

CONTEMPORARY
STANDARD
GUITARS



THE SOUND THAT CREATES LEGENDS

Fender Guitar Features

MODEL	27-5700	27-5800	27-4100	27-4200	27-5400
Adjustable Pickups	2 Single, 1 Humbucking	2 Humbucking	2 Single, 1 Humbucking	2 Humbucking	3 Single
Selector Switch	5-Position	3-Position	5-Position	3-Position	5-Position
Coil Splitter	Yes	Yes	Yes	No	No
Controls	1 Volume, 1 TBX	1 Volume, 1 TBX	1 Volume, 1 TBX	1 Volume, 1 Tone	1 Volume, 2 Tone
Tremolo	System III	System III	System II	System I	System I
Scale Length	25.5" (647.7mm)	25.5" (647.7mm)	25.5" (647.7mm)	25.5" (647.7mm)	25.5" (647.7mm)
Fretboard	Rosewood	Rosewood	Rosewood	Rosewood	Rosewood
Radius	12" (305mm)	12" (305mm)	12" (305mm)	12" (305mm)	12" (305mm)
Frets	22	22	22	22	22
Output Jack	Body/Side	Body/Side	Body/Side	Body/Side	Body/Top

27-4302	27-4400	27-5000	27-5500	27-5400
3 Single	1 Humbucking	2 Humbucking	2 Humbucking	2 Humbucking
5-Position	No	3-Position	3-Position	3-Position
No	No	Yes	Yes	Yes
1 Volume, 2 Tone	1 Volume	1 Volume, 1 TBX	1 Volume, 1 TBX	1 Volume, 1 TBX
System I	System I	System I	System I	System I
25.5" (647.7mm)	25.5" (647.7mm)	25.5" (647.7mm)	25.74" (627.7mm)	25.5" (647.7mm)
Maple	Rosewood	Rosewood	Rosewood	Rosewood
12" (305mm)	12" (305mm)	12" (305mm)	12" (305mm)	12" (305mm)
22	22	22	22	24
Body/Top	Body/Side	Body/Side	Body/Side	Body/Side

VOLUME CONTROL

The Volume Control allows you to control the volume level at the instrument.

TONE CONTROL

The Tone Control allows you to modify the instrument's tonal characteristics. The Contemporary Series guitars have a unique tone circuit that features Fender's new TBX Tone Control (Patent Pending).

The TBX Control provides both the conventional Fender sound and unique new sounds. Advancing the knob counterclockwise from the detent position gradually filters off high frequencies, moving the sound from bright to more mellow to provide all the Fender tonal characteristics previously available. Until now this has been the primary method of making tonal adjustments on electric guitars, but with the TBX Control, you also now have the option of adding presence and brightness by actually shifting the frequency response of the pickup. This is done by rotating the knob clockwise from the detent position. With this added capability, the TBX provides a whole new range of sounds not previously available.

PICKUP SELECTOR SWITCH

The pickup selector switch does just what it implies, it selects the pickups either alone or in combination. Dual pickup models are supplied with

a three position switch, while the three pickup models are equipped with a five position switch. Some models with humbucking pickups also feature mini-toggle switches which allow you to select between single coil and dual coil humbucking modes.

TREMOLO SYSTEMS

System III Tremolo

If your guitar is equipped with Fender's new System III tremolo it is extremely important that you *read the following instructions prior to use*. The System III tremolo is a finely engineered, high performance piece of equipment—its unique “tool free” design provides the finest in trouble free tremolo performance.

Features and Instructions

Tremolo Arm

One of the unique components of the System III is its tremolo arm—more than its normal function, it snaps in and out of its receiver, is torque adjustable for arm swing, contains the tools necessary for set up and adjustment and is utilized in the bridge locking feature of the tremolo.

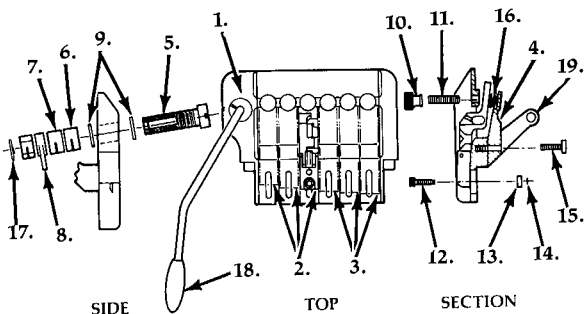
You will find two hex wrenches located in the tremolo arm—one is visible immediately and is located on the short, “squared” end of the arm, this is a 2.5 mm wrench and is used for adjusting the spring to string balance of the bridge and loosening the individual bridge saddle assemblies for setting

the intonation; the other wrench is 1.5 mm and is located by unscrewing the metal cap on the long end of the arm—it's used for adjusting the height of the adjustable nut and individual bridge saddles.

The System III bridge is designed so that it can be used as a fixed bridge (non-tremolo) as well as a tremolo. In order for this feature to work properly you must *make certain to insert the arm properly*. You will notice that the short end of the arm has a hex wrench inserted in the end (its function will be explained later). This is the end that is inserted into the receiving shaft located on the right hand side of the bridge. Install the arm by aligning the long end of the arm with line that is scribed on the top surface of the receiving shaft. Push the arm in until you feel it snap in place (it should take only a small amount of pressure to accomplish this if the arm is properly aligned). You are now ready to use the locking function of the tremolo arm.

