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How to Obtain Specifications for Additional ArvinMeritor Commercial Vehicle Systems Components

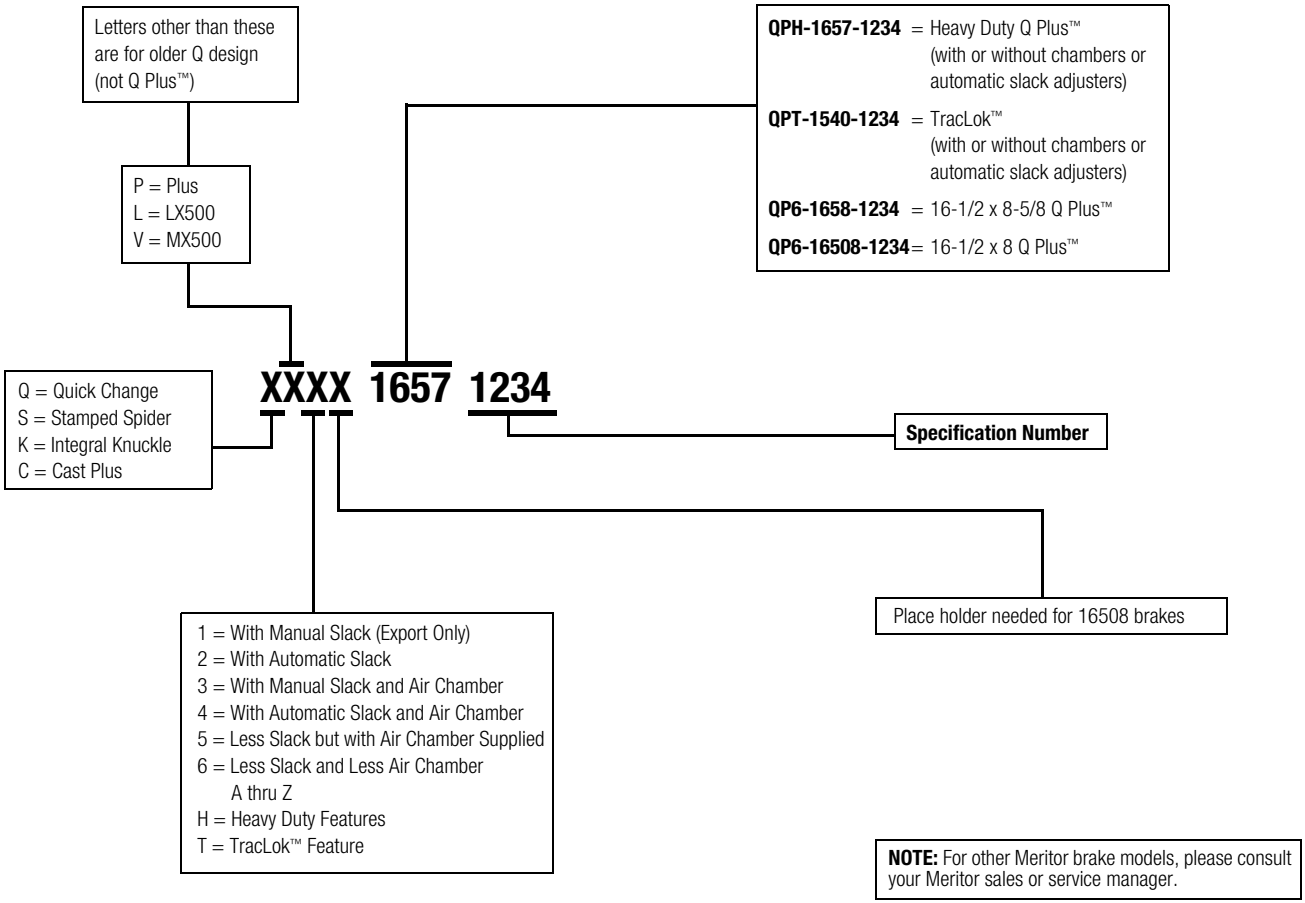
Refer to the publications in the chart below. To order call ArvinMeritor's Customer Service Center at 800-535-5560, or visit Literature on Demand at arvinmeritor.com.

Components	Publications
Axles, Transfer Cases Front non-drive steer, front drive steer, drive axles with unitized wheel ends, single rear, tandem, tridem Single- and two-speed transfer cases	Truck and Tractor Axle Specifications (Order TP-7824)
Off-Highway: Axles, Brakes, Independent Suspension Axle Systems, Transfer Cases Planetary steer, rigid, tandem, steer tandem, T/A series, Jack axles; independent suspension axle systems Hydraulic dry disc, combination (service and parking), parking, hydraulic wet disc, and drum brakes Models ISPS and ISPR independent suspension axle systems Single- and two-speed transfer cases	Off-Highway Product Specifications (Order TP-8374)
Trailer Axles Straight, drop, and crank and drop beams Models TB, TN, TQ, TP, TR, TQC, TQD, TRD	Trailer Axle Specifications (Order TP-8301)
Transmissions 9-, 10- and 13-speed manual 12- and 16-speed FreedomLine™ 9- and 10-speed SureShift™ and Engine Synchro Shift™ (ESS™)	Transmissions/ Condensed Specifications (Order SP-20189)

NOTES

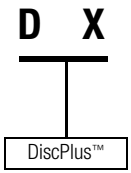
MERITOR. Brakes

Q Plus™ Cam Brakes
Model Numbers and Designations

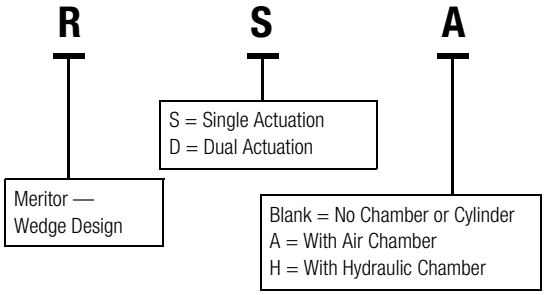


NOTE: For other Meritor brake models, please consult your Meritor sales or service manager.

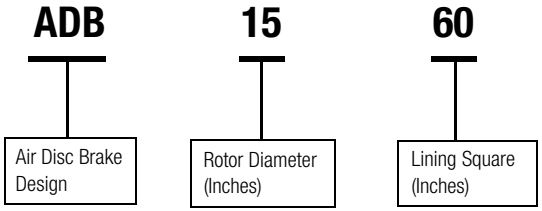
DiscPlus™ Air Disc Brakes
Model Numbers and Designations

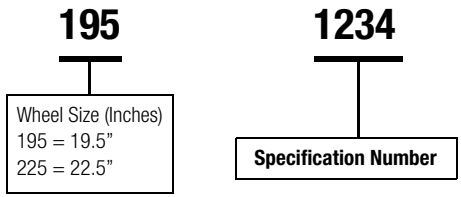


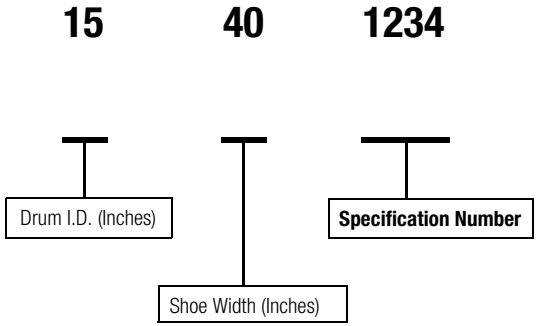
Stopmaster® Wedge Brakes
Model Numbers and Designations

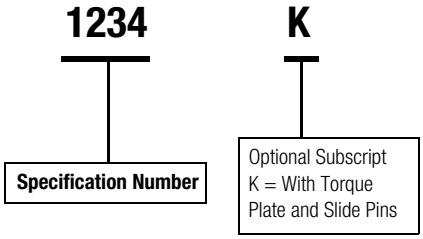


Dura-Master® Air Disc Brakes
Model Numbers and Designations









Q Plus™ Cam Brakes

Recommended GAWR Range (lbs.)	Size Diameter x Width (Inch)
7-14,000	15" x 4"
10-14,600	15" x 5"
10-14,600	15" x 6"
10-14,600	16.5" x 5"
15-20,000	16.5" x 6"
15-20,000	15" x 7"
15-20,000	15" x 8.63"
15-20,000	15" x 8.63"
17-23,000	16.5" x 7" 16.5" x 8" 16.5" x 8.63"
17-24,999	16.5" x 7" 16.5" x 8" 16.5" x 8.63"

NOTE: Specific applications require Meritor brake engineering approval. For complete information, spec'ing assistance, or OEM spec level replacement parts, ask your Meritor representative or call ArvinMeritor's Customer Service Center at 800-535-5560.

Configuration		Applications
Shoes	Spiders	
Fabricated	Cast	Steer Axle
Fabricated	Cast	Drive Axle (Conventional Wheel Equipment)
		Drive Axle (19.5" Wheels)
	Stamped	Trailer Axle (19.5" Wheels)
		Drive and Trailer Axle
	Cast	Drive and Trailer Axle

Long Life and Vocational Cam Brakes

Recommended GAWR Range (lbs.)	Brake Size	Brake Model
7-14,000	15" x 4"	LX500 Extended Lube
10-14,600	15" x 5"	
10-14,600	15" x 6"	
17-23,000	16.5" x 7" 16.5" x 8" 16.5" x 8.63"	
10-12,000	15 x 5" Long Life	MX500 Maintenance Free
17-20,000	16.5" x 8" Long Life	
up to 14,600	14.5" x 6"	"W" Series
up to 16,000	14.5" x 10"	
17-24,999	16.5" x 10"	"Q" Series
25-30,000	16.5" x 7"	"P" Series
25-35,000	18" x 7"	
20-26,000	16.5" x 7"	Heavy Duty Q Plus™
15-20,000	16.5" x 6"	Cast Plus
17-30,000	16.5" x 8.63"	

Configuration		
Shoes	Spiders	Applications
Fabricated	Cast	Steer Axle*
	Stamped	Drive Axle*
	Cast	Linehaul Steer Axle*
	Stamped	Linehaul Drive Axle*
	Cast	Bus & Coach Steer Axle
		Bus & Coach Drive Axle
		School Bus Drive Axle
Cast		Severe Duty Drive Axle
H.D. Fabricated		
Cast		Bus & Coach Steer Axle

* Availability and warranty coverage for LX500 and MX500 Long Life brakes vary by vocation. For complete information, spec'ing assistance or OEM spec level replacement parts, ask your Meritor representative or call ArvinMeritor's Customer Service Center at 800-535-5560. Cast Plus™ brakes use "P" Series cast brake shoes.

