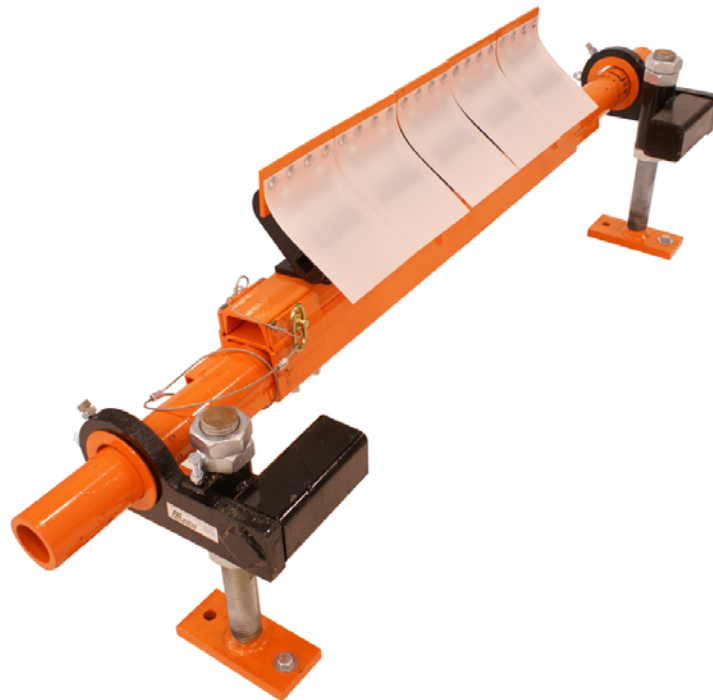




Martin[®] O2 Cleaner

[Go to Martin[®] O2 Cleaner web page](#)



**Operator's Manual
M3702**

Important

MARTIN ENGINEERING HEREBY DISCLAIMS ANY LIABILITY FOR: DAMAGE DUE TO CONTAMINATION OF THE MATERIAL; USER'S FAILURE TO INSPECT, MAINTAIN AND TAKE REASONABLE CARE OF THE EQUIPMENT; INJURIES OR DAMAGE RESULTING FROM USE OR APPLICATION OF THIS PRODUCT CONTRARY TO INSTRUCTIONS AND SPECIFICATIONS CONTAINED HEREIN. MARTIN ENGINEERING'S LIABILITY SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF EQUIPMENT SHOWN TO BE DEFECTIVE.

Observe all safety rules given herein along with owner and Government standards and regulations. Know and understand lockout/tagout procedures as defined by American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements* and Occupational Safety and Health Administration (OSHA) Federal Register, Part IV, 29 CFR Part 1910, *Control of Hazardous Energy Source (Lockout/Tagout); Final Rule*.

The following symbols may be used in this manual:



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



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



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



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



Note: General statements to assist the reader.

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Introduction

General

To introduce product back into the product flow, a Pre-Cleaner is installed on the face of the head pulley. On a dual cleaner system, the Secondary Cleaner is installed immediately following the Pre-Cleaner to remove stubborn material left on the conveyor belt. If a Pre-Cleaner cannot be used because of space limitations, the Secondary Cleaner is installed alone. If the material handling process or product could be affected by contamination from the use of these belt cleaners, the user is responsible for taking the necessary steps to prevent contamination. Consult Martin Engineering or a representative for alternate belt cleaners or belt cleaner locations to use where contamination may be an issue.

Installations without chutework

These procedures were written for equipment that is being installed on enclosed pulley chutework. If the pulley is not enclosed, the equipment should be installed using the best available field resources and methods to ensure that the critical dimensions are followed for proper installation.

References

The following documents are referenced in this manual:

- American National Standards Institute (ANSI) z244.1-1982, *American National Standard for Personnel Protection - Lockout/Tagout of Energy Sources - Minimum Safety Requirements*, American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.
- 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 the belt cleaner.



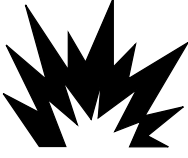
⚠ DANGER

Do not touch or go near the conveyor belt or conveyor accessories when the belt is running. Your body or clothing can get caught and you can be pulled into the conveyor, resulting in severe injury or death.



⚠ DANGER

Before installing, servicing, or adjusting the belt cleaner, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.



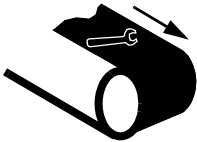
⚠ DANGER

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



⚠ WARNING

Before using a cutting torch or welding the chute wall, cover the conveyor belt with a fire retardant cover. Failure to do so can allow the belt to catch fire.



⚠ WARNING

Remove all tools from the installation area and conveyor belt before turning on the conveyor. Failure to do so can cause serious injury to personnel or damage to the belt and conveyor.



⚠ WARNING

Mainframe with blade can be heavy and may require two people to lift. Attempting to lift the belt cleaner without assistance could result in injury.

Before Installing Belt Cleaner and Tensioner

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.

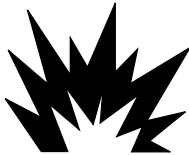
1. Inspect shipping container for damage. Report damage to delivery service immediately and fill out delivery service's claim form. Keep any damaged goods subject to examination.
2. Remove belt cleaner assembly from shipping container.
3. If anything is missing contact Martin Engineering or a representative.



WARNING

Before installing equipment, turn off and lock out/ tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

4. Turn off and lock out/tag out energy source according to ANSI standards (see "References").



DANGER

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

5. If using a cutting torch or welding, test atmosphere for gas level or dust content. Cover conveyor belt with fire retardant cover.

