



Breedlove Owner's Manual

## **Breedlove Owner's Manual**

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Congratulations on choosing your new Breedlove instrument. To preserve the remarkable tone and playability of your Breedlove, we have some simple suggestions that will help your instrument last a lifetime. Over 200 years of combined expertise at Breedlove and extensive industry knowledge has contributed to the recommendations found in this guide.

### ***Humidity, Temperature, and Solid Wood Instruments***

As with any high quality solid wood instrument, humidity and temperature are very important factors affecting the health and well-being of your guitar or mandolin. Humidity and temperature are easily monitored and regulated with the right accessories - specifically, a thermometer and a hygrometer.



Note: This manual covers Breedlove acoustic guitars and mandolins, as well as Breedlove Chambered electric guitars. Humidity and temperature control are vital for the health of acoustic instruments, and a properly humidified environment will also be beneficial for electric guitars.

You can take an in-the-case approach to humidity control, or you can treat the entire room in which your instrument will be kept. Measure the relative humidity (RH) and temperature of your storage environment to determine if it is suitable. Measuring daily for a week or two will help you determine whether conditions are stable. Your Breedlove guitar was built in a controlled environment with an RH of approximately 45% at a temperature of 70° F. An RH of between 40% and 50% at this same temperature will ensure a suitable environment for your Breedlove. Note that RH is temperature-dependent. Air with 45% RH at 60° F does not have the same water content as air at 70° F with 45% RH.

If your storage environment is below 40% RH, invest in a humidifier with variable controls to establish proper RH. If the environment is above 50% RH, a variable-control dehumidifier will be needed to achieve optimal RH. Humidifiers and dehumidifiers are available at most department stores, and in addition to being essential for the health of your instrument, they're good for you too.

The transfer of water vapor between the wood of your guitar or mandolin and the atmosphere is actually a relatively slow process, and this works in your favor. When an instrument is kept in its case, the process is slowed even further. By keeping your instrument in suitable conditions most of the time, you can take it on short trips to places with less desirable RH conditions without causing problems. If you are taking a longer trip (more than several days) or are on a sustained tour, you will definitely want to use some sort of in-case humidity control and measurement.



Note: When selecting an in-case humidifier, avoid designs that completely block the sound hole - they can cause over-humidification of the instrument body, while doing little to maintain proper humidity for the neck. We recommend and offer the Oasis Guitar Humidifier. It has a unique design that maintains proper humidity without risk of leaks or dripping inside your guitar. It also provides visual feedback when it is time to refill.



We offer the Oasis Guitar Humidifier in a kit that includes a filling syringe and an Oasis Digital Thermometer/Hygrometer. To order, just ask for the Humidifier/Hygrometer Combo Kit.

Before you take any steps to control humidity, you should ensure you can accurately measure the humidity conditions inside your room or guitar case. Humidity measurement is crucial - if you can't measure RH accurately, you won't know if you're helping matters, or making them worse.

You will probably notice the symptoms of an RH problem before it poses a serious threat. Some telltale signs of improper humidification are listed on the next page. If your Breedlove shows symptoms of being over- or under-humidified, take the instrument to a qualified guitar repair person immediately, or call our service department.

### ***Over-Humidified***

Raised action  
Sluggish tone, low volume  
“Bellying” up of top  
Lateral finish cracks

### ***Under-Humidified***

Lowered action  
Fret buzzing  
Fret ends protruding  
Dips in top

Avoid exposing your instrument to extreme temperatures (such as a car trunk on a hot day, or when possible, the cargo hold of an airplane). Avoid prolonged exposure to temperatures below 60° F or above 80° F.

### ***Neck Truss Rod Adjustment***

The truss rod in your Breedlove guitar serves to counteract the effect of string tension on the neck of your instrument. String tension pulls the neck forward and up, while the truss rod pulls the neck down and backward. A properly adjusted truss rod equalizes the tension on the neck. Adjustment of truss rod tension changes the amount of bow in the plane of the fingerboard. Let your instrument adjust to its new environment before changing truss rod tension.



