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

ADB-PATTERN 2
WABCO; BENDIX; HALDEX CALIPER OPTIONS

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[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)

[164- Modified Axle Decoder](#)

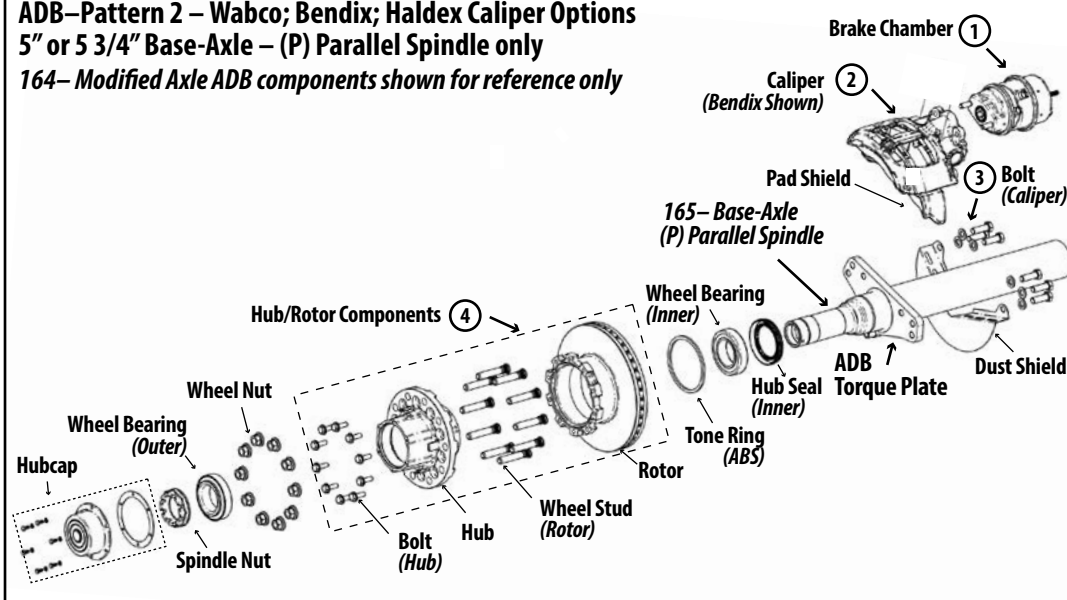
ADB-Pattern 2 – Wabco; Bendix; Haldex Caliper Options
5" or 5 3/4" Base-Axle – (P) Parallel Spindle only
164- Modified Axle ADB components shown for reference only



DIAG No.	QTY/ Axle	Part No.	Item Description	Extra Item Description
1	1	1660203	CHMB TSE 2424TLD2-3721	PORT @ 45 DISC BRAKE APPLIC.
	1	1660204	CHMB TSE 2424TLD2-3722	PORT @ 135 DISC BRAKE APPLIC.
	1	1660205	CHMB TSE 24HSCLD2-2704	PORT @ 45 DISC BRAKE APPLIC.
	1	1660206	CHMB TSE 24HSCLD2-2707	PORT @ 135 DISC BRAKE APPLIC.
	1	1660351	CHMB TSE 2024TLD2-3724	PORT @ 45 DISC BRAKE APPLIC.
	1	1660352	CHMB TSE 2024TLD2-3725	PORT @ 135 DISC BRAKE APPLIC.
	1	1660456	CHMB BENDIX T18 K118918	NPT PORT @ 40 DB (K034106)
	1	1660457	CHMB BENDIX T18 K118919	NPT PORT @ 140 DB (K034106)
	1	1660728	CHMBR BENDIX 1824 NPT PORT @ 45 DB (K256312)	
	1	1660729	CHMBR BENDIX 1824 NPT PORT @ 135 DB (K185085)	
	1	1660690	CHMB HALDEX H108562 1824 DB 45	PORT @ 45 DISC BRAKE APPLIC.
	1	1660691	CHMB HALDEX H108563 1824 DB 315	PORT @ 315 DISC BRAKE APPLIC.
1 (DSC*)	1	1660433	CHMB HLDX T-20 125200009	NPT PORT @ 45 DB (MGM 1621718)
	1	1660434	CHMB HLDX T-20 125200010	NPT PRT @ 135 DB (MGM 1621719)
2	1	1660401	CALIPER RH BNDX #K288202 TRLR	ADB22X DISC BRAKES
	1	1660402	CALIPER LH BNDX #K288203 TRLR	
	1	1660403	CALIPER LH PAN22-1 #6402250360	UNIV PAT. W/WABCO 230 PADS
	1	1660404	CALIPER RH PAN22-1 #6402250370	
	1	1660515	CALIPER LH HALDEX #H108586	HALDEX W/JURID 384 PADS
	1	1660516	CALIPER RH HALDEX #H108584	
	1	1660528	CALIPER LH BNDX LT #K288277	ADB22X-LT DISC BRAKES
	1	1660529	CALIPER RH BNDX LT #K288276	
	1	1660362	PAD KIT WABCO PAN22-1	W/JURID 529-20 WABCO #12999796
	1	1660546	PAD KIT BENDIX ADB22X-LT BENDIX #K297277	
	1	1660686	PAD KIT HALDEX DBT22LT	790-22117
3	12	1140087	HHCS M20-2.5 x 60MM GR10.9 ZN	
		1160025	WASH M20 FLAT ASTM F436M DIN 6916 YELLOW ZINC	
	12	1130093	HHCS M20-2.5x55mm GR10.9 FLANGED	

DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

ADB–Pattern 2 – Wabco; Bendix; Haldex Caliper Options
5" or 5 3/4" Base-Axle – (P) Parallel Spindle only
164– Modified Axle ADB components shown for reference only



ADB–PATTERN 2
HUB AND ROTOR OPTIONS

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[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

[164– Modified Axle Decoder](#)

DIAG No.	QTY/Axle	Part No.	Item Description	Extra Item Description
4	2	1660642	HUB&ROTOR FP AHP-T C'MET P'SET+	VEN #10085157 ALU W/3.44" STUD
	2	1660730	HUB&ROTOR FP IRON-T C'MET P'SET+ 430x45mm	VEN #10085193 W/3.41" STUD
	2	1660796	PSET+ FP COMPLETE HUB REBUILD KIT	CONMET # 10045876
	2	1660440	ROTOR FLT 22.5 CONMET 10085621	W/7.25 P.D. TONE RING
Discontinued*		1660405	HUB&ROTOR FP 430x45mm 10085149	W/184.15mm P.D. NA TONE RING
4	2	1660552	HUB&ROTOR FP #1020187M-171240	W/184.15mm P.D. N/A TONE RING
	2	1660554	ROTOR U-STY WEMC KIT WITH STUD	WEMC 17-00240-S1
	20	1660553	WHL STUD M22 X 1.5 4.78" Lg	
	2	1660555	HUB ADI FP ADB 10-20187M-000	WALTHER EMC WITH STEMCO CUPS
4	2	1660685	HUB&ROTOR FP WEBB 23732YB5T-71	W/7.25 IN P.D. N/A TONE RING
	2	1660693	ROTOR U-STY WEBB 55090P-65	
	20	1660694	WHL STUD M22 X 1.5 4.91" Lg WEBB 101160	
	2	1660695	HUB CAST FP ADB WEBB 23731- -0T	WEBB HUB WITH STEMCO CUPS
	20	1130094	HHCS 5/8-11 HUB TO ROTOR WEBB 85711 FLANGED	
Discontinued*		1660603	HUB&ROTOR FP KIC R22-47001FLZ	
	2	1660439	ROTOR U-STY 22.5 GUNITE R6225M	7.25 P.D. MACHINED TONE RING
	20	1660083	WHL STUD M22 X 1.5 4.79" Lg KIC	
Not Available		1660400	HUB&ROTOR FP 430x45mm #5915-4	
	2	1660439	ROTOR U-STY 22.5 GUNITE R6225M	7.25 P.D. MACHINED TONE RING
	20	1140092	HHCS 5/8" 11NC 1-3/4" L GUNITE	
	20	1160029	WASH 5/8 FLAT GUNITE W889	

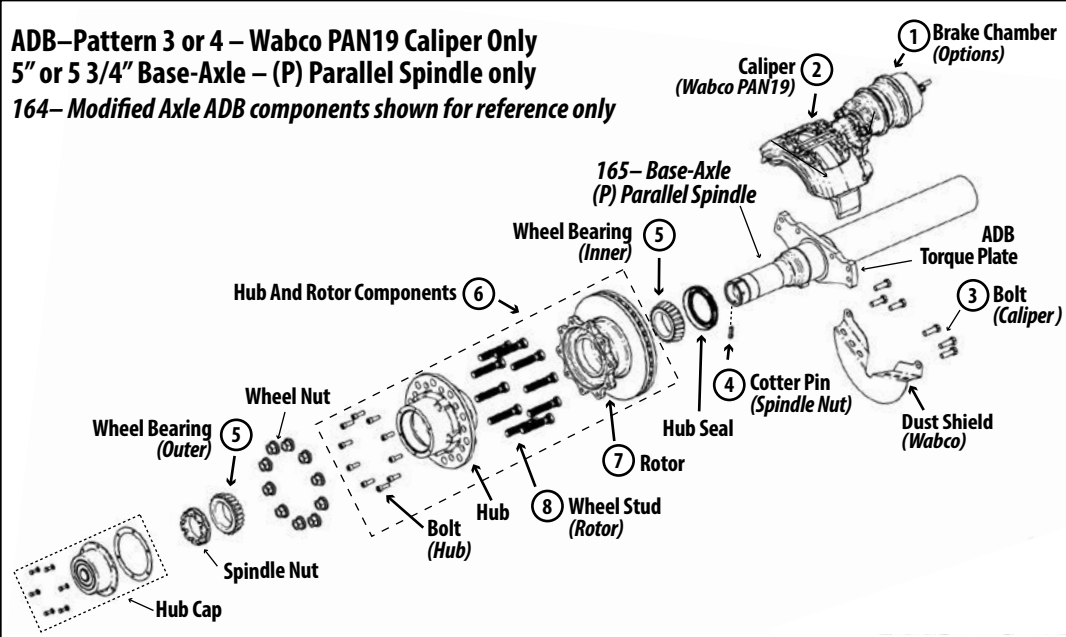
DSC* or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.

