




## Parts Distribution Center

### MGM Brakes - PDC U.S.A. Parts Distribution Center

1100 N. Glenstone, Suite 170  
Springfield, Missouri 65802  
Toll Free Phone: (877) 294-5906  
Toll Free Fax: (877) 294-6316  
Phone: (417) 862-0092  
Fax: (417) 862-7850  
e-mail: pdc@mgmbrakes.com



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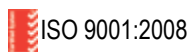
### MGM Brakes - PDC Canadian Parts Distribution Center


25 Bramtree Ct.  
Brampton, Ontario L6S 5Z7  
Toll Free Phone: (877) 294-5906  
Toll Free Fax: (877) 294-6316  
Phone: (417) 862-0092  
Fax: (417) 862-7850  
e-mail: pdc@mgmbrakes.com

## Manufacturing Plants

### MGM Brakes Murphy - Manufacturing Plant

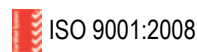
P.O. Box 70  
229 Park Avenue  
Murphy, North Carolina 28906  
Phone: (828) 837-2117  
Fax: (828) 837-7521  
Toll Free Fax: (800) 258-8117



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### MGM Brakes Cloverdale - Manufacturing Plant

P.O. Box 249  
1184 South Cloverdale Blvd.  
Cloverdale, California 95425  
Phone: (707) 894-3333  
Fax: (707) 894-5704  
Toll Free Fax: (800) 266-5750



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## International Sales


### MGM BRAKES – CANADA/INTERNATIONAL

Rick Deane  
International Sales Manager  
E-mail: rdeane@mgmbrakes.com

### MGM BRAKES – MEXICO, CENTRAL AND SOUTH AMERICA

Len Gonzalez  
National Sales Manager - Vocational Markets  
E-mail: lgonzalez@mgmbrakes.com

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NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Part Number / Model Designation Charts ..... 6-9  
 Understanding MGM Brakes Part Numbers .....9

**Section 1: S-Cam Brakes ..... 10-73**

Corrosion Fighter Technology ..... 16  
 Industry Safety Reminder - Danger of Double Clamp Banded Spring Brakes..... 17

**TR Standard Stroke Models**

TR Tamper Resistant ..... 18-19  
 TR-HD Tamper Resistant, Heavy-Duty ..... 20-21  
 TR-HDW Tamper Resistant, Heavy-Duty, Welded NPC..... 22-23  
 TR-T Tamper Resistant, Tube ..... 24-25  
 TR-THD Tamper Resistant, Tube, Heavy-Duty ..... 26-27  
 TR-THDW Tamper Resistant, Tube, Heavy-Duty, Welded NPC..... 28-29  
 TR-TS Tamper Resistant, Tube, Severe Service..... 30-31  
 TR-TSHD Tamper Resistant, Tube, Severe Service, Heavy-Duty..... 32-33  
 TR-TSHDW Tamper Resistant, Tube, Severe Service, Heavy-Duty, Welded NPC ..... 34-35

**TR Long Stroke Models**

TR-LP3/TR-L3 Tamper Resistant, Long Stroke..... 36-37  
 TR-LP3HD Tamper Resistant, Long Stroke, Heavy-Duty..... 38-39  
 TR-LP3T/TR-L3T Tamper Resistant, Long Stroke, Tube..... 40-41  
 TR-LP3THD Tamper Resistant, Long Stroke, Tube, Heavy-Duty..... 42-43  
 TR-LP3THDW Tamper Resistant, Long Stroke, Tube, Heavy-Duty, Welded NPC ..... 44-45  
 TR-LP3TS Tamper Resistant, Long Stroke, Tube, Severe Service ..... 46-47  
 TR-LP3TSHD Tamper Resistant, Long Stroke, Tube, Severe Service, Heavy-Duty ..... 48-49  
 TR-LP3TSHDW Tamper Resistant, Long Stroke, Tube, Severe Service, Heavy-Duty, Welded NPC..... 50-51

**LTR Standard Stroke Model**

LTR-T Integral Release Bolt, Tamper Resistant, Tube..... 52-53

**LTR Long Stroke Models**

LTR-L3 Integral Release Bolt, Tamper Resistant, Long Stroke ..... 54-55  
 LTR-L3W Integral Release Bolt, Tamper Resistant, Long Stroke, Welded NPC ..... 56-57  
 LTR-L3T Integral Release Bolt, Tamper Resistant, Long Stroke, Tube. .... 58-59

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



**MJS Standard Stroke Model**

MJS	Magnum J-Series, 1.75" Stroke, Tube.....	60-61
-----	--	-------

**MJS Long Stroke Model**

MJS	Magnum J-Series, 3.00" Stroke, Tube.....	62-67
-----	--	-------

**Service Chamber - Standard Stroke Model**

C	S Cam .....	68-69
---	-------------	-------

**Service Chamber - Long Stroke Models**

CL	S Cam, Long Stroke .....	70-71
----	--------------------------	-------

CS	S Cam, Long Stroke, Sealed .....	72-73
----	----------------------------------	-------

**Section 2: Wedge Spring Brakes .....74-81**

CW	Wedge Service Chamber .....	76-77
----	-----------------------------	-------

MJW	MJW1216AT/MJW1616AT Magnum Performance Plus, Wedge 1.75" (44.5 mm).....	78-79
-----	---	-------

MJW	MJW1624BT Magnum Performance Plus, Wedge 2.00" (50.8 mm).....	80-81
-----	---	-------

**Section 3: Air Disc Brakes .....82-87**

**Service Chambers**

CSB	Sealed Service Chamber .....	84
-----	------------------------------	----

**Double Diaphragm**

TRB	Tamper Resistant, Tube .....	85
-----	------------------------------	----

**Piston Diaphragm**

MJB	Magnum, J-Series, 2.50" (63.5 mm) Stroke, Tube.....	86
-----	---	----

Visual Safety Inspections of Air Disc Brakes.....	87
---	----

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



**Section 4: Remote Mount Cylinders** ..... 88-93

R4A Remote Mount Cylinder ..... 90-91

R5AHD Remote Mount Cylinder, Heavy-Duty ..... 90-91

R7A Remote Mount Cylinder, Spring Applied - Air Release ..... 92-93

R8H Remote Mount Cylinder, Spring Applied - Hydraulic Release ..... 92-93

**Section 5: Vocational** ..... 94-103

Model Application Chart ..... 96

Actuators Manufactured with Neoprene Diaphragms ..... 97

MGM Waste Chamber Breakdown Sheet with Neoprene Diaphragms ..... 98

MGM Waste Chamber Breakdown Sheet with Natural Rubber Diaphragms ..... 99

Welded Yoke Replacement Instruction ..... 100

Welded Yokes Application Guide ..... 102-103

**Section 6: Special Applications** ..... 104-111

Special Length Push Rods ..... 106

Hendrickson Intraax and Vantraax Suspension Applications ..... 107

12" and 18" Extended Length Push Rods ..... 108-109

School Bus and Fire Truck Applications ..... 110

SAE/METRIC Mixed Parts List ..... 111

**Section 7: e•STROKE® – Brake Monitoring System** ..... 112-131

Introduction ..... 114

How e•STROKE® works ..... 115-116

Specifications ..... 118

Diagnostics ..... 119

e•STROKE® System Parts e•S3® Tractor/Truck/Bus ..... 120-122

e•STROKE® System Parts - Trailer Parts List ..... 122-123

e•STROKE® System Parts Tractor/Truck/Bus - Gen 1 and 2, Miscellaneous Parts ..... 124-125

e•STROKE® Diagnostic Tools Parts List ..... 126

e•STROKE® Support and Training ..... 128-131

**Section 8: Replacement Parts** ..... 132-139

Kits - Breather Cap, End Cap & Weatherseal™ Plug ..... 134

Diaphragms, Kit - Release Bolt, Clamp Bands ..... 134

Kits - S-Cam Protective Boots & Center Hole Shield, Breather Tube and Elbow Kit ..... 135

Kits - Nuts and Washers, ..... 135

Non-Pressure Chamber (With and Without Breather Elbow), Vent Hole - Plug ..... 135

Welded Yoke Assemblies ..... 136

Welded Yoke Assemblies(continued), Yoke Pins (Stainless Steel) ..... 137

Yoke Assemblies, Yoke Assemblies - 2 Pin ..... 138

Push-Rod Assembly and Nut Kits ..... 139

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

<b>Section 9: Technical Information</b> .....	140-165
MJS Service Diaphragm Replacement.....	142
Product Identification Plate.....	143
Long Stroke Identification.....	144
Double-Diaphragm to Piston Conversion Chart.....	145
Procedure to Cut a Push-Rod.....	146
Proper Brake Adjustment.....	147
Fastener Torque Value Chart.....	148
Procedure to Lengthen External Breather Tube.....	149
Mixing Standard and Long Stroke Chambers.....	150
Field Replacement of Chambers Equipped with “Welded” Yokes.....	151
<b>Performance Chart - Spring Brake Chambers (including Remote Mount Cylinders) - SAE</b> .....	152
<b>Performance Chart - Service Brake Chambers - SAE</b> .....	153-158
<b>Performance Chart - Spring Brake Chambers (including Remote Mount Cylinders) - METRIC</b> .....	159
<b>Performance Chart - Service Brake Chambers - METRIC</b> .....	160-165
<b>Section 10: BrakeTECH Self-Study Training Program</b> .....	166-167
<b>Section 11: Warranty Policies</b> .....	168-173
Limited Warranty Policy.....	170-172
Contact Outside U.S.A. and Canada.....	173
<b>Section 12: Glossary of Terms</b> .....	174-180

KEY TO MODEL “PREFIXES”	KEY TO MODEL “SUFFIXES”
C = SERVICE CHAMBER	A = 1.75” (44.5 mm) STROKE (MAGNUM PERFORMANCE PLUS)
CS = SERVICE CHAMBER / SEALED	B = 2.00” (50.8 mm) STROKE
CW = SERVICE CHAMBER / WEDGE	C = 2.25” (57.1 mm) STROKE
LTR = INTEGRAL RELEASE BOLT / TAMPER RESISTANT	D = 2.50” (63.5 mm) STROKE
M = MAGNUM	E = 3.00” (76.2 mm) LONG STROKE (MAGNUM PERFORMANCE PLUS)
MJB = MAGNUM PERFORMANCE PLUS / DISC	ESH = UNIT EQUIPPED WITH e•STROKE® / DRUM
MJS = MAGNUM PERFORMANCE PLUS / S-CAM	ESK = UNIT EQUIPPED WITH e•STROKE® / DISC
MJW = MAGNUM PERFORMANCE PLUS / WEDGE	H = HYBRID
TR = TAMPER RESISTANT	HD = HEAVY DUTY
TRB = TAMPER RESISANT / DISC	L = LONG STROKE
CSB = SEALED SERVICE CHAMBER / DISC	L3 = 3.00” (76.2 mm) LONG STROKE CHAMBER
	LP3 = 3.00” (76.2 mm) LONG STROKE / LOW PROFILE
	S = SEVERE SERVICE
	T = BREATHER TUBE
	W = WELDED MOUNTING BOLTS

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# PART NUMBER / MODEL DESIGNATION

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P/N Series	Model	Stroke inch (mm)	Part Description	Page Number(s)	Obsolete	Replaced By
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## SERVICE CHAMBERS

1009	CW9	1.75" (44.5 mm)	Wedge Service	76-77		
1012	CW12	1.75" (44.5 mm)	Wedge Service	76-77		
1016	CW16	1.75" (44.5 mm)	Wedge Service	76-77		
1412	C12	1.75" (44.5 mm)	CAM Service	68-69		
1416	C16	2.25" (57.1 mm)	CAM Service	68-69		
1417	C16L	2.50" (63.5 mm)	CAM Service	•	X	1617
1418	C16L2.5	2.50" (63.5 mm)	CAM Service	70-71		
1420	C20	2.25" (57.1 mm)	CAM Service	68-69		
1421	C20L	2.50" (63.5 mm)	CAM Service	70-71		
1427	C24L	2.50" (63.5 mm)	CAM Service	68-69		
1428	C24L3	3.00" (76.2 mm)	CAM Service	70-71		
1430	C30	2.50" (63.5 mm)	CAM Service	68-69		
1431	C30L3	3.00" (76.2 mm)	CAM Service	70-71		
1436	C36	3.00" (76.2 mm)	CAM Service	68-69		
1617	CS16LH	2.50" (63.5 mm)	CAM Service	72-73		
1621	CS20L	2.50" (63.5 mm)	CAM Service	72-73		
1623	CS20L3	3.00" (76.2 mm)	CAM Service	72-73		
1627	CS24L	2.50" (63.5 mm)	CAM Service	72-73		
1628	CS24L3	3.00" (76.2 mm)	CAM Service	72-73		
1630	CS30	2.50" (63.5 mm)	CAM Service	72-73		
1631	CS30L3	3.00" (76.2 mm)	CAM Service	72-73		
1640	CS24LW	2.50" (63.5 mm)	CAM Service	72-73		

## WEDGE BRAKES

1009	CW9	1.75" (44.5 mm)	Wedge Service	76-77		
1012	CW12	1.75" (44.5 mm)	Wedge Service	76-77		
1016	CW16	1.75" (44.5 mm)	Wedge Service	76-77		
2014	WM1216	1.75" (44.5 mm)	Wedge Spring/Service	•	X	MJW1216AT
2017	WM1624LG-T	2.00" (50.8 mm)	Wedge Spring/Service	•	X	MJW1624BT
2212	WL1216	1.75" (44.5 mm)	Wedge Spring/Service	•	X	MJW1216AT
MJW1216AT	MJW1216AT	1.75" (44.5 mm)	Wedge Piston/Spring/Service	78-79		
MJW1616AT	MJW1616AT	1.75" (44.5 mm)	Wedge Piston/Spring/Service	78-79		
MJW1624BT	MJW1624BT	2.00" (50.8 mm)	Wedge Piston/Spring/Service	80-81		

## DOUBLE DIAPHRAGM SPRING BRAKES

3220	TR2030LP3H	3.00" (76.2 mm)	CAM Spring/Service	36-37		
3221	TR2030LP3TH	3.00" (76.2 mm)	CAM Spring/Service	40-41		
3224	TR2430LP3	3.00" (76.2 mm)	CAM Spring/Service	36-37		
3225	TR2430LP3T	3.00" (76.2 mm)	CAM Spring/Service	40-41		
3226	TR2430LP3HD	3.00" (76.2 mm)	CAM Spring/Service	38-39		
3227	TR2430LP3THD	3.00" (76.2 mm)	CAM Spring/Service	42-43		
3230	TR3030LP3	3.00" (76.2 mm)	CAM Spring/Service	36-37		
3231	TR3030LP3T	3.00" (76.2 mm)	CAM Spring/Service	40-41		
3232	TR3030LP3HD	3.00" (76.2 mm)	CAM Spring/Service	38-39		
3233	TR3030LP3THD	3.00" (76.2 mm)	CAM Spring/Service	42-43		
3234	TR3036L3	3.00" (76.2 mm)	CAM Spring/Service	36-37		
3235	TR3036L3T	3.00" (76.2 mm)	CAM Spring/Service	40-41		
3244	TR3030LP3THDW	3.00" (76.2 mm)	CAM Spring/Service	44-45		

Note: For Transit / Special Applications (i.e. rod length, etc.) refer to Section 6.

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# PART NUMBER / MODEL DESIGNATION



P/N Series	Model	Stroke inch (mm)	Part Description	Page Number(s)	Obsolete	Replaced By
3420	TR2024	2.25" (57.1 mm)	CAM Spring/Service	18-19		
3421	TR2024T	2.25" (57.1 mm)	CAM Spring/Service	24-25		
3426	TR2424LT	2.50" (63.5 mm)	CAM Spring/Service	24-25		
3427	TR2424L	2.50" (63.5 mm)	CAM Spring/Service	18-19		
3428	TR2430LT	2.50" (63.5 mm)	CAM Spring/Service	24-25		
3429	TR2430L	2.50" (63.5 mm)	CAM Spring/Service	18-19		
3430	TR3030	2.50" (63.5 mm)	CAM Spring/Service	18-19		
3431	TR3030T	2.50" (63.5 mm)	CAM Spring/Service	24-25		
3432	TR3036T	2.50" (63.5 mm)	CAM Spring/Service	24-25		
3433	TR3036	2.50" (63.5 mm)	CAM Spring/Service	18-19		
3434	TR3024	2.50" (63.5 mm)	CAM Spring/Service	18-19	X	
3435	TR3024T	2.50" (63.5 mm)	CAM Spring/Service	24-25	X	
3436	TR3636T	3.00" (76.2 mm)	CAM Spring/Service	24-25		
3331	TR3030L3-T	3.00" (76.2 mm)	CAM Spring/Service	•	X	3231
3437	TR3636	3.00" (76.2 mm)	CAM Spring/Service	18-19		
3443	TR3030HDW	2.50" (63.5 MM)	CAM Spring/Service	22-23		
3444	TR3030THDW	2.50" (63.5 mm)	CAM Spring/Service	28-29		
3523	TR2430LP3TS	3.00" (76.2 mm)	CAM Spring/Service	46-47		
3526	TR2430LTSHD	2.50" (63.5 mm)	CAM Spring/Service	32-33		
3527	TR2430LP3TSHD	3.00" (76.2 mm)	CAM Spring/Service	48-49		
3528	TR2430LTS	2.50" (63.5 mm)	CAM Spring/Service	30-31		
3531	TR3030TS	2.50" (63.5 mm)	CAM Spring/Service	30-31		
3532	TR3036TS	2.50" (63.5 mm)	CAM Spring/Service	30-31		
3533	TR3030TSHD	2.50" (63.5 mm)	CAM Spring/Service	32-33		
3534	TR3030LP3TSHD	3.00" (76.2 mm)	CAM Spring/Service	48-49		
3535	TR3030LP3TS	3.00" (76.2 mm)	CAM Spring/Service	46-47		
3536	TR3636TS	3.00" (76.2 mm)	CAM Spring/Service	30-31		
3538	TR2424LTS	2.50" (63.5 mm)	CAM Spring/Service	30-31		
3544	TR3030TSHDW	2.50" (63.5 mm)	CAM Spring/Service	34-35		
3545	TR3030LP3TSHDW	3.00" (76.2 mm)	CAM Spring/Service	50-51		
3624	TR2430LHD	2.50" (63.5 mm)	CAM Spring/Service	20-21		
3625	TR2430LTHD	2.50" (63.5 mm)	CAM Spring/Service	26-27		
3630	TR3030HD	2.50" (63.5 mm)	CAM Spring/Service	20-21		
3631	TR3030THD	2.50" (63.5 mm)	CAM Spring/Service	26-27		

## LONG LIFE DOUBLE DIAPHRAGM SPRING BRAKES

3827	LTR2430LT	2.50" (63.5 mm)	CAM Spring/Service	52-53		
3828	LTR2430L3	3.00" (76.2 mm)	CAM Spring/Service	54-55		
3831	LTR3030T	2.50" (63.5 mm)	CAM Spring/Service	52-53		
3832	LTR3030L3	3.00" (76.2 mm)	CAM Spring/Service	54-55		
3833	LTR3030L3T	3.00" (76.2 mm)	CAM Spring/Service	58-59		
3844	LTR3030L3W	3.00" (76.2 mm)	CAM Spring/Service	56-57		

## PISTON BRAKES

4112	M1216G-T	1.75" (44.5 mm)	CAM Piston/Spring/Service	•	X	MJS1216AT
4115	M1620LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS1724ET
4117	M1624LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS1724ET
4119	M2020LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2024ET
4120	M2024LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2024ET

NOTE: For Transit / Special Applications (i.e. rod length, etc.) refer to Section 6.

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P/N Series	Model	Stroke inch (mm)	Description	Page Number(s)	Obsolete	Replaced By
4122	M2420LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2424ET
4124	M2424LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2424ET
4128	M2430LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2430ET
4131	M3027GT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS3028ET
4133	M3024GT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS3024ET
4420	M2030LGT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS2030ET
4430	M3030GT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS3028ET
4431	M3031GT	2.50" (63.5 mm)	CAM Piston/Spring/Service	•	X	MJS3030ET
MJS1216AT	MJS1216AT	1.75" (44.5 mm)	CAM Piston/Spring/Service	60-61		
MJS1722ET	MJS1722ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	62-63		
MJS1724ET	MJS1724ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	62-63		
MJS2022ET	MJS2022ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	62-63		
MJS2024ET	MJS2024ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	62-63		
MJS2030ET	MJS2030ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	62-63		
MJS2422ET	MJS2422ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	64-65		
MJS2424ET	MJS2424ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	64-65		
MJS2430ET	MJS2430ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	66-67		
MJS3022ET	MJS3022ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	64-65		
MJS3024ET	MJS3024ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	64-65		
MJS3028ET	MJS3028ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	66-67		
MJS3030ET	MJS3030ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	66-67		
MJS3628ET	MJS3628ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	66-67		
MJS3630ET	MJS3630ET	3.00" (76.2 mm)	CAM Piston/Spring/Service	66-67		
MJW1216AT	MJW1216AT	1.75" (44.5 mm)	Wedge Piston/Spring/Service	78-79		
MJW1616AT	MJW1616AT	1.75" (44.5 mm)	Wedge Piston/Spring/Service	78-79		
MJW1624BT	MJW1624BT	2.00" (50.8 mm)	Wedge Piston/Spring/Service	78-79		

## REMOTE MOUNT CYLINDERS

5004	R4A	4.50" (114.3 mm)	Remote Mount Cylinder	90-91		
5005	R5AHD	4.20" (106.7 mm)	Remote Mount Cylinder	90-91		
5007	R7A	2.75" (69.8 mm)	Spring Applied/Air Released	92-93		
5008	R8H	2.75" (69.8 mm)	Spring Applied/Hydraulic Released	92-93		

## AIR DISC BRAKES

16	CSB16D	2.50" (63.5 mm)	Air Disc Service	84		
18	CSB18D	2.50" (63.5 mm)	Air Disc Service	84		
20	CSB20D	3.00" (76.2 mm)	Air Disc Service	84		
22	CSB22D	2.50" (63.5 mm)	Air Disc Service	84		
24	CSB24D	2.50" (63.5 mm)	Air Disc Service	84		
1624	TRB1624DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		
1824	TRB1824DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		
2024	TRB2024DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		
2224	TRB2224DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		
2424	TRB2424DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		

NOTE: For Transit / Special Applications (i.e. rod length, etc.) refer to Section 6.

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P/N Series	Model	Stroke inch (mm)	Description	Page Number(s)	Obsolete	Replaced By
2430	TRB2430DT	2.50" (63.5 mm)	Air Disc/Spring/Service	85		
1624	MJB1624DT	2.50" (63.5 mm)	Air Disc/Piston/Spring/Service	86		
1824	MJB1824DT	2.50" (63.5 mm)	Air Disc/Piston/Spring/Service	86		
2024	MJB2024DT	2.50" (63.5 mm)	Air Disc/Piston/Spring/Service	86		
2224	MJB2224DT	2.50" (63.5 mm)	Air Disc/Piston/Spring/Service	86		
2424	MJB2424DT	2.50" (63.5 mm)	Air Disc/Piston/Spring/Service	86		

NOTE: For Transit / Special Applications (i.e. rod length, etc.) refer to Section 6.

## UNDERSTANDING MGM BRAKES PART NUMBERS

MGM Brakes assigns a 7 - digit part number except Magnum Performance Plus (see below) to every assembly and part we manufacture. This number code reveals information about the part.

### EXPLANATION OF 7-DIGIT PART NUMBER

- 1<sup>st</sup> Two Digits: Major models, groups, detail parts, kits, etc.
- 2<sup>nd</sup> Two Digits: (a) Model size on major groups  
(b) Detail parts identification all others
- 3<sup>rd</sup> Three Digits: Numerical sequence 001-999  
(a) Spring brake singles – 001 through 050  
Spring brake tandems – 051 through 999  
(b) All others 001 through 999

### MAGNUM PERFORMANCE PLUS NUMBERING SYSTEM

The Magnum "Performance" Plus numbering system is uniquely different from how MGM Brakes identified products in the past. The Magnum Plus part number contains all the information pertaining to the brake, allowing anyone to identify not only the model, but application, stroke, features and serial number as well.

#### Example: MJS3030ET051

Model Series	Style	Service Side	Spring Side	Max. Stroke	Feature	Serial Number
<b>MJ</b>	<b>S</b>	<b>30</b>	<b>30</b>	<b>E</b>	<b>T</b>	051
Magnum J-Series	S-Cam	Type 30	Type 30	3.00" (76.2 mm)	Breather Tube	Aftermarket Complete Assembly

### AIR DISC NUMBERING SYSTEM

The Air Disc numbering system is uniquely different from how MGM Brakes identified products in the past. The air disc part number contains all the information pertaining to the brake, allowing anyone to identify not only the model, but application, stroke, features and serial number as well.

#### Example: TRB2424DT051

Model Series	Style	Service Side	Spring Side	Max. Stroke	Feature	Serial Number
<b>TR</b>	<b>B</b>	<b>24</b>	<b>24</b>	<b>D</b>	<b>T</b>	051
Double Diaphragm	Disc	Type 24	Type 24	2.50" (65 mm)	Breather Tube	Aftermarket Complete Assembly

NOTE: See chart Part Number / Model Designation on page 5 for more key model prefixes and suffixes.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# S-CAM SERIES

Safe, Reliable,  
Tamper-Resistant.

Includes:

TR

TR-LP3

LTR

Piston

Service Chambers

**CORROSION**  
FIGHTER

All TR type 30 Spring Side Brake Models include  
Corrosion Fighter Technology.



**Double Diaphragm Spring Brakes** ..... 10-35

Corrosion Fighter Technology..... 16  
 Industry Safety Reminder..... 17

**Standard Stroke Models**

TR Tamper Resistant..... 18-19  
 TR-HD Tamper Resistant, Heavy-Duty..... 20-21  
 TR-HDW Tamper Resistant, Heavy-Duty, Welded NPC ..... 22-23  
 TR-T Tamper Resistant, Tube..... 24-25  
 TR-THD Tamper Resistant, Tube, Heavy-Duty..... 26-27  
 TR-THDW Tamper Resistant, Tube, Heavy-Duty, Welded NPC ..... 28-29  
 TR-TS Tamper Resistant, Tube, Severe Service ..... 30-31  
 TR-TSHD Tamper Resistant, Tube, Severe Service, Heavy-Duty..... 32-33  
 TR-TSHDW Tamper Resistant, Tube, Severe Service, Heavy-Duty, Welded NPC..... 34-35



**All type 30 Spring Side Brake Models include Corrosion Fighter Technology.**

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Double Diaphragm Spring Brakes ..... 36-51

### Long Stroke Models

TR-LP3/TR-L3	Tamper Resistant, Long Stroke.....	36-37
TR-LP3HD	Tamper Resistant, Long Stroke, Heavy-Duty.....	38-39
TR-LP3T/TR-L3T	Tamper Resistant, Long Stroke, Tube.....	40-41
TR-LP3THD	Tamper Resistant, Long Stroke, Tube, Heavy-Duty.....	42-43
TR-LP3THDW	Tamper Resistant, Long Stroke, Tube, Heavy-Duty, Welded NPC .....	44-45
TR-LP3TS	Tamper Resistant, Long Stroke, Tube, Severe Service .....	46-47
TR-LP3TSHD	Tamper Resistant, Long Stroke, Tube, Severe Service, Heavy-Duty.....	48-49
TR-LP3TSHDW	Tamper Resistant, Long Stroke, Tube, Severe Service, Heavy-Duty, Welded NPC.....	50-51



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Long Life Double Diaphragm Spring Brakes ..... 52-59

**Standard Stroke Model**

LTR-T Integral Release Bolt, Tamper Resistant, Tube .....52-53

**Long Stroke Model**

LTR-L3 Integral Release Bolt, Tamper Resistant, Long Stroke.....54-55

LTR-L3W Integral Release Bolt, Tamper Resistant, Long Stroke, Welded NPC .....56-57

LTR-L3T Integral Release Bolt, Tamper Resistant, Long Stroke, Tube.....58-59



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Piston Spring Brakes ..... 60-67

### Standard Stroke Model

MJS            Magnum, J-Series, 1.75" (44.5 mm) Stroke, Tube ..... 60-61

### Long Stroke Model

MJS            Magnum, J-Series, 3.00" (76.2 mm) Stroke, Tube ..... 62-67



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Service Chambers .....68-73

**Standard Stroke Model**

C Service Chambers.....68-69

**Long Stroke Models**

CL Service Chambers, Long Stroke .....70-71

CS Service Chambers, Long Stroke, Sealed .....72-73



• For air disc applications, refer to section 3.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



You Spoke...  
We Listened.



## MGM TR Model Brakes - better than ever!

Metal components of commercial vehicles are constantly subjected to harsh corrosive environmental conditions, particularly in the winter months in the northern climates. Until recently, the coatings and materials used in spring brakes were sufficient to effectively resist the corrosive effects of materials found in the environments in which the vehicles operate, including the effects of rock salt used to de-ice the roadways.

However, with the introduction of more aggressive de-icing solutions, which literally "cling" to the surface, metal components are experiencing much higher levels of corrosion. In warmer weather, after the water has evaporated, the corrosion process can be reactivated on rainy days when moisture comes into contact with the crystallized salt deposits.

A way to reduce the effects of this "corrosive" attack is to break the electrical conductivity between the parts by changing one of the existing components to a non-conductive material. This is what MGM Brakes Engineering has done by designing a spring guide constructed from heavy-duty, non-conductive composite material. The composite guide prevents metal to metal contact between the end coil of the power spring and the head of the brake, effectively "breaking the circuit", therefore slowing the corrosion process and reducing "corrosion" related brake failures.

In addition to constructing the guide from composite material, MGM Engineers made other design changes that significantly improve power spring life by preventing damage to the power spring's protective coating. This was accomplished by enlarging the area into which the power spring is compressed when the parking brake is released. All this was done without increasing the overall size of the brake.

Our spring guide also ensures precise alignment of the power spring inside the brake. Accurate alignment of the head side of the power spring compliments our patented Center-Hole Diaphragm (CHD) design providing longer center seal and power spring life.

MGM Spring Brakes are known for their durability and we are proud that our products already utilize corrosion resistant materials: such as A360 aluminum, epoxy coating and clear trivalent chromate.



**Composite guide**  
*Note: guide is depicted in orange for visual purposes.*

**Old guide**



**Composite Guide - A Standard Feature**  
Constructed from heavy-duty, non-metallic composite material. Available on all TR - type 30 spring side model chambers.

**CORROSION**  
FIGHTER<sup>®</sup>  
TECHNOLOGY



S-CAM



## INDUSTRY SAFETY REMINDER:

Before 1989 double diaphragm spring brake actuators were manufactured using two clamp bands; one to seal the service side and one to seal the spring parking side. At one time both sides of these units were considered "serviceable", meaning that if either side failed the clamp band could be removed, the diaphragm or other components could be replaced, and the unit continued in service as repaired.

While removing the clamp band on the service side of a double diaphragm spring brake actuator carries little or no risk, experience showed that all too often technicians did not follow the required safety procedures when removing the clamp band on the spring parking side, resulting in a potential for severe personal injury. If the powerful spring in the spring parking side is not properly "caged" before the clamp band is removed the spring can propel components of the assembly with great force, potentially causing severe personal injury.

In response to this safety problem MGM Brakes pioneered the development in 1987 of the "Tamper Resistant" double diaphragm spring brake actuator with the first "non-serviceable" spring parking side. By the early 1990's the entire domestic industry recognized the enhancement to safety offered by the "Tamper Resistant" design. Today every responsible spring brake manufacturer based in the United States offers only spring brakes utilizing a "Tamper Resistant" technology. As a result of the universal adoption of a "Tamper Resistant" design for the spring parking side of double diaphragm spring brake actuators, instances of injury to workers from improper repair procedures or accidents have steadily declined until today they are virtually nonexistent.

Unfortunately, a disturbing trend is emerging within the aftermarket portion of the heavy duty truck industry - the use of double clamp banded spring brake actuators as replacements for damaged or failed "Tamper Resistant" units. This "reintroduction" of double clamp banded spring brakes into the North American market seriously threatens worker safety in the heavy duty truck industry. Especially at risk are those workers least experienced in the industry. Well over a decade has passed since MGM Brakes' introduction of "Tamper Resistant" spring parking brakes and many in the service and maintenance end of the industry have not seen, let alone serviced, a double clamp banded spring brake. Younger workers are not likely to have been trained in the special safety procedures required to cage the spring before servicing the spring parking side of double clamp banded units.

Therefore, MGM Brakes believes the industry needs to be reminded of the dangers associated with servicing double clamp banded spring brakes.

**BE SURE TO PROPERLY "CAGE" THE SPRING IN THE SPRING PARKING SIDE ON ALL DOUBLE DIAPHRAGM SPRING BRAKE ACTUATORS - EVEN "TAMPER RESISTANT" MODELS - BEFORE ATTEMPTING ANY SERVICE ON THEM.**

**DO NOT ATTEMPT TO REMOVE OR LOOSEN THE SPRING PARKING SIDE CLAMP BAND ON A DOUBLE CLAMP BANDED SPRING BRAKE ACTUATOR UNDER ANY CIRCUMSTANCE.**

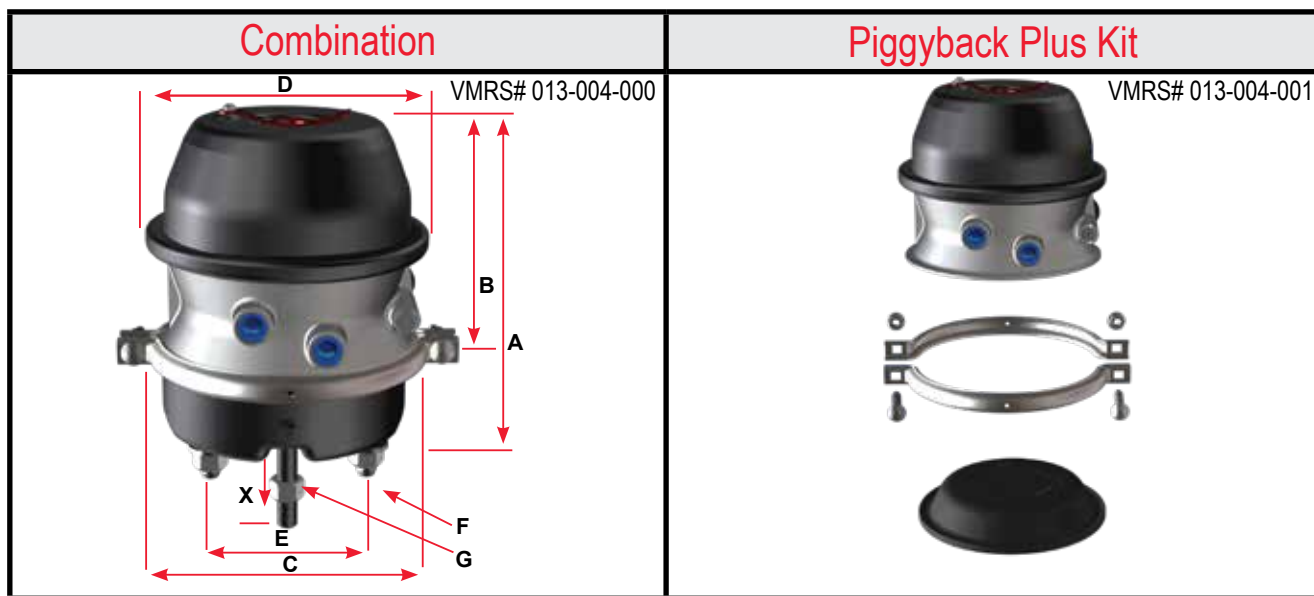
**IMPROPER SERVICING OF A DOUBLE CLAMP BANDED SPRING BRAKE ACTUATOR MAY RESULT IN SEVERE PERSONAL INJURY DUE TO AN UNINTENTIONAL SEPARATION OF THE HEAD FROM THE BASE OF THE UNIT.**



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model



### TR Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- 360 Aluminum Center Case
- Epoxy Coated Return Spring
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 2024, 3030 & 3036 Aftermarket Models) (6-Gauge Standard on Type 36 Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

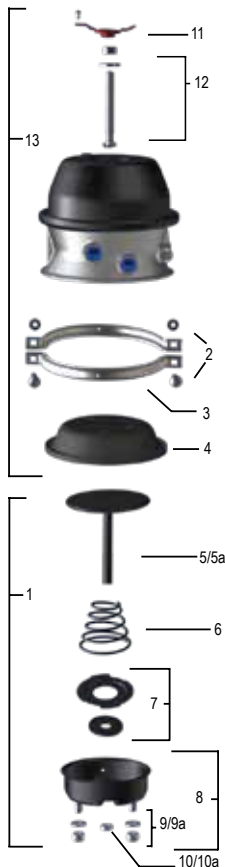
P/N Series	3420	3427	3429	3430	3433	3437
Model	TR2024	TR2424L	TR2430L	TR3030	TR3036	TR3636
Size	2024	2424	2430	3030	3036	3636
Stroke	2.25" (57.2 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)
P/N Combination SAE	3420051	3427051	3429051	3430051	3433051	3437051
P/N Combination 12" Rod*	N/A	3427551*	3429551*	3430551*	3433551*	3437551*
P/N Combination 18" Rod*	N/A	N/A	3429651*	3430651*	3433651*	3437651*
P/N Neoprene Diaphragm	N/A	3427851	N/A	3430851	3433851	N/A
P/N Welded Yoke (2.25")	N/A	N/A	N/A	3430951	3433951	3437951
P/N Piggyback Plus Kit SAE	3420008	3427008	3429008	3430008	3433008(a)	3437008
P/N Combination METRIC	3420049	3427049	3429049	3430049	3433049	3437049
Wt. Combination	15.9 lb (7.2 kg)	16.6 lb (7.5 kg)	18.2 lb (8.3 kg)	19.4 lb (8.8 kg)	26.5 lb (12.0 kg)	30.8 lb (14.0 kg)
Wt. Single	9.6 lb (4.4 kg)	9.5 lb (4.3 kg)	11.3 lb (5.1 kg)	11.3 lb (5.1 kg)	18.3 lb (8.3 kg)	20.2 lb (9.2 kg)
A	8.34" (211.8 mm)	8.52" (216.4 mm)	8.99" (228.4 mm)	9.04" (229.6 mm)	9.90" (251.5 mm)	11.08" (281.5 mm)
B	6.18" (157.0 mm)	6.40" (162.6 mm)	6.87" (174.5 mm)	6.71" (170.4 mm)	7.54" (191.5 mm)	8.39" (213.1 mm)
C	6.72" (170.6 mm)	7.19" (182.7 mm)	7.19" (182.7 mm)	8.32" (211.3 mm)	8.32" (211.3 mm)	9.24" (234.6 mm)
D	7.34" (186.4 mm)	7.34" (186.4 mm)	8.21" (208.5 mm)	8.21" (208.5 mm)	9.18" (233.2 mm)	9.18" (233.2 mm)
E	4.75" (120.7 mm)					
F	5/8" - 11 UNC (M16 x 1.5 - 6g)					
G	5/8" - 18 UNF (M16 x 1.5 - 6g)					
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)					
X - Min. (in the caged position)	8.00" (203.2 mm)					

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

(a) This model must be used with MGM Brakes heavy-duty weld reinforced mounting base or 8-gauge non-pressure housing.

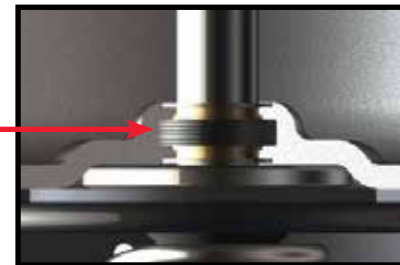
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts						
P/N Series	3420051	3427051	3429051	3430051	3433051	3437051
Model	TR2024	TR2424L	TR2430L	TR3030	TR3036	TR3636
1	Kit - NP Chamber (a)	9015160	9015047	9015047	9015050	9015049
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216020	8216025	8216025	8216045	8216036
4	Diaphragm	8017120	8017141	8017141	8017730	8017836
5	Kit - Push-Rod Assembly (a) SAE	9064001	9064002	9064002	9064003	9064004
5a	Kit - Push-Rod Assembly (a) METRIC	9064015	9064016	9064016	9064035	9064009
6	Return Spring	8068002	8068002	8068002	8068002	8068012
7	Kit - Center Hole Shield	9065002	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	8215169	8215026	8215026	8215501	8215036
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005	9019005	9019005	9019006
12	Kit - Release Bolt	9007003	9007003	9007003	9007003	9007009
13	Kit - Piggyback Plus SAE	3420008	3427008	3429008	3430008	3433008(b)
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8						
Yoke Assembly	Refer to Replacement Parts Section 8					
Boot & Retainer	Refer to Replacement Parts Section 8					

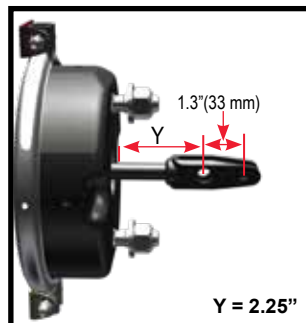


**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.  
 (b) This model must be used with MGM Brakes heavy-duty weld reinforced mounting base or 8 - gauge non-pressure housing.

**Center Seal (Push-Rod Air Seal)**  
 Multi-lipped, pressure activated seal – an MGM exclusive - molded from specially formulated low-temperature-resistant Nitrile Rubber, providing long-term protection against air leaks. Nylon guides eliminate metal to metal contact and premature failure in this critical area.



**Welded Yoke Chamber**



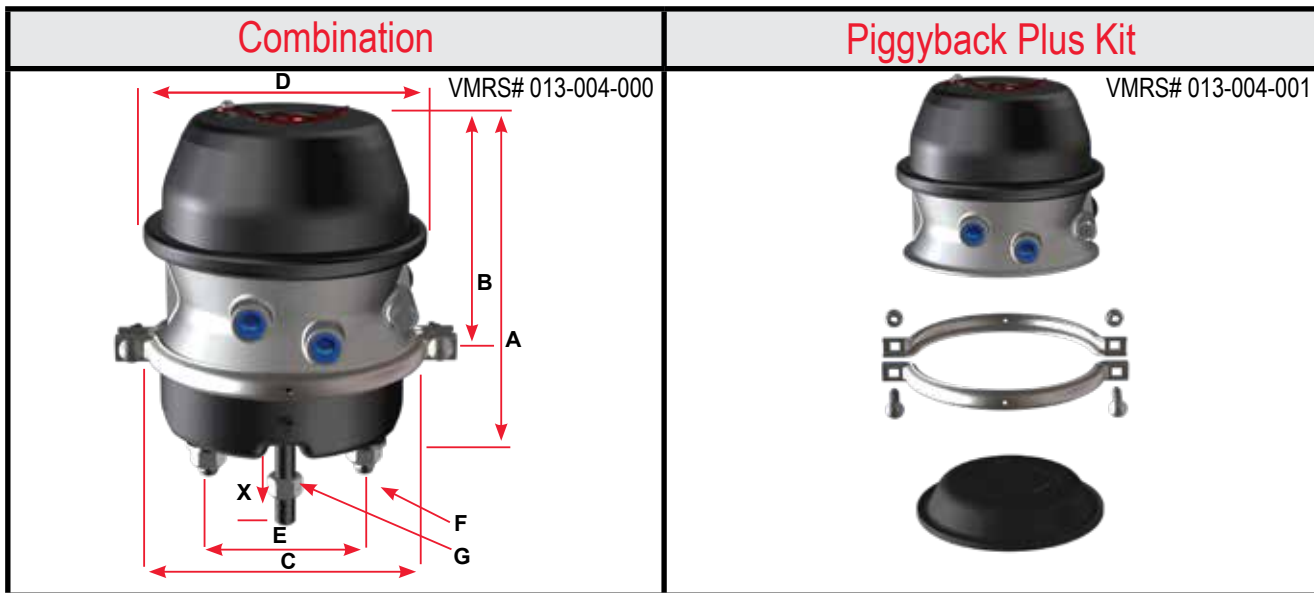
For more welded yoke choices, see page 102-103.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

S-CAM / STANDARD STROKE



### TR-HD Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Model)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

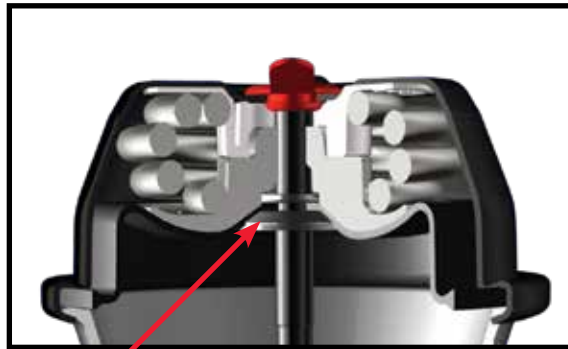
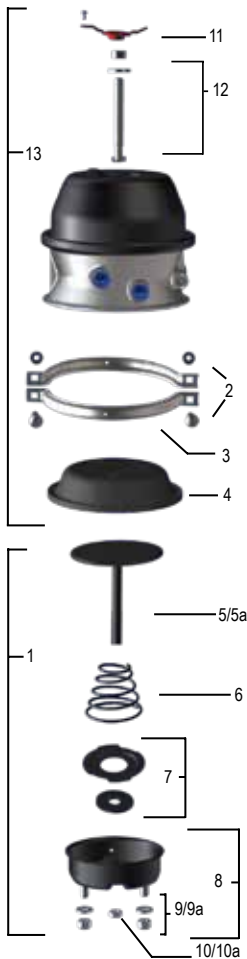
P/N Series	3624	3630
Model	TR2430LHD	TR3030HD
Size	2430	3030
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)
P/N Combination SAE	3624051	3630051
P/N Combination 12" Rod*	3624551*	N/A
P/N Combination 18" Rod*	N/A	N/A
P/N Neoprene Diaphragm	N/A	3630851
P/N Welded Yoke (2.25")	3624951	N/A
P/N Piggyback Plus Kit SAE	3624008	3630008
P/N Combination METRIC	3624049	3630049
Wt. Combination	18.6 lb (8.4 kg)	19.9 lb (9.0 kg)
Wt. Single	11.7 lb (5.3 kg)	11.5 lb (5.2 kg)
A	8.99" (228.4 mm)	9.04" (229.6 mm)
B	6.87" (174.5 mm)	6.71" (170.4 mm)
C	7.19" (182.7 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts			
P/N Series		3624051	3630051
Model		TR2430LHD	TR3030HD
1	Kit - NP Chamber (a)	9015219	9015050
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017141	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064002	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064016	9064035
6	Return Spring	8068002	8068002
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	8215294	8215501
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Piggyback Plus SAE	3624008	3630008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



**Center Hole Diaphragm**

Patented feature that aligns the piston, diaphragm, power spring and internal push-rod providing the following advantages: Maintains component alignment; reduces power spring stress; reduces coil clash; increases center-seal life and eliminates the effects of severe vibration.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

S-CAM / STANDARD STROKE

Combination	Piggyback Plus Kit
<p style="text-align: right;">VMRS# 013-004-000</p>	<p>VMRS# 013-004-001</p> <p style="text-align: center; font-size: 2em;">N/A</p>

### TR-HDW Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Weld Reinforced Non-Pressure Housing with Welded Bolts
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

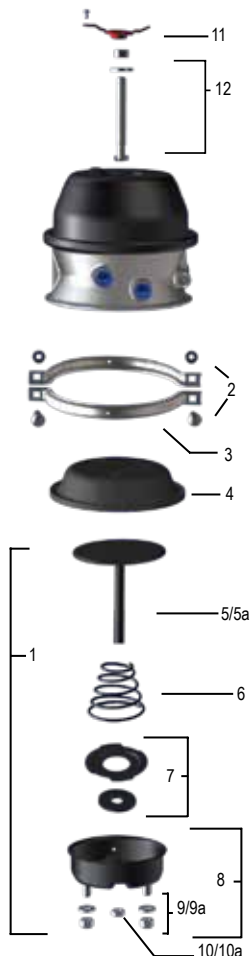
P/N Series	3443
Model	TR3030HDW
Size	3030
Stroke	2.50" (63.5 mm)
P/N Combination SAE	3443051
P/N Combination 12" Rod*	3443551*
P/N Combination 18" Rod*	N/A
P/N Neoprene Diaphragm	3443851
P/N Welded Yoke (2.25")	N/A
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	3443049
Wt. Combination	19.9 lb (9.0 kg)
Wt. Single	N/A
A	9.04" (229.6 mm)
B	6.71" (170.4 mm)
C	8.32" (211.3 mm)
D	8.21" (208.5 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		3443051
Model		TR3030HDW
1	Kit - NP Chamber (a)	9015905
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064035
6	Return Spring	8068002
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015259
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	9002002
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	8130016
11	Kit - Weatherseal™ Plug	9019005
12	Kit - Release Bolt	9007003
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.

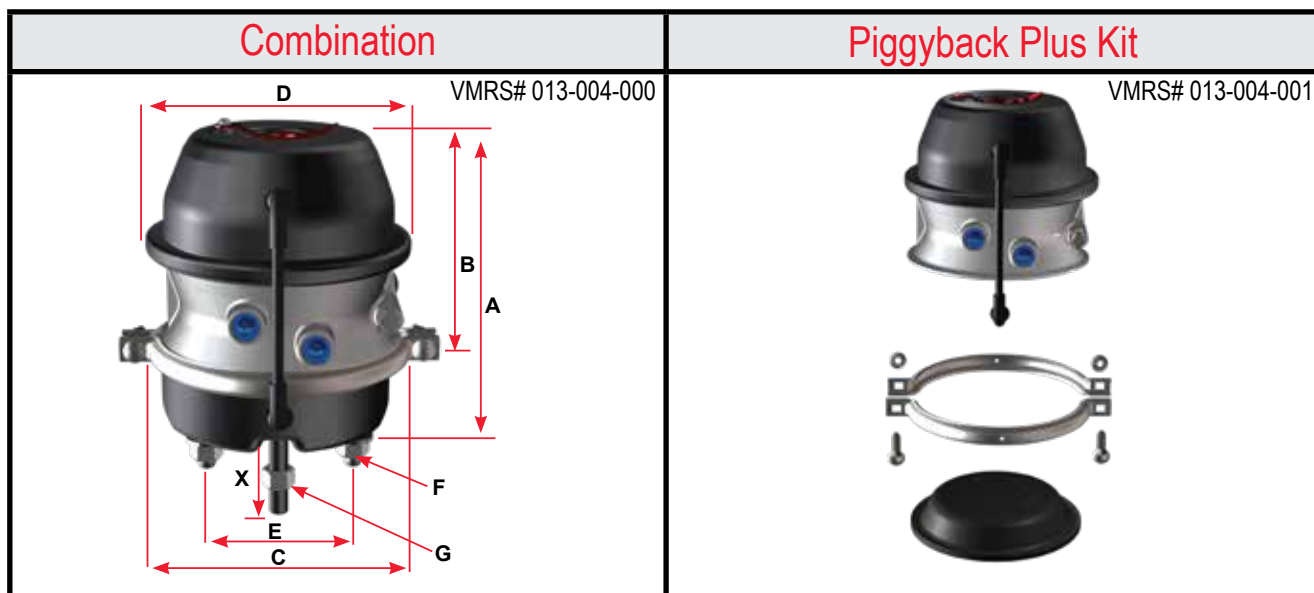


**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

S-CAM / STANDARD STROKE



### TR-T Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3024, 3030 & 3036 Aftermarket Models) (6-Gauge Standard on Type 36 Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

P/N Series	3421	3426	3428	3431	3432	3436
Model	TR2024T	TR2424LT	TR2430LT	TR3030T	TR3036T	TR3636T
Size	2024	2424	2430	3030	3036	3636
Stroke	2.25" (57.2 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2mm)
P/N Combination SAE	3421051	3426051	3428051	3431051	3432051	3436051
P/N Combination 12" Rod*	N/A	N/A	3428551*	3431551*	3432551*	3436551*
P/N Combination 18" Rod*	N/A	N/A	3428651*	3431651*	3432651*	3436651*
P/N Neoprene Diaphragm	N/A	N/A	3428851	3431851	3432851	3436851
P/N Welded Yoke (2.25")	N/A	N/A	3428951	3431951	3432951	3436951
P/N Piggyback Plus Kit SAE	N/A	N/A	3428008	3431008	3432008 (b)	3436008
P/N Combination METRIC	3421049	3426049	3428049	3431049	3432049	3436049
Wt. Combination	15.9 lb (7.2 kg)	16.6 lb (7.5 kg)	18.2 lb (8.3 kg)	19.4 lb (8.8 kg)	26.5 lb (12.0 kg)	30.8 lb (14.0 kg)
Wt. Single	N/A	N/A	11.3 lb (5.1 kg)	11.3 lb (5.1 kg)	18.3 lb (8.3 kg)	20.2 lb (9.2 kg)
A	8.34" (211.8 mm)	8.52" (216.4 mm)	8.99" (228.4 mm)	9.04" (229.6 mm)	9.90" (251.5 mm)	11.08" (281.5 mm)
B	6.18" (157.0 mm)	6.40" (162.6 mm)	6.87" (174.5 mm)	6.71" (170.4 mm)	7.54" (191.5 mm)	8.39" (213.1 mm)
C	6.72" (170.6 mm)	7.19" (182.7 mm)	7.19" (182.7 mm)	8.32" (211.3 mm)	8.32" (211.3 mm)	9.24" (234.6 mm)
D	7.34" (186.4 mm)	7.34" (186.4 mm)	8.21" (208.5 mm)	8.21" (208.5 mm)	9.18" (233.2 mm)	9.18" (233.2 mm)
E	4.75" (120.7 mm)					
F	5/8" - 11 UNC (M16 x 1.5 - 6g)					
G	5/8" - 18 UNF (M16 x 1.5 - 6g)					
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)					
X - Min. (in the caged position)	8.00" (203.2 mm)					

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

(b) This model must be used with MGM Brakes heavy-duty weld reinforced mounting base or 8 - gauge non-pressure housing.

**NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.**



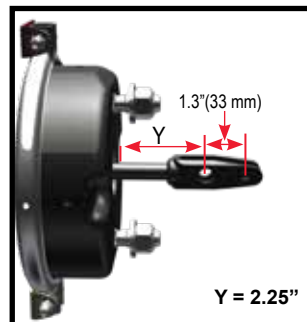
Replacement Parts							
P/N Series	3421051	3426051	3428051	3431051	3432051	3436051	
Model	TR2024T	TR2424LT	TR2430LT	TR3030T	TR3036T	TR3636T	
1	Kit - NP Chamber (a)	9015111	9015152	9015152	9015157	9015149	9015150
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216020	8216025	8216025	8216045	8216045	8216036
4	Diaphragm	8017120	8017141	8017141	8017730	8017730	8017836
5	Kit - Push-Rod Assembly (a) SAE	9064001	9064002	9064002	9064003	9064003	9064004
5a	Kit - Push-Rod Assembly (a) METRIC	9064015	9064016	9064016	9064035	9064035	9064009
6	Return Spring	8068002	8068002	8068002	8068002	8068002	8068012
7	Kit - Center Hole Shield	9065002	9065002	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	9015110	9015151	9015151	9015122	9015122	9015108
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005	9019005	9019005	9019006	9019006
12	Kit - Release Bolt	9007003	9007003	9007003	9007003	9007009	9007009
13	Kit - Breather Tube	9081001	9081001	9081001	9081001	9081001	9081001
14	Kit - Piggyback Plus SAE	N/A	N/A	3428008	3431008	3432008 (b)	3436008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8							
Yoke Assembly		Refer to Replacement Parts Section 8					
Boot & Retainer		Refer to Replacement Parts Section 8					

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.  
 (b) This model must be used with MGM Brakes heavy-duty weld reinforced mounting base or 8 - gauge non-pressure housing.



**External Breather-Tube**  
 Vents air from inside the protected area of the non-pressure chamber to effectively prevent entry of liquid and solid corrosive contaminants that can cause premature failure of the spring brake chamber.

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

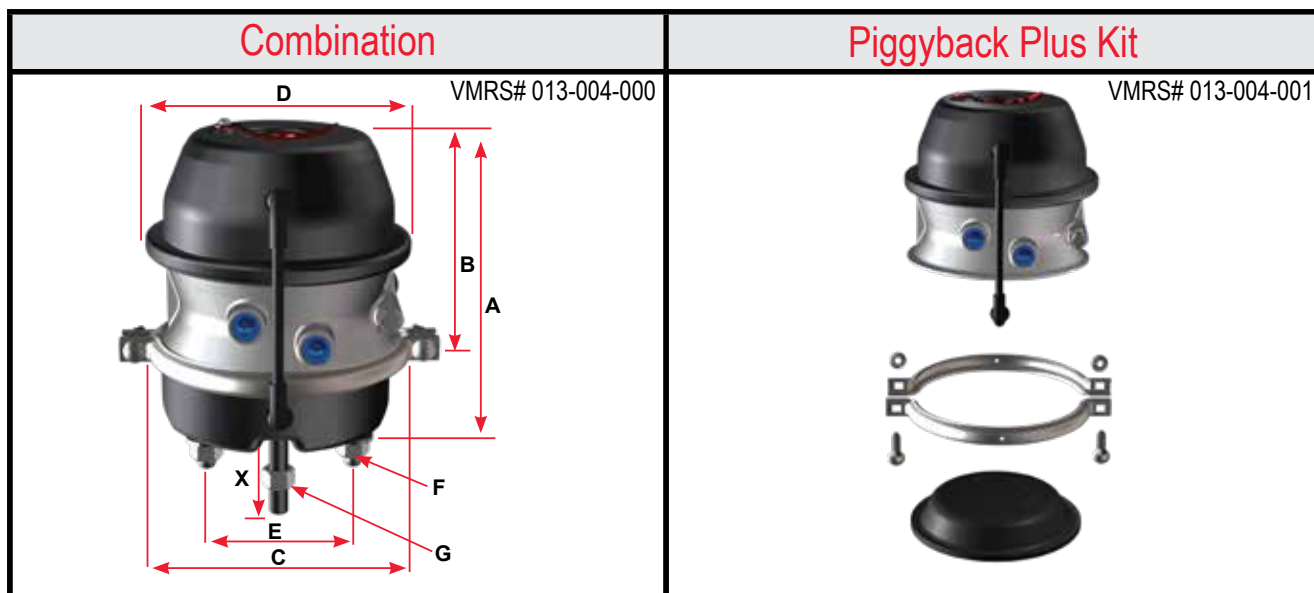
**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-THD

## Standard Stroke Model

S-CAM / STANDARD STROKE

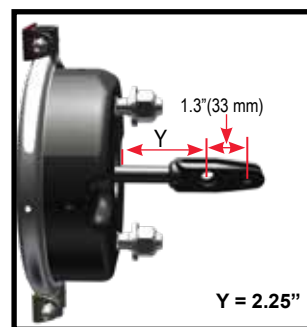


### TR-THD Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

P/N Series	3625	3631
Model	TR2430LTHD	TR3030THD
Size	2430	3030
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)
P/N Combination SAE	3625051	3631051
P/N Combination 12" Rod*	3625551*	3631551*
P/N Combination 18" Rod*	3625651*	N/A
P/N Neoprene Diaphragm	N/A	N/A
P/N Welded Yoke (2.25")	3625951	3631951
P/N Piggyback Plus Kit SAE	3625008	3631008
P/N Combination METRIC	3625049	3631049
Wt. Combination	18.6 lb (8.4 kg)	19.9 lb (9.0 kg)
Wt. Single	11.7 lb (5.3 kg)	11.5 lb (5.2 kg)
A	8.99" (228.4 mm)	9.04" (229.6 mm)
B	6.87" (174.5 mm)	6.71" (170.4 mm)
C	7.19" (182.7 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

### Welded Yoke Chamber



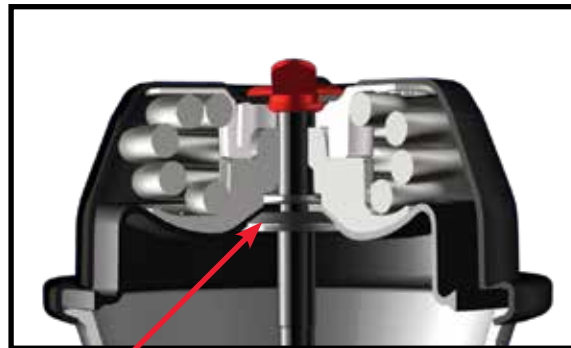
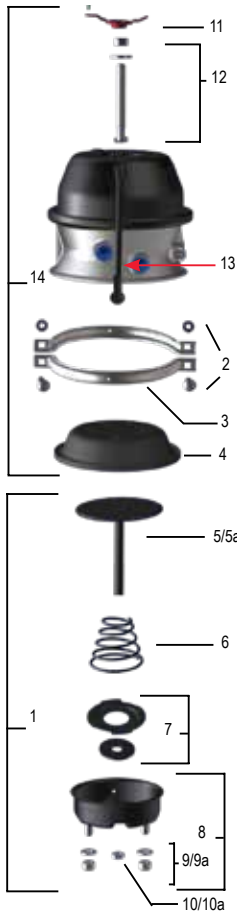
For more welded yoke choices, see page 102-103.

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts			
P/N Series		3625051	3631051
Model		TR2430LTHD	TR3030THD
1	Kit - NP Chamber (a)	9015152	9015149
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017141	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064002	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064016	9064035
6	Return Spring	8068002	8068002
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015151	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Breather Tube	9081001	9081001
14	Piggyback Plus Kit SAE	3625008	3631008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



**Center Hole Diaphragm**

Patented feature that aligns the piston, diaphragm, power spring and internal push-rod providing the following advantages: Maintains component alignment; reduces power spring stress; reduces coil clash; increases center-seal life and eliminates the effects of severe vibration.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

S-CAM / STANDARD STROKE

Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	<p>VMRS# 013-004-001</p> <p>N/A</p>

### TR-THDW Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Weld Reinforced Non-Pressure Housing with Welded Bolts
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

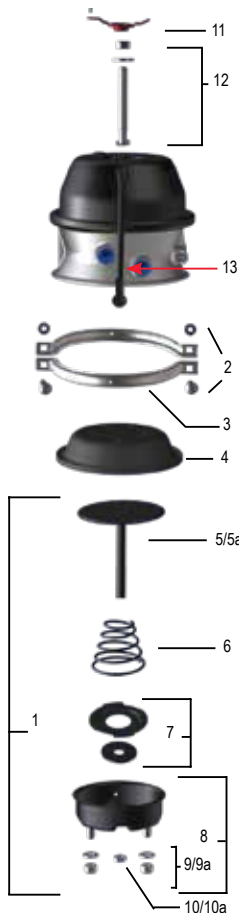
P/N Series	3444
Model	TR3030THDW
Size	3030
Stroke	2.50" (63.5 mm)
P/N Combination SAE	3444051
P/N Combination 12" Rod*	N/A
P/N Combination 18" Rod*	N/A
P/N Neoprene Diaphragm	3444851
P/N Welded Yoke (2.25")	N/A
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	3444049
Wt. Combination	19.9 lb (9.0 kg)
Wt. Single	N/A
A	9.04" (229.6 mm)
B	6.71" (170.4 mm)
C	8.32" (211.3 mm)
D	8.21" (208.5 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		3444051
Model		TR3030THDW
1	Kit - NP Chamber (a)	9015905
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064035
6	Return Spring	8068002
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015259
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	9002002
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	8130016
11	Kit - Weatherseal™ Plug	9019005
12	Kit - Release Bolt	9007003
13	Kit - Breather Tube	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Weld Reinforced Non-Pressure Housing

Heavy-gauge formed steel flat-bottom design, epoxy coated for total corrosion protection and "weld-reinforced" mounting studs for added support in extreme vibration applications. (bolt actually epoxy coated - depicted here lighter for visual purposes)

- 8-Gauge Standard on Type 3030 Aftermarket Model

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

Combination	Piggyback Plus Kit
<p style="text-align: center;">VMRS# 013-004-000</p>	N/A

### TR-TS Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 & 3036 Aftermarket Models) (6 Gauge Standard on Type 36 Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Epoxy-Coated Piston & Center Case - Inside & Out
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

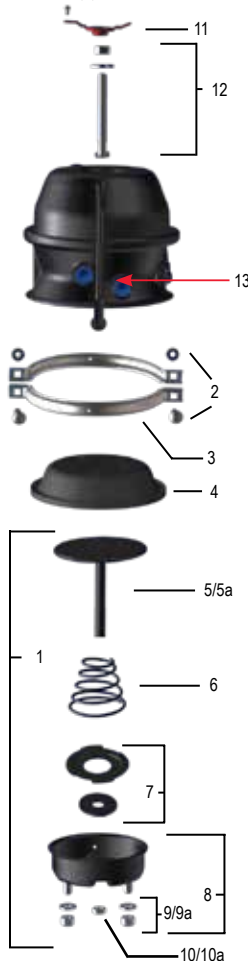
P/N Series	3538	3528	3531	3532	3536
Model	TR2424LTS	TR2430LTS	TR3030TS	TR3036TS	TR3636TS
Size	2424	2430	3030	3036	3636
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)
P/N Combination SAE	3538051	3528051	3531051	3532051	3536051
P/N Combination 12" Rod*	N/A	3528551*	3531551*	3532551*	3536551*
P/N Combination 18" Rod*	N/A	3528651*	3531651*	3532651*	3536651*
P/N Neoprene Diaphragm	N/A	N/A	3531851	3532851	N/A
P/N Welded Yoke (2.25")	N/A	N/A	3531951	3532951	N/A
P/N Piggyback Plus Kit SAE	N/A	N/A	N/A	N/A	N/A
P/N Combination METRIC	3538049	3528049	3531049	3532049	3536049
Wt. Combination	16.6 lb (7.5 kg)	18.2 lb (8.3 kg)	19.4 lb (8.8 kg)	26.5 lb (12.0 kg)	30.8 lb (14.0 kg)
Wt. Single	N/A	N/A	N/A	N/A	N/A
A	8.52" (216.4 mm)	8.99" (228.4 mm)	9.04" (229.6 mm)	9.90" (251.5 mm)	11.08" (281.5 mm)
B	6.40" (162.6 mm)	6.87" (174.5 mm)	6.71" (170.4 mm)	7.54" (191.5 mm)	8.39" (213.1 mm)
C	7.19" (182.7 mm)	7.19" (182.7 mm)	8.32" (211.3 mm)	8.32" (211.3 mm)	9.24" (234.6 mm)
D	7.34" (186.4 mm)	8.21" (208.5 mm)	8.21" (208.5 mm)	9.18" (233.2 mm)	9.18" (233.2 mm)
E	4.75" (120.7 mm)				
F	5/8" - 11 UNC (M16 x 1.5 - 6g)				
G	5/8" - 18 UNF (M16 x 1.5 - 6g)				
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)				
X - Min. (in the caged position)	8.00" (203.2 mm)				

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

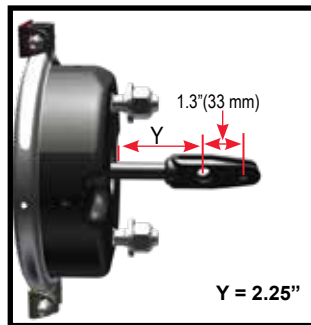
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts					
P/N Series	3538051	3528051	3531051	3532051	3536051
Model	TR2424LTS	TR2430LTS	TR3030TS	TR3036TS	TR3636TS
1	Kit - NP Chamber (a)	9015152	9015152	9015149	9015150
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216025	8216025	8216045	8216036
4	Diaphragm	8017141	8017141	8017730	8017836
5	Kit - Push-Rod Assembly (a) SAE	9064002	9064002	9064003	9064004
5a	Kit - Push-Rod Assembly (a) METRIC	9064016	9064016	9064035	9064009
6	Return Spring	8068012	8068012	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	9015151	9015151	9015122	9015108
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005	9019005	9019006
12	Kit - Release Bolt	9007003	9007003	9007003	9007009
13	Kit - Breather Tube	9081001	9081001	9081001	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8					
Yoke Assembly		Refer to Replacement Parts Section 8			
Boot & Retainer		Refer to Replacement Parts Section 8			

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



Welded Yoke Chamber



For more welded yoke choices, see page 102-103.



Epoxy Coated Components

The center case and upper piston are epoxy coated for extra added protection, which, along with our patented "corrosion fighter" technology, make MGM "Severe Service" Chambers the best choice for severe operating environments: such as acids, salt, liquid corrosives and concrete.

*Includes composite guide with Corrosion Fighter Technology:*



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

Combination	Piggyback Plus Kit
<p style="text-align: center;">VMRS# 013-004-000</p>	N/A

### TR-TSHD Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket HD Model)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Epoxy-Coated Piston and Center Case - Inside & Out
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @1.25 inches (31.8 mm) of stroke
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

P/N Series	3526	3533
Model	TR2430LTSHD	TR3030TSHD
Size	2430	3030
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)
P/N Combination SAE	3526051	3533051
P/N Combination 12" Rod*	N/A	3533551*
P/N Combination 18" Rod*	N/A	3533651*
P/N Neoprene Diaphragm	N/A	3533851
P/N Welded Yoke (2.25")	N/A	N/A
P/N Piggyback Plus Kit SAE	N/A	N/A
P/N Combination METRIC	3526049	3533049
Wt. Combination	18.6 lb (8.4 kg)	19.9 lb (9.0 kg)
Wt. Single	N/A	N/A
A	8.99" (228.4 mm)	9.04" (229.6 mm)
B	6.87" (174.5 mm)	6.71" (170.4 mm)
C	7.19" (182.7 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

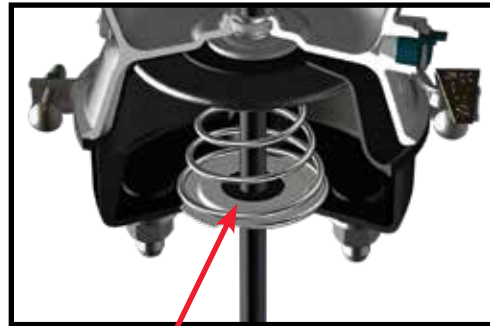
\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Replacement Parts			
P/N Series		3526051	3533051
Model		TR2430LTSHD	TR3030TSHD
1	Kit - NP Chamber (a)	9015152	9015149
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017141	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064002	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064016	9064035
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015151	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Breather Tube	9081001	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Center Hole Shield

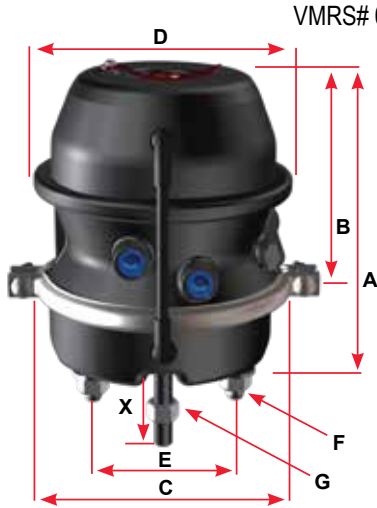
Permits visual inspection of stroke alert but prevents entry of contaminants.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## Standard Stroke Model

S-CAM / STANDARD STROKE

Combination	Piggyback Plus Kit
 <p>VMRS# 013-004-000</p>	N/A

### TR-TSHDW Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Heavy-Duty Steel Non-Pressure Chamber
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube
- Epoxy-Coated Piston, Guide & Center Case - Inside & Out
- Heavy-Duty Power Spring 160 lb (72.6 kg) additional parking brake force @1.25 inches (31.8 mm) of stroke
- Weld Reinforced Non-Pressure Housing with Welded Bolts
- Center Hole Diaphragm, type 30 spring side models only
- Composite Guide - Corrosion Fighter Technology, type 30 spring side models only

P/N Series	3544
Model	TR3030TSHDW
Size	3030
Stroke	2.50" (63.5 mm)
P/N Combination SAE	3544051
P/N Neoprene Diaphragm	N/A
P/N Welded Yoke (2.25")	N/A
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	3544049
Wt. Combination	19.9 lb (9.0 kg)
Wt. Single	N/A
A	9.04" (229.6 mm)
B	6.71" (170.4 mm)
C	8.32" (211.3 mm)
D	8.21" (208.5 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		3544
Model		TR3030TSHDW
1	Kit - NP Chamber (a)	9015149
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	9064035
6	Return Spring	8068012
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015259
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	9002002
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	8130016
11	Kit - Weatherseal™ Plug	9019005
12	Kit - Release Bolt	9007003
13	Kit - Breather Tube	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Weld Reinforced Non-Pressure Housing

Heavy-gauge formed steel flat-bottom design, epoxy coated for total corrosion protection and "weld-reinforced" mounting studs for added support in extreme vibration applications. (bolt actually epoxy coated - depicted here lighter for visual purposes)

- 8-Gauge Standard on Type 3030 Aftermarket Model

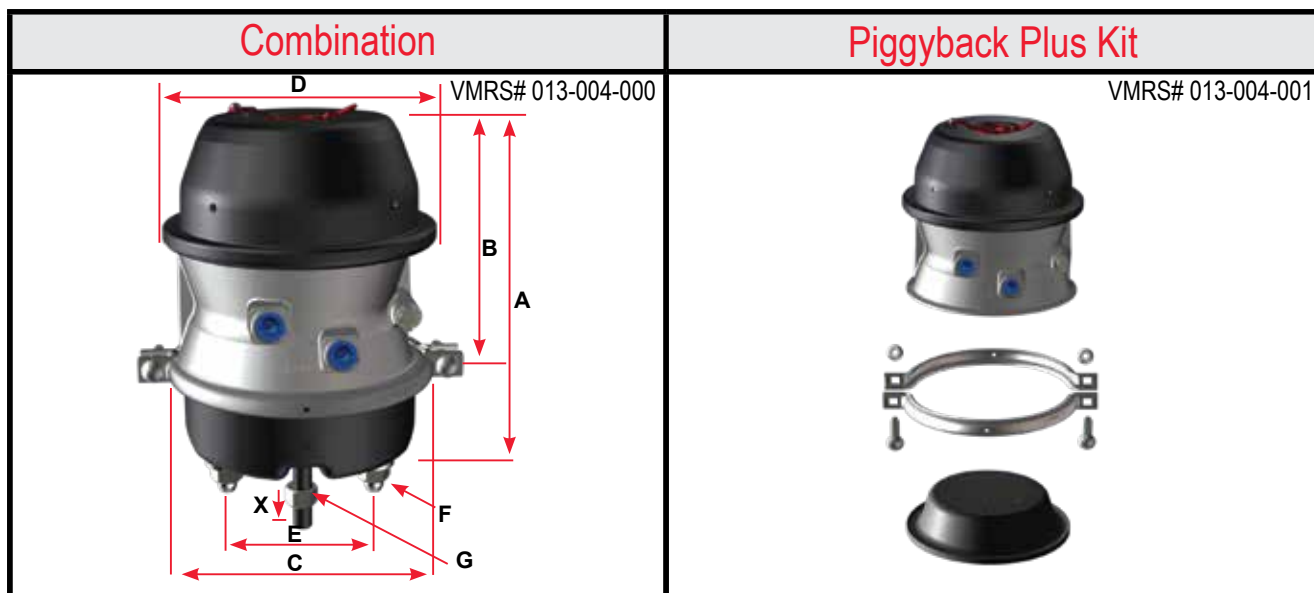
**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3/TR-L3

## Long Stroke Model

S-CAM / 3" LONG STROKE



### TR-LP3/TR-L3 Model Features

- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber
- (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- Composite Guide - Corrosion Fighter Technology

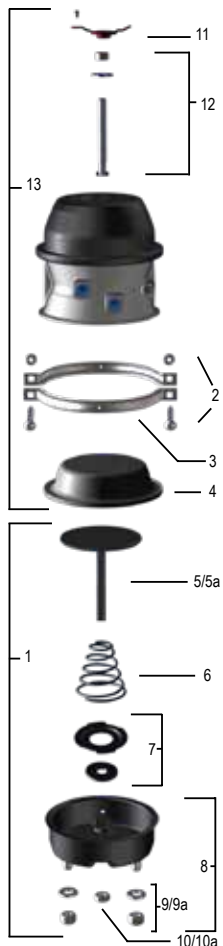
P/N Series	3220	3224	3230	3234
Model	TR2030LP3H	TR2430LP3	TR3030LP3	TR3036L3
Size	2030	2430	3030	3036
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3220051	3224051	3230051	3234051
P/N Combination 12" Rod*	N/A	3224551*	3230551*	N/A
P/N Combination 18" Rod*	N/A	3224651*	3230651*	N/A
P/N Neoprene Diaphragm	N/A	3224851	3230851	N/A
P/N Welded Yoke (2.25")	3220951	3224951	3230951	3234951
P/N Piggyback Plus Kit SAE	3220008	3224008	3230008	3234008
P/N Combination METRIC	3220049	3224049	3230049	3234049
Wt. Combination	19.1 lb (8.7 kg)	19.3 lb (8.8 kg)	20.1 lb (9.1 kg)	26.9 lb (12.2 kg)
Wt. Single	11.5 lb (5.2 kg)	11.5 lb (5.2 kg)	11.5 lb (5.2 kg)	18.3 lb (8.3 kg)
A	10.19" (258.8 mm)	10.19" (258.8 mm)	9.99" (253.7 mm)	10.96" (278.4 mm)
B	7.81" (198.4 mm)	7.81" (198.4 mm)	7.61" (193.3 mm)	8.62" (218.9 mm)
C	7.38" (187.5 mm)	7.38" (187.5 mm)	8.32" (211.3 mm)	8.14" (206.8 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)	8.21" (208.5 mm)	9.18" (233.2 mm)
E	4.75" (120.7 mm)			
F	5/8" - 11 UNC (M16 x 1.5 - 6g)			
G	5/8" - 18 UNF (M16 x 1.5 - 6g)			
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)			
X - Min. (in the caged position)	8.00" (203.2 mm)			

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts					
P/N Series		3220	3224	3230	3234
Model		TR2030LP3H	TR2430LP3	TR3030LP3	TR3036LP3
1	Kit - NP Chamber (a)	9015231	9015210	9015212	9015906
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216027	8216025	8216045	8216045
4	Diaphragm	8017226	8017424	8017830	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064026	9064006	9064008	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064036	9064027	9064028	9064028
6	Return Spring	8068012	8068012	8068012	8068017
7	Kit - Center Hole Shield	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	8215200	8215200	8215501	9015935
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005	9019005	9019006
12	Kit - Release Bolt	9007003	9007003	9007003	9007009
13	Kit - Piggyback Plus SAE	3220008	3224008	3230008	3234008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8					
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8			
Boot & Retainer		Refer to Replacement Parts Section 8			

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.

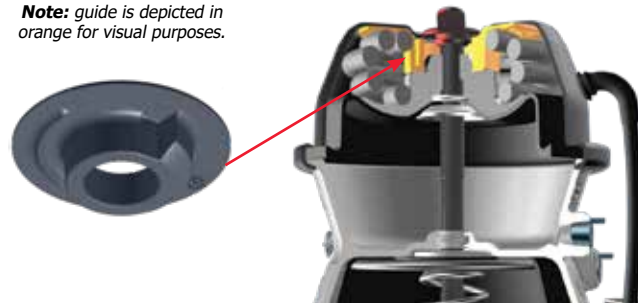


# CORROSION

## FIGHTER® TECHNOLOGY

**Composite Guide - A Standard Feature**  
 Constructed from heavy-duty, non-metallic composite material. Available on all TR - Long Stroke model chambers.

**Note:** guide is depicted in orange for visual purposes.



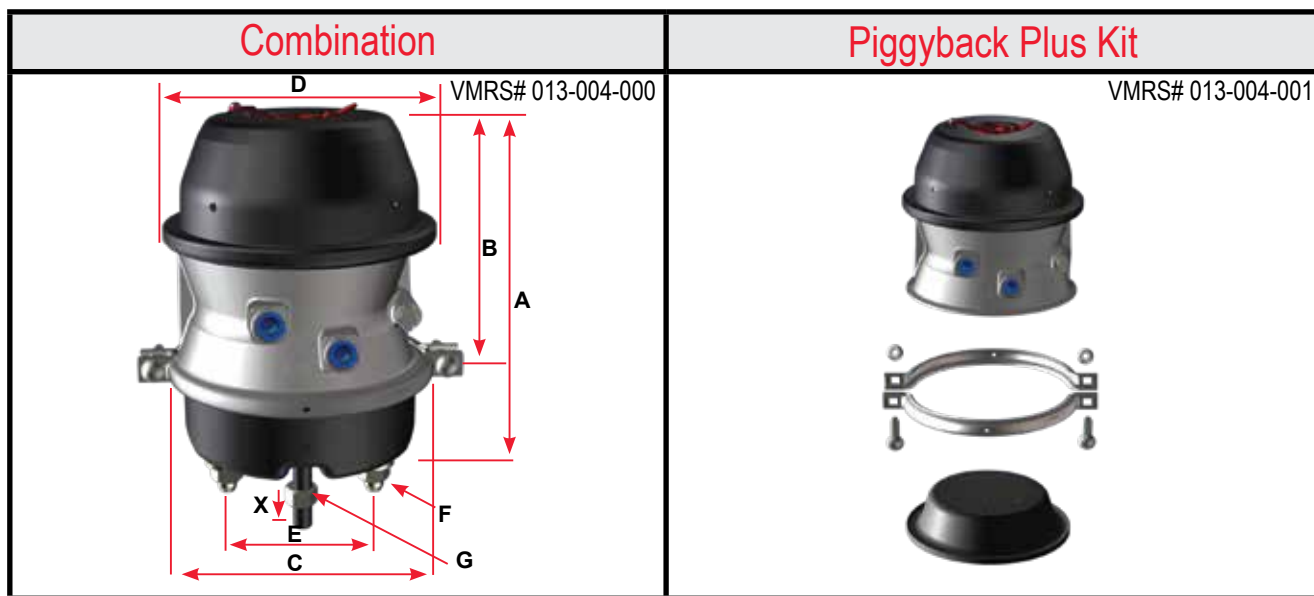
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3HD

## Long Stroke Model

S-CAM / 3" LONG STROKE

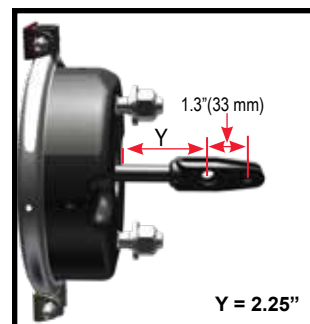


### TR-LP3HD Model Features

- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- Heavy-Duty Power Spring 145 lb (65.8 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Composite Guide - Corrosion Fighter Technology

P/N Series	3226	3232
Model	TR2430LP3HD	TR3030LP3HD
Size	2430	3030
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3226051	3232051
P/N Combination 12" Rod*	3226551*	3232551*
P/N Combination 18" Rod*	3226651*	3232651*
P/N Neoprene Diaphragm	3226851	3232851
P/N Welded Yoke (2.25")	3226951	3232951
P/N Piggyback Plus Kit SAE	3226008	3232008
P/N Combination METRIC	3226049	3232049
Wt. Combination	19.5 lb (8.8 kg)	20.4 lb (9.3 kg)
Wt. Single	11.7 lb (5.3 kg)	11.7 lb (5.3 kg)
A	10.19" (258.8mm)	9.99" (253.7 mm)
B	7.81" (198.4 mm)	7.61" (193.3 mm)
C	7.38" (187.5 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

### Welded Yoke Chamber



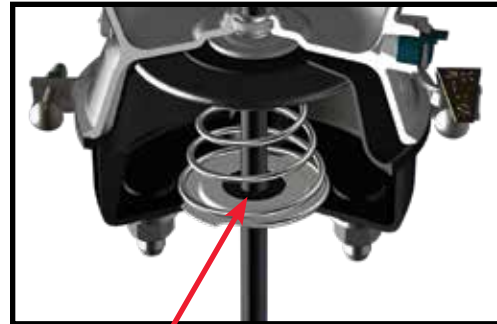
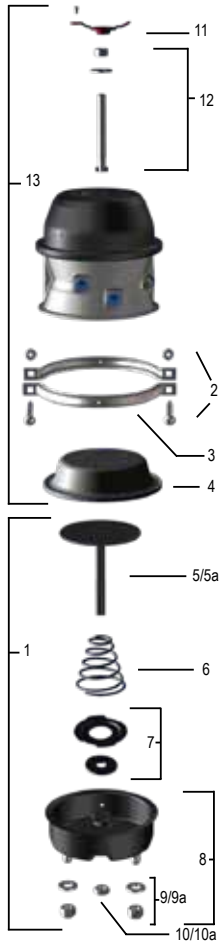
For more welded yoke choices, see page 102-103.

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts			
P/N Series		3226	3232
Model		TR2430LP3HD	TR3030LP3HD
1	Kit - NP Chamber (a)	9015210	9015212
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064027	9064028
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	8215200	8215501
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Piggyback Plus SAE	3226008	3232008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



**Center Hole Shield**

Permits visual inspection of stroke alert but prevents entry of contaminants.

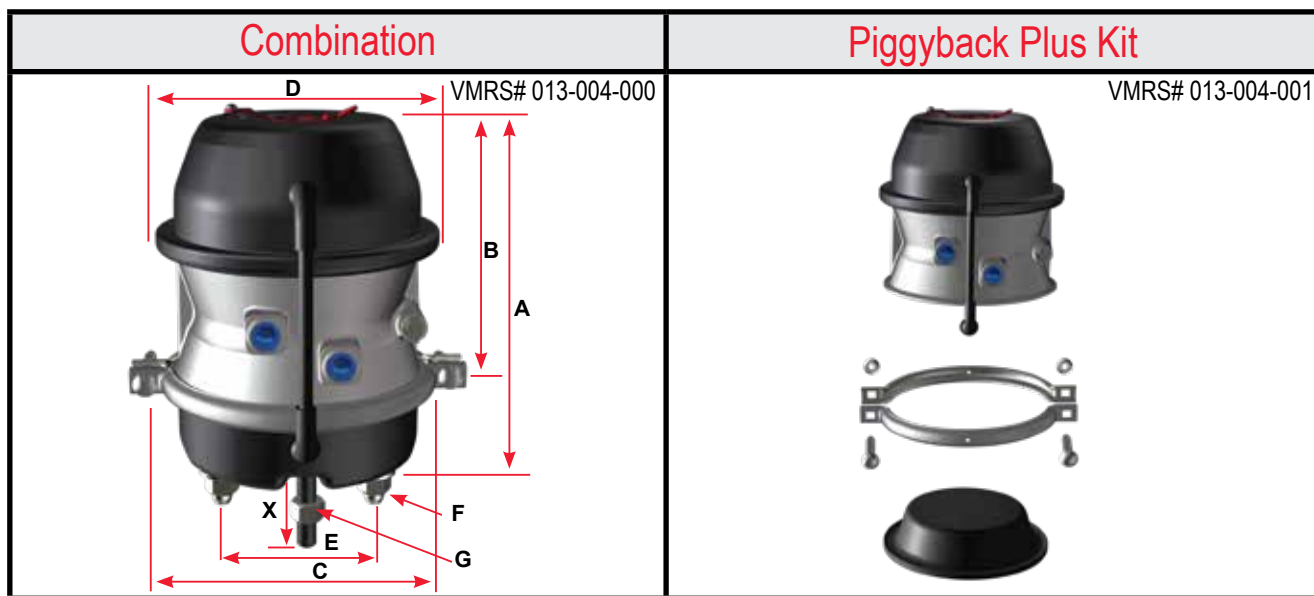
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3T/TR-L3T

## Long Stroke Model

S-CAM / 3" LONG STROKE



### TR-LP3T/L3T Model Features

- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Composite Guide - Corrosion Fighter Technology

P/N Series	3221	3225	3231	3235
Model	TR2030LP3TH	TR2430LP3T	TR3030LP3T	TR3036L3T
Size	2030	2430	3030	3036
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3221051	3225051	3231051	3235051
P/N Combination 12" Rod*	N/A	3225551*	3231551*	N/A
P/N Combination 18" Rod*	N/A	N/A	3231651*	N/A
P/N Neoprene Diaphragm	N/A	3225851	3231851	N/A
P/N Welded Yoke (2.25")	N/A	3225951	3231951	3235951
P/N Piggyback Plus Kit SAE	3221008	3225008	3231008	3235008
P/N Combination METRIC	3221049	3225049	3231049	3235049
Wt. Combination	19.1 lb (8.7 kg)	19.3 lb (8.8 kg)	20.1 lb (9.1 kg)	26.9 lb (12.2 kg)
Wt. Single	11.5 lb (5.2 kg)	11.5 lb (5.2 kg)	11.5 lb (5.2 kg)	18.3 lb (8.3 kg)
A	10.19" (258.8 mm)	10.19" (258.8 mm)	9.99" (253.7 mm)	10.96" (278.4 mm)
B	7.81" (198.4 mm)	7.81" (198.4 mm)	7.61" (193.3 mm)	8.62" (218.9 mm)
C	7.38" (187.5 mm)	7.38" (187.5 mm)	8.32" (211.3 mm)	8.14" (206.8 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)	8.21" (208.5 mm)	9.18" (233.2 mm)
E	4.75" (120.7 mm)			
F	5/8" - 11 UNC (M16 x 1.5 - 6g)			
G	5/8" - 18 UNF (M16 x 1.5 - 6g)			
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)			
X - Min. (in the caged position)	8.00" (203.2 mm)			

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Replacement Parts					
P/N Series		3221	3225	3231	3235
Model		TR2030LP3TH	TR2430LP3T	TR3030LP3T	TR3036LP3T
1	Kit - NP Chamber (a)	9015232	9015215	9015218	9015905
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216027	8216025	8216045	8216045
4	Diaphragm	8017226	8017424	8017830	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064026	9064006	9064008	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064036	9064027	9064028	9064028
6	Return Spring	8068012	8068012	8068012	8068017
7	Kit - Center Hole Shield	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	9015213	9015213	9015122	9015936
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005	9019005	9019006
12	Kit - Release Bolt	9007003	9007003	9007003	9007009
13	Kit - Breather Tube	9081001	9081001	9081001	9081001
14	Kit - Piggyback Plus SAE	3221008	3225008	3231008	3235008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8					
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8			
Boot & Retainer		Refer to Replacement Parts Section 8			

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### External Breather-Tube

Vents air from inside the protected area of the non-pressure chamber to effectively prevent entry of liquid and solid corrosive contaminants that can cause premature failure of the spring brake chamber.

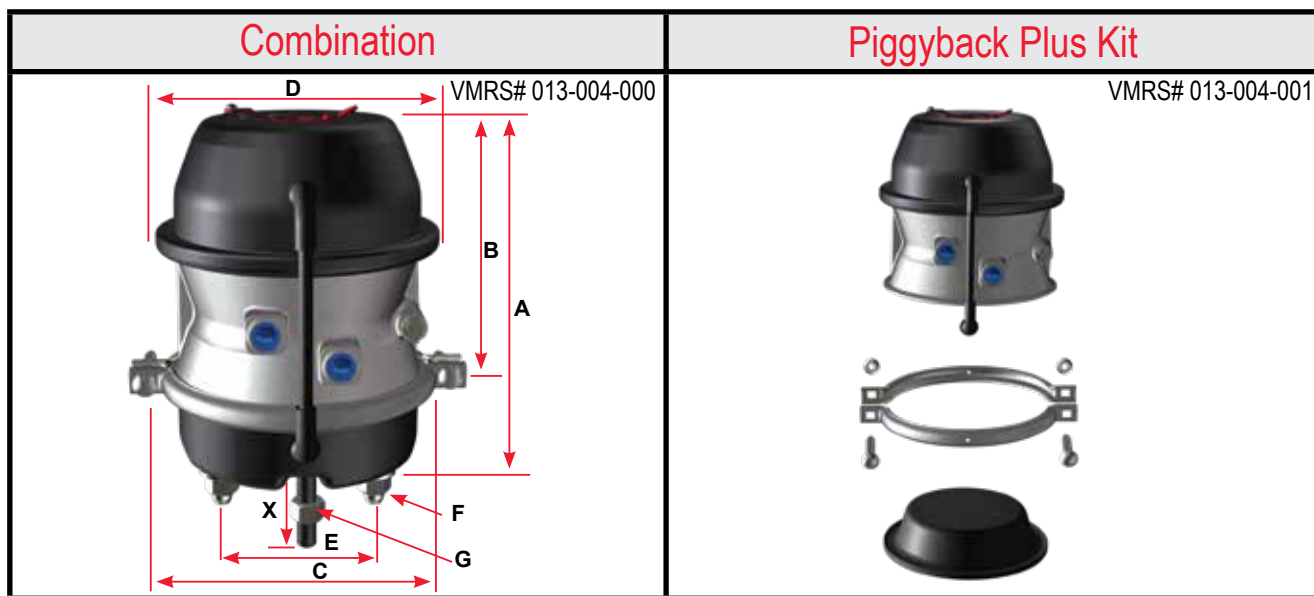
**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3THD

## Long Stroke Model

S-CAM / 3" LONG STROKE



### TR-LP3THD Model Features

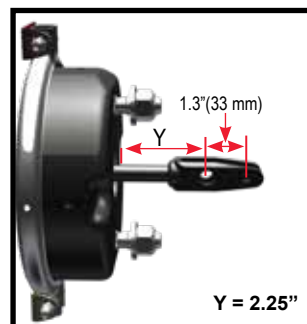
- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Heavy-Duty Power Spring 145 lb (65.8 kg) of additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Composite Guide - Corrosion Fighter Technology

P/N Series	3227	3233
Model	TR2430LP3THD	TR3030LP3THD
Size	2430	3030
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3227051	3233051
P/N Combination 12" Rod*	N/A	3233551*
P/N Combination 18" Rod*	N/A	3233651*
P/N Neoprene Diaphragm	3227851	N/A
P/N Welded Yoke (2.25")	3227951	3233951
P/N Piggyback Plus Kit SAE	3227008	3233008
P/N Combination METRIC	3227049	3233049
Wt. Combination	19.5 lb (8.8 kg)	20.4 lb (9.3 kg)
Wt. Single	11.7 lb (5.3 kg)	11.7 lb (5.3 kg)
A	10.19" (258.8 mm)	9.99" (253.7 mm)
B	7.81" (198.4 mm)	7.61" (193.3 mm)
C	7.38" (187.5 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

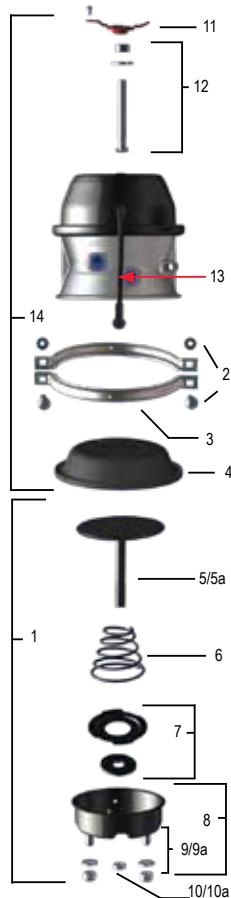
### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

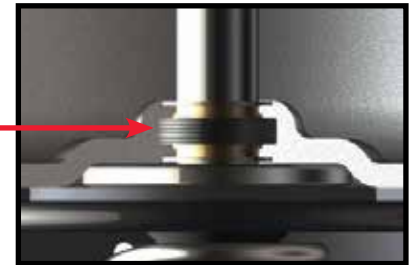
Replacement Parts			
P/N Series		3227	3233
Model		TR2430LP3THD	TR3030LP3THD
1	Kit - NP Chamber (a)	9015215	9015218
2	Kit - Bolts & Nuts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064027	9064028
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015213	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Breather Tube	9081001	9081001
14	Kit - Piggyback Plus	3227008	3233008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Center Seal (Push-Rod Air Seal)

Multi-lipped, pressure activated seal – an MGM exclusive - molded from specially formulated low-temperature-resistant Nitrile Rubber, providing long-term protection against air leaks. Nylon guides eliminate metal to metal contact and premature failure in this critical area.



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3THDW

## Long Stroke Model

S-CAM / 3" LONG STROKE

Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	N/A

### TR-LP3THDW Model Features

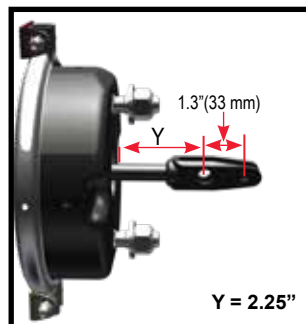
- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Heavy-Duty Power Spring 145 lb (65.8 kg) of additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Weld Reinforced Non-Pressure Housing with Welded Bolts
- Composite Guide - Corrosion Fighter Technology

P/N Series	3244
Model	TR3030LP3THDW
Size	3030
Stroke	3.00" (76.2 mm)
P/N Combination SAE	3244051
P/N Combination 12" Rod*	3244551*
P/N Combination 18" Rod*	N/A
P/N Neoprene Diaphragm	N/A
P/N Welded Yoke (2.25")	3244951
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	3244049
Wt. Combination	20.4 lb (9.3 kg)
Wt. Single	N/A
A	9.99" (253.7 mm)
B	7.61" (193.3 mm)
C	8.32" (211.3 mm)
D	8.21" (208.5 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

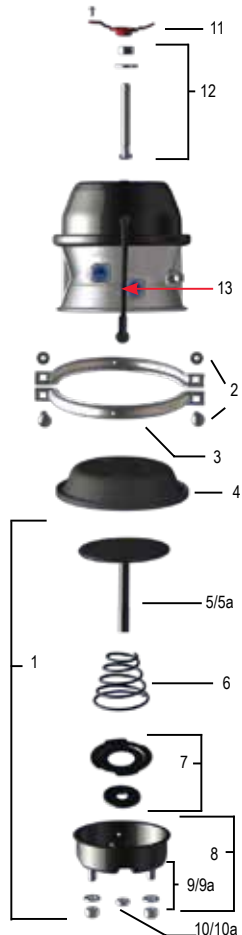
### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

Replacement Parts		
P/N Series		3244
Model		TR3030LP3THDW
1	Kit - NP Chamber (a)	9015936
2	Kit - Bolts & Nuts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064028
6	Return Spring	8068012
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015259
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	9002002
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	8130016
11	Kit - Weatherseal™ Plug	9019005
12	Kit - Release Bolt	9007003
13	Kit - Breather Tube	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Weld Reinforced Non-Pressure Housing

Heavy-gauge formed steel flat-bottom design, epoxy coated for total corrosion protection and "weld-reinforced" mounting studs for added support in extreme vibration applications. (bolt actually epoxy coated - depicted here lighter for visual purposes)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3TS

## Long Stroke Model

S-CAM / 3" LONG STROKE

Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	N/A

### TR-LP3TS Model Features

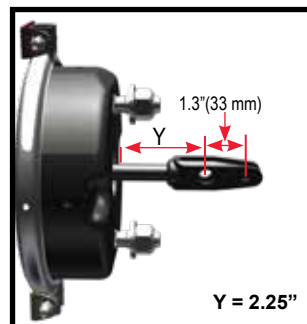
- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Epoxy-Coated Piston & Center Case - Inside & Out
- Composite Guide - Corrosion Fighter Technology

P/N Series	3523	3535
Model	TR2430LP3TS	TR3030LP3TS
Size	2430	3030
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3523051	3535051
P/N Combination 12" Rod*	N/A	3535551*
P/N Combination 18" Rod*	N/A	3535651*
P/N Neoprene Diaphragm	N/A	3535851
P/N Welded Yoke (2.25")	3523951	3535951
P/N Piggyback Plus Kit SAE	N/A	N/A
P/N Combination METRIC	3523049	3535049
Wt. Combination	19.3 lb (8.8 kg)	20.1 lb (9.1 kg)
Wt. Single	N/A	N/A
A	10.19" (258.8mm)	9.99" (253.7 mm)
B	7.81" (198.4 mm)	7.61" (193.3 mm)
C	7.38" (187.5 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

Replacement Parts			
P/N Series		3523	3535
Model		TR2430LP3TS	TR3030LP3TS
1	Kit - NP Chamber (a)	9015215	9015218
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064027	9064028
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015213	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Breather Tube	9081001	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Epoxy Coated Components

The center case and upper piston are epoxy coated for extra added protection, which, along with our patented "corrosion fighter" technology, make MGM "Severe Service" Chambers the best choice for severe operating environments: such as acids, salt, liquid corrosives and concrete.

*Includes composite guide with Corrosion Fighter Technology:*



**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3TSHD

## Long Stroke Model

S-CAM / 3" LONG STROKE

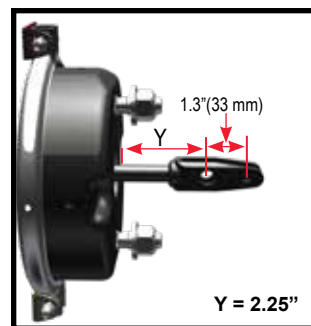
Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	N/A

### TR-LP3TSHD Model Features

- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber (Type 3030 Models) - (9 gauge on all other sizes)
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Epoxy-Coated Piston & Center Case - Inside & Out
- Heavy-Duty Power Spring 145 lb (65.8 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Composite Guide - Corrosion Fighter Technology

P/N Series	3527	3534
Model	TR2430LP3TSHD	TR3030LP3TSHD
Size	2430	3030
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3527051	3534051
P/N Combination 12" Rod*	N/A	3534551*
P/N Combination 18" Rod*	N/A	3534651*
P/N Neoprene Diaphragm	3527851	N/A
P/N Welded Yoke (2.25")	3527951	3534951
P/N Piggyback Plus Kit SAE	N/A	N/A
P/N Combination METRIC	3527049	3534049
Wt. Combination	19.5 lb (8.8 kg)	20.4 lb (9.3 kg)
Wt. Single	N/A	N/A
A	10.19" (258.8mm)	9.99" (253.7 mm)
B	7.81" (198.4 mm)	7.61" (193.3 mm)
C	7.38" (187.5 mm)	8.32" (211.3 mm)
D	8.21" (208.5 mm)	8.21" (208.5 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

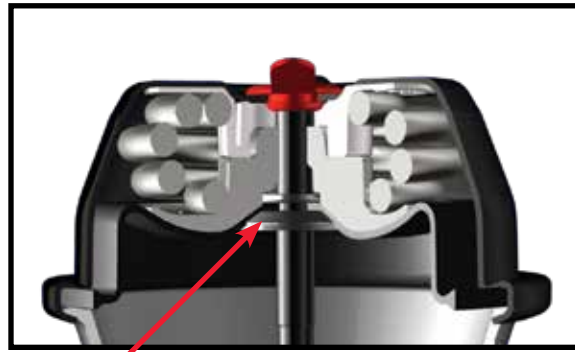
\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Replacement Parts			
P/N Series		3527	3534
Model		TR2430LP3TSHD	TR3030LP3TSHD
1	Kit - NP Chamber (a)	9015215	9015218
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064027	9064028
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015213	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Weatherseal™ Plug	9019005	9019005
12	Kit - Release Bolt	9007003	9007003
13	Kit - Breather Tube	9081001	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Center Hole Diaphragm

Patented feature that aligns the piston, diaphragm, power spring and internal push-rod providing the following advantages: Maintains component alignment; reduces power spring stress; reduces coil clash; increases center-seal life and eliminates the effects of severe vibration.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/TR-LP3TSHDW

Long Stroke Model

S-CAM / 3" LONG STROKE

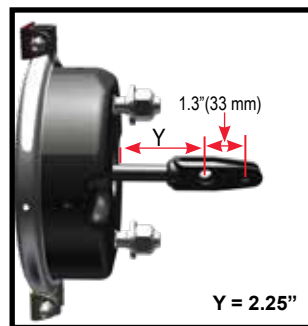
Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	N/A

### TR-LP3TSHDW Model Features

- Tamper Resistant Design
- Center Hole Diaphragm
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- Epoxy Coated Return Spring
- Center Hole Shield
- Square Port Bosses (Long Stroke Identification)
- Weatherseal™ Plug
- Heavy-Duty 8-Gauge Steel Non-Pressure Chamber
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- Stroke Alert
- Externally Stored Release Bolt
- 3" (76.2 mm) Long Stroke
- Molded Nitrile Rubber Air Seal
- External Breather Tube
- Epoxy-Coated Piston & Center Case - Inside & Out
- Heavy-Duty Power Spring 145 lb (65.8 kg) additional parking brake force @ 1.25 inches (31.8 mm) of stroke
- Weld Reinforced Non-Pressure Housing with Welded Bolts
- Composite Guide - Corrosion Fighter Technology

P/N Series	3545
Model	TR3030LP3TSHDW
Size	3030
Stroke	3.00" (76.2 mm)
P/N Combination SAE	3545051
P/N Neoprene Diaphragm	N/A
P/N Welded Yoke (2.25")	3545951
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	3545049
Wt. Combination	20.4 lb (9.3 kg)
Wt. Single	N/A
A	9.99" (253.7 mm)
B	7.61" (193.3 mm)
C	8.32" (211.3 mm)
D	8.21" (208.5 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		3545
Model		TR3030LP3TSHDW
1	Kit - NP Chamber (a)	9015905
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064028
6	Return Spring	8068012
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015259
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	9002002
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	8130016
11	Kit - Weatherseal™ Plug	9019005
12	Kit - Release Bolt	9007003
13	Kit - Breather Tube	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke & Welded Yoke Assemblies		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Weld Reinforced Non-Pressure Housing

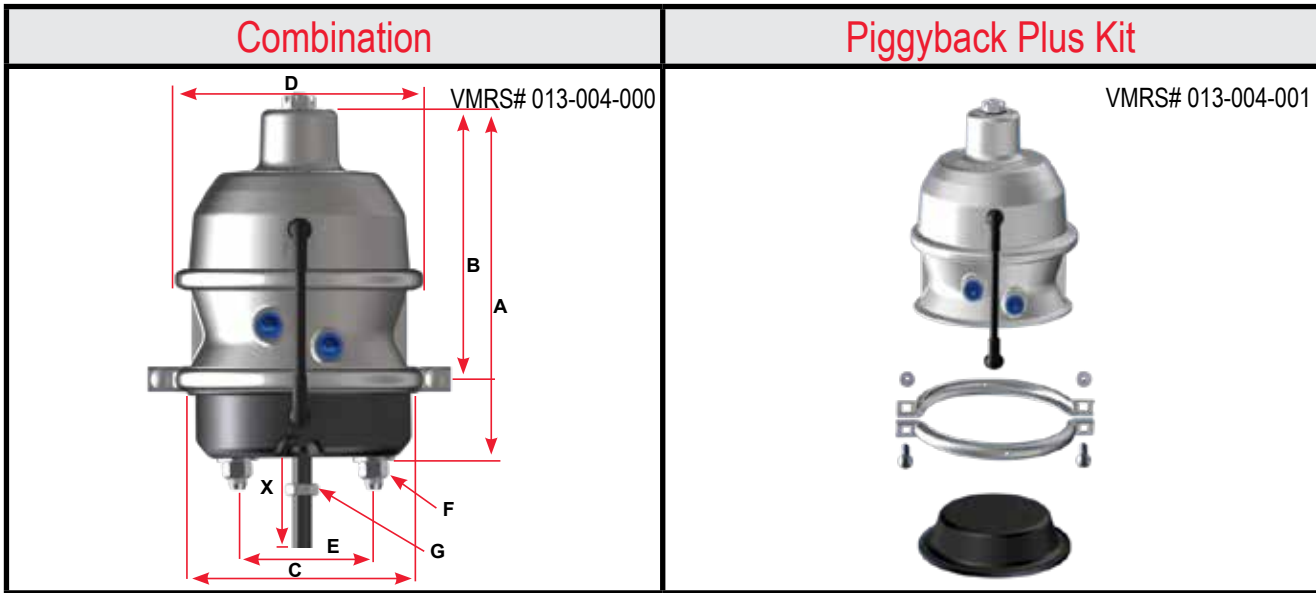
Heavy-gauge formed steel flat-bottom design, epoxy coated for total corrosion protection and "weld-reinforced" mounting studs for added support in extreme vibration applications. (bolt actually epoxy coated - depicted here lighter for visual purposes)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/LTR-T

## Standard Stroke Model



### LTR-T Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Six (6) Year Limited Warranty
- Integral Release Bolt
- 360 Aluminum Alloy
- Low Friction Piston & Guide
- Epoxy Coated Return Spring
- Heavy-Duty Steel Non-Pressure Chamber (8 Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube

P/N Series	3827	3831
Model	LTR2430LT	LTR3030T
Size	2430	3030
Stroke	2.50" (63.5 mm)	2.50" (63.5mm)
P/N Combination SAE	3827051	3831051
P/N Combination 12" Rod*	N/A	3831551*
P/N Combination 18" Rod*	N/A	3831651*
P/N Neoprene Diaphragm	3827851	N/A
P/N Welded Yoke (2.25")	N/A	N/A
P/N Piggyback Plus Kit SAE	3827008	3831008
P/N Combination METRIC	***	***
Wt. Combination	18.5 lb (8.4 kg)	19.9 lb (9.0 kg)
Wt. Single	11.4 lb (5.2 kg)	11.7 lb (5.3 kg)
A	11.8" (299.7 mm)	11.86" (301.2 mm)
B	9.68" (245.9 mm)	9.46" (240.3 mm)
C	7.38" (187.5 mm)	8.27" (210.1 mm)
D	8.18" (207.8 mm)	8.18" (207.8 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 1.5 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

\* For Transit, Hendrickson Intraax/Vantraax Suspension applications.

