



LED Exam Light

Model Numbers:

253

Service and
Parts Manual



FOR USE BY MIDMARK TRAINED TECHNICIANS ONLY

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not applicable

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not applicable

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(*) Indicates multiple pages due to model / serial number break(s).

Symbols



DANGER

Indicates an imminently hazardous situation which will result in serious or fatal injury if not avoided.

This symbol is used only in the most extreme conditions.



WARNING

Indicates a potentially hazardous situation which could result in serious injury if not avoided.



Caution

Indicates a potentially hazardous situation which may result in minor or moderate injury if not avoided. It may also be used to alert against unsafe practices



Equipment Alert

Indicates a potentially hazardous situation which could result in equipment damage if not avoided.

Note

Used for special instructions or additional information.

Ordering Parts

The following information is required when ordering parts:

- Serial number & model number
- Part number for desired part
(Refer to Section E: Exploded Views & Parts Lists)

Non-warranty parts orders may be faxed to Midmark using the Fax Order Form in the back of this manual.

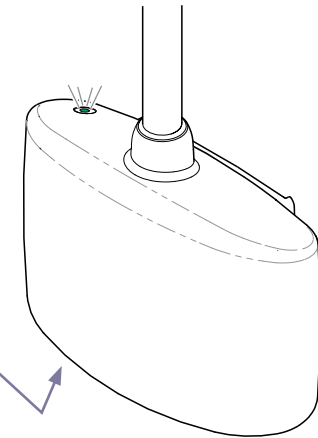
For warranty parts orders, call Midmark's Technical Service Department with the required information.

Hours: 8:00 am to 5:00 p.m. EST (Monday thru Friday)

Phone: 1-800-Midmark (1-800-643-6275)

Serial Number Location

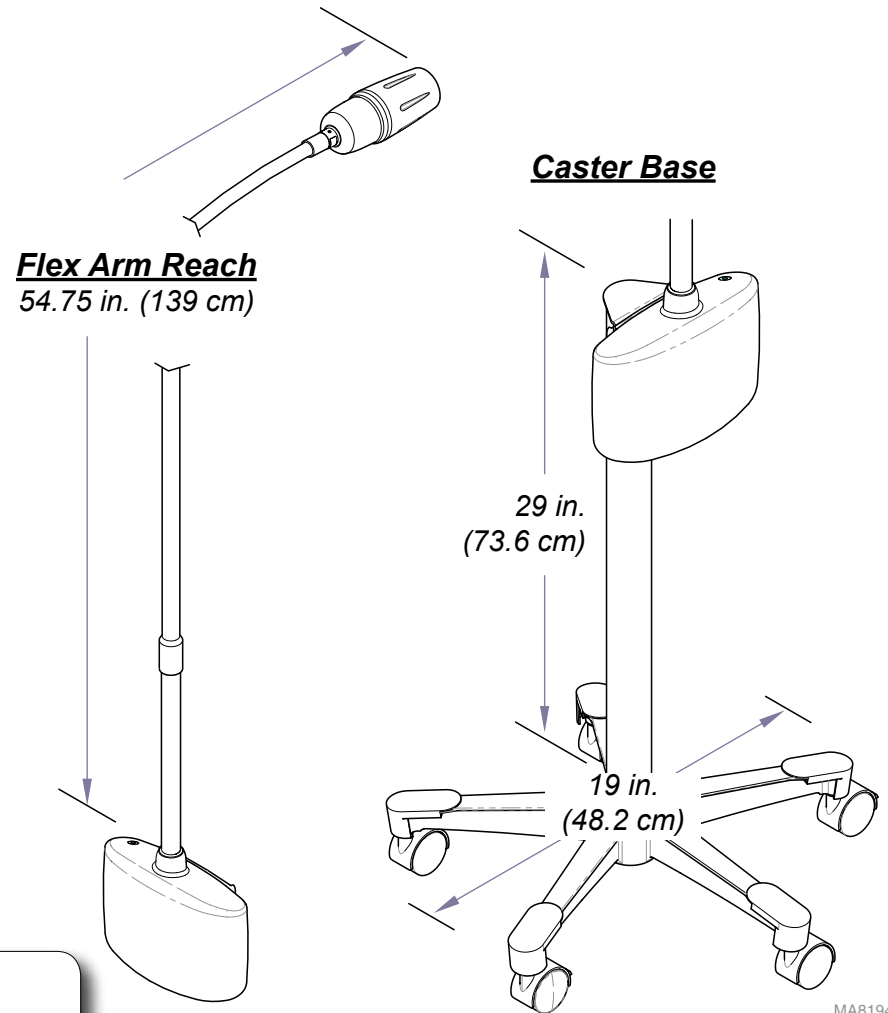
Serial Number Label



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Specifications

Specifications Chart	
LED	Life: approximately 50,000 hr* (<i>non-replaceable</i>) * <i>per bulb manufacturer</i>
Light Pattern	Circular
Adjustable Spot Size @ Focal distance: 16" (41 cm)	Diameter: 4" (10 cm) to 12" (30 cm)
Illumination @ Focal distance: 16" (41 cm) Spot size: 4" (10 cm)	1,700 foot-candles / 18,298 lux
Color Temperature	4,500K
Power Cord Length	8 ft. (2.5 m)
Flex Arm Reach [from power source enclosure]	54.5" (138 cm)
Flex Arm Rotation [at power source enclosure]	140°
Electrical Rating	115 VAC, 50/60 Hz, 100mA 230 VAC, 50/60 Hz, 50mA
Fuses	1.6 amp, 250V, 5mm x 20mm, Type T low breaking capacity IEC 127-2/3
Regulatory Compliance	UL 60601-1 Rev. 26-Apr-06 CAN/CSA C22.2 No. 60601-1:08 Canadian Medical Device Regulations 5OR/98-282 NFPA99 (<i>applicable to product requirements</i>)
Classification	Class 1, Type B Applied Part



WARNING

Equipment is not suitable for use in the presence of a flammable anesthetic mixture with oxygen, air, or nitrous oxide.

Clarification: Equipment is suitable for use in the presence of oxygen, air, or nitrous oxide.

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Scheduled Maintenance

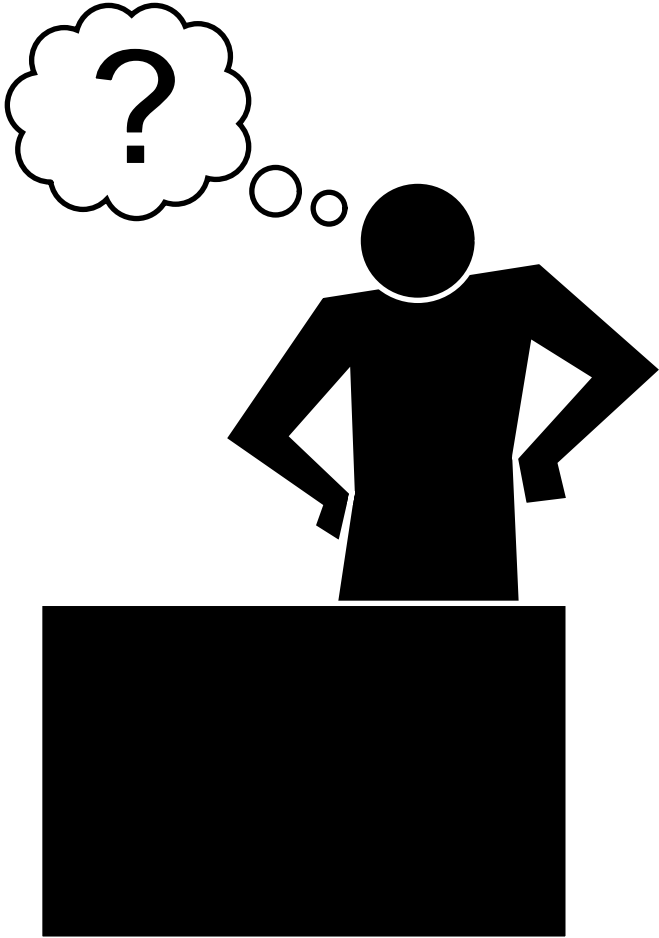
Interval	Inspection / Service	Description
Weekly	Cleaning	Wipe painted metal & plastic surfaces with a clean soft cloth and mild cleaner. (Note: Periodic application of common furniture wax will ease cleaning and maintain the luster of the surfaces).
	Obvious Damage	Visually inspect components for damage that could result in unsafe operation.
Semi-Annually	Labels / Decals	Replace any missing or illegible labels.
	Hardware	All fasteners must be present and fastened securely.
	Electrical System	Inspect power cord and all wiring for damage.
Be sure all electrical connections are tight.		
Date of Service: Location: Service Technician:	Model Number: Serial Number: Notes:	

Model Identification / Compliance Chart

Model	Description	Complies To:				Electrical Ratings:		
		UL 60601-1 Rev 26-Apr-06	CAN / CSA C22.2, #60601.1:08	Canadian Medical Device Regulations 5OR/98-282	NFPA 99	VAC +/- 10%	Amps	Cycles (Hz)
253-001	LED Exam Light only	•	•	•	•	115	100mA	50/60
						230	60mA	50/60
253-002	Includes 253-001 and 9A454001 (Spline Mount)	-	-	-	-	-	-	-
253-003	Includes 253-001 and 9A455001 (Extended Spline Mount)	-	-	-	-	-	-	-
253-004	Includes 253-001 and 9A456001 (Podiatry Spline Mount) DISCONTINUED (6/1/12)	-	-	-	-	-	-	-
253-005	Includes 253-001 and 9A457001 (Base Rail Mount)	-	-	-	-	-	-	-
253-006	Includes 253-001 and 9A458001 (Caster Base)	-	-	-	-	-	-	-
253-007	Includes 253-001 and 9A474001 (Wall Mount)	-	-	-	-	-	-	-
253-011	LED Exam Light only	•	•	•	•	115	100mA	50/60
						230	60mA	50/60
253-012	Includes 253-011 and 9A619001 (Standard Spline Mount)	-	-	-	-	-	-	-
253-013	Includes 253-011 and 9A620001 (Extended Spline Mount)	-	-	-	-	-	-	-
253-015	Includes 253-011 and 9A622001 (Base Rail Mount)	-	-	-	-	-	-	-
253-016	Includes 253-011 and 9A628001 (Caster Base)	-	-	-	-	-	-	-
253-017	Includes 253-011 and 9A623001 (Wall Mount)	-	-	-	-	-	-	-

