

GM MEDIUM DUTY AIR BRAKE SPECIFICATIONS

INDEX

General Information	2
Conventional Cab Brake and Axle Charts	3 - 6
Conventional Cab Brake Usage Charts	7 - 9
Tilt-Cab Brake and Axle Charts	10 - 13
Tilt-Cab Brake Usage Charts	14 - 16
Features	17 - 18
Anti-Lock Brakes	19 - 20

AIR BRAKE SPECIFICATIONS

GENERAL INFORMATION

JE4 AIR BRAKES

MERITOR Q PLUS SERIES

Over the past three years, the Meritor Q Plus brake product line has become the industry standard. Performance, dependability, simple operation and proven design. Meritor's ability to meet the needs of the trucking industry continues with the Q Plus brake line.

Meritor has introduced its advanced Q Plus cam brake for applications requiring a 15" x 4" (38.1 cm x 10.16 cm) and 16.5" x 7" (41.91 cm x 7.78 cm) brake. The Q Plus brake increases service life by providing a lining with more thickness at the maximum wear point. In addition, Q Plus brakes feature an improved camshaft bushing, a newly designed S-cam which increases brake shoe travel to maximize lining wear and a heavy-duty shoe return spring to permit additional shoe travel required to fully wear the thicker lining blocks.

The Meritor Q Plus brakes have been engineered to reflect Meritor's long-term commitment to reducing end users maintenance costs and downtime. The goal of Q Plus brakes is to increase mileage between relines. By maximizing brake lining life and minimizing hassles when replacement time rolls around, the Q Plus will help make considerable inroads into routine maintenance costs.

BRAKE AND AXLE CHARTS

Model - Conventional				
Front Air Brake Specifications				
Front GAWR Range lb./ (kg) Defined by: Frame/Tire/Suspension/Axle Rating	7000 - 8000 (3152 - 3629)	8001 - 8999 (3629 - 4082)	9000 - 10,000 (4082 - 4536)	10,000 - 11,000 (4536 - 4990)
Front Axle Capacity lb./ (kg)	8000 (3629)	10,000 (4536)	10,000 (4536)	12,000 (5443)
Condition	With FM8 Axle	With FM6 Axle	With FM6 Axle	With FS7 Axle
Vehicle Application	Truck or Tractor	Truck or Tractor	Truck or Tractor	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Brake Size in. / (cm)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)
Front Shoe and Lining Information				
Lining Area Total Per Axle (sq. in.) / (sq. cm)	230 (1484)	230 (1484)	230 (1484)	230 (1484)
Thickness (Lining) in. / (mm)	0.73 (18.54)	0.73 (18.54)	0.73 (18.54)	0.73 (18.54)
Lining Material (non-asbestos)	MA212	MA212	MA212	MA212
Attachment	Riveted	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	376 (2426)	376 (2426)	376 (2426)	376 (2426)
Front Drum Information				
Drum Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	15.0 (381)	15.0 (381)	15.0 (381)	15.0 (381)
Drum Outside Diameter in. / (mm)	17.12 (434.8)	17.12 (434.8)	17.12 (434.8)	17.12 (434.8)
Drum Overall Width in. / (mm)	8.85 (224.8)	8.85 (224.8)	8.85 (224.8)	8.85 (224.8)
Drum Area (sq. In.) / (sq. cm)	417.1 (2691)	417.1 (2691)	417.1 (2691)	417.1 (2691)
Dust Shields	Included	Included	Included	Included
Front Chamber Information				
Option Code	JZC	JZC	JZD	JZD
Type	16	16	20	20

AIR BRAKE SPECIFICATIONS

BRAKE AND AXLE CHARTS

Model - Conventional				
Front Air Brake Specifications				
Front GAWR Range lb./ (kg) Defined by: Frame/Tire/Suspension/Axle Rating	11,001 - 12,000 (4990 - 5443)	11,001 - 12,000 (4990 - 5443)	12,001 - 14,600 (5443 - 6622)	14,601 - 18,000 (6622 - 8165)
Front Axle Capacity lb./ (kg)	12,000 (5443)	14,600 (6622)	14,600 (6622)	16,000-18,000 (7252-8165)
Condition	With FS7 Axle	With FL3 Axle	With FL3 Axle	With FH4/FS8 Axle
Vehicle Application	Truck or Tractor	Truck or Tractor	Truck or Tractor	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Brake Size in. / (cm)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)	16.5 x 6 x 5.5 (41.9 x 15.2 x 14)
Front Shoe and Lining Information				
Lining Area Total Per Axle (sq. in.) / (sq. cm)	314 (2026)	314 (2026)	314 (2026)	378 (2438)
Thickness (Lining) in. / (mm)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	MA212	MA212	R301
Attachment	Riveted	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	518 (3342)	518 (3342)	518 (3342)	622 (4013)
Front Drum Information				
Drum Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	16.5 (419.1)	16.5 (419.1)	16.5 (419.1)	16.5 (419.1)
Drum Outside Diameter in. / (mm)	18.88 (479.6)	18.88 (479.6)	18.88 (479.6)	18.88 (479.6)
Drum Overall Width in. / (mm)	9.14 (232.2)	9.14 (232.2)	9.14 (232.2)	9.81 (249.2)
Drum Area (sq. In.) / (sq. cm)	473.8 (3057)	473.8 (3057)	473.8 (3057)	508.5 (3281)
Dust Shields	Included	Included	Included	Included
Front Chamber Information				
Option Code	JZE	JZE	JZE	JZE
Type	24	24	24	24

