



TRANSFER POINT PRODUCTS

CONTAIN • CONTROL • ADVANCE

L3649



PROBLEM

FUGITIVE MATERIALS

Escape of materials from conveyors is an everyday occurrence. It occurs in the forms of spillage and leakage from transfer points or carryback that adheres to the belt past the discharge point and drops off along the conveyor return. It also occurs in the form of airborne dust that is carried off and settles on structures, equipment, and the ground.

Carryback falls under the conveyor, spillage falls to the sides, and dust falls on everything, including systems and structures above the conveyor. Left unchecked, fugitive materials represent an ever-increasing drain on a conveyor's efficiency, productivity, and profitability. Materials lost from the conveyor system cost the plant in a number of ways:

- Reduced operating efficiency
- Increased conveyor maintenance costs
- Reduced plant safety
- Lowered employee morale
- Diminished product quality
- Heightened scrutiny from outside agencies





SOLVED

THE MARTIN® SOLUTION

Through proper design and maintenance, bulk material handling operations can run cleanly, safely, and efficiently.

By preventing spillage and airborne dust, Martin Engineering's Transfer Point Products can help reduce equipment damage, minimize cleanup, control maintenance expenses, and improve the overall plant safety.

Martin Engineering is more than an equipment supplier. We are problem solvers dedicated to improving transfer point performance.

Problem Solved™
GUARANTEED!



A NEW STANDARD FOR CONVEYOR DESIGN

Martin Engineering has created a new standard in conveyor architecture. The modular system rethinks the problems of traditional conveyor design from the ground up and places more emphasis on safety, control of fugitive material, and ease of service.

Designed to provide a clean, safe, and productive system, the new modular conveyor architecture is cost competitive and flexible enough to be easily upgradeable to solve operation-specific problems. The modular products can be used in part or as a whole system; in conjunction with or as a complement to traditional C-Channel conveyor structure and offers a number of benefits over conventional conveyor design.

- Reduce Dust and Spillage
- Improve Safety
- Reduce Cleanup Headaches
- Improve Regulatory Compliance
- Improve Serviceability
- Simple Accessibility
- Upgradeable and Cost-Efficient



KEY COMPONENTS

(1) BELT SUPPORT

For an effective, minimum-spillage transfer point, it is essential that the belt's line of travel be stabilized with proper belt support in the load zone.

(2) SEALING SYSTEM

A crucial requirement in any transfer point designed for reduced spillage and high efficiency is an effective sealing system at the edge of the belt.

(3) BELT TRACKING

Belt tracking must be controlled before spillage can be eliminated.