#### ***Truss Rod Adjustments for U.S. Custom Shop Guitars (except Revival)***

To adjust the single-action truss rod on a U.S. Custom Shop Breedlove, remove the truss rod cover (on the headstock face, just above the nut). Then, using a 1/4” nut driver, turn the brass nut on the end of the truss rod (clockwise to tighten rod and pull the neck back, counterclockwise to loosen the rod and allow the strings to pull the neck up). Use a driver extender to ensure that the driver is well clear of the headstock as the tool is turned. *Make adjustments at full concert pitch.*





### ***Truss Rod Adjustments for U.S. Custom Shop Revival Series Guitars***

To adjust the single-action truss rod on a Revival Series instrument, you will need a round-tipped 5/32" Allen wrench that is at least 4" long (a special Revival Truss Rod Wrench is available from Breedlove - please contact us for details). The adjustment nut is located inside the soundhole, toward the neck. It is very close to the top of the guitar, and right underneath the fingerboard. Newer Revival instruments have an access hole through the top soundhole brace, while older instruments do not. If you do not have an access hole, note that one of the two neck bolts is also in this general area. The top neck bolt can be seen through the soundhole, while the truss rod nut is not visible unless you have the access hole. If you can see your wrench going into a large bolt, you're in the wrong place! To access the adjustment nut, insert the wrench into the soundhole between the D and G strings (holding them apart can be helpful) and point it up toward the area described above to find the nut. Turn clockwise to tighten the truss rod, or counterclockwise to loosen it.



Generally, a properly adjusted truss rod results in a neck with slight forward relief. To check for proper neck relief, push down on the low "E" string at the 1st and 14th frets simultaneously. There should be about 0.010" of space between the bottom of the string and the top of the 6th fret - about the thickness of a business card. You may want a larger or smaller amount of relief depending on your playing style.



Note: The Truss Rod should only be adjusted in order to establish proper neck relief and to counteract/balance the effect of string tension. Do not use the Truss Rod adjustment feature to try to correct larger set-up issues or other problems that are not related to neck relief.



### ***Truss Rod Adjustments for Pro, Roots, Atlas and Passport Series***

To adjust the double-action truss rod on a Pro, Roots, Atlas or Passport Series instrument, you will need a 4mm Allen wrench (included). The truss rod adjustment nut is located inside the soundhole, just under the end of the fingerboard, and accessible via a hole in the brace at that location. Make adjustments by turning the wrench in the appropriate direction. Keep the wrench between 10 and 2 o'clock, and reposition the wrench as necessary. You may find it helpful to spread the D and G strings apart while turning the wrench.



When making truss rod adjustments, turn a little at a time - an eighth or quarter turn - and check the results before turning again. Allow some time for the neck to 'settle in' to an adjustment before turning again. Use extreme caution when making adjustments, and if you are uncomfortable with this procedure, consult a trained Breedlove Service Technician before attempting. To tighten the truss rod, turn the nut clockwise (as seen from above). This causes the neck to bow backward, lowering the string height. If you go too far, the strings will buzz. To loosen the truss rod, turn the nut counterclockwise. This causes the neck to bow forward, raising the string height. Go too far, and the guitar will be hard to play. Always make adjustments with your guitar tuned to concert pitch.

### ***Breedlove Steel-String Bracing & the JLD® Bridge Truss***

All Breedlove Custom Shop steel-string guitars (except for the Revival Series), Pro Series and Atlas Series guitars use the JLD Bridge Truss system. This device is a cantilevered truss that helps to counterbalance string tension at the bridge, creating a relaxed top and improved structural integrity. This allows us to brace our tops in a very progressive way, with a focus on realizing the full acoustic potential of the top. A relaxed top provides maximal wavelength response, and a synergy is created by our use of a graduated top thickness, balanced scalloped bracing, and a pinless bridge in combination

with the bridge truss system. This gives our guitars the distinctive and highly dynamic “Breedlove Sound”, with a piano-like bass and a remarkably well-balanced tone suitable for a broad variety of musical styles.



Cutaway of a Breedlove guitar,  
showing JLD bridge truss

The bridge truss in your Breedlove guitar is adjusted before leaving the factory, and should require very little attention from that point on. However, the system should be checked periodically for proper adjustment.

### ***Checking Your Bridge Truss for Proper Adjustment***



1. With the strings completely slackened or removed, reach into the body, toward the underside of the bridge. Just behind the wood block directly under the bridge, you will feel a wooden dowel extending to the tail block.

2. Grasp the dowel between your thumb and forefinger, and make sure there is no play along the lateral axis (running the length of the guitar). If there is any movement here, the bridge truss will need to be tightened (see step 4). If there is no movement, move on to step 3.

