

NEWSLETTER

Helwig Carbon Products, Inc.

Stand Alone Brush Holder for GE Single Brush Holders



GE Part #	Size (Inches)	HPC# w/o Spring
36B465471	.750 x 1.5 x 2.97	10.751529.1.001
36B465472	.875 x 1.5 x 2.97	10.871529.1.001
36B465473	1.00 x 1.5 x 2.97	10.101529.1.001

In this edition . . .

Helwig Carbon Products, Inc.

- Stand Alone Brush Holders for GE, Pg 1
- Stock Brush Holder Program, Pg 2
- Replacement P&H Holder and Spring Replacements, Pg 4
- Helwig’s Quick Disconnect, Pg 5
- Bearing Protector, Pg 6
- Brush Holder Manufacturing Capabilities, Pg 7
- Teflon Coated Holders, Pg 8
- Adjustable Height Holders, Pg 8
- Stocked Spring Assemblies, Pg 9

HELWIG CONTACT INFORMATION

Customer Service and Order Entry

PH: 800-962-4851 FX: 800-365-3113

Email: carboncrew@helwigcarbon.com

Tech Squad for Brush and Holder Identification

Email: techsquad@helwigcarbon.com

Website

www.helwigcarbon.com

HELWIG’S STOCK CASTED SINGLE GE BRUSH HOLDER REPLACEMENT PROGRAM

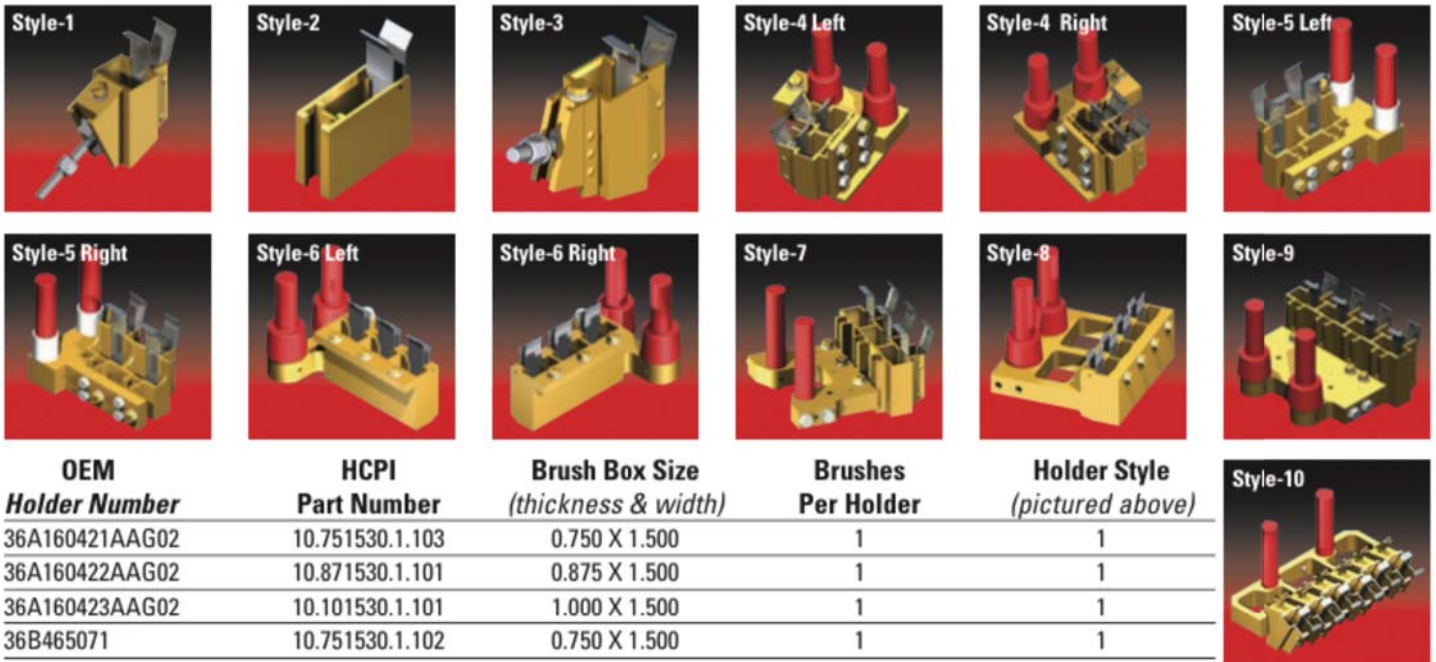
GE Part #	HCP# W/ *HQD	HCP# W/ Wear Indicator	HCP# w/HQD & Wear Indicator
36B465471	10.751529.1.401	10.751529.1.501	10.751529.1.701
36B465472	10.871529.1.401	10.871529.1.501	10.871529.1.701
36B465473	10.101529.1.401	10.101529.1.501	10.101529.1.701



