

Kahler[®]
MADE IN USA

TRADITIONAL SERIES

TREMOLOS

INSTRUCTIONS FOR:

*BRIDGE INSTALLATION

*STRING LOCK INSTALLATION

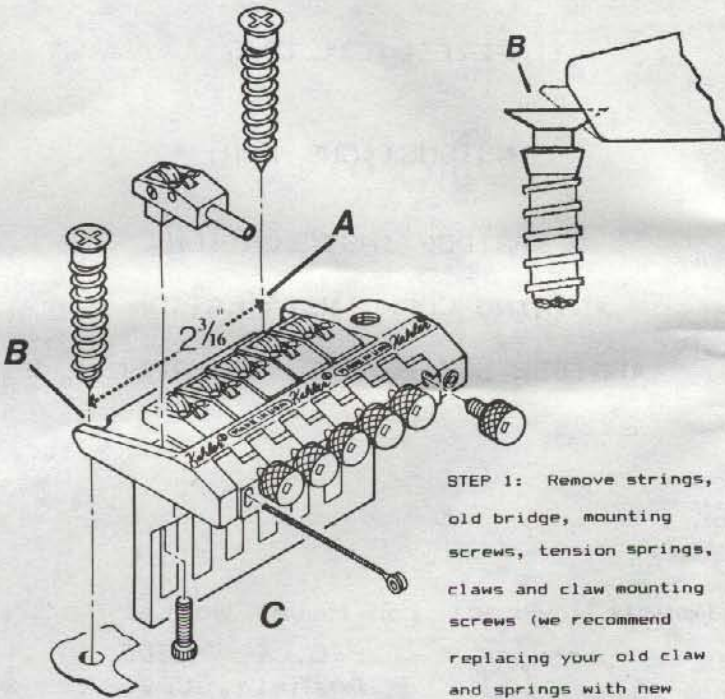
*BRIDGE SET-UP AND ADJUSTMENT

American Precision Metal Works, Inc.



P.O. Box 9305
Anaheim, Ca.
92802

**KAHLER TRADITIONAL SERIES
TREMOLOS
INSTALLATION INSTRUCTIONS**



STEP 1: Remove strings, old bridge, mounting screws, tension springs, claws and claw mounting screws (we recommend replacing your old claw and springs with new Kahler parts).

STEP 2: Check spacing of the two outside bridge mounting holes and confirm that they are the standard width apart. (Approx. 2 3/16") See drawing, part "a" (note: if your mounting hole spacing is non standard it may be necessary for you to plug your existing holes and re-drill two new holes in the proper location. If this becomes necessary be sure to consult with an experienced guitar technician)

STEP 3: Replace original mounting screws with fulcrum screws in two outer holes.

STEP 4: Turn guitar over to back side and re-fit new claw using screws supplied.

STEP 5: Place new bridge on new fulcrum mounting screws mating the fulcrum edge of the screw with the fulcrum indents on the front edge of the bridge. See drawing, part "b".

STEP 6: While holding bridge securely on pivot points, turn guitar over to back side and attach springs. (Note: the number of springs you install is your decision based on feel and overall range desired. Please consult adjustment instructions for more information.

STEP 7: Having installed bridge and springs check to make sure bridge is seated properly in fulcrum points.

STEP 8: At this point, if you have NOT installed your string lock, refer to STRING LOCK INSTALLATION INSTRUCTIONS and install string lock before proceeding to step 9. If you HAVE installed

it, proceed directly to step 9.

STEP 9: Re-string your guitar using the following procedure:

1. Insert new strings through holes (see drawing, part "c") below fine tuner screws at rear of bridge, making sure string runs under retaining roller and over saddle roller.
2. Thread string over nut and through string lock, attach to tuning pegs and bring strings up to pitch.
3. If you desire a floating tremolo action (that is, an action which allows you to raise as well as lower pitch) you should set spring tension accordingly at this time. Do this using the spring claw screws at the rear routing of the guitar.
4. Stretch strings one-at-a-time by grasping at approximately the 12th fret and pulling string away from the fingerboard. This will reduce tuning problems related to metal stretch and slippage of windings. (Note: to reduce this problem even more, use Kahler Guitar Strings!)
5. Set fine tune screws to middle position to insure maximum fine tuning in each direction.
6. Re-tune guitar
7. Clamp string lock
8. Re-stretch strings
9. Re-tune using fine tune screws. (Note: during this process it is helpful to give the bar several full range "whangs" to further "seat" the strings).

