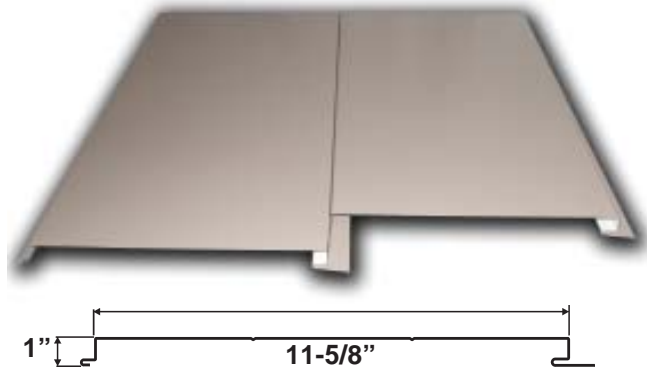


OPERATIONS MANUAL

BERRIDGE MODEL FP-16 PORTABLE ROLL FORMER



Roll forms the Berridge L-Panel
Soffit and facade system,
Liner or Soffit Panels
Versatile, maintenance-free,
prefinished metal panels for open spans



**BERRIDGE
MANUFACTURING
COMPANY**

Rollformer Operations:

2201 Rudeloff Rd

Sequin, TX 78155

830-401-5200 -- Fax 830-303-0530

OVERVIEW

The Berridge Model FP-16 portable rollformer forms the Berridge L-Panel in a variety of Rib and Venting configurations. The FP-16 allows continuous length L-Panels to be formed "On Site" from pre-finished Berridge coil stock.

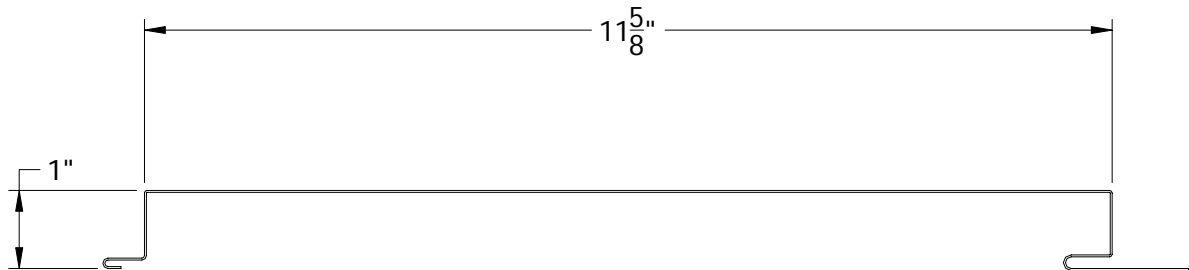


Fig. 1 Berridge L-Panel

TRANSPORTING THE FP-16

Never transport the machine without threading a strip of coil through the machine that is long enough to fully engage all of the roller sets. Following this procedure will keep the rolls from moving while in transit and becoming scarred or damaged, or shifting out of alignment from vibration or impacts. Do not transport the rollformer with a coil loaded on the uncoiler.

COIL REQUIREMENTS

Coil material used with the Berridge Model FP-16 Portable Roll Former must comply with the following parameters:

Strip Width:.....15.875 inches (Nominal 16 inches)
Thickness:.....24 Gauge (0.024 Inches)
Type:.....Prefinished galvanized or Galvalume
Maximum Weight:.....2000 lbs.
Minimum Inside Diameter:.....20 inches

Note: Only Berridge-supplied coil may be used with the FP-16 Portable Rollformer. Coil from other sources may damage the forming rolls on the machine. If coil from a source other than Berridge is used in the FP-16, Berridge Manufacturing may recall the machine and disassemble and inspect it. A service charge may be assessed.

ELECTRIC POWER REQUIREMENTS

The FP-16 Rollformer may be powered by either an electric drive unit which uses an electric motor and clutch/brake system to drive the forming rolls, or a hydraulic power unit with a hydraulic motor for driving the forming rolls. The FP-16s that are powered with hydraulic systems still require electric power for the hydraulic system and computer. The performance of the machine is not affected by the type of power unit used to drive the rollformer.

