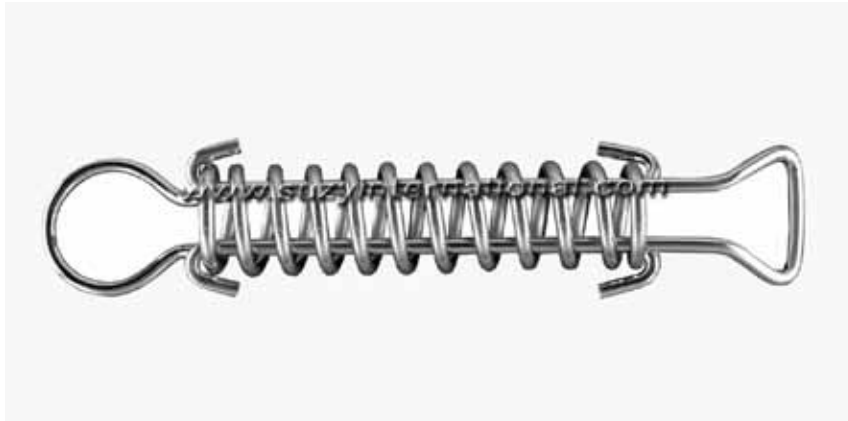




HEAVY DUTY LARGE SPRING

PRODUCT INFORMATION AND INSTALLATION BROCHURE



Introduction

Our Heavy Duty Large Drawbar Compression Springs are assemblies in which the spring will compress as the drawbar arms extend under an applied load. In this type of design with the help of drawbars, compression spring function as an extension spring and also minimize buckling of the spring. Springs are very important component for any swimming pool safety cover for providing a nice taut drum fit to the cover. A loose cover will allow wind-whipping which may result in coping wear on the fabric of your swimming pool cover around the edge. Our Heavy Duty Large Springs are the most conventional hardware used for fastening and providing drum tight fitting to swimming pool safety

Highly reliable in handling overload situations

Our Heavy Duty Large Springs are manufactured from a heavy gauge 302, 304 OR 304L stainless steel wire depending on customer's choice and are often capable of withstanding loads far in excess of the compression spring closing force and should be considered in applications where a positive stop or overload protection is required.

Long functional life and endurance

Drawbar compression springs are designed with a safe stress at the solid height so that it will not take a permanent set.

Eliminating overstretching

The drawbar ends are closed, but not ground. One of the features is that such springs have a fixed stop when the spring goes solid, thereby eliminating overstretching.

Ease of Use

Our Heavy Duty Large Springs can be easily attached to the swimming pool cover strap with the help of a strap buckle and are easy to engage on Brass Anchor Insert with the help of an Installation Rod.

Corrosion resistance

Our Heavy Duty Large Springs are manufactured from high grade 302,304 or 304L stainless steel and are electroplated to provide corrosion resistance, thus suitable for use near water and most other chemicals used in swimming pool maintenance.

Quality

For manufacturing these products, we bring into process raw materials of high grade and are processed to give a shape in best industrial conditions.

Packing options

If tangling is a problem we can assist by offering a number of customized packing options including vacuum formed plastic trays or individual wrapping.

Optional



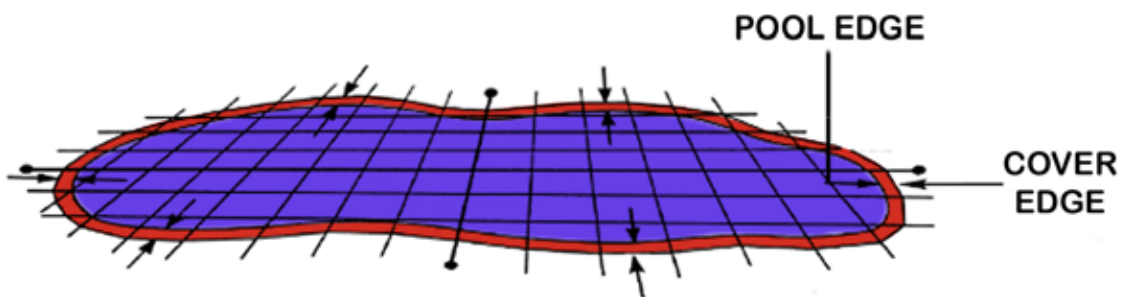
Our Heavy Duty Large Springs are also available with Square Ring attached at the strap end of the spring as an option.