ADB-PATTERN 3 OR 4
WABCO PAN19 CALIPER ONLY

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[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)

[164- Modified Axle Decoder](#)

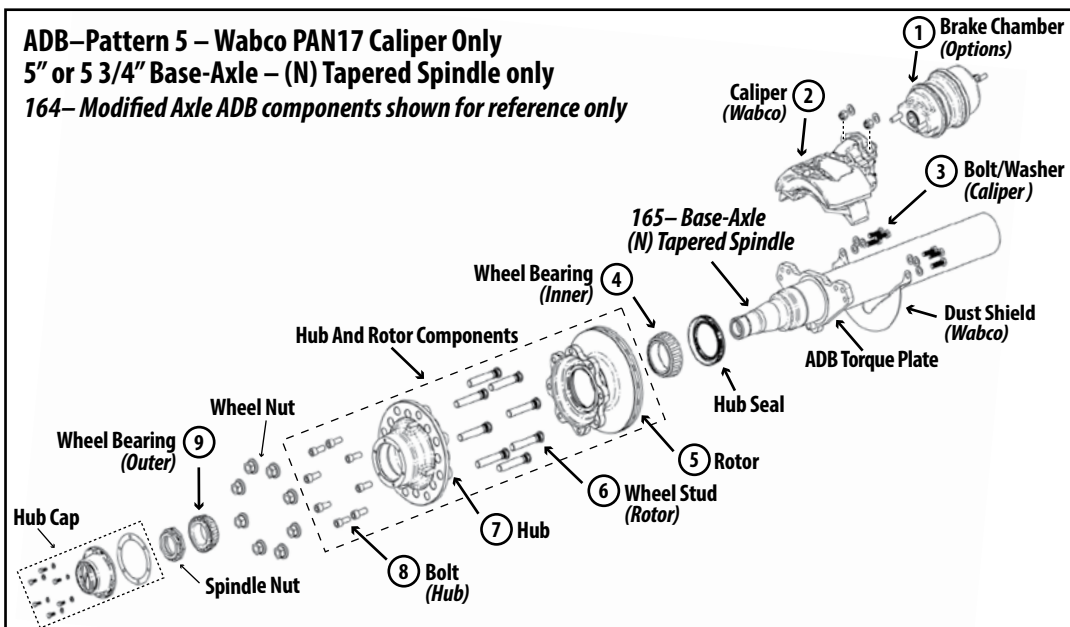
ADB-Pattern 3 or 4 – Wabco PAN19 Caliper Only
5" or 5 3/4" Base-Axle – (P) Parallel Spindle only
164- Modified Axle ADB components shown for reference only



DIAG No.	QTY/ Axle	Part No.	Item Description	Extra Item Description
1	1	1660351	CHMB TSE 2024TLD2-3724	PORT @ 45 DISC BRAKE APPLIC.
	1	1660352	CHMB TSE 2024TLD2-3725	PORT @ 135 DISC BRAKE APPLIC.
	1	1660728	CHMBR BENDIX 1824 NPT PORT @ 45 DB (K256312)	
	1	1660729	CHMBR BENDIX 1824 NPT PORT @ 135 DB (K185085)	
	1	1660456	CHMB BENDIX T18 K118918	NPT PORT @ 40 DB (K034106)
	1	1660457	CHMB BENDIX T18 K118919	NPT PORT @ 140 DB (K034106)
1 (DSC*)	1	1660433	CHMB HLDX T-20 125200009	NPT PORT @ 45 DB (MGM 1621718)
	1	1660434	CHMB HLDX T-20 125200010	NPT PRT @ 135 DB (MGM 1621719)
2 (DSC*)	1	1660467	CALIPER LH PAN19 640 195 109 0	WABCO NA 640 195 027 0
	1	1660468	CALIPER RH PAN19 640 195 110 0	WABCO NA 640 195 028 0
DSC*	1	1660496	PAD KIT WABCO PAN19	JURID 539-20 WABCO #12999737VT
3	10	1130056	HHCS M16-1.5x59MM GR10.9 P&O FLANGED	
	2	1130057	HHSCS M16-1.5x59mm GR10.9 P&O FLANGED	
	12	1130058	HHCS M16-1.5x50mm GR10.9 P&O FLANGED	
4	2	1660373	COTTER PIN FP #A13-0104 8 x 28	
5	2	1660304	BRNG ASY KHM518445 FP 3.500" ID	STEMCO #KHM518445
6	2	1660466	HUB&ROTOR FP PAN19 H30-4301-0005	W/176mm P.D. TONE RING MACHNED
7	2	1660495	ROTOR PAN19 #H38-0401 (H32-D102)	
8	16	1660083	WHL STUD M22 X 1.5 4.79" Lg KIC	

DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

ADB–Pattern 5 – Wabco PAN17 Caliper Only
5" or 5 3/4" Base-Axle – (N) Tapered Spindle only
164– Modified Axle ADB components shown for reference only



ADB–PATTERN 5
WABCO PAN17 CALIPER ONLY

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[165– Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

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[Wheel-End – Hubcap](#)

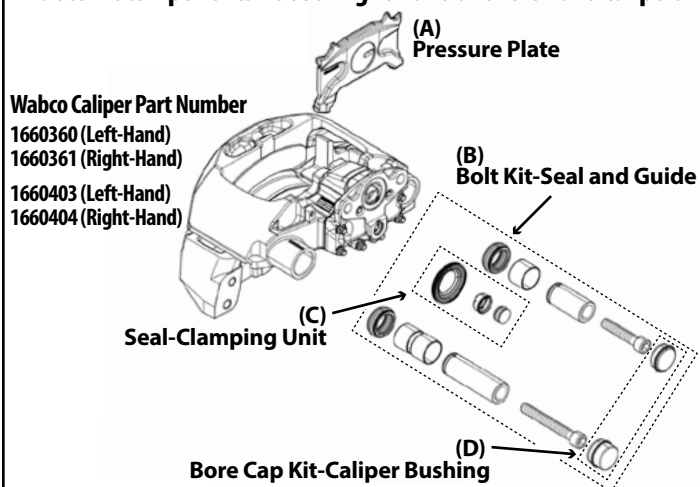
[164– Modified Axle Decoder](#)

DIAG No.	QTY/ Axle	Part No.	Item Description	Extra Item Description
1	1	1660351	CHMB TSE 2024TLD2-3724	PORT @ 45 DISC BRAKE APPLIC.
	1	1660352	CHMB TSE 2024TLD2-3725	PORT @ 135 DISC BRAKE APPLIC.
1 (DSC*)	1	1660433	CHMB HLDX T-20 125200009	NPT PORT @ 45 DB (MGM 1621718)
	1	1660434	CHMB HLDX T-20 125200010	NPT PRT @ 135 DB (MGM 1621719)
2	1	1660462	CALIPER LH PAN17 #6401751400	
	1	1660463	CALIPER RH PAN17 #6401751410	
3	12	1140093	HHCS M14-1.5 x 45MM GR10.9 ZN	
	12	1160030	WASH M14 FLAT ZN PLTD	
4 (DSC*)	2	1664206B008	BRNG ASY 3.543 ID HM218248	
5	2	1660487	ROTOR PAN17 325mm x 34mm	KIC#71750 W/TONE RING MACHINED
6	16	1660083	WHL STUD M22 X 1.5 4.79" Lg KIC	
7	2	1660488	HUB ASY FN PAN17 ADB 10.83 BC	KIC # HUB-07017FL
8	16	1130059	SHCS M16-2.0 x 40mm Gr 12.9	
9	2	1664206B009	BRNG ASY 2.625 DANA#M10HB101 domest.HM212049	

DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

WABCO CALIPER – SERVICE PARTS

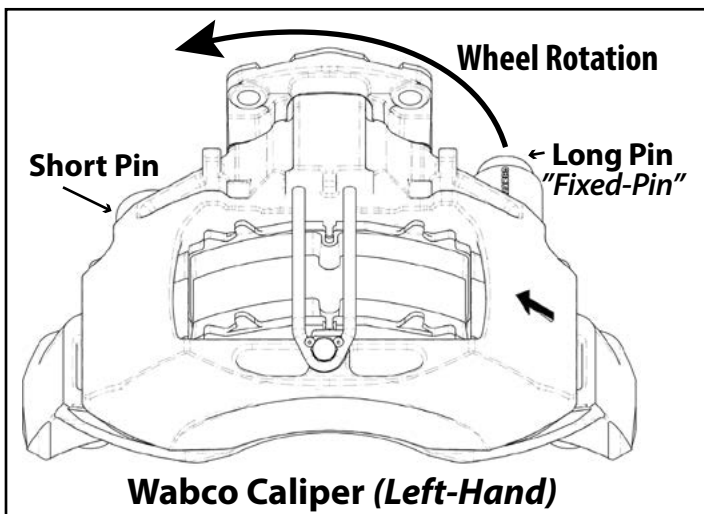
Wabco kit components fit both right-hand and left-hand calipers



WABCO CALIPER – SERVICE PARTS

DIAG No.	QTY/ Axle	Part No.	Item Description
A	1	1660557	PRESSURE PLT PAN17 (2 PCS)
	1	1660558	PRESSURE PLT PAN19 (2 PCS)
	1	1660559	(DSC*) PRESSURE PLT PAN22 (2 PCS)
B	2	1660498	SEAL & GUIDE BLT KIT PAN17
	2	1660390	(DSC*) SEAL & GUIDE BLT KIT PAN22
C	2	1660612	SEAL FOR CLAMPING UNIT WABCO
D	1	1660541	CAP CALIPER BUSH KIT WABCO
	1	6100068	TOOL KT WABCO BASIC 6401955222
	1	6100078	TOOL KT WABCO BASIC 6401955212
			TOOL KT WABCO BASIC 6401755212

DSC* indicates the component is not available and-or has been replaced. Contact Customer Service.

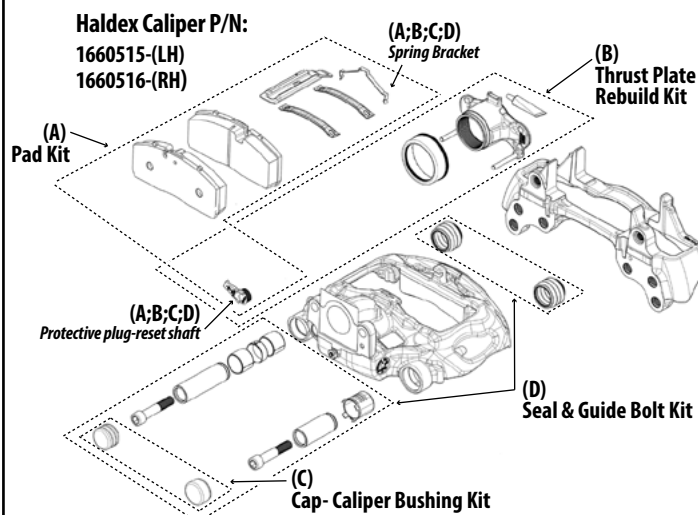


The wheel rotates from the brake caliper's "Long Pin" (Fixed-Pin) side towards the "Short Pin" side of the caliper as the vehicle travels forward.

