

Martin

BUCKET ELEVATORS CENTRIFUGAL & CONTINUOUS HIGH-SPEED GRAIN SUPER CAPACITY MILL DUTY



Martin has been designing and manufacturing Bucket Elevators for over 75 years with hundreds in service today. We offer a complete line of Bucket Elevators to efficiently handle a wide range of dry free flowing materials in a relatively small space with minimum horsepower. These Bucket Elevators include Centrifugal Discharge and Continuous Discharge with chain or belt mounted Buckets. Our Elevators can be supplied with either boot or head Take-Ups. *Martin* additionally offers a line of High-Speed Centrifugal Grain Elevators in both single leg and double leg designs.

Mill Duty-Centrifugal Discharge Elevators are also available for your tough applications. The Mill Duty Elevator is specifically designed and built for the severe service required by the cement, rock, fertilizer, lime, gypsum, coal and fine ore industries, and is offered with AC or ACS style Buckets.

The *Martin* Super Capacity-Continuous Discharge Elevator is designed around the use of SC Bucket mounted between two strands of chain. These Elevators are specifically used where higher capacities, severe duty and/or higher shaft centers are required.

Martin offers not only a complete line of standard Elevators but can design and manufacture MTO Elevator specific for a customer's application.

MATERIALS

- Various materials of construction and thicknesses are available

DRIVES

- Many types of drives are available and can be supplied
- Styles 100, 200, 500, 700 and 800 are normally supplied with shaft mounted reducers having internal backstops
- *Martin* recommends a backstop be installed on all Bucket Elevators.

NONMETALLIC BUCKETS

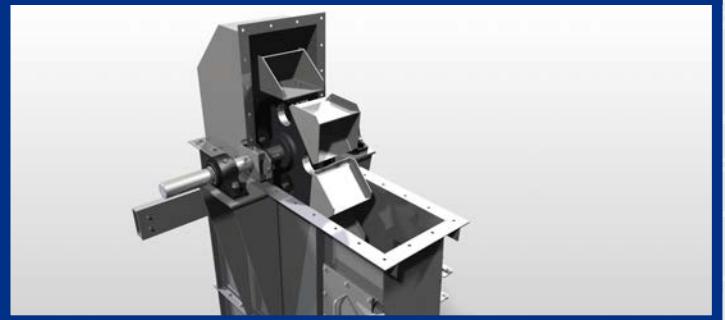
- Available in many types of buckets

Centrifugal Discharge



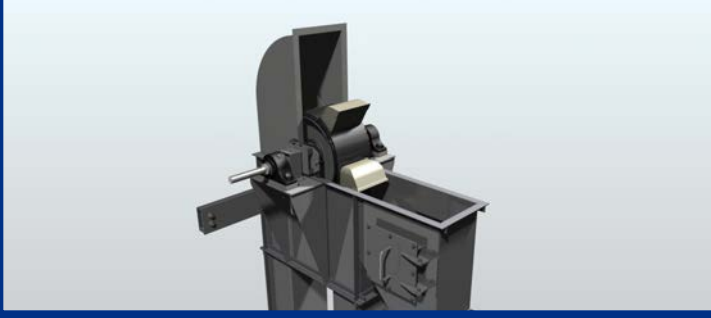
- Offered as:
 - Series **100** (boot Take-Up)
 - Series **200** (head Take-Up)
- Available with Buckets mounted to a chain or belt
- Handles free flowing materials with small to medium lump size
- Discharges the material by centrifugal force
- *Martin* standard inlet chute and curved bottom plate help direct the material into the Bucket, reducing the "digging" action of the Bucket

Continuous Discharge



- Offered as:
 - Series **700** (boot Take-Up)
 - Series **800** (head Take-Up)
- Available with Buckets mounted to a chain or belt
- Handles bulk materials ranging from light to heavy and from fines to larger lumps
- The Buckets are loaded by direct feeding with the use of a loading leg
- Spillage of material is minimizing by the close Bucket spacing
- As Buckets discharge, material flows over the preceding Buckets; projecting sides form a chute, assisting in proper discharge.

