

TRAINING BULLETIN NUMBER 38
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**PORTER CABLE "TIGER SAW" VARIABLE SPEED
RECIPROCATING SAW**

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INTRODUCTION

The Porter Cable "Tiger Saw" is a variable speed reciprocating saw. The saw is designed for cutting wood up to 12" thick, metal up to 3 / 4" thick, and various other materials, such as plastics, fiberglass, hard rubber, etc. The saw blade reciprocates from 0 to 2600 SPM (strokes per minute) depending on the pressure applied to the trigger located on the handle. The saw is carried on all LAFD Truck apparatus and the Heavy Rescue Vehicle.

ACCESSORIES

The "Tiger Saw" kit consists of the following:

1. Metal carrying case.
2. Model 737 Porter Cable "Tiger Saw" with 9 1 / 2-foot power cord modified to accept LAFD portable generator electric receptacles.
3. "Pig Tail" electrical cord converting a twist lock receptacle to a standard 3 prong plug.

NO PICTURE

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4. An assortment of "Lennox" blades are provided as follows:

<u>Quantity</u>	<u>Part #</u>	<u>Blade Description</u>	<u>Teeth per Inch</u>	<u>Blade Use</u>
10	9668	9" x 7/8" x .062	6 TPI	Demo work w/ nails
5	1568	12" x 3/4" x .062	6 TPI	Demo work w/ nails
10	9608	9" x 7/8" x .062	10 TPI	Demo work w/nails
5	1108	12" x 3/4" x .062	10 TPI	Demo work w/nails
2	6348	6" x 3/4" x .035	4 TPI	Fast nail free cuts
2	6188	6" x 3 / 4" x .035	18 TPI	Galvanized Pipe
2	80ORG	8" x 3 / 4" x .042	Carbide	Cast Iron Pipe Grit

OPERATING INSTRUCTIONS

How to Hold the Saw

The gear housing, intermediate plate, blade and pivoting guide shoe may be energized if the blade cuts into live wiring within a wall. To prevent electrical shock, one hand should hold the trigger switch on the handle, while the other hand firmly grasps the rubber front housing cover.

To Start and Stop the Saw

Hold the saw firmly. Squeeze the trigger switch to start the motor. Release the trigger switch to stop the motor. The saw is equipped with a variable speed control (0 to 2600 SPM). As the switch trigger is squeezed, the speed of the blade increases.

Lower speeds are recommended for most metal cutting operations, while higher speeds are recommended for wood.

Dual Blade Motion

The Model 737 saw has a dual blade motion feature. The operator has a choice between straight reciprocating motion or orbital motion. Straight reciprocating motion should be used for all metal cutting operations. Orbital motion is used for fast cutting of wood.

To set the saw for straight reciprocating motion: rotate selector knob clockwise so that the bar is vertical.

NO PICTURE

To set the saw for orbital motion: rotate selector knob counterclockwise, so that the bar is horizontal.

NO PICTURE

Blade Installation

The Model 737 saw has a quick-change blade clamp. This permits the operator to change the blade quickly without the use of a tool or hex wrench. To change the blade:

1. The reciprocating shaft must be fully extended to permit access to the blade release collar. If necessary, gently squeeze the trigger switch to move the reciprocating shaft to its outermost position.
2. Pivot the guide shoe forward to improve access to the blade clamp.
3. To open the blade clamp: rotate and hold the blade release collar counterclockwise (as viewed from the front of the saw).
4. Insert the blade into the clamp until it bottoms. Normally blades are inserted with the teeth facing down; however, the blade clamp will accept the blade in either position, teeth up or down.
Allow the release collar to rotate clockwise to lock the blade in place.

NO PICTURE

5. To remove the blade: repeat steps 1 through 3, and pull the blade from the blade clamp (while the release collar is held in the open position). If the blade clamp collar resists rotation to remove a blade work the blade up and down while rotating the clamp in a counterclockwise direction. If a blade breaks leaving nothing to grasp, utilize another blade as a tool to aid in removing the broken piece.

NO PICTURE

Pivoting Guide Shoe

The guide shoe serves as a rest while making a cut. The shoe can be adjusted by

loosening two hex set screws located in the bottom of the rubber front housing. The saw should not be operated with the guide shoe removed. Best results are obtained by keeping the guide shoe firmly against the material being cut.

APPLICATION

Plunge Cuts

The Tiger Saw can be used for plunge cutting wood, plywood, wallboard, and plastic materials. **Do Not** attempt to plunge cut metal. The best plunge cut performance is obtained with the saw set for orbital motion. To start the cut, rest the saw on the shoe bracket with the blade not touching the surface to be cut. Start the saw. Using the shoe bracket as a pivot, rotate the blade into the work while drawing the saw backward slowly. When the blade has cut through the work, continue raising the saw until it is perpendicular to the work surface.

Sawing Metal

When cutting angle, H-beam, or channel type metals start the cut on the surface where the greatest number of teeth will contact the work. Try to keep at least 3 teeth in contact with the work at all times.

Vehicle Extrication

The reciprocating saw is a valuable adjunct to the Hurst Tool during physical rescue incidents involving vehicle extrication. Utilizing the Tiger Saw, the A, B, and C posts of a car can be cut as fast or faster than the Hurst Tool Cutters. When using the saw to remove the roof of a car the front windshield is left in place. The first cut through the A post is continued across the window to the A post on the opposite side of the car. The saw is noticeably faster than the Hurst tool cutters on wide support posts. The 960R, 9" blade with 10 teeth per inch is best suited for this application.

The saw has also proven effective in tight spots as might be found with a driver's feet entangled with the brake or clutch pedal. Use a ladder strap around the pedal to keep tension as the cut is made. This will keep the pedal from vibrating excessively and binding on the blade.

Hidden Fires

The Tiger Saw is an effective tool when searching for fires located in hidden spaces often found in walls or between floors. A wall or floor opened with a reciprocating saw will incur far less damage than if opened with an ax or rubbish hook. Charred framing can also be cut out surgically thereby reducing damage and improving perceived performance in the eyes of the public. When compared to the chain saw the Tiger saw requires little time to clean following use.

Sprinkler Systems

A mechanical failure or break in a sprinkler system pipe often requires that the system be left inoperative. The reciprocating saw can be used to cut out a broken piece of pipe. With the broken pipe removed, the line can be plugged and the system returned to operating condition.

SAFETY CONSIDERATIONS

1. Blade selection (blade length) and tool operation is critical in situations where the blade cannot be fully visualized by the operator and there is a possibility that the blade could contact a trapped victim.
2. Appropriate safeguards should be taken to minimize the risk of ignition of flammable vapors that may be present at the scene of vehicle extrication.
3. The saw creates noise and confusion during vehicle extrication incidents. Explain and reassure the victim about the noise before operations commence.
4. To avoid electric shock prevent body contact with grounded surfaces such as pipes, radiators, stoves, etc. Make cuts in walls shallow to avoid contacting electrical wiring.

MAINTENANCE

Cleaning

The saw should be kept clean. Following use, blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. **Never** use solvents to clean plastic parts. Solvents could possibly dissolve or otherwise damage these parts.

Blade Replacement

Saw blades are available from Supply and Maintenance on a one for one exchange basis. Forward broken or dull blades with an F-175 tag to S&M for exchange. Be sure to note the blade Part # and teeth per inch (TPI) on the F-175 tag to ensure exact replacement. **Blade identification will wear off with use**, therefore it may be necessary to refer to the blade inventory list in this bulletin to determine the proper Part # and TPI when filling out the F-175 tag.