

# Taber<sup>®</sup> Wheel Refacer

*Model 350*



## Operating Instructions

**TABER<sup>®</sup>**  
INDUSTRIES

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## ICONS

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This instruction manual contains several notes and warnings that should be observed carefully by the user. The following icons denote these notes and warnings:



Indicates a **NOTE** that warrants careful attention. These notes may detail a step in the procedure or point out a unique feature of the instrument.



Indicates a **WARNING** that warrants careful attention. These warnings inform the user of any dangers that may cause injury to the operator and/or damage to the instrument. It is imperative that you read and follow all warnings carefully.



The Waste Electrical and Electronic Equipment Directive (**WEEE Directive**) is the European Community Directive on waste electrical and electronic equipment which sets collection, recycling and recovery targets for all types of electrical goods.



Safety label – **Shock hazard**



Safety label – **Caution**



**CE marking** is a certification mark that indicates conformity with health, safety, and environmental protection standards for products sold within the European Economic Area (EEA).

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## SAFETY PRECAUTIONS

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READ ALL SAFETY PRECAUTIONS BEFORE ATTEMPTING TO OPERATE.

Because of the design requirements, there are potential hazards that an operator should be aware of:



**WARNING:** *The rotating motion of the wheel arbor creates an entanglement hazard. Do not place body parts or objects in the area surrounding this component during operation as this may cause injury and/or damage the equipment.*



**WARNING:** *Failure to adequately secure the abrasive wheels to the wheel arbor may cause injury and can damage the equipment. Wheels must be refaced in pairs.*



**WARNING:** *This equipment is designed for use with for Genuine Taber Calibrade® or Calibrase® abrasive wheels. It is not suitable for other types of wheels.*



**WARNING:** *To eliminate airborne particulate generated during the refacing operation, the Taber Vacuum hose must be inserted into the vacuum adaptor flange and the vacuum turned on.*

Below are general precautions that one should take when operating the equipment:

- The Wheel Refacer is equipped with a safety switch to prevent the instrument from operating unless the hinged safety cover is closed. Do not attempt to bypass this feature.
- Do not wear loose clothing or jewelry as they can become entangled in the moving parts.
- Do not attempt to handle the abrasive wheels while the instrument is being operated.
- When ready to operate the instrument, ensure clothing and body parts are safely away from any hazard the instrument may present and ensure the abrasive wheels are securely fastened.
- Make sure the diamond tool is positioned to the left and is not in contact with the abrasive wheels when you start the equipment.
- Do not attempt to use if the viewing window glass is cracked or compromised.

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## LIMITED WARRANTY

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Taber Industries, ("Taber") warrants that its products are free from defects in material and workmanship. This Limited Warranty shall be applicable for a period of one year from the date of initial shipment of any product. The terms of this Limited Warranty do not in any way extend to parts of the product thereof which have a life, under normal usage, inherently shorter than the one year previously stated. Taber will, at its option, repair or replace the defective product if Taber determines it is defective within the warranty period and if it is returned, freight prepaid, to Taber. Replacement parts will be shipped F.O.B. Taber's plant. Taber is not obligated to furnish service under this Limited Warranty: a) to repair damage resulting from attempts by personnel other than Taber representatives to install, repair, or service the product; b) to repair damage resulting from improper use or from connecting the product to incompatible equipment; or c) if personnel other than Taber representatives, without Taber's prior permission, modify the product.

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## CLAIMS FOR SHORTAGES

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We use extreme care during packaging to eliminate the possibility of error. If a shipping error is discovered:

1. Carefully examine the packing materials and ensure nothing was inadvertently overlooked when the shipment was unpacked.
2. Notify the company you purchased the product from and immediately report the shortage.
3. File any claim within 30 days from shipment.

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## CLAIMS FOR DAMAGES

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Claims for loss or damage in transit should be made promptly and directly to the transportation company.

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## CONTENTS

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Contents of the shipping container include the following:

- *Wheel Refacer – Model 350*
- *Single Point Diamond Tool  $\frac{3}{8}$ " x 24 thread (installed)*
- *Thumb Nut (installed)*
- *16mm Wrench*
- *Power Adaptor, 24VDC, 160W*
- *Power Cord Kit, 115/230VAC*
- *Operating Instructions*



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## INTRODUCTION

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The **Model 350 Wheel Refacer** is designed to precisely dress the working surfaces of Genuine Taber Calibrade® abrading wheels. This compact instrument can also be used to true out of round wheels and to correct 'crowning' conditions on both Calibrade and Calibrase® wheels.

A diamond tool is mounted in an adjustable holder, which is supported on a shielded traverse slide. Abrading wheels are mounted on the wheel arbor and are enclosed by a hinged safety cover during the refacing operation. By moving the diamond point tool across the wheel faces, the wheel surfaces can be refreshed. During operation, the vacuum unit hose is disconnected from the Taber Rotary Platform Abraser and inserted in the Wheel Refacer vacuum adaptor flange to draw off the abrasive cuttings.

