

When the Brick Bows

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WHEN THE BRICK BOWS

A Texas Homeowner's Guide to Reading Lintel Failure Above Garages, Windows, and Doors — and Getting a Repair That Lasts

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Chapter 1: The Steel You Never See

Most homeowners can point to their roof, their foundation, and their air conditioner without thinking twice. Ask them to point to a lintel, and you will usually get a blank look. That is not a failure on your part. It is just the nature of this piece of steel. A lintel does its job quietly, hidden behind brick, and most folks never hear the word until something above a garage door, a window, or a front door starts to crack, bow, or sag.

This book starts there, with the steel you never see, because once you understand what it is and what it carries, the cracks you have been walking past start to tell a clear story.

What a lintel is, in plain terms

A lintel is a horizontal piece of steel that spans an opening in a brick wall. Think of it as a bridge in miniature. On either side of the opening, the steel rests on solid brick or masonry. Across the middle, where there is no wall underneath to hold things up, the lintel carries the brick above it.

That sounds simple, and the idea really is simple. The weight above an opening has to go somewhere. Brick cannot float over a garage door. It cannot hang in the air over a wide living room window. Something strong has to pick up that load on one side of the opening and set it down safely on the other side. That something is the lintel.

In most Texas brick veneer homes, the lintel is a piece of angle iron, often called angle steel. If you could see a cross-section of it, it would look like the letter L. One leg of that L slips under the brick course right above the opening. The other leg turns up behind the brick, out of sight. From the street, all you may see is the thin bottom edge of the steel, a

dark line just above the garage door trim or just above a window frame. Most of the steel is buried in the wall.

A close cousin is the shelf angle. A shelf angle does a similar job on a larger scale. It is a horizontal steel angle bolted or set into the structure of the house to support brick veneer at a certain height, often where a wall steps, where a roof line cuts across a tall wall, or on taller buildings where the full weight of the brick cannot run all the way to the ground in one stretch. On a typical one- or two-story Texas home, you will hear about lintels far more often than shelf angles, but the principle is the same: steel creates a shelf, and brick sits on that shelf.

Where lintels live in your house

Walk around your home slowly and look for every place the brick wall has a hole in it. At the top of nearly every one of those holes, there is a lintel.

The biggest one is over your garage door. A single-car opening might be eight or nine feet wide. A double-car opening is often sixteen feet or more. That is a long bridge for brick, and it is why the garage gets its own chapter in this book.

Next are the windows. A narrow bathroom window may need only a short lintel. A wide front window, especially the kind with brick running in a gentle arch or a flat row across the top, needs a longer, stronger one. Patio doors and sliding doors count too. So do the back door, the front door, and any pass-through or large opening where brick continues above it.

You will also find lintels in less obvious places. A fireplace opening inside the house has support of its own. A brick gable above a garage, where a triangle of brick rises to the roof peak, often depends on steel at its base. Even a small vent or utility opening can have a short piece of steel over it.

None of this steel was put there for looks. The bricklayer needed it on the day the wall went up. Without it, the mason would have had nothing to lay the next courses of brick on over the opening. The lintel went in, the brick went over it, the mortar cured, and the whole assembly became a stiff panel that has been holding together, in many Texas homes, for twenty, thirty, or forty years.

What load a lintel actually carries

Brick is heavier than most people realize. A single brick weighs roughly four to five pounds. Multiply that by the hundreds of bricks stacked above a garage door, add the mortar between them, and you are looking at a load measured

not in pounds but in tons in some cases, depending on how much wall sits above the opening.

The good news is that brickwork does not pile all of that weight straight down onto the middle of the lintel like a stack of sandbags. Brick and mortar, once cured together, act a little like a shallow arch even when they look flat. Some of the weight spreads outward toward the solid wall on each side. Builders and masons sometimes describe this as a triangle of brick that the lintel truly carries, with the wall above that triangle partly supporting itself by spreading its load sideways.

That helps, but it does not make the lintel optional, and it does not make the load light. The steel still has to be stiff enough not to bend under that triangular load. If it bends even a little, the brick above it moves. Brick is strong when you press on it, but it is not flexible. It does not like to bend. When the support under it gives, brick answers with cracks.

A lintel also carries more than weight. It has to live in a wall that moves. Texas brick expands in summer heat and shrinks back in cooler weather. The wood framing behind the brick moves at a different rate. Wind pushes on tall walls. A garage door slams and vibrates the opening every day. Over decades, all of that quiet movement works on the steel, the mortar joints, and the fasteners and bearing points at each end.

Then there is water. We will spend a full chapter on rust later, but it belongs in this first picture too. A lintel lives at a place where water naturally collects — the top of an opening, where flashing, weep holes, and mortar joints are supposed to direct moisture out of the wall. When that water management fails, the steel sits damp. Damp steel rusts. Rusting steel changes size. That change, slow as it is, can lift brick, split mortar, and start the very cracks that let in more water.

Why you rarely think about lintels until they fail

There are three honest reasons lintels stay off a homeowner's mind.

First, they are hidden. You cannot inspect what you cannot see. Only the bottom edge shows, and even that edge is often painted to match the trim. A coat of paint can make a rusting lintel look fine from the driveway while the steel behind the brick is in rough shape.

Second, lintels usually fail slowly. A roof leak announces itself with a stain. A foundation problem may stick a door in a single season. A lintel, by contrast, can rust and deflect for

years before the brick above it shows more than a hairline crack at one corner. By the time the bow across the garage opening is visible to a neighbor standing at the curb, the process has often been underway for a long time.

Third, the warning signs get blamed on other things. A stepped crack above a window gets called settling. A mortar joint opening above the garage gets called normal age. Sometimes those explanations are partly right — houses do settle, and mortar does age. But when a crack starts at the corner of an opening and steps up and away from it, or when the brick course right above the opening dips in the middle, the lintel deserves a look before any other explanation is settled on.

Hypothetical example: Picture a two-story brick home outside Fort Worth, about twenty-five years old. The owner notices a crack running up from the left corner of the garage door, stepping through the mortar joints like a small staircase. He fills it with caulk one spring. By the next summer it has opened again, a little wider, and now there is a matching crack on the right side. Nothing else on the house has changed. That pattern — both corners, same opening, cracks that return after patching — is the wall pointing at the steel underneath, not at the caulk.

A homeowner's way to start looking

You do not need special tools to do a first, honest look at your own lintels. You need daylight, a slow walk, and the willingness to look up instead of straight ahead.

Stand back far enough to see the whole opening at once. Sight along the brick course directly above the garage door or window. Does it run straight, or does it dip or bow in the middle? Look at both corners. Is there a stepped crack on one side, or on both? Look at the mortar joint right above the steel. Is it tight, or has it opened into a shadow line you can see from the ground? Then step close and look at the visible edge of the steel itself. Is the paint sound, or is it bubbling, flaking, and showing orange or dark brown staining? Is the brick below the ends of the lintel — the spots where the steel bears on the wall — cracked or spalled, with small pieces flaking off the face?

Write down what you see, opening by opening, and take clear photos in flat daylight. Those notes matter. A lintel problem is judged by pattern and progress, not by a single crack on a single day. And if what you find suggests real structural movement — a pronounced sag, brick that has shifted out of plane, or an opening where a door or window no longer operates — that is the point to bring in a qualified professional to look at it in person, and, where structural

questions go beyond repair work, to hire a structural engineer for an independent assessment. Hands-on repair experience, including the fifty years of field experience behind this book, is about reading and fixing what the wall shows. It does not replace a licensed professional's assessment when the structure itself is in question.

For now, hold on to the simple picture: hidden steel, spanning an opening, carrying tons of brick that cannot carry itself across a gap. In the next chapter, we will look at the opening where that job is hardest in almost every Texas house — the garage — and why it so often fails first.

Chapter 2: Why the Garage Opening Fails First

If a lintel problem shows up anywhere on a Texas home, the smart money says it shows up over the garage first. That is not bad luck and it is not usually a sign that the whole house was built poorly. The garage opening simply asks more of a piece of steel than any other opening in the house, and it asks in the harshest conditions. This chapter walks through the reasons one by one, so when you look at your own garage, you know exactly what has been working against that steel since the day it went in.

The widest span in the house

Start with simple distance. Most windows in a home span three to five feet. A front door spans about three feet. Those are short bridges. Steel is very good at being stiff over a short distance, and the brick above a small window has solid wall close by on both sides to help spread the load.

A double garage door changes the math completely. Sixteen feet is a common width, and some newer Texas homes run wider. Eighteen and twenty foot openings are out there, with a full gable of brick above them. The load the lintel carries grows with the span, but the bending grows even faster than the load. As a rough way to picture it, doubling the length of a span does not merely double how much a beam wants to sag under the same kind of load — it multiplies the sag several times over. That is why a piece of steel that would serve a bathroom window for a century can spend its whole working life right at the edge of adequate over a garage.

The shape of the wall above the garage makes it worse. On many homes, the brick does not stop a foot or two above the

door. It keeps going — up a full story, or into a tall triangular gable that faces the street. Gables look light from the curb because they narrow toward the top, but the lower courses of that triangle are wide and heavy, and they sit right where the lintel is working hardest, near the middle and quarters of the span.

Add the bearing problem. A lintel has to rest on solid masonry at each end, and it needs enough of that resting length to spread its load into the wall. Over a garage, the wall segments on each side of the door can be surprisingly narrow, especially on homes where the garage takes up most of the front of the house. A long span, a heavy load, and a short place to set it down — that combination is the starting condition for the garage lintel, before weather and time add anything at all.

Load concentration at the corners and the middle

Weight over a garage opening does not distribute itself evenly or politely. It concentrates.

At the middle of the span, the steel is farthest from any support. That is where deflection — the slight bending under load — shows up first and most. Even a small dip matters. Brickwork above a dipping lintel cannot follow the curve, so tension opens up in the mortar joints. Hairline cracks near the center top of the opening, or a mortar joint that opens along the course right above the steel, often trace back to that slow give in the middle.

At the corners, a different concentration happens. The ends of the lintel deliver everything the steel has collected into two small bearing areas, one at each side of the door. That is a lot of weight arriving at a small patch of brick. Over years, those bearing bricks can crack, crush at the edges, or spall, meaning flakes and chunks of the brick face pop off. Meanwhile the wall just beyond the corner is where the load tries to spread back out, which is why the classic lintel crack steps up and outward from the corner of the opening at roughly a forty-five degree angle, following the mortar joints like stairs. When you see that staircase pattern on both sides of a garage door, you are looking at a map of where the load went and where the wall could not keep up.

Vibration and movement focus at these same spots, which brings us to the piece of equipment hanging in the middle of the opening.

The garage door itself works against the

steel

No other opening in your house has a large, heavy, moving machine mounted in it. A garage door may weigh several hundred pounds. Its opener pulls it up and pushes it down, often twice or more a day, every day, for decades. Every cycle sends a small shudder through the framing and the masonry around the opening. Doors that are out of balance, rollers that are worn, or openers that start and stop with a jerk all make that shudder stronger.

One shudder does nothing. Tens of thousands of them, delivered to the same corners and the same header area year after year, loosen what was tight. Mortar joints that flex thousands of times develop micro-cracks. Sealant at the edges of the opening dries, splits, and stops keeping water out. The door's own header and trim shift slightly. None of this means the garage door is a bad actor — it is just doing its job. But the lintel above it lives in the most shaken part of the entire brick skin of the house, and shaken joints are joints that admit water, and water is steel's worst enemy.

Heat adds one more burden unique to this spot, and Texas supplies heat in abundance.

Texas heat, sun, and expansion

Stand in a Texas driveway in August and put your hand on the brick over a west- or south-facing garage. That wall has been baking all afternoon. Brick and mortar soak up that heat and expand as they warm. Steel expands too, at its own rate. The wood and other framing behind the brick move at still different rates, and they also shrink and swell with humidity in ways masonry does not.

