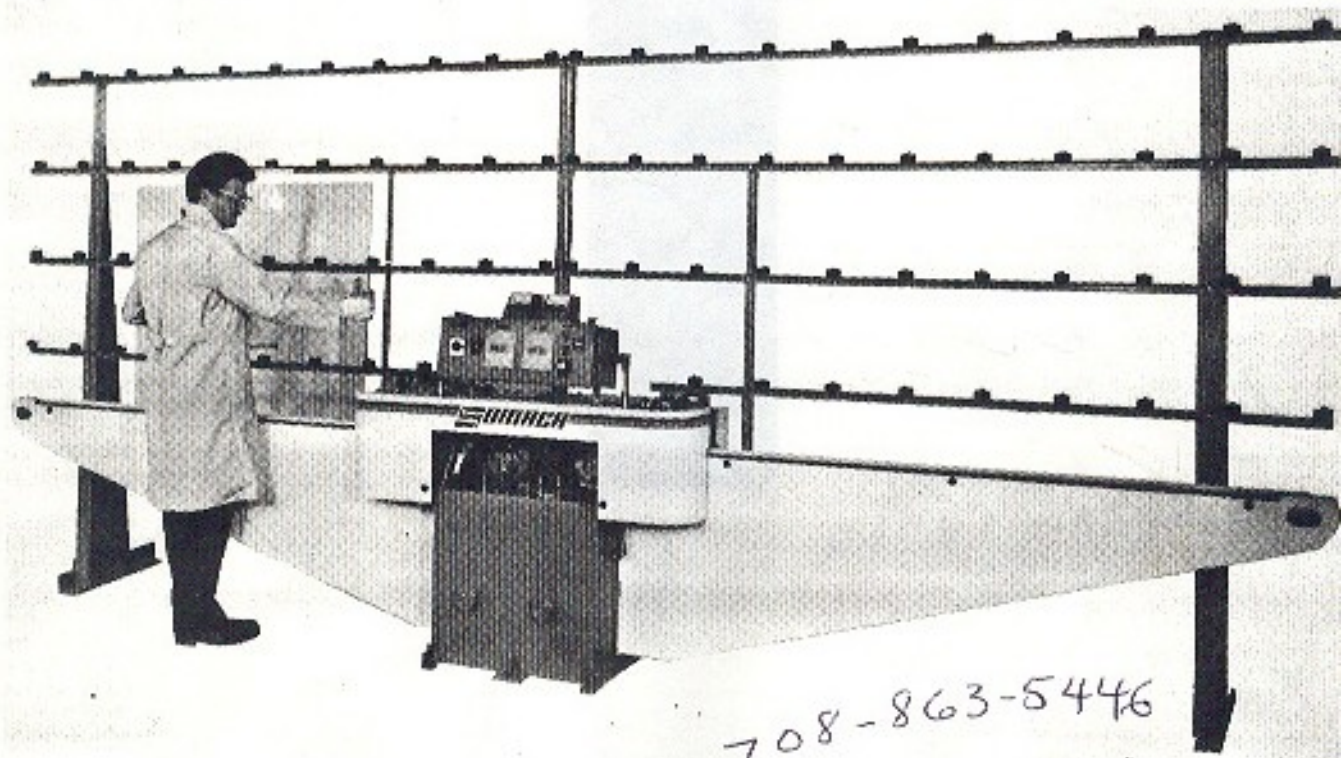


ME-II VERTICAL EDGER

OPERATION AND MAINTENANCE MANUAL
WITH ASSEMBLY INSTRUCTIONS



708-863-5446

773-242-2871

800-9422696

Sommer & Maca Industries, Inc.

5501 West Ogden Avenue
Chicago, Illinois 60650
(312) 242-2871

National Fax Number: 1-800-541-0599

ATLANTA/CHICAGO/DALLAS/HACKENSACK/LOS ANGELES/SANTA CLARA

SECTION 2

DESCRIPTION

I. GENERAL

The ME-II Vertical Edger (hereinafter referred to as the edger) was designed to fill the need for a compact production machine to edge the most common range of glass thicknesses and sizes. The edger is ruggedly constructed, easy to operate and maintain, and produces quality edges.