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: mail@mgmbrakes.com

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

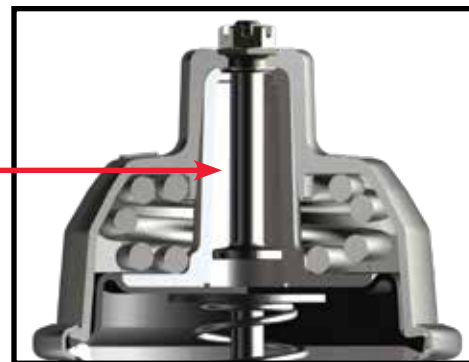


Replacement Parts			
P/N Series		3827	3831
Model		LTR2430LT	LTR3030T
1	Kit - NP Chamber (a)	9015152	9015157
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017141	8017730
5	Kit - Push-Rod Assembly (a) SAE	9064002	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	***	***
6	Return Spring	8068002	8068002
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015151	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	***	***
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	***	***
11	Kit - Breather Tube	9081001	9081001
12	Piggyback Plus Kit SAE	3827008	3831008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert indicator positioning, these kits must be used only in the designated MGM Brakes units.



**Integral Manual Release Bolt**  
 Permanently installed, can't get lost.  
 Permits safe, easy release to reline  
 brakes or move vehicle in absence of  
 air pressure.



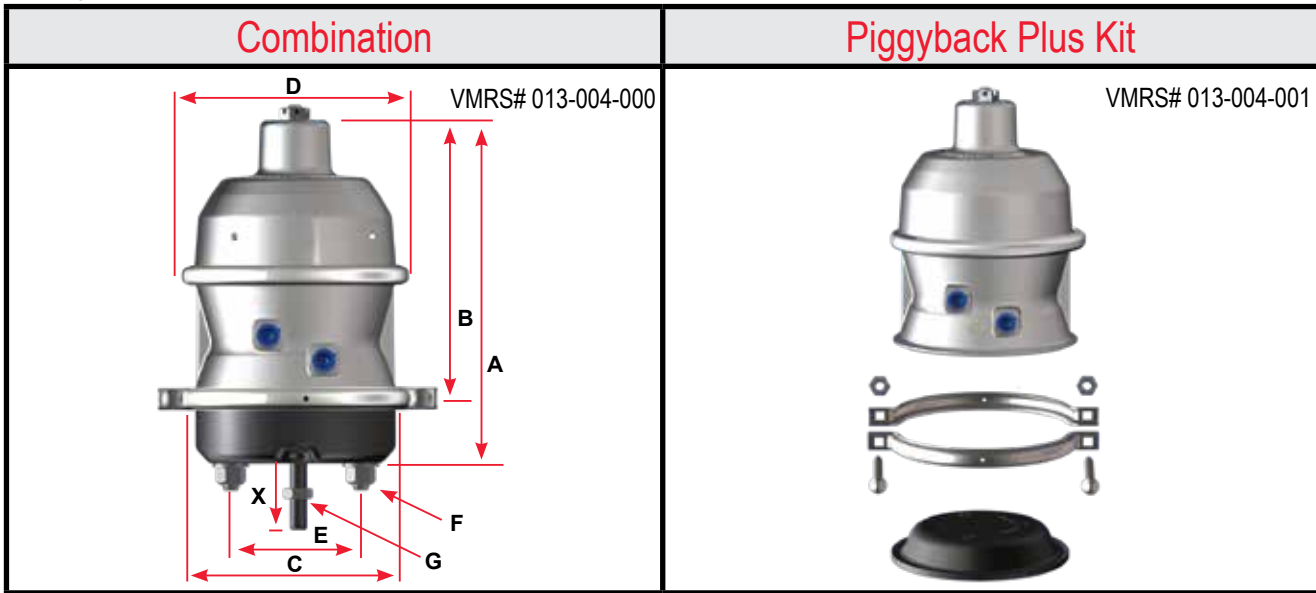
\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/LTR-L3

## Long Stroke Model

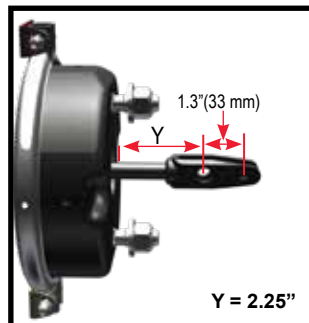


### LTR-L3 Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Six (6) Year Limited Warranty
- Integral Release Bolt
- 360 Aluminum Alloy
- Low Friction Piston & Guide
- Epoxy Coated Return Spring
- Square Port Bosses (Long Stroke Identification)
- Heavy-Duty "Long Life" Power Spring 90 lb (40.8 kg) additional parking brake force @ 1.25" (31.8 mm) of stroke
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)

P/N Series	3828	3832
Model	LTR2430L3	LTR3030L3
Size	2430	3030
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	3828051	3832051
P/N Combination 12" Rod*	N/A	3832551*
P/N Combination 18" Rod*	N/A	3832651*
P/N Neoprene Diaphragm	N/A	N/A
P/N Welded Yoke (2.25")	3828951	3832951
P/N Piggyback Plus Kit SAE	3828008	3832008
P/N Combination METRIC	***	***
Wt. Combination	19.3 lb (8.8 kg)	20.5 lb (9.3 kg)
Wt. Single	12.3 lb (5.6 kg)	12.6 lb (5.7 kg)
A	13.0" (330.2 mm)	13.0" (330.2 mm)
B	10.63" (270.0 mm)	10.63" (270.0 mm)
C	7.38" (187.5 mm)	8.27" (210.1 mm)
D	8.18" (207.8 mm)	8.18" (207.8 mm)
E	4.75" (120.7 mm)	
F	5/8" - 11 UNC (M16 x 1.5 - 6g)	
G	5/8" - 18 UNF (M16 x 15 - 6g)	
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)	
X - Min. (in the caged position)	8.00" (203.2 mm)	

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

\* For Transit, Hendrickson Intraax/Vantraax Suspension applications.

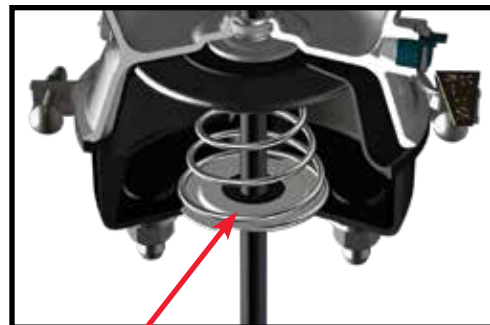
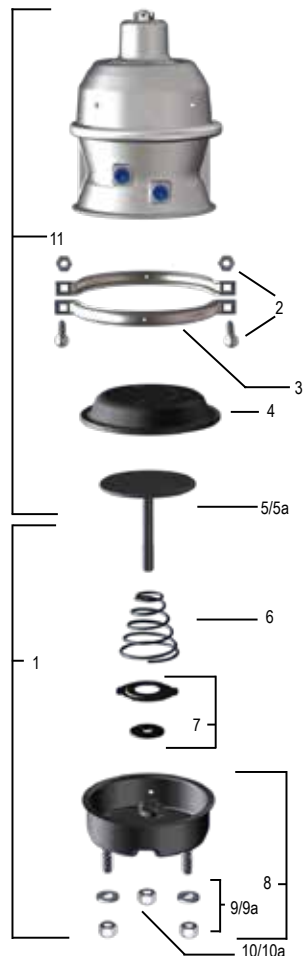
\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: mail@mgmbrakes.com

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Replacement Parts			
P/N Series		3828	3832
Model		LTR2430L3	LTR3030L3
1	Kit - NP Chamber (a)	9015210	9015212
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	***	***
6	Return Spring	8068012	8068012
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	8215200	8215501
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	***	***
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	***	***
11	Kit - Piggyback Plus SAE	3828008	3832008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly		Refer to Replacement Parts Section 8	
Boot & Retainer		Refer to Replacement Parts Section 8	

NOTE: (a) To ensure correct stroke alert indicator positioning, these kits must be used only in the designated MGM Brakes units.



**Center Hole Shield**  
Permits visual inspection of stroke alert but prevents entry of contaminants.

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/LTR-L3W

## Long Stroke Model

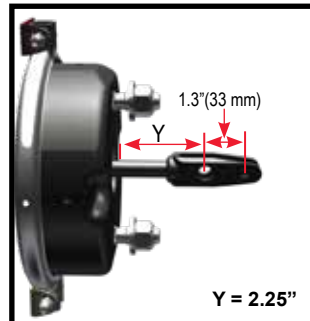
Combination	Piggyback Plus Kit
<p>VMRS# 013-004-000</p>	N/A

### LTR-L3W Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Six (6) Year Limited Warranty
- Integral Release Bolt
- 360 Aluminum Alloy
- Low Friction Piston & Guide
- Epoxy Coated Return Spring
- Square Port Bosses (Long Stroke Identification)
- Heavy-Duty "Long Life" Power Spring 90 lb (40.8 kg) additional parking brake force @ 1.25" (31.8 mm) of stroke
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- **Weld Reinforced Non-Pressure Housing with Welded Bolts.**

P/N Series	3844
Model	LTR3030L3W
Size	3030
Stroke	3.00" (76.2 mm)
P/N Combination SAE	3844051
P/N Combination 12" Rod*	3844551*
P/N Combination 18" Rod*	N/A
P/N Neoprene Diaphragm	N/A
P/N Welded Yoke (2.25")	3844951
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	***
Wt. Combination	20.5 lb (9.3 kg)
Wt. Single	N/A
A	13.0" (330.2 mm)
B	10.63" (270.0mm)
C	8.27" (210.1 mm)
D	8.18" (207.8 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

\* For Transit, Hendrickson Intraax/Vantraax Suspension applications.

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)

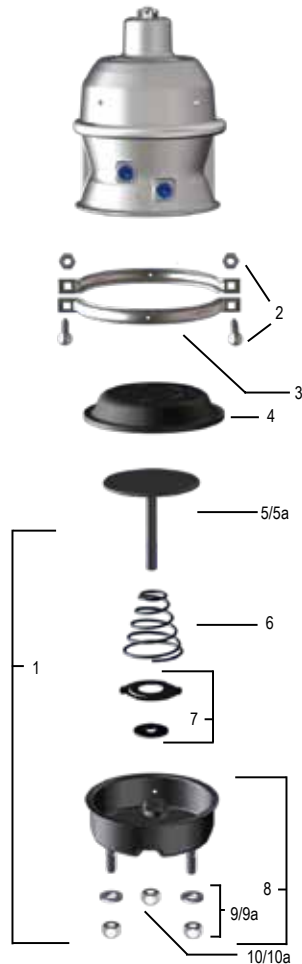
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.





Replacement Parts		
P/N Series		3844
Model		LTR3030L3W
1	Kit - NP Chamber (a)	N/A
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	***
6	Return Spring	8068012
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015260
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	***
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	***
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert indicator positioning, these kits must be used only in the designated MGM Brakes units.



**Weld Reinforced Non-Pressure Housing**  
 Heavy-gauge formed steel flat-bottom design, epoxy coated for total corrosion protection and "weld-reinforced" mounting studs for added support in extreme vibration applications. (bolt actually epoxy coated - depicted here lighter for visual purposes)

- 8-Gauge Standard on Type 3030 Aftermarket Models

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/LTR-L3T

## Long Stroke Model

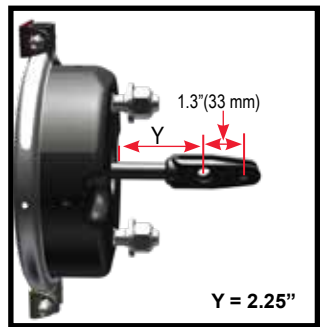
Combination	Piggyback Plus Kit
<p style="text-align: center;">VMRS# 013-004-000</p>	<p style="text-align: right;">VMRS# 013-004-001</p> <p style="text-align: center;">N/A</p>

### LTR-L3T Model Features

- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Center Hole Shield
- Six (6) Year Limited Warranty
- Integral Release Bolt
- 360 Aluminum Alloy
- Low Friction Piston & Guide
- Epoxy Coated Return Spring
- Square Port Bosses (Long Stroke Identification)
- Heavy-Duty "Long Life" Power Spring 90 lb (40.8 kg) additional parking brake force @ 1.25" (31.8 mm) of stroke
- Heavy-Duty Steel Non-Pressure Chamber (8-Gauge Standard on Type 3030 Aftermarket Models)
- Stroke Alert
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube

P/N Series	3833
Model	LTR3030L3T
Size	3030
Stroke	3.00" (76.2 mm)
P/N Combination SAE	3833051
P/N Combination 12" Rod*	3833551*
P/N Combination 18" Rod*	N/A
P/N Neoprene Diaphragm	N/A
P/N Welded Yoke (2.25")	3833951
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	***
Wt. Combination	20.5 lb (9.3 kg)
Wt. Single	N/A
A	13.0" (330.2 mm)
B	10.63" (270.0mm)
C	8.27" (210.1 mm)
D	8.18" (207.8 mm)
E	4.75" (120.7 mm)
F	5/8" - 11 UNC (M16 x 1.5 - 6g)
G	5/8" - 18 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min. (in the caged position)	8.00" (203.2 mm)

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

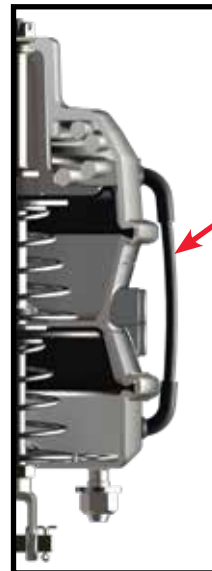
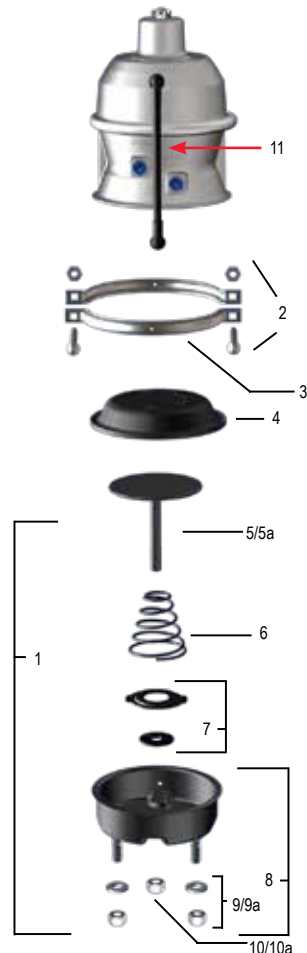
\* For Transit, Hendrickson Intraax/ Vantraax Suspension applications.

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: mail@mgmbrakes.com

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		3833
Model		LTR3030L3T
1	Kit - NP Chamber (a)	N/A
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216045
4	Diaphragm	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064003
5a	Kit - Push-Rod Assembly (a) METRIC	***
6	Return Spring	8068012
7	Kit - Center Hole Shield	9065002
8	NP Chamber Assembly (a)	9015122
9	Kit - Nuts & Washers SAE	9002001
9a	Kit - Nuts & Washers METRIC	***
10	Hex Nut - Yoke SAE	8130004
10a	Hex Nut - Yoke METRIC	***
11	External Breather Tube	9081001
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8
Boot & Retainer		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert indicator positioning, these kits must be used only in the designated MGM Brakes units.

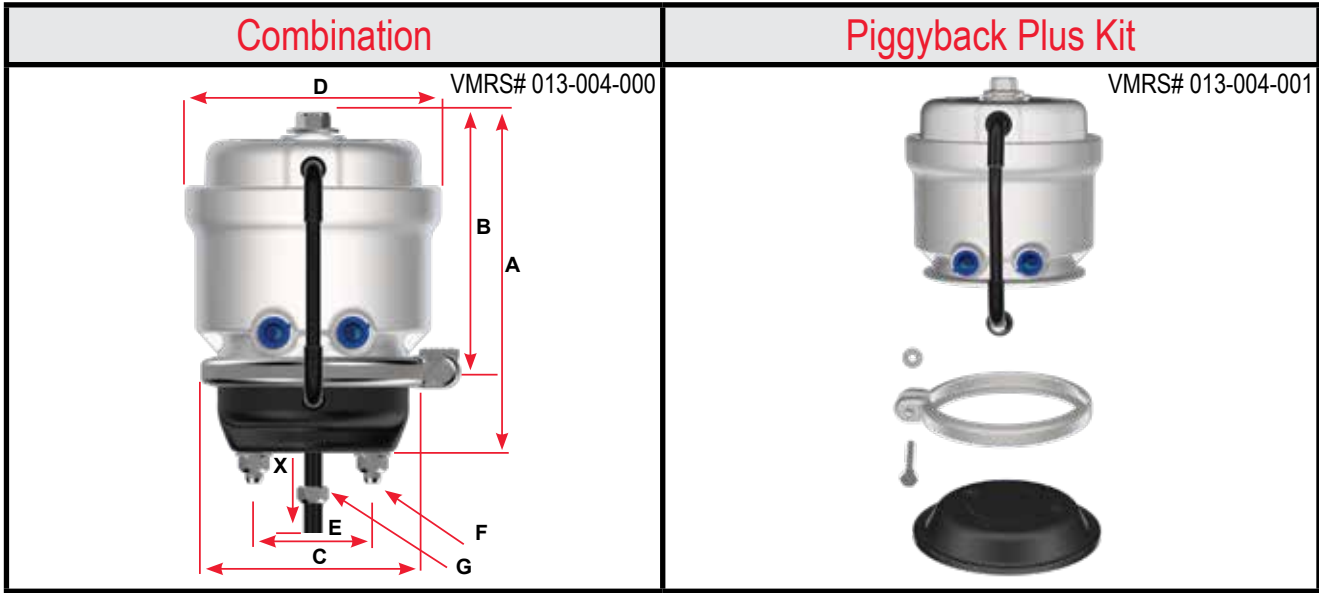


**External Breather-Tube**

Vents air from inside the protected area of the non-pressure chamber to effectively prevent entry of liquid and solid corrosive contaminants that can cause premature failure of the spring brake chamber.

\*\*\* For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. & Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



### MJS 1.75" (44.5 mm) Model Features

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Lightweight, Rugged Aluminum Housing and Head</li> <li>• Epoxy Coated Power Spring</li> <li>• External Breather Tube</li> <li>• Integral Release Bolt</li> <li>• Epoxy Coated Return Spring</li> </ul> | <ul style="list-style-type: none"> <li>• Polymer Push-Rod Guides</li> <li>• Molded Nitrile Rubber Push-Rod Air Seal</li> <li>• Low Friction Piston and Guide</li> <li>• Heavy-Duty Nylon Reinforced Diaphragms</li> </ul> |
|---|---|

P/N Series	MJS1216AT
Model	MJS1216AT
Size	1216
Stroke	1.75" (44.5 mm)
P/N Combination SAE	MJS1216AT051
P/N Welded Yoke (2.25")	N/A
P/N Piggyback Plus Kit SAE	MJS1216AT008
P/N Combination METRIC	MJS1216AT049
Wt. Combination	12.5 lb (5.7 kg)
Wt. Single	8.70 lb (3.9 kg)
A	8.62" (218.9 mm)
B	6.59" (167.4 mm)
C	5.70" (144.8 mm)
D	6.46" (164.1 mm)
E	3.00" (76.2 mm)
F	7/16" - 14 UNC
G	1/2" - 20 UNF (M16 x 1.5 - 6g)
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)
X - Min (in the caged position)	8.00" (203.2 mm)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts		
P/N Series		MJS1216AT
Model		MJS1216AT
1	Kit - NP Chamber (a)	9015242
2	Kit - Nuts & Bolts	9003002
3	Clamp Band Assembly	8216012
4	Diaphragm	8017312
5	Kit - Push-Rod Assembly (a) SAE	9064010
5a	Kit - Push-Rod Assembly (a) METRIC	9064034
6	Return Spring	8068007
7	NP Chamber Assembly (a)	8215198
8	Kit - Nuts & Washers SAE	9002003
9	Hex Nut - Yoke SAE	8130011
9a	Hex Nut - Yoke METRIC	8130016
10	Kit - Breather Tube	9081001
11	Kit - Piggyback Plus SAE	MJS1216AT008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8		
Yoke Assembly		Refer to Replacement Parts Section 8

**NOTE:** (a) To ensure correct stroke alert indicator positioning, these kits must be used only in the designated MGM Brakes units.

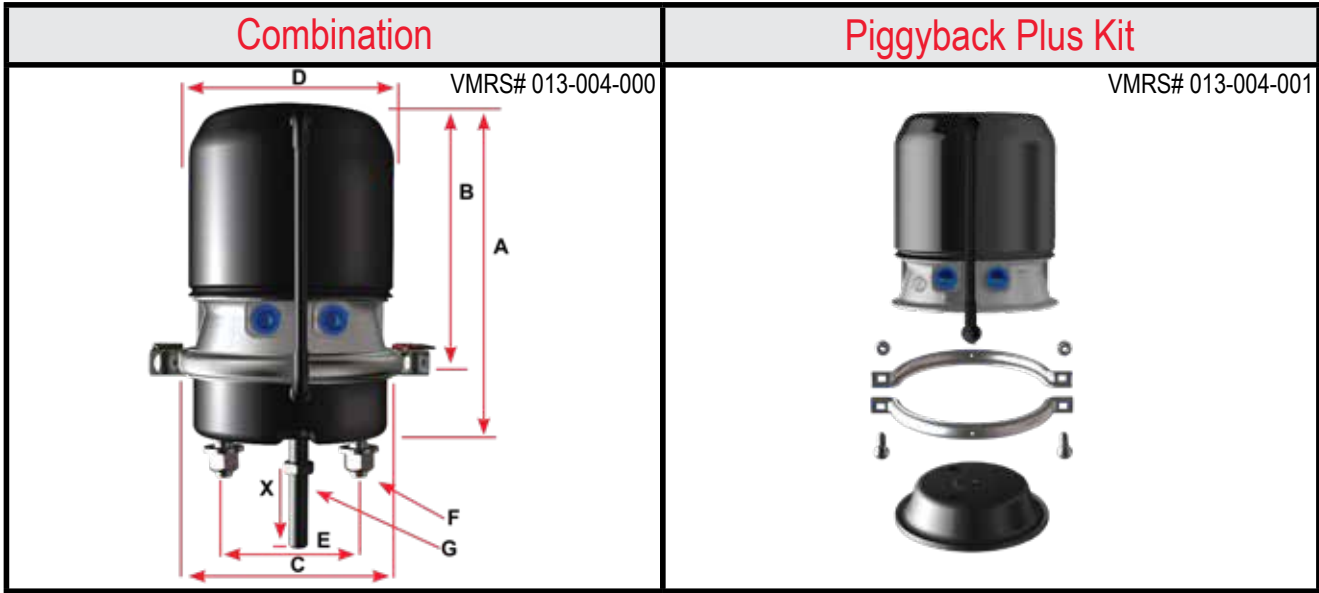


### Release Bolt

Patented "Dual Thread Release Bolt" design, an MGM Brakes exclusive, provides minimal bolt protrusion at maximum release. (Approx. 1.00 inch (25.4 mm) protrusion when manually released)



**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



### MJS 3.00" (76.2 mm) Model Features

- Tamper Resistant Design
- Lighter Weight
- 3 Inch (76.2mm) Long Stroke
- Compact Size
- Patented Integral Release Bolt Mechanism - Minimal Bolt Protrusion - Approx. 1.25 inch (31.8 mm) protrusion on "Long Stroke" models when manually released
- Lower Hold-Off Pressure (Less Air Consumption)
- Epoxy Coated Return Spring
- Non-Coil Clash Power Spring
- Increased Corrosion Resistance - Steel Head, Epoxy Coated
- Available with 1,725 lb (782.4 kg) - 2,450 lb (1111.3 kg) of Spring Parking Force @ 1.25 inch (31.8 mm) Stroke/Spring Brake Sizes 22-30
- Center Hole Shield

P/N Series	MJS1724ET	MJS2024ET
Model	MJS1724ET	MJS2024ET
Size	1724	2024
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	MJS1724ET051	MJS2024ET051
P/N Combination 12" Rod*	N/A	MJS2024ET551*
P/N Combination 18" Rod*	N/A	N/A
P/N Welded Yoke (2.25")	N/A	N/A
P/N Piggyback Plus Kit SAE	MJS1724ET008	MJS2024ET008
P/N Combination METRIC	MJS1724ET049	MJS2024ET049
Wt. Combination	20.32 lb (9.2 kg)	20.32 lb (9.2 kg)
Wt. Single	13.50 lb ( 6.1 kg)	13.50 lb (6.1 kg)
A	10.69" (271.5 mm)	10.69" (271.5 mm)
B	7.94" (201.7 mm)	7.94" (201.7 mm)
C	6.86" (174.2 mm)	6.86" (174.2 mm)
D	6.76" (171.7 mm)	6.76" (171.7 mm)
E		
F		
G		
Inlets		

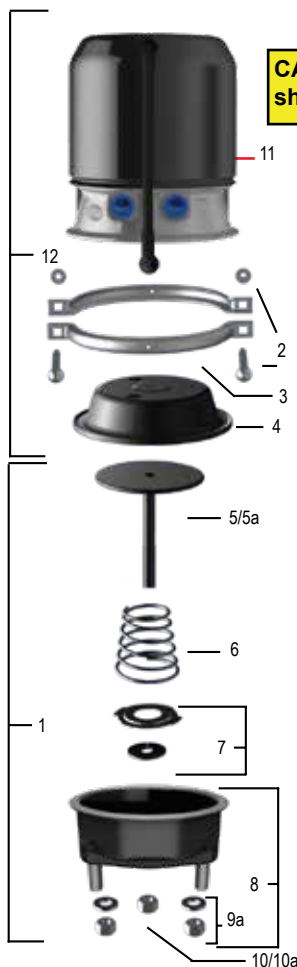
\* For Transit, Hendrickson Intraax/Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts			
P/N Series		MJS1724ET	MJS2024ET
Model		MJS1724ET	MJS2024ET
1	Kit - NP Chamber (a)	9015240	9015239
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216020	8216020
4	Diaphragm	8017215	8017820
5	Kit - Push-Rod Assembly (a) SAE	8264532	8264039
5a	Kit - Push-Rod Assembly (a) METRIC	9064031	9064030
6	Return Spring	8068021	8068021
7	Kit - Center Hole Shield	9065003	9065003
8	NP Chamber Assembly (a)	9015238	9015238
9	Kits - Nuts & Washers SAE	N/A	N/A
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Breather Tube	9081001	9081001
12	Kit - Piggyback Plus SAE	MJS1724ET008	MJS2024ET008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly			
Boot & Retainer			

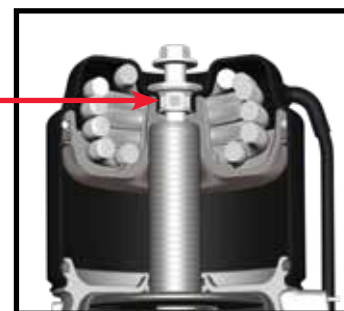
NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.  
 (b) Kit contains metric push-rod and mounting bolts.

**CAUTION: The brakes listed on this page may have a diamond NPC. They should not be mounted with the mounting bolt horizontal to the ground.**

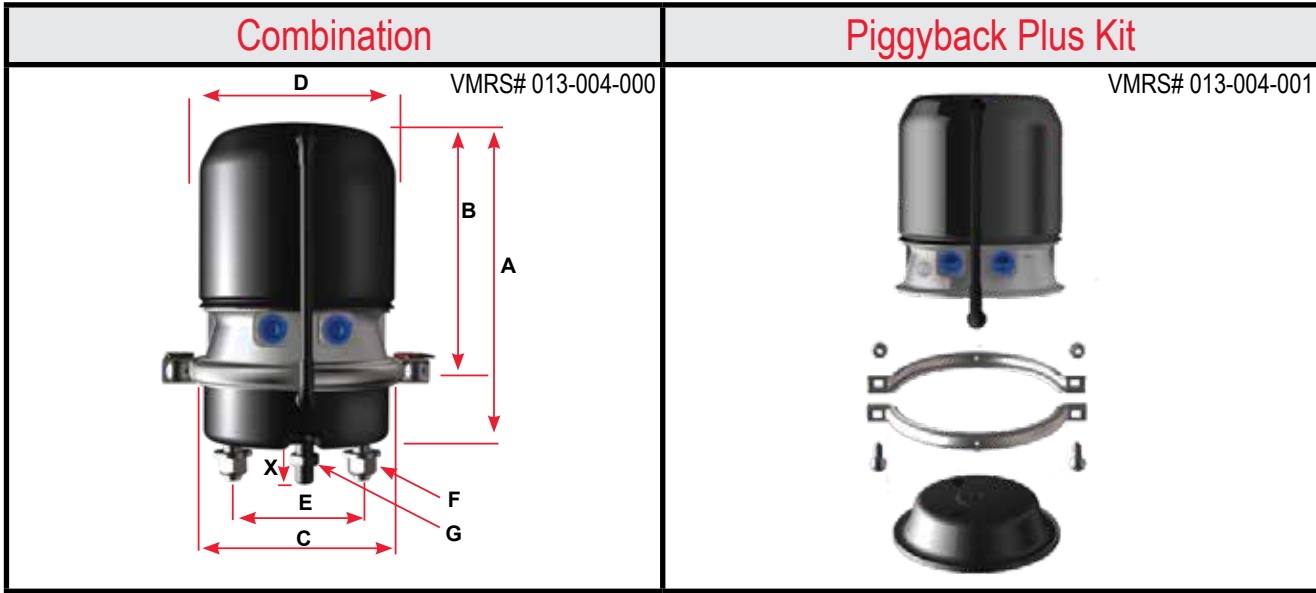


### Release Bolt

Patented "Dual Thread Release Bolt" design, an MGM Brakes exclusive, provides minimal bolt protrusion at maximum release. (Approx. 1.25" (31.8 mm) protrusion when manually released)



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



### MJS 3.00" (76.2 mm) Model Features

- Tamper Resistant Design
- Lighter Weight
- 3 Inch (76.2 mm) Long Stroke
- Compact Size
- Patented Integral Release Bolt Mechanism - Minimal Bolt Protrusion - Approx. 1.25 inch (31.8 mm) protrusion on "Long Stroke" models when manually released
- Lower Hold-Off Pressure (Less Air Consumption)
- Epoxy Coated Return Spring
- Non-Coil Clash Power Spring
- Increased Corrosion Resistance - Steel Head, Epoxy Coated
- Available with 1,725 lb (782.4 kg) - 2,450 lb (1111.3 kg) of Push-Rod Braking Force @ 1.25 inch (31.8 mm) Stroke/Spring Brake Sizes 22-30
- Center Hole Shield

P/N Series	MJS2424ET	MJS2430ET	MJS3024ET
Model	MJS2424ET	MJS2430ET	MJS3024ET
Size	2424	2430	3024
Stroke (in/mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	MJS2424ET051	MJS2430ET051	MJS3024ET051
P/N Combination 12" Rod*	MJS2424ET551*	N/A	MJS3024ET551*
P/N Combination 18" Rod*	N/A	N/A	MJS3024ET651*
P/N Welded Yoke (2.25")	MJS2424ET951	N/A	MJS3024ET951
P/N Piggyback Plus Kit SAE	MJS2424ET008	MJS2430ET008	MJS3024ET008
P/N Combination METRIC	MJS2424ET049	MJS2430ET049	MJS3024ET049
Wt. Combination	20.40 lb (9.3 kg)	23.70 lb (10.8 kg)	22.80 lb (10.3 kg)
Wt. Single	13.50 lb (6.1 kg)	16.26 lb (7.4 kg)	14.60 lb (6.6 kg)
A	10.40" (264.2 mm)	10.70" (271.8 mm)	10.32" (262.1 mm)
B	7.94" (201.7 mm)	8.43" (214.1 mm)	7.94" (201.7 mm)
C	7.48" (190.0 mm)	7.48" (190.0 mm)	8.32" (211.3 mm)
D	6.76" (171.7 mm)	7.51" (190.8 mm)	6.76" (171.7 mm)
E			
F			
G			
Inlets			
X - Min. (in the caged position)			

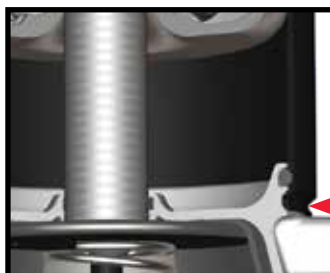
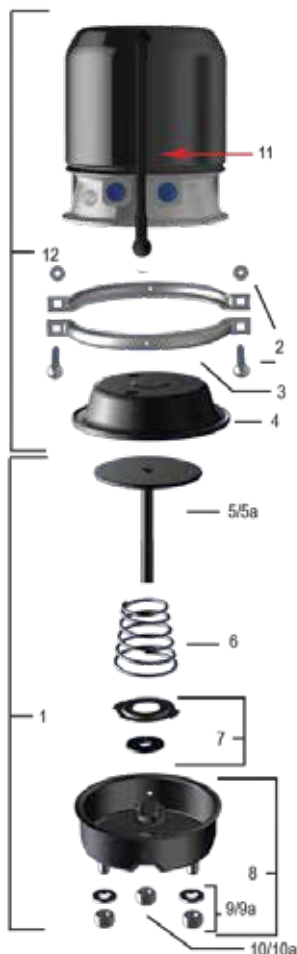
\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



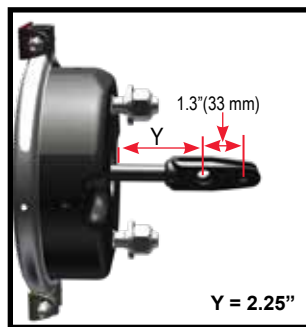
Replacement Parts			
P/N Series	MJS2424ET	MJS2430ET	MJS3024ET
Model	MJS2424ET	MJS2430ET	MJS3024ET
1	Kit - NP Chamber (a)	9015215	9015218
2	Kit - Nuts & Bolts	9003001	9003001
3	Clamp Band Assembly	8216025	8216045
4	Diaphragm	8017424	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	9064027	9064028
6	Return Spring	8068022	8068022
7	Kit - Center Hole Shield	9065002	9065002
8	NP Chamber Assembly (a)	9015213	9015122
9	Kit - Nuts & Washers SAE	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016
11	Kit - Breather Tube	9081001	9081001
12	Kit - Piggyback Plus SAE	MJS2424ET008	MJS3024ET008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8			
Yoke Assembly			
Boot & Retainer			

NOTE: (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



**“Roll-In” Tamper Resistant Design**  
 Patented design permanently locks heavy-gauge steel head to the rugged, non-corrosive alloy 360 aluminum center case preventing inadvertent disassembly of the power spring housing.

### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

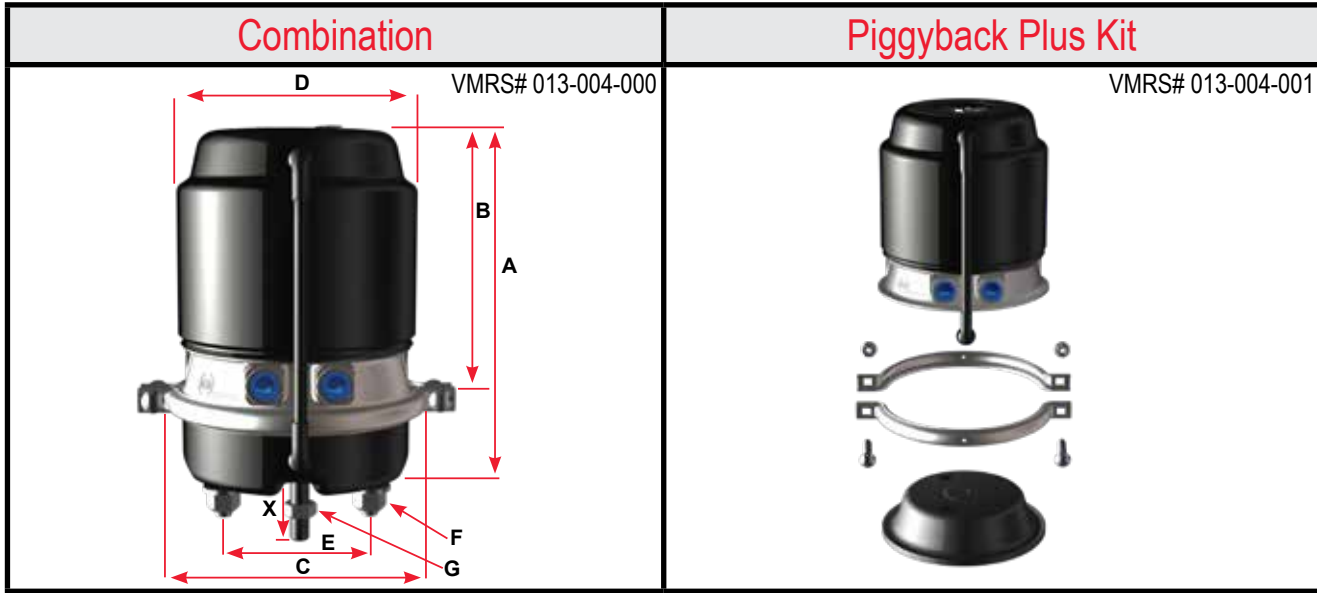
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/MJS

Long Stroke Model

Performance Plus



## MJS 3.00" (76.2 mm) Model Features

- Tamper Resistant Design
- Lighter Weight
- 3 Inch (76.2 mm) Long Stroke
- Compact Size
- Patented Integral Release Bolt Mechanism - Minimal Bolt Protrusion - Approx. 1.25 inch (31.8 mm) protrusion on "Long Stroke" models when manually released
- Lower Hold-Off Pressure (Less Air Consumption)
- Epoxy Coated Return Spring
- Non-Coil Clash Power Spring
- Increased Corrosion Resistance - Steel Head, Epoxy Coated
- Available with 1,725 lb (782.4 kg) - 2,450 lb (1111.3 kg) of Push-Rod Braking Force @ 1.25 inch (31.8 mm) Stroke/Spring Brake Sizes 22-30
- Center Hole Shield

P/N Series	MJS2030ET	MJS3028ET	MJS3030ET	MJS3628ET**	MJS3630ET**
Model	MJS2030ET	MJS3028ET	MJS3030ET	MJS3628ET**	MJS3630ET**
Size	2030	3028	3030	3628	3630
Stroke (in/mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	MJS2030ET051	MJS3028ET051	MJS3030ET051	MJS3628ET051	MJS3630ET051
P/N Combination 12" Rod*	N/A	MJS3028ET551*	MJS3030ET551*	MJS3628ET551*	MJS3630ET551*
P/N Combination 18" Rod*	N/A	MJS3028ET651*	MJS3030ET651*	N/A	N/A
P/N Welded Yoke (2.25")	N/A	MJS3028ET951	MJS3030ET951	N/A	MJS3630ET951
P/N Piggyback Plus Kit SAE	MJS2030ET008	MJS3028ET008	MJS3030ET008	MJS3628ET008	MJS3630ET008
P/N Combination METRIC	MJS2030ET049	MJS3028ET049	MJS3030ET049	MJS3628ET049	MJS3630ET049
Wt. Combination	22.70 lb (10.3 kg)	23.10 lb (10.5 kg)	23.10 lb (10.5 kg)	25.20 lb (11.4 kg)	25.20 lb (11.4 kg)
Wt. Single	14.90 lb (6.8 kg)	14.92 lb (6.8 kg)	14.92 lb (6.8 kg)	14.50 lb (6.6 kg)	14.50 lb (6.6 kg)
A	10.99" (279.1 mm)	10.73" (272.5 mm)	10.73" (272.5 mm)	11.06" (280.9 mm)	11.06" (280.9 mm)
B	8.32" (214.1 mm)	8.43" (214.1 mm)	8.43" (214.1 mm)	8.43" (214.1 mm)	8.43" (214.1 mm)
C	6.86" (174.2 mm)	8.32" (211.3 mm)	8.32" (211.3 mm)	9.40" (238.8 mm)	9.40" (238.8 mm)
D	7.50" (190.5 mm)	7.51" (190.8 mm)	7.51" (190.8 mm)	7.51" (190.8 mm)	7.51" (190.8 mm)
E	4.75" (120.7 mm)				
F	5/8" - 11 UNC (M16 x 1.5 - 6g)				
G	5/8" - 18 UNF (M16 x 1.5 - 6g)				
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)				
X - Min. (in the caged position)	8.00" (203.2 mm)				

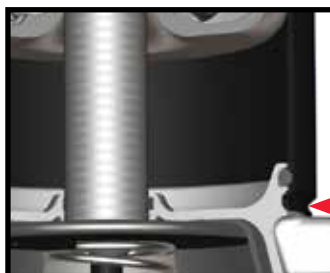
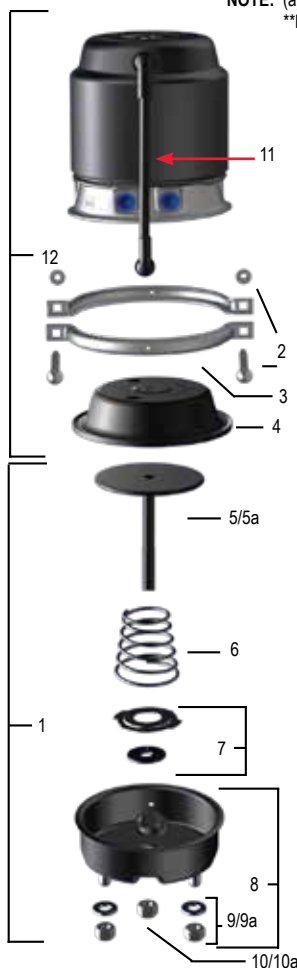
\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

\*\* MJS3628ET & MJS3630ET not "3-inch long stroke" unit, readjustment limit 2.25" per MVMA (Motor Vehicle Manufacturers Association)

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

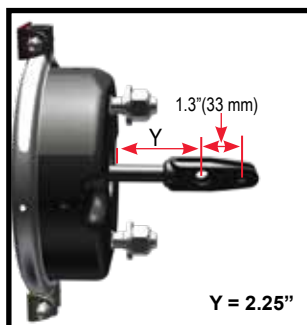
Replacement Parts						
P/N Series	MJS2030ET	MJS3028ET	MJS3030ET	MJS3628ET**	MJS3630ET**	
Model	MJS2030ET	MJS3028ET	MJS3030ET	MJS3628ET**	MJS3630ET**	
1	Kit - NP Chamber (a)	9015239	9015218	9015218	9015109	9015109
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216020	8216045	8216045	8216036	8216036
4	Diaphragm	8017820	8017838	8017838	8017840	8017840
5	Kit - Push-Rod Assembly (a) SAE	8264039	9064008	9064008	9064004	9064004
5a	Kit - Push-Rod Assembly (a) METRIC	9064030	9064028	9064028	9064009	9064009
6	Return Spring	8068021	8068022	8068022	8068022	8068022
7	Kit - Center Hole Shield	9065003	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (a)	9015238	9015122	9015122	9015108	9015108
9	Kit - Nuts & Washers SAE	N/A	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016	8130016
11	Kit - Breather Tube	9081001	9081001	9081001	9081001	9081001
12	Kit - Piggyback Plus SAE	MJS2030ET008	MJS3028ET008	MJS3030ET008	MJS3628ET008	MJS3630ET008
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8						
Yoke Assembly						
Boot & Retainer						

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.  
 \*\*MJS3628ET & MJS3630ET not "3-inch long stroke" unit, readjustment limit 2.25" per MVMA (Motor Vehicle Manufacturers Association)



**"Roll-In" Tamper Resistant Design**  
 Patented design permanently locks heavy-gauge steel head to the rugged, non-corrosive alloy 360 aluminum center case preventing inadvertent disassembly of the power spring housing.

### Welded Yoke Chamber

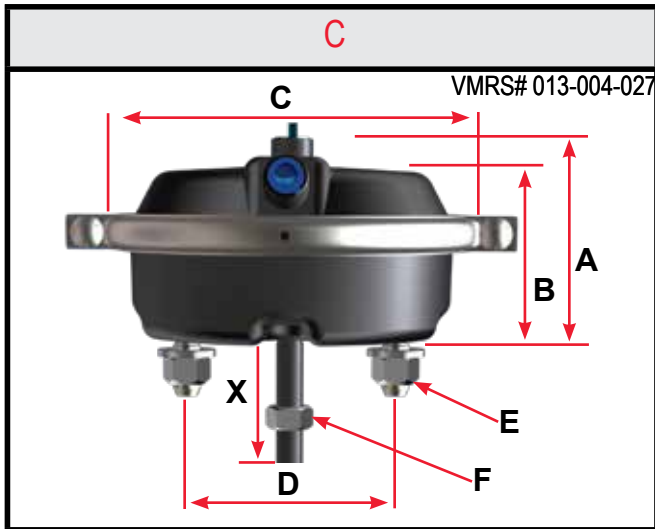


For more welded yoke choices, see page 102-103.

**NOTE:** J-Series Type 30 Spring Side has 490 lbs. more force output than a TR 36 Spring Side at 1.25" Stroke. (see technical section for details)

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Standard Stroke Model



### C Model Features

- Formed Steel Pressure Cap - Epoxy-Coated
- Formed Steel Non-Pressure Chamber - Epoxy Coated
- Heavy-Duty Nylon Reinforced Diaphragms
- Top and Side Air Ports - 3/8" NPTF
- Center Hole Shield (Except type 12 and type 16)

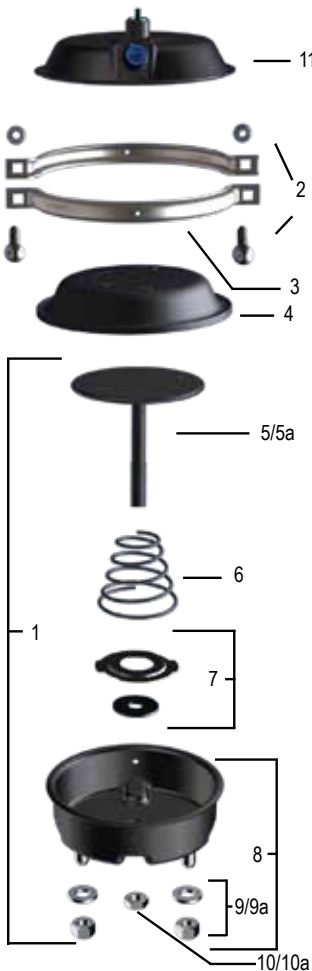
P/N Series	1412	1416	1420	1427	1430	1436
Model	C12	C16	C20	C24L	C30	C36
Size	12	16	20	24	30	36
Stroke	1.75" (44.5 mm)	2.25" (57.2 mm)	2.25" (57.2 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)
P/N SAE	1412001	1416001	1420001	1427001	1430001	1436001
P/N Combination 12" Rod*	N/A	N/A	N/A	1427551*	1430551*	N/A
P/N Combination 18" Rod*	N/A	N/A	N/A	N/A	1430651*	N/A
P/N Neoprene Diaphragm	N/A	N/A	1420801	1427801	1430801	1436801
P/N Welded Yoke (2.25")	N/A	N/A	N/A	1427901	1430901	N/A
P/N METRIC	N/A	N/A	1420202	1427202	1430202	1436202
Wt. lb (kg)	3.80 lb (1.7 kg)	5.90 lb (2.7 kg)	8.02 lb (3.6 kg)	9.00 lb (4.1 kg)	10.70 lb (4.9 kg)	15.88 lb (7.2 kg)
A	3.84" (97.5 mm)	4.43" (112.5 mm)	4.16" (105.7 mm)	4.42" (112.3 mm)	4.43" (112.5 mm)	5.12" (130.0 mm)
B	3.13" (79.5 mm)	3.64" (92.5 mm)	3.41" (86.6 mm)	3.67" (93.2 mm)	3.69" (93.7 mm)	4.52" (114.8 mm)
C	5.69" (144.5 mm)	6.66" (169.0 mm)	6.92" (175.8 mm)	7.46" (189.5 mm)	8.27" (210.0 mm)	9.44" (240.0 mm)
D	3.00" (76.2 mm)	3.00" (76.2 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)
E	7/16" - 14 UNC		5/8" - 11 UNC (M16 x 1.5 - 6g)			
F	1/2" - 20 UNF		5/8" - 18 UNF (M16 x 1.5 - 6g)			
Inlets	3/8" - 18 NPTF		3/8" - 18 NPTF (M16 x 1.5 - 6H)			
X - Min.	4.00" (101.6 mm)		8.00" (203.2 mm)			

\* For Transit, Hendrickson Intraax / Vantraax Suspension applications.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts							
P/N Series	1412	1416	1420	1427	1430	1436	
Model	C12	C16	C20	C24L	C30	C36	
1	Kit - NP Chamber (b)	9015207	9015136	9015046	9015117	9015050	9015049
2	Kit - Nuts & Bolts	9003002	9003001	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216012	8216018	8216020	8216025	8216045	8216036
4	Diaphragm	8017112	8017116	8017120	8017141	8017730	8017836
5	Kit - Push-Rod Assembly (b) SAE	9064018	9064019	9064001	9064002	9064003	9064004
5a	Kit - Push-Rod Assembly (b) METRIC	N/A	N/A	9064015	9064016	9064035	9064009
6	Return Spring	8068007	8068008	8068002	8068002	8068002	8068012
7	Kit - Center Hole Shield	N/A	N/A	9065002	9065002	9065002	9065002
8	NP Chamber Assembly (b)	8215142	8215023	8215169	8215105	8215501	8215036
9	Kit - Nuts & Washers SAE	9002003	9002003	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	N/A	N/A	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130011	8130011	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	N/A	N/A	8130016	8130016	8130016	8130016
11	Pressure Cap (2-inlets/steel)	8010066(a)	8210013	8210010	8210002	8210003	8010009
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8							
Yoke Assembly		Refer to Replacement Parts Section 8					
Boot & Retainer		Refer to Replacement Parts Section 8					

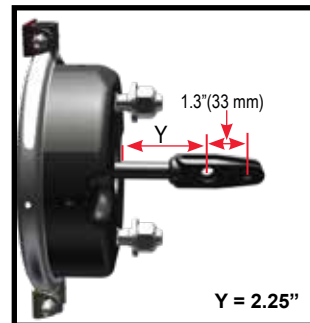
NOTE: (a) Type 12 pressure cap is cast aluminum.  
 (b) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



**Center Hole Shield**

Permits visual inspection of stroke alert but prevents entry of contaminants.

