

SAFETY SPEED STRENGTH

ALL IN ONE



DISCOVER THE ADVANTAGES OF TSUBAKI SMART CONNECT™

The Tsubaki Smart Connect™ is a progressive innovation in chain connection technology designed to enhance safety, efficiency, and reliability. Engineered for ease of use and exceptional performance, Tsubaki Smart Connect™ is the smart choice for modern industrial applications.

Safer Assembly and Disassembly

No Hammers or Heavy Tools Needed: Unlike traditional methods, Tsubaki Smart Connect™ does not require hammers, tooling, or heavy, custom press-tools. Significantly reduces the risk of injury and enhances workplace safety.

Quicker Assembly and Disassembly

Minimized Labor and Downtime: The innovative design of Tsubaki Smart Connect™ allows for faster **assembly** and **disassembly**, minimizing labor input and reducing production downtime. This efficiency translates to increased productivity and cost savings.

Ease of Use

Simple Tools Required: The assembly process only requires a common torque wrench. This makes Tsubaki Smart Connect™ user-friendly and accessible, even in environments where specialized tools are not readily available.

Equivalent Strength

Robust and Reliable: Tsubaki Smart Connect™ is engineered to provide equivalent strength to a standard press fit connection. This ensures that you do not compromise on strength and durability while enjoying the benefits of easier assembly.

Proper Articulation

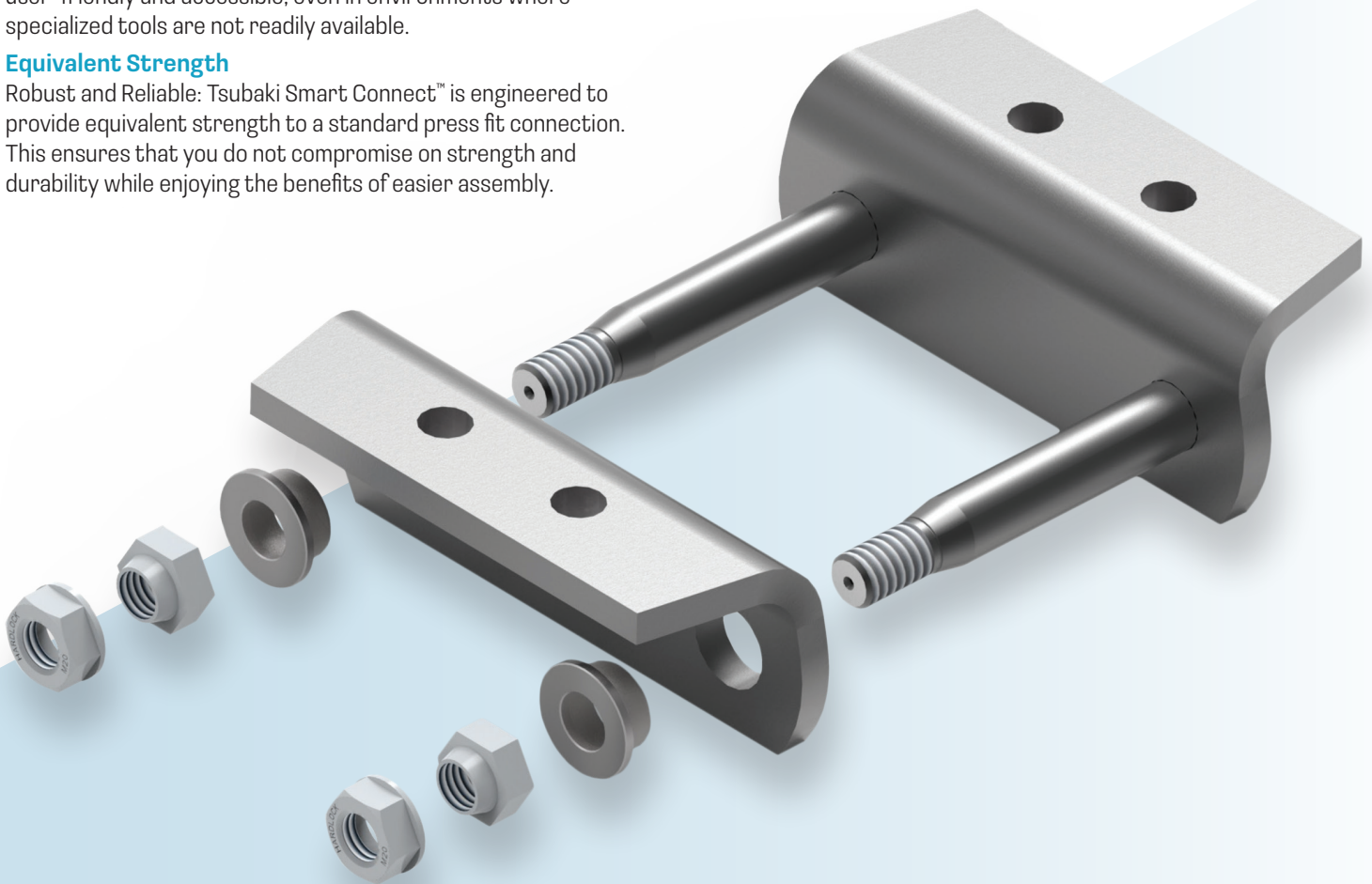
Mitigates Overtightening Risks: The design of Tsubaki Smart Connect™ ensures proper articulation and mitigates the risk of overtightening, preventing issues such as stiff or kinked joints. This leads to smoother operation and longer chain life.