High Speed Grain Centrifugal Discharge



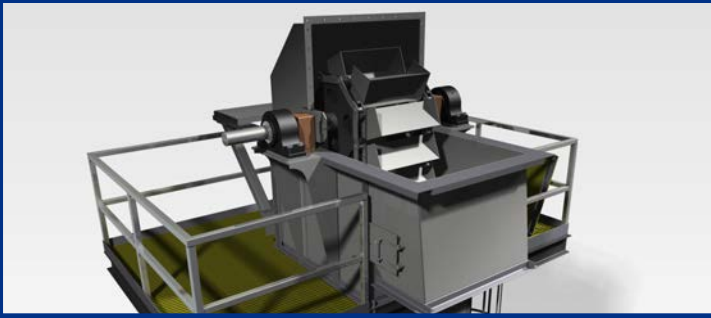
- Offered as:
 - Series **500** (double leg)
- Specifically designed to economically handle grain and other free-flowing materials weighing less than 60 pounds a bushel
- High-Speed Grain (HSG) Elevators may be used in light-duty applications such as grain.

Mill Duty Centrifugal Discharge



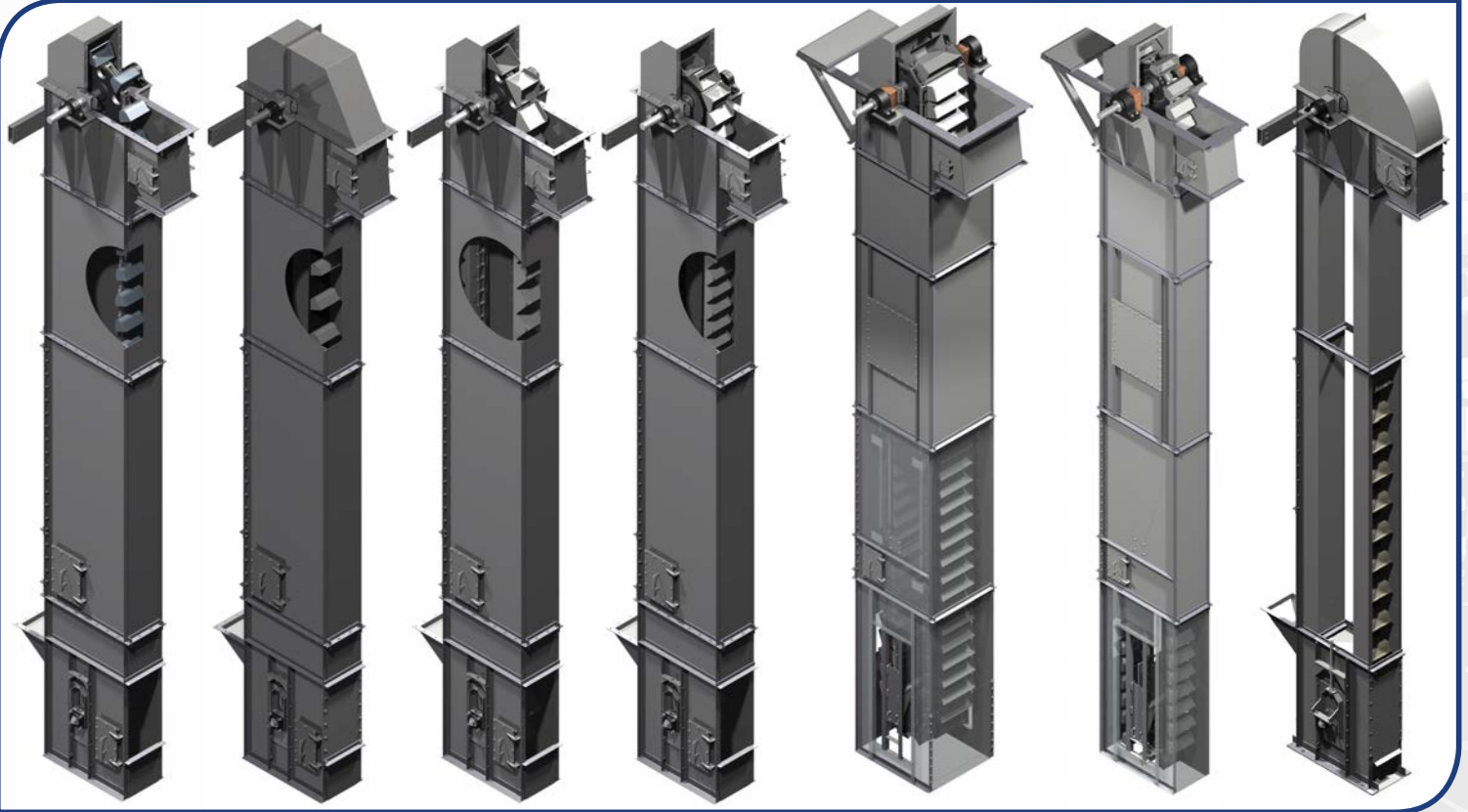
- Offered as:
 - Series **MDC** with **AC Buckets** mounted on a chain
 - Series **MDC** with **ACS Buckets** mounted on a chain
 - Series **MDB** with **AC Buckets** mounted on a belt
- Series MDB Belt Elevators may have a single or double row of AC Buckets bolted to a heavy-duty rubber covered belt
- Product is centrifugally discharged as material passes over the head Traction Wheel or Pulley
 - Traction Wheel is utilized in chain type
 - Lagged Pulleys are standard on belt type