HALDEX CALIPER – SERVICE PARTS

DIAG No.	QTY/ Axle	Part No.	Item Description
A	1	1660686	PAD KIT HALDEX DBT22LT
B	1	1660687	THRUST PLATE REBUILD KIT HALDEX
C	1	1660688	CAP CALIPER BUSH KIT HALDEX
D	1	1660689	SEAL & GUIDE BLT KIT HALDEX

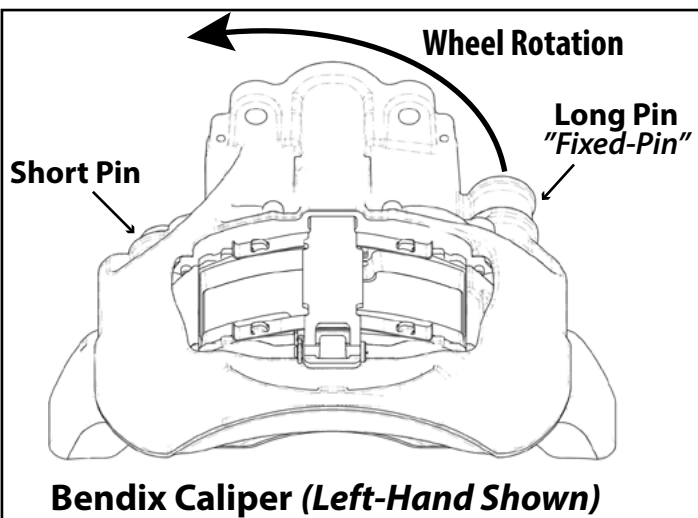
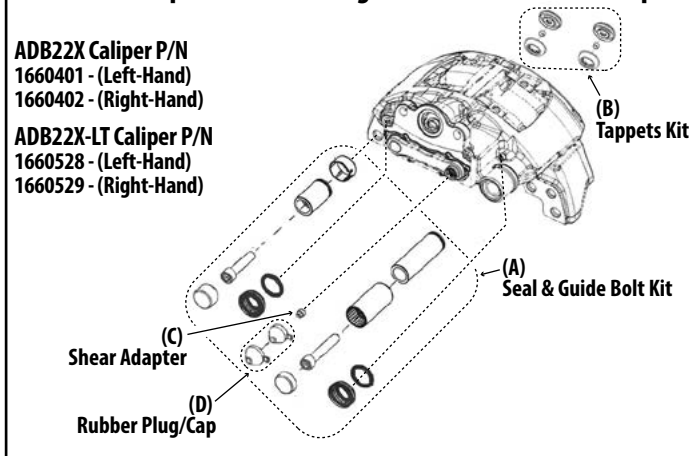
Haldex kit components fit both right-hand and left-hand calipers



BENDIX CALIPER – SERVICE PARTS

DIAG No.	QTY/ Axle	Part No.	Item Description
A	2	1660443	SEAL & GUIDE BLT KIT #803114
B	2	1660445	TAPPET KIT BENDIX #K092079
C	2	1660451	SHEAR ADAPTER-DISC BRAKE (Box_10)
D	2	1660444	PLUG ADJ CAP (BOX_20) BENDIX #802643

Bendix kit components fit both right-hand and left-hand calipers



The wheel rotates from the caliper's "Long Pin" (Fixed-Pin) towards the "Short Pin" side of the caliper as the vehicle travels forward.

Disc Brake Chamber Part Number - Listed by ports location on suspension after standard installation*

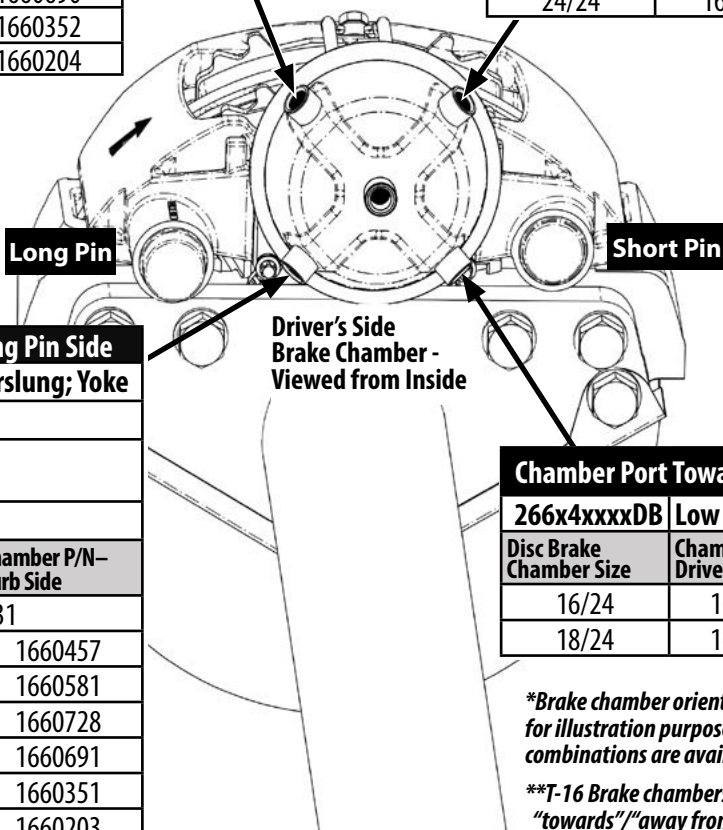
(Suspension Model (Type) Part Number starts with the number "2" or "300" followed by numbers/characters that group the suspension into a product family. The "X" symbol is used as a placeholder (wild card) for both numbers and characters in the Suspension Model Part Number.)

Chamber Port Away from Axle-Long Pin Side		
215xxxx	Truck and Trailer	
266x2xxxxDB	Low Mount (Underslung)	
Disc Brake Chamber Size	Chamber P/N—Driver's Side	Chamber P/N—Curb Side
**T-16	1660731	
T-18	1660457	1660456
16/24	1660581	1660580
18/24	1660728	1660729
18/24	1660691	1660690
20/24	1660351	1660352
24/24	1660203	1660204

Chamber Port Away From Axle - Short Pin Side		
2400209	Yoke	
245xxxx	Truck and Trailer	
Disc Brake Chamber Size	Chamber P/N—Driver's Side	Chamber P/N—Curb Side
**T-16	1660731	
T-18	1660456	1660457
16/24	1660580	1660581
18/24	1660729	1660728
18/24	1660690	1660691
20/24	1660352	1660351
24/24	1660204	1660203

Chamber Port Towards Axle - Long Pin Side		
240xxxx	Overslung; Underslung; Yoke	
260xxxx/200xxxx	Overslung	
266x1xxxxDB 266x3xxxxDB	Overslung	
233xxxx	Truck and Trailer	
Disc Brake Chamber Size	Chamber P/N—Driver's Side	Chamber P/N—Curb Side
**T-16	1660731	
T-18	1660456	1660457
16/24	1660580	1660581
18/24	1660729	1660728
18/24	1660690	1660691
20/24	1660352	1660351
24/24	1660204	1660203

Chamber Port Towards Axle - Short Pin Side		
266x4xxxxDB	Low Mount (Underslung)	
Disc Brake Chamber Size	Chamber P/N—Driver's Side	Chamber P/N—Curb Side
16/24	1660581	1660580
18/24	1660728	1660729



**Brake chamber orientation above the axle is shown for illustration purposes only. Not all ADB chamber combinations are available for each suspension type.*

***T-16 Brake chambers have a zero-degree port — "towards"/"away from" axle locations do not apply.*

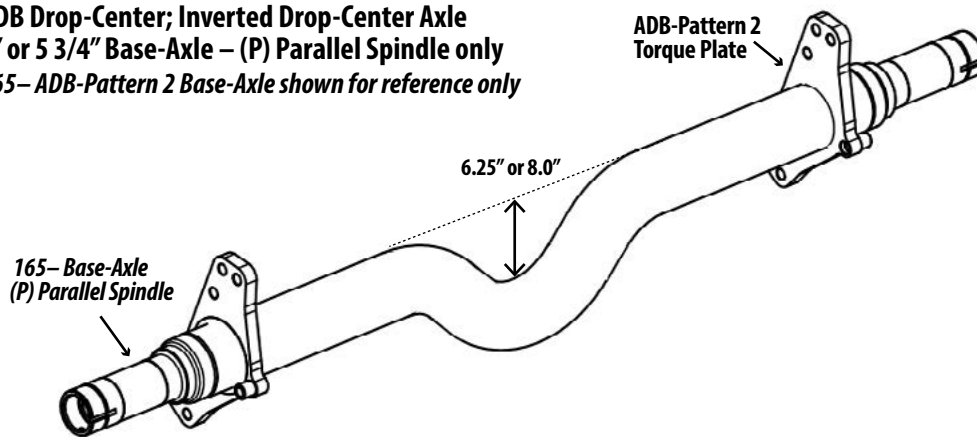
Disc brake chamber replacement and chamber integration into the vehicle's air system depends upon the side of the axle where it's installed as well as the brake chamber ports location, either towards or away from the body of the axle.

In some cases, the correct brake assembly for the left-hand (driver's side) or the right-hand (curb side) side of the axle will be indicated by an arrow on the caliper.

The direction of the brake disc's rotation while the vehicle is moving forward can be found by looking for the Long-Pin ("Fixed Position") on the caliper assembly. The wheel rotates forward (towards) the "Long- Pin" to the Short-Pin position ("Floating Position"). The location of the disc brake chamber ports in relation to the axle (either towards or away) will also be indicated by the "Short-Pin" or the "Long-Pin side of the brake caliper (see Chart).

Refer to the ATA's Technology & Maintenance Council (TMC) Recommended Maintenance Practices "RP-604-Brake Chambers for Air-Braked Vehicles" and "RP-652-Service and Inspection of Air Disc Brakes" for additional maintenance/replacement information.

ADB Drop-Center; Inverted Drop-Center Axle
5" or 5 3/4" Base-Axle – (P) Parallel Spindle only
165– ADB-Pattern 2 Base-Axle shown for reference only



Click on link to visit page

[165– Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

[164– Modified Axle Decoder](#)

Spindle-Type	Part No.	Item Description	Extra Item Description
P	1650246	AX FP 71.5 8.0D'CTR W/DB UNI FLG	BM&ANCR #FP60DB08BW01-0001
	1650389	AX FP 77.5 6.3INV D'CTR W/DB UNI	BM&ANCR #FP60DB12BW-0001
	1650393	AX FP 77.5 6.3D'CTR W/DB UNI FLG	BM&ANCR #FP60DB07BW01-0002
DSC*	1650245	AX FP 71.5 6.3D'CTR W/DB UNI FLG	BM&ANCR #FP60DB07BW01-0001
	1650432	AX FP 71.5 6.3INV D'CTR W/DB UNI	BM&ANCR #FP60DB12BW-TA00637

DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

Drop-Center Axle – Long Cam 16.5 x 7.0" Brake Size

Click on link to visit page

[165– Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

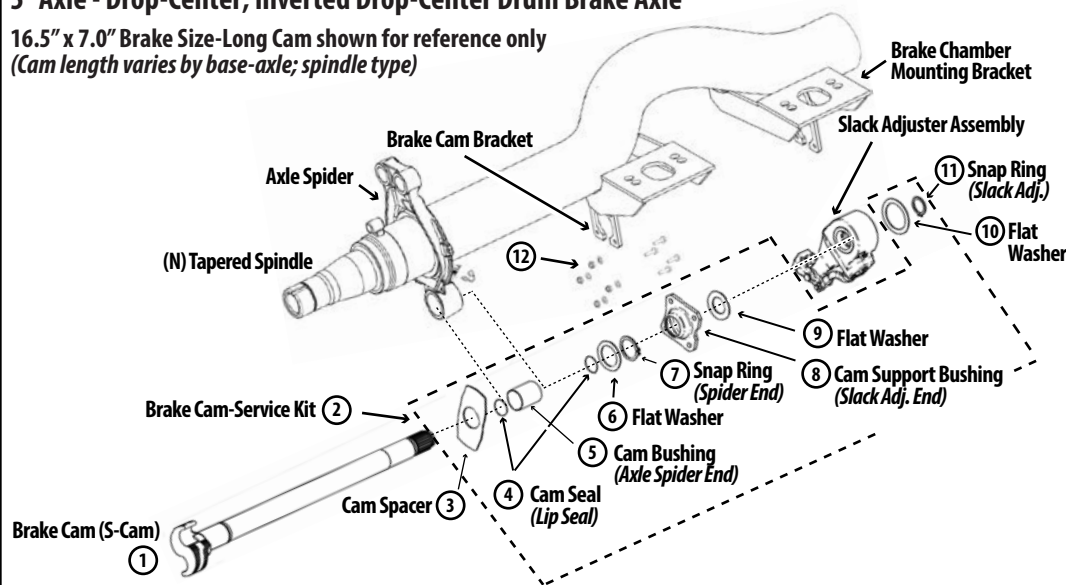
[Wheel-End – Fasteners](#)