BRAKE AND AXLE CHARTS

Model – Conventional Single Axle				
Rear Air Brake Specifications				
Rear GAWR Range lb./ (kg) Defined by: Tire/Suspension/Axle Rating	17,200 - 21,000 (7802 - 9525)	19,000 - 21,000 (8620 - 9525)	21,001 - 23,000 (9525 - 10,432)	23,001 - 26,000 (10,432 - 11,793)
Rear Axle Capacity lb./ (kg)	19,000 - 21,000 (8620 - 9525)	23,000 (10,432)	22,000 - 23,000 (9,979 - 10,432)	26,000 (11,793)
Condition	Taperleaf Susp. Multileaf Susp. Air Suspensions	Taperleaf Susp. Multileaf Susp. Air Suspensions	Taperleaf Susp. Multileaf Susp. Air Suspensions	Multileaf Susp.
Vehicle Application	Truck or Tractor	Truck or Tractor	Truck or Tractor	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Hub Bolt Description	10 Hole	16 Hole	16 Hole	16 Hole
Brake Size in. / (cm)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 6 (41.9 x 17.8 x 15.2)	16.5 x 7 x 6 (41.9 x 17.8 x 15.2)
Rear Shoe and Lining Information				
Lining Area Total Per Axle (sq. in.) / (sq. cm)	440 (2838)	440 (2838)	440 (2838)	440 (2838)
Thickness (Lining) in. / (mm)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	MA212	MA312	R403
Attachment	Riveted	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	726 (4684)	726 (4684)	726 (4684)	726 (4684)
Rear Drum Information				
Drum Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	16.50 (419.1)	16.50 (419.1)	16.50 (419.1)	16.50 (419.1)
Drum Outside Diameter in. / (mm)	18.70 (475.0)	18.70 (475.0)	18.86 (479.0)	18.86 (479.0)
Drum Overall Width in. / (mm)	10.3 (262)	10.3 (262)	10.3 (262)	10.3 (262)
Drum Area (sq. In.) / (sq. cm)	535 (3450)	535 (3450)	535 (3450)	535 (3450)
Dust Shields	Not Included (Add Option JRF)	Not Included (Add Option JRF)	Not Included (Add Option JRF)	Not Included (Add Option JRF)
Rear Chamber Information				
Option Code	JZF	JZF	JZF	JZF
Type	30	30	30	30

BRAKE AND AXLE CHARTS

AIR BRAKE SPECIFICATIONS

Model – Conventional Tandem Axle			
Rear Air Brake Specifications			
Rear GAWR Range lb./ (kg) Defined by: Tire/Suspension/Axle Rating	34,000 - 40,000 (15,422 - 18,144)	34,400 - 40,000 (15,604 - 18,144)	40,001 - 45,000 (18,144 - 20,412)
Rear Axle Capacity lb./ (kg)	34,000 - 40,000 (15,422 - 18,144)	34,000 - 40,000 (15,422 - 18,144)	45,000 (20,412)
Condition	52 in. Walking Beam	Air Suspension	52 in. / 54 in. Walking Beam
Vehicle Application	Truck or Tractor	Truck	Truck
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Hub Bolt Description	10 Hole	10 Hole	16 Hole
Brake Size in. / (cm)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 6 (41.9 x 17.8 x 15.2)
Rear Shoe and Lining Information			
Lining Area Total Per Axle (sq. in.) / (sq. cm)	440 (2838)	440 (2838)	440 (2838)
Thickness (Lining) in. / (mm)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	MA212	MA312
Attachment	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	726 (4684)	726 (4684)	726 (4684)
Rear Drum Information			
Drum Material	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	16.50 (419.1)	16.50 (419.1)	16.50 (419.1)
Drum Outside Diameter in. / (mm)	18.70 (475.0)	18.70 (475.0)	18.86 (479.0)
Drum Overall Width in. / (mm)	10.3 (262)	10.3 (262)	10.3 (262)
Drum Area (sq. In.) / (sq. cm)	535 (3450)	535 (3450)	535 (3450)
Dust Shields	Not Included (Add Option JRF)	Not Included (Add Option JRF)	Not Included (Add Option JRF)
Rear Chamber Information			
Option Code	JZF	JZF	JZF
Type	30	30	30

