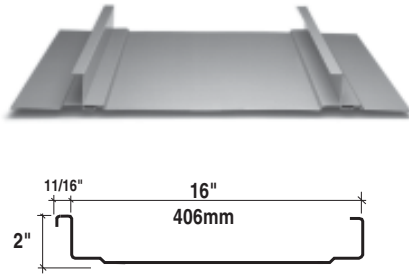
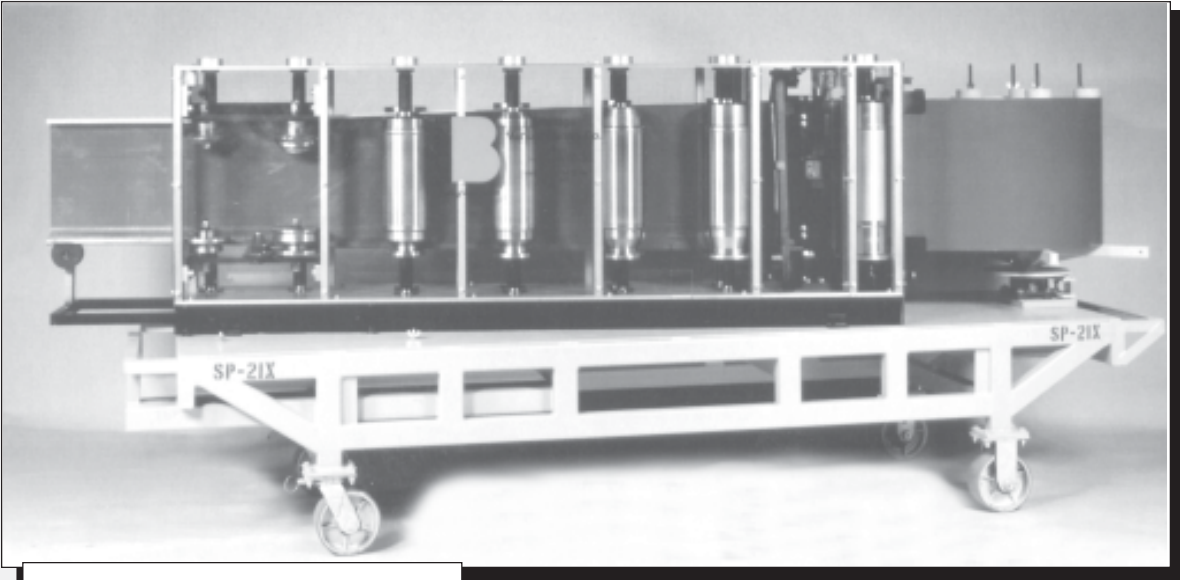


OPERATIONS MANUAL

BERRIDGE MODEL SP-21-X PORTABLE ROLL FORMER



THE MODEL SP-21 FORMS THE BERRIDGE ZEE-LOCK
STANDING SEAM ROOF PANEL IN CONTINUOUS
LENGTHS



LEASED TO: _____

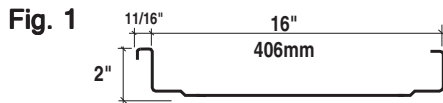
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CONTENTS

I. GENERAL DESCRIPTION	2
II. EQUIPMENT NOMENCLATURE	3
III. OPERATING INSTRUCTIONS	4
IV. MAINTENANCE INSTRUCTIONS	5
V. SAFETY	6
VI. ROLL FORMER RETURN INFORMATION FORM	7

I. GENERAL DESCRIPTION

THE BERRIDGE MODEL SP-21-X PORTABLE ROLL FORMER is a precision-manufactured machine designed to provide high quality "Jobsite" production capability for installers of the BERRIDGE ZEE-LOCK standing seam roof panel (Fig. 1).



THE BERRIDGE MODEL SP-21-X PORTABLE ROLL FORMER is mounted on a heavy-duty four wheel cart and is completely self-contained, including uncoiler, mechanical shear and counter gauge for measuring panel length.

CASTER BRAKES & LOCKING MECHANISM:

For safety reasons, it is recommended that the foot brakes on each caster be placed in the locked position whenever the roll former is not being moved. Also, note the two front casters have a locking mechanism to keep them from swiveling. This is useful when pulling the cart onto the Berridge Trailer.