The electric power requirements for the electric and hydraulic drive systems are below:

Electric Drive System: 240 Volt **20 Amp** Single Phase Electric Power

Hydraulic Drive System: Requires **both** 240 Volt **30 Amp** Single Phase and 120 Volt 15 Amp Electric Power (120 volt service powers computer)

Note: The use of portable generators is not recommended with the FP-16 Rollformer. Portable generators may damage the computer control system and electric motor.

If extension cords are required, see the table below for sizing:

120 Volt 15 Amp Service (used for computer only)
0-200 FT 12 Gauge Wire

240 Volt 20 Amp and 30 Amp Single Phase Service
0-100 FT 10 Gauge Wire
100-200 FT 8 Gauge Wire

PERFORMANCE and SPECIFICATIONS

(overall size and weight includes table, casters, and uncoiler – omitted below for clarity)

WIDTH: 2' -11"
LENGTH: 14'-8"
HEIGHT: 4'-8"
WEIGHT: Electric Drive: 3240 lbs. Hydraulic Drive: 3650 lbs.
FORMING SPEED: 48 Lineal Feet per Minute

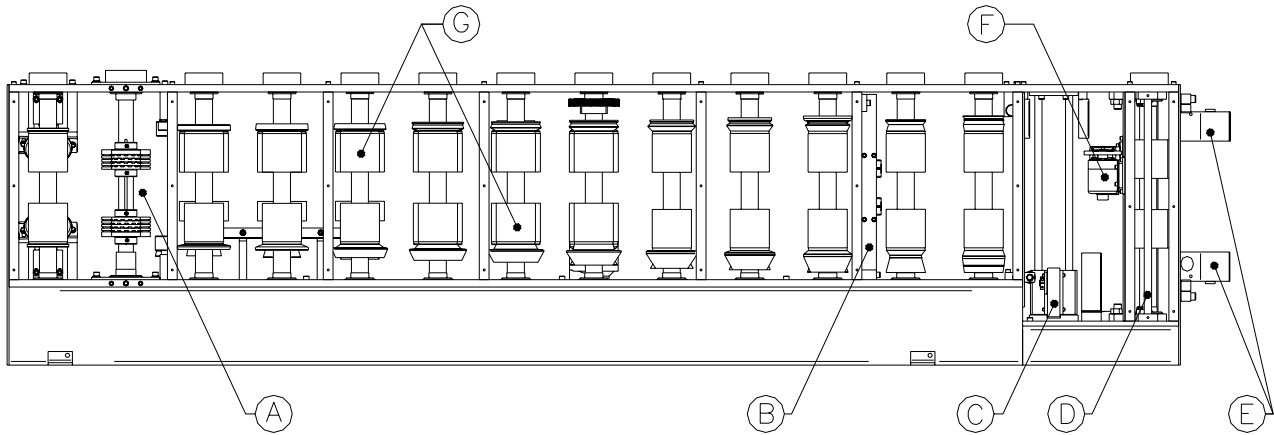


Fig. 2 FP-16 Main Components

- | | |
|---|--|
| A: Perforation Rollers | E: Feed-In Guides |
| B: Stiffening Rib Assembly | F: Encoder (Counter) for Computer |
| C: Shear | G: Forming Rolls |
| D: Drive Roll Brake (for stopping coil feed after shearing last panel) | |

