

X-BRIDGE (U.S. STANDARD)

INSTALLATION MANUAL & USER'S GUIDE

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1. PACKAGE CONTENTS

One (1) fully assembled X-Bridge
One (1) tremolo arm
Three (3) springs
Two (2) bridge posts
One (1) spring claw with mounting screws
One (1) prewired stereo output jack with washer and nut
One (1) volume pot (5 Megohm)
One (1) hex wrench for tremolo arm and saddle height adjustments
One (1) piece of 10" insulator sleeve
One (1) cable tie
Three (3) neoprene rubber bumper pads

2. OVERVIEW AND CAUTIONS

The X-Bridge is a tremolo bridge pickup that is a drop-in replacement for the American Standard Strat bridge. Post spacing is 2.2" center to center. The Passive Stereo kit provides for independent outputs for the magnetic and X-Bridge pickups via the "tip" and "ring" contacts of a stereo jack. A volume pot for the passive X-Bridge takes the place of a middle tone control. The tone functions are summed onto the other tone pot. The wiring is designed for a typical 3-knob Strat. These instructions are written for guitars already set up with a tremolo bridge. There is no physical modification required to the guitar body or pick guard.

We do not provide installation advice or support for home or hobbyist installations. Installers: please read the instructions carefully before proceeding. We will not be responsible for any damage to the guitar or personal injury resulting from installation, use or misuse of the product.

Do not lift the saddles up off the bridge plate to see how high they will go! This tempting investigation has a high probability of damaging the pickup. There is ample pickup wire to allow the full range of saddle movement for height and intonation.

3. INSTALLATION

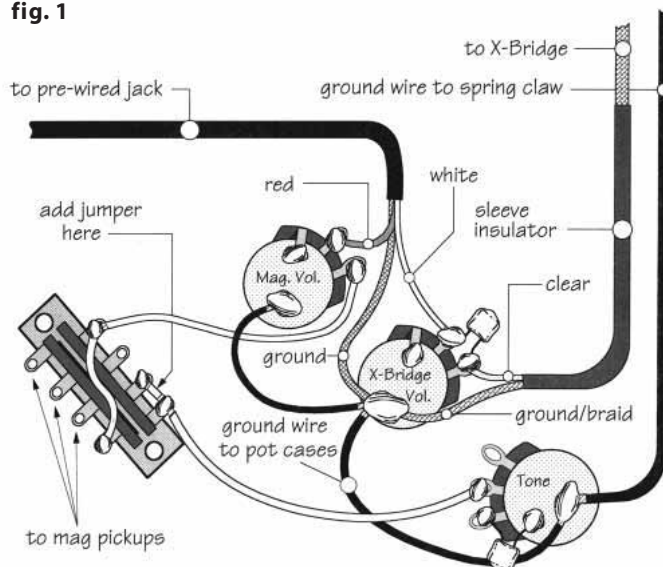
1. Check to see if the X-bridge will fit over the existing posts on the guitar. If not, you will need to fill the holes and drill new ones to accommodate the posts provided with the kit. Drill the new holes 6mm in diameter, 2.2" apart to center and 13/16" deep.
2. If you do not already have a claw in the spring cavity, install the one provided now. Be sure to solder a separate insulated ground wire from one of the pot cases to the spring claw as shown in figure 1.
3. Set the bridge into the cavity over the posts and connect the three springs to the claw and bridge block.
4. Feed the braided coax wire from the bridge into the electronics cavity through the hole for the ground wire. Be sure to leave enough loose wire in the spring cavity to allow full movement of the tremolo arm. Cover the coax wire in the electronics cavity with the 10" insulator sleeve provided. You may use the cable tie (provided) to secure the insulator sleeve and to bundle wires together as appropriate. Do not over-tighten the cable tie -- it can cut the inner insulation. Do not insulate the portion of the coax wire within the spring cavity.
5. Disconnect and remove the existing jack and middle tone pot from the guitar. Replace them with the ones included in the kit and connect as shown in Fig. 1. Be sure to remove the wire that connects the middle tone pot to the switch and solder a jumper between the two lugs on the switch for the tone controls.

Note: The volume pot has a bypass capacitor pre-soldered to it. This capacitor maintains the high frequency response of the X-Bridge as its volume is reduced. Do not remove it.

