



INSTRUCTION MANUAL

HEAVY-DUTY BEAM TONGS

MODEL BT (20, 40, & 60)



MODEL No. _____
SERIAL No. _____

VESTIL MANUFACTURING CORP.

2999 NORTH WAYNE STREET, P.O. BOX 507, ANGOLA, IN 46703
TELEPHONE: (260) 665-7586 -OR- TOLL FREE (800) 348-0868
FAX: (260) 665-1339

URL: WWW.VESTILMFG.COM EMAIL: SALES@VESTIL.COM



We produce several models of heavy-duty beam tongs so that our customers may select a product that satisfies specific requirements. Each unit conforms to the generalized specifications disclosed in this manual and fulfills our demanding standards for quality, safety and durability.

SAFETY PRINCIPLES

Vestil Manufacturing Corp. recognizes the critical importance of workplace safety. Each person who **might** participate in the assembly, use, operation, or maintenance of the product must read this manual. **Read the entire manual and fully understand the directions BEFORE assembling, using or maintaining the tongs. If you do not understand an instruction, contact Vestil for clarification. Failure to adhere to the directions in this manual might lead to serious personal injury or even death.**

Vestil is **not liable** for any injury or property damage that occurs as a consequence of failing to apply the safe operation and maintenance procedures explained in this manual or that appear on labels attached to the product. Failure to exercise good judgment and common sense may result in property damage, serious personal injury, or death, and are **not the responsibility of Vestil**.

This manual applies the hazard identification methods suggested for instruction manuals by the American National Standards Institute (ANSI) in ANSI standard Z535.6-2006. In accordance with ANSI guidelines for hazard warning language, this manual identifies personal injury risks and situations that could lead to property damage with SIGNAL WORDS. These signal words announce an associated safety message. The reader must understand that the signal word chosen to identify a particular safety hazard categorizes the seriousness of that hazard according to the following convention:

These symbols identify hazards that may result in personal injury

DANGER

Identifies a hazardous situation which, if not avoided, **WILL** result in **DEATH** or **SERIOUS INJURY**. Use of this signal word is limited to the most extreme situations.

WARNING

Identifies a hazardous situation which, if not avoided, **COULD** result in **DEATH** or **SERIOUS INJURY**.

CAUTION

Indicates a hazardous situation which, if not avoided, **COULD** result in **MINOR** or **MODERATE** injury. Although Z535.6-2006 approves the use of "CAUTION" without an accompanying safety alert symbol (black equilateral triangle with yellow exclamation point) as an alternative to "NOTICE", this manual differentiates between hazards that pose a risk of personal injury and those that create mere property damage situations. **CAUTION** appears **exclusively in conjunction with the safety alert symbol to identify injury risks**.

NOTICE

Identifies practices not related to personal injury, such as operation that could damage the tongs. No safety alert symbol (equilateral triangle enclosing an exclamation point) accompanies this signal word.

TABLE OF CONTENTS

Safety Principles	2
Product Introduction	4
Safety Guidelines	5
Use Instructions	7-10
Maintenance & Inspections	11-12

TABLE OF FIGURES

FIG. 1: Parts Diagram	6
FIG. 2: Label Placement Diagram	12

PRODUCT INTRODUCTION



Thank you for purchasing Heavy-Duty Beam Tongs (“beam tongs” or simply “tongs”) made by Vestil Manufacturing Corporation (“Vestil”). Our beam tongs are durable, high-quality products that combine safety features and superior lifting capabilities. Despite ease of use, all personnel must familiarize themselves with the safe operation instructions provided in this manual.

We produce 3 types of tongs, the BT-20, BT-40, and BT-60. All tongs are constructed from steel and have a paint finish. The three models are distinguishable by lifting capacity: 20’s are rated for loads of up to 2,000 pounds, 40’s are rated for loads that do not exceed 4,000 pounds, and 60’s can handle loads weighing as much as 6,000 pounds. All models incorporate a heavy duty formed shackle for easy attachment to overhead hoists.

