

# OPERATING, MAINTENANCE, TROUBLESHOOTING MANUAL

*for Wide Cut Mills Model HS-70 and PLS-70*



## TRU-CUT BANDMILLS

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*Model #*

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*Serial #*

### **ATTENTION:**

To avoid personal injury, death, or costly damage to your saw, do not operate until you have thoroughly read this manual, and understand the functions of your saw. Always stop the engine and the blade rotation before making any adjustments.

The life and performance of your saw depends on you, the operator, to properly maintain and replace worn parts before they cause personal injury, death, or extensive damage to your saw.

If you have any trouble, first read your manual thoroughly. If you still need assistance, call your dealer Dunlap Enterprises at 209 532 4974, or Coblentz Fabrication at 606-355-2894.

## ENGINE

Change oil and oil filter at 8 - 10 hours after the engine is broken in, and then every 150 hours there after. If you are using synthetic oil, the intervals may be longer. Check with your oil supplier. There is an engine manual included with the saw.

Keep engine fins and air filter cleaned and changed as necessary. Sawdust can build up in engine fins and air filter, causing the engine to overheat, which shortens engine life considerably. When engaging blade rotation, always do so slowly and gently to avoid unnecessary wear on belts and engine. Engine and saw are designed for engine to run at 3600 RPM, no load. Engine warranty is 3 years from Coblenz Fabrication's original date of purchase.

For engine problems or warranty issues, take engine to an authorized engine service center.

## BELTS

Periodically check and adjust belt tension as needed. Do not tighten so much that it causes engine or pump failure, but enough that there is no flopping or squealing. There are adjustments provided to keep belts properly tensioned.

Hydraulic pump belts are B55. This applies to HS-70 models only. Bandwheel belts are B116, except a few of the earlier saws, that the drive pulley on Bandwheel has a pulley where the pulley spokes were cut out; these belts are B120.

## GEAR BOX HS-70 MODEL ONLY

This is a Durst 50-1 gear box that uses 80W90 gear oil. The gear box needs to be filled to the halfway plug level which is approximately 1½ quarts. The gear box part number is A1126RH.

## PLS-70 MODELS ONLY 12V WINCH FOR EARLIER MODELS OF PLS-70

This is a superwinch model 1585202 with a 12 tooth, #80 sprocket welded on cable drum of winch. For new winch parts, warranty issues, or technical assistance, Superwinch can be reached at 1-800-323-2031 or superwinch.com. Coblenz Fabrication lets Superwinch handle warranty issues on these winches. At times they have been reluctant to honor warranty if they learn the winch has been modified.

These winches are powerful! Be careful about running head of saw too hard against the top or bottom of the frame.

We have had some issues with brakes on these winches not holding load. We are now using a 12 volt motor and gear box on newer models.

## PLS-70 MODELS ONLY

### 12V DC MOTOR & GEAR BOX FOR LATER MODELS OF PLS-70

This is a simple setup that is fairly maintenance-free. Use 80 - 90 weight gear oil in gear box, and a 100 amp fuse in line, on positive battery cable, between battery and motor contactor.

## ROLLER CHAINS

**ATTENTION:** Timely preventive maintenance needs to be performed on complete head lifting mechanism to avoid head dropping and causing costly saw damage or operator injury. Check periodically for wear and tension on all chains and lifting bolts. Replace chains and bolts if they show signs of excessive wear. Adjust headlift chains to where head comes down against bottom evenly.

## ROLLER CHAIN SIZES

Gear box chain on HS-70 model is #80 or #80H. 12 volt winch and gear box chain on PLS-70 models are #80 or #80H. Headlift chains on both models are #60H chains. Chain from hydraulic power feed motor to shaft on HS-70 model is #80 chain. Power feed chains on HS-70 models are #60.

## BLADE TENSION

When tensioning blade, close knob on the bottom of hand pump. Open air vent on top of hand pump. Open yellow-handled ball valve. Apply proper blade tension. Earlier models have a 2" bore cylinder and 2500 lb. PSI must be applied. Later models have a 2 ½" bore cylinder and 1800 lb. PSI must be applied. When proper tension has been applied, close yellow-handled ball valve to prevent leaking off. When releasing band tension, open yellow-handled ball valve. Make sure air vent is open on top of hand pump, then slowly open knob on bottom of hand pump.

**ATTENTION:** Always release band tension when you are finished sawing. You should have a hand pump instruction manual included. Refer to that manual for hand pump maintenance and oil recommendations.