A wall handles these differences when it has room built in for movement — properly placed expansion joints, sound mortar, and flashing details that let materials slide a fraction without tearing. A long garage lintel is where those fractions add up into real distance. The longer the steel, the more total expansion it goes through from a cold January morning to a hot September afternoon. That growth has to go somewhere. It pushes at the ends. It works against its bearing points. When joints have been sealed rigid, or when movement room was never really provided, the repeated push and release over thousands of hot-cold cycles grinds at corners and opens joints a hair at a time.

Sun exposure sharpens the problem. The front elevation of many Texas homes faces south or west, which puts the garage wall in the hardest sun and in the path of wind-driven rain when storms roll in. Paint and coatings on the exposed edge of the lintel break down faster under that ultraviolet load.

Once the coating fails at the bottom edge, rust starts there — at the exact spot where the steel is most exposed and, not coincidentally, easiest for you to see if you crouch down and look at the steel line above the door.

North Texas and Central Texas add freeze cycles on top of the heat. Water that has seeped into a joint or behind the brick can freeze on a hard winter night, expand, and wedge joints and cracks a fraction wider. Then the Texas summer returns and bakes it all again. The garage lintel sits through every swing of that cycle at the widest, weakest point in the wall.

Thin original steel and builder shortcuts

Now for the part nobody likes to hear. On a great many production-built homes, the lintel that went in over the garage was the minimum the builder could get by with, and sometimes a little less than the opening deserved.

The shortcuts take familiar forms. The steel angle may be thinner than a wide span really calls for — adequate on paper when new and straight, with no reserve for decades of rust thinning it further. It may be shorter than it should be, with bearing length at the ends trimmed to a bare few inches because a longer piece cost a little more or took a little more care to set. It may have gone in with a light coat of paint, or in some cases nearly bare, instead of a proper protective coating meant to survive inside a damp wall. In wall construction, steel meant to live where moisture can reach it needs real protection, and a quick pass of paint on a job site is not the same thing.

Details above the lintel get skipped just as often. Flashing — the material that collects water inside the wall and directs it out — may be missing, lapped the wrong way, or punctured. Weep holes, the small openings at the base of a brick wall section that let that water escape, may be absent, clogged with mortar, or bridged over. When flashing and weeps fail, the lintel does not just get wet during a storm. It stays wet long after the storm, sitting in trapped moisture inside the wall. Chapter 3 is devoted to what that trapped moisture does to steel over time.

There is one more shortcut worth naming: sizing by habit instead of by span. A crew that installs the same angle steel over every opening on a house — windows, doors, and the sixteen-foot garage alike — is saving effort, but steel that is perfectly fine over a three-foot door is not automatically fine over a span five times as long. The garage needed its own decision. In too many homes, it never got one.

Putting the reasons together

Hypothetical example: Imagine a brick home built in the early 2000s in a fast-growing suburb north of Dallas. The garage faces west. The lintel over its sixteen-foot door is a modest angle, painted once, with flashing that was never quite right. For fifteen years, nothing shows. Then the homeowner notices corner cracks, repoints them, and watches them reopen within two summers. A composite picture like this one is common because no single cause did the damage. The wide span started the steel near its limit. The west sun and daily heat cycles worked its ends. The door shook the joints open. The failed flashing kept the steel damp. Each factor took a turn, in the same opening, for the same reason: the garage asks the most and forgives the least.

That is the lesson of this chapter. When you assess a lintel, the garage deserves your first and longest look — not out of worry, but out of respect for the physics. In the next chapter, we slow down and watch the single most destructive process at work inside these walls: rust, and the quiet, powerful wedging force it creates.

Chapter 3: Rust Jacking — The Slow Wedge

Ask a homeowner what rust does to steel and most will say it eats it away. That is true, as far as it goes. Rust does thin steel over time, and thinned steel is weaker steel. But on a lintel buried in a brick wall, rust does something far more destructive before it ever eats the steel through. It grows. As steel corrodes, the rust that forms takes up much more room than the solid steel it came from. Trapped inside a tight wall, that growing rust has nowhere to go — so it pushes. It pushes hard enough to lift brick, split mortar, and bend the very steel it is growing on. Masons and repairmen call that push rust jacking, and once you understand it, a whole category of brick damage stops being a mystery.

What rust actually is

Rust is what happens when iron in steel meets water and oxygen and time. The steel gives up some of its iron to form iron oxide — rust — and that new material is bulkier, softer, and layered, like a stack of flakes. Depending on conditions, fully developed rust can occupy roughly seven to ten times the volume of the steel consumed to make it. You will see different numbers quoted — two times, six times, more — because rust forms in layers of different density. The exact figure matters less than the honest range and the direction: several times thicker than the steel it replaces. A thin skin of steel, corroding on the top face of a lintel where it touches

brick, can grow into a wedge many times that thickness.

Picture it in small numbers. Steel corrodes a fraction of an inch. That fraction, turned to rust, swells into a layer measurably thicker than the metal lost. In an open yard, that layer would simply flake off a fence post and nobody would care. Inside a brick wall, the layer cannot flake away. Above it sits hundreds of pounds of brick in a rigid panel. Below it sits the rest of the steel angle. The rust forms between two things that do not want to move, and so it does what wedges have done since the first quarryman split stone: it forces them apart, a fraction at a time, with enormous pressure that never gets tired and never takes a day off.

That is why rust jacking is called a slow wedge. A wedge does not need to move fast. It needs to keep pushing in one direction and never slide back. Rust does exactly that. Each wet season adds a little more oxide. Each dry season locks the new thickness in place. The brick above does not settle back down onto the steel, because the rust is still there, holding its new ground. Next season, the process starts from the new, wider position. Year over year, the movement only accumulates in one direction: up and out.

How the wedge lifts and cracks brick

The first thing the growing rust lifts is the course of brick sitting directly on the lintel. That lift sounds harmless in fractions of an inch, but brick panels are not built to be lifted at one line. When the course above a garage lintel rises, the mortar joints connected to it are put in tension, and mortar is weakest exactly there. Joints begin to open — usually the horizontal joint right above the steel first, showing as a clean shadow line running along the opening. Then the stress finds the next weakest path, and stepped cracks climb from the corners, following the head and bed joints of the brickwork in that familiar staircase pattern from Chapter 2.

As the rust layer thickens unevenly — and it always thickens unevenly, because water does not reach every inch of steel equally — the lift becomes uneven too. One section of brick may rise slightly more than the section beside it. The panel twists as well as lifts. That twisting shows up as brick faces that no longer sit in the same plane, vertical joints that open on one side of an opening and pinch closed on the other, and in more advanced cases, spalling, where expanding rust and trapped moisture together pop the face off bricks near the ends of the lintel.

Meanwhile, the underside of the steel tells its own story. The visible bottom edge over a garage door often shows rust jacking early: paint that bubbles in long blisters along the steel, flakes that push outward, and staining that bleeds down

the trim or the brick below. What you see on that edge is the same growth happening where you cannot see it, on the top and back faces of the angle, where its push does the real damage to the wall.

There is a second, quieter effect working alongside the lift. As steel converts to rust, the remaining sound steel gets thinner. A thinner angle bends more easily under the load from Chapter 1. So the lintel is being pushed up by rust along its top while simultaneously sagging more in its middle. Those two movements sound contradictory, but together they explain a pattern homeowners often describe as confusing: brick that is cracked and lifted near the corners, yet dipped and out of level near the center of the same opening. Both things can be true at once, on the same piece of steel, for the same root cause.

From surface rust to structural sag: a general timeline

No honest timeline can give you dates for your house, because water is the throttle on this whole process and every wall handles water differently. A dry, well-flashed lintel may show almost nothing after forty years. A lintel sitting in trapped moisture can be in serious trouble in fifteen. But the stages follow a reliable order, and knowing the order lets you place your own home on the path.

In the first stage, the coating fails. Paint or protective coating on the steel chalks, cracks, and peels, often starting at the exposed bottom edge and at scratches or cut ends where coverage was always thin. Bright surface rust freckles the exposed steel. At this stage the damage is cosmetic and the steel is essentially full strength. This is also the stage where a homeowner is most often told, correctly but incompletely, that it is just surface rust.

In the second stage, corrosion moves to the hidden faces. Water finding its way into the wall — through cracked joints, failed sealant, missing flashing — reaches the top and back of the angle. Rust layers begin to build where they cannot be seen or cleaned. The first hairline cracks appear at opening corners. Mortar joints above the steel may need repointing sooner than joints elsewhere on the same wall, which is itself a clue: one area of wall should not age faster than the rest without a reason.

In the third stage, the wedge is doing measurable work. Cracks reopen after being repointed or caulked, because the force that opened them is still active underneath. Rust staining shows through mortar. The visible steel edge flakes and swells, sometimes visibly thicker than it was. Doors and

windows under the lintel may begin to operate differently as the opening itself distorts by small amounts.

In the fourth stage, strength loss joins displacement as a real concern. Section loss — the thinning of sound steel — combined with continued jacking can produce a sag you can sight along the brick course, shifted or rotated brick, and bearing damage at the ends. At this stage the conversation is no longer about maintenance. It is about repair of the steel and the masonry together, and in cases where structural capacity is genuinely in question, it is the stage to hire a structural engineer for an independent assessment before repair work is planned. Fifty years of hands-on field experience teaches a repairman to read these signs and fix what the wall shows; it does not turn that experience into a license to certify a structure, and this book will not pretend otherwise.

In general cost terms, the stages matter because the work grows with each one. Early on, costs tend to be in the range of cleaning, coating, joint repair, and fixing the water path — real money, but maintenance-scale money. Once brick must be removed to reach and address the steel, or the lintel itself must be supported, repaired, or replaced, the job moves into a different category altogether, often several times the cost of the early work, with the exact figure driven by span, access, and how much masonry is involved. Treat any firm number quoted without an in-person look with caution; ballpark depend on those factors, and an honest estimate follows an inspection, not the other way around.

Why paint over rust fails

It is the most natural fix in the world: the steel looks rusty, so you wire-brush what you can reach, paint it, and feel better. Paint-over-rust fails on lintels for three reasons, and understanding them will save you from paying for the same repair twice.

First, you are painting the wrong face. The edge you can reach from a ladder is the bottom edge — the one face of the angle that does not touch brick. The corrosion doing the jacking lives on the top and back faces, sealed inside the wall, untouched by your brush and your paint. A freshly painted bottom edge can look immaculate while the wedge keeps growing an inch above it.

Second, paint does not stop established rust underneath it. Rust is porous and holds moisture against steel. Coating over active, flaking corrosion — especially with ordinary paint not made for that purpose — seals the appearance in, not the moisture out. The corrosion continues under the film, and because rust expands as it forms, it lifts and blisters the new

paint from behind, which is why painted-over lintels so often blister in the same spots within a season or two. Proper coating work is a different process: remove loose and flaking material down to sound steel where it can be reached, treat and prime with products suited to corroded steel, and finish with a durable coating. That is legitimate maintenance for accessible steel in the early stages. It is still not a cure for corrosion hidden inside the wall.

Third, and most important, paint does nothing about the water. Something let moisture reach that steel and keep it there — failed joints, missing or damaged flashing, clogged weep holes, a roof or gutter detail dumping water into the wall. If that path stays open, no coating wins the argument for long. Lasting repairs, including the approach behind the LintelLOCK field-developed system that later chapters describe, treat the water path and the steel as one problem, because in the wall, they have always been one problem.

Hypothetical example: A homeowner paints the rusting lintel over his garage every other spring. Each time, it looks good until the following summer, when the blisters return in the same places and the corner crack he caulked reopens a little wider. The paint did not fail because it was cheap. It failed because the work was happening on all three wrong levels — the reachable face instead of the hidden ones, over active rust instead of sound steel, and downstream of a water problem nobody had fixed. When the wall was finally opened, the steel inside told the story the paint had been covering.