DiscPlus™ and Dura-Master® Air Disc Brakes

Recommended GAWR Range (lbs.)	Brake Model
10-13,200	Disc Plus DX195
10-14,600	Disc Plus DX195
12-20,000	Dura-Master ADB 1560
17-20,000	Disc Plus DX195
17-23,000	Dura-Master ADB 1560

Wheel Size	Applications
19.5"	Low Profile Steer Axle
22.5" 24.5"	Steer Axle
22.5" 24.5"	Steer Axle
19.5"	Low Profile Drive Axle
22.5" 24.5"	Drive Axle

Hydraulic Dry Disc Brakes

Model	Typical Usage Vehicle	Disc Diameter and Thickness Range Inches (mm)	Maximum Pressure psi (bar)	Wheel Rim Size Inches (mm)	Maximum Torque lb. in. (N•m)	Pistons Size Inches (mm)	Pistons Per Caliper	Lining Area Sq. Inches (Sq. mm)
SCL 1	Log Stacker	18-32 (457-813) 1 (25)	3,000 (207) hydraulic	33 (838)	592,000 (66896)	2.75 (70)	6	69 (44505)
SCL 2	Lift Truck Loader Articulated Hauler Scrapper	18.5 (470) .625 (16) 18 (457) .625 (16)	1,900 (131) hydraulic 2,300 (159) hydraulic	25 (635)	212,000 (23956) 257,000 (29041)	3 (76) 3 (76.2)	4	64 (41280)
SCL 13	Mining Car	12 (305) - unlimited .375-.500 (10-13) max.	1,500 (104) air/hydraulic	N/A	IP x 3.5 x (DR - 1.25) IP x (.226) x DR - (31.75)	2.5 (64)	2	9.6 (6192)
SCL 19	Large Dump Truck Crane	19-52 (483-1321) 1.25 (32)	3,000 (207) hydraulic	49-57 (1245-1448)	1,492,000 (168596)	3.625 (92)	6	102 (6790)
SCL 33	Small Construction Equipment	17 (432) .5 (13)	2,200 (152) hydraulic	20 (508)	105,000 (11865)	2.25 (57.15)	4	33.4 (21543)
SCL 35	Articulated Hauler	22.75 (578) .625 (16)	2,500 (173) hydraulic	29 (737)	404,000 (45652)	3 (76)	6	102 (65790)
SCL 38	Large Dump Truck	27 (686) I.D. 1.25 (32)	3,000 (207) hydraulic	49-51 (1245-1295)	976,000 (110288)	3.625 (92)		
SCL 46	Articulated Hauler Large Forklift	18.75 (477) .625 (16)	2,500 (173) hydraulic	25 (635)	277,000 (31300)	3 (76)		84 (54180)
HDB-640	Articulated Hauler Loader	18.5 (470) 1.575 (40)		33-35 (838-889)	478,000 (54014)			102 (65790)
SCL 53	Articulated Hauler	26-28 (660-711) .625 (16)	2,500 (173) hydraulic	49-57 (1245-1448)	1,492,000 (168596)	3.625 (92)		
SCL 56 ①	Large Dump Truck Crane	19-52 (483-1321) 1.25 (32)	3,000 (207) hydraulic	25 (635)	163,000 (18419)	3 (76)	4	28 (18060)
SCL 59	Tow Tractor	16-19 (406-483) .44 (11)	2,000 (138) hydraulic	N/A	147,000 (16611)	2.625 (67)		64 (41280)
SCL 68 ①	Monorail	18-36 (457-914) 1.75 (45)	1,500 (104) hydraulic					

For footnotes refer to page 24.

(IP) —Input Pressure
(DR)—Disc Radius

Hydraulic Dry Disc Brakes

Model	Typical Usage: Vehicle	Disc Diameter and Thickness Range Inches (mm)	Maximum Pressure psi (bar)	Wheel Rim Size Inches (mm)	Maximum Torque lb. in. (N•m)	Pistons Size Inches (mm)	Pistons Per Caliper	Lining Area Sq. Inches (Sq. mm)
PD 1019	Industrial	8 (203) - unlimited .25 (6) max.	300 (21) air/hydraulic	N/A	IP x 1.65 x (DR - .75) IP x (.1064) x DR - (19.05)	1.875 (48)	1	3.5 (2257)
PD 1026	Industrial	8 (203) - unlimited .500 (13)	1,000 (69) hydraulic	N/A	IP x 4.25 x (DR - 1.00) IP x (.275) x DR - (25.4)	3 (76)	1	6 (3870)
PD 1105 ①	Industrial	10 (254) - unlimited .406 (10) max.	550 (38) air/hydraulic	N/A	(IP - 50) x 3.35 x (DR - 1.25) IP - (3.45)(.216) DR - (31.75)	2.5 (64)	2	9.5 (6127)
PD 1182 ①	Industrial	10 (254) - unlimited .625 (16) min.	1,500 (104) air/hydraulic	N/A	(IP x 4.67) x (DR - 1.44) IP x (.301) x DR - (36.57)	2.875 (73)	2	12.7 (8191)
PD 1240	Lift Truck	9.12 (232) .44 (11)	1,400 (100) hydraulic	N/A	33,400 (3774)	2 (51)	3	49 (31605)
PD 1314 ①	Industrial	8 (203) - unlimited .25 (6) min.	1,500 (104) air/hydraulic	N/A	(IP x 1.27) x (DR - .75) IP x (.082) x DR - (19.05)	1.5 (38)	2	3.4 (2193)
PD 1344 ①	Industrial	10 (254) - unlimited 0.375 (10) min.	1,350 (93) air/hydraulic	N/A	IP x 9 x (DR - 2.00) IP x (.58) x DR - (50.8)	4 (102)	2	24.8 (15996)
PD 1425 ①	Large Dump Truck Lift Truck	19 - 25 (483 - 635) 1 (25)	2,000 (138) hydraulic	49 - 57 (1245 - 1448)	129,000 (14577)	2.625 (67)	4	102 (65790)
PD 1428 ①	Marine	10 (254) - unlimited .375 (10)	1,350 (93) air/hydraulic	N/A	(IP - 30) x 7.5 x (DR - 2.00) IP - (1.935) x (.484) x DR - (50.8)	4 (102)	2	24.8 (15996)
PD 1433 ①	Marine	10 (254) - unlimited .375 (10) min.	1,000 (69) air/hydraulic	N/A	IP x 7.5 x (DR - 2.00) IP x (.484) x DR - (50.8)			
PD 1473 ①	Industrial	8 (203) - unlimited .375 (10) min.	1,500 (104) air/hydraulic	N/A	(IP - 70) x 2.94 x (DR - 1.25) IP - (4.51) x (.190) x DR - (31.75)	2.5 (64)	2	9.6 (6192) 3.4 (2193)
PD 1487 ①	Industrial	8 (203) - unlimited .25 (6) min.	1,500 (104) air/hydraulic	N/A	(IP x 1.27) x (DR - .75) IP x (.082) x DR - (19.05)	1.5 (38)	2	

For footnotes refer to page 24.

(IP) —Input Pressure
(DR)—Disc Radius

Combination Brakes (Service and Parking)

Model	Typical Usage Vehicle	Disc Diameter and Thickness Range Inches (mm)	Maximum Pressure psi (bar)
SCL 8 ①	Mining Car Utility	12 (305) - unlimited .5 (13) min.	(P) 2,000 (138) (S) 1,500 (104) air/hydraulic
SCL 10 ①		14.5 (368) - unlimited 1.5 (38) - unlimited	

For footnotes refer to page 24.

Wheel Rim Size Inches (mm)	Maximum Torque lb. in. (N•m)	Pistons Size Inches (mm)	Pistons Per Caliper	Lining Area Sq. Inches (Sq. mm)
N/A	(P) 2,400 x (DR - 1.12) (10.67) x DR - (28.5) (S) (IP x 3.53) x (DR - 1.25) IP x (.181) x DR - (31.25)	2.5 (64)	2	7.7 (4966) 9.6 (6192)
	(P) 5,500 x (DR - 1.25) (24.5) x DR - (31.25) (S) IP x (4.3) x (DR - 1.38) IP x (.276) x DR - (35.05)	2.75 (70)		9.6 (6192) 11.8 (7611)

(P) — Parking (S) — Service
(IP) — Input Pressure (DR) — Disc Radius

Parking Brakes

Spring-Actuated Caliper Assembly

Model	Vehicle	Disc Diameter and Thickness Range Inches (mm)	Maximum Pressure psi (bar)
PD 1051	Industrial	8 (203) - unlimited .25 (6)	1,500 (104)
PD 1134	Utility	8 (203) - unlimited .25 (6)	
PD 1515 ①	Industrial	10 (254) - unlimited .500 (13) min.	1,000 (69)
PD 1591	Lift Truck Agricultural and Construction Equipment	10 (254) - unlimited .5-.62 and .924 (13-16 and 24)	3,000 (207)
PD 1599	Lift Truck Mining	10-16.5 (254-419) .25 - .50 (7-13)	2,500 (173)
SCL 25	On/Off Highway (Transmission-Mounted)	16 (406) - unlimited .5-.62 and .924 (13-16 and 24)	3,000 (207)

For footnotes refer to page 24.

