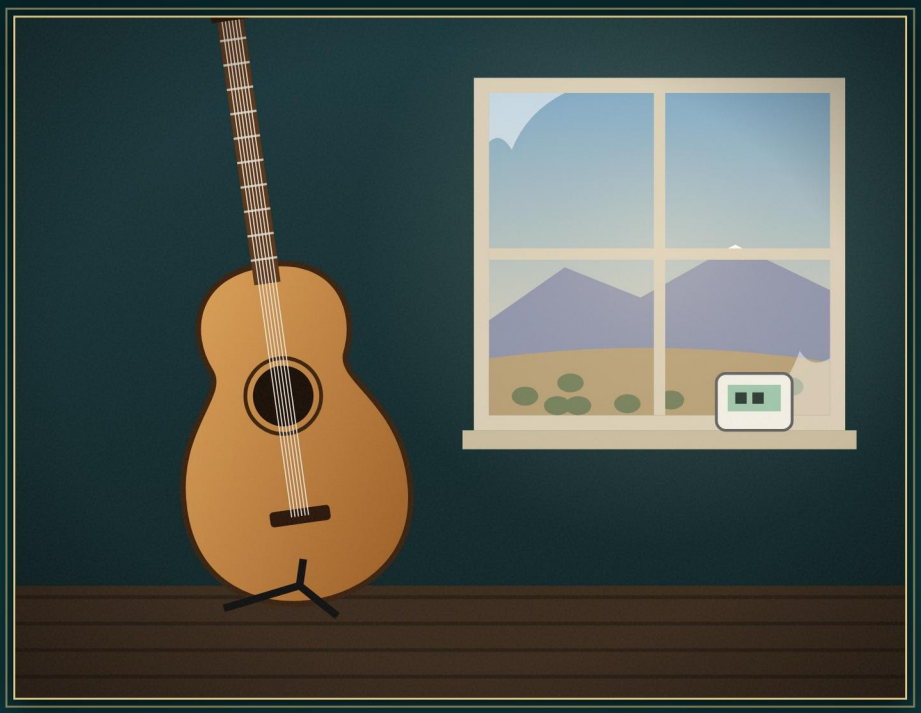
A TRINFINITY GUITAR SHOP GUIDE

Acoustic Guitars in a Dry Climate

Keep Your Guitar Safe Through Dry Winters



Humidity Care for the High Desert

Andrew Dominguez

Trinfinity Enterprises

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Questions and corrections: andrew@trinfinityenterprises.com

Contents

Before You Begin....1
Chapter 1: Why Dry Air Hurts a Guitar....2
Chapter 2: The Safe Range....4
Chapter 3: Our High Desert Climate....5
Chapter 4: Hygrometers: Measure First....7
Chapter 5: Humidifiers....9
Chapter 6: Storage and Seasonal Habits....11
Chapter 7: Warning Signs and When to Bring It In....13
Winter Checklist....15
Acronyms....16
Sources....17
About This Pamphlet....18

Before You Begin

Every winter the same guitars come through my shop door. A crack running down the top beside the fingerboard. Fret ends that snag a hand sliding up the neck. Strings so low they buzz everywhere. A bridge with a sliver of daylight under its back edge. Most of the time the owner did nothing wrong except live where we live, in the dry air of the high desert, with the heat running all winter.

The good news is that almost all of this can be prevented with a small hygrometer, an inexpensive humidifier and a few habits. This pamphlet shows you how.

Who This Is For

This guide is for anyone who owns an acoustic guitar in northern Nevada, from Reno and Carson City to Dayton, Fernley and the rest of Lyon County, or anywhere else with dry winters. It matters most for guitars with solid wood tops, backs and sides, but laminate guitars and even electric guitar necks feel dry air too.

What This Pamphlet Is and Is Not

I have built and repaired guitars for more than twenty years, and this is the same advice I give at the counter. The humidity ranges come from the makers' own care pages, which are listed in the back. It is general care advice, not a repair manual. If your guitar already has a crack or a lifting bridge, read Chapter 7 and bring it in.

Chapter 1: Why Dry Air Hurts a Guitar

Wood is never finished drying. Long after it becomes a guitar, it keeps trading moisture with the air around it. When the air is damp, the wood takes on water and swells a little. When the air is dry, it gives water up and shrinks.