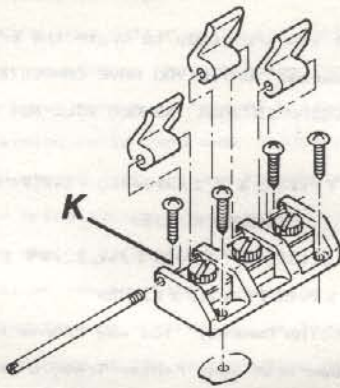
10. At this point you are ready to begin the bridge set up and adjustment procedures. UNTIL YOU HAVE COMPLETED BRIDGE SET UP AND ADJUSTMENT PROCEDURES YOUR TREMOLO WILL NOT PERFORM PROPERLY!

KAHLER TRADITIONAL SERIES TREMOLOS STRING LOCK INSTALLATION INSTRUCTIONS

PREFACE FOR VINTAGE GUITAR OWNERS: You may choose NOT to install the string lock included with your Kahler Tremolo in order to preserve as much of the original configuration as possible. The Kahler company respects this however we must emphasize that 1) This device is designed to operate as a locking system and therefore, 2) in-tuneness may suffer. Careful filing of the nut and proper string installation at the tuning peg will reduce risk significantly.

GENERAL INFORMATION: Two important rules apply to proper string lock installation.

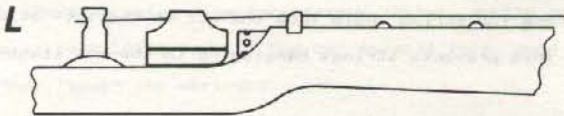
1. Always mount string lock as close as possible to the nut to reduce string movement between nut and lock.
2. Keep the string angle from the nut to the lock at a minimum. This prevents strings hanging up in the nut itself.



STEP 1: Disassemble locking levers by raising levers and unscrewing lever pin. This will expose two additional screw holes in the base of the lock. See drawing, part "k" (note-this step applies only to Delux String Locks).

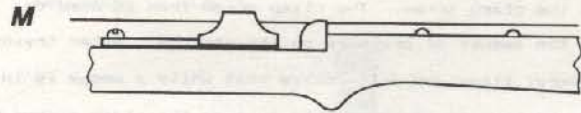
STEP 2: On guitar headstock styles such as drawing, "L", a shim under the string lock base may be required to reduce string angle from nut to lock.

STEP 3: On guitars with a "bullet" type truss rod adjustment replace the bullet nut with the Kahler bullet replacement.



Page 6

STEP 4: On guitar headstock styles such as in drawing "m" mount string lock directly on headstock and trim off end of truss rod cover as required.



STEP 5: When you have determined the proper position for the string lock on your guitar, install using the four screws provided. It may be necessary to pre-drill or start the screw holes.

STEP 6: Replace the three locking levers and re-insert the lever pin screwing it securely in place. (Delux string locks only)

STRING LOCK ADJUSTMENT TIPS

STANDARD STRING LOCKS: Properly installed, this device will help assure consistent tuning. When tightening clamp screws be sure hex wrench is completely inserted into screw to avoid stripping wrench hole. You need to tighten the screw only enough to clamp strings securely. After installing new strings take care not to confuse string stretch with lock slippage. You can easily check lock adjustment by pressing on each string between tuning peg and lock while plucking string. If pitch changes, re-tighten lock. If pitch does not change, re-stretch strings

DELUX STRING LOCKS: This device completely eliminates the need

Page 7

for adjustment wrenches. A simple understanding of the key parts is required to assure proper operation, however. Notice that the locking levers are used to press a wedge forward which in turn pulls up on the clamp screw. The clamp screw then is used to "fine tune" the amount of pressure on the strings. After trying the lock several times you will notice that while a wedge is in the forward position it is impossible to turn the clamp screws by hand. When this occurs, simply "pop" the wedge back with your fingernail. This will release the clamp screw and facilitate finger adjustment. As with the Standard string lock avoid overtightening. Always suspect string stretch first as the out-of-tune culprit.

**KAHLER TRADITIONAL SERIES
TREMOLOS
BRIDGE SET UP AND ADJUSTMENT
INSTRUCTIONS**

*****INDIVIDUAL STRING HEIGHT AND ARC ADJUSTMENT*****

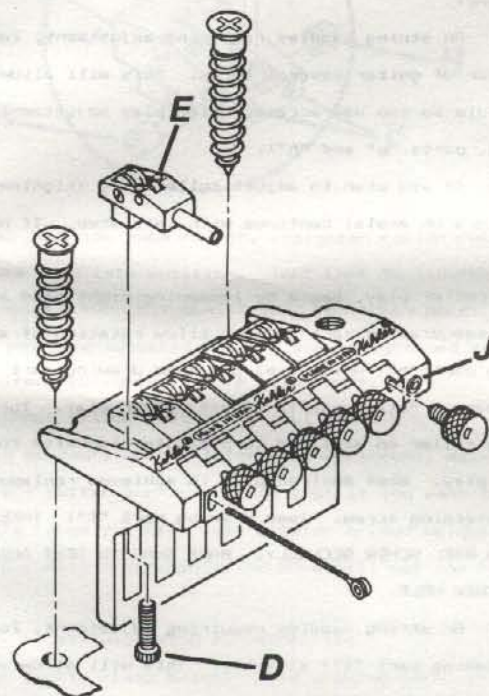
STEP 1: From the rear of the guitar, loosen the saddle clamp bolt (see drawing part "d") 2 turns using the wrench supplied with your bridge.

