**POWER-LOCK AS SERIES**  
**INSTRUCTION MANUAL**

**NOTICE FOR SAFETY**
- Read this instruction manual and other attached documents thoroughly before installing and using the POWER-LOCK.
- Use the POWER-LOCK only after having full knowledge of the equipment and all applicable safety procedures.
- Keep this instruction manual where the user can always refer to it.

Safety precautions in this manual are classified into two categories: “WARNING” and “CAUTION”.

These are defined as follows:

**WARNING**:
- Death or serious injury may result if the POWER-LOCK is installed incorrectly.
- Injury or physical damage may result if the POWER-LOCK is installed incorrectly.

**CAUTION**:
- Failure to follow the instructions under **CAUTION** may also result in death or serious injury depending on the particular situation.

**WARNING**
- If the device is used on equipment for transporting people, install the appropriate protection devices to the transportation equipment to provide the required safety.
- If the device is used on elevated equipment, install the appropriate safety devices to the equipment to prevent the falling of materials. The falling of materials may cause injury to personnel or damage to the equipment.
- Ensure satisfactory performance.
- Always confirm that there is no torque or thrust loads on the hub or shaft. When the tightening bolts are loosened, the POWER-LOCK may suddenly release and allow the device to spin or come off. After ensuring safety, slowly loosen and remove the tightening bolts.
- Remove hub and the POWER-LOCK from the shaft.
- If the POWER-LOCK still locks even after loosening bolts, tighten bolts into the tapped holes for removal. (see Fig.4)

**Important**
- Never use lubricants containing silicone or molybdenum disulfide.
- When installing the tightening bolts, always use a torque wrench.
- Do not use any bolts other than the bolts that were supplied with the POWER-LOCK. (The bolts required for the POWER-LOCK are special bolts of a high tensile strength and only those supplied with the POWER-LOCK should be used.)
- Since the POWER-LOCK AS series are not of self-aligning unit, centering must be made through the direct contact between hub and shaft.

**Notice for the POWER-LOCK SS and SW series**
- 1. The POWER-LOCK SS series (stainless series)
  - Color of tightening bolts is black (not steel color) because of a special coating.
  - Use the POWER-LOCK SS series at dry condition after wiping off dust / oil at the inside of hub, shaft and the POWER-LOCK itself.
  - Do not put any oil or grease to avoid the torque down.
- 2. The POWER-LOCK SW series (water resistance series)
  - Tightening bolts of the POWER-LOCK SW series are stainless with black color for M12 and smaller, and special steel with gold color for M14 and larger.

**Warranty**
- Tsubaki Chain CO. : hereinafter referred to as “Seller”
- Customer: hereinafter referred to as “Buyer”
- Goods sold or supplied by Seller to Buyer: hereinafter referred to as “Goods”
- Warranty period
  - for standard series: 18 months from the date of shipment or 12 months from the first use of Goods, including installation of Goods to Buyer’s equipment or machines - whichever comes first.
  - Warranty coverage
    - Should any damage or problems with the Goods arise within the warranty period, given that the Goods were operated and maintained according to the instructions provided in the manual, Seller will repair and replace at no charge once the Goods are returned to the Seller.
    - This warranty does not include the following:
      - Any costs related to removal of Goods from the Buyer’s equipment or machine to repair or replace parts.
      - Costs to transport Buyer’s equipment or machines to the Buyer’s repair shop.
      - Costs to reimburse any profit loss due to any repair or damage and consequential losses caused by the Buyer.
- Warranty with charge
  - Seller will charge a fee for any investigation and repair of Goods caused by:
    1) Improper installation due to not properly following the procedures in the instruction manual.
    2) Insufficient maintenance or improper operation by the Buyer.
    3) Incorrect installation of Goods to other equipment or machines.
    4) Any modifications or alterations of Goods by the Buyer.
    5) Any repair by engineers other than the Seller or those designated by the Seller.
    6) Operation in an inappropriate environment not specified in the manual.
    7) Force Majeure or forces beyond the Seller’s control such as natural disasters and injunctions committed by a third party.
    8) Secondary damage or problems incurred by the Buyer’s equipment or machines.
    9) Defective parts supplied, or specified by the Buyer.
    10) Incorrect wiring or parameter setting by the Buyer.
    12) Loss or damage not liable to the Seller.
- Disclaimers
  - Service to dispatch a Seller’s engineer to investigate, adjudicate or test Seller’s Goods is at the Buyer’s expense.
  - In our constant efforts to improve, Tsubaki Chain CO. may make changes to this document or the product described herein without notice.
  - Considerable effort has been made to ensure that the contents of this document are free from technical inaccuracies and errors. However, any such inaccuracies or errors reported will be gladly examined and amended as necessary.

**Table 1: Tightening bolt size and torque MA**  
<table>
<thead>
<tr>
<th>Bolt size</th>
<th>Tightening torque MA for standard series</th>
<th>Tightening torque MA for SS and SW</th>
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</thead>
<tbody>
<tr>
<td>M6</td>
<td>18.3 (13.5)</td>
<td>13.7 (10.1)</td>
</tr>
<tr>
<td>M8</td>
<td>40.2 (29.7)</td>
<td>33.3 (24.6)</td>
</tr>
<tr>
<td>M10</td>
<td>81.3 (60.1)</td>
<td>67.6 (50.5)</td>
</tr>
<tr>
<td>M12</td>
<td>142 (105)</td>
<td>118 (87)</td>
</tr>
<tr>
<td>M14</td>
<td>225 (167)</td>
<td>186 (138)</td>
</tr>
<tr>
<td>M16</td>
<td>348 (257)</td>
<td>289 (214)</td>
</tr>
</tbody>
</table>

**Table 2: Tightening sequence for bolts**

1. Clean the inner surface of the hub and surface of the shaft, and apply a slight amount of oil to both surfaces. (Never use lubricants containing silicone or molybdenum disulfide.)
2. Remove the tightening bolts from the POWER-LOCK and clean and slightly oil or molybdenum disulfide.)
3. Insert the POWER-LOCK into the hub and shaft and tighten the bolts by hand until a slight positive contact is obtained and bring them to desired position. (Never over tighten the bolts.
4. When installing the tightening bolts, always use a torque wrench.
5. Always confirm that there are no torque or thrust loads on the hub or shaft before removing the POWER-LOCK. If torque or thrust loads are present, the POWER-LOCK may suddenly release and allow the device to spin or come off. After ensuring safety, slowly loosen and remove the tightening bolts.
6. Always use a torque wrench when installing the tightening bolts.
7. Raise the torque wench setting to the full torque MA and repeat the procedure given in step 4 above.
8. Raise the tightening sequence of bolts to the full sequence for MA and repeat the procedure given in step 4 above.
9. When tightening the bolts, always use a torque wrench.
10. Do not use any bolts other than the bolts that were supplied with the POWER-LOCK. (The bolts required for the POWER-LOCK are special bolts of a high tensile strength and only those supplied with the POWER-LOCK should be used.)
11. Since the POWER-LOCK AS series are not of self-aligning unit, centering must be made through the direct contact between hub and shaft.

**Fig. 1: Configuration**
**Fig. 2: Torque wrench**
**Fig. 3: Tightening sequence for bolts**

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**Effective 18 months from the date of shipment or 12 months from the first use of Goods, including installation of Goods to Buyer’s equipment or machines - whichever comes first.**