Section A

Troubleshooting

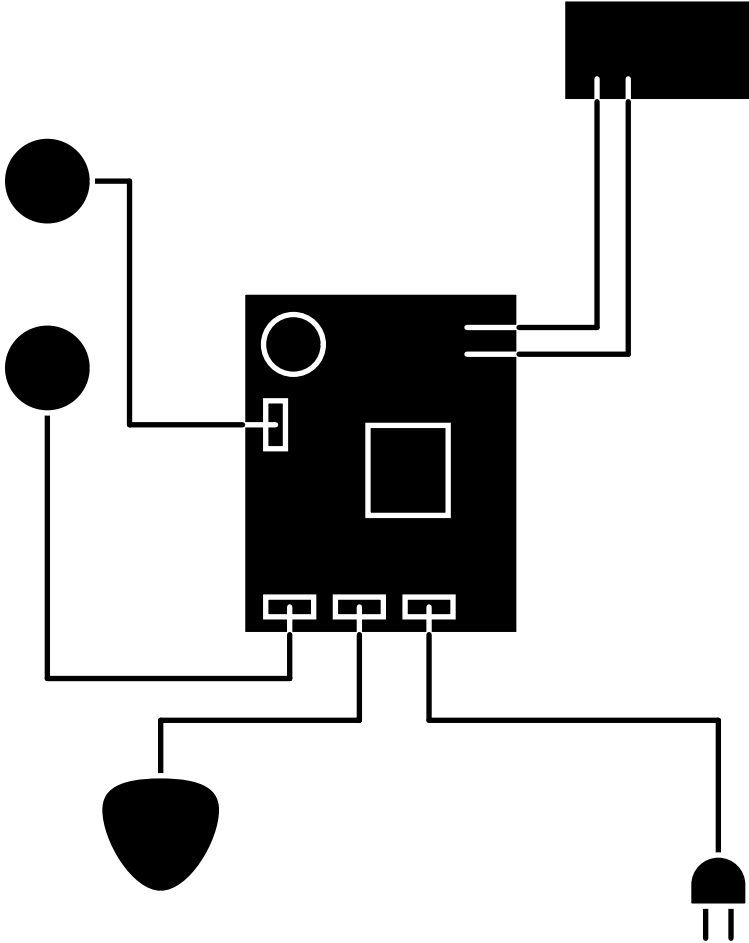


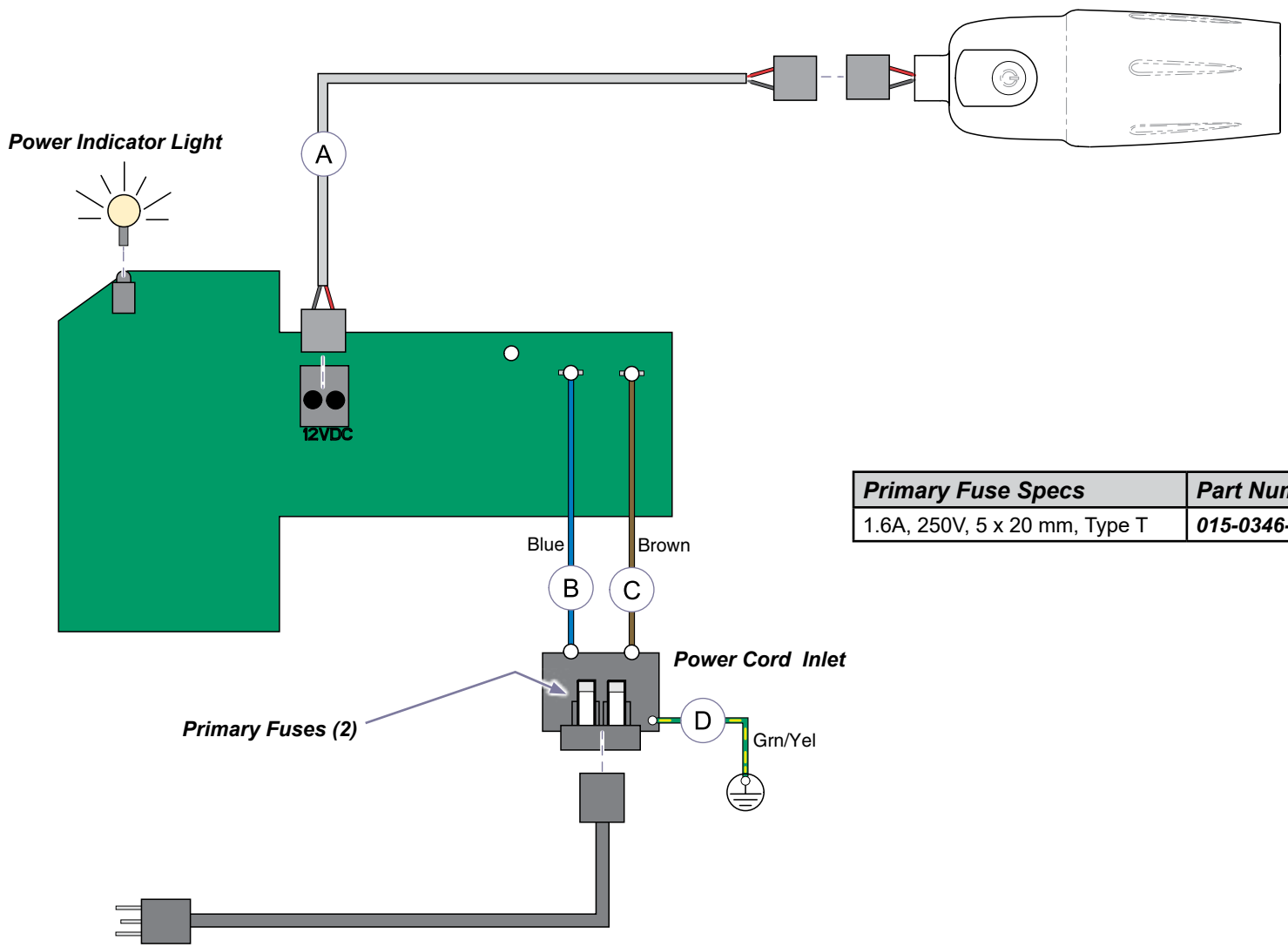
Troubleshooting Chart

Problem	Symptom	Probable Cause	Check	Correction
Light wil not turn ON.	Power indicator light: OFF	Facility supply voltage.	Power cord connections & facility circuit breaker.	Secure power cord connections. Reset circuit breaker if necessary.
		Primary fuse(s) blown.	Inspect fuses.	Replace faulty fuse(s).
	Power indicator light: ON	Loose / damaged wire connection(s)	Check harness connections at PC board / lighthouse.	Secure loose connections. Replace harness if damage is apparent.
		Faulty LED	-	Replace lighthouse assembly
Light pattern will not adjust.	Size of the light pattern does not change when lighthouse is rotated.	Faulty lighthouse	-	Replace lighthouse assembly
Light turns OFF by itself.	Light turns OFF without pressing power button.	Automatic Shutoff Feature	-	Disable the Automatic Shutoff Feature

Section D

Wiring Diagrams





Primary Fuse Specs	Part Number
1.6A, 250V, 5 x 20 mm, Type T	015-0346-29

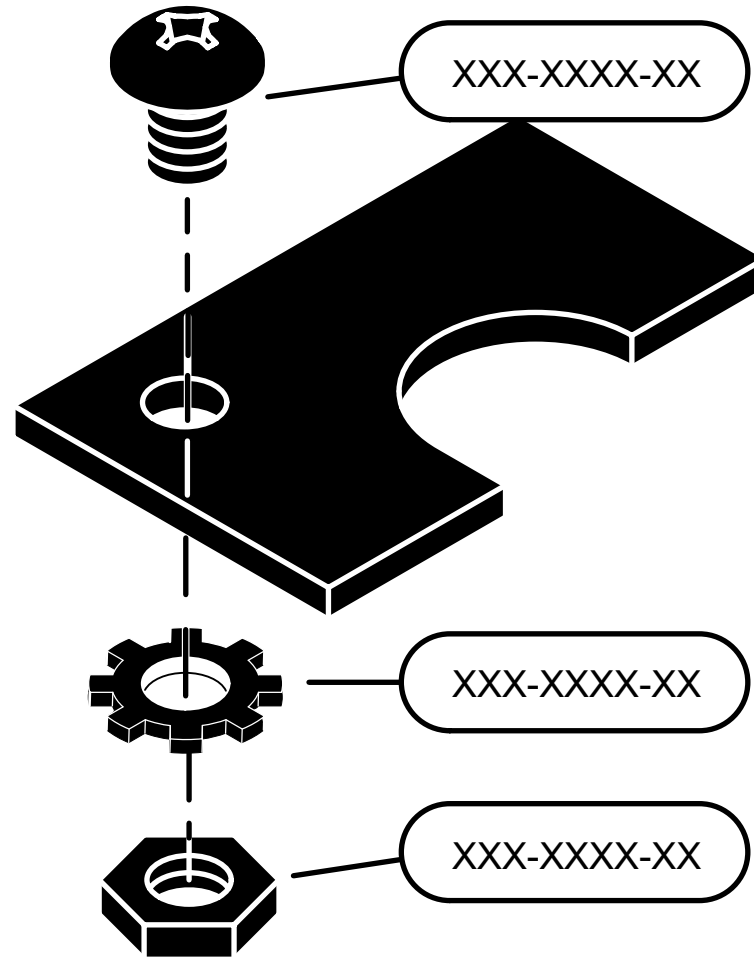
MA8175i

Models:	253	
Serial Numbers:	<i>all</i>	

Wiring Diagram: 253 Light Assembly		
Item	Description	Part Number
A	Flex Arm / Lighthouse Harness	015-2538-00
B	Blue Lead	015-0708-33
C	Brown Lead	015-0708-34
D	Ground Harness	015-2660-00