CONVENTIONAL CAB BRAKE USAGE CHARTS C7500

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			Front GAWR (lbs) SLR: 17.0-20.8 (in)		7,000-8,000	8,001-8,999	9,000-10,000	10,000-11,000	11,001-12,000	11,001-12,000	12,001-14,600	
			Application		Truck	Truck	Truck	Truck	Truck / Tractor	Truck / Tractor	Truck / Tractor	
			Front Axle RPO		FM8	FM6	FM6	FS7	FS7	FL3	FL3	
			BRAKE Size RPO		15.0 x 4 - 5.5 MA212				16.5 x 5 - 5.5 MA212			
					JRR				JRV			
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	BRAKE Size	BRAKE RPO	Brake Chamber RPO / TYPE	JZC (TYPE 16)		JZD (TYPE 20)		JZE (TYPE 24)		
17,200 21,000	<u>MAX 19,000:</u> HPK HPL HPM	GZT				16.5 X 7 - 5.5 MA212 10-Hole	JRS	JZF (TYPE 30)	A	A	A	A
	HPK HPM	G40	A	A	A				A	A -	A -	
	<u>MAX 21,000:</u> HPN HPP H15	GZT	A	A	A				A	A	A	
	HPN HPP H15	GSJ	A	A	A				A	A-	A-	
	HPP	G45	A	A	A				A	A	A	
	<u>MAX 23,000:</u> HNA HNB HPT H25	GZT	16.5 X 7 - 5.5 MA212 16-Hole	JRT	A				A	A	A	A +
21,001 23,000	<u>MAX 23,000:</u> HNA HNB HPT H25	GZT	16.5 X 7 - 6.0 MA312 16-Hole	JPL	JZF (TYPE 30)	A	A	A	A	A	A	A
	HNA HNB HPT H25	G45				A	A	A	A	A	A	A

A = Available Combination
 NA = Combination Not Available
 A - = Available Combination Truck Only
 A + = Brake balance compatibility between tractor and intended trailer must be verified.

AIR BRAKE SPECIFICATIONS

**CONVENTIONAL CAB BRAKE USAGE CHARTS
C8500 SINGLE**

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			Front GAWR (lbs) SLR: 17.0-20.8 (in)	10,000- 11,000	11,001- 12,000	11,001- 12,000	12,001- 14,600	12,001- 18,000		
			Application	Truck	Truck / Tractor	Truck / Tractor	Truck / Tractor	Truck		
			Front Axle RPO	FS7	FS7	FL3	FL3	FH4/FS8		
			BRAKE Size RPO	15.0 x 4 - 5.5 MA212	16.5 x 5 - 5.5 MA212			16.5 x 6 - 5.5 R301		
				JRR	JRV			JQZ		
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	Size RPO	Brake Chamber RPO / TYPE	JZD (TYPE 20)	JZE (TYPE 24)				
17,200 21,000	<u>MAX 21,000:</u> HPN HPP H15	GZT	16.5 X 7 - 5.5 MA212 10-Hole	JRS	A	A	A	NA	NA	
	HPP H15	GSJ			A -	A -	A -			
	HPP	G45			A	A	A			
	<u>MAX 23,000:</u> HNA HNB HPT H25	GZT	16.5 X 7 - 5.5 MA212 16-Hole	JRT	A	A +	A +			
21,001 23,000	<u>MAX 23,000:</u> HNA HNB HPT H25	GZT	16.5 X 7 - 6.0 MA312 16-Hole	JPL	JZF (TYPE 30)	A	A	A	A	A
	HNA HNB HPT H25	G45				A	A	A	A	A
23,001 26,000	<u>MAX 26,000:</u> GJ4 HPA	GZT	16.5 X 7 - 6.0 R403 16-Hole	JRJ	NA	NA	NA	A	A	

A = Available Combination

NA = Combination Not Available

A - = Available Combination Truck Only

A + = Brake balance compatibility between tractor and intended trailer must be verified.