**Welded Yoke Chamber**

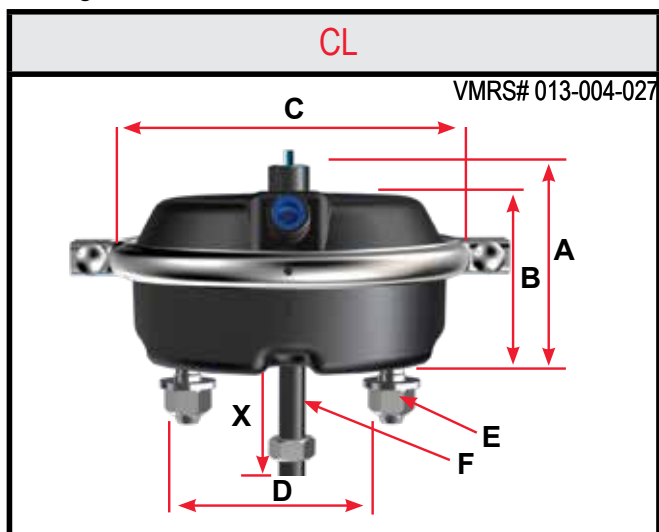


For more welded yoke choices, see page 102-103.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Long Stroke Models

### CL Model Features



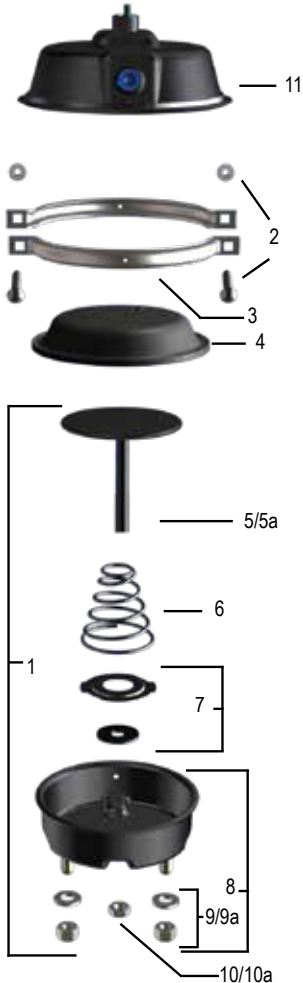
- Formed Steel Pressure Cap - Epoxy Coated
- Formed Steel Non-Pressure Chamber - Epoxy Coated
- Heavy-Duty Nylon Reinforced Diaphragms
- Top and Side Air Ports - 3/8" NPTF
- Center Hole Shield (except C16L 2.5)

P/N Series	1418	1421	1428	1431
Model	C16L2.5	C20L	C24L3	C30L3
Size	16	20	24	30
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N SAE	1418001	1421001	1428001	1431001
P/N Neoprene Diaphragm	N/A	N/A	1428801	1431801
P/N Welded Yoke (2.25")	N/A	N/A	1428901	1431901
P/N METRIC	N/A	1421202	1428202	1431202
Wt. lb (kg)	6.42 lb (2.9 kg)	6.81 lb (3.1 kg)	9.72 lb (4.4 kg)	10.76 lb (4.9 kg)
A	4.60" (117.0 mm)	4.44" (112.8 mm)	5.30" (134.6 mm)	5.31" (134.9 mm)
B	3.87" (93.0 mm)	3.71" (94.3mm)	4.22" (107.0 mm)	4.36" (111.0 mm)
C	6.66" (169.0 mm)	6.85" (174.0 mm)	7.37" (187.2 mm)	8.24" (209.3 mm)
D	3.00" (76.2 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)
E	7/16" - 14 UNC	5/8" - 11 UNC (M16 x 1.5 - 6g)		
F	1/2" - 20 UNF	5/8" - 18 UNF (M16 x 1.5 - 6g)		
Inlets	3/8" - NPTF	3/8" - 18 NPTF (M16 x 1.5 - 6H)		
X - Min.	4.00" (101.6 mm)	8.00" (203.2 mm)		

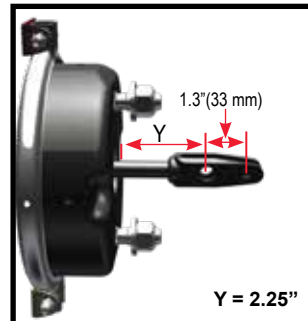
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts					
P/N Series		1418	1421	1428	1431
Model		C16L2.5	C20L	C24L3	C30L3
1	Kit - NP Chamber (a)	9015205	9015233	9015200	9015201
2	Kit - Nuts & Bolts	9003001	9003001	9003001	9003001
3	Clamp Band Assembly	8216018	8216020	8216025	8216045
4	Diaphragm	8017216	8017220	8017924	8017830
5	Kit - Push-Rod Assembly (a) SAE	9064022	9064020	9064006	9064008
5a	Kit - Push-Rod Assembly (a) METRIC	N/A	9064015	9064027	9064028
6	Return Spring	8068008	8068002	8068012	8068012
7	Kit - Center Hole Shield	N/A	9065002	9065002	9065002
8	NP Chamber Assembly (a)	8215023	8215169	8215200	8215501
9	Kit - Nuts & Washers SAE	9002003	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	N/A	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130011	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	N/A	8130016	8130016	8130016
11	Pressure Cap (2-inlet/steel)	8210020	8210022	8210026	8210024
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8					
Yoke Assembly		Refer to Replacement Parts Section 8			
Boot & Retainer		Refer to Replacement Parts Section 8			

**NOTE:** (a) To ensure correct stroke alert positioning, these kits must be used only on the designated MGM Brake units.



### Welded Yoke Chamber



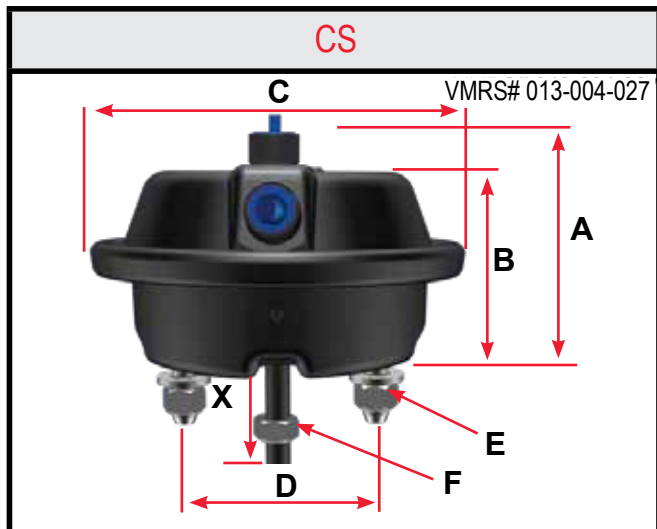
For more welded yoke choices, see page 102-103.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# S-CAM/CS - Sealed Chambers

## Long Stroke Models



### CS Model Features

- Formed Steel Pressure Cap - Epoxy Coated (CS20 Models have Zinc Iron Chromate Coating)
- Formed Steel Non-Pressure Chamber - Epoxy Coated
- Heavy-Duty Nylon Reinforced Diaphragms
- Top and Side Air Ports - 3/8" NPTF
- Center Hole Shield

P/N Series	1617	1621	1623	1627
Model	CS16LH	CS20L	CS20L3	CS24L
Size	16	20	20	24
Stroke	2.50" (63.5 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)	2.50" (63.5 mm)
P/N SAE	1617001	1621001	1623001	1627001
P/N Neoprene Diaphragm	N/A	N/A	N/A	N/A
P/N Welded Yoke (2.25")	1617901	1621901	N/A	N/A
P/N METRIC	1617002	1621002	1623002	1627202
Wt. lb (kg)	6.62 lb (3.0 kg)	6.80 lb (3.1 kg)	8.78 lb (4.0 kg)	8.40 lb (3.8 kg)
A	4.37" (111.0 mm)	4.37" (111.0 mm)	5.14" (130.6 mm)	4.37" (111.0 mm)
B	3.65" (93.0 mm)	3.63" (92.0 mm)	4.41" (112.0 mm)	3.63" (92.3 mm)
C	7.00" (177.8 mm)	7.00" (177.8 mm)	7.02" (178.3 mm)	7.31" (185.7 mm)
D	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7mm)
E	5/8" - 11 UNC (M16 x 1.5 - 6g)			
F	5/8" - 18 UNF (M16 x 1.5 - 6g)			
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)			
X - Min.	8.00" (203.2 mm)			

P/N Series	1628	1630	1631	1640
Model	CS24L3	CS30	CS30L3	CS24LW
Size	24	30	30	24
Stroke	3.00" (76.2 mm)	2.50" (63.5 mm)	3.00" (76.2 mm)	2.50" (63.5 mm)
P/N SAE	1628001	1630001	1631001	1640001
P/N Neoprene Diaphragm	N/A	N/A	1631801	N/A
P/N Welded Yoke (2.25")	1628901	1630901	1631901	N/A
P/N METRIC	1628202	1630202	1631202	1640202
Wt. lb (kg)	9.10 lb (4.1 kg)	10.12 lb (4.6 kg)	10.55 lb (4.8 kg)	8.66 lb (3.9 kg)
A	5.30" (134.6 mm)	4.39" (111.5 mm)	5.31" (134.9 mm)	4.37" (111.0 mm)
B	4.16" (105.6 mm)	3.67" (93.2 mm)	4.17" (106.0 mm)	3.63" (92.3 mm)
C	7.31" (185.7 mm)	8.18" (207.8 mm)	8.18" (207.8 mm)	7.31" (185.7 mm)
D	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7 mm)	4.75" (120.7mm)
E	5/8" - 11 UNC (M16 x 1.5 - 6g)			
F	5/8" - 18 UNF (M16 x 1.5 - 6g)			
Inlets	3/8" - 18 NPTF (M16 x 1.5 - 6H)			
X - Min.	8.00" (203.2 mm)			

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

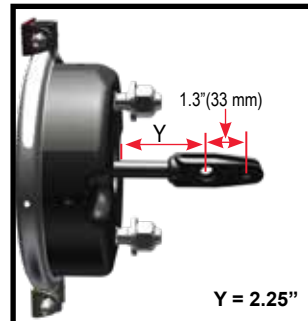


Replacement Parts									
P/N Series		1617	1621	1623	1627	1628	1630	1631	1640
Model		CS16LH	CS20L	CS20L3	CS24L	CS24L3	CS30	CS30L3	CS24LW
1	Kit - NP Chamber (a)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	Kit - Nuts & Bolts	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	Clamp Band Assembly	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	Diaphragm	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	Kit - Push-Rod Assembly (a) SAE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5a	Kit - Push-Rod Assembly (a) METRIC	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	Return Spring	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	Kit - Center Hole Shield	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	NP Chamber Assembly (a)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	Kit - Nuts & Washers SAE	9002001	9002001	9002001	9002001	9002001	9002001	9002001	9002001
9a	Kit - Nuts & Washers METRIC	9002002	9002002	9002002	9002002	9002002	9002002	9002002	9002002
10	Hex Nut - Yoke SAE	8130004	8130004	8130004	8130004	8130004	8130004	8130004	8130004
10a	Hex Nut - Yoke METRIC	8130016	8130016	8130016	8130016	8130016	8130016	8130016	8130016
11	Pressure Cap (2-inlet/steel)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
OPTIONAL ITEMS - For additional replacement parts, refer to Section 8									
Yoke Assembly		Refer to Replacement Parts Section 8							
Boot & Retainer		Refer to Replacement Parts Section 8							

**NOTE:** All CS models are sealed assemblies, non-serviceable, therefore replacement kits are not available.



### Welded Yoke Chamber



For more welded yoke choices, see page 102-103.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# WEDGE BRAKES

New Design,  
Better Performance,  
Same Reliability and Quality



## Section 2: Wedge Spring Brakes..... 74-81

### Standard Stroke Models

CW	Service Chambers, Wedge .....	76-77
MJW1216	Magnum Performance Plus, Wedge .....	78-79
MJW1616	Magnum Performance Plus, Wedge .....	78-79
MJW1624	Magnum Performance Plus, Wedge .....	80-81

The US Military has relied heavily on MGM Wedge brakes for their MRAP and MATV vehicles. They are desirable for this application because there is no exposed brake linkage. Two brake actuators can be mounted per wheel end to meet the high force outputs needed to stop today’s up-armored vehicles. Packaging is quite compact. Wedge brakes can be mounted on the wheel ends of fully articulated axles. Water tight snorkeled versions are available to meet military fording requirements.

We offer type 9, 12 & 16 service chambers in vented and snorkeled versions. Aluminum pressure caps are available for the type 9 and type 12 service chambers. These reduce vehicle weight by about ½ lb. per actuator vs. a steel cap.

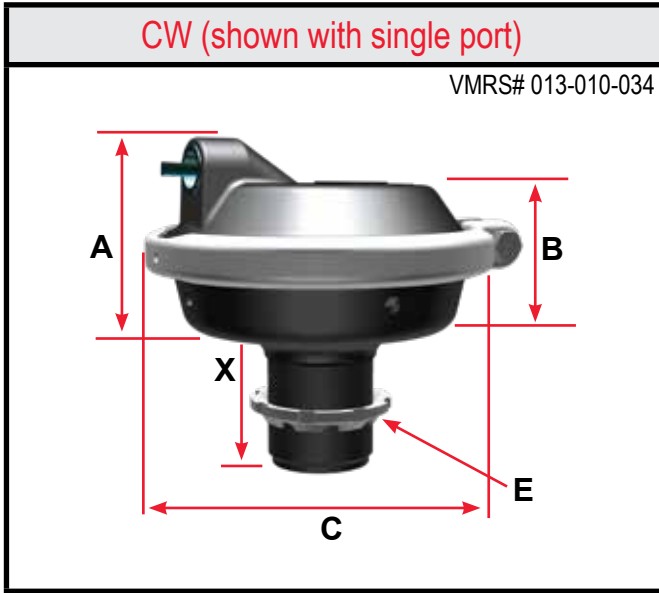
We offer type 1216, 1616, and 1624 wedge parking brakes. These feature “Magnum” piston type brakes which are well suited to demanding parking and vehicle holding situations. When hauling maximum payloads through mountainous terrain or when quick release at low pressure is important, a “Magnum” is your best choice. These brakes deliver much higher force output per unit volume than a comparable double diaphragm brake. These also feature the MGM patented dual-thread release bolt design, allowing the MJW Model to fit into tight areas where other spring brakes can’t due to protrusion of the release bolt.

Wedge brakes come in a number of different tube lengths. They also have two rod styles, Meritor (with a red guide) and Bendix. Brakes can be custom configured for OEMs.

The MJW1624BT156 is a brake that was specially designed for a bus application. It has a unique rod insertion depth that should not be used in a standard application.



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



NOTE: X - Dimension of mounting tube is measured from bottom flat on non-pressure chamber to tube end.

**CW Model Features**

- Formed Steel Non-Pressure Chamber - Epoxy Coated
- Heavy-Duty Nylon Reinforced Diaphragms
- Top and Side Air Ports - 3/8" NPTF

Wedge Piston Assembly  
Meritor Bendix



Ordering: Determine if foundation brake is Meritor or Bendix type by comparison to piston assembly photos above.

P/N Series	1009	1012	1016
Model	CW9	CW12	CW16
Size	9	12	16
Stroke	1.75" (44.5 mm)	1.75" (44.5 mm)	1.75" (44.5 mm)
Wt. (lb/kg)*	3.53 lb (1.6 kg)	3.81 lb (1.7 kg)	4.90 lb. (2.2 kg)
A	2.97" (75.4 mm)	3.10" (78.7 mm)	2.85" (72.4 mm)
B	2.42" (61.5 mm)	2.39" (60.7 mm)	2.62" (66.5 mm)
C	5.25" (133.4 mm)	5.69" (144.5 mm)	6.59" (167.4 mm)
E	1 3/4" - 12 UN-2A	1 3/4" - 12 UN-2A	1 3/4" - 12 UN-2A
Inlets	3/8" - 18 NPTF	3/8" - 18 NPTF	3/8" - 18 NPTF

NOTE: \* Weight will vary in relation to tube length.

**CW Service Brake Chamber**

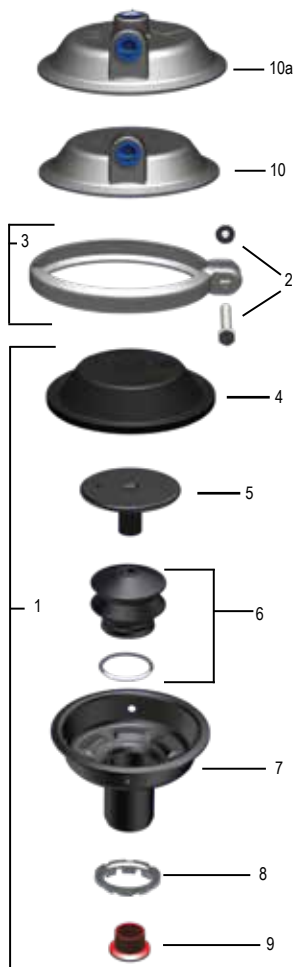
Size	Type 9		Type 12		Type 16	
Stroke	1.75" (44.5 mm)		1.75" (44.5 mm)		1.75" (44.5 mm)	
"X" DIM	Meritor	Bendix	Meritor	Bendix	Meritor	Bendix
2.25" (57.2 mm)	1009018	1009012	1012008	1012009	1016004	1016001
2.85" (72.4 mm)	1009023	1009020	1012001	1012004	1016003	1016005
3.75" (95.3 mm)	*	*	*	1012097	*	1016019
4.10" (104.1 mm)	1009032	1009021	1012002	1012048	1016006	*
4.56" (115.8 mm)	*	*	1012066	*	*	*
6.10" (154.9 mm)	1009053	1009022	1012057	1012049	1016017	*
7.56" (192.0 mm)	*	*	1012058	*	*	*
8.75" (222.3 mm)	1009049	*	1012007	*	*	*
10.19" (258.8 mm)	*	*	1012003	1012006	1016020	*
12.00" (304.8 mm)	*	*	1012096	*	1016011	*
14.00" (355.6mm)	*	*	1012056	1012052	*	*

NOTE: (\*) This chamber version is not available.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

CW Chamber Service Kits						
Size	Type 9		Type 12		Type 16	
Stroke	1.75" (44.5 mm)		1.75" (44.5 mm)		1.75" (44.5 mm)	
"X" DIM	Meritor	Bendix	Meritor	Bendix	Meritor	Bendix
2.25" (57.2 mm)	9015040	9015001	9015003	9015002	9015042	9015041
2.85" (72.4 mm)	9015005	9015004	9015007	9015006	9015044	9015043
3.75" (95.3 mm)	*	*	*	9015134	*	9015095
4.10" (104.1 mm)	9015009	9015008	9015011	9015010	9015059	*
4.56" (115.8 mm)	*	*	9015013	*	*	*
6.10" (154.9 mm)	*	*	9015019	9015018	9015096	*
7.56" (192.0 mm)	*	*	9015045	*	*	*
8.75" (222.3 mm)	*	*	9015022	*	*	*
10.19" (258.8 mm)	*	*	9015026	9015025	9015140	*
12.00" (304.8 mm)	*	*	9015102	*	9015094	*
14.00" (355.6mm)	*	*	9015031	9015030	*	*

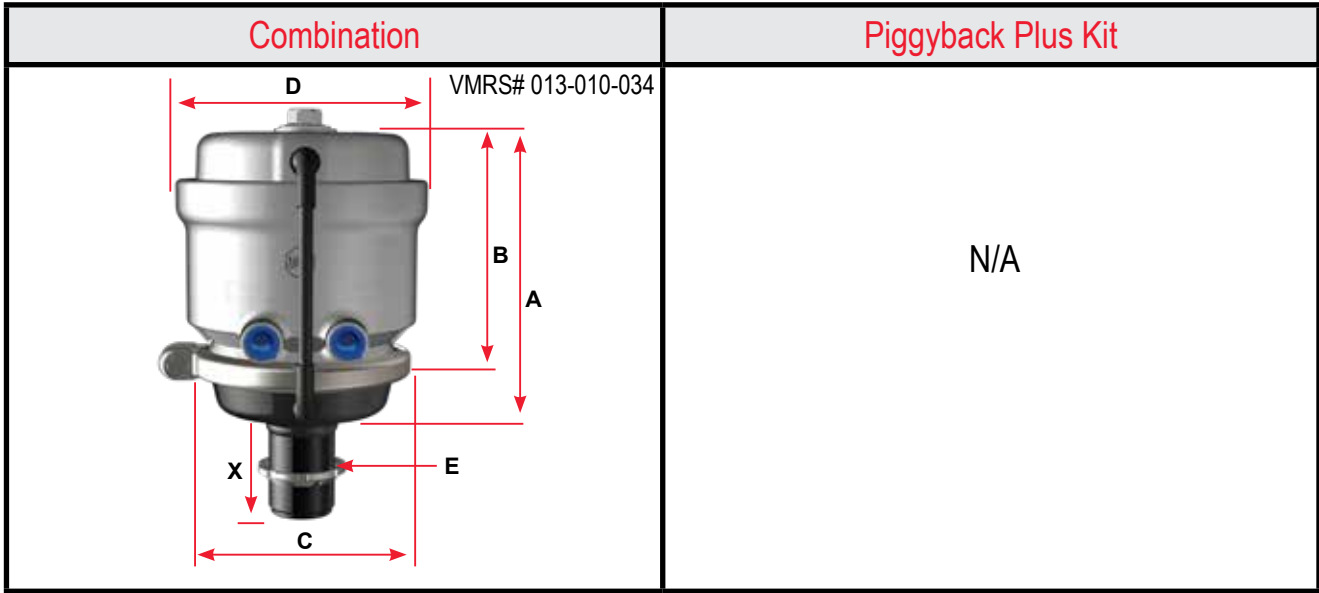
NOTE: (\*) This version is not available.



Replacement Parts				
P/N Series		1009	1012	1016
Model		CW9	CW12	CW16
1	Kit - NP Chamber	Refer to wedge chamber service kits above		
2	Kit - Nuts & Bolts	9003002	9003002	9003001
3	Clamp Band Assembly	8216009	8216012	8216018
4	Diaphragm	(a)	(a)	(a)
5	Kit - Push-Rod Assembly	(a)	(a)	(a)
6	Kit- Wedge Boot	9004005	9004005	9004005
7	NP Chamber Assembly	(a)	(a)	(a)
8	Spanner Nut	8034007	8034007	8034007
9	Wedge Guide - Meritor	8024006	8024006	8024006
10	Pressure Cap (1 Inlet)	N/A	8010040	8210001
10a	Pressure Cap (2 Inlets)	8010028	8010066	8210013

NOTE: (a) Diaphragm is glued to push-rod plate, therefore diaphragm and push-rod assembly are available only as part of item 1 kit.

• For additional replacement parts, refer to Section 8.

**1.75" (44.5 mm) Stroke Model**

**MJW Model Features**

- Wide Choice Tube Lengths
- Lightweight, Rugged Aluminum Housing
- Epoxy Coated Power Spring
- External Breather Tube
- Integral Release Bolt
- Polymer Push-Rod Guide
- Molded Nitrile Rubber Push-Rod Air Seal
- Low Friction Piston and Guide
- Heavy-Duty Nylon Reinforced Diaphragms

**WEDGE**

P/N Series	MJW1216AT	MJW1616AT
Model	MJW1216AT	MJW1616AT
Size	1216	1616
Stroke	1.75" (44.5 mm)	1.75" (44.5 mm)
Push-Rod	Meritor / Bendix	Meritor / Bendix
P/N Combination SAE	(a)	(a)
P/N Piggyback Plus Kit SAE	N/A	N/A
P/N Combination METRIC	***	***
Wt. Combination	12.50 lb (5.7 kg)*	12.16 lb (5.5 kg)*
Wt. Single	N/A	N/A
A	7.89" (200.4 mm)	7.15" (181.6 mm)
B	5.83" (148.1 mm)	5.98" (151.9 mm)
C	5.70" (144.8 mm)	6.59" (167.4 mm)
D	6.44" (163.6 mm)	6.47" (164.2 mm)
E	1 3/4" - 12 UNC	1 3/4" - 12 UNC
Inlets	3/8" - 18 NPTF	3/8" - 18 NPTF
X (a)	SEE CHART	SEE CHART

Standard Assembly Part Numbers		
Model	MJW1216AT	
Size	MJW1216	
X Dimension	Meritor	Bendix
2.25" (57.2 mm)	MJW1216AT052	MJW1216AT059
2.85" (72.4mm)	MJW1216AT053	MJW1216AT060
4.10" (104.1 mm)	MJW1216AT054	MJW1216AT061
6.10" (154.9 mm)	MJW1216AT055	MJW1216AT062
Model	MJW1616AT	
Size	MJW1616	
X Dimension	Meritor	Bendix
2.25" (57.2 mm)	N/A	N/A
2.85" (72.4mm)	MJW1616AT051	MJW1616AT056
4.10" (104.1 mm)	N/A	N/A
6.10" (154.9 mm)	N/A	N/A

**NOTE:** (a) Refer to "Standard Assembly Part Numbers Chart" for mounting tube length variations.

**NOTE:** (\*) Unit weighed with 5" (127.0 mm) tube (x dimension). Weight will vary in relation to tube length.

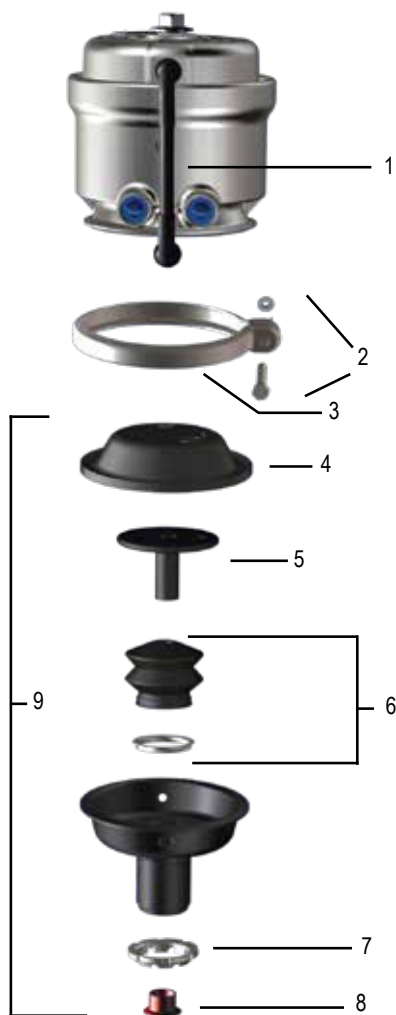
**NOTE:** (\*\*\*) For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. and Canada), or for International email: mail@mgmbrakes.com.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Replacement Parts			
P/N Series	MJW1216AT	MJW1616AT	
Model	MJW1216AT	MJW1616AT	
Part Description	MGM P/N	MGM P/N	
1	Kit - Breather Tube	9081001	***
2	Kit - Nuts & Bolts	9003002	9003001
3	Clamp Band Assembly	8216012	8216018
4	Diaphragm	(a)	(a)
5	Push Rod	(a)	(a)
6	Kit - Wedge Boot	9004005	9004005
7	Spanner Nut	8034007	8034007
8	Wedge Guide (Meritor)	8024006	8024006
9	Kit - NP Chamber	Refer to Wedge Chamber service kits below (a)	***

NOTE: (a) Diaphragm is glued to push-rod plate, therefore diaphragm and push-rod assembly are available only as part of item 9 kit.

NOTE: (\*\*\*) For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. and Canada), or for International email: mail@mgmbrakes.com. For additional replacement parts, refer to Replacement Parts Section 8.



Standard Service Kits		
Type MJW1216AT		
Stroke 1.75" (44.5 mm)		
X Dimension	Meritor	Bendix
2.25" (57.2 mm)	9015247	9015254
2.85" (72.4mm)	9015248	9015255
4.10" (104.1 mm)	9015249	9015256
6.10" (154.9 mm)	9015250	9015257

**Release Bolt**

Patented "Dual Thread Release Bolt" design, an MGM Brakes exclusive, provides minimal bolt protrusion at maximum release. (Approx. 1.00 inch (25.4 mm) protrusion when manually released)



**Wedge Piston Assembly**  
Meritor Bendix



Ordering: Determine if foundation brake is Meritor or Bendix type by comparison to piston assembly photos above.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Combination	Piggyback Plus Kit
	N/A

### MJW Model Features

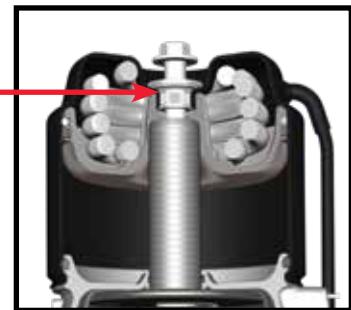
- Tamper Resistant Design
- Lighter Weight
- Compact Size
- External Breather Tube
- Lower Hold-Off Pressure (Less Air Consumption)
- Patented Integral Release Bolt Mechanism for Minimal Bolt Protrusion when manually released.
- Non-Coil Clash Powder Coated Power Spring
- Increased Corrosion Resistance - Steel Head and Epoxy Coated

**WEDGE**

P/N Series	MJW1624BT
Model	MJW1624BT
Size	1624
Stroke	2.00" (50.8 mm)
P/N Combination SAE	MJW1624BT156
P/N Piggyback Plus Kit SAE	N/A
P/N Combination METRIC	***
Wt. Combination	17.06 lb (7.7 kg)
Wt. Single	N/A
A	8.30" (210.8 mm)
B	7.16" (181.9 mm)
C	6.53" (165.9 mm)
D	6.76" (171.7 mm)
E	1 3/4" - 12 UNC
Inlets	3/8" - 18 NPTF
X	4.50" (114.3 mm)

### Release Bolt

Patented "Dual Thread Release Bolt" design, an MGM Brakes exclusive, provides minimal bolt protrusion at maximum release. (Approx. 1.00 inch (25.4 mm) protrusion when manually released)



**NOTE: (\*\*\*)** For information on availability, contact MGM Brakes Customer Service, 1-800-527-1534 (U.S. and Canada), or for International email: [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com)



**CAUTION: MGM Brakes recommends this chamber be supported. The vehicle manufacturer will need to determine if a support is necessary based on the vehicle operating environment.**

**P/N MJW1624BT156 is for transit applications only. For other applications contact MGM Brakes Customer Service.**

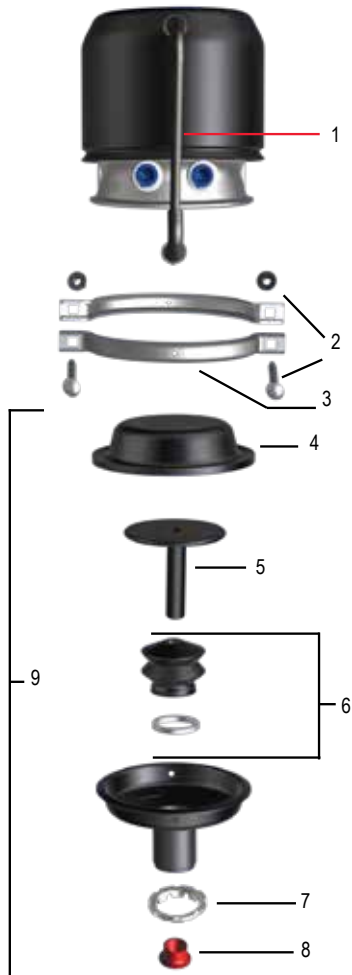
**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Replacement Parts		
P/N Series		MJW1624BT
Model		MJW1624BT
Part Description		MGM P/N
1	Kit - Breather Tube	9081007
2	Kit - Nuts & Bolts	9003001
3	Clamp Band Assembly	8216018
4	Diaphragm	(a)
5	Push Rod	(a)
6	Kit - Wedge Boot	9004005
7	Collet Nut	8034007
8	Wedge Guide	8024006
9	Kit - NP Chamber	9015196

NOTE: (a) Diaphragm is glued to push-rod plate, therefore diaphragm and push-rod assembly are available only as part of item 9 kit.

For additional replacement parts, refer to Replacement Parts Section 8.



**CAUTION:** MGM Brakes recommends this chamber be supported. The vehicle manufacturer will need to determine if a support is necessary based on the vehicle operating environment.

P/N MJW1624BT156 is for transit applications only. For other applications contact MGM Brakes Customer Service.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# AIR DISC

Unparalleled Variety of Models  
Reliable and Longer-Life  
Braking Performance



**Section 3: Air Disc Brakes** .....82-87

**Service Chambers**

CSB            Service Chambers, Sealed .....84

**Double Diaphragm**

TRB            Tamper Resistant, Tube.....85

**Piston Diaphragm**

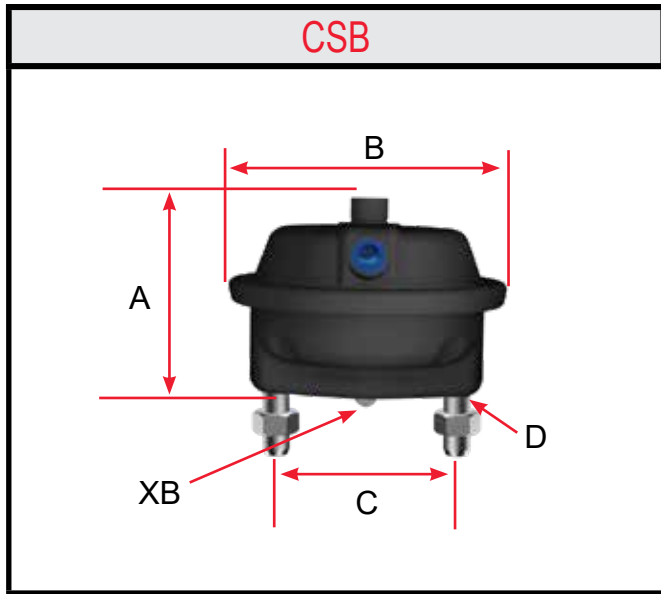
MJB            Magnum, J-Series, 2.50" (63.5 mm) Stroke, Tube .....86

Visual Safety Inspections of Air Disc Brakes .....87



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Air Disc Model



### CSB Model Features

- Formed Steel Pressure Cap - CSB22 and CSB24 models are Epoxy Coated. CSB16, CSB18 and CSB20 models have Zinc Iron Chromate Coating.
- Formed Steel Non-Pressure Chamber - Epoxy Coated
- Heavy-Duty Nylon Reinforced Diaphragms
- Top and Side Air Ports - 3/8" NPTF or M16 x 1.5

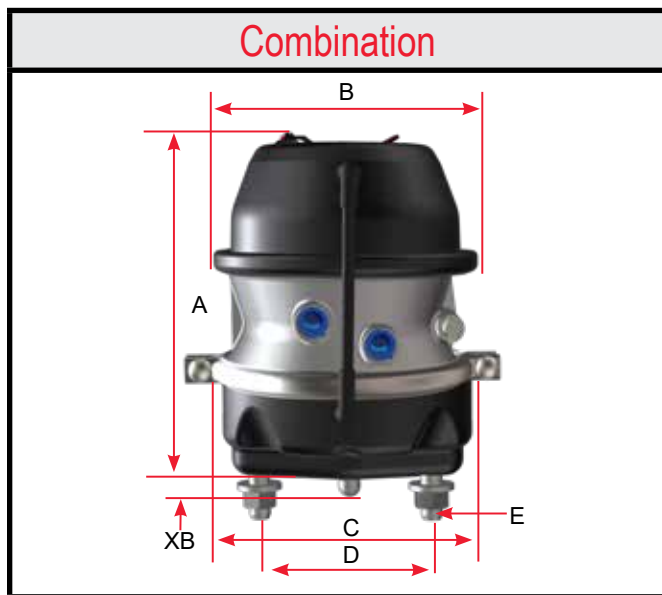
Model	CSB16D	CSB18D	CSB20D	CSB22D	CSB24D
Size*	16	18	20	22	24
Stroke**	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)
Part Number SAE	CSB16D051	CSB18D051	CSB20D051	CSB22D051	CSB24D051
Part Number Metric	CSB16D049	CSB18D049	CSB20D049	CSB22D049	CSB24D049
Wt. lb. (kg)	6.5 lb (2.9 kg)	6.8 lb (3.1 kg)	7.0 lb (3.2 kg)	7.7 lb (3.5 kg)	7.9 lb (3.6 kg)
A	4.84" (122.9 mm)	4.84" (122.9 mm)	4.84" (122.9 mm)	4.86" (123.4 mm)	4.86" (123.4 mm)
B	6.99" (177.5 mm)	6.99" (177.5 mm)	6.99" (177.5 mm)	7.31" (185.7 mm)	7.31" (185.7 mm)
C	4.75" (120.7 mm)				
D	M16 x 1.5 - 6g				
Ports	3/8" -18 NPTF for SAE model (M16 x 1.5 - 6H for metric model)				
Port angle	90° from centerline of mtg. bolts				
XB	15 mm				

NOTE: All chart measurements are in both inches and metric.

\* Other sizes available. Call 1-800-527-1534.

\*\* 3.00" (75 mm) stroke units are available. Call 1-800-527-1534.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



### Double Diaphragm Air Disc Brake Features

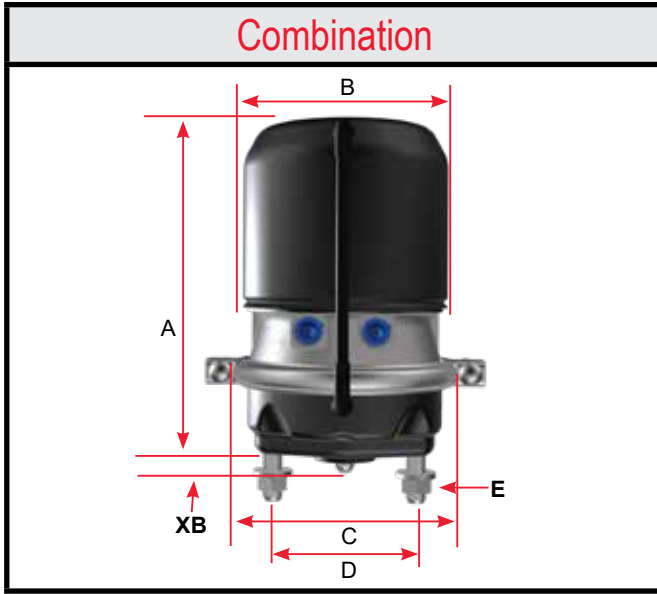
- Tamper Resistant Design
- Molded Nitrile Rubber Push-Rod Air Seal
- Externally Stored Release Bolt
- Epoxy Coated Head, Non-Pressure Chamber and Lower Push-Rod Assembly
- 360 Aluminum Center Case
- Weatherseal™ Plug
- Polymer Push-Rod Guides
- Heavy-Duty Nylon Reinforced Diaphragms
- Heavy-Duty Nylon Reinforced Neoprene Diaphragms (Optional)
- External Breather Tube

Model	TRB1624DT	TRB1824DT	TRB2024DT	TRB2224DT	TRB2424DT	TRB2430DT
Size*	1624	1824	2024	2224	2424	2430
Stroke**	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)
Part Number SAE	TRB1624DT051	TRB1824DT051	TRB2024DT051	TRB2224DT051	TRB2424DT051	TRB2430DT051
Part Number Metric	TRB1624DT049	TRB1824DT049	TRB2024DT049	TRB2224DT049	TRB2424DT049	TRB2430DT049
Wt. lb. (kg)	15.6 lb (7.1 kg)	15.8 lb (7.02 kg)	16.0 lb (7.3 kg)	16.3 lb (7.4 kg)	16.5 lb (7.5 kg)	16.5 lb (7.5 kg)
A	8.81" (223.8 mm)	8.81" (223.8 mm)	8.81" (223.8 mm)	9.04" (229.7 mm)	9.04" (229.7 mm)	9.61" (244.1 mm)
B	7.34" (186.4 mm)	7.34" (186.4 mm)	7.34" (186.4 mm)	7.34" (186.4 mm)	7.34" (186.4 mm)	8.21" (208.5 mm)
C	6.85" (174.0 mm)	6.85" (174.0 mm)	6.85" (174.0 mm)	7.46" (189.5 mm)	7.46" (189.5 mm)	7.46" (189.5 mm)
D	4.75" (120.7 mm)					
E	M16 x 1.5 - 6g					
Ports	3/8" -18 NPTF for SAE model (M16 x 1.5 - 6H for metric model)					
Port angle	90° from centerline of mtg. bolts					
Tube angle	90° from centerline of mtg. bolts					
XB	15 mm (.591 in)					

NOTE: All chart measurements are in both inches and metric.  
 \* Other sizes available. Call 1-800-527-1534.  
 \*\* 3.00" (75 mm) stroke units are available. Call 1-800-527-1534.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Air Disc Model



### Magnum Performance Plus Model Features

- Tamper Resistant Design
- Lighter Weight
- Compact Size
- Patented Integral Release Bolt Mechanism - Minimal Bolt Protrusion (Approx. 1.25 inch (31.8 mm))
- Non-Coil Clash Power Spring
- Increased Corrosion Resistance - Steel Head, Epoxy Coated
- Available with 1,922 - 2,450 Lbs. (871.8 kg - 1111.3 kg) of Push-Rod Braking Force @ 1.25 inch (31.8 mm) Stroke/Service Brake Sizes 16-30

Model	MJB1624DT	MJB1824DT	MJB2024DT	MJB2224DT	MJB2424DT
Size*	1624	1824	2024	2224	2424
Stroke**	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)	2.50" (63.5 mm)
Part Number SAE	MJB1624DT051	MJB1824DT051	MJB2024DT051	MJB2224DT751	MJB2424DT751
Part Number Metric	MJB1624DT049	MJB1824DT049	MJB2024DT049	MJB2224DT049	MJB2424DT049
Wt. lb. (kg)	18.6 lb (8.5 kg)	18.8 lb (8.6 kg)	19.0 lb (8.67 kg)	19.3 lb (8.8 kg)	19.5 lb (8.9 kg)
A	9.84" (249.9 mm)	9.84" (249.9 mm)	9.84" (249.9 mm)	9.88" (250.9 mm)	9.88" (250.9 mm)
B	6.74" (171.2 mm)	6.74" (171.2 mm)	6.74" (171.2 mm)	6.74" (171.2 mm)	6.74" (171.2 mm)
C	6.87" (174.5 mm)	6.87" (174.5 mm)	6.87" (174.5 mm)	7.38" (187.5 mm)	7.38" (187.5 mm)
D	4.75" (120.7 mm)				
E	M16 x 1.5 - 6g				
Ports	3/8" -18 NPTF for SAE model (M16 x 1.5 - 6H for metric model)				
Port angle	90° from centerline of mtg. bolts				
Tube angle	90° from centerline of mtg. bolts				
XB	15 mm				

NOTE: All chart measurements are in both inches and metric.

\* Other sizes available. Call 1-800-527-1534.

\*\* 3.00" (75 mm) stroke units are available. Call 1-800-527-1534.

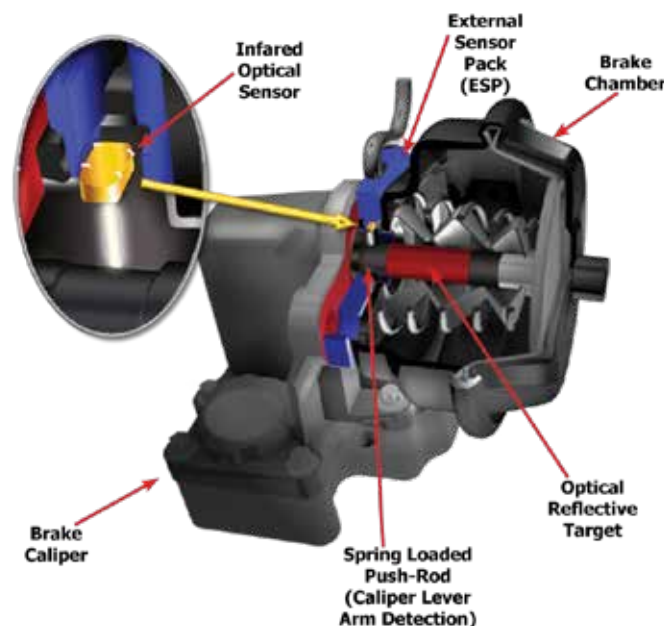
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## *Air Disc Brakes and Visual Safety Inspections*

While air disc brakes offer performance and potential maintenance advantages, they are also much more difficult to visually inspect for proper operation. Air disc brakes include a brake chamber with a fully enclosed push-rod, a brake caliper with an internal adjuster mechanism, a rotor, and brake pads. This type of braking system poses unique challenges to the fleet in terms of visual brake inspections. There is no exposed push-rod in order to check chamber stroke, and the internal adjuster mechanism (designed to keep pad clearance constant like an Automatic Brake Adjuster (ABA) on s-cam systems), is fully enclosed, sealed, and not possible to visually inspect. In addition, the pads and outboard rotor face are nearly hidden from view making it difficult to check pads or rotor conditions visually, without wheel removal for subsequent detailed inspections. The industry has long known that a visual inspection of air disc brakes for proper operation is impractical, and this has been acknowledged by CVSA as a concern. Thus with air disc brakes the fleet operator does not truly know with a visual inspection any of the following:

- The brake actuator (or brake chamber) is operative
- The caliper internal adjuster is operative and maintaining pad clearance under all conditions
- The wheel end is providing full braking, partial braking, or no braking
- The brake actuator (or brake chamber) stroke is within acceptable operating limits
- The brake is lightly dragging (warning of other serious problems)

Based on this industry need, MGM Brakes has developed Electronic Brake Monitoring (e•STROKE®) for air disc brake applications. Please see Section 7 of this catalog for further information or call your local MGM Brakes sales representative who can be found by visiting our website [www.MGMBRAKES.com](http://www.MGMBRAKES.com)



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# REMOTE MOUNT CYLINDERS

Perfect For Remote Operation  
of Trailer Tailgates





Section 4: Remote Mount Cylinders .....88-93

R4A	Remote Cylinder.....	90-91
R5AHD	Remote Cylinder, Heavy-Duty.....	90-91
R7A (SAAR)	Remote Cylinder, Spring Applied, Air Released.....	92-93
R8H (SAHR)	Remote Cylinder, Spring Applied, Hydraulic Released.....	92-93

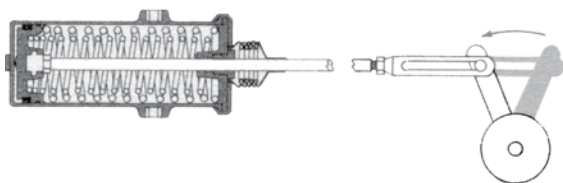


MGM Brakes R4A & R5AHD Remote Mount Cylinders are the original spring brake invented in the rugged logging country of Northern California. These cylinders were introduced by MGM Brakes in 1956 as the world's first spring-actuated parking and emergency brake actuators for commercial vehicles. These "pull-to-actuate" cylinders were designed for axle-mount using various weld-on and bolt-on mounting brackets and linkage arms.

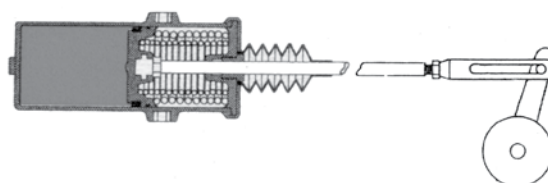
R7A (SAAR) and R8H (SAHR) drive-line brakes are developed as replacements for manually operated lever applied "drive-line" brakes. Mounted to the frame rail, the actuator utilizes a cable to apply parking force to a drum mounted on the drive-line. An optional electronic "travel" sensor provides the operator with information pertaining to the position of the push-rod "applied" or "released".

Today, these high-quality cylinders have been adapted to such diverse non-automotive usage as dump truck end-gate actuators, emergency brake actuators on massive logging and commercial fishing winches and numerous other special applications.

How Remote Mount Cylinders Operate

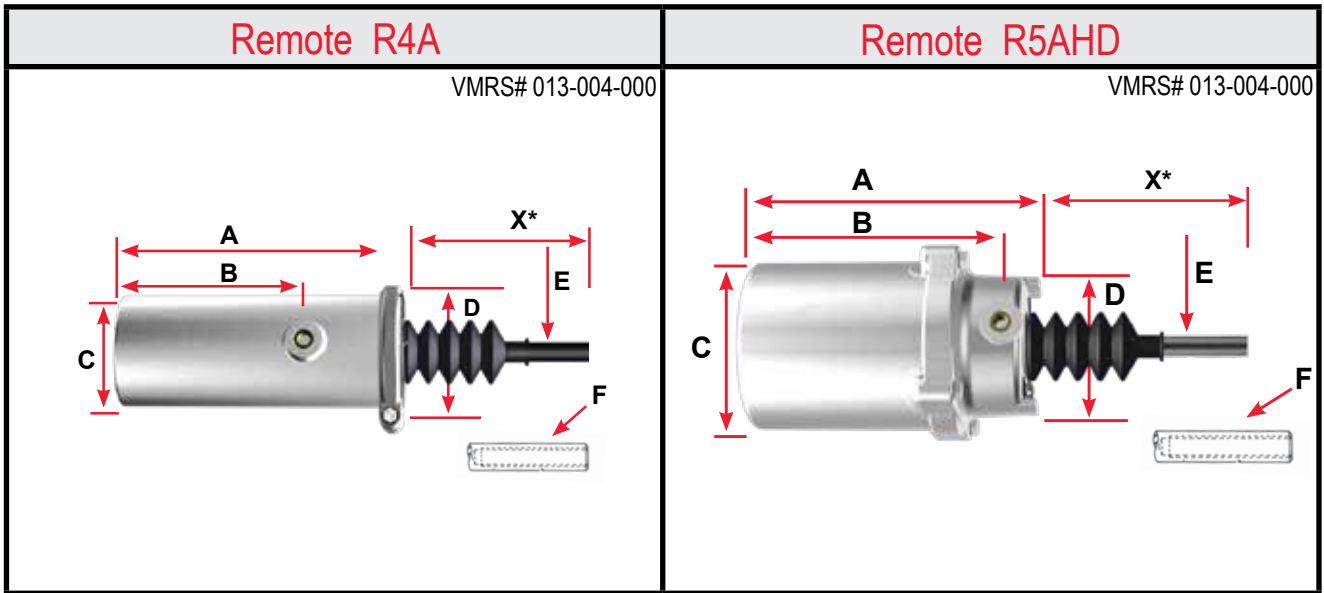


When the end-gate is closed, spring pressure within the cylinders moves the latches into the latched position, reducing the risk the end-gate may inadvertently swing open.