Vestil Manufacturing Corp. created this manual to acquaint owners and users of our tongs with safe use and maintenance procedures. **Employers are responsible for instructing employees to use the product properly. Employees and any other person(s) who might foreseeably use, install, or perform maintenance on the tongs must read and understand every instruction before using the device. Persons who use the tongs should have access to the manual at all times, and in particular should consult the directions before each use. Contact Vestil for answers to any question you have after reading the manual.**

Although Vestil strives to identify the hazardous situations that could arise during use, this manual cannot address every conceivable danger. The end-user is responsible for exercising sound judgment at all times.

SAFETY GUIDELINES

Read the entire manual before you attach the tongs to a lifting device or use it for the first time. Refer to the manual for safe use and maintenance procedures (p. 7-12). If questions remain after you finish reading the manual, contact Vestil for answers. DO NOT attempt to resolve any problems with the tongs unless you are certain that they will be safe to use afterwards. NEVER modify the product in any way without the express, written approval of Vestil.

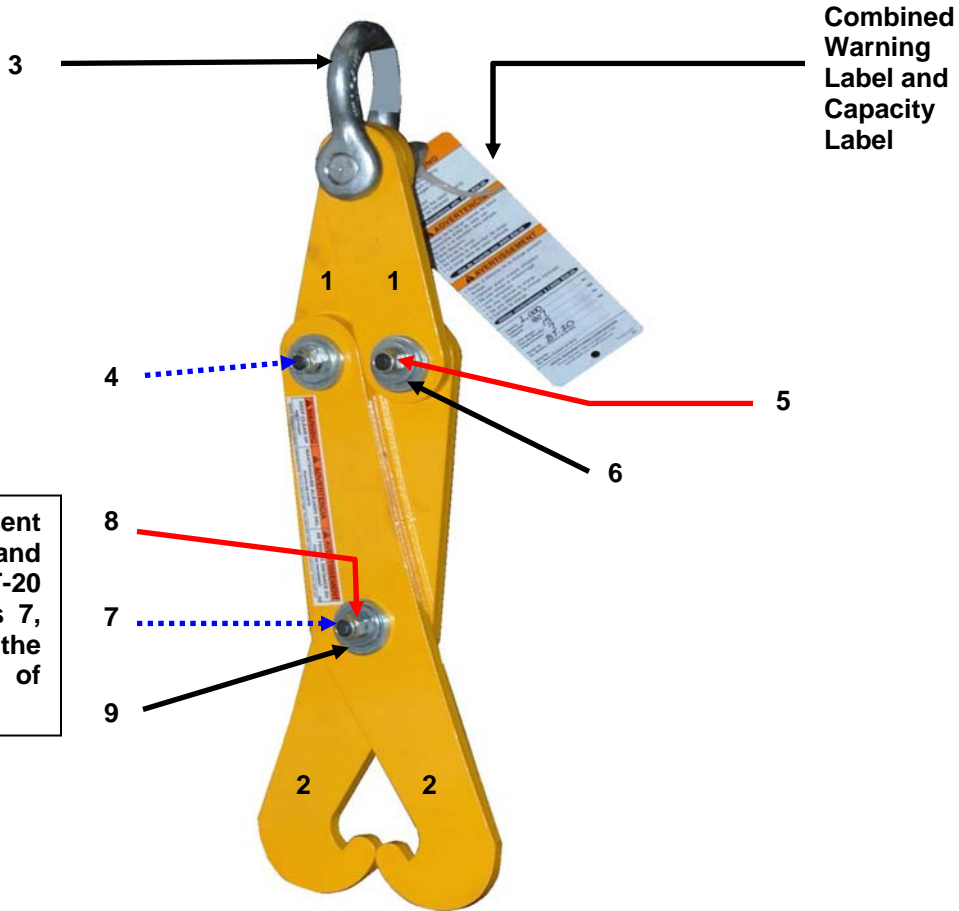
DANGER

- **Electrocution Risk: DO NOT contact live electrical wires with the tongs or the load!**

