

Model SAC

VERTICAL LIFT
VERTICAL TURN/LIFT
HORIZONTAL LIFT

SCREW-ADJUSTED CAM



Figure 30

APPLICATION

The SAC clamp (Fig. 30) is capable of handling steel plate or fabricated structures from horizontal through a 180 degree arc. The SAC clamp has a convex, serrated cam that swivels on a ball joint. This clamp has a minimum number of moving parts.

OPERATION

Step 1

Before using any Campbell® clamp, refer to the Applications section at the beginning of this manual to be sure the lift to be made is appropriate for the size and style of clamp. Know the type of material to be moved before making a lift. Some exotic steels are too hard to allow the teeth of the cam to sink in. This may be true of structural members and fabricated sections.

⚠ WARNING! Do not lift a plate or member with a hardness greater than 400 Brinell (43 Rockwell C)

Step 2

Select a clamp with the appropriate capacity and grip range. The model designation, capacity and grip range are indicated on the face of the clamp.

⚠ WARNING! Never lift a weight greater than the Working Load Limit shown on the clamp.

Step 3

Inspect the clamp before each lift (Fig. 31).

- A. Inspect the cam and pad for wear and defects. Gripping surfaces must be free of foreign matter. If either the cam or pad are worn or defective, replace the cam and pad at the same time.
- B. Inspect the shackle and visible linkage for elongation, distortion, wear or damage.
- C. Inspect the clamp body for wear, damage or distortion.
- D. Do not use any clamp that needs repair.



Figure 31

If in doubt, refer to the Maintenance and Inspection section of this manual for detailed instructions.

Step 4

Determine if more than one sling is required to balance the load. When the size or shape of a plate or fabricated section is too large for one clamp to properly balance the load, the use of a multiple sling or spreader bar is required (Fig. 32).

- A. All clamps used in a multiple sling or spreader bar assembly must be rated at the same capacity.
- B. The lifting angle (Fig. 32) between the sling legs on opposite sides of the load should be less or equal to 60 degrees. The lifting angle (Fig. 33) between the sling legs on same side of the load should be less or equal to 40 degrees.
- C. The Working Load Limit of any multiple sling assembly or spreader bar assembly must not be more than the combined Working Load Limit of two clamps, no matter how many clamps are in the assembly.

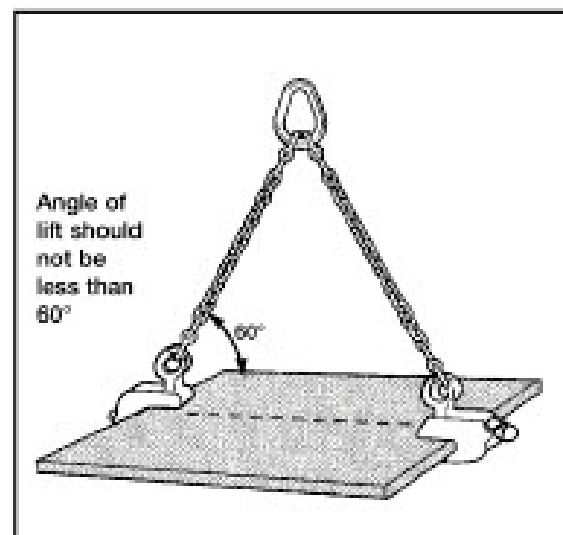


Figure 32

Step 5

Position the clamp(s) to balance the load. Position the clamp(s) so the lifting force of the crane is directly in line with each clamp's lifting shackle, and the load is evenly distributed (Fig. 33).

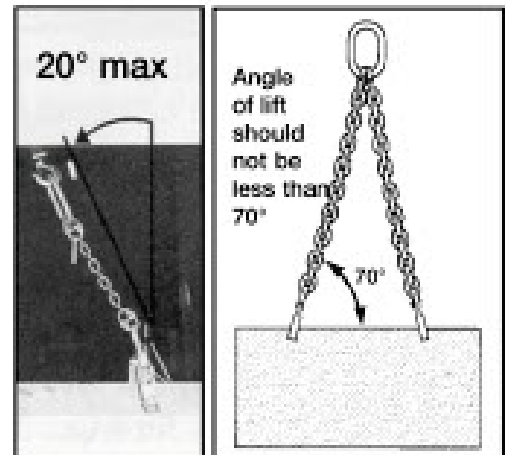


Figure 33

⚠ WARNING!: Never attach a clamp directly to the crane hook. Use a sling between the crane hook and clamp to minimize interference in the clamp operation.

⚠ WARNING!: Do not side load. Never exceed an angle of 20° from vertical.

Step 6

Engaging the clamp:

VERTICAL LIFT

VERTICAL TURN/LIFT

- Attach the clamp to the plate so that it is square with the cam. Ensure the plate is inserted to the full depth of the throat.
- Turn the cam screw until the cam just touches the work and the center rings are in contact with plate.
- Tighten the screw with the torque limiting handle provided (SAC-1, SAC-3 & SAC-6).

⚠ WARNING!: Do not over-tighten screw! Screw needs to be hand tight only.


HORIZONTAL LIFT

- Place the pad leg under the plate.
- Lift the clamp slightly so that the pad on the swiveling jaw contacts the plate.
- Turn the cam screw until the cam just touches the work and the center rings are in contact with the plate.

⚠ WARNING!: Do not over-tighten screw! Screw needs to be hand tight only.

Step 7

Lift slowly and smoothly. The operator should stand clear of the load and never lift over people or machinery.

 **WARNING!** Do not begin to lift until all personnel are clear of the lift area. Never stand under or near a member being lifted.

 **WARNING!** Do not jerk or bump load while lifting.

Step 8

After the plate is fully supported and at rest, the SAC clamp can be removed by loosening the screw.

Step 9

Campbell® recommends inspection of each lifting clamp before and after each lift. Refer to the Maintenance and Inspection section of this manual for detailed instructions.

 **WARNING!** Do not use a clamp that needs repair.