4. SETUP AND ADJUSTMENT

1. It is highly recommended that the posts be set so the saddles are sitting a little up off the bridge plate, on the hex adjusting screws, when the action is right. This will minimize the chance of the pickup wires being pinched between the plate and the saddle. Please resist the temptation to lift the saddles off of the bridge plate just to see how high they will go or what's underneath! This activity will have a high probability of damaging the pickup.

fig. 1



2. It is common to set the spring tension so the bridge plate is pulled just flush onto the body when it is at rest. This greatly minimizes tuning inconsistencies and eliminates the "warble" sound that full-floating bridges are noted for. This is the setup we recommend.

The X-Bridge pickups are pressure sensitive and depend on string tension to make sound, so there will be a limit to the amount of usable downward pitch bend that is available before the pickups start to cut out. The limit of downward pitch bend is approximately two and one half whole tones when the bridge is set up parallel to the body.

You may want to set your bridge up in the full-floating mode to enable an upward pitch bend. This is usually accomplished by loosening the tension of the springs and jacking the rear end of the bridge up off of the body a small distance. If this is the case, please note that the amount of upward pitch bend desired will be subtracted from the total downward pitch bend available. For example: If you jack the end of the bridge up enough to get one whole tone of upward pitch bend then you will be left with 1 1/2 tones of usable downward bend.

3. We have included a selection of self-stick neoprene rubber bumper pads that are to be used as shock absorbers to limit the rebound of the bridge when the tremolo arm is accidentally struck or released. Once you have arrived at the desired setup, turn the guitar around and see how much distance is between the front (spring table) of the bridge block and the cavity wall adjacent to it. Use one or more of the bumper pads to fill this gap so that the pad is slightly compressed between the bridge block and the cavity wall when the bridge is at rest. You may adhere the pads to the front of the bridge block, cavity wall or to both surfaces to achieve proper spacing. The use of these pads is optional but we feel that the bumper pads improve the manners of the bridge.

5. ALTERNATE INSTALLATIONS

1. (Replaces installation step 5) If you wish to retain the stock controls and do not want a volume control for the X-Bridge, replace the existing jack with the pre-wired stereo jack provided. Solder the red wire from the pre-wired harness to the middle pin of the volume pot and the shield wire to a pot case. Next, solder the hot (center) wire from the coax to the white wire from the pre-wired jack cable inside of the control cavity. Insulate these joints with some heat shrink or electrical tape. Then solder the braided jacket of the coax to a convenient ground location.

2. If you wish to retain the stock controls and you want to add a volume control for the X-Bridge, it will be necessary to drill a new hole in the pickguard to add the X-Bridge volume pot. You may also need to enlarge the control cavity on the guitar. Connect everything to the new jack as shown.

Note: There are other Strat models that have different tone control hook-ups. If you have one of these, just leave the tone knobs the way they are and solder the volume pots as shown. **Do not** combine the X-Bridge and the magnetic pickups together into the same volume pot.

6. USER'S GUIDE

A guitar equipped with an X-Bridge requires the use of a stereo 'Y' cable to access both the X-Bridge and magnetic pickups. This is a cable that has a stereo plug on one end and splits off into two mono plugs at the other end, one for each signal. The magnetic pickups will be on the 'tip' and the X-Bridge will be on the 'ring.' Each signal will require its own individual channel, even in a combo amp. Do not plug them into the same channel.

For best low end response, the X-Bridge should be plugged into amplifiers, effects or D.I.s that have a one megohm or higher input impedance. This is standard, but if the X-Bridge's low end sounds wimpy, look into this. Do not plug the X-Bridge into passive D.I.s.

For optimum results, the X-Bridge and the magnetic pickups should be in phase with each other when they are mixed together. If they are in phase, the mixed sound will have a full, rich tone quality. If they are out of phase, the mixed sound may be thin through the low mids and bass range. Since there is no phase standard for magnetic pickups, there is a significant chance that the magnetics will be out of phase with the X-Bridge. To further complicate matters, there is no phase standard even between the adjacent channels in dual-channel amps. The two channels of dual-channel amps are sometimes out of phase with each other. Since it is likely that the most common usage for the X-Bridge will be into these amps, we encourage you to experiment with phase to achieve the best results.

To change the pickup phase relationship with the passive kit, you must invert the phase of one of the signals outboard of the guitar. Our Para Acoustic D.I. box works wonderfully with the X-Bridge and provides instant phase control and E.Q., and acts as a direct input to the P.A. for it. If you do not have a Para Acoustic D.I., the simplest solution is to try another amp.

Another option is to run the two signals through separate amplifiers that are spaced as far apart from each other as the 'Y' cable will allow. The phase relationship is not important when the X-Bridge is routed to the P.A. amp. If you plan to only use the X-Bridge alone (for its acoustic sound), then phase in relation to the magnetics does not matter at all.

