

Blinking Sidelights for Series 3 Jaguar XJ-6 by Jag Upgrades

This modification transforms the static Sidelights, (the four side-marker lamps mounted on the side of each fender/wing), so they will 'blink' with the front and rear Turn Signal Indicators, and with the Emergency Flashers, as they do in the European version of the Series 3 XJ.

(the blinking European-style Sidelights were not used in USA cars, they are also smaller and more attractive than the US version but that's another story).

This is also a Safety improvement considering the traffic conditions of today: other drivers need to see your Turn Signals from every angle.

In the Series 3 XJ-6 or 12, the Front Turn-Signal/Parking Light assemblies are recessed deep into the bumper, so they cannot be seen from the sides of the car during daytime, and hardly at night if at all, so other drivers cannot see your intentions when they are by the sides of your XJ, not a safe situation to be in.

I thought that a solution for this had to exist in the XJ's wiring itself, and I found it: a simple 1-wire modification to each Sidelight! You will love this Mod because of its simplicity and low cost in materials needed. It is also Reversible. You can go back to static sidelights.

So I experimented with my XJ and after solving a few puzzles, it works! It costs between \$7.00 and \$10.00 for the supplies needed. Makes your XJ safer!

Materials needed:

- 1)Two (or four) wire Tap Splicers for 22 through 18 gauge wire, no need to solder anything with this mod, the Tap Splicers are safe and sturdy enough. (see picture).
 - 1)2)Bag of 4-inch long, Nylon Ties; (you will use these in all 4 Sidelights and you'll be glad with the leftover ties). (see picture).
 - 3)Four sections of 18-gauge wire: Two sections measuring 48 inches each for the Front Sidelights, two sections measuring 9 inches each for the Rear Sidelights. The wire insulation can be Green or Black, your choice, Yellow looks great!, but whichever color insulation you use, get the four new wire sections in the same color and make sure it is 18 awg.
 - 4)
 - 5)Four plastic wall Anchors with 'shoulders', size 3/16" or 1/4" Inside hole Diameter. (for the Front Sidelights). These are the kind you insert into the wall, then insert screws into them, (used in wallboard); The 'shoulder' prevents the Anchor from being pushed through the wallboard hole. The actual size needed may depend on the year your S3 XJ was made. Just get 4 of each size, they only cost about 6 cents a piece, and you might already have some laying around. (see picture).
 - 5)Four Nylon Washers with a 3/16" or 1/4" center hole. (for the Front Sidelights).
 - 6)Four Nylon Machine Screws size #8-32 x 3/4" long. (for the Rear Sidelights).
 - 7)7)Four Nylon machine screw Nuts size #8-32. (for the Rear Sidelights).
- all the above parts can be found in one trip at Lowe's or Home Depot in their Specialty Fasteners

hardware section. Radio Shack may have some of these but not all.

8) Package of 15-Amp spare Fuses. (yes, you'll blow fuses testing this mod, fuses protect your circuits and wiring so blow them without fear). at any auto parts store.

Tools and other needed:

small shop towel, electrical tape, wire cutter or scissors, phillips and flat screwdrivers, needle-nose pliers, 5/16" socket and small ratchet. a flashlight and a small mirror to illuminate the inside of the Front fenders.

These instructions are detailed for the do-it-yourselfer, no details are left to wonder about. Once you do the first Sidelight, you'll understand how easy it is.

First Things First:

Park the car in a comfortable working place turning the front wheels to the extreme right or left, depending on which Front Sidelight you will modify first; You will be working outside and inside the Front fenders; Removing the tires from the car is not necessary. I recommend you do the Driver's Sidelight first, (left front side on LHD cars), it will be easier than the Front Passenger side, so park and turn the front tires to maximum right because the experience gained on the Driver's side will help you complete the Passenger side in half the time, (the passenger side front fender has the Charcoal Canister and all the hoses there, so No Smoking!., there are fuel vapor lines in that area).

1) Remove the one Phillips screw from the Amber plastic lens on the Front Driver's side Sidelight, remove the lens and the foam gasket, (don't remove the bulb), put those parts on top of the front bumper for safety. (TIP: If your foam gaskets are deteriorated, you can make new ones from foam pads sold at craft stores like Joann's Fabrics or Michael's, the foam material is the same, then you can trace the lens over the foam pad and cut with scissors 1/16" inside the trace line, since the old gasket has probably shrunk it won't make a good template).