An acoustic guitar is built to be light and thin so it can ring. A spruce or cedar top is often not much more than a tenth of an inch thick. Wood shrinks mostly across the grain, not along it, and the top, back and sides are glued to braces and linings that hold them in place. When the wood wants to shrink and has nowhere to go, something gives.

What You Will See

Taylor Guitars and D'Addario both list the same family of dry-guitar symptoms. In my shop, they show up in roughly this order.

- **Sharp fret ends.** The fingerboard shrinks across its width, but the metal frets do not. The fret ends stick out past the edge of the board and you feel them as you slide your hand along the neck.
- **Low action and buzzing.** As the top dries, it sinks between the bridge and the soundhole. The bridge goes down with it, and the strings drop closer to the frets. Taylor notes the buzzing often gets worse higher up the neck.
- **A hump where the neck meets the body.** The top can sink around the end of the fingerboard and leave a ridge you can see if you sight down the neck.
- **A flat back.** Most acoustic backs have a gentle arch. A dry back can look nearly flat.

- **A lifting bridge.** D'Addario lists a sunken top or lifted bridge among the problems dry air causes. The glue joint under the bridge is under string tension all the time. When the top shrinks and moves under it, the back edge of the bridge can start to peel up.
- **Cracks.** This is the one everyone fears. Tops crack most often beside the fingerboard extension, along the grain near the pickguard, and below the bridge. Backs and sides crack too. D'Addario warns of cracking in the neck and body.
- **A change in tone.** Some owners notice the guitar sounds thin or choked before they see anything wrong.

What About Finish Cracks?

Fine cracks in the finish, called finish checking, look like a spider web or a set of parallel lines across the grain. In my experience they usually come from a fast temperature change, like opening a case that sat in a cold truck in a warm living room. Finish checking is mostly cosmetic, but it can hide a real crack in the wood under it, so have me look at any new line you find.

Too Wet Is a Problem Too

Do not swing too far the other way. Gibson warns that too much humidity over a long time can swell and warp the wood and dull the sound, and Martin's bulletin says guitars exposed to too much humidity begin to swell. A wet guitar on my bench usually shows high action and a top that bulges up behind the bridge. In northern Nevada this almost never comes from the weather. It comes from overdoing a humidifier, which is why the next chapters start with measuring.

Chapter 2: The Safe Range

Relative humidity, or RH, is how much water the air is holding compared with the most it could hold at that temperature. It is given as a percent. The makers agree on the general target, though they say it a little differently.

Maker	What its care page says
Taylor Guitars	Keep the guitar in a range of 45 to 55 percent relative humidity. Outside that range it is in danger of cracking.
Martin Guitar	Fifty percent relative humidity is considered optimum. At 35 percent, tops begin to shrink.
D'Addario	The ideal range is 45 to 50 percent relative humidity, the level its two-way humidity packs are made to hold.
Gibson	The ideal storage range is between 40 and 60 percent relative humidity.

What I Tell Customers

Aim for about 45 to 55 percent where the guitar lives, which for most people means inside its case. A day or two a little outside that range will not ruin a guitar. Weeks of it, especially below 40, is when the damage starts.

- **Slow change is safer than fast change.** Wood can adjust to a gradual change. A sudden swing, from a damp case to a dry room or from a cold truck to a warm house, is what stresses it most.
- **Temperature matters too.** Gibson warns against direct sun and rooms that change temperature fast. Heaters dry the air right around them.

Chapter 3: Our High Desert Climate

Dry to Begin With

Nevada is a dry state. The Western Regional Climate Center, which keeps weather records for the western states, describes Nevada's humidity as usually low, and notes that the dry air is the reason evaporative coolers work so well here. Most of us in the Reno, Carson City and Dayton area live in the rain shadow of the Sierra Nevada, and the National Weather Service records for Reno show an average of only about seven and a third inches of precipitation a year. Taylor Guitars even names Reno and Las Vegas, along with Phoenix and the Rocky Mountain region, as places with low humidity all year long.

I am not going to give you a single humidity number for your house, because it depends on the weather that week, how your home is built and how you heat it. That is exactly why I want you to own a hygrometer. Taylor also points out that in most places the worst dryness comes in winter, because heating a house drives the indoor humidity down. What I can tell you from years at the bench is when the trouble comes.

