

Replacement Springs

OFFICIAL DASMA SPRING COLOR CODES

TORSION		EXTENSION	
WIRE SIZE	COLOR	PULL #	COLOR
.148	TAN	10#	WHITE
.162	GREEN	20#	GREEN
.177	GOLD	30#	YELLOW
.1875	BLUE	40#	BLUE
.192	ORANGE	50#	RED
.207	YELLOW	60#	BROWN
.2187	WHITE	70#	ORANGE
.2253	RED	80#	GOLD
.2343	BROWN	90#	LT. BLUE
.2437	GREEN	100#	TAN
.250	GOLD	110#	WHITE
.2625	BLUE	120#	GREEN
.273	ORANGE	130#	YELLOW
.283	LT. BLUE	140#	BLUE
.289	YELLOW	150#	RED
.295	WHITE	160#	BROWN
.3065	BROWN	170#	ORANGE
.3125	TAN	180#	GOLD
.3195	GREEN	190#	LT. BLUE
.331	GOLD	200#	TAN
.3437	BLUE	210#	WHITE
.3625	ORANGE	220#	GREEN
.375	LT. BLUE	230#	YELLOW
.3938	YELLOW	240#	BLUE
.4062	WHITE	250#	RED
.4218	RED	260#	BROWN
.4305	BROWN	270#	ORANGE
.4375	TAN	280#	GOLD
.4531	GREEN	290#	LT. BLUE
.4615	GOLD	300#	TAN
.4687	BLUE		
.490	LT. BLUE		
.500	YELLOW		



LEFT HAND WOUND



RIGHT HAND WOUND

Refer to SpringPro or ruler-style Spring Wire Gauge to measure wire or measure 20 coils of wire and convert to wire size using chart below. Confirm by color code if available

Measure inside diameter of spring, or check spring fittings for I.D. size indication. Or Measure O.D minus wire size x 2.

Spring ID:Torsion

Specify RHW or LHW			
LENGTH OF 20 COILS	WIRE SIZE	LENGTH OF 20 COILS	WIRE SIZE
2 1/2"	.125	5 3/4"	.289
2 3/4"	.135	5 7/8"	.295
2 7/8"	.142	6 1/8"	.3065
3"	.1483	6 1/4"	.3125
3 1/8"	.1562	6 3/8"	.3195
3 1/4"	.162	6 5/8"	.331
3 3/8"	.170	6 7/8"	.3437
3 1/2"	.177	7 1/4"	.3625
3 3/4"	.1875	7 1/2"	.375
3 7/8"	.192	7 7/8"	.3938
4 1/8"	.207	8 1/8"	.4062
4 3/8"	.2187	8 7/16"	.4218
4 1/2"	.2253	8 5/8"	.4305
4 5/8"	.2343	8 3/4"	.4375
4 7/8"	.2437	9 1/16"	.4531
5"	.250	9 1/4"	.4615
5 1/4"	.2625	9 3/8"	.4687
5 1/2"	.273	9 3/4"	.490
5 5/8"	.283	10"	.500

TORSION SPRINGS- Specify:

- 1. WINDING:** RHW or LHW (See "Winding Chart").
- 2. WIRE SIZE:** Use Spring Wire Gauge, or measure 10 or 20 coils to nearest 1/16" & refer to "Spring Wire Chart".
- 3. INSIDE DIAMETER:** Measure I.D. to nearest 1/16" and refer to "I.D. Chart".
Note: Manufacturers not listed on "I.D. Chart" probably use these I.D.'s: 1-3/4", 2", 2-5/8", 3-3/4", 5-1/4", or 6". These I.D.'s may often be verified by locating corresponding numbers on the spring fittings.
(For example: "175" for 1-3/4" I.D., "200" for 2", "258" or "263" for 2-5/8", etc).
- 4. LENGTH:** Measure overall length of spring, or provide total number of coils in unbound length of spring.

