Martin® Self Adjusting Skirting

Go to Martin® Self Adjusting Skirting web page

Operator’s Manual
M3612
Important

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The following symbols may be used in this manual:

⚠️ **DANGER**

**Danger:** Immediate hazards that will result in severe personal injury or death.

⚠️ **WARNING**

**Warning:** Hazards or unsafe practices that could result in personal injury.

⚠️ **CAUTION**

**Caution:** Hazards or unsafe practices that could result in product or property damages.

**IMPORTANT**

**Important:** Instructions that must be followed to ensure proper installation/operation of equipment.

**NOTE**

**Note:** General statements to assist the reader.
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Introduction

General
Martin® Self Adjusting Skirting is a self-adjusting conveyor belt skirting system that prevents spillage without requiring regular service to maintain an effective seal. Martin® Self Adjusting Skirting is covered under patent 6,575,294.

References
The following documents are referenced in this manual:


- Federal Register, Volume 54, Number 169, Part IV, 29 CFR Part 1910, Control of Hazardous Energy Source (Lockout/Tagout); Final Rule, Department of Labor, Occupational Safety and Health Administration (OSHA), 32nd Floor, Room 3244, 230 South Dearborn Street, Chicago, IL 60604.

Safety
All safety rules defined in the above documents and all owner/employer safety rules must be strictly followed when working on this equipment.

Material required
Standard hand tools, welder, torch and knife are required to install this equipment.

Table I. Material Specifications

<table>
<thead>
<tr>
<th>Type</th>
<th>Material</th>
<th>Durometer</th>
<th>Service Temperature Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rubber Seal</td>
<td>EPDM</td>
<td>70 Shore A</td>
<td>-20 to 250°F -29 to 71°C</td>
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</table>
Before Installing Skirting

**IMPORTANT**

The delivery service is responsible for damage occurring in transit. Martin Engineering CANNOT enter claims for damages. Contact your transportation agent for more information.

1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service’s claim form. Keep any damaged goods subject to examination.

2. Remove skirting system from shipping container. Equipment in container should include the following:
   - Martin® Self Adjusting Skirting.
   - Two Conveyor Products Warning Labels, P/N 23395.

3. If anything is missing, contact Martin Engineering or a representative.

4. The rubber seal may be shipped separately depending upon how it was ordered.

**WARNING**

Before installing equipment, lock out/tag out energy source to conveyor and conveyor accessories.

5. Turn off and lock out/tag out energy source according to ANSI standards (see “References”).

**WARNING**

If equipment will be installed in an enclosed area, test gas level or dust content before using a cutting torch or welding. Using a cutting torch or welding in an area with gas or dust may cause an explosion.

6. If using a cutting torch or welding, test atmosphere for gas level or dust content.

7. Cover conveyor belt with fire retardant cover and have fire extinguisher available.

**NOTE**

Contact Martin Engineering before installing reversing belt applications, or where a floating seal is insufficient sealing pressure.
IMPORTANT

Martin® Self Adjusting Skirting, like all skirting systems, is susceptible to belt mistracking. Observe the tracking of the belt in the load zone and if the belt mistracks to the extent that the belt will travel out from under the Martin® Self Adjusting Skirting install a Martin® Tracker™ to maintain proper alignment. Failure to keep the belt properly tracked may result in premature failure of the skirt rubber, damage to the belt or conveyor system, and unnecessary spillage.
Installing Skirting

**IMPORTANT**
Read entire section before beginning work.

For installation of Martin® Self Adjusting Interior Skirting refer to the Appendix.

For maximum skirting effectiveness, Martin Engineering recommends using Martin® Wear Liners with Martin® Self Adjusting Skirting (see “Part Numbers” for ordering information). Make sure chute wall and wear liners are straight and well-supported.

![Diagram of skirting installation](image)

**Figure 1. Minimum Space Required for Installation**

- A. Wear Liner
- B. Wear Liner 3/8 in. (9.5 mm) from belt
- C. Wear Liner 3/4 in. (19 mm) from belt

![Diagram of chute wall and wear liner](image)

**Figure 2. Locating Chute Wall and Wear Liner**
1. Remove existing skirting.
2. Ensure that surface of chute is flat and free of anything that will hinder welding.
3. Start installation on upstream end of chute work.

![Figure 3a. Placing Back Plate Weldments onto Belt](image)

4. Place one installation tool (P/N 37918) on belt above the first idler.

**NOTE**

Use tab on end of installation tool to “hook” over belt edge for stability.