Normal Mounting Position (o'clock)	Maximum Torque lb. in. (N•m)	Number of Pistons	Lining Area Sq. Inches (Sq. mm)
12	2,168 x (DR - .88) (9.62) x DR - (22.3)	1	4.6 (2967)
3, 6, 9, or 12	1,071 x (DR - .875) (4.75) x DR - (22.2)		
3 or 9	1,048 x (DR - 1.12) (4.65) x DR - (28.4)	2	3.8 (2451)
10 - 2	7,500 x (DR - 1.25) (33.3) x DR - (31.75) 11,000 x (DR - 1.25) (48.8) x DR - (31.75)	1	9.8 (6321)
11 - 1	2,500 x (DR - .88) (11.1) x DR - (22.3)		4.6 (2967)
10 or 2	15,000 x (DR - 1.25) (66.6) x DR - (31.75) 22,000 x (DR - 1.25)		19.6 (9760)

(P) — Parking (S) — Service
(IP) — Input Pressure (DR) — Disc Radius

Parking Brakes

Spring-Actuated Caliper Assembly

Model	Vehicle	Disc Diameter and Thickness Range Inches (mm)	Maximum Pressure psi (bar)	Normal Mounting Position (o'clock)	Maximum Torque lb. in. (N•m)	Number of Pistons	Lining Area Sq. Inches (Sq. mm)
SCL 34 ① ③	Crane Winches Windmill Conveyors	19 (483) - unlimited 1.25 (32)	3,000 (207)	12	60,000 x (DR - 2.00) (266.4) x DR - (50.8)	4	102 (65790)
SCL 50	Large Dump Trucks	19 (483) 1.00 (26)		3 or 9	50,000 (5650)	1	mechanical
SCL 57	On/Off Highway (Transmission-Mounted)	10 (254) - unlimited .500 (13)		3	3,750 x (DR - 1.00) (16.65) x DR - (25.4)		4.6 (2967)
SCL 70	Large Dump Truck	19 (483) - unlimited 1.00 (25.4)		9	14,000 x (DR - 1.12) (62.2) x DR - (28.5)	2	4.3 (2773)
DXP-195	Lift Truck Articulated Hauler Agricultural and Construction Equipment	14.88 (380) 1.00 (25.4)	3,000 (207) air/hydraulic	3, 6, 9, or 12	160,000 (18080)		24.2 (15600)

For footnotes refer to page 24.

(DR) — Disc Radius

Holdmaster® Mechanical Drum

Model	Vehicle	Brake Sizes Inches (mm)	GVW Rating Reference lbs. (kgs.)	Brake Weight lbs. (kgs.)	Brake Centerline to Mounting Surface	Maximum Torque Output (Static) ② lb. in. (N•m)	Lining Area Sq. Inches (Sq. mm)
DCM	Medium Duty Trucks Front End Loaders Graders Off-Highway Haulers Rough Terrain Cranes Road Rollers Stationary Machinery	10 x 3 (254 x 762)	27,000 (12258)	12 (6)	0.526	38,000 (4295)	69 (44505)
		12 x 3 (305 x 76)	28,000 (12712)	17 (8)	0.515	60,000 (6780)	83 (53548)
		12 x 4 (305 x 102)	37,000 (16798)	19 (9)	0.515	60,000 (6780)	111 (71613)
		12 x 5 (305 x 127)	46,000 (20884)	21-1/2 (10)	0.515	60,000 (6780)	138 (89032)

For footnotes refer to page 24.

Hydraulic Wet Disc Brakes

Dura-Disc® Wet Disc — Integral with Axle

Model	Typical Usage: Vehicle	Size Inches (mm)	Maximum Number of Friction Plates	Nominal Rated Brake Torque lb. in. (N•m)	Nominal Actuation Pressure ⑤ psi (bar)	Cooling Sump/Forced	Minimum Wheel ⑥ Inches (mm)	Brake Function(s) ⑦	Brake Type
W2H	Construction Material Handling	9 (229)	10	99,000 (11187) ④	1,500 (104)	S, F	N/A	Serv/Sec	Shaft Speed
W3H	Mining Construction	13 (330)	6	175,000 (19775)			20 (508)		Wheel Speed
W4H	Mining Construction Material Handling	17 (432)	10	511,000 (57743)			24 (609.6)		
W5H	Material Handling	22 (560)		1,129,000 (127577)		F	33 (838)		
W2M	Construction	9 (229)	6	59,000 (6667) ④	350 (24) ⑧	S	N/A	Emer/Park	Shaft Speed, Spring Applied Hydraulic Release
W4M	Mining Construction	17 (432)		357,000 (40341)	1,350 (93) ⑧	S, F	24 (609.6)	Serv/Sec/Park	Wheel Speed, Spring Applied Hydraulic Release

For footnotes refer to page 24.

Dura-Disc® Wet Disc — Unit Mount

Model	Typical Usage: Vehicle	Size Inches (mm)	Maximum Number of Friction Plates	Maximum Rated Brake Torque lb. in. (N•m)	Nominal Actuation Pressure ⑤ psi (bar)	Cooling Sump/ Forced	Minimum Wheel ⑥ Inches (mm)	Brake Function(s) ⑦	Brake Type
WDH330	Mining Construction	13 (330)	6	175,000 (19775)	1,500 (104)	S, F	20 (508)	Serv/Sec	Wheel Speed
WDH432	Mining Construction Material Handling	17 (432)	10	511,000 (57743)			24 (609.6)		
WDH560	Material Handling	22 (560)		1,129,000 (127577)		F	33 (838)		
WDM432	Mining	17 (432)	6	357,000 (40341)	1,350 (93) ⑧	S, F	24 (609.6)	Serv/Sec/Park	Wheel Speed, Spring Applied Hydraulic Release

For footnotes refer to page 24.

Stopmaster® Wedge Brakes
Air-Actuated

Brake Series	Actuation	Range of Brake Diameters Inches (mm)	Range of Brake Widths Inches (mm)	Brake Mounting	Brake Adjustment	Lining Attachment
RD	Air / Hydraulic	12-1/4 and 15 (312 and 381)	4 - 7-1/2 (102-191)	Cast Spider	Automatic or Manual	Riveted
RD (Heavy Duty)		17-42 (432-1067)	3-20 (76-508)			Bonded and Riveted
RS		15 - 17-1/4 (381-438)	2-1/4 - 6 (57-153)	Backing Plate		
RS (Heavy Duty)		17-28 (432-711)	4-8 (102-203)	Cast Ductile Spider		
RT		36 and 42 (914 and 1066)	14 and 18 (355 and 457)			Bolted

Hydraulic

Brake Series	Actuation	Range of Brake Diameters Inches (mm)	Range of Brake Widths Inches (mm)	Brake Mounting	Brake Adjustment	Lining Attachment
DH	Hydraulic	15 - 16-1/2 (381 - 419)	3-1/2 - 6 (89 - 153)	Backing Plate, Integral Spider	Automatic	Riveted
H		7-1/8 - 17-1/4 (181-438)	2 - 5-1/2 (51-140)	Backing Plate		
DSH		12-1/2 (318)	2-1/2 (64)	Cast Ductile Spider	Automatic or Manual	Bonded
DLH		17 (432)	4 (102)		Manual	
FSH		8 - 12-1/2 (203-318)	1-1/4 - 2-1/4 (32-57)	Backing Plate	Automatic	

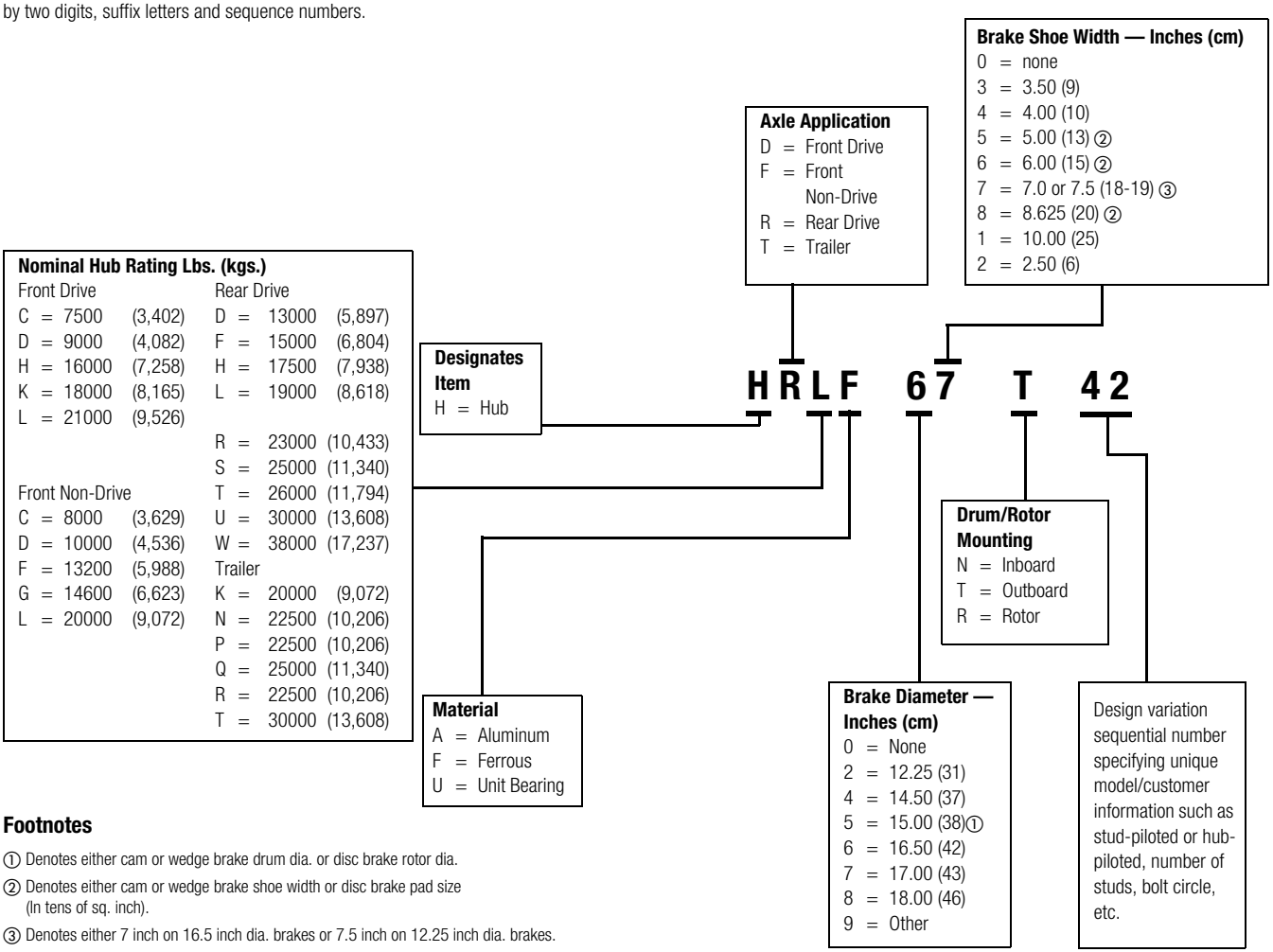
Footnotes

① Two-piece caliper design, disc thickness can vary.
② Static ratings based on burnished brakes.
③ Caliper assembly park brakes are spring applied and hydraulically released.
④ Multiply by wheel-end ratio to get torque at wheel.
⑤ Reference only; alternate pressures may be approved.
⑥ Depends on specific wheel rim being used.
⑦ Service/secondary; provides secondary function if vehicle system setup.
⑧ Hold-off pressure for spring applied hydraulic release brakes.