That is rust jacking: not dramatic, not sudden, and not unstoppable — but patient, powerful, and very often misunderstood. You now have the three foundations this book builds on: what a lintel is, why the garage tests it hardest, and how rust turns time into force. The chapters ahead turn to reading the signs on your own walls and what a repair that actually lasts has to include.

Chapter 4: Reading the Signs Above the Opening

If you learn to read brick the way you learn to read the sky before a storm, you will save yourself a lot of worry and a lot of money. Brick does not fail all at once. It talks first. It talks in small lines, in joints that open a little wider than they should, in a course of brick that sits just a touch lower in the middle than it does at the ends. Above a garage door, a window, or a front door, that talk matters more than it does on a plain wall, because above every opening there is a piece

of steel doing a hard job in silence. That steel is the lintel. When it starts to bend, rust, or lose its bearing, the brick above it is the first place the story shows up.

This chapter is about learning that language. You do not need special tools to start. You need good light, a little patience, and the habit of looking at both ends of an opening, not just the middle.

Start With the Whole Picture

Stand back far enough that you can see the entire opening and the brick above it in one view. For a garage, that usually means standing in the driveway. For a window, stand back in the yard. Look for anything that breaks the pattern. Brickwork is built on repetition — straight horizontal lines called bed joints, short vertical joints, and courses that should run level from one side to the other. Your eye is good at spotting a break in a pattern even before your brain can name it. If one area draws your eye every time, mark it in your mind and move in closer.

Then look from the side. Stand at one corner of the house and sight along the wall. A flat wall will look flat. A wall that is bowing out will catch light and shadow differently, and you will see a gentle belly where there should be a straight line. Morning and late afternoon light help here, because low sun throws small shadows that make movement easier to see.

Stair-Step Cracks

The most common sign homeowners notice is a stair-step crack. It follows the mortar joints up and over an opening like a set of steps — across a horizontal joint, up a vertical joint, across again. It rarely cuts straight through a brick at first. Mortar is softer than brick, so movement usually shows in the mortar first.

A stair-step crack above an opening often starts near one corner and climbs away at about a 45-degree angle. That angle is a clue. The brick above an opening is partly carried by the lintel and partly supported by the brick and structure at the sides. When one side settles, slips, or loses support, the brick tries to adjust, and the crack follows the easiest path through the joints.

Pay attention to three things about any crack you find. First, where does it start and where does it end? A crack that starts right at the corner of a window or garage opening and fades out a few feet away is telling a different story than one that runs from the ground all the way to the roof. Second, how wide is it? Hairline cracks that you can barely fit a fingernail into are common in older mortar and are not always urgent.

Cracks you can fit the edge of a credit card into deserve prompt attention. Third, is the crack clean and matching on both sides, or is one side sticking out farther than the other? If you run your fingertip across the crack and feel a lip — one side higher than the other — the wall has not just cracked, it has moved.

The Horizontal Joint That Opens Up

Now look right above the lintel itself. There is a horizontal mortar joint that runs along the top of the steel. In a healthy wall, that joint is tight and even from end to end. When a lintel sags in the middle, that joint can open in the center and stay tight at the ends. When a lintel rusts, the opposite can happen in places — rust takes up more room than the steel it came from, so it can push brick up and crack the joint open near the ends.

Sight along that joint. Does it stay the same thickness, or does it get fat in one spot and thin in another? Place your fingers lightly along it. You are not testing strength. You are feeling for changes. Write down what you see in plain words: "Joint above garage, wider in the middle, about the width of a dime's edge, tight at both ends." Plain words like that, dated, are more useful later than a guess you try to remember six months on.

Caulking smeared over a joint can hide this sign. Previous paint, heavy texture, or a bead of sealant someone added to "fix" a crack can cover the very movement you need to see. If you see a lot of patched mortar in one area and none anywhere else on the house, ask yourself why that one spot needed patching. A repair that only covers the surface does not stop the steel underneath from moving.

Sagging and Dropped Courses

Brick courses should run level. When the lintel bends down under load, the courses above it often follow. The result looks like a very shallow smile — low in the middle, higher at the ends. On a wide garage opening this is easier to see than on a narrow window, because there is more span for the sag to show across.

A dropped course is a little different. Instead of a smooth sag, one section of brick sits noticeably lower than the section next to it, almost like a step down in the line. That can happen when a piece of brick loses its support at one end, or when a section slips on a rusted, flaking lintel surface. Look at the bottom course right above the steel. Are all the bricks sitting at the same height? Is there one brick whose bottom edge sits lower than its neighbors, or whose mortar joint below it has nearly disappeared?

Compare the opening to others on the house. If you have two identical windows and the brick above one runs clean and level while the brick above the other dips and cracks, that comparison tells you a lot. Houses settle and age as a whole, but a lintel problem is usually local — it picks on one opening first.

Bowing — When the Wall Leans Out

Bowing means the face of the wall is pushing outward, away from the house. Above an opening, bowing often shows as brick that looks like it is leaning over the garage door or window, with the horizontal joints opening on the outside face. You might also see vertical cracks at the corners where the bowed section is pulling away from the wall that is still straight.

Check for bowing two ways. First, sight along the wall as described above. Second, look at the gap between the brick and the trim or frame below it. If that gap is even, the wall is likely staying put. If the gap is tight at the ends and wide in the middle at the top, or the brick seems to hang out over the frame, note it. Do not push on bowed brick to test it. Brick that has lost its support can be less stable than it looks, and testing it with your weight helps no one.

Bowing combined with sagging is a combination to take seriously. Sagging tells you support from below is failing. Bowing tells you the wall is also losing its hold to the structure behind it. Either one alone deserves a plan. Together, they deserve a prompt call.

Displaced Bricks

A displaced brick is one that has moved from where the mason laid it — pushed out, slipped down, twisted a little, or sitting proud of the wall while its neighbors sit flush. You will often feel this before you fully see it, by running your open hand lightly across the face of the wall. Healthy brickwork feels like a mostly even surface with small mortar recesses. A displaced brick catches your palm.

Look closely at corners of openings. The bricks at the very ends, right where the lintel support begins, work hard. If one of those end bricks is cracked through its face, crumbling at the corner, or rotated so its face no longer lines up, that is not a cosmetic flaw. That is a bearing area asking for help.

Loose mortar that powders out when you brush it, or chunks of mortar that have already fallen onto the garage floor or windowsill, belong in this same category. Mortar does wear with age, but fresh loss of mortar right above an opening, especially after a season with no other work done on the

house, is a sign of ongoing movement.

Reading the Left End Versus the Right End

Here is a habit that separates a quick glance from a real reading: always check both bearing ends separately, and compare them. A lintel does not float. Each end rests on the brick or structure at the side of the opening. That resting place is called the bearing, and it needs solid material and enough length to carry the load.

Stand at the left end and look. Is the steel fully supported, or can you see it ending short, rusted thin, or sitting on cracked and broken brick? Is there a crack dropping straight down from the end of the lintel? Now do the exact same check on the right. Very often, one end looks sound and the other does not. One-sided damage points toward a one-sided cause — water getting in at one end, a downspout soaking one corner for years, or the original steel cut a little short on that side.

If both ends look bad and the middle sags, the whole span is in trouble. If only the middle sags and both ends look solid, the steel itself may be too light for the span or bent under load over time. You do not have to decide which it is on the spot. Your job as a homeowner is to notice the pattern clearly enough to describe it. "Left end rusted and cracked below it, right end looks solid, middle sags" — that one sentence helps a professional plan the right visit.

Watch water while you are looking at ends. Stains running down from one corner, green growth in one joint, paint peeling on the trim at one side only — water leaves a trail, and water is the main enemy of the steel hidden in your wall.

Cosmetic or Serious — How to Tell the Difference

Not every crack is a crisis, and treating every hairline like an emergency will wear you out. Texas houses move a little with the seasons. Clay soils swell when wet and shrink when dry. Small, stable cracks in mortar, especially on older homes, are part of that normal life. So how do you tell cosmetic from serious?

Cosmetic signs tend to share these traits: they are hairline thin, they do not change over months, they do not line up with a sagging or bowing pattern, the brick on both sides sits flush, and the doors and windows nearby work just fine. A single thin crack in a mortar joint that has looked the same for two years is usually in this group.

Serious signs tend to come in clusters and they tend to grow. Take it seriously when you see several of these together: a

crack wider than a credit card edge, a crack that is getting longer or wider between checks, sagging you can see without measuring, bowing, displaced or loose bricks, mortar falling out, rust stains bleeding from joints, or a bearing end that is cracked or crumbling. Any one of the structural items on that list — sagging, bowing, displacement, failed bearing — is enough by itself to move the opening out of the cosmetic column.

Time is your best test. A cosmetic crack sits still. A serious problem moves. That is why the next chapters spend so much time on watching windows and doors, and on simple measuring you can do yourself and write down. A dated note and a clear photo taken today are worth more than a strong opinion offered from memory next spring.

One last thought before you move on. Do not let anyone talk you into covering signs with fresh mortar, paint, or sealant before the cause has been found. Covering a crack does not stop a lintel from rusting or bending, and it erases the very evidence the next person needs to help you. Read the wall first. Understand what it is saying. Then fix the cause, and the face of the wall will have a reason to stay fixed.

Chapter 5: Windows and Doors That Tell the Truth

Brick is honest, but it can be slow to speak up. Windows and doors are less patient. They are moving parts fitted into openings with very little room to spare, so when the structure around an opening shifts by even a small amount, the window or door feels it right away. A door that has swung clean for ten years and suddenly scrapes in August may just be swollen from humidity. A door that scrapes in the same spot, in every season, and gets a little worse each year is telling you something different. Learning to listen to your windows and doors will often give you an early warning months before the brick above them shows a crack you cannot miss.

This chapter walks through what each of those warnings sounds like, and how to check whether it is a small local problem — a loose hinge, a worn weatherstrip — or a sign that the opening itself is moving because the lintel support above it is changing. To be clear and careful with words: the steel above the opening is the lintel, and when it sags, rusts, or shifts at its ends, the whole opening can go slightly out of square. Doors and windows notice "slightly" long before people do.

Binding Doors

Start with the door you use every day. You know how it should feel. The latch clicks without you lifting the handle. The deadbolt turns without you pushing the door with your shoulder. The swing clears the floor and the frame without a sound.

When an opening moves, that familiar feel changes in specific ways. The top corner of the door starts to rub the frame on the latch side. Or the door sticks at the top and leaves a wide gap at the bottom. Or the latch and the strike plate no longer line up, so you have to lift the door by the knob to get it to catch. Each pattern is a clue about which way the opening has shifted. A door rubbing at the top on one side often means that side of the opening has dropped a little, or the top of the opening has sagged toward that side.

Rule out the simple causes first, because they are common and cheap to fix. Check the hinge screws — the top hinge carries the most weight, and loose screws let a door sag all on their own. Tighten them gently and see if the problem changes. Look at the weatherstripping. Old, swollen, or poorly fitted stripping can make a good door feel stuck. Check whether the rub happens only in the wettest, most humid weeks and goes away when the weather dries. Seasonal sticking that comes and goes evenly is usually wood responding to moisture, not structure moving.

What points away from those simple causes is a pattern that is one-sided, persistent across seasons, and getting worse. If you have tightened the hinges, the weather is dry, and the door still binds at the same corner — and especially if there is a crack appearing in the wall at that same corner — put the two facts together. They are likely connected.

Windows That Stick

Windows tell the same story in a different voice. A double-hung window that needs two hands and a hip to open, a sliding window that runs off its track, or a casement window that cranks open fine but will not pull fully closed — all of these can be caused by age, paint buildup, or worn hardware. They can also be caused by an opening that is no longer square.