HELWIG'S STOCK BRUSH HOLDER PROGRAM

Helwig's stock brush holder program enables quick delivery, bolt-on replacement, competitive prices. Add value to your repairs with the Helwig replacement holders for popular OEM motors such as General Electric, Reliance, and Westinghouse without the OEM price.

General Electric



OEM Holder Number	HCPI Part Number	Brush Box Size (thickness & width)	Brushes Per Holder	Holder Style (pictured above)
36A160421AAG02	10.751530.1.103	0.750 X 1.500	1	1
36A160422AAG02	10.871530.1.101	0.875 X 1.500	1	1
36A160423AAG02	10.101530.1.101	1.000 X 1.500	1	1
36B465071	10.751530.1.102	0.750 X 1.500	1	1
36B465072	10.871530.1.102	0.875 X 1.500	1	1
36B465073	10.101530.1.113	1.000 X 1.500	1	1
36B465471AA	10.751530.1.103	0.750 X 1.500	1	1
36B465472AA	10.871530.1.101	0.875 X 1.500	1	1
36B465473AA	10.101530.1.101	1.000 X 1.500	1	1
36B465476AAH03	10.621222.1.102	0.625 X 1.250	1	1
36B467011AAH02	21.876212.1.001	0.875 X 0.625	1	2
36B467012AAH02	10.127517.1.001	1.250 X 0.750	1	2
692B656G02	10.101230.1.101	1.000 X 1.250	1	3
Mill Motor Number				
MD606LH	10.621220.2.202	0.625 X 1.250	2	4 Left
MD606RH	10.621220.2.201	0.625 X 1.250	2	4 Right
MD608LH	10.621725.2.102	0.625 X 1.750	2	5 Left
MD608RH	10.621725.2.101	0.625 X 1.750	2	5 Right
MD610LH	10.621525.3.101	0.625 X 1.500	3	6 Left
MD610RH	10.621525.3.102	0.625 X 1.500	3	6 Right
MD612	10.751725.3.101	0.750 X 1.750	3	7
MD614	10.621525.4.101	0.625 X 1.500	4	8
MD616	10.751730.4.201	0.750 X 1.750	4	9
MD620	10.751530.6.401	0.750 X 1.500	6	10



HELWIG'S STOCK BRUSH HOLDER PROGRAM

Helwig's stock brush holder program enables quick delivery, bolt on replacement, competitive prices. Add value to your repairs with the Helwig replacement holders for popular OEM motors such as General Electric, Reliance, and Westinghouse without the OEM price.

