Safety Clamps, Inc.

“Big Bite” Lifting Clamps

Operation, Maintenance, and Repair Manual

SBC and HBC Models

Warning

Prior to operating your Safety Clamp, please ensure that All operators read and understand this manual.

Effective January 1, 2003

This manual supersedes all previous SBC and HBC manuals.

Serial # _____
Model _____
Maximum Rated
Capacity in Tons _____
Jaw Opening _____

Safety Clamps, Inc.

Repair Service Center

♦ Call 1-800-456-2809 for a Return Authorization Number.

♦ You will receive a written quote the same day we receive your Safety Clamp.

♦ Your Safety Clamp will be repaired, tested, recertified, painted, and shipped within 24 hours of authorization.

♦ We also perform quarterly, semiannual, and annual inspections and recertifications.

♦ It's that easy!

Call 1-800-456-2809 for more details!

Safety Clamps, Inc. SBC & HBC Clamp Models
GENERAL INFORMATION

1. Always choose the proper clamp and rated capacity for the material to be lifted.

2. The “SBC” and ”HBC” models are designed for lifting, positioning, and erecting structural beams.

3. The “SBC” and “HBC” models have an over-center lifting shackle to stabilize the structural beam and hold it in position with the web perpendicular to the ground.

4. The rated capacity of the “SBC” and “HBC” models applies to a single clamp with a maximum sling angle of fifteen degrees (15^0) forward or backward (Fig. 3 and Fig. 4). As the sling angle increases for the **“HBC”** model, the rated capacity of the clamp **decreases** (Fig. 4).

5. The **“SBC”** and **“HBC”** models incorporate “Lock Open” and “Lock Close” features to facilitate attaching and removing the clamp. By attaching a tag line to the locking handle of either model, the operator may lock open the clamp remotely when the load has been securely positioned and the weight of the load removed from the clamp.

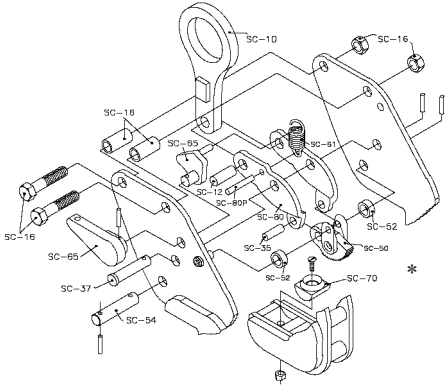
6. Make sure that the load to be lifted is properly balanced.

7. Always store the **“SBC”** and **“HBC”** models in the “lock open” position.

8. Visual inspections should be conducted before and after each use. Monthly inspections should be conducted by disassembling the clamp and thoroughly checking each part as described in this manual.

Safety Clamps, Inc. SBC & HBC Clamp Models

Parts Numbers for 1 ton Models SBC and HBC:



Parts Numbers for 2 through 8 ton Models SBC and HBC:

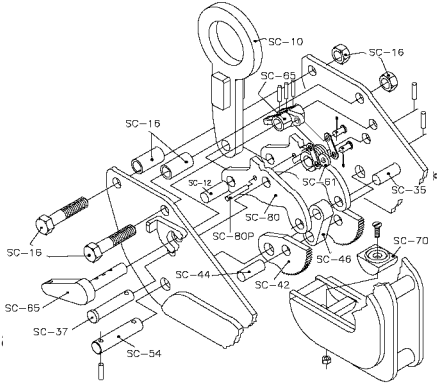


Figure 1

∗ **Not**

Safety Clamps, Inc. SBC & HBC Clamp Models

WARNING

1. The “SBC” and “HBC” models should not be used to handle material with temperatures below 0° F or above 225° F. These temperature restrictions apply to both the ambient temperature and the temperature of the material to be lifted.

2. Do not use the “SBC” and “HBC” models for vertical movement of materials.

3. Do not use clamps on materials with a hardness in excess of 420 Brinell.

4. Do not lift plate with mill scale, grease, or any other coatings that may prevent gripping surface from making solid contact with plate.

5. Never lift or transfer material over or near people.

6. Never exceed ten degrees (10°) side loading (Fig. 2).

7. Never exceed a fifteen degrees (15°) front or back load with an **“SBC”** model clamp (Fig. 3).

8. Never exceed a forty-five degrees (45°) back load or a sixty degrees (60°) front load with an **“HBC”** model clamp (Fig. 4).

9. Never lift material with the handle in the “open” position (Fig. 5).

10. Always use a sling to lift the clamp.

11. If a clamp has been overloaded or damaged in any way, take the clamp out of service until proper repairs and/or testing has been completed (see “Monthly Inspection” items 2 and 3 for description of overload symptoms).

Safety Clamps, Inc. SBC & HBC Clamp Models

BEFORE USE INSPECTION

1. All Safety Clamps should be inspected regularly for signs of wear and/or damage.

2. Be sure the clamp to be used is the proper clamp for the job. Check the rated capacity and jaw opening stenciled on the clamp. Both should equal or exceed the requirements of the load to be lifted.