3. Roll the dowel gently between your thumb and forefinger a few degrees counterclockwise, then return it to the original position. The dowel should feel snug, yet spin with some effort. If the dowel offers excessive resistance, i.e., the dowel won't turn, the bridge truss needs to be loosened (see step 4). If the dowel spins with just a touch of resistance, your bridge truss is perfectly adjusted. Restring the instrument and play on.

4. If your bridge truss is in need of adjustment, tighten (clockwise) or loosen (counterclockwise) the bolt on the front of the wood block (it is visible through the sound-hole). A very small turn of the bridge truss bolt can be enough to return the rod to proper tension, so make adjustments in very small increments, and check tension after each turn of the bolt.

#### ***Adjustment Bolt Sizes for Breedlove Instruments***

Use the following Allen Wrench sizes when making bridge truss adjustments:

Custom Shop Instruments - use a 3/16" Allen Wrench

Pro and Atlas Series Instruments - use a 4mm Allen Wrench

Nylon guitars, Revival, Roots and Passport Series instruments do not have a bridge truss.



You'll discover that the bridge truss system offers unrivaled body stability and preserves consistent action and playability. Note, however, that the bridge truss is not designed to make adjustments to instrument action, or to compensate for over- or under-humidification.

### ***Steel-String Acoustic Guitar Set Up Specifications***

Our specifications for proper action are for 3/32" on the bass side and 1/16" on the treble side, as measured at the 14th fret. You may wish to set your instrument for higher or lower action than this, depending on your playing technique. When you have a pickup installed, make sure that you and your guitar tech agree on the setup before work is done.

## *Changing Strings on your Breedlove Acoustic Guitar*

It is always wise to put a polishing cloth over the body of an instrument while changing strings to protect the finish from scratches. With pinless bridges, use the provided string guard for removing and replacing strings. If no string guard is available, use a business card with Scotch tape to prevent damage to your finish when pulling the strings through the bridge. Remember to change strings often for best tone.



For instruments equipped with undersaddle pickup transducer, we recommend that you restring your instrument starting with the two middle strings, and work your way outward. This ensures that the saddle will reseat firmly and squarely over the transducer.

## *Breedlove Nylon String Guitars*



Breedlove Nylon Nouveau

Breedlove Nylon string guitars are designed with the playability of a modern steel string, and the warm tone of a nylon string guitar. A steel-string neck profile, and low string height over a radiused fingerboard allow for fast fretting and chording, and great playing comfort. Special consideration has been given to the classical player seeking modern comfort, and to the steel string player seeking seamless technique transfer. Breedlove Nylon-string guitars are fan-braced, and have the signature Breedlove graduated top thickness for balance and sweet tone. We use high-tension Nylon strings, balanced with a neck truss rod. Breedlove Custom Shop Nylon string guitars are available with 1-3/4" or 1-7/8" nut widths.



For Breedlove Custom Shop Nylon String guitars, follow care and maintenance instructions provided for Custom Shop Steel String instruments. For Atlas Series Nylon guitars, follow instructions provided for other Atlas Series instruments.

### ***Breedlove Mark Series Chambered Electric Guitars***

Care and feeding tips for your Breedlove Mark Series electric guitar are essentially the same as those for Breedlove Custom Shop Acoustics. Truss rod adjustment is made using the truss rod nut on the headstock (remove cover plate to access the nut). We use the same finish process for the durable high-gloss finish on your Mark I as we do for Custom Shop acoustics, so you can follow the same cleaning instructions (see page 17). For information on the electronics and pickups in your guitar, please see the separate instruction sheet included with your instrument.



Breedlove Mark I Custom

### ***Breedlove Pro Series Acoustic Guitars***

The Breedlove Pro Series brings Breedlove Custom Shop performance, fit and finish to a value-packed new platform. Pro Series guitars are made in the U.S.A., and share many of the same assembly processes as Breedlove Custom Shop instruments. They feature AAA-grade solid tonewoods, the JLD Bridge Truss system, an on-board L.R. Baggs Element Active pickup system, and a Limited Lifetime Warranty.



Breedlove Pro C25/CR, Herringbone



Breedlove Pro Series guitars feature the L.R. Baggs Element Active pickup. Pro Series electronics are customizable, though - please contact us if you would prefer an alternate system.