The edger consists of three main assemblies: the center section, conveyor system, and glass support frame. Figure 2-1 shows an overall view of the edger.

II. CENTER SECTION

The center section (Figure 2-2) contains the control panel, grinding and polishing wheels and drive motors, conveyor drive motor and gears, coolant pump and filtration system, front spring conveyor chain, and rear register pad conveyor chain.

A. Control Panel

The control panel (Figure 2-3) houses all electrical controls, ammeters, and protection devices necessary to operate the edger.

The panel contains a load indicating ammeter for each spindle, an emergency stop switch located on the top of each end of the panel, a power disconnect switch, coolant pump on/off switch, on/off switches for each spindle, stop and start pushbuttons for the conveyor drive, a forward and reverse switch for the conveyor, and a speed adjust dial for the conveyor. Fuses, a relay, adjustable potentiometers, and speed controller for the conveyor are located inside the control panel box. Figure 2-4 shows an internal view of the control panel box.

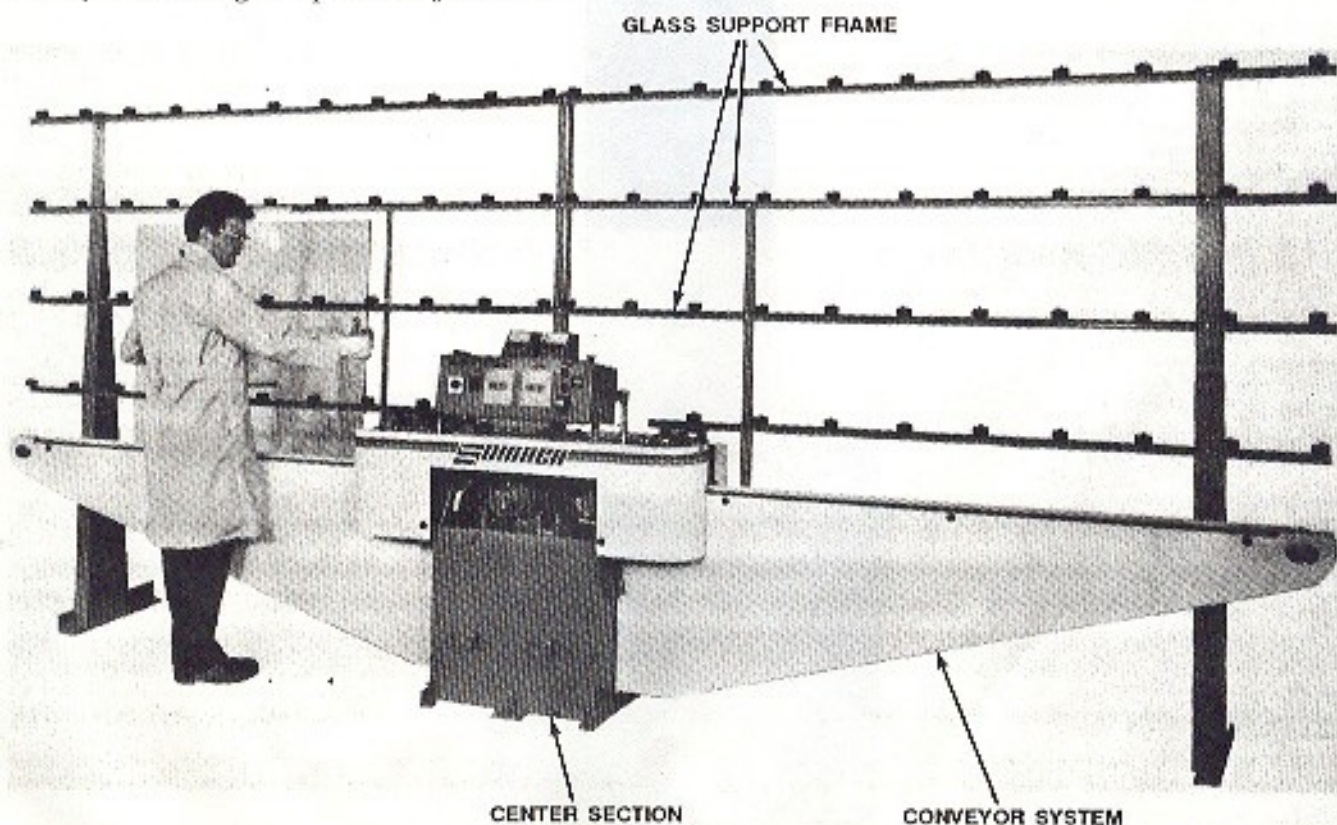


Fig. 2-1 ME-II Vertical Edger, Overall View

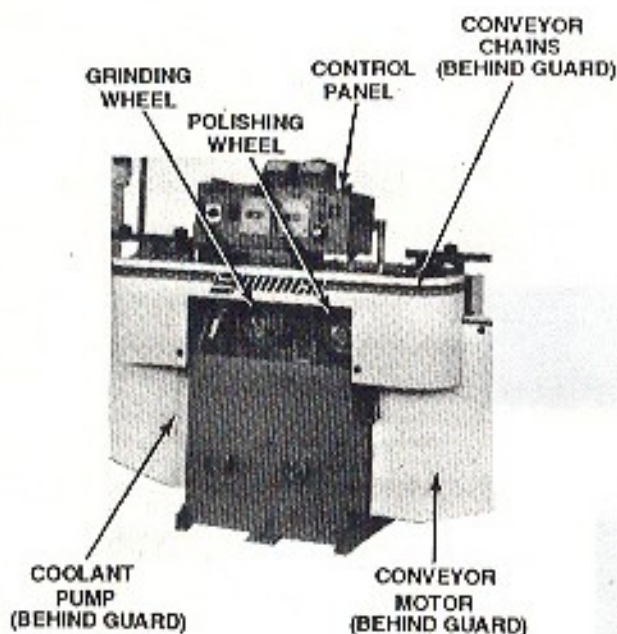


Fig. 2-2 Center Section

B. Grinding and Polishing Wheels and Drive Motors

The edger uses a diamond grinding wheel seven inches in diameter and a polishing wheel eight inches in diameter (Figure 2-5).

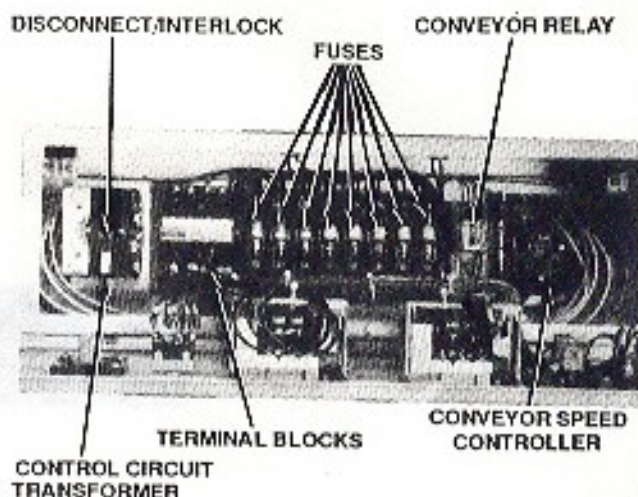


Fig. 2-4 Internal View of Control Panel

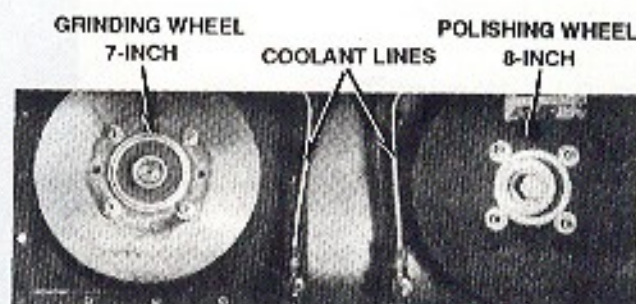


Fig. 2-5 Grinding and Polishing Wheels

The wheels will grind and polish edges of glass from a minimum thickness of 1/8 inch (3 mm) to a maximum thickness of 1/2 inch (13 mm). The wheels can be profiled to provide a pencil or flat-seamed edge (Figure 2-6), or any special edge desired.