To unlatch the end-gate, the operator applies air to the cylinder through a valve located in the cab of the vehicle. As air pressure builds within the cylinder it forces the piston to move, compressing the spring(s) and extending the push-rod which moves the end-gate latches into the open position.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



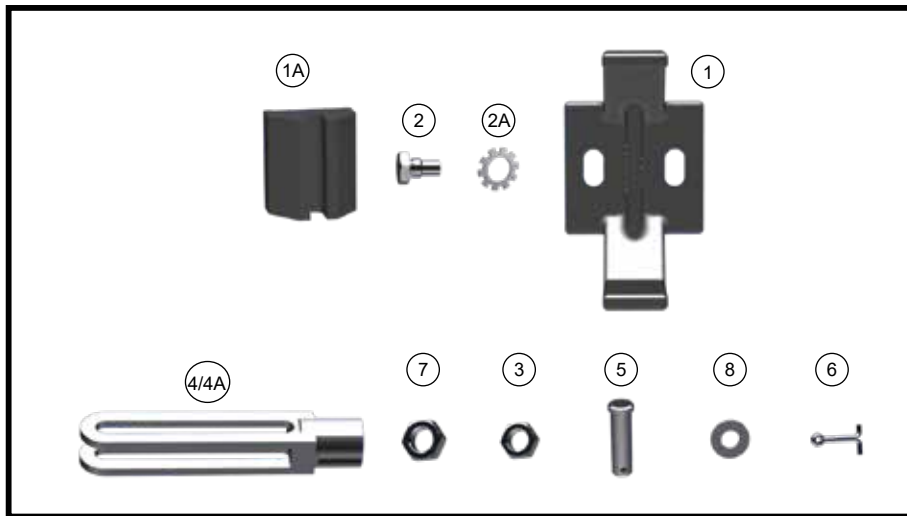
**NOTE:** \* X-dimension (7.00", 15.00" etc.) is measured from lockpin hole in piston rod outward to rod end. Note that the lockpin hole appears from within the cylinder only after the cylinder is charged with minimum 85 psi air pressure. Boot needs to be removed to see lockpin hole.

P/N Series	5004	5005
Model	R4A	R5AHD
Size	4	5
Stroke	4.50" (114.3 mm)	4.20" (106.7 mm)
P/N External 20" (508.0 mm) Rod	5004010	N/A
P/N External 15" (381.0 mm) Rod	5004013	5005012
P/N Internal 7" (177.8 mm) Rod	5004014	5005014
Wt. Combination (lb/kg)	13.5 lb (6.1 kg)*	19.6 lb (8.9 kg)*
A	11.12" (282.4 mm)	10.50" (266.7 mm)
B	7.50" (190.5 mm)	9.38" (238.3 mm)
C	4.38" (111.3 mm)	6.12" (155.4 mm)
D	5.69" (144.5 mm)	5.12" (130.0 mm)
E (External Thread)	3/4" - 16 UNF x 10.62" (269.8 mm) long	
F (Internal Thread)	1/2" - 20 UNF x 3.00" (76.2 mm) deep	
Inlet	3/8" - NPTF	

**NOTE:** \* Weight varies with external rod size.


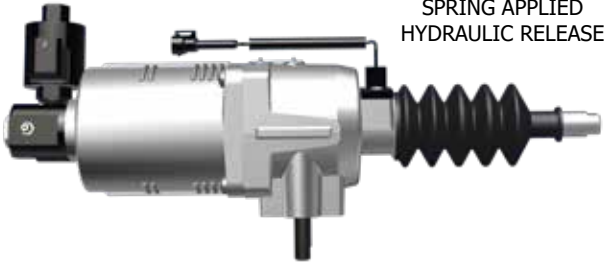
Standard Assembly Part Numbers & Service Parts	
Part Number	Description Of Parts
9004003	Kit - Boot & Clamp - Remote
9008001	Kit - Side Bushings R4A/R5AHD (for Trunnion Bolt Mount)

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Assemblies				Kit P/N and Quantities			
Model	P/N	Rod Specifications	Thread Length	9050019	9050027	9050028	9050035
R4A	5004010	External Thread 20.00" (508.0 mm) Rod	3.00" (76 mm)	2			
R4A	5004013	External Thread 15.00" (381.0 mm) Rod	10.62" (269.75 mm)		1		
R4A	5004014	Internal Thread 7.00" (177.8 mm) Rod	3.00" (76 mm)				1
R5AHD	5005012	External Thread 15.00" (381.0 mm) Rod	10.75" (273.05 mm)			1	
R5AHD	5005014	Internal Thread 7.00" (177.8 mm) Rod	3.00" (76 mm)				
Key	P/N	Part Description					
1	8005001	Gimbal Bracket - R4A		2	1		1
1	8005013	Gimbal Bracket - R5AHD				1	
1A	8062001	Shock Pad - R4A		2	1		1
1A	8062002	Shock Pad - R5AHD					
2	8003003	Trunnion Bolt		4	2	2	2
2A	8141002	Star Lock Washer		4	2	2	2
3	8130011	Hex Nut 1/2" - 20 UNF					
4	8092006	Sliding Clevis 1/2" - UNF					
4A	8092010	Sliding Clevis 3/4" - UNF					
5	8038001	Yoke Pin 1/2" (12.7 mm)					
6	8151001	Cotter Pin					
7	8130002	Hex Nut 3/4" - 16 UNC		4			
8	8140002	Lockpin Washer 3/4" (19.1 mm) (inside diameter)		2			

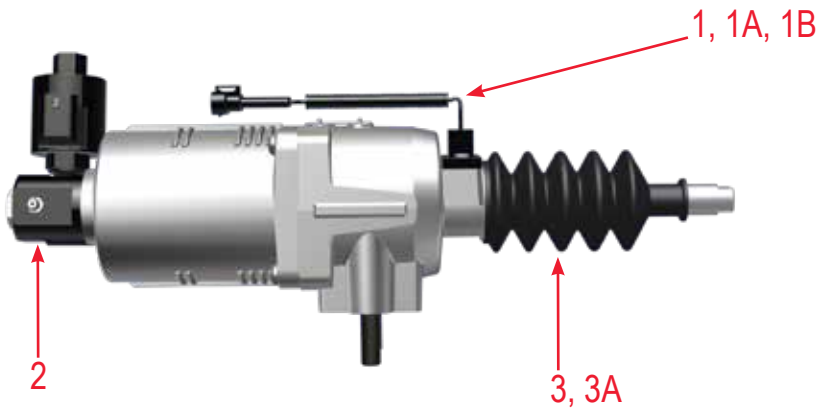
NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Remote R7A	Remote R8H
<p>VMRS# 013-004-027</p> <p><b>R7A (SAAR)</b> <b>MODEL</b> SPRING APPLIED AIR RELEASE</p> 	<p>VMRS# 013-004-027</p> <p><b>R8H (SAHR)</b> <b>MODEL</b> SPRING APPLIED HYDRAULIC RELEASE</p> 

### R7A (SAAR) & R8H (SAHR) Model Features

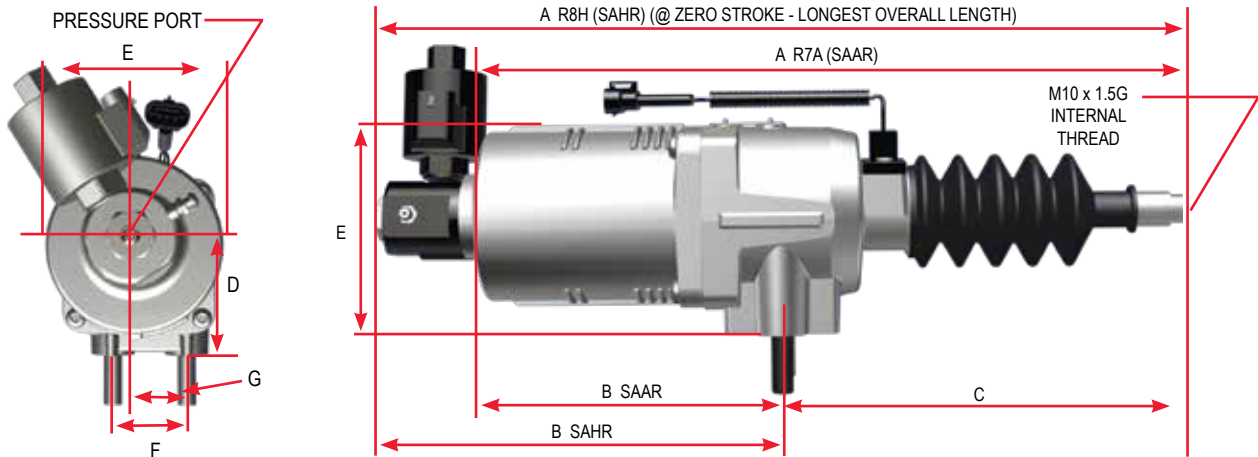
- Compact Design
- Light Weight Aluminum
- Electronic Stroke Sensor

Service Kits & Replacement Parts		
1	9051001	Sensor Kit - R7A (SAAR) & R8H (SAHR) with 3 pin connector
1A	9051004	Sensor Kit - Blue Diamond R7A (SAAR) with 5 pin connector
1B	9051005	Sensor Kit - Blue Diamond R8H (SAHR) with 6 pin connector
2	9041005	Cartridge - R8H (SAHR) Hydraulic Unit
3	8004002	Boot - R7A (SAAR)
3A	8004010	Boot - R8H (SAHR)



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

R7A (SAAR) and R8H (SAHR) Drive-line Brakes were developed as replacements for manually operated lever applied “drive-line” brakes on class 6 and 7 vehicles. Mounted to the frame rail, the actuator utilizes a cable to apply parking force to a drum mounted on the drive-line. An optional electronic “travel” sensor provides the operator with information pertaining to the position of the push-rod “applied” or “released”.



Model	SAAR	SAHR
Series	R7A	R8H
Part Number	5007001	5008001
Stroke of Unit	2.75" (69.8 mm)	2.75" (69.8 mm)
Medium	Air	DOT3 & DOT4 Brake Fluid
Inlet	3/8" NPTF	7/16-24 UNS 2B Inverted Flair Seat
Operating Pressure	130 PSI (9.0 Bar)	2320 PSI (160.0 Bar)
Temperature Range	-40°F/+190° F (-40° C/+ 88° C)	-40° F/+190° F (-40° C/+ 88° C)
Weight – estimated	6.91 lb (3.1 kg)	8.7 lb (3.9 kg)
A	15.46" (392.7 mm)	18.05" (458.5 mm)
B	6.51" (165.4 mm)	9.10" (231.1 mm)
C	8.95" (227.3 mm)	
D	2.50" (63.5 mm)	
E	4.50" (114.3 mm)	
F	1.93" (49.0 mm)	
G	1.20" (30.5 mm)	

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# VOCATIONAL APPLICATIONS

Your rugged vehicles  
deserve tough brakes.  
Great for Ready-Mix, Refuse, Construction  
and other vocational vehicles.





	Page(s)
<b>Section 5: Vocational Application.....</b>	<b>94-103</b>
Model Application Chart .....	96
Actuators Manufactured with Neoprene Diaphragms.....	97
MGM Waste Chamber Breakdown Sheet - Neoprene Diaphragm.....	98
MGM Waste Chamber Breakdown Sheet - Natural Rubber Diaphragm .....	99
Welded Yoke Replacement Instruction.....	100
Welded Yokes Application Guide.....	102-103

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# MODEL APPLICATION CHART

MGM Brakes manufactures a wide variety of spring brakes, many designed specifically for niche applications. While all MGM models are engineered for the longest life and most reliable service, choosing the right spring brake for a particular application is crucial to ensuring maximum value.

VOCATIONAL APPLICATIONS

APPLICATION																			
MGM Brakes Spring Brake Application Matrix: This matrix is intended for use as a general information guide only. If you have any questions concerning the application of any particular MGM Brakes model, contact your local MGM Brakes representative for assistance.	TR	TR-HD	TR-T	TR-THD	TR-THDW	TR-TS	TR-TSHD	TR-TSHDW	TR-LP3	TR-LP3HD	TR-LP3T	TR-LP3THD	TR-LP3THDW	TR-LP3TS	TR-LP3TSHD	TR-LP3TSHDW	LTR-T	LTR-L3	MJ-ET
ACIDS / LIQUID CORROSIVES						X	X	X						X	X	X			
DRY BULK CHEMICALS			X	X	X	X	X	X			X	X	X	X		X	X		X
DUMP TRUCK			X	X	X	X	X	X			X	X	X	X	X	X			X
FERTILIZER						X	X	X			X	X	X	X	X	X			X
FIRE & EMERGENCY			X	X	X	X	X	X											X
LINE HAUL	X		X						X		X						X	X	X
LIVESTOCK / POULTRY						X	X	X						X	X	X			
LOGGING			X	X	X						X	X	X						X
PETROLEUM PRODUCTS			X	X	X	X	X	X				X	X	X	X	X	X		
READY-MIX CONCRETE			X	X	X	X	X	X			X	X	X	X	X	X			X
REFUSE			X	X	X	X	X	X			X	X	X	X	X	X			X
SALT TRUCK						X	X	X						X	X	X			X
SCHOOL BUS		X	X	X	X		X	X		X		X	X		X	X			X
TOXIC WASTE						X	X	X						X	X	X			X
TRANSIT						X	X	X						X	X	X			X

Indicates Model

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.





MGM Brakes manufactures service chambers and spring brakes with “Neoprene” diaphragms for severe service applications where petroleum saturated contaminants may enter the air system and come into contact with the diaphragms. While “Natural Rubber” diaphragms may resist the negative effects of oil and oil saturated contaminants for a period of time, “Neoprene” diaphragms have proven to be more durable. Manufactured from a combination of materials that insure superior strength, flexibility and resistance to degradation due to contact with oil and other chemicals, “Neoprene” diaphragms are a great option when the air system is prone to contamination from oil.

The following is a list of MGM replacement service chambers and spring brakes that are equipped with “Neoprene” diaphragms:

## SERVICE CHAMBERS

Part #	Model	Description
1420801	C20	Service Chamber
1427801	C24L	Service Chamber
1427902	C24L	Service Chamber
1427904	C24L	Service Chamber
1428801	C24L3	Service Chamber
1428902	C24L3	Service Chamber
1430801	C30	Service Chamber
1430802	C30	Service Chamber
1430902	C30	Service Chamber
1430904	C30	Service Chamber

Part #	Model	Description
1431801	C30L3	Service Chamber
1431902	C30L3	Service Chamber
1431903	C30L3	Service Chamber
1436801	C36	Service Chamber
1628902	CS24L3	Service Chamber
1630902	CS30	Service Chamber
1631801	CS30L3	Service Chamber
1631902	CS30L3	Service Chamber
1631903	CS30L3	Service Chamber
1641902	CS24L3W	Service Chamber
1641904	CS24L3W	Service Chamber

## PIGGYBACK PLUS KITS

Part #	Model	Description
3230808	TR3030LP3	Piggyback Plus
3230808X	TR3030LP3	Piggyback Plus
3232808	TR3030LP3T	Piggyback Plus
3430808	TR3030	Piggyback Plus

Part #	Model	Description
3430808X	TR3030	Piggyback Plus
3431808	TR3030T	Piggyback Plus
3433808	TR3036	Piggyback Plus

## TR STANDARD AND LONG STROKE CHAMBERS

Part #	Model
3230851	TR3030LP3
3230851X	TR3030LP3
3231851	TR3030LP3T
3231851X	TR3030LP3T
3231953	TR3030LP3T
3231955	TR3030LP3T
3231955X	TR3030LP3T
3232851	TR3030LP3HD
3232851X	TR3030LP3HD
3232952	TR3030LP3HD
3232952X	TR3030LP3HD
3233952	TR3030LP3THD
3233952X	TR3030LP3THD
3233953	TR3030LP3THD
3233953X	TR3030LP3THD
3427851	TR2424L
3430851	TR3030
3430851X	TR3030
3430953	TR3030
3430954	TR3030
3430956	TR3030

Part #	Model
3431851	TR3030T
3431851X	TR3030T
3431953	TR3030T
3431953X	TR3030T
3431954	TR3030T
3431954X	TR3030T
3431955	TR3030T
3431955X	TR3030T
3431957	TR3030T
3432851	TR3036T
3432952	TR3036T
3433851	TR3036
3433851X	TR3036
3535851	TR3024T
3436851	TR3636T
3436952	TR3636T
3444851	TR3030THDW
3444851X	TR3030THDW
3444955	TR3030THDW
3531851	TR3030TS
3531851X	TR3030TS

Part #	Model
3531953	TR3030TS
3531954	TR3030TS
3531955	TR3030TS
3532851	TR3036TS
3532851X	TR3036TS
3532953	TR3036TS
3532953X	TR3036TS
3532954	TR3036TS
3532954X	TR3036TS
3532955	TR3036TS
3533851	TR3030TSHD
3535851	TR3030LP3TS
3535851X	TR3030LP3TS
3535952	TR3030LP3TS
3535953	TR3030LP3TS
3545953	TR3030LP3TSHDW
3545954	TR3030LP3TSHDW
3545955	TR3030LP3TSHDW
3545956	TR3030LP3TSHDW
3832062	LTR3030L3
3832062B	LTR3030L3

NOTE: If other sizes are required, contact your local sales representative for availability.

# MGM WASTE CHAMBER BREAKDOWN SHEET

## NEOPRENE DIAPHRAGM



VOCATIONAL APPLICATIONS

Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
All Mack, International, Freightliner, Sterling 2005 and older & all CCC, Autocar, Kenworth, Peterbilt	1427801 C24L	3430851 TR3030	3430851 TR3030	Threaded rod chamber with neoprene diaphragm
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Freightliner, Sterling, Western Star, International with long stroke brake chambers (3030 and 3036)	<b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3232952 TR3030LP3HD</b> <b>3235951 TR3036L3T</b>	<b>3232952 TR3030LP3HD</b> <b>3235951 TR3036L3T</b>	Make sure long stroke and standard stroke are not mixed on the same axle
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Mack camelback suspension (All) and Hendrickson with 3030 chamber (standard stroke)	1427801 C24L <b>1427902 C24L</b> <b>1431902 C30L3</b>	<b>3431953 TR3030TS</b> <b>3431953 TR3030TS</b>	<b>3431954 TR3030T</b> <b>3431954 TR3030T</b>	Replace threaded rod steer with another threaded rod if it was OEM
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2010+ Mack T-Ride/Primaxx air suspension TR-3030 and TR-3036	<b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3431953 TR3030TS</b> <b>3532954 TR3036TS</b> <b>3235951 TR3036L3T</b>	<b>3431953 TR3030T</b> <b>3532954 TR3036TS</b> <b>3235951 TR3036L3T</b>	One chamber for both rear axles-welded yoke
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2005+ Mack with Hendrickson spring suspension using 3036 standard stroke welded yoke chambers	<b>1427902 C24L</b> <b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3532954 TR3036TS</b> <b>3532954 TR3036TS</b>	<b>3532953 TR3036TS</b> <b>3532953 TR3036TS</b>	On steer axle, make sure to match the correct stroke
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Mack camelback suspension with optional long stroke brake chambers	<b>1427902 C24L</b> <b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3233952 TR3030LP3THD</b> <b>3233952 TR3030LP3THD</b> <b>3235951 TR3036L3T</b>	<b>3233953 TR3030LP3THD</b> <b>3233953 TR3030LP3THD</b> <b>3235951 TR3036L3T</b>	Make sure long stroke and standard stroke are not mixed on the same axle
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2005+ Autocar and 2005-2013 Peterbilt/Kenworth with s-cam brakes	<b>1427904 C24L</b> <b>1430904 C30</b>	<b>3431955 TR3030T</b> <b>3532955 TR3036TS</b>	<b>3431955 TR3030T</b> <b>3532955 TR3036TS</b>	On Peterbilt/Kenworth up to mfg date April 2013. Double check mfg rod length if unsure
Application:	Steer Axle	Rear Axle		Comments
2007+ Mack with type 3636 on single axle	<b>1427902 C24L</b> <b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3436952 TR3636T</b>		On steer axle, make sure to change the correct stroke
Application:	Steer Axle	Front Rear	Rear/Rear	Comments
2013+ Peterbilt/Kenworth type 3030 and 3036 long stroke	<b>1427902 C24L</b> <b>1428902 C24L3</b> <b>1431902 C30L3</b>	<b>3431953 TR3030T</b> <b>3233952 TR3030LP3THD</b> <b>3235951 TR3036L3T</b>	<b>3431953 TR3030T</b> <b>3233952 TR3030LP3THD</b> <b>3235951 TR3036L3T</b>	New - from April 2013 to present

NOTE: BOLD = Welded Yoke

**FOR THOSE USING 2-PIN SLACK ADJUSTERS, PLEASE NOTE:** The welded yoke chamber listed above have a measurement between the pins on the welded yoke of 1.30". If the vehicle's original manufacturer's clevis has a measurement other than 1.30", the welded yoke chamber listed cannot be used and a threaded rod chamber with a clevis utilizing the proper pin spacing recommended by the vehicle's manufacturer should be used instead.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



## NATURAL RUBBER DIAPHRAGM

Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
All Mack, International, Freightliner, Sterling 2005 and older & all CCC, Autocar, Kenworth, Peterbilt	1420001 C20 1427001 C24L	3430051 TR3030 3230051 TR3030LP3	3430051 TR3030 3230051 TR3030LP3	
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Freightliner, Sterling, Western Star, International with long stroke brake chambers	1421001 C20L 1428001 C24L3 <b>1428901 C24L3</b>	<b>3230951 TR3030LP3</b> <b>3232951 TR3030LP3HD</b> <b>3235951 TR3036L3T</b>	<b>3230951 TR3030LP3</b> <b>3232951 TR3030LP3HD</b> <b>3235951 TR3036L3T</b>	Heavy duty power spring New 3036 long stroke
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Mack camelback suspension (All) and Hendrickson with 3030 chamber (standard stroke)	1427001 C24L <b>1427901 C24L</b> 1428001 C24L3 <b>1428901 C24L3</b>	<b>3431951 TR3030T</b> <b>3431951 TR3030T</b>	<b>3431952 TR3030T</b> <b>3431952 TR3030T</b>	Replace threaded rod steer with another threaded rod if it was OEM
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2005-2006 Mack with Henrickson suspension using 3036 chambers on rear (threaded rod only)	1427001 C24L <b>1427901 C24L</b> 1428001 C24L3 <b>1428901 C24L3</b>	3433051 TR3036 3234051 TR3036L3	3433051 TR3036 3234051 TR3036L3	Do not replace 3036 with 3030 if original specification was 3036
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2006+ Mack camelback suspension with optional long stroke brake chambers	<b>1427901 C24L</b> <b>1428901 C24L3</b> <b>1431901 C30L3</b>	<b>3231951 TR3030LP3T</b> <b>3231951 TR3030LP3T</b> <b>3235951 TR3036L3T</b>	<b>3233953 TR3030LP3THD</b> <b>3233953 TR3030LP3THD</b>	Make sure long stroke and standard stroke are not mixed on the same axle
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
2005+ Autocar and 2005 - April 2013 Peterbilt/Kenworth	1427001 C24L <b>1427904 C24L</b>	<b>3431956 TR3030T</b>	<b>3431956 TR3030T</b>	Peterbilt/Kenworth up to April 2013
Application:	Steer Axle	Front/Rear	Rear/Rear	Comments
Peterbilt/Kenworth April 2013 to present	<b>1427901 C24L</b> <b>1431901 C30L3</b>	<b>3431951 TR3030T</b> <b>3235951 TR3036L3T</b>	<b>3431951 TR3030T</b> <b>3235951 TR3036L3T</b>	Peterbilt/Kenworth April 2013 to present
Application:	Steer Axle	Rear Axle	Rear/Rear	Comments
2007+ Mack with type 3636 on single axle	<b>1427901 C24L</b> <b>1428901 C24L3</b> <b>1431901 C30L3</b>	<b>3436952 TR3636T</b> <b>3436952 TR3636T</b>		On steer axle, make sure to change the correct stroke
Application:	Steer Axle	Front Rear	Rear/Rear	Comments
2010+ Mack with Primaxx air-suspension	<b>1428902 C24L3</b> <b>1431901 C30L3</b>	<b>3433951 TR3036</b> <b>3235951 TR3036L3T</b>	<b>3433951 TR3036</b> <b>3235951 TR3036L3T</b>	One chamber for both rear axles-welded yoke

NOTE: BOLD = Welded Yoke

**FOR THOSE USING 2-PIN SLACK ADJUSTERS, PLEASE NOTE:** The welded yoke chamber listed above have a measurement between the pins on the welded yoke of 1.30". If the vehicle's original manufacturer's clevis has a measurement other than 1.30", the welded yoke chamber listed cannot be used and a threaded rod chamber with a clevis utilizing the proper pin spacing recommended by the vehicle's manufacturer should be used instead.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

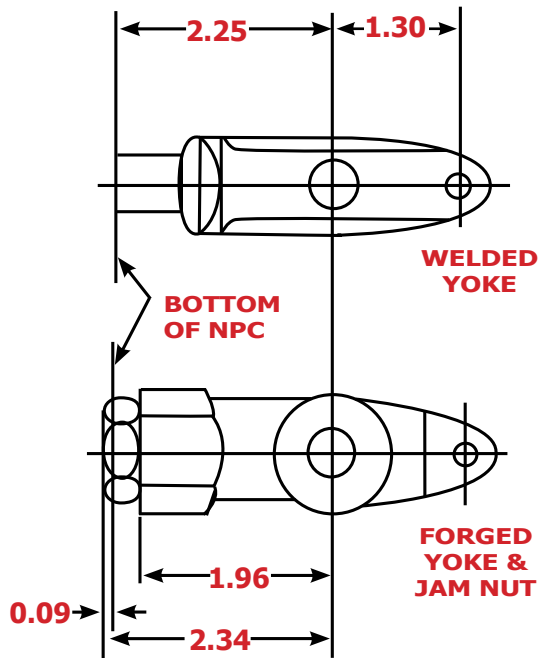
# WELDED YOKE REPLACEMENT

## FIELD REPLACEMENT OF CHAMBERS EQUIPPED WITH "WELDED" YOKES

Many vehicles are equipped with brake chambers employing a welded yoke construction.

The yoke is welded to the push-rod, making it impractical to remove and re-use it. Unless the non-pressure housing (mounting base), push-rod, and/or yoke have been damaged, or are severely worn or corroded, MGM Brakes recommends replacement of the single/piggyback as an effective, economical repair for servicing spring brakes.

However, if replacement of the entire brake chamber is required, it is recommended that a unit equipped with a welded yoke be used. Brake chambers with a "Y" dimension less than 2.5 inches must be replaced with a welded yoke construction.



Units manufactured with a "welded" yoke that have a fixed "Y" dimension, measured from the bottom of the NPC to the center of the yoke pin, of 2.25" (57.2 mm) must be replaced with a welded yoke type of brake chamber. Because the "Y" dimension is relatively short, the corresponding "X" dimension, measured from the bottom of the NPC to the end of the rod, will also be short, at approximately 3/4 of an inch (19.1 mm).

Consequently, if a replacement unit with a "universal" all-thread cut-to-fit push rod is used, the jam nut will hit the bottom of the non-pressure housing (mounting base) preventing the chamber from completely retracting. See the illustration showing 0.09 inches of interference preventing full retraction.

The jam nut will protrude into the NPC and may damage the protective stone shield, if the push rod opening in the NPC is large enough.

MGM Brakes recommends any brake chamber with a welded yoke construction having a 2.5 inch "Y" dimension or less always be replaced with another chamber with a welded yoke construction, ensuring proper brake chamber retraction.

Spring brakes and service chambers must fully retract in order to completely release the foundation brakes so the lining no longer contacts the drum, allowing the automatic slack adjusters to properly operate and adjust the stroke. The brake chamber life will also be reduced significantly if it is not able to fully retract.

MGM Brake chambers are available only with a 1.30 inch hole spacing for use with two pin slack adjusters. If the vehicle's original manufacturer's clevis has a measurement other than 1.30 inch, MGM Brakes welded-yoke chamber cannot be used.

**NOTE:** The listing above is based on known specifications of various manufacturers; however, certain applications may differ than shown. MGM suggests contacting the truck's manufacturer to verify the proper chamber and rod length to assure proper chamber replacement.

**NOTE: FOR THOSE USING 2-PIN SLACK ADJUSTERS, PLEASE NOTE:** The welded yoke chamber listed above have a measurement between the pins on the welded yoke of 1.30". If the vehicle's original manufacturer's clevis has a measurement other than 1.30", the welded yoke chamber listed cannot be used and a threaded rod chamber with a clevis utilizing the proper pin spacing recommended by the vehicle's manufacturer should be used instead.



**WARNING:** Every day, more and more vehicles are being manufactured with spring brakes and service chambers with the yoke welded to the service push-rod.

Units manufactured with a welded yoke have a preset "Y" dimension, measured from the bottom of the NPC to the center-line of the yoke pin. There are many different preset "Y" dimensions depending on the application. It is very important that you obtain this "Y" measurement from your current chamber in order to replace "like for like" to continue proper operation.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# W E L D E D Y O K E S

## THE ONLY WAY TO RUN YOUR VEHICLE!

# Why?

## TIME

- Reduce chamber replacement time
- No push-rod cutting required, made for easy install
- Maintain exact OEM chamber to slack adjuster factory set-up
- Will fit single and most dual pin slack adjusters
- Reduce road call time with a few of the most popular parts
- Common part numbers for a variety of make and model of trucks and tractors

## SAFETY

- Maintain OEM engineered safety (incorrect rod cutting can affect proper brake adjustment)

**DISCLAIMER: FOR THOSE USING 2-PIN SLACK ADJUSTERS, PLEASE NOTE:** The welded yoke chambers have a measurement between the pins on the welded yoke of 1.30". If the vehicle's original manufacturer's clevis has a measurement other than 1.30", the welded yoke chamber listed cannot be used and a threaded rod chamber with a clevis utilizing the proper pin spacing recommended by the vehicle's manufacturer should be used instead.



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VOCATIONAL APPLICATIONS



# WELDED YOKES APPLICATION GUIDE

VOCATIONAL APPLICATIONS

P/N	MODEL	DESCRIPTION
MJS3024ET951	MJS3024ET	Combination - with Welded Yoke - Y = 2.25"
MJS3028ET951	MJS3028ET	Combination - with Welded Yoke - Y = 2.25"
MJS3030ET951	MJS3030ET	Combination - with Welded Yoke - Y = 2.25"
MJS3030ET953	MJS3030ET	Combination - with Welded Yoke - Y = 4.20"
MJS3030ET955	MJS3030ET	Combination - with Welded Yoke - Y = 2.87"
MJS3630ET951	MJS3630ET	Combination - with Welded Yoke - Y = 2.25"
1427901	C24L	Service Chamber - with Welded Yoke - Y = 2.25"
1427902	C24L	<b>Service Chamber - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
1427904	C24L	<b>Service Chamber - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
1428901	C24L3	Service Chamber - with Welded Yoke - Y=2.25"
1428902	C24L3	<b>Service Chamber - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
1430901	C30	Service Chamber - with Welded Yoke - Y=2.25"
1430902	C30	<b>Service Chamber - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
1430904	C30	<b>Service Chamber - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
1431901	C30L3	Service Chamber - with Welded Yoke - Y = 2.25"
1431902	C30L3	<b>Service Chamber - w/Welded Yoke - Y = 2.25" - Neoprene Diaphragm - Stainless Steel Pins</b>
1617901	CS16LH	Service Chamber - with Welded Yoke - Y = 2.25"
1621901	CS20L	Service Chamber - with Welded Yoke - Y = 2.25"
1628901	CS24L3	Service Chamber - with Welded Yoke - Y = 2.25"
1628902	CS24L3	<b>Service Chamber - with Welded Yoke - Y = 2.25" - Neoprene Diaphragm</b>
1630901	CS30	Service Chamber - with Welded Yoke - Y = 2.25"
1630902	CS30	<b>Service Chamber - with Welded Yoke - Y = 2.25" - Neoprene Diaphragm</b>
1631901	CS30L3	Service Chamber - with Welded Yoke - Y = 2.25"
1631902	CS30L3	<b>Service Chamber - with Welded Yoke - Y = 2.25" - Neoprene Diaphragm</b>
1641901 ##	CS24L3W	Service Chamber - with Welded NPC, Welded on Yoke, Y = 2.25"
1641902 ##	CS24L3W	<b>Service Chamber - w/Welded NPC, Welded on Yoke, Y = 2.25", Neoprene Diaphragm</b>
1641904 ##	CS24L3W	<b>Service Chamber - w/Welded NPC, Welded on Yoke, Y = 2.87", Neoprene Diaphragm</b>
3224951	TR2430LP3	Combination - with Welded Yoke - Y = 2.25"
3226951	TR2430LP3HD	Combination - with Welded Yoke - Y = 2.25"
3227951	TR2430LP3THD	Combination - with Welded Yoke - Y = 2.25"
3230951	TR3030LP3	Combination - with Welded Yoke - Y = 2.25"
3230955	TR3030LP3	Combination - with Welded Yoke - Y = 3.063"
3231951	TR3030LP3T	Combination - with Welded Yoke - Y = 2.25"
3231953	TR3030LP3T	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
3231954	TR3030LP3T	Combination - with Welded Yoke - Y = 2.87"
3231955	TR3030LP3T	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm- Y = 2.87"</b>
3232951	TR3030LP3HD	<b>Combination - with Welded Yoke - Y = 2.25"</b>
3232952	TR3030LP3HD	Combination - with Welded Yoke & Neoprene Diaphragm - Y = 2.25"
3233951	TR3030LP3THD	Combination - with Welded Yoke - Y = 2.25"
3233952	TR3030LP3THD	<b>Combination - w/Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
3233953	TR3030LP3THD	<b>Combination - w/Welded Yoke &amp; Neoprene Diaphragm - Y = 4.2"</b>
3234951 ##	TR3036L3	Combination - with Welded NPC & Welded Yoke - Y = 2.25"
3235951 ##	TR3036L3T	Combination - with Welded NPC & Welded Yoke - Y = 2.25"
3244951 ##	TR3030LP3THDW	Combination - with Welded NPC & Welded Yoke - Y = 2.25"
3430951	TR3030	Combination - with Welded Yoke - Y = 2.25"
3430952	TR3030	Combination - with Welded Yoke - Y = 4.20"
3430953	TR3030	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
3430954	TR3030	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 4.20"</b>

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# WELDED YOKES APPLICATION GUIDE



P/N	MODEL	DESCRIPTION
3430955	TR3030	Combination - with Welded Yoke - Y = 3.063"
<b>3430956</b>	<b>TR3030</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
3431951	TR3030T	Combination - with Welded Yoke - Y = 2.25"
3431952	TR3030T	Combination - with Welded Yoke - Y = 4.20"
<b>3431953</b>	<b>TR3030T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
<b>3431954</b>	<b>TR3030T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 4.20"</b>
<b>3431955</b>	<b>TR3030T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
3431956	TR3030T	Combination - with Welded Yoke - Y = 2.87"
<b>3431957</b>	<b>TR3030T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.50"</b>
3431958	TR3030T	Combination - with Welded Yoke - Y = 3.00"
3432951	TR3036T	Combination - with Welded Yoke - Y = 2.25"
<b>3432952</b>	<b>TR3036T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
3433951	TR3036	Combination - with Welded Yoke - Y = 2.25"
3436951	TR3636T	Combination - with Welded Yoke - Y = 2.25"
<b>3436952</b>	<b>TR3636T</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragms - Y = 2.25"</b>
3437951	TR3636	Combination - with Welded Yoke - Y = 2.25"
<b>3444851 ##</b>	<b>TR3030THDW</b>	<b>Combination - w/Welded NPC, Neoprene Diaphragm</b>
<b>3444955 ##</b>	<b>TR3030THDW</b>	<b>Combination - w/Welded NPC, Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
3531951	TR3030TS	Combination - with Welded Yoke - Y = 2.25"
3531952	TR3030TS	Combination - with Welded Yoke - Y = 4.20"
<b>3531953</b>	<b>TR3030TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
3531954	TR3030TS	Combination - with Welded Yoke & Neoprene Diaphragm - Y = 4.20"
3531955	TR3030TS	Combination - with Welded Yoke & Neoprene Diaphragm - Y = 2.87"
3532951	TR3036TS	Combination - with Welded Yoke - Y = 2.25"
3532952	TR3036TS	Combination - with Welded Yoke - Y = 4.20"
<b>3532953</b>	<b>TR3036TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 4.20"</b>
<b>3532954</b>	<b>TR3036TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
<b>3532955</b>	<b>TR3036TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.87"</b>
3534951	TR3030LP3TSHD	Combination - with Welded Yoke - Y = 2.25"
3535951	TR3030LP3TS	Combination - with Welded Yoke - Y = 2.25"
<b>3535952</b>	<b>TR3030LP3TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 2.25"</b>
<b>3535953</b>	<b>TR3030LP3TS</b>	<b>Combination - with Welded Yoke &amp; Neoprene Diaphragm - Y = 4.20"</b>
3545951 ##	TR3030LP3TSHDW	Combination - with Welded NPC & Welded Yoke - Y = 2.25"
<b>3545953 ##</b>	<b>TR3030LP3TSHDW</b>	<b>Combination - with Welded NPC &amp; Welded Yoke - Y = 2.25", Neoprene Diaphragm</b>
<b>3545954 ##</b>	<b>TR3030LP3TSHDW</b>	<b>Combination - with Welded NPC &amp; Welded Yoke - Y = 4.20", Neoprene Diaphragm</b>
<b>3545955 ##</b>	<b>TR3030LP3TSHDW</b>	<b>Combination - with Welded NPC &amp; Welded Yoke - Y = 2.87", Neoprene Diaphragm</b>
<b>3545956 ##</b>	<b>TR3030LP3TSHDW</b>	<b>Combination - with Welded NPC &amp; Welded Yoke - Y = 2.87", Neoprene Diaphragm</b>
3631951	TR3030THD	Combination - with Welded Yoke - Y = 2.25"
3828951	LTR2430L3	Combination - with Welded Yoke - Y = 2.25"
3832951	LTR3030L3	Combination - with Welded Yoke - Y = 2.25"
3833951	LTR3030L3T	Combination - with Welded Yoke - Y = 2.25"
3844951 ##	LTR3030L3W	Combination - with Welded NPC & Welded Yoke - Y = 2.25"

**Model Key:**

TR = Tamper Resistant, LP3 and L3 = 3 Inch Long Stroke, LTR = Long Life (Limited six year warranty for on-highway vehicles)

MJS = Piston Brake, C = Service Chamber, CS = Sealed Service Chamber, T = Breather Tube, HD = Heavy Duty

TS = Severe Service (epoxy coated throughout), W = Weld Reinforced Mounting Bolts

**NOTE:**

- ## designates welded NPC
- Bold Black indicates Waste/Refuge (neoprene).
- Replace "like" for "like" (Do not use a welded yoke in place of a threaded rod. Do not use a threaded rod in place of a welded yoke.)
- Y-Dimension measured with brake released (power spring caged) from mounting base to center-line of large yoke pin.
- Stainless steel yoke pins available for both welded and threaded yokes: Welded Yoke Kit Part Number 9092012P

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# SPECIAL APPLICATION BRAKES

Satisfying Special  
Application Requirements ...  
Especially in the Transit Industry







	Page(s)
<b>Section 6: Special Applications.....</b>	<b>104-111</b>
Special Length Push-Rods.....	106
Hendrickson Intraax and Vantraax Suspension Applications .....	107
12" and 18" Extended Length Push-Rods .....	108-109
School Bus/Fire Truck Applications .....	110
SAE/METRIC Mixed Parts List.....	111

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## Special Length Push-Rods

VMRS # 13-004-000

Available aftermarket options & part numbers for assemblies requiring "X" dimensions longer than standard 8.00" (203.2 mm) fully threaded push-rod.

All Models	Type 24		Type 30		Type 36	
"X" Dimension	12.00" (304.8 mm)	18.00" (457.2 mm)	12.00" (304.8 mm)	18.00" (457.2 mm)	12.00" (304.8 mm)	18.00" (457.2 mm)
Push-Rod Diameter	5/8" (15.9 mm)	3/4" (19.1 mm)	5/8" (15.9 mm)	3/4" (19.1 mm)	5/8" (15.9 mm)	3/4" (19.1 mm)
Threaded Length	5.00" (127.0 mm)	7.00" (177.8 mm)	5.00" (127.0 mm)	7.00" (177.8 mm)	3.00" (76.2 mm)	9.00" (228.6 mm)
Part Number Suffix	xxxx551	xxxx651	xxxx551	xxxx651	xxxx551	xxxx651
Kit - Push-Rod Assembly	9064553	9064653	9064551	9064651	9064552	9064652

**NOTE:** Generic replacement parts for Hendrickson Intraax / Vantraax Suspension ends in 551 suffix.

**NOTE:** We offer some direct OEM replacement part numbers for transit applications. Contact MGM Brakes customer service for details.

**NOTE:** xxxx represents: P/N series for model groups.



TR-T Model

TR-LP3T Model

LTR-L3T Model

MJS Model

**NOTE:** For yoke pin and mounting hardware replacement parts refer to Section 8.

For custom replacement assemblies, contact MGM Brakes Sales.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

<b>Hendrickson Intraax and Vantraax Suspension Applications</b>				
PART NUMBER	MODEL	STROKE	DESCRIPTION	
MJS3028ET551	MJS3028ET	LS	5/8" x 12" Push-Rod, 5" threaded	Piston
MJS3030ET551	MJS3030ET	LS	5/8" x 12" Push-Rod, 5" threaded	Piston
MJS3630ET551	MJS3630ET	LS	5/8" x 12" Push-Rod, 5" threaded	Piston
3230551	TR3030LP3	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
<b>3230555*</b>	<b>TR3030LP3</b>	<b>LS</b>	<b>5/8" x 12" Fully Threaded Push-Rod</b>	<b>Double Diaphragm</b>
3230957	TR3030LP3	LS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3231551	TR3030LP3T	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3231959	TR3030T	LS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3232551	TR3030LP3HD	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3430551	TR3030	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
<b>3430555**</b>	<b>TR3030</b>	<b>SS</b>	<b>5/8" x 12" Fully Threaded Push-Rod</b>	<b>Double Diaphragm</b>
3430957	TR3030	SS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3431551	TR3030T	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3431959	TR3030T	SS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3432551	TR3036T	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3436551	TR3636T	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3531551	TR3030TS	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3534551	TR3030LP3TSHD	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3535551	TR3030LP3TS	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3535957	TR3030LP3TS	LS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3631551	TR3030THD	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3831551	LTR3030T	SS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3832551	LTR3030L3	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm
3833953	LTR3030L3T	LS	<b>5/8" x 11.10" Push-Rod w/Welded Yoke</b>	Double Diaphragm
3844551	LTR3030L3W	LS	5/8" x 12" Push-Rod, 5" threaded	Double Diaphragm

**NOTE: \*3230555 Can be used to replace 3230051 and 3230551**

**NOTE: \*\*3430555 Can be used to replace 3430051 and 3430551**

LEGEND:
TR = Tamper Resistant
LTR = Long Life Tamper Resistant
LS = Long Stroke - 3.00"
SS = Standard Stroke - 2.50"
T = Tube
TS = Tube/Severe Service
HD = Heavy Duty Spring
W = Welded NPC

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# SPECIAL APPLICATIONS

## 12" and 18" Extended Length Push-Rods

P/N	Model	Stroke	Description
MJS2424ET551	MJS2424ET	3.00"	5/8" x 12" Push-Rod
MJS3028ET551	MJS3028ET	3.00"	5/8" x 12" Push-Rod
MJS3028ET651	MJS3028ET	3.00"	3/4" x 18" Push-Rod
MJS3030ET551	MJS3030ET	3.00"	5/8" x 12" Push-Rod
MJS3630ET551	MJS3630ET	3.00"	5/8" x 12" Push-Rod
3230551	TR3030LP3	3.00"	5/8" x 12" Push-Rod
3230651	TR3030LP3	3.00"	3/4" x 18" Push-Rod
3231551	TR3030LP3T	3.00"	5/8" x 12" Push-Rod
3231651	TR3030LP3T	3.00"	3/4" x 18" Push-Rod
3232551	TR3030LP3HD	3.00"	5/8" x 12" Push-Rod
3232651	TR3030LP3HD	3.00"	3/4" x 18" Push-Rod
3233551	TR3030LP3THD	3.00"	5/8" x 12" Push-Rod
3233651	TR3030LP3THD	3.00"	3/4" x 18" Push-Rod
3427551	TR2424L	2.50"	5/8" x 12" Push-Rod
3428551	TR2430LT	2.50"	5/8" x 12" Push-Rod
3429551	TR2430L	2.50"	5/8" x 12" Push-Rod
3429651	TR2430L	2.50"	3/4" x 18" Push-Rod
3430551	TR3030	2.50"	5/8" x 12" Push-Rod
3430651	TR3030	2.50"	3/4" x 18" Push-Rod
3431551	TR3030T	2.50"	5/8" x 12" Push-Rod
3431651	TR3030T	2.50"	3/4" x 18" Push-Rod
3432551	TR3036T	2.50"	5/8" x 12" Push-Rod
3432651	TR3036T	2.50"	3/4" x 18" Push-Rod
3433551	TR3036	2.50"	5/8" x 12" Push-Rod
3433651	TR3036	2.50"	3/4" x 18" Push-Rod
3436551	TR3636T	3.00"	5/8" x 12" Push-Rod
3436651	TR3636T	3.00"	3/4" x 18" Push-Rod
3437551	TR3636	3.00"	5/8" x 12" Push-Rod
3437651	TR3636	3.00"	3/4" x 18" Push-Rod
3531551	TR3030TS	2.50"	5/8" x 12" Push-Rod

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

SPECIAL APPLICATIONS



## 12" and 18" Extended Length Push-Rods

P/N	Model	Stroke	Description
3531651	TR3030TS	2.50"	3/4" x 18" Push-Rod
3534551	TR3030LP3TSHD	3.00"	5/8" x 12" Push-Rod
3534651	TR3030LP3TSHD	3.00"	3/4" x 18" Push-Rod
3535551	TR3030LP3TS	3.00"	5/8" x 12" Push-Rod
3535651	TR3030LP3TS	3.00"	3/4" x 18" Push-Rod
3536551	TR3636TS	3.00"	5/8" x 12" Push-Rod
3536651	TR3636TS	3.00"	3/4" x 18" Push-Rod
3631551	TR3030THD	2.50"	5/8" x 12" Push-Rod
3831551	LTR3030T	2.50"	5/8" x 12" Push-Rod
3831651	LTR3030T	2.50"	3/4" x 18" Push-Rod
3832551	LTR3030L3	3.00"	5/8" x 12" Push-Rod
3832651	LTR3030L3	3.00"	3/4" x 18" Push-Rod
3833551	LTR3030L3T	3.00"	5/8" x 12" Push-Rod
3844551	LTR3030L3W	3.00"	5/8" x 12" Push-Rod

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## School Bus Applications

### Long Stroke Spring Brakes

All Except International Bus

P/N	Model	Y-Dim	Application
3224951	TR2430LP3	2.25" (2 1/4")	
3230951	TR3030LP3	2.25" (2 1/4")	
3230955	TR3030LP3	3.063" (3 1/16")	Thomas Bus with Ridewell Suspension
3225951	TR2430LP3T	2.25" (2 1/4")	Breather Tube
3231951	TR3030LP3T	2.25" (2 1/4")	Breather Tube

International Bus Only

3226951	TR2430LP3HD	2.25" (2 1/4")	
3232951	TR3030LP3HD	2.25" (2 1/4")	
3227951	TR2430LP3THD	2.25" (2 1/4")	Breather Tube
3233951	TR3030LP3THD	2.25" (2 1/4")	Breather Tube

### Long Stroke Service Chambers

P/N	Model	Y-Dim
1621901	CS20L	2.25" (2 1/4")
1428901	C24L3	2.25" (2 1/4")
1431901	C30L3	2.25" (2 1/4")

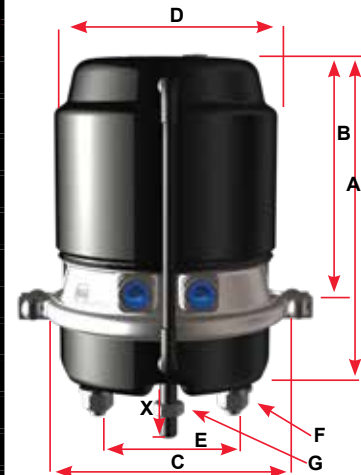
### Recommended Replacement Parts

P/N	Description
8038012	1/2" Stainless Steel Clevis Pin
8038016	1/4" Stainless Steel Clevis Pin
8151001X*	Cotter Pin for 1/2" Clevis Pin
8151003X*	Cotter Pin for 1/4" Clevis Pin

NOTE: \*8 pc. bulk packs

## Fire Truck Applications

P/N Series	MJS3024ET	MJS3028ET	MJS3030ET	MJS3628ET
Model	MJS3024ET	MJS3028ET	MJS3030ET	MJS3628ET
Size	3024	3028	3030	3628
Stroke	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)	3.00" (76.2 mm)
P/N Combination SAE	MJS3024ET051	MJS3028ET051	MJS3030ET051	MJS3628ET051
P/N Piggyback Plus Kit SAE	MJS3024ET008	MJS3028ET008	MJS3030ET008	MJS3628ET008
P/N Combination METRIC	MJS3024ET049	MJS3028ET049	MJS3030ET049	MJS3628ET049
Wt. Combination	22.40 lb (10.2 kg)	23.10 lb (10.5 kg)	23.10 lb (10.5 kg)	25.20 lb (11.4 kg)
Wt. Single	14.60 lb (6.6 kg)	14.92 lb (6.8 kg)	14.92 lb (6.8 kg)	14.50 lb (6.6 kg)
A	10.33" (262.4 mm)	10.73" (272.5 mm)	10.73" (272.5 mm)	11.06" (280.9 mm)
B	7.94" (201.7 mm)	8.43" (214.1 mm)	8.43" (214.1 mm)	8.43" (214.1 mm)
C	8.32" (211.3 mm)	8.32" (211.3 mm)	8.32" (211.3 mm)	9.40" (238.8 mm)
D	6.76" (171.7 mm)	7.50" (190.5 mm)	7.50" (190.5 mm)	7.50" (190.5 mm)
E	4.75" (120.7 mm)			
F	5/8" 11 UNC (M16 x 1.5 - 6g)			
G	5/8" UNF (M16 x 1.5 - 6g)			
Inlets	3/8" NPTF (M16 x 1.5 - 6H)			
X - Min. (in the caged position)	8.00" (203.2 mm)			



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



MGM - Mixed Thread Part Numbers				
Truck & Bus Europe				
OE Ref. #	MGM OEM ref.	MGM AM ref.	Replaced by	Information and Comments
1190406	Obsolete, see 3013229		MJS3028ET209	
1197020	Obsolete, see 3013299		MJS3028ET209	
1588610	Obsolete, see 1608006		MJS3028ET200	
1608006	4130057	4131200	MJS3028ET200	Direct equivalent to OE part
3013299	4130058	4131209	MJS3028ET209	Direct equivalent to OE part
3035900	1430223	1430390	Current	Direct equivalent to OE part
3090932	4124155		MJS2424ET074	Need to adjust air inlet port position
3090933	4124156		MJS2424ET074	Direct equivalent to OE part
5002292	4130060	4131200	MJS3028ET200	Direct equivalent to OE part
5002293	4130061	4131209	MJS3028ET209	Direct equivalent to OE part
<p>Note: All above units have M16 x1.5 mm air inlet ports</p> <p>Mounting studs and push rod threads are all 5/8"</p>				

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# e-STROKE®

Electronic Brake Monitoring System

Monitor Brake Stroke—  
Increase Safety, Reduce Costs  
For Drum and Air Disc Brakes



e-DT™





**Section 7: e•STROKE® – Brake Monitoring System..... 112-131**

Introduction..... 114

How e•STROKE® works..... 115-116

Specifications ..... 118

Diagnostics..... 119

e•STROKE® System Parts GEN 3 Tractor/Truck/Bus..... 120-122

e•STROKE® System Parts - Trailer Parts List ..... 122-123

e•STROKE® System Parts Tractor/Truck/Bus - GEN 1 and 2, Miscellaneous Parts ..... 124-125

e•STROKE® Diagnostic Tools Parts List ..... 126

e•STROKE® Support and Training..... 128-131

<b>e•STROKE®</b> System Features	
	Promotes SAFETY
	Check brake stroke status & pinpoint brake problems
	Wheel & problem-specific monitoring in real time
	Diagnostic tools
	Electronic Control Unit (ECU) with fault history storage
	Chamber stroke sensing components are factory installed and calibrated to ensure optimal in service performance
	Sensors are field replaceable
	Durable cables made with double insulated high strength jacketing & industry standard water-proof connectors
	Highly accurate, patented design
	Operating temperature: -40°F to +176°F (-40°C to +80°C)

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



Verifying proper brake setup on commercial air-braked vehicles has historically been a significant problem in our industry. While daily pre-trip brake inspections are required, they are seldom performed due to the time and difficulty required with current brake systems designs. Also, out of adjustment brakes continue to be one of the top out-of-service violations noted at road-side inspections.