[Wheel-End – Hubcap](#)

[164– Modified Axle Decoder](#)

5" Axle - Drop-Center; Inverted Drop-Center Drum Brake Axle

16.5" x 7.0" Brake Size-Long Cam shown for reference only
(Cam length varies by base-axle; spindle type)



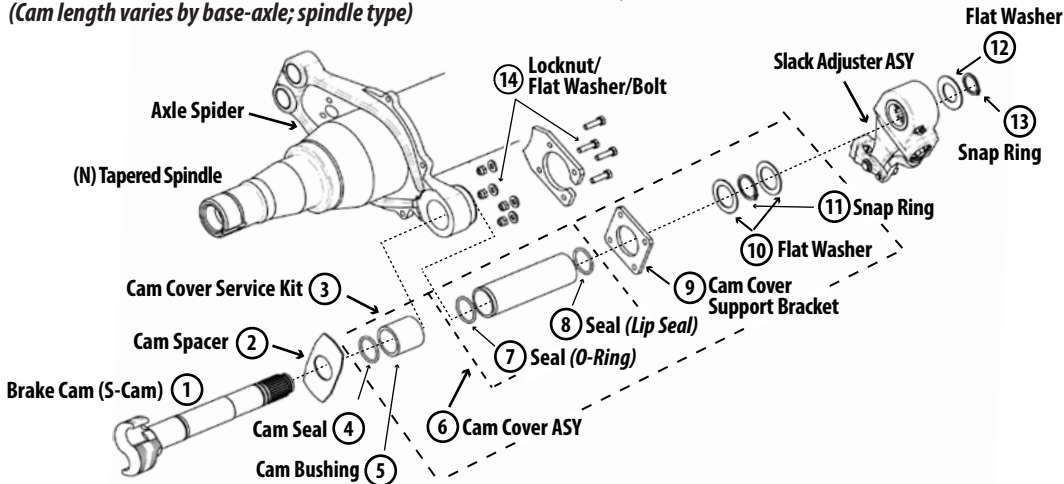
Spindle-Type	Base-Axle Part No.	Item Description	DIAG No.	Cam Length (28-Spline)	Head-End	Brake Cam-Part Number
N	1650051	AX FN 71.5" D'CTR 16.5X7 Q	1	22.63"	LH	1667591B110
					RH	1667591B210
	1650055	AX FN 8" D'CTR .75W 71.5"TRK		21.625"		
	1650124	AX 6" FN 19W 71.5 INV D'CTR Q+23		20.63"		
P (DSC*)	1650083	AX 6" FP 19W 71.5 INV D'CTR Q20		20.63"		

DSC or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.*

DIAG No.	QTY/Axle	Part No.	Item Description
2	1	1667591B054	CAM BEARING SERVICE KIT Q&Q+
3	2	1667591B043	OUTER CAM WASH/SPCR
4	4	1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5	2	1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	2	1667591B014	SPCR - CAM SHAFT #C15-0101
7	2	1667591B015	SNAP RING CAM SHAFT #C16-0201
8	2	1667591B045	CAM SUP'T BUSH @ SLK C20-0201
9	20	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
10	2	1667591B016	WASH - CAM SHAFT #C15-0401
11	2	1667591B017	SNAP RING SLACK RET.#C16-0301
12	8	1150063	L'NUT M8-6h NI ZN #C27-0102
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)
	8	1160031	WASH M8 FLAT ZN #C28-0102

5" Axle - Drop-Center; Inverted Drop-Center Drum Brake Axle

16.5" x 7.0" Brake Size-Short Cam w/ Cover shown for reference only
(Cam length varies by base-axle; spindle type)



DROP-CENTER AXLE - SHORT CAM w/ CVR
16.5" x 7.0" BRAKE SIZE

Click on link to visit page

[165- Base-Axle Reference](#)

[Dust Shield/ABS CMPNTS](#)

[Wheel-End – Fasteners](#)

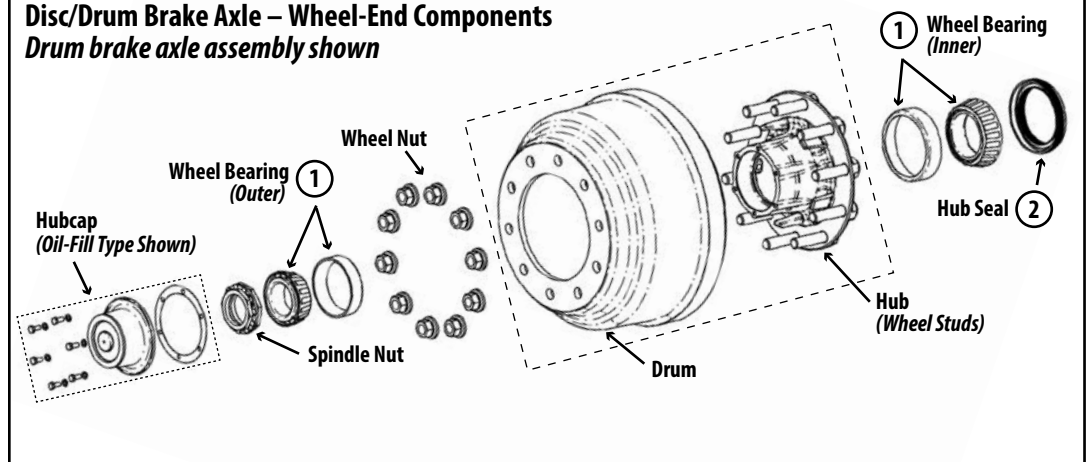
[Wheel-End – Hubcap](#)

[164- Modified Axle Decoder](#)

Spindle-Type	Part No.	Item Description	DIAG No.	Cam Length (28-Spline)	Head-End	Brake Cam-Part Number
N	1650287	AX FN 77.5" .75W 6"INV D'CTR LS	1	11.13"	LH	1667591B108
					RH	1667591B208

DIAG No.	QTY/Axle	Part No.	Item Description
2	2	1667591B043	OUTER CAM WASH/SPCR
3	2	1660387	CAM CVR SER. KIT CL=283 28SP (283mm Cam)
4	1	1667591B038	CAM SEAL @ SPIDER 1.625 x 2"OD
5	1	1667591B039	CAM BUSH @ SPIDER 1.63 2"OD
6	1	1667591B049	CAM CVR ASY L=6.673:(CL283)
7		1660633	O-RING @ CAM TUBE 1.8x45 FUWA #G11-01028
8		1660634	LIP SEAL @ CAM TUBE 4X47.15 FUWA #C14-0206
9	1	1667591B037	CAM CVR FLG 90x90 w/2.0id
10	10	1667591B044	WASH - CAM SHAFT 2.24 OD 1.516 ID .039 THK
11	1	1667591B009	SNAP RING CAM SHAFT #C16-0501 (G08-01005)
12	2	1667591B016	WASH - CAM SHAFT #C15-0401
13	2	1667591B017	SNAP RING SLACK RET.#C16-0301
14	8	1150063	L'NUT M8-6h NI ZN #C27-0102
	8	1140081	HHCS M8-6g X 30mm #C26-0201 (G01-01003)
	8	1160031	WASH M8 FLAT ZN #C28-0102

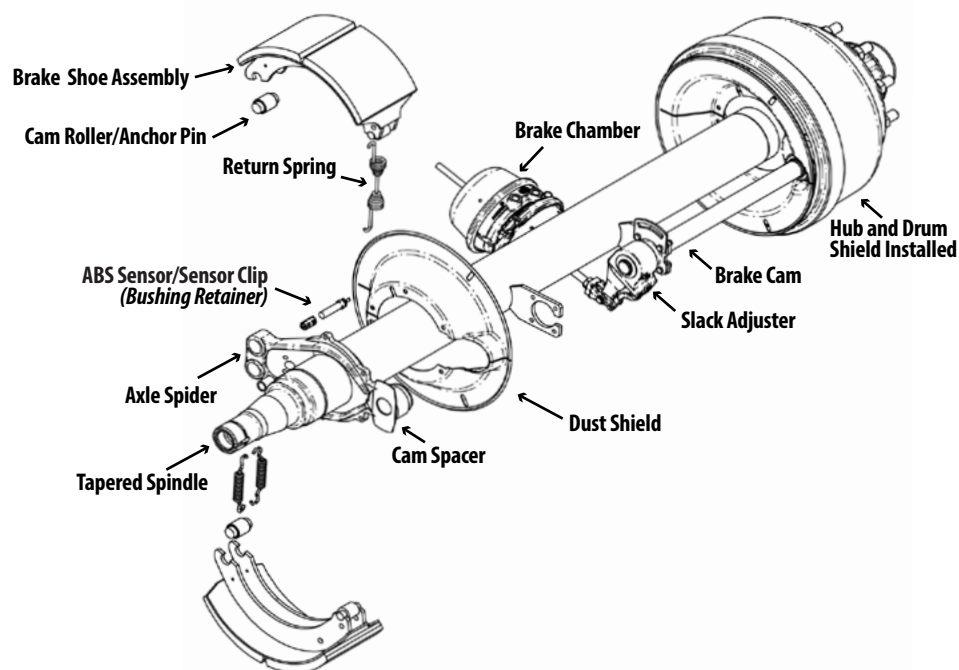
Disc/Drum Brake Axle – Wheel-End Components
Drum brake axle assembly shown



DIAG No.	SPND Type	Part No.	Item Description	Extra Item Description
WHEEL BEARING				
1	N	1664206B027	BRNG ASY KHM212049 FN 2.625 ID	STEMCO
		1664206B028	BRNG ASY KHM218248 FN 3.543 ID	STEMCO
		1664206B032	BRNG CUP FN HM218210 INNR	
		1664206B033	BRNG CUP FN HM212011 OUTER	
	P	1660048	BRNG ASY FP HM518445 3.500"	I.M.T. #104122
		1660304	BRNG ASY KHM518445 FP 3.500"ID	STEMCO #KHM518445
		1660397	BEARING CUP FP HM518410	
		1660502	BRNG ASY FP HM518445 HYATT	
		1660527	BEARING ASY FP HM518445 TIMKEN	F24H SERIES
HUB SEAL				
2	N	1667537B004	SEAL ASY FN 307-0743 GUARDIAN	GUARDIAN-HP FN & W'PORT 20K
		1660458	SEAL ASY FN #M380025TX0 NAT'L	F-M Premium PTFE "38" Series
	P	1660276	SEAL ASY FP 307-0723 GUARDIAN	STEMCO GUARDIAN-HP SERIES
		1660494	SEAL ASY FP M386590TD F-M NAT	F-M Premium PTFE "38" Series
		1660800	SEAL ASY FP DISCOVER XR	STEMCO #373-0423

5" Drum-Brake Axle w/ Tapered Spindle

164- Modified Axle shown for reference only (Hub and Drum;16.5"x7.0" Brake Size - Long Cam)



DUST SHIELD — 16.5" X 7.0"; 12.25" X 7.5" BRAKE SIZES

QTY/Axle	Part No.	Item Description	Extra Item Description
2	1667511B005	DUST SHIELD 16.5x7 (H18-0103)	18.11" OD 2.83 DP. #M16WB100
12	1137511B005	HWHTS 5/16 18NC .5"LG	SELF TAPPING FLANGED
DSC*	2	1664204B008	DUST SHIELD 12.25x7.5 H18-0202
	2	1660422	DUST SHIELD UNIV TORQ PLT
	2	1660479	PAD SHIELD, DUST, BENDIX ADB
	2	1660500	DUST SHIELD FUWA PAN19 ADB
	1	1660503	DUST SHIELD FUWA PAN17 ADB

DSC* or Discontinued* indicates the component is not available and-or has been replaced. Contact Customer Service.

