



An Extended Guide · No. 1564

Common Problems and Warning Signs

What can go wrong,
and what to watch for

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! Read this first — two honest truths about ground-mount solar

Two honest truths before we start, because they surprise a lot of good folks. First, a ground-mounted solar array is a professional job. It takes a licensed installer, real foundation work in your yard, building and electrical permits, and your utility's approval to connect (that approval is called interconnection). This guide is here to help you understand, plan for, and evaluate a ground mount; it is not a do-it-yourself project, and I never want you digging footings, wiring an array, or opening an electrical panel. Second, a plain grid-tied solar system — roof or ground, without a battery — shuts itself off during a power outage, even in bright sunshine. That is a required safety feature, so the system cannot put electricity onto the lines while the crews are repairing them. If keeping the lights on during an outage matters to you, you will need a battery, and we will talk about that plainly. The good news is that a ground array asks for very little and rarely gives trouble — and because you can walk right up to it, the few things that do crop up are easy to spot early.

What can go wrong, and what to watch for

Solar is wonderfully low-maintenance, and a ground mount is the easiest kind to keep an eye on. Still, it helps to know the handful of things that can go sideways — so you can notice them early and get the right person on it before a small thing grows.

I'm Bill, and I run Bill's Home Tech here in Portage County, Ohio. In 30-plus years of helping folks with the gear in their homes, I've learned that most 'problems' are really just early warning signs — easy to catch if you know what you're looking at, and easy to hand off to a pro before they become expensive.

This guide is about noticing, not fixing. Your job is to be the eyes and ears — to spot when something looks or acts off. The fixing, especially anything electrical, is always a job for your licensed installer or electrician. Let's go through the signs together, calmly.

★ Seeing something that worries you?

Don't stew over it — tell me what you're noticing and I'll help you figure out whether it's nothing, something to watch, or a reason to call your installer. Call or text me at (330) 200-8042.

Warning signs, on one page

If you read nothing else, read this. Here are the things worth a glance now and then, and the golden rule that goes with them.

- ❑ Watch for a real drop in production that isn't just clouds or winter.
- ❑ Look for a leaning frame or a post that seems to have shifted.
- ❑ Notice loose, wobbly, or rusting hardware on the frame.
- ❑ Keep an eye out for chewed wiring or critter nests under the panels.
- ❑ Take any inverter warning light or tripped breaker seriously.
- ❑ Watch for water pooling or soil washing out under the array.
- ❑ Golden rule: you notice and note it — a pro does the fixing.

✓ A quick look now and then is plenty

You don't need to inspect anything on a schedule or fuss over it. A casual glance when you're near the array, and a little more attention after a big storm, catches almost everything in good time.

The golden rule: notice, don't fix

This is the most important page in the guide, so let's be plain about it. Your role is to spot trouble, not to repair it.

A solar array is a live electrical system, even on a cloudy day and even when the grid is down. The panels make power whenever the sun is on them, and there's no simple 'off' you can trust for the wiring inside. That's exactly why the fixing belongs to a licensed pro with the training and the tools to do it safely.

So here's the deal we'll make. You can look, note what you see, take a photo, and jot down a warning light or a date. What you don't do is open a panel, a box, a disconnect, or the inverter, or poke at any wiring. Noticing is safe and helpful; opening things is neither.

! Never open the equipment — anything electrical is a pro's job

Please never open an inverter, a junction box, a disconnect, or a panel, and never touch the wiring — not to inspect it, not to fix it, not even if it looks simple. The array is live whenever the sun shines. Anything electrical is always a licensed pro's job. Look, note, and call. That keeps you safe.

When the system makes less than it should

The most common thing folks notice is simply less production. Often it's harmless and seasonal — but sometimes it's a clue.

If your monitoring shows a real, lasting dip that isn't explained by clouds or the time of year, something is worth a look. The usual, gentle culprits are shade that has crept over the panels, a film of dirt or pollen, or snow sitting on the glass. Those are ordinary and easy to sort out.

Less often, a drop points to an actual fault — a panel or a piece of electronics not doing its job. You can't tell which from the outside, and you don't need to. Your part is to notice the pattern and let your installer diagnose it. Our maintenance guide covers keeping tabs on production over time.