Test a window the way you tested the door. First, clean the simple things. Clear the track of dirt and grit. Check for layers of paint sealing the sash to the frame — a very common find in older Texas homes that have been painted several times. Look at the locks. If the two halves of the lock no longer meet squarely, the sashes have shifted relative to each other.

Then watch how the window moves through its travel. A window that moves freely at the bottom and binds at the top is feeling pressure from above. A window that binds on one side only is feeling a side that has moved in or dropped. If the glass itself develops a crack running from a corner without anything hitting it, pay close attention. Glass does not crack from age alone. A new diagonal glass crack in an otherwise untouched window is the opening speaking loudly.

Compare windows across the house. If every window sticks a little in August, that is the climate. If one window on one wall sticks badly all year and the brick above that same window is cracking, that is a local problem at that opening.

Diagonal Cracks at the Corners

Inside the house, look at the drywall or plaster at the corners of windows and doors. Diagonal cracks — running up and away from the top corners of the opening at roughly 45 degrees — are classic signs that the opening is being stressed. They often appear inside before the outside brick shows much, because interior finishes are thinner and less forgiving.

Not every interior corner crack means trouble. Houses develop small settling cracks, and the corners of openings are natural weak points where those cracks like to show. The questions that matter are the same ones from the last chapter. How wide is it? Is it growing? Does the crack on the inside line up with a crack on the outside above the same opening? When inside and outside cracks tell the same story at the same corner, believe them.

Tape a small piece of painter's tape next to the crack inside, write the date on the tape, and mark the end of the crack with a light pencil line. That simple step, which the next chapter covers in more detail, turns a worry into a record. In a few months you will know whether the crack stopped or kept traveling.

Also look below windows. A windowsill that tilts, separates from the wall, or shows a growing horizontal crack under one end can mean the support at that end is shifting. Water stains under a sill deserve the same attention — water that gets in around a moving opening speeds up the rust in the steel above and beside it.

Trim Separation

Trim is the quiet witness. Baseboards, door casings, window casings, and crown molding are fitted tight when a house is built or trimmed well. When an opening moves, the trim around it is often the first finish to show a gap.

Walk your home and look for trim that has pulled away at the top corners of doors, casing joints that have opened so you can see unpainted wood or a dark line inside the miter, and caulk lines that split again and again in the same place after being redone. A caulk joint that fails once might be poor prep. A caulk joint in the same corner that splits every year, wider each time, is being pulled apart by movement behind it.

Outside, check the trim and siding where they meet the brick at the sides of a garage opening. Gaps opening at the top of that joint, sealant pulled thin and torn, or trim boards bowing slightly as the brick pushes or drops — these small separations are the edges of the opening recording its movement in a place you can see without any tools at all.

The Garage Door — Your Biggest Witness

The garage opening is the widest span in most homes, which makes it both the hardest-working lintel in the house and the easiest place to spot trouble early. Your garage door itself is a large, straight, moving reference. Use it.

With the door closed, stand inside the garage in daylight and look at the light around the edges. The gaps at the top and sides should be reasonably even. A gap that is tight — or rubbing — in the middle at the top and open at the ends can mean the brick and steel above have sagged toward the door. A gap that is open on one side and pinched on the other can mean one end has dropped.

Watch the door travel. Open and close it slowly and listen. Does a panel rub the trim or the brick return in one spot? Does the door hesitate, shudder, or need extra force at one point in its travel that it did not need before? Check the seal at the bottom. If the bottom seal sits flat on one side and leaves a wedge of daylight on the other, either the slab has shifted, the opening has changed, or both — and either way it is worth measuring rather than guessing.

Outside, compare the top of the closed garage door to the brick courses above it. The door is straight. The brick should be straight and parallel to it. If the brick line dips toward the door in the middle, or the space between the top panel and the lintel area changes noticeably from end to middle to end, you are looking at the sag from Chapter 4 confirmed by a second witness.

Do not adjust the garage door tracks or springs to chase a moving opening, and never work on garage door springs yourself — those springs hold enough force to cause serious injury. If the door is binding, note where, photograph it, and leave the spring and track work to a garage door professional. Your job here is observation, not adjustment of a heavy,

loaded system.

How Openings Telegraph Movement Early

Put it all together and a pattern emerges. The brick is the structure's outer face. The lintel is hidden steel. Between them sits the opening, with its door or window fitted to tight tolerances. Movement travels in this order for many homes: the steel changes first, hidden from view; the opening goes slightly out of square next, felt in doors and windows; the brick cracks and sags after that, visible to everyone. By the time a neighbor can see the problem from the street, the door has usually been complaining for a year or more.

That order is good news if you use it. It means the cheapest, easiest checks in your house — swinging a door, raising a window, looking at the light around a closed garage door — are early-warning checks. They cost nothing and take minutes.

Hypothetical example: a homeowner notices the front door needs a shoulder push to latch, starting one fall and worsening through the next summer. Hinges are tight. The brick above the door shows only a hairline crack that could be dismissed. A dated photo log and a simple check of the gaps around the door show the latch-side gap closing a little each season. That record leads to a prompt professional visit, which finds early rust and sag at one bearing end — caught while the repair is still straightforward, before courses of brick have dropped. The lesson of this composite story is not the specific fix. It is that the door reported the problem first, and someone believed it early.

Make it a habit twice a year — once in the dry heat and once in the wet season — to walk your openings. Swing every exterior door. Open every window. Close the garage door and look at the light. If something feels different from last time, write it down with the date, even if it seems small. Small, dated, honest notes are how homeowners catch lintel trouble while it is still a manageable repair instead of a rebuild of the wall above the opening. The next chapter shows you how to turn those notes into simple measurements that anyone — you, a mason, or, when needed, a structural engineer you hire for an independent opinion — can rely on.

Chapter 6: Measuring the Sag

Opinions about brick are cheap. Measurements are useful. The good news is that the measurements that matter most

above a garage, window, or door opening are simple ones any careful homeowner can take with tools already in most garages. You are not trying to do a professional survey, and you do not need to. You are building a clear, dated record that answers three questions: Is it moving? How much? And how fast? Those three answers decide whether you keep watching, plan a repair, or call for help promptly.

A word on limits before we begin. The checks in this chapter are homeowner observations. They do not replace a professional inspection, and they are not a structural evaluation. After 50 years of hands-on field experience working on Texas brick homes, the pattern I trust is this: measure honestly, write it down, and when your measurements cross the thresholds later in this chapter, bring in the right professional — a qualified brick repair specialist for the masonry and steel work, and, when the situation calls for an independent structural opinion, a licensed structural engineer that you hire directly. That independent opinion is worth its cost when there is real doubt about what is carrying the load.

Work safely throughout. Use a sturdy step stool or ladder only on firm, level ground, keep three points of contact, and never stand on a chair or lean out over a garage opening. Do not climb onto a roof for these checks — everything in this chapter can be done from the ground or from a low, stable step. If brick overhead looks loose or bowed enough that pieces could fall, stay clear of the area below it and skip the close measuring until a professional has seen it.

The String Line — Your Straightest Truth

A sag is hard to judge by eye alone because your eye adjusts. A string does not adjust. Pull a string tight and it gives you a true straight line to compare against the brick.

You will need a length of mason's string or any thin, non-stretch string, two small nails, screws, or pieces of strong tape, and a helper if the span is wide. For a garage opening, fix the string at one end of the lintel area, at the level of the bottom of the first brick course above the steel, pull it tight to the same point at the other end, and secure it. The string now marks where a straight course would sit. The gap between the string and the actual brick tells the story. If the brick follows the string evenly, there is no measurable sag. If the brick dips below or away from the string in the middle, measure that largest gap with a tape — at the center, and also at the quarter points.

For a window, the same method works on a smaller scale, and a long level or a straight board can serve the same purpose. The method matters less than the consistency: use the same

reference points each time you check, so today's measurement and the one six months from now can be honestly compared.

Write it down in plain form: "Garage, string line across bottom course above door, center sits $\frac{3}{8}$ inch below the string, ends flush." If you check again in three months and that number is $\frac{1}{2}$ inch, you do not have a guess about movement. You have proof of it, with a rate.

The Level Check

A two-foot or four-foot level answers a different question: is this surface still level and plumb, or has it tilted? Hold the level horizontally along the windowsill, along the top of a door frame where you can reach it safely, and vertically against the brick returns at the sides of an opening. Watch the bubble. A sill that was level for years and now shows a clear slope toward one end has recorded movement at that end.

A level is also useful laid along a straight board held against the face of the wall above an opening, to help show bowing. If the board touches at the ends and gaps in the middle, or touches in the middle and gaps at the ends, note the size of the largest gap and where it occurs. Again, the number and the location matter more than any label you put on it.

Do not expect perfection in an older home. Few houses are perfectly level everywhere, and a single off-level reading that never changes is usually just the house as it was built or as it settled long ago. Levels become powerful when you repeat them. Same spot, same tool, dated result — change over time is the signal.

Tape Measurements That Matter

A tape measure turns feelings into facts in a few specific places. Around a door, measure the gaps between the door and the frame at the top — left, center, and right — and down the latch side. Even gaps mean a square opening. A top gap that is wide on the hinge side and pinched to nothing on the latch side means the opening has racked. Write the three numbers down.

Around a closed garage door, measure the gap between the top panel and the frame or brick line at the left end, the center, and the right end. Measure the side gaps the same way. Those three-point measurements, repeated seasonally, will show a sag or a dropped end developing long before it becomes dramatic.

For the opening itself, measure the diagonal distances corner to corner inside the frame — top-left to bottom-right, then

top-right to bottom-left. In a square opening those two diagonals are equal. If they differ by more than about 1/4 inch, the opening is out of square, and the direction of the difference tells you which way it has racked. This is an old carpenter's check, and it works as well for a homeowner with a tape as it does on a job site.

Keep your tape measurements honest by measuring from the same points each time. Mark reference points lightly with a pencil in an inconspicuous spot, or describe them so precisely in your notes — "top of second brick from left end" — that you or anyone else can find them again.

The Photo Log Over Time

Photographs are the memory you can hand to someone else. A good photo log needs no expensive camera. A phone is fine. What it needs is consistency.

Take three kinds of photos at each check. First, a wide shot showing the whole opening and the wall above it, taken from the same spot each time — mark the spot if you need to, a place in the driveway or yard you can return to. Second, a straight-on close shot of each area of concern, taken square to the wall so the photo does not distort widths. Third, an angled close shot with light raking across the surface, which shows bowing, displacement, and texture that a flat straight-on shot can hide.

Include a scale in close photos. That is the next section's subject, but the habit belongs here: no close crack photo is complete without something of known size in the frame. Include the date automatically by keeping the original file, and also write the date into your notes, because copies and screenshots can strip file information away.

Store the log in one place — one folder on your phone or computer, one notebook in a kitchen drawer — not scattered across both. A professional who can flip through twelve dated photos of the same crack taken over a year will understand your wall in five minutes. A professional shown a single photo of how it looks today has to guess at the history. Guessing costs you money. Records save it.

Crack Width — Coins and Cards as Gauges

You do not need a special gauge to talk about crack width in a useful way, though inexpensive crack comparator cards exist and are handy if you want one. Common objects work well because everyone knows their size.

A credit card or driver's license edge is about 1/32 of an inch thick at its thinnest feel — if a crack will not accept the corner

of a card, it is hairline. If the card slides in easily, the crack is at least that wide and worth recording as such. A dime is about 1/16 of an inch thick. A crack that accepts a dime's edge is no longer hairline by any honest description. A pencil laid beside a crack, a coin held flat against the wall next to it in a photo — these references let anyone reading your log later judge the width without taking your word for it.

Use comparisons in your written notes exactly as you would in photos: "Stair-step crack above living room window, left corner, accepts card edge freely, dime will not fit, one side flush." That sentence can be checked by anyone, anywhere, and compared word-for-word with the sentence you write next season.