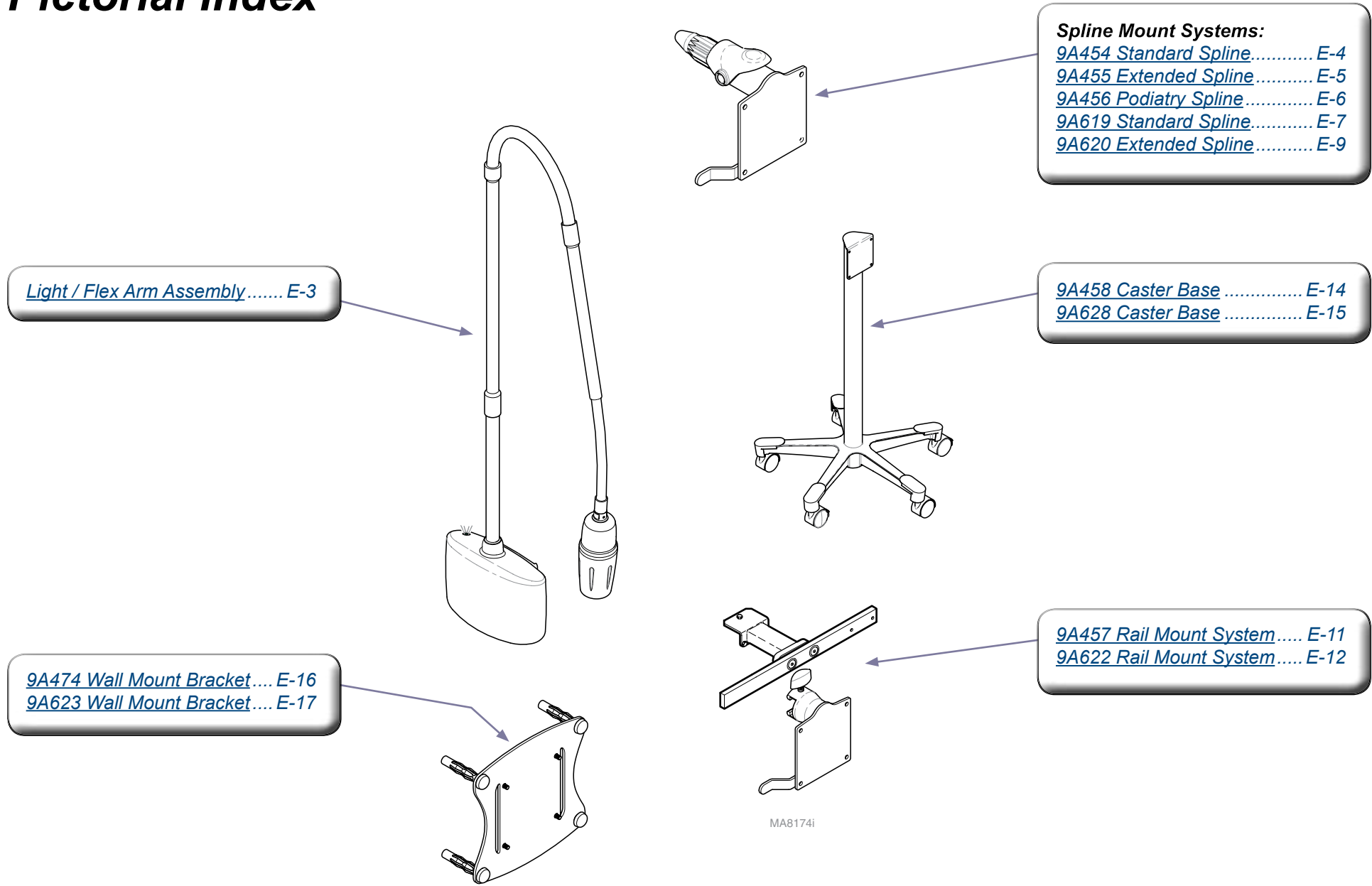
Section E

Exploded Views & Parts Lists



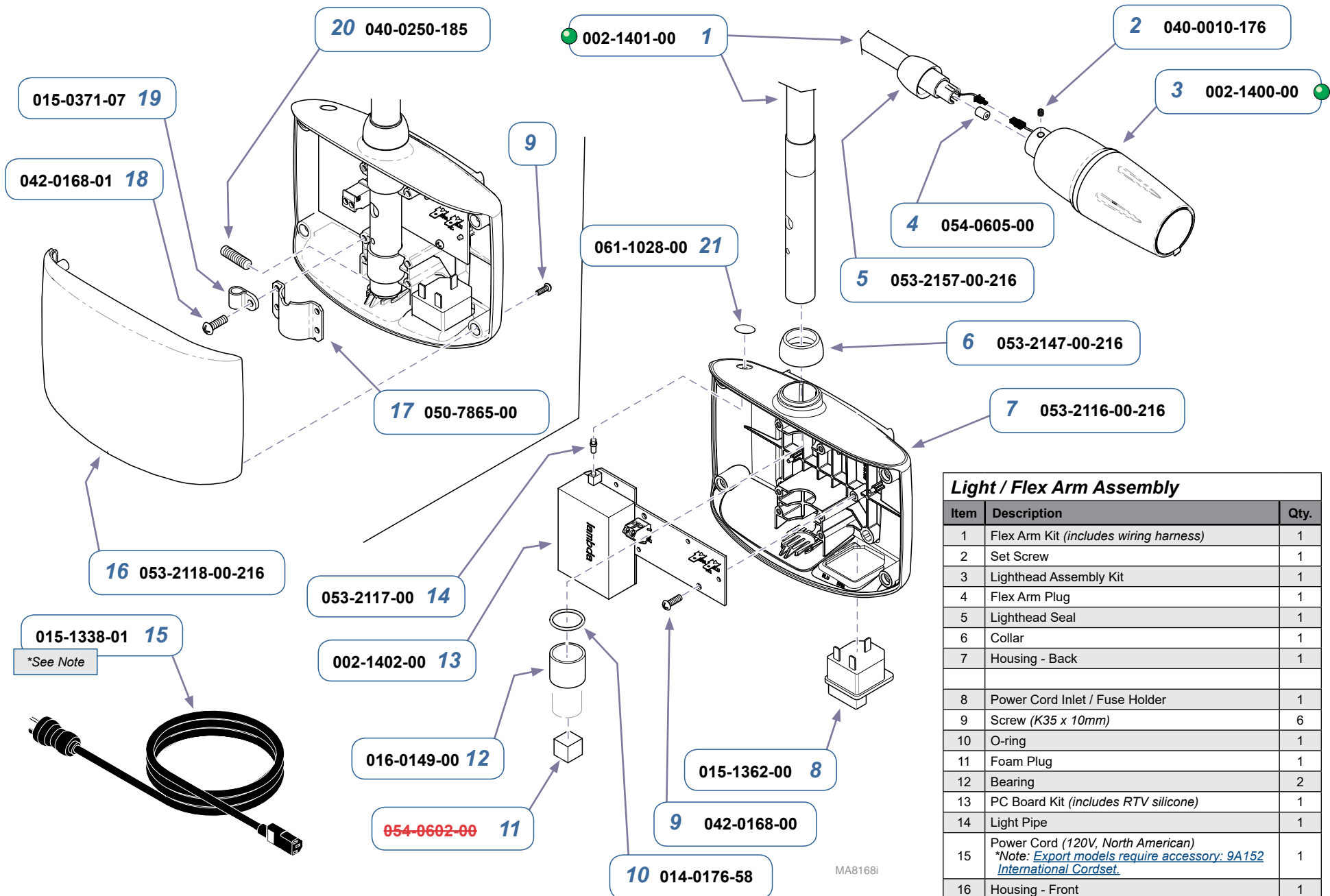
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9A628 Caster Base	E-15
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Pictorial Index



Models:	253
Serial Numbers:	<i>all</i>

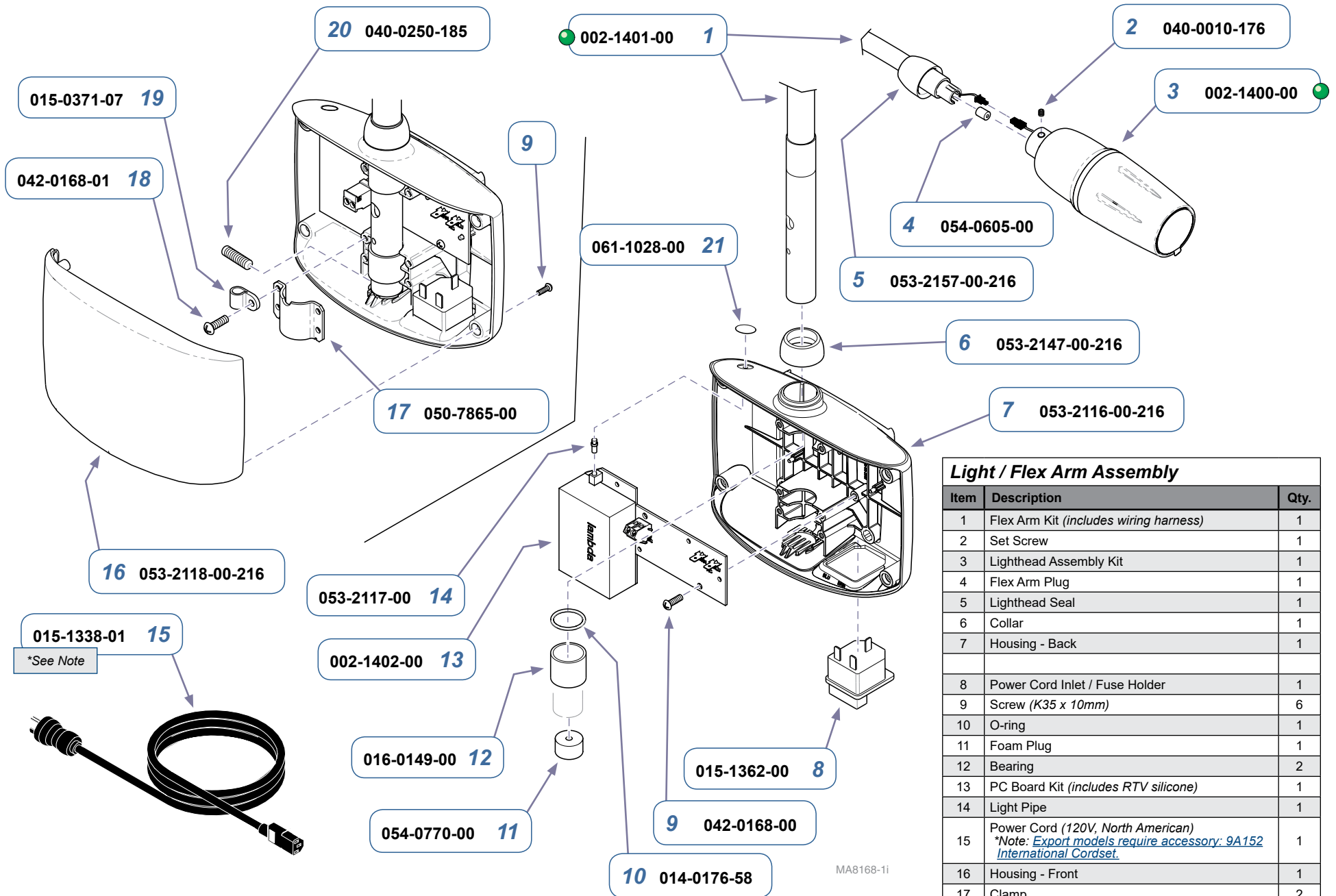
** Indicates multiple pages due to a serial number break for the parts illustration.*



Light / Flex Arm Assembly

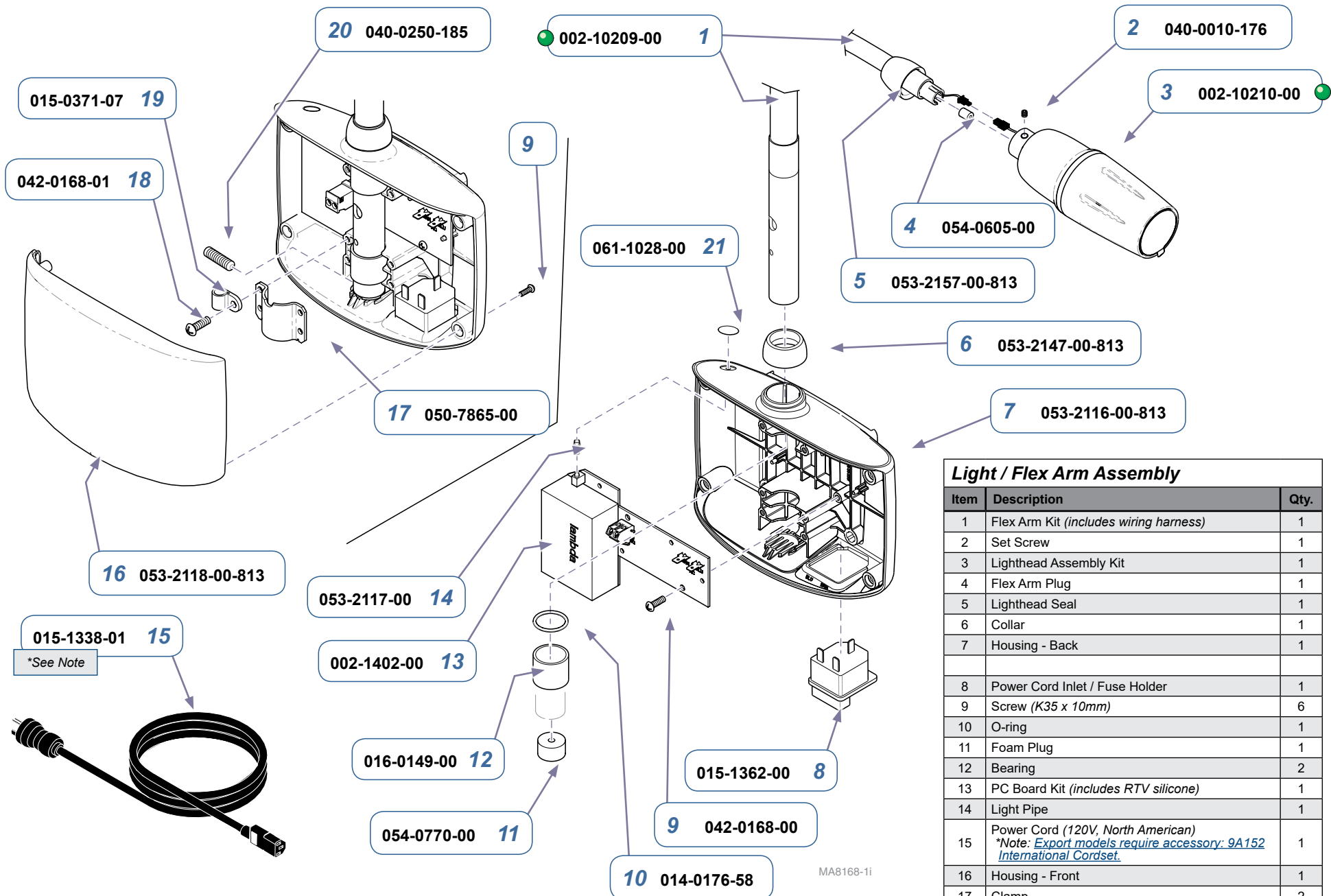
Item	Description	Qty.
1	Flex Arm Kit (includes wiring harness)	1
2	Set Screw	1
3	Lighthead Assembly Kit	1
4	Flex Arm Plug	1
5	Lighthead Seal	1
6	Collar	1
7	Housing - Back	1
8	Power Cord Inlet / Fuse Holder	1
9	Screw (K35 x 10mm)	6
10	O-ring	1
11	Foam Plug	1
12	Bearing	2
13	PC Board Kit (includes RTV silicone)	1
14	Light Pipe	1
15	Power Cord (120V, North American) *Note: Export models require accessory: 9A152 International Cordset.	1
16	Housing - Front	1
17	Clamp	2
18	Screw (K35 x 16mm)	8
19	Cable Clamp	1
20	Set Screw	1
21	LED Label	1