(4) TAIL PULLEY PROTECTION

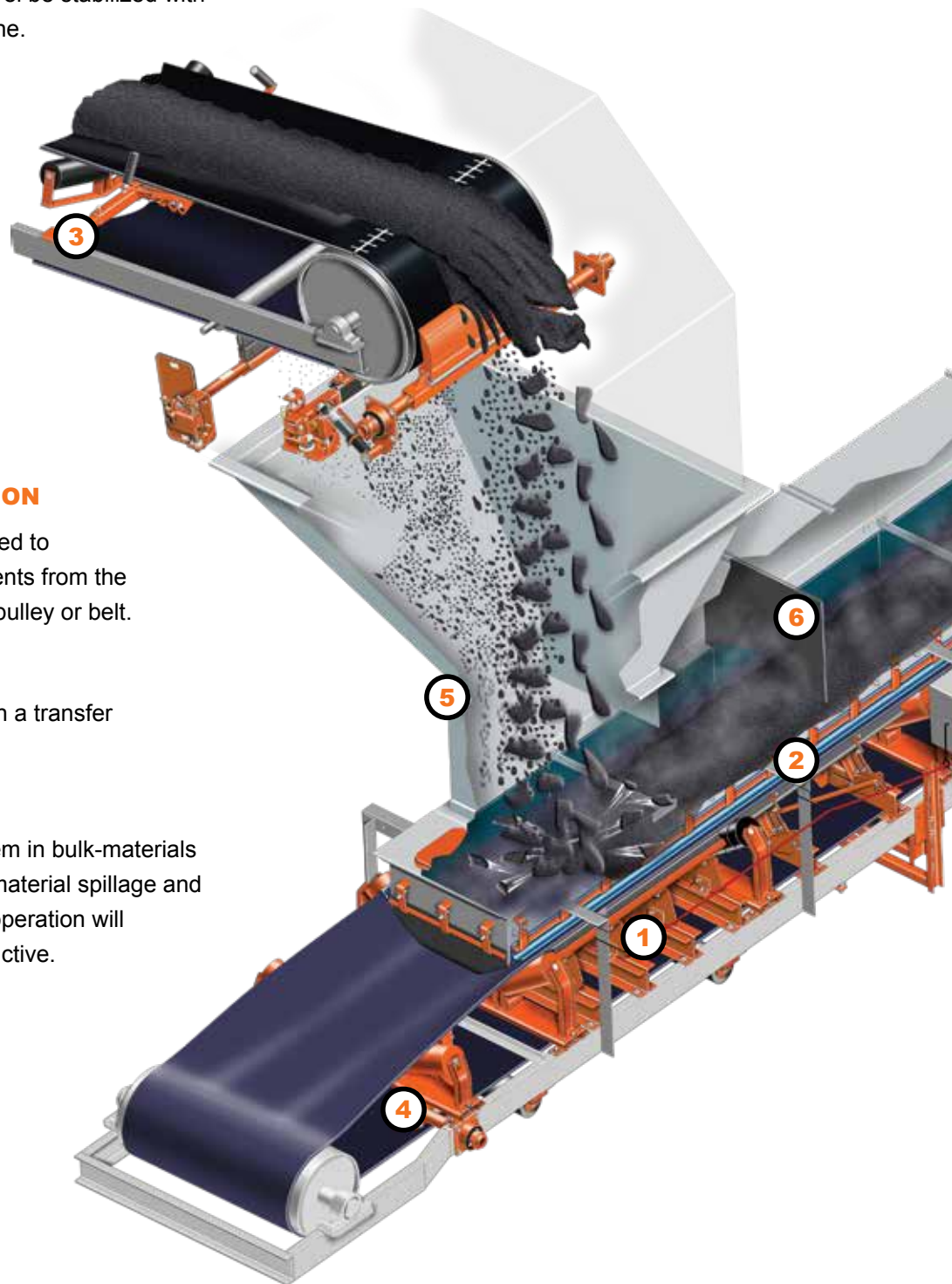
Pulley protection plows are installed to remove lumps and stray components from the belt before they can damage the pulley or belt.

(5) CHUTE STRUCTURE

Bulk materials should flow through a transfer chute evenly and consistently.

(6) DUST MANAGEMENT

Airborne dust is a common problem in bulk-materials handling operations. When both material spillage and airborne dust are controlled, the operation will be cleaner, safer, and more productive.





BELT SUPPORT

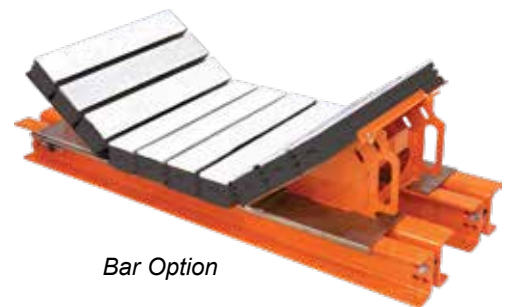
MARTIN® COMBINATION CRADLE

Installed under a belt conveyor loading zone, the Martin® Combination Cradles absorb the force of falling material to prevent damage to the belt and structure. These medium-duty impact cradles stabilize the belt line to prevent material escape.