NOTES

Hubs and Drums/Rotors
Model Numbers and Designations

Hub and drum/rotor model numbers are designated by four letters followed by two digits, suffix letters and sequence numbers.



Footnotes

① Denotes either cam or wedge brake drum dia. or disc brake rotor dia.

② Denotes either cam or wedge brake shoe width or disc brake pad size (In tens of sq. inch).

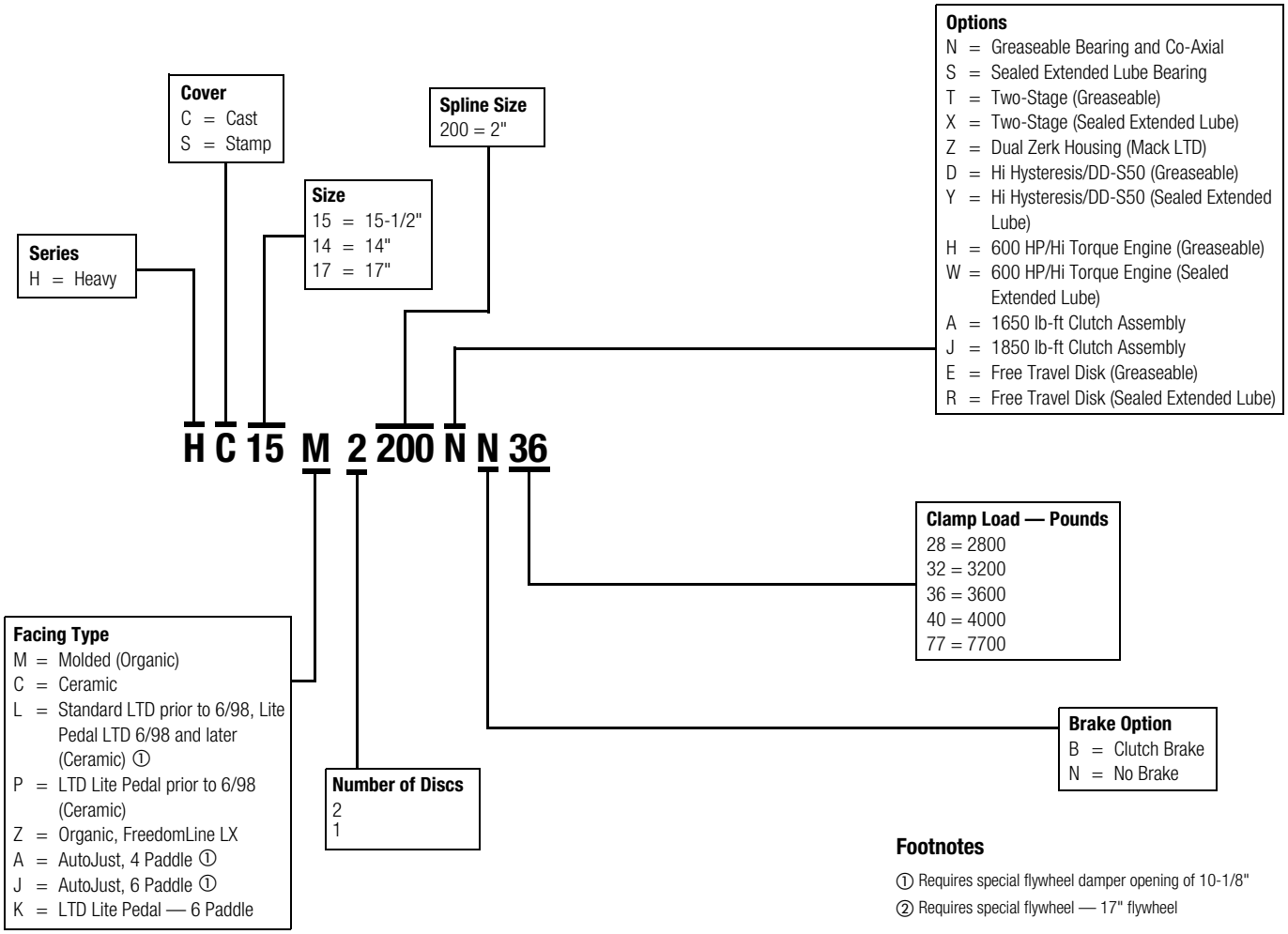
③ Denotes either 7 inch on 16.5 inch dia. brakes or 7.5 inch on 12.25 inch dia. brakes.

Automatic Slack Adjusters

Application	Slack Length in. (mm)	Camshaft Spline Size and No.
Drive and Trailer Axles	5.0 (127) 5.5 (140) 6.0 (152) 6.5 (165) 7.0 (178)	1.50-10 1.50-28 1.62-37
Front Steering Axles	5.0 (127) 5.5 (140)	1.25-10 1.25-24 1.50-10 1.50-28
Coach only	7.0 (178)	1.50-10

Clevis		
Configuration	Thread	Chamber Type
Straight	.62-18 or .75-20	24, 30, 36
Straight or .62 Offset	.50-20 or .62-18	9, 12, 16 20, 24, 30
Straight	.75-16	30

Clutches
Model Numbers and Designations

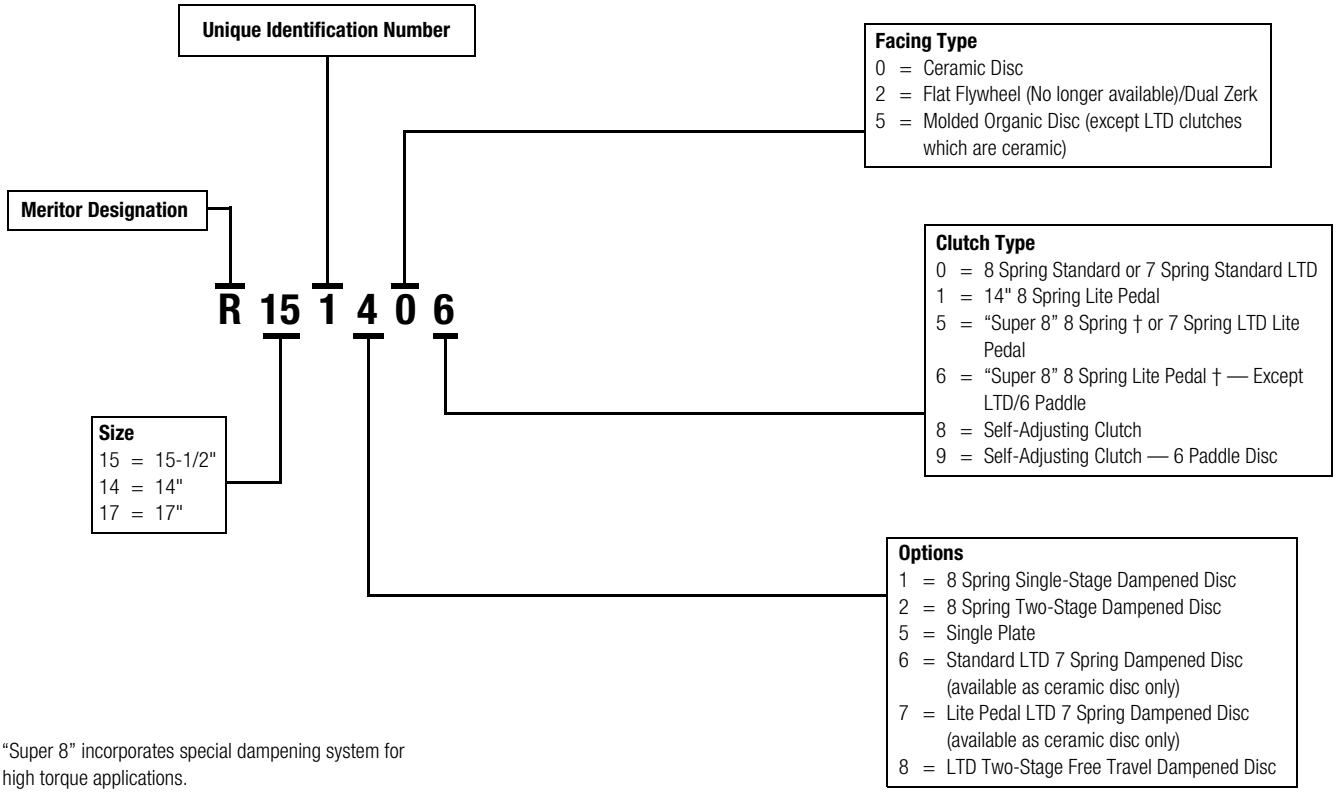


Footnotes

① Requires special flywheel damper opening of 10-1/8"

② Requires special flywheel — 17" flywheel

Clutches
Replacement Model Numbers and Designations



† "Super 8" incorporates special dampening system for high torque applications.

All orders should refer to the replacement part number.