Versatility

Applicable to Most Chain Designs: Tsubaki Smart Connect™ is available on most Tsubaki engineering class chain designs, offering flexibility and adaptability to a wide range of applications.

Innovative Design

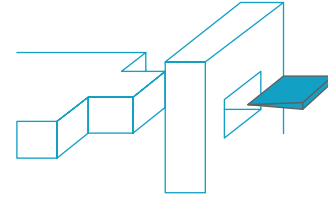
Patented Technology: The unique, patented design of Tsubaki Smart Connect™ sets it apart in the industry, showcases Tsubaki's commitment to innovation and quality.



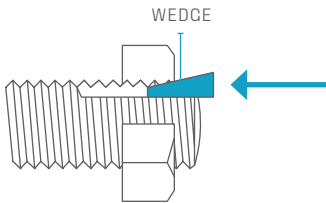
HARDLOCK® SELF-LOCKING DESIGN

Utilizing the Wedge Principle from Ancient Japanese Architecture

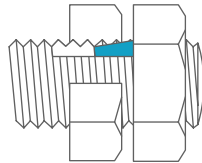
The Hardlock® Nut (HLN) is the ultimate self-locking nut, perfectly integrating the nut with the bolt. This technology is based on the traditional Japanese “Wedge” principle, ensuring a secure and reliable connection.



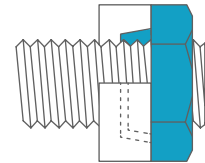
PRINCIPLE



1. Strike the wedge with a hammer



2. Push the wedge into position with a nut



3. Integrate the wedge with the nut

HARDLOCK® NUT

Strong Locking Force: The wedge principle creates a strong locking force that keeps the Hardlock® Nut intact, even under severe vibrations or impacts.

1. CONVEX NUT (FIXING NUT):

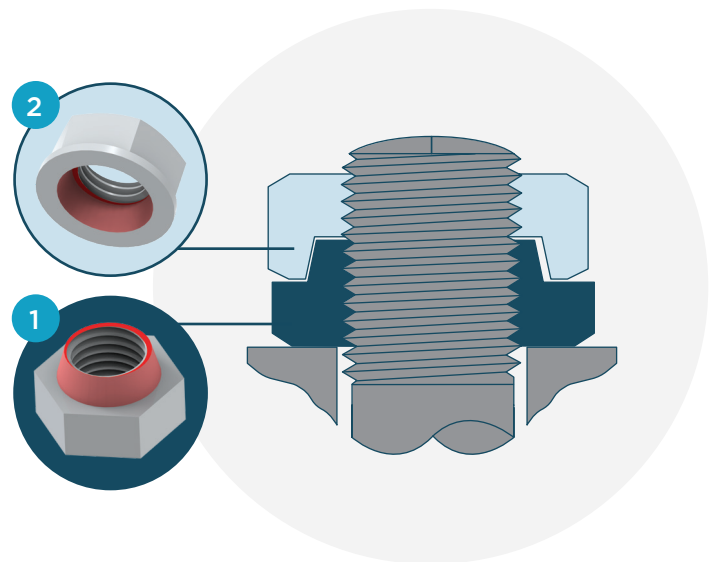
The convex nut has a truncated protrusion arranged off-center on the upper part.

2. CONCAVE NUT (LOCKING NUT):

The concave nut is designed with a concentric conical depression for locking the two nuts together.