✓ Learn your system's normal rhythm

Production naturally rises and falls with the seasons and the weather. Once you know what a normal sunny day and a normal winter look like for your array, a true problem stands out because it breaks that familiar pattern.

Creeping shade and dirty glass

Two of the gentlest causes of lost production, and the two you can most easily do something about — carefully, from the ground.

Shade is the sneaky one. A tree that was small when the array went in keeps growing, and a branch that clears the panels in summer can throw a long shadow across them in winter, when the sun rides low. Every so often, stand where the array does and look for new shade that wasn't there before.

Dirt, pollen, and dust build up slowly and shave a little off production. Our Ohio rain rinses most of it away, but a dry, dusty spell can leave a film. On a reachable ground array you can give the glass a gentle rinse with a hose and a soft tool — never anything harsh, and never while standing on anything wobbly.

✓ Plan tree trimming before it shades you

If a growing tree is inching toward your sun, trimming or planning ahead beats losing production for years. Keep the array's sunny window in mind when you think about the trees around it. Our siting guide goes deeper.

A leaning frame: heave and settling

The frame should stand straight and true for decades. If it starts to lean or shift, that's a sign worth taking seriously.

Foundations are set below the frost line so seasonal freezing doesn't lift them, and in firm soil so they don't settle. Now and then, though — especially in wet, heavy clay or poorly drained ground — a post can heave up over the winters or settle unevenly, and the frame starts to tilt or rack out of square.

A slight, steady lean that you only notice by eye is worth reporting; a frame that's visibly moved or looks stressed is worth a prompt call. This isn't something to shore up yourself with a shovel — the fix is a job for the installer, who'll know whether it's the soil, the drainage, or the footing.

! A shifting frame won't fix itself

If the array is leaning more than it used to, or a post looks pushed up or sunk down, call your installer. Left alone, movement can stress the frame and the wiring over time. Caught early, it's usually a straightforward fix.

Loose or rusting hardware

A ground array lives outdoors through every season, so the odd bolt or bracket earns a glance over the years.

Over many freeze-and-thaw cycles and windy days, a bolt can loosen or a bracket can start to show rust. It's not common with quality hardware, and it's rarely urgent, but it's the kind of thing an occasional look will catch. Run your eye over the frame now and then for anything wobbly, missing, or rust-streaked.

If you spot loose or corroding hardware, note where it is and mention it to your installer at the next service visit — or sooner if something seems really loose. Snugging bolts to the right tightness and dealing with corrosion is their job; over-tightening or guessing can do harm.

✓ A yearly once-over catches it early

Most hardware issues are slow and harmless if caught. A relaxed, head-to-toe look at the frame once a year — maybe each spring — keeps small things from becoming big ones. Our maintenance guide lays out an easy rhythm.

Critters and chewed wiring

The space under a ground array is cozy and sheltered, which makes it inviting to small animals — and their chewing is the real worry.

Chipmunks, mice, squirrels, and the like can nest in the shade under the panels, and some will gnaw on wiring. That's the one to watch, because damaged wiring can knock out production and, worse, create a hazard. Signs include nests, droppings, scattered nesting material, and of course any visible gnaw marks on cabling.

A good installer can fit critter guards or mesh skirts to keep animals out from under the array, and our animals-and-livestock guide covers this in detail. If you spot chewed wire, don't touch it — treat it as electrical, keep folks and pets clear, and call your installer.

! Chewed wiring is an electrical hazard — don't touch it

Damaged wiring can be live and dangerous even if it looks harmless. Never handle it, tape it, or try to tuck it back. Keep children and pets away and call your licensed installer to inspect and repair it properly.

Two kinds of homes, two sets of needs

The warning signs are much the same everywhere, but which ones you're most likely to meet depends on whether you're in town or out on acreage.

If you live in town or the suburbs

In town or the suburbs, the array is smaller and close at hand, so you'll notice most things quickly. Your usual visitors are chipmunks, birds, and the neighbor's curious dog rather than livestock.

- A small, nearby array is easy to eyeball on your way past.
- Watch for a neighbor's growing tree throwing new afternoon shade.
- Chipmunks and birds under the panels are the common critter callers.
- After a storm, a quick look catches loosened hardware or debris.

If you are out in the country on a well

Out in the country, the array is larger, farther off, and may sit out of your daily path — so trouble can go unseen longer. There's also more wildlife, livestock, and open weather to contend with.