Clutches (14")

Meritor Replacement Number	Meritor Specification Number (Reference)	Clutch Size (Inches)	Facing Type	Maximum Torque (lb-ft)	Maximum GCW/GVW (lbs.)	Hub Spline Size	Bearing Type	Disc Dampening System
14 Inch — Single Stage Models ①②								
R140100	HC14C2200NN28	14	Ceramic	1170	80,000	2.00"-10	Greaseable	Coaxial
R140150	HC14M2200NN32	14	Organic	1130	80,000	2.00"-10	Greaseable	Coaxial
R141100	HC14C2200NN32	14	Ceramic	1400	80,000	2.00"-10	Greaseable	Coaxial
R142150	HC14M2200SN32	14	Organic	1130	80,000	2.00"-10	Sealed	Coaxial
R143100	HC14C2200SN32	14	Ceramic	1400	80,000	2.00"-10	Sealed	Coaxial
R144150	HC14M2200NN28	14	Organic	1100	80,000	2.00"-10	Greaseable	Coaxial
14 Inch — Two Stage Models ①②								
R140400	HC14C2200TN32	14	Ceramic	1400	80,000	2.00"-10	Greaseable	Coaxial
R140450	HC14M2200TN32	14	Organic	1130	80,000	2.00"-10	Greaseable	Coaxial
R142400	HC14C2200XN32	14	Ceramic	1400	80,000	2.00"-10	Sealed	Coaxial
R142450	HC14M2200XN32	14	Organic	1130	80,000	2.00"-10	Sealed	Coaxial

For footnotes refer to page 38.

For footnotes refer to page 38.

Clutches (15.5")

Meritor Replacement Number	Meritor Specification Number (Reference)	Clutch Size (Inches)	Facing Type	Maximum Torque (lb-ft)	Maximum GCW/GVW (lbs.)	Hub Spline Size	Bearing Type	Disc Dampening System
15.5 Inch — Single Stage Models ①②								
R150100	HC15C2200NN28	15.5	Ceramic	1320	80,000	2.00"-10	Greaseable	Super 8 Coaxial
R150105	HC15C2200NN32	15.5	Organic	1490	80,000	2.00"-10	Greaseable	Super 8 Coaxial
R150150	HC15M2200NN28	15.5	Organic	1170	80,000	2.00"-10	Greaseable	Super 8 Coaxial
R150155	HC15M2200NN36	15.5	Organic	1450	150,000	2.00"-10	Greaseable	Super 8 Coaxial
R151105	HC15C2200NN36	15.5	Ceramic	1750	200,000	2.00"-10	Greaseable	Super 8 Coaxial
R151150	HC15M2200NN32	15.5	Organic	1310	80,000	2.00"-10	Greaseable	Super 8 Coaxial
R151155	HC15M2200SN36	15.5	Organic	1450	150,000	2.00"-10	Sealed	Super 8 Coaxial
R152105	HC15C2200SN36	15.5	Ceramic	1750	200,000	2.00"-10	Sealed	Super 8 Coaxial
R153105	HC15C2200SN32	15.5	Ceramic	1490	80,000	2.00"-10	Sealed	Super 8 Coaxial
R154150	HC15M2200SN32	15.5	Organic	1310	80,000	2.00"-10	Sealed	Super 8 Coaxial
15.5 Inch — Two Stage Models ①②								
R151405	HC15C2200TN36	15.5	Ceramic	1750	200,000	2.00"-10	Greaseable	Super 8 Coaxial
R151455	HC15M2200TN36	15.5	Organic	1450	150,000	2.00"-10	Greaseable	Super 8 Coaxial
R152455	HC15M2200XN36	15.5	Organic	1450	150,000	2.00"-10	Sealed	Super 8 Coaxial
R153405	HC15C2200XN36	15.5	Ceramic	1750	200,000	2.00"-10	Sealed	Super 8 Coaxial
15.5 Inch — LTD (Long Travel Damper) ①②								
R150600	HC15L2200NN28	15.5	Ceramic	1150	80,000	2.00"-10	Greaseable	LTD Coaxial
R151600	HC15L2200SN28	15.5	Ceramic	1150	80,000	2.00"-10	Sealed	LTD Coaxial
R151650	HC15L2200HN36	15.5	Ceramic	1860	200,000	2.00"-10	Greaseable	LTD Coaxial
R152600	HC15L2200NN32	15.5	Ceramic	1490	80,000	2.00"-10	Greaseable	LTD Coaxial
R153600	HC15L2200NN36	15.5	Ceramic	1750	200,000	2.00"-10	Greaseable	LTD Coaxial
R154600 ③	HC15L2200DN28	15.5	Ceramic	1150	80,000	2.00"-10	Greaseable	LTD Coaxial

For footnotes refer to page 38.

For footnotes refer to page 38.

Clutches (15.5")

Meritor Replacement Number	Meritor Specification Number (Reference)	Clutch Size (Inches)	Facing Type
15.5 Inch — AutoJust ①②			
R150708	HC15A2200NN28	15.5	Ceramic
R151708	HC15A2200NN32	15.5	Ceramic
R152708	HC15A2200NN36	15.5	Ceramic
R153708	HC15A2200NN40	15.5	Ceramic
R153758	HC15A2200HN40	15.5	Ceramic
R154708	HC15A2200SN28	15.5	Ceramic
R155708	HC15A2200SN32	15.5	Ceramic
R156708	HC15A2200SN36	15.5	Ceramic
R157708	HC15A2200SN40	15.5	Ceramic
R157758	HC15A2200WN40	15.5	Ceramic
R153738	HC15A2200UN40	15.5	Ceramic
R152709	HC15J2200NN36	15.5	Ceramic
R156709	HC15J2200SN36	15.5	Ceramic

Footnotes

① Additional specifications available, ask your Meritor sales representative.

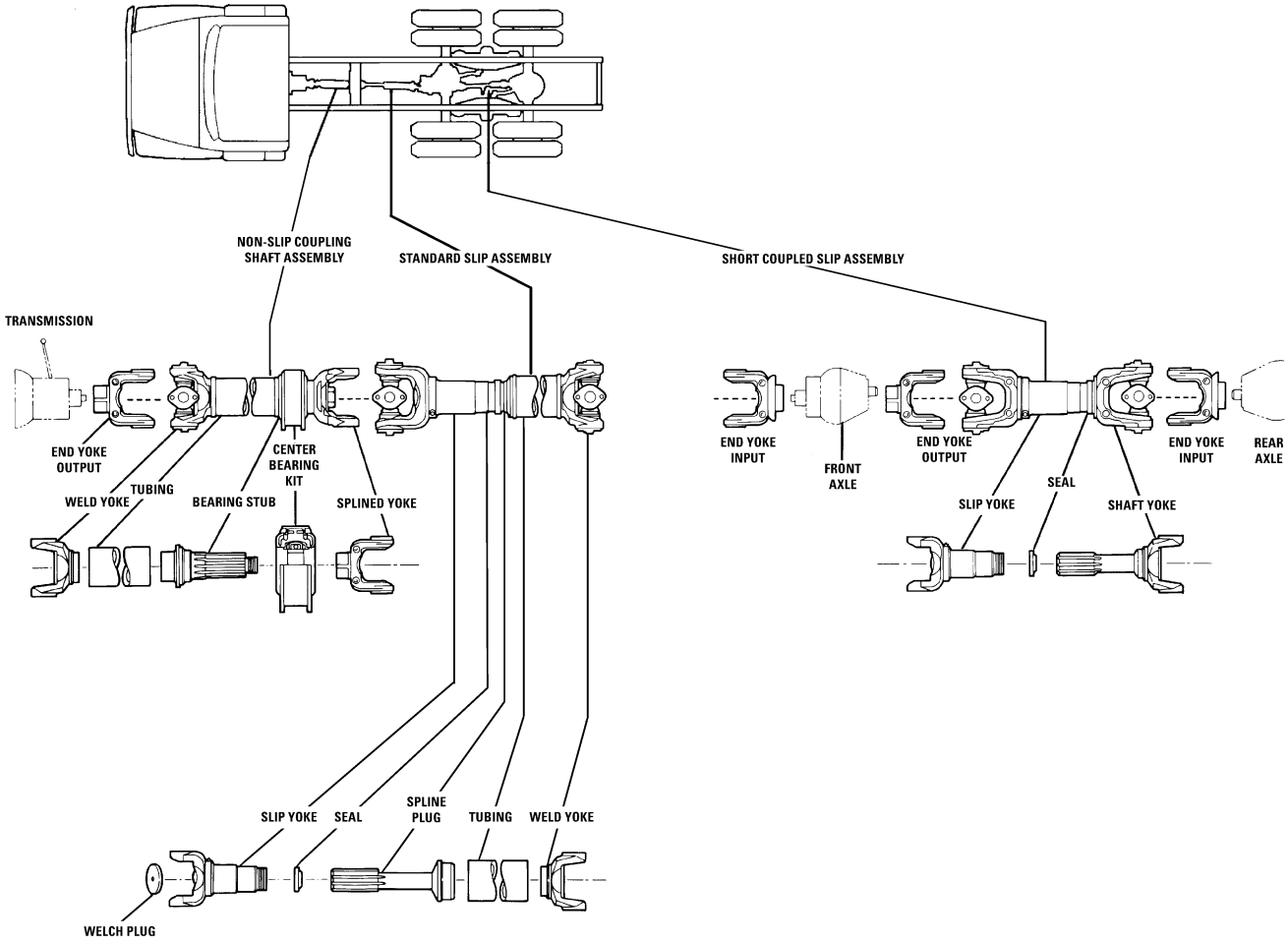
② Specifications shown are without torque limiting clutch brake.

③ For use with Detroit Diesel Series 50 Engines.