Models:	253
Serial Numbers:	V2200 thru V1510583



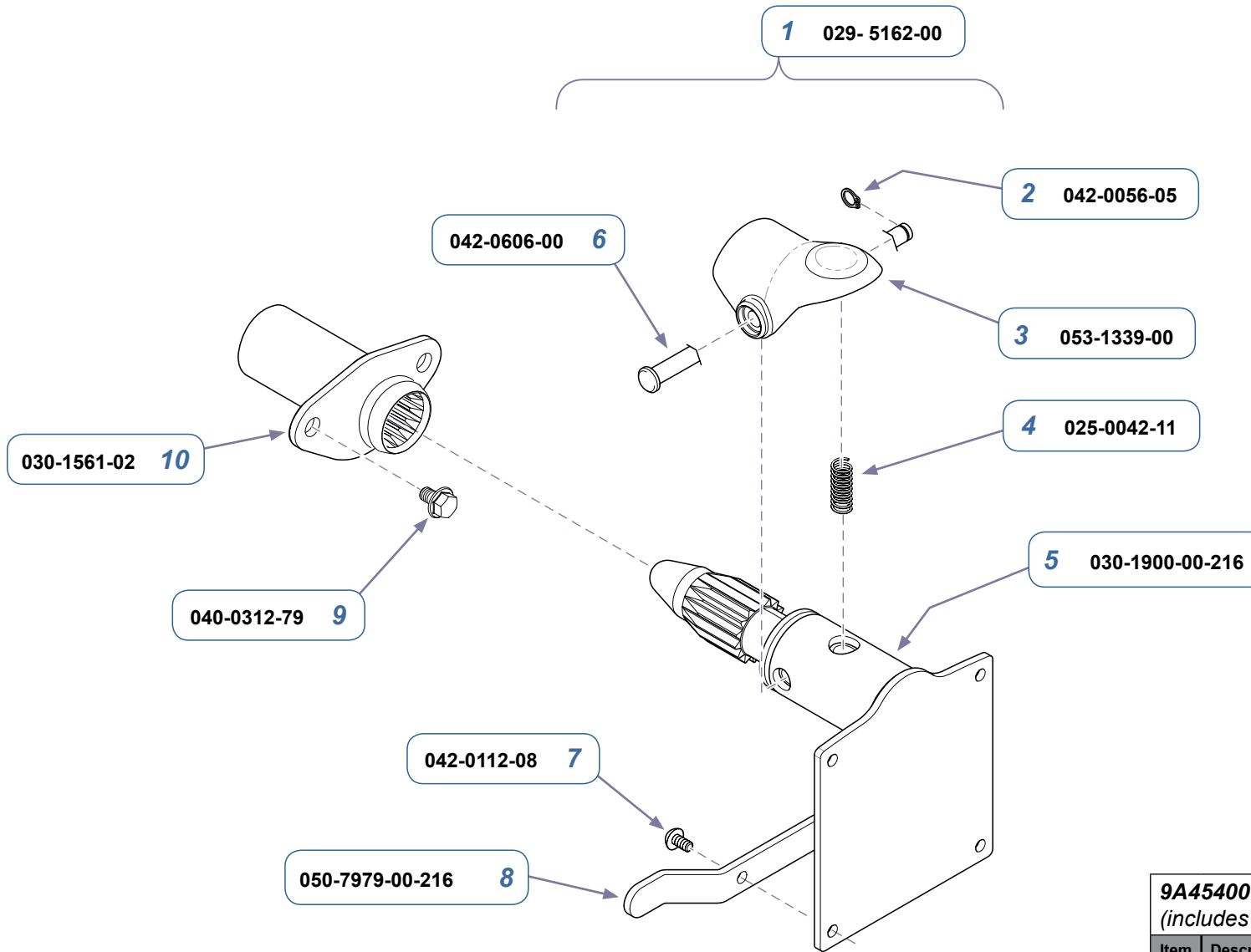
Light / Flex Arm Assembly		
Item	Description	Qty.
1	Flex Arm Kit (includes wiring harness)	1
2	Set Screw	1
3	Lighthouse Assembly Kit	1
4	Flex Arm Plug	1
5	Lighthouse Seal	1
6	Collar	1
7	Housing - Back	1
8	Power Cord Inlet / Fuse Holder	1
9	Screw (K35 x 10mm)	6
10	O-ring	1
11	Foam Plug	1
12	Bearing	2
13	PC Board Kit (includes RTV silicone)	1
14	Light Pipe	1
15	Power Cord (120V, North American) <i>*Note: Export models require accessory: 9A152 International Cordset.</i>	1
16	Housing - Front	1
17	Clamp	2
18	Screw (K35 x 16mm)	8
19	Cable Clamp	1
20	Set Screw	1
21	LED Label	1

Models: 253-001 thru -007
Serial Numbers: V1510584 thru Present



Light / Flex Arm Assembly		
Item	Description	Qty.
1	Flex Arm Kit (includes wiring harness)	1
2	Set Screw	1
3	Lighthouse Assembly Kit	1
4	Flex Arm Plug	1
5	Lighthouse Seal	1
6	Collar	1
7	Housing - Back	1
8	Power Cord Inlet / Fuse Holder	1
9	Screw (K35 x 10mm)	6
10	O-ring	1
11	Foam Plug	1
12	Bearing	2
13	PC Board Kit (includes RTV silicone)	1
14	Light Pipe	1
15	Power Cord (120V, North American) <i>*Note: Export models require accessory: 9A152 International Cordset.</i>	1
16	Housing - Front	1
17	Clamp	2
18	Screw (K35 x 16mm)	8
19	Cable Clamp	1
20	Set Screw	1
21	LED Label	1

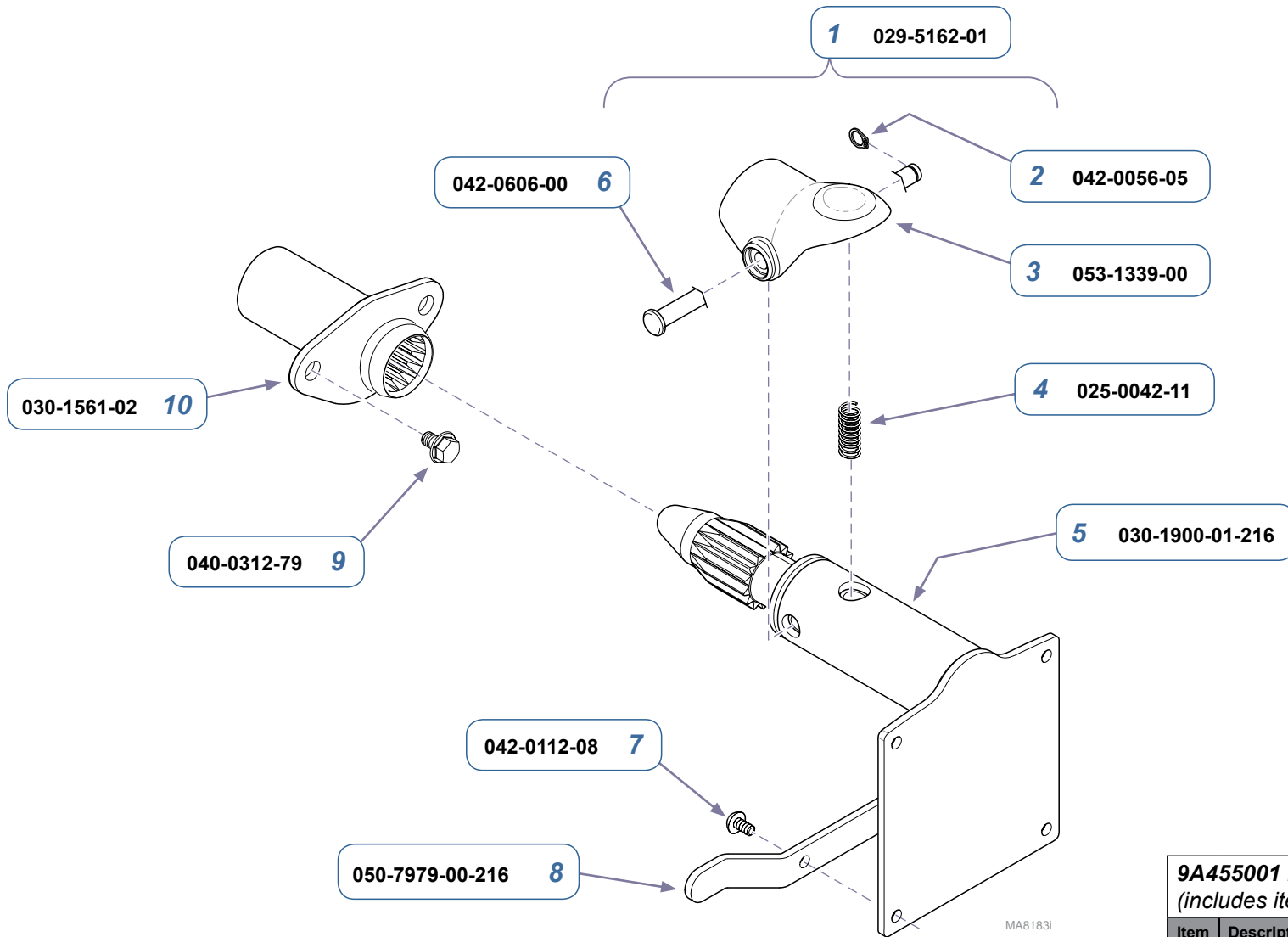
Models: 253-011 thru 017
Serial Numbers: All



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9A45401 Spline Mount System (includes items 1 thru 10)		
Item	Description	Qty.
1	Spline Assembly (includes items 2 thru 6)	1
2	• Clip Ring	1
3	• Retainer Clip	1
4	• Compression Spring	1
5	• Spline Mount Weldment	1
6	• Clevis Pin	1
7	Screw (M4 x .7 x 12 mm)	4
8	Cord Restraint	1
9	Screw (5/16-18 x 3/4")	2
10	Socket Weldment	1

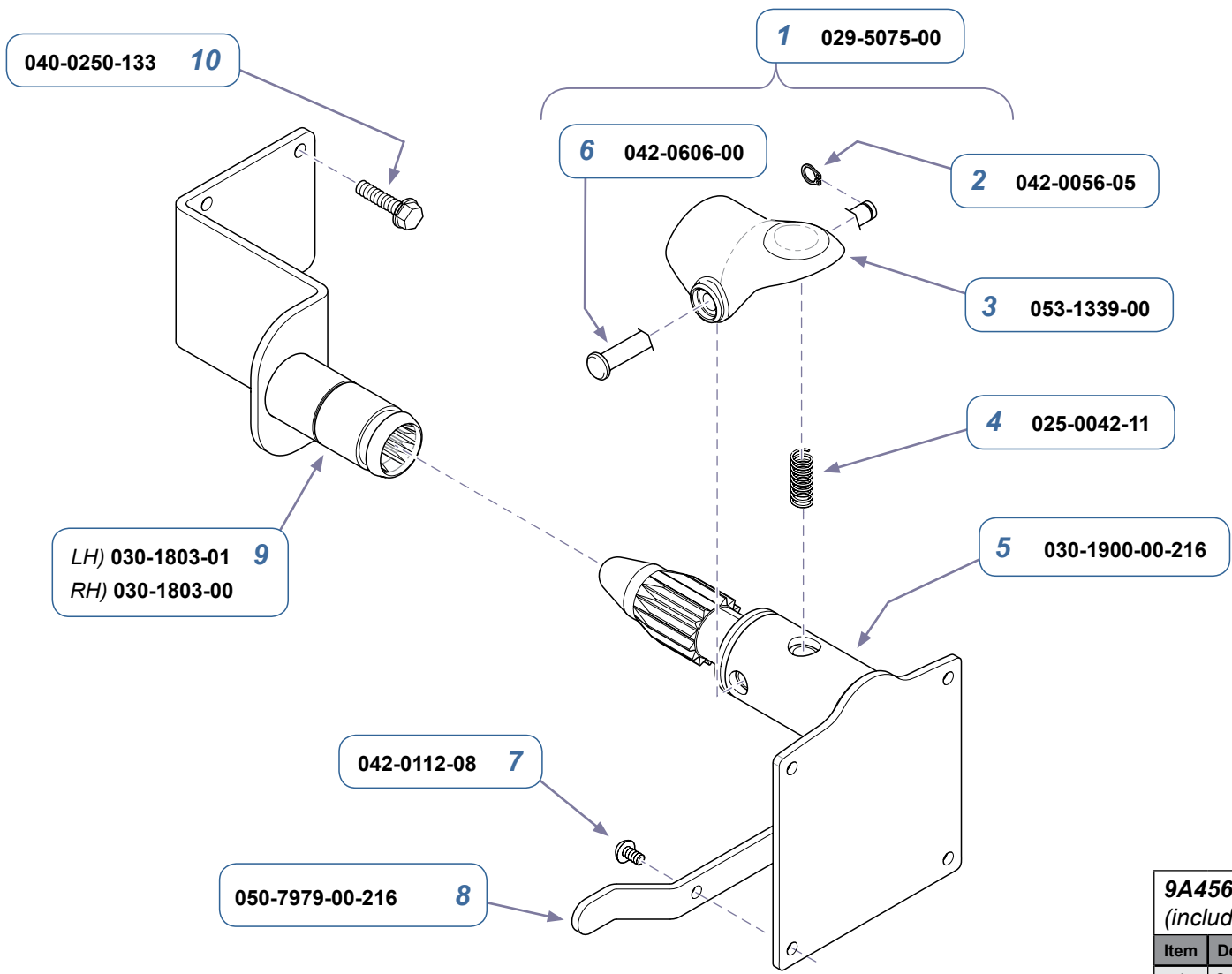
Models:	9A454
Serial Numbers:	<i>all</i>