ANTI-LOCK BRAKE SYSTEM (ABS)

QTY/Axle	Part No.	Item Description	Extra Item Description
2	1664702B010	ABS SENSOR #K145016BX BENDIX STR 1700mm LG	
2	1664702B012	ABS SENSOR #K144020BX BENDIX 75.55" 90 Deg	
2	1664702B002	SENSOR CLIP RETAINING BUSH-ABS	BENDIX #K152407 WABCO #8997598154
—	1420210	ABS SENSOR EXTENSION CABLE 10'	BENDIX #300259
2	1660604	ABS TONE RING CONMET 10085121	FOR HUB&ROTOR 10084208
2	1660615	ABS TONE RING CONMET 10085622	FOR HUB&ROTOR 10085149

WHEEL-END EQUIPMENT –

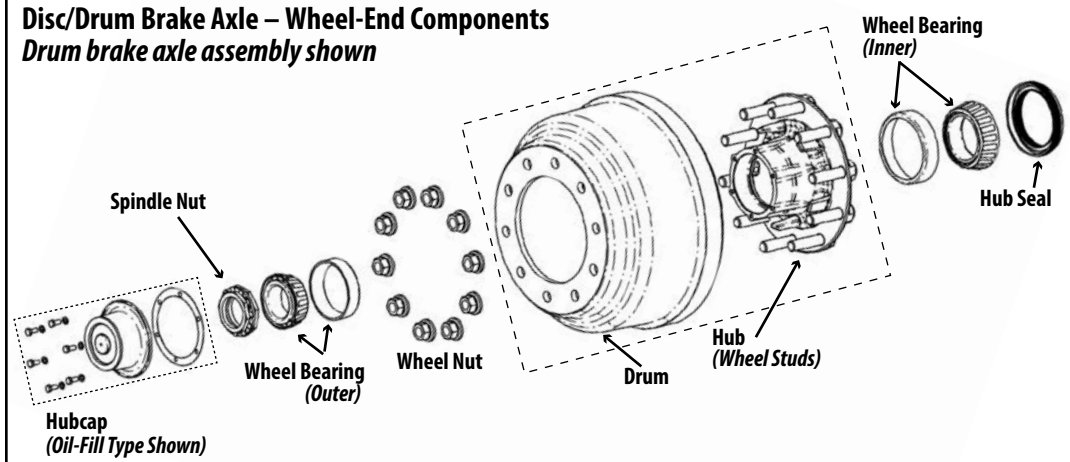
SPINDLE NUT/WHEEL NUT

Click on link to visit page

[165– Base-Axle Reference](#)

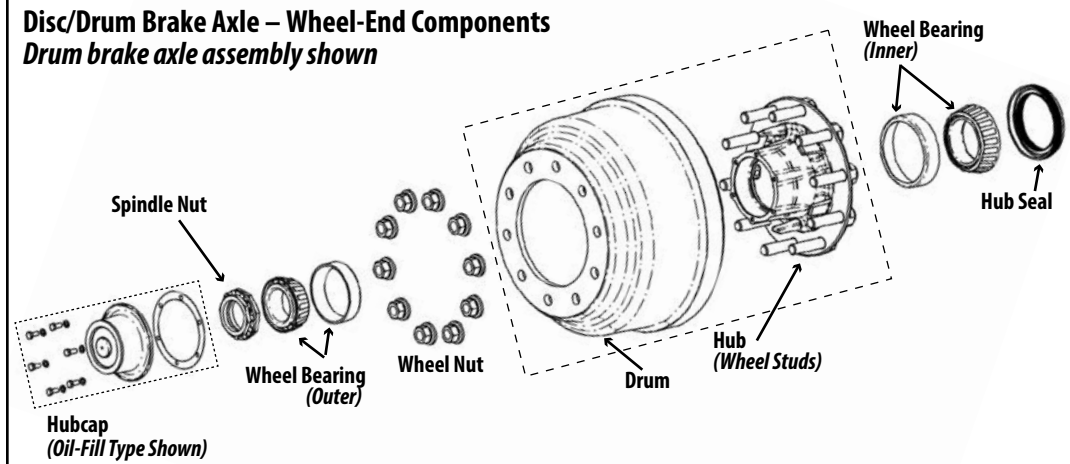
[164– Modified Axle Decoder](#)

Disc/Drum Brake Axle – Wheel-End Components Drum brake axle assembly shown



SPINDLE NUT				
Spindle-Type	QTY/Axle	Part No.	Item Description	Extra Item Description
P	1	1660366	SPINDLE NUT KIT FP #STP_N 4PCS	4 PIECE W/SET SCREW 1 REQ'D/AX
	2	1660493	SPINDLE NUT FP C'MET #10080657	3.48"-12 (FP;D24;TP) PRE-SET
	2	1660629	SPINDLE NUT FP #400-4723 ZIP-T	ZIP-TORQ 3.48"-12 (FP;D24;TP)
	2	1660798	SPINDLE NUT FP STEMCO# 480-4723 AUTO-T	AUTO TORQ 3.48"-12 (FP;D24;TP)
	2	1660597	FP SPINDLE NUT KIT (FUWA) 3PCS	
		1660051	SPINDLE NUT CAST FP SERIES	#A12-0101 (IMT #103107-001)
		1660052	SPINDLE WASH FP SERIES	#A11-0101 (IMT #105105-001)
		1660373	COTTER PIN FP #A13-0104 8 x 28	G04-02003
N	2	1660453	SPINDLE NUT FN C'MET #10045896	2-5/8"-16 (FN;D22;TQ) PRE-SET
	2	1660630	SPINDLE NUT FN #400-4743 ZIP-T	ZIP-TORQ 2.63"-16 (FN;D22;TN)
	2	1660797	SPINDLE NUT FN STEMCO# 480-4743 AUTO-T	AUTO-TORQ 2.63"-16 (FN;D22;TN)
	2	1664206B014	FN SPINDLE NUT KIT (FUWA) 4PCS	
		1664206B034	SPINDLE WASH FN KEYED HOLES	#A11-0201
		1664206B035	SPINDLE NUT FN INNR #A12-0201	FUWA #A12-0201
		1664206B036	SPINDLE NUT FN OUTER #A24-0101	FUWA #A24-0101/A12-206
		1664206B037	SPINDLE WASH FN STAR TABBED	FUWA #A25-0101
WHEEL NUT				
	20	1660057	WHL NUT FLGD M22 x 1.5 x 33	

Disc/Drum Brake Axle – Wheel-End Components
Drum brake axle assembly shown



HUBCAP OPTIONS

Spindle-Type	QTY/ Axle	Part No.	Item Description	Lubrication Type	ATIS
N	2	1660128	HUB CAP FN #343-4370 PSI OIL	Oil	P.S.I.
		1660155	HUB CAP FN #352-4009 S/FLUID	Hard/Semi-Fluid Grease	
		1660375	HUB CAP FN #340-4370 PSI GRS	Hard/Semi-Fluid Grease	P.S.I.
		1664206B006	HUB CAP FN #343-4009 5.5" OIL	Oil	
N	2	1664206B007	GSKT H/C 5.5"B.C. #330-3009		
P	2	1660054	HUB CAP FP #343-4195 OIL	Oil	
		1660214	HUB CAP FP #343-4372 PSI OIL	Oil	P.S.I.
		1660238	HUB CAP FP #340-4372 PSI GRS	Hard/Semi-Fluid Grease	P.S.I.
		1660305	HUB CAP FP #349-4195 SNTL GRS	Hard/Semi-Fluid Grease	
		1660341	HUB CAP FP #348-4195 SNTL OIL	Oil	
		1660435	HUB CAP FP #352-4195 S-F GRS	Hard/Semi-Fluid Grease	
P	2	1660055	GSKT H/C F24S SER. #330-3118		
	12	1130099	HHCS 5/16" 18NC 3/4"LG W/ CAPTIVE S/T L'WASH		

HUBCAP LUBRICATION

Part Number	Item Description	Lubricant Type
		Mineral Oil (<i>Similar to 380008G CITGO MP Gear Oil - 80W-90</i>)
1980006	SYN API GL-5 75W-90 OIL	Synthetic Oil
1980011	SEMI-FLUID, CHEVRON DELO SFE	Synthetic Semi-Fluid Grease
1980007	SYNGRS NLGI-2 GC-LB	Synthetic Hard-Pack Grease
Refer to TMC Recommended Practice 631 – "Recommendations for Wheel-End Lubrication"		

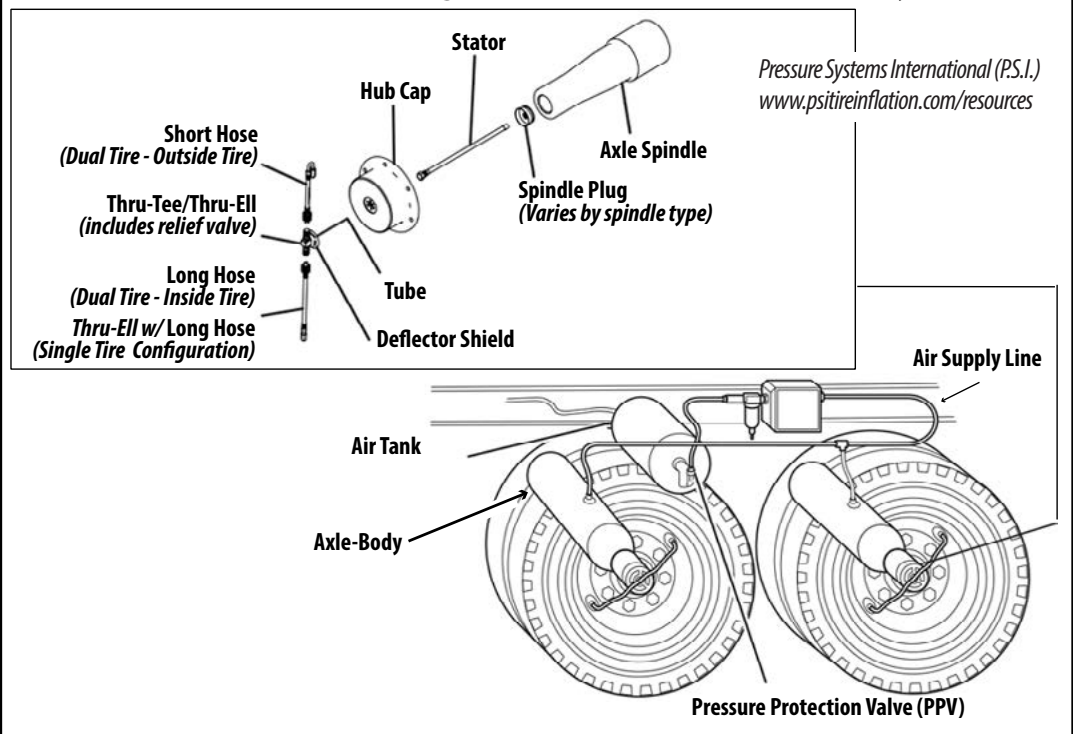
AUTOMATIC TIRE INFLATION SYSTEM (ATIS) COMPONENTS

An automatic tire inflation system (ATIS) is designed to monitor/maintain correct air pressure inside vehicle tires. Tires that are properly inflated improve fuel economy while adding greater stability as well as increased handling and braking efficiencies for increased vehicle safety.