IMPORTANT:

Once you have chosen and installed appropriate anchor device in proper position, its time to attach springs to the Swimming Pool Cover Straps. This product brochure gives information only on how to best install Heavy Duty Large Spring. For choice and installation of appropriate anchor device, please refer to the installation manual that came with your swimming pool safety cover or ask your swimming pool safety cover provider or manufacturer for the same. For additional general guidance on installation of swimming pool safety cover you can download our swimming pool safety cover installation guidance pdf from our download section. Suzy International holds no responsibility for Guarantee or Warranty voidance due to improper installation of your swimming pool safety cover or any other possible reasons that affects you Guarantee or Warranty, and also any other consequences arising during or after installation of your swimming pool safety cover. Information provided here by Suzy International is with sole intention to demonstrate different ways of installation of swimming pool safety cover hardware and Suzy International has nothing to do with Guarantee or Warranty policy of individual companies selling swimming pool safety cover. Please refer to Disclaimer of Suzy International before beginning installation procedure of you swimming pool safety cover.

ADJUSTING COVER

Adjust the cover so that it overlaps the swimming pool evenly on all sides and corners. Generally, rectangular covers up to 1200 sq. ft. will overlap the pool by 12" approx. , rectangular covers between 1200 sq. ft. and 1800 sq. ft. will overlap the pool by 15" approx. , and rectangular covers over 1800 sq. ft. and freeform pool covers will overlap the pool by approximately 18". Solid covers usually have at least 15" to 18" of overlap. Although these overlap values for swimming pool safety covers are approximate and may vary slightly.

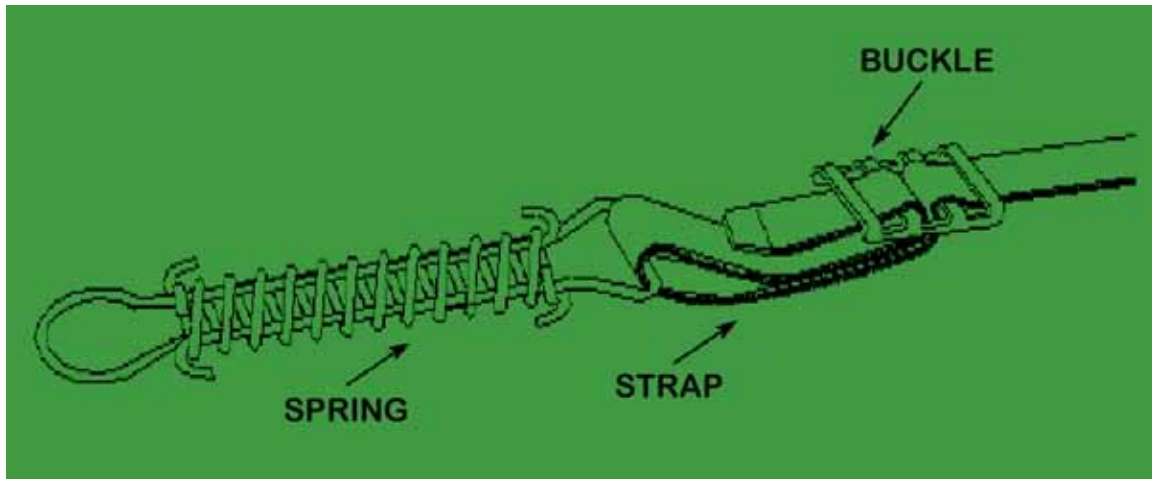


EVEN OVERLAP ALL AROUND

Attach springs to all straps of the pool cover. The illustrations below shows proper buckle assembly for both, spring with or without a square ring attached to it.

FOR SPRING WITHOUT SQUARE RING

Attach springs to straps by threading the strap through the spring and back through the buckle on the strap. Use the following diagram as a guide.