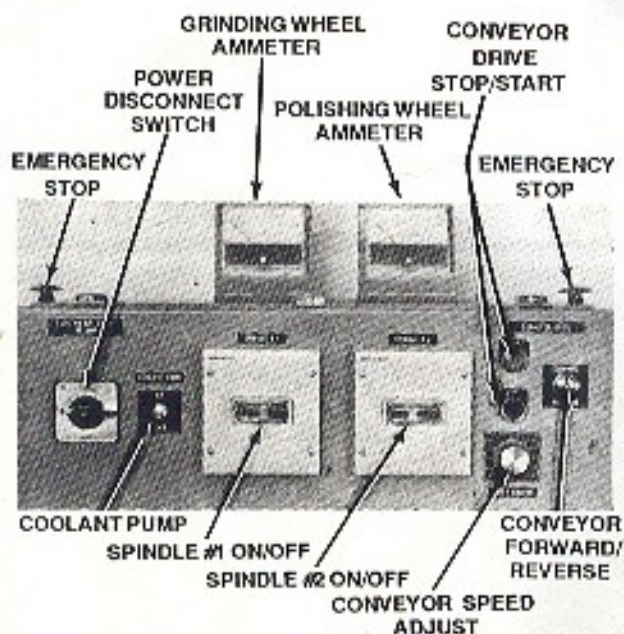


Fig. 2-3 Control Panel

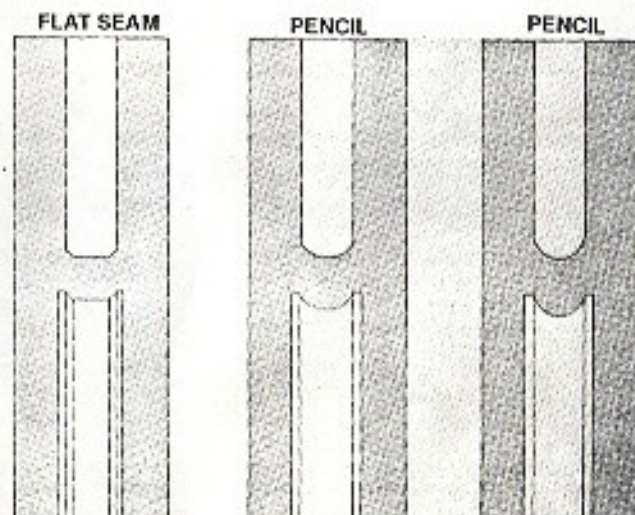


Fig. 2-6 Pencil and Flat-Seamed Edges

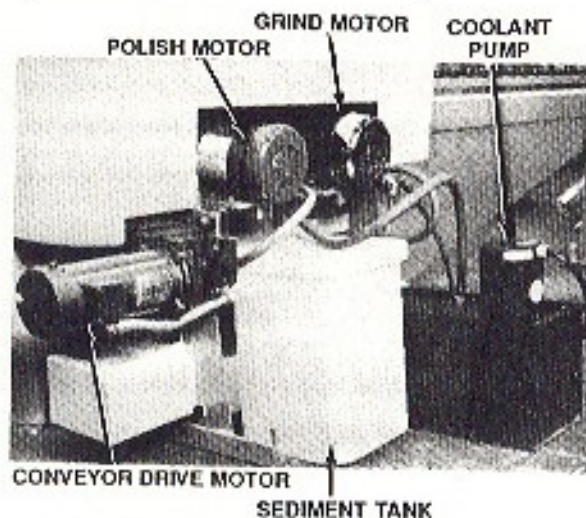


Fig. 2-7 Center Section, Rear View

The wheels are driven by special motors with precision spindles (Figure 2-7), each equipped with height adjustment for setting wheel depth, front-to-back adjustment for centering the wheel on the glass, and angular adjustment to cock the wheel with respect to glass travel.

While in operation, the wheels are cooled with a diamond wheel coolant which is recirculated by a coolant pump and filtration system.