Super Capacity Continuous Discharge



- Offered as:
 - Series **SC** with **SC Continuous Discharge Buckets** mounted between two strands of heavy-duty chain
- These Elevators are used where higher capacities, larger lumps, severe duty or higher shaft centers are required
- The feeding and discharge of material is similar to a standard Continuous Discharge Elevator

Components such as
**Sprockets, Traction Wheels,
 Pulleys, Buckets
 and most Take-Ups**
 are manufactured by *Martin*



Centrifugal Discharge Chain

Centrifugal Discharge Belt

Continuous Discharge Chain

Continuous Discharge Belt

Super Capacity Continuous Discharge Chain

Mill Duty Centrifugal Discharge Belt

High-Speed Grain Centrifugal Discharge Belt

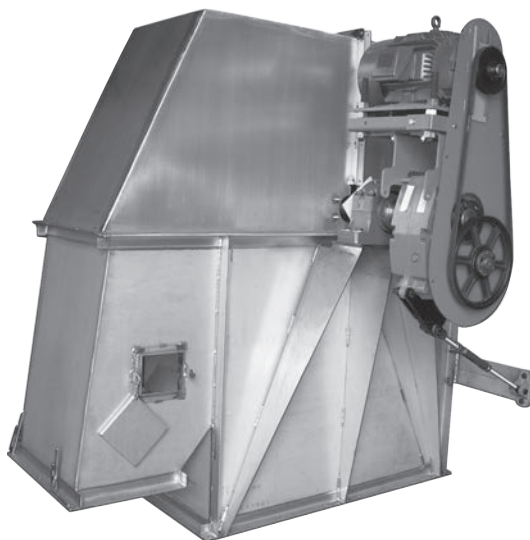
FEATURE	FUNCTION	BENEFIT
Modified Radius Hood	Minimize wear	Improve discharge flow
Machined, UHMW Shaft Seals	Longer lasting sealing surface	Reduction in product loss
Heavy-Duty Roller Bearings	Higher load ratings	Reduces downtime and maintenance costs
Hinged Service Doors	Easy access for routine maintenance	
Clean Out Door	Easy access	
Screw or Internal Take-up	For belt or chain tensioners	
Split hood	Easily removable for Pulley/ Sprocket access	
Laser Cut	Assures straightness of Elevator	Superior operation, easier installation, and better alignment
Fixture welded, structural angle iron flanges are continuously welded on the outside and stitch welded on the inside	Superior strength and durability	Easier installation and longer life
Weather tight design	Eliminates moisture problems	Reduces product loss and contamination
Fully adjustable throat plate	Helps material discharge properly	Keeps material from falling back down into the boot
Multiple drive configurations available	Allows for standardization with other equipment	Less spares to stock