## BLADE LUBE

Adjust proper flow rate with needle valve located down behind blade on idle wheel side. Start by opening about ¼ - ½ turn, then use upper valve for your on - off valve. Since blade lube is stored in a steel reservoir, we need to use a blade lube material that doesn't rust or freeze. Option #1: Diesel fuel works well, but creates a slight fire hazard. Option #2 is windshield wiper fluid. Option #3: There are materials available that are made especially for bandsaw blade lubrication. There are likely other materials that would work as well.

## HS-70 MODEL ONLY

# HYDRAULIC SYSTEM MAINTENANCE

Keep system filled to maximum capacity with a good quality premium multi-vecosity AW46 hydraulic oil. Change hydraulic oil filter every 2000 hours. Change hydraulic oil every 4000 hours. On hot days or under heavy use, watch oil temperature. Do not allow temperature to exceed 140°.

## HS-70 MODEL ONLY

# HYDRAULIC SYSTEM TROUBLE SHOOTING

### *Weak or Slow Hydraulics*

1. Check for proper belt tension between engine and hydraulic pump.

2. Change hydraulic oil filter.

3. Check hydraulic relief valves. There are three relief valves in the system. Turning any of these relief valve set screws clockwise, will increase the pressure and power of that particular relief valve. Turning out counter-clockwise will decrease the pressure and power of that particular relief valve. These relief valves sometimes get weaker with time and use, and need to be adjusted or replaced.

Relief valve #1 is located on top of hydraulic reservoir, and is factory set at 2000 lb. PSI.

Relief valve #2 is located at hydraulic valve bank levers, and is factory set at 1750 lb. PSI.

Relief valve #3 is located right above or behind hydraulic power feed motor, that powers carriage forward and reverse. This is a double crossover relief valve. This relief valve only affects forward and reverse of carriage. This relief valve is designed for smooth starting and stopping of carriage and needs to be precisely adjusted after your mill is set on track.

There is about a 1/4 - 1/2 turn position where the carriage works smoothly but doesn't lose speed.

One effective way to do this is to time your saw from one end of the track to the other end, in forward and reverse. Some of these saws are set up with a rapid reverse feature that increases your reverse speed.

The "R" screw affects Reverse motion of the carriage and the "F" screw affects Forward motion of the carriage.

If the carriage seems to start and stop roughly with jerks, start by turning screws out one-half turn and then rechecking. Continue this procedure until the saw starts and stops smoothly, but is still within a couple of seconds to the same travel speed. If the carriage seems too slow or weak, start by turning screws in half a turn each time, and then checking for speed and power.

If head of saw moves up too slowly or weakly, try turning the relief valve #2 in one round. If this doesn't help, turn relief valve #1 in one round. If turning these relief valves in doesn't help, and you have checked belt tension and changed hydraulic oil filter, then the hydraulic pump probably needs to be replaced.

## BANDWHEEL MAINTENANCE

Keep bronze scrapers rotated and changed as they wear.

These bandwheels are precision machined and balanced with a crown of 1 degree from center either way on band surface of bandwheel. This crown can be felt slightly with your hand or seen if you hold a straight edge across the bandwheel. These wheels may need to be recrowned at 2000 - 3000 hours, or when you can no longer keep band tracking properly.

Any machinist with a large enough lathe should be able to recrown these wheels, or they can be returned to Coblenz Fabrication for recrowning. Never remove the drive pulley from bandwheel, because the bandwheel was balanced with pulley bolted on bandwheel.

Rotating pulley in a different position could cause bandwheel to become off-balance. For bandwheels with four bolts, make sure the bolts are properly torqued every 250 hours. When you grease bandwheel bearings, you can use a 1/2" drive impact wrench and tighten down at full power. Keep 14mm lock washers under bolt heads. Bolts are 14mm with a 1.5 thread pitch. Also, the front bandwheel bearing nut needs to stay tightened with the spanner wrench provided with the saw. For bandwheels with axle hubs and lug nut, refer to a separate manual provided with the saw.

## GUIDE WHEEL MAINTENANCE

Keep guide wheels properly adjusted, which is explained in the guide wheel adjustment section. Also, if guide wheels show signs of excessive wear or flat spots, they need to be replaced. Guide wheels wear down on the front before the back, and may need to be adjusted or replaced. Use a caliber to check diameter on front of guide wheel and on back. If there is more than a 5-10 thousands of difference, it will probably be beneficial to replace them, especially in wide cuts.