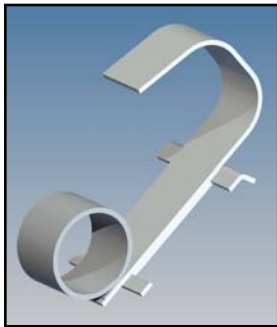
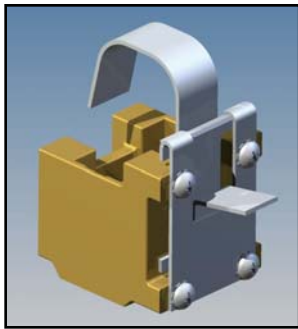
Westinghouse

OEM Holder Number	HCPI Part Number	Brush Box Size (thickness & width)	Brushes Per Holder	Holder Style (pictured above)
MC604	11.501017.2.101	0.500 X 1.000	2	W1
MC606	11.621217.2.201	0.625 X 1.250	2	W2
MC608	11.621720.2.201	0.625 X 1.750	2	W3
MC610	11.752020.2.101	0.750 X 2.000	2	W4
MC612	11.751530.2.202	0.750 X 1.500	2	W5
MC614	11.751525.3.101	0.750 X 1.500	3	W6
MC616	11.111530.3.403	1.125 X 1.500	3	W7

Reliance

OEM Holder Number	HCPI Part Number	Brush Box Size (thickness & width)	Brushes Per Holder	Holder Style (pictured above)
60941612R	13.501623.1.101	0.500 X 1.625	1	R1
6094162S	13.621623.1.101	0.625 X 1.625	1	R2
6094172R	13.751625.1.101	0.750 X 1.625	1	R2
6094172S	13.871625.1.103	0.875 X 1.625	1	R2
7003043	13.371215.1.101	0.375 X 1.250	1	R3
7003152R	13.377515.1.101	0.375 X 0.750	1	R3
W755401	13.501522.1.101	0.500 X 1.500	1	R4
W755401	13.621522.1.101	0.625 X 1.500	1	R5
W755461	13.751525.1.101	0.750 X 1.500	1	R6
W755461	13.871530.1.102	0.875 X 1.500	1	R7

HELWIG SUPPLIES REPLACEMENT HOLDERS AND SPRINGS FOR **P & H PRODUCTS**



Helwig Carbon supplies replacement holders and springs for electric shovels, blasthole drills, draglines, wheel loaders, dozers, mobile mining crushers and LeTourneau Forestry Products.

For shovel types:

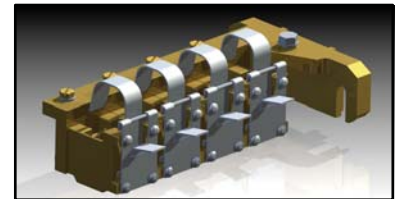
- 2100
- 2300
- 2800
- 4100
- 5700

Draglines

- 2365
- 9010C
- 9020C
- 9020XPC

Motors

- K188
- K200A
- K236
- K236A
- K286
- K300
- K300A
- K406
- K408
- K489
- K504T
- K558
- K588A
- K558B
- K695
- K700
- K700B
- K925
- K1010
- K1250
- K1560
- K1690
- KE35B
- KE41



Top: Standard Boxes

Bottom: Standard Spring Assembly

Right: Right Hand Bank Holder

HELWIG'S P&H REPLACEMENT BRUSH HOLDER PART NUMBERS

Helwig's P&H replacement brush holder.

1.000 x 01.750
65.101718.1.102

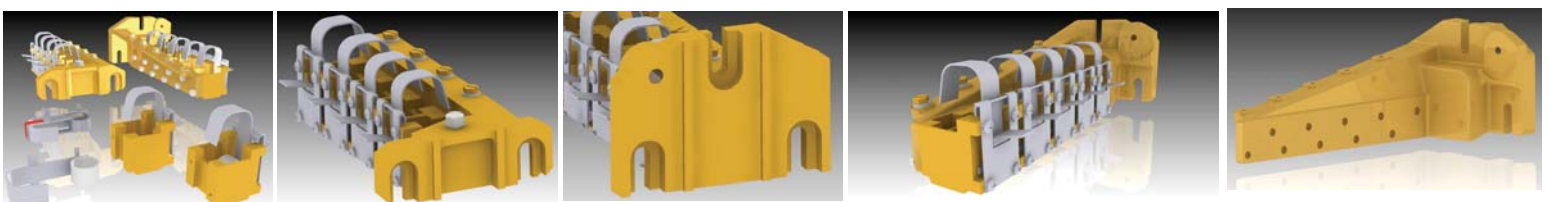
0.750 x 1.750
65.751718.1.102

1.125 x 1.750
65.111718.1.102

0.875 x 1.750
65.871718.1.102

Holder includes spring assembly and spring retainer plate.