WARNING

- Review the safety messages included in the manual(s) for your crane, trolley, hoist, and any other device used in conjunction with the tongs.
- BEFORE opening the tongs, be certain that the beam (load) is fully supported by the ground or other surface, and is fully immobilized, i.e. can't fall over, roll, slide, or move in an uncontrolled manner. If a second person is needed to ensure load immobility, find someone to help you. To open the tongs, push/pull the clamping arms (see FIG. 1 on p. 6) away from each other. DO NOT open the tongs while using them to lift and/or move material.
- ALWAYS inspect the beam tongs before each use according to the inspection procedures described in the most recent revision of ASME standard B30.20. B30.20 also recommends "frequent" and "periodic" inspections.
- Properly maintain the beam tongs according to the maintenance procedures on p. 11-12. Vestil developed these procedures to *supplement* the suggested maintenance practices of B30.20.
- ALWAYS attach the beam tongs to a safety hook (e.g. a hoist that has a safety hook attached to the end of the chain or rope), or to a connection that includes safety mechanisms to prevent accidental or unintended detachment from the hoist. DO NOT attach the tongs to a hoist hook that might accidentally or unintentionally release the tongs. DO NOT connect the tongs to a safety hook that does not function properly or that is damaged.
- DO NOT grip a load that has any debris or surface contamination on it that might affect the quality of the connection between the tongs and the load. Remove the debris, such as oil, grease, water and dirt.
- Clear all debris, including fluids, from the path of travel if the job requires moving the load to a new location BEFORE picking up the load. If moisture is present in the path of travel, absorb it before using the tongs.
- **Make sure that no person is in the travel path.**
- DO NOT remove or obscure any label. Verify the placement and legibility of all labels as shown in FIG. 2 on p. 12. If a label is damaged or unreadable, immediately contact Vestil for a replacement. DO NOT use the tongs UNLESS all labels are securely attached and readable.
- DO NOT attempt an unbalanced lift. Before performing the lift, attach enough tongs to the beam to properly balance it. (See "Use Instructions," Step 5, p. 8).
- DO NOT sit on or apply any weight/pressure to a load held by the beam tongs.
- DO NOT attempt to lift material that exceeds the load rating. ALWAYS make sure that the material weighs no more than the rated load of the tongs.
- DO NOT lift a load higher than necessary. (See "Use Instructions" on p. 7-10).
- DO NOT raise the load over your feet or any other part of your body.
- DO NOT use the tongs to lift material over people or to lift any apparatus that supports people, such as a work platform. The tongs are designed ONLY to lift beams.
- DO NOT get in front of or behind a suspended load while moving it. Always orient yourself so that the load is visible to you. You are less likely to be injured if the load remains within sight at all times. Stand to one side of the load and hold onto the hoist's safety hook with one hand to stabilize the load as you move it to the desired location.
- DO NOT leave a suspended load unattended. An unattended, suspended load creates a risk of injury to yourself and others. Always move the load to its desired location, set the load down and properly immobilize it, and then disengage the tongs from the load. Disconnect the tongs from the hoist BEFORE leaving the work area.

FIG. 1: Parts Diagram



Item No.	Part No.	Description	Quantity
1	49-014-005	Link Arm BT-20	2
1	49-014-003	BT-40	2
1	49-014-002	BT-60	2
2	49-014-004	Clamping Arm BT-20	2
2	49-014-006	BT-40	2
2	49-014-001	BT-60	2
3	99-145-019	3-1/4 ton Shackle	1
4	13211	1/2 - 13 x 2 inch Z-plated Bolt BT-20	3
4	13211	BT-40	2
4	13211	BT-60	2
5	37030	1/2 - 13 Nylock Nut BT-20	3
5	37030	BT-40	2
5	37030	BT-60	2
6	33012	1/2 Flat Washer BT-20	6
6	33012	BT-40	4
6	33012	BT-60	4
7	13315	5/8 - 11 x 3inch Z-plated Bolt BT-40	1
7	13315	BT-60	1
8	37036	5/8 - 11 Nylock Nut BT-40	1
8	37036	BT-60	1
9	33016	3/4 inch Flat Washer BT-40	2
9	33016	BT-60	2

Use Instructions:

NOTICE

The use instructions in this manual are meant to **supplement** the operation recommendations of ASME standard B30.20.

Only trained, designated persons should use the beam tongs. “Designated person” means someone selected by his or her employer, or by a representative of the employer, as competent to use the beam tongs. Trainees under the direct supervision of a designated person may use the device. Maintenance persons and personnel who perform equipment tests also may use the beam tongs when necessary for the performance of their employment duties.

