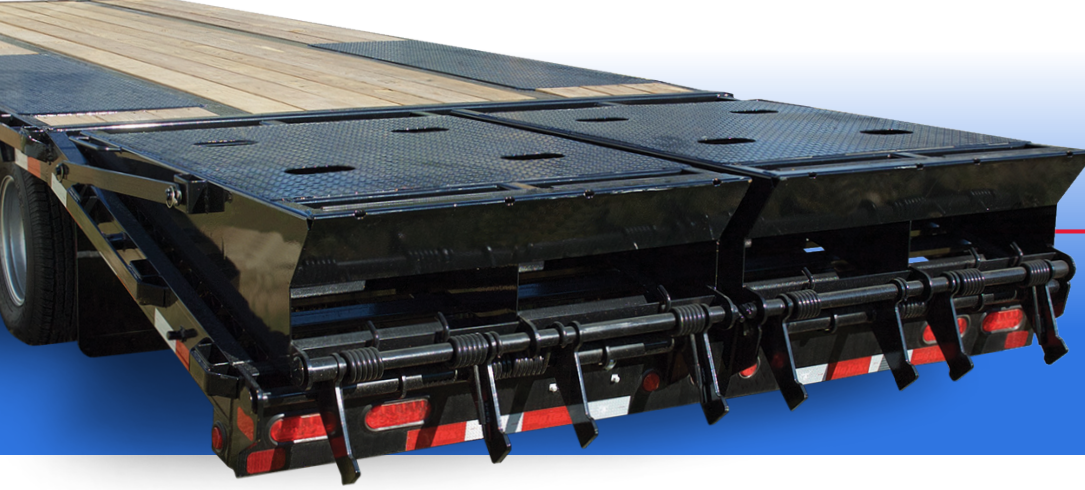




WERMKE
SPRING MANUFACTURING CO.

"Serving Industry Since 1953"

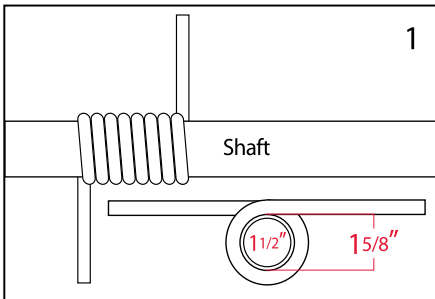
RAMP SPRINGS



EZ Lift Ramp Springs for Trailers of All Shapes, Sizes, and Uses.

Wermke Ramp Springs can aid and assist a person to lift heavy ramps that hinge mount on the back of trailers. Ramp springs that are stock at Wermke Spring can be universal and fit most ramp applications.

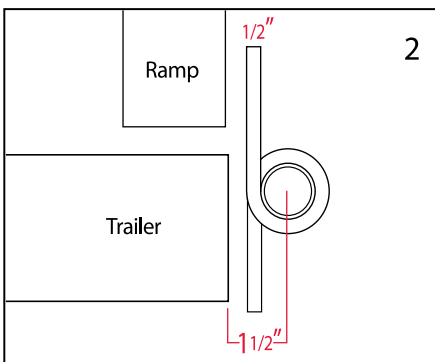
The specifications for these springs are as follows:



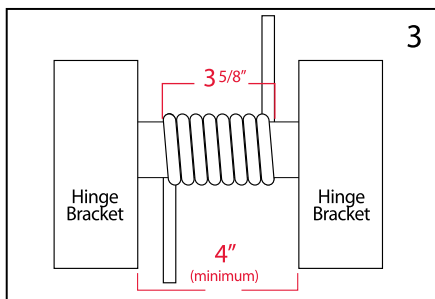
- 1.) Maximum outside diameter of shaft that the spring will work over: 1 1/2" (inside diameter of spring-1 5/8")
- 2.) Minimum distance needed from the center of the shaft to the edge of the ramp or center of the shaft to the edge of the trailer frame = 1 1/2" (spring wire diameter is 1/2")

Example:

If the shaft diameter is 1 1/2", half the diameter is the center of the shaft. (1 1/2" = 3/4")
 3/4" (half of shaft diameter) + 1/2" (spring wire diameter) = 1 1/4", which allows 1/4" gap between the outside of the spring and the trailer frame for the spring to have clearance to operate.



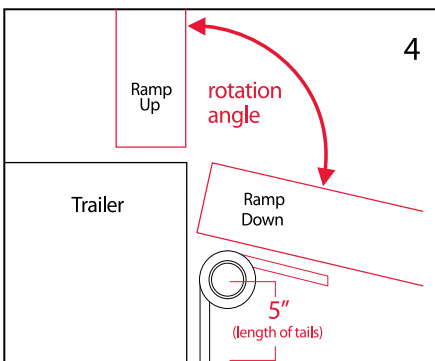
- 3.) Minimum width needed between the hinge points on ramp is 4" (area inside the hinge bracket that holds "shaft" the spring is mounted on). Spring body length is 3 5/8" but will expand (get longer) when in loaded position.
- 4.) Spring tails can deflect 125 degrees. This is the degree angle movement the spring assists the operator on raising and lowering the ramp. The ramp may be raised more than 125 degrees, but there will not be any load assist beyond the 125 degrees of movement by the spring tails.



- 5.) Torque of this spring is 2000 in/lbs. at 90 degree deflection. Example: two springs will suspend a ramp 12" wide by 48" long weighing approximately 167lbs., at a 90 degree angle without assistance from the operator.

To figure an approximate torque needed for a particular ramp use the following:

- a.) Find the weight of the ramp
- b.) Find the length of the ramp in inches.
- c.) Divide the length by 2, then multiply by the weight. If 4000 in/lbs. of torque is needed, use two springs. Remember to allow 4" (4" x 2 springs = 8") width (space) per spring between the hinge points on the mounting brackets to accommodate the length of two springs. If 6000 in/lbs of torque is needed use three springs, etc.



- 6.) Direction of coils on springs: left hand & right hand wind.
 - a.) Lay the spring on its side (resting on ends of spring coils) looking at end of coils.
 - b.) Follow the coils as they are down and away.
 - c.) If the movement is counter clockwise than this is a left hand wind, clockwise is a right hand wind.

It is important to note that when a spring is in use, or when the ramp is being lowered, the coils need to be compounding or tightening. Torsion springs are not meant to unwind, this can cause premature failure.

- 7.) Installation: DO NOT weld springs on. Very high temperatures will change the molecular structure of the spring material, causing it to become weak & brittle. Best way to install springs is by a mechanical attachment. Tails of springs can be cut by torch or abrasive wheel if less length is needed.