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## INSTRUMENT SET-UP

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1. Set the Wheel Refacer on a flat, rigid surface.
2. Connect the power adaptor to the Wheel Refacer.
3. Select the appropriate power cord, and connect it to the power adaptor. Two power cords (115V and 230V) are provided for your convenience. Discard the power cord not used.
4. Connect the instrument to a 115 or 230 volt, 60 or 50-cycle circuit.

 **WARNING:** *Although older Taber Abrasers include an electrical receptacle to power an accessory instrument such as the wheel refacer, the Model 350 Wheel Refacer should not be plugged into the rear of an Abraser. This wheel refacer is designed to be operated from a standard electrical wall socket.*

 **NOTE:** Prior to operating, disconnect the vacuum hose from the rear of the Rotary Abraser and insert into the vacuum adaptor flange found on the back of the wheel refacer.

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## WHEN TO REFACE

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To generate repeatable results, it is good practice that all Taber wheels are refreshed prior to starting a series of comparative tests or changing to a different material. This ensures the wheels are standardized and any debris transferred to the wheel surface from prior tests is removed.

Abrasion tests utilizing the Taber Abraser may be subject to variation due to changes in the abradant during the course of the test. Genuine Taber wheels are designed so the wheel surface will gradually wear away to expose new abrasive particles. However, depending on abradant type and test specimen, the abrading wheel surface may change due to the transfer of material from the test specimen (e.g. fiber particles, finishing materials, and the like). To reduce this variation, the abrading wheels should be resurfaced at regularly defined intervals.

Material specifications and test methods often list the required refacing method and frequency. If the wheel surface crevices become clogged with abraded debris, you may determine the rate of resurfacing by plotting the total mass loss at specific intervals. Example: For a test of 1000 cycles, record results for every 50 or 100 cycles. If a significant negative change in slope is observed, the point at which the slope changes would determine the resurfacing frequency.

Calibrade wheels are diamond trued at the factory and can be used continuously unless there is a tendency for the working surfaces of the wheels to pick up wear debris. Other situations that require the wheels to be refaced include when the abrading surfaces show indications of becoming:

**Clogged** – “Clogged” wheels can be identified as adhesive buildup of wear debris on the working faces of the wheels and should not be confused with the discoloration caused by abrading dust.

**Crowned** – The working surfaces of wheels that are “crowned” appear slightly rounded. To check for this condition, place a straight edge against the two wheels. The straight edge should be in contact with the full width of the wheels.

**Out-of-round** – Occasionally, wheels become out of round due to unevenness of the specimen being abraded or other reasons. The normal abrading surface of each wheel should be concentric with the hub.

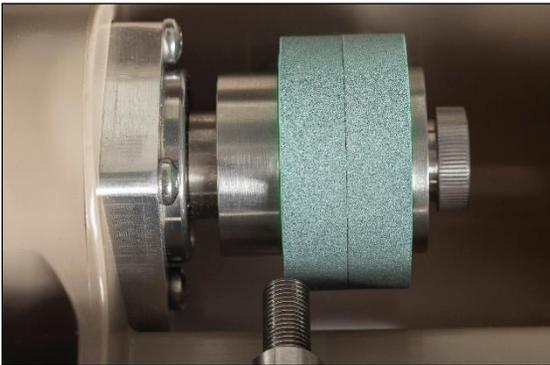
When operating the Abraser, out-of-round wheels may be detected by a slight up and down movement of the abrading arm. The Wheel Refacer can be used to correct this condition.

## PROCEDURE

1. Remove the vacuum hose from the Taber Abraser and insert it into the vacuum adaptor flange found on the rear housing of the Wheel Refacer.



2. Use the hand crank handle to position the diamond tool to the left.
3. Lift the hinged safety cover and mount the wheels on the wheel arbor with both labels facing outward (toward the flange and thumb nut). If necessary, adjust the diamond tool so it does not contact the wheels. Screw the thumb nut assembly on the threaded portion of the wheel arbor and tighten.



4. Turn the cut depth adjustment knob counter-clockwise until it stops. Then, adjust the diamond tool until the diamond point is approximately 1 mm from the wheel surface. Using the 16 mm wrench, tighten the lock nut to secure the diamond tool in position. This step is only required for initial set-up, and should be completed with a new pair of wheels.



5. To set the diamond tool for a light cut, turn the cut depth adjustment knob clockwise approximately  $\frac{1}{8}$  turn after the diamond tool contacts the wheel. If the wheels are of different diameters, use the larger of the two diameters. If necessary, traverse the diamond tool to the left so it does not contact the wheels.



6. Close the hinged safety cover. Turn wheel refacer on by depressing On/Off switch located on rear of instrument. Turn vacuum unit on.
7. Use the hand crank handle to slowly traverse the diamond tool across the faces of both wheels.



8. Turn the cut depth knob clockwise approximately  $\frac{1}{8}$  turn, then continue refacing until the wheel surfaces have been completely renewed. Repeat if necessary.