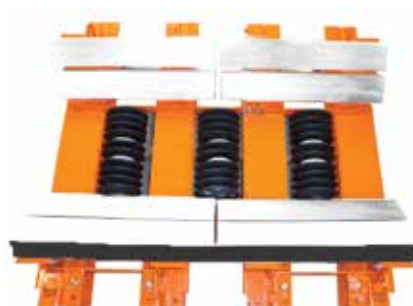
The center-roll option reduces friction and requires less conveyor drive horsepower than bars. Roller kit available for use with multiple units.

MODULAR UPGRADE:

Track-mounted to simplify installation and maintenance.



Bar Option



Roller kits available for installing two units back to back



Roller Option



MARTIN® IMPACT CRADLE

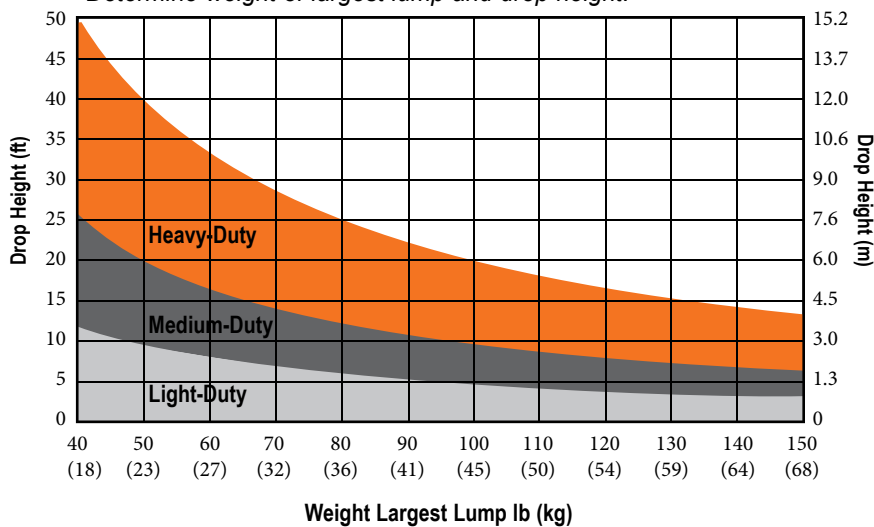
Installed under a belt conveyor loading zone, the Martin® Impact Cradle absorbs the force of falling material to prevent damage to the belt and structure. Wing supports adjust to match any standard trough angle. An additional five degrees of fine tuning adjustment enables the cradle to match the idler profiles of different idler manufacturers. Rugged bars are composed of a top layer of low friction UHMW and a lower layer of energy-absorbing polyurethane.



Light Duty

System Selection Guide:

Determine weight of largest lump and drop height.



Medium Duty



Heavy Duty

CEMA STANDARD 575-2000

Code Rating		L	M	H
		Light-Duty	Medium-Duty	Heavy-Duty
Impact Force	(lbf.)	< 8,500	< 12,000	< 17,000
	(kN)	< 35	< 53	< 76
W x H (ref.)	lb.-ft.	< 200	< 1000	< 2000
	kg-m	< 28	< 138	< 277

MARTIN® HIGH-SPEED IMPACT CRADLE

Designed and engineered for high-speed / high tonnage belts, Martin® High Speed Impact Cradles provide belt support in transfer points where belt speeds exceed the operating limits of ordinary impact bar belt support cradles.



MARTIN® MODULAR SLIDER CRADLE

Eliminates pinch points where trapped material can gouge or tear the belt and stabilizes the belt's path to improve sealing and tracking. Low-friction UHMW bars support belt edges to stabilize the belt line, eliminating belt sag and bounce. Proprietary "box" design allows each bar to be turned over to provide a second wear life.

MODULAR UPGRADE:

Track-mounted to simplify installation and maintenance.