EXTENSION SPRINGS- Specify:

METHOD 1:

- Furnish spring length
- Amount of stretch
- Pull of spring in pounds

EXAMPLE: 25"-42"-150#

METHOD 2:

- Furnish wire size
- Inside diameter or outside diameter to nearest 1/32"
- Type of ends
- Length of spring (not including loops)
- Specify if wound tight for a one-piece door

EXAMPLE: .177 - 1 - 9/32" ID - 25" w/Double Loops

METHOD 3:

- Furnish door width & height
- Door weight
- Specify type of ends: Single Loop, double loop, or clip ends
- Confirm size by color code if possible

EXAMPLE: 8'w x 7'h x 150 lbs

Would you like

ZERO

warranty call backs on photo eye installations?

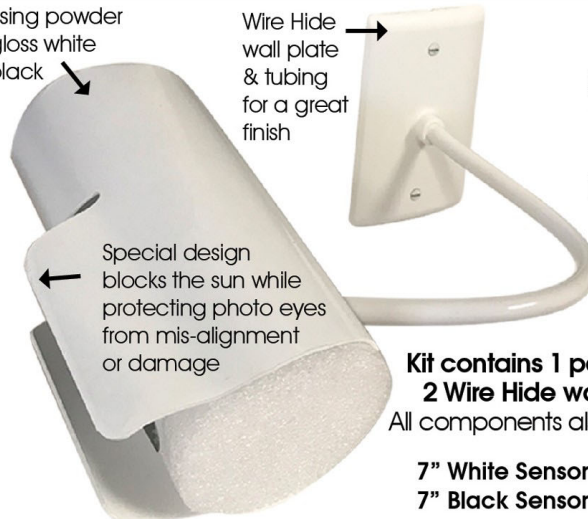
Sensor Shield Kits

- Virtually zero out photo eye warranty calls.
- Supports and protects the photo eyes from misalignment and damage.
- Blocks sun from causing photo eye failure.
- Hide unsightly wires.

Steel housing powder coated gloss white or gloss black

Wire Hide wall plate & tubing for a great finish

Special design blocks the sun while protecting photo eyes from mis-alignment or damage



Sensor Shield Kit
The best looking photo eye installation in the industry!

Kit contains 1 pair of Sensor Shields, 2 Wire Hide wall plates, & tubing. All components also available separately