Step 1: Perform a proper, “Every Lift” inspection as described in the most recent revision of ASME B30.20, BEFORE you connect the tongs to a hoisting device. Proceed to the next step ONLY IF the tongs pass the inspection and are deemed safe to use by designated inspection personnel.

Step 2: Connect the tongs to the hoisting device. The tongs must only be connected to the hoist via a safety hook to prevent accidental detachment from the hoist.



Safety Hook

Properly functioning safety latch

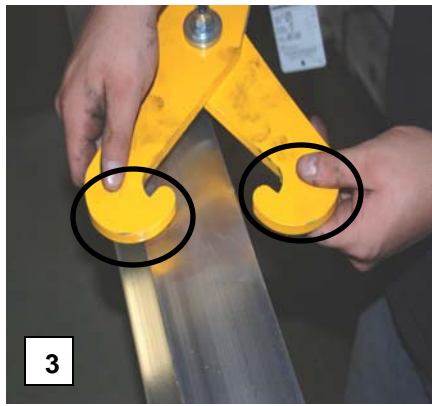
Step 3: Position the tongs above the load as shown in photos 1 and 2. The load must balance when lifted. As a first approximation of the balance point, move the tongs to a position above the center of the beam. The center is identified by a dashed line.

WARNING

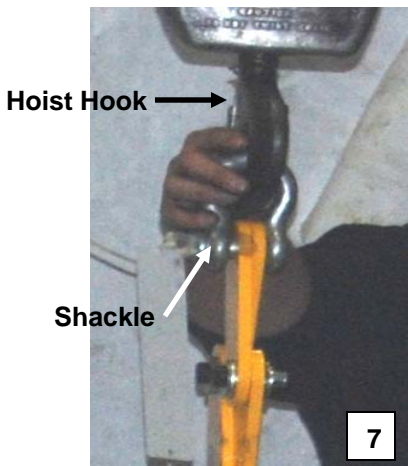
DO NOT push or pull the tongs so that the hoist chain/rope is not vertical. All horizontal adjustments to the position of the tongs must be accomplished by moving the trolley. This is important because any deflection of the chain/rope from straight up-and-down will cause the load to swing when lifted. A swinging load may cause serious personal injuries.



Step 4: Engage the beam with the tongs. Open the tongs by pulling the clamping arms in opposite directions as shown in photos 3-5. The angled teeth (circled in photo 3) allow the clamping arms to engage the top portion of an I-beam. Adjust the position of the tongs to allow BOTH teeth to make solid contact with the beam (photos 5 & 6).



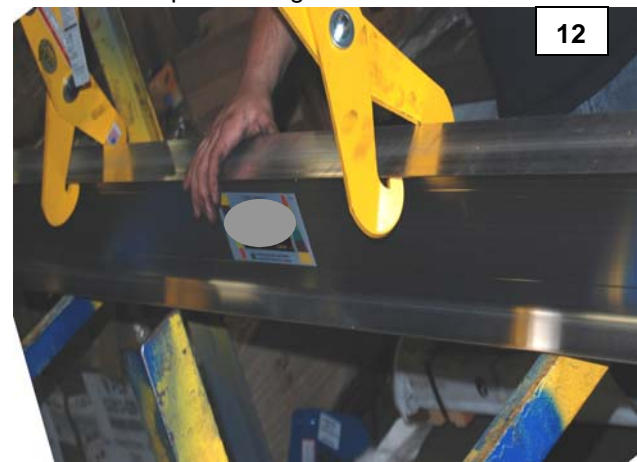
Step 5: Test the balance of the beam in the tongs. Grasp the hoist hook to stabilize the lift (see photo 7), and raise the beam just a few inches from the ground (or other supporting surface). The beam is improperly balanced if it slides or hangs lower on one side. If improperly balanced, return the beam to the ground/supporting surface and immobilize it. Reposition the tongs to improve the balance by moving the tongs slightly towards the end that hung lower when you tested the balance. Raise the object again to see if the beam is balanced. **DO NOT** proceed to the next step until the load is properly stabilized. **DO NOT** use the tongs if you cannot achieve a stable, balanced hold of the beam; use a different device to lift and move the beam.



This end of the beam is lower than the other. Return the beam to the ground/supporting surface and reposition the tongs by moving them closer to this end.