CONVENTIONAL CAB BRAKE USAGE CHARTS C8500 TANDEM

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			Front GAWR (lbs) SLR: 17.0-20.8 (in)		11,001-12,000	11,001-12,000	12,001-14,600	12,001-18,000	
			Application		Truck / Tractor	Truck / Tractor	Truck / Tractor	Truck	
			Front Axle RPO		FS7	FL3	FL3	FH4/FS8	
			BRAKE Size RPO		16.5 x 5 - 5.5 MA212			16.5 x 6 - 5.5 R301	
					JRV			JQZ	
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	BRAKE Size	RPO	Brake Chamber RPO / TYPE	JZE (TYPE 24)			
34,000 40,000	<u>MAX 34,000:</u> HPI	GNS GSN GPD	16.5 X 7 - 5.5 MA212 10-Hole	JRS	JZF (TYPE 30)	A	A	A +	A
	<u>MAX 40,000:</u> HPE HPJ HXF	GNS GPL GPR GZK GPD				A	A	A +	A
40,001 45,000	<u>MAX 45,000:</u> HP3	GPB GSA	16.5 X 7 - 6.0 MA312 16-Hole	JPL		NA	NA	A	A

A = Available Combination

NA = Combination Not Available

A - = Available Combination Truck Only

A + = Brake balance compatibility between tractor and intended trailer must be verified.

AIR BRAKE SPECIFICATIONS

TILT-CAB BRAKE AND AXLE CHARTS

Model - Tilt				
Front Air Brake Specifications				
Front GAWR Range lb./ (kg) Defined by: Frame/Tire/Suspension/Axle Rating	9080 - 10,000 (4082 - 4536)	10,000 - 11,000 (4536 - 4990)	11,001 - 12,000 (4990 - 5443)	11,001 - 12,000 (4990 - 5443)
Front Axle Capacity lb./ (kg)	10,000 (4536)	12,000 (5443)	12,000 (5443)	14,600 (6622)
Condition	With FM6 Axle	With FS7 Axle	With FS7 Axle	With FL3 Axle
Vehicle Application	Truck	Truck	Truck or Tractor	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Brake Size in. / (cm)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)	15.0 x 4 x 5.5 (38.1 x 10.2 x 14)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)
Front Shoe and Lining Information				
Lining Area Total Per Axle (sq.in.) / (sq. cm)	230 (1484)	230 (1484)	230 (1484)	314 (2026)
Thickness (Lining) in. / (mm)	0.73 (18.54)	0.73 (18.54)	0.73 (18.54)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	MA212	MA212	MA212
Attachment	Riveted	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	376 (2426)	376 (2426)	376 (2426)	518 (3342)
Front Drum Information				
Drum Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	15.0 (381)	15.0 (381)	15.0 (381)	16.5 (419.1)
Drum Outside Diameter in. / (mm)	17.12 (434.8)	17.12 (434.8)	17.12 (434.8)	18.88 (479.6)
Drum Overall Width in. / (mm)	8.85 (224.8)	8.85 (224.8)	8.85 (224.8)	9.14 (232.2)
Drum Area (sq. In.) / (sq. cm)	417.1 (2691)	417.1 (2691)	417.1 (2691)	473.8 (3057)
Dust Shields	Included	Included	Included	Included
Front Chamber Information				
Option Code	JZD	JZD	JZE	JZE
Type	20	20	24	24

TILT-CAB BRAKE AND AXLE CHARTS

Model - Tilt		
Front Air Brake Specifications		
Front GAWR Range lb./ (kg) Defined by: Frame/Tire/Suspension/Axle Rating	12,001 - 14,600 (5443 - 6622)	14,601 - 18,000 (6622 - 8165)
Front Axle Capacity lb./ (kg)	14,600 (6622)	16,000 (7252)
Condition	With FL3 Axle	With FH4 Axle
Vehicle Application	Truck or Tractor	Truck
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Brake Size in. / (cm)	16.5 x 5 x 5.5 (41.9 x 12.7 x 14)	16.5 x 6 x 5.5 (41.9 x 15.2 x 14)
Front Shoe and Lining Information		
Lining Area Total Per Axle (sq. in.) / (sq. cm)	314 (2026)	378 (2438)
Thickness (Lining) in. / (mm)	0.85 (21.59)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	R301
Attachment	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	518 (3342)	622 (4013)
Front Drum Information		
Drum Material	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	16.5 (419.1)	16.5 (419.1)
Drum Outside Diameter in. / (mm)	18.88 (479.6)	18.88 (479.6)
Drum Overall Width in. / (mm)	9.14 (232.2)	9.81 (249.2)
Drum Area (sq. In.) / (sq. cm)	473.8 (3057)	508.5 (3281)
Dust Shields	Included	Included
Front Chamber Information		
Option Code	JZE	JZE
Type	24	24

