

Campbell Lifting Clamps

Campbell clamps are known and used throughout the world for lifting, conveying and positioning of sheet, plate, weldments and structurals. The heavier the load, the tighter they grip. Parts are drop forged for strength, dependability and long life, and all clamps are individually proof tested. Replacement parts are available when needed. If you have any doubts as to the clamp best suited to your application, contact your Apex Tool Group salesman.

NOTICE: The product specifications and dimensions are as accurate as possible at the time of printing. However, because we are constantly improving the quality and design of our products, they can change without notice.

All Working Load Limits are expressed in Metric Tons.
1 Metric Ton = 2,204.6 lbs.

WARNING

1. Do not exceed Working Load Limit stamped on Clamp body.
2. Inspect clamp before each lift.
3. Stand clear of load when lifting.
4. Position clamp to balance load.
5. Insert plate or unit to full depth of throat opening.
6. Lift slowly and smoothly. Do not jerk load.
7. Do not lift more than one plate or sheet at a time.
8. Do not use a damaged clamp.
9. Read manufacturer's instructions before using clamps.
10. Do not use any Campbell clamp to lift tapered plates or beams.
11. When lifting plates with a hardness over 43 Rockwell C/400 BRINELL, use non-marring clamps only.
12. Campbell clamps are designed to be used at temperatures between 0°F and 200°F.

Inspection, Maintenance & Repair

It is important to establish a regular procedure for clamp inspection. Frequency of inspection will depend upon the amount of use the clamp receives. Campbell clamps are built to withstand rough treatment, however, grit, dirt, sludge and mud should be removed. This may be done easily by immersing the entire clamp in a can of degreaser and leaving it there overnight. Also, periodic oiling of all pins

and rivets will improve performance and help to extend the life of the clamp. You may wish to maintain a written record, indicating inspection dates, condition of the clamp on each of those dates, and any repairs made. Inspection records should be reviewed periodically.

Inspection Procedure

1. Cams—These are the parts likely to receive most wear. The amount of wear, of course, bears a direct relationship to the use the cam receives. Continued usage of plates of the same thickness will result in wear in only one area of the working surface of the cam, and will eventually require that the cam be replaced. The harder the plate is, the sooner the cam will be worn. A simple visual inspection of the cam is all that is required in most cases. The surfaces of the cam should be compared with unused surfaces. If any one tooth is worn or chipped more than 50% along the length of its crown, the cam should be replaced.

Note: The Pad and Cam should be replaced at the same time.

2. Pads—The pads of "GX" and "E" clamps are held in with a bolt and can be replaced simply by removing the bolt. If any one tooth is worn or chipped more than 50% along the length of its crown, the pad should be replaced.

Note: The Pad and Cam should be replaced at the same time.

3. Spread Jaw—Check the throat width of the clamp. At zero grip, the cam should be in full contact with the pad. If the width at the base (where the pad is located) is greater than the width at the top, the clamp has been overloaded and should be replaced.

Warning: Do not weld on the clamp body, as this may destroy the original heat treatment.

4. Linkage and Shackle Inspection—To remove the linkage from a "GX" clamp, remove the load pins from the body. The pins do not rotate, and under normal load

do not require replacement. They should be inspected for bending, which is caused by overloads, and replaced as needed. Inspect the shackle for bending at the rivet, which is an indication of side pull. If this is a recurrent fault, use a chain connector on the clamp.

5. Rivet Inspection—Rivets may require replacement when a very loose connection is detected. Linkage should normally be free working. Should a rivet hole in the shackle, radius link or connecting link become stretched or enlarged (usually resulting from overloading), those parts should be replaced. It is advisable to replace the rivet as well. To replace any worn parts, drive rivets out over a relief opening, such as a small section of pipe or the opening in a vise.

Warning: Do not weld or substitute bolts for rivets. Check connecting links to ascertain that they are not bent.

6. Spring inspection—The spring should be of sufficient strength to hold the cam against the pad. If it is not, the spring should be replaced. In the case of the "E" clamp, the spring should be replaced if it fails to provide initial pressure at near zero grip.

7. Chains—Chains supplied with clamps should also be inspected carefully. To do this, use a Campbell wear gauge. Inspect chains link by link, checking for distorted, stretched or cracked links, nicks or gouges, pitted links and excessive wear of bearing surfaces and barrels.



WARNING

- The clamps in this catalog are not intended to serve as a permanent connection to a plate or other object.
- The grip depends on friction and a camming action. If the gripping surfaces are not properly maintained and the clamp is improperly used, the load may fall.
- Use extreme caution where overhead lifting is involved or where a failure could cause property damage or personal injury.
- Read maintenance materials and use instructions.