HELWIG'S P&H REPLACEMENT BRUSH HOLDER ASSEMBLY CONFIGURATIONS



HELWIG'S P & H REPLACEMENT SPRINGS

- 7 lb PH.701062.1.01
- 9.5 lb PH.951075.1.01
- 10 lb PH.101175.1.01
- 12 lb PH.121162.1.01
- 13 lb PH.131162.1.01
- Other forces can be supplied per customer requests



HELWIG'S P & H REPLACEMENT SPRINGS WITH HELWIG WEAR INDICATOR



- Available with Helwig Wear Device
- 7 lb PH.701062.6.01
- 9.5 lb Consult Factory
- 10 lb PH.101162.6.01
- 12 lb PH.121162.6.01
- 13 lb PH.131162.6.01



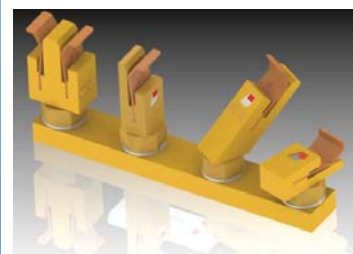
Brushes are stocked for all of the Helwig P & H holders.



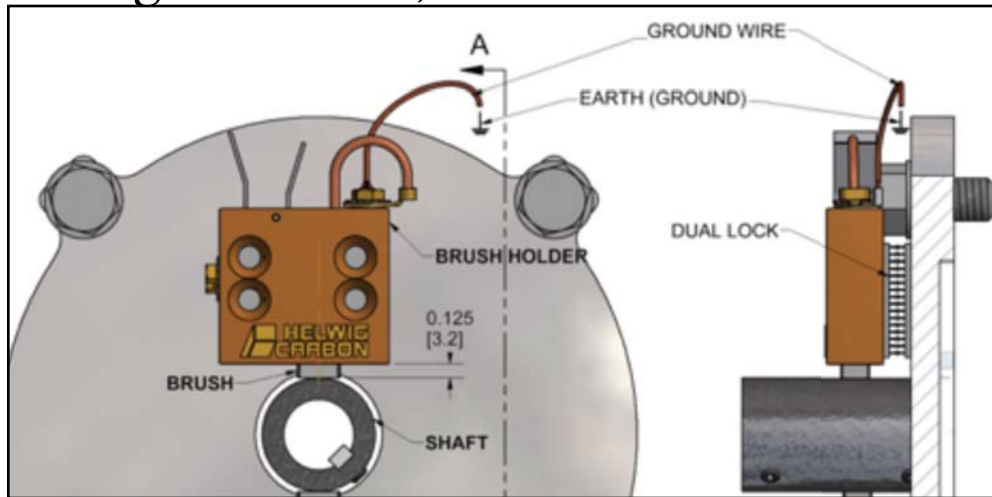
Styles In Stock		
Size	Style	Order Number
1/4-20	Straight	07.001420.1.01
1/4-20	45°	07.001420.2.01
1/4-20	90°	07.001420.3.01
1/4-20	Double Straight	07.001420.4.01
10-32	Straight	07.001032.1.01
10-32	45°	07.001032.2.01
10-32	90°	07.001032.3.01

Custom sizes available

Helwig Carbon stocks a variety of HQD's (Helwig Quick Disconnects).



Bearing Protection, The Dual Lock Alternative



Helwig Carbon Products, In. has been designing and manufacturing high quality brush holders for over 35 years.