MARTIN® SLIDER CRADLE

Installed under the skirtboard of a transfer point, Martin® Slider Cradles support the edges of the belt to eliminate sag. These cradles prevent transfer point spillage by stabilizing the belt's path and allow the effective sealing of the belt edge. Cradles are available with high-performance UHMW or Stainless Steel Bars to match application requirements.

Center rollers are recommended for applications where capacity is over 450 tph (408 MT/h). Order Support Roller Kit P/N 36725.



MARTIN® IDLER CONVERSION KIT

Simple retrofit links two or more troughing idler frames, replacing the wing rollers with Martin® Slider Bars. Utilizes existing idler frames and center rollers and conforms with idlers from a wide range of manufacturers.



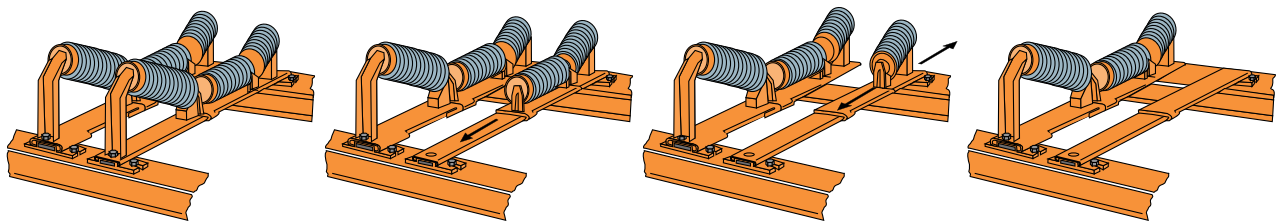
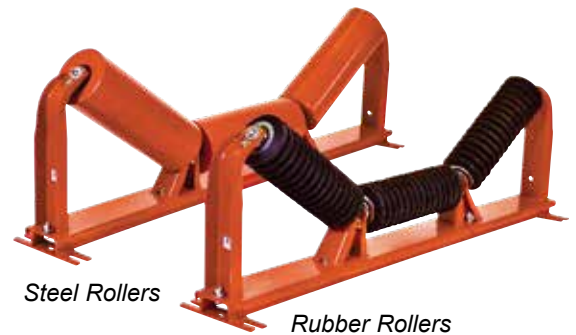
MARTIN® RETURN ROLLER

Sliding track-mount design reduces risk of injury and allows replacement to be done quickly and easily from a single side of the belt. Three-piece hanger frame accommodates belt widths from 24 to 72 inches (500 to 2000 mm). Universal bracket fits most idlers and belt widths.



MARTIN® TRAC-MOUNT™ IDLERS

Idlers slide in and out of position without the need to raise the belt or move adjacent idlers to allow simple service. Clamp mounted to allow precision installation requiring only 8 inches (203 mm) of spacing. Mild steel or rubber rollers for CEMA Class B, C, D, or E.



Idler Removal: Simply remove one bolt and sliding roller frames will allow servicing without raising the belt or removing adjacent idlers.



SEALING SYSTEMS

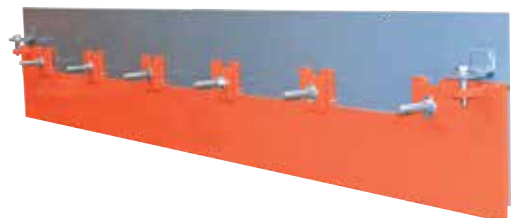
MARTIN® EXTERNAL WEAR LINER

External wear liner is installed on the outside of the chute wall, simplifying wear liner inspection and replacement—both without confined-space entry. Improves liner and skirtboard sealing system performance without adding additional conveyor construction cost. The chute wall can be trimmed to avoid material buildup.



MARTIN® EXTERNAL WEAR LINER RETROFIT

Installed outside conveyor transfer point skirtboards, Martin® External Wear Liner Retrofit Kit is an economical upgrade that improves skirtboard sealing and prevents spillage. It can be used on new installations or to upgrade systems utilizing Martin® ApronSeal™. Wear liners can typically be installed without requiring work inside the chute or interfering with existing chute supports.