ATIS Operation

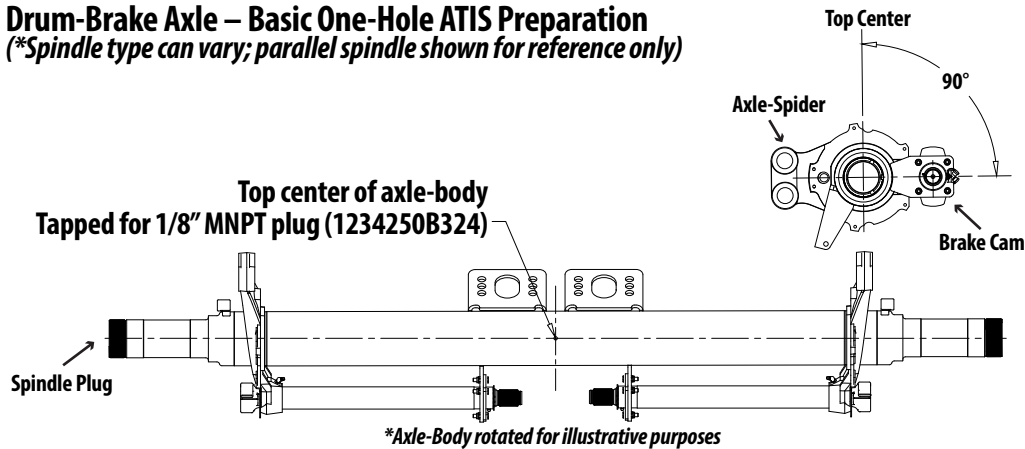
The ATIS redirects pressurized air from the air system to the tires in order to maintain the correct air pressure. A monitor system reports the real-time low tire pressure to the driver with a low-pressure warning light. Contact Ridewell Customer Service for the proper axle preparation needed for an ATIS system.

AUTOMATIC TIRE INFLATION SYSTEM (ATIS) – COMPONENTS (P.S.I. – Dual-Tire Configuration shown for reference only)



Spindle Type/ Inner Diameter	Spindle Plug Part No.	Stator Part No.	Hubcap Part No.	Hubcap Type	ATIS THRU-Fitting	Item Description
Tapered (N) (ID - 1.75")	1660263	1660130	1660128	Oil	1660142 1660240	THRU-TEE ASY 5.00" DUAL TIRE THRU-ELL ASY 5.00" SINGLE TIRE
			1660375	Grease		
P-Parallel (ID - 2.75")	1660239	1660130	1660214	Oil	1660142 1660240	THRU-TEE ASY 5.00" DUAL TIRE THRU-ELL ASY 5.00" SINGLE TIRE
			1660238	Grease		

Drum-Brake Axle – Basic One-Hole ATIS Preparation (*Spindle type can vary; parallel spindle shown for reference only)

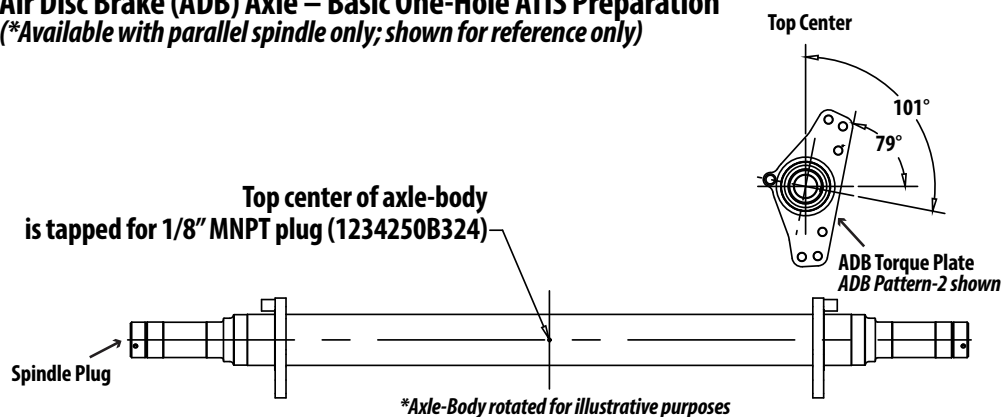


P.S.I. ThermALERT™ One-Hole Axle-Body/ Wheel-End Preparation

One 1/8"-Hole is drilled and tapped at the top-center of the axle-body. The hubcap is drilled/tapped, then P.S.I. ThermALERT components are installed onto the axle.

NOTE: Tubing/Fittings to connect the ATIS to the vehicle's air system are not included w/ installation.

Air Disc Brake (ADB) Axle – Basic One-Hole ATIS Preparation (*Available with parallel spindle only; shown for reference only)



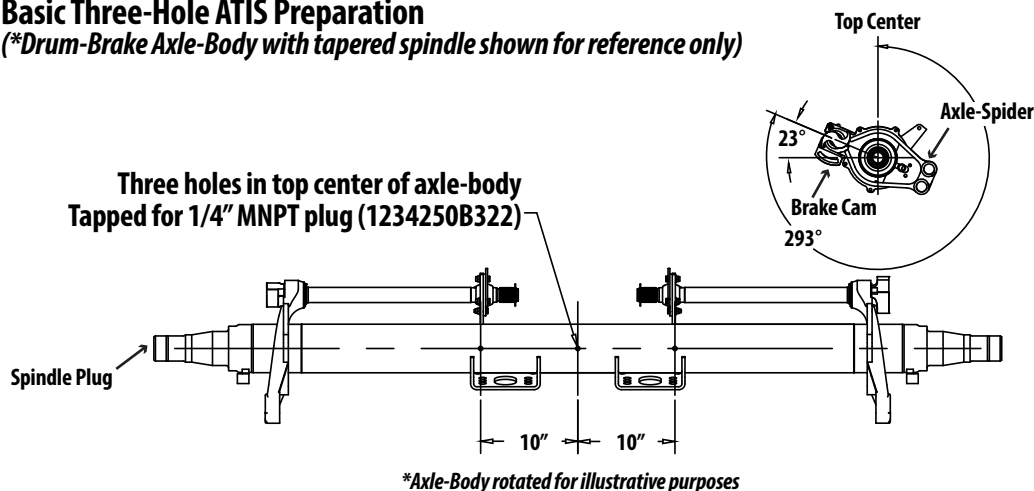
Basic One-Hole Axle Preparation.

One hole is drilled in the top center of the axle-body; then tapped and plugged with 1/8" MNPT plug. The open-end of the spindle is plugged.

CAUTION Do not use a powered drill when tapping the axle-body. The drill can break the tap/damage the hole-threads by running the drill bit too deep into the axle.

Basic Three-Hole ATIS Preparation

(*Drum-Brake Axle-Body with tapered spindle shown for reference only)



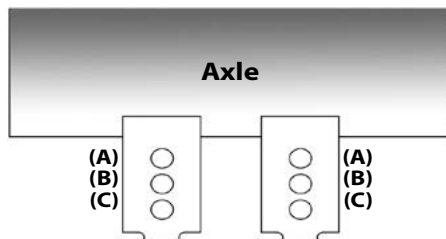
Basic Three-Hole Axle Preparation.

Three holes (10" apart) are drilled in the top center of the axle-body; then tapped and plugged with 1/4" MNPT plugs. The open-end of the spindle is plugged.

DRUM BRAKE – CHAMBER MOUNTING PATTERN

Click on link to visit page
[165– Base-Axle Reference](#)
[Dust Shield/ABS CMPNTS](#)
[Wheel-End – Fasteners](#)
[Wheel-End – Hubcap](#)

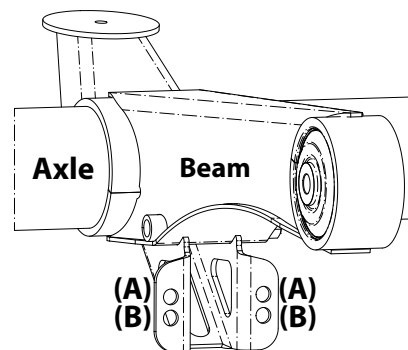
Five-Inch (Standard Axle)



Brake Chamber Mount – Hole Patterns

Brake Size	16.5 x 7.0"	12.25 x 7.5"
Hole - Code	Slack Adjuster Length	Slack Adjuster Length
A – A	5"	—
A – B	5.5"	5"
B – B	6"	5.5"
B – C	—	6"

266 Large Diameter Axle (LDA)

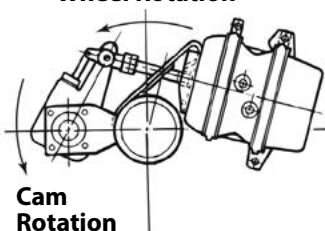


Brake Chamber Mount – Hole Patterns

Brake Size	16.5" x 7.0"
Hole - Code	Slack Adjuster Length
A – A	—
A – B	5.5"
B – B	6"

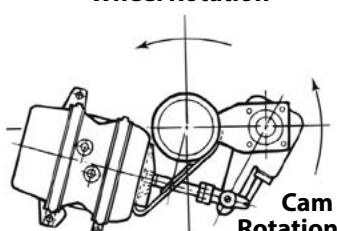
← Front of Vehicle →

Wheel Rotation



Push-Rod Above Axle- Cam in Front

Wheel Rotation



Push-Rod Below Axle- Cam in Rear

Recommended configurations for axle installation:

- Cams front and air chamber push-rod above the axle.
- Cams rear and air chamber push-rod below the axle.

The decision on which axle assembly configuration to use is based on obtaining adequate clearance between the axle and other vehicle components, maximizing ground clearance, and-or locating components for maintenance access.

Install the axle assembly so that, when the brakes are activated, the camshaft rotates in the same direction as the wheels when the vehicle moves forward.

Opposite rotation of the camshafts can cause vibrations that damage components such as the air chambers and chamber brackets attached to axle.

Component Type	Component Description	foot-pound	Newton-meter
Brake Chamber Mounting Fastener	5/8" Mounting Hardware	110-150 ft-lb	149-203 N-m
Slack Adjuster-to-Push Rod	Jam Nut – pushrod-to-clevis	(5/8-18) 33 ft-lb	45.19 N-m
Air Disc Brake– Hub-to-Rotor Fastener	Pattern One (<i>Discontinued</i>) Cast Iron Hub	229-258 ft-lb	310-350 N-m
	Pattern Two Gunitite® Cast Iron Hub (HHCS-5/8x11)	210-230 ft-lb	285-312 N-m
	KIC™ Cast Iron Hub (HHCS-M16)	220 ±10 ft-lb	298 ±14 N-m
	ConMet® Alum. Hub (Locknut required)	180-210 ft-lb	244-285 N-m
	Pattern Three/Four Wabco PAN™ 19	100-103 ft-lb	135-140 N-m
	Pattern Five Wabco PAN™ 17	180-200 ft-lb	244-271 N-m
ADB Caliper – Mounting Fastener	Pattern One (<i>Discontinued</i>) Wabco PAN™ 22 (HHCS-M16)	199-229 ft-lb	270-310 N-m
	Pattern Two Wabco PAN™ 22 (HHCS-M20)	342-395 ft-lb	464-536 N-m
	Bendix ADB22X/ADB22X-LT (HHCS-M20)	Pre-Torque: 20-60 ft-lb Final: 350-400 ft-lb	27-81 N-m 475-542 N-m
	Haldex DBT22LT (HHCS-M20)	Pre-Torque: 145 ft-lb Final: 390 ±25 ft-lb	200 N-m 530 ±34 N-m
	Pattern Three/Four Wabco PAN™ 19 (HHCS-M16)	199-229 ft-lb	270-310 N-m
	Pattern Five Wabco PAN™ 17 (HHCS-M14)	118-148 ft-lb	160-200 N-m
Wheel Nut <i>Hub-Piloted – Flanged</i> <i>Stud-Piloted – Ball-Seat</i>	M22 x 1.5 x 33 (1.30" x 1.22")	450-500 ft-lb	610-678 N-m
	3/4" x 16	450-500 ft-lb	610-678 N-m
Spindle Nut	Refer to the American Trucking Association Technology & Maintenance Council (TMC) Recommended Maintenance Practice #618 - Wheel Bearing Adjustment Procedure.		
Hubcap Bolt  Do not use motor-driven screw/torque tools on bolt.	HHCS (5/16 18NC) 3/4" Long w/ Lock Washer	12-16 ft-lb	16-22 N-m
Hubcap – Side-Fill Plug	3/8" Plug	5-9 ft-lb	7-12 N-m
 Failure to install/maintain fasteners at torque specifications could result in suspension failure and voided warranty. Refer to the original equipment manufacturer for complete torque specifications.			