The bearing protector brush holders are designed to be installed using two threaded bolts supplied with the holder.

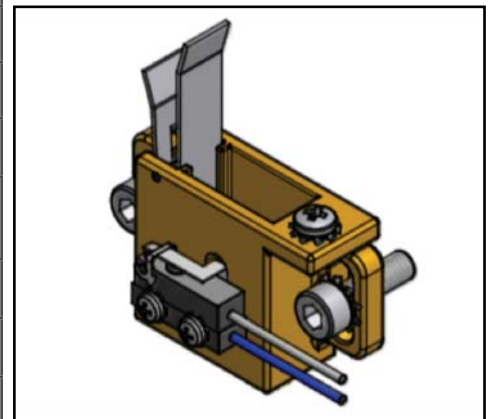
The alternate mounting method, when bolting the brush holder is not an option, uses dual lock to attached the shaft grounding assembly.

Helwig stocks a variety of shaft grounding kits.

Helwig also offers the bearing protector or switch.

Helwig Bearing Protector Brush Holder with sensor switch.

Style	Size in Inches	HCP Part Number
4 Mounting Hole Unit	(0.375 x 0.250 x 1.25)	BPK-4 (with dual-lock)
Replacement Brush (Silver)	(0.375 x 0.250 x 1.25)	10-372571
Large Bearing Protector-Adjustable Mount	(0.787 x 0.394 x 1.26)	BPK-AM
Replacement Brush (Silver)	(0.787 x 0.394 x 1.26)	30-783915-164-7-01
Internal Mount Kit	(0.125 x 0.188)	BPK-IM (bolts not included)
Replacement Brush (silver)	(0.1.25 x 0.187 x 0.875)	87-121887-108-7-01
2 Mounting Hole with Sensor	(0.787 x 0.394 x 1.26)	30.783912.1.103
Cartridge Kit	(0.125 x 0.188)	BPK-C



THE NEED FOR BEARING PROTECTION













The Bearing Protector™ is a shaft grounding assembly that diverts static and induced electrical currents in motor shafts away from the bearings. This protects the bearings from potential pitting and fluting, which causes the bearings to fail.



options available, **Helwig's Bearing Protector** provides the best choice. It offers years of service while ensuring a safe path to ground and minimizing stray currents passing through the bearings. And, unlike carbon fiber rings, the *Helwig Bearing Protector* keeps shaft voltage to a minimum.

Among the bearing protection

Helwig’s Brush Holder Manufacturing Capabilities

Data Sheet	Picture	Description	Common Uses
101		Two Post - Bank of Two	Allis Chalmers Slip Rings Power Generation Synchronous Motors
102		Single Post - Bank of Two	Slip Rings Wound Rotor Motors Synchronous Motors Power Generation
103		Plain Brush Box – Single	Foreign Manufacturers DC Motors & Generators Slip ring units
104		T-Mount Brush Holder	Reliance, Siemens, ABB DC Motors
105		Square Post Mount	Westinghouse DC Motors
106		Double Post – Bank of Two	P & H Wound Rotor Motors
107		Post Mount Brush Holder	GE, Westinghouse, Foreign Exciters, DC Motor & Generators Slip Rings – Power Generation
108		U-Mount Brush Holder	Westinghouse, GE Exciters, DC Motors & Generators
109A		Turbine Style Brush Holder – Tapped Mounting Holes	Typically GE AC Generator, Synchronous & Wound Rotor Motors Grounding
Data Sheet	Picture	Description	Common Uses
109B		Turbine Style Brush Holder – Mounting Slots	Typically Westinghouse AC Generator, Synchronous & Wound Rotor Motors Grounding
109C		Turbine Style Brush Holder – Single Mounting Slot	Typically Foreign Manufacturers AC Generator, Synchronous & Wound Rotor Motors Grounding
110		Bar Mount	GE, Reliance, Imperial, Baldor, US Motors DC Motors & Generators

Have a non-stock holder you need to replace?