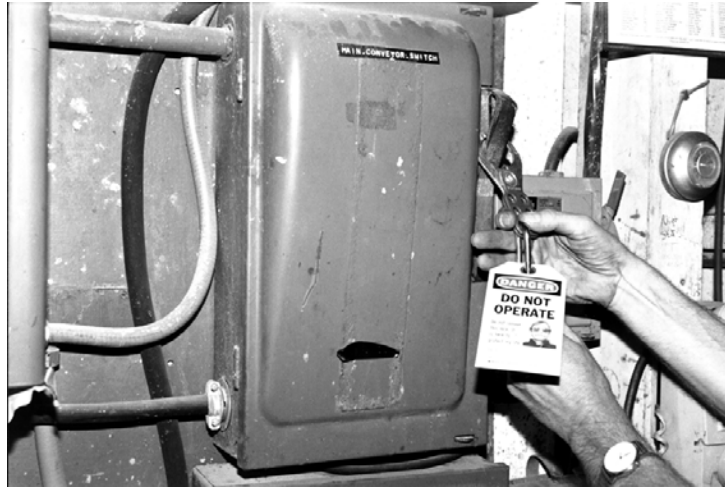
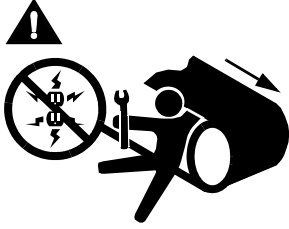
IMPORTANT

Center the belt cleaner blades to clean an area narrower than the conveyor belt width. This allows for side-to-side movement of the belt and prevents damage to the belt edge.

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

Installing Belt Cleaner Assembly

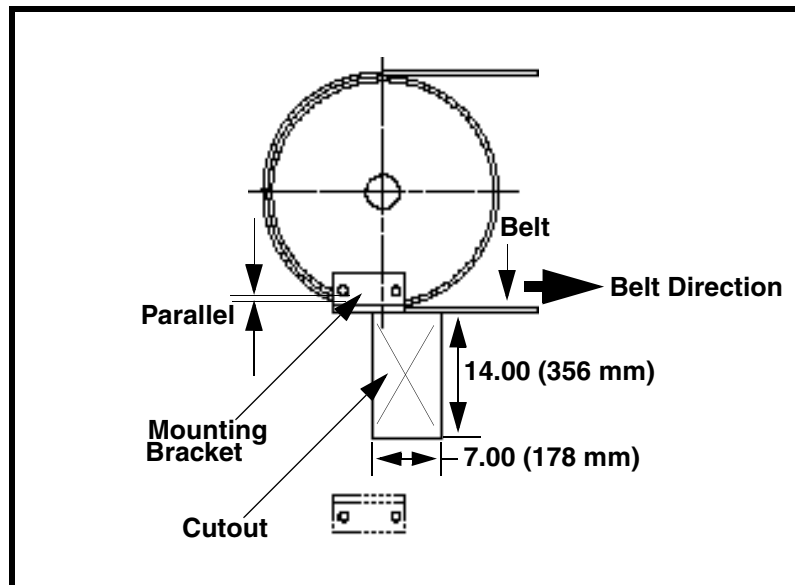
Installing tensioners

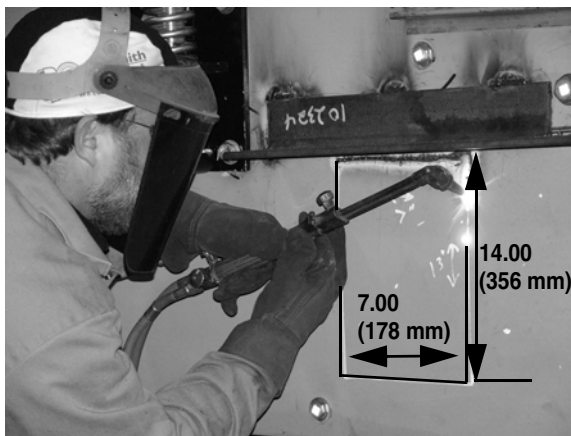
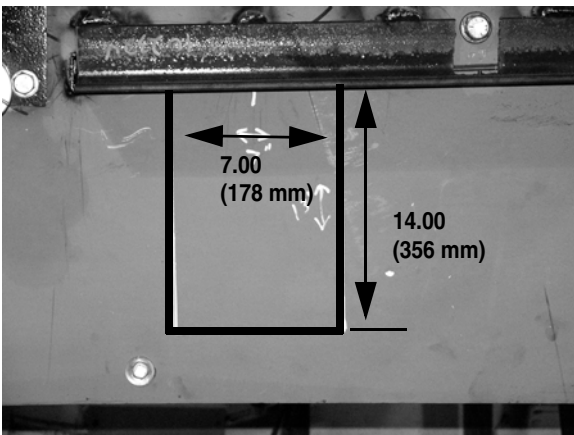


1. Install the mounting brackets and cutouts as specified in the installation drawing.
2. Prepare cutouts (both sides of chute.)
3. Install brackets parallel to the conveyor belt line.

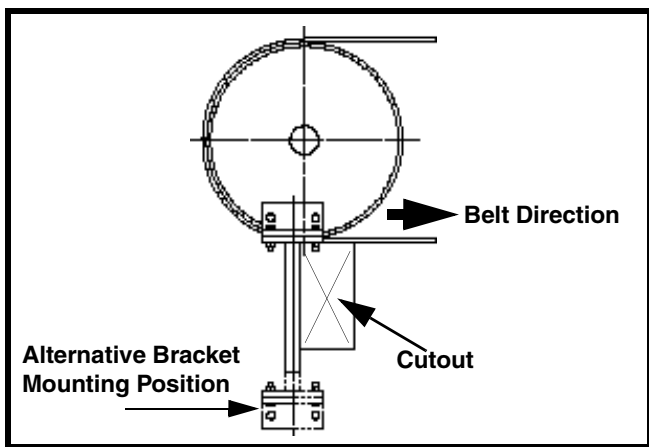
IMPORTANT

It is critical to the correct setup and installation of the Martin® O2 Cleaner that mounting brackets are positioned parallel to belt line.