The Hardlock® Nut technology utilized in the Tsubaki Smart Connect™ system is covered under the following patent:

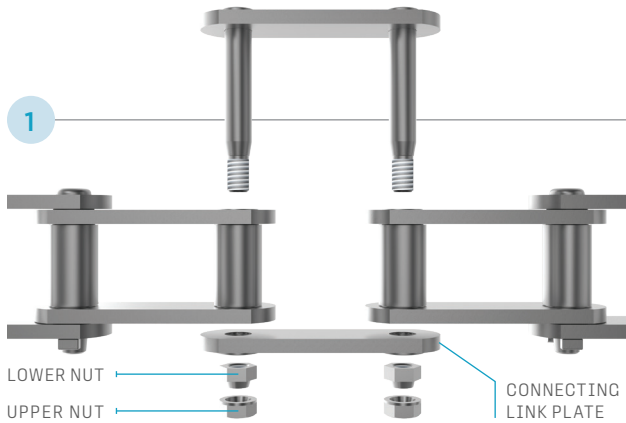
HARDLOCK® is a registered trademark (U.S. Reg. No. 4,762,537) owned by Hardlock Industry Co., Ltd., 6-24, Kawamata 1-chome, Higashiosaka-shi, Osaka, Japan 577-0063.



ASSEMBLY PROCESS

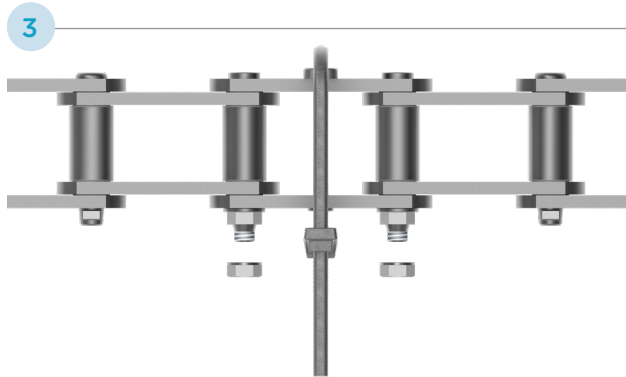
CAUTION

Whether the conveyor is horizontal, slanted, or vertical, always attach a tension take-up device (such as a chain or cable winch) to the area to be connected/ disconnected to ensure there is no tension on the chain.



1. PREPARATION

Remove the nuts and the connecting link plate from the Tsubaki Smart Connect™ system.



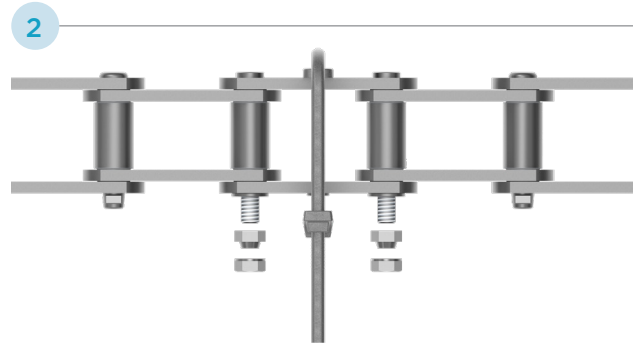
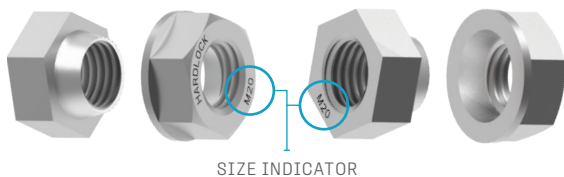
3. LOWER NUT INSTALLATION

Tighten the lower fixing nuts (convex nuts) to the specified torque. When fastening the nuts, alternate back and forth between the two nuts to ensure the connecting link plate remains square to the pins throughout the installation. **Do not overtighten the nuts.** Fastening the nuts beyond their specified torque level will be detrimental and may cause failure. Once the lower fixing nuts are torqued to specification, the clamp may be removed.

NUT TIGHTENING TORQUE

NUT SIZE	M12		M16		M20		M22		M24		M27		M30	
	N*m	(lbf*ft)	N*m	(lbf*ft)	N*m	(lbf*ft)	N*m	(lbf*ft)	N*m	(lbf*ft)	N*m	(lbf*ft)	N*m	(lbf*ft)
TORQUE SPECIFICATION	27-38	20-28	81-95	60-70	176-190	130-140	190-203	140-150	217-230	160-170	251-264	185-195	366-380	270-280

HOW TO IDENTIFY NUT SIZE

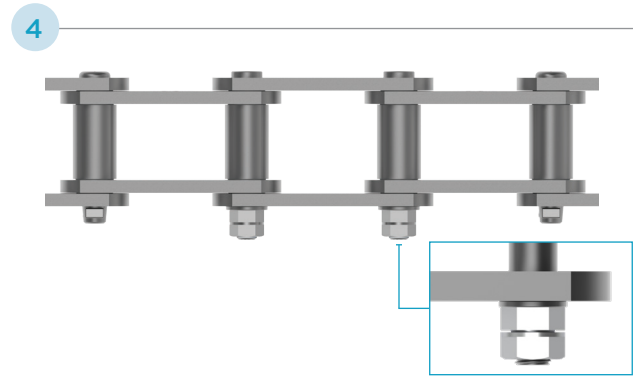


2. ALIGN AND INSERT

Pull both ends of the chain together, insert the connecting link into the joints of the inner link, and place the connecting link plate over the pin ends. Be sure to squarely seat the mating tapers in the connecting link plate with those of the threaded pins. Once the connecting link plate is seated, use a clamp to hold the assembly square.