- Make a point of walking out to the array now and then, not just past it.
- More wildlife means more reason to check for nests and chewed wiring.
- Livestock can rub and loosen a frame — look after they've been near it.
- If solar backs your well pump, a quiet system also means water at risk.

★ Array out of sight, out of mind?

If yours sits at the far end of the property, I can help you set up simple habits and monitoring so you'd know early if something slipped. Call (330) 200-8042.

The inverter: warning lights and faults

The inverter is the brains that turn panel power into house power. When it's unhappy, it usually tells you — and you should listen.

Most inverters have a status light or an app that shows green when all is well and a red or amber warning when something's wrong. If you see a warning light, an error message, or the system simply stops reporting, note what it says and when it started. That information helps your installer enormously.

What you don't do is open the inverter or try to reset anything inside it. These are serious pieces of electrical equipment. Many faults are minor and quickly sorted by a pro, but the diagnosing and the fixing are theirs to do, not yours.

! Read the light, don't open the box

It's fine to look at the inverter's status light and read any message on its screen or app. It is never fine to open it or fiddle with its wiring. Note what you see and call your installer — that's the safe, helpful thing to do.

A tripped breaker or a quiet system

Two signs that the system has stopped doing its job: a breaker that's tripped, or monitoring that's gone silent.

A solar breaker that trips once might be a fluke, but one that trips again after being reset is telling you something needs attention — don't keep flipping it back on. And if your monitoring app suddenly shows nothing at all, the system may have stopped producing, or it may just be a dropped internet connection. Either way, it's worth looking into.

A quiet system is easy to miss precisely because nothing dramatic happens — the panels just sit there not earning their keep. Glancing at your monitoring now and then is the simplest way to catch it. If it's truly stopped, that's a call to your installer.

! Don't keep resetting a breaker that keeps tripping

A breaker trips to protect you. If a solar breaker won't stay on, or trips again and again, stop resetting it and call your installer. Repeated tripping is a warning, not a nuisance — forcing it invites real trouble.

Water pooling and erosion under the array

What happens on the ground under and around the array matters too. Water is patient, and over time it can undermine a foundation.

After heavy rain or snowmelt, glance at the ground beneath the panels. A little dampness is nothing, but standing water that lingers, or soil washing away and exposing the base of a post, is worth noting. Poor drainage can, over the years, contribute to a post shifting or heaving.

Keeping the area graded so water flows away, and the ground cover healthy, goes a long way. If you see real pooling or erosion, mention it to your installer — a drainage tweak now is far cheaper than a foundation problem later. Our mowing-and-vegetation guide touches on ground cover too.

✓ Look down as well as up after a big storm

It's natural to check the panels after a storm, but the ground tells a story as well. A minute spent looking at drainage and the base of the posts can catch a slow problem while it's still easy to fix.

Snow and winter dips: normal or not?

Winter brings a natural drop in production that worries some folks needlessly. Let's sort the normal from the notable.

Shorter days, a lower sun, and snow on the glass all mean less power in winter — and that's completely normal, already figured into the whole-year picture. Smooth, tilted panels often shed snow on their own once the sun warms them, and a ground array you can gently clear from solid footing if you choose.

What's not normal is a system that stays dark long after the snow is gone and the sun is out, or one panel buried while its neighbors are clear for no obvious reason. Those are worth a note. Our snow-and-winter guide covers seasonal expectations, and clearing snow safely, in full.

! Clear snow gently, from the ground, or just wait

If you clear snow off a ground array, use a proper soft tool from solid footing, never force ice, and never climb or lean on the frame. Honestly, waiting for the sun to do the work is often the wisest choice of all.

What you can safely check yourself

Plenty is perfectly safe to look at and note — as long as you're looking, not opening. Here's your side of the job.

- Glance at your monitoring for a real, unexplained drop in production.
- Eye the frame for leaning, shifting, or anything wobbly or missing.
- Look for rust, chewed wiring, nests, or critter signs under the panels.
- Read any inverter warning light or message — without opening anything.
- Check the ground for standing water or soil washing out around posts.
- Give reachable glass a gentle rinse when it's dusty, from firm footing.

✓ Take a photo and jot the date

When you notice something, a quick photo and the date are gold for your installer — they turn 'it looked funny' into something they can actually act on. Keep a little note with your home papers.