2) Bring a light and mirror under the fender to see the sidelight studs; Remove the two nuts and washers from the sidelight studs. In my car the nuts are 5/16", in some XJ they are 10mm. Put those near the other parts you just removed.

3) Carefully pull the Sidelight assembly and its black rubber gasket off the fender, gently pulling the 2-wire Harness through the large round hole to the outside until you can see the connections at the rear of the Sidelight assembly; At this point, wrap the Sidelight body/assembly and studs in the shop towel so no accidental damage is done to the paint by the two studs in the rear of the Sidelight body. Keep the towel wrapped in place with electrical tape or a rubber band, don't cover the bulb and the harness connections, but keep them away from touching the fender or the bumper's chrome metal. You will see why later.

4) go to the Front Bumper (driver's side): Remove the two Phillips screws from the Turn Signal/Parking Lamp assembly, then push the assembly forward (pushing it from behind) and unscrew the Bulb socket behind it by turning it one way or the other, remove the amber Lens assembly and put it and the screws on top of the bumper. (aren't you glad old XJ have massive Bumpers that double as a Shelf?). Push the Bulb socket assembly and harness back out through the bumper-cutout and let it hang below the bumper. Don't remove the Bulb either, but this will

be a great time to renew or clean all those bulbs.

Observations:

Go back to the Sidelight; Observe that the Sidelight wire harness has two wires connecting to the Sidelight bulb socket on the rear; One wire is Red, the other wire is Black. Observe that the Black wire is attached to the SIDE of the bulb socket with a 'bullet' connector which goes inside a round "spring clip" holder attached to the Bulb socket; That Black wire is the Ground/Earth/Negative wire for the Sidelight; Check to see if you can move the Black wire's bullet inside its clip holder, the bullets become loosened with age and this is exactly what you are looking for. If you can move it or turn it, then it can be removed easily, so remove the bullet from the holder by gently pulling it or pushing it back from the opposite side of the bullet until it comes out from the clip in one piece. Easy. The spring bullet holder clip has a tendency to break. The Red wire goes through the rubber cover and makes contact with the bottom of the bulb, that is the Hot/Sun/Positive wire. All four Sidelights are wired identically. Leave the Red wires alone, they will not be modified or messed with.

SAFETY STEP:

After removing the bullet connector from the spring holder, pull the Black wire from the bullet by holding the bullet gently with pliers, and pulling on the wire, it should come off, the wire is not soldered.

Next you need to seal the exposed copper strands of the Black wire with Electrical tape, because that Black wire will not be used again, it needs to be sealed and isolated from making accidental contact with anything from now on. If you or someone else should want to go back to non-blinking Sidelights, they can simply re-insert the wire to the bullet and then to the spring holder.

Once you seal the 'bullet' with tape, fold the Black wire back over the wiring harness and tape it again, then tie it with a Nylon tie, tight but without strangling the wiring harness. (electrical tape will dry out and start to come undone eventually, so tie it). Take care in this step, make sure that you SEAL and TIE the Black wire's end. By whatever means you seal that old Black wire, keep it isolated from other wires and from the car's Body forever and make sure it stays sealed permanently. The goal here is to protect the Jaguar's electrical system from any electrical accidents, now and in the future. I want to emphasize this precaution.

The actual Mod to the Front Sidelights wiring begins:

1) Remove about 5/8" of insulation from the end of a section of the new, 48" long, 18-gauge wire; Twist the copper strands tight and then insert that bare end of the new wire through the bullet connector's center hole. Then fold the new wire's strands over the side of the bullet just like they were before, and insert it in the spring holder clip again, just like it was before. Make sure it goes in tight, you might have to squeeze the Holder a little bit. (JUST A LITTLE BIT).

Basically, you are replacing the old Black wire with the new one. Once that is done, let the Sidelight assembly and new wire hang again. only over the rubber section of the bumper and away from any metal contact with the fender metal or the bumper chrome. This is very important from now on.

2) Run the New wire through the large round hole at the fender while wrapping it in a spiral, around and around the outside of the Sidelight Harness beginning at the Sidelight's Socket, as you move it towards the front of the car by following the Sidelight's wiring harness, securing the

New wire to the harness with Nylon ties every 3 inches or so until you get to the rear of the Headlamp Bucket area; Feed the wire through the rubber grommet located vertically on the side of the Headlamp Bucket assembly, (where other harnesses come and go through towards the LOWER FRONT of the car, not up). Use a flat screwdriver to push the new wire through the grommet if too tight; Once the wire goes through, you will need to get your hand in front of the grommet to find and pull the new wire until there's no more wire to pull, but don't pull it too taught, leave a little 'play', that's the reason for having a longer length of wire than it's really needed. You will trim any excess wire later.

