

# SI LO-TOW<sup>®</sup>

IN-FLOOR TOWLINE CONVEYOR



Figure 1: Truck Frame Assembly Conveyor.

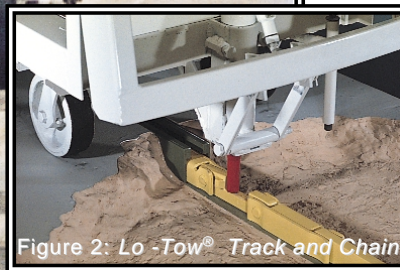


Figure 2: Lo-Tow<sup>®</sup> Track and Chain.

### Broad Applicability

Since 1963 SI has installed over 1200 SI Lo-Tow towline systems worldwide. SI towline systems have been widely used for years because of their dependability, efficiency and low investment cost. The simple, robust component design allows for configuration into innovative systems tailored to meet any manufacturing or assembly system application requirements. Remarkably versatile, SI towline can move materials horizontally — vertically in multi-story buildings using ramps or lifts or to connect multi buildings using overhead passages or underground tunnels. SI towline can be installed in new or existing buildings in loops of unlimited length. SI Lo-Tow will enhance productivity in manufacturing plants by consolidating plant activities into a smooth flowing, orderly operation.

### Operation

SI towline uses a low profile track recessed into the floor with a powered chain (see figure 2). Carts of any size or design are pulled by the chain from pick-up points to their assigned destinations. Switching and merging components allow carts to automatically divert into spurs or move efficiently from one towline loop to another. Cart programming can be accomplished manually by setting magnetic probes on the cart rack to match the spur or transfer destination code or automatically, by using RF ID tags, bar code labels and computer tracking systems.

### The Smart Choice

The rugged, proven design of towline system components, combined with more sophisticated control systems, make SI towline a more logical choice over other material transport systems. Simple and easy to maintain, SI towline systems require a lower cost initial investment, are less costly to operate once installed, and provide a useful system life far greater than alternative technologies.

## Features - Benefits

- **Reliable and Efficient**
- **Heavy Load Capability (up to 35,000 lbs.)**
- **Low Initial Investment Cost**
- **Minimal Maintenance**
- **Outstanding System Longevity**

## SI SYSTEMS

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# SI LO-TOW®

## IN-FLOOR TOWLINE CONVEYOR

## Automated Manufacturing Systems

### Control — Intelligent Towline

To meet the information management needs of today's material transport systems, SI has developed advanced towline control capabilities. State-of-the-art, PC hardware, coupled with easy to use menu-driven software, can incorporate real time cart management throughout the towline system. This can be used to manage the flow of work between work stations or to direct carts to areas for work piece delivery, pick-up or storage. When combined with bar code labeling of a work piece and RF cart ID tags, the SI Information Management Control System (SIIMS) can accomplish inventory management, WIP tracking, computer interfacing with other integrated material handling systems and provide complete system diagnostics.



Figure 3: Computer-directed diesel engine / transmission casting and machining operation (8,000-lb. loads).

### Plant Logistics

SI Lo-Tow is used to interface with all types of manufacturing equipment, operations and work cells. Lo-Tow systems are used to solve difficult production logistic problems in a wide variety of manufacturing applications from light duty furniture manufacturing (200 lb. loads) up to heavy duty truck assembly (35,000 lbs.). Towline systems can be used to link an entire plant moving raw materials from receiving - to storage - to process assembly areas — to finished storage or shipping.



Figure 4:  
Lo-Tow system  
for furniture  
finishing and  
assembly.

### Progressive Assembly

Many of today's production facilities require the flexibility of progressive assembly either in the form of a cycle indexing system or slow speed continuous movement. SI Lo-Tow is ideally suited for either application.

Indexing systems can be designed to automatically index from work station to work station on a predetermined or programmable time cycle. Manual overrides can be incorporated which prevent indexing on an exception basis.

Progressive assembly can also be



Figure 5: Lo-Tow indexing system for diesel engine final assembly.

accomplished on continuous moving - slow speed systems where the conveyor can move slower than 1" per minute ( as illustrated by figure 1, front side) have a variable speed capability or have an indexing speed between stations of up to 90 FPM.

### Interface Capabilities

SI Lo-Tow towline systems can incorporate devices needed to interface with machine tools and automated or manual work stations.



Figure 6: Precision interface automatically unloading and loading a pallet tool with engine at a CNC machine.

In addition, towline systems can be integrated with other material handling systems such as conveyors or automated storage and retrieval systems (AS/RS).

### Carts for All Purposes

Carts can be custom designed to meet special needs or functions. For example, carts can contain elevated decks which present product at ergonomically friendly heights which can be used as a workbench. Rotatable decks or built-in lift/lower tables can rotate or raise or lower



Figure 7: Ergonomically designed Towline carts function as a workbench at an off line assembly station.

product making assembly tasks easier. Shelves or other devices can be added to carry assembly parts or tools as the cart moves from work station to work station.

### Retrofit of Non-SI Systems

Because towline continues to be one of our core businesses, SI has specialized in expanding, modifying, replacing or retrofitting towline systems originally installed by other towline companies. Call us for a no-charge consultation.



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