3. Inspect gripping cams [SC-50 or SC-42, Fig. 1] and gripping pad [SC-70, Fig. 1] for wear and/or damage. Make sure gripping surfaces are sharp and clean.

4. Inspect working parts and joints. Lubricate these regularly and make sure they move freely.

5. Inspect body, jaw opening, and lifting shackle for deformation, fractures, or any other damage.

6. Inspect lock spring (SC-61, Fig. 1) for tension. To do this, lock the clamp in the closed position and push in on the lifting shackle. There should be strong resistance to your pressure on the lifting shackle.

7. Make sure that all roll pins are securely in place.

8. Never use a clamp in need of repair.

9. If damage is identified or suspected, Safety Clamps, Inc. will inspect and repair your Safety Clamp for a nominal charge.

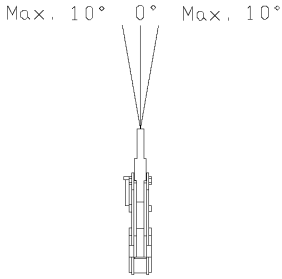


Figure 2: Never exceed ten degrees (10^0) side loading with an "SBC" or an "HBC" model clamp.

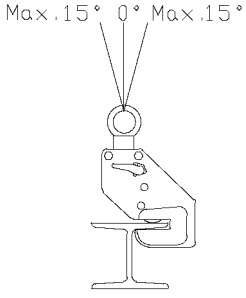


Figure 3:

Never exceed a fifteen fifteen (15^0) front or back laod with an "SBC" model clamp.

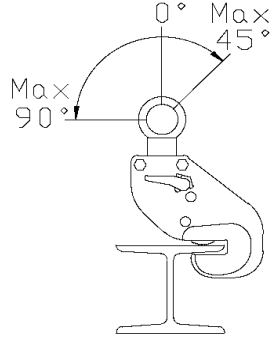


Figure 4:

Never exceed a sixty degrees (60^0) front load or a forty-five degrees (45^0) back load with an "HBC" model clamp. As the sling angle increases, the rated capacity decreases.

Safety Clamps, Inc. SBC & HBC Clamp Models

MONTHLY INSPECTION

Safety Clamps, Inc. recommends that all of its clamps be disassembled and thoroughly inspected at least once per month in accordance with the following procedures:

1. When disassembling a clamp, clearly label each part so that the clamp can be properly reassembled. Disassembly instructions are provided in the “Maintenance and Repair” section of this manual.

2. After disassembly, check for body deformation, fractures, and/or any other signs of damage in the body and/or parts. Check all drilled holes and shackle eye for roundness. Any elongation of holes, shackle eye, and/or a stretched jaw opening, is an indication that the clamp has been overloaded and should not be used.

3. Check pins and body bolts to ensure they are straight. Make sure they are not worn and/or damaged.

4. Inspect gripping cams [SC-50 or SC-42, Fig. 1] and gripping pad [SC-70, Fig. 1]. Make sure they are sharp and clean. Do not attempt to sharpen these. If gripping surfaces are worn and/or damaged, replace them with genuine Safety Clamps’ parts.

5. All parts should be clean and free of dirt and debris.

WARNING

•Do not use any blasting or heating method to clean parts.

6. When replacing parts, use only genuine Safety Clamps’ parts.

7. After reassembling the clamp, ensure that all roll pins are in place, then lubricate all joints and make sure the clamp works freely and properly.

Remember, never use a clamp in need of repair. If in doubt about the condition of your clamp, Safety Clamps, Inc. will inspect and repair your Safety Clamp for a nominal charge.

HOW TO USE THE "SBC" and "HBC" SAFETY CLAMP MODELS

1. Prior to use inspect the clamp in accordance with procedures provided under the section titled "Before Use Inspection" in this manual.

2 For the **"SBC"** and **"HBC"** Safety Clamp models, open the jaw by releasing the locking handle down (A, Fig. 5), and pushing shackle (B) into the clamp until the lock engages and gripping cams (C) are in the raised position clear of the jaw opening.

3. Place the jaw of the lifting clamp around the material to be lifted. Make sure the clamp is positioned so the gripping surfaces are in full contact with the material. Center the clamp so the load is balanced when lifted.

4. When using more than one clamp to lift material, make sure clamps are positioned to share equal loads. Never exceed ten degrees (10^{o}) side load with the "SBC" and "HBC" clamp models (Fig. 2).

5. Secure the clamp in the “lock close” position:

   For the **“SBC”** and “HBC” models, raise the handle (A, Fig. 6) until it is positioned against the stop (D) and pull the shackle (B) away from the clamp. This will bring the gripping cams (C) down in the locked position against the material to be lifted.

