

Model E

VERTICAL LIFT
VERTICAL TURN /LIFT
HORIZONTAL LIFT

CAM ENGAGING LEVER
(LOCKING LEVER)



Figure 34

APPLICATION

The E clamp (Fig. 34) incorporates a “Lever-Open/Lever-Closed” feature which facilitates attaching and removing the clamp. The E clamp is for vertical, vertical/turn and horizontal lifting. Its large throat opening gives a wider grip range. The swivel pad rotates for a quicker release. The E clamp also features a large shackle opening.

OPERATION

Step 1

Before using any Campbell® clamp, refer to the Application 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 shown on the face of the clamp (Fig. 35).



Figure 35

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

Step 3

Inspect the clamp before each lift (Fig. 36).

- 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 36

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 a pair of clamps to properly balance the load, the use of a multiple sling or spreader bar is required (Fig. 37).

- A. All clamps utilized in a multiple sling or spreader bar assembly must be rated at the same capacity.
- B. The lifting angle (Fig. 37) between the sling legs on opposite sides of the load should be less or equal to 60 degrees. The lifting angle (Fig. 38) between the sling legs on same side of the load should be less or equal to 20 degrees.

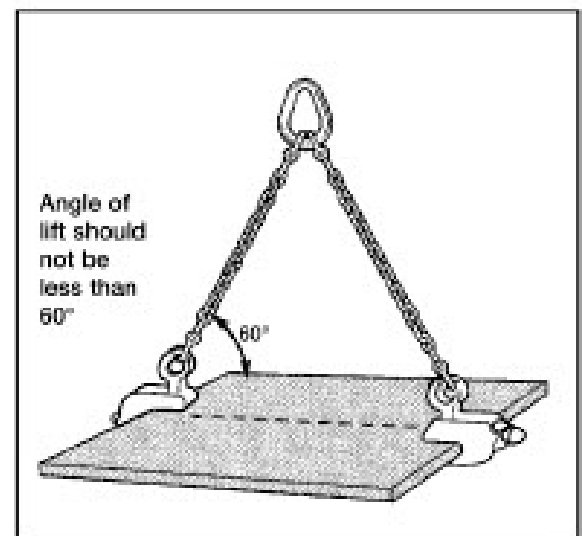


Figure 37

- C. The Working Load Limit of any multiple slings assembly or spreader bar assembly must not be more than the combined Working Load Limit of two clamps, regardless of the number of clamps in the assembly.

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. 38).

⚠ 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.

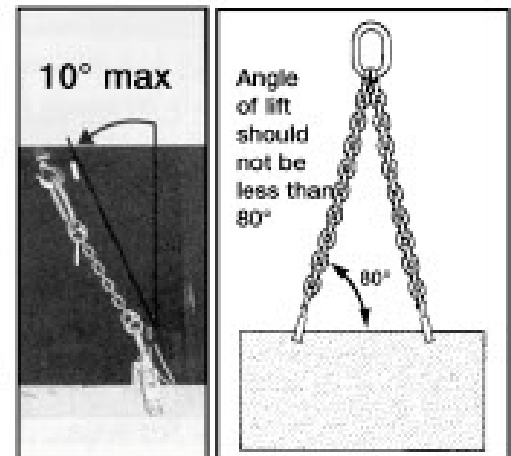


Figure 38

⚠ WARNING!: Do not side load. Never exceed an angle of 10° from vertical.

Step 6

Engaging the clamp:

HORIZONTAL

- Pull tension arm down away from shackle and place clamp on plate with short leg underneath.
- Raise tension arm to engage cam against plate.
- Lift clamp body until pad touches plate, at the same time push clamp body so back of throat touches end of plate.

VERTICAL

- Pull tension arm down to retract cam and lower clamp onto plate to the full depth of the throat.
- Raise tension arm to upper position to engage cam against plate.

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 E clamps can be removed by lowering the tension arm. The cam should release. If cam sticks, tap clamp body.

 **WARNING!: Never tap the tension arm or use a cheater pipe to force arm open.**

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.**