C. Conveyor Drive Motor and Gears

The conveyor system is driven by a dc gear motor attached to a gearbox and gears (Figure 2-8). The upper gears drive the conveyor chains while the lower gears provide power to the conveyor belts. All gears are synchronized so that the conveyor belts and chains all move at the same speed.

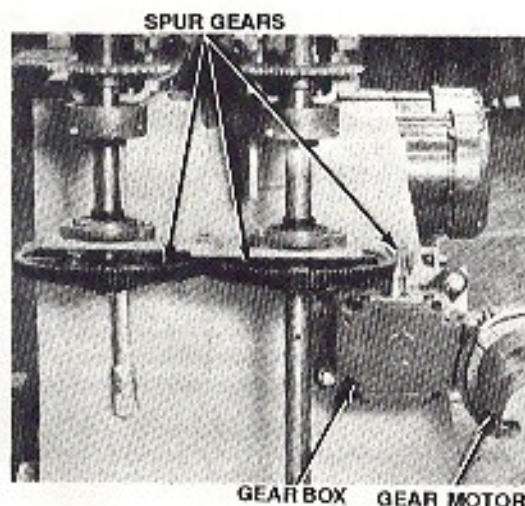


Fig. 2-8 Gear Motor and Spur Gears

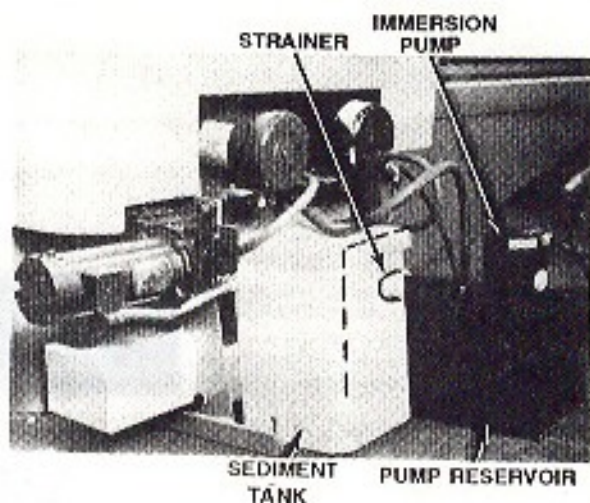


Fig. 2-9 Coolant Pump and Filtration System

D. Coolant Pump, Strainer, and Sediment Tank System

The purpose of the coolant pump, strainer, and sediment tank system (Figure 2-9) is to supply a constant flow of diamond wheel coolant free of large glass grinds to the grinding and polishing wheels while the edger is in operation. The immersion pump supplies the coolant to the wheels, the coolant then flows to a sediment tank where most of the ground glass residue settles out, and then from the sediment tank through a strainer to the pump reservoir.

E. Conveyor Chains

Even though the conveyor chains are part of the conveyor system, they are located in the center section. The conveyor chains (Figure 2-10) grip the glass and hold it securely in position during the grinding and polishing operation. The rear chain is equipped with precision machined register pads that are beveled on the leading edge so that the glass can be both gripped

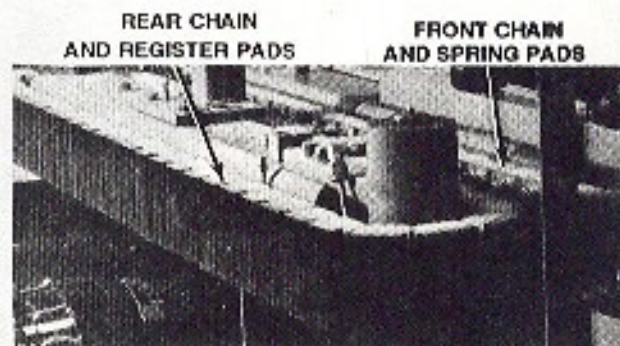


Fig. 2-10 Conveyor Chains

and released without cracking and be held in a perfectly straight path through the diamond and polishing wheels. The front chain is equipped with spring pads to hold the glass against the register pads on the rear chain.

