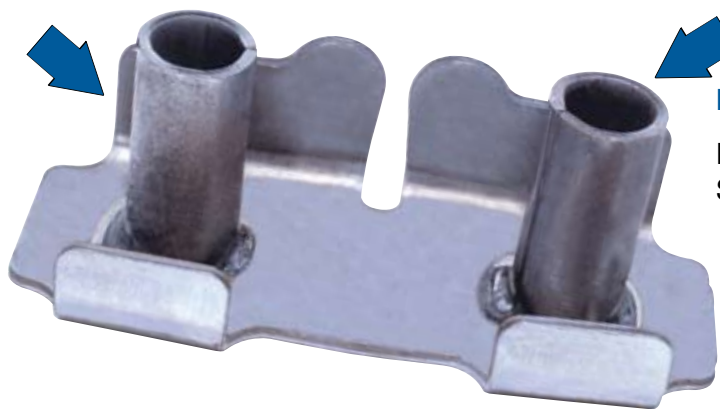


SPIROL SPACER APPLICATIONS



BUMPER BRACKET

Reinforces flange for bolt compression.
Spacer is welded into place.

WINDSHIELD WASHER FLUID RESERVOIR

Reinforces plastic inlet/outlet tubes for hose clamping.



AUTOMOTIVE CHASSIS FRAME BRACKET

Reinforces hollow rectangular frame.
Spacer is welded to bracket that fits into frame.

FURNITURE/APPLIANCE FOOT COMPONENT

Separates the retention spring which is pushed into leg channel from the base. A threaded rivet passes through spacer to hold the assembly together and receive adjustable foot or castor.



TWO CYCLE SMALL ENGINE MUFFLER EXHAUSE TUBE

Rolled butted tube replaced cut tube and is welded into place.



UTILITY CART CASTOR WHEEL

Spacer is press fitted into wheel. It absorbs bolt pressure and prevents collapse of leg forks to ensure free rotation of wheel.

SHOULDER BOLT FOR DAMPENING FOOT

Spacer is staked to bolt, in some cases, after assembly of washer.

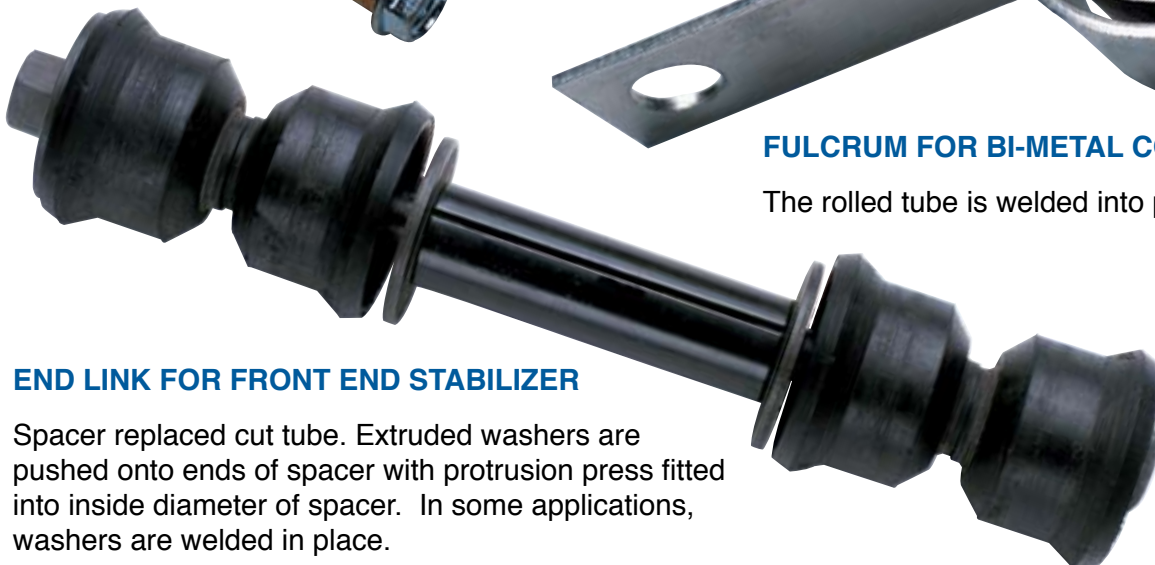


FULCRUM FOR BI-METAL COIL

The rolled tube is welded into place.

END LINK FOR FRONT END STABILIZER

Spacer replaced cut tube. Extruded washers are pushed onto ends of spacer with protrusion press fitted into inside diameter of spacer. In some applications, washers are welded in place.