### ***Breedlove Mandolins***



Breedlove Quartz FF Mandolin

Breedlove Mandolins are dynamic and full voiced. Our mandolin bodies are slightly deeper than conventional mandolins, with higher arches in the top and back. Tonewoods resonate freely thanks to a free-floating fingerboard extension, smaller neck and tail blocks, and a bolt-on neck. Breedlove mandolins are well-known for their easy playability. A radiused fretboard, low string height, ample string set separation, and a 1-3/16" nut width make them extremely comfortable. Breedlove mandolins are optimized for use with medium-light gauge strings, but you may also use light or heavy strings.



Floating Fingerboard Extension



Adjustable Bridge

### ***Changing Strings on your Mandolin***

When changing strings, pay close attention to the location and orientation of bridge on the body. When strings are removed, the bridge may move. If you remove all the strings at once, it will be unsupported and will fall off. It is a good idea to mark the location of the bridge prior to changing strings. Place small pieces of masking tape on the top of the mandolin at each point of the bridge base to mark the location. Also note the orientation of the bridge, and mark one side with tape if you are not sure you know which way it goes. To ensure proper instrument intonation, the bridge must be in the correct location. It is also a good idea to protect the finish of the instrument with a soft cloth while changing strings. String ends can scratch the finish, as can any movement of the bridge. Please call Breedlove if we may be of assistance during your first string change.

### ***Electronic Pickups for Mandolins***

For minimum acoustic impact and a rich, naturally balanced tone, Breedlove recommends the Schertler C-DYN-M, an electrodynamic contact microphone co-designed by Schertler and Breedlove. This pickup is a full-bodied electrodynamic contact microphone which can also be coupled with a condenser microphone. It requires no phantom power.

## *Mandolin Set-Up Specifications*

Breedlove mandolins have an adjustable bridge. Our factory setup is approximately .065” on the bass strings and .050” on the treble strings as measured at the 12th fret. A Breedlove Service Technician can recommend the right set-up for your style of play and desired tone.

## *ELECTRONICS CONFIGURATIONS FOR ACOUSTIC GUITARS*

### *L.R. Baggs Dual Element System*

The Dual Element pickup system is custom-made for Breedlove by L.R. Baggs. It features an Active Element undersaddle pickup, an internal condenser microphone, and an onboard Dual Source preamp. The Dual Source is a great-sounding preamp that offers flexible routing options for mono or stereo use. Features include...



***Stereo/Mono Switch (A)*** Pickup and microphone signals can be blended into a mono, or can be accessed separately by switching the preamp to stereo operation and using a stereo/TRS cable.

***High/Low Gain Switch (B)*** Allows you to match gain structure to your pickup.

***Mic phase switch (C)*** This switch changes the polarity of the mic signal, so you can ensure proper phase relationship between the pickup and microphone.

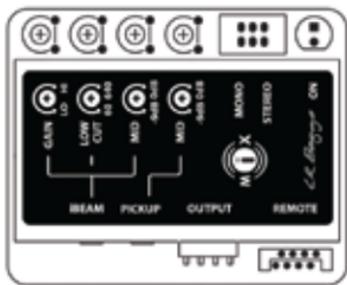
***Mic low cut filter (D)*** This rotary control allows for fine tuning the low frequency response of the condenser microphone.

A Remote Control unit gives you fingertip access to master volume and pickup mix controls. The Remote Control mounts discretely underneath the top of the guitar. There are no holes to be drilled, and the installation is non-destructive and fully reversible.

For complete instructions on the L.R. Baggs Dual Element System, please refer to the User's Guide that came with your guitar. Manuals can also be downloaded from the L.R. Baggs website - <http://www.lrbaggs.com/manuals/>.

### ***L.R. Baggs I-Mix M1***

Designed for excellent sound reproduction in feedback-prone, high-SPL applications, the L.R. Baggs I-Mix/M1 combines the Active Element piezo pickup with an M1 magnetic soundhole pickup, and routes the signal through an I-Mix onboard preamp. This system delivers the multidimensional acoustic sound of a dual-source system, with excellent feedback rejection. The I-Mix preamp offers considerable flexibility for tailoring your sound.



I-Mix Preamp



M1 Magnetic Soundhole Pickup

Onboard controls for gain, low frequency cut and midrange cut allow for fine adjustment of the magnetic pickup tone, and a separate midrange cut control is provided for the Element undersaddle pickup.

