Always Moving Forward

Operating Manual

Please Read Before Operating Unit

Model WC600D Automatic Tubing Cutter

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Service and All Spare Parts Available

ISO 9001 REGISTERED

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AUTOMATIC TUBING CUTTER

Made In The U.S.A.

SPECIFICATIONS

Maximum Cut Length.....999,999.99" (999,999.99mm)

Minimum Cut Length.....0.100" (2.54mm)

Material Size.....1/2" to 1-1/8" (12.7mmø to 28.5mmø)

Tolerances..... At cut lengths of under 2" (51mm) on most materials, the tolerance is ±0.01"(.25mm). All other cut length tolerances are 1% or better dependent on material and feed. Programmable length compensation of ±99% is built into the unit to accomodate unusual materials. Squareness of cut is 0-2 degrees.

Batching.....Up to 99 programmable batches

Blades.....Razor type double beveled steel blade

Feed.....Dual driven adjustable belt feed

Bushings.....Customer material sample is required to drill bushings. Purchased separately.

Counter.....0-999,999

Power.....115V 60Hz or 230V 50Hz

Decibel Rating.....60 db(A)

Size.....12"W x 16-3/4"D x10"H (305mm x 425mm x 254mm)

Weight.....46.5 lbs. (21 Kg)

ORDERING INFORMATION

AR7101 (WC600D).....Automatic Tubing Cutter, 115V 60Hz
AR7102 (WC600D).....Automatic Tubing Cutter, 230V 50Hz, European plug
AR7103 (WC600D).....Automatic Tubing Cutter, 230V 50Hz, UK plug
IR1296.....Replacement blade
IR0977.....Set of custom bushings
PR1029.....One replacement timing feed belt (2 necessary per unit)
PR1026.....One replacement flat belt (1 necessary per unit)

Feed Rate:
There are five selectable feed rates. In addition, cut time and cut speed of the rotary head are selectable. Production rates are variable by length of cut pieces, feed rate and cut speed and time.

Production Rates:
Production rates have many variables and will depend greatly on material and cut lengths. If production rates are critical, send 20 feet of material to our lab for test cutting. The following chart shows some typical production rates.

WC600D Rates for Reference (pieces per hour)				
Feed Rate	Cut Time	Cut Speed	Length 2" (51mm)	Length 6" (152mm)
1	1 sec.	3	1000	710
2	1 sec.	3	1220	890
3	1 sec.	3	1385	1105
4	1 sec.	3	1500	1310
5	1 sec.	3	1600	1440
Feed Rate	Cut Time	Cut Speed	Length 10" (254mm)	Length 20" (508mm)
1	1 sec.	3	560	370
2	1 sec.	3	740	570
3	1 sec.	3	960	735
4	1 sec.	3	1140	970
5	1 sec.	3	1385	1285