Helwig’s Brush Holder Engineering Group can manufacture many brush holders based on your application.

If you are interested in a customized brush holder option, contact Daniel or Tracy at 253-853-7456.

HELWIG CONTACT INFORMATION
Customer Service and Order Entry
 PH: 800-962-4851
 FX: 800-365-3113
 Email: carboncrew@helwigcarbon.com

Tech Squad for Brush and Holder Identification
 Email: techsquad@helwigcarbon.com

Website
www.helwigcarbon.com

TEFLON COATED HOLDERS



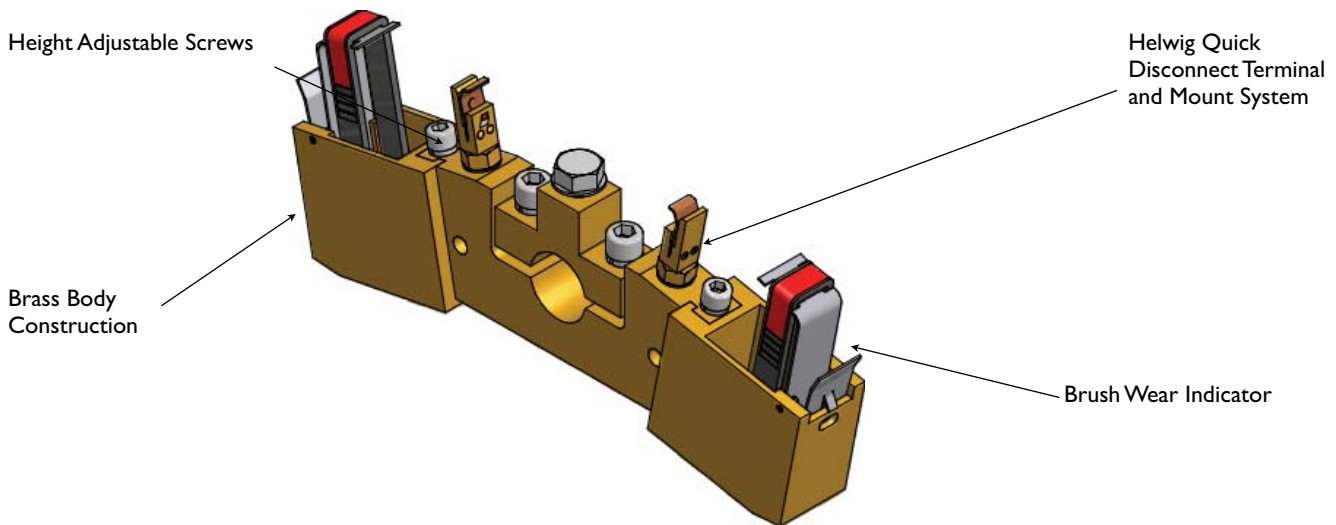
Helwig Carbon is pleased to announce a new coated brush holder for harsh industrial environments. This option is available on all types of brush holders. According to Christopher Eiteljorge, Electrical Engineer with Steel Dynamics,

“Prior to joining the department in 2010, our Pickle Line DC motors used GE brush boxes and Helwig Carbon Red Top brushes. At that time, it was commonplace to be changing brushes and brush boxes on some of our more problematic motors up to once every month due to the Hydrochloric Acid fumes experienced on a Pickle Line. Since implementing the Helwig Carbon special coated holders on these motors we have seen a significant decrease in frequency of brush and brush holder changes.

In mid-2010, our Tension Reel A motor consisted of standard GE uncoated holders with Helwig Carbon Red Top brushes while our Tension Reel B motor consisted of Helwig Carbon special coated brush holders with silver plated hardware and Helwig Carbon Red Top brushes. All of the brushes and holders were installed at the same time. Doing monthly inspections over the course of one year, every single GE brush holder had to be replaced before a single Helwig Carbon special coated holder was replaced. The special coating and silver plating provided enough resistance to the HCI atmosphere that the brushes could slide freely in their holders.