AVAILABLE CONFIGURATIONS

Series 100 Centrifugal Discharge	Handle a variety of relatively free-flowing dry materials with small to medium lump sizes that are mildly to moderately abrasive. Configured with "AA", "A", "AA-RB", and Salem style Buckets. Style "C" may also be specified for wet or sticky materials.	
	Chain	Furnished with combination chain for light to medium service or all steel (steel knuckle) chain for medium to severe service or when a higher chain working load is required.
	Belt	100% polyester carcass PVC belting or rubber covered ply belts specifically designed for years
Series 700 Continuous Discharge	Handle a variety of free-flowing or sluggish materials which contain medium to large lumps and are mildly, moderately, or extremely abrasive.	
	Chain	Furnished with combination chain for light to medium service, or all steel (steel knuckle) chain for medium to severe service or when a higher chain working load is required.
	Belt	100% polyester carcass PVC belting or rubber covered ply belts specifically designed for years of Elevator service. Other types are also available.
Mill Duty Centrifugal Discharge	Chain	Handle a variety of relatively free flowing dry materials with small to medium lump sizes that are mildly to moderately abrasive. Extensively used in cement industries.
	Belt	
Double Row Mill Duty Centrifugal Discharge Belt	Handle high capacities of various relatively free flowing dry materials with small to medium lump sizes that are mildly to moderately abrasive.	
Super Capacity Continuous Discharge Chain	Handle high capacity of various free flowing dry materials ranging from fines to lumps, moderate to extremely abrasive, and those that tend to pack.	
Heavy-Duty High- Speed Grain Centrifugal Discharge Belt	Handles free flowing dry materials such as 48 lb. grains which have a small lump size and are mildly abrasive.	

CONFIGURATIONS / OPTIONS

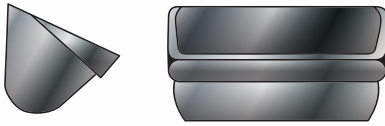
Type of Steel	<ul style="list-style-type: none"> • Carbon • High Brinell Carbon — AR Steel • Stainless Steel • Hot Dip Galvanized
Capacity	<ul style="list-style-type: none"> • Slow Speed Centrifugal up to 28,000 CFH • High-Speed Grain up to 75,000 CFH
Belts	<ul style="list-style-type: none"> • Rubber Covered • PVC Belting Various Ply and PIW • Food Grade Belting
Chains	<ul style="list-style-type: none"> • Cast Block Links and Steel Connecting Side Bars • All Steel (Fabricated)
Buckets	<ul style="list-style-type: none"> • Style AA - Ductile Iron Buckets, Plastic • Style C - Fabricated Buckets • Continuous - Medium Front - Non-Overlapping Fabricated Steel Buckets • AC Welded Steel or Ductile Iron • SC Welded Steel • AR or Hard-faced Reinforced Lip
Sprockets	<ul style="list-style-type: none"> • Segmental Rim • Segmental Rim Induction Hardened Traction Wheels • Split
Options	<ul style="list-style-type: none"> • Machinery and Service Platforms • Ladders and Safety Cage • Intermediate Rest Platforms • Hoisting Davits — Hoist Beam • Inlet & Discharge Liners • Air/Grease Purgable Seals • Head Take-Up Available • AR & Ceramic Liners for Boot & Head



Stainless Steel Bucket Elevator

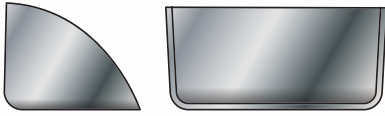


Painted Steel Bucket Elevator



Style AA

Ductile iron buckets for general use with most types of relatively free flowing material in centrifugal discharge elevators. Can be mounted on chain or belt and furnished in various plastic materials.



Style C

Fabricated buckets are used in centrifugal discharge elevators to handle materials that tend to pack or stick, such as sugar, clay, salt or wet grains.



Continuous

Medium front non-overlapping fabricated steel buckets are used in continuous discharge elevators for general service. Heavier gauges should be used when handling abrasive materials. Available fabricated from various materials. High front continuous buckets are available also. Plastic buckets available in most sizes.



AC Welded Steel

High front for greater capacity. Hooded back for closer spacing. Typical in cement, gypsum powder or other powdery materials. Venting available for clean filling and discharge. Mounted on chain or belt.



ACS Welded Steel

The ACS design allows for the use of larger sprocket or traction wheel reduced chain-flex, increased chain speeds and reduced wear of chain, sprockets or traction wheel wear. Hooded back for closer spacing.



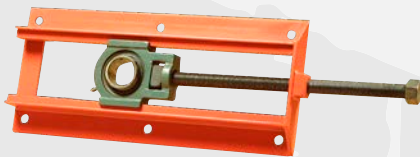
SC Welded Steel

Mounted between two strands of chain. Suitable for the heaviest materials. Designed for super capacity elevators. Typical in asphalt and concrete applications. Design offers increased capacity.



