

Recertification Instructions

(for 17" Crown Block Sheaves)

Receiving and Initial Inspection

- Fill out the customer information section of the recertification form doc. # WTI-89.
- Note and record any apparent damages or problems.
- Find the serial number of the sheave e.g. (AA-01), located on the manufacturing tag affixed to the side plate.

Proof Testing

- Determine the required proof test load. This load will be listed in doc. # WTI-63 Load Rating Chart.
- Proof test the sheave with the approved apparatus, If the line load is indicated on the readout stop at ½ of the proof test load, the load on the sheave will be double.
- Document the proof test on the recertification traveler.
- Remember to keep the parts from this sheave separate from any other parts, as they have now been proof tested.
- Complete and sign the Proof Test Certification, doc. # WTI-90.

Disassembly

- With a ¼" punch drive the spiral pins[3] into the center of the axle shaft[5] and remove them. Use spanner wrenches to remove the axle nuts[4].
- Being careful not to drop the axle or bearings[21], remove the side plates[11].
- Note the condition of the grease on the recertification form.
- Remove the axle and bearings from the wheel.
- Unbolt the disks[14] from each side plate. The fairlead guides [17] can be left on.
- Thoroughly clean all parts with parts washer solvent.
- Be sure to keep the parts from this sheave separate from any other parts. Use a crate or box large enough to hold all of the parts during the rest of the recertification. This will ensure the parts are not mixed with parts from another sheave.

Contact the Customer

- If there are any repairs that need to be made, contact the customer for approval.

Non-Destructive Testing

- Visually inspect all load bearing components for cracks or damage.
- Inspect bearings for any damage including but not limited to: wear, discoloration from heat, fretting or flaking, brinelling (indentation of the rollers into the races), pitting, or corrosion. Replace any bearings which have any of these indications.
- If the bearings need to be removed press them out using a hydraulic press and a bearing removal kit part number TF-255 or equivalent.
- Inspect the wheel groove for wear. See figure 1. Insert a radius gauge corresponding to the original groove size listed in doc. # WTI-16. If the groove has worn more than 20%" from its original form, recommend wheel re-grooving to the customer. Wheels can be re-grooved up to 0.250" deeper than their original dimension. The minimum diameter at the bottom of the groove is 14.75. If the wheel cannot be re-grooved within these parameters, recommend replacement.

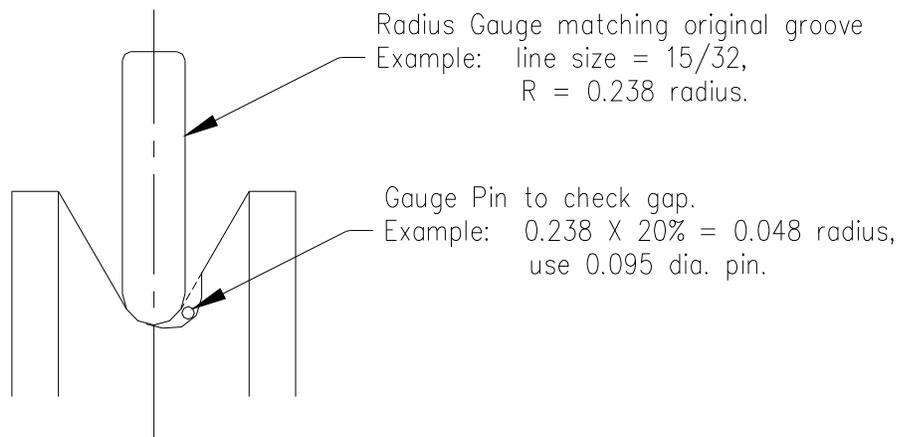


Figure 1. Wheel Groove Inspection

- Perform a magnetic particle inspection on the load bearing components, (side plates, disks, axle shaft). Follow ASTM E 1444 and reject parts that do not meet the grade C quality level as defined in MIL-STD-1907. The side plates and the disks will need to have the paint removed.
- Inspect the axle shaft to determine that it is still straight and round within 0.015". If not, replacement is recommended.
- Replace any discrepant parts, identify them as scrap, and segregate them from the assembly area.

Document Changes

- If proof testing or non-destructive testing has revealed any defects, inform the customer of the need to replace the parts.
- Document the changes to be made and record all lot and serial numbers of the components.

Re-Assembly

- Have the side plates[11] and disks[14] powder coat painted submarine yellow.
- Bolt the disks back onto the side plates. Use permanent thread sealant such as Permatex Locks Studs on the threads.
- Install new o-rings[18,19] in the o-ring seats[20].
- Lubricate the bearings[21] and o-rings by pressure packing or hand packing with No. 2 EPHT grease.
- Assemble the axle shaft[5], bearings cones[21], and o-ring seats[20] into the sheave wheel[26]. Fill the cavity between the bearing full of grease.
- Install the side plates over each end of the axle shaft.
- Place an adjustable axle nut[35] on one end of the axle shaft and tighten it until it is flush with the end of the shaft. Align the holes with the slots in the end of the shaft.
- Install two new spiral pins[34] in this axle nut and drive them flush with the inside of the axle shaft. Always use new spiral pins to ensure secure locking.
- Place the other adjustable axle nut on the other end of the axle shaft. Using a torque wrench attached to an adapter (P/N TF-242) tighten it firmly to seat everything. Loosen the nut then tighten it to 150 in. lbs. If the hole in the axle nut is lined up with the hole in the axle the spiral pin can be installed. If not tighten until the very next set of holes and slots align.
- Install two new spiral pins into these holes and drive them flush with the inside of the axle shaft.
- Verify smooth wheel rotation and easy usage of retaining pins[31].
- Replace any damaged hairpins[7] or lanyards[1].

Final Inspection

- Have someone, other than the person who conducted the recertification or repairs, conduct a final inspection to the sheave, utilizing the Final Inspection Checklist, doc. # WTI-88.

Documentation

- Stamp the date into the inspection tag on the outside of the side plate.
- Make sure the Recertification Form (doc. # WTI-89) is complete, signed, and dated.
- For vendors working for WTI and customers doing their own work, please send a copy of this Recertification Form (doc. # WTI-89), the Proof Test Certification (similar to doc. # WTI-90), the Final Inspection Checklist (doc. # WTI-88), and the Repair Invoice to WTI to be filed with the sheaves permanent records.
- Return the crown block assembly to the customer along with a copy of the Proof Test Certification and the Recertification Form and an owner's manual (doc. # WTI-120).
- Remind the customer to return the sheave in one year for its next recertification.