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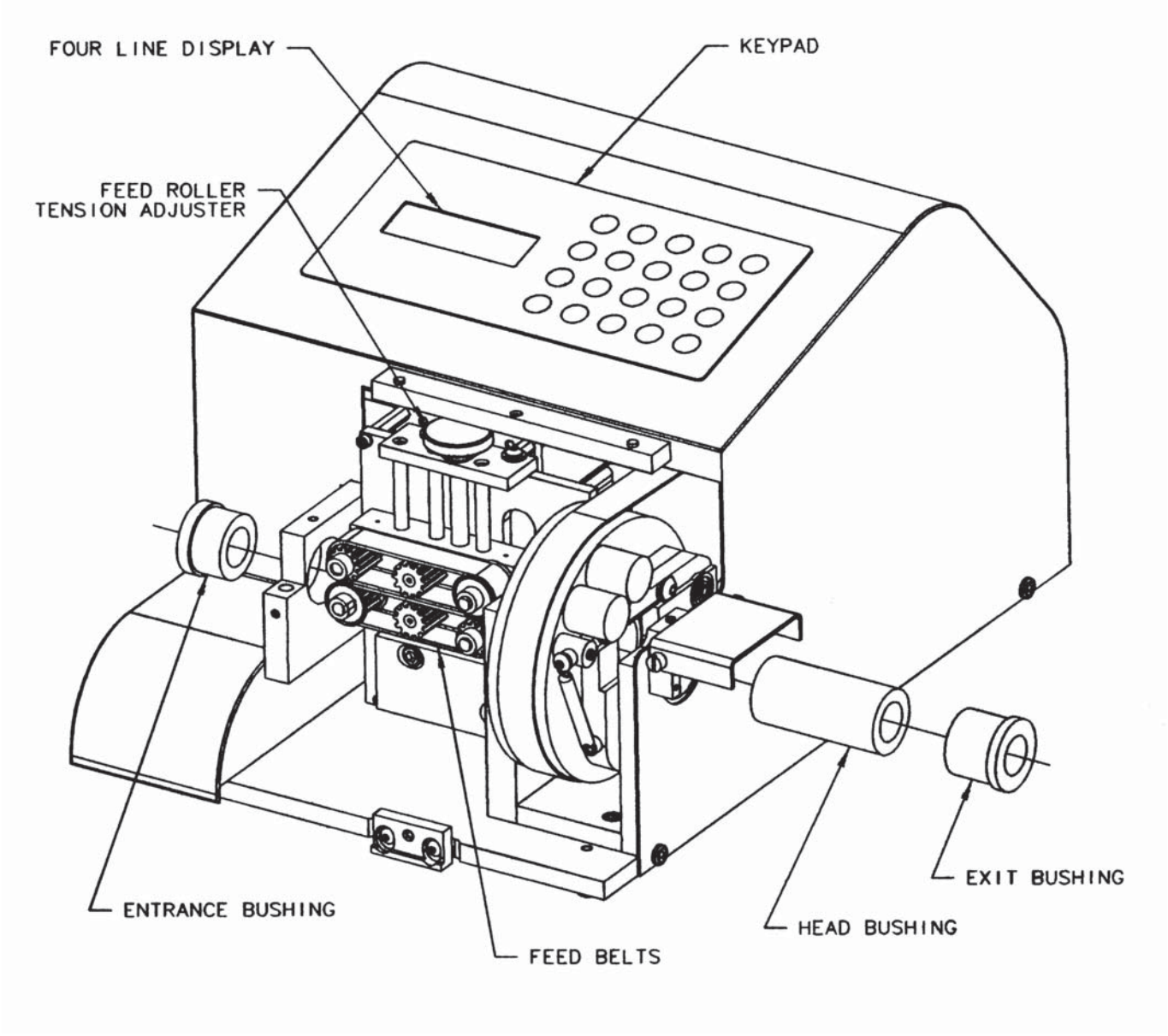
WC600D BUSHING INSTALLATION DRAWING



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IMPORTANT SAFETY INSTRUCTIONS
READ ALL INSTRUCTIONS

WARNING

DO NOT OPERATE TOOL UNTIL YOU HAVE READ THOROUGHLY, AND UNDERSTAND COMPLETELY, ALL INSTRUCTIONS, RULES, ETC. ON THIS PAGE, AND IN THE OPERATING MANUAL. WHEN USING ELECTRIC TOOLS, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED TO REDUCE RISK OF FIRE, ELECTRIC SHOCK, AND PERSONAL INJURY, INCLUDING THE FOLLOWING:

GROUNDING INSTRUCTIONS

In the event of a malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. This tool is equipped with an electric cord having an equipment-grounding conductor and a grounding plug. The plug must be plugged into a matching outlet that is properly installed and grounded in accordance with all local codes and ordinances.

Do not modify the plug provided – if it will not fit the outlet, have the proper outlet installed by a qualified electrician.