MARTIN® CANOE LINER

Installed inside conveyor transfer point skirtboards, Martin® Manufactured Canoe Liners absorb impact and abrasion and creates a dam to shield the sealing system from the weight of the material load, prolonging the life of the seal. The Martin Manufactured Canoe Liners feature a steel plate molded inside the urethane to prevent bond issues. Liners are also stackable to line higher drop chutes.

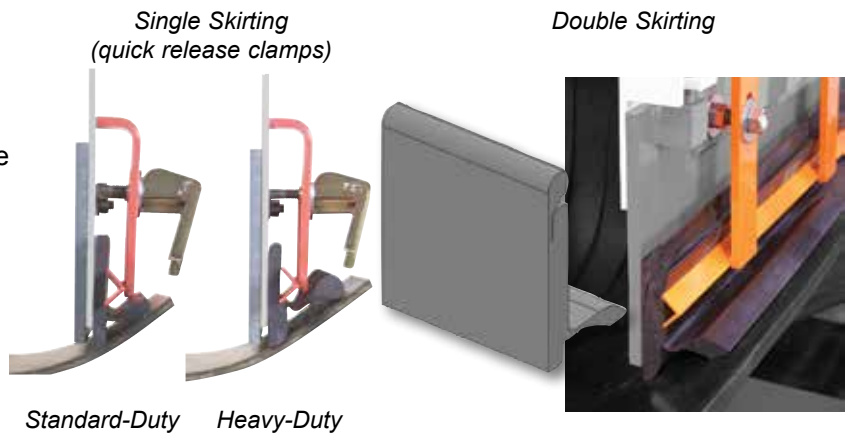


MARTIN® APRONSEAL™ SKIRTING

Provides dual-seal efficiency with a single, one-piece sealing strip for any troughing angle to prevent the escape of fines and dust.

ApronSeal™ Double Skirting uses a patented design that features a reversible elastomer strip to provide a second wear life.

Optional quick-release clamps are available.



MARTIN® SELF-ADJUSTING SKIRTING

Self-adjusting skirting system rides the belt to create an effective seal automatically. Requires only six inches (152 mm) of clearance and only 1.5 inches (38 mm) free belt area for sealing. “L” System has an inward extension under the skirtboard to increase the range of tolerance for belt mistracking. Also available in Urethane XHD profile.

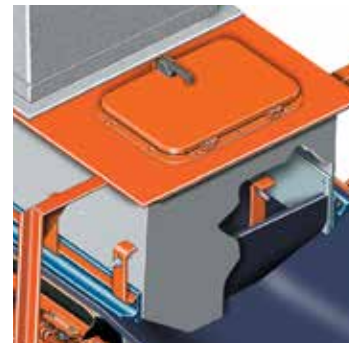


Sealing Systems Application Selection Guide

		Belt Trough Angle											
		0	20	35	45	0	20	35	45	0	20	35	45
Free Belt Area in. (mm)	4.00 (102)												
	3.75 (95)												
	3.50 (89)												
	3.25 (83)												
	3.00 (76)												
	2.50 (63)												
	2.00 (51)												
Self-Adjusting Skirting					Standard ApronSeal™					Heavy Duty ApronSeal™			

MARTIN® TAIL SEALING BOX

Forms an effective seal at entry point of transfer point loading zone to prevent material rollback off the conveyor. Keeps material on the belt and off the floor, protecting critical moving parts and components. Back seal clamps are mounted on the outside for ease of service, but the sealing strip lies on the inside for effective sealing.