MODEL SP-21-X COIL USAGE:

Coil material used with the Berridge Model SP-21-X Portable Roll Former must comply with the following parameters:

- Coil Width 20.875 inches (nom. 21")
- Maximum Weight 2000 Lbs.
- Maximum Outside Diameter 32 Inches
- Minimum Inside Diameter 20 Inches
- Maximum Material Thickness 24 Ga. (.024 In.)
22 Ga. Avail. on Request

Material: Prefinished galvanized or Galvalume,
16 oz. ¼-½ hard Copper

NOTE: Do not run unpainted coil on the SP-21-X Portable Roll Former; Unpainted coil may cause flake build-up on rolls. Because the SP-21-X is a precision machine, designed to fabricate only Berridge-developed products, only Berridge Coil may be used in these roll-formers. Other coil material may vary in thickness, hardness, and surface treatment which could damage the components of the SP-21-X Roll-Former. Also, defective coil material will result in a defective product which could damage the reputation of the high quality Berridge products. Therefore, only Berridge coil is allowed to be used in any Berridge Portable Roll-Former. If it is discovered that any other material has been used in a Berridge Portable Roll-Former, Berridge Manufacturing Company has the right to recall the machine and completely disassemble and inspect it. A service charge will be assessed.

TRANSPORTING THE SP-21-X:

Never transport the machine without a piece of coil remaining in contact with all rolls. This keeps the rolls from moving while in transit and becoming scarred or damaged. Do not transport the roll former with a coil loaded on the uncoiler unless the uncoiler is blocked to support the weight of the coil.

ELECTRICAL POWER REQUIREMENTS:

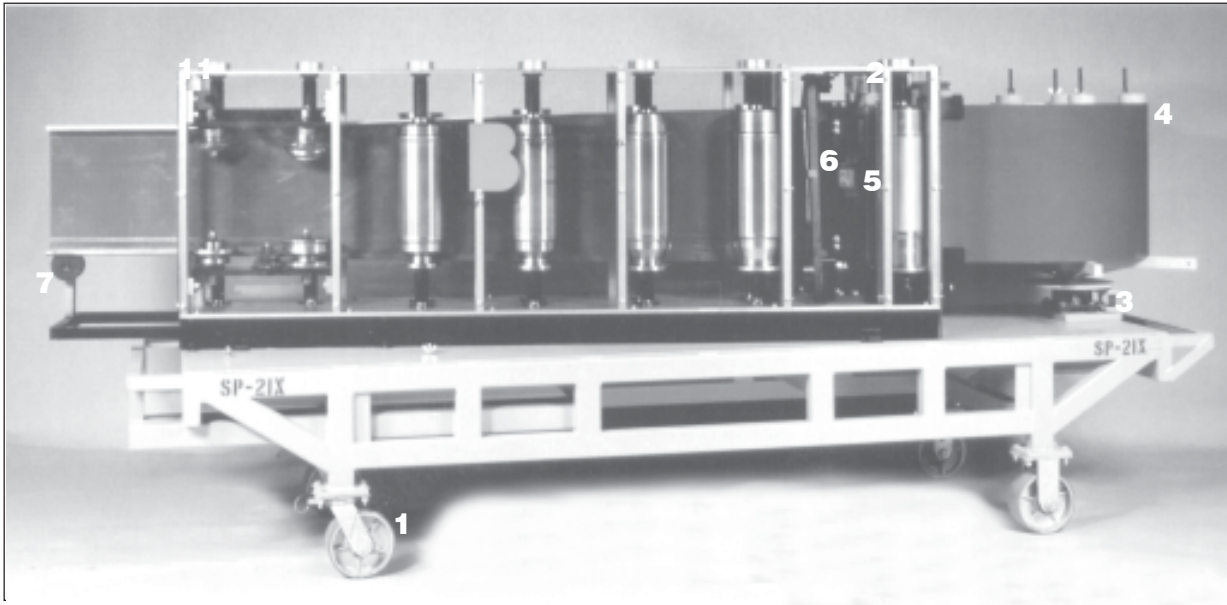
The Berridge Model SP-21-X Portable Roll Former requires standard U.S. electrical current of 220 volt single phase power. Connect to a grounded supply receptacle with at least 20 amp current capacity. If extension cords are required, use the following recommended sizes:

Length	Wire Gauge
0-100 FT	10
100+ FT	8

NOTE: The use of portable electric generators to power the Model SP-21-X is not recommended, as this practice will lead to damage to the electric motor.