When to call the pro — and when it's urgent

Some things can wait for the next service visit; others deserve a call today. Here's how to tell them apart.

Call right away for anything that smells like a real electrical problem: a burning smell, scorch marks, sparks, a breaker that keeps tripping, exposed or chewed wiring, or an inverter throwing a fault. Keep people and pets clear of the array while you wait, and don't touch the equipment.

For slower, non-electrical signs — a bit of rust, a slight lean, some pooling, a gradual production dip — it's fine to note them and raise them at the next visit, or make an unhurried call. When in doubt, though, there's never any harm in calling and asking. That's what your installer is there for.

! A burning smell or sparks means stop and call now

If you ever smell burning, see smoke, sparks, or scorching, or feel heat near the equipment, treat it as an emergency. Keep everyone well back, don't touch anything, and call your installer — or, if there's any risk of fire, call 911 first.

Warning sign to likely cause

A rough guide to what a given sign often points to. It's for understanding, not diagnosing — your installer confirms the real cause.

Warning sign	Often points to
Steady drop in output	Shade, dirt, or a fault
Leaning or racked frame	Frost heave or settling
Wobble, rust, missing bolt	Loose hardware
Gnaw marks or nests	Critters under the panels
Inverter warning light	A fault — call the pro
Water pooling at a post	Drainage to address

Think of this as a way to understand what you're seeing, not a repair manual. Every one of these is noticed by you and sorted by a pro — especially anything with the wiring or the electronics.

You notice; the pro fixes

It helps to see the split clearly. You're the watchful owner; your installer is the trained hand. Both matter.

Your part	The pro's part
Spot an unusual drop	Diagnose the cause
See a leaning frame	Reset and secure it
Notice loose hardware	Tighten it correctly
Find chewed wiring	Repair and guard it
Read a warning light	Clear the fault safely
Rinse reachable glass	Any electrical work

Stay firmly on the left side of that table and you'll never be in harm's way. The moment a job crosses into wiring, boxes, or the electronics, it belongs on the right — with the licensed pro.

A little prevention goes a long way

Most problems are far easier to prevent, or catch early, than to repair. A gentle habit or two does the trick.

The array asks for very little: an occasional glance for the signs we've covered, keeping grass and weeds from creeping up and shading the low edge, keeping the drainage clear, and letting monitoring keep watch between your looks. That really is most of it.

Our maintenance-and-access guide lays out a relaxed seasonal rhythm — a spring look, a glance after big storms, and keeping an eye on production through the year. None of it is hard, and all of it helps your system run quietly and well for decades.

✓ Catching it early is the whole game

Nearly every problem in this guide is cheap and simple to handle when it's caught early, and a headache when it's ignored. A few unhurried looks a year are the best insurance you can give your array.

How I can help

I'm not the one who repairs the array — but I'm a handy person to have in your corner when something seems off.

I don't do the licensed electrical work, and I'd never want you to either. What I can do is help you make sense of what you're seeing, sort the harmless from the worth-a-call, set up monitoring so you catch things early, and help you reach the right installer with the right information in hand.

Sometimes a worried call turns out to be nothing at all, and you can rest easy. Sometimes it's a nudge to get your installer out. Either way, you don't have to figure it out alone or lie awake wondering. That's exactly what a friendly second opinion is for.

★ Not sure if it's a problem?

Send me a photo of what you're seeing and I'll help you decide whether to watch it or call it in. A first visit is a flat \$99, and a screen-share look is often just \$49. Call or text me at (330) 200-8042.

Common Questions

The questions I hear most about solar problems and warning signs.

Q: My production dropped. Should I panic?

Not at all. First check the simple things — clouds, the season, shade, dirt, or snow on the glass. A real, lasting drop that none of those explain is worth reporting to your installer, but a seasonal dip is completely normal.

Q: Can I tighten a loose bolt or clean the panels myself?

You can gently rinse reachable glass from firm footing. Leave the hardware to your installer, though — bolts need the right tightness, and guessing can do harm. And never touch anything electrical.

Q: The inverter has a red light. What do I do?

Read any message it shows, note when it started, and call your installer. Don't open it or try to reset anything inside. Many faults are minor, but diagnosing and fixing them is a pro's job.