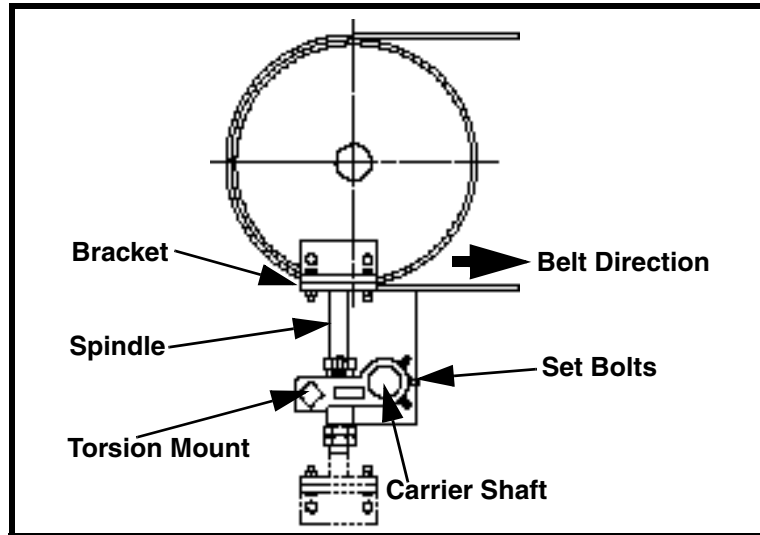




4. Attach the spindle to the prepared bracket on one side of the conveyor.
5. Bolt spindle to bracket, one side only.



6. Attach one spindle and one torsion mount to make an assembly.
7. Bolt assembly onto conveyor structure with two 5/8" (15-mm) bolts.



NOTE

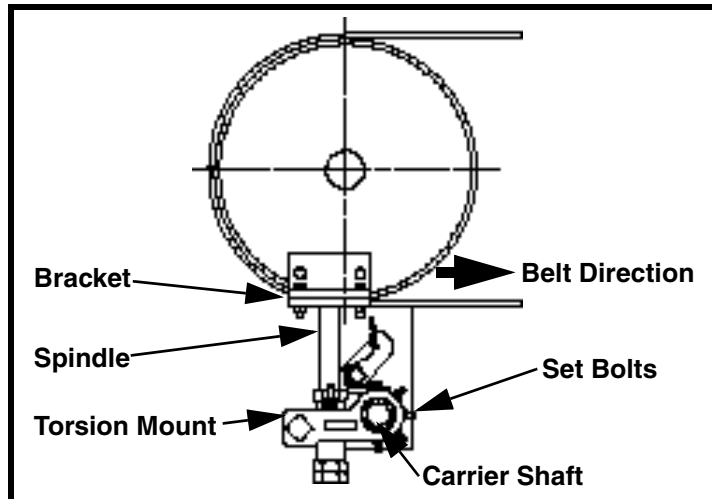
At this stage the position of the torsion mount on the spindle should be as noted below.

- (1) If the spindle is to be installed in a hanging position, 2" (50 mm) of thread showing from the end of the spindle.
- (2) If the spindle is to be installed in a standing position, 2" (50 mm) of thread showing from the foot of the spindle.



Installing mainframe and blade

1. Insert carrier shaft into torsion mount/spindle assembly bolted to conveyor structure.
2. Attach the other torsion mount and spindle to make a second assembly.
3. Slide the second assembly onto the end of the carrier shaft and lift belt cleaner unit and bolt to conveyor structure with two 5/8" (16-mm) bolts.



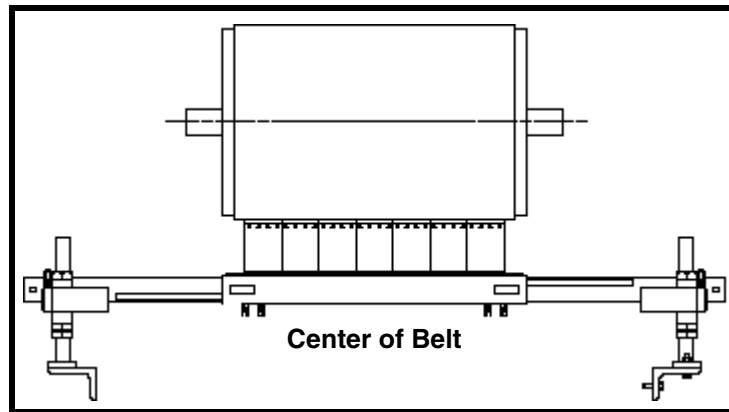
4. Rotate shaft with blades/torsion holders to upright position, and tighten set bolts.



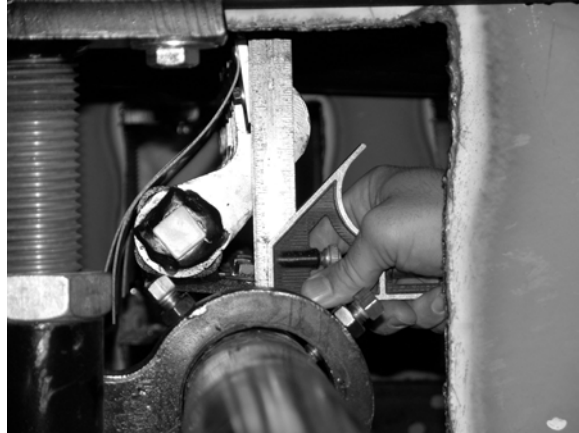
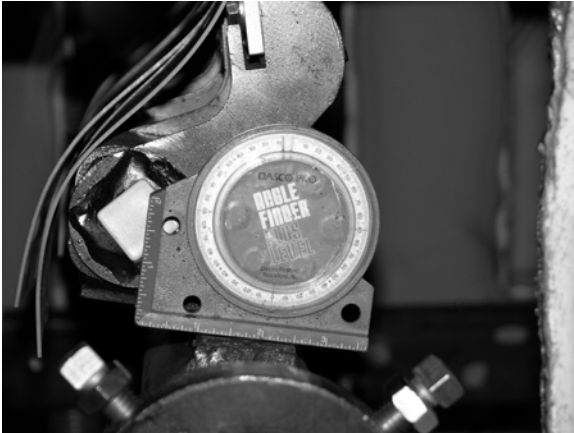
5. Adjust the stop screw until it touches torsion mount arm, continue to adjust stop screw an additional 3/4" (19 mm). The torsion mount is now preloaded.