AIR BRAKE SPECIFICATIONS

TILT-CAB BRAKE AND AXLE CHARTS

Model – Tilt Single Axle				
Rear Air Brake Specifications				
Rear GAWR Range lb./ (kg) Defined by: Tire/Suspension/Axle Rating	17,200 - 21,000 (7802 - 9526)	19,000 - 21,000 (8620 - 9526)	21,001 - 23,000 (9526 - 10,432)	23,001 - 26,000 (10,432 - 11,794)
Rear Axle Capacity lb./ (kg)	19,000 - 21,000 (8620 - 9525)	23,000 (10,432)	22,000 - 23,000 (9,979 - 10,432)	26,000 (11,793)
Condition	Taperleaf Susp. Multileaf Susp. Air Suspensions	Taperleaf Susp. Multileaf Susp. Air Suspensions	Taperleaf Susp. Multileaf Susp. Air Suspensions	Multileaf Susp.
Vehicle Application	Truck or Tractor	Truck or Tractor	Truck or Tractor	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32	17.0 - 20.8 431.80 - 528.32
Hub Bolt Description	10 Hole	16 Hole	16 Hole	16 Hole
Brake Size in. / (cm)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)	16.5 x 7 x 6 (41.9 x 17.8 x 15.2)	16.5 x 7 x 6 (41.9 x 17.8 x 15.2)
Rear Shoe and Lining Information				
Lining Area Total Per Axle (sq. in.) / (sq. cm)	440 (2838)	440 (2838)	440 (2838)	440 (2838)
Thickness (Lining) in. / (mm)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)	0.85 (21.59)
Lining Material (non-asbestos)	MA212	MA212	MA312	R403
Attachment	Riveted	Riveted	Riveted	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	726 (4684)	726 (4684)	726 (4684)	726 (4684)
Rear Drum Information				
Drum Material	Cast Iron	Cast Iron	Cast Iron	Cast Iron
Drum Inside Diameter in. / (mm)	16.50 (419.1)	16.50 (419.1)	16.50 (419.1)	16.50 (419.1)
Drum Outside Diameter in. / (mm)	18.70 (475.0)	18.70 (475.0)	18.86 (479.0)	18.86 (479.0)
Drum Overall Width in. / (mm)	10.3 (262)	10.3 (262)	10.3 (262)	10.3 (262)
Drum Area (sq. In.) / (sq. cm)	535 (3450)	535 (3450)	535 (3450)	535 (3450)
Dust Shields	Not Included (Add Option JRF)	Not Included (Add Option JRF)	Not Included (Add Option JRF)	Not Included (Add Option JRF)
Rear Chamber Information				
Option Code	JZF	JZF	JZF	JZF
Type	30	30	30	30

TILT-CAB BRAKE AND AXLE CHARTS

Model – Tilt Tandem Axle	
Rear Air Brake Specifications	
Rear GAWR Range lb./ (kg) Defined by: Tire/Suspension/Axle Rating	34,400 - 40,000 (15,604 - 18,144)
Rear Axle Capacity lb./ (kg)	40,000 (18,144)
Condition	52 in. Walking Beam
Vehicle Application	Truck or Tractor
Tire SLR Range in. / (mm)	17.0 - 20.8 431.80 - 528.32
Hub Bolt Description	10 Hole
Brake Size in. / (cm)	16.5 x 7 x 5.5 (41.9 x 17.8 x 14)
Rear Shoe and Lining Information	
Lining Area Total Per Axle (sq. in.) / (sq. cm)	440 (2838)
Thickness (Lining) in. / (mm)	0.85 (21.59)
Lining Material (non-asbestos)	MA212
Attachment	Riveted
Effective Drum Swept Area Per Axle (sq in.) / (sq. cm)	726 (4684)
Rear Drum Information	
Drum Material	Cast Iron
Drum Inside Diameter in. / (mm)	16.50 (419.1)
Drum Outside Diameter in. / (mm)	18.70 (475.0)
Drum Overall Width in. / (mm)	10.3 (262)
Drum Area (sq. In.) / (sq. cm)	535 (3450)
Dust Shields	Not Included (Add Option JRF)
Rear Chamber Information	
Option Code	JZF
Type	30