Winter Heating Is the Driest Time

When cold winter air comes into your house and the furnace, heat pump or wood stove warms it up, the amount of water in that air stays the same, but warm air can hold much more. So the relative humidity inside drops, sometimes a long way. Rooms near a wood stove, a pellet stove or a heating vent are the worst. That is why winter is crack season for acoustic guitars.

Spring and Fall Swings

Spring and fall bring fast changes, a warm dry afternoon followed by a cold night, or a storm that raises the humidity for a few days and then blows out. Check your hygrometer more often in these seasons and adjust your humidifier as you go.

Summer

Summer air here is usually dry as well, but many homes run evaporative coolers, often called swamp coolers, which add moisture to the air. Some guitars do fine all summer in a house with a swamp cooler. Others need a humidifier all year. Your hygrometer will tell you which kind of house you have.

Guitars on the Move

Cars and trucks are the worst place for a guitar in any season. In summer the inside of a parked vehicle gets hot enough to soften glue. In winter the cold sets up a fast temperature change when you bring the guitar inside. If you must leave it in the car for a few minutes, keep it in its case, and never leave it in the sun or overnight.

Chapter 4: Hygrometers: Measure First

You cannot manage what you do not measure. A hygrometer is a small gauge that reads relative humidity. Taylor strongly recommends a digital hygrometer along with a humidifier, and Gibson suggests one for anyone who lives where humidity changes.

What to Buy

- **Digital, not dial.** Small digital hygrometers are inexpensive and are usually more accurate than the little dial gauges built into some cases.
- **One for the case and one for the room.** The reading that matters most is where the guitar actually sits. A second one in the room tells you how hard your humidifier is working.
- **Look for a min and max memory** if you can. It shows you how low the humidity went overnight while you were not looking.

Where to Put It

In a case, put the hygrometer in the accessory compartment or tuck it near the neck where it will not rattle against the top. If the guitar hangs on a wall or sits on a stand, put the hygrometer near the guitar, not across the room.

Check It Once

Inexpensive hygrometers can read several points off. You can check one with a simple salt test. Put a spoonful of table salt in a bottle cap, add just enough water to make a damp paste, not a puddle, and seal the cap and the hygrometer together in a zip-top

bag. Leave it at room temperature for about a day. A saturated salt mixture holds the air in the bag at about 75 percent relative humidity, so whatever your hygrometer reads, you know how far off it is. Write the difference on a piece of tape on the back.

How Often to Look

In winter, look at the case reading every few days. In the rest of the year, once a week is enough. It only takes a second when you open the case to play.

Chapter 5: Humidifiers

Once you know the humidity is low, you add water to the air around the guitar. There are three ways to do it, and many owners in our area use two of them together.

Soundhole Humidifiers

These sit in the soundhole, between or under the strings, and release moisture inside the body where the wood is most at risk. Most are a sponge or gel inside a vented holder.

- Wring out a sponge type well. Water should never drip inside the guitar.
- Taylor advises against humidifiers that seal off the soundhole, unless you also use a second humidifier up by the headstock.
- Refill on a schedule, and more often in winter.

Case Humidifiers and Two-Way Packs

Case humidifiers sit in the case, often near the headstock, to keep the whole space around the guitar moist, including the fingerboard and neck. Two-way packs, such as D'Addario's humidity packs, release moisture when the air is dry and absorb it when the air is damp. D'Addario says they are made to hold 45 to 50 percent. Taylor's page notes that packs last two to six months, depending on climate, and in our dry winters you should expect the short end of that.

If the reading in the case stays low, Taylor suggests rewetting the humidifier more often and adding a second or larger humidifier in the case.

Room Humidifiers

If you keep guitars hanging on the wall or on stands, humidify the room. A room humidifier also helps your skin, your furniture and your wooden floors.

- Pick one sized for the room, and close the door so you are not trying to humidify the whole house.
- Set it by the hygrometer reading, not by guesswork.
- Keep the humidifier itself away from the guitars so mist never settles on them.
- Clean it as the maker's manual says. A dirty tank can grow mold.

Which Should You Use?

If your guitar	Use
Lives in its case most of the time	A soundhole or case humidifier, or two-way packs, plus a hygrometer in the case
Hangs on the wall or sits on a stand	A room humidifier and a room hygrometer
Is valuable, or all solid wood, in winter	Both: humidify the case and the room
Travels to gigs or church	Keep it in its case with two-way packs

Do Not Overdo It

More is not better. If your case hygrometer climbs well above 60 percent, take a humidifier out or let it dry. And if a guitar is already dry and showing symptoms, do not try to fix it overnight. Taylor advises going carefully and checking daily as the top recovers. A slow return over a week or two is far safer than a soaking.