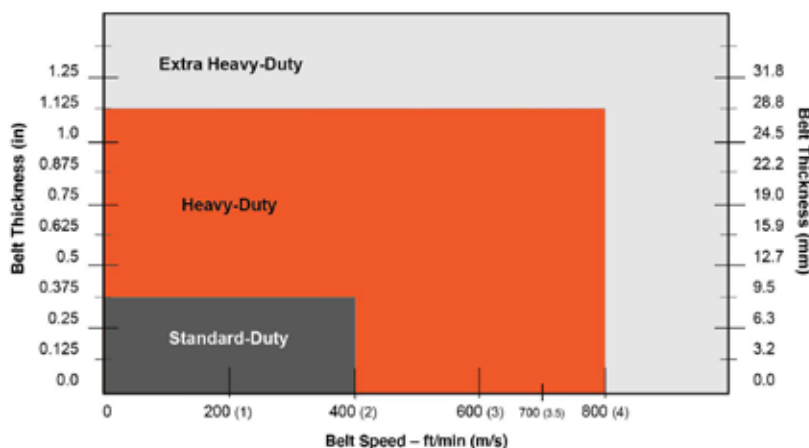


BELT TRACKING

MARTIN® TRACKER™

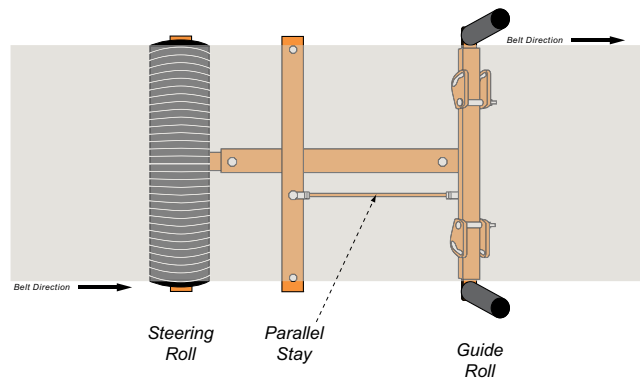
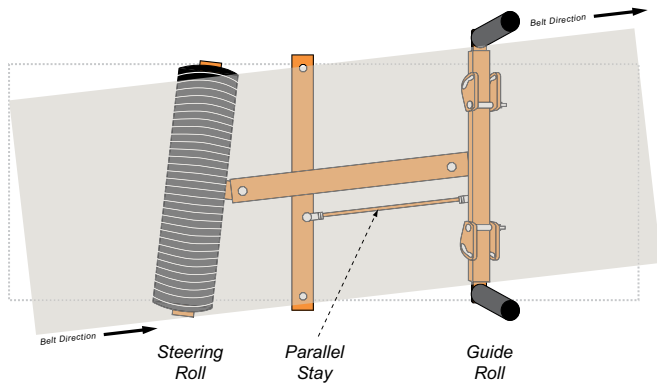
The Martin® Tracker™ HD provides immediate, continuous precision adjustment of wandering conveyor belts. The Martin® Tracker™ HD Belt Tracking System works where other belt training devices fail to reduce edge damage, prevent spillage, and extend belt life.

Available in Lower Units for the conveyor's return side and Upper Units for installation on the carrying side of the conveyor. Martin® Tracker™ HD units are sized to match belt speeds up to 800 ft/min (4 m/s) and belt thickness up to 1.13 in (28.6 mm).



HOW IT WORKS:

The Martin® Tracker has four main sections: steering roll, torque arm, parallel stay, and guide rolls. As the belt contacts the guide rolls, the torque arm pivots the steering roll, causing the belt to track to the center of the conveyor structure.



MARTIN® REVERSING TRACKER™

Reversing Tracker™ features sensing rollers and lever arms on both sides of the unit. Available with stainless steel paddle wheel or air cylinder to activate the sensing rolls on the proper end of the unit. Switching mechanism options include mechanical, electric cylinder, and air cylinder.



MARTIN® ROLLER TRACKER

- Ease of installation and low maintenance.
- A vibration free rolling action.
- A design that meets customer needs.
- Superior bearings used for superior quality.
- No contact with edge of the belt.
- Polyurethane lagging improves durability.