9A45501 Extended Spline Mount System
(includes items 1 thru 10)

Item	Description	Qty.
1	Extended Spline Assembly (includes items 2 thru 6)	1
2	• Clip Ring	1
3	• Retainer Clip	1
4	• Compression Spring	1
5	• Extended Spline Mount Weldment	1
6	• Clevis Pin	1
7	Screw (M4 x .7 x 12 mm)	4
8	Cord Restraint	1
9	Screw (5/16-18 x 3/4")	2
10	Socket Weldment	1

Models:	9A455
Serial Numbers:	<i>all</i>

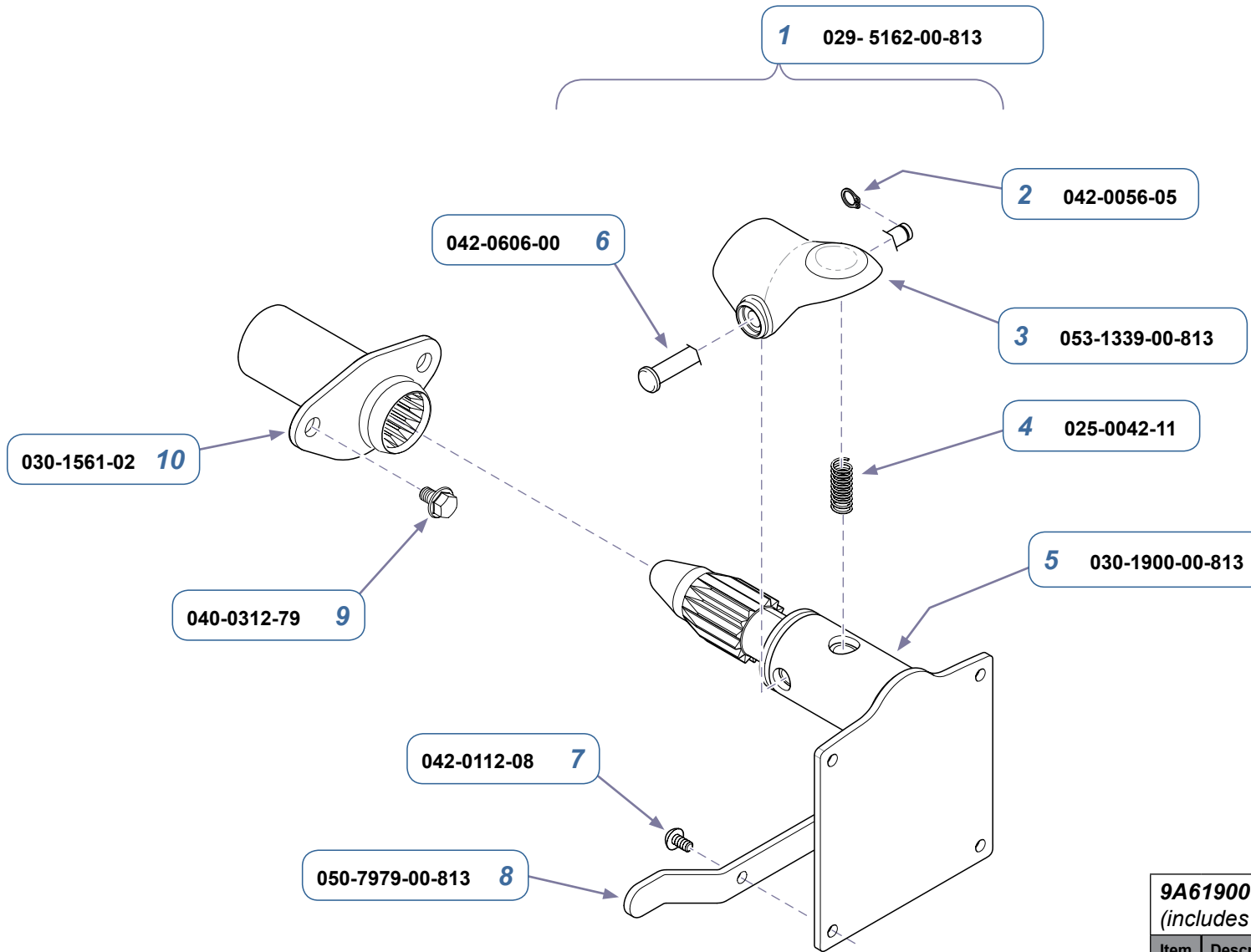


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9A45601 Podiatry Spline Mount System
(includes items 1 thru 10)

Item	Description	Qty.
1	Spline Assembly (includes items 2 thru 6)	1
2	• Clip Ring	1
3	• Retainer Clip	1
4	• Compression Spring	1
5	• Spline Mount Weldment	1
6	• Clevis Pin	1
7	Screw (M4 x .7 x 12 mm)	4
8	Cord Restraint	1
9	Spline Receptacle (LH shown)	2
10	Screw (1/4-20)	6

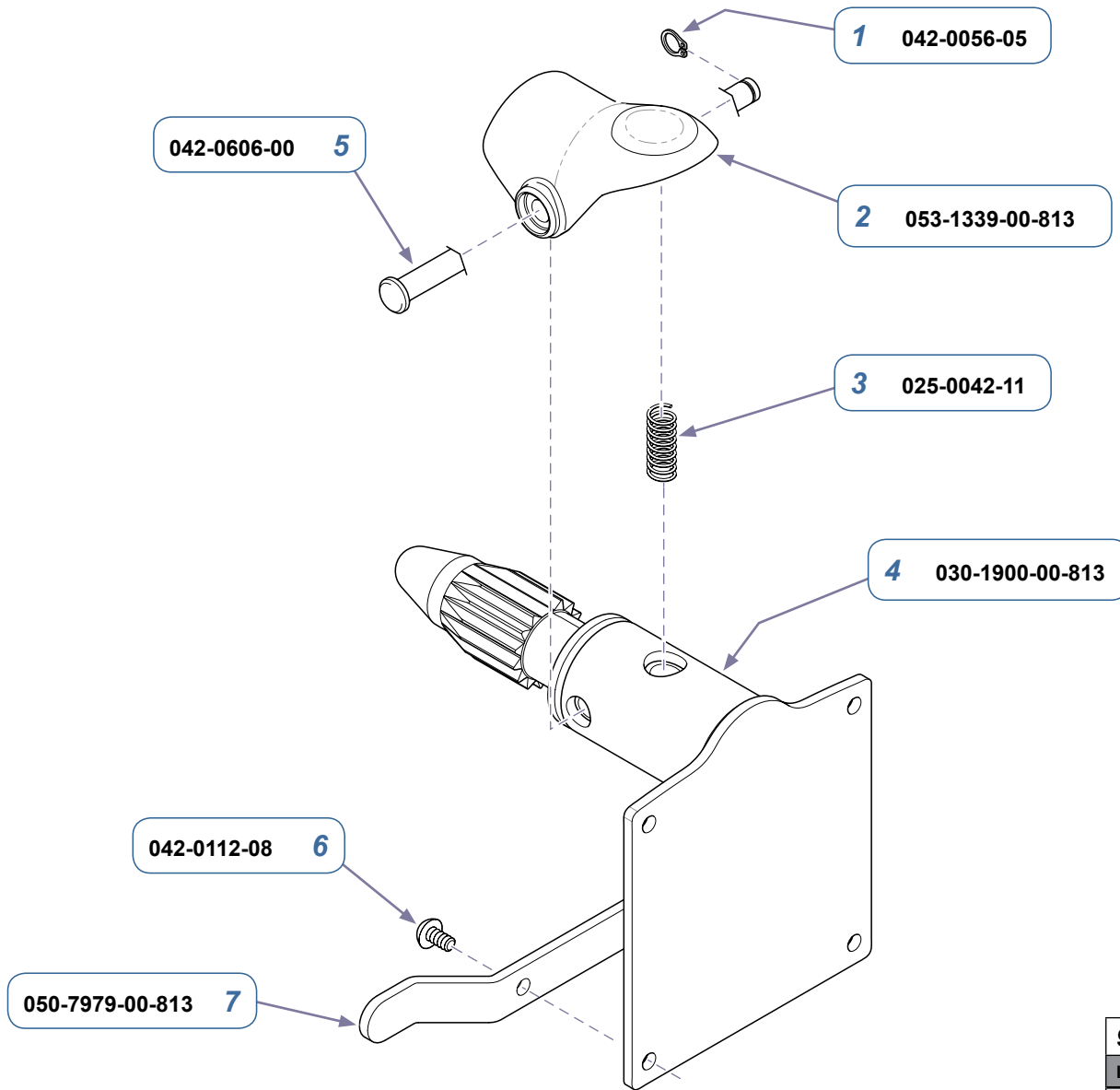
Models:	9A456
Serial Numbers:	All



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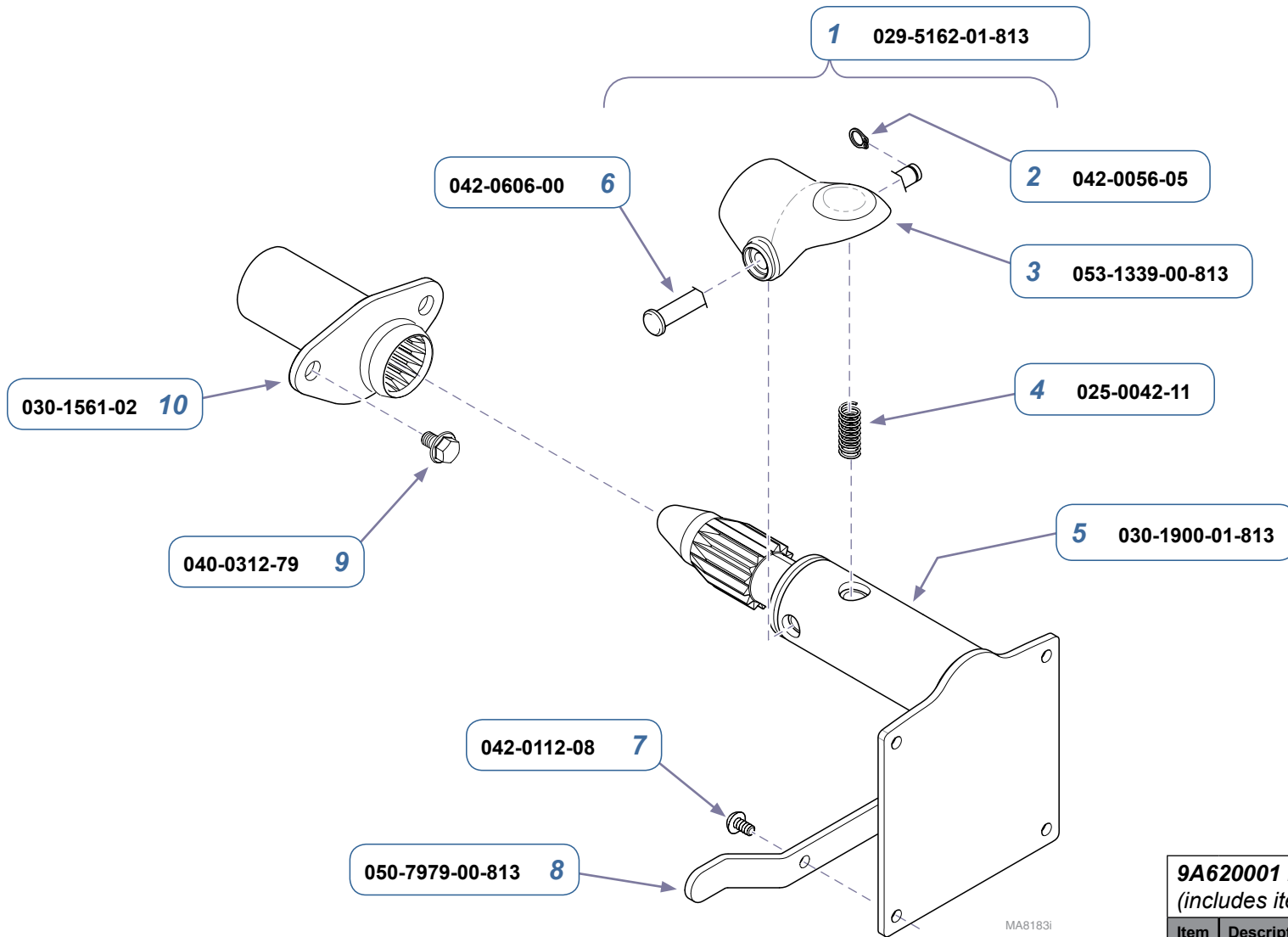
9A61901 Spline Mount System (includes items 1 thru 10)		
Item	Description	Qty.
1	Spline Assembly (includes items 2 thru 6)	1
2	• Clip Ring	1
3	• Retainer Clip	1
4	• Compression Spring	1
5	• Spline Mount Weldment	1
6	• Clevis Pin	1
7	Screw (M4 x .7 x 12 mm)	4
8	Cord Restraint	1
9	Screw (5/16-18 x 3/4")	2
10	Socket Weldment	1

