



Accelerated Break-In Procedure

September 23, 2026

Purpose

The performance of most pickleball paddles can change over the course of their life because of material changes resulting from repeated use or abuse. The rate at which paddles break in and the amount they break in are dependent on countless factors. Given the potential for paddles to dramatically increase in performance through the break in process, a standardized method is needed to break paddles in so that any increased performance can be readily determined. The Accelerated Break-In (ABI) procedure described herein has been developed to be such a standardized methodology. For clarity, ABI refers to lab-based methods which are utilized to break in paddles via techniques which are faster and more aggressive than regular play. Pickle Pro Labs (PPL) uses ABI in conjunction with Average Deflection Force (ADF) and Paddle Efficiency Factor (PEF) to evaluate changes in paddle performance.

Equipment / Materials

- Automated Design Corporation (ADC) ABI Machine
- ADC Pickle Press Load Frame (PPLF) with paddle rest attachment
- Micrometer
- Two 6" long straight rollers
- One set of adjustable angled edge rollers
- Two 3" straight rollers
- Level

Terminology

Total Displacement Distance – the distance(s) that a paddle is compressed during the ABI processes.

Compression Rolling Method – ABI process whose primary purpose is to compress the core structure of a paddle by passing the paddle through a set of top and bottom rollers which apply a compressive force.

Edge Shear Method – ABI process whose primary purpose is to apply a shearing force to the edges of a paddle by supporting the center of the paddle from the bottom while loading the top edge of the paddle.

Tip Compression Method – ABI process whose primary purpose is to compress the tip area of the paddle's core structure by applying and releasing a compressive force using a set of top and bottom rollers.

Preparation

1. Condition Paddle.
 - 1.1. Paddles must be stored in a conditioned environment for a minimum of 4 hours prior to start of any testing or measurements taken.
 - 1.1.1. Temperature requirement: $72^{\circ} \pm 2^{\circ} F$
 - 1.1.2. Relative humidity requirement: $50\% \pm 10\%$
2. Determine pre-ABI paddle ADF following PPL's 'Average Deflection Force Testing Procedure' at the 3, 4 and 5 inch locations on both sides of the paddle.

NOTE: the 3" location is tested following the standard PPL ADF procedure, but with a modified span of 5 inches instead of the standard 6 inches.
3. Calculate the Total Displacement Distances.
 - 3.1. Measure the paddle thickness using a micrometer at the tip of the paddle.
 - 3.2. For the Compression Rolling Method, Total Displacement Distance is equal to 15% of the measured thickness of the paddle (e.g. a 16 mm paddle will have a Total Displacement Distance of 2.4 mm).
 - 3.3. For the Edge Shear Method and the Tip Compression Method, Total Displacement Distance is equal to 20% of the measured thickness of the paddle (e.g. a 16 mm paddle will have a Total Displacement Distance of 3.2 mm).
4. Ensure all three paddle roller sets and their respective ABI machine scripts are available.
 - 4.1. Two straight 6" rollers
 - 4.2. One adjustable angled edge roller set
 - 4.3. Two straight 3" rollers

Procedure

5. **Compression Rolling**
 - 5.1. Ensure both the top and bottom rollers are configured with the straight 6" roller, as seen in Figure 1.