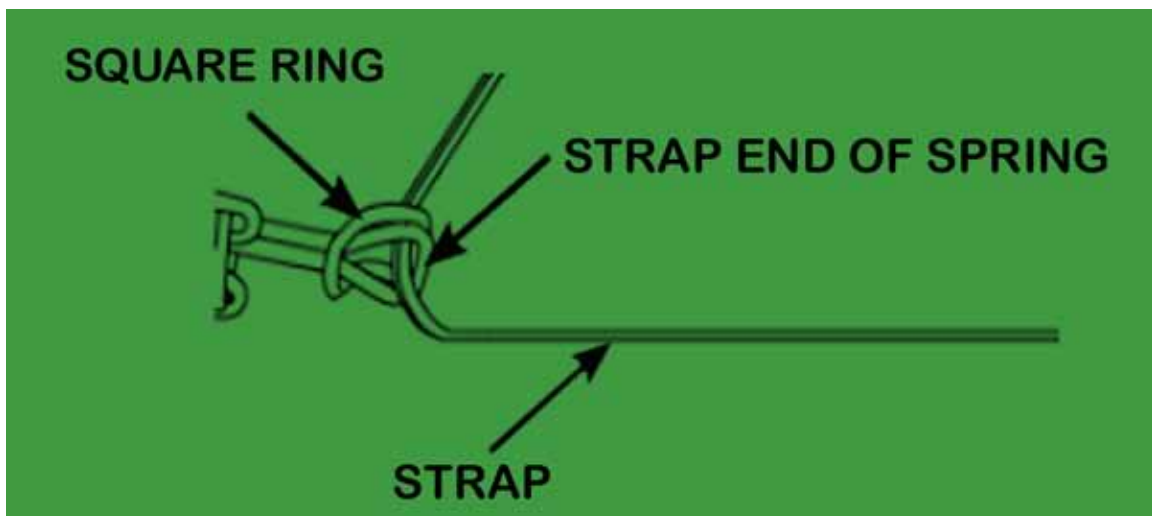


FOR SPRING WITH SQUARE RING

Follow step 1 through 3

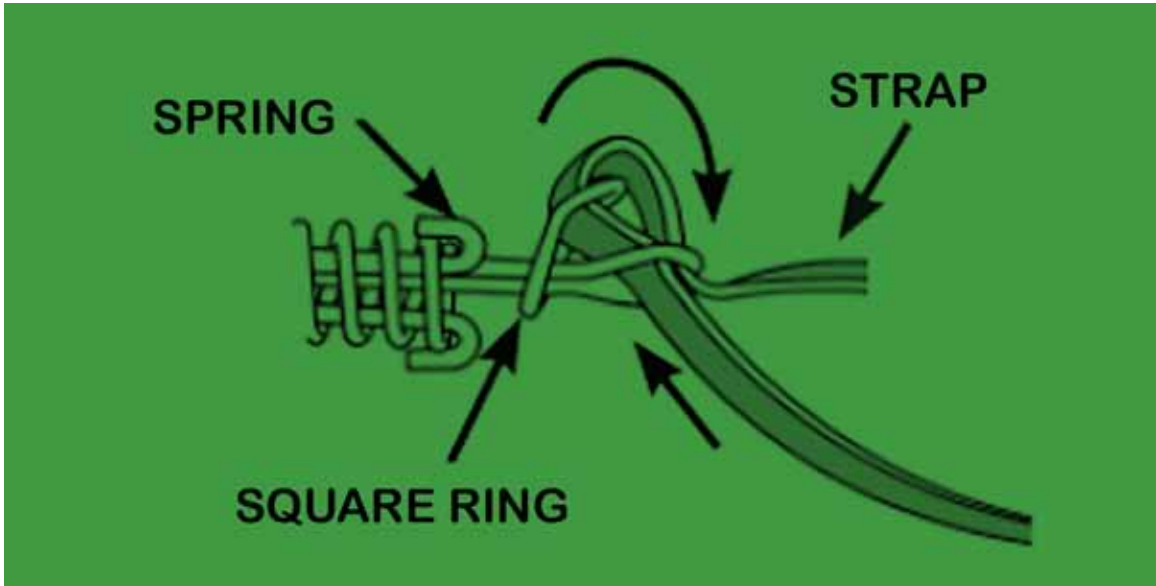
Step 1:

Feed the strap flat up through the spring end and then up through the square ring from the bottom.