Be gentle. Never force a coin or card into a crack, and never pry at mortar to make a point fit. You are measuring the wall, not working on it.

Keeping the Record

A simple record beats a fancy one that you will not keep up. One page per opening is a good system. At the top, name the opening — "Garage, front, faces west" — because houses have more openings than memory keeps straight. Below that, dated entries: what you measured, what you photographed, what the doors and windows did, and anything new you noticed, like a rust stain, a fallen piece of mortar, or a change after a heavy rain or a long dry spell.

Add the weather and season to entries when movement is involved. Texas clay soils move with moisture, and an honest record that notes "after six weeks of drought" or "after the wettest month this year" helps separate seasonal breathing from steady structural decline. Seasonal movement tends to partly reverse. Structural decline from rusting or bending steel does not reverse itself — it pauses at best, and the long trend across a full year of entries will show the difference.

Keep the record where you keep other house papers, and keep a copy with your photos. If you sell the home one day, a clean, honest log is a mark of a careful owner. If you hire help, it is the fastest way to get that help up to speed.

Thresholds — When to Call Promptly

Here is the heart of the chapter. Call a qualified professional promptly — do not wait for the next seasonal check — when any of the following show up in your measurements or observations:

Your string line shows a sag of 1/2 inch or more at the center of a garage span, or the sag has grown by 1/8 inch or more

between checks a few months apart. Growth matters as much as size.

A crack accepts a dime's edge, a crack grows longer by an inch or more between checks, or a new crack appears that runs through the brick itself rather than only through the mortar.

One side of a crack sits noticeably higher than the other and that offset is increasing, or bricks are displaced, loose, or bowing outward above any opening.

A door or window goes from working to binding hard, or will not latch or lock at all, over a single season without a simple cause like loose hinges.

A bearing end shows cracked or crumbling brick under the end of the lintel, heavy flaking rust, or rust stains newly bleeding from joints.

Mortar is falling out on its own, pieces of brick or mortar are landing below the opening, or the wall above a garage door looks like it is leaning out when sighted from the side.

Any of these means the problem has left the "watch it" category. Waiting rarely makes a steel-and-brick repair smaller. In general terms, repair costs are driven by how much brick has to come down and go back, how damaged the steel underneath turns out to be, and how much of the surrounding wall has been affected — all three grow with time, which is why a prompt call is almost always the less expensive choice in the long run, even though no honest person can give you a firm price without seeing the actual opening.

When to Hire a Structural Engineer

Most straightforward lintel repairs on a single-story Texas home, where the pattern is clear and the damage is local, are handled by an experienced brick repair specialist who works on these openings every week. There are times, though, when the right next step is to hire a licensed structural engineer yourself, for an independent evaluation, before repair work begins.

Consider that step when the damage spans more than one opening or more than one wall, when cracks run from the foundation to the roofline rather than staying local to an opening, when floors inside slope or interior doors throughout the house — not just at one opening — are binding, when there has been a previous repair that failed, or when you and a contractor disagree about the cause. It is also the right step when you are buying or selling a home and need a written,

independent opinion that does not belong to anyone selling a repair.

Hiring the engineer yourself matters. An engineer you hire works for you, and their written findings give every contractor who bids the work the same starting facts. In general terms, expect the cost of that evaluation to be a modest fraction of any major wall repair, and expect it to vary with the size of the home and how much of the structure needs review. Ask for the findings in writing, keep them with your log, and share your dated measurements and photos at the visit — good records make for a better evaluation.

What you should not do is ask a repair contractor to play engineer, or accept a plan for a large, multi-wall problem based on a glance from the driveway. Honest experience in the field — including 50 years of hands-on work — knows its own edge, and that edge is where an independent, licensed evaluation begins. Saying so plainly is not a weakness in a repair company. It is a sign you can trust the advice you are getting on everything else.

You now have the full homeowner's toolkit from these three chapters: read the brick, listen to the doors and windows, and measure what you find with a string, a level, a tape, and a camera. None of it requires special training. All of it requires only that you look, on purpose, a couple of times a year, and write down what you honestly see. Homes reward owners who pay that kind of attention. Catch a lintel while it is still whispering, and the repair stays the kind of job that gets planned, priced fairly, and finished to last — instead of the kind that announces itself one morning by dropping brick onto the driveway.

Chapter 7: Water Above the Opening

If you remember one thing from this book, let it be this: steel lintels rarely fail from age alone. They fail from water. A dry piece of steel can carry brick above a garage door, a window, or a front entry for a very long time. That same piece of steel, kept wet season after season, will rust, swell, and push the brick it was meant to hold. Most of the bowing, cracking, and sagging you see above an opening started as a small water problem that nobody could see — because the water was getting in behind the brick, not in front of it.

Brick looks solid, but a brick wall is not a waterproof box. Brick and mortar absorb water, and wind-driven Texas rain

can push it through mortar joints, hairline cracks, and gaps where brick meets a window frame. Good wall building expects that. That is why there is a space behind the brick, why flashing catches water and sends it back out, and why small openings called weep holes are left at the bottom of the wall and above openings. When those parts work, water gets in, water gets out, and the steel stays mostly dry. When they fail, water sits — and sitting water is what eats a lintel.

Flashing: The Hidden Umbrella

Flashing is a thin, waterproof material installed behind the brick, just above the lintel and at other places where water needs a way out. Think of it like a small umbrella or a shallow tray hidden inside the wall. Water that soaks through the brick runs down the back side, hits the flashing, and is directed forward and out through the weep holes instead of pooling on top of the steel.

You cannot see most flashing from outside. Sometimes you can see its edge — a thin strip just above the lintel. When flashing is missing, torn, installed so it slopes the wrong way, or punctured during other work, water gathers on the lintel itself. Water loves that flat steel surface. It may dry after a storm, but if every rain reloads the same spot, the steel is wet far more often than it is dry.

Failed flashing also explains why damage often shows up in one section instead of the whole wall. That one run above the garage is where the rust starts, where the brick begins to bow, and where the stepped cracks climb.

Weep Holes: Small Holes With a Big Job

Weep holes are the small openings you may notice in the mortar along the bottom row of brick and just above lintels over windows and doors. They are not defects. They are not places where the mason forgot to finish. They are deliberate drains.

Their purpose is simple. First, they let trapped water out. Second, they help the space behind the brick dry by letting a little air move. Without a way out, even correctly installed flashing becomes a tray that fills up.

Never plug them. Homeowners plug weep holes for understandable reasons — they think wasps or lizards are getting in, they think the holes look unfinished, or a painter or pest-control visit leaves them filled with caulk or foam. Please do not do that, and do not let a well-meaning helper do it either. A plugged weep hole turns a drain into a dam. Water that should have left in an hour stays for days. If you are worried about insects, ask a qualified mason about products

made for weep holes that block pests while still letting water pass. The key word is made for that purpose. Mortar, caulk, expanding foam, and steel wool stuffed in tight are not substitutes, because they stop the drainage you need.

If you walk your house, note which weep holes are open and which are filled. Do not poke deep inside with a screwdriver — you can damage flashing you cannot see. Just observe from outside, take photos, and bring that information to whoever evaluates the lintel.

End Dams: Keeping Water From Running Sideways

At the ends of flashing above an opening, good installation turns the flashing up to form what masons call an end dam. It is a small raised lip, like the end of a baking pan. Without it, water collected on the flashing can simply run sideways off the end and pour down inside the wall at the jamb — right beside the window or door, and right onto the end of the lintel, where rust often starts first.

You will not be able to confirm end dams from the sidewalk. They are hidden inside the wall. But knowing they exist helps you understand a pattern: damage concentrated at one corner of an opening, staining or soft trim at one jamb, or cracking that is worse on the left side than the right can point to water escaping where it should have been contained. That is information worth reporting exactly as you see it: which side, how high, and whether it changes after rain.

Sealant Traps: When Caulk Makes It Worse

Sealant has a proper place — at joints that are designed to move and be sealed, kept up on a regular schedule. It becomes a trap when it is smeared over places that need to drain or breathe.

A common trap is a thick bead of caulk run along the bottom edge of the lintel or across the weep holes above it. It looks tidy for a month. What it does is seal the exit. Water coming down behind the brick reaches the flashing, moves toward the weeps, finds them sealed, and backs up against the steel. Another trap is sealing the top of a cracked mortar joint without fixing why it cracked, leaving the side gaps open. Water still enters, now with fewer ways out.

Sealant also traps water when it fails mid-life. A bead pulled away on one side forms a funnel: it catches runoff, directs it behind the brick, then holds it there. Old, separated sealant around a window frame can be worse than none at all.

The lesson is not "never use sealant." The lesson is: never use

sealant to close a drain, never use it as a substitute for flashing, and never assume a fresh bead on the surface fixed a wet problem inside the wall.

Gutters and Downspouts Dumping at Openings

Some lintels are not betrayed by the wall at all. They are flooded from above.

Look up during a hard rain if you can do it safely from cover. Is a gutter overflowing right above the garage? Is a joint leaking at the corner over the front door? Is a downspout discharging beside an opening, splashing back onto the brick, or ending so close to the wall that every storm soaks the same few feet? Is a valley in the roof aiming a concentrated stream at the wall above a window?

A lintel can handle ordinary weather when the drainage above it works. It struggles when a failed gutter dumps a roof's worth of water onto one opening, storm after storm. That volume overwhelms mortar, finds every hairline opening, saturates the brick, and keeps the steel wet long after the rain stops. Fixing the lintel without fixing that dump point is asking the new work to fight the same flood.

While you are looking, check the ground line too. Splashback from concrete drives and patios, soil or mulch piled high against the wall, and sprinklers that hit the same section of brick every morning all add wet hours. Sprinklers are easy to overlook — a head that sprays the wall above a low window at 5 a.m. every other day can keep a problem area damp through the hottest Texas summer.

How Water Accelerates Rust

Rust is steel turning back into a weaker, bulkier material when iron, water, and oxygen meet. On a lintel, that process is not just surface discoloration. As steel rusts, the rust layer takes up more room than the sound steel it replaced. In a tight space under brick, that expansion has nowhere to go but out and up. It can lift brick, split mortar, and bow the course above the opening — a process sometimes described in the trade as rust jacking. The more the mortar cracks, the more water gets in. The more water gets in, the faster the rust grows. It is a circle that feeds itself.

Texas adds its own pressure. Long hot spells bake the wall, then sudden storms soak it. In a hard freeze, ice in a saturated crack can widen it a little more. Shaded north-side openings dry slower than sun-baked south-side openings, so the same flaw deteriorates faster in shade.

If you see heavy orange staining bleeding from the ends of a lintel, flaking or swelling steel, mortar pushed out in a line above an opening, or brick that bows more after a wet season, water is not a side issue. It is likely the main story. A lasting repair has to answer two questions, not one: how will the damaged steel and brick be made sound, and how will water be kept off the steel — or given a clear path out — from now on? If a proposal only answers the first question, ask about the second before you agree to anything.

Walk your openings after the next rain. Photograph staining, drips, overflowing gutters, and plugged weeps while the evidence is fresh. That simple record will make the conversation with a professional shorter, clearer, and far more useful.

Chapter 8: What Not to Do

Most bad lintel outcomes do not come from neglect alone. They come from a fix that looked reasonable, cost real money, and treated what you could see instead of what was actually failing. Brick is honest in one way: if the steel under it is still rusting, swelling, or sagging, the brick will tell you again — usually within a season or two, and usually worse than before.

This chapter is a tour of the shortcuts that fail, and why. None of this is about shaming a homeowner who tried them. Almost every one of these has been sold to good people by someone who sounded confident. Knowing why they fail is how you keep from buying the same repair twice.

Painting Over Rust

A coat of paint can make a lintel look new in an afternoon. It cannot make thin, flaking steel strong again, and it cannot stop rust that is already layered into the metal.