![Figure 3b. Placing Back Plate Weldments onto Belt](image)
5. Place the next installation tool on belt above an idler approximately 36 inches (914 mm) downstream from first tool.

![Figure 3c. Placing Back Plate Weldments onto Belt](image)

**NOTE**

The 1/2-inch (13-mm) spacer insures skirting has room to float, and that no steel from floating skirt or links can touch belt.

**NOTE**

If the chute wall is rough or there are wear liner bolts present, install a spacer which provides enough room for access to the wear liner bolts and provides a smooth surface for the skirting to float against.
6. Place the Martin® Self Adjusting Skirting plate (P/N 37912) onto chute and resting on installation tools. Ensure that back plate extends beyond the end of chute by 6 inches (152 mm).

7. Tack weld the back plate to chute wall
8. Place installation tools on belt, above idlers, downstream of the welded back plate.

Figure 3d. Placing Back Plate Weldments onto Belt

Figure 4a. Placing Back Plate Weldments onto Belt
9. Place the Martin® Self Adjusting Skirting back plate (P/N 37912) onto chute and resting on installation tools. Ensure that the loose back plate is flush up against welded back plate.

![Figure 4b. Placing Back Plate Weldments onto Belt](image)

10. Repeat steps 8 and 9 until entire length of chute is covered with back plates.

![Figure 4c. Placing Back Plate Weldments onto Belt](image)
11. Securely weld all back plates to chute wall.

**NOTE**

Ensure that weld does not extend beyond surface of back plate.

![Figure 5. Welding into Place](image)

12. Repeat steps 3–11 on other side of the chute work.

13. Place the rubber (P/N 37911-R) on belt as shown with indentation toward chute wall.

![Figure 6. Placement of Rubber Skirt](image)
14. Place mount weldments (P/N 37915) on chute side of rubber with the studs going through the holes in rubber. Place clamp plates (P/N 37916) on outer face of rubber so studs on mount weldment are going through the holes in clamp plate. Ensure that hole in clamp plate is oriented upward.

**Figure 7a. Placing Rubber Skirting over Pins**

**Figure 7b. Placing Rubber Skirting over Pins**
15. Slide pressure arms (P/N 37917) over studs on back plate and mount plate. It may be necessary to slide skirting from side to side to allow arms to line up with studs.
16. Secure pressure arms with linchpins (P/N 37111). Be sure pressure arms are oriented to allow rubber to float on belt.

17. Repeat steps 13–16 on other side of belt.

**WARNING**

Martin® Self Adjusting Skirting is designed to operate on single-direction belts. Use on reversing belts or belts that roll back could result in a brake action that could lock the belt and create a latent energy hazard.

**DANGER**

Do not attempt to adjust or clear jammed materials from the Martin® Self Adjusting Skirting while belt is in operation. Serious injury or death may result from being caught between the moving belt and skirting or idlers.
After Installing Skirting

⚠️ WARNING ⚠️

Failure to remove tools from maintenance area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

1. Make sure all fasteners and welds are secure. Re-weld or secure as necessary.
2. Remove all tools from installation area. Turn on conveyor belt for 1 hour, and then turn off.
3. Make sure all fasteners and welds are secure. Re-weld or secure as necessary.
4. Remove all tools from installation area.
Maintenance

**IMPORTANT**
Read entire section before beginning work.

**WARNING**
Before inspecting equipment, lock out/tag out energy source to conveyor and conveyor accessories.

**DANGER**
Do not attempt to make the skirt float or remove jammed material while the belt is running. Serious injury or death may result.

1. Periodically observe the action of the skirting. When performing routine, scheduled clean-up, hose down the skirting or otherwise clean it to insure free-floating action.
2. Clean accumulated buildup or jammed material as required for free-floating operation.
3. Check the floating action of the skirt monthly by prying between the belt and the skirt rubber in several places with a pry bar.
4. Replace the skirt rubber with new rubber before the arms are perpendicular to the belt and there is no ability of the system to adjust for wear.
5. Replace worn or broken components when needed to maintain the free-floating action without excessive side movement.
6. Remove equipment from service if there is any indication it is not functioning properly. Call Martin Engineering or representative for assistance. Do NOT return equipment to operation until the cause of the problem has been identified and corrected.
7. Wipe all labels clean. If labels are not readable, contact Martin Engineering or representative for replacements.

**WARNING**
Failure to remove tools from maintenance area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

8. Remove all tools from maintenance area.
## Part Numbers

This section provides part numbers for Martin® Self Adjusting Skirting and related equipment. Please reference part numbers when ordering parts.

