



BVM CORPORATION

TYPE "LF" TONG

16,000 FT/LBS. TORQUE

WARNING: Manual tongs which have experienced excessive wear or are found to have cracks should be replaced or repaired by BVM Corp. or designated BVM service station. Failure to do so can result in serious bodily harm or property damage.

WARNING: To avoid injury do not place hands or any part of your body between pitch point areas like jaws and pipe, between jaws, between latch and latch jaw and between lever and jaws can cause severe injury.

WARNING: Only BVM parts should be used. Manual tongs are cast alloy heat treated steel and should not be welded in the field. Improper welding can cause cracks and brittleness in heat-affected areas which can result in drastic weakening of the part and possible failure.

Repairs involving welding and/or machining should be performed only by an authorized BVM repair facility. Using a manual tong that has been improperly welded or repaired can cause failure which may result in serious bodily injury or property damage.

BVM Type “LF” Tong is ideal for light drilling and tubing work. Also used for seismographic, shot hole and exploration drilling. Like all other BVM Tongs a 3 Jaw design permits the jaws a uniform contact around the pipe. Jaw sizes range from 2 3/8” through 8 5/8” OD. All Steel specification are certified.

1. PURPOSE

This technical manual provides operation of and maintenance instructions to the BVM Type LF Manual Tongs, with assembly drawings and parts breakdown. It provides a guide for proper field use, disassembly and repairs.

2. DESCRIPTION

BVM Type LF Manual Tongs are designed in accordance with API specification 7K and can handle all kinds of pipe torque from light tubing to heavy wall pipe and drill collars.

All BVM Type LF manual tongs are precision machined from heat treated alloy steel, with hinge pins made from a special heat treated alloy steel. Interchangeable lug jaw design permits each tong to handle different sizes of pipe safely and conveniently.

3. INSTALLATION

BVM Type LF manual tongs are designed for quick installation and easy operation. To install the manual tong, the tong support line should be connected to the suspension ring. To prepare the tong for the job at hand, install the right lug jaw to cover the correct size range. Make sure the tong is capable of handling the torque required. For easy tong operation, freely suspend tong up to the tong support line as close to the center of the rotary table as is convenient. This reduces the arc of swing and the distance that the tong must travel to the table. The pull up line must then be connected to the end of the lever. A back up line, sized to safely withstand the tong torque rating, should in all cases be connected to secure safe operation. A BVM tong pull back can be installed to save rig time as it automatically repositions the tong for another take up.

4. OPERATION

With the tong positioned and balanced properly, follow four simple steps outlined below:

- Grasp safety handle on lug jaw and safety handle on hanger to move the tong into position about the pipe.
- Press the short jaw firmly around and against the pipe.
- Pushing both safety handles simultaneously the manual tong will latch automatically.
- Pull both safety handles to break-over the tong and grip the pipe.

5. MAINTENANCE:

5.1 ROUTINE FUNCTIONAL TEST

The functional test should be done prior to use or on a regular basis when in use.

- Visually inspect the manual tong for loose, worn and missing parts.
- Check for worn hinge pins and hinge pin holes by trying to vertically move jaws from lever.
- Check if all pins are properly locked.
- Check for the proper latch engagement on steps of lug jaw. The latch must not contact any part of the tong when latched and under torque except the step on lug jaw.
- Brush dies clean and check for wear.

5.2 ROUTINE LUBRICATION

The below lubrication should be done prior to use or on a regular basis when in use:

- Grease hinge pins through grease nipples.
- Lubricate regularly during usage and storage to prevent corrosion from attacking any part of the manual tong operating mechanism.

5.3 LUBRICATION SPECIFICATION

Use extreme pressure lithium based, multi-purpose grease of no. 1 or 2 consistency and 10 W 30 or 10 W 40 multi-grade motor oil to lubricate BVM Manual Tongs.

5.4 TORQUE TEST

BVM Type “LF” manual tongs are torque tested per API specifications after manufacture or recertification to 1 ½ times their rated load.

6. ASSEMBLY DRAWING AND LIST OF PARTS - see attachment