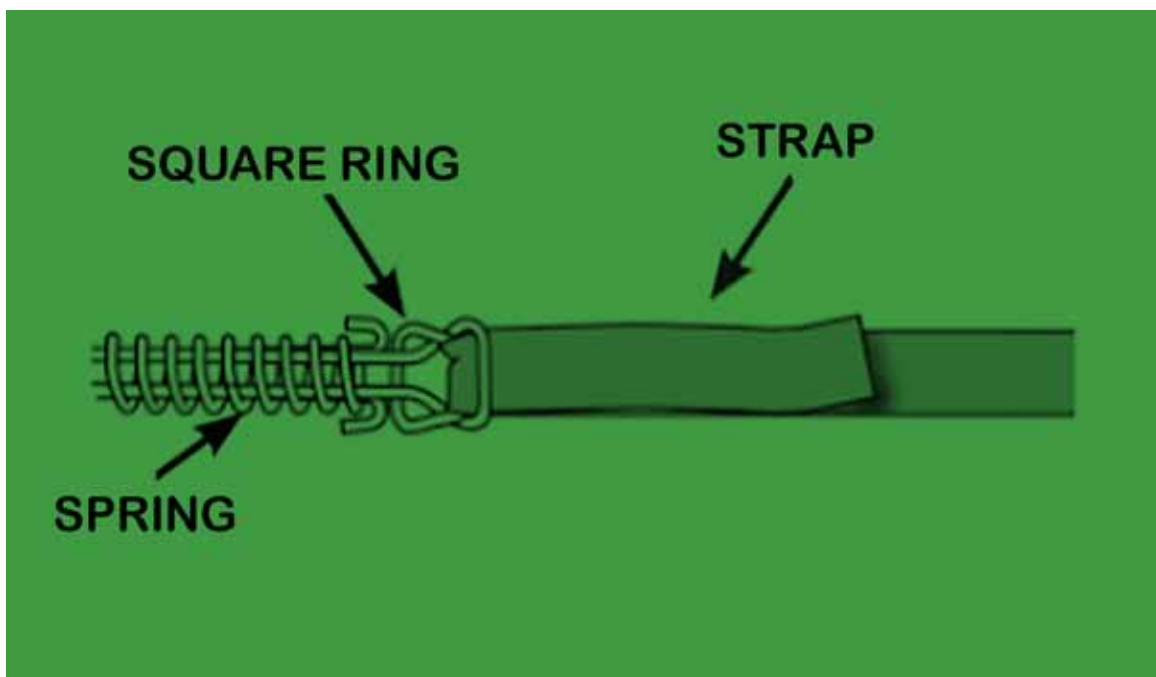
Step 2:

Loop the strap around the square ring and back through the spring end as shown.



Step 3:

Bring the end out on top of the strap that leads back to the pool cover. Pull the loose end of the strap to tighten.



Suzy International recommends that for any new installation of swimming pool safety cover, initially the straps should be tightened so that springs are compressed about 75% or more. This is required as the cover stretches slightly and gradually the tension will lessen and springs should adjust to their normal position.

Note: A correctly positioned Anchor should be ideally located 20” away from the pool cover’s edge. The correct anchor distance back from the pool edge is the cover overlap plus this 20”. This allows positioning of the spring to be about 10” away from the pool cover’s edge which facilitates adjustment of the spring position later if needed.

GENERAL INFORMATION ABOUT MOST COMMONLY USED MATERIALS BY SUZY INTERNATIONAL FOR MANUFACTURING SPRINGS

(Customer ordering large quantities can choose any one material type from below or specify any specific material requirements at the time of ordering)

Material Types: 300 Series Austenitic Stainless Steel
Type 302
Type 304
Type 304L

Material Group: Stainless Steel Wire

Stainless Steel Springs Description:

Our Drawbar Compression Springs are manufactured from austenitic stainless steel type 302,304 or 304L. Austenitic stainless steels are iron-chromium-nickel alloys which are hardened only by cold working. Nickel is the main element carried within the alloys of this class while carbon is kept to low levels. The nickel content may be varied from about 4% to 22% - higher values of nickel are added to increase ductility of the metal. When chromium is increased to raise the corrosion resistance of the metal, nickel must also be increased to maintain the austenitic structure.

These alloys are slightly magnetic in the cold-worked condition, but are essentially non-magnetic in the annealed condition in which they are most often used. The austenitic types feature adaptability to cold forming, ease of welding, high-temperature service and in general, the highest corrosion resistance. Surface of these stainless steels may have a residue of nickel. This is normal and will not affect the function of the part.

Following are brief descriptions of some of the most commonly used materials by Suzy International for manufacturing Drawbar Compression Springs:

Type 302 stainless steel is a general purpose material with greater corrosion resistance but less work hardening than type 301. This is the basic alloy of the austenitic group often referred to as 18:8 stainless steel.

Type 304 stainless steel has lower carbon to minimize carbide precipitation. It is less heat sensitive than other 18:8 stainless steels. Used in high-temperature applications.

Type 304L stainless steel has an extra low carbon content to avoid harmful carbide precipitation in welding applications. Its corrosion resistance is comparable to type 304.