Based on this need, MGM developed and promoted e•STROKE® in 1996, an electronic brake monitoring system. e•STROKE® utilizes sensors mounted inside the brake chamber to measure actual brake stroke and convey this information to an electronic control unit for analysis. The system can be utilized to verify brake inspection results, as well as provide continuous brake monitoring.

MGM first promoted our GEN 1 system in 1996 and officially launched e•STROKE® in 2000 for exposed push-rod brake systems. This system used a ECU (Electronic Control Unit) that displayed real-time brake status via LED's on the front of the ECU. The product then evolved into our GEN 2 system in 2005 which incorporated some additional features such as brake pressure sensing, vehicle speed monitoring and J1708/J1587 support.

The product has further evolved over the years to what is now the third generation system or as it is more commonly known, GEN 3. This current generation of e•STROKE® includes added features such as fault code storage, brake application pressure monitoring/transmission, configurable wheel end support, lining wear monitoring, J1939 support and advanced diagnostics.

e•STROKE® fault warnings can diagnose problems associated with:

- Soft or broken return spring in the foundation brake or actuator
- Worn bushings (cam tube or spider brake)
- Poor automatic slack operation/maintenance
- Improper parking brake release by operator
- Excessive mechanical deflection
- Defective or worn spring brake
- Broken parking brake power spring
- Improper brake set-up/adjustment
- Air leaks, or improper operating air system
- Ice or water contamination in the air system
- Defective air valves
- Internal moisture intrusion within a caliper assembly
- Low lining clearance as a result of an over adjusted caliper

To find out how e•STROKE® can help to reduce your fleet operating costs, whether truck, trailer or bus, contact MGM Brakes Customer Service at: (800) 527-1534 or mail@mgmbrakes.com

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Building upon the success of MGM's patented e•STROKE® electronic brake monitoring system for exposed push-rod brakes, MGM also offers e•STROKE® electronic brake monitoring for air disc applications.

The GEN 3 e•STROKE® Brake Monitoring System utilizes proven electronics, cabling and diagnostic software to provide the user with real-time feedback on the vehicles air brake functionality to accompany stored fault history as well. MGM Brakes patented sensor technology measures actuator push-rod stroke as well as caliper lever arm movement to accurately identify the position of the push-rod. The e•STROKE® system is simultaneously measuring brake application pressure and vehicle speed that will help report potential brake issues as they occur on the vehicle. When a fault occurs, the system can immediately alert the driver with an optional warning light and transmits the brake issue over the SAE J1939 network for further diagnostic use. All faults, both active and those that have previously occurred are stored in the history of the ECU and can be accessed at any time using any of MGM's diagnostic tools.

e•STROKE® brake chambers are the same as MGM's standard chambers but with the addition of sensor components added for stroke detection. A standard chamber, though sized the same, cannot serve as a drop in replacement for an e•STROKE® chamber.

The e•STROKE® Brake Monitoring System monitors your air brake system and can report:

- Non-Functioning Brakes (caused by broken air hoses, faulty valves, faulty actuators)
- Dragging Brakes (caused by faulty valves, moisture in air system, caliper adjuster failures)
- Over-Stroke Brakes (caused by caliper adjuster mechanism failure, or other mechanical failure)
- Low Pad Clearance (caused by an over-adjusted air disc caliper)

Air Disc Brakes are almost impossible to visually inspect since most of the moving components are hidden from view. The e•STROKE® disc system, like its drum system counterpart, continuously monitors every brake apply and release and notifies the driver or fleet manager of brake problems via:

- Optional dash warning light alerting the driver to potential brake problem.
- J-1939 real-time transmission of any fault condition which can be relayed via on board data recording and reporting systems (Clever Devices, New Flyer Connect etc.)

e•STROKE® GEN 3 Electronic Brake Monitoring features include:

- ECU or Electronic Control Unit is configurable for any combination of drum and disc brake stroke measurement
- Brake monitoring on up to 4 axles (8 wheel ends)
- SAE J1708 & J1939 compliant. System fully supports both vehicle network configurations
- System records and stores fault history for retrieval/analysis
- System monitors and transmits driver brake application pressure
- Enhanced diagnostic capability. Optional e•DT™ J1939 hand held diagnostic tool and laptop diagnostic tool kits available

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



The benefits of MGM's e•STROKE® system are:

- Reduces maintenance costs by helping the technician quickly and accurately diagnose brake problems
- Detecting problems early before they become more costly repairs
- Reduces operating costs by keeping your vehicles in-service and on the road
- Provides peace of mind by knowing the status of your brake system at all times (liability concerns)
- Adds confidence when releasing new vehicles (and new brake systems) into your fleet
- Identifies new vehicle delivery issues with the brake system
- Differentiates from each wheel end to quickly lead the technician to the area of issue

If you feel MGM's e•STROKE® brake monitoring product line has benefit to you and your fleet, please contact MGM Brakes Customer Service at: (800) 527-1534 or [mail@mgmbrakes.com](mailto:mail@mgmbrakes.com) for additional information about this exciting new technology.

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

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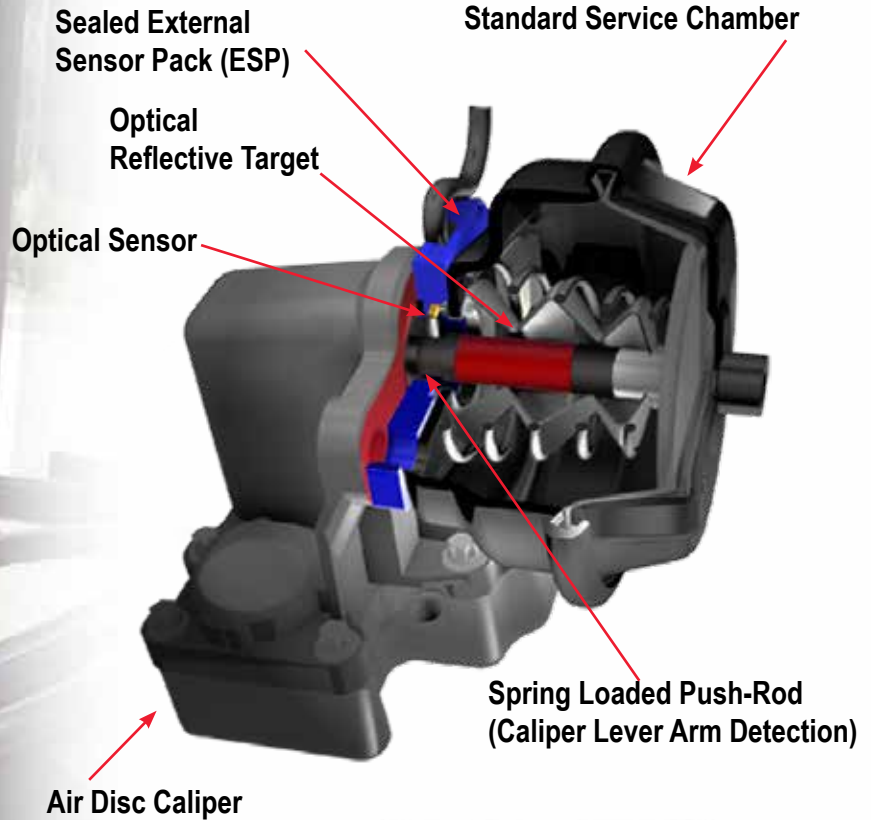
MGM Brakes Introduces



# e•STROKE<sup>®</sup>

Brake Monitoring System

## BRAKE MONITORING FOR AIR DISC



ECU - Electronic Control Unit



e•DT™ Monitor

e•STROKE<sup>®</sup> - BRAKE MONITORING SYSTEM



## **e•STROKE® GEN 3 System Specifications:**

Operating Temperature: -40°F - 176°F (-40°C TO 80°C)

Power Requirement: 9.5 VDC to 30 VDC ignition switch

Maximum Current Draw: 1.5 amps

System Fuse: 5 amps

Environmental Protection: SAE J1455 compliant

Electrical Protection: SAE J1455 and SAE J1113 compliant

Applications: e•STROKE® GEN 3 available for tractor, truck, bus & rail

Brake Types: Air drum and Air disc

## **System Component Specifications:**

### Electronic Control Unit (ECU)

- STR750 flash micro controller
- FSK (PLC), JTAG, RS-232, J1708, J1939 interface support
- Internal 10 bit A/D, external 12 bit A/D
- Extended I/O support (digital & analog)
- Configurative from 2 to 8 wheel ends
- Truck, tractor, bus configurations available
- Diagnostic interface: RS-232, J1708, J1939
- Approved for interior mounted applications only

### Pressure Transducer

- 110 psi brake application pressure sensing capability
- Burst pressure rating – 1000 psi (68.9 bar)
- Pneumatic connection – ¼" NPT male
- Material –stainless steel

### Actuator Sensor – Drum

- One piece environmentally sealed Hall Effect sensor
- Delphi Metri-Pack 150 sealed type 3-pin connector
- 60 inch standard harness length

### Actuator Sensor – Disc

- Hardcoat aluminum housing
- Sealed potted assembly
- Delphi Metri-Pack 150 sealed type 3-pin connector
- 60 inch standard harness length

### Wire Harnesses

- Power harness – standard 12' (3.7 meter) cut to length harness
- Pressure transducer harness – 5' (1.5 meter) to 25' (7.62 meter)
- Sensor harness – 10' (3.0 meter) to 50' (15.2 meter)
- All exterior cables double insulated with high strength jacket

### In-Cab System Warning Device

- Tractor/Truck/Bus brake stroke warning lamp output
- Trailer brake stroke warning lamp output
- Fault code transmission via J1708 & J1939

### Brake Actuators

- External piston rod and disc brake actuators are available for a wide range of vehicle applications. It is necessary to select the appropriate actuators for the vehicle application.

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**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

**e•STROKE® Diagnostics:**

MGM's e•STROKE® system is easy to use and can be interfaced with in a variety of ways based on your fleet's needs. Brake status and diagnostic information can be accessed using three convenient methods: The e•DT™ hand held diagnostic tool, laptop diagnostic program and a traditional warning light.

The e•DT™ hand held diagnostic tool may be used to view the status of any e•STROKE® system connected to J1939 circuits. In addition the e•DT™ can view and clear fault history as well as display vehicle speed and brake application pressure in real time. The e•DT™ tool plugs into the vehicle "OBD" (9 pin diagnostic port) with the supplied harness. Once plugged in, the tool will automatically link up to the e•STROKE® ECU and show the current brake status. A series of intuitive menus can be navigated using a few buttons to access all of the brake information available in the ECU. The e•DT™ can also be permanently mounted in the cab as an "onboard" display where the operator can see the brake status clearly displayed in real time.

A laptop computer based diagnostic tool kit is also available for the e•STROKE® GEN 3 system. The kit includes the diagnostic software on a USB flash drive and appropriate harnesses for connection from the diagnostic computer to the e•STROKE® system (via RS-232 connection direct to the ECU or vehicle SAE J1939 network). This diagnostic software can be easily loaded on a laptop and connected to the e•STROKE® GEN 3 system. Brake status and history can be viewed and saved as a text record. In addition the system configuration and serial numbers can be viewed. These kits allow the operator or technician to analyze this information in detail and save a record of the brake inspection. This enhances the systems usefulness as a prognostic and/or diagnostic tool.

Both the e•DT™ Tool and Diagnostic Laptop Program may be used to acquire the following information from the e•STROKE® GEN 3 ECU:

- Current Wheel Specific Brake Status (Active Faults)
- Stored Fault History (In-Active Faults)
- e•STROKE® System & Diagnostic Status
- ECU Information: Software Version, Configuration, Serial Number is supported by the laptop program only.

The optional dash mounted warning light will illuminate with active fault conditions and will also output diagnostic blink codes when prompted by pressing a button on the ECU. Active and inactive fault conditions can be viewed via blink codes and then cleared by pressing the push button again.

Where available with OEM installations, the e•STROKE® GEN 3 system can also be monitored via SAE J1939 transmissions to the vehicle's onboard computer system, data logger or instrument cluster.

**MGM e•STROKE® Diagnostic Tool Summary**

- P/N 9090109 Kit connects the ECU to a standard lap top computer (customer supplied) via an RS-232 connection
- P/N 9090111 Kit connects the laptop computer to the e•STROKE® system via a standard 1939 9-pin diagnostic connection
- P/N 9090110 Kit includes e•DT™ display tool and connects to the e•STROKE® system via a standard 1939 9-pin diagnostic connection

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## e•STROKE® GEN 3 Tractor / Truck / Bus Parts List

Tractor / Truck / Bus ECUs - External Push-Rod					
Description	Part #	System Type	Vehicle Type	Axle No	Axle Configuration
ECU	8291100	GEN 3	Truck / Bus	2-Axle	e•STROKE® Drum & Lining Wear
ECU	8291101	GEN 3	Truck / Bus	2-Axle	e•STROKE® Drum Only
ECU	8291102	GEN 3	Truck / Bus	3-Axle	e•STROKE® Drum Only
ECU	8291103	GEN 3	Truck / Bus	3-Axle	e•STROKE® Drum & Lining Wear
ECU	8291108	GEN 3	Truck / Bus	4-Axle	e•STROKE® Drum Only
ECU	8291109	GEN 3	Truck / Bus	4-Axle	e•STROKE® Drum & Lining Wear
ECU	8291104	GEN 3	Tractor	2-Axle	e•STROKE® Drum Only
ECU	8291105	GEN 3	Tractor	2-Axle	e•STROKE® Drum & Lining Wear
ECU	8291106	GEN 3	Tractor	3-Axle	e•STROKE® Drum Only
ECU	8291107	GEN 3	Tractor	3-Axle	e•STROKE® Drum & Lining Wear
ECU	8291110	GEN 3	Tractor	4-Axle	e•STROKE® Drum Only
ECU	8291111	GEN 3	Tractor	4-Axle	e•STROKE® Drum & Lining Wear

Tractor / Truck / Bus ECU - Disc					
Description	Part #	System Type	Vehicle Type	Axle No	Axle Configuration
ECU	8291117	GEN 3	Truck / Bus	2-Axle	e•STROKE® Disc Only
ECU	8291118	GEN 3	Truck / Bus	2-Axle	e•STROKE® Disc & Lining Wear
ECU	8291119	GEN 3	Truck / Bus	3-Axle	e•STROKE® Disc Only
ECU	8291120	GEN 3	Truck / Bus	3-Axle	e•STROKE® Disc & Lining Wear

Contact MGM Brakes for additional configurations.

Tractor / Truck / Bus Power & Auxiliary Cables			
Description	Part #	Length ft (meters)	Function
Power Harness	8290233	12' (3.7 meters)	Connects e•S3 ECU to Power, J1708, Alarm 1 & 2
SAE J1939 Drop Leg Harness, Receptacle	8290218	1.5' (0.5 meters)	1.5' (0.5 meters) Drop Leg Harness, Deutsch Receptical-A-DT04-3P-E008 Connector, Wedge-A-W3P
SAE J1939 Drop Leg Harness, Plug	8290257	3' (0.9 meters)	3' (0.9 meters) Drop Leg Harness, Deutsch Plug-A-DT06-3S-E008 Connector, Wedge-A-W3S
SAE J1939 Backbone Extension	8290274	1' (0.3 meters)	1' (0.3 meters) Backbone Extension Harness, Deutsch DT06-3S-E008 Connector, Wedge-A-W3S-1939, DT04-P-P007
SAE J1708 Harness	8290189	12' (3.7 meters)	Blunt Cut SAE J1708 Connection Harness
Warning Light Harness Kit	9090105	6' (1.8 meters)	6' (1.8 meters) Warning Light Harness & Label Kit, Amber
Warning Light Harness Kit	9090106	12' (3.7 meters)	12' (3.7 meters) Warning Light Harness & Label Kit, Amber
Warning Light Adapter Harness	8290235	2' (0.6 meters)	Allows for Alarm 3 Connection to ECU, Tractor Applications Only



ECU - Truck / Tractor / Bus



ECU Power Connect Lead  
Truck / Tractor / Bus



Power Cables  
Truck / Tractor / Bus



Pressure Transducer Harness  
Truck / Tractor / Bus



Pressure Transducer  
Truck / Tractor / Bus

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NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



e•STROKE® Tractor / Truck / Bus Parts List

Pressure Transducer & Harnesses			
Description	Part #	Length ft (meters)	Function
Pressure Transducer, 100 psi (6.9 bar)	8090550	.2' (.1 meters)	Signals brake pedal application to ECU
Pressure Transducer Harness	8290243	5' (1.5 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290244	10' (3.0 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290245	15' (4.6 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290246	20' (6.1 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290310	25' (7.6 meters)	Connects Pressure Transducer to ECU

Actuator Sensors & Harnesses			
Description	Part #	Length ft (meters)	Function
Actuator Sensor (Drum/External Push-Rod)	8290120	5' (1.5 meters)	Drum Actuator Sensor
Actuator Sensor (Disc)	8290350	5' (1.5 meters)	Disc Actuator Sensor
Sensor Harness	8290260	10' (3.0 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290261	15' (4.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290262	20' (6.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290263	25' (7.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290264	30' (9.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290265	35' (10.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290266	40' (12.2 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290267	45' (13.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290311	50' (15.2 meters)	Connects Actuator Sensor to ECU



e•DT™ screen



Actuator Sensor  
Truck / Tractor / Bus /Trailer



Actuator Sensor Harness  
Truck / Tractor / Bus /Trailer

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## e•STROKE® GEN 3 Tractor / Truck / Bus Parts List

### e•STROKE® Tractor/Truck/Bus System Bill of Material

Typical e•STROKE® GEN 3 System must contain the following components to be complete:

- (1) ECU for appropriate vehicle configuration
- (1) ECU Power Harness P/N 8290233
- (1) J1939 or J1708 Harness
- (1) Warning Light for Truck / Bus Applications, (2) - Tractor Applications
- (1) Pressure Transducer P/N 8090550
- (1) Pressure Transducer Harness of appropriate length
- (1) per Wheel - Actuator Sensor for each wheel on the vehicle
- (1) per Wheel - Actuator Sensor Harness of appropriate length for each brake actuator on the vehicle
- (1) per Wheel - MGM e•STROKE Brake Actuators per wheel appropriately sized for the vehicle application

### e•STROKE® Trailer Parts List

#### Trailer ECUs

Description	Part #	Axle	Function
ECU, GEN 1, 1 Axle, Trailer, Drum Brake	8290034*	1	Use with Trailer 1 Axle Applications
ECU, GEN 1, 2 Axle, Trailer, Drum Brake	8290035*	2	Use with Trailer 2 Axle Applications
ECU, GEN 1, 3 Axle, Trailer, Drum Brake	8290036*	3	Use with Trailer 3 Axle Applications

\*Discontinued (Call for availability)

#### Trailer Power Cables

Description	Part #	Length ft (meters)	Function
Trailer ABS "T" Power Breakout Adapter	8290178	8" (203.2 mm)	Allows ECU to be powered from existing Trailer ABS System wiring by plugging "T" connector in-line with ABS wiring
Trailer ABS Power Cable	8290123	5' (1.5 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290124	10' (3.0 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290125	15' (4.6 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290122	20' (6.1 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290121	25' (7.6 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290126	30' (9.1 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU
Trailer ABS Power Cable	8290127	35' (10.7 meters)	Connects Trailer ABS "T" Power Breakout Adapter to ECU

Note: To connect Trailer ECU power without using ABS system wiring use appropriate length Trailer ABS Power Cable and cut off one connector to allow for direct wire hook-up to power source.



ECU - Trailer  
(Discontinued)



ABS "T" Power Breakout  
Adapter - Trailer



Power Cables - Trailer

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

e•STROKE® -- BRAKE MONITORING SYSTEM

**e•STROKE® Trailer Parts List**

Actuator Sensors & Harnesses			
Description	Part #	Length ft (meters)	Function
Actuator Sensor (Drum/External Push-Rod)	8290120	5' (1.5 meters)	Outputs actuator stroke to ECU
Sensor Harness	8290077	10' (3.0 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290079	15' (4.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290081	20' (6.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290083	25' (7.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290085	30' (9.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290087	35' (10.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290089	40' (12.2 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290091	45' (13.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290097	60' (18.3 meters)	Connects Actuator Sensor to ECU

Optional Trailer System Parts			
Description	Part #	Length ft (meters)	Function
ECU Mounting Bracket	8090021	NA	Optional, mounts to frame rail of trailer providing mounting surface for ECU

Trailer e•STROKE® System Bill of Material
e•STROKE® Trailer System must contain the following components to be complete:
(1) ECU for appropriate trailer configuration
(1) Trailer ABS "T" Power Breakout Adapter P/N 8290178
(1) Trailer ABS Power Cable of appropriate length
(1) per Wheel - Actuator Sensor for each wheel on the trailer
(1) per Wheel - Actuator Sensor Harness of appropriate length for each brake actuator on the trailer
(1) per Wheel - MGM ESH Brake Actuators per wheel appropriately sized for the vehicle application



ECU Mounting Bracket

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



e•STROKE® ECU - Tractor / Truck / Bus Service Parts List

GEN 3 Replacement Kits for GEN 1 and GEN 2 ECU's				
Description	Part #	Replaces Part #	Axle	Function
ECU, GEN 1, 2-Axle, Truck / Bus, Kit	9090116	8290106 9090114	2	Use with GEN 1, 2-Axle Truck / Bus Applications. Optional GEN 3 upgrade for 8290110
ECU, GEN 2, 2-Axle, Truck / Bus, Kit	9090117	8290110	2	Use with GEN 2, 2-Axle Bus Applications
ECU, GEN 1 & 2, 3-Axle, Tractor / Truck / Bus, Kit	9090120	8290103 8290105 8290113 9090115	3	Use with GEN 1 or 2, 3-Axle Tractor / Truck / Bus Applications. Tractor applications have exterior mounted ECUs which may require extension harnesses

NOTE: GEN 3 ECU Service Kits contain ECU, Adapter Harnesses and printed installation instructions. Contact MGM Brakes Technical Support for installation assistance at (800) 527-1534.

GEN 1 & GEN 2 Tractor / Truck / Bus Power Cables			
Description	Part #	Length ft (meters)	Function
ECU Power Connect Lead	8290051	3' (0.9 meters)	Blunt power leads with fuse allows for direct connection to power
ECU Power Cable	8290175	5' (1.5 meters)	Connects ECU Power Lead to GEN 1 & 2 ECU
ECU Power Cable	8290176	10' (3.0 meters)	Connects ECU Power Lead to GEN 1 & 2 ECU
ECU Power Cable	8290098	15' (4.6 meters)	Connects ECU Power Lead to GEN 1 & 2 ECU
ECU Power Cable	8290099	30' (9.1 meters)	Connects ECU Power Lead to GEN 1 & 2 ECU
Warning Light Harness Kit	9090106	12' (3.7 meters)	12' (3.7 meters) Warning Light Harness & Label Kit
SAE J1708 Harness	8290189	12' (3.7 meters)	Blunt Cut SAE J1708 Connection Harness
Power Adapter Harness for GEN 3 ECU	8290232	2' (0.6 meters)	Adapts GEN 3 ECU to GEN 1 & 2 type power harnesses. Required for retrofitting an GEN 3 ECU to an existing GEN 1 or 2 system
Extension Harness, GEN 1 & 2 Power	8290254	11' (3.3 meters)	Extends existing GEN 1 or 2 power harness

Pressure Transducer & Harnesses (GEN 2 Only)			
Description	Part #	Length ft (meters)	Function
Pressure Transducer, 50 psi (3.4 bar)	8090075	2.70" (68.6 mm)*	Signals brake pedal application to ECU
Pressure Transducer Harness	8290170	5' (1.5 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290171	10' (3.0 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290172	15' (4.6 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Harness	8290173	20' (6.1 meters)	Connects Pressure Transducer to ECU
Pressure Transducer Adapter Harness	8290223	2' (0.6 meters)	Required for applications where a e•S3 ECU is retrofitted to an existing GEN 2 System and Pressure Transducer Harnesses

\* Note: Item is measured in inches (mm), not feet (meters).

NOTE: If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

e•STROKE® Tractor / Truck / Bus Service Parts List

Actuator Sensors & Harnesses (GEN 1, GEN 2, Trailer)			
Description	Part #	Length ft (meters)	Function
Actuator Sensor (Drum/External Push-Rod)	8290120	5' (1.5 meters)	Outputs actuator stroke to ECU. Acceptable replacement for 8290116 2.5' (0.8 meters) Sensor
Actuator Sensor	8290116	30" (762 mm)	Service part only
Sensor Harness	8290077	10' (3.0 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290079	15' (4.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290081	20' (6.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290083	25' (7.6 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290085	30' (9.1 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290087	35' (10.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290089	40' (12.2 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290091	45' (13.7 meters)	Connects Actuator Sensor to ECU
Sensor Harness	8290097	60' (18.3 meters)	Connects Actuator Sensor to ECU
GEN 3 Sensor Adapter Harness	8290222	2' (0.6 meters)	Adapts GEN 3 ECU to GEN 1 & 2 Sensor Harness. 1 per wheel required for retrofitting an GEN 3 ECU to an existing GEN 1 or 2 system
Extension Harness, GEN 1 & 2 Sensor	8290253	11' (3.3 meters)	Extends existing GEN 1 or 2 sensor harness

Miscellaneous Parts			
Description	Part #	Length ft (meters)	Function
Cable Tie, Black, 5" (one pc.)	8090040	NA	Used to secure harness during installation, typically 200 pcs per system
Wire Label (24 per bag)	8090058	NA	Self laminating, write on, used for marking cables during installation, typically 24 pcs per system, 40 pcs with lining wear
Fitting, 1/4" NPT Brass Hex Nipple	8160038	NA	Connects Pressure Transducer to Vehicle Air-System
Fitting, 1/4" NPT Brass Tee	8160040	NA	Connects Pressure Transducer to Vehicle Air-System

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

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## e•STROKE® Diagnostic Tools Parts List

e•STROKE® Diagnostic Tool Kits		
Description	Part #	Function
e•STROKE® RS-232 Laptop Diagnostic Tool Kit	9090109	Provides e•STROKE® diagnostic capabilities with laptop computer (RS-232)
e-DT™ Hand Held Diagnostic Tool Kit (J-1939)	9090110	Plug & play diagnostic display for use with e•STROKE® systems
e•STROKE® J1939 Laptop Diagnostic Tool Kit	9090111	Provides e•STROKE® diagnostic capabilities with laptop computer (J-1939)

e•STROKE® Computer Diagnostic Tool			
Description	Part #	Length ft (meters)	Function
e•STROKE® Diagnostic Kit, Laptop Diagnostic Program, RS-232 Harness	9090109	N/A	Requires customer laptop Requires access to e•STROKE® ECU
Laptop Diagnostic Harness, RS-232, 10'	8290220	10' (3.0 meters)	Connects laptop serial connector to ECU P2 connector
RS-232 to USB Adapter Module / Harness	8090090	N/A	Adapts laptop USB to serial connector
e•STROKE® Tech Manual & Diagnostic Software USB Jump Drive	8090091	N/A	Includes complete e•STROKE® Technical Manual and 9090109, 9090111 diagnostic laptop software
e•STROKE® Diagnostic Kit, e-DT™ Hand Held Display, SAE J1939 Harness	9090110		Hand held diagnostic tool Connects to vehicle 9-Pin diagnostic port ECU access not required Powered from vehicle battery
e-DT™ Diagnostic Tool Display	8290240	N/A	Display diagnostic tool
e-DT™ Diagnostic Harness, SAE J1939	8290302	3' (1.0 meters)	Connects e-DT™ display to vehicle 9-Pin OBD connector replaces P/N 8290224
e-DT™, e•STROKE® Display Diagnostic Harness	8290224	3' (0.9 meters)	1 meter display diagnostic harness
New Flyer Display Adapter (Model Year 2009 On)	8290239	NA	Converts standard 9-PIN OBD connector to New Flyer J1939 Chassis Pin-Out
Diagnostic Harness Adapter, SAE J1939, New Flyer	8290239	N/A	Required for New Flyer applications
e•STROKE® Tech Manual & Diagnostic Software USB Jump Drive	8090091	N/A	Includes complete e•STROKE® Technical Manual and 9090109, 9090111 diagnostic laptop software
e•STROKE® Diagnostic Kit, Laptop Diagnostic Program, SAE J1939 Harness	9090111		Requires customer laptop Connects to vehicle 9-Pin diagnostic port ECU access not required
Laptop Diagnostic Harness, SAE J1939, 10'	8290304	10' (3.0 meters)	Connects laptop to vehicle 9-Pin OBD connector with 8090097 adapter
SAE J1939 to USB Adapter Module / Harness	8090097	N/A	Works with 8290304 harness. USB to CAN adapter
Diagnostic Harness Adapter, SAE J1939, New Flyer	8290239	N/A	Required for New Flyer applications
e•STROKE® Tech Manual & Diagnostic Software USB Jump Drive	8090091	N/A	Includes complete e•STROKE® Technical Manual and 9090109, 9090111 diagnostic laptop software
Diagnostic Tool Case	8290560	N/A	Included with 9090110 e-DT™ kit. Will fit all diagnostic kits
J1939 Diagnostic Harness	8290304	10' (3.0 meters)	J1939 diagnostic harness

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

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# TRAINING AND SUPPORT



**CLASSROOM TRAINING**

**TECHNICAL SUPPORT**





## e•STROKE® Training & Support Options Available:

Maintaining today's transit fleets while ensuring vehicles are operating safely and at optimum performance is a significant task and serious responsibility. MGM's e•STROKE® brake monitoring system (widely used across transit fleets) provides an excellent tool to monitor brake performance and ensure your vehicles are operating safely.

With ever tightening budgets, equipment constraints, and manpower availability, MGM understands the need for technical support and service when it comes to our brake products. This is why MGM is pleased to announce our "e•STROKE® Brake Monitor Technical Training Program" designed to assist your fleet in obtaining the maximum benefit from your e•STROKE® equipped transit coaches.

### Standard Program Training:

- This training course gives your technicians a thorough understanding of the e•STROKE® system operation, interpreting diagnostic information, and system troubleshooting techniques.
- MGM will provide on-site classroom and hands on vehicle training.

### Training Session Recommendations:

- Standard Training Sessions are approximately 4 hours long with 15 people max. 2.5 hours class room, 1.5 hours hands on. Up to 2 sessions per day may be scheduled.
- Custom training requirements and schedules can be coordinated with MGM approval.

### MGM Brakes will provide the following:

- Class room presentation with optional before and after tests.
- Hands on training with an e•STROKE® system and diagnostic tools.
- A digital copy of the e•STROKE® technical manual and training presentation.
- Updates to existing MGM laptop diagnostic tool software. End user computer access rights may be needed at the time of software update.
- Training achievement certificates are available upon request.
- End users will have all information needed to provide ongoing training as their staff requires.

### The End User will need to provide:

- Class room with projector screen or surface. MGM can provide projector if needed.
- Roadworthy vehicle with e•STROKE® installed.
- Vehicle lift or inspection pit dedicated for the day of training.
- End user diagnostic tool(s) must be delivered prior to the training as they are used as part of the hands on training.

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**Technical Training Overview and Curriculum Brake Systems Overview:**

- Daily setup/adjustment per CDL requirements
- Drum vs. disc brake visual inspections.
- Safety Technology Pyramid – discuss necessity of properly working suspension and brake systems.

**e•STROKE® System Operation:**

- e•STROKE® system components: Brake actuators, sensors, ECU, warning light, SAE J1939
- e•STROKE® system functionality
- Real-time brake stroke monitoring
- Brake system status and fault information output
- Internal fault code storage and history
- Real-time brake pressure display

**e•STROKE® Drum Brake Actuator and Sensor (Optional – Fleet Dependent):**

- Drum sensor components and service

**e•STROKE® Disc Actuator and Sensor Assembly (Optional – Fleet Dependent):**

- Disc sensor assembly and operation
- Disc actuator and sensor service
- Proper connector tie up and harness routing

**e•STROKE® Fault Detection:**

- Review of fault conditions and brake system troubleshooting hints:
  - Non-functioning actuator
  - Over-stroke/out of adjustment
  - Dragging brake
  - Low caliper lining clearance

**System Diagnostic Tools:**

- e•STROKE® dash warning light operation
- Laptop diagnostic software (RS-232 and J1939)
- e•DT™ hand held diagnostic tool (Optional)
- New Flyer Xcelsior specific functionality (Optional – fleet dependent)

**Troubleshooting:**

- Understanding AVM data
- Troubleshooting and Inspection Hints
- Drum sensor troubleshooting (Optional – fleet dependent)
- Disc sensor troubleshooting (Optional – fleet dependent)
- Summary of technical reference documents (Electronic copies included with technical manual)

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

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## e•STROKE® Technical Support Services:

Service and troubleshooting options are also available for on-site assistance for diagnostic problems you may need assistance with or simply want the experience of one of our e•STROKE® Field Technicians to investigate. If your fleet is connected to an AVM system such as CLEVER Devices or New Flyer Connect, MGM currently offers a monthly AVM monitoring package that will allow e•STROKE® engineers and technicians to monitor fault history for your fleets vehicles and alert you of problems as they are reported.

If you are already an e•STROKE® customer or simply want to keep up to date with the latest technological advances within the e•STROKE® product line, MGM Brakes offers ECU Firmware upgrades as well as entire system upgrades to keep your fleet current.

## e•STROKE® Technical Support Services

### e•STROKE® AVM Monitoring Service:

- MGM staff will remotely monitor your AVM reports and provide Fleet Status monthly reports.
- MGM access to active AVM system is required.
- MGM will assist your technicians via telephone in identifying vehicles needing brake service and establishing severity levels for this service.

### e•STROKE® System Diagnosis:

- Our technicians will assist your maintenance staff in analyzing brake monitor diagnostic information and provide recommendations for repair or replacement of defective components.

### e•STROKE® ECU Firmware Upgrade:

- Our technicians will re-flash your existing e•STROKE® ECU to the latest firmware revision upgrading the system functionality and ensuring optimal system monitoring.

### e•STROKE® GEN 3 Upgrade:

- Our technicians will upgrade your current GEN 1 or GEN 2 e•STROKE® system to the latest GEN 3 technology and verify proper system operation.
- Service fee includes all parts required to upgrade system.
- Repair of issues found with existing system will be charged per hourly rate plus out of warranty parts.

### Hourly Technical Services:

- Our technicians are available on an hourly basis as needed to assist your fleet maintenance staff with your e•STROKE® Brake Monitoring system needs.

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**MGM Training and Technical Support Services Rate Schedule**

- P/N 9595002 - e•STROKE® Brake Monitor Training Event (1 day, 2 sessions, 15 persons max per session)
- P/N 9595003 - Additional training sessions for scheduled training events (1 session) per session (Max 2 per day)
- P/N 9596001 - e•STROKE® daily technician support (on-site daily rate)
- P/N 9596002 - e•STROKE® ECU firmware upgrade (per vehicle, re-flash ECU)
- P/N 9596003 - e•STROKE® GEN 3 upgrade (per vehicle, replace ECU, transducer)
- P/N 9496004 - e•STROKE® AVM report monitoring (monthly fee)
- e•STROKE® technical phone support ..... Free of charge

\* Plus applicable travel expenses (mileage or airfare, lodging, meals) billed at actual rates

Contact your local MGM Sales Representative or call 1-800-527-1534 ext.1230 to obtain complete pricing and to schedule a MGM technician for an on-site consultation.

**NOTE:** If replacement of the piggyback on an e•STROKE® equipped chamber is required, it is imperative that an MGM piggyback of like size and model be used in order to maintain proper calibration of the e•STROKE® components. Should replacement of the complete chamber be required, be sure to replace with a unit with the exact same part number. Spring brake chambers equipped with MGM e•STROKE® can be identified by the ESH suffix at the end of the part number.

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# REPLACEMENT PARTS

Original-Equipment Quality -  
Satisfaction Guaranteed





	Page(s)
<b>Section 8: Replacement Parts</b> .....	<b>132-139</b>
Kits - Breather Cap, End Cap & Weatherseal™ Plug .....	134
Diaphragms, Kit - Release Bolts, Clamp Bands .....	134
Kits - S-Cam Protective Boots & Center Hole Shield, Kits - Breather Tube & Elbow .....	135
Kits - Nuts and Washers .....	135
Non-Pressure Chamber (With and Without Breather Elbow), Vent Hole - Plug .....	135
Welded Yoke Assemblies .....	136
Welded Yoke Assemblies (continued), Yoke Pins (Stainless Steel) .....	137
Yoke Assemblies - 2 Pin, Yoke Assemblies .....	138
Push-Rod Assembly and Nut Kits .....	139

**NOTE:** All parts except push-rod assemblies and non-pressure housings are packaged (on a card) or bulk packed in a box. Packaged parts are designated with a “P” suffix and bulk parts are designated with an “X” suffix. See price list for quantity details.

## End Caps & Weatherseal™ Plug Kits



VMRS 013-004-040

Key	P/N	Description	Used on MGM Models/Sizes
1	9019005	Kit - Weatherseal™ Plug	ALL TR, TR-T, TR-TS sizes except 3036 & 3636
1	9019006	Kit - Weatherseal™ Plug	TR, TR-T, TR-TS sizes, 3036, 3636



## Diaphragms



VMRS 013-004-007

Type	Stroke	P/N	Material	Outside Diameter
9	1.75" (44.5 mm)	8017109	R	5.00" (127.0 mm)
12	1.75" (44.5 mm)	8017112	R	5.50" (139.7 mm)
12	1.75" (44.5 mm)	8017312*	R	5.50" (139.7 mm)
16	2.25" (57.2 mm)	8017116	R	6.00" (152.4 mm)
20	2.25" (57.2 mm)	8017120	R	6.50" (165.1 mm)
20	2.25" (57.2 mm)	8017145	N	6.50" (165.1 mm)
30	2.50" (63.5 mm)	8017730**	R	8.00" (203.2 mm)
30	2.50" (63.5 mm)	8017731**	N	8.00" (203.2 mm)
36	3.00" (76.2 mm)	8017836**	R	9.00" (228.6 mm)
36	3.00" (76.2 mm)	8017840*	R	9.00" (228.6 mm)
16L	2.50" (63.5 mm)	8017216	R	6.00" (152.4 mm)
16LH	2.50" (63.5 mm)	8017215*	R	6.50" (165.1 mm)
20HL3	3.00" (76.2 mm)	8017226	R	7.00" (177.8 mm)
20L	2.50" (63.5 mm)	8017220	R	6.50" (165.1 mm)
20L3	3.00" (76.2 mm)	8017820*	R	6.50" (165.1 mm)
24L	2.50" (63.5 mm)	8017141	R	7.00" (177.8 mm)
24L	2.50" (63.5 mm)	8017224	N	7.00" (177.8 mm)
24L3	3.00" (76.2 mm)	8017425	N	7.00" (177.8 mm)
24L3	3.00" (76.2 mm)	8017924	R	7.00" (177.8 mm)
24L3	3.00" (76.2 mm)	8017926*	R	7.00" (177.8 mm)
30L3	3.00" (76.2 mm)	8017830**	R	8.00" (203.2 mm)
30L3	3.00" (76.2 mm)	8017831**	N	8.00" (203.2 mm)
30L3	3.00" (76.2 mm)	8017839*	N	8.00" (203.2 mm)
30L3	3.00" (76.2 mm)	8017838*	R	8.00" (203.2 mm)
36	3.00" (76.2 mm)	8017036	N	9.00" (228.6 mm)

**NOTE:** (1) Material "R" is natural rubber blend with nylon fabric reinforcement.  
Use only "R" type diaphragms in extreme cold weather climates. Good to -40° F (-40° C).  
(2) Material "N" is neoprene blend with nylon fabric reinforcement.  
(\* ) For use in J - Series models only.  
(\*\*) Easy Fit Design

## Kit - Release Bolt VMRS 013-004-006



P/N	Services MGM Brakes Model Sizes
9007003	All TR Models except 3036, 3636 - 4 7/8"
9007009	TR3036, TR3636 - 6 1/2"

## Clamp Bands



VMRS 013-004-029

Type	P/N (1 Piece)	P/N (2 Piece)
9	8216009	N/A
12	8216012	N/A
16	8216016	8216018
20	8216022	8216020
24	9016024	8216025
30	9016030	8216045
36	N/A	8216036

NOTE: All clamps furnished with nuts and bolts.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

S-Cam Protective Boots			VMRS 013-004-031
Key	P/N	Description	
1	9004001	Boot & Retainer S-Cam	
2	9004002	Boot & Retainer S-Cam	
3	8004009	Boot - 1.625" (41.3 mm) Center-Hole	

- NOTE:** (1) MGM P/N 9004001 Kit can only be used with non-pressure chambers (mounting housings) having an embossed bottom essentially shaped like the retaining plate for the boot.  
 (2) MGM P/N 9004002 Kit can only be used with MGM Brakes type 20, 24 & 30 non-pressure chambers (mounting housings) with flat bottoms having 3 equally spaced installation holes for the plastic boot retainer.  
 (3) MGM P/N 8004009 is suitable for MGM Brakes type 20, 24, 30 & 36 non-pressure chambers with 1.625" (41.3 mm) center hole and 5/8" (15.9 mm) rod only.

Kit - Center Hole Shield	
9065002	Kit - Center Hole Shield

**NOTE:** MGM P/N 9065002 Kit is suitable only for MGM Brakes type 20, 24, 30 & 36 non-pressure chambers. Field installation requires complete disassembly of the service brake chamber.

Kit - Wedge Chamber Boot	
9004005	Kit - Wedge Chamber Boot

Breather Tube & Elbow Kit			VMRS 013-004-044
Key	P/N	Service MGM Brakes Model	
1	9081001	All MGM Brakes model sizes fitted with breather tube.	
2	9081007	MJW1624BT	
-	9081005	Breather Tube Extension Kit (not shown)	

Kit - Nuts & Washers (NPC Mounting)	
VMRS 013-004-006	
P/N 9002001	Type 20, 24, 30 & 36
P/N 9002002	M16 - Type 20, 24, 30 & 36
P/N 9002003	Type 12 and 16

Non-Pressure Chamber (with breather tube)	
VMRS 013-004-030	
Type	P/N SAE
12	8215198
20	9015110
20L3H	9015213
20L3	9015238
24L*	9015151
24L3	9015213
30	9015122
30**	9015259
36	9015108

Non-Pressure Chamber (Without Breather Elbow)	
VMRS 013-004-030	
Type	P/N SAE
12	8215142
16	8215023
16L 2.5	8215023
20	8215169
20L3H	8215053
24L*	8215026
24L3	8215200
30	8215501
30**	9015260
36	8215036

Vent Hole - Plug
P/N 8019021
Vent Hole

**NOTE:** Do not plug more than 3 holes in the service chamber (NPC) and never plug any hole facing the road surface or positioned at the lowest point.

**NOTE:** (applies to NPC chambers w/breather elbow and w/o breather elbow)  
 (\*) These chamber sizes are heavy-duty weld-reinforced.  
 (\*\*) 8-gauge, weld reinforced.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

		Welded Yoke Assemblies		VMRS 013-004-018
<p><b>CAUTION: WELDED YOKE PISTON RODS SHOULD ONLY BE USED IN CONJUNCTION WITH MGM NON-PRESSURE CHAMBER.</b></p>				
			Pins Not Shown	
P/N	Y - Dim	Kit - NP Chamber	Kit - Push-Rod/Welded Yoke	Kit - Chamber Assembly
1427901	2.25" (57.2 mm)	9015907	9075003	8215853
1427902	2.25" (57.2 mm)	9015907	9075003	8215853
1428901	2.25" (57.2 mm)	9015903	9075002	8215250
1428902	2.25" (57.2 mm)	9015903	9075002	8215250
1430901	2.25" (57.2 mm)	9015908	9075004	8215501
1430902	2.25" (57.2 mm)	9015908	9075004	8215501
1431901	2.25" (57.2 mm)	9015904	9075001	8215501
3220951	2.25" (57.2 mm)	9015909	9075005	8215250
3224951	2.25" (57.2 mm)	9015903	9075002	8215250
3225951	2.25" (57.2 mm)	9015901	9075002	9015213
3226951	2.25" (57.2 mm)	9015903	9075002	8215250
3227951	2.25" (57.2 mm)	9015901	9075002	9015213
3230951	2.25" (57.2 mm)	9015904	9075001	8215501
3230955	3.0625" (77.8 mm)	9015919	9075011	8215501
3230957	11.10" (281.9 mm)	9015273	9075029	8215501
3231951	2.25" (57.2 mm)	9015902	9075001	9015216
3231953	2.25" (57.2 mm)	9015902	9075001	9015216
3231954	2.87" (72.9 mm)	9015269	9075012	9015216
3231955	2.87" (72.9 mm)	9015269	9075012	9015216
3232951	2.25" (57.2 mm)	9015904	9075001	8215501
3232952	2.25" (57.2 mm)	9015904	9075001	8215501
3233951	2.25" (57.2 mm)	9015902	9075001	9015216
3233952	2.25" (57.2 mm)	9015902	9075001	9015216
3233953	4.20" (106.7 mm)	9015268	9075013	9015216
3234951	2.25" (57.2 mm)	9015906	9075001	9015260
3235951	2.25" (57.2 mm)	9015905	9075001	9015259
3244951	2.25" (57.2 mm)	9015905	9075001	9015259
3430951	2.25" (57.2 mm)	9015908	9075004	8215501
3430952	4.20" (106.7 mm)	9015916	9075009	8215501
3430955	3.0625" (77.8 mm)	9015918	9075010	8215501
3430957	11.10" (281.9 mm)	9015274	9075030	8215501
3431951	2.25" (57.2 mm)	9015911	9075004	9015216
3431952	4.20" (106.7 mm)	9015917	9075009	9015216
3431953	2.25" (57.2 mm)	9015911	9075004	9015216
3431954	4.20" (106.7 mm)	9015917	9075009	9015216
3431955	2.87" (72.9 mm)	9015266	9075014	9015216
3431956	2.87" (72.9 mm)	9015267	9075015	9015216
3432951	2.25" (57.2 mm)	9015911	9075004	9015216
3433951	2.25" (57.2 mm)	9015908	9075004	9015501
3436951	2.25" (57.2 mm)	9015914	9075007	9015262
3437951	2.25" (57.2 mm)	9015915	9075007	9015263



Welded Yoke Assemblies				VMRS 013-004-018
<b>CAUTION: WELDED YOKE PISTON RODS SHOULD ONLY BE USED IN CONJUNCTION WITH MGM NON-PRESSURE CHAMBER.</b>				
		Pins Not Shown 1.3" (33.0 mm)		
P/N	Y - Dim	Kit - NP Chamber	Kit - Push-Rod/Welded Yoke	Kit - Chamber Assembly
3523951	2.25" (57.2 mm)	9015901	9075002	9015213
3527951	2.25" (57.2 mm)	9015901	9075002	9015213
3531951	2.25" (57.2 mm)	9015911	9075004	9015216
3531952	4.20" (106.7 mm)	9015917	9075009	9015216
3532951	2.25" (57.2 mm)	9015911	9075004	9015216
3532952	4.20" (106.7 mm)	9015917	9075009	9015216
3532953	4.20" (106.7 mm)	9015917	9075009	9015216
3532954	2.25" (57.2 mm)	9015911	9075004	9015216
3534951	2.25" (57.2 mm)	9015902	9075001	9015216
3535951	2.25" (57.2 mm)	9015902	9075001	9015216
3545951	2.25" (57.2 mm)	9015270	9075006	9015259
3624951	2.25" (57.2 mm)	9015265	9075016	9015264
3625951	2.25" (57.2 mm)	9015912	9075003	9015261
3631951	2.25" (57.2 mm)	9015911	9075004	9015216
3828951	2.25" (57.2 mm)	9015903	9075002	8215250
3631951	2.25" (57.2 mm)	9015911	9075004	9015216
3828951	2.25" (57.2 mm)	9015903	9075002	8215250
3832951	2.25" (57.2 mm)	9015904	9075001	8215501
3833951	2.25" (57.2 mm)	9015902	9075001	9015216
3833953	11.10" (281.9 mm)	9015275	9075031	9015216
3844951	2.25" (57.2 mm)	9015906	9075001	9015260
MJS3024ET951	2.25" (57.2 mm)	9015910	9075006	9015216
MJS3028ET951	2.25" (57.2 mm)	9015902	9075001	9015216
MJS3030ET951	2.25" (57.2 mm)	9015902	9075001	9015216
MJS3630ET951	2.25" (57.2 mm)	9015913	9075008	9015262

Yoke Pins (Stainless Steel) VMRS 013-004-026		
P/N	Diameter	Application
8038007	1/2" (12.7 mm)	Forged Yoke
8038008	5/8" (15.9 mm)	Forged Yoke
8038012	1/2" (12.7 mm)	Welded Yoke
8038014	14mm	Forged Yoke
8038016	1/4" (6.4 mm)	Welded Yoke
8038017	1/2" (12.7 mm)	Forged Yoke
8038019	1/4" (6.4 mm)	Forged Yoke


NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Yoke Assemblies - 2 Pin						VMRS 013-004-026
P/N	A	B	C	D	E	F
8292031	1.96" (49.8 mm)	5/8" x 18 UNF	1/2" (12.7 mm)	.59" (15.0 mm)	1 1/10" (27.9 mm)	1.30" (33.0 mm)

Yoke Assemblies						VMRS 013-004-026
P/N	A	B	C	D	E	
8292001	1.88" (47.8 mm)	5/8" - 18 UNF	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292002	1.88" (47.8 mm)	5/8" - 18 UNF	5/8" (15.9 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292003	1.88" (47.8 mm)	1/2" - 20 UNF	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292007	2.31" (58.7 mm)	3/4" - 16 UNF	1/2" (12.7 mm)	11/16" (17.5 mm)	1 13/16" (46.0 mm)	
8292008	2.31" (58.7 mm)	3/4" - 16 UNF	5/8" (15.9 mm)	11/16" (17.5 mm)	1 13/16" (46.0 mm)	
8292009*	1.88" (47.8 mm)	5/8" - 18 UNF	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292010	1.88" (47.8 mm)	1/2" - 20 UNF	5/8" (15.9 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292011*	1.88" (47.8 mm)	5/8" - 18 UNF	5/8" (15.9 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292012	1.88" (47.8 mm)	M16 x 1.5-6h	14 mm	14 mm	1 11/16" (42.9 mm)	
8292014	2.31" (58.7 mm)	3/4" - 16 UNF	14mm	11/16" (17.5 mm)	1 11/16" (42.9 mm)	
8292016	1.88" (47.8 mm)	M16 x 1.5-6h	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292017	2.83" (71.9 mm)	5/8" - 18 UNF	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292018	2.83" (71.9 mm)	5/8" - 18 UNF	5/8" (15.9 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292019	2.83" (71.9 mm)	M16 x 1.5 - 6h	14mm	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292020	1.88" (47.8 mm)	5/8" - 18 UNF	14 mm	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292022	2.20" (55.9 mm)	M16 x 1.5 - 6h	14 mm	37/64" (14.7 mm)	1 11/16" (42.9 mm)	
8292023*	1.88" (47.8 mm)	5/8" - 18 UNF	14 mm	9/16" (14.3 mm)	1 3/4" (44.5 mm)	
8292026	2.28" (57.9 mm)	5/8" - 18 UNF	5/8" (15.9 mm)	13/16" (20.6 mm)	1 3/4" (44.5 mm)	
8292028	1.88" (47.8 mm)	M10 x 1.0-6h	1/2" (12.7 mm)	9/16" (14.3 mm)	1 11/16" (42.9 mm)	
8292029	1.88" (47.8 mm)	1/2" x 20 UNF	14 mm	9/16" (14.3 mm)	1 19/64" (32.9 mm)	
8292030	1.88" (47.8 mm)	5/8" - 18 UNF	14 mm	9/16" (14.3 mm)	1 19/64" (32.9 mm)	

Note: (\*) Stainless steel pin: 1/2" (12.7 mm) dim. 8038007, 5/8" (15.9 mm) dim. 8038008, see other stainless steel pins.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Push-Rod Assembly & Nut Kits			
VMRS 013-004-013	Type	P/N SAE	P/N METRIC
	12*	9064018	N/A
	12*	9064010	N/A
	16	9064019	N/A
	20	9064001	9064015
	20L3	9064026**	9064036
	24L	9064002	9064016
	24L3	9064006**	9064027
	30	9064003	9064035
	30L3	9064008**	9064028
	36	9064004	9064009

NOTE: (\*) Type 12 (p/n 9064018) has a 4" threaded rod, type 12 (p/n 9064010) has an 8" threaded rod.