DO NOT USE impact or power tools for any portion of assembly



4. UPPER NUT INSTALLATION

Tighten the upper locking nuts (concave nuts) to the recommended torque. **Do not overtighten the nuts.** Fastening the nuts beyond their specified torque level will be detrimental and may cause failure.

A gap between the lower and upper nuts is acceptable, if both nuts have been torqued to specification.

MAINTENANCE AND INSPECTION

Every application/system is unique. Nuts should be inspected periodically, and marking matchmarks on the nuts can make this easier.

TRADITIONAL PRESS FIT STRUCTURE VS. TSUBAKI SMART CONNECT™ CONFIGURATION

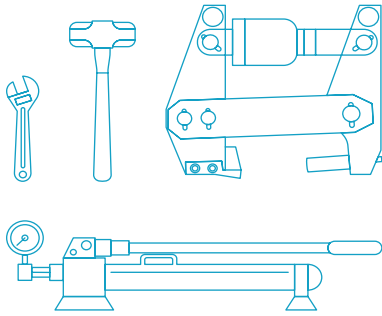
The Tsubaki Smart Connect™ system advances chain connection technology by simplifying the assembly and disassembly processes, making it safer, quicker, and more efficient compared to traditional press fit methods.

TRADITIONAL PRESS FIT STRUCTURE

TOOLS REQUIRED:

Heavy, Expensive Equipment:

The traditional press-fit method requires the use of cumbersome and costly tools such as a custom hydraulic press.



ASSEMBLY PROCESS:

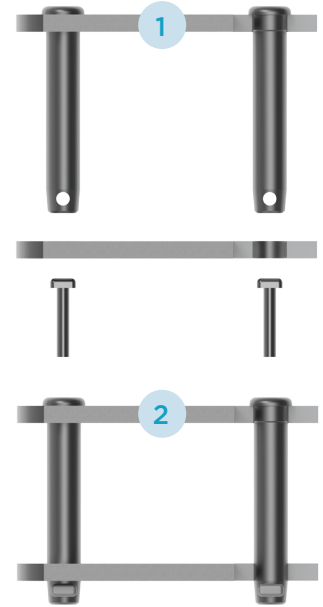
Time-Consuming: The assembly process involves multiple steps and requires significant physical effort, leading to longer production downtimes.

Complex and Labor-Intensive:

The need for various specialized tools and manual labor makes the process complex and labor-intensive.

MANUAL LABOR + RISK:

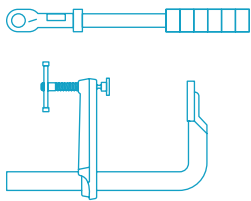
Additional tools like hammers, cotter pins, and wrenches are necessary, adding to the manual labor and increasing the risk of injury and inefficiency.



SMARTCONNECT™ CONFIGURATION

TOOLS REQUIRED:

Single Tool Required: The Tsubaki Smart Connect™ system only requires a light, ergonomic, and commonly found torque wrench and clamp.



Fasten with a hand torque wrench only.
DO NOT USE impact or power tools.

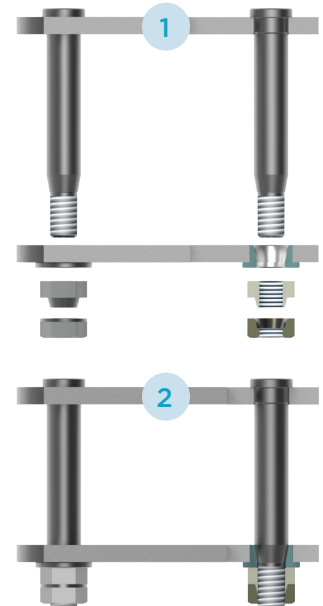
ASSEMBLY PROCESS:

Quick and Efficient: The streamlined design allows for faster assembly and disassembly, minimizing labor input and reducing production downtime.

Simplified Procedure: With fewer steps and the use of a single tool, the process is straightforward and easy to perform, even for operators with minimal training.

EASE OF USE:

This significantly reduces the complexity of the process, making it more accessible and less physically demanding.



OTHER SMART PROBLEM SOLVING SOLUTIONS FROM TSUBAKI

TSUBAKI PROSERVICE® LIFECYCLE SUPPORT



SJ3™ PATENTED SEALED JOINT



TITANXL™



SMART TOOTH® SPROCKETS



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