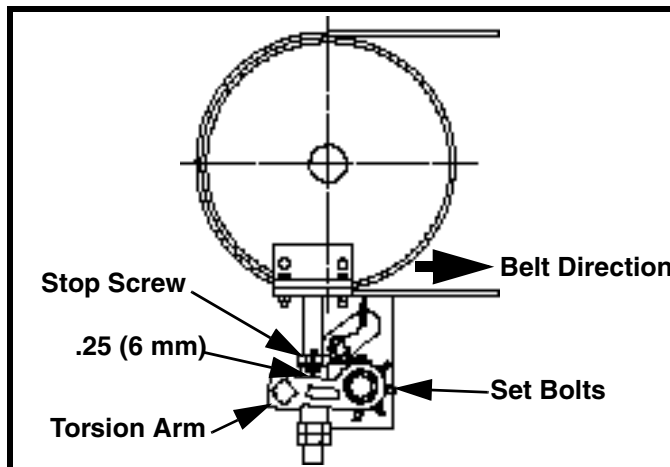
6. Center the blades to the belt width.



Tensioning belt cleaner

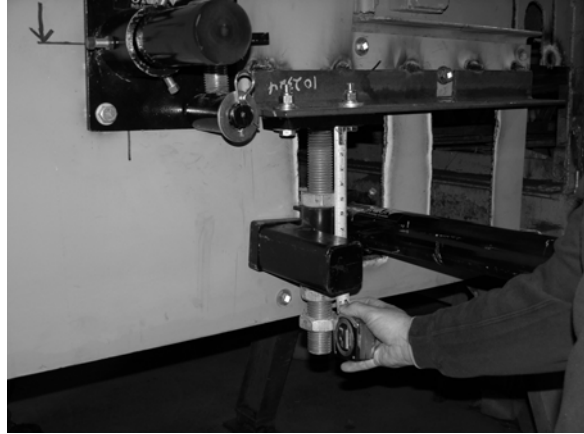
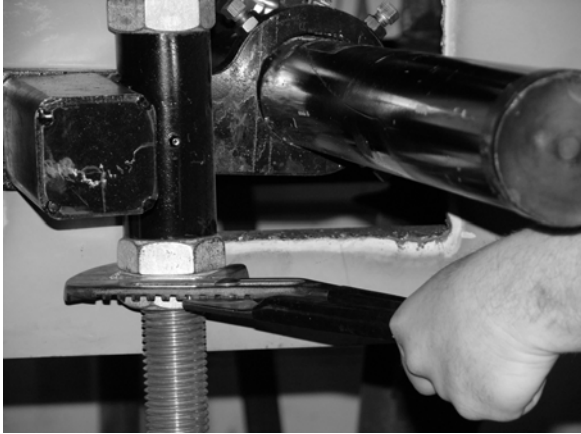


1. To establish that the carrier shaft is parallel with belt line, use an engineers square to check that flat bar on top of carrier shaft is parallel with the belt. If not, loosen the three set bolts in each of the torsion mounts to enable the shaft to rotate. A protractor may also be used.
2. After the carrier shaft is parallel with the belt line, ensure that the three set bolts in each torsion mount are firmly tight.
3. Finally, turn spindle nuts, raising torsion mounts to create a 1/4 in. (6-mm) gap between bottom of load bolt and top of mount arm, keeping both sides even. Tighten spindle nuts and jam nuts.



NOTE

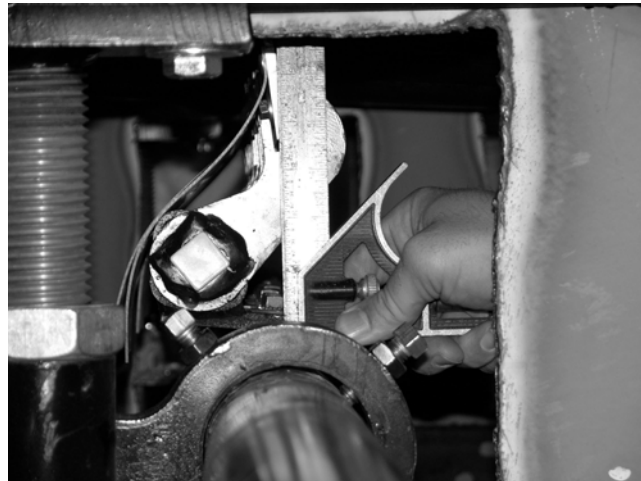
Adjusting the top and bottom nuts on the spindle allows the carrier shaft to be moved vertically up and down. After raising the cleaner, the distance must be the same on each spindle.



4. The belt cleaner is now set. It is recommended that conveyor is run at this point to ensure belt cleaner is operating efficiently.

For Martin[®] O2 Cleaners 72 Inches and Above Only

1. 72 in. (1828-mm) belts and above use solid mounts. Follow previous instructions, except pre-loading torsion mounts. With belt running, Martin[®] O2 Cleaner Blades should be 90° to the belt.



Completed Installation

Completed Installation

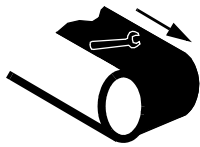


Properly-Installed Martin® O2 Cleaner

After Installing Belt Cleaner



1. Thoroughly wipe chute wall clean above tensioner.
2. Place Conveyor Products Warning Label (P/N 23395) on outside chute wall visible to belt cleaner operator.



⚠ WARNING

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

⚠ DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

3. Turn on conveyor belt for 1 hour, then turn off.



⚠ DANGER

Before installing, servicing, or adjusting the belt cleaner/tensioner, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

4. Make sure all fasteners are tight. Tighten if necessary.
5. Inspect belt cleaner for the following:
 - Wear. (A small amount of “break-in” wear may be found. This will stop once blades wear to conveyor belt contour.)
 - Material buildup. (No material between blades and return side of conveyor belt should be found.)
6. If wear, material buildup, or some other problem exists, see “Troubleshooting.”