Tube Take-Up

- Allows the use of a ball bearing or roller bearing pillow blocks
- The rod force is at the centerline of the bearing
- Available with take-up travel from 3" to 36"
- MTO versions can incorporate a spring to add take-up tension



Wide Slot Take-Up

- Compact design for ideal for smaller elevators
- Rod force is at the center line of the bearing
- MTO versions can incorporate a spring to add take-up tension
- Available with 6" to 30" of travel



Internal Gravity

- Standard on most Mill Duty Elevator and Super Capacity Elevators using chain
- Heavy channel frame with easy to add steel weight plates
- Heavy duty friction bearing
- Internal lift channel.

External Gravity

- External Gravity take-up is offered as an option to the internal take-up
- Features a heavy channel frame that allows weight adjustments to be made from the exterior of the elevator
- Allows belt training adjustment

Drum Pulley



Steel rims, end disc and hubs are welded together by submerged arc welding resulting in a strong, balanced and concentric long lasting pulley. Available with or without a crown. Available in various hub and bushing types.

Wing Pulley

Martin's Heavy-Duty Wing Pulley is ideal for cleaning the bucket elevators belt in the boot. The intermittent belt contact made by the wings help dislodge material as well as increases traction and reduces abrasion to the belt.

Single Disc Pulley

The heavy-duty construction of the *Martin* SD Pulley assures a long lasting pulley designed for use in your High Speed Grain Leg. All components are welded using the submerged arc process to assure a long lasting bond and concentricity of the pulley. Available in face width from 8" thru 16".

Engineered Class Sprockets

Steel sprockets are commonly used on Standard Bucket Elevators and our High Speed Grain Elevators. These sprockets are readily available in solid, split, and segmented types. Available as Non-Split Sprockets in various cast materials with or without hardened teeth

Split Sprockets

Split Sprockets are made in one piece, machined, then split into two halves. The split design allows for installation and removal without the removing the shaft and bearings.

Segmented Cast Sprockets

Segmented Cast Sprockets are offered with either solid or split hub bodies.

Segmented Sprockets

Segmented Sprockets greatly reduce the labor costs as well as the downtime associated with replacing worn sprockets. Worn segments can be replaced by simply unbolting and replacing the segments, eliminating the removal of shaft, bearings and realigning sprockets.

Hunting Tooth Sprockets

Hunting Tooth Sprockets are designed so each tooth will only contact the same barrel every second revolution. This is accomplished by making the Sprocket with an odd number of teeth and a tooth pitch of one half the chain's pitch, doubling the sprockets life.

Traction Wheels

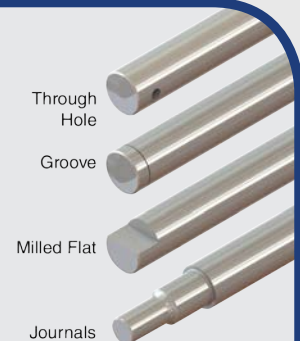
Traction Wheels are offered in solid or segmental construction. *Martin* offers traction wheels of both steel or cast materials. They are offered as standard on several styles of bucket elevators to with stand abrasive materials. Traction Wheels should not be used on the head of a Super Capacity Bucket Elevator, but work well in the boot. In applications where Traction Wheels are not useable, and excellent alternative could be a Chainsaver Rim Sprocket, which offers many of the advantages of a Traction Wheel, but adds the positive engagement of a Sprocket with the increased chain life of a Traction Wheel. Please consult *Martin* to assure the proper application of Traction Wheels in a Bucket Elevator.

Custom Shafting



Martin has the inventory and machining capabilities for quick turnarounds on custom Shaft detailing for a wide variety of applications. Stock Shafting is available for most applications on-the-shelf and ready to ship. For custom detailing, *Martin* offers on-site machining for customization, turn downs, customized keyways and more.

- Shafts up to 24" diameter
- Shafts up to 22' long
- Raw bar weights up to 22,000 lb
- Stock shafting material available in several grades 1144, 1045, 4140 and Stainless Steel





Screw Conveyors

Martin offers Screw Conveyor systems as small as 4" diameter to flights as large as 10' in diameter and as thick as 1½". *Martin* can handle any application requirements; unique flight configurations, plastic flight conveyors, shaftless flighting, and multiple screws in a live bottom system, are just a few of the many solutions available to our customers.