AIR BRAKE SPECIFICATIONS

**TILT-CAB BRAKE USAGE CHARTS
T7500**

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			Front GAWR (lbs) SLR: 17.0-20.8 (in)		9,000-10,000	10,000-11,000	11,001-12,000	11,001-12,000	12,001-14,600	
			Application		Truck	Truck	Truck / Tractor	Truck / Tractor	Truck / Tractor	
			Front Axle RPO		FM6	FS7	FS7	FL3	FL3	
			BRAKE Size RPO		15.0 x 4 - 5.5 MA212		16.5 x 5 - 5.5 MA212			
			Size RPO		JRR		JRV			
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	Size	RPO	Brake Chamber RPO / TYPE	JZD (TYPE 20)		JZE (TYPE 24)		
17,200 21,000	<u>MAX 19,000:</u> HPK HPL HPM	GZT	16.5 X 7 - 5.5 MA212 10-Hole	JRS	JZF (TYPE 30)	A	A	A	A	NA
	HPK HPM	G40				A	A	A -	A -	
	<u>MAX 21,000:</u> HPN HPP H15	GZT				A	A	A	A	
	HPP H15	GSJ				A	A	A-	A-	
	HPP	G45				A	A	A	A	
	<u>MAX 23,000:</u> HNA HNB HPT	GZT	16.5 X 7 - 5.5 MA212 16-Hole	JRT		A	A	A +	A +	
21,001 23,000	<u>MAX 23,000:</u> HNA HNB HPT	GZT	16.5 X 7 - 6.0 MA312 16-Hole	JPL	A	A	A	A	A	
	HNA HNB HPT	G45			A	A	A	A	A	

A = Available Combination
 NA = Combination Not Available
 A - = Available Combination Truck Only
 A + = Brake balance compatibility between tractor and intended trailer must be verified

TILT-CAB BRAKE USAGE CHARTS T8500 SINGLE

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			BRAKE							
			Size	RPO						
					15.0 x 4 - 5.5 MA212	16.5 x 5 - 5.5 MA212			16.5 x 6 - 5.5 R301	
					JRR	JRV			JQZ	
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	Size	RPO	Brake Chamber RPO / TYPE	JZD (TYPE 20)	JZE (TYPE 24)			
17,200 21,000	<u>MAX 21,000:</u> HPN HPP H15	GZT	16.5 X 7 - 5.5 MA212 10-Hole	JRS	JZF (TYPE 30)	A	A	A	NA	NA
	HPP H15	GSJ				A -	A -	A -		
	HPP	G45				A	A	A		
<u>MAX 23,000:</u> HNA HNB HPT	GZT	16.5 X 7 - 5.5 MA212 16-Hole	JRT	A		A +	A +			
21,001 23,000	<u>MAX 23,000:</u> HNA HNB HPT	GZT	16.5 X 7 - 6.0 MA312 16-Hole	JPL		A	A	A	A	A
	HNA HNB HPT	G45				A	A	A	A	A
23,001 26,000	<u>MAX 26,000:</u> HPA	GZT	16.5 X 7 - 6.0 R403 16-Hole	JRJ	NA	NA	NA	A	A	

A = Available Combination
 NA = Combination Not Available
 A - = Available Combination Truck Only
 A + = Brake balance compatibility between tractor and intended trailer must be verified

AIR BRAKE SPECIFICATIONS

**TILT-CAB BRAKE USAGE CHARTS
T8500 - TANDEM**

This Air Brake Usage Chart information is for reference use only. This chart is not intended for and should not be used for ordering brakes. Air brake sizing is determined using the vehicle's axle/frame/suspension and tire ratings. Note: Special Equipment Options (SEO's), and SEO usage expansions may or may not be shown on chart.

			BRAKE								
			Size	RPO	JZE (TYPE 24)						
Rear GAWR (lbs) SLR 17.0-20.8 (in)	Rear Axle Capacity (lbs) / RPO	Rear Susp RPO	Size	RPO	Brake Chamber RPO / TYPE						
							16.5 x 5 - 5.5 MA212		16.5 x 6- 5.5 R301		
							JRV		JQZ		
							A		A		
							A +		A		
34,400 40,000	<u>MAX 40,000:</u> HPE	GNS GPR	16.5 X 7 - 5.5 MA212 10-Hole	JRS	JZF (TYPE 30)						

- A = Available Combination
- NA = Combination Not Available
- A - = Available Combination Truck Only
- A + = Brake balance compatibility between tractor and intended trailer must be verified.