NOTES

MERITOR. Drivelines

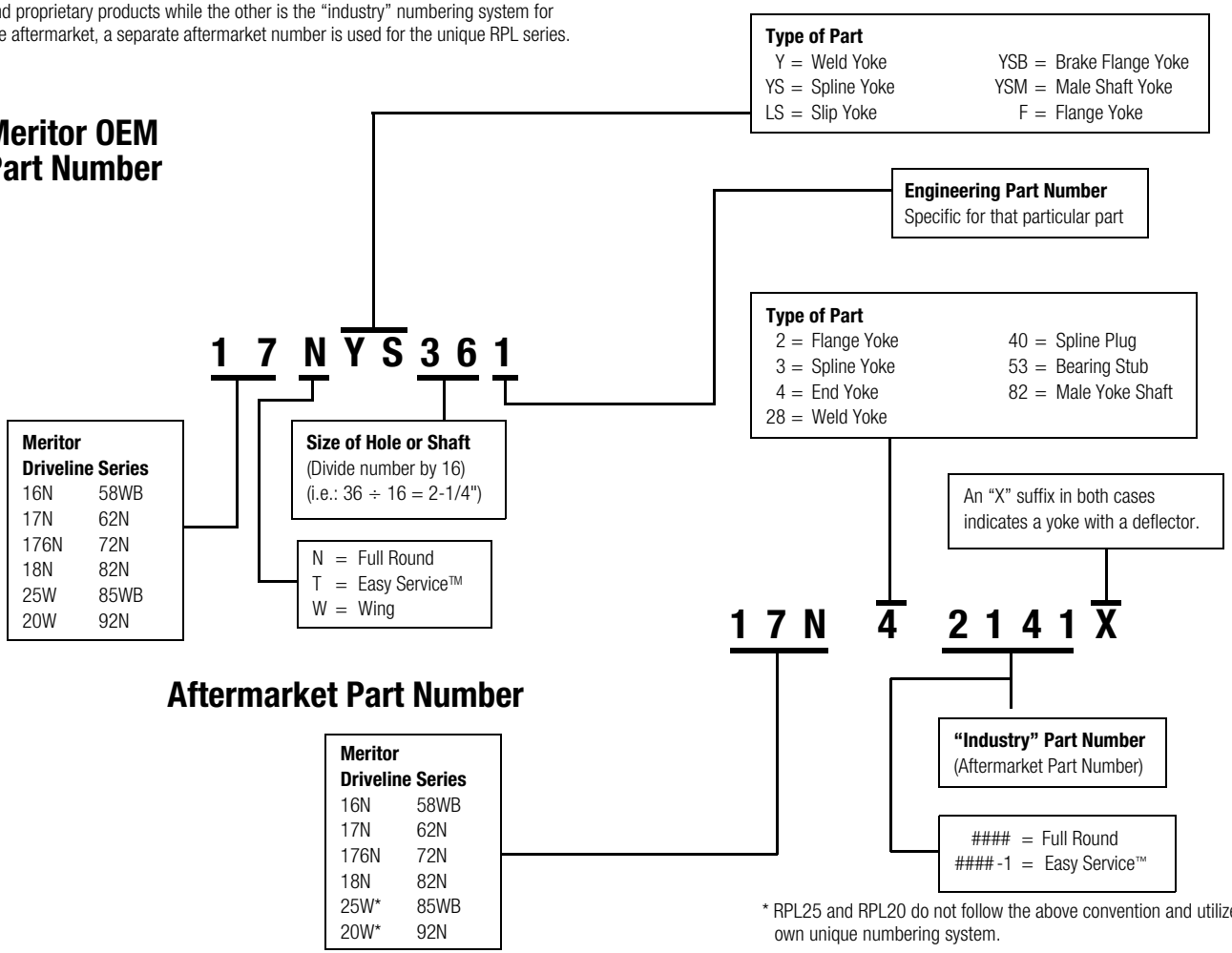
On-Highway Driveline Components



Drivelines
Model Numbers and Designations

Meritor driveline component parts are numbered according to one of three different numbering systems. One numbering system is used for OEM production and proprietary products while the other is the "industry" numbering system for the aftermarket, a separate aftermarket number is used for the unique RPL series.

Meritor OEM Part Number

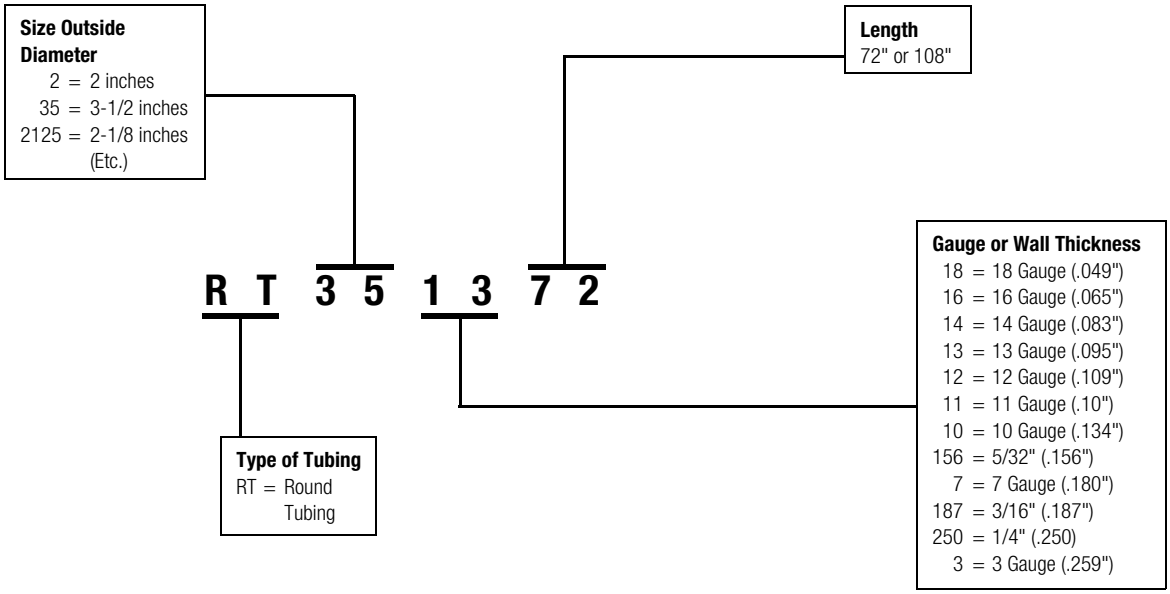


Aftermarket Part Number

* RPL25 and RPL20 do not follow the above convention and utilize their own unique numbering system.

Tubing Identification

Meritor tubing designations are identified by an alpha numeric character system. The various letters and numbers indicate type and size. The elements of the part number represents the following information.



Meritor Driveline "Universal Joint Kits" (Center Parts Kits)

The following table illustrates the universal joint part numbers for the heavy round series of universal joints used primarily in on-highway class 8 vehicles.

Series	Universal joint Style	Part Number	Comments
17N	Full Round	R280X	Full Hardware
176N	Full Round	R407X	Full Hardware
18N	Full Round	R281X	Full Hardware
17T	Easy Service	R675X	Full Hardware
176T	Easy Service	R677X	Full Hardware
18T	Easy Service	R676X	Full Hardware
RPL20	Permalube (RPL)	CP20RPL	Full Hardware
RPL25	Permalube (RPL)	CP25RPL	Full Hardware

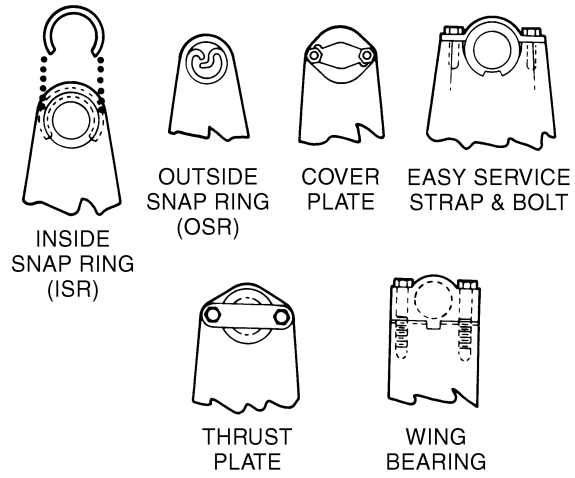
How to Select Universal Joint Kits

Meritor offers universal joints in a full range of sizes for automotive as well as on- and off-highway truck and equipment applications. For complete details, refer to Parts Book number PB-8849.

All sizes and types of Meritor universal joint kits are basically the same. They consist of the following:

- Cross
- Four bearing races
- Seals
- Needle bearings
- Hardware to retain the bearings in the yoke
- Lube fitting (for most kits)

Methods of Retaining Universal Joint Kits



Measuring Universal Joint Kits Removed from Vehicle

1. Remove the bearing cups.
2. Remove excess grease from the bottom of the bearing caps and trunnions.
3. Remove the seals from the bearing caps or trunnion to ensure accurate measurements when the parts are compressed.
4. Measure as shown, using a tolerance of +.005" ± .005" for dimensions “F” and “E”, and a tolerance of +.003" ± .003" for all others.

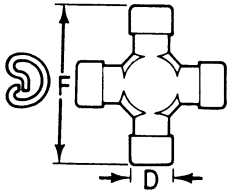


FIGURE 1

Outside Snap Ring Style

1. Measure dimension “F” and write it down. Figure 1.
2. Measure dimension “D” Figure 1 and write it down. Figure 1.
3. Is there a lube fitting? Is it in the cross or the cap?
4. If more information is needed, measure dimensions “A” and “B”. These dimensions may vary between manufacturers. Figure 2.
5. Refer to “Outside Snap Ring Kits” in Meritor’s Parts Book number PB-8849.

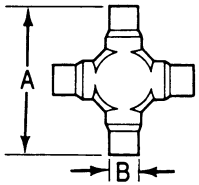


FIGURE 2

Inside Snap Ring Style

1. Measure dimension “E” and write it down. Be sure to include the thickness of the snap rings. The following method should be helpful. Figure 3.
   A. Measure from the inner edge of the snap ring groove to the inner edge of the other as shown by dimension “X”. Figure 4.
   B. Measure the thickness of one snap ring (Dimension “Y”). Dimension “E” then equals “X” +2 (“Y”). Figure 4.
2. Measure dimension “D” and write it down. Figure 3.
3. Is there a lube fitting? Is it in the cross or the cap?
4. If more information is needed, measure dimensions “A” and “B”. These dimensions vary between manufacturers. Figure 2.
5. Refer to “Snap Ring Kits” in Meritor’s Parts Book number PB-8849.

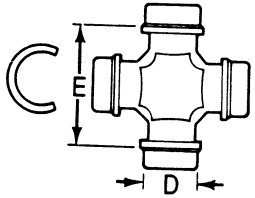


FIGURE 3

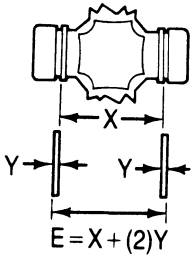


FIGURE 4

Universal Joint Lubrication

NOTE: The RPL20 and RPL25 series universal joints are greased and sealed at the factory and do not require periodic lubrication. Aftermarket universal joints are supplied with the correct amount and type of grease.

The function of the lubricant in a universal joint is to protect the surfaces of the rollers and races from rust or corrosion and to reduce the friction between the rollers and races.