Q: My solar breaker keeps tripping. Can I just leave it on?

No — please stop resetting it and call your installer. A breaker trips to protect you, and repeated tripping is a warning that something needs a professional's attention, not a workaround.

★ When in doubt, just ask

There's no such thing as a silly question here. If something about your array has you wondering, call or text me at (330) 200-8042 and we'll sort out together whether it's nothing or something. Peace of mind is worth a phone call.

Your simple watch-list

Keep this handy. A relaxed glance for these, now and then, catches nearly everything worth catching.

- ☐ Production holding steady for the season, no unexplained drop.
- ☐ Frame standing straight — no new lean, shift, or wobble.
- ☐ Hardware sound — nothing loose, missing, or badly rusted.
- ☐ No nests, droppings, or chewed wiring under the panels.
- ☐ Inverter light green, monitoring reporting as it should.
- ☐ Ground draining well — no lasting pools or washed-out soil.
- ☐ Anything odd? Note it, photograph it, and call a pro — never open it.

! The one rule that covers it all

If you remember only one thing from this whole guide, make it this: you look and note, a licensed pro fixes, and no one ever opens live equipment. Follow that and you'll keep both your array and yourself safe and sound.

You don't have to do this alone

You just have to remember that a friendly, patient person is one call away.

I hope this guide made spotting problems with a ground-mount solar array feel a little less daunting and a lot more doable. Keep it in a drawer with your other home papers, come back to a page whenever you need it, and don't worry about memorizing anything.

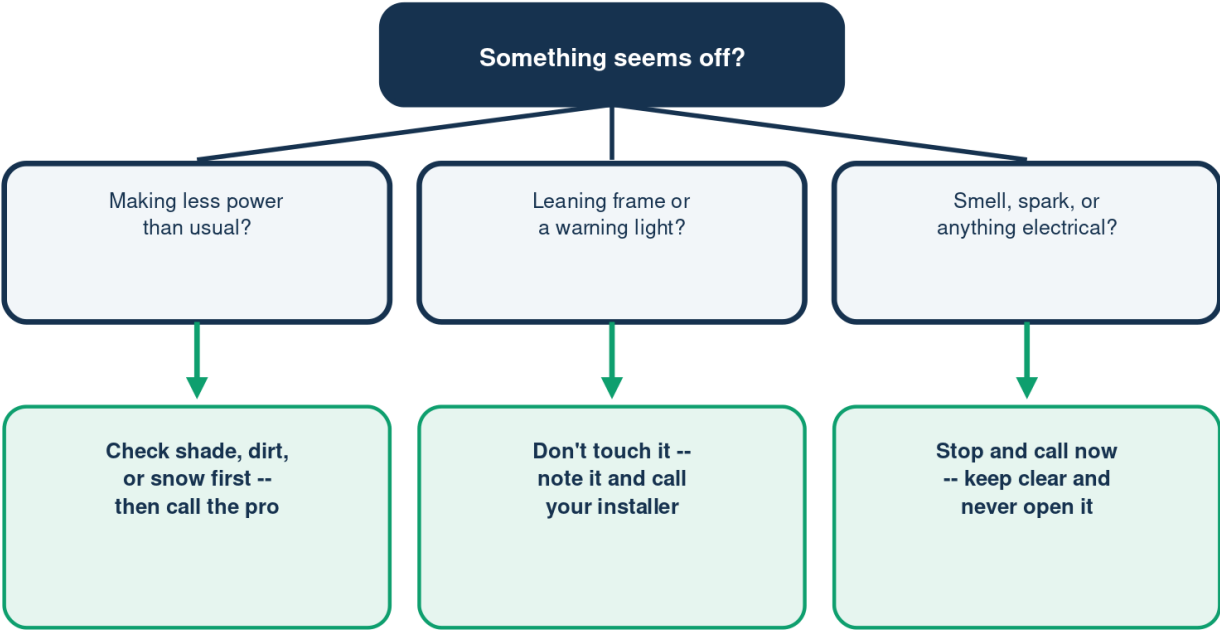
When you'd rather have a hand, that's exactly what I do. I come to your home, work at your pace, and never make you feel rushed or silly for asking. A first visit is a flat \$99, and for the parts that don't need me on-site I can often help right on your screen for \$49. Every visit comes with a 30-day, come-back-free guarantee. I don't sell solar and I don't do the licensed electrical work or the install itself — I help you understand it all, ask the right questions, and line up a trustworthy local solar installer, so you never feel talked into anything.

