the Morrison Guide to TIMING SCREW FUNDAMENTALS

container handling solutions for increased productivity

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TIMING SCREW FUNDAMENTALS

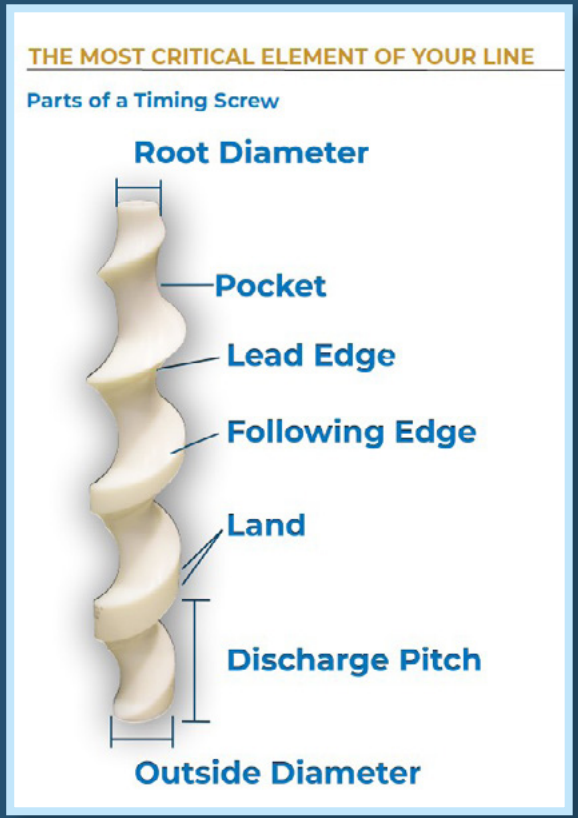
In the fast-paced world of production lines, split-second accuracy is critical to running an efficient operation. That's where expertly designed timing screws (or feed screws) come in—offering the precision and reliability needed to maximize performance.

At their core, timing screws are designed to provide a smooth, consistent flow of containers into packaging equipment. But that's just the beginning. Advances in technology and Morrison's innovative designs have transformed timing screws into highly versatile tools capable of handling complex applications. They accommodate rigid and semi-rigid containers of virtually any shape, from round to square, and can adapt to create custom orientations, pitches, and spacing.

With a properly functioning timing screw you can:

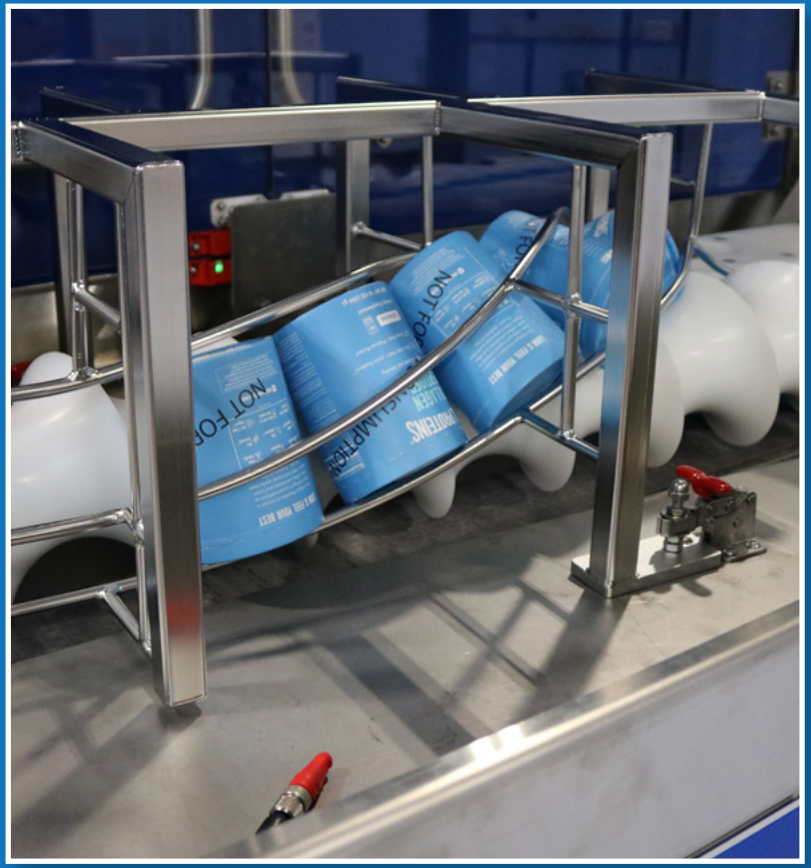
- Optimize Efficiency
- Increase Productivity
- Maximize Throughput

By enhancing your machines capabilities and flexibility, timing screws allow your production line to run as smoothly and efficiently as possible.