We stock a comprehensive range of Screw Conveyor components for quick turnaround of your component needs.



Drag Conveyors

Martin's Drag Conveyors accommodate a wide range of applications. From round to flat bottom drags, including L and S path designs, we can meet your most challenging specifications. Our standard drag conveyors can reach 64,000 CFH of efficient operations, and our custom capabilities can extend to capacity ranges well beyond that volume.

We stock some chain and drive components, as well as a comprehensive stock of raw materials that allow for quick deliveries when required.



Conveyor Pulleys

Martin offers a range of Heavy-Duty Belt Conveyor Pulleys for Standard Duty, Mine Duty, and Quarry Duty. *Martin* has available Engineered Class Pulleys to meet the needs of any belt conveyor system. Our Belt Conveyor Pulleys, Idlers, Take-Ups/Bearing, Shafting and Bushing/Shaft Locking Devices allow us to meet any Belt Conveyor System with a "ready to install" pulley assembly. Our capabilities to manufacture Engineered Class Pulleys, T-Bottom Pulleys, Turbine Pulleys, Spiral Pulleys, Wings, and our new Clean Flight® Wing Pulleys are only the beginning of our valued solutions.



Idlers

Martin manufactures heavy-duty Idlers and components that exceed CEMA standards. Heavy-duty construction and Triple Labyrinth Seals allow for trouble-free part life in the harshest of applications. With Idlers available when and where you need them, *Martin* can provide the complete solution for your belt conveyor needs.

Martin idlers are stocked in a wide range of belt widths to meet customers' needs. And *Martin* offers Drop-In Idlers, made-to-order to fit all major competitors.

Martin Sales and Engineering will work with you to completely solve your belt conveying needs. Since there are infinite amounts of conveying possibilities and configurations our sales and engineering staff are prepared to assist you with a custom solution.

Call *Martin*, we will be happy to assist you!



Free Download
Maintenance and
Troubleshooting Guide

Scan to download



USA
**Corporate Offices
Sales & Manufacturing**
Arlington, TX
817-258-3000 (FAX 817-258-3333)

**Regional
Manufacturing Plants**
Albemarle, NC
704-982-9555 (FAX 704-982-9599)
Atlanta, GA
404-292-8744 (FAX 404-292-7771)
Burleson, TX
817-295-7151 (FAX 817-447-3840)
Danielsville, PA
610-837-1841 (FAX 610-837-7337)
Ft. Worth, TX
817-258-3000 (FAX 817-258-3173)
Montpelier, OH
419-485-5515 (FAX 419-485-3565)
Sacramento, CA
916-441-7172 (FAX 916-441-4600)

Branch Manufacturing Plants
Boston, MA
508-634-3990 (FAX 508-634-3998)
Charlotte, NC
704-394-9111 (FAX 704-394-9122)
Chicago, IL
847-298-8844 (FAX 847-298-2967)
Denver, CO
303-371-8466 (FAX 303-371-7116)
Houston, TX
713-849-4330 (FAX 713-849-4807)
Kansas City, MO
816-231-5575 (FAX 816-231-1959)
Los Angeles, CA
323-728-8117 (FAX 323-722-7526)
Minneapolis, MN
952-829-0623 (FAX 952-944-9385)
Nashville, TN
615-871-4730 (FAX 615-871-4125)
Pittsburgh, PA
724-452-4555 (FAX 724-452-5794)
Portland, OR
503-223-7261 (FAX 503-221-0203)
Tampa, FL
813-623-1705 (FAX 813-626-8953)
Manufacturing Only
Abilene, TX • Clarksville, TX
Dallas, TX • Mansfield, TX
Paragould, AR

CANADA
Cambridge, Ontario
519-621-0546 (FAX 519-621-4413)
Edmonton, Alberta
780-450-0888 (FAX 780-465-0079)
Mississauga, Ontario
905-670-1991 (FAX 905-670-2110)

MEXICO
Guadalajara, JAL
+52 33-3283-1188
(FAX +52 33-3271-8450)
Monterrey, N.L.
+52 811 156 6830
(FAX +52 81-1156-6833)
Toluca, MEX
+52 722 276 0800
(FAX +52 722-276-0801)

BRAZIL
São Paulo, SP
+55 19 3877 9400
(FAX +55 19-3877-9429)

martinsprocket.com