With the results that we have seen with the in-service testing described above, I plan on working with Bill Fleming from Horner Industrial Services, Inc. in Indianapolis, IN on a large order of Helwig Carbon special coated brush boxes with a goal of replacing the brush boxes in all of our problematic motors and stocking spares for each as well.”

HELWIG’S BANK OF TWO HOLDERS



85 YEARS OF INNOVATION, THE TRADITION CONTINUES

As one reflects back on the impact of the various developments it is clear today how each has had a significant impact on the progression of carbon brushes. Longer product life, better performance, and improved performance were the motives for each innovation and history has shown the successful outcome. Helwig Carbon Products, Inc. is proud to have participated in bringing this impressive list of innovations to successful completion and implementation. There is no doubt that the contributions of Helwig Carbon have prolonged the use of carbon brushes as a viable means of providing electrical power to moving surfaces.

Helwig’s Stocked Spring Assemblies

Helwig Carbon stocks many popular OEM spring assemblies. They manufacture hundreds of different constant force spring assemblies. Rush orders can ship in three days or less.

Elevator



OEM	OEM Part No.	Spring Force (#)	HCP Part No.	Spring (inch)		Length	Back Plate (inch)	
				Diam.	Width		Width	Thickness
Imperial	IM-1	1.0	IM.103737.1.01	0.375	0.375	1.610	0.594	0.031
Imperial	IM-5	2.0	IM.203725.1.01	0.375	0.250	1.610	0.594	0.031
Imperial	IM-2	2.3	IM.233775.1.01	0.375	0.750	1.820	1.000	0.030
Imperial	IM-4	3.0	IM.304062.1.01	0.400	0.625	1.830	1.000	0.040
Imperial	IM-6	1.9	IM.203262.1.01	0.320	0.625	1.830	1.000	0.040
Dover	DV-1	3.5	DV.355062.1.01	0.500	0.625	2.540	1.000	0.040
Dover	DV-3	2.5	DV.255050.1.02	0.500	0.500	2.630	1.000	0.040
Leroy-Somer	LC-CLIPS	1.0 - 4.0	Various	Various	Various	Various	Various	Various
Leroy-Somer	LR-3	1.0	LR.105025.1.02	0.500	0.250	2.210	1.300	0.040
Otis	OT-1	3.0	OT.304062.1.01	0.400	0.625	2.690	0.750	0.031

Metric



OEM	OEM Part No.	Spring Force (#)	HCP Part No.	Spring (inch)		Length	Back Plate (inch)	
				Diam.	Width		Width	Thickness
ABB	AB-45	0.8	AB.083125.1.05	0.312	0.250	1.400	0.625	0.031
ABB	AB-25	1.0	AB.103725.1.01	0.375	0.250	1.250	0.600	0.031
ABB	AB-52	1.5	AB.153718.1.01	0.375	0.187	1.500	0.625	0.031
Siemens	SI-11	0.6	SI.062525.1.01	0.250	0.250	1.030	0.460	0.025
Siemens	SI-13	1.1	SI.113125.1.01	0.312	0.250	1.030	0.460	0.025
Siemens	SI-17	1.1	SI.114625.1.01	0.465	0.250	1.030	0.460	0.025
Siemens	SI-12	2.25	SI.226237.1.01	0.625	0.375	1.300	0.610	0.031
Toshiba	TS-14	6.0	TS.608775.1.01	0.875	0.750	3.260	0.866	0.040