TIMING SCREW APPLICATIONS:

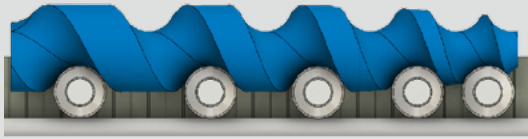
- Feeding
- Metering
- Turning
- Grouping
- Collating
- Indexing
- Dwelling
- Inverting
- Combining
- Dividing
- Transferring
- Orienting
- Denesting
- and More!



STANDARD TIMING SCREWS

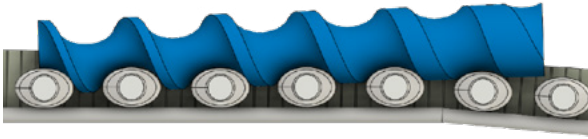
Straight Root Design

This infeed design features a constant root diameter with a graduating thread height, tailored to container shape, size, and machine limits. A spring-loaded guide rail can aid random speeding, making it ideal for round, oval, and rectangular containers with rounded edges for effective separation.



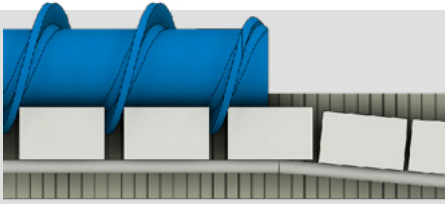
Inverse Taper Design

This is a design used for maximum performance when random feeding unstable or non-round containers. An offset guide rail is required to feed the container parallel to the timing screw root. For best performance, the initial guide rail should be spring-loaded.



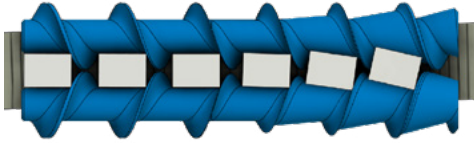
Non-Round Choke Design

Used with the proper guide rail and fed at an angle, this type of infeed design will aid in separating rectangular or square containers while maximizing performance. A backlog of containers is required for effective operation.



Shingle Infeed Design

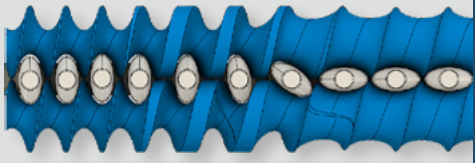
This design is characterized by a matched pair of timing screws that efficiently separates rectangular or flat-sided containers. This design easily handles large line backlog pressure and provides long timing screw life. Shingle infeed works effectively on all machines that are modified to accept it. It is most commonly used on labelers



PICKING THE RIGHT SCREW FOR YOUR APPLICATION

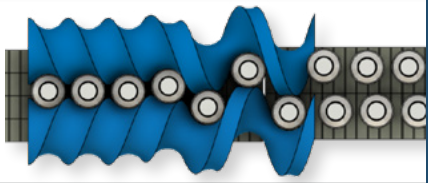
Turning Timing Screws

Rotate containers 90°, 180°, or 360° to proper orientation for specific operations. Turning a container requires two timing screws.



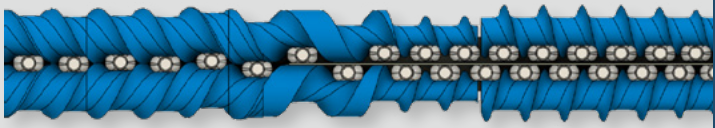
Dividing Timing Screws

A matched pair of timing screws can be used to divide a single lane of containers into two or three lanes. This operation is usually accomplished in as little as 24 inches.



Combining Timing Screws

Use proper phasing to combine containers with a wide variety of shapes.

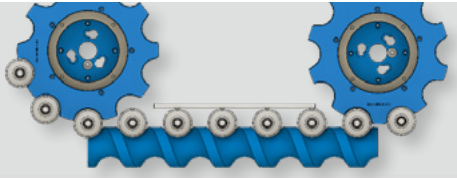


Dwell Timing Screws

Dwelling timing screws combine the continuous feeding of containers with an intermittent operation, such as filling, capping or cottoning. The screw thread is machined to allow the container to stop its forward motion for up to one-half revolutions, although the screw continues to rotate.