FEATURES

Meritor Q Plus Series brakes offer these important advantages:

- Q Plus Cam Brakes have a 93% increase in wearable lining volume on the 15" x 4" (38.1 cm x 10.16 cm), compared to previous Q Brake, and thereby increases time between relines.
- Newly designed S-cam allows additional brake shoe travel, and ensures optimum lining wear with adequate rollover protection.
- Heavy-duty return springs permit increased shoe travel required to fully wear thicker linings.
- Patented double anchor pin design assures maximum wear occurs at point of maximum lining thickness; lowers drum stresses; lowers forces on cam bushing; reduces likelihood of brake noise and vibration due to shoe lifting as in some single anchor pin designs.
- Improved camshaft bushing material provides increased service life
- Quick-change shoes allow fast, easy brake relines.
- Parts commonality between Meritor steer, drive and trailer axle brakes reduces part inventories.
- Simplicity of design incorporates fewer mechanical parts, quick/easy relines, minimal mechanic training required.
- Meritor's 5-Year/750,000 Mile (1,207,000 km) extended warranty provides protection from defective material and workmanship.
- Readily available replacement parts, through Meritor's aftermarket parts and services distribution centers and network of outlets, reduces costly downtime.

NOTE: If you have a front GAWR rating above 11,000 lb. (4990 kg) you will get the standard "Q" style air brakes.

Brake Chamber size and Make Chart

Chamber Type	Chamber Size	Make	Model
Type 16	16 in ²	TSE	OMNIBRAKE 16SCN1
Type 20	20 in ²	TSE	OMNIBRAKE 20SCL2
Type 24	24 in ²	TSE	OMNIBRAKE 24SCL2
Type 30	30 in ²	TSE	OMNIBRAKE 3030TL2

AIR BRAKE SPECIFICATIONS

FEATURES

SERVICE CHAMBERS – SPECIFIC FEATURES

The TSE *Omnibrake* family of quality spring brakes has been engineered to provide years of "Double Life" durability while helping to reduce your maintenance costs. All componentry meets or exceeds the SAE's recommendations for spring brake chamber service life.

- All Steel Design - Offers more size options to fit a wide range of applications.
- Electro-Deposition Coating - Full immersion electrocoating guarantees 100% coating inside and out.
- Main Spring – Specially coated with zinc phosphate base then e-coated for maximum corrosion protection.
- Self-Guided Press Plate – Provides consistent center alignment of pressure plate for straight line actuation force.
- Welded Spring Housing – Completely sealed and tamper-resistant with a unique precision weld. (Excludes Type 16)
- Center Seal Assembly with Double O-Rings – Self lubricating thermoplastic bushing with a double O-ring design provides enhanced strength, toughness, lubricity and leak protection.
- Premium Diaphragms - High quality contaminate resistant rubber, nylon reinforced fabric with improved coverage of rubber over fabric.
- Improved High Vibration "HV" Mounting Base – Reinforced mounting base for increased vibration resistance. (TYPE 30)
- Fully Sealed Units – Fully sealed chamber offers reduced profile and increased tamper resistance. Clamped serviceable units available.

FEATURES

MERITOR AUTOMATIC SLACK ADJUSTERS STANDARD WITH AIR BRAKE SYSTEM ADJUSTS BRAKES AUTOMATICALLY

PayMaster will automatically maintain proper brake adjustment while your truck is being driven. Adjustment occurs only when necessary and only on the return stroke after air pressure is released. Drivers will have increased confidence because all the brakes are in consistent adjustment, reducing the chance of brake pull or

BENDIX AIR ANTI-LOCK BRAKES

The GM/Bendix Antilock Full Vehicle Wheel Control System provides superior braking performance, improved stability and enhanced steerability. In addition, the GM/Bendix system has been designed with other considerations in mind. Fewer parts and wires mean fewer problems - and much easier installation and maintenance. The electronic control unit (ECU) is mounted under the hood for easy visibility and maintenance.

Along with the full vehicle wheel control system, individual wheel speed sensors, modulators and electronic controller monitor and control the four wheels of the vehicle, compensating for wheel-slip or lockup. Individual control the four vehicle corners provides improved stability steerability and stopping distance on curves or road surfaces with different coefficients of friction i.e. curb lane ice and center lane asphalt. Plus, the system's enhanced wheel control on the front axle makes steering easier and more controllable during stops on all surfaces. Initially, the front axle is controlled by the electronics ability to tell which wheel is in the most danger of lockup. Gradually, the system regulates the braking pressure on the other wheel up to a controlled maximum level, reducing the possibility of over braking or jackknifing.