GROSS AXLE WEIGHT RATING (GAWR)

Gross Axle Weight Rating (GAWR)

Gross Axle Weight Rating (GAWR) is a term used to specify the maximum load-carrying capacity of a single axle assembly. The GAWR is determined by the component with the lowest rated capacity.

If components such as the axle body (shaft), suspension, brakes, hubs, bearings, and wheels and tires are rated at 25,000 pounds, for example, the GAWR would be set at 25,000 pounds.

If axle components rated at 25,000-pounds are part of a 30,000-pound-rated suspension system, however, the GAWR is still determined to be 25,000 pounds.

Vehicle manufacturers should follow instructions supplied by component manufacturers to determine the correct Gross Axle Weight Rating to ensure compliance with Federal and State motor vehicle regulations.

STANDARD CONFIGURATIONS	Trailer Width	Axle Track	Frame Center	Beam Center	Air Spring Center
Dual Wheel	96"	71.5"	38"	35"	31"
	102"	77.5"	44"	41"	37"
Wide-Base Wheel - Zero Offset	102"	83.5"	50"	47"	43"

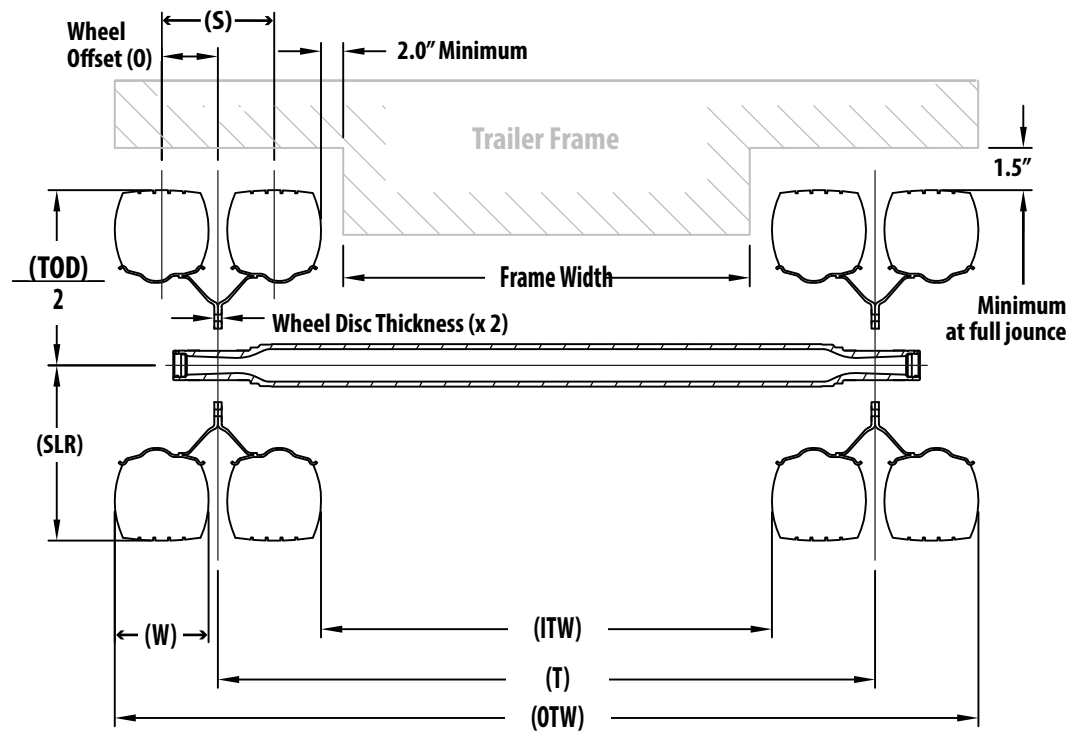
Suspensions are designed to fit onto standard frames at beam centers corresponding to standard axle track-widths. Installation at wider beam centers will reduce suspension system clearances. Installation at narrower beam centers de-rates the beam-capacity.

5-inch Axle — Standard Axle			Axle-Tube Wall	
			0.591"	0.75"
Track Width (In)	Beam Centers (In)	Moment Arm (In)	Axle Beam CAP GAWR (lbs)	Axle Beam CAP GAWR (lbs)
71.5"	38	16.75	23,000	25,000
	37	17.25	23,000	25,000
	36	17.75	23,000	25,000
	35	18.25	23,000	25,000
	34	18.75	22,387	24,333
	33	19.25	21,805	23,701
	32	19.75	21,253	23,101
	31	20.25	20,728	22,531
	30	20.75	20,229	21,988
	29	21.25	19,753	21,471
77.5"	44	16.75	23,000	25,000
	43	17.25	23,000	25,000
	42	17.75	23,000	25,000
	41	18.25	23,000	25,000
	40	18.75	22,387	24,333
	39	19.25	21,805	23,701
	38	19.75	21,253	23,101
	37	20.25	20,728	22,531
	36	20.75	20,229	21,988
	35	21.25	19,753	21,471

5.75-inch Axle — Large Diameter Axle (LDA)			Axle-Tube Wall	
			0.335" (On-Hwy Use Only)	0.394"
Track Width (In)	Beam Centers (In)	Moment Arm (In)	Axle Beam CAP GAWR (lbs)	Axle Beam CAP GAWR (lbs)
71.5"	38	16.75	23,000	25,000
	37	17.25	23,000	25,000
	36	17.75	23,000	25,000
	35	18.25	23,000	25,000
	34	18.75	22,387	24,333
	33	19.25	21,805	23,701
	32	19.75	21,253	23,101
	31	20.25	20,728	22,531
	30	20.75	20,229	21,988
	29	21.25	19,753	21,471
77.5"	44	16.75	23,000	25,000
	43	17.25	23,000	25,000
	42	17.75	23,000	25,000
	41	18.25	23,000	25,000
	40	18.75	22,387	24,333
	39	19.25	21,805	23,701
	38	19.75	21,253	23,101
	37	20.25	20,728	22,531
	36	20.75	20,229	21,988
	35	21.25	19,753	21,471

Dual-Wheel Configuration

(S) - Wheel Spacing
(O) - Wheel Offset
(W) - Tire Width
(T) - Axle Track
(TT) - Tire Track
(TOD) - Tire Overall Diameter
(ITW) - Inside Tire Width
(OTW) - Outside Tire Width
(SLR) - Static Load Radius



Dual-Wheel Calculations

$$(S) = 2 \times O$$

$$(OTW) = T + S + W$$

$$(ITW) = T - S - W$$

Single-Wheel (Outset) Configuration

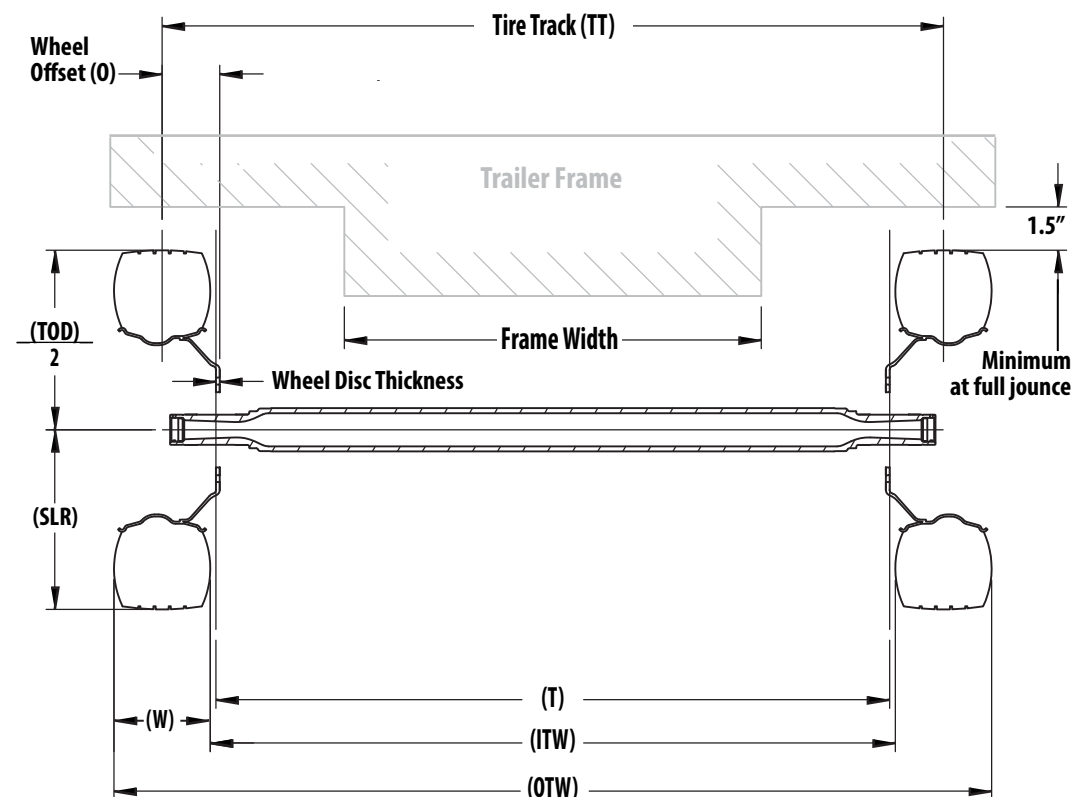
Axle and Bearing Rating:

Parallel spindles are recommended for outset wheel applications. NOTE: Tapered spindles are not approved for use with wheels that have a 2-inch or greater outset.

Using outset wheels in a single-tire configuration moves the load point away from the center of the axle; increasing the bending load within in the axle and reduces the axle beam rating as well as the hub and bearing life.

Using inset wheels in a single-tire configuration will not affect the axle beam rating, but can reduce the bearing life.

Contact the Ridewell Engineering DEPT to determine the rating for an axle that uses inset or outset wheels in a single-tire configuration.