Improper connection of the equipment-grounding conductor can result in a risk of electric shock. The green conductor with or without yellow stripes is the equipment-grounding conductor. If repair or replacement of the electric cord or plug is necessary, do not connect the equipment-grounding conductor to a live terminal.

Check with a qualified electrician or service personnel if the grounding instructions are not completely understood, or if in doubt as to whether the tool is properly grounded.

Use only 3-wire extension cords that have 3-prong grounding plugs and 3-pole receptacles that accept the tool's plug. Repair or replace damaged or worn cord immediately.

GENERAL INSTRUCTIONS

REMOVE ADJUSTING KEYS AND WRENCHES. Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning on.

KEEP WORK AREA CLEAN. Cluttered areas and benches invite accidents.

DON'T USE IN DANGEROUS ENVIRONMENTS. Don't use power tools in damp or wet locations, or expose them to rain. Keep work area well lighted.

ALWAYS USE SAFETY GLASSES. Everyday eyeglasses only have impact resistant lenses; they are NOT safety glasses. Also use face or dust mask if cutting operation is dusty.

WEAR PROPER APPAREL. Do not wear loose clothing, gloves, neckties, rings, bracelets, or other jewelry that might get caught in moving parts. Nonslip footwear is recommended. Wear protective hair covering to contain long hair.

DON'T OVERREACH. Keep proper footing and balance at all times.

MAINTAIN TOOLS WITH CARE. Keep tools sharp and clean for best performance and to reduce the risk of injury. Follow instructions for lubricating and changing accessories.

DISCONNECT TOOL before servicing; when changing accessories, such as blades, wheels, cutters, and like.

USE RECOMMENDED ACCESSORIES. Consult the operating manual for recommended accessories. The use of improper accessories may cause risk of injury to persons.

CHECK DAMAGED PARTS. Before further use of the tool, a guard or other part that is damaged should be carefully checked to determine that it will operate properly and perform its intended function. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced.

DO NOT EXCEED THE MAXIMUM MATERIAL SPECIFICATIONS.

DO NOT OPERATED UNIT WITHOUT GUARDS IN PLACE OR GUARDS NOT IN WORKING ORDER.

DO NOT PERFORM MAINTENANCE OR ADJUSTMENTS WITH POWER ON.

DO NOT PLACE FINGERS OR APPENDAGES IN OR NEAR OPENINGS IN GUARDS.

DO NOT RUN UNIT WITH INCORRECT LINE VOLTAGE. REFER TO LABEL PLACED OVER I/O SWITCH.

DO NOT ALLOW UNTRAINED OR UNQUALIFIED PERSONNEL TO OPERATE UNIT.

DO NOT DEFEAT ANY OF THE SAFETY FEATURES DESIGNED INTO THE UNIT.

IMPORTANT:

No liability will be incurred by The Eraser Company for injury, death, or property damage caused by a product which has been set up, operated, and/or installed contrary to Eraser's written operating manual, or which has been subjected to misuse, negligence, or accident, or which has been repaired or altered by anyone other than Eraser, or which has been used in a manner or for a purpose for which the product was not designed.

MODEL WC600D AUTOMATIC TUBING CUTTER
OPERATING INSTRUCTIONS

SET-UP:

The WC600D is supplied with one 3/32" Allen wrench, one 5/32" Allen wrench and one 5/64" Allen wrench. Bushing must be purchased separately.

CAUTION:

The WC600D blade is intended for use on soft flexible tubing. However, some rigid tubing and some wire may be cut. The blade is a very thin sharp blade and caution should be used when handling it.

Place the Model WC600D on a sturdy workbench with the right corner of the exit opening even with the right corner of the bench. Short and long cut lengths will drop out the side of the exit bushing. Material collection bins can be placed to collect the cut material as it exits the unit. If using the DE700 (or any other tensioning dereeler), place the dereeler to the left side of the unit, at least 24" from the entrance bushing in a straight line and align the lower pulley with the entrance bushing. If using the DE700, refer to their operating manual for further set up details.