TAIL PULLEY PROTECTION

MARTIN® VPLOW XHD

Rugged, modular design with urethane side blades for longer wear and lower friction. Designed for 42 to 96 in. (1,000 to 2,400 mm) belt widths. Three-piece frame construction simply bolts together for ease of assembly. Includes reversible mounts so the frame can be cut and installed between the stringers.



MARTIN® VPLOW MODULAR

The Martin® VPlow Modular is an economical solution for tail protection in medium- to heavy-duty applications. Can be used on belts with belt speeds up to 900 fpm (4.6 m/sec). Easily replaceable blade provides 2 in. (50 mm) of wear life. Blade is available in 60 Shore A Durometer Nitrile rubber or long-wearing 90 Shore A Durometer urethane.



MARTIN® VPLOW HD

Economical solution for tail pulley protection in light- to moderate-duty applications. Effectively removes material before the conveyor enters the tail pulley, with a simple yet secure mounting that protects both the plow and pulley.



MARTIN® TORSION VPLOW PLUS

The Martin® Torsion VPlow Plus is mounted with a unique suspension that allows the plow to rise and fall with fluctuations in belt tension and travel. This makes it self-adjusting for effective cleaning in all stages of blade wear. Can be used on belt speeds up to 900 fpm (4.6 m/sec).

Easily replaceable blade provides 2 in. (50 mm) of wear life. Blade is available in 60 Shore A Durometer Nitrile rubber or long-wearing 90 Shore A Durometer urethane.



MARTIN® DIAGONAL PLOW

Prevents stray material from damaging the tail pulley, lagging, or belting on reversing belts. Hung from brackets on both sides of the conveyor, the Diagonal Plow is engineered to float on the belt surface with pressure for cleaning, but without adding to belt tension or conveyor-drive power requirements.





TRANSFER POINT KITS

The Martin® Transfer Point Kit is a combination of engineered material containment products for use in a transfer point where a belt conveyor receives its load. At a conveyor-to-conveyor transfer point, the conveyed materials are usually in some form of free fall. The movement of the material in its free fall and/or landing creates and releases forces that can turn into dust and spillage problems.

The Martin® Transfer Point Kit addresses two essential requirements for an optimal transfer point. After the belt wraps around the tail pulley and reaches the carrying side of the conveyor, it must be designed to receive cargo in a load zone equipped to prevent material spillage. However, a suitably contained loading of the cargo is a source for the creation and release of airborne dust with air moving through the enclosure. The addition of a properly designed Settling Zone connected to the Load Zone properly functions as passive dust control, which minimizes air velocity through the extended enclosure prior to the cargo continuing on as a conventional open air conveyor design. Available in 10", 12", and 18" heights.



LOAD ZONE



When material is transferred from one belt to another, it may strike the receiving conveyor with high speed, energy, and force. The material experiences excessive turbulence in this area. The load zone needs to be designed to control the initial impact of the material while maintaining its structural integrity.

SETTLING ZONE



Material must be allowed to settle into a controlled stream onto the conveyor belt. After product is placed onto a belt, this additional enclosed area allows the air to slow and material and dust to settle. The size of the settling zone is determined by site specifications such as; belt width and speed, chute width, airflow, depth of the material bed, and diameter of the largest lump of material. Dust curtains are strategically placed in this zone with a solid dust curtain at the entry point to reduce the air velocity and a slit curtain at the exit point to reduce dust.

STILLING ZONE



The process of transferring material from one belt to another creates airflow. This flow carries dust which can create workplace hazards, regulatory noncompliance, and equipment damage. In order to adequately slow airflow, additional volume is needed. This is achieved by extending the chute wall height. This region takes an aggressive geometric approach to dust curtain design that includes a staggered pattern to reduce air velocity and allow agglomerated dust to settle and rejoin the material before it leaves the transfer point.