As with the Dual Source preamp, the I-Mix enables you to switch between mono and stereo output. When in Mono mode, the Remote Control unit mounted under the soundhole provides control of Master Volume and Element/M1 blend. In stereo mode, each thumbwheel provides volume control for a single source - “vol” controls the Element, and “mix” controls the M1.

For complete instructions on the L.R. Baggs I-Mix/M1 System, please refer to the User's Guide that came with your guitar. Manuals can also be downloaded from the L.R. Baggs website - <http://www.lrbaggs.com/manuals/>.

## *L.R. Baggs Element Active*



The award-winning Element Active system from L.R. Baggs pairs the Element undersaddle transducer with an all-discrete class A preamp. To that, we add soundhole-mounted controls for tone and volume. The tone control is not simply a passive high-end roll-off - it is actually a tone-shaping circuit, giving you a much wider tonal palette than a conventional tone control. The Element Active comes standard in all Breedlove Pro and Roots Series guitars, unless you request a custom electronics configuration.

## *Breedlove Synergy System for Acoustic and Electric Guitars*



A12 Custom with Synergy System Installed

The Breedlove Synergy System delivers astoundingly warm and authentic acoustic tone, but that's just the beginning. Imagine being able to connect your acoustic guitar directly to a Roland modeling system like the VG-88. Imagine hooking your electric directly to your MacBook® or PC laptop, and recording MIDI information in real-time. Imagine six individual saddle sensors sending six separate channels of information via hexaphonic output, giving you complete control over the tone and pitch of each individual string!



RMC Polydrive II

The Breedlove Synergy system can be installed in any Breedlove Custom Shop, Pro or Roots Series instrument. It is normally paired with an RMC Polydrive Preamp giving you a 1/4" piezo out with volume control, a 3-band EQ, a 13-pin polyphonic output with synth volume, MIDI patch control, and more.



Breedlove Mark I Chambered Electric with Polydrive V on-board. Note separate outputs for magnetic and piezo signals, along with 13-pin polyphonic output.

The Breedlove Synergy System opens up a virtually limitless world of tonal possibilities, linking your Breedlove guitar directly to the world of MIDI and synthesizer modeling. And the Synergy system also provides fantastic acoustic tone at the same time. Write or call today to discuss the Synergy system in more detail.

### ***Cleaning Your Breedlove Instrument***

The fingerboard of your guitar or mandolin may need occasional cleaning, depending on playing frequency, your style of play, and your body chemistry. If possible, wipe down the fingerboard and strings after each playing session. If the fingerboard becomes gummy, rub it lightly with 0000 steel wool. Clean off any left-over steel wool fragments, then apply mineral oil. Finally, wipe down the fingerboard with a dry cotton cloth. If the fingerboard appears dry or cracked, you should first take a humidity measurement to ensure the instrument is being stored under suitable conditions. If you find that the environment is too dry, establish proper humidity as needed, and then follow the procedure above.

Breedlove gloss finishes are very hard and durable. They can be waxed with a variety of non-abrasive waxes. Most liquid furniture waxes or automotive waxes will do the job. Do not use oils on Breedlove gloss finishes.

Breedlove Satin finishes are very durable and easy to take care of. Do not use waxes or polish - simply wipe the finish with a soft cotton polishing cloth after playing to keep it looking clean.

We hope you enjoy playing your new Breedlove, and that it gives you many years of musical pleasure.

# **Breedlove Guitar Company Instrument Warranty**

Your new Breedlove instrument is covered by the following Warranty. The Warranty Term for Breedlove Custom Shop instruments, Pro Series and Roots Series instruments is “Limited Lifetime.” The Warranty Term for Atlas and Passport Series instruments is “Five Years.”

Your Breedlove instrument is made from thin wood, and it is extremely important to maintain a stable environment of 44-48% Relative Humidity at 70 degrees Fahrenheit at all times.

## ***1. Terms and Conditions***

Breedlove Guitar Co. warrants solely to the original purchaser of a Breedlove Guitar Co. instrument that the instrument purchased shall be free from defects in materials and workmanship under normal use for the duration of the Warranty Term, or for as long as the instrument is owned by the original purchaser, whichever is shorter, and until the ownership of the instrument is transferred to another. This Warranty does not apply to (a) wear or breakage of frets or strings, or other normal wear and tear of the instrument or its parts; (b) asserted defects caused by modification, misuse or abuse or improper maintenance of the instrument; (c) asserted defects involving subjective personal dislikes or judgements; (d) asserted defects caused by accident or exposure to extremes of temperature or humidity which cause harm to the instrument; or (e) defects asserted by any purchaser who did not purchase the instrument from an authorized U.S. dealer, authorized international distributor or agent for the Breedlove Guitar Company.