BUSHING INSTALLATION:

To aid in bushing installation refer to the drawing. If different sizes of material are going to be cut, additional bushing sets may be ordered. There are three guide bushings, the entrance, head, (or middle) bushing, and exit bushing. First install the longer head bushing. Locate the chamfered side of the bushing, this is the side that goes in first. Slide the bushing in as close as possible to the belt feed and back toward the blade, without hitting the blade. Manually close the blade and check that the head bushing is not touching the blade. Tighten the head bushing in place. Insert the exit bushing in place. Manually close the blade, position the exit bushing as close to the blade as possible. Tighten exit bushing in place. Make certain that the blade moves freely by manually closing the blade. Reposition the bushings if necessary. Install the entrance bushing (chamfer side out) making certain that it does not interfere with the belts when they are in the fully closed position. Keep the bushings as close as possible to the blade. This will provide the squarest cut and allow the shortest pieces of tubing to be run. Bushings that are not close to the blade will allow jamming of short cut pieces.

Connect the power cord to the IEC connector, and plug the unit into the appropriate power supply (either 115V 60Hz OR 230V 50Hz).

Place the material to be cut on the dereeler. Turn the WC600D on using the I/O switch on the back side of the unit. To open the front cover, unscrew the top and front. The display will read “cover open system disabled” if the cover is open or if the unit is in a run program. Back out the belt feed adjusting knob by turning the adjusting knob counter clockwise on belt roller tension adjuster. Feed the tubing through the entrance bushing, between the belts into the head bushing and through the exit bushing. To tighten the upper and lower belts, simply turn belt adjusting knob clockwise. The belt roller adjustment will prevent tubing from being compressed, but it can also affect length. If the material is slippery, more tension may be applied to the belt feed by turning the tension adjusting knob clockwise. Apply only enough tension to transport the material. Do not over-tighten the belts. Over tightening the belts may cause the material to crush thus creating excessive drag in the transport bushing. The belts should be adjusted by tightening them until the material (tubing) can no longer be pulled between the belts. More belt pressure may be added if the cut lengths are inconsistent. Once material has been fed through the bushings and belt tension is set, close the cover and use the jog button to feed the material manually, and the cut button to cut it off. The unit now is ready for programming. Note: The material can be fed manually as described above or by jogging the material through the bushings. To feed with the cover closed, press the Jog button to enter the manual mode and press the Jog button again to jog the material through the entrance/cut bushings. If the material does not feed, it can be inserted with the guard open. If in the manual mode the unit can jog, rotate and cut the material. Press the jog or cut keys to move or cut material. The speed of the jog and cutter head will be determined by the last inputted variables placed in the microprocessor.

PROGRAMMING:

START UP: When the unit is turned on, the controller will report that it is initializing and display The Eraser Co/ WC601B. The line being edited will display a blinking cursor. The system will then automatically display the batch screen:

Do one of these: 0 (Enter 1)
Enter 0 for no batch
Enter known batch #__
Enter new batch #__

The number on the first line will be the last batch run, or in this case, 0, since this is the first run since the system was powered up. The number on the last line is the next available batch that has not yet had parameters stored. The system requires that batches be created in sequence, so numbers higher than the number on the last line will not be accepted. As batches are created, the number on the last line will increase, until the current maximum of 99 batches is reached.

Press enter to select the default, or type in a new number. If 0 is selected, all parameters will be set to zero, and will be entered manually. Parameters entered while using batch 0 are never stored. Parameters for all other batches

are stored, so the next time that particular batch is called, those parameters will be presented as defaults. If any parameters are edited, the new values will be stored for the next time that batch is entered. All batches that have parameters stored can be edited by entering the desired batch number.