Paint over loose rust traps moisture under the film. The surface dries, the rust underneath does not, and corrosion continues out of sight. Paint also hides your best early warning system. A bare or properly prepared lintel shows new staining and flaking where you can spot them. A heavy coat over a bad surface turns that into a surprise — the paint blisters, peels in sheets, or the brick above it cracks before the steel itself is looked at again.

There is a right place for protective coatings: on sound steel, correctly cleaned and prepared, as part of a repair that has already addressed damaged metal and the water source. Paint

as makeup over active rust is not that. If steel is swollen or perforated, no coating restores the thickness it has lost.

Caulking a Moving Crack

A crack above a garage or window that opens, closes, or keeps growing is telling you something underneath is moving. Filling that crack with caulk may close the line on the day it is done. It does not stop a rusting lintel from expanding or a sagging lintel from settling.

Caulk in a moving joint gets stretched until it tears, pulls away from one side, or splits down the middle. Then it does double harm. First, the open split funnels water in, as described in the last chapter. Second, the fresh-looking repair convinces everyone the problem was handled, so months pass while the movement continues.

Mortar cracks call for diagnosis before cosmetics. If the cause is fixed and the joint is stable, proper repointing belongs there, not a soft bead stretched across a hard joint. Ask anyone who wants to caulk a stepped crack a direct question: what is moving, and what in your plan stops it? If there is no answer, there is no repair.

Grinding and Pointing Without Fixing the Steel

Repointing — grinding out failed mortar and tucking in new mortar — is legitimate, skilled work when the structure behind the mortar is sound. Done over a failing lintel, it is a new face on an old failure.

New mortar is rigid. If the lintel below it keeps expanding with rust, that fresh mortar is one of the first things to crack, because it has no room to give. Worse, tight new mortar over the front of the joint can slow drainage and drying at exactly the place water needs to leave. Homeowners then see a crack return through brand-new work and are told the house is "just settling." Sometimes houses do settle, for other reasons. A crack that returns in the same pattern, in the same place, above the same lintel, deserves a second look at the steel before anyone grinds it out a third time.

Grinding itself carries risk in the wrong hands. Cut too deep or with the wrong blade and you can damage brick edges and, near the bottom of the panel, the flashing hidden behind it. Good pointing starts with a mason asking what is behind the joint — not just how fast the old mortar can come out.

Undersized Angle-Iron Shortcuts

A lintel is often an angle iron — a piece of steel shaped like an

L that forms a shelf for the brick. Replacing a failed lintel with whatever thin, short, or undersized angle happens to be on the truck is a shortcut that can look correct from the street on the day it goes in.

Size matters because the steel has to carry the brick load across the whole span without bending, and a wide two-car garage span is a very different job from a narrow bathroom window. Thickness matters because a thinner section has less to lose to future corrosion. Length matters because the ends need proper bearing on sound masonry at each side; an angle that barely reaches its support can concentrate load and crack the brick at the jamb. Fit matters too — steel wedged in tight against expanding brick, or set without room and protection the installation requires, sets up the next failure.

You do not need to size a lintel yourself, and you should not try. That judgment belongs to an experienced mason working on site, and on larger or unusual spans, a structural engineer should be hired to evaluate the load. What you can do is ask what size and thickness is being installed, how far it bears on each side, and why that is right for this span. A professional who has actually thought it through will answer plainly. "It is what we always use" is not an answer for a sixteen-foot garage opening.

Adding Brick Load

Sometimes the failure is sped up by well-intentioned changes that put more weight over an opening than the existing lintel was ever carrying. Adding a brick arch, a heavier decorative row, stone veneer over part of the panel, a new brick mailbox tied into the wall, or extending brick where siding used to be can all change the load above a door or window.

Extra load on a healthy, correctly sized lintel may be fine. Extra load on a rust-thinned or already sagging lintel is asking the weakest part of the wall to do more work. Before any project that adds masonry weight above or beside an opening, have the existing lintel looked at first. It is far cheaper to learn its condition before the new work goes up than to take new work down to reach it later.

Ignoring a Sag

A small sag is easy to live with. The garage door still opens. The window still locks, more or less. The crack in the mortar gets explained away because the house is not new anymore. Of all the mistakes in this chapter, this is the most understandable — and the one that most reliably turns a repair into a rebuild.

A sagging lintel does not heal. As it deflects, brick courses

lose their level shelf and begin to follow it down. Mortar joints open at the top of the panel and pinch at the bottom. Windows and doors below begin to bind because their frames are being asked to sit in an opening that is changing shape. Water enters the new cracks and rust speeds up. What could have been a focused lintel repair while the brick above was still mostly in place can become removal and relaying of a large brick panel, frame repair, and — in the worst cases — brick on the driveway.

Watch for change, not perfection. Photograph the opening from the same spot each season, and note when a door starts scraping or a latch stops catching. Change over time is the clearest signal you can hand a professional.

Hypothetical example: A homeowner in a two-story brick house notices a hairline stepped crack over the garage and a bead of old caulk on sale at the hardware store. He seals the crack neatly, paints the lintel to match the trim, and the house looks sharp for the summer. By the following spring the caulk has split, the crack is wider and has stepped one course higher, and the paint on the lintel is blistering with orange underneath. When a mason finally opens the area, the steel is heavily flaked and the flashing above it is torn, with the weep holes sealed by that same caulk. Nothing the homeowner did was careless in intent — but each step hid a symptom while the water and rust kept working, and the eventual repair is larger than it would have been the previous spring.

Hypothetical example: A homeowner hires the lowest bidder to "fix the crack over the window" before selling the house. The crew grinds out the cracked mortar and repoints it in a day, without removing brick or inspecting the lintel. The wall photographs beautifully for the listing. Four months later, after the sale, the new owners call a mason because the same crack has returned and the window will not close. The repointing was not poor workmanship — the mortar itself was fine. It simply had been placed over steel that was still expanding, so it was bound to crack again. A repair that never looks at the steel is a repair with an expiration date.

If you take one rule from this chapter, make it this: do not pay to cover a lintel symptom until someone has explained the cause in plain language — water, rust, size, load, or movement — and how the proposed work addresses that cause. Cover-ups are not cheaper. They are installments on the real repair, with interest.

Chapter 9: Safety and

Shoring

Everything in the earlier chapters was about reading the wall early, while you still have choices. This chapter is about the other end of the timeline — when brick above an opening is no longer just cracked or bowed, but at risk of coming down. That risk is real, it deserves respect without panic, and the correct homeowner response is simple: keep people clear, do not try to hold the wall up yourself, and get a professional on site fast.

Travis's authority here comes from 50 years of hands-on field experience on brick openings like these — seeing what holds, what fails, and what a falling panel can do. That experience is exactly why the advice here is cautious. Folks who have stood closest to failed brickwork are the least likely to tell you to prop it up with lumber from the garage.

Why Unsupported Brick Above an Opening Is Dangerous

Brick feels permanent because individual bricks are heavy and hard. A panel of brick above a garage door can weigh many hundreds of pounds, and over a wide opening, considerably more than that. When it is properly supported on a sound lintel, tied into the wall, and its mortar is intact, that weight is carried in an orderly way down to the ground at each side of the opening.

Remove or weaken that support and the picture changes. A rusted-through or badly sagged lintel leaves the panel relying on mortar bond and its own arching tendency — and a cracked, bowed panel may have little of either left. Brick panels do not always give a long, creaking warning like a wood beam. A section can hold through a season of cracks, then release along a mortar joint with little notice, especially if it is bumped or vibrated by a garage door.

Falling brick does not need to drop from two stories to hurt someone badly. A few bricks from head height can cause serious injury, and a larger section can crush a vehicle roof and send fragments a surprising distance. Treat a suspect panel like a leaning tree over a walkway: it probably will not fall this minute, but nobody belongs under it until someone qualified says otherwise.

Warning Signs of an Imminent Drop

No checklist can promise a panel will or will not fall. Never stand under a suspect opening studying it up close. Observe from a safe angle, off to the side, and call a professional if you see any of the following.

Fresh cracking that is changing quickly — a crack that was hairline last month and is open enough to fit a coin today, or new cracks appearing over days rather than seasons. Mortar falling out on its own, in crumbs or chunks, landing on the drive or the window sill without anyone touching the wall. Loose bricks you can see have shifted, rotated, or slid forward out of the face of the wall. A pronounced bow or bulge, especially one that looks worse than your last photo of the same opening. A lintel that is visibly bent, twisted, separated from the brick above it, or rusted through in places, with a gap opening between the steel and the brick it should be touching. A garage door, window, or entry door that suddenly binds, scrapes, or will not latch when it worked recently — the opening itself may be changing shape. Any brick or section that has already dropped, even a single brick: one fallen unit means the bond around its neighbors has been disturbed and more can follow.

If brick is actively falling, if you hear cracking or popping from the wall, or if a section is leaning out where someone could walk under it, keep everyone away and consider calling your local non-emergency line or, if someone is injured or in immediate danger, 911. Do not try to catch, push back, or knock down a loose section yourself to "get it over with." A controlled removal by a crew with shoring and a plan is a different thing entirely from a homeowner pulling at loose brick from a ladder.

Keeping People and Vehicles Clear

Once you suspect a drop risk, the next step costs nothing and matters most: change how your household uses that opening until it is evaluated.

Stop parking under or in front of the suspect panel if you can do so safely — for a garage, that may mean parking on the street, and not sending anyone back in to retrieve items stored under the panel. Do not let children play or wait for a school bus in the fall zone. Reroute guests to another entrance and say why, plainly: "We have loose brick over the garage, so please come in through the side door." Move patio furniture, grills, and trash carts out from under the panel, so nobody has a reason to wander into the zone.

If you need a visible reminder, place a couple of lawn chairs or a sawhorse well outside the fall area with a simple note — better than tape across the opening itself, which requires someone to stand in the zone to hang it. Do not climb a ladder against a suspect panel, lean anything against it, or operate a garage door repeatedly to "test" it — vibration is not your friend here. One careful photo from a safe distance is useful. Ten close-ups are not worth the exposure.

What Proper Temporary Shoring Looks Like

Shoring — sometimes using a technique called needling, in which temporary supports are threaded through or placed to carry the wall — is how a professional crew safely holds the brick load while a failed lintel is removed and replaced. You are reading this to recognize proper work and to understand why it is professional work, not to learn how to do it. This book deliberately does not give homeowner shoring instructions, measurements, or lumber-and-jack recipes, because a shoring setup that is almost right can fail under a real load and can give dangerous false confidence. Do not attempt to shore a brick panel yourself, and do not hire a handyman who proposes to "just prop it with a couple of boards" before starting.

Here is what you should expect to see, in general terms. The crew evaluates the panel first: how much brick is to be carried, where the load can safely be taken down to solid ground, and what condition the brick at the bearing points is in. Supports go in before the old lintel comes out, not after — the load is picked up in sequence, so the panel is never left floating. Proper setups use rated props or built supports with solid footing, placed plumb, braced so they cannot kick out sideways, and checked as work proceeds. Where needling is used, temporary beams pass the load back to those supports while leaving room to work. The area below is kept clear, and only the crew is inside it.

As a homeowner, your job is to stay out of the zone, keep vehicles and family clear, and ask questions from the side: What are you carrying with the shoring? Where does that load go to the ground? What stays in place until the new lintel is in and the mortar has cured? A competent mason will answer without irritation. If shoring is skipped entirely — if the plan is to pull the lintel and hope the panel hangs — stop the job and get another opinion, and on a large or complex opening, hire a structural engineer to evaluate it independently.