Typical Analysis in Percent

Type#	UNS#	C	Cr	Ni	Mn	Si	S	P	Mo
302	S30200	.15	17-19	8-10	2.0	1.0	.03	.04	
304	S30400	.08	18-20	8-12	2.0	1.0	.03	.04	
304 L	S30403	.03	18-20	8-12	2.0	1.0	.03	.04	

(Percent maximum unless stated as a range or minimum)

Other impurities do not preclude the possible presence of other unnamed elements. However, analysis shall be regularly made only for the alloying elements listed in the table. The major element that is not analyzed shall be determined by difference between the sum of those elements analyzed and 100 percent. By agreement between the manufacturer and the purchaser, the limits may be established for elements not specified and analysis done.

Typical Physical Properties

Type#	Density lb/in ³	Specific Heat BTU/ °F/lb 0-100 °C	Thermal Conductivity BTU/Ft ² /Ft/ Hr/°F 100 °C	Coefficient of Thermal Expansion Per °F x 10 ⁻⁶ 0-100 °C	Electrical Resistivity Microhm-cm 21 °C	Magnetic Permeability (Annealed) μ
302	.29	.12	9.4	9.6	72.0	1.008
304	.29	.12	9.4	9.6	70.0	1.008
304 L	.29	.12	9.4	9.6	70.0	1.008

Typical Mechanical Properties

(Annealed Cond.) Type#	Tensile Strength 1000Psi	Yield Strength 1000 Psi	Elongation in 2 Inches, %	Reduction of Area, %	Brinell Hardness
302	90	40	55	70	150
304	85	35	55	70	150
304L	80	30	55	70	140

Disclaimer

some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. All materials specifications are provided for general reference purposes only. Material specification may vary or be subjected to change. This information is provided “as is” and Suzy International makes no warranty of any kind with respect to the subject matter or accuracy of the information contained herein. Suzy International specifically disclaims all warranties, expressed, implied or otherwise, including without limitation, all warranties of merchantability and fitness for a particular purpose. In no event shall Suzy International be liable for any special, incidental, indirect or consequential damages of any kind or any damages whatsoever resulting from loss of use, data, profits, whether or not advised of the possibility of damage, and on any theory of liability, arising out of or in connection with the use of the information contained herein. This publication may include technical inaccuracies or typographical errors. Changes may be periodically made to the information herein.

Custom Spring Design:

Drawbar Compression Spring design considerations are numerous. Spring Engineers can assist you in your design efforts if you just provide a few basic spring design parameters. An effective compression spring design has four operating requirements to satisfy. Energy, Space, Environment and Service. Mix these operating specifications well, run them through a quality spring design program and you'll have the best spring possible for your application.

To request for exact dimensions or technical information for this product, please contact:

techinfo@suzyinternational.com

Suzy International provides following additional services to their customers as a routine:

- Suzy International is a manufacturer and hence apart from our standard products, we can also customized and provide product according to our customer's specification and design.
- We provide customized labeling on product as well as on packaging and we have different packing options with standard size wooden pallet for handling and storage efficiency.
- We have a team of highly qualified engineers and technical staff that provides technical support to our customers in developing new product or designs.
- We have a dedicated team that gives you prompt response regarding any issue arising while the product is in the manufacturing process, or in transit or even after delivery.
- We have varied shipping options in order to cater to the customer's specific transportation needs – from our factory to customer's desired destination.

Suzy International assures complete peace of mind for their customers, by handling virtually all the parameters and aspects – right from customer placing an order to receipt of finished goods at customer's end.

OUR PRODUCTS

BRASS ANCHORS

Standard Concrete Brass Anchor
Single Knurling Concrete Brass Anchor
Double Knurling Concrete Brass Anchor
Single Twist Pop-up Concrete Brass Anchor
Wood Deck Brass Anchor

DRAWBAR COMPRESSION SPRINGS

Heavy Duty Large Spring
Heavy Duty Small Spring
Medium Duty Large Spring
Medium Duty Small Spring
Heavy Duty Double Coil Spring
Medium Duty Double Coil Spring

ALUMINIUM GARDEN SPIKE/STAKES

Aluminium Garden Spike

Standard Aluminium Pipe Anchor Assembly

Tapered End Aluminium Pipe Anchor Assembly

Crimped Head Aluminium Pipe Anchor Assembly

MISCELLANEOUS PRODUCTS

S.S. Buckle

Aluminium Cup

D-Ring

Square Ring

Brass Anchor Collar

Small Spring Cover

Large Spring Cover

Double Coil Spring Cover

Large Wall Anchor Bolt

Small Wall Anchor Bolt

Thunder Bolt

Allen Wrench

Temping Tool Standard

Temping Tool Aluminium

Installation Rod

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