Should a malfunction develop in the GM/Bendix Full Vehicle Wheel Control System, the system provides important safety backup through corner diagnostics. If a malfunction occurs at one wheel end, only that wheel end is disabled. This maintains antilock control on the remaining wheel ends. The Full Vehicle Wheel Control System is highly adaptable. It can work equally on 4x2 or 6x4 trucks or tractors. The following components are used in combination to provide full vehicle wheel control braking:

EC-60 ANTILOCK CONTROLLER

Designed to minimize potential of brake lock up on all wheels during aggressive braking, the EC-60 based AntiLock system provides the vehicle with a high degree of stability during braking. In most cases, vehicle stopping distance is also reduced. The AntiLock portion of the EC-60 based system minimizes wheel skid during hard or aggressive braking. By controlling wheel skid at all wheels on the vehicle, optimum steering control and stopping distance is obtained. The EC-60 electronics, which regulate the function of the antilock system, are contained in metal housing with a plastic cover. The design of the digital electronics is intended to provide a high degree of protection from radio, electromagnetic and environmental interference. Troubleshooting and diagnostic trouble code clearing (as well as reconfiguration) may also be carried out using handheld or PC-based diagnostic tools such as the Bendix® Remote Diagnostic Unit (RDU™). The Bendix® RDU™ tool provides the technician with a visual indication of Antilock Braking System (ABS) component Diagnostic Trouble Code (DTC) information. The RDU™ tool attaches to the 9 pin diagnostic connector in the cab of the vehicle. An adapter cable (Bendix part number 5012793) is available to connect the RDU to vehicles with a 6-pin diagnostic connector. The RDU™ tool allows the technician to:

- Troubleshoot ABS system component problems using Diagnostic Trouble Code reporting via LEDs.
- Reset Diagnostic Trouble Codes on Bendix® ABS ECUs by holding a magnet over the reset in center of RDU™ tool for less than 6 seconds.
- Enter the Self-Configuration Mode used by Bendix® ABS ECUs by holding a magnet over the reset area for greater than 6 seconds but less than 30 seconds.

Electrical connectors, located in the controller housing connect the EC-60 to AntiLock and traction system components. The EC-60 receives information from several components in the antilock system and based on these inputs, issues commands or delivers information.

The EC-60 provides individual wheel control by using a wheel speed sensor and modulator at each wheel. By monitoring the rate of deceleration during braking, and subsequently adjusting the brake application pressure at each wheel, the EC-60 is able to provide improved braking between the vehicle tire and the road surface it is on, while maintaining vehicle stability.

The EC-60 handles equipment failures using a fail-safe philosophy. Any single electric failure of a component devoted to antilock braking results in simultaneous illumination of the antilock system lamp on the dash, a disabling of all or part of the antilock system, and reversion to standard braking on wheels no longer under the control of antilock. A power or controller failure or 2 or more failures will result in complete disabling of the antilock system and reversion to standard braking on all wheels. The driver will be advised of this condition via the dash lamp.

AIR BRAKE SPECIFICATIONS

M-32 ANTILOCK MODULATOR

The M-32 and M-32QR (quick release) antilock system modulators are high capacity, on/off air valves that incorporate a pair of electrical solenoids for control. The solenoids provide the electro-pneumatic interface between the antilock controller electronics and the air brake system. The modulator is used to control the braking function on individual or dual service actuators during antilock activity. If a service brake application is made and the antilock system detects an impending wheel lockup, the EC-60 will make an immediate modification of the brake application using the M-32 modulator. The solenoids allow the M-32 to exhaust or reapply air pressure to the brake actuator. This simulates what a driver does when he "pump the brakes". Unlike the driver though, the EC-60 is able to "pump" each M-32 modulator, along with the brakes connected to it, independently and with far greater speed and accuracy.

The M-32 and M-32QR modulators are the direct replacement for the M-30 modulator in all applications. The M-32QR modulator includes a bias valve to provide an internal quick release function.

BENDIX AIR ANTI-LOCK BRAKES ANTILOCK AIR BRAKE SPEED SENSORS

WS-20 WHEEL SPEED SENSOR

The WS-20 wheel speed sensor is an electromagnetic device used to obtain vehicle speed information for the EC-60. When the wheel rotates, the sensor and exciter (tone wheel in the hub) generates a simple AC signal. This signal is sent to the EC-60 which analyzes the data and commands the antilock system accordingly. The sensor is installed in a mounting block that is affixed to the axle housing. A bushing provides a friction fit between the mounting block bore and the sensor.

When the WS-20 is inserted all the way into the mounting block and the wheel is installed on the axle, the hub exciter contacts the sensor, which pushes the sensor back. Also, normal bearing play will bump the sensor away from the exciter. The combination of these two actions will establish a running clearance gap between the sensor and the exciter.

The GM/Bendix Antilock System not only tells you when something is wrong, it tells you what's wrong and where to look for it. With its visual light display, the Bendix® RDU™ directs the mechanic to the problem area - power, electronic controller, left or right, front or rear sensors, front or rear modulators or voltage level. No other special diagnostic test equipment is needed. The system remembers its problem during operation and after shut down, which helps identify causes, even intermittent ones. Once corrected, the system lights are easily reset with a common magnet.