OPERATING INSTRUCTIONS

<u>Loading Coil</u>	
A.	Lock all four casters.
B.	Rotate the eccentric tubes on the uncoiler by loosening the nuts on top of the tubes. Then rotate the tubes inward to accept the coil.
C.	Unlock the locking bar on the coil lifter arm, fold the legs inward, and drop inside of coil.
D.	When lifting feet clear the bottom of the coil, spread the legs apart, swing down the locking arm, and lock the arm in place. The coil should now be resting on the two lifting feet of the coil lifter arm.
E.	Using a forklift or other lifting apparatus with a minimum load capacity of 2000 lbs., pick up the coil by means of a chain (sized to accommodate the load) attached to the lifting ring at the top of the coil lifter arms. Stay to one side of the coil and do not walk beneath it.
F.	Center the coil over the uncoiler, and slowly lower it down onto the uncoiler with all 4 uncoiler tubes inside the coil.
G.	When the coil is safely seated on the uncoiler arms, rotate the uncoiler tubes out to make contact with the inside of the coil. Lock the locking nuts on the uncoiler tubes.
H.	Unlock the locking bar on the coil lifter, swing the legs in, and lift the coil lifter out of the coil.

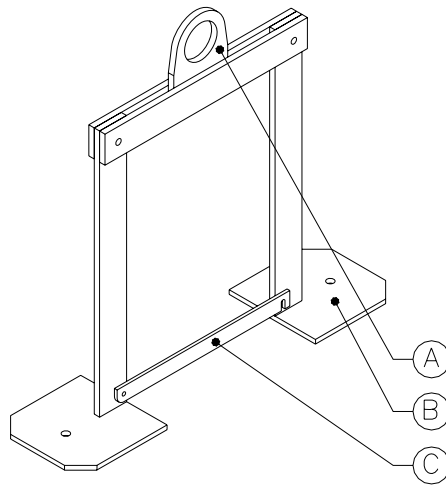


Fig. 3 Coil Lifter Arms

- A:** Lifting Ring
- B:** Lifting Feet
- C:** Locking Bar

OPERATING INSTRUCTIONS (Cont.)

Feeding Coil Into the Rollformer: Electric Drive System

- A. Pull the Drive Roll Release (Fig. 2 Item D) forward to lock the first station drive rolls together.
- B. Feed the leading edge of the coil into the Feed-In Guides on the rollformer (Fig. 2 Item E) and up to the first station rollers.
- C. The drum switch, located near the bottom of the rollformer and to the left of the shear (Fig. 2 Item C), controls the drive direction of the rollers. Put the switch in the forward position.
- D. The green jog button is located above the shear. In the same control box as the jog button is a toggle switch with two positions: "Manual" and "Computer". Put the toggle switch in the "Manual" position.
- E. Press the green jog button to engage the rollers. Carefully feed the coil into the first station rollers, pulling lightly on the top edge of the coil if necessary for it to enter the first station rollers. Keep hands away from the rollers inside the plexiglass and the shear station.
- F. Continue feeding the coil until the leading edge is just past the shear. Release the green button to stop the coil, and lift the shear to cut the leading edge of the coil.

Note: To begin production using the computer, switch the toggle switch to the "Computer" position. See the Computer Operating Instructions provided with the computer for programming and operation guidelines.

Feeding Coil Into the Rollformer: Hydraulic Drive System

- A. Pull the Drive Roll Release (Fig. 2D) forward to lock the first station drive rolls together.
- B. Feed the leading edge of the coil into the Feed-In Guides on the rollformer (Fig. 2E) and up to the first station rollers.
- C. The Power Switch is located near the exit end of the rollformer on the operator side, in a gray electrical enclosure. Push the On button to turn on the hydraulic system.
- D. The computer is used to jog the rollformer as follows:
 - A. Turn the center switch on the right side of the computer to the "Manual" position.
 - B. Turn the bottom switch to the "Forward" position and the rollers will start turning. Release the switch to stop the machine (switch will spring back to the center "Off" position). Turn switch to the "Reverse" position to reverse the feed direction.
- E. Using the computer, carefully jog the material into the rollformer until the leading edge of the coil is just past the shear.
- F. Press the "Shear" button on the computer to cut the end of the coil. Keep hands away from the rollers and shear station during this operation.

Note: To begin production using the computer, see the Computer Operating Instructions provided with the computer for programming and operation guidelines.