Transfer Timing Screws

With a transfer timing screw, it will maintain control of containers as they move from one machine or operation to the next. Since transfer timing screws are never random fed, the same pocket configuration can handle a variety of containers.



TYPES OF TIMING SCREWS

REPLACEMENT TIMING SCREWS

Facing worn-out or aging timing screws? Replacing them is essential to protect your container's integrity and keep your line running smoothly. If your original purchase was with Morrison, the process is straightforward, just provide your previous order reference, and we'll quickly manufacture a replacement screw to minimize downtime.

Even if Morrison wasn't the original manufacturer, we can replicate your screw, including matching the exact steelwork. No reference number? No problem. Contact our team, and we'll gather the necessary specifications to design a custom replacement screw for your operations.

SCREWS FOR NEW CONTAINER SPECIFICATIONS

+ Seamlessly Adapt Your Production for New Containers

Adding a new container to your production line? Morrison makes the process simple. If your current screw is from Morrison, just provide the reference number along with the new container's specifications. We'll swiftly design and manufacture a replacement that integrates seamlessly.

Don't have a Morrison screw? That's okay! Our team will measure your existing screw and steelwork to create a perfectly tailored solution for your new container.

OEM PRINT TIMING SCREWS

- The Morrison Advantage -

Morrison is the trusted leader in supplying timing screws to OEMs for seamless integration into their equipment. By partnering with us, OEMs can focus on their core expertise while we deliver precisely designed screws, optimized for exceptional container handling.

We set the industry benchmark with our superior manufacturing and finishing practices. By carefully following the specifications in your OEM prints, we align each timing screw perfectly to fit your machine's constraints. Our goal is to provide solutions that enhance smooth container handling, maintain proper spacing, and maximize your application's performance.

DESIGN CONSULTATIONS

Collaborative Design for Optimal Performance

Whether you're exploring feed screw technology for the first time or looking to optimize your existing designs, Morrison is ready to support you. Schedule a session with our engineering team to receive expert insights and tailored feedback on your screw designs.

From refining pitch, length, or diameter to recommending machine updates, we'll help you achieve the perfect timing screw to meet your unique needs.

INNOVATIVE
CONTAINER HANDLING
EXPERT DESIGN
SUPPORT BUILT IN®

- OPTIONS AND CUSTOMIZATION -

COLOR CODE YOUR SCREWS FOR QUICK, EASY CHANGEOVER

Production downtime costs money!
To reduce changeover times, Morrison timing screws can be manufactured with color coding.

We stock 6 colors, but additional ones can be requested to fit your line needs. Select one of the stock colors for us to make your order with shorter lead times.

STOCK COLORS

White | Red | Green

Black | Blue | Yellow

- custom colors also available upon request -

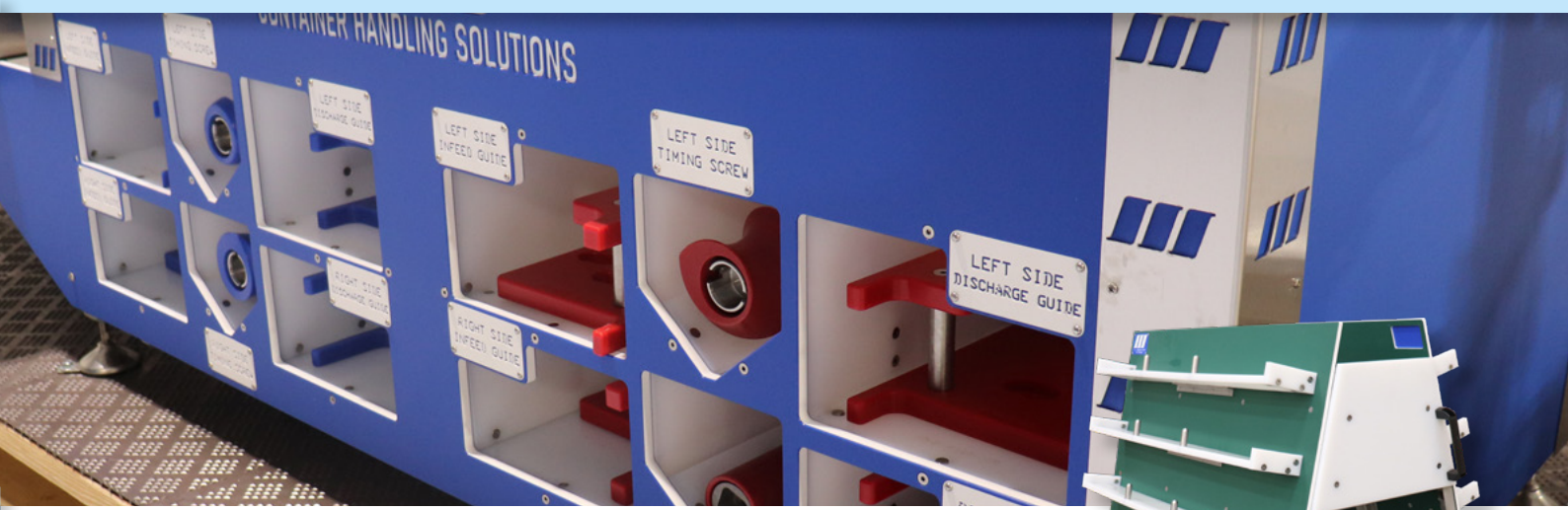
RUNNING MULTIPLE CONTAINERS ON THE SAME LINE?
USE COLOR PLUGS FOR EASY CHANGEOVER IDENTIFICATION