Step 6: If a single pair of tongs cannot balance the beam, use a combination of two or more tongs. In the pictures below, two sets of beam tongs are shown connected to a chain sling. Lower the hoist sufficiently so that there is slack in the chain/rope, and securely connect each pair of tongs to the beam.



Step 7: Retest the balance by using the procedure described in Step 5. Raise the beam **ONLY** after achieving proper balance. While raising the beam, steady it by grasping the safety hook that connects to a set of tongs. Lift the load to approximately waist height, and continue to grip the hook. **Refer to the safety hazard messages and lifting rules below**, and move the load to the desired location (photo 13).

⚠ WARNING

Review all hazard safety messages (p. 5) and always follow these “Lifting Rules” when using the tongs:

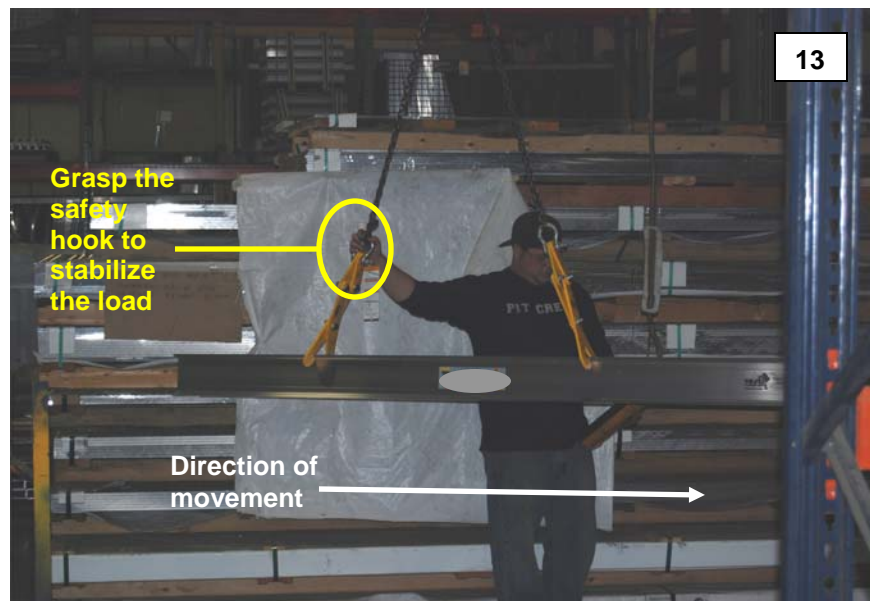
1. NEVER lift material over yourself or other persons. Inform persons in the area that you will be using the tongs and make sure that no one is present at the starting point, in the path of travel, or at the end point.
2. DO NOT apply pressure to the beam. Grasp **ONLY** the hoist hook to stabilize the load while raising, lowering, and/or moving a beam to a new location.
3. **Always stand at arm’s length to the side of the beam** and hold onto the hook as shown in photo 13. Make sure that your clothing, feet, and all other body parts stay clear of the load. This stance allows the operator to exercise some control over the beam while maximizing safety.
4. If the object must be removed from a container or be lifted over an obstacle, continue to grasp the hoist hook as the beam is repositioned. You **MUST** use a different device if you will not be able to maintain the safe stance described in Rule 3.

If you are using a motorized trolley:

- DO NOT push or pull the tongs or beam. Allow the trolley to supply all movement. Your hold on the safety hook is a means **ONLY** for stabilizing the load.

If you are using a manual trolley,

- DO NOT pull the beam in the direction of travel. Grasp the safety hook with one hand. Use the hand that grasps the hook to move the trolley in the intended direction.



Step 8: Lower the beam to the ground/supporting surface. Make sure that the beam is not swinging or rotating , then slowly lower the beam until it contacts the ground/surface. Lower the load sufficiently to create slack in the rope/chain. DO NOT remove the beam from the tongs until you appropriately immobilize the beam so that it cannot roll, fall over, or move in an uncontrolled manner. Disengage the tongs from the beam, and then disconnect the tongs from the hoist.

In the following photographs, the beam weighs little and lacks dangerous projections that could cause injury, and thus is easily controlled by the operator. If you cannot easily control BOTH the tongs and beam, find someone to help you. Furthermore, you should always use the procedure(s) developed by your employer for safely handling beams.