IMPORTANT

Read entire section before beginning work.

NOTE

Maintenance inspection should be performed no less than weekly. Some applications may require more frequent maintenance inspections.



⚠ DANGER

Before installing, servicing, or adjusting the belt cleaner/tensioner, turn off and lock out/tag out all energy sources to the conveyor and conveyor accessories according to ANSI standards. Failure to do so could result in serious injury or death.

1. Remove any material from belt cleaner.
2. Make sure all fasteners are tight. Tighten if necessary.
3. Check tension on cleaner. Re-tension if necessary.
4. Wipe all labels clean. If labels are not readable, contact Martin Engineering or a representative for replacements.
5. Check blades for excessive wear. Replace if necessary.
6. Remove equipment from service if there is any indication it is not functioning properly. Call Martin Engineering or a representative for assistance. Do NOT return equipment to operation until the cause of the problem has been identified and corrected.

⚠ WARNING

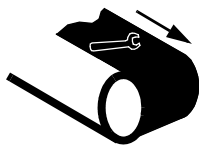
Failure to remove tools from maintenance area and conveyor belt before turning on energy source can cause serious injury to personnel and damage to belt.

7. Remove all tools from maintenance area.

⚠ DANGER

Do not touch or go near conveyor belt or conveyor accessories when conveyor belt is running. Body or clothing can get caught and pull body into conveyor belt, causing severe injury or death.

8. Start conveyor belt.



Troubleshooting

Symptom	Corrective Action
High blade wear rate.	Tension is set too high. Reduce tension.
Unusual wear or damage to blades.	Check belt splice(s) and repair as necessary
Bent or broken mainframe or support frame due to blade slipping through.	If blades are worn to or past the wear line, replace blades. If blades are not worn, check mainframe location.
Noise or vibration.	Tension is not sufficient or is set too high. Correct tension as necessary. If this does not correct problem, blade urethane may not match application. Contact Martin Engineering or a representative.
Insufficient cleaning and carryback.	Tension of cleaner on belt is set too low or too high. Increase or decrease tensioner setting. Cleaner is mounted too high on head pulley and is in path of material flow. Lower cleaner. Check blades for excessive wear and replace if necessary. (See "Weekly Maintenance.")
Blade chatter.	Tension of cleaner on belt is set too low or too high. Increase or decrease tensioner setting.
Loose or missing fasteners.	Fasteners were not tight enough. Re-install and tighten securely.

NOTE

Conveyor equipment such as conveyor belt cleaners are subject to a wide variety of bulk materials characteristics and often have to perform under extreme operating or environmental conditions. It is not possible to predict all circumstances that may require troubleshooting. Contact Martin Engineering or a representative if you are experiencing problems other than those listed in the "Troubleshooting" chart above. Do not return the equipment to operation until the problem has been identified and corrected.

Installation checklist

If after taking the corrective actions suggested under "Troubleshooting" you are still experiencing problems, check for the following:

Installation Checklist
✓ Pre-Cleaner mainframe is proper distance from belt surface on both ends of mainframe.
✓ Pre-Cleaner blade tip is at or below horizontal center line of pulley and does not lie in path of material flow.
✓ Secondary Cleaner blade tip is 2 in. (51 mm) past vertical center line of pulley.
✓ Secondary Cleaner is not changing belt line.
✓ Blades are centered on belt.

Part Numbers

This section provides product names and corresponding part numbers for Martin® O2 Cleaner and related equipment. Please reference part numbers when ordering parts.

Martin® O2 Cleaner Assembly

Martin® O2 Cleaner Assembly:
P/N OR2000-XXX-XXX and tensioners. See Figure 1.