What to Do If Brick Has Already Fallen

If you come home to brick on the driveway, stay calm and work in order. First, check that no person or pet is hurt or trapped; if anyone is injured, call 911 before anything else. Second, assume more can fall. The edges of a fallen section are freshly disturbed, and the panel above the gap has less support than it did yesterday. Keep everyone out from under it, and do not start picking up bricks beneath the opening to "clean up." Photograph the scene from a safe distance before anything is moved. Those photos help a mason and, if you file a claim, your insurer understand what happened.

Third, protect the opening from weather only if it can be done

entirely from inside or from a safe position away from the fall zone — for example, closing an interior door, or a garage door by its wall switch without walking under the panel. Do not tarp a suspect wall from a ladder. A wet interior for a day is a smaller problem than a person under falling brick.

Fourth, make two calls: a qualified brick mason who does lintel work, told plainly that brick has already fallen so the visit is treated as urgent, and your homeowner's insurance company, to ask about coverage and documentation before debris is hauled away. If the fallen brick damaged a vehicle, photograph that too and include it in the same call. Ballpark costs after a fall vary widely with how much panel came down, what the lintel and flashing need, and whether frames or vehicles were damaged — anyone giving you a firm price by phone without seeing the wall is guessing, so treat early numbers as rough factors, not quotes.

A fallen panel is frightening, and it is also clarifying. With the area kept clear and a professional crew doing the shoring, removal, and rebuild in the right order, it is a solvable problem. Your part in the first hour is to keep the people you love out from under it. Everything else can be rebuilt.

Chapter 10: The Permanent Repair, Step by Step

A lintel repair should not look like a mystery while it is happening. You may never pick up a trowel yourself, and you do not need to. But if you understand the order of the work — what happens first, what happens next, and why — you can tell the difference between a repair built to last and a patch built to disappear until the check clears. This chapter walks through a proper lintel replacement using LintelLOCK, his field-developed system, in plain language from the first look to the final cleanup.

Step one: the assessment. Before anything comes apart, the crew studies the whole opening, not just the rusty steel. How wide is the span? How much brick and weight sit above it? Where does the existing lintel bear on each end, and is that bearing brick sound or cracked and crumbling? Are the mortar joints above stepped and cracked, or has the brick actually dropped? Is there flashing present, and are the weep holes open or buried? The crew also looks inside the story: a garage lintel carries different demands than a small bathroom window. Good notes and photos at this stage protect

everyone, because once the wall is open, there is no going back to check how it looked before.

Step two: shoring. Brick above an opening does not float. Before the old lintel comes out, the load above it has to be supported with temporary shoring — sturdy props and supports placed to carry the weight safely while the work happens. This step is unglamorous and absolutely essential. Skipping it, or rushing it, is how a simple lintel job turns into a sagging wall or a fresh set of cracks. A careful crew shores the opening, checks the supports as work proceeds, and does not remove them until the new lintel is in place and the fresh mortar has had time to take hold.

Step three: careful brick removal. The brick directly above the failed lintel comes out a course at a time, working gently so good brick can be saved and reused. This matters more than most homeowners realize. Your home's brick may be decades old, and a perfect match from a brickyard today can be hard or impossible to find. Every brick that comes out whole is a brick that goes back in looking like it never left. The crew stacks and keeps the saved brick separate, cleans the old mortar off each one, and sets aside anything cracked or spalled for replacement with the closest match available.

Step four: removing the failed steel. With the brick out and the load shored, the old lintel is exposed — and this is often the moment of truth. Homeowners are sometimes surprised at what comes out: steel thinned to a flaky shell, rust swollen and layered, a piece that bends coming out because there is almost nothing left of it. Seeing it confirms the decision. A lintel in that condition was never going to heal, and painting over it would only have hidden the problem while it grew.

Step five: sizing and bearing. The new lintel has to fit the job — long enough, strong enough for the span and the load above it, and seated properly on sound brick at both ends. Bearing is the word for where the ends of the lintel rest, and it is not a detail. A lintel that bears on cracked or hollow brick will shift, and a shifting lintel brings the cracks back. If the bearing surfaces are damaged, they get rebuilt first. The new steel also gets protection against rust before it goes in, because the whole point is that this piece should not need attention again for a very long time.

Step six: placing the new lintel. The new lintel is set level, seated fully on both bearings, and fixed in place as part of the LintelLOCK field-developed system — an approach built from 50 years of hands-on field experience opening walls just like yours and seeing, firsthand, what holds up and what fails early. There is no magic in it, and that is the point. It is careful sizing, honest bearing, proper water management,

and brickwork put back the way it should have been in the first place, done in the right order by people who have done it many times before.

Step seven: flashing, end dams, and weeps. This is the step cheap bids leave out, and it may be the most important one in the chapter. Flashing is the waterproof layer above the lintel that catches water traveling down inside the wall and directs it back outside. End dams are the turned-up ends of that flashing that keep the caught water from spilling sideways into the wall at the ends of the opening. Weep holes are the small openings at the base that let that water exit. Flashing without end dams leaks at the corners. Flashing without open weeps traps water instead of releasing it. All three work as one system, and all three get restored on a proper job.

Step eight: relaying the brick. The saved brick goes back in, course by course, with mortar matched to your existing mortar in color, strength, and texture. Matching matters twice over: a mortar that is too hard can damage older, softer brick as the wall moves with the seasons, and a mortar that is the wrong color announces the repair from the street forever. Joints are tooled to match the profile of the joints around them. Done right, a neighbor should have to be told the work happened at all.

Step nine: curing and cleanup. Fresh mortar does not reach its strength the day it is placed. It cures over days, and in Texas heat it may need to be kept from drying out too fast. The crew will tell you if anything needs a light misting or simply needs to be left alone, and the shoring stays until the mortar can carry its share. Cleanup means mortar smears washed off while they can still be removed, debris hauled away, and the area left the way it was found — only straighter, sounder, and dry.

What the days in between look like. Homeowners often ask how disruptive this work is, so here is the honest picture. The first day is usually the noisy, dusty one: shoring goes up, brick comes down, and the old steel comes out. The crew should protect what surrounds the work — plastic and drop cloths over doors, windows, and garage contents nearby, and a plan for where brick, mortar, and debris will sit so your driveway and beds are not a staging mess. You can expect a contained work area, not a yard-wide one. If the opening is a garage, plan on that bay being out of service while shoring is up and mortar is curing. Ask before the job starts how many days the opening will be open, what happens if rain moves in mid-repair — a good crew has a covering plan ready — and who your daily point of contact is. None of these questions is a bother. They are the questions experienced crews expect from careful homeowners.

Checks you can make with your own eyes. You do not need training to verify the big things. Before the brick goes back, you should be able to see the new steel in place, level and seated at both ends, with flashing visible above it. If you cannot see flashing at that stage, ask about it right then, while the answer can still be shown to you rather than described later. As the brick goes back up, look for your own saved brick in the wall, joints that match the surrounding joints in width and finish, and weep holes left open at the base. At the end of each day, the site should be stable and tidy: shoring firm, materials stacked, nothing leaning on your wall that should not be there. And keep your own photos as the work proceeds. Crews who do this work well are used to homeowners documenting it, and those in-progress photos become part of the record you will read about keeping in Chapter 12.

One more thing deserves saying plainly: surprises happen inside old walls. Rot at a bearing, hidden damage behind the brick, an earlier patch that concealed more rust than anyone could see from outside — these are found on real jobs, and an honest crew will show you what they found, explain what it changes, and price any additional work in writing before doing it. That is not a failure of the process. That is the process, working the way it should.

Stand back at the end and look for the simple signs: a level opening, even joints, open weep holes, and brick that reads as one wall again. That is what permanent looks like.

Chapter 11: Hiring, Bids, and Honest Costs

The hardest part of a lintel repair is rarely the brickwork. It is choosing who to trust with your wall. This chapter gives you the questions to ask, the shape of an honest bid, and a plain way to think about cost — because the cheapest number on the table is very often the most expensive one you will ever accept.

Questions worth asking any contractor. How long have you been repairing lintels specifically, not just laying brick? Will you remove brick and replace the steel, or are you proposing to patch, paint, or cover what is there? What happens with flashing, end dams, and weep holes in your repair — are they included, and can you explain how? Will you save and reuse my brick, and what is the plan if some cannot be saved? How will the mortar be matched? What does your warranty cover, in writing, and for how long? Can you show me photos of similar openings you have repaired? A good

contractor answers these plainly and without irritation. Evasiveness on any of them is information.

What a complete bid includes. A complete bid names the opening or openings being repaired. It states that the old lintel comes out and a new one goes in, describes the shoring and brick removal, includes flashing with end dams and restored weep holes, covers relaying brick with matched mortar, and includes cleanup and debris removal. It gives a total price, a payment schedule, a start window, and warranty terms in writing. It also says what is not included, so there are no surprises dressed up later as extras.

What a thin bid looks like. A thin bid is short because the job it describes is short. Watch for bids that promise to "fix the crack," "treat the rust," or "seal and paint" without ever removing the failed steel. Watch for a single lump number with no description of flashing or weeps. Watch for pressure to sign today. Hypothetical example: a homeowner receives one bid for full replacement with flashing and brick relaying, and a second bid at half the price to grind the cracks, patch them, and paint the lintel. The second bid is not a bargain version of the first. It is a different, smaller job that leaves the cause in the wall — and the homeowner will likely pay for the real repair later anyway, plus pay to undo the patch.

Honest talk about cost. No responsible contractor can give you a firm lintel price from a photograph alone, and this book will not pretend to. What can be said honestly is what drives the number. Span is the biggest factor: a wide two-car garage opening needs more steel, more shoring, more brick removal, and more labor than a single door. Access matters — a lintel over a clear driveway is simpler than one behind mature landscaping or a tight side yard. Brick salvage matters: saving and reusing your brick takes more care and time than laying new, but it protects the look of your home. Flashing work matters, because doing the water management right adds materials and labor that a patch simply skips. Height matters too, since upper-story openings need scaffolding and more safety time. As a general ballpark only, small single openings tend to land in the lower thousands, while wide garage spans commonly run several thousand more — and any number you are quoted should be tied to an in-person look at your actual wall.

Reading warranty language carefully. A warranty is only as good as its wording. Look for what is covered: the lintel itself, the brickwork above it, the flashing, or only the contractor's labor? Look for how long, and what voids it — some warranties quietly exclude "water damage," which on a lintel job excludes most of the point. Get the warranty in writing before work begins, keep it with your house records, and be wary of any warranty that is described warmly but

never produced on paper.

Red flags, gathered in one place. A bid that never mentions removing the steel. A refusal to discuss flashing or weeps. A price far below every other bid with no explanation of how. Demands for full payment up front. No written warranty. A contractor who cannot or will not show prior lintel work. Any one of these should slow you down; two or more should end the conversation.

When to hire a structural engineer. Most straightforward residential lintel replacements, on typical spans with typical loads, are routine work for an experienced masonry repair contractor. But some situations call for a licensed structural engineer, and hiring one is money well spent: unusually long spans, heavy loads above the opening such as a second story or a roof bearing down over the opening, damage that extends well beyond the lintel into the wall or the structure around it, openings that have already been altered or widened, and any case where the wall has moved significantly. A contractor with 50 years of hands-on field experience knows this line well and will tell you plainly when your job sits on the other side of it. That honesty is itself a credential — the practical kind, earned on ladders and scaffolds across five decades of Texas homes.

Payment schedules and paperwork. How you are asked to pay tells you a lot about who you are dealing with. A common, reasonable pattern on work like this is a portion at signing or at the start of work, progress payment at a clear milestone, and a final payment when the work is complete and you have walked it. Be cautious with any arrangement where nearly everything is due before nearly anything is done. Your final payment is your one piece of leverage for getting punch-list items finished — a smear of mortar left on the brick, a weep left clogged with debris — so hold it until you have looked the finished work over in daylight, ideally with the contractor beside you. Get every change in writing as it happens, not reconstructed afterward. If extra work is found inside the wall, a written change note with a price, signed by both sides before that extra work proceeds, protects you and protects an honest contractor from a disagreement neither of you wants.