3) Once the new wire is routed through the rubber grommet, continue wrapping the new wire down in a spiral around and around the Front Turn Signal Indicator wiring harness, (which you became familiar with at the beginning of these instructions when you removed the Front Left Turn Signal Indicator assembly, and left it hanging below the bumper, and which comes up to and through the large 'square' rubber grommet below the bumper). Finally, run the new wire through the large square rubber 'grommet' located under the front bumper through which the Turn Signal Indicator wire Harness comes out, continuing to spiral-wrap the wire around and around the harness until you get to the rubber 'boot' behind the Front Turn Signal/Parking Light Bulb Socket. Don't forget to add nylon ties to secure the wire to the outside of the harness as you spiral it towards the front Turn Signal Indicator bulb socket.

4) Now observe that the Front Turn Signal Indicator bulb socket Harness has 3 (three) color wires connecting to the Bulb Socket: Red, Black, and Green; The Green wire is the Turn Signal/blinker wire; You will now cut any excess length of the NEW wire and using one of the Tap Splicers, you will splice the new wire to the partially exposed Green colored wire just before it enters the rubber cover into the Bulb socket; Gently 'clamp' the Tap Splicer using the pliers. Tie the remaining wire with a Nylon Tie and you're done!

Make sure the Sidelight assembly/body and stubs are NOT touching the car's body or the bumper chrome anywhere, (that's why you wrapped it in a towel): It must be isolated from any metal contact.

1) turn the Light Switch to ON; (Switch Position number 2 (Parking lights): All four fender/wing Sidelights and the front and rear Parking Lights should come on as always, nothing different will happen in this step. If the two bulbs you have been working on don't light up, check the bulbs and Fuse Number 10.

2) turn the Light Switch to OFF;

3) turn the Ignition Switch to Position 2 (Radio) and push the Turn Signal Indicator Switch DOWN for a Left Turn indication: HERE IT IS: the left Sidelight bulb and the Front Bumper's Left Turn Indicator bulb should blink simultaneously (in unison). if no blinking, check for a blown Fuse first, (fuse number 10 counting from the Left in the Driver's side Fuse Panel under the steering wheel); Make sure that the Sidelight assembly is not touching any metal from now on, or else you'll blow the Fuse everytime you turn the Ignition Switch to ON; (the reason for the Spare Fuses!!) If the fuse did not blow, and still no blinking of the Sidelight, replace the Fuse with one of the new ones anyway, and check the two wiring connections you made, it can't be anything else, except the Bulb in the Sidelight may need to be reset in place from moving the

Sidelight assembly around, the bulbs are very sensitive. If the Left Sidelight is blinking, Smile! turn OFF the Ignition Switch;

4) Turn ON the Emergency Flashers Switch: Both the Left Sidelight and the Left Front Bumper Indicator bulbs/lamps should Blink in unison, (but not the other Sidelights because you haven't modified them yet). You are now almost done with the first Sidelight, (otherwise stop and go back to recheck everything). Now turn everything OFF if everything worked ok. Go back and re-install the Bumper Lights Assembly carefully.

Now to the Sidelight mounting area at the fender; EVERYTHING OFF in this following step: There are two small stud holes and a large round hole at the side of the fender, where the Sidelight assembly mounts to the fender; You need to insert/press two of the plastic Anchors through the two small holes, making sure the 'shoulder' of the anchors ends up 'flush' with the painted side of the fender. (you need to get the right size anchors for this to happen, the holes may be a different diameter in your car than mine, the Anchors should fit tight, without movement, otherwise their center hole will be too small for the sidelight studs to go through them). If the anchors fit tight, using your wire cutters or scissors, cut the excess anchor material from behind the fender leaving about 1/16th" inch of the anchor material, in other words, no need to cut the anchors flush with the inner side of the fender. The Wire Cutters come handy here, you can do this in place without removing the anchors after pressing them in. (the picture shows a red line where you should cut after the plastic anchor is pushed in place).