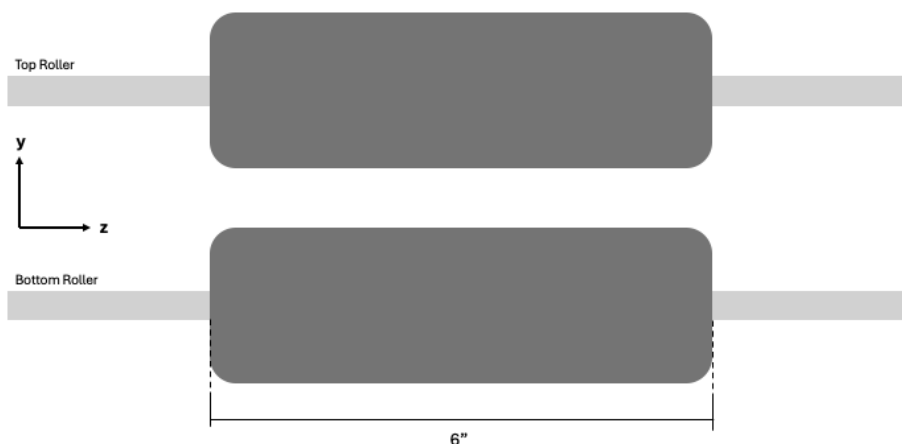


Figure 1 – Straight 6" roller configuration

- 5.2.** Place the paddle into the ABI Machine and ensure the paddle centerline aligns with centerline of the rollers.
 - 5.3.** Using level, ensure paddle face is flat in the x and z axes.
 - 5.4.** If using ADC ABI Machine, upload and run the script titled “Compression Rolling”, which uses the Compression Rolling Method described in 5.5.
 - 5.5.** Compress paddle using Compression Rolling Method as described below.
 - 5.5.1.** Lower the top roller onto the 2” location of the paddle face
 - 5.5.2.** Apply 5 lb preload at a loading rate of 0.05 in/s
 - 5.5.3.** Using either the calculated Total Displacement Distance or the ABI machine software, compress the paddle face to 15% of the paddle thickness beyond the 5 lb preload depth. Loading rate is 0.05 in/s.
 - 5.5.4.** Roll from the 2” location on the paddle face to the 7” location, and back to the 2” location. Rolling rate is 4 in/s.
 - 5.5.5.** Perform 10 total cycles
 - 5.6.** Remove paddle from ABI machine.
 - 5.7.** Ensure that no observable damage has occurred.
 - 5.7.1.** The face of the paddle should be smooth to the touch and free of cracks, waves, dents and deformations; consistent with UPA-A’s PADDLE SPECIFICATIONS AND TESTING REQUIREMENTS v26.6
 - 5.7.2.** When shaken, there should be no indication of loose parts or pieces
- NOTE: Cracking noises will occur during the ABI process and are acceptable so long as there is no indication of damage as described in 5.7.1 and 5.7.2.
- 5.8.** If damage has occurred to the paddle, a new paddle(s) will be processed.
 - 5.8.1.** The Total Displacement Distance will be reduced by 5 percentage points of paddle thickness until a paddle can successfully withstand the full ABI process

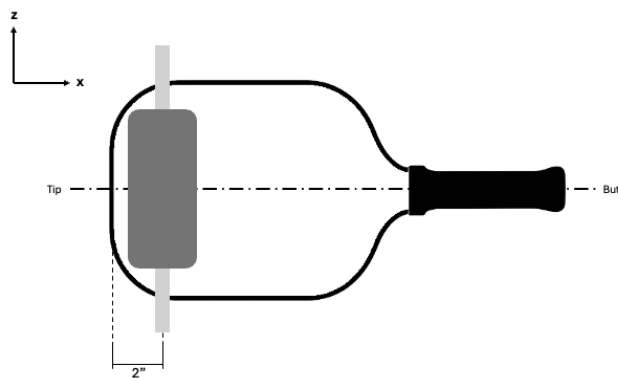


Figure 2 – Starting location of roller in ABI machine, 2 inches from the tip

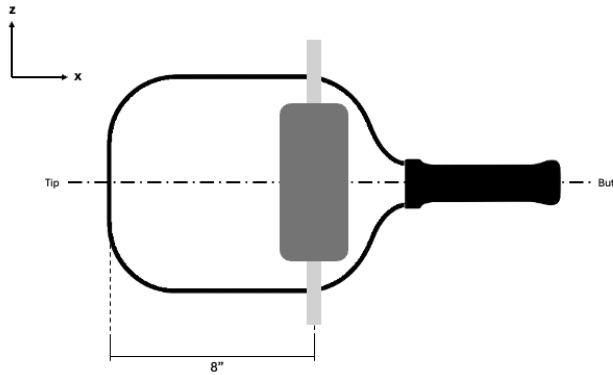


Figure 3 – Range of roll in ABI machine, 8 inches from the tip

6. Edge Shear Rolling

- 6.1. Ensure the top roller is configured with the adjustable angled edge roller, and the bottom roller is configured with a straight 6" roller, as seen in Figure 4.
- 6.2. Place the paddle into the ABI Machine and ensure the paddle centerline aligns with centerline of the rollers.
- 6.3. Using level, ensure paddle face is flat in the x and z axes.
- 6.4. Adjust the variable distance between the angled roller ends so that they fall on the paddle face just inside of the edge guard boundary.