III. CONVEYOR SYSTEM

The conveyor system (Figure 2-11) conveys glass through the edger by means of the conveyor chains as described above. The conveyor can be varied in speed from 0 to 72 inches per minute. Positive drive belts powered by the main conveyor drive convey glass in and out of the main section of the edger. Both ends of the conveyor have 84 inches in length for loading and unloading glass.

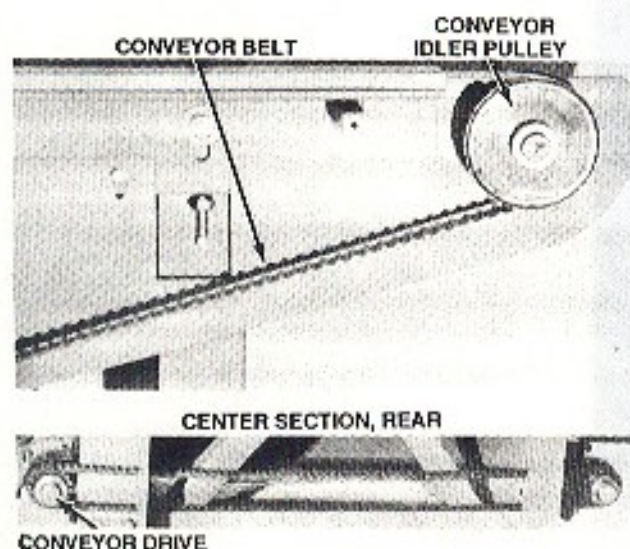


Fig. 2-11 Conveyor System

IV. GLASS SUPPORT FRAME

The glass support frame (Figure 2-12) supports glass as it is conveyed through the grinding and polishing operation. The frame can handle glass as small as 3-1/2 inches in length to as large as 72 inches in length and height depending on the thickness of the glass. The table below shows glass size capacity. The two end uprights support both the frame and the ends of the conveyor system. The center uprights along with the end uprights have five rows of roller bars. A sixth set of rollers and upright extensions are available as an option to handle glass taller than 72 inches.

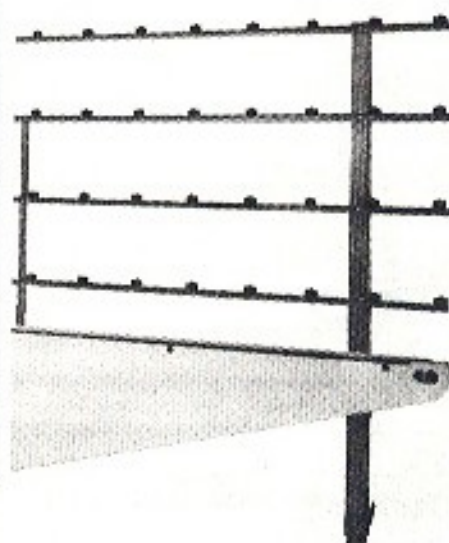


Fig. 2-12 Glass Support Frame

MAXIMUM LENGTH

WHEN WIDTH IN INCHES IS:	24	36	48	72
Thickness	Length			
1/8	72	72	72	72
3/16	72	72	72	72
1/4	72	72	72	72
3/8	72	72	72	60
1/2	72	72	65	45

V. SPECIFICATIONS

Glass Capacity

Thickness:	1/8 to 1/2 inch.
Length:	3-1/2 to 72 inches.
Height	72 inches maximum. 100 inches with optional extensions.
Weight:	150 pounds maximum.
Conveyor Speed	Variable from 0 to 72 inches per minute.

Wheel Stations

Grinding:	3 hp 3450 rpm arbor motor with 7-inch grinding wheel.
Polishing:	2 hp 1750 rpm motor with 8-inch polishing wheel

Both wheels have adjustments for height to set wheel depth, angularity for glass thickness, in/out for wheel centering on glass, and can be profiled for pencil or flat-seamed edges.

Spindle Load	Ammeters indicate load on each.
Electrical	3-phase, 60 Hz, 230 volts, 25 amps, 3-wire.
Plumbing	No direct hookup required.
Weight	Approximately 1,750 pounds.
Options	Upright roller mounting rails to handle glass height to 100 inches.