Contact your Martin Engineering representative to discuss the best solution to meet your specific needs.

BELT SUPPORT

Martin® Combination Cradle

Cradle/Bars P/N	UCGBB
Cradle/Roller P/N	UCGBR
Flat Cradle P/N	31880
Picking Cradle P/N	37057
Roller Cradle Roller Kit P/N	UC-001670
Bar Material	Rubber/Urethane
Replacement Bar (Urethane/UHMW)	UC-001630
Duty Rating	Medium

Martin® Impact Cradle HD

P/N	37357
Replacement Bar (Rubber/UHMW)	36570
Standard Bar Length	24 in
Top Cover Material	UHMW

Martin® Impact Cradle LD & MD

Medium Duty - 4ft bars P/N	36318
Medium Duty - 5ft bars P/N	36516
Light Duty P/N	36010
Replacement Bar (Urethane/UHMW)	39102-4
Standard Bar Length	48 in.
Top Cover Material	UHMW

Martin® Trac-Mount Idlers

P/N	TMI2
Roller Options	Steel, Impact, Combination
Diameter Range	4 to 7 inches
CEMA Classes	A through E

Martin® Return Roller

P/N	UCRR
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Martin® Modular Slider Cradle

P/N	UCGS
Bar Material	UHMW Polyethylene

Martin® Slider Cradle

P/N	36700
Replacement bars P/N	31275
Standard Bar Length	48 in.
Bar Material	UHMW Polyethylene

Martin® Idler Conversion Kit

P/N	37135
Bar Material	UHMW Polyethylene

Martin® High-Speed Roller Cradle

P/N	HSRC
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BELT SEALING

Martin® External Wear Liner

P/N	UC-003010
Retrofit Kit	35481

Martin® ApronSeal™ Skirting

Sealing System Selection Guide	L3636
Single Skirting P/N	100724
Single Skirting HD P/N	100723
Double Skirting P/N	100873
Double Skirting HD P/N	100861
Material Durometer	60 or 70 (standard)
Continuous lengths	300 feet
Trough Range	0° to 45°
Clamp Options	standard, low-profile, heavy-duty, quick release

Martin® Self Adjusting Skirting HD

P/N	37911
Replacement Rubber P/N	37911-R
Continuous Lengths	100 feet
Min. belt edge requirement	1.25 inches

Martin® Tail Sealing Box

P/N	33268
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BELT ALIGNMENT

Martin® Tracker™

P/N	TKR-XX X X X X
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Martin® Tracker™ HD

Upper P/N	CTMHUS XX X X X X
Lower P/N	CTMHLS XX X X X X

Martin® Tracker™ Reversing

Upper P/N	34695
Lower P/N	34694

Martin® Idler Aligner

P/N	38654
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TAIL PULLEY PROTECTION

Martin® VPlow XHD

P/N	PLWVH
Max. Belt Speed	1000 fpm
Blade Material	Urethane

Martin® VPlow HD

P/N	CPHAS
Replacement Blade P/N	31134
Max. Belt Speed:	900 fpm
Blade Material:	Rubber or Urethane

Martin® Torsion VPlow Plus

P/N	CPVTAS
Rubber Blade P/N	CPVTBSXXR
Urethane Blade P/N	CPVTBXXXX
Max. Belt Speed:	900 fpm
Blade Material:	Rubber or Urethane

Martin® Diagonal Plow

P/N	22662
Rubber Blade P/N	24112
Urethane Blade P/N	25403
Max. Belt Speed:	900 fpm
Blade Material:	Rubber or Urethane

SAFETY FIRST

Martin® Conveyor Guards

P/N	UCBG
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Martin® Conveyor Guards

P/N	UCBG
Steel door P/N	CYA
Round steel door P/N	CYARD
Extended-height steel door P/N	CYAE

TRANSFER POINT KITS

P/N	CDXXS-XX X XXX X X
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