CREATING A NEW BATCH:
Enter the number on the last line of the batch prompt screen, in this case 1. The first edit screen will appear:

Length units IN #1 (Use + or - key to change to MM)
Length 0.000
Length compensation 0
Quantity 0

The current batch number is shown beside the # at the top right. The cursor will be flashing just before the in (inch), indicating that the field is currently editable. Press ENTER to accept the default of inches, or press the + or - key to toggle to mm, for millimeters, then press enter to store mm. Each time ENTER is pressed, the cursor advances to the next parameter.

Enter a value for the length parameter. If ENTER is pressed accidentally before a value is entered, a long error beep will sound, otherwise the entered value will be stored. If a mistake is made, press the BS key to back space over the entry. If the enter key has been pressed, press the ESC key and start over. All values entered so far will have been stored, so you would only have to press ENTER until you returned to the place where you wanted to make a change—the values would not have to be entered again. Any value between .001 and 999,999,999 may be entered, or 0 to 9 digits, including a decimal point. This allows for 5 digits before the decimal place and 3 after. In mm mode, only 2 decimal places are allowed after the decimal point.

Due to variations in materials, actual cut length may vary from the inputted length by a constant amount. The WC600D and incorporate a length compensation feature to provide an easy adjustment in these cases. The length can be compensated +/-1% to 99% of the inputted length. The length compensation display will show (-) for a negative value. Example: If 10" (254mm) is entered as the desired length, but the actual cut pieces measure 9.8" (249mm), a length compensation of +2% will increase the cut length by .200 (5mm) to the desired 10" (254). The length compensation will remain with the batch program. To use compensation, enter a value or use the + or - keys. If no compensation is needed, press enter.

ENTER THE QUANTITY OF CUT DESIRED - UP TO 999,999.

Rate Screen
Feed Rate 1 (Enter 1 thru 5)
Initial Rate
Final Rate
Acceleration
After the quantity is entered, the rate edit screen appears. Press + or - to increment or decrement the feed rate value. Alternately, the desired feed rate may be entered manually (any number between 1 and 5). As the value is changed, the rate values are updated to show what values are active for that feed rate.

Feed Rate	1=2.92 *IPS (74.2mm)
	2=10.59 *IPS (269mm)
	3=17.37 *IPS (441MM)
	4=20.76 *IPS (527MM)
	5=34.08 *IPS (865MM)

*Inches Per Second

NOTE: The slower the feed rate, the more accurate in length the cut pieces will be. It is advised to start with the lowest feed rate and check results, then adjust the feed rate if desired.

Cutter Screen
Cutter Parameters

Cut Speed	(Enter 1 thru 5)
Cut Time	(Average .4 thru .7 seconds)

The cut speed controls the speed and pressure at which the rotary blade cuts through the material. If material does not cut completely through, increase the speed control. If cut is not clean enough, decrease the speed control. The cut time can be changed for materials of different hardness. Average cut on times are from .4 seconds to .7 seconds. The blade speed and cutter on time should be set as low as possible to give the best possible cut.

Cut Speed	1= 520 RPM
	2= 522 RPM
	3= 600 RPM
	4= 652 RPM
	5= 680 RPM

After the Cut Time is entered, the display under Cut Time will show: Press Run to Start. Press Run or Enter to begin the cutting cycle of the tubing cutter.

Run Screen

Pieces 10	#1
Length 1.000	IN
Feed Rate 3	10(compensation factor)
Pieces Left #	

If the compensation factor is non-zero, its value will be printed on the same line with the feed rate. The system will wait till the RUN or ENTER key is pressed. Once started, the number of pieces left is updated as the run progresses.

PAUSE FUNCTIONS
To interrupt a run at any time, depress the ESC key once to stop the unit after the current feed/cut cycle is completed. Press the ECS key again to stop the unit immediately. Depressing the ESC key twice quickly will stop the unit immediately. When the key is released, the message paused will appear on the bottom line. The

system can be opened and worked on, only if the material does not extend past the exit bushing. Then close and restart by pressing the RUN or ENTER key. If the material is extending past the exit bushing, press the CUT key to cut and remove the cut piece to allow the guard to open. While paused, the length compensation may be edited with the +/- keys. Material may be fed using the JOG key. By depressing the JOG key, material will be fed with the length being displayed. Each time a manual cut is performed, the length is reset back to zero. The feed rate may be changed while paused by pressing EDIT and selecting a new feed rate.