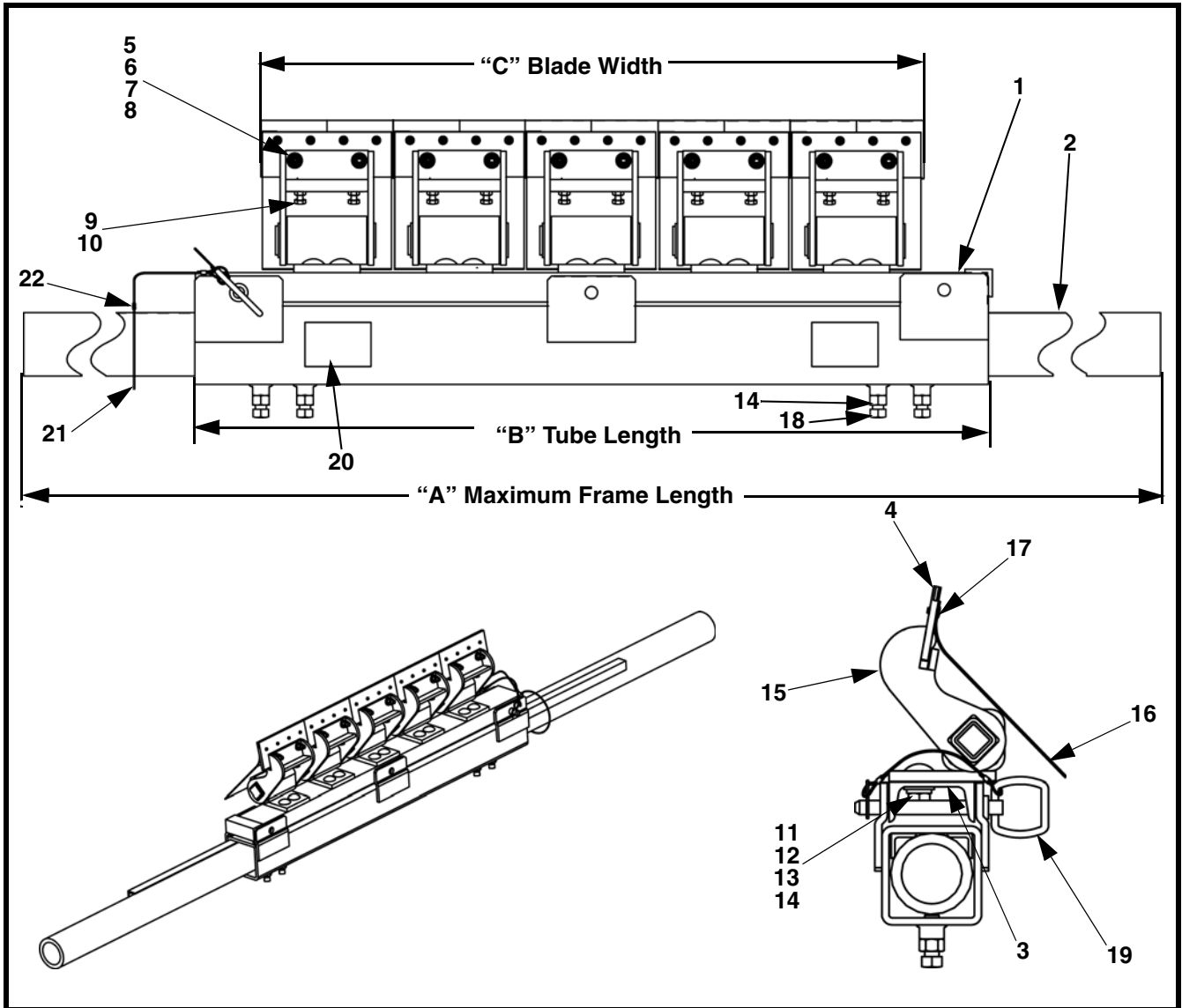


Figure 1. Martin® O2 Cleaner Assembly, P/N OR2000-XXX-XXX

Item	Qty.	Description	Part Number
1	1	Mainframe Weldment	Table I
2	2	End Weldment	32332-04
3	1	Blade Cartridge Channel	Table I
4	Table I	OR-2000 Blade Assembly	Table III
5	Table I	Bolt Carriage 5/16-18NC X 1.25 ZP	37908
6	Table I	Washer Flat 5/16 Narrow ZP	17083
7	Table I	Washer Lock Helical Spring 5/16 ZP	M209
8	Table I	Nut Hex Elastic Lock 5/16-18NC ZP	33015
9	Table I	Nut Hex 1/4-20NC SS	37419
10	Table I	Screw HHC 1/4-20NC SS	37416
11	Table I	Bolt Carriage 1/2-13NC x 1.50 ZP	33225
12	Table I	Washer Flat 1/2 Narrow ZP	31010
13	Table I	Washer Lock Helical Spring 1/2 ZP	17329
14	Table I	Nut Hex 1/2-13NC ZP	11771
15	Table I	Torsion Blade Mount Weldment	OR-HDH-01
16	Table I	Polyethylene Deflector	Table III
17	Table I	Pop Rivet 3/16 x 1/4 - 3/8 Aluminum	37905
18	4	Screw SHS 1/2-13NC X 1-1/2 SS	33190
19	1	Pin Hitch 1/2 x 4 with Hairpin Lanyard	37992
20	2	Label Martin® Products	38048
21	2.5	Cable Aircraft 1/16	102249
22	2	Cable Clip 1/16	28112
NS	2	Label Conveyor Products Warning	23395
NS	1	Manual Operator's	M3702
NS	1	Tensioner Assembly	Table II

NS = Not Shown

Table I. Martin® O2 Cleaner Assembly Part Numbers and Quantities

Part No.	Part No. Item 1	Part No. Item 3	Qty. Items 4, 15,16	Qty. Items 5-13	Qty. Item 14	Qty. Item 17	Wt. (lbs.) w/o Tens.
OR2000-30X-XXX	OR-52010-30	OR-52012-30	4	8	12	16	140
OR2000-36X-XXX	OR-52010-36	OR-52012-36	5	10	14	20	155
OR2000-42X-XXX	OR-52010-42	OR-52012-42	6	12	16	24	172
OR2000-48X-XXX	OR-52010-48	OR-52012-48	7	14	18	28	186
OR2000-54X-XXX	OR-52010-54	OR-52012-54	8	16	20	32	204
OR2000-60X-XXX	OR-52010-60	OR-52012-60	9	18	22	36	218
OR2000-66X-XXX	OR-52010-66	OR-52012-66	10	20	24	40	233
OR2000-72X-XXX	OR-52010-72	OR-52012-72	11	22	26	44	250
OR2000-84X-XXX	OR-52010-84	OR-52012-84	13	26	30	52	281
OR2000-96X-XXX	OR-52010-96	OR-52012-96	15	30	34	60	313

Part No.	Dim. A	Dim. B	Dim. C
OR2000-30X-XXX	81.00 (2057)	30.00 (762)	24.00 (610)
OR2000-36X-XXX	87.00 (2210)	36.00 (914)	30.00 (762)
OR2000-42X-XXX	93.00 (2362)	42.00 (1067)	36.00 (914)
OR2000-48X-XXX	99.00 (2515)	48.00 (1219)	42.00 (1067)
OR2000-54X-XXX	105.00 (2667)	54.00 (1372)	48.00 (1219)
OR2000-60X-XXX	111.00 (2819)	60.00 (1524)	54.00 (1372)
OR2000-66X-XXX	117.00 (2972)	66.00 (1676)	60.00 (1524)
OR2000-72X-XXX	123.00 (3124)	72.00 (1829)	66.00 (1676)
OR2000-84X-XXX	135.00 (3429)	84.00 (2134)	78.00 (1981)
OR2000-96X-XXX	147.00 (3734)	96.00 (2438)	90.00 (2286)

Table II. Martin® O2 Cleaner Assembly Tensioner Chart

Tensioner Chart			
Part No.	Tensioner Part No.	Description	Spindle Length
OR2000-XXX-TA2*	OR-3-TMTA-24	Torsion Mount, Top Adj. Spindle	24.00 (610)
OR2000-XXX-TA3*	OR-3-TMTA-36	Torsion Mount, Top Adj. Spindle	36.00 (762)
OR2000-XXX-TS*	OR-3-TMSP	Torsion Mount, Solid Spindle	16.00 (406)
OR2000-XXX-SA2	OR-3-SMTA-24	Solid Mount, Top Adj. Spindle	24.00 (610)
OR2000-XXX-SA3	OR-3-SMTA-36	Solid Mount, Top Adj. Spindle	36.00 (762)
OR2000-XXX-SS	OR-3-SMSP	Solid Mount, Solid Spindle	16.00 (406)

*Torsion Mount Tensioners cannot be used on cleaners 72" and above.