★ Bill's Home Tech — real help, close to home

Call or text me at (330) 200-8042, or visit BillsHomeTech.com. Serving Atwater and all of Portage County. 30+ years of patient, plain-English tech help — and if you're ever not 100% happy with a visit, I'll make it right or refund it. That's a promise. — Bill

Something Seems Off?

Notice it, then take the safe next step



Anything electrical is always a pro's job -- never open the equipment.

Illustration - a schematic, not to scale. Your setup may differ.

You Notice; the Pro Fixes

Stay on the left and you stay safe

	Your part	The pro's part
Low output	You spot it	Pro diagnoses
Leaning post	You see it	Pro resets it
Loose bolt	You notice it	Pro tightens
Chewed wire	You find it	Pro repairs
Warning light	You read it	Pro clears it

No electrical work is ever your job -- always call the pro.

Warning Sign to Likely Cause

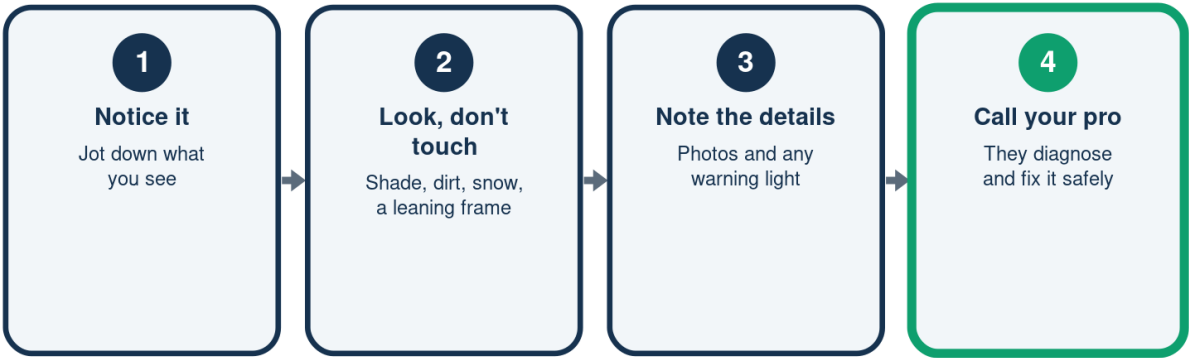
For understanding -- your installer confirms it

	Warning sign	Often means
Power	Output dropped	Shade or fault
Frame	Leaning array	Frost heave
Metal	Rust or wobble	Loose hardware
Wiring	Gnaw marks	Critters
Inverter	Red light on	A fault; call

A guide to what you're seeing -- not a repair manual.

When Something Seems Off

A calm, safe way to handle it



Looking is safe; opening live equipment never is.



Need a Real Person?

You do not have to remember all of it.
You just have to remember you can call.
Friendly, in-home tech help -- I come to you.

BILL'S PROMISE

If you are not 100% happy with a visit, I will make it right -- or refund it. No awkwardness, no fine print. That is how I would want to be treated.

(330) 200-8042 · BillsHomeTech.com

Bill@BillsHomeTech.com · Mon–Sat 9:00 AM – 7:30 PM

— Bill

Prefer help without a visit?

Bill can screen-share and fix many things remotely — a flat \$49, free for Support Plan members.



A Note From Bill

A quick note from Bill.

I write these guides to make home tech a little less frustrating, and I do my best to keep every step accurate and up to date. Still, every home, device, and setup is a bit different, so I can't promise a guide will match yours exactly or fix your particular problem. These guides are for general information only — they're not professional, legal, or financial advice, and they don't replace your device's own manual or the manufacturer's instructions. Please go slow, use your own good judgment, and use everything here at your own risk. If a step involves electrical wiring, a gas appliance, a water heater, plumbing, or climbing a ladder — or if anything just doesn't feel safe — please stop and call a licensed professional (or give me a call at 330-200-8042). Bill's Home Tech and Bill Davis can't be responsible for any damage, data loss, or injury that comes from using these guides. Thanks for reading, and stay safe out there.

— *Bill*



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