II. EQUIPMENT NOMENCLATURE

MODEL SP-21-X PORTABLE ROLL-FORMER



FEATURES:

1. CASTERS
2. DRUM SWITCH
3. BRAKE ADJUSTMENT
4. UNCOILER
5. COUNTER GAUGE
6. SHEAR HANDLE
7. PANEL SUPPORT BAR & ROLLER

ROLL FORMER SPECIFICATIONS

WIDTH: 2'-10"
LENGTH: 12' -6"
HEIGHT: 5'
WEIGHT: 3100 LBS (3170 LBS W/ COVER)
SPEED: 45' PER MINUTE
MOTOR:
24 & 22 GA. 2 H.P. 240V. AC SINGLE-PHASE
ROLLFORMERS: ELECTRIC

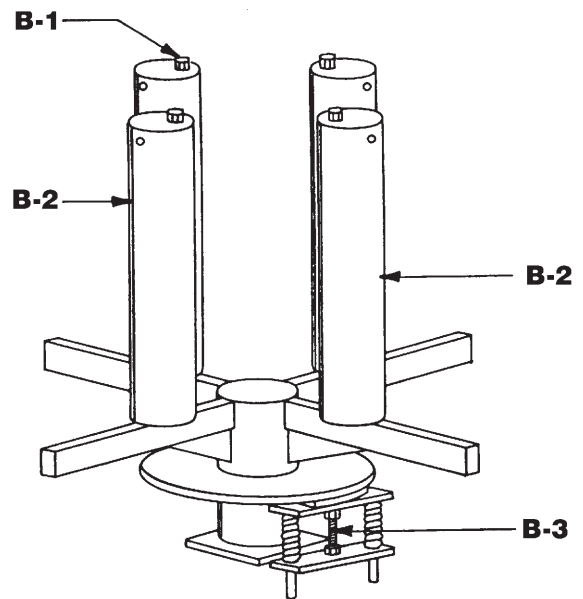
III. OPERATING INSTRUCTIONS

STEP ONE - LOADING COIL

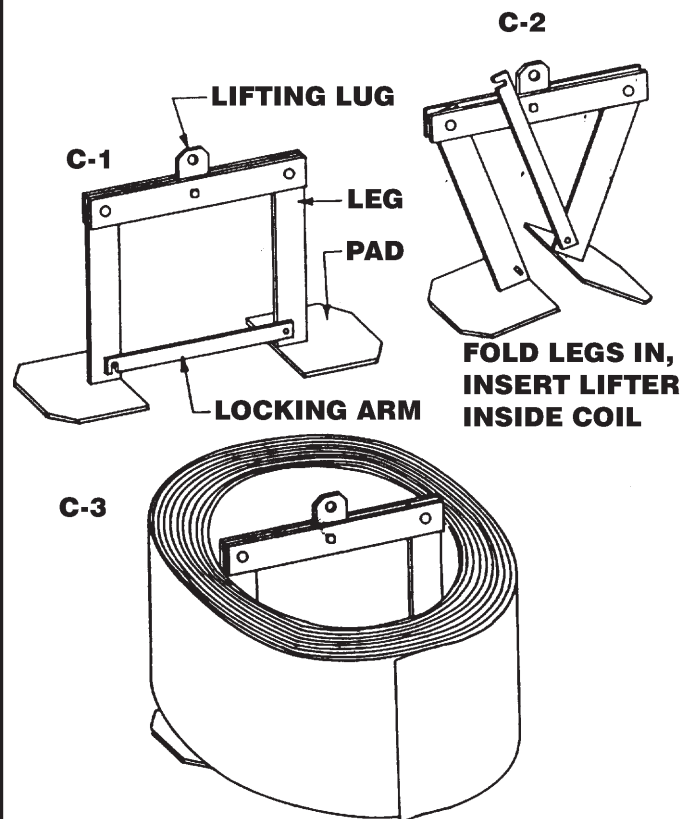
- A. Lock all four casters.
- B. Rotate the eccentric tubes (Detail B-2) on the uncoiler by loosening the nuts on top of tubes (Detail B-1). Then rotate tubes inward to accept the coil.
- C. Load the coil with painted side facing toward operator side of rollformer, with leading edge toward the machine.
- D. Unlock arm of the coil lifter apparatus (Detail C-1), fold legs inward (Detail C-2) and place inside the coil (Detail C-3). The coil lifter legs should now be locked in place and the coil should be fully seated on the pads of the coil lifter legs.
- E. Using a forklift or other suitable hoist with a minimum load capacity of 2000 pounds, pick up the coil by means of a chain (sized to accommodate load) attached to the top of the coil lifter. Keep to one side of coil and avoid standing underneath it during the loading operation. Next, lower the coil onto the uncoiler, and keep it centered on the uncoiler with the leading end positioned clockwise, ready to feed into the machine.