NOTE: Type 12 and 16 push-rods will provide approximately 4.00" (101.6 mm) X-dimension when installed with 4.00" (101.6 mm) of 1/2"-20 UNF threads.

NOTE: Type 20 through 36 push-rods will provide approximately 8.00" (203.2 mm) X-dimension when installed with 8.00" (203.2 mm) of 5/8"-18 UNF threads.

NOTE: These assemblies have MGM Brakes "Stroke Alert" markings and must be used only on the designated MGM Brakes units.

NOTE: (\*\*) These assemblies to be used in conjunction with MGM 3-inch (76.2 mm) long stroke units only.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# TECHNICAL INFORMATION

Important Procedures  
& Detailed Tech Information



**Section 9: Technical Information**..... 140-165

MJS Service Diaphragms - Replacement..... 142

Product Identification Plate..... 143

Long Stroke Identification..... 144

Double - Diaphragm to Piston Conversion Chart ..... 145

Procedure to Cut a Push-Rod ..... 146

Proper Brake Adjustment..... 147

Fastener Torque Value Chart..... 148

Procedure to Lengthen External Breather Tube ..... 149

Mixing Standard and Long Stroke Chambers..... 150

Field Replacement of Chambers Equipped with “Welded” Yokes ..... 151

Performance Chart - Spring Brake Chambers (including Remote Mount Cylinders) - SAE ..... 152

Performance Chart - Service Brake Chambers - SAE..... 153-158

Performance Chart - Spring Brake Chambers (including Remote Mount Cylinders) - METRIC ..... 159

Performance Chart - Service Brake Chambers - METRIC ..... 160-165

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

This bulletin is to notify customers of the availability of “reinforced” diaphragms for use in MJS Model Chambers with spring brake parking force - output (pounds-force) in excess of 2300 lbs. at 1¼ - inches of stroke: i.e. MJSxx28 and xx30.

Due to the high force output provided by the power spring in MJSxx28 and xx30 model chambers, the surface of the service diaphragm, where the “center-case” push-rod and diaphragm make contact, may chafe or wear affecting the long-term serviceability of the diaphragm. In an effort to address this potential problem, MGM Engineering developed type 20L3, 24L3, 30L3, and 36 “reinforced diaphragms with an extra layer of fabric covering an area in the center of the diaphragm, approximately 1¾ - inches in diameter, where the center push-rod makes contact with the diaphragm.



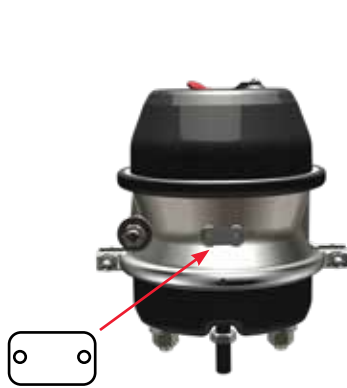
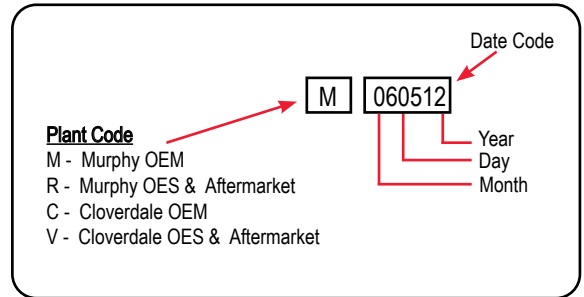
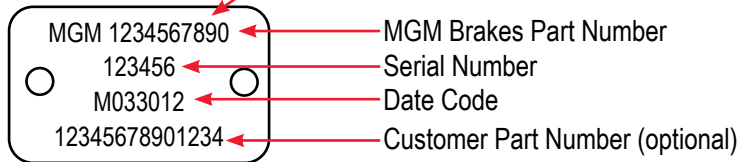
MGM recommends using only MGM “reinforced” diaphragms for replacement in these models. All diaphragms are available through the MGM Brakes PDC in both single piece packaged and 30 piece box bulk packs.

## Unit Serial Numbers

Starting March 2012, MGM Brakes introduced the serialization of brake chambers for improved identification and traceability. This number is a randomly generated seven digit numeric number that is unique to each MGM Brake unit.

The serial number is located with the product identification (see illustration) that is either stamped directly on the unit, or stamped on a tag that is affixed to the unit.

ALL CHARACTERS STAMPED  
.120 X .005 - .010 DEEP  
CENTERED HORIZONTALLY  
AND VERTICALLY ON PAD



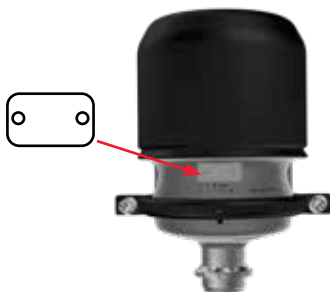
Double Diaphragm  
TR Model



Long Life  
Double Diaphragm  
LTR Model



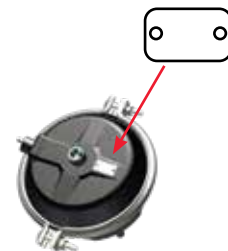
Piston  
Magnum Performance Plus Model  
MJS Model



Wedge  
MJW Model



Remote Cylinder

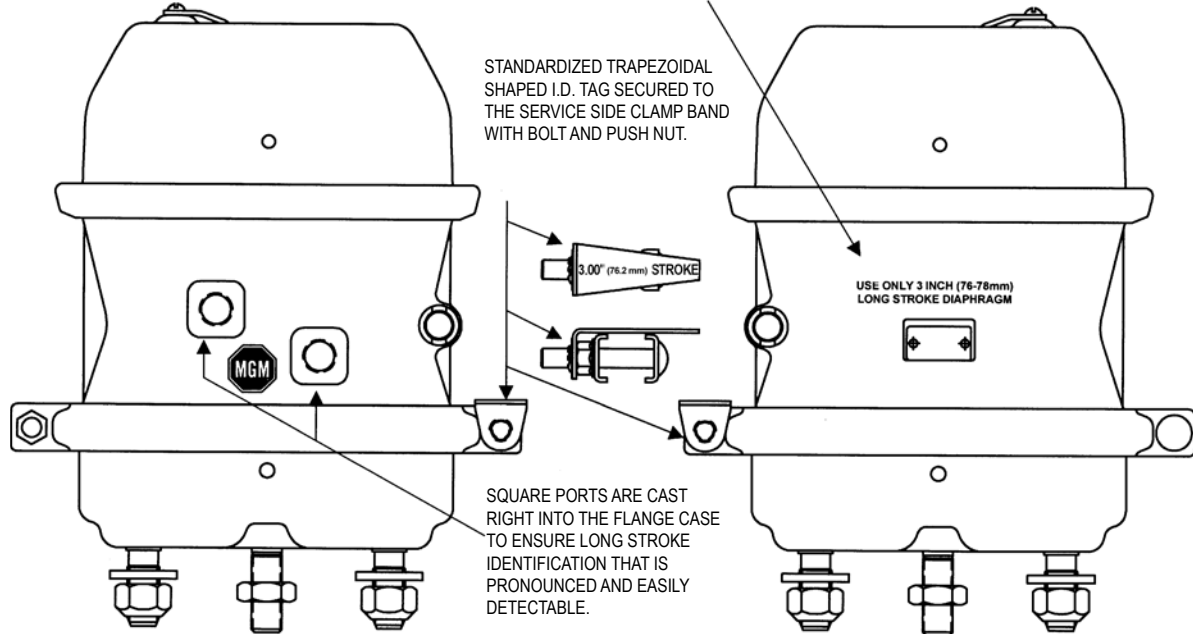


S - Cam Service  
C and CS Models

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## “LONG STROKE” SPRING BRAKE IDENTIFICATION

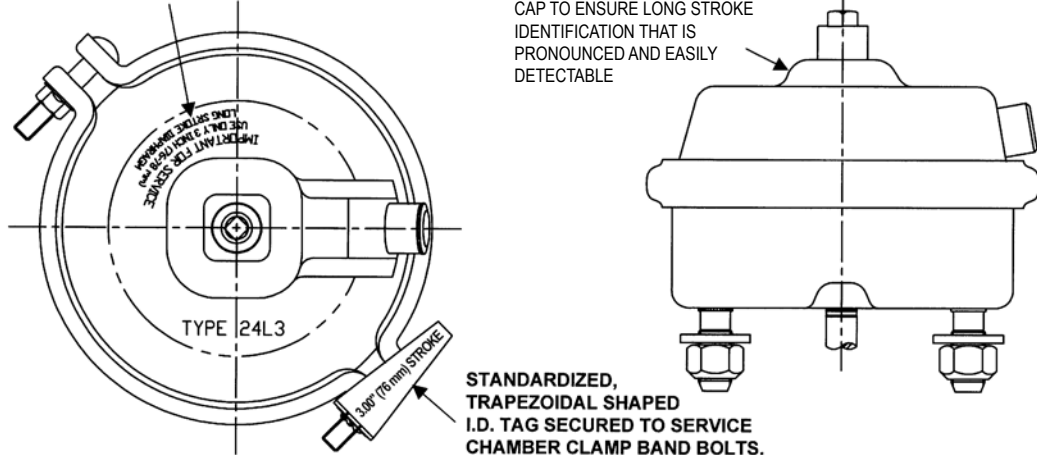
SERVICING INSTRUCTIONS ARE EMBOSSED INTO THE FLANGE CASE FOR WHEN DIAPHRAGM REPLACEMENT IS REQUIRED.



## “LONG STROKE” SERVICE CHAMBER IDENTIFICATION

SERVICING INSTRUCTIONS ARE STAMPED INTO THE PRESSURE CAP FOR WHEN DIAPHRAGM REPLACEMENT IS REQUIRED.

SQUARE EMBOSMENT IS RAISED A FULL HALF - INCH FROM THE TOP OF THE PRESSURE CAP TO ENSURE LONG STROKE IDENTIFICATION THAT IS PRONOUNCED AND EASILY DETECTABLE



NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# DOUBLE DIAPHRAGM TO PISTON CONVERSION CHART



## 1.0 PURPOSE:

The purpose of this technical bulletin is to recommend a MJ-ET piston type air brake actuator replacement for various MG-T's (now obsolete) and double diaphragm models.

### CAUTION:

The recommended MJ-ET replacement may have more parking force than the model it is replacing. An anti compounding valve may be required to prevent excess braking torque. Note: The J-Series (Magnum Performance Plus) models listed on the chart below are 3.00 inch (76.2 mm) stroke actuators. Ensure that installations have proper clearance for 3.00 inches (76.2 mm) of stroke.

MGM Brakes recommends replacing both brakes on an axle if force and/or stroke is different than unit being replaced.

## 2.0 CROSS REFERENCE CHART:

The following chart provides an easy cross reference for selecting a MJ-ET piston type air brake actuator to replace a MG-T (now obsolete) or double diaphragm air brake actuator.

## 3.0 MODEL NUMBER DEFINITIONS:

Model numbers for double diaphragm air brake actuators describe the diaphragm size. A model TR2430 describes a type 24 service chamber diaphragm and a type 30 spring chamber diaphragm. Model numbers for piston type air brake actuators describe the service chamber diaphragm size and a level of parking chamber force. A model M2420LG-T describes a type 24 service chamber diaphragm and a parking chamber having 1410 lbs. (6.3 kN)  $\pm$  10% force output at 1.25 inch (31.8 mm) stroke (see chart below).

Model Size	Stroke Inches (mm)	Parking Force (B)		MJS1722	MJS2022	MJS2422	MJS3022	MJS1724	MJS2024	MJS2424	MJS3024	MJS2028	MJS2428	MJS3028	MJS3628	MJS2030	MJS2430	MJS3030	MJS3630	
		1725 lbs (7.7 kN)		1922 lbs (8.5 kN)		2320 lbs (10.3 kN)		2450 lbs (10.9 kN)												
		lbs (kN)	Hold - Off Pressure (A) psi (bar)	63 psi (4.4 bar)	71 psi (4.9 bar)	73 psi (5.0 bar)	75 psi (5.2 bar)													
TR2430HD	2.50" (63.5 mm)	1580 lbs. (7.0 kN)	64 psi (4.4 bar)																	
TR3030HD	2.50" (63.5 mm)	1580 lbs. (7.0 kN)	64 psi (4.4 bar)																	
TR2430	3.00" (76.2 mm)	1431 lbs. (6.4 kN)	63 psi (4.3 bar)																	
TR2430HD	3.00" (76.2 mm)	1580 lbs. (7.0 kN)	68 psi (4.7 bar)																	
TR3030	3.00" (76.2 mm)	1431 lbs. (6.4 kN)	63 psi (4.3 bar)																	
TR3030HD	3.00" (76.2 mm)	1580 lbs. (7.0 kN)	68 psi (4.7 bar)																	
TR3036	2.50" (63.5 mm)	1960 lbs. (8.7 kN)	67 psi (4.6 bar)																	
TR3636	3.00" (76.2 mm)	1960 lbs. (8.7 kN)	67 psi (4.7 bar)																	
LTR2430	3.00" (76.2 mm)	1525 lbs. (6.8 kN)	68 psi (4.7 bar)																	
LTR3030	3.00" (76.2 mm)	1525 lbs. (6.8 kN)	68 psi (4.7 bar)																	
M1620LG - T	2.50" (63.5 mm)	1410 lbs. (6.3 kN)	50 psi (3.4 bar)																	
M1624LG - T	2.50" (63.5 mm)	1625 lbs. (7.2 kN)	56.8 psi (4.1 bar)																	
M2020LG - T	2.50" (63.5 mm)	1410 lbs. (6.3 kN)	50 psi (3.4 bar)																	
M2024LG - T	2.50" (63.5 mm)	1625 lbs. (7.2 kN)	59.6 psi (4.1 bar)																	
M2030LG - T	2.50" (63.5 mm)	2360 lbs. (10.5 kN)	58.2 psi (4.0 bar)																	
M2420LG - T	2.50" (63.5 mm)	1410 lbs. (6.3 kN)	50 psi (3.4 bar)																	
M2424LG - T	2.50" (63.5 mm)	1625 lbs. (7.2 kN)	59.3 psi (4.1 bar)																	
M2430LG - T	2.50" (63.5 mm)	2360 lbs. (10.5 kN)	68.2 psi (4.7 bar)																	
M3024GT	2.50" (63.5 mm)	1625 lbs (7.2 kN)	60 psi (4.1 bar)																	
M3027GT	2.50" (63.5 mm)	2040 lbs. (9.1 kN)	67 psi (4.6 bar)																	
M3031GT	2.50" (63.5 mm)	2325 lbs. (10.3 kN)	69 psi (4.8 bar)																	

NOTE: Contact MGM Brakes Sales for models not specified above.

- (A) Hold - Off Pressure (psi) is measured as decreasing air pressure at .200" (of full "OFF" stroke position (zero stroke)).
- (B) Parking Force (lbs.  $\pm$  10%) is measured at 1.25" (31.8 mm) of stroke.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## PROCEDURE: TO CUT THE SERVICE PUSH-ROD TO PROPER LENGTH



**Warning:** Do not attempt to service or disassemble the spring chamber or any spring brake actuator. A large spring in the spring chamber having extreme force could cause serious bodily injury if it were suddenly released due to inadvertent removal of this clamp or tamper-resistant head.

**IMPORTANT:** Place blocks under wheels to prevent vehicle runaway before removing air brake actuators.

- (a) **REMOVE WORN OR NON-FUNCTIONAL UNIT FROM VEHICLE.** Determine manufacturer and model of unit to be replaced. Refer to that manufacturer's service manual for caging and removal instructions.
- (b) Make sure the spring chamber of the removed actuator is fully released (power spring caged) and the service brake push-rod is fully retracted to zero stroke position (i.e. brake fully released). See chart below.

Model Series	Stroke	Measurement
TR	2.25" (57.2 mm)	3.77" (95.8 mm)
TR	2.50" (63.5 mm)	3.60" (91.4 mm)
TR	3.00" (76.2 mm)	3.60" (91.4 mm)
LTR	2.50" (63.5 mm)	3.80" (96.5 mm)
LTR	3.00" (76.2 mm)	3.80" (96.5 mm)
MJ	1.75" (44.5mm)	1.60" (40.6 mm)
MJ	3.00" (76.2 mm)	1.29" (32.8 mm)

**NOTE:** All measurements are from top of head to end of bolt TR, and top of the head to the top of the release bolt head J-Series. All dimensions are for reference only.

- (c) Measure and record the "X" and "Y" dimensions (Figure 1).

"X" Dimension - The dimension from bottom of actuator to end of push-rod.

"Y" Dimension - The dimension from bottom of actuator to center line of yoke pin.

Figure 1

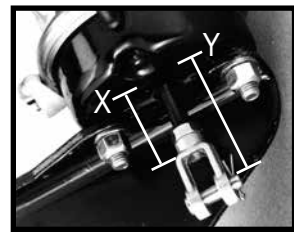
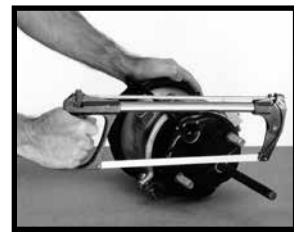


Figure 2



**NOTE:** If for some reason the spring chamber power spring cannot be caged and fully released, then the "X" and "Y" dimensions will need to be measured from another actuator of the exact type from the same vehicle provided it is retracted to its zero stroke position (brake fully released) and was operating correctly.

- (d) Before marking push-rod to be cut on a new unit, be sure the spring chamber and push-rod are fully retracted to the zero position. (This may be done with the manual caging bolt or by applying 90 - 100 psi (6.2 - 6.9 bar) air pressure to the spring chamber air inlet port.)
- (e) Take measured "X" dimension from the removed unit and mark push-rod of new unit from the bottom of the actuator.
- (f) Thread jam nut past mark on push-rod. Align bottom edge of nut with mark.
- (g) Use a sharp hack-saw and cut push-rod on the mark (Figure 2).
- (h) After cutting rod, thread jam nut off to clean up the thread.
- (i) Thread jam nut then yoke onto the push-rod. Yoke from removed unit may be reused provided yoke pin hole is not worn. Adjust yoke to the same "Y" dimension as measured from the removed unit.
- (j) Hold yoke to prevent it from turning and tighten jam nut against yoke 25 - 35 lb - ft (33.9 - 47.5 N - m) torque.

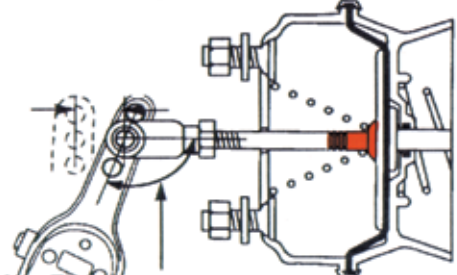
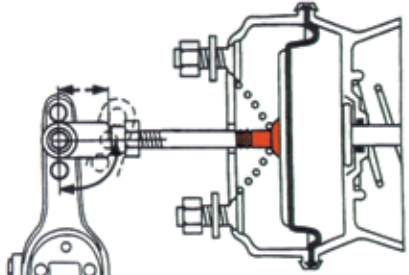
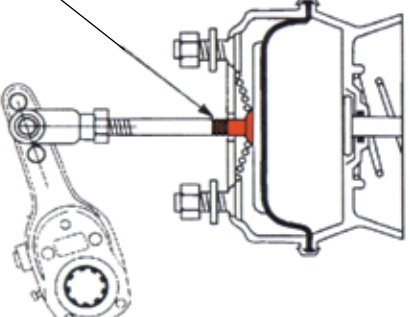
**TO INSTALL NEW UNIT ON VEHICLE: Refer to MGM Brakes Service Manual for the model that is being installed.**

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

# PROPER BRAKE ADJUSTMENT



**NOTE:** The last half of an air chamber stroke is less efficient than the first half. Therefore, the following adjustments are recommended for maximum efficiency when using manually adjusted slack adjusters.

<p style="text-align: center;"><b>BRAKES "OFF" - NOT APPLIED</b></p>  <p>Angle must always be greater than 90° due to various slack adjuster lengths and installation setups. (Refer to axle or OEM manufacturer's manual for recommended angle).</p> <p>Stroke should be as short as possible with no lining to drum contact.</p>	<p style="text-align: center;"><b>PROPERLY - ADJUSTED BRAKES "ON" - APPLIED</b></p>  <p>To check brake adjustment, apply 90 to 100 psi (6.2 - 6.9 bars) air pressure to the service chamber. Consult the vehicle manufacturer for the correct angle between the slack adjuster arm and push - rod and/or the push - rod length. This is necessary since different dimensions are required for automatic or manual slacks, various slack lengths and different slack adjuster manufacturers.</p>																																																																																																																
<p style="text-align: center;"><b>IMPROPERLY ADJUSTED BRAKES "ON" - APPLIED</b> Maximum recommended readjustment stroke has been exceeded)</p> <p>MGM Brake "Stroke Alert" (Excessive Stroke Warning)</p>  <p>See chart for recommended readjustment stroke</p>	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th rowspan="2">Type</th> <th rowspan="2">Effective Area (SQ. IN.)</th> <th colspan="2">Approx. Diaphragm O.D.</th> <th colspan="2">Rated Stroke of Chamber</th> <th rowspan="2">Maximum Stroke with Brakes Adjusted</th> <th colspan="2">"B" MV/MA Recommended Readjustment Stroke</th> </tr> <tr> <th>Inches</th> <th>mm</th> <th>Inches</th> <th>mm</th> <th>Inches</th> <th>mm</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>9</td> <td>5.00</td> <td>125</td> <td>1.75</td> <td>45</td> <td rowspan="14" style="text-align: left; font-weight: bold;">SHOULD BE AS SHORT AS POSSIBLE WITHOUT LINING TO DRUM CONTACT</td> <td>1.35</td> <td>35</td> </tr> <tr> <td>12</td> <td>12</td> <td>5.50</td> <td>140</td> <td>1.75</td> <td>45</td> <td>1.35</td> <td>35</td> </tr> <tr> <td>16</td> <td>16</td> <td>6.00</td> <td>150</td> <td>2.25</td> <td>57</td> <td>1.75</td> <td>45</td> </tr> <tr> <td>16L</td> <td>16</td> <td>6.00</td> <td>150</td> <td>2.50</td> <td>64</td> <td>2.00</td> <td>51</td> </tr> <tr> <td>20</td> <td>20</td> <td>6.50</td> <td>165</td> <td>2.25</td> <td>57</td> <td>1.75</td> <td>45</td> </tr> <tr> <td>20L</td> <td>20</td> <td>6.50</td> <td>165</td> <td>2.50</td> <td>64</td> <td>2.00</td> <td>51</td> </tr> <tr> <td>24</td> <td>24</td> <td>7.00</td> <td>175</td> <td>2.25</td> <td>57</td> <td>1.75</td> <td>45</td> </tr> <tr> <td>24L</td> <td>24</td> <td>7.00</td> <td>175</td> <td>2.50</td> <td>64</td> <td>2.00</td> <td>51</td> </tr> <tr> <td>24L3</td> <td>24</td> <td>7.00</td> <td>175</td> <td>3.00</td> <td>76</td> <td>2.50</td> <td>64</td> </tr> <tr> <td>30</td> <td>30</td> <td>8.00</td> <td>200</td> <td>2.50</td> <td>64</td> <td>2.00</td> <td>51</td> </tr> <tr> <td>30L3</td> <td>30</td> <td>8.00</td> <td>200</td> <td>3.00</td> <td>76</td> <td>2.50</td> <td>64</td> </tr> <tr> <td>36</td> <td>36</td> <td>9.00</td> <td>230</td> <td>3.00</td> <td>76</td> <td>2.25</td> <td>57</td> </tr> </tbody> </table> <p style="text-align: center; margin-top: 10px;">SOURCE: MVMA (Motor Vehicle Manufacturers Association)</p> <p style="text-align: center; margin-top: 10px;"><b>NOTE:</b> The push - rod must remain perpendicular to the bottom surface of the non - pressure chamber (NPC) within ±3° zero to full stroke.</p>	Type	Effective Area (SQ. IN.)	Approx. Diaphragm O.D.		Rated Stroke of Chamber		Maximum Stroke with Brakes Adjusted	"B" MV/MA Recommended Readjustment Stroke		Inches	mm	Inches	mm	Inches	mm	9	9	5.00	125	1.75	45	SHOULD BE AS SHORT AS POSSIBLE WITHOUT LINING TO DRUM CONTACT	1.35	35	12	12	5.50	140	1.75	45	1.35	35	16	16	6.00	150	2.25	57	1.75	45	16L	16	6.00	150	2.50	64	2.00	51	20	20	6.50	165	2.25	57	1.75	45	20L	20	6.50	165	2.50	64	2.00	51	24	24	7.00	175	2.25	57	1.75	45	24L	24	7.00	175	2.50	64	2.00	51	24L3	24	7.00	175	3.00	76	2.50	64	30	30	8.00	200	2.50	64	2.00	51	30L3	30	8.00	200	3.00	76	2.50	64	36	36	9.00	230	3.00	76	2.25	57
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## • IMPORTANT •

### RECOMMENDED SPRING BRAKE ACTUATOR DISARMING PROCEDURE



**Warning:** This procedure must be strictly adhered to. Never attempt to remove the spring chamber clamp ring from a double diaphragm actuator or the spring chamber retaining ring from a piston actuator. Both actuators employ a high energy power spring that could cause serious bodily injury if the spring were suddenly released due to improper disassembly.

All retired spring brake actuators must be safely disarmed before they are disposed of to prevent serious personal injury from accidental sudden release of the high energy spring (as much as 2700 lbs of force - 12.0 kN) in the parking chamber. To disarm the unit, remove it from the vehicle following the instructions in the MGM Brakes Service Manual. Be sure to release the brake per Section (2) of the MGM Brakes Service Manual. Never attempt to remove the head which contains the power spring. Observe all safety precautions. Place the unit in a steel \*container and use an acetylene torch to cut a hole through the head housing the power spring. Cut completely through at least two spring coils. The steel container must have openings to expose the head where it is to be cut with the acetylene torch and it must be strong enough to prevent parts from hurtling out should the unit suddenly separate before it is safely disarmed. It is the users responsibility to ensure the steel container is safe.

\*Information concerning a suitable container is available through your MGM Brakes Representative. Please consider the safety of others and the environment when properly disposing of brake actuators.

**NOTE:** Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

BOLT TORQUES			
Component	Bolt Size	Foot/Pounds of Torque	Newton/Meters of Torque
<b>RELEASE BOLTS</b>			
<b>CAGING TORQUE</b>			
TR Models	1/2 - 13 UNC	40 - 50	54 - 68
TR Models	5/8 - 11 UNC	40 - 50	54 - 68
L Models	5/8 - 11 UNC	40 - 50	54 - 68
J Models	5/8 18 UNF / 1/2 - 13 UNC	74 Max.	100 Max.
<b>STORAGE TORQUE</b>			
TR Models	1/2 - 13 UNC	10	14
TR Models	5/8 - 11 UNC	10	14
L Models	5/8 - 11 UNC	45 - 50	61 - 68
J Models	5/8 - 18 UNF	50 - 60	68 - 81
<b>CLAMP BAND NUTS &amp; BOLTS</b>			
	5/16 - 24 UNF	18 - 23	24 - 31
	3/8 - 16 UNC	30 - 35	41 - 47
<b>YOKE NUTS</b>			
	1/2 - 20 UNF	20 - 30	27 - 41
	5/8 - 18 UNF	25 - 50	34 - 68
	3/4 - 16 UNF	75 - 100	102 - 136
	M16 X 1.5 - 6G	25 - 50	34 - 68
<b>MOUNTING NUTS &amp; BOLTS</b>			
	7/16 - 14 UNC	35 - 40	47 - 54
	5/8 - 11 UNC	133 - 155	180 - 210
	5/8 18 UNF	133 - 155	180 - 210
	M16 X 1.5 - 6G	133 - 155	180 - 210
<b>AIR INLET FITTINGS</b>			
	3/8 - 18 NPTF	25 - 30	34 - 40
	3/8 - 24 UNF	17 - 19	23 - 26
	M16 X 1.5 - 6H	13 - 15	18 - 20

**WARNING: DO NOT USE IMPACT WRENCH**

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## PROCEDURE TO LENGTHEN THE EXTERNAL BREATHER TUBE

### 1.0 Purpose:

To provide a procedure to add a tube section to lengthen a breather tube in the field when the replacement actuator needs to be modified to replicate the breather tube, and/or port positions as per the currently installed OEM actuator.

### 2.0 Scope:

All MGM Brakes models with an external breather tube.

### 3.0 Material required:

8081128 Rubber Extension Tube or 3/8 Inch I.D. Rubber Vacuum/Washer Hose  
8052021 3/8 Inch Hose Clamp (2) or Adhesive

NOTE: If rubber extension tube and hose clamps unavailable, use appropriate length of 3/8" I.D. rubber vacuum/washer hose and appropriate adhesive. (Recommend Loctite #414 "Superbond" or equivalent.)

### 4.0 Procedure:

4.1 Using a plastic tubing cutter or sharp knife, cut the 3/8" O.D. breather tube approximately half way between the rubber elbows. (Fig. 1)

4.2 Using the recommended procedure in the MGM Brakes Service Manual (Ref. Form 5044 - J-Series, Form 5011 - TR, Form 5042 - LTR, Form 5065 - Wedge) loosen the service chamber clamp and rotate the spring side to the desired position. Tighten service chamber clamp.

**NOTE: Units designed for air disc applications are not to be rotated. (Fig. 2)**

4.3 If necessary, cut the 8081128 rubber extension tube, or the 3/8" vacuum/washer hose, to a length that will insure a minimum of 1/2 inch engagement over both ends of the cut 3/8" O.D. nylon breather tube.

4.4 Install the 8052021 hose clamps (2) over each end of the nylon breather tube, or apply Loctite #414 "Superbond" adhesive, or equivalent, to both ends of the nylon breather tube.

4.5 Insert the section of 8081128 rubber extension tube over both ends of the cut breather tube a minimum of 1/2 inch. (Fig. 3)

4.6 If hose clamps are used, compress clamp with pliers and place one over each end of the rubber extension tube. The edge of the clamp should be approximately .050 ±.015 from the edge of the rubber tube when installed. If adhesive is being used, wait for adhesive to dry before proceeding.

5.0 Using the recommended procedure in the MGM Brakes Service Manual (Ref Form 5044 - J-Series, Form 5011 - TR, Form 5042 - LTR, Form 5065 - Wedge), check the service chamber clamp for leaks.

**NOTE: IMPORTANT - When installing any MGM Brakes model with the breather tube, it is mandatory to position the breather tube in the upper half, or upper quadrant (9:00 to 3:00 o'clock), facing away from the road surface. Failure to comply will void the MGM Brakes Warranty without remedy on these models.**



**WARNING: Do not remove the spring chamber clamp ring (clamp closest to the release bolt) as serious injury may result from sudden release of the power spring.**



Fig. 1  
"Cut"



Fig. 2  
"Rotate"



Fig. 3  
"Insert"

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## 1.0 SCOPE:

Installing and replacing brake chambers with different rated strokes – specifically long stroke versus standard stroke.

## 2.0 RECOMMENDATION:

MGM Brakes recommends replacing chambers with the same stroke rating across an axle. When servicing a truck/trailer equipped with either standard stroke or long stroke chambers, it is crucial that replacement of the chambers be like for like. For example: if a 3" (76.2 mm) stroke chamber is to replace a 2.5" (63.5 mm) stroke chamber, both chambers on that axle must be upgraded to 3" (76.2 mm) chambers.

### CAUTION:

When upgrading from standard stroke to long stroke chambers, be sure there is:

- 1) adequate clearance for the increased stroke of the push-rod, yoke, and slack adjuster at full stroke
- 2) adequate clearance of the longer chamber at the worst case suspension and steering articulation.

Approval from the original vehicle manufacturer for proper clearance is recommended.

## 3.0 BACKGROUND:

The heat generated by the contact of the lining against the drum, especially during hard or continuous braking situations, causes the drum to "grow", or expand. The ability of a 2.5" (63.5 mm) "standard" stroke chamber to provide adequate pressure of the lining against the ever - expanding drum is limited by the stroke and performance characteristics of the brake. As the 2.5" (63.5 mm) stroke chamber exceeds 2" (50.8 mm) of travel, the operator will begin to sense the "brake fade" phenomenon, which will become more prevalent as the chamber moves closer to its maximum travel position, at which point the brake will cease to provide any braking capability.

However, the performance and operational characteristics of the MGM 3-inch "long stroke" chamber provides braking force beyond the point where the 2.5" (63.5 mm) "standard" stroke chamber ceases to provide braking. The 3" (76.2 mm) "long stroke" chamber provides the same force - output at 2.5" (63.5 mm) of stroke as provided by the "standard" chamber at 2" (50.8 mm) of stroke.

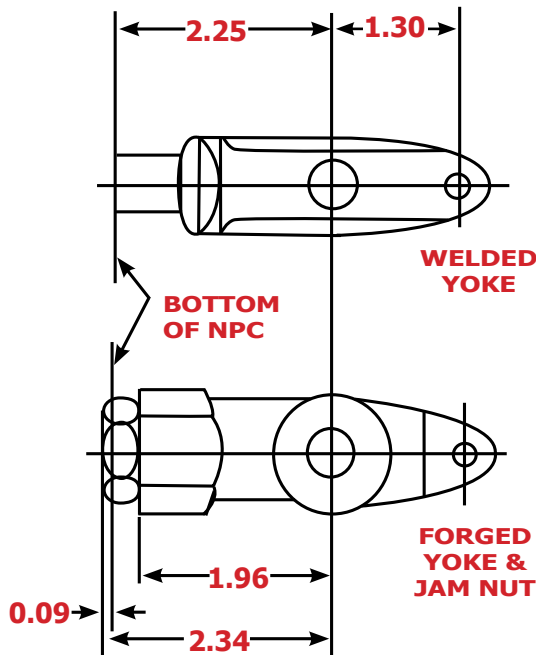
Therefore, because of the differences in the operational characteristics of the standard and long stroke chambers, when they are mixed across an axle, an imbalance may exist in the stopping capability of the vehicle at strokes beyond the recommended readjustment limit of the standard stroke chamber. This may result in the vehicle being "pulled" toward the side of the "long stroke" chamber, which is doing the majority of the braking. This may go unnoticed by the driver during "normal" brake applications, but could cause vehicle instability during "emergency" braking.

## FIELD REPLACEMENT OF CHAMBERS EQUIPPED WITH "WELDED" YOKES

Many vehicles are equipped with brake chambers employing a welded yoke construction.

The yoke is welded to the push-rod, making it impractical to remove and re-use it. Unless the non-pressure housing (mounting base), push-rod, and/or yoke have been damaged, or are severely worn or corroded, MGM Brakes recommends replacement of the single/piggyback as an effective, economical repair for servicing spring brakes.

However, if replacement of the entire brake chamber is required, it is recommended that a unit equipped with a welded yoke be used. Brake chambers with a "Y" dimension less than 2.5 inches must be replaced with a welded yoke construction.



Units manufactured with a "welded" yoke that have a fixed "Y" dimension, measured from the bottom of the NPC to the center of the yoke pin, of 2.25" (57.2 mm) must be replaced with a welded yoke type of brake chamber. Because the "Y" dimension is relatively short, the corresponding "X" dimension, measured from the bottom of the NPC to the end of the rod, will also be short, at approximately 3/4 of an inch (19.1 mm).

Consequently, if a replacement unit with a "universal" all-thread cut-to-fit push-rod is used, the jam nut will hit the bottom of the non-pressure housing (mounting base) preventing the chamber from completely retracting. See the illustration showing 0.09 inches of interference preventing full retraction.

The jam nut will protrude into the NPC and may damage the protective stone shield, if the push-rod opening in the NPC is large enough.

**NOTE: FOR THOSE USING 2-PIN SLACK ADJUSTERS:** The welded yoke chambers listed above have a measurement between the pins on the welded yoke of 1.30". If the vehicle's original manufacturer's clevis has a measurement other than 1.30", the welded yoke chambers listed cannot be used and a threaded rod chamber with a clevis utilizing the proper pin spacing recommended by the vehicle's manufacturer should be used instead.

MGM Brakes recommends any brake chamber with a welded yoke construction having a 2.5 inch "Y" dimension or less always be replaced with another chamber with a welded yoke construction, ensuring proper brake chamber retraction.

Spring brakes and service chambers must fully retract in order to completely release the foundation brakes so the lining no longer contacts the drum, allowing the automatic slack adjusters to properly operate and adjust the stroke. The brake chamber life will also be reduced significantly if it is not able to fully retract.

MGM Brake chambers are available only with a 1.30 inch hole spacing for use with two pin slack adjusters. If the vehicle's original manufacturer's clevis has a measurement other than 1.30 inch, MGM Brakes welded yoke chamber cannot be used.

**NOTE:** The listing above is based on known specifications of various manufacturers; however, certain applications may differ than shown. MGM suggests contacting the truck's manufacturer to verify the proper chamber and rod length to assure proper chamber replacement.

**! WARNING:** Every day, more and more vehicles are being manufactured with spring brakes and service chambers with the yoke welded to the service push-rod.

Units manufactured with a welded yoke have a preset "Y" dimension, measured from the bottom of the NPC to the center-line of the yoke pin. There are many different preset "Y" dimensions depending on the application. It is very important that you obtain this "Y" measurement from your current chamber in order to replace "like for like" to continue proper operation.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

## SAE

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (d)	Spring Chamber Size	Rated Service Stroke (in)	Vol. Displ. @ 100psi (in <sup>3</sup> ) (a)	Hold - Off Pressure Required (psi) (b)	Spring Brake Force - Output (Pounds - Force) @ in. of Stroke (c)								
					1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
TR2024	24	2.25	76.2	78	1280	1210	1150	1080	1000	840	-	-	-
TRxx24DT	24	2.50	76.0	78	1295	1212	1124	1039	954	858	722	-	-
TRxx24HD	24	2.25	76.2	78	1480	1396	1320	1250	1177	1074	-	-	-
TRxx24L	24	2.50	76.2	78	1280	1210	1150	1080	1000	840	620	-	-
TRxx30	30	2.50	101.8	64	1510	1420	1339	1257	1172	1084	994	-	-
TRxx30HD	30	2.50	103.2	68	1681	1580	1488	1396	1303	1211	1119	-	-
TRxx30LP3HD	30	3.00	115.4	68	1681	1580	1488	1396	1303	1211	1119	1026	934
TRxx30LP3	30	3.00	115.4	63	1519	1435	1352	1270	1187	1098	1009	919	837
TR3036	36	2.50	121.9	66	2050	1960	1867	1774	1679	1584	1487	-	-
TR3036L3	36	3.00	145.0	67	2125	2025	1924	1834	1767	1682	1576	1471	1366
TR3636	36	3.00	138.7	68	2050	1960	1867	1774	1679	1584	1487	1390	1280
LTRxx30T	30	2.50	104.8	70	1510	1420	1350	1280	1210	1145	1070	-	-
LTRxx30L3	30	3.00	108.0	71	1615	1525	1435	1350	1260	1160	1050	935	-

### PISTON TYPE SPRING BRAKE CHAMBERS

MJxx16AT	16	1.75	44.4	78	1404	1310	1211	1098	-	-	-	-	-
MJxx22ET	22	3.00	98.5	68	1780	1725	1624	1546	1468	1389	1310	1230	1151
MJxx24BT	24	2.00	83.3	71	2000	1922	1842	1771	1696	-	-	-	-
MJxx24DT	24	2.50	82.8	71	2000	1922	1842	1771	1696	1607	1528	-	-
MJxx24ET	24	3.00	98.5	71	2000	1922	1842	1771	1696	1607	1528	1449	1370
MJxx28ET	28	3.00	128.4	73	2423	2320	2207	2070	1982	1870	1756	1670	1521
MJxx30ET	30	3.00	128.4	75	2556	2450	2350	2256	2183	2086	1987	1858	1657

### REMOTE MOUNT CYLINDERS

MODEL	-	Rated Stroke (in)	-	Hold - Off Pressure (psi)	Spring Brake Force - Output (Pounds - Force) @ in. of stroke								
					1.00	1.50	2.00	2.50	3.00	3.50	4.00		
R4A	-	4.50	-	73	800	745	690	640	585	535	480	-	-
R5AHD	-	4.20	-	75	1720	1580	1440	1300	1160	1020	875	-	-
R7A	-	2.75	-	56	461	429	400	368	-	-	-	-	-
R8H	-	2.75	-	1500	461	429	400	368	-	-	-	-	-

(\*\*) Brake chambers with 2.00" or less rated stroke are calculated at 1.00" stroke.

(a) Spring chamber volume measured at full "OFF" (zero) stroke. Reference SAE J1469

(b) Hold off pressure measured as decreasing air pressure required to activate spring chamber to within .197" (5 mm) of full "OFF" (deactivated) stroke.

(c) Spring brake force output measured at end of service chamber push-rod using power springs which have been held compressed to assembly shut height for 24 hours to remove initial false load. Forces shown are nominal performance (+/- 10%) for all spring chamber model sizes.

(d) Performance levels shown hold true for all design versions of the same model size. For example... read the performance for Models TR2430T and TR3030TS as shown above for Model TRXX30 for spring brake force output.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS



## SAE

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Application Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
TR16xxDT	2.50	58.5	20	248	241	229	215	192	160	110	-	-
			40	569	563	551	532	494	441	347	-	-
			60	889	886	876	855	806	734	606	-	-
			80	1210	1211	1205	1183	1127	1042	889	-	-
			100	1530	1536	1536	1514	1450	1352	1175	-	-
TR18xxDT	2.50	55.5	20	267	265	256	239	208	150	103	-	-
			40	617	618	607	578	522	414	327	-	-
			60	965	969	958	921	845	699	579	-	-
			80	1310	1320	1311	1269	1179	1004	856	-	-
			100	1654	1670	1665	1621	1520	1326	1151	-	-
TR20xx	2.25	53.4	20	325	325	320	310	250	160	-	-	-
			40	710	710	690	630	540	390	-	-	-
			60	1080	1085	1080	1040	900	620	-	-	-
			80	1410	1480	1470	1375	1200	840	-	-	-
			100	1800	1855	1845	1790	1500	1125	-	-	-
TR20xx	2.50	57.2	20	304	305	299	287	266	200	91	-	-
			40	676	685	678	654	610	490	296	-	-
			60	1053	1069	1060	1030	967	810	538	-	-
			80	1432	1455	1443	1409	1332	1150	812	-	-
			100	1805	1836	1823	1786	1695	1489	1101	-	-
TR20xxDT	2.50	55.6	20	292	301	302	292	270	229	158	-	-
			40	669	689	695	679	640	569	447	-	-
			60	1046	1080	1087	1067	1016	921	781	-	-
			80	1423	1469	1477	1456	1394	1281	1073	-	-
			100	1798	1857	1865	1846	1776	1652	1307	-	-
TR22xxDT	2.50	67.7	20	330	328	323	311	288	260	190	-	-
			40	741	741	737	722	685	629	504	-	-
			60	1150	1154	1154	1140	1092	1014	848	-	-
			80	1557	1566	1573	1561	1506	1408	1208	-	-
			100	1962	1977	1993	1984	1923	1808	1581	-	-
TR24xxDT	2.50	67.9	20	380	384	384	375	349	309	211	-	-
			40	836	844	846	834	796	726	558	-	-
			60	1287	1300	1308	1295	1251	1160	947	-	-
			80	1733	1753	1767	1757	1708	1600	1358	-	-
			100	2172	2202	2225	2218	2165	2044	1787	-	-
TR24xxL	2.50	69.8	20	362	372	379	377	365	336	278	-	-
			40	808	824	840	842	820	773	676	-	-
			60	1245	1270	1296	1302	1279	1223	1106	-	-
			80	1682	1717	1757	1764	1739	1674	1534	-	-
			100	2115	2158	2211	2224	2201	2133	1980	-	-
TR30xx	2.50	87.0	20	526	528	528	515	489	427	290	-	-
			40	1120	1130	1135	1115	1064	950	718	-	-
			60	1717	1737	1748	1724	1658	1510	1208	-	-
			80	2307	2337	2358	2331	2254	2083	1731	-	-
			100	2894	2937	2967	2940	2856	2667	2277	-	-

TECHNICAL



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS

## SAE

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Ap- plication Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
TR20xxLP3H	3.00	68.3	20	293	298	308	312	312	305	295	277	230
			40	654	662	679	695	699	693	679	647	568
			60	1006	1018	1048	1074	1084	1081	1067	1026	925
			80	1353	1371	1415	1451	1468	1470	1457	1409	1294
			100	1693	1718	1777	1826	1850	1858	1848	1796	1675
TR24xxLP3	3.00	83.2	20	355	358	368	376	378	369	351	326	246
			40	783	790	814	835	839	827	795	750	616
			60	1204	1218	1255	1288	1296	1282	1247	1184	1008
			80	1623	1642	1694	1738	1752	1734	1696	1620	1399
			100	2034	2061	2129	2185	2204	2188	2147	2067	1800
TR30xxLP3	3.00	107.5	20	493	508	524	524	512	498	479	446	363
			40	1062	1091	1109	1113	1103	1090	1063	1009	892
			60	1628	1658	1695	1698	1694	1683	1649	1576	1442
			80	2183	2229	2277	2283	2283	2274	2241	2149	1997
			100	2735	2788	2855	2867	2870	2868	2835	2745	2581
TR36xx	3.00	122.1	20	624	624	626	619	607	584	539	446	284
			40	1338	1334	1328	1324	1311	1298	1218	1087	846
			60	2042	2030	2029	2028	2014	1976	1898	1731	1436
			80	2733	2720	2727	2733	2718	2681	2591	2405	2071
			100	3412	3402	3423	3444	3439	3411	3336	3169	2858
LTR24xxT	2.50	69.8	20	362	372	379	377	365	336	278	-	-
			40	808	824	840	842	820	773	676	-	-
			60	1245	1270	1296	1302	1279	1223	1106	-	-
			80	1682	1717	1757	1764	1739	1674	1534	-	-
			100	2115	2158	2211	2224	2201	2133	1980	-	-
LTR30xxT	2.50	87.0	20	526	528	528	515	489	427	290	-	-
			40	1120	1130	1135	1115	1064	950	718	-	-
			60	1717	1737	1748	1724	1658	1510	1208	-	-
			80	2307	2337	2358	2331	2254	2083	1731	-	-
			100	2894	2937	2967	2940	2856	2667	2277	-	-
LTR24xxL3	3.00	83.2	20	355	358	368	376	378	369	351	326	246
			40	783	790	814	835	839	827	795	750	616
			60	1204	1218	1255	1288	1296	1282	1247	1184	1008
			80	1623	1642	1694	1738	1752	1734	1696	1620	1399
			100	2034	2061	2129	2185	2204	2188	2147	2067	1800
LTR30xxL3	3.00	107.5	20	493	508	524	524	512	498	479	446	363
			40	1062	1091	1109	1113	1103	1090	1063	1009	892
			60	1628	1658	1695	1698	1694	1683	1649	1576	1442
			80	2183	2229	2277	2283	2283	2274	2241	2149	1997
			100	2735	2788	2855	2867	2870	2868	2835	2745	2581

(\*\*) Brake chambers with 2.00" (50.8 mm) or less rated stroke are calibrated at 1.00" (25.4 mm) stroke.

(e) Service chamber volume measured at maximum "on" stroke (ref. SAE J1469).

(f) Service brake force output measured at end of service chamber push-rod. Forces shown are nominal performance (+/- 5%) for all service chamber sizes.