Models:	9A619
Serial Numbers:	<i>all</i>



9A624001 Spline Mount Hardware - 28"		
Item	Description	Qty.
1	Clip Ring	1
2	Retainer Clip	1
3	Compression Spring	1
4	Spline Mount Weldment	1
5	Clevis Pin	1
6	Screw (M4 x .7 x 12 mm)	4
7	Cord Restraint	1

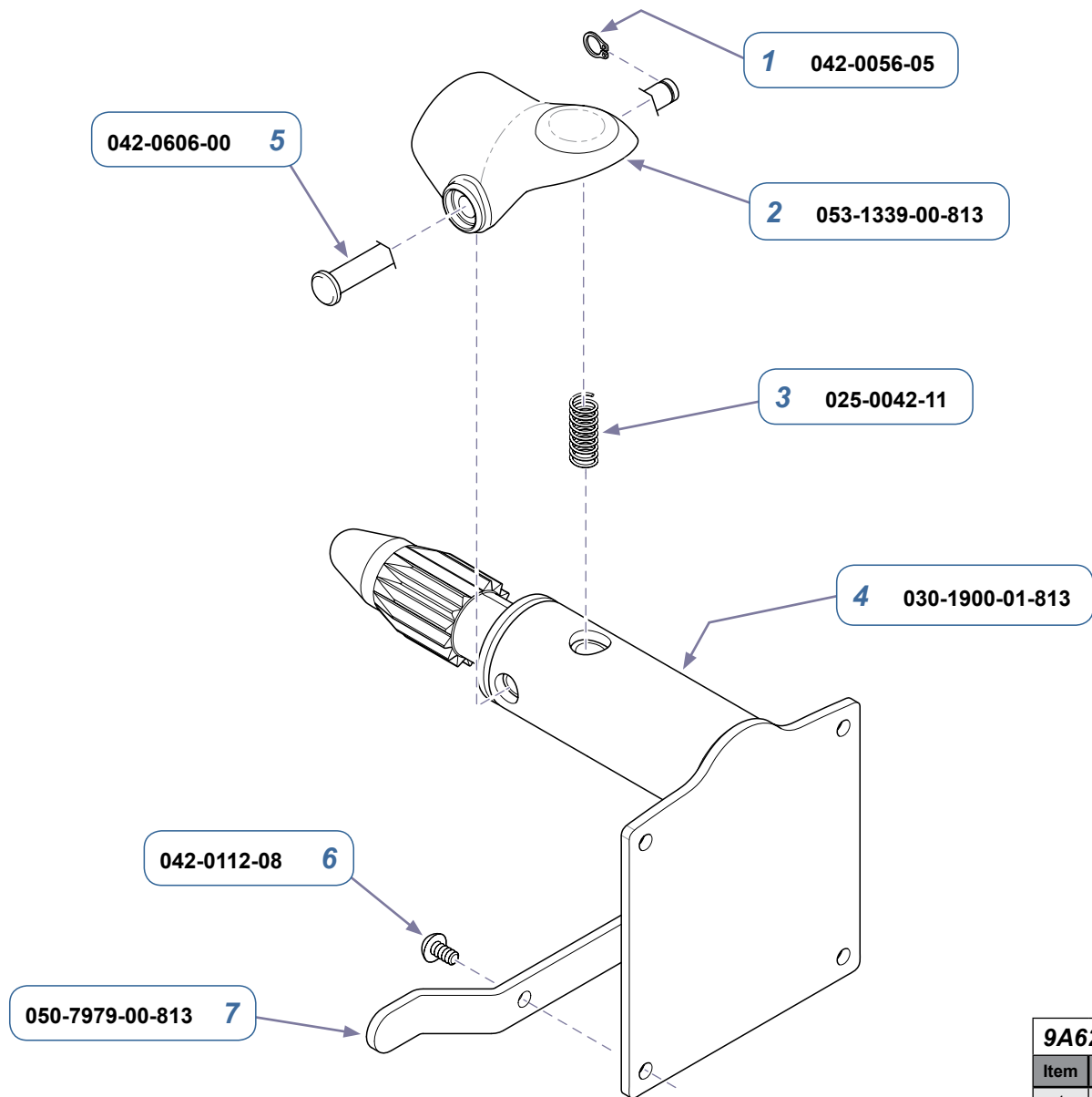
Models:	9A624
Serial Numbers:	<i>all</i>



9A62001 Extended Spline Mount System
(includes items 1 thru 10)

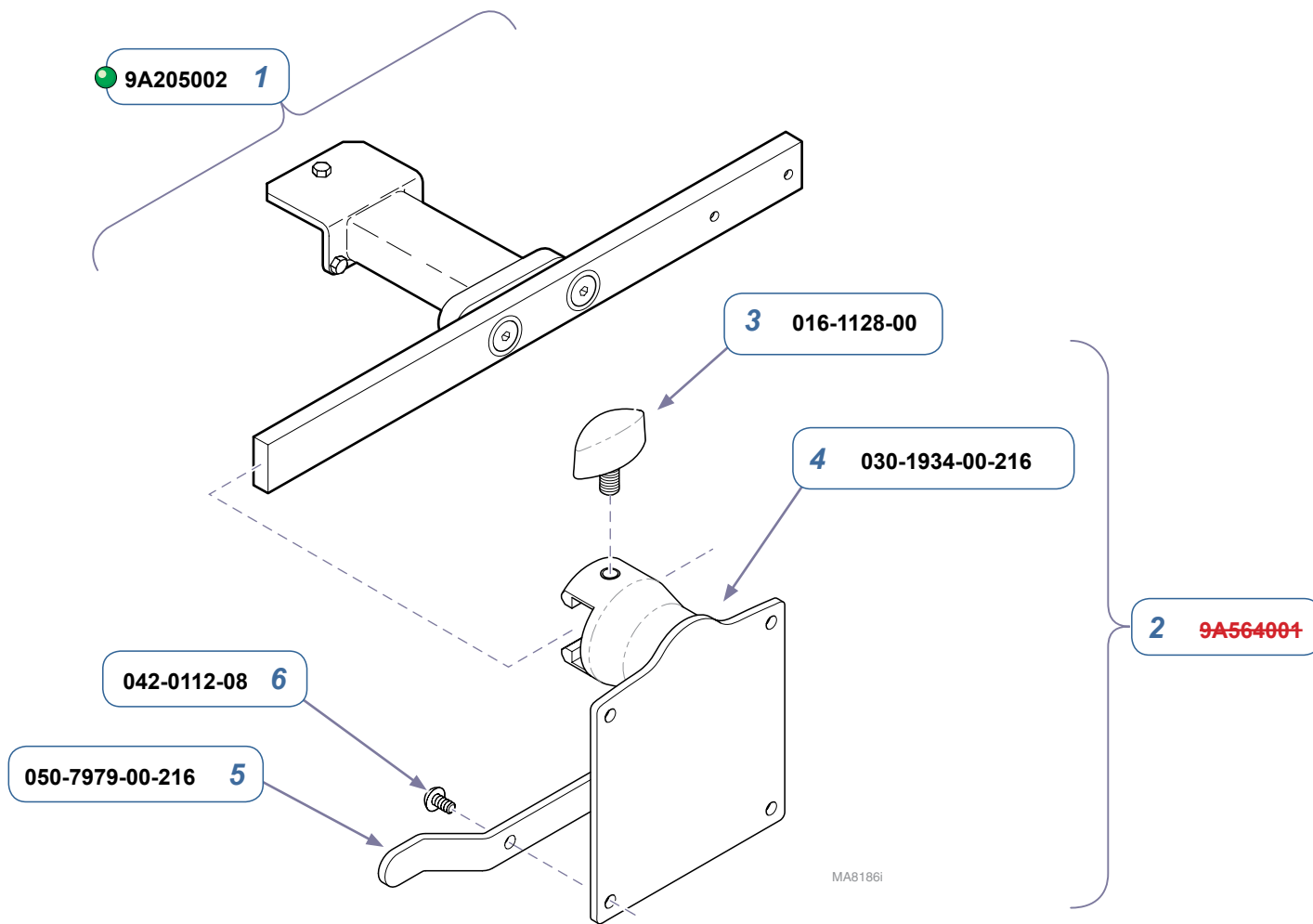
Item	Description	Qty.
1	Extended Spline Assembly (includes items 2 thru 6)	1
2	• Clip Ring	1
3	• Retainer Clip	1
4	• Compression Spring	1
5	• Extended Spline Mount Weldment	1
6	• Clevis Pin	1
7	Screw (M4 x .7 x 12 mm)	4
8	Cord Restraint	1
9	Screw (5/16-18 x 3/4")	2
10	Socket Weldment	1