Table III. Martin® O2 Cleaner Assembly Blade Chart

Blade Chart			
Part No.	Blade Part No.	Deflector Part No.	Deflector Material
OR-S2000-T	OR-TC-P	OR-52052	Teflon
OR-S2000-W	OR-TC-P	OR-52051	Polyethylene
OR-S2000-6T	OR-TC-6P	OR-52052-6	Teflon
OR-S2000-6W	OR-TC-6P	OR-52051-6	Polyethylene

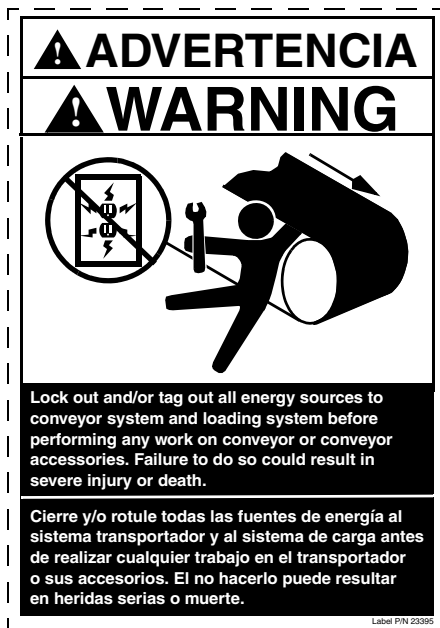
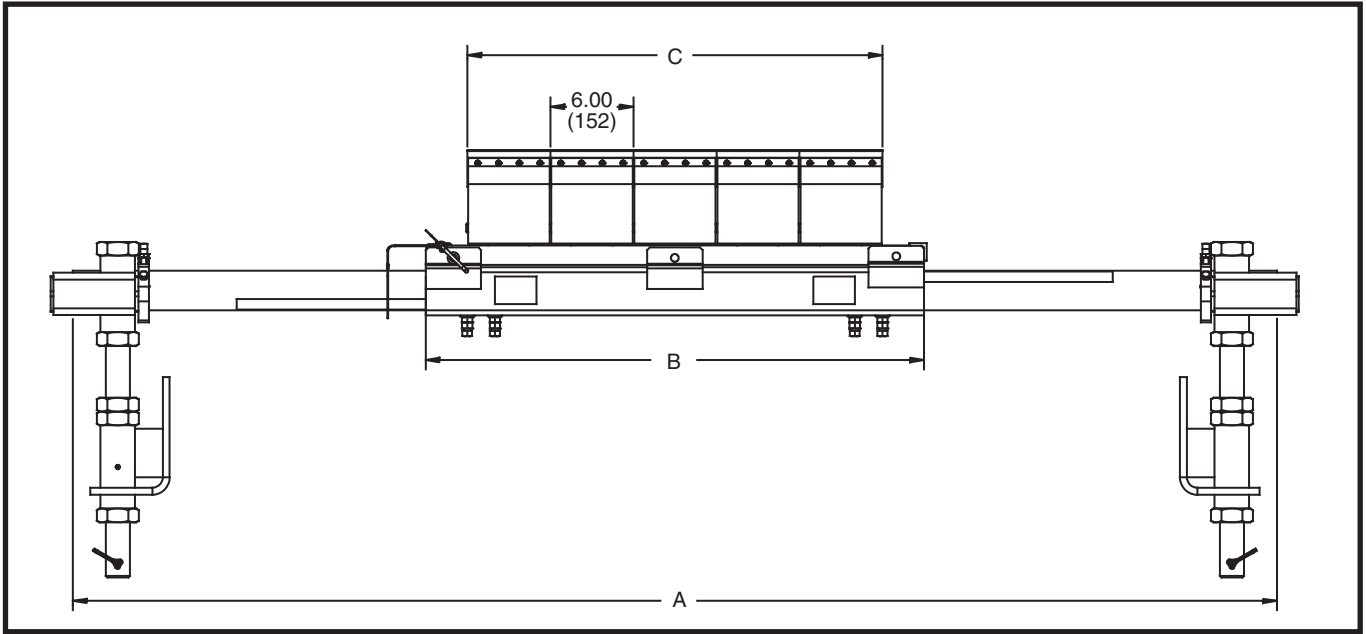