STEP TWO - FEEDING COIL INTO THE ROLLFORMER:

- A. Shear handle must be in the upright position. If using a pivot style shear, slit shears need to be all the way down and resting on the bottom plate.
- B. The Drum Switch located on the side of the rollformer controls the direction of the coil through the rolls. With the switch in the forward mode, the coil will proceed through the various forming stages. At this time, run any metal left in the rolls through the machine to make way for the new coil. Turn Drum Switch to forward; motor will start but rollers will not turn. To feed the coil through machine, press green job button located above shear station.
- C. Clip the corners of the leading edge of the coil before feeding into the rolls.
- D. By hand (**DO NOT TOUCH DRUM SWITCH DURING THIS SEQUENCE**) insert the leading end of the coil through the slot in the plastic guard and let it slide on the lower support bar until the coil enters the first set of rolls.
- E. Turn the Drum Switch to the forward mode, apply some hand pressure on the coil (KEEP HANDS CLEAR OF INSIDE THE PLEXIGLAS) to force it into the rolls and down on the support bar until it feeds by itself.
- F. If the uncoiler moves too freely or if the material slips in the roll, it may be necessary to adjust the uncoiler brake by loosening or tightening the adjustment bolt (Detail B-3). **NOTE:** Loosen locknut and rotate bolt clockwise for increased brake pressure or counter-clockwise to decrease brake pressure.



B-1 LOCKING NUTS
B-2 ECCENTRIC TUBES
B-3 BRAKE ADJUSTMENT BOLT



III. OPERATING INSTRUCTIONS

STEP THREE - RUNNING PANELS

- A. Allow one man for every 10 foot length of panel being run to support panel and carry without causing the panel to buckle.
- B. The panel **MUST** be held in a horizontal plane, level with the position in which it leaves the rolls. The sliding support wheel (Fig. 1) is used to accomplish this. If this procedure is not followed, it may result in unequal leg heights, buckling of panel or possible "oil-canning" of panel.

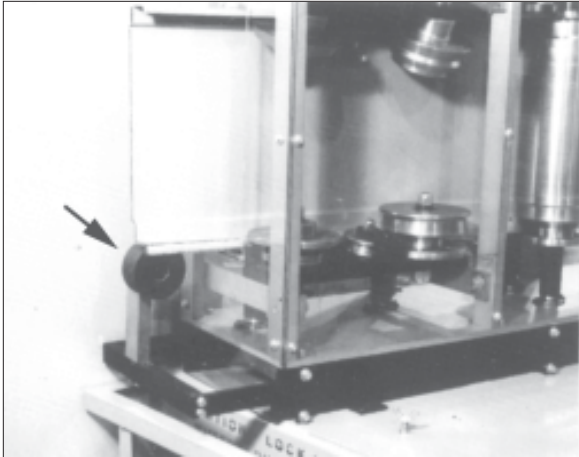


FIG. 1: THE SLIDING SUPPORT WHEEL PROVIDES SUPPORT TO HOLD LONG PANELS IN THE HORIZONTAL PLANE AND PREVENT BUCKLING OR DAMAGE. NOTE: DO NOT RUN PANELS UNLESS THE SUPPORT WHEEL IS FULLY EXTENDED.

- C. Set the counter to zero by depressing the reset button. The counter will measure in feet and inches. There is no calibration for fractions of an inch but after experience in operation you will be able to determine stopping points on the counter for fractions. Make sure coil is dry when being run as this may cause counter to slip. Measure panels occasionally to double check counter accuracy.
- D. When you have run the panel to the desired length, release green jog button. NOTE: If you have slightly run the panel past the desired length, you can turn the drum switch to the reverse mode and back it up. It is not recommended that you do this for more than a couple of inches.
- E. Pull the shear handle down to cut the panel. NOTE: When shear handle is down, it blocks the incoming coil from entering the rolls. To run coil through rolls without starting a new panel, leave handle down after making last cut.

STEP FOUR - SEAMING OPERATION

- A. After you have run the panels and installed the required accessories at gables and eave flashing (refer to Zee-Lock Typical Installation Details), place the first Zee-Lock panel at one gable end.
- B. Remove strippable film from all panels surfaces including the edges of both seam legs BEFORE installing panels.
- C. Install either the Continuous Zee-Rib or Zee-Clips along the leading male leg of the first Zee-Lock panel.