Models:	9A620
Serial Numbers:	<i>all</i>



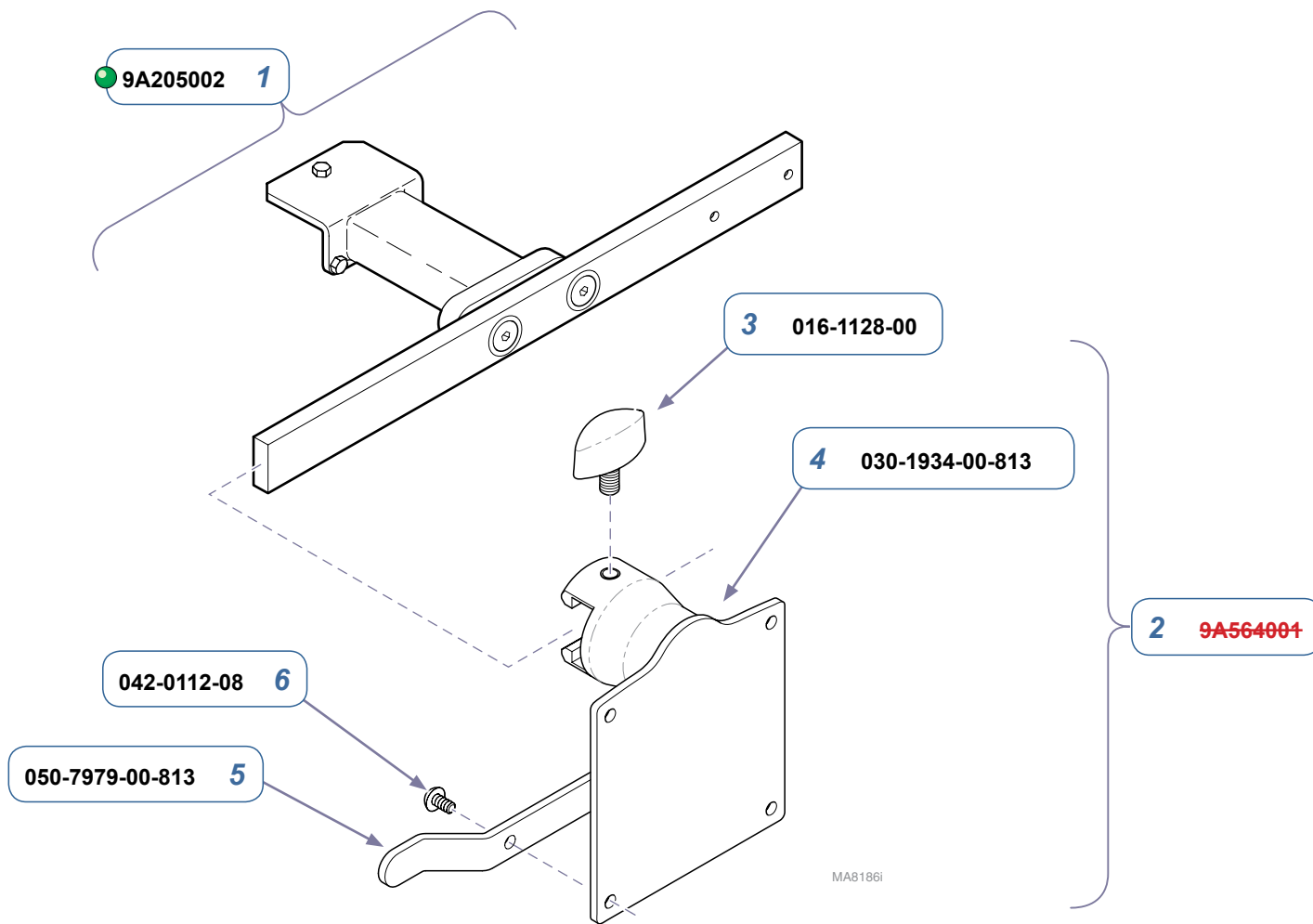
Models:	9A625
Serial Numbers:	<i>all</i>

9A625001 Spline Mount Hardware - 32"		
Item	Description	Qty.
1	Clip Ring	1
2	Retainer Clip	1
3	Compression Spring	1
4	Extended Spline Mount Weldment	1
5	Clevis Pin	1
6	Screw (M4 x .7 x 12 mm)	4
7	Cord Restraint	1



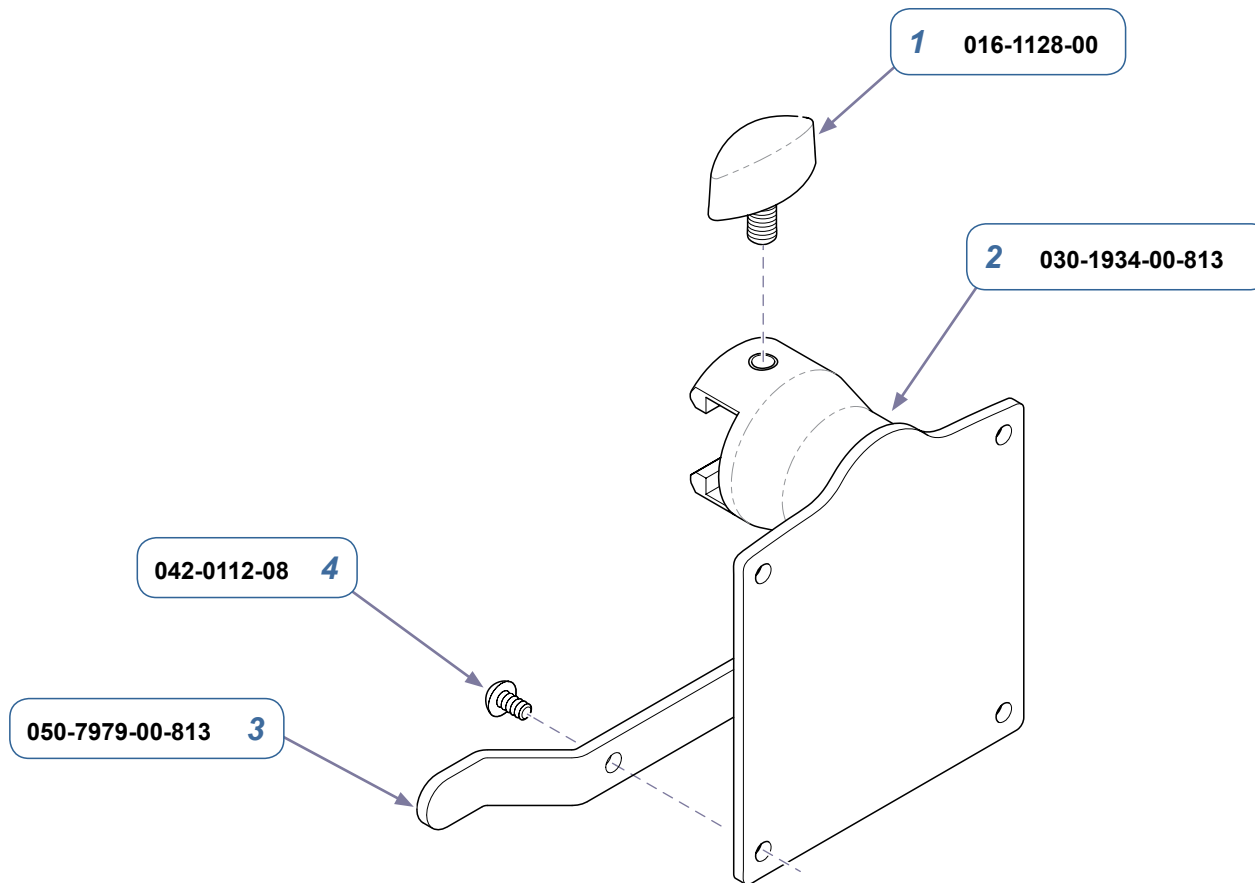
Models:	9A457
Serial Numbers:	<i>all</i>

9A457001 Rail Mount System (includes items 1 thru 6)		
Item	Description	Qty.
1	Base Rail Assembly (Refer to: 9A205 documentation for breakdown)	1
2	Rail Mount Assembly (includes items 3 - 6)	1
3	• T-knob	1
4	• Rail Mount Weldment	1
5	• Cord Restraint	1
6	• Screw (M4 x .7 x 12 mm)	4



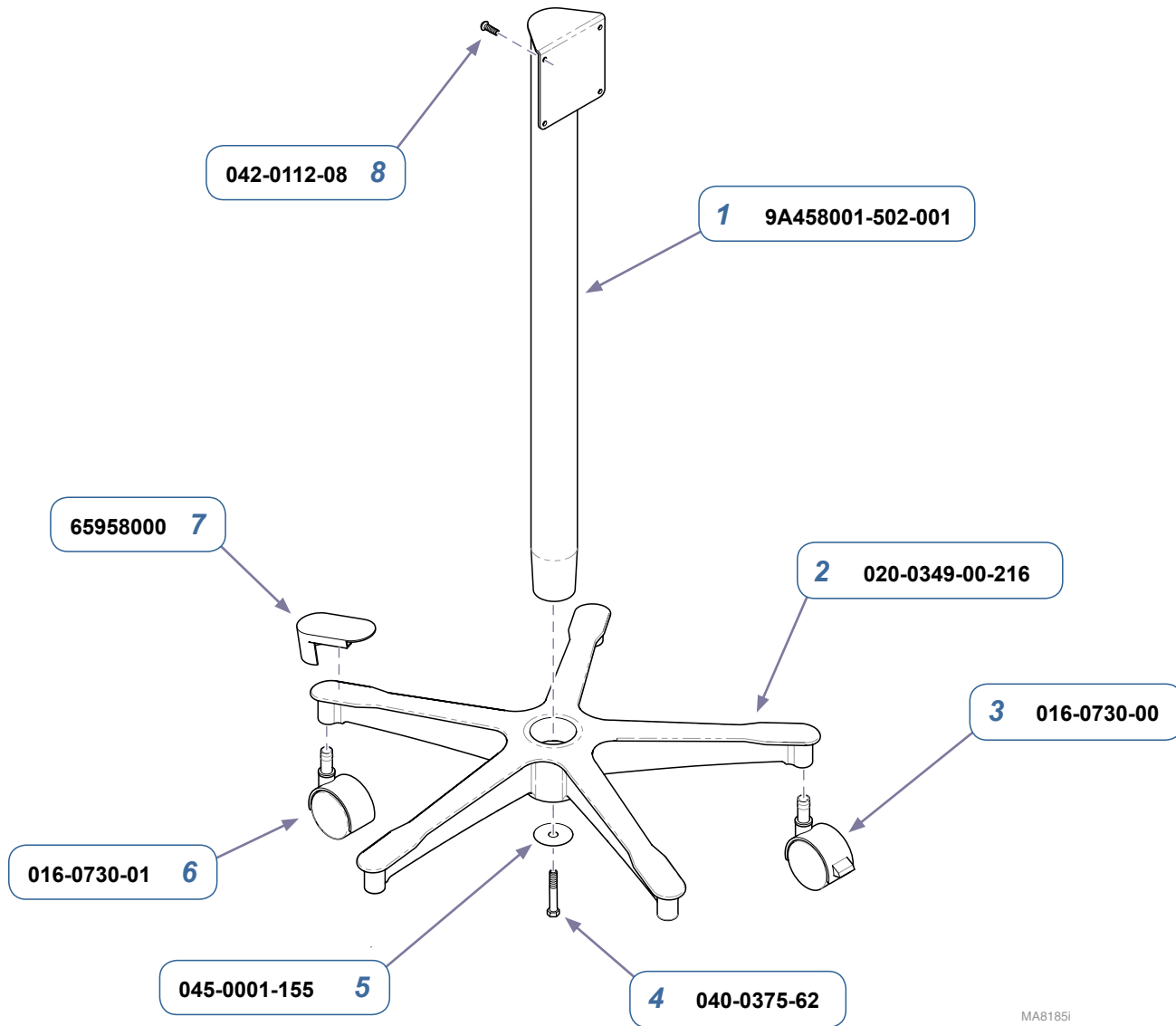
Models:	9A622
Serial Numbers:	<i>all</i>

9A622001 Rail Mount System <i>(includes items 1 thru 6)</i>		
Item	Description	Qty.
1	Base Rail Assembly <i>(Refer to: 9A205 documentation for breakdown)</i>	1
2	Rail Mount Assembly <i>(includes items 3 - 6)</i>	1
3	• T-knob	1
4	• Rail Mount Weldment	1
5	• Cord Restraint	1
6	• Screw (M4 x .7 x 12 mm)	4