The center crosses of the universal joints hold a generous supply of lubricant. This stored lubricant is supplied to the bearing by the centrifugal action of the rotating cross.

Approved Lubricants

Lubricant	Recommendation
Universal Joint Grease	Must meet Meritor Specification O-634-B (NLGI Grade No. 2, Lithium 12-Hydroxy Stearate with Molybdenum Disulfide)
	Amalie All Purpose Grease with Moly-L1-2M
	Exxon 5160
	Shell Super Duty Special FF
	Marathon Maralube Molycode 529
	Phillips Petroleum Philube MW-EP2 Grease

Lubricant Requirements for Universal Joints will Vary with the Application

- Light duty, low angle service may permit “greased for life” initial lubrication only.
- Conditions of high angle, high speed or extremely dirty or moist conditions may require daily greasing.

The lubrication of the slip assembly can be done with the same type lubricant and at the same time as the Universal Joint. For slip assemblies, an EP chassis grease with a molybdenum disulfide (MoS_2) additive has shown good results in some applications.

Universal Joint Sizes/Ratings/Speeds/Tube Sizes

Universal Joint Series	Electric Motor Torque		Gas or Diesel Torque		Dynamic Capacity		Swing Diameter	
	lb-ft.	N•m	lb-ft.	N•m	lb-ft.	N•m	in.	mm
L6	86	117	63	86	175	237	2.94	74.7
141N	333	452	243	330	675	915	4.63	117.6
148N	430	583	314	426	871	1181	5.13	130.3
155N	536	726	391	530	1084	1470	6.00	152.4
16N	929	1259	678	919	1880	2549	7.00	177.8
17RN	1332	1806	972	1318	2697	3656	7.75	196.9
176RN	1593	2160	1163	1577	3226	4374	8.44	214.4
18RN	1752	2375	1278	1733	3546	4808	9.13	231.9
62N	561	761	409	555	1136	1540	5.84	148.3
58WB	731	991	534	723	1480	2007	5.63	143.0
72N	832	1128	607	823	1684	2283	6.30	160.0
82N	1249	1693	911	1236	2528	3428	8.50	215.9
85WB	1484	2012	1083	1468	3004	4073	7.00	177.8
92N	2003	2715	1462	1982	4055	5498	8.63	219.2
RPL20	1647	2233	122	1630	3335	4521	7.75	196.9
RPL25	2166	2936	1581	2143	4385	5945	9.13	231.9

*Rating applies to the universal joint.

Rated Torque		Max. rpm	Standard Tube Size	Max. (℄ to ℄) Length	
lb-ft.	N•m		in.	in.	mm
499	676	1000	1.50 x .120	60	1524
2210	2996	4000	3.00 x .083	51	1295
2993	4057	4000	3.50 x .083	55	1397
3725	5050	4000	3.50 x .095	55	1397
6234	8452	4000	3.50 x .134	61	1549
9263	12,558	4000	4.06 x .165	62	1575
11,080	15,022	4000	4.09 x .180	62	1575
12,181	16,514	400	4.59 x .180	66	1676
3571	4842	4000	3.50 x .095	55	1397
5084	3893	4000	3.50 x .095	55	1397
5785	7843	4000	6.50 x .134	61	1549
8685	11,774	4000	4.06 x .165	62	1575
9308	12,619	4000	4.09 x .180	62	1575
12,564	17,034	4000	4.59 x .180	66	1676
10,332	14,008	4000	4.09 x .108	62	1575
13,586	18,419	4000	4.59 x .180	66	1676

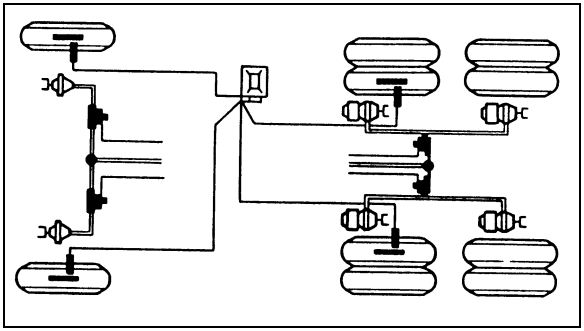
RHP11 Highway Parallelogram Trailer Air Suspension System

Capacity	37,600 lbs.
Axle Travel	8" total, 3" jounce, 5" rebound
Mounting Heights	22", 24.5", 26.5" (bottom of trailer to centerline of axle at ride height)
Design Heights	14", 16.5", 18.5" (bottom of slider box to centerline of axle)
Axle Centers	49"
Slider Width	48" nominal
Slider Depth	8" with body rail and wear strip
Overall Length	96" slider, 63" tandem suspension length
Axles	TN Series, 77.5" track; TB 4000 Series and TP 4000 Series available as options
Brakes	16.5x7" Q Series standard; other brakes available as options, including Q Plus™ 16.5x7" and 16.5x8"
Wheel Ends	Full line of wheel end equipment available as options
Air Control	Standard height control valve with plumbed non-dump
Applications	Dry van, refrigerated, or other close-spaced sliding tandem trailers

NOTES

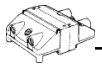
Meritor WABCO Anti-Lock Braking System (ABS)

Tractor, Truck and Bus ABS

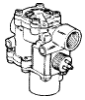


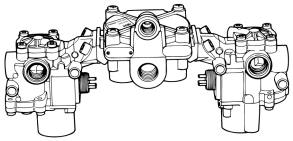
Typical 4 Sensor/4 Modulator Valve ABS for Two- or Three-Axle Trucks

Available Configurations	Components
4S/4M	4 sensors and 4 modulator valves
6S/4M	6 sensors and 4 modulator valves
6S/6M	6 sensors and 6 modulator valves

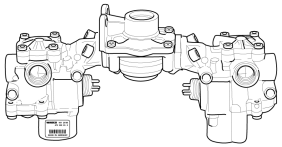

or

— Electronic Control Unit (ECU)


— Sensor and Tooth Wheel

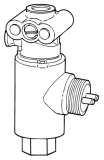

or

— ABS Modulator or Relay Valve



Front Axle Valve Package (Optional)



Rear Axle Valve Package (Optional)



ATC Valve (Optional) Also Available on Rear Axle Valve Package

Options and Features

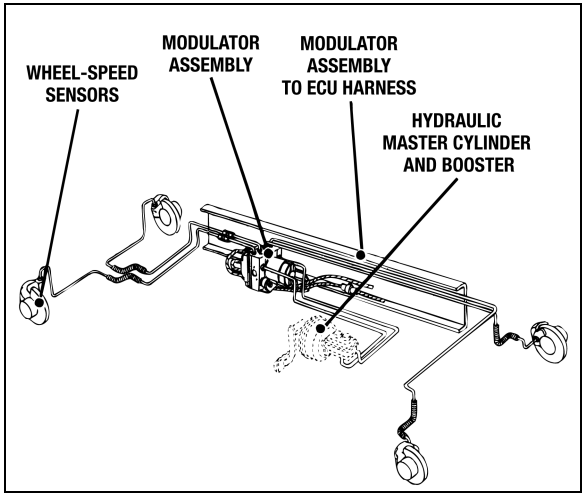
- Automatic Traction Control (ATC)
- Compatibility with MPSI's Pro-Link 9000, an industry-standard, hand-held diagnostic tool
- PC-based diagnostics with Meritor WABCO TOOLBOX Software for Windows® 95, 98 or NT
- SAE J1587/1708 diagnostics data link
- 12 volt or 24 volt power versions
- Metric or NPTF threads
- Interface capability with engine or driveline retarders

PC-Based Diagnostics

For pneumatic and hydraulic ABS with Meritor WABCO TOOLBOX Software (an RS232-to-J1708 converter box is required), the service technician can display system faults and wheel speed data, test individual components, verify installation wiring and more. Meritor WABCO TOOLBOX runs in Windows® 95, 98 and NT. The software includes a comprehensive self-help menu and user manual.
To order TOOLBOX Software, call 800-535-5560. To order a RS232-to-J1708 converter box, call Kent-Moore at 800-328-6657.

Meritor WABCO Hydraulic Anti-Lock Braking System (HABS)

Medium-Duty Trucks, Buses and Chassis



Typical 4 Sensor/4 Modulator Valve ABS for Two-Axle Trucks, Buses and Other Chassis

Available Configurations	Components
4S/4M	4 sensors and 4 modulator valves

Electronic Control Unit (ECU)

- Compact design
- Monitors wheel speeds and system performance
- Performs with vehicle retarders

Wheel Speed Sensors

- Heavy duty
- High signal strength
- Completely sealed unit

Modulator Assembly

- Includes solenoid valves, pump motor and two accumulators
- Valves control pressure to each wheel
- Individually controls wheel speed

Features

- ABS indicator light for system status and blink code information
- PC-based diagnostics with Meritor WABCO TOOLBOX Software for Windows® 95, 98 or NT
- SAE J1587/1708 diagnostics data link
- Interface capability with engine or driveline retarders

Applications

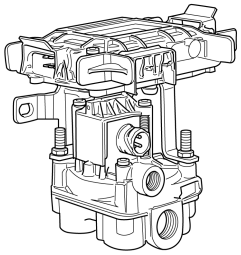
- School Buses
- Delivery Trucks
- Recreational Vehicles
- Fire/Emergency Vehicles

Enhanced Easy-Stop™ Trailer ABS with PLC

Meritor WABCO introduces the next generation of its popular Easy-Stop™ trailer anti-lock braking system (ABS). The enhanced system builds upon the proven, existing Easy-Stop™ design and provides fleets and owner-operators unparalleled trailer monitoring and control capabilities.