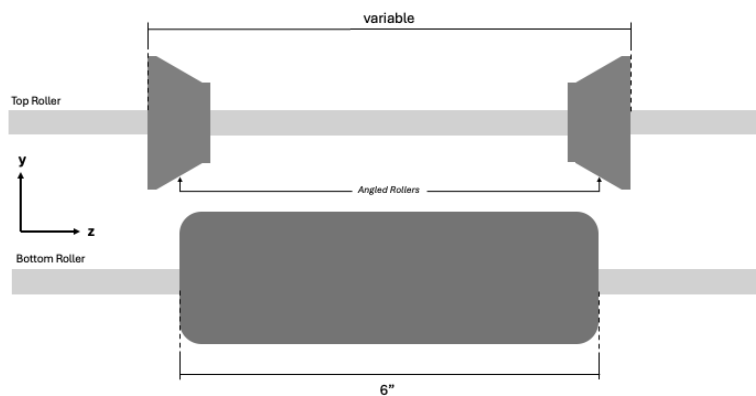


Figure 4 – Edge shear roller configuration

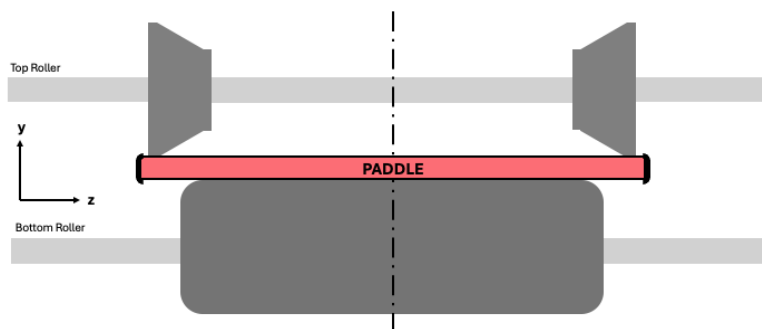


Figure 5 – Paddle positioning with edge rollers adjusted to width of paddle

- 6.5.** If using ADC ABI Machine, upload and run the script titled “Edge Shear Rolling”, which uses the Edge Shear Method described in 6.6.
- 6.6.** Compress paddle using Edge Shear Method as described below.
- 6.6.1.** Lower the top roller onto the 2” location of the paddle face
 - 6.6.2.** Apply 5 lb preload at a loading rate of 0.05 in/s
 - 6.6.3.** Using either the calculated Total Displacement Distance or the ABI machine software, compress the paddle face to 20% of the paddle thickness beyond the 5 lb preload depth. Loading rate is 0.05 in/s.
 - 6.6.4.** Roll from the 2” location on the paddle face to the 7” location, and back to the 2” location. Rolling rate is 4 in/s.
 - 6.6.5.** Perform 10 total cycles
- 6.7.** Remove paddle from ABI machine.
- 6.8.** Ensure that no observable damage has occurred.
- 6.8.1.** The face of the paddle should be smooth to the touch and free of cracks, waves, dents and deformations; consistent with UPA-A’s PADDLE SPECIFICATIONS AND TESTING REQUIREMENTS v26.6
 - 6.8.2.** When shaken, there should be no indication of loose parts or pieces
- NOTE: Cracking noises will occur during the ABI process and are acceptable so long as there is no indication of damage as described in 6.8.1 and 6.8.2.
- 6.9.** If damage has occurred to the paddle, a new paddle(s) will be processed
- 6.9.1.** The Total Displacement Distance will be reduced by 5 percentage points of paddle thickness until a paddle can successfully withstand the full ABI process
- 6.10.** Flip the paddle over in the ABI machine so that the opposite face is now facing upward and ensure the paddle centerline aligns with centerline of the rollers.
- 6.11.** Using level, ensure paddle face is flat in the x and z axes.
- 6.12.** Compress paddle using Edge Shear Method as described in Section 6.6.

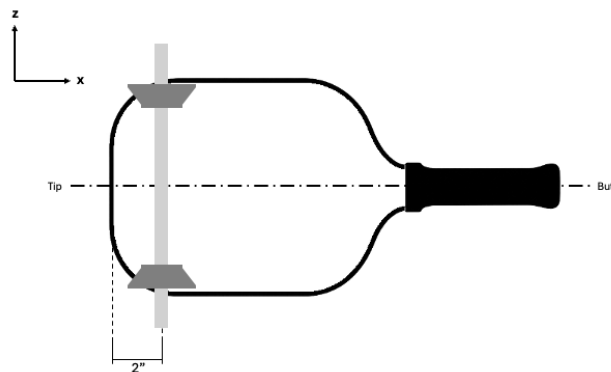


Figure 6 – Starting location of roller in ABI machine, 2 inches from the tip

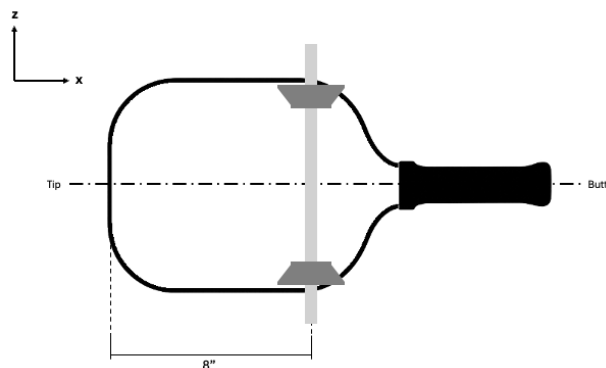


Figure 7 – Range of roll in ABI machine, 8 inches from the tip

7. Tip Compression Method

- 7.1.** Ensure both the top and bottom rollers are configured with a straight 3” roller, as seen in Figure 8.
- 7.2.** Place the paddle into the ABI Machine and ensure the paddle centerline aligns with centerline of the rollers.
- 7.3.** Using level, ensure paddle face is flat in the x and z axes.
- 7.4.** Visually ensure that no part of the top roller interferes with the edge guard of the paddle.