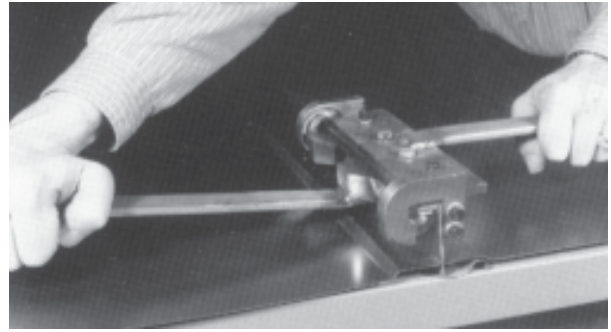


FIG. 2 - HAND SEAMING ZEE-LOCK SIDELAP TO PROVIDE A STARTING POINT FOR SEAMING MACHINE

- D. Prepare the sidelap seam for machine seaming by crimping the starting end of the sidelap using the Hand Crimper Tool (Fig. 2). This creates a seamed area where the Zee-Lock Seamer Machine will be positioned to commence seaming the sidelap. Crimp the sidelap every 4'-0" prior to seaming.
- E. The machine seaming of the Zee-Lock panel is done immediately after the installation of each panel.
- F. Refer to either the Zee-Lock Single Lock or Double Lock Seamer Operations Manual for instructions on seaming the panel sidelaps.

IV. MAINTENANCE INSTRUCTIONS

THE **BERRIDGE MODEL SP-21-X PORTABLE ROLL FORMER** requires very little maintenance. To insure the highest quality product and maximum machine life, the following routine preventative maintenance is required. Keep the machine **DRY, CLEAN & DIRT-FREE**; this is a precision piece of equipment. Keep a **MAINTENANCE LOG**.

- A. Remove Lexan panels from both sides. Clean the **STAINLESS STEEL ROLLS** with mineral spirits. Do not spray the lubricant on the Lexan panels

- B. Clean the **LEXAN SIDE PANELS** with glass cleaner (Windex or equiv.) and the **ALUMINUM FRAME** with liquid household cleaner. This will remove lubricant and dirt from the aluminum frame.
- C. The **SHEAR, UNCOILER** and **CASTER** may be lubricated with a good grease. Lubricate the upper and lower bearing on the Uncoiler. Do not apply grease to the drive gears on No. 1 Station as any dirt, paper etc. on the coil will collect on the grease.
- D. The **DRIVE CHAINS** may be lubricated with a good quality spray-on chain lubricant.
- E. **MAIN DRIVE GEAR BOX**: Rexnord and Dodge boxes need no lubrication. Use SPO-244 by Lubriplate or equal in Euro Drive Gear Boxes.
- F. The **TABLE** can be cleaned with any liquid household cleaner. Touch-up as needed with Glidden "Bolt Green" paint.
- G. Check tightness of all **MOUNTING BOLTS & SCREWS** regularly, especially after each time the machine has been in transit.

V. SAFETY

It is important to abide by normal safety rules when operating the **BERRIDGE MODEL SP-21 PORTABLE ROLL FORMER**. While Berridge recommends the following minimum safety practices, the company accepts no responsibility for personal injury or property damage incurred while operating the machine.

- A. Make sure electrical outlet is grounded.
- B. Do not operate machine in rain or stand in water while operating .
- C. Make sure electrical cord is free of cuts and exposed wire.
- D. Keep hands and clothing out of the rolls and the shear blade.
- E. Keep wheels locked on the machine except when necessary to physically move it.
- F. Do not stand under coil when loading or unloading machine.
- G. Do not operate machine with plexiglass panels removed.



PORTABLE ROLLFORMER RETURN INFORMATION

DATE RETURNED _____

MODEL # _____

SERIAL # _____

COIL HOOK CRATE TARP

MISCELLANEOUS (LIST) _____

COMMENTS _____

REPAIRS: _____

LABOR COST: _____

PARTS COST: _____

FILL OUT & MAIL OR FAX TO:

**BERRIDGE MANUFACTURING COMPANY
ROLL FORMER OPERATIONS**
2201 Rudeloff Road
Seguin, Texas 78155
Fax: 830-303-0530

NOTE TO LESSEES:

The Berridge Model SP-21 Roll Former Machine is shipped in good working condition and must be returned in the same condition. The cost of any required repairs for damage or deterioration caused by misuse or negligence will be charged to lessee.



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