WHAT ARE COLOR PLUGS?

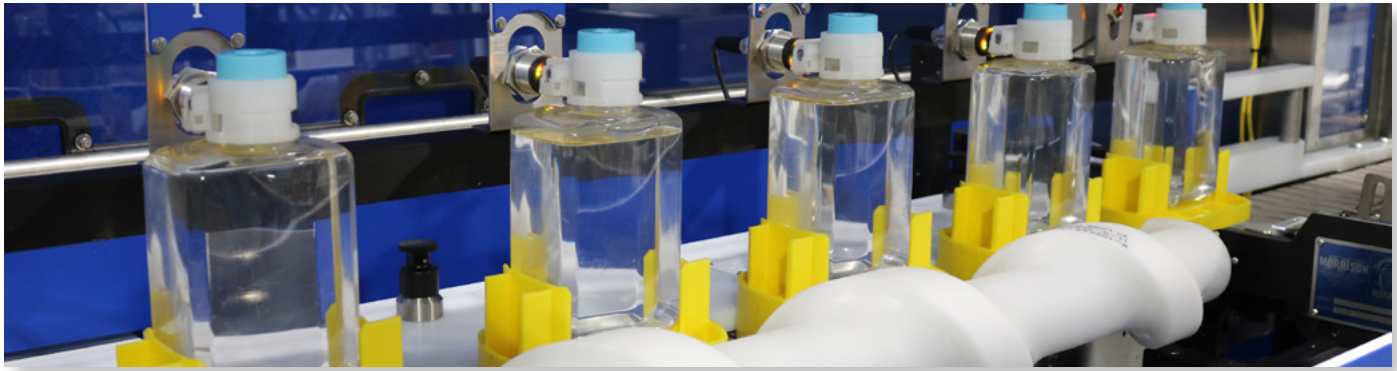
If you order all of the same color screws but still want to create color association with container sizes being run, color plugs are a great option to use.

Morrison will install a color plug, highlighted on the right, in your screws that will allow operators and maintenance to quickly identify which screws need to be installed to run the different container. This can minimize changeover time by making identification simple.

SAFE STORAGE SOLUTIONS



Parts carts are great storage solutions when parts are not in use - for example, when running a different container size or during sanitation processes. Morrison's carts keep your screws safe from damage when not in use. Morrison's design highlights the specific place each screw should be stored, making it easy for operators to quickly locate the intended screw. Carts have stainless steel frames to allow for cleaning of the parts directly on the carts and are equipped with extra enclosed storage to accommodate any other pieces that accompany your container handling sets.



HOW TO PLACE YOUR ORDER

When you're ready to place your order, our sales team can come to your plant, virtually or in person, to provide a line evaluation at no cost to you, and get the ball rolling. Let's bring Morrison's container handling expertise to your plant and achieve your production goals.

Contact Us → Plant Visit → Review Quote → Place Order

SUPPORT BUILT IN ®

At Morrison Container Handling Solutions, we are dedicated to our customers.

Included in all of our products is Support Built In®, our personal customer service program for any general questions you may have or technical support you may need before, during, and after installation.

We focus on our customers' needs in order to deliver the most effective automated packaging systems. After your new system has been fully integrated, Morrison's customer service continues to provide technical expertise and timing solutions for your particular applications. With our representatives' and engineers' knowledge and experience, we are determined to answer questions, analyze problems, and provide an expedient solution for our container handling equipment.

Discover how Morrison supports our customers.

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CONTACTS US
CONNECT WITH AN EXPERT

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