SPIROL®

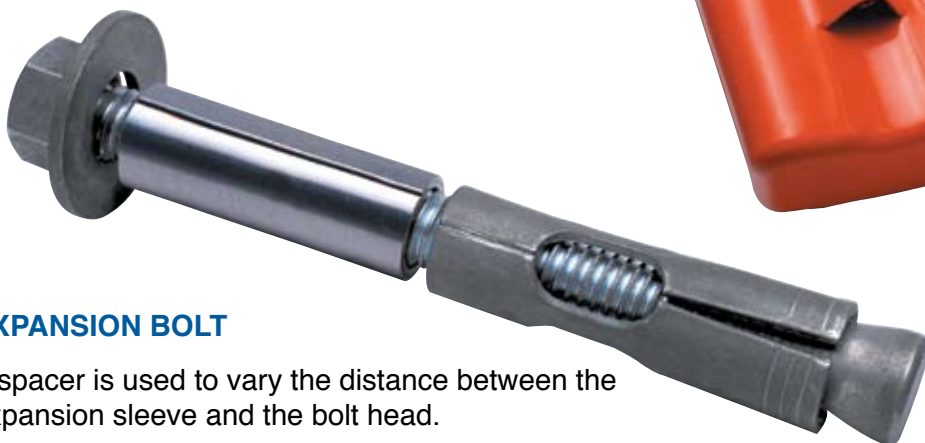
BATTERY PACK FOR MINER'S LIGHT

Spacers are used as belt retention loops and are held in place with a bolt passing through the inside diameter of the spacer.



EXPANSION BOLT

A spacer is used to vary the distance between the expansion sleeve and the bolt head.



UTILITY CART WHEEL ASSEMBLY

Headed spacer is riveted into place to replace bolt or rivet. Wheel has spacer to prevent fork compression.



RAIN GUTTER SPACER

Spacer reinforces rain gutter when being installed.



WHEEL CHAIR

Spacers are used to separate hand wheel from wheel as well as in several other locations to replace cut-off tubing.



RUBBER GROMMET RETAINER

The tubular part is used as a compression ring to hold a rubber grommet in position.



FLANGE HINGE

A traditional spacer application to eliminate flange collapse when bolt is torqued on installation to achieve the desired friction fit.



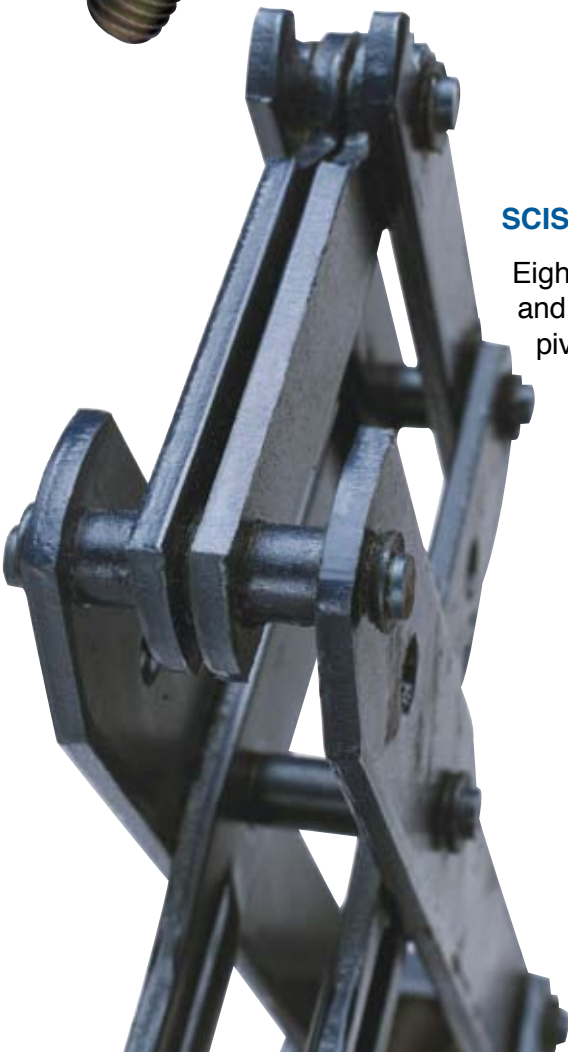
LEAF SPRING

Hardened spacers are force fitted into the inside diameters of rubber absorption grommets. They absorb bolt compression force and isolate bolt pressure from the rubber grommet.



SCISSOR JACK

Eight spacers are used as distance bushings and reinforcements (welded into place) in the pivot joints.



CASTOR WHEEL SOCKET (CASTOR NIB)

The rolled tube is welded to leg. Socket stem with locking ring is press fitted into inside diameter of the tube.