### Martin® Self Adjusting Skirting

- **Martin® Self Adjusting Skirting Assembly:** P/N 37911-XX
- **Martin® Self Adjusting Skirting Assembly:** P/N 37911-SS

### Martin® Wear Liners

P/N WL-XXXXXXXXXXXX. First four Xs indicate the height of wear liner in inches; next four Xs indicate length of wear liner in inches; next three Xs indicate thickness of wear liner in inches; last X indicates wear liner material.
Figure 9. Martin® Self Adjusting Skirting Assembly, P/N 37911-XX

<table>
<thead>
<tr>
<th>Item</th>
<th>Description</th>
<th>Part No.</th>
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<td>1</td>
<td>Back Plate Weldment</td>
<td>Table II</td>
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<td>2</td>
<td>Pressure Arm (Zinc Plated)</td>
<td>37917-P</td>
<td>2</td>
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<tr>
<td>3</td>
<td>Linchpin 3/16 x 1-1/4</td>
<td>37111</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Mount Weldment</td>
<td>37915</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>Clamping Plate</td>
<td>37916</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>Martin Product Label*</td>
<td>32238</td>
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</tr>
</tbody>
</table>

*Apply Martin® Product Label centered under hole.

Notes:
1. All dimensions are given in inches (mm).
2. All inch dimensions are ± .06 unless otherwise specified.
3. (MM) are shown for reference purposes only. Actual (mm) values and tolerances should be derived from inch values given.
Table II. Part Numbers for Martin® Self Adjusting Skirting Assembly, P/N 37911-XX

<table>
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<th>Assembly Part Number</th>
<th>Part No. Item 1</th>
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<td>37912</td>
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<tr>
<td>37911-AR</td>
<td>37912-AR</td>
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</tbody>
</table>
Figure 10. Martin® Self Adjusting Skirting Assembly, P/N 37911-SS

<table>
<thead>
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<th>Item</th>
<th>Description</th>
<th>Part No.</th>
<th>Qty.</th>
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<tr>
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<td>Back Plate Weldment SS</td>
<td>37912-SS</td>
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<td>2</td>
<td>Pressure Arm SS</td>
<td>37917-SS</td>
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<tr>
<td>3</td>
<td>Flat Washer 1/2 SS</td>
<td>35913</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>Cotter Pin 3/16 x 1 316 SS</td>
<td>31293-316SS</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Mount Weldment SS</td>
<td>37915-SS</td>
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<tr>
<td>6</td>
<td>Clamping Plate SS</td>
<td>37916-SS</td>
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<td>32238</td>
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</tbody>
</table>

*Apply Martin® Product Label centered under hole.

Notes:
1. All dimensions are given in inches (mm).
2. All inch dimensions are ± .06 unless otherwise specified.
3. (MM) are shown for reference purposes only. Actual (mm) values and tolerances should be derived from inch values given.
Lock out and/or tag out all energy sources to conveyor system and loading system before performing any work on conveyor or conveyor accessories. Failure to do so could result in severe injury or death.

Cierre y/o relle todas las fuentes de energía al sistema transportador y al sistema de carga antes de realizar cualquier trabajo en el transportador o sus accesorios. El no hacerlo puede resultar en heridas serias o muerte.

Figure 11. Conveyor Products Warning Label, P/N 23395

Figure 12. Belt Direction Label Placement
Appendix

Martin® Self Adjusting Interior Skirting Installation
Installation Notes:

1. The lower 6.50 in. (165 mm) of outside surface of chute wall must be smooth to properly install this equipment.

2. Refer to drawing above for proper installation tool placement when installing back plate. Refer to “Installing Skirting” steps 3–12 for general installation procedures.

3. Assemble rubber skirting between mount weldment and clamping plate through studs on mount weldment. Lower floating edge onto the belt. This assembly of components will then be attached to pressure arms from behind, by inserting studs into vacant holes in pressure arms. Pin in place using lynch pins.

4. All dimensions given in inches (mm) and are for reference only.
5. A minimum clearance of 7.0 in. (178 mm) vertically and 2.25 in. (57 mm) horizontally is required to install skirting assembly.
6. Skirting should begin at least 6.0 in. (305 mm) after exit side of chute wall.
7. To provide an effective seal, Martin® Wear Liners are recommended.
8. Consult Martin Engineering for installations with unusual or severe conditions, such as: concave/convex curves, extreme side pressure, unusually slow or fast belts, temperature extremes, etc.

*Measurement is from the top of belt to the bottom of back plate weldment, P/N 37912.

**Back Plate Weldment Mounting**
Notes