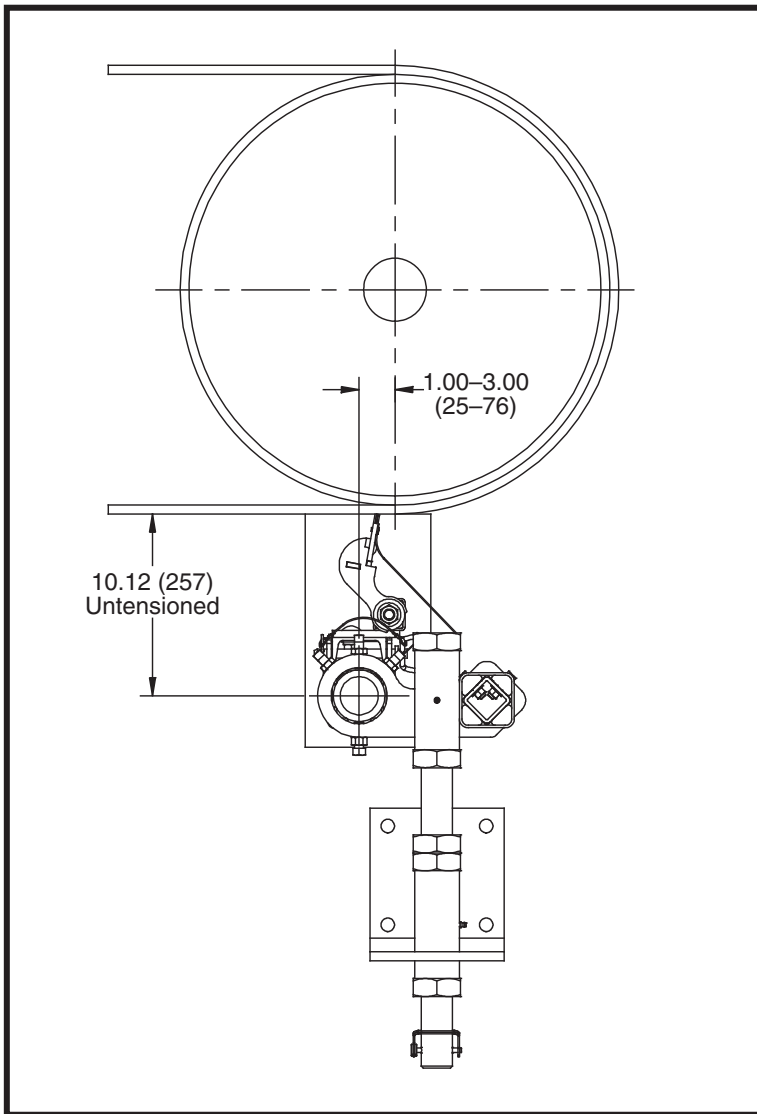
Figure 2. Conveyor Products Warning Label, P/N 23395

Appendix
Mounting Dimensions for
Martin® O2 Cleaner Assembly

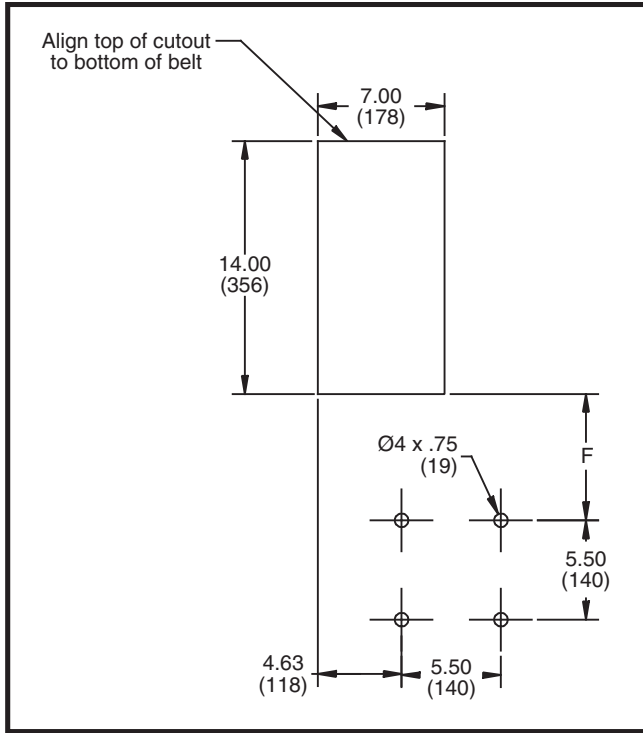


Part No.	Dim. A	Dim. B	Dim. C
OR2000-30X-XXX	81.00 (2057)	30.00 (762)	24.00 (610)
OR2000-36X-XXX	87.00 (2210)	36.00 (914)	30.00 (762)
OR2000-42X-XXX	93.00 (2362)	42.00 (1067)	36.00 (914)
OR2000-48X-XXX	99.00 (2515)	48.00 (1219)	42.00 (1067)
OR2000-54X-XXX	105.00 (2667)	54.00 (1372)	48.00 (1219)
OR2000-60X-XXX	111.00 (2819)	60.00 (1524)	54.00 (1372)
OR2000-66X-XXX	117.00 (2972)	66.00 (1676)	60.00 (1524)

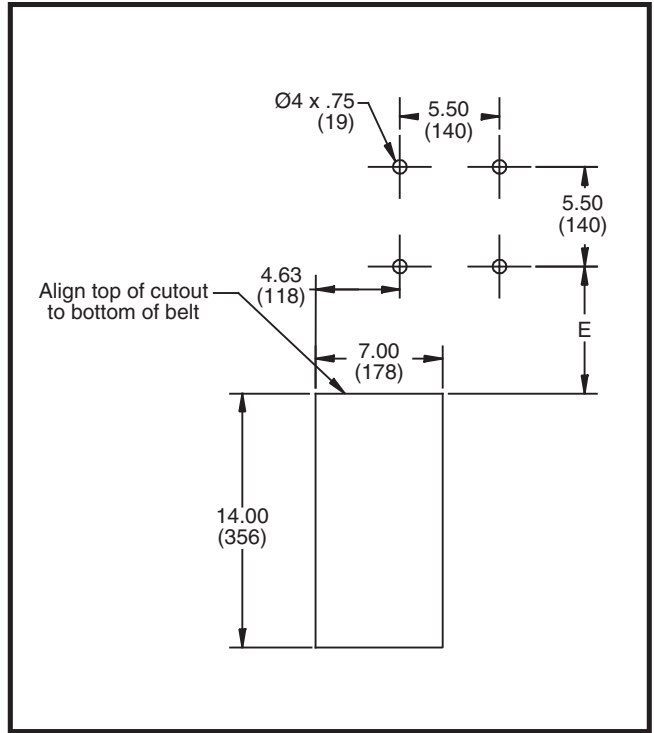
Martin® O2 Cleaner Assembly, P/N OR2000-XXX-XXX



Martin[®] O2 Cleaner Mounting Dimensions



Lower Side Mounting



Upper Side Mounting

Martin® O2 Cleaner Chute Wall Cutouts

Part No.	Dim. E	Dim. F
OR2000-XXX-TA2	3.00–7.00 (76–178)	2.00–6.00 (51–152)
OR2000-XXX-TA3	15.00–19.00 (381–483)	14.00–18.00 (356–457)

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