Comparing bids side by side. When two or three bids arrive, resist reading only the bottom lines. Lay them next to each other and ask, line by line: Does this one remove and replace the steel? Does this one include flashing and end dams? Are the weeps restored? Is my brick saved and relaid, or replaced with new? Is the mortar matched? Is cleanup included? Is the warranty written, and for how long? Very often, the gap between a high bid and a low bid is not profit — it is steps. The low bid is low because whole steps are missing from it, and steps left out of a lintel repair do not disappear.

They wait inside your wall and come back as a second repair. If a bid is vague on a line, call and ask, and note the answer on the bid itself. A contractor who welcomes that call is showing you how the job itself will go.

A word about insurance and references. Ask whether the contractor carries liability insurance, and ask to see a current certificate rather than taking a verbal yes. This is ordinary business, and established contractors produce it without fuss. References work the same way: ask for two or three recent lintel or masonry repair customers you may contact, then actually call one. Ask that homeowner the only questions that matter — did they show up when promised, did the finished wall look right, did the site stay clean, and would you hire them again? Hypothetical example: a homeowner chooses the middle of three bids, not the lowest, because that contractor produced an insurance certificate with the bid, named the flashing and weep work in writing, and had a past customer who said, unprompted, that the crew left the driveway cleaner than they found it. Two years later, that homeowner has never thought about the lintel again — which is exactly what the money was for.

Trust the pattern, not the pitch. By the time you have asked the questions in this chapter, you will usually know. The right contractor talks about steel, water, bearing, and brick in that kind of order, puts it in writing without being pushed, and treats your caution as good sense instead of an obstacle. The wrong one talks about price, speed, and how the crack is really nothing to worry about. One of those conversations is how a wall gets fixed for decades. The other is how it gets fixed for now.

Get two or three complete bids, compare what each one actually does, and choose the repair — not just the price. Your wall will remember the difference long after you have forgotten the number.

Chapter 12: Protecting the Repair for Decades

A proper lintel repair is built to last a long time, but "a long time" goes further when the homeowner does a few small things on a steady rhythm. None of what follows is hard, expensive, or time-consuming. It is mostly a matter of looking at the right places once in a while and keeping water — always water — moving away from your walls instead of into them.

Your maintenance calendar, in plain terms. Twice a year,

spring and fall, walk the outside of your home slowly and look at every lintel: above the garage, above windows and doors, anywhere brick crosses an opening. Once a year, take photographs of each opening from the same spots, as described below. Once a year, check and refresh sealant joints where they are failing. After any major storm with driving rain, take one extra look for new cracks, staining, or displaced mortar. That is the whole calendar. An hour or two a year protects a repair worth thousands.

Sealant joints: small gaps, big job. Where the brick meets window and door frames, and at other joints around your openings, sealant — the flexible caulk-like material — keeps wind-driven rain out of the wall. Sealant does not last forever. Sun and Texas heat dry it out, it cracks and pulls away, and a failed joint quietly funnels water in behind your brick, right toward the lintel you just paid to protect. Check these joints with your eyes and a fingertip. If the sealant is cracked, split, or separating from either side, it is time to have it cut out and replaced. Do not smear new sealant over old failed sealant; that traps the failure underneath a fresh skin and lasts a fraction as long.

Keep the weep holes open. Weep holes are the small vertical gaps, or fitted openings, in the mortar joints just above your lintels and along the base of your brick walls. They are not flaws and they are not insect doors — they are drains, and they are how water that gets behind brick gets back out. Well-meaning homeowners sometimes plug them with mortar, foam, or sealant, and landscapers bury them under mulch and soil. Both mistakes trap water in the wall. Walk your openings and confirm every weep is open and clear of dirt, mulch, and old mortar. If one is clogged, a gentle clearing with a small tool is all it needs. Never let anyone seal them shut.

Gutters and drainage: the repair above the repair. More lintels are killed by bad water management than by age. Gutters that overflow in a hard rain dump sheets of water directly down the face of your brick, soaking every opening below. Keep gutters clean, especially if you have trees over the roof. Make sure downspouts discharge well away from the house, not at the base of a wall. Check the ground around your home: soil and beds should slope gently away from the foundation and walls, and mulch should sit below the weep holes, never piled against the brick. Sprinkler heads deserve a look too — a head that sprays the brick wall every other day all summer is soaking your lintels on a schedule. Aim sprinklers at the lawn, not the house.

Paint and coating checks. If your lintel steel is painted or coated where it is exposed, that coating is a working part, not decoration. Check it during your twice-yearly walks. Blistering, peeling, or rust bleeding through means the

coating has failed in that spot and water is reaching steel. Small failures caught early can be cleaned and recoated by a painter or your contractor before real damage starts. If your brick itself is painted, watch for peeling and bubbling on the wall as well — these can signal moisture moving through the wall that should not be there, and they are worth a call rather than a shrug.

The annual photo inspection. This is the simplest and most powerful habit in the chapter. Once a year, stand in the same spots and take the same photographs: one straight-on shot of each lintel opening, one closer shot of each end where the lintel bears, and one along the mortar joints above the opening where cracks would first appear. Store them by year on your phone or computer. A single photo tells you how things look today. A series of photos tells you whether anything is moving — and slow movement is exactly the thing the naked eye misses year to year. If a crack appears in this year's photo that was not in last year's, or an old hairline looks wider, you have caught a problem while it is still small and comparatively inexpensive.

Records to keep for resale. Keep the repair contract, the written warranty, before-and-after photos, and your annual inspection photos together in one folder — paper, digital, or both. Note the date of the repair, who performed it, and what was done: lintel replaced, flashing and end dams installed, weeps restored, brick relaid. When you sell your home one day, this folder does real work. A buyer who sees a documented, warranted, professionally repaired lintel — with years of photos showing a stable wall — sees a maintained home, not a hidden problem. Disclosure questions get answered calmly, negotiations go smoother, and the repair you paid for returns value instead of suspicion.

A last word on proportion. Do not let this chapter make you anxious about your own walls. Brick homes are forgiving, lintel problems develop slowly, and a sound repair followed by an hour of attention a year is a genuinely durable combination. Hypothetical example: a homeowner does nothing more than the spring and fall walks, clears two clogged weeps with a screwdriver one October, and has a handyman renew failing sealant around the garage opening one spring — fifteen minutes here, an hour there. Ten years on, the annual photos show the same straight, quiet wall as the day the repair cured. That is the normal outcome when small habits guard good work.

Watch from inside, too. Not every sign of a lintel problem shows up on the outside of the wall. On your walks, step inside as well. A door or window under a lintel that begins to stick, rub, or fall out of square can be an early hint that something above it has shifted. Fresh cracks in the interior

wall or ceiling near an opening deserve the same attention as cracks in the brick outside. So does any sign of water where water does not belong: a stain on the ceiling near an exterior wall, paint bubbling on an interior wall, a musty smell in one room that was not there last season. Most of the time these signs trace back to something ordinary — a plumbing drip, a roof detail, a sealant joint that failed. But they are worth tracing rather than ignoring, because water moving through a wall assembly will find your lintel eventually, and early is always cheaper than late.

Texas seasons, taken seriously. Our climate asks specific things of a brick home. Summer heat is hard on sealant joints, which is why the fall walk matters — you are inspecting after the hardest months have done their work. Spring storms bring the driving rain that tests flashing, weeps, and gutters all at once, which is why the spring walk follows them. In a hard freeze, water trapped where it does not belong expands as it turns to ice, and a wall that starts the winter dry handles freezing weather far better than a wall that starts it soaked. None of this requires worry. It simply means the twice-a-year rhythm in this chapter is timed to the way Texas weather actually treats your house.

Vegetation and the quiet pressures. Keep shrubs and vines off the brick around your openings. Plants hold moisture against the wall, shade it so it dries slowly, and — in the case of climbing vines — work roots and tendrils into mortar joints. Trim growth back so air and sun can reach the wall. Check, too, that tree limbs are not scraping brick or dumping leaf load into the gutters above a lintel, since clogged gutters, as you have read, pour their overflow straight down the face of the wall. These are yard chores you may already do. Now you know they are also lintel maintenance.

When to call instead of watch. Watching is for slow, stable things. Call your contractor when you see a new crack that runs and steps through the mortar above an opening, a crack that widens between one annual photo and the next, brick that looks displaced or a lintel line that no longer looks level, rust staining returning at the ends of a lintel, or water appearing inside after rains. You do not need to diagnose it before you call — describing what changed, and sharing your dated photos, is diagnosis enough to start. A contractor who did good work on your home would rather hear from you in year two about something small than in year ten about something structural.

Your lintel was repaired to be forgotten. These small rhythms are how you make sure it stays that way — quietly carrying its load above your garage, your windows, and your doors, decade after decade, while you get on with living in the home it protects.

Conclusion

If you have read this far, you can now do something most homeowners cannot: you can walk up to your own brick wall, look above the garage door, the windows, and the doors, and actually read what you are seeing.

Let me leave you with the lessons that matter most.

First, the steel you never see is doing work every day of the year. The lintel above every opening in your brick is a small bridge carrying real weight, and it has been carrying that weight since the day your house was built. Respect it, and it will tell you — early, in plain sight — when it starts to need help.

Second, the garage opening fails first for honest physical reasons: the widest span, the heaviest load, the hardest sun, the steadiest vibration, and too often the thinnest original steel. When you inspect your home, start there. The garage is where the wall confesses first.

Third, rust is not a stain. Rust is a wedge. Corrosion expands steel with a force no mortar joint can argue with, and it does its work quietly, inside the wall, for years before a crack announces it. That is why painting over rust never fixes anything, why caulking a moving crack never holds, and why the only repair that lasts is the one that takes the failed steel out and puts sound steel — properly flashed, properly drained, properly bedded — back in its place.

Fourth, water is behind almost every lintel failure you will ever see. Flashing that was never right, weep holes plugged or buried, gutters dumping down the face of the wall, sprinklers soaking the brick on a summer schedule — fix the water and you slow the rust to a crawl. Ignore the water and even a good repair is fighting uphill.

Fifth, measure, photograph, and keep records. A crack you have measured is information. A crack you have only worried about is just worry. Your annual photographs, taken from the same spots, will catch slow movement years before it becomes expensive movement — and they make any future conversation with a contractor shorter, clearer, and cheaper.

And finally: know where the line sits. I have spent 50 years in brick, masonry, and foundation work across Texas, and I am still the first to say that some situations — unusual spans, heavy loads above an opening, damage that reaches beyond

the lintel into the structure — call for a licensed structural engineer, and hiring one is money well spent. I am not an engineer, and nothing in this book pretends otherwise. What I am is a mason who has taken apart thousands of these openings and put them back right, and everything in these pages is what those walls taught me.

Your brick home was built to stand for generations. The openings in it are not its weakness — they are just the places that ask for a watchful eye. Now you know how to keep that watch.

Thank you for reading. Go take a slow walk around your house, and look up.

— Travis Nech

Resources & Next Steps

Travis Nech has spent 50 years in brick, masonry, and foundation work across Texas. He owns and operates Champion Brick Repair, Metro Foundation Repair, LintelLOCK, MortarMagic, and WhiteStone Construction.

- **Champion Brick Repair** — brick & masonry repair, Dallas-Fort Worth — championbrickrepair.com — (817) 900-6324
 - **Metro Foundation Repair** — pressed concrete pile foundation repair — metrofoundationrepair.com — (817) 523-1540
 - **LintelLOCK** — the field-developed lintel replacement system — lintlerepair.com — (469) 730-0650
 - **MortarMagic** — mortar color matching & the Mortar Bucket — mortarmagic.netlify.app
 - **WhiteStone Construction** — stone, ranch & property work, Hamilton TX country — (254) 723-5040
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About the Author

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