7" White Sensor Shield Kit #685-40200
7" Black Sensor Shield Kit #685-40210

SPRING WEIGHT PER INCH							
Wire Size	1 3/4"	2"	2 5/8"	3 3/8"	3 3/4"	5 1/4"	6"
0.1875	0.2537	0.2864	0.3682	0.4664	0.5155	0.7119	0.8101
0.1920	0.2604	0.2939	0.3777	0.4782	0.5285	0.7296	0.8301
0.2070	0.2829	0.3190	0.4094	0.5178	0.5720	0.7889	0.8973
0.2187	0.3007	0.3389	0.4344	0.5489	0.6062	0.8353	0.9499
0.2253	0.3108	0.3501	0.4485	0.5665	0.6255	0.8615	0.9795
0.2343	0.3428	0.3657	0.4681	0.5908	0.6522	0.8978	1.0205
0.2437	0.3393	0.3818	0.4882	0.6158	0.6796	0.9348	1.0625
0.2500	0.3491	0.3928	0.5019	0.6328	0.6983	0.9601	1.0911
0.2625	0.3689	0.4147	0.5293	0.6668	0.7355	1.0105	1.1480
0.2730	0.3872	0.4351	0.5547	0.6983	0.7700	1.0572	1.2007
0.2830	0.4017	0.4511	0.5746	0.7228	0.7969	1.0933	1.2415
0.2890	0.4123	0.4628	0.5892	0.7408	0.8167	1.1199	1.2716
0.2950	0.4267	0.4788	0.6092	0.7657	0.8440	1.1569	1.3134
0.3065	0.4402	0.4937	0.6275	0.7880	0.8683	1.1894	1.3499
0.3125	0.4501	0.5047	0.6411	0.8047	0.8866	1.2139	1.3776
0.3195	0.4579	0.5132	0.6514	0.8174	0.9003	1.2322	1.3981
0.3310	0.4809	0.5387	0.6832	0.8565	0.9432	1.2898	1.4632
0.3437	0.5027	0.5627	0.7128	0.8928	0.9829	1.3430	1.5231
0.3625	0.5347	0.5980	0.7562	0.9461	1.0410	1.4207	1.6106
0.3750	0.5565	0.6219	0.7856	0.9820	1.0802	1.4730	1.6694
0.3938	0.5895	0.6582	0.8301	1.0363	1.1394	1.5518	1.7581
0.4062	0.6117	0.6827	0.8600	1.0728	1.1792	1.6047	1.8175
0.4218	0.6399	0.7135	0.8987	1.1187	1.2292	1.6711	1.8921
0.4305	0.6555	0.7306	0.9185	1.1439	1.2567	1.7076	1.9330
0.4375	0.6682	0.7446	0.9355	1.1647	1.2792	1.7374	1.9665
0.4531	0.6971	0.7762	0.9739	1.2112	1.3299	1.8045	2.0418
0.4615	0.7127	0.7933	0.9947	1.2364	1.3572	1.8407	2.0824
0.4687	0.7263	0.8082	1.0128	1.2583	1.3811	1.8722	2.1177
0.4900	0.7664	0.8520	1.0658	1.3224	1.4507	1.9640	2.2206
0.5000	0.7856	0.8728	1.0911	1.3529	1.4838	2.0075	2.2694
0.5312	0.8464	0.9391	1.1710	1.4493	1.5884	2.1449	2.4232
0.5625	0.9083	1.0065	1.2520	1.5465	1.6938	2.2830	2.5776
0.6250	1.0366	1.1457	1.4185	1.7459	1.9096	2.5643	2.8916

HELPFUL SPRING FORMULAS & RULES

Number of coils x wire size = spring length

Example: 100 coils x .250 wire = 25"

Subtract the wire size twice from the OD of a spring to determine the ID

Example: 2-1/2" OD spring with .250 wire, 2-1/2" - .250 - .250 = 2" ID

Torsion

Number of turns x wire size = amount of spring growth

Example: 10 turns x .250 wire = 2-1/2" of spring growth

Inches divided by the number of coils = wire size

Example: 2-1/2" per 10 coils, 2-1/2" divided by 10 = .250 wire

Total IPPT of a door's springs divided by the cable drum multiplier= door weight

Example: 1 pair .250 x 2 x 32" installed on a 7' door with a 15" radius, 400-8 drums.

IPPT is 41.5 per spring, multiplier is .2866. Total IPPT of 83 divided by .2866 = 289 lbs door weight

Door Weight x Hi Moment Arm divided by Number of Turns = Required IPPT

IPPT x Number of Turns divided by Hi Moment Arm= Door Weight

High lift is the measured distance from the top of a closed door to the bottom of the horizontal track

When converting springs, always convert to a spring of equal or greater wire diameter

Extension

The stretch of an extension spring is 1/2 the door height

Example: 7'H door, 84" divided by 2 = 42" of spring stretch

TORSION SPRING ENDS



Standard Torsion Spring End



Overhead Ends Up 2" ID



Wagner End 1 1/2" ID



Mini Warehouse End Various IDs



Ends in McKee & Various IDs



Crawford T-Spring End 3 - 25/32" ID



Crawford End 1-19/32" & 2-25/32" ID



Barcol End 1-13/16" ID



Rolling Steel Long End Various IDs



Rolling Steel Loops Various IDs

EXTENSION SPRING ENDS



Double Loops



Single Open Loop



Clip Ends (Std. on .207 wire & larger)



Metal Strap w/ Hole for Bolt