Single Wheel Calculations

$$(TT) = T + (2 \times O) - 7/8$$

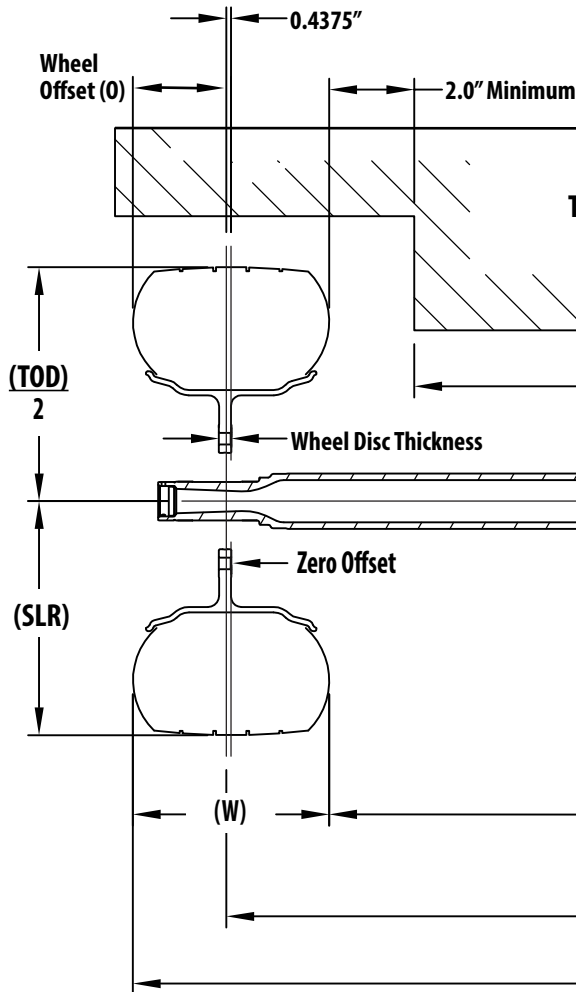
$$(OTW) = TT + W$$

$$(ITW) = TT - W$$

Wide-Base Wheel Configuration

(T) - Axle Track
(TT) - Tire Track
(S) - Wheel Spacing
(O) - Wheel Offset
(W) - Tire Width
(TOD) - Tire Overall Diameter
(ITW) - Inside Tire Width
(OTW) - Outside Tire Width
(WOS) - Wheel Outset
(WIS) - Wheel Inset
(SLR) - Static Load Radius

Standard Config
Wide-Base Wheel
Zero Offset
Trailer Width 102"
Axle Track 83.5"
Frame Center 50"
Beam Center 47"
A/SPG Center 47"

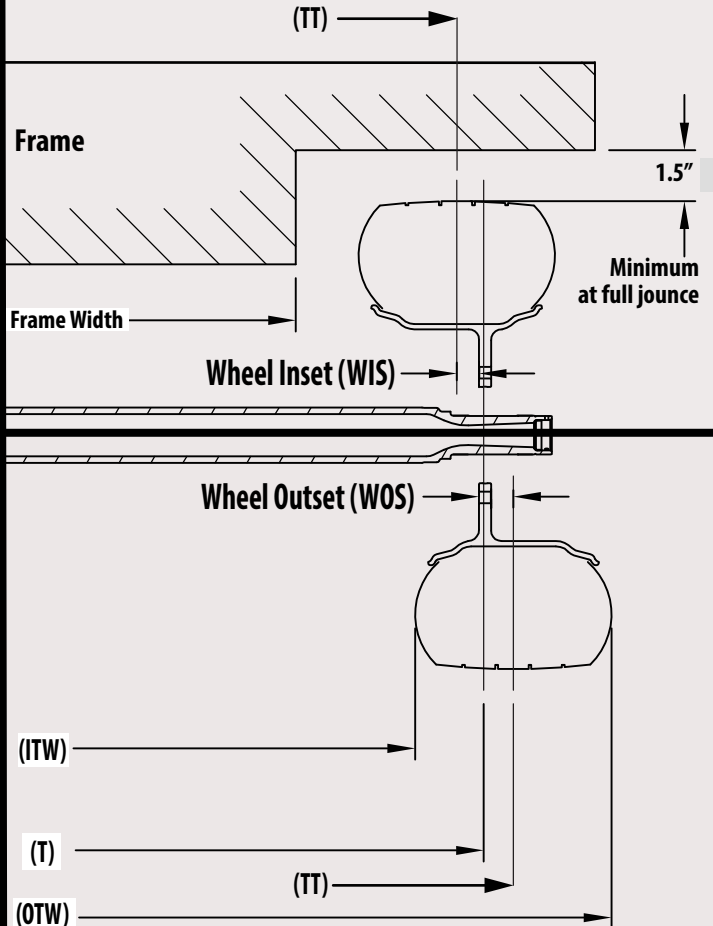


Zero Offset Wheel Calculations

$$\begin{aligned}(O) &= W/2 \\ (TT) &= T - 7/8 \\ (OTW) &= TT + W \\ (ITW) &= TT - W\end{aligned}$$

Inset Wheel Calculations

$$\begin{aligned}(TT) &= T - (2 \times WIS) - 7/8 \\ (OTW) &= TT + W \\ (ITW) &= TT - W\end{aligned}$$



Outset Wheel Calculations

$$\begin{aligned}(TT) &= T + (2 \times WOS) - 7/8 \\ (OTW) &= TT + W \\ (ITW) &= TT - W\end{aligned}$$

Axle and Bearing Rating:

Parallel spindles are recommended for outset wheel applications.
NOTE: Tapered spindles are not approved for use with wheels that have a 2-inch or greater outset.

Using outset wheels in a single-tire configuration moves the load point away from the center of the axle; increasing the bending load within the axle and reducing the axle beam rating as well as the hub and bearing life.

Using inset wheels in a single-tire configuration will not affect the axle beam rating, but can reduce the bearing life. Contact the Ridewell Engineering Department to determine the rating for an axle that uses inset or outset wheels in a single-tire configuration.

Recommended Service Intervals

Ridewell Suspensions recommends these minimum service intervals for standard-duty, on-highway sage applications. More frequent intervals are recommended for heavier duty suspension applications.

Daily/Pre-Trip Inspections

- ___ Check tires for proper inflation, damage/excessive wear.
- ___ Check oil-level in wheel hub. Inspect wheel-ends for obvious signs of lubricant leakage. Check suspension/wheel ends for missing components.
- ___ Visually inspect suspension for damage/excessive wear.
- ___ Check for loose/missing bolts/nuts. Check suspension components for irregular movement.
- ___ Make sure air controls are operating properly. Drain all moisture from air reservoirs.

First 6,000 miles of use

- ___ Torque all component bolts/nuts to specifications (Refer to Manufacturer's Specifications).
NOTE: Do not re-torque shear-type pivot bolt.

Every 12,000 miles of use

- ___ Inspect air springs for damage/excessive wear. Torque air spring bolts/nuts to Manufacturer's Specifications.
- ___ Check air lines and connections for leaks.

Every 50,000 miles of use

- ___ Torque all component bolts/nuts to specifications. (Manufacturer's Specifications)
- ___ Lube camshaft bushings/brake adjusters.

Annually/100,000 miles of use

- ___ Inspect pivot connection for worn pivot bushings and wear washers. Replace components as necessary.
 - ___ Torque components to OEM torque specifications.
 - ___ Check arm beam-to-axle welds.
- Check lubrication level in wheel-ends:**
- ___ 1) Oil-Filled Wheel Ends:
Refill/Replace lubricant as needed
(TMC-RP 631 "100K/Annual Inspection").
 - ___ 2) Semi-Fluid Grease:
Pull outer bearing and visually inspect lubrication level. Replace as needed
(TMC-RP 631 "Level 3 Lubrication Level Inspection")
(TMC-RP 618 "Wheel Bearing Adjustment").
 - ___ Check air lines/connections for leaks.
 - ___ Check disc/drum brake air chambers and slack adjusters.
 - ___ Inspect brake rollers, roller shafts, anchor pins and bushings. Replace if necessary.
 - ___ Check brake shoes for bent shoe ribs, cracks in shoe table-welds or ribs, and elongated rivet holes. Replace shoes if necessary.

CAUTION Failure to torque the components to specifications can result in suspension failure and void the warranty.

S-Cam Lubrication

Drum Brake Cams (S-Cams) should be inspected and lubricated monthly. More frequent service intervals may be needed in some applications.

NOTE: Extended wear/damage in the cam bushing area; flat spots on the cam-head and-or distorted splines will require a cam replacement.

- Clean the grease fitting and surrounding area before lubricating any vehicle component. Lubricate the cam support grease fittings with #2 EP NLGI chassis lube.
- Standard Brake Cam - Add lubricant to both grease fittings until fresh grease can be seen purging from each bushing cavity. Wipe away excess grease.
- Brake Cam w/ Cam Cover - Add lubricant to the spider-end grease fitting until new grease is seen purging from the slack adjuster-end of the cam cover. Wipe away the excess grease.

Ridewell suggests these Technology & Maintenance Council (TMC) Recommended Maintenance Practices

- | | |
|---------|---|
| RP 222 | User's Guide to Wheels and Rims |
| RP 604 | Brake Chambers for Air-Braked Vehicles |
| RP 607 | Preventive Maintenance-S-Cam Brakes |
| RP 608 | Brake Drums and Rotors |
| RP 609 | Brake Adjuster Removal; Installation; Maintenance |
| RP 618 | Wheel Bearing Adjustment Procedure |
| RP 619 | Air System Inspection Procedure |
| RP 622 | Wheel Seal/Bearing-Installation Maintenance |
| RP 631 | Recommendations for Wheel End Lubrication |
| RP 651 | Steer Axle Maintenance Guidelines |
| RP 652 | Service and Inspection of Air Disc Brakes |
| RP 656 | Hub and Spoke Wheel Fastener Maintenance |
| RP 708 | Trailer Axle Alignment |
| RP 728 | Trailer Axle Maintenance |
| RP 1503 | Brake MAINT-Severe Vocational Applications |
| RP 1506 | T Rod MAINT Guidelines-Vocational Vehicles |
| RP 1509 | Drive-Axle SUSP Guidelines-Vocational Vehicles |



**Scan/double-click QR-Code
to visit online support page at
www.ridewellcorp.com**

Terms and coverage in this warranty apply only to the United States and Canada.

Ridewell Suspensions warrants the suspension systems manufactured by it to be free of defects in material and workmanship. Warranty coverage applies only to suspensions that have been properly installed, maintained and operated within the rated capacity and recommended application of the suspension.

The responsibility for warranty coverage is limited to the repair/replacement of suspension parts. The liability for coverage of purchased components is limited to the original warranty coverage extended by the manufacturer of the purchased part. Ridewell has the sole discretion and authority to approve or deny a claim and authorize the repair or replacement of suspension parts. All parts must be held until the warranty claim is closed.

All work under warranty must have prior written approval from the Ridewell warranty department. All warranty claim submissions must have the owner's name; the In-Service Date; the VIN and the Ridewell serial number for each suspension submitted; and, clear photos of the failure as well as a description of the failure for the submission to be considered.

Parts that need to be returned for warranty evaluation will be issued a Returned Materials Authorization (RMA). Parts must be returned to Ridewell with the transportation charges prepaid. The transportation charges will be reimbursed if the warranty claim is approved.

This nontransferable warranty is in lieu of all other expressed or implied warranties or representations, including any implied warranties of merchantability or fitness or any obligations on the part of Ridewell. Ridewell will not be liable for any business interruptions, loss of profits, personal injury, any costs of travel delays or for any other special, indirect, incidental or consequential losses, costs or damages.

Contact the Ridewell Warranty Dept. at 417.833.4565 - Ext. 135, for complete warranty information.