Press ESC/PAUSE when paused to abort the run and return to the Batch Prompt screen. When the run is complete, the message Run Complete will appear on the bottom line.

OPERATION:

The WC600D will not operate unless the front cover is closed. If the cover is opened during a run the unit will stop and the screen will display "cover open/system disabled." The system cannot be run until the cover is closed and the display reads "ready to run/any key continues." Pressing the ESC/PAUSE key will return to the run screen in the pause mode. Pressing the RUN key will immediately resume the run.

POWER FAILURE:

In case of a power failure, the WC600D will be reinitialized and will not start unexpectedly. All parameters stored in a batch program will remain in memory. Parameters in the 0 batch will be lost. The controller is protected by a fuse located in the back of the housing just above the IEC connector.

BLADE CHANGE, OR REPLACEMENT AND BLADE DEPTH ADJUSTMENT

CAUTION: BE SURE UNIT IS UNPLUGGED BEFORE CHANGING BLADES.

To replace the blade, with the front cover open, find the exit bushing. Next, remove one of the screws holding the blade in place, with the 5/32" Allen wrench provided and loosen the other one. Slide the blade out from under the screw and washer. Replace blade, screw, and tighten.

NOTE: If this is the first time the blade has been dulled, it may be used again by turning the blade around and using the other side. The cutting edge of the blade is offset, so the blade may be used twice.

To adjust the depth of the blade, locate the socket head cap screw located on the rotary head and loosen the locking socket head set screw, which locks the socket head cap screw in place, using the 3/32" Allen wrench provided. To adjust the blade deeper, turn the socket head cap screw using the 5/32" Allen wrench provided counterclockwise. To raise the blade, turn the screw clockwise. NEVER ALLOW THE BLADE TO GO PAST CENTER OF BUSHING! Blade depth is properly set when the blade is slightly deeper than the inside wall of the tubing being cut. After adjusting the blade depth, tighten the locking socket head set screw to keep the blade from moving.

MAINTENANCE:

CAUTION: BE SURE TO UNPLUG THE UNIT BEFORE PERFORMING ANY MAINTENANCE. BE SURE TO EMPLOY APPROPRIATE ANTI-STATIC PROCEDURES/DEVICES WHEN DISASSEMBLING AND ASSEMBLING UNIT.

1. Check the blade for wear after prolonged use. Due to the number of different materials, this maintenance should be reviewed by your plant maintenance personnel and adjusted accordingly.
2. No other maintenance is required for the units.

TROUBLESHOOTING:

PROBLEM: The blade does not move and is stuck in a closed position.
SOLUTION: Adjust the blade as described in the blade change or replacement section: Head or exit bushings may be adjusted too close to the blade.

PROBLEM: Material does not feed properly through the bushings.
SOLUTION:
1. Tighten the belt-feed adjusting knob clockwise to increase the belt pressure on the material.
2. Check the blade and bushing position. Readjust if necessary.

PROBLEM: Display does not function.
SOLUTIONS:
1. Check the fuse located in the rear of the housing. Only use the recommended fuses. If the fuse continues to blow after replacement, return the unit to the factory for repair.
2. Check the on/off switch.

PROBLEM: Poor quality cut or no cut.
SOLUTIONS:
1. Check that the blade is not dull. Replace or turn if necessary.
2. Make certain the head and exit bushings are close enough to the blade on both sides and chamfers are facing out.
3. Check blade depth adjustment.
4. Lower the motor cutter speed and increase the cutter on time.

PROBLEM: Erratic cut lengths.
SOLUTIONS:
1. Check de reeler to make certain material is feeding correctly.
2. Make certain proper tension is applied to belt feed.

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