## GREASING INSTRUCTIONS

Always use high-quality Lithium NLG#2 grease in bearings, engine slides, and band tension sliders, for adjustable bandwheels. For bandwheel bearings, we recommend two pumps every 250 hours. For headlift bearings and powerfeed bearings, use one or two pumps every 150 hours. For engine belt tension slides, use four to eight pumps every 150 hours. For band tension slider on adjustable bandwheel, use two to four pumps per grease zerk every 150 hours. For round tubes that slide on chrome cylinder rods, there are bronze oil impregnated bushings encased in the round tubes underneath the wiper seals that don't really require grease, but the head seems to move a little smoother with one or two pumps daily of #0 grease. The disadvantage with using grease is that some sawdust can collect on grease film. See what works best in your situation. As with any greasing schedule, it takes some experience to get the proper amount of grease in bearings and slides.

Bearings with grease coming out of seals have had too much grease. Bearings that stay totally dry with no visible grease may need a little more grease.

## BANDWHEEL ADJUSTMENTS AND BAND TRACKING

**Step 1:** Use a tape measure to measure from back inside of guard to face of bandwheel, on top and bottom, on left and right side at every 90°. Then use four adjusting bolts on back side and try to get all four points to measure the same. This is the first step in getting your bandwheel adjusted close.

**Step 2:** With saw setting on a level track, take a 24" level and level the face of bandwheels. You may have to loosen one of the side bolts a little bit. Use top and bottom bolt to level bandwheel. Retighten all bolts. Do this on both bandwheels.

**Step 3:** Put a band on bandwheels. Making gullet of band even with bandwheels. Apply operating tension on band. Carefully and slowly turn the bandwheel. Keep watching band to make sure band doesn't run off the bandwheels. If band runs off under tension, this could cause injury. If band wants to track too far forward, the bolt on outside of saw needs to be turned in clockwise. If band is tracking too far back, the bolt on the inside toward center of saw needs to be turned in clockwise. Keep doing this until you have gullet of band tracking even with face of bandwheel.

You may need to release band tension to adjust bolts. Applying extreme torque to bolts could strip out threads.

## GUIDEWHEEL ADJUSTMENTS

After bandwheels are adjusted and band is tracking properly, the next step is to adjust guidewheels.

**Step 1:** Move guide arms in approximately halfway from each side and tighten down. Make sure you have operating tension on band.

**Step 2:** Drop guidewheels down on band, but do not push band down below straight line. Guidewheels should touch band, but still spin quite freely.

**Step 3:** Loosen guidewheel adjusting bolts to where guidewheels can slide in and out of guidewheel holder. Leave 1/8" - 3/16" gap between back of band and flange of guidewheel. Retighten bolts.

**Step 4:** Take a straight edge like a 4-foot piece of 1/4" x 2" flat steel and lay on top of nuts in center of guidewheels, and push back against guidewheels. Adjust the guidewheels until they come perfectly flat against straight edge. This is a critical step.

**Step 5:** Make sure the guidewheels are still just barely touching band.

**Step 6:** Now we want to take both guidewheels down to where they are pushing the band down below straight line of band  $\frac{3}{8}$ " -  $\frac{1}{2}$ ". If you can position your band over top of a straight log bank or a straight line going from side to side across track beams, then measure to make sure it measures the same on each side.

**Step 7:** For this step, we need to take a small torpedo level and lay on band right next to guidewheel laying across a saw tooth with no set. (Every third tooth is flat with no set.) This can be felt or seen. Now adjust guidewheel adjusting bolts until level shows perfectly level. Do this to both guidewheels.

**Step 8:** Recheck all adjustments and tweak to perfection.

# SAWING PROBLEMS OR WAVY LUMBER

**Step 1:** Make sure you have a sharp blade with properly set hook angle and tooth spacing for your species of wood. Talk to your band supplier about this.

**Step 2:** Make sure you have lubrication properly adjusted and turned on.

**Step 3:** Read bandwheel maintenance, bandwheel adjustment, and band tracking instructions. Take appropriate steps. Also check to make sure you still have a crown on bandwheel by holding a straight edge across band surface of bandwheel. Recrown bandwheels if necessary.

**Step 4:** Read guidewheel maintenance and guidewheel adjustment instructions. Make proper adjustments and/or replace guidewheels.

**Step 5:** Make sure bandwheel bolts to bearing or hub are tightened properly.

**Step 6:** If the bandwheel bearing is going bad, it could cause sawing problems. Make sure there is very little play in the bandwheel bearings. The tensioning bandwheel does have a little play in the sliding mechanism. This is not a problem. After tension is applied, this will tighten up.

**Step 7:** Sawing too fast can cause wavy lumber. Try to maintain your sawing speed to where the engine doesn't pull down or lose a lot of RPMs.

If you follow these steps, your saw should perform wonderfully. Remember, when we are making wide cuts on table top slabs, we are more concerned about quality than speed. Happy sawing!



# TRU-CUT BANDMILLS

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