9. After completing the refacing operation, ensure the diamond tool is returned to the start position (left). Remove the wheels from the wheel arbor and reconnect the vacuum hose to Taber Abraser.

 **NOTE:** Ensure the thumb nut is tightened before attempting to reface. If the thumb nut is loose, the torque of the motor may result in the nut becoming over-tightened.

 **NOTE:** An integrated safety switch prevents the Wheel Refacer from operating unless the cover is closed. The safety off sensor utilizes a brake to disengage the motor when the hinged safety cover is opened. If the cover is opened while the motor is in operation, the thumb nut may loosen.

 **NOTE:** Wheels must always be refaced in pairs to ensure they will have identical diameters.

 **NOTE:** The minimum usable diameter of Taber abrading wheels is 44.4 mm, which corresponds with the wheel label.

 **NOTE:** When truing out of round or correcting 'crowning' conditions on Calibrase wheels with the Model 350 Wheel Refacer, abrasive grain from the wheel faces will be removed. To re-establish the normal abrasion coefficient, you must also reface the wheels on the Taber Rotary Platform Abraser with an S-11 refacing disc for 50 cycles (or ST-11 refacing stone for CS-10F wheels).

 **NOTE:** The refacing operation leaves the Calibrade wheels with sharp edges that should be rounded off before testing materials such as textile fabrics. Cut a small strip of abrasive paper from an S-11 refacing disc and hold it lightly against the outer edge of each wheel. Manually turn the thumb nut to rotate the wheel arbor. Reverse the wheels on the wheel arbor and round the opposite edges. Only the extreme sharpness of the edges should be removed. A radius of 0.4 mm has been found to be sufficient.

 **NOTE:** The abrasive coefficient of the wheels can be altered by oil or other contaminants. It is recommended to wear gloves when handling Genuine Taber abrading wheels.

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## TABER ABRADING WHEELS

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Genuine Taber abrading wheels are intended for the Taber Rotary Platform Abraser and are classified as either Calibrade or Calibrase with different grades to meet varying requirements of abrasive action. The recommended refacing procedure for each type of wheel is described below:

**Calibrade Wheels** – A non-resilient wheel composed of a vitrified (clay) binder and silicon carbide or aluminum oxide abrasive particles.



**H-10** – Reface with Taber Wheel Refacer and single point diamond tool

**H-18** – Reface with Taber Wheel Refacer and single point diamond tool

**H-22** – Reface with Taber Wheel Refacer and single point diamond tool

**H-38** – Reface with Taber Wheel Refacer and multiple point diamond tool (sold separately)

**Calibrase Wheels** – A resilient wheel composed of a resilient binder and aluminum oxide or silicon carbide abrasive particles.



**CS-8** – Reface with S-11 refacing disc

**CS-10F** – Reface with ST-11 refacing stone when using change in haze as the evaluation criteria or S-11 refacing disc

**CS-10** – Reface with S-11 refacing disc

**CS-10P** – Reface with S-11 refacing disc

**CS-10W** – Reface with S-11 refacing disc

**CS-17** – Reface with S-11 refacing disc

 **NOTE:** Because of possible deterioration, Calibrase wheels should NOT be used after the expiration date printed on the wheel. Calibrade wheels do not have an expiration period.

 **NOTE:** The wear life of Calibrade or Calibrase wheels will vary based on the load, surface texture and frictional characteristics of the specimen material tested and frequency of refacing.

 **NOTE:** Shelf life of Calibrase wheels is dependent on proper storage conditions (temperature 23 °C ± 2° C, relative humidity 50 ± 5%). When not in use, store abrading wheels in their original container.

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## MAINTENANCE

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The Wheel Refacer Model 350 is a precision instrument and if used and maintained properly should give you many years of trouble-free service.

### General Care

- To prevent buildup of wheel debris, use the Taber vacuum hose and a soft bristle brush (e.g. S-12) to regularly remove debris from the inside cavity of the Wheel Refacer.
- To prevent the diamond tool from wearing unevenly, it should be rotated periodically (e.g. after every 50 refacings). Use the 16mm wrench to loosen the lock nut, then rotate the diamond tool to a new position. Making a mark on the diamond tool will help identify the rotational position of the tool.



- The diamond tool will wear out and should be replaced as needed. The life of the diamond tool is dependent on the frequency and duration of refacing, along with the type of abrasive wheels that are refaced.



**NOTE:** When to replace the diamond tool should be part of a preventative maintenance program. For example, a period such as six months or one year might be established for replacing the diamond tool depending on the frequency of refacing.

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## CALIBRATION / FACTORY SERVICE

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Should your Wheel Refacer require repair or adjustment, carefully pack the instrument in the original packaging or in a rugged container with adequate cushioning material. After obtaining a return authorization number from the factory, the unit should be shipped, transportation charges prepaid, to Taber Industries.

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### Replacement Parts / Accessories

Part#	Description
120947	Single Point Diamond Tool, 3/8" – 24 thread
125608	Multiple Point Diamond Tool, 3/8" – 24 thread
135760	Thumb Nut Assembly
135764	16mm Wrench