SETUP AND CONFIGURATION

The FP-16 is a “fixed width” machine – it runs coil that is 15.875” (15 7/8” – Nominal 16”) wide. The width is fixed and cannot be adjusted. The feed-in guides and interior guide rolls are factory set to produce a panel of the correct profile.

The FP-16 can be set to form a panel with the following configurations:

- A. Smooth panel pan
- B. Panel pan with 2 Stiffening Ribs
- C. Panel pan with 2 rows of Perforations (Vents)
- D. Panel pan with 1 Stiffening Rib and 2 rows of Perforations (Vents)

The instructions below explain the installation procedures for Stiffening Ribs and Perforations.

Stiffening Ribs

The Stiffening Rib rollers are a self-contained assembly. The rollers are mounted on a frame which bolts to the frame of the rollformer.

To remove the Stiffening Ribs, simply remove the entire assembly from the rollformer. Do not attempt to disassemble part of the assembly because this could change the clearance between the rollers and affect the appearance of the panel. See the section below for detailed instructions.

<u>Installing the Stiffening Rib Assembly</u>	
A.	Remove the clear lexan cover on the operator side of the machine.
B.	Locate the mounting location for the Stiffening Rib Assembly (see Fig. 4 below). The two vertical framing members in the machine (Fig. 4 Item C - operator side and motor side) will have threaded holes located near the top and bottom of each member.
C.	Insert the stiffening rib assembly oriented as shown in Fig. 5 below (the direction of material flow should be right to left). The male die should be on the operator side and the female on the motor side, causing the rib to be indented toward the motor side of the machine.
D.	Line up the mounting holes in the Stiffening Rib assembly with the threaded holes in the vertical framing members.
E.	Using the bolts supplied with the Stiffening Rib Assembly (Fig. 5 Item B), bolt the Assembly in place.
F.	Replace the operator side lexan cover. Run a test panel to ensure the ribs are forming correctly.

Stiffening Ribs (Cont.)