(g) Performance levels shown hold true for all design versions of the same model size. For example... read the same performance for Models TR3036T and TR3030TS as shown above for Model TR30xx.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

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# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS



**SAE**

## PISTON TYPE SPRING BRAKE CHAMBERS

MODEL(g)	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Ap-plication Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
MJ12xxAT	1.75	28.0	20	190	190	150	90	-	-	-	-	-
			40	410	400	350	200	-	-	-	-	-
			60	650	620	545	360	-	-	-	-	-
			80	900	875	760	490	-	-	-	-	-
			100	1120	1080	930	650	-	-	-	-	-
MJ16xxBT	2.00	42.7	20	295	307	314	312	14	-	-	-	-
			40	615	629	645	643	261	-	-	-	-
			60	927	946	968	963	460	-	-	-	-
			80	1234	1258	1286	1270	621	-	-	-	-
			100	1545	1574	1608	1554	799	-	-	-	-
MJ16xxDT	2.50	62.5	20	258	251	242	232	215	190	150	-	-
			40	581	574	566	552	526	483	411	-	-
			60	902	898	893	877	844	787	691	-	-
			80	1223	1222	1220	1205	1167	1100	984	-	-
			100	1539	1541	1544	1530	1490	1412	1282	-	-
MJ17xxET	3.00	58.8	20	269	258	248	239	225	207	184	148	73
			40	597	580	571	560	542	515	472	401	268
			60	920	901	894	887	869	834	777	683	516
			80	1238	1219	1215	1212	1194	1154	1087	975	773
			100	1551	1534	1538	1544	1529	1492	1423	1303	1087
MJ18xxDT	2.50	56.7	20	284	282	278	268	249	220	161	-	-
			40	636	638	635	622	592	540	431	-	-
			60	986	992	992	978	942	872	729	-	-
			80	1332	1343	1349	1336	1295	1213	1048	-	-
			100	1676	1695	1707	1695	1651	1560	1379	-	-
MJ20xxDT	2.50	56.7	20	286	296	295	284	263	222	132	-	-
			40	648	668	675	661	626	557	402	-	-
			60	1012	1046	1058	1041	997	904	703	-	-
			80	1374	1420	1438	1419	1368	1258	1001	-	-
			100	1735	1795	1818	1799	1744	1618	1307	-	-
MJ20xxET	3.00	67.5	20	293	298	308	312	312	305	295	277	230
			40	654	662	679	695	699	693	679	647	568
			60	1006	1018	1048	1074	1084	1081	1067	1026	925
			80	1353	1371	1415	1451	1468	1470	1457	1409	1204
			100	1693	1718	1777	1826	1850	1858	1848	1796	1675
MJ22xxDT	2.50	67.8	20	339	336	329	315	295	266	201	-	-
			40	748	744	738	720	684	623	500	-	-
			60	1157	1156	1153	1133	1087	1000	835	-	-
			80	1562	1566	1569	1549	1494	1387	1192	-	-
			100	1970	1979	1989	1972	1910	1786	1565	-	-
MJ24xxDT	2.50	67.8	20	377	382	380	371	352	312	211	-	-
			40	836	843	842	830	798	725	546	-	-
			60	1291	1301	1303	1290	1253	1159	934	-	-
			80	1740	1754	1763	1753	1713	1606	1361	-	-
			100	2182	2204	2220	2212	2169	2046	1785	-	-

TECHNICAL



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS

## SAE

### PISTON TYPE SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Application Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
MJ24xxET	3.00	83.2	20	355	358	368	376	378	369	351	326	246
			40	783	790	814	835	839	827	795	750	616
			60	1204	1218	1255	1288	1296	1282	1247	1184	1008
			80	1623	1642	1694	1738	1752	1734	1696	1620	1399
			100	2034	2061	2129	2185	2204	2188	2147	2067	1800
MJ27xxET	3.00	106.3	20	272	261	252	241	229	211	186	146	92
			40	598	580	569	558	542	515	469	394	286
			60	915	893	883	876	860	826	766	666	514
			80	1232	1208	1200	1197	1183	1146	1073	950	764
			100	1545	1522	1522	1519	1513	1476	1398	1261	1046
MJ30xxET	3.00	107.5	20	493	508	524	524	512	498	479	446	363
			40	1062	1091	1109	1113	1103	1090	1063	1009	892
			60	1628	1658	1695	1698	1694	1683	1649	1576	1442
			80	2183	2229	2277	2283	2283	2274	2241	2149	1997
			100	2735	2788	2855	2867	2870	2868	2835	2745	2581
MJ36xxET	3.00	122.8	20	622	623	623	620	612	598	574	534	438
			40	1313	1310	1319	1322	1313	1295	1259	1188	1027
			60	1989	1989	2008	2017	2011	1992	1950	1860	1659
			80	2658	2667	2698	2714	2712	2694	2647	2543	2318
			100	3324	3342	3385	3410	3414	3398	3348	3235	2994

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Application Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
C12	1.75	26.0	20	190	190	150	90	-	-	-	-	-
			40	410	400	350	200	-	-	-	-	-
			60	650	620	545	360	-	-	-	-	-
			80	900	875	760	490	-	-	-	-	-
			100	1120	1080	930	650	-	-	-	-	-
C16	2.25	45.1	20	250	250	250	250	215	135	-	-	-
			40	580	600	600	580	490	335	-	-	-
			60	900	915	920	890	780	510	-	-	-
			80	1220	1250	1250	1200	1050	755	-	-	-
			100	1525	1585	1585	1510	1360	1035	-	-	-
CS16D	2.50	64.7	20	268	257	248	236	220	195	158	-	-
			40	595	582	573	559	535	496	433	-	-
			60	917	905	898	885	858	807	724	-	-
			80	1237	1226	1223	1213	1183	1124	1026	-	-
			100	1555	1547	1548	1542	1511	1445	1332	-	-
C16L	2.50	53.7	20	260	260	260	250	250	240	220	-	-
			40	605	605	605	600	595	550	475	-	-
			60	930	930	930	930	910	860	750	-	-
			80	1260	1260	1270	1280	1260	1200	1090	-	-
			100	1590	1595	1610	1640	1600	1550	1400	-	-

TECHNICAL

# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS



## SAE

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Application Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
C16LH	2.50	59.7	20	265	260	250	240	225	200	165	-	-
			40	598	575	565	550	530	500	435	-	-
			60	920	900	890	875	850	800	730	-	-
			80	1240	1220	1210	1200	1170	1110	1020	-	-
			100	1560	1550	1540	1525	1495	1440	1315	-	-
CS18D	2.50	58.8	20	270	269	264	252	231	198	142	-	-
			40	616	616	614	599	566	508	400	-	-
			60	960	963	965	950	911	833	686	-	-
			80	1299	1307	1315	1302	1257	1165	988	-	-
			100	1635	1649	1664	1656	1608	1505	1307	-	-
C20	2.25	50.8	20	325	325	320	310	250	160	-	-	-
			40	710	710	690	630	540	390	-	-	-
			60	1080	1085	1080	1040	900	620	-	-	-
			80	1410	1480	1470	1375	1200	840	-	-	-
			100	1800	1855	1845	1790	1500	1125	-	-	-
CS20D	2.50	58.8	20	292	303	310	308	293	270	217	-	-
			40	662	680	701	701	678	640	550	-	-
			60	1028	1055	1092	1090	1064	1016	899	-	-
			80	1390	1429	1480	1478	1453	1398	1261	-	-
			100	1749	1799	1865	1866	1841	1779	1629	-	-
C20L	2.50	59.9	20	295	298	300	300	300	280	245	-	-
			40	655	665	680	690	680	645	570	-	-
			60	1010	1030	1060	1075	1060	1015	900	-	-
			80	1380	1400	1450	1465	1450	1390	1250	-	-
			100	1750	1780	1840	1850	1840	1760	1610	-	-
CS20L	2.50	58.7	20	295	298	300	300	300	280	245	-	-
			40	655	665	680	690	680	645	570	-	-
			60	1010	1030	1060	1075	1060	1015	900	-	-
			80	1380	1400	1450	1465	1450	1390	1250	-	-
			100	1750	1780	1840	1850	1840	1760	1610	-	-
CS22D	2.50	68.4	20	327	328	326	316	295	269	215	-	-
			40	736	738	739	728	696	647	542	-	-
			60	1144	1149	1156	1147	1107	1037	890	-	-
			80	1550	1559	1573	1568	1522	1436	1255	-	-
			100	1952	1969	1991	1991	1942	1840	1632	-	-
CS24D	2.50	68.3	20	359	372	381	379	357	320	243	-	-
			40	799	824	846	842	811	751	618	-	-
			60	1238	1279	1310	1304	1270	1193	1023	-	-
			80	1676	1732	1771	1767	1730	1640	1449	-	-
			100	2024	2091	2135	2136	2095	1997	1798	-	-
C24L	2.50	69.6	20	362	372	379	377	365	336	278	-	-
			40	808	824	840	842	820	773	676	-	-
			60	1245	1270	1296	1302	1279	1223	1106	-	-
			80	1682	1717	1757	1764	1739	1674	1534	-	-
			100	2115	2158	2211	2224	2201	2133	1980	-	-

TECHNICAL



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS

## SAE

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (in)	Vol. Displ. @ 100 psi Rated Service Stroke (in <sup>3</sup> ) (e)	Application Pressure of (psi)	Service Brake Force - Output (Pounds - Force) @ in. of Stroke (f)								
				1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
C27	2.50	67.1	20	445	437	433	424	409	389	359	-	-
			40	959	957	958	951	930	897	849	-	-
			60	1478	1484	1490	1484	1460	1419	1351	-	-
			80	1986	2001	2016	2007	1983	1937	1859	-	-
			100	2496	2520	2539	2533	2509	2460	2361	-	-
C30	2.50	90.1	20	526	528	528	515	489	427	290	-	-
			40	1120	1130	1135	1115	1064	950	718	-	-
			60	1717	1737	1748	1724	1658	1510	1208	-	-
			80	2307	2337	2358	2331	2254	2083	1731	-	-
			100	2894	2937	2967	2940	2856	2667	2277	-	-
C36	3.00	124.3	20	624	624	626	619	607	584	539	446	284
			40	1338	1334	1328	1324	1311	1298	1218	1087	846
			60	2042	2030	2029	2028	2014	1976	1898	1731	1436
			80	2733	2720	2727	2733	2718	2681	2591	2405	2071
			100	3412	3402	3423	3444	3439	3411	3336	3169	2858
CS20L3	3.00	68.3	20	293	298	308	312	312	305	295	277	230
			40	654	662	679	695	699	693	679	647	568
			60	1006	1018	1048	1074	1084	1081	1067	1026	925
			80	1353	1371	1415	1451	1468	1470	1457	1409	1294
			100	1693	1718	1777	1826	1850	1858	1848	1796	1675
C24L3	3.00	83.2	20	355	358	368	376	378	369	351	326	246
			40	783	790	814	835	839	827	795	750	616
			60	1204	1218	1255	1288	1296	1282	1247	1184	1008
			80	1623	1642	1694	1738	1752	1734	1696	1620	1399
			100	2034	2061	2129	2185	2204	2188	2147	2067	1800
C30L3	3.00	111.8	20	493	508	524	524	512	498	479	446	363
			40	1062	1091	1109	1113	1103	1090	1063	1009	892
			60	1628	1658	1695	1698	1694	1683	1649	1576	1442
			80	2183	2229	2277	2283	2283	2274	2241	2149	1997
			100	2735	2788	2855	2867	2870	2868	2835	2745	2581
CW9	1.75	21.3	20	175	170	150	55	-	-	-	-	-
			40	355	340	300	174	-	-	-	-	-
			60	530	510	415	260	-	-	-	-	-
			80	720	690	615	375	-	-	-	-	-
			100	895	860	775	515	-	-	-	-	-
CW12	1.75	28.8	20	225	225	180	70	-	-	-	-	-
			40	455	455	385	200	-	-	-	-	-
			60	685	680	570	350	-	-	-	-	-
			80	915	910	820	560	-	-	-	-	-
			100	1145	1130	1080	800	-	-	-	-	-
CW16	1.75	38.9	20	312	310	300	145	-	-	-	-	-
			40	630	620	610	385	-	-	-	-	-
			60	960	950	920	630	-	-	-	-	-
			80	1290	1275	1235	780	-	-	-	-	-
			100	1605	1585	1560	980	-	-	-	-	-



## METRIC

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (d)	Spring Chamber Size	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar (cm³) (a)	Hold - Off Pressure Required (bar) (b)	Spring Brake Force - Output (Newtons) @ mm. of Stroke (c)								
					25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
TR2024	24	57.2	1249	5.4	5694	5382	5115	4804	4448	3737	-	-	-
TRxx24DT	24	76.0	1245	5.4	5760	5391	5000	4622	4244	3817	3212	-	-
TRxx24HD	24	57.2	1249	5.4	6583	6210	5872	5560	5236	4777	-	-	-
TRxx24L	24	63.5	1249	5.4	5694	5382	5115	4804	4448	3737	2758	-	-
TRxx30	30	63.5	1668	4.4	6717	6316	5956	5591	5213	4822	4422	-	-
TRxx30HD	30	63.5	1691	4.7	7477	7028	6619	6210	5796	5387	4978	-	-
TRxx30LP3HD	30	76.2	1891	4.7	7477	7028	6619	6210	5796	5387	4978	4564	4155
TRxx30LP3	30	76.2	1891	4.3	6757	6383	6014	5649	5280	4884	4488	4088	3723
TR3036	36	63.5	1998	4.6	9119	8719	8305	7891	7469	7046	6615	-	-
TR3036L3	36	3.00	2374	4.6	9452	9007	8558	8158	7860	7481	7010	6543	-
TR3636	36	76.2	2273	4.7	9119	8719	8305	7891	7469	7046	6615	6183	5694
LTRxx30T	30	63.5	1717	4.8	6717	6316	6005	5694	5382	5093	4760	-	-
LTRxx30L3	30	76.2	1770	4.9	7184	6784	6383	6005	5605	5160	4671	4159	-

### PISTON TYPE SPRING BRAKE CHAMBERS

MJxx16AT	16	44.5	728	5.4	6245	5827	5387	4884	-	-	-	-	-
MJxx22ET	22	76.2	1614	4.7	7920	7670	7230	6880	6530	6180	5830	5470	5120
MJxx24BT	24	50.8	1365	4.9	8896	8549	8194	7878	7544	-	-	-	-
MJxx24DT	24	82.8	1357	4.9	8896	8549	8194	7878	7544	7148	6797	-	-
MJxx24ET	24	76.2	1614	4.9	8896	8549	8194	7878	7544	7148	6797	6445	6094
MJxx28ET	28	76.2	2104	5.0	10778	10320	9817	9208	8816	8318	7811	7428	6766
MJxx30ET	30	76.2	2104	5.2	11370	10898	10453	10035	9710	9279	8839	8265	7371

### REMOTE MOUNT CYLINDERS

MODEL	-	Rated Stroke (mm)	-	Hold - Off Pressure (bar)	Spring Brake Force - Output (Newtons) @ mm. of Stroke								
					25.4	38.1	50.8	63.5	76.2	88.9	101.6		
R4A	-	114.3	-	5.0	-	3314	3069	2847	2602	2380	2135	-	-
R5AHD	-	106.7	-	5.2	7651	7028	6405	5783	5160	4537	3892	-	-
R7A	-	69.9	-	4.1	2051	1908	1779	1637	-	-	-	-	-
R8H	-	63.5	-	103.5	2051	1908	1779	1637	-	-	-	-	-

(\*\*) Brake chambers with 2.00" (50.8 mm) or less rated stroke are calibrated at 1.00" (25.4 mm) stroke.

(a) Spring chamber volume measured at full "OFF" (zero) stroke. Reference SAE J1469

(b) Hold off pressure measured as decreasing air pressure required to activate spring chamber to within .020" (5 mm) of full "OFF" (deactivated) stroke.

(c) Spring brake force output measured at end of service chamber push-rod using power springs which have been held compressed to assembly shut height for 24 hours to remove initial false load. Forces shown are nominal performance (+/- 10%) for all spring chamber model sizes.

(d) Performance levels shown hold true for all design versions of the same model size. For example... read the performance for Models TR2430T and TR3030TS as shown above for Model TRXX30 for spring brake force output.



# PERFORMANCE CHART - SPRING BRAKE CHAMBERS

## METRIC

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm³) (e)	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. Stroke (f)								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
TR16xxDT	58.5	959	1.4	1103	1072	1019	956	854	712	489	-	-
			2.8	2531	2504	2451	2366	2197	1962	1544	-	-
			4.1	3954	3941	3897	3803	3585	3265	2696	-	-
			5.5	5382	5387	5360	5262	5013	4635	3954	-	-
			6.9	6806	6832	6832	6735	6450	6014	5227	-	-
TR18xxDT	55.5	909	1.4	1187	1179	1141	1064	924	669	456	-	-
			2.8	2746	2747	2699	2572	2320	1842	1456	-	-
			4.1	4294	4312	4263	4099	3758	3108	2575	-	-
			5.5	5826	5872	5832	5645	5243	4467	3807	-	-
			6.9	7356	7430	7408	7210	6762	5897	5122	-	-
TR20xx	57.2	875	1.4	1446	1446	1423	1379	1112	712	-	-	-
			2.8	3158	3158	3069	2802	2402	1735	-	-	-
			4.1	4804	4826	4804	4626	4003	2758	-	-	-
			5.5	6272	6583	6539	6116	5338	3736	-	-	-
			6.9	8007	8251	8207	7962	6672	5004	-	-	-
TR20xx	63.5	937	1.4	1353	1356	1328	1276	1182	891	404	-	-
			2.8	3008	3047	3015	2910	2713	2177	1315	-	-
			4.1	4685	4756	4713	4581	4300	3602	2393	-	-
			5.5	6369	6473	6420	6269	5924	5114	3612	-	-
			6.9	8031	8166	8110	7946	7541	6623	4898	-	-
TR20xxDT	55.6	911	1.4	1299	1339	1343	1299	1201	1019	703	-	-
			2.8	2976	3065	3091	3020	2847	2531	1988	-	-
			4.1	4653	4804	4835	4746	4519	4097	3474	-	-
			5.5	6330	6534	6570	6477	6201	5698	4773	-	-
			6.9	7998	8260	8296	8211	7900	7348	5814	-	-
TR22xxDT	67.7	1110	1.4	1468	1459	1437	1383	1281	1157	845	-	-
			2.8	3296	3296	3278	3212	3047	2798	2242	-	-
			4.1	5115	5133	5133	5071	4857	4510	3772	-	-
			5.5	6926	6966	6997	6944	6699	6263	5373	-	-
			6.9	8727	8794	8865	8825	8554	8042	7033	-	-
TR24xxDT	67.9	1113	1.4	1690	1708	1708	1668	1552	1374	939	-	-
			2.8	3719	3754	3763	3710	3541	3229	2482	-	-
			4.1	5725	5783	5818	5760	5565	5160	4212	-	-
			5.5	7709	7798	7860	7815	7598	7117	6041	-	-
			6.9	9661	9795	9897	9866	9630	9092	7949	-	-
TR24xxL	63.5	1144	1.4	1610	1655	1686	1677	1624	1495	1237	-	-
			2.8	3594	3665	3736	3745	3648	3438	3007	-	-
			4.1	5538	5649	5765	5792	5689	5440	4920	-	-
			5.5	7482	7638	7815	7847	7735	7446	6824	-	-
			6.9	9408	9599	9835	9893	9790	9488	8807	-	-
TR30xx	63.5	1426	1.4	2340	2349	2349	2291	2175	1899	1290	-	-
			2.8	4982	5026	5049	4960	4733	4226	3194	-	-
			4.1	7638	7727	7775	7669	7375	6717	5373	-	-
			5.5	10262	10395	10489	10369	10026	9266	7700	-	-
			6.9	12873	13064	13198	13078	12704	11863	10129	-	-

TECHNICAL





## METRIC

### DOUBLE DIAPHRAGM SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> ) (e)	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. Stroke (f)								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
TR20xxLP3H	76.2	1119	1.4	1303	1326	1370	1388	1388	1357	1312	1232	1023
			2.8	2909	2945	3020	3091	3109	3083	3020	2878	2527
			4.1	4475	4528	4662	4777	4822	4809	4746	4564	4115
			5.5	6018	6098	6294	6454	6530	6539	6481	6268	5756
			6.9	7531	7642	7904	8122	8229	8265	8220	7989	7451
TR24xxLP3	76.2	1363	1.4	1579	1592	1637	1673	1681	1641	1561	1450	1094
			2.8	3483	3514	3621	3714	3732	3679	3536	3336	2740
			4.1	5356	5418	5582	5729	5765	5703	5547	5267	4484
			5.5	7219	7304	7535	7731	7793	7713	7544	7206	6223
			6.9	9048	9168	9470	9719	9804	9733	9550	9194	8007
TR30xxLP3	76.2	1762	1.4	2193	2260	2331	2331	2277	2215	2131	1984	1615
			2.8	4724	4853	4933	4951	4906	4849	4728	4488	3968
			4.1	7242	7375	7540	7553	7535	7486	7335	7010	6414
			5.5	9710	9915	10129	10155	10155	10115	9968	9559	8883
			6.9	12166	12402	12700	12753	12766	12757	12611	12210	11481
TR36xx	76.2	2001	1.4	2776	2776	2785	2753	2700	2598	2398	1984	1263
			2.8	5952	5934	5907	5889	5832	5774	5418	4835	3763
			4.1	9083	9030	9025	9021	8959	8790	8443	7700	6388
			5.5	12157	12099	12130	12157	12090	11926	11525	10698	9212
			6.9	15177	15133	15226	15320	15297	15173	14839	14096	12713
LTR24xxT	63.5	1144	1.4	1610	1655	1686	1677	1624	1495	1237	-	-
			2.8	3594	3665	3736	3745	3648	3438	3007	-	-
			4.1	5538	5649	5765	5792	5689	5440	4920	-	-
			5.5	7482	7638	7815	7847	7735	7446	6824	-	-
			6.9	9408	9599	9835	9893	9790	9488	8807	-	-
LTR30xxT	63.5	1426	1.4	2340	2349	2349	2291	2175	1899	1290	-	-
			2.8	4982	5026	5049	4960	4733	4226	3194	-	-
			4.1	7638	7727	7775	7669	7375	6717	5373	-	-
			5.5	10262	10395	10489	10369	10026	9266	7700	-	-
			6.9	12873	13064	13198	13078	12704	11863	10129	-	-
LTR24xxL3	76.2	1363	1.4	1579	1592	1637	1673	1681	1641	1561	1450	1094
			2.8	3483	3514	3621	3714	3732	3679	3536	3336	2740
			4.1	5356	5418	5582	5729	5765	5703	5547	5267	4484
			5.5	7219	7304	7535	7731	7793	7713	7544	7206	6223
			6.9	9048	9168	9470	9719	9804	9733	9550	9194	8007
LTR30xxL3	76.2	1762	1.4	2193	2260	2331	2331	2277	2215	2131	1984	1615
			2.8	4724	4853	4933	4951	4906	4849	4728	4488	3968
			4.1	7242	7375	7540	7553	7535	7486	7335	7010	6414
			5.5	9710	9915	10129	10155	10155	10115	9968	9559	8883
			6.9	12166	12402	12700	12753	12766	12757	12611	12210	11481

(\*\*) Brake chambers with 2.00" (50.8 mm) or less rated stroke are calibrated at 1.00" (25.4 mm) stroke.

(e) Service chamber volume measured at maximum "on" stroke (ref. SAE J1469).

(f) Service brake force output measured at end of service chamber push-rod. Forces shown are nominal performance (+/- 5%) for all service chamber sizes.

(g) Performance levels shown hold true for all design versions of the same model size. For example... read the same performance for Models TR3036T and TR3030TS as shown above for Model TR30xx.

**NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.**



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS

## METRIC

### PISTON TYPE SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> ) (e)	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. of Stroke (f)								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
MJ12xxAT	44.5	459	1.4	845	845	667	400	-	-	-	-	-
			2.8	1824	1779	1557	890	-	-	-	-	-
			4.1	2891	2758	2424	1601	-	-	-	-	-
			5.5	4003	3892	3381	2180	-	-	-	-	-
			6.9	4982	4804	4137	2891	-	-	-	-	-
MJ16xxBT	50.8	700	1.4	1312	1366	1397	1388	62	-	-	-	-
			2.8	2736	2798	2869	2860	1161	-	-	-	-
			4.1	4123	4208	4306	4284	2046	-	-	-	-
			5.5	5489	5596	5720	5649	2762	-	-	-	-
			6.9	6872	7001	7153	6913	3554	-	-	-	-
MJ16xxDT	62.5	1024	1.4	1148	1117	1076	1032	956	845	667	-	-
			2.8	2584	2553	2518	2455	2340	2148	1828	-	-
			4.1	4012	3995	3972	3901	3754	3501	3074	-	-
			5.5	5440	5436	5427	5360	5191	4893	4377	-	-
			6.9	6846	6855	6868	6806	6628	6281	5703	-	-
MJ17xxET	76.2	964	1.4	1194	1146	1103	1062	1000	919	816	658	325
			2.8	2656	2581	2542	2491	2411	2290	2099	1782	1192
			4.1	4091	4008	3977	3944	3864	3711	3458	3037	2297
			5.5	5509	5423	5405	5391	5312	5132	4835	4335	3438
			6.9	6900	6825	6843	6870	6803	6636	6331	5797	4834
MJ18xxDT	56.7	929	1.4	1264	1256	1237	1192	1108	977	716	-	-
			2.8	2829	2837	2825	2765	2635	2401	1918	-	-
			4.1	4387	4414	4414	4351	4191	3880	3243	-	-
			5.5	5924	5976	6002	5941	5759	5397	4662	-	-
			6.9	7455	7539	7591	7541	7345	6939	6134	-	-
MJ20xxDT	56.7	929	1.4	1272	1317	1312	1263	1170	988	587	-	-
			2.8	3043	2971	3003	2940	2785	2478	1788	-	-
			4.1	4502	4653	4706	4631	4435	4021	3127	-	-
			5.5	6112	6316	6397	6312	6085	5596	4453	-	-
			6.9	7718	7985	8087	8002	7758	7197	5814	-	-
MJ20xxET	76.2	1106	1.4	1303	1326	1370	1388	1388	1357	1312	1232	1023
			2.8	2909	2945	3020	3091	3109	3083	3020	2878	2527
			4.1	4475	4528	4662	4777	4822	4809	4746	4564	4115
			5.5	6018	6098	6294	6454	6530	6539	6481	6268	5356
			6.9	7531	7642	7904	8122	8229	8265	8220	7989	7451
MJ22xxDT	67.8	1110	1.4	1508	1495	1463	1401	1312	1183	894	-	-
			2.8	3327	3309	3283	3203	3043	2771	2224	-	-
			4.1	5147	5142	5129	5040	4835	4448	3714	-	-
			5.5	6948	6966	6979	6890	6646	6170	5302	-	-
			6.9	8763	8803	8847	8772	8496	7944	6961	-	-
MJ24xxDT	67.8	1110	1.4	1677	1699	1690	1650	1566	1388	939	-	-
			2.8	3719	3750	3745	3692	3550	3225	2429	-	-
			4.1	5743	5787	5796	5738	5574	5155	4155	-	-
			5.5	7740	7802	7842	7798	7620	7144	6054	-	-
			6.9	9706	9804	9875	9839	9648	9101	7940	-	-

TECHNICAL



## METRIC

### PISTON TYPE SPRING BRAKE CHAMBERS

MODEL (g)	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> ) (e)	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. of Stroke (f)								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
MJ24xxET	76.2	1363	1.4	1579	1592	1637	1673	1681	1641	1561	1450	1094
			2.8	3483	3514	3621	3714	3732	3679	3536	3336	2740
			4.1	5356	5418	5582	5729	5765	5703	5547	5267	4484
			5.5	7219	7304	7535	7731	7793	7713	7544	7206	6223
			6.9	9048	9168	9470	9719	9804	9733	9550	9194	8007
MJ27xxET	76.2	1742	1.4	1212	1161	1120	1073	1019	940	826	649	411
			2.8	2661	2578	2531	2484	2411	2291	2088	1753	1272
			4.1	4069	3974	3929	3895	3825	3676	3407	2961	2287
			5.5	5480	5372	5337	5325	5261	5097	4774	4227	3398
			6.9	6872	6770	6770	6758	6729	6565	6217	5609	4651
MJ30xxET	76.2	1762	1.4	2193	2260	2331	2331	2277	2215	2131	1984	1615
			2.8	4724	4853	4933	4951	4906	4849	4728	4488	3968
			4.1	7242	7375	7540	7553	7535	7486	7335	7010	6414
			5.5	9710	9915	10129	10155	10155	10115	9968	9559	8883
			6.9	12166	12402	12700	12753	12766	12757	12611	12210	11481
MJ36xxET	76.2	2012	1.4	2767	2771	2771	2758	2722	2660	2553	2375	1948
			2.8	5840	5827	5867	5881	5840	5760	5600	5284	4568
			4.1	8847	8847	8932	8972	8945	8861	8674	8274	7380
			5.5	11823	11863	12001	12072	12064	11983	11774	11312	10311
			6.9	14786	14866	15057	15168	15186	15115	14893	14390	13318

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> )	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. of Stroke								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
C12	44.5	426	1.4	845	845	667	400	-	-	-	-	-
			2.8	1824	1779	1557	890	-	-	-	-	-
			4.1	2891	2758	2424	1601	-	-	-	-	-
			5.5	4003	3892	3381	2180	-	-	-	-	-
			6.9	4982	4804	4137	2891	-	-	-	-	-
C16	57.2	740	1.4	1112	1112	1112	1112	956	601	-	-	-
			2.8	2580	2669	2669	2580	2180	1490	-	-	-
			4.1	4003	4070	4092	3959	3470	2269	-	-	-
			5.5	5427	5560	5560	5338	4671	3358	-	-	-
			6.9	6784	7050	7050	6717	6050	4604	-	-	-
CS16D	64.7	1060	1.4	25.4	31.8	38.1	44.5	50.8	57.2	63.5	-	-
			2.8	1192	1143	1103	1050	979	867	703	-	-
			4.1	2647	2589	2549	2487	2380	2206	1926	-	-
			5.5	4079	4026	3994	3937	3817	3590	3220	-	-
			6.9	5502	5453	5440	5396	5262	5000	4564	-	-
C16L	63.5	880	1.4	6917	6881	6886	6859	6721	6428	5925	-	-
			2.8	2691	2691	2691	2669	2647	2447	2113	-	-
			4.1	4137	4137	4137	4137	4048	3825	3336	-	-
			5.5	5605	5605	5649	5694	5605	5338	4849	-	-
			6.9	7073	7095	7162	7295	7117	6895	6227	-	-

TECHNICAL



# PERFORMANCE CHART - SERVICE BRAKE CHAMBERS

## METRIC

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> )	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. of Stroke								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
C16LH	63.5	979	1.4	1179	1157	1112	1068	1001	890	734	-	-
			2.8	2660	2558	2513	2447	2358	2224	1935	-	-
			4.1	4092	4003	3959	3892	3781	3559	3247	-	-
			5.5	5516	5427	5382	5338	5204	4938	4537	-	-
			6.9	6939	6895	6850	6784	6650	6405	5849	-	-
CS18D	63.5	964	1.4	1201	1195	1174	1120	1028	880	631	-	-
			2.8	2740	2742	2730	2663	2520	2259	1781	-	-
			4.1	4270	4285	4292	4227	4051	3705	3052	-	-
			5.5	5779	5814	5848	5793	5593	5182	4395	-	-
			6.9	7273	7334	7403	7366	7153	6695	5815	-	-
C20	57.2	833	1.4	1446	1446	1423	1379	1112	712	-	-	-
			2.8	3158	3158	3069	2802	2402	1735	-	-	-
			4.1	4804	4826	4804	4626	4003	2758	-	-	-
			5.5	6272	6583	6539	6116	5338	3736	-	-	-
			6.9	8007	8251	8207	7962	6672	5004	-	-	-
CS20D	58.8	964	1.4	1299	1348	1379	1370	1303	1201	965	-	-
			2.8	2945	3025	3118	3118	3016	2847	2447	-	-
			4.1	4573	4693	4857	4849	4733	4519	3999	-	-
			5.5	6183	6356	6583	6574	6463	6219	5609	-	-
			6.9	7780	8002	8296	8300	8189	7913	7246	-	-
C20L	63.5	982	1.4	1312	1326	1334	1334	1334	1245	1090	-	-
			2.8	2914	2958	3025	3069	3025	2869	2535	-	-
			4.1	4493	4582	4715	4782	4715	4515	4003	-	-
			5.5	6139	6227	6450	6517	6450	6183	5560	-	-
			6.9	7784	7918	8185	8229	8185	7829	7162	-	-
CS20L	63.5	962	1.4	1312	1326	1334	1334	1334	1245	1090	-	-
			2.8	2914	2958	3025	3069	3025	2869	2535	-	-
			4.1	4493	4582	4715	4782	4715	4515	4003	-	-
			5.5	6139	6227	6450	6517	6450	6183	5560	-	-
			6.9	7784	7918	8185	8229	8185	7829	7162	-	-
CS22D	68.4	1121	1.4	1455	1459	1450	1406	1312	1197	956	-	-
			2.8	3274	3283	3287	3238	3096	2878	2411	-	-
			4.1	5089	5111	5142	5102	4924	4613	3959	-	-
			5.5	6895	6935	6997	6975	6770	6388	5582	-	-
			6.9	8683	8759	8856	8856	8638	8185	7259	-	-
CS24D	68.3	1119	1.4	1597	1655	1695	1686	1588	1423	1081	-	-
			2.8	3554	3665	3763	3745	3607	3341	2749	-	-
			4.1	5507	5693	5827	5800	5649	5307	4551	-	-
			5.5	7455	7704	7878	7860	7695	7295	6445	-	-
			6.9	9003	9301	9497	9501	9319	8883	7998	-	-
C24L	63.5	1141	1.4	1610	1655	1686	1677	1624	1495	1237	-	-
			2.8	3594	3665	3736	3745	3648	3438	3007	-	-
			4.1	5538	5649	5765	5792	5689	5440	4920	-	-
			5.5	7482	7638	7815	7847	7735	7446	6824	-	-
			6.9	9408	9599	9835	9893	9790	9488	8807	-	-



## METRIC

### SERVICE CHAMBERS

MODEL	Rated Service Stroke (mm)	Vol. Displ. @ 6.89 bar Rated Service Stroke (cm <sup>3</sup> )	Application Pressure of (bar)	Service Brake Force - Output (Newtons) @ mm. of Stroke								
				25.4	31.8	38.1	44.5	50.8	57.2	63.5	69.9	76.2
C27	63.5	1100	1.4	1979	1944	1925	1887	1821	1732	1598	-	-
			2.8	4264	4258	4261	4229	4137	3991	3778	-	-
			4.1	6574	6602	6628	6599	6494	6310	6011	-	-
			5.5	8836	8903	8966	8928	8820	8617	8270	-	-
			6.9	11101	11209	11295	11267	11159	10943	10501	-	-
C30	76.2	1363	1.4	2340	2349	2349	2291	2175	1899	1290	-	-
			2.8	4982	5026	5049	4960	4733	4226	3194	-	-
			4.1	7638	7727	7775	7669	7375	6717	5373	-	-
			5.5	10262	10395	10489	10369	10026	9266	7700	-	-
			6.9	12873	13064	13198	13078	12704	11863	10129	-	-
C36	76.2	1831	1.4	2776	2776	2785	2753	2700	2598	2398	1984	1263
			2.8	5952	5934	5907	5889	5832	5774	5418	4835	3763
			4.1	9083	9030	9025	9021	8959	8790	8443	7700	6388
			5.5	12157	12099	12130	12157	12090	11926	11525	10698	9212
			6.9	15177	15133	15226	15320	15297	15173	14839	14096	12713
CS20L3H	63.5	1141	1.4	1303	1326	1370	1388	1388	1357	1312	-	-
			2.8	2909	2945	3020	3091	3109	3083	3020	-	-
			4.1	4475	4528	4662	4777	4822	4809	4746	-	-
			5.5	6018	6098	6294	6454	6530	6539	6481	-	-
			6.9	7531	7642	7904	8122	8229	8265	8220	-	-
C24L3	76.2	1363	1.4	1579	1592	1637	1673	1681	1641	1561	1450	1094
			2.8	3483	3514	3621	3714	3732	3679	3536	3336	2740
			4.1	5356	5418	5582	5729	5765	5703	5547	5267	4484
			5.5	7219	7304	7535	7731	7793	7713	7544	7206	6223
			6.9	9048	9168	9470	9719	9804	9733	9550	9194	8007
C30L3	76.2	1831	1.4	2193	2260	2331	2331	2277	2215	2131	1984	1615
			2.8	4724	4853	4933	4951	4906	4849	4728	4488	3968
			4.1	7242	7375	7540	7553	7535	7486	7335	7010	6414
			5.5	9710	9915	10129	10155	10155	10115	9968	9559	8883
			6.9	12166	12402	12700	12753	12766	12757	12611	12210	11481
CW9	44.5	348	1.4	778	756	667	245	-	-	-	-	-
			2.8	1579	1512	1334	774	-	-	-	-	-
			4.1	2358	2269	1846	1157	-	-	-	-	-
			5.5	3203	3069	2736	1668	-	-	-	-	-
			6.9	3981	3825	3447	2291	-	-	-	-	-
CW12	44.5	472	1.4	1001	1001	801	311	-	-	-	-	-
			2.8	2024	2024	1713	890	-	-	-	-	-
			4.1	3047	3025	2535	1557	-	-	-	-	-
			5.5	4070	4048	3648	2491	-	-	-	-	-
			6.9	5093	5026	4804	3559	-	-	-	-	-
CW16	44.5	638	1.4	1388	1379	1334	645	-	-	-	-	-
			2.8	2802	2758	2713	1713	-	-	-	-	-
			4.1	4270	4226	4092	2802	-	-	-	-	-
			5.5	5738	5671	5494	3470	-	-	-	-	-
			6.9	7139	7050	6939	4359	-	-	-	-	-

TECHNICAL

# BRAKETECH PROGRAM



Two Self-Study Booklets  
Featuring MGM Brakes Products  
and Servicing Procedures



## BrakeTECH Self-Study Training Program

MGM Brakes created the **BrakeTECH Self-Study Training Program (Form No. 5038 and 5043)** for counter and outside sales personnel and service technicians involved in providing replacement parts and maintenance to the heavy-duty trucking industry. The goal of this program is to assist participants in becoming more knowledgeable about the MGM Brakes products they sell and service each and every day.

The BrakeTECH Self-Study Training Program is offered free of charge. Please visit our website (<http://www.mgmbrakes.com>) to conveniently download the course booklet or if you prefer a hardcopy you may place an order on-line, just click the "order" button (shipping charges do apply outside the U.S. and Canada). Please allow 7-10 business days for your order to arrive.

Participants can study the course booklets at their own pace, regardless of schedule, to become better acquainted with MGM Brakes products and service procedures. A final review quiz made up of true & false and multiple choice questions completes the course. Take your test on-line, submit it and you will be automatically notified of a pass/fail score. MGM Brakes issues a "Certificate of Completion" to any participant successfully scoring a minimum of 85% on the quiz. This certificate is automatically e-mailed to you in pdf format for easy download and printing. In addition, those who successfully complete the course (form 5038) will receive a BrakeTECH pin and hat, and those who successfully complete the course (form 5043) will be sent a patch and decal as tokens of MGM Brakes' appreciation for a job well done. This will go one step further toward singling participants out in the eyes of their colleagues and customers alike as true experts on MGM Brakes products.

If you did not pass, you are able to re-take the test until you obtain a passing score. Once you have passed the test, you are no longer permitted to take the test. Hats, pins, patches, and decals will be shipped to you when a passing score is earned.

These books are also available in Spanish - 5038S and 5043S and French Canadian - 5038FC and 5043FC.

Have more questions? Go to [www.MGMBrakes.com](http://www.MGMBrakes.com) for information on a sales representative in your area.



# MGM BRAKES LIMITED WARRANTY POLICY







	Page(s)
<b>Section 11: Limited Warranty Policy .....</b>	<b>168-173</b>
Limited Warranty Policy .....	170-172
Contact Outside U.S. A. and Canada .....	173

**Effective April 1, 2016 all warranty submissions will require the MGM Brakes serial number (where used/available) as well as the associated part number.**

*This form supersedes any warranty forms dated prior to 4/2016.*

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# LIMITED WARRANTY POLICY

Effective April 1, 2016, MGM Brakes has implemented a new Limited Warranty for all products sold and/or installed on or after April 1, 2016 and is not retroactive. MGM Brakes warrants to the original retail purchaser that the MGM Brakes products as listed on the MGM Brakes Limited Warranty matrix sold by the Company will be free from defects in materials or workmanship for the warranty period shown in the matrix with no mileage restrictions.

## **Limitations of Warranty**

This limited warranty covers all MGM Brakes products sold and/or installed on or after April 1, 2016 and is not retroactive.

This limited warranty does not cover defects or damages caused by abuse, misuse, road debris, accidents, fire, physical damage, improper installation, improper maintenance, improper service or use in a non-standard vehicle application that has not been preapproved by MGM Brakes.

This limited warranty does not cover any claims when excessive amounts of foreign material is ingested into the spring brake via either the internal air system or externally.

Misuse includes, but is not limited to, operation with the caging bolt tool plug/dust cap not properly installed.

Misuse includes, but is not limited to, operation without the vent hole plugs properly installed.

Misuse includes any products repaired with non-MGM Brakes service/component parts.

MGM Brakes reserves the right to make product changes in design and product improvements without any obligation to modify or revise products previously sold.

This limited warranty does not cover any failure of a product due to a defect in design, plans or specifications where such design plans or specifications were supplied to MGM Brakes by any person on the buyer's behalf.

MGM Brakes does not authorize any other company or person to assume for it any warranty or other liability with respect to MGM Brakes products.

This limited warranty does not cover wires or sensor leads that are pinched, misrouted or not installed as per MGM Brakes recommendations. This limited warranty does not cover electronic components including CCMs/ECUs, Sensors, and Harnesses that are damaged as a result of installation and service which does not meet MGM Brakes recommendations.

MGM Brakes is not responsible for "down time" expenses, load/cargo damage or any other business costs or losses resulting from a failure or use of MGM Brakes products.

MGM Brakes is not responsible for any warranty claims that are not submitted/returned to MGM Brakes within 90 days of alleged failure date.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

### **Limitation of Remedy**

**The responsibility of MGM Brakes under this limited warranty is expressly limited to the repair or replacement at MGM Brakes option of the alleged defective product.**

**In no event and under no circumstances shall MGM Brakes be responsible under this limited warranty for any other costs whatsoever, including but not limited to claims for labor, lost business, lost time, lost profits, loss of use, or any kind of consequential damages, however denominated or described. The remedy under this limited warranty is limited to repair or replacement.**

### **Disclaimer of Other Warranties**

**This limited warranty is expressly in lieu of all other warranties expressed or implied. All other warranties, expressed or implied, including any warranty of merchantability or fitness for a particular purpose are hereby excluded.**

### **Warranty Claim Procedure**

All warranty claims must be made either in writing via an OEM/Dealer/Distributor/Fleet Warranty administration system and conveyed to MGM Brakes or electronically via the MGM Brakes website.

All warranty claims must be received by MGM Brakes within 90 days of failure date.

MGM Brakes reserves the right to have any alleged warranty claim returned to MGM Brakes at customers expense for evaluation. If the warranty is valid, MGM Brakes will replace the product and reimburse the inbound shipping costs. If the returned product is not found to be defective, the product can be returned freight collect or disposed of within 30 days after disposition as the customer specifies.

For OEM dealers: without superseding the OEM coverage and administrative system, please file your claim online at the MGM Brakes website or contact your MGM Brakes Regional Sales Manager.

For Independent Distributors: please file your claim online at the MGM Brakes website or contact your MGM Brakes Regional Sales Manager.

For Fleets: please file your claim via your fleet warranty administrative system if applicable. Otherwise, please file your claim online at the MGM Brakes website or contact your dealer or distributor.

For a listing of the MGM Brakes Regional Sales Managers, please view the MGM Brakes website at [www.mgmbreaks.com](http://www.mgmbreaks.com) or call the MGM Brakes customer service at 1-800-527-1534, ext. 6021.

**Effective April 1, 2016 all warranty submissions will require the MGM Brakes serial number (where used/available) as well as the associated part number.**

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



# LIMITED WARRANTY POLICY

## WARRANTY POLICIES

Market	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	6 YEARS
Over-the-Road Line Haul Box Van, Flatbed Tank Trailers		CW MJW	C RA/RH	TR	TR-T LTR	TR-TS LTR-T MJS MJB
Refuse/Waste		CW TR w/o neoprene MJW	C TR with neoprene RA/RH	TR-T with neoprene LTR	TR-TS with neoprene LTR-T MJS MJB	
Severe Service*		CW TR LTR MJW	C TR-T LTR-T RA/RH	TR-TS MJS MJB		
Off Road**	TR	CW TR-T LTR MJW	C TR-TS LTR-T RA/RH	MJS MJB		
Transit Coach		CW TR MJW	C TR-T LTR RA/RH	TR-TS LTR-T MJS MJB		
School Bus		CW MJW	C TR RA/RH	TR-T	TR-TS LTR	LTR-T MJS MJB
e-STROKE Components CCM, Cables, Sensors, Harnesses	CCM/ECU Cables Sensors Harnesses					

\* Severe Service = salt/gravel/dump, fertilizer, emergency, livestock/poultry, concrete/asphalt

\*\*Off Road = logging, dump/construction

This warranty matrix includes: C - Series, All TR - Series, All LTR - Series, MJ - Series, Wedge (MJW, CW) and Remote Mount Brakes (RA/RH).

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Warranty policies published by MGM Brakes are for the U.S.A. and Canada only. Warranty policies are developed for the rules/regulations (gross vehicle weight, vehicle duty cycle, etc) and road conditions in the U.S.A. and Canada.

For warranty outside of the U.S.A. and Canada please contact MGM Brakes customer service at 1-800-527-1534, 704-547-7411 or mail@mgmbrakes.com.

# **GLOSSARY OF TERMS**



ABS	Anti-Lok Braking System. Prevents wheel lock-up by regulating brake actuation through modulation of system air pressure.
Actuator	Brake chamber. Usually refers to combination units and service chambers.
Actuator Sensor	Electromagnetic device that outputs actuator stroke codes to the Electronic Control Unit (ECU).
Air Governor	Maintains system air pressure between predetermined minimum and maximum levels.
Air Tank	Reservoir for compressed air.
AL Factor	Mathematical representation of the brake adjuster and brake chamber combination. "A" equals the effective area of the brake chamber in square inches (type 30 chamber has effective area of 30 square inches). "L" equals the effective length of the slack adjuster, in inches (slack length = 5"). Example, 30 X 5 = AL Factor of 150
Anti-Compounding	System that prevents service brakes from adding to the force being exerted by the parking brake.
Axle	Components to which wheels, brakes and suspension are attached.
Bar	The bar is widely used in descriptions of pressure because it is only about 1% smaller than "standard" atmospheric pressure, and is legally recognized in countries of the European Union. 1 Atmosphere = 1.01325 BAR 1 BAR = 100,000 Pascales 1 BAR = 14.5037744 PSI
Bogie	Assembly of two or more drive axles, usually a pair in tandem.
Boot	Flexible rubber cover. Installs over service push-rod to keep solid and liquid contaminants out of service chamber.
Brake Drag	Brake fails to completely release, causing lining or pads to maintain contact with the brake drum or rotor. May result in excessive lining and drum wear, or possibly a wheel fire if the component parts become excessively hot.
Brake Fade	Usually the result of heat-induced expansion of the brake drum caused by the friction of the lining rubbing against the drum.
Brake Pot	Brake Chamber. Usually refers to "complete" or "combination" unit, meaning service and spring parking brake chambers combined.
Bulk Pack	See "X-Pack"
Bushing	A cylindrical lining designed to reduce friction and wear inside a hole.
Cage	Refers to "releasing" the spring brakes.
Caging Bolt	Release tool. Used to "cage" the spring brake. Also referred to as a "Release Bolt".

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Can	Refers to service chamber or combination brake.
Cap	See "End Cap"
Center Section	See "Flange Case".
Clevis	Connects service chamber push-rod to slack adjuster. Also referred to as a "Yoke".
Combination	Service and spring parking brake chambers combined.
Combo	See "Combination".
Common Carrier	Trucking company that hauls for hire.
Complete	See "Combination".
Converter-Dolly	Auxiliary axle assembly equipped with fifth wheel for towing pup or semi-trailer.
Crack Pressure	Minimum air pressure, expressed in pounds per square inch (psi), required to open an air valve.
CVSA	Abbreviation for Commercial Vehicle Safety Alliance.
DD-3	Bendix brake actuator that uses a mechanical roller locking mechanism for parking. Used primarily on transit coaches and intercity buses.
Dead Axle	Un-powered axle that can be lifted off the ground to save wear and tear on the tires when the truck or trailer is empty. Usually mounted forward of "drive" axles.
Diaphragm	Flexible rubber, or neoprene rubber, disc that separates pressurized areas of the chamber from non-pressurized areas.
Disc Brake	Brake design in which a disc (rotor) is sandwiched between the brake pads.
Dolly	See "Converter-Dolly".
Drive Axles	Axles that drive the truck or tractor. Usually refers to rear axle or axles.
Dust Boot	Flexible rubber cover installed over service push-rod to keep solid and liquid contaminants out of service chamber.
ECU	Electronic Control Unit. Receives and displays brake stroke condition codes from sensors on brake chambers.
e•DT	e•STROKE® Diagnostic Tool. Hand held or dash mounted "reader" that allows operator to view data stored in the Chassis Communications Module.
e•S3	Third generation e•STROKE® System
e•STROKE®	Electronic brake stroke monitoring systems for drum and air disc brakes.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.



E Model	MGM obsolete model spring brake. Replaced by the TR Model.
Emergency Brake	Independently actuated secondary brake system used for parking or braking when the service brake is inoperative.
End Cap	Plastic piece used to close “release bolt” hole in top of spring brake. Also referred to as a “plug”.
Fault Code	Blinking light on ECU that indicates problem with brake stroke status.
Flange Case	Usually made of aluminum and contains pocket for release tool and air inlet ports. Also referred to as “Center Section”.
FMVSS	Abbreviation for Federal Motor Vehicle Safety Standard.
Front Axle	Axle at the front of the vehicle. Also known as the “steer” axle.
Glad Hand	Air brake line connector between truck and trailer.
HD	Heavy Duty
Head	Top of chamber. Also referred to as the spring cap.
Interlock	A mechanical device that prevents a component from functioning or situated in a particular way. For example, on transit coaches, the interlock applies the brakes and holds the throttle at idle when a door is open. The interlock releases when the door is closed.
Jake Brake	Device that manipulates the engine’s fuel system, intake and exhaust valves to eliminate the power stroke and create drag.
Jam Nut	Nut on service push-rod. Used to “lock” yoke onto rod.
L Model	Original MGM “double diaphragm” spring brake. Replaced by LTR-T model.
Lift Axle	Un-powered axle that can be lifted off the ground to save wear and tear on the tires when the truck or trailer is empty.
Long Stroke Brake	Any actuator, of equal size, with maximum stroke exceeding that of the standard model.
LTR-L3 Model	Integral Release Bolt, Tamper Resistant, 3-Inch (76.2 mm) Stroke.
LTR-T Model	Integral Release Bolt, Tamper Resistant, with External Breather Tube.
Magnum	Brand name for MGM Models MB-T and MG-T piston/diaphragm brakes.
Maxi-Brake	Brand name also used as a generic reference for spring parking brake.
Mounting Base	See “Non-Pressure Chamber”.
Multiplexing	Means of sending discreet electrical signals to multiple devices through a common set of wires.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Newton	The newton is the unit of force derived in the SI system; it is equal to the amount of force required to accelerate a mass of one kilogram at a rate of one metre per second per second. 1Newton = 1 kg·m/s <sup>2</sup> 1000Newton=1 Kilo-Newton
NHTSA	Abbreviation for National Highway Transportation Safety Administration.
Non-Pressure Chamber	Component part of service or combination brake used to attach chamber to vehicle or trailer foundation brake.
Non-Pressure Housing	See “Non-Pressure Chamber”.
NPC	See “Non-Pressure Chamber”.
Pancake	Diaphragm.
Piggyback	Spring Brake or Parking Brake Chamber.
Piggyback Plus Kit	Piggyback, clamp band and diaphragm packaged as a “kit”.
Pintle Hook	Coupling device used in double, triple and truck-trailer combinations.
Plug	Plastic piece used to close “release bolt” hole in top of spring brake. Also referred to as “cap”.
Pocket	Storage pocket for release bolt. Usually located on side of flange case.
Ports	Threaded openings cast into “flange case” where air lines connect to chamber.
Pot	Brake Chamber or Actuator.
Pressure Cap	Steel or aluminum top for service chambers with one or two air inlet ports.
Pressure Transducer	Signals brake pedal application to Chassis Communications Module (CCM).
PSI	Pounds Per Square Inch.
Pull	Vehicle moves, or pulls, to one side when braking.
Pup	Short, 25 to 35 foot trailer or semi-trailer.
Push-Rod	Rod protruding from a brake chamber that connects to a slack adjuster via a clevis.
Pusher Axle	An additional axle, added to support heavy loads, may be able to be lifted off the ground to save wear and tear on the tires when the truck or trailer is empty. Usually mounted ahead of the drive axle.
Release Bolt	Used to “capture” or “cage” the spring brake portion of the brake chamber, allowing the push-rod to return to zero (0) stroke. Also referred to as a “Caging Bolt”.

NOTE: Product information and specifications subject to change without notice. Refer to the MGM Brakes website for latest updated information.

Return Spring	Conical shaped coiled spring used to return internal parts of service chamber or spring brake to fully retracted position.
Rotochamber	Refers to actuator with a rolling diaphragm.
SAE	Abbreviation for Society of Automotive Engineers.
Semi-Trailer	A trailer designed to be towed with a fifth wheel on a converter dolly or tractor.
Service Brake	Mechanism for slowing or stopping the vehicle.
Shipping Bolt	Short “release bolt”, usually associated with brakes manufactured for production installations.
Short Stop	Brand name for early MGM WM and WL Model Wedge Brakes.
Short Stroke	Chamber fails to travel to maximum allowable stroke.
Single	Spring Brake or Parking Brake Chamber. Also referred to as the piggyback.
Single Axle	One axle on the rear of a truck, tractor or trailer.
Spanner Nut	Castellated nut on wedge tube. Used to “lock” tube into wedge housing.
Standard Stroke	Refers to actuators with 2.50 inch (63.5 mm) maximum stroke, or length of stroke when actuator originally designed.
Stinger	Non-powered axle, mounted at rear of vehicle, behind “drive” axles. Can be lifted off the ground to save wear and tear on the tires when the truck or trailer is empty.
Stop Guard	Brand name for early MGM L and E Model Spring Brakes. Replaced by LTR-T and TR Models.
Stroke	Maximum distance traveled by a brake chamber push-rod, or slack adjuster arm, during application.
Stroke Alert	Orange stripe or mark on service push-rod that indicates when service chamber is approaching 80% of its rated stroke.
Super Single	Extremely wide tire. Replaces “dual” tires with “single” tire.
Tag Axle	Non-powered axle that can be lifted off the ground to save wear and tear on the tires when the truck or trailer is empty. Usually mounted to the rear of “drive” axles. See “Lift Axle”.
Tandem	See “Combination”.
Tandem Axle	Two axles on the rear of a truck, tractor or trailer.
Tractor	Vehicle designed primarily to pull trailers by means of a fifth wheel connection.

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Tractor Trailer	Tractor and trailer in combination. Also know as a “Rig”. Tractor pulling a semi-trailer.
Truck	Vehicle designed to “carry” cargo within a body or on a bed mounted on its chassis.
Type	Refers to chamber size; i.e. 16, 20, 24, 30, 36, etc.
Un-Cage	Removal of “release bolt” or “caging” bolt.
VIN Number	Vehicle Identification Number or Serial Number.
Warning Light	Indicator light mounted on vehicle dash that illuminates to indicate status of the e•STROKE® System.
Wedge Brake	Brake shoes are applied by a single or double wedge-type mechanism as opposed to brake applied by rotation of an “S-cam”.
Welded Yoke	Yoke permanently attached to service push-rod.
X - Dimension	Measurement taken from bottom of NPC to end of push-rod thread.
X-Pack	Large quantity of chambers packaged in one container. Also know as a “Bulk Pack”.
Y - Dimension	Measurement taken from bottom of NPC to center-line of yoke pin.
Yoke	Connects service chamber push-rod to slack adjuster. Also referred to as a “Clevis”.
Zero Stroke	When service push-rod is completely retracted into the service chamber.

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