Once the plastic anchors are in place, remove the towel from the Sidelight and re-mount the Sidelight assembly to the fender making sure the studs go through the nylon Anchors, (it might be tight at first but they will go through, you can also enlarge the hole with a drill bit if necessary. (don't use too much force while pushing the sidelight or you could bend the fender/wing). Once the studs come through to the rear side of the fender, FIRST insert a Nylon Washer over each stud from the rear, then insert the normal metal washers and hand tighten the nuts in place, ONLY hand tightening the nuts at this point while pressing the Sidelight assembly towards the fender; The excess 1/16th of Anchor material in the rear will be flattened-compressed when you fully tighten the nuts with the socket and ratchet, serving as insulation-isolation. Why isolation ? you will learn why if you don't know already:

MORE CHECKING REQUIRED BEFORE FINISHING:

Turn the Ignition switch ON to Radio Position #2, push the Turn Indicator stalk switch down for a Left Turn Signal, observing that the Bulb is blinking as you start to tighten the Sidelight assembly nuts with the socket and ratchet. If the Bulb goes OFF or stops blinking, the Sidelight assembly is touching metal somewhere and chances are the Fuse blew, so check and replace the Fuse again if needed. Then recheck the Sidelight to see where it may be touching the body. (at the worst case, you might need to enlarge the large round hole in the center of the small stud holes so that the Bullet Connector Holder does not make contact any part of the fender/wing, but that is unlikely, the factory hole is large enough)

THE THEORY BEHIND THIS MOD:

The reason for the plastic anchors at the Front Fenders is that after this wiring modification and from now on, NO METAL PART of the Sidelight Assemblies should make contact with the car's BODY. The Front Sidelights' body, the two metal studs, the metal washers, nuts, and Bullet

Holder need to be isolated from touching the fender/wing. The anchors will provide the isolation for the studs. The nylon Washers will provide isolation for the metal Washers and Nuts. The Rubber Gasket behind each Sidelight assembly will prevent the Sidelight body itself from touching the car's body.

Remember that you removed the Ground wire coming from the Wiring Harness into the Sidelight, replaced it with the New wire, and then spliced the New wire to the **HOT GREEN WIRE** at the Front Turn Signal Indicator??, You end up with a concept called "**FLOATING GROUND**". **Floating Ground WORKS**, Ford does it at their factory. **BUT:** if any part of the Sidelight assembly touches the metal of the fender after the wiring modification, the Fuse will blow because the Sidelight body is metal and the fender is metal and they will try to ground themselves again, causing a short and blowing the fuse. If the Fuse blows again, you know that some part of the Sidelight body is making contact with the fender's metal, so **TEST, TEST, RETEST**, make sure the Sidelight body or its parts **DO NOT TOUCH** any body metal, tighten the Sidelight nuts slowly while watching the blinking bulb at the Sidelight. The two Studs and the Bulb Socket go through the fender and even the slightest touch with metal will blow the Fuse. **Remember, Modify and TEST ONE Sidelight at a time, don't rush this job.** Fortunately, there is no risk of frying any wiring harness or causing any damage with this mod. **The Fuse will protect the circuit by blowing** and shutting down the circuit, isolating it. I have used this mod for years before even considering sharing it. I am satisfied it works without any potential risk as long as complete isolation is achieved.

NOTE: At the Rear sidelights, the mod is easier as you will discover.

Here's what you have after modifying both Front and Rear Sidelights:

With the Light Switch OFF, (daytime), all four Sidelights will now blink **in unison** with the Front and Rear blinkers/turn signals whenever you use the Turn Signal Switch for a Left or Right Turn Signal; When before they were always OFF during daytime with the Light Switch OFF, now they will blink on and off with your normal blinkers. This means that other drivers can now see your intentions from the side of your Jaguar, but they couldn't before unless they were in front or behind your car.

The Emergency Flashers and the Sidelights will blink in the same way, in unison when the Light Switch is OFF, this means that you will have 8 Emergency Flashing bulbs when you use the Emergency Flashers. (when you only had 4 before). This means that in rain or fog or snow or emergency, your car **WILL BE SEEN** from every angle when you use the Emergency Flashers or the Turn Signals.

BUT THIS GETS BETTER!!!

With the Light Switch ON, (nighttime or during the day if you wish), the Sidelights or the Emergency Flashers will now blink **intermittently** with the normal Turn Signals as long as the Light Switch is ON; That means that when the original Turn Signal Indicator Bulbs are on, (at the Front and Rear), the Sidelight Indicator Bulbs are off, and viceversa. The Blinking speed is not changed. **AND**, when you turn the blinkers to OFF, or the Emergency Flashers to OFF, but the Light Switch is ON, the Sidelights are ON and stay ON continuously as they did before the

mod. Nice eh? This works in every logical way. What more could anyone ask for? And it works without any compromise! It also looks very cool when the lights are blinking intermittently at night, very high Tech! Even better still, the XJ-6's Bulb Failure Sensor continues to work normally. Nice, nice, very nice.