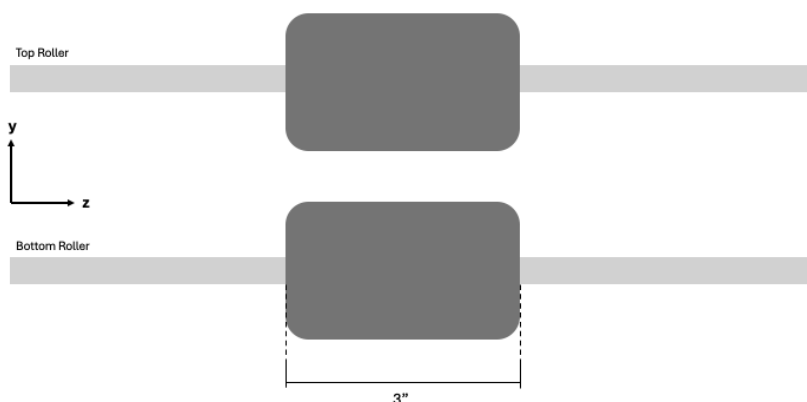


Figure 8 – Tip compression roller configuration

- 7.5.** If using ADC ABI Machine, upload and run the script titled “Tip Compression Method”, which uses the Tip Compression Method described in 7.6.
- 7.6.** Compress paddle using Tip Compression Method as described below.
 - 7.6.1.** Lower the top roller onto the 1” location of the paddle face
 - 7.6.2.** Apply 5 lb preload at a loading rate of 0.05 in/s
 - 7.6.3.** Using either the calculated Total Displacement Distance or the ABI machine software, compress the paddle face to 20% of the paddle thickness beyond the 5 lb preload depth. Loading rate is 0.05 in/s.
 - 7.6.4.** Compress the 1” location on the paddle face and release immediately
 - 7.6.5.** Perform 10 total cycles
- 7.7.** Remove paddle from ABI machine.

7.8. Ensure that no observable damage has occurred.

7.8.1. The face of the paddle should be smooth to the touch and free of cracks, waves, dents and deformations; consistent with UPA-A's PADDLE SPECIFICATIONS AND TESTING REQUIREMENTS v26.6

7.8.2. When shaken, there should be no indication of loose parts or pieces

NOTE: Cracking noises will occur during the ABI process and are acceptable so long as there is no indication of damage as described in 7.8.1 and 7.8.2.

7.9. If damage has occurred to the paddle, a new paddle(s) will be processed.

7.9.1. The Total Displacement Distance will be reduced by 5 percentage points of paddle thickness until a paddle can successfully withstand the full ABI process

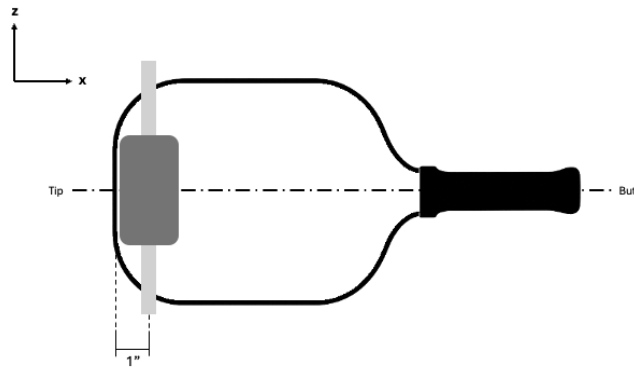


Figure 9 – Tip compression roller location

8. Let the paddle rest for a period of 24 hours before completing any further testing or measurements.

9. Determine post-ABI paddle ADF following PPL's 'Average Deflection Force Testing Procedure' at the 3, 4 and 5 inch locations on both sides of the paddle.

NOTE: the 3" location is tested following the standard PPL ADF procedure, but with a modified span of 5 inches instead of the standard 6 inches.

- NOTE -

Final dimensioned drawings from ADC will be appended to this document upon release. For additional information, please contact Pickle Pro Labs.