## ***2. Limitations on Obligation***

The obligations of Breedlove Guitar Co. hereunder are limited to repair or replacement of parts of the instruments found to be defective under this Warranty. In no event shall Breedlove Guitar Co. be liable for any indirect, incidental or consequential damages, including but not limited to lost profits of any nature or kind, or for damages to persons or property, whether such liability claim is based on breach of warranty or contract, negligence or any other legal duty or obligation.

This Warranty is the sole warranty of Breedlove Guitar Co. and is given in lieu of all other warranties, express or implied, including any implied warranties of merchantability and fitness for purpose.

### ***3. No Other Warranties***

The Warranty set forth herein constitutes the entire warranty and representation of the Breedlove Guitar Company with regards to its musical instruments. This Warranty shall be controlling over any conflicting terms and conditions of any purchase orders, contracts or invoices which may be executed in connection with the purchase of this musical instrument. No representation or warranty made by any salesperson, dealer, agent, representative or employee of the Breedlove Guitar Company shall be binding upon Breedlove Guitar Company other than as set forth herein.

### ***4. Claim Procedures***

Unless purchaser is notified in writing that repairs and service under this Warranty may be made by an authorized Breedlove Guitar Co. dealer, claims for warranty performance and service shall be made by sending the instrument, shipping and insurance prepaid by the purchaser, to the Breedlove Guitar Company at the address shown on the back page of this booklet, together with (a) evidence confirming the original purchase by purchaser (such as a copy of the sales invoice or receipt, a credit card slip, or the like); (b) a brief description of the nature of the asserted defect; and (c) the name, address and phone number of the original purchaser to whom the instrument is to be returned.

The Breedlove Guitar Company shall review the description of the asserted defect, examine the instrument, and make service, repairs, and replacements as appropriate under this Warranty. Upon completion of the service, the instrument shall be returned to the original purchaser by the Breedlove Guitar Company, with shipping and insurance to be paid by the purchaser. In the event it is determined that the asserted defect is not covered by or is excluded from this Warranty, the instrument shall be returned without repairs or replacement, with shipping and insurance to be paid by the purchaser.

### ***5. Owner Registration***

To assist in confirming the original purchase and purchaser, please register your instrument with Breedlove (<http://www.breedloveguitars.com/warranty>). Failure to register will not invalidate this Warranty.

Register your Breedlove on-line at  
<http://www.breedloveguitars.com/warranty>  
or by phone at 877-800-4848 (toll free USA) or 541-385-8339

## ***Breedlove Factory String Specifications***

### ***Custom Shop Concert and Auditorium, Revival OM and 000 All Breedlove Atlas & Passport Models***



D'Addario EXP16  
Phosphor-Bronze, Coated, Light Gauge  
.012, .016, .024, .032, .042, .053"

### ***Custom Shop Dreadnoughts & Jumbos, Revival Dreadnought***



D'Addario EXP17  
Phosphor-Bronze, Coated, Medium Gauge  
.013, .017, .026, .035, .045, .056"  
Ed Gerhard Models: .013, .017, .024, .032, .042, .053"

### ***Twelve-Strings (Custom Shop & Atlas)***



D'Addario EXP38  
Phosphor-Bronze, Coated, Light Gauge  
.010/.010, .014/.014, .023/.008, .030/.012, .039/.018, .047/.027"

### ***Nylon-String Guitars***



D'Addario EJ44  
Classical Hard Tension  
.0285, .0327, .0410, .029, .036, .046"

### ***Atlas Acoustic Basses***



D'Addario EXPBB170  
Phosphor-Bronze, Coated, Soft Gauge  
.045, .065, .080, .100" (and .130" for five-string models)

### ***Mandolins***



D'Addario EXP74  
Phosphor Bronze, Coated, Medium Gauge  
.011/.011, .015/.015, .026/.026, .040/.040"

### ***Electric Guitars (Mark Series)***



D'Addario EXL140  
Nickel Wound, Light Top/Heavy Bottom  
.010, .013, .017, .030, .042, .052"

# **Breedlove Guitar Company**

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