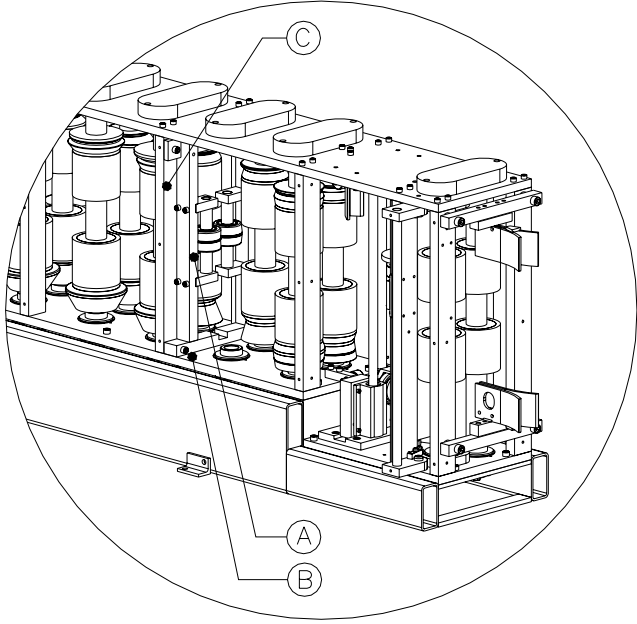


Fig. 4 Stiffening Rib Location

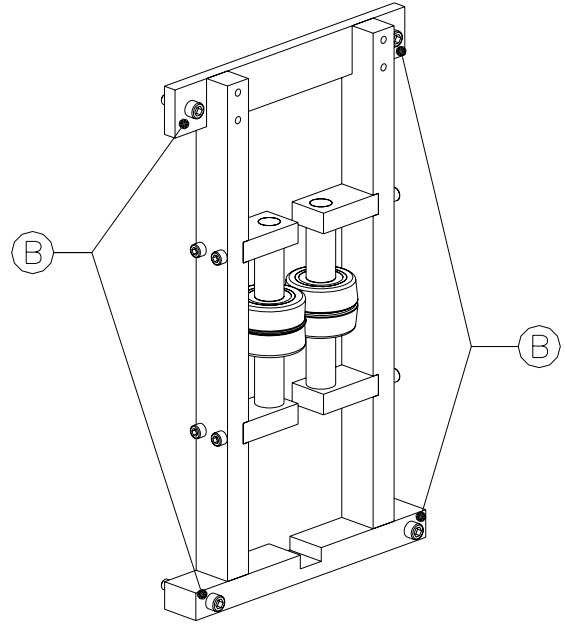


Fig. 5 Stiffening Rib Assembly

- A. Stiffening Rib Assembly
- B. Stiffening Rib Mounting Bolts
- C. FP-16 Vertical Framing Members

Perforations (Venting)

The FP-16 Rollformer is fitted with a set of perforating rollers near the exit end of the machine. Perforations are partially punched slots through the pan of the panel, allowing air flow through the panel for vented soffits and similar applications. Perforations are installed in the pan of the panel by shifting the male perforating rollers toward the female set of rollers (toward the motor side of rollformer) until the correct die clearance is achieved.

Important!!!: It is critical that the perforation rollers be setup correctly to avoid damaging the panel and possibly destroying the rollers. Read the instructions below carefully before attempting to adjust the perforation rollers.

Perforations (Venting) – (Cont.)

Installing the Perforations (Vents)

- A. Remove the operator side clear lexan cover.
- B. Loosen the top and bottom Lock-Down Bolts (A).
- C. Loosen the top and bottom Outer Adjustment Bolts (B). The Outer Adjustment Bolts are used to pull the Male Perforation Rollers (D) away from the Female Perforation Rollers (E) (disengage the rollers). The Inner Adjustment Bolts are used to push the Male Perforation Rollers toward the Female Perforation Rollers (engage).
- D. After loosening the Outer Adjustment Bolts on both the top and bottom of the rollformer, turn the Inner Adjustment Bolt clockwise, causing the Male Perforation Rollers to move toward the Female Perforation Rollers.

Note: The top and bottom MUST be moved together. Move the bottom no more than 1/8", then move the top 1/8". This will keep the male roller set parallel to the female roller set. Do not move the top and bottom independently more than 1/8", or the rollers could become jammed between the top and bottom plates of the rollformer.
- E. When the protrusions on the male rollers reach the slots in the female rollers, use a Feeler Gauge to set the clearance between the rollers (see Fig. 7 below). The clearance should be set at about 0.060" at both the top and bottom.

Note: If either the top or bottom adjustment is moved, the clearance between BOTH the top and bottom roller sets must be re-checked with the feeler gauge. Moving the top or bottom affects both the top and bottom clearances.
- F. After setting the top and bottom clearances, tighten the Outer Adjustment Bolts. Check the clearances again before proceeding to make sure the rollers did not shift. If the clearances are not 0.060", continue with the adjustments until the correct clearances are reached.
- G. After confirming the clearances are correct and the Inner and Outer Adjustment Bolts are tight, tighten the Lock-Down Bolts to hold the rollers in place.
- H. Run a panel and examine the perforations. Make sure all perforations are correctly punched and the metal is cut on both sides of each strip of perforations. Also examine the aesthetics of the panel under good lighting conditions to ensure the panel is being formed correctly. If the panel is not acceptable, check the clearances between the top and bottom roller sets to make sure the proper clearance is set. The clearance might need to be adjusted slightly tighter or looser than the 0.060" starting point.
- I. To remove perforations from the panel (disengage the perforation rollers), reverse the above process to move the male rollers away from the female rollers.

Note: When disengaging the rollers, make sure there is at least 1/4" of clearance between the male and female rollers to avoid interfering with the panel.

Perforations (Venting) – (Cont.)