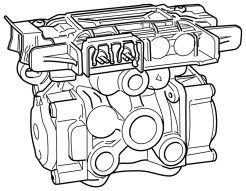
Benefits that include:

- Ground-breaking communication capabilities between tractor and trailer
- System configurations to meet virtually any trailer application — basic, standard and premium
- New integrated dual modulator valve design on the 2S/2M, 4S/2M and 3S/4M system that is lighter weight, requires less hardware and has fewer leak points
- Individually serviceable electronic control unit (ECU) and ABS modulator valves, saving maintenance time and money
- Notebook function allowing VIN, trailer number, major component part number, trailer maintenance information and free form text to be stored in the ECU — all accessible through Meritor WABCO's exclusive TOOLBOX PC Diagnostics
- Service interval indicator allowing a predetermined service interval to be stored within the system
- Tamper-proof electronic odometer for tracking trailer mileage
- Trailer diagnostics which can be conducted through the tractor ABS utilizing TOOLBOX PC Diagnostics



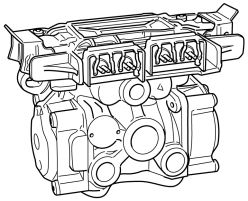
Easy-Stop™ 2S/1M Basic

- 2-sensor/1-ABS relay valve system
- Recommended for converter dolly and semi-trailer applications



Easy-Stop™ 2S/2M Standard

- 2-sensor/2-ABS relay valve system
- Recommended for single and tandem axle semi-trailer applications

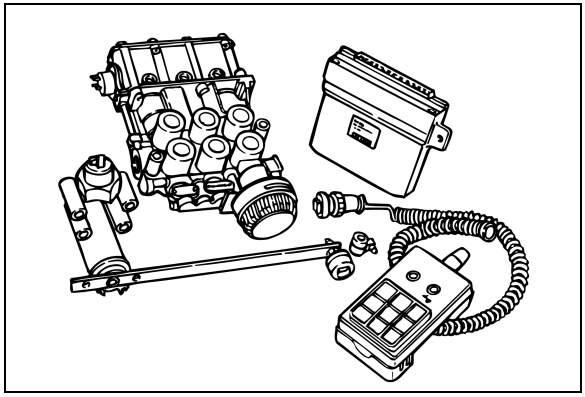


Easy-Stop™ 2M Premium System

- Can be configured to 2S/2M, 4S/2M or 4S/3M system
- Recommended applications for this premium system include tandem axle semi-trailers, multi-axle, or full trailers

Meritor WABCO Electronically-Controlled Air Suspension (ECAS)

Trucks and Tractors



Automatic leveling and ride height control with raising and lowering functions.

Components	Features
Electronic Control Unit (ECU)	• System controller • Compact design • Controls solenoid valve assembly • Monitors system performance
Solenoid Valve Assembly	• Modular (Reduced piping) • Reduced leveling response time • Minimal space requirements
Height Sensor	• Three-sensor system • Maintains level vehicle under all loads

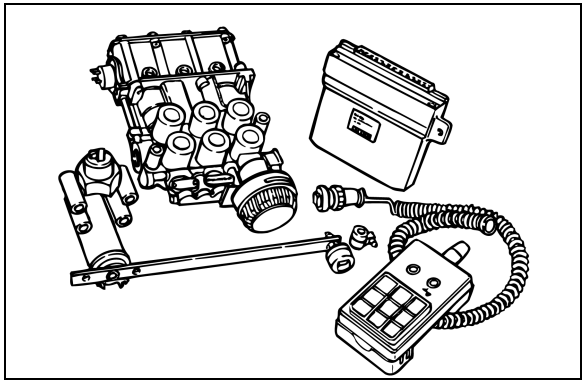
System Features
• Automatic leveling • Ride height control • Raising and lowering function • Adjustable for desired height • Improved loading/unloading • Rapid response

6 x 2 Tractor
• Load transfer for enhanced traction • Remote-controlled lift axle operation • Wheel slip and vehicle speed signals over J1587 datalink for load transfer function

Configurations
• Rear axle only • Rear and lift axle • Front and rear axle • Front, rear and lift axle

Meritor WABCO Electronically Controlled Air Suspension (ECAS)

Bus, Coach and Motor Home



Automatic leveling and ride height control with rapid response lifting, lowering and kneeling functions.

Components	Features
Electronic Control Unit (ECU)	• System controller • Compact design • Controls solenoid valve assembly • Monitors system performance
Solenoid Valve Assembly	• Modular (Reduced piping) • Reduced leveling response time • Minimal space requirements
Height Sensor	• Three-sensor system • Maintains level vehicle under all loads

System Benefits

- Enhanced ride, handling and control
- Reduced vibration and wear on driveline
- Ease of entrance and exiting for passengers
- Vehicle access to more restrictive areas
- Reduced air consumption
- Level vehicle with unequal weight distribution
- Vehicle adaptable to road environment

System Functions

- Height control and leveling function — Automatically adjusts suspension air bags to ensure proper ride height level, enhance ride, handling and control
- Kneeling function — Stationary vehicle can be raised and lowered to ease passenger entry and exit
- High ride function allows driver to raise vehicle in conditions with sharp break overs such as railroad tracks, steep road angles, driveways and entrance ramps
- Low ride function allows driver to lower vehicle for access under low overhangs or canopies
- Door and transmission interlock — Primarily for the safety of passengers that requires the doors to be shut, parking brakes applied and vehicle in neutral during the kneeling function
- Standard blink code and PC-based diagnostics

ECAS Height Change Requirements

ECAS Function	Doors	Parking Brake	Trans.	Speed	Kneel	Height	Switches
Normal/ Recover	Closed	—	Not Neutral	—	Not Active	—	Recover
Lifting	Closed	Released	Not Neutral	Less Than or Equal to Established Parameter (Param. 17)*	Not Active	—	High Ride
Lowering	Closed	Released	Not Neutral	Less Than or Equal to Established Parameter (Param. 17)*	Not Active	—	Low Ride
Kneeling	Closed	Applied	Neutral	Not to Exceed 5 mph (No Speed Signal Fault)	Not Interrupted	Not to Exceed Normal	Kneeling
Shipping Level	Closed	Applied	Neutral	Less Than or Equal to Established Parameter (Param. 17)*	Not Active	—	Shipping Level

* Parameter 17 is the assigned vehicle speed up to which height changes may be made (high ride or low ride selections).

NOTES

Meritor WABCO Electronic Braking System (EBS)

The Electronic Braking System (EBS) integrates Antilock Braking System (ABS), Automatic Traction Control (ATC) and other features for heavy-duty commercial vehicles.

Features

- Reduces number of brake system components and air lines
- Enhanced diagnostics of the complete brake system
- Detects brake fade and warns driver
- Provides more predictable braking control
- Shorten stopping distances
- Improved vehicle stability and driver control

Integrated control of retarders provides improved brake wear, and balanced brake force on each brake helps equalize lining and drum or rotor wear.

Wear on brakes is more evenly spread across the tractor and trailer. This evens out lining wear and reduces the need to prematurely change linings — downtime caused by uneven brake wear is significantly reduced.

Meritor WABCO Vacuum Pumps

Meritor WABCO has designed mechanical and electrical vacuum pumps to precisely meet vehicle performance and packaging requirements.

Meritor WABCO custom-designed vacuum pumps offer:

- Long service life
- No maintenance requirements
- Lightweight
- Low power consumption

Mechanical Vacuum Pumps

Mechanically driven vacuum pumps use the vehicle engine for power. There are two basic mechanical vacuum pump designs:

- Reciprocating piston
- Rotary vane

These pumps can be belt-driven, gear-driven or cam-driven.

Electrical Vacuum Pumps

Meritor WABCO 12-volt electrically driven vacuum pumps are engine independent. Removing the pump from the vehicle engine:

- Enhances engine performance
- Increases fuel economy
- Offers packaging flexibility

Unlike the mechanical vacuum pump, the electrical vacuum pump does not need to run continuously at maximum attainable vacuum. Instead, the electrical vacuum pump runs only when needed. This reduces overall energy consumption.

Vacuum Pump Application

Meritor WABCO vacuum pumps are available for all passenger vehicle types, including gasoline, diesel, hybrid and electric vehicles.

Meritor WABCO Air Dryers

Selecting the Optimum Meritor WABCO Air Dryer	System Saver Series 1200/1200E*	System Saver TWIN
Typical Compressor Loaded Time is 2 Minutes or Less (Excluding Initial Buildup)	✓	
Typical Compressor Loaded Time is Greater than 2 Minutes		✓
Normal Compressor Duty Cycle is Less than 30%	✓	
Normal Compressor Duty Cycle is Greater than 30%		✓
Compressor Rated Displacement is Less than 25 CFM	✓	✓
Compressor Rated Displacement is Greater than 25 CFM		✓

Typical Vocations for System Saver Series (1200/1200E*, 1200P)

- Single or tandem axle on-highway tractors that pull trailers with a tractor/trailer combination of up to a total of six axles.
- Trucks with single or tandem axles that are used for construction, P&D and local hauling.

Typical Vocations for System Saver TWIN

- City buses that stop frequently.
- Garbage trucks in residential areas.
- On-highway tractors with a tractor/trailer combination of over six axles.

*Meritor WABCO's System Saver 1200E air dryer is designed specifically for use with E-type unloading Holset SS and QE compressors.

System Saver Series 1200/1200E*, 1200P

Features	Benefits
• New premium desiccant	Increased adsorption capacity, extended desiccant cartridge life
• Replaceable spin-on cartridge	Convenient, easy maintenance and reduced downtime.
• Compact, less than 11.5" tall	Allows ready installation in limited spaces.
• Lightweight, only 11 pounds	Reduces weight so more freight can be handled.
• Improved regeneration valve	Increased oil contamination tolerance, higher reliability and performance.
• Metri-Pack type heater connector	Helps protect against contamination, moisture and corrosion.
• Turbo-cutoff valve	Prevents leakage of turbocharger boost pressure.
• Integral mounting bracket	Eliminates need for additional brackets and reduces number of parts to vibrate loose.
• Optional silencer	Helps reduce noise in sensitive urban areas.

System Saver TWIN

Features	Benefits
• "Continuous air flow" compatible	Provides dry air for high compressor duty-cycle applications.
• New premium desiccant	Increased adsorption capacity, extended desiccant cartridge life.
• Replaceable spin-on cartridge	Convenient, easy maintenance and reduced downtime.
• Compact size, 12.75" high x 12.5" wide x 6.5" deep	Allows easy installation in limited spaces.
• Lightweight, only 22.5 pounds	Minimum weight so more freight can be handled.
• Sealed electrical connections	Help protect against contamination, moisture and corrosion.
• Integral mounting bracket	Eliminates need for additional brackets and reduces number of parts to vibrate loose.
• Optional silencer	Helps reduce noise in sensitive urban areas.

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