THE REAR SIDELIGHTS: The same precautions apply to the Rear Sidelights but it is so much easier since all the parts are close to each other and there's easy access. Remove the Rear Sidelights and the Rear Lamp Lenses and assemblies on each side for easy access to the wires, (all it takes is removing 10 Phillips screws per side). I took this opportunity and cleaned all the Lenses, Bulb Assemblies, and cleaned the bulbs to make them shiny and bright, they collect a lot of grime inside those assemblies after years on the road, you'll be amazed how the inner assemblies' chrome shines after cleaning. (NOTE: do not use Windex, it damages the chrome inside). Use only warm water and a wet towel, then dry and polish with a dry towel.

The Rear Sidelight assemblies are attached to the rear fenders with 2 phillips screws, no studs, no washers, no nuts; There is a threaded metal bar riveted inside/behind the fender as you will see. To achieve isolation at the rear Sidelights, you will simply replace those two metal screws in each Rear Sidelight with the #8-32 Nylon screws and add a #8-32 Nylon nut inside the fender for added security. The #8-32 Machine screws fit perfectly through the existing threads. Remove the Black wire Bullet, Remove the wire from the bullet, fold, seal, and tie the original Black wire back over the Sidelight harness, same as you did to the Front Sidelights. Attach the New 9" length of wire to the bullet, then to the bullet holder at the Sidelight socket.

Now you can either Splice the other end of the new 9 inch wire to the Green/Red Stripe wire to the rear Lamp Assembly Harness Wire, (the Turn Indicator bulb/wire is the third down from the top). The rears took 15 minutes each to complete. **TIP:** I didn't even use a Tap Splicer in the Rear Sidelights, I simply inserted the twisted strand of the New bare wire end into the Harness Plug's Hole which connects both Green+Red Stripe wires to the Lamp Assembly and pressed the plug sections together, "built-in splicing" so to speak. Then I wrapped the plug and New wire with electrical tape and added a nylon tie to the tape. This is why I specified 2 OR 4 Tap Splicers in the Materials List, you might use only two splicers if you prefer.

This Mod is about Safety and upgrading my and your XJ to modern standards of lighting as demanded by traffic conditions. I would not go back to non-blinking Sidelights after living with the benefits of this mod, so arguing about 'originality' in this case is pointless for me. "Original" is not always "Better".

Now you know the answer is in the wiring itself.

Remember: TEST, TEST, and RETEST and verify. Don't try to do it in a hurry because you could cause damage to your car. I spent time doing it, perfecting it, and even re-doing again until I was satisfied. You don't need to do the same because I did that already for you and that is shown in these instructions, so enjoy! Any improvements or suggestions to this Mod? welcome, send them to me, I'll add them to these instructions and give you credit if you wish. Don't forget to print and keep a copy of these instructions in your Owner's Manual for the next owner or mechanic to know what was done to modify the Sidelights to blinking sidelights.

Tip: The Sidelight Lenses are different on each side. There is a Left and a Right side in either the Red or the Amber lenses. They have a water drain cutout which should face down, to drain any water that might enter the assembly, so the Left side lenses will not work on the Right side and viceversa. Trivia Tip #2: The Sidelights in the Series 3 XJ shipped to the US were also used in some Rolls Royce cars during the same period! (I still like the European XJ Sidelights better).

Disclaimer-The Fine Print: I experimented in my car with this Mod and it worked and my car survived. I cannot guarantee results in your car. You experiment in your car at your own risk. I will not be responsible for fried Fuses or any other unforeseen or non-anticipated problems. I haven't had any electrical problems and I hope you don't have any either. But I don't know about the wiring integrity of YOUR car, I only know about MY car's wiring integrity. This solution works great and continues to work great in MY car. I have tested it in every way that I could think of, for any conflicts or problems, none have shown up. If you follow these instructions to the letter, and if your wiring is factory-original as described here, you should not have any problems. This Mod applies specifically to the Series 3, Jaguar XJ of the 1980's. I don't know about other Series or years, but the Floating Ground concept is used by other car companies.

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