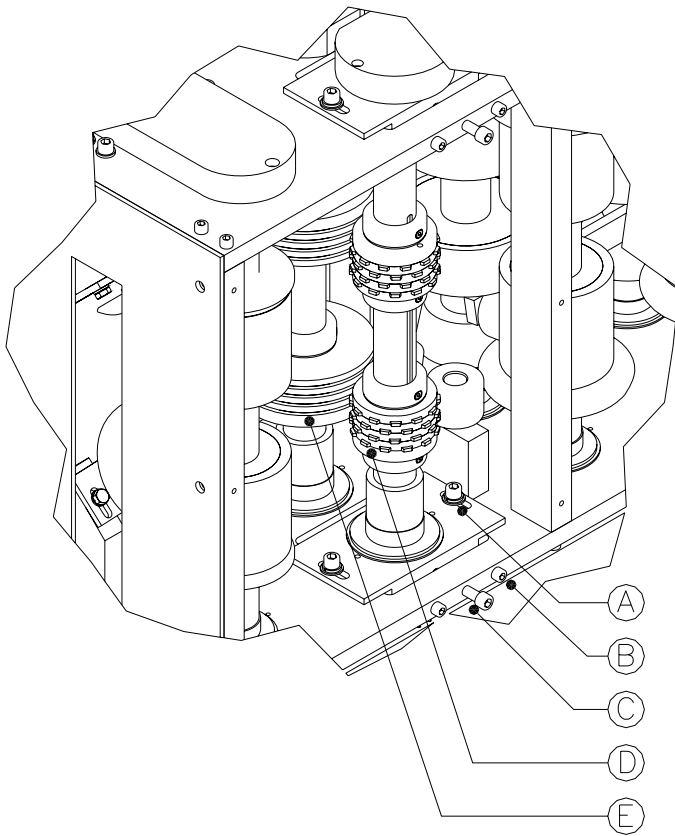


Fig. 6 Perforation Forming Station

- A. Lock-Down Bolts
 - B. Outer Adjustment Bolts
 - C. Inner Adjustment Bolt
 - D. Male Perforation Rollers
 - E. Female Perforation Rollers
- Note: Only bolts on bottom are noted, but bolts on top need to be adjusted also

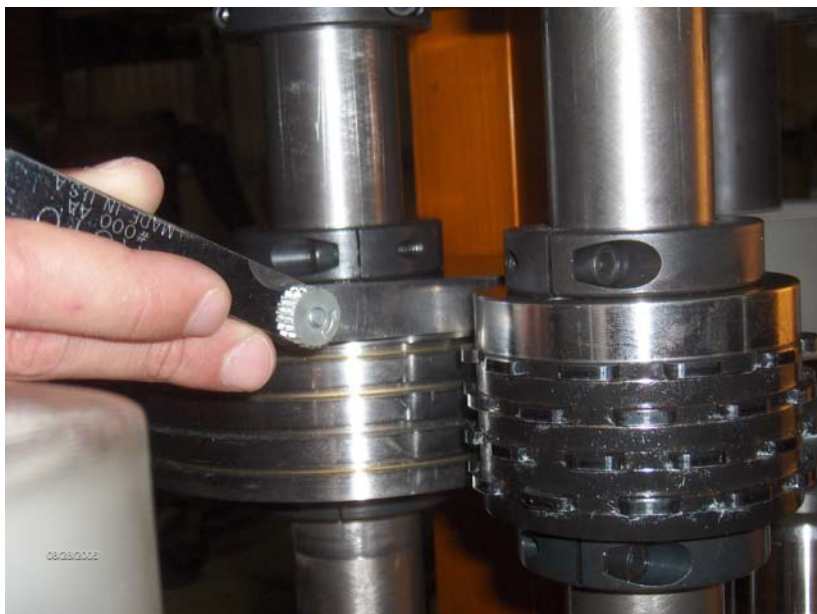


Fig. 7 Using Feeler Gauge to Set Perforation Clearance