Chapter 6: Storage and Seasonal Habits

Where a Guitar Should Live

- **In its case,** especially in winter. Taylor notes the case slows moisture loss. Even a gig bag with a humidifier in it is better than nothing.
- **Away from heat.** Not beside a wood stove, a fireplace, a space heater, a baseboard heater or a floor vent.
- **Away from sunny windows.** Direct sun heats the guitar fast. Gibson's care page warns against it.
- **On an inside wall** if you hang it, not an outside wall that runs cold in winter.
- **Not in the garage, the attic, a shed or a vehicle.**

Bringing a Cold Guitar Inside

After a cold drive in winter, leave the guitar in its closed case for a while so it warms up slowly before you open it. In my experience this one habit prevents most of the finish checking I see.

A Year in Northern Nevada

When	What to do
October to November	Heat comes on. Fresh humidifier or packs. Check case reading every few days.
December to February	Coldest months, so the heat runs most and indoor air is usually driest. Refill often. Keep guitars cased when not played.
March to April	Heat tapers off. Keep humidifying until the hygrometer says you can stop.
May to September	Check weekly. Swamp cooler homes may need less help. Never leave a guitar in a hot car.
Every season change	Look for the warning signs in Chapter 7. A setup in fall and spring keeps action and frets right.

Chapter 7: Warning Signs and When to Bring It In

Check These Once a Month in Winter

- ☐ Run your hand along both edges of the neck. Do any fret ends feel sharp?
- ☐ Has the action dropped, or is there new buzzing, especially up the neck?
- ☐ Look at the top beside the fingerboard, near the pickguard and below the bridge. Any new line?
- ☐ Slide a piece of paper at the back edge of the bridge. Does it go under the bridge?
- ☐ Sight down the neck from the headstock. Is there a hump where the neck meets the body?
- ☐ Look at the back and sides in good light. Any new line or seam?

What You Can Do Right Away

If you see the early signs, like sharp frets, low action or a slight sinking of the top, get the humidity back up slowly using the steps in Chapter 5. Taylor notes that the neck may need a truss rod adjustment once the guitar has recovered, and that fret ends may stay sharp and need filing even after the humidity is back to normal. That filing is quick shop work.

When to Bring It to the Shop Now

- **Any crack in the wood.** Put the guitar in its case with a humidifier, do not play it hard, and bring it in. A fresh, clean crack is usually easier to close and glue than an old one full of

dirt, and please do not put super glue or wood glue in it yourself. That can make a proper repair much harder.

- **A bridge that is lifting.** Loosen the strings to take the tension off and bring it in. A bridge that lets go under tension can tear wood out of the top.
- **A bulge or sink you can see clearly** behind or in front of the bridge.
- **Loose braces.** A new buzz or rattle from inside the body that is not coming from the strings or a loose tuner can be a brace coming unglued.
- **A guitar you bought used that was stored badly.** It is worth a once-over and a setup.

What a Visit Looks Like

For most dry guitars, I start by checking the humidity of the wood and the neck, then talk with you about what needs doing now and what can wait until the guitar has settled. Some repairs, like gluing a crack or a bridge, are best done after the guitar is back in the safe range. I would rather tell you honestly that something can wait than sell you a repair you do not need.

Winter Checklist

Tape this inside your case lid.

Check	How often	Done
Read the case hygrometer (aim 45 to 55 percent)	Every few days	____
Refill or rewet the humidifier	Weekly, or as needed	____
Replace two-way humidity packs	When stiff or dry	____
Guitar stored in case, away from heat and windows	Always	____
Fret ends, action, top, bridge and back checked	Monthly	____
Cold guitar warmed in its closed case before opening	Every time	____
Seasonal setup	Fall and spring	____

Acronyms

RH. Relative humidity

Sources

All web pages were read on November 18, 2026.

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About This Pamphlet

Acoustic Guitars in a Dry Climate is one of a set of plain-language guides from Trinfinity Enterprises, which builds and repairs guitars in Dayton, Nevada. Brand names appear only to cite each maker’s own care advice. It is general information, not a repair manual. If you find something that needs correcting, please write to andrew@trinfinityenterprises.com.