Helwig’s Stocked Spring Assemblies

Industrial



OEM	OEM Part No.	Spring Force (#)	HCP Part No.	Spring (inch)		Length	Back Plate (inch)	
				Diam.	Width		Width	Thickness
General Electric	GE-44	4.0	GE.407550.1.01	0.750	0.500	2.200	0.700	0.031
General Electric	GE-50	2.2	GE.226237.1.02	0.625	0.375	1.590	0.580	0.025
General Electric	GE-86	4.5	GE.457550.1.02	0.750	0.500	2.340	0.625	0.042
General Electric	GE-81	6.0	GE.606262.2.04	0.620	0.625	3.330	0.740	0.040
General Electric	GE-82	7.0	GE.706862.2.04	0.680	0.625	3.330	0.740	0.040
General Electric	GE-83	8.0	GE.808162.1.03	0.810	0.625	3.330	0.740	0.040
General Electric	GE-81W	6.0	GE.606262.6.03	0.620	0.625	3.340	0.740	0.040
General Electric	GE-82W	7.0	GE.706862.6.03	0.680	0.625	3.340	0.740	0.040
General Electric	GE-83W	8.0	GE.808162.5.01	0.810	0.625	3.340	0.740	0.040
General Electric	GE-83H	8.0	GE.806862.2.03	0.687	0.625	3.740	0.740	0.040
General Electric	GE-138	8.0	GE.801050.2.01	1.000	0.500	3.780	0.690	0.042
General Electric	GE-11W	6.0	GE.601050.5.01	1.000	0.500	3.780	0.687	0.042
General Electric	GE-10	2.5	GE.257550.1.01	0.750	0.500	3.710	0.750	0.050

Other OEM Clips



OEM	OEM Part No.	Spring Force (#)	HCP Part No.	Spring (inch)		Length	Back Plate (inch)	
				Diam.	Width		Width	Thickness
A. O. Smith	AO-4	1.1	AO.113125.1.01	0.312	0.250	1.420	0.470	0.031
A. O. Smith	AO-6	2.0	AO.203750.1.02	0.375	0.500	2.150	0.750	0.040
Reliance	RE-68	2.0	RE.204337.1.01	0.437	0.375	1.970	0.625	0.031
Reliance	609 Holder Series	6.0	01.605062.1.02	0.500	0.625	3.020	1.000	0.040
Reliance	609 Holder Series	7.0	01.706862.2.01	0.680	0.625	3.020	1.000	0.040
Reliance	609 Holder Series	8.0	01.806862.2.11	0.680	0.625	3.020	1.000	0.040
U.S. Motors	US-2	1.5	US.153737.1.01	0.375	0.375	1.600	0.563	0.031
U.S. Motors	US-3	2.0	US.203725.1.01	0.375	0.250	1.600	0.563	0.031
U.S. Motors	US-6	6.0	US.607562.1.01	0.750	0.625	3.330	1.000	0.040
Emerson	EN-6	4.0	EN.408543.1.01	0.850	0.437	2.690	0.625	0.031
P&H	PH-3	2.5	PH.258725.1.01	0.875	0.250	2.280	0.500	0.031
Westinghouse	WE-5	1.5	WE.153737.1.01	0.375	0.375	2.000	0.625	0.042
Westinghouse	WE-8	2.0	WE.203725.1.01	0.375	0.250	2.700	0.625	0.040
Westinghouse	WE-11A	3.0	WE.304062.1.02	0.400	0.625	2.700	1.000	0.040
Westinghouse	WE-13	4.25	WE.425562.1.01	0.550	0.625	2.700	1.000	0.040
Westinghouse	WE-103	9.0	WE.901062.6.01	1.000	0.625	3.140	0.750	0.040

HELWIG CONTACT
INFORMATION

**Customer Service and Order
Entry**

PH: 800-962-4851
FX: 800-365-3113
Email:
carboncrew@helwigcarbon.com

**Tech Squad for Brush and
Holder Identification**

Email:
techsquad@helwigcarbon.com

Website
www.helwigcarbon.com

Contributors


DAN PERKINS
PH: 253-853-7456
Email:
daniel.perkins@perkinspowerproducts.com


TRACY PERKINS
PH: 253-853-7456
Email:
tracy.perkins@perkinspowerproducts.com

PERKINS POWER PRODUCTS, LLC
Visit us on the web:
perkinspowerproducts.com.