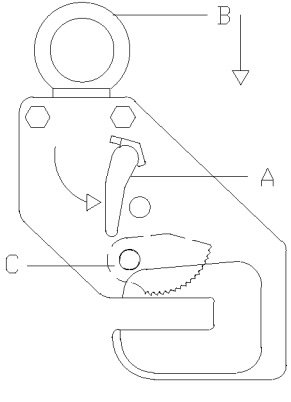


Figure 5

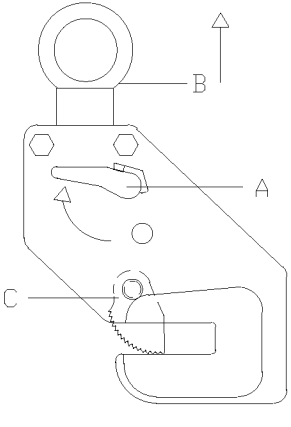


Figure 6

WARNING

- Never lift material with the handle in the "open" position.
- Always use a sling to lift the clamp.
- Never use an open-end hook to lift the clamp.

6. The clamp and material are now ready for transfer.

7. Upon reaching the material's destination, lower the clamp and material to a secure position until the tension is relieved on the lifting shackle.

8. Repeat the process to open the clamp. This allows the user to remove the clamp from the material and use it again or store the clamp.

WARNING

- The "SBC" and "HBC" clamp models should not be used to handle material with temperatures below 0^{o} F or above 225^{o} F. These temperature restrictions apply to both the ambient temperature and the temperature of the material to be lifted.

- Do not use clamps on materials with a hardness in excess of 420 Brinell.

- Do not lift material with mill scale, grease, or any other coatings that may prevent gripping surface from making solid contact with plate.

- Do not lift more than one beam or structure at a time.

- Never exceed ten degrees (10^{0}) side loading with an "SBC" or an "HBC" model clamp (Fig. 2).

- Never exceed a fifteen degrees (15°) front or back load with an **"SBC"** model clamp (Fig. 3).

- Never exceed a sixty degrees (60°) front load or a forty-five degrees (45°) back load with an **"HBC"** model clamp (Fig. 4).

- Never lift or transfer material over or near people.

- Never lift material with the handle in the "open" position (Fig. 5).

- Always use a sling to lift the clamp.

- Never use an open-end hook to lift the clamp.

- If a clamp has been overloaded or damaged in any way, take the clamp out of service until proper repairs and/or testing has been completed (see "Monthly Inspection" items 2 and 3 for description of overload symptoms).

DISASSEMBLY AND REPAIR

Safety Clamps should always be inspected and operated in accordance with the appropriate section of this manual. If the clamp is suspected of being damaged during operation, or evidence of wear and/or damage is found during inspection, the clamp may be disassembled and repaired as follows:

DISASSEMBLY

1. When disassembling a clamp for inspection or repair, label each part so that the clamp can be reassembled properly.

2. To disassemble the “SBC” and “HBC” Safety Clamps models:
   a). Remove roll pins from the SC-54 pin and SC-37 pin (Fig. 1), and remove the SC-54 and SC-37 pins from the body.
   b). Remove the roll pins from the lock assembly SC-65 (Fig. 1).
   c). Pull the handle out and remove the lock (SC-65) and spring (SC-61) assemblies (Fig. 1).
   d). **For models “SBC” and “HBC” with a 1 ton rated lift capacity**, remove the SC-35 pin and SC-50 gripping cam. **For all other rated lift capacities of models “SBC” and “HBC”**, remove the SC-35 pin, SC-44 pin, and SC-42 gripping cams.
   e). Grip the lifting shackle SC-10 (Fig. 1) and pull inside assembly out of the top of the clamp.
   f). Remove the remaining pins from the inside assembly and separate the remaining parts.
   g). For the model **“SBC”**, remove the SC-70 gripping pad by removing the lock nut from the retaining screw.

REPAIR

1. Clean all parts to ensure they are free of dirt, and excess or gummed lubricants.

WARNING

•Do not use any blasting or heating method to clean parts.

2. Inspect the clamp components in accordance with instructions contained under the “Monthly Inspections” section of this manual.

3. If damaged components are found -

DO NOT

•Fix, straighten, or heat treat any part of a Safety Clamp.

•Modify, weld, or change the clamp body or parts in any way.

DO

•Replace any worn and/or damaged parts with genuine Safety Clamps' parts.

•If in doubt about the condition of your clamp, Safety Clamps, Inc. will inspect and repair your Safety Clamp for a nominal charge.

WARNING

Safety Clamps, Inc. uses materials which are of strength and hardness in excess of those used by many competitor clamp manufacturers. Using parts other than those provided by Safety Clamps, Inc. could cause the clamp to operate improperly, or reduce the strength of the clamp to below the clamps specified operating limits.

ASSEMBLY

To reassemble the "SBC" and "HBC" Safety Clamps models:

1. Refer to the clamp diagram (Fig. 1) and reverse the disassembly process described on the previous pages.

2. Check that all roll pins are securely in place.

3. Lubricate all moving parts.

4. Make sure the clamp functions properly and that parts move freely without binding.

Notes

“Big Bite” Lifting Clamps by Safety Clamps, Inc.

Established 1962

Call, Fax, or E-mail Us Today!

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Effective January 1, 2003

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