STEP 2: Insert wrench supplied into string height adjustment screws (see drawing part "e" and set desired playing action and string height. To raise string height rotate screw clockwise, to

lower string height, rotate screw counterclockwise.

STEP 3: Re-tighten saddle clamp bolt.

STEP 4: Check string height and readjust if necessary by returning to step 1.



INDIVIDUAL STRING SPACING AND ROLLER PLAY ADJUSTMENT

(Note-this only applies to Kahler Pro Fulcrum Tremolos)

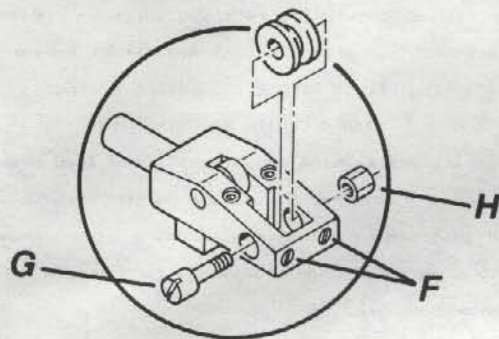
STEP 1: Determine which strings require right or left adjustment to correct spacing for pickups, fingerboard, or your own preference.

STEP 2: On string saddles requiring adjustment, loosen clamp bolt from rear of guitar several turns. This will allow you to lift the saddle so you may access roller play adjustment screws (see drawing, parts "g" and "h").

STEP 3: If you wish to adjust roller play (lightness or looseness of rollers on axels) continue with this step. If not, go on to step 4.

To set roller play, begin by loosening right hand axel retainer screw (see drawing part "f") to allow rotation of axel cap (see drawing part "h") while axel pin (see drawing part "g") remains stationary. Rotate cap to adjust roller play. Turn clockwise to tighten roller on axel and turn counterclockwise to increase roller play. When desired play is achieved reclamp axel cap with axel retaining screw. (see drawing part "f") TAKE CARE TO TIGHTEN AXEL SCREW SECURELY. MAKE SURE TO SEAT ALLEN WRENCH FULLY INTO SCREW HOLE.

STEP 4: On string saddles requiring adjustment, loosen clamp bolt (see drawing part "f") slightly. This will allow you to move the roller right or left as required.



STEP 5: As you position each roller, retighten roller retainer screws to secure them into position. TAKE CARE TO TIGHTEN SECURELY WITH WRENCH PROPERLY SEATED INTO HEX SCREW HOLE.

STEP 6: When you have adjusted rollers and retightened retainer screws as required, retighten saddle clamp bolt.

OVERALL BRIDGE HEIGHT AND TILT ADJUSTMENT

*Using Phillips screwdriver and fulcrum pivot screws, adjust bridge height off guitar surface. Note that if you want to maximize tremolo range you will need greater bridge height from guitar body. A little experimentation here will net the result you want!

INTONATION ADJUSTMENT

STEP 1: Loosen saddle clamp bolts. (see drawing part "d")

STEP 2: Slide bridge saddle forward or rearward to set

intonation. Notice our unique saddle design allows you to set intonation without constantly retuning strings! (Note: This procedure should not affect height adjustment however be sure to always set string height BEFORE intonating strings.

*****ARM CLUTCH ADJUSTMENT*****

STEP 1: Locate arm tension adjustment screw (see drawing part "j") at rear of bridge mounting plate behind tremolo arm hole.

STEP 2: Adjust arm rotation tension using wrench provided. To increase tension turn screw clockwise, to decrease tension turn screw counterclockwise.

*****KAHLER FULCRUM TREMOLO CARE AND MAINTENANCE*****

Your Kahler Traditional Series Tremolo is made with the finest workmanship and materials. It will yield many years of dependable service with a minimum of care. Please read and perform the next steps regularly to insure consistent performance and long life from your tremolo!

1. Lubricate the two fulcrum points at the front of the bridge mounting plate MONTHLY with a few drops of light machine oil.
2. Lubricate the tremolo arm threads MONTHLY with white grease. (Vaseline will work fine) If after some time dirty grease build-up occurs, wipe off dirt and residue before re-lubricating.
3. Clean saddle rollers with an old toothbrush MONTHLY. Use the brush to clear away dust and grit before applying one drop of light machine oil to each side of each roller.