Models:	9A626
Serial Numbers:	<i>all</i>

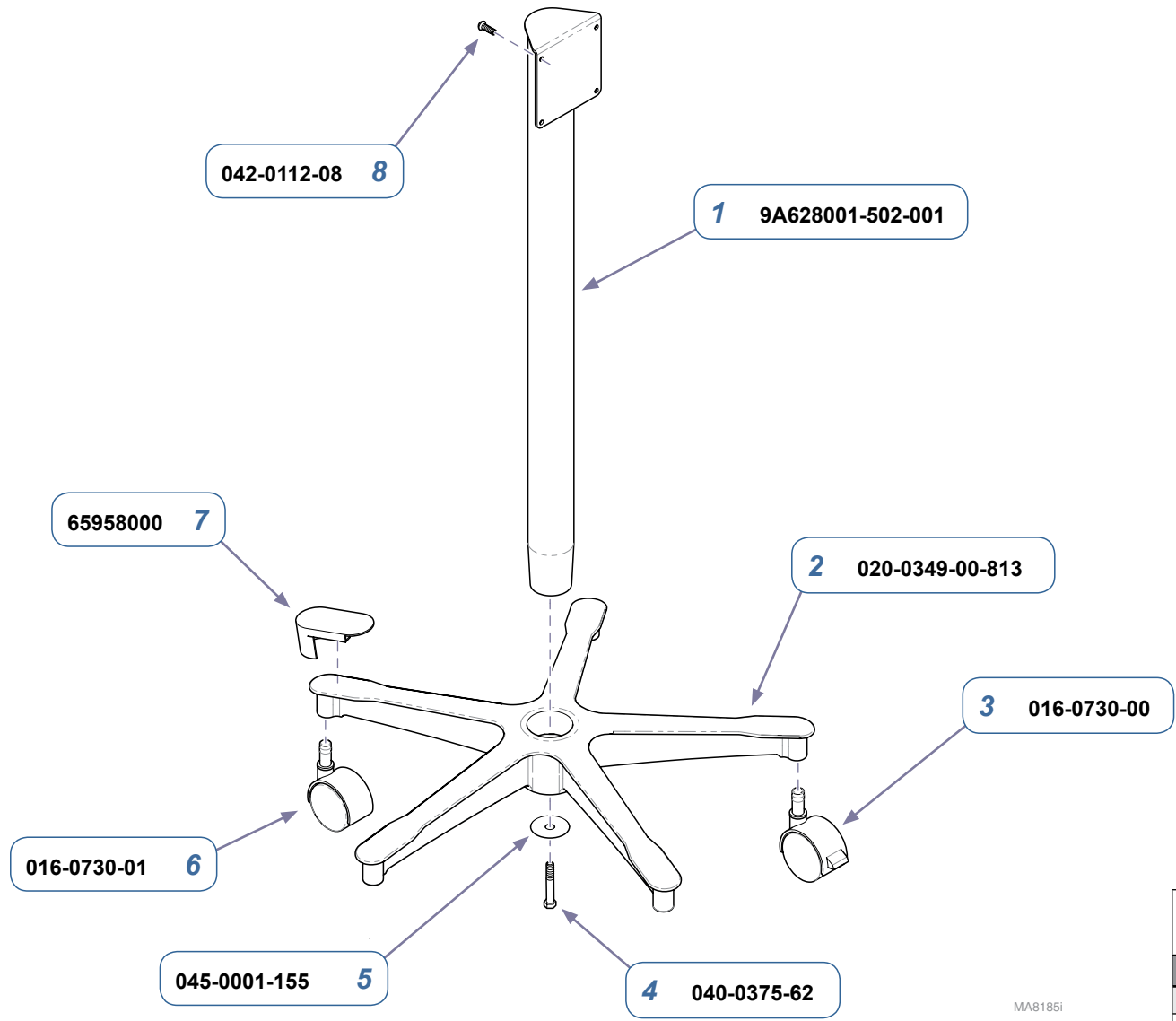
9A626001 Rail Mount Hardware		
Item	Description	Qty.
1	T-knob	1
2	Rail Mount Weldment	1
3	Cord Restraint	1
4	Screw (M4 x .7 x 12 mm)	4



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9A458001 Caster Base (includes items 1 thru 8)		
Item	Description	Qty.
1	Caster Tube Assembly	1
2	Caster Base	1
3	Locking Caster	2
4	Hex Screw (3/8-16 x 2 1/4")	1
5	Washer	1
6	Caster	3
7	End Cap	5
8	Screw (M4 x .7 x 12mm)	4

Models:	9A458
Serial Numbers:	<i>all</i>

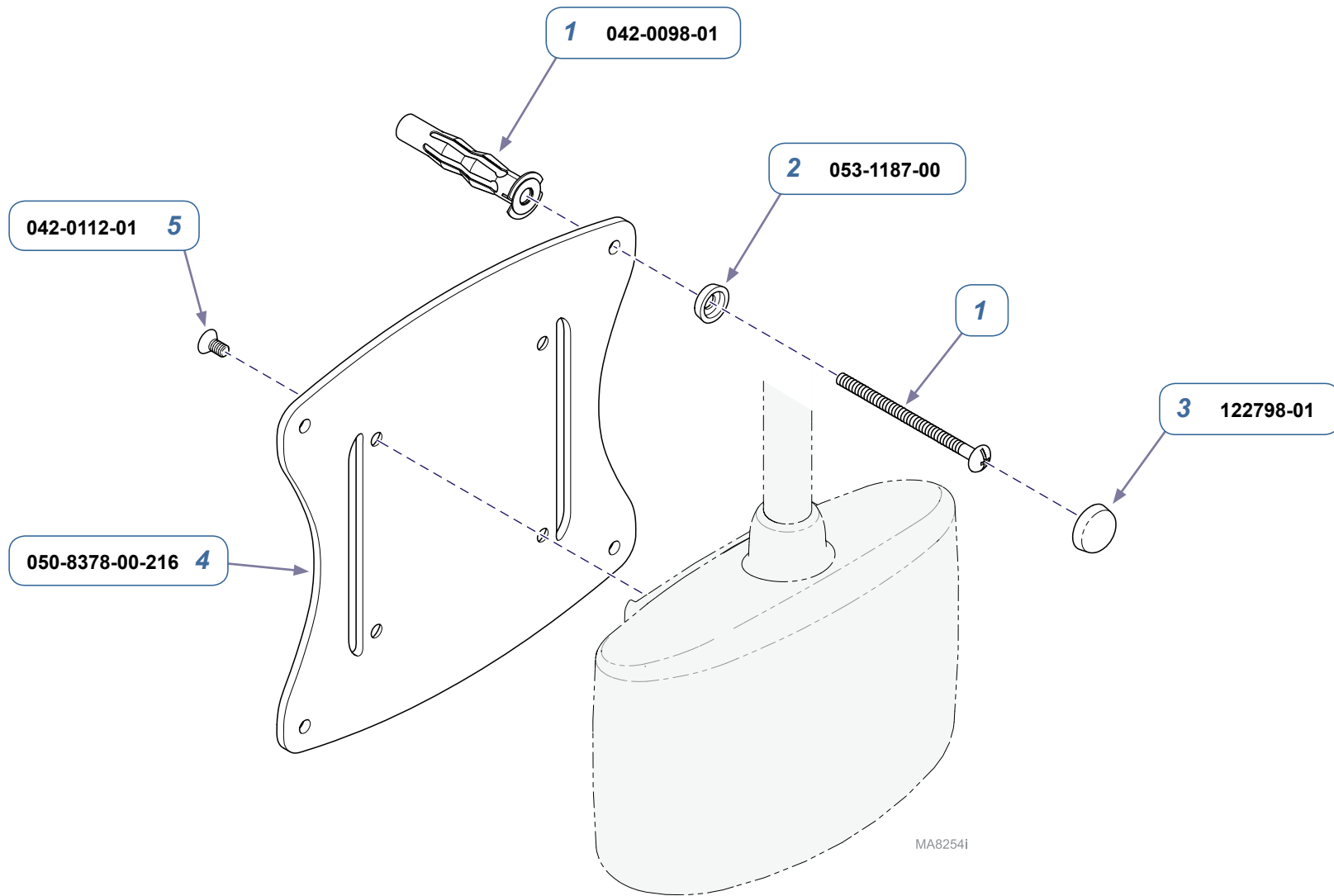


9A628001 Caster Base
(includes items 1 thru 8)

Item	Description	Qty.
1	Caster Tube Assembly	1
2	Caster Base	1
3	Locking Caster	2
4	Hex Screw (3/8-16 x 2 1/4")	1
5	Washer	1
6	Caster	3
7	End Cap	5
8	Screw (M4 x .7 x 12mm)	4

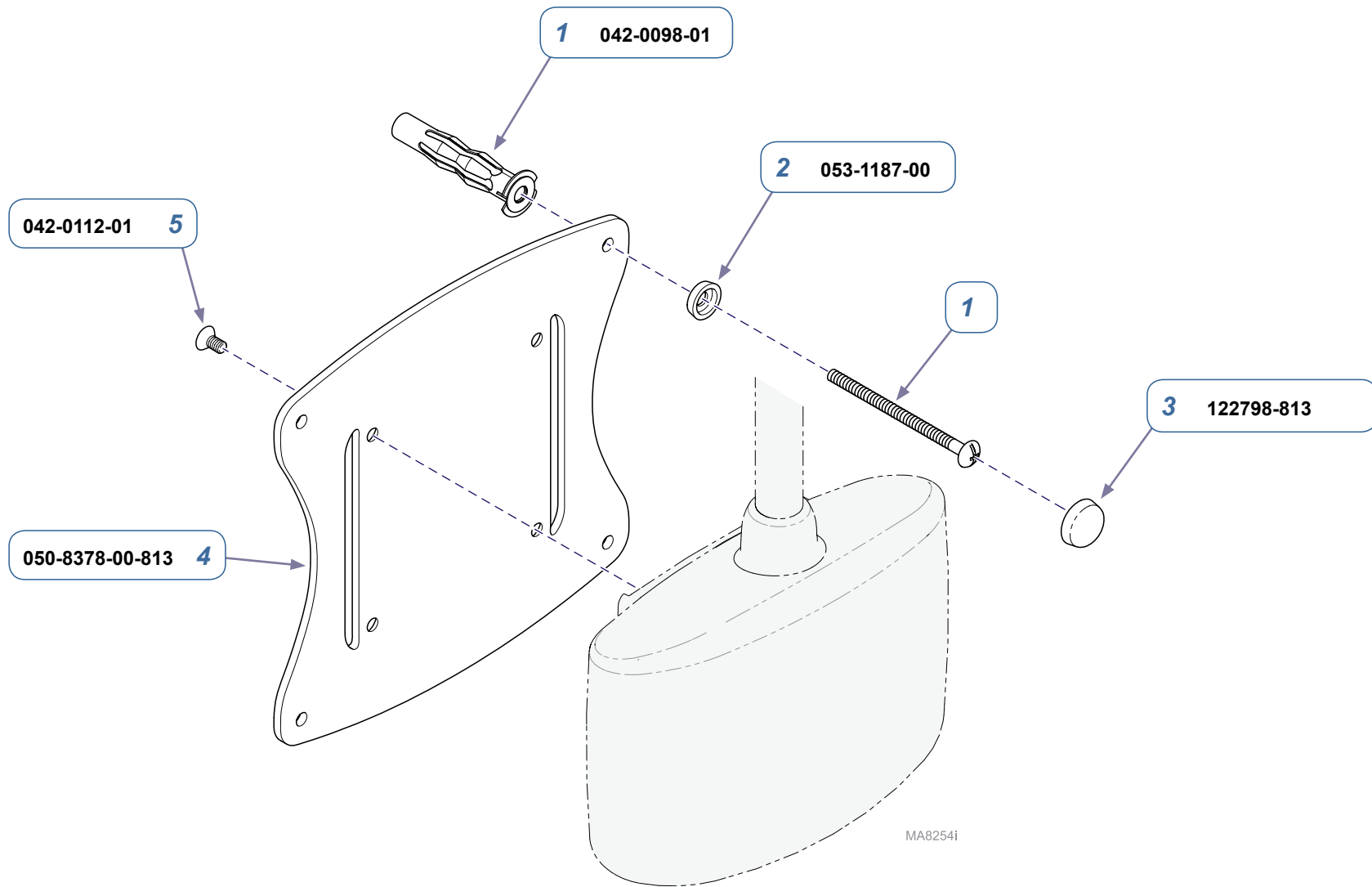
MA8185I

Models:	9A628
Serial Numbers:	<i>all</i>



Models:	9A474
Serial Numbers:	<i>all</i>

9A474001 Wall Mount Bracket <i>(includes items 1 thru 5)</i>		
Item	Description	Qty.
1	Wall Anchor - 3/16" (for drywall)	4
2	Screw Base Cover	4
3	Screw Cover	4
4	Wall Bracket	1
5	Screw (M4 x .7 x 8mm)	4



Models:	9A623
Serial Numbers:	<i>all</i>

9A623001 Wall Mount Bracket
(includes items 1 thru 5)

Item	Description	Qty.
1	Wall Anchor - 3/16" (for drywall)	4
2	Screw Base Cover	4
3	Screw Cover	4
4	Wall Bracket	1
5	Screw (M4 x .7 x 8mm)	4

SUBJECT TO CHANGE WITHOUT NOTICE



Because we care.