Maintenance and Inspections:

A designated person must verify that the device complies with all regulations, codes, and standards that apply to “Under-the-Hook Lifting Devices” in the location where the tongs are *used*. The person(s) designated to conduct inspections must do so before the tongs are used for the first time, and EACH time the hook is installed for use.

Inspections:

NOTICE The end-user is responsible for performing inspections as recommended in ASME B30.20, which categorizes examinations based on regularity of performance. *Highlights* of the recommended inspection procedures appear below. However, the full procedures as explained in the published standard must be followed.

⚠WARNING DO NOT use tongs that are structurally damaged. Such damage might include bent, warped, cracked or otherwise deformed link arms, clamping arms, or shackle (see FIG. 1 on p.6). Restore the tongs to normal operating condition **BEFORE** using them again.

Inspections Before & During EVERY lift: visual examination must be performed by the operator prior to AND during each lift. In particular, the *operator* should inspect for:

1. Debris on the load surfaces; AND
2. Condition and operation of the controls.

Frequent Inspections: the specific meaning of “frequent” varies from daily to monthly depending on the service classification (normal, heavy, severe, and special/infrequent) of the tongs. Definitions of the service classifications appear in ASME B30.20. The *operator* or other *designated person(s)* should visually inspect the tongs for:

1. Deformation, cracking, or excessive wear of any part of the tongs;
2. Operating mechanisms for conditions that interfere with proper function; AND/OR
3. Loose or missing fasteners, stops or nameplates.

Periodic Inspections: complete visual inspections performed AND recorded by a *qualified* person. The inspection should specifically look for:

1. Loose bolts or fasteners;
2. Excessive wear of friction pads, linkages, and other mechanical parts; AND/OR
3. Excessive wear at the points where the tongs connect to the hoist hook, and load support clevises or pins.

Maintenance: the end-user must implement a maintenance program to ensure the proper function and safety of the tongs. A qualified person may establish a program that is used in preference to the maintenance procedures described below. However, if you apply the procedure below, complete EVERY step each time maintenance is performed.

⚠WARNING ONLY qualified persons may perform maintenance on the tongs. A qualified person is someone “who, by possession of a recognized degree in an applicable field or certificate of professional training, and experience, has successfully demonstrated the ability to solve or resolve problems relating to the subject matter and work.” See ASME B30.20-0.2-2003.

Step 1: All sources of power must be disconnected, locked out and tagged, “Out of Service.”

Step 2: Disconnect the tongs from the hoist hook, and tag them as, “Out of Service.”

Step 3: Perform all adjustments identified as necessary during any inspection (every lift, frequent, or periodic). Refer to ASME B30.20 for recommended inspection procedures.

Step 4: If other conditions exist which require new or replacement parts to repair, contact Vestil to order replacements. **Deformity, corrosion, rusting, or excessive wear of fasteners and/or the link arm(s), clamping arm(s), and/or shackle warrants immediate replacement of the affected part(s).**

⚠WARNING The reader should understand the significant difference between “Adjustments [and] repairs,” and modifications. An adjustment or repair refers to a simple correction that restores the tongs to normal operating condition, such as tightening loose fasteners, or removing debris. A modification is a
(Continued on page 12)

change that alters the tongs from normal operating condition, like bending the structural members. **NEVER** modify the tongs without the express, written approval of Vestil. Modifications may render the tongs unsafe to use.

DO NOT use the tongs if adjustments and/or repairs are incomplete! Return the tongs to service ONLY after finishing all necessary repairs and/or adjustments.

Step 5: Install the replacement parts.

NOTICE ASME B30.20 requires special markings for all repaired or modified lifters (beam tongs). Consult the standard and affix/attach the necessary marking(s).

Step 6: After the tongs have been repaired, conduct a periodic inspection. The tongs may be returned to service ONLY IF they pass the inspection. Repeat steps 3-5 if the inspection reveals additional safety issues.

Step 7: Make a dated record of the repairs, adjustments and/or replacements made.

Markings:

Only use the tongs if ALL labels are readable and undamaged. Contact Vestil for replacement labels.

FIG. 2: Product label placement