If you depress the tremolo arm, lowering the pitch of the instrument, and look on the underside of the bridge, you will see a small blade *(see diagram A, #8) which is attached to the arm receiver shaft. *(see diagram A, #5) Keeping the bridge in its "lowered" position you will also see there is a "V" slotted block attached to the pivot block. This "V" slot accepts the blade attached to the receiver shaft when it is rotated by swinging the arm away from the strings (towards the controls). When the blade is seated in the "V" slot,

DIAGRAM A



1. Plate, Tremolo—Right or Left
2. Section Assy, Right
3. Section Assy, Left
4. Bracket, Spring Retainer
5. Insert, Threaded Arm Retaining
6. Nut, Split .265L
7. Nut, Split .190L (2)
8. Knife Blade
9. Washer, Nylon, Split
10. Knob, Fine Tune

11. Screw, Elevator, Fine Tune
12. Screw, Intonation Adjust
13. Nut, Square
14. Ring "E"
15. Screw, Spring Retaining Mfg.
16. Spring, Fine Tune Adjusting
17. Retainer, Clip Arm
18. Tremolo Arm Assembly
19. Spring Pin, Tremolo

the bridge is locked in position and functions as a fixed bridge. The position of the blade on the shaft determines where the bridge will be locked in relationship to the top surface of the body. It is preset at the factory so that when the instrument is properly adjusted, it allows you to raise the pitch of the first string one half step (one fret). The

blade has a minimal amount of adjustment range, which can be achieved by moving the spacer nuts (see diagram A, #'s 6, 7) to different positions on the shaft. This is best done by completely removing the bridge from the instrument, as attempting to do it while mounted could result in damage to the bridge and/or the guitar. If you do not wish to take advantage of the locking feature of the bridge and want the arm to swing freely, you can remove the blade from the shaft by following the instructions listed above for blade adjustment.

The swing of the arm can also be adjusted by tightening or loosening the nut on the receiver shaft, that is closest to the bottom side of the bridge plate. *(see diagram A, #6) This is best done by depressing the arm to the pickguard so that you have easier access to the nut. Hold the arm securely while using a flat open end wrench to turn the nut.

One of the benefits of the bridge locking feature is that it greatly facilitates the set up and adjustment of the instrument. With the bridge locked, you can do all your neck, bridge, nut and intonation adjustments without having to hassle with a bridge that would be moving around as you are tuning and de-tuning the instrument. After you have finished with all these adjustments and have accurately tuned the instrument to the required pitch, you simply unlock the bridge by rotating the arm back towards the springs. In most cases the bridge will either pull up further off the body or it

will drop down closer to the body—if you're real lucky, it will stay right where it is. If it moves, it is not a problem, as the bridge can be repositioned quite easily to line up with the locking mechanism by rotating the bridge balancing rod (you will find the hex nut adjuster located slightly under the strap button on the bottom edge of the guitar). Insert the 2.5 mm hex wrench into the hex nut and rotate it either clockwise (to bring the bridge up off the body) or counterclockwise (to bring it closer to the body). By checking the tuning of your third and fourth strings to your original tuning source, you simply rotate the balancing rod until those strings come back to their original pitch. Reinsert the arm into the bridge and rotate it to the lock position—if you've done everything properly it should be locked and still in tune. There will be more about proper adjustment procedures later.

Fine Tuning

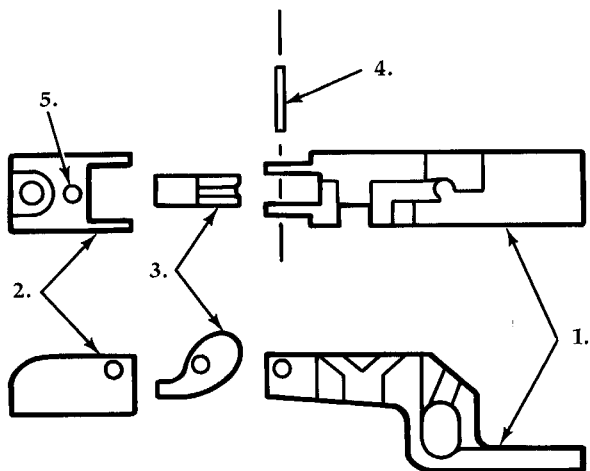
The System III bridge features a special fine tuning system—designed to deliver micro-fine tuning while maintaining a low profile, out of the player's way. This is achieved because the tuning wheels *(see diagram A, #10) are trapped—they don't move up and down when you rotate them—they are hollow cap nuts that are threaded internally. A headless bolt *(see diagram A, #11) is inside this cap—it goes up and down against the plate portion of the string receiver. *(see diagram A, #'s 2, 3) If you push the arm down slightly (to raise the bridge off

the body) and look through the back of the bridge, while rotating one of the fine tuning wheels, you will see how effectively this works. It is important when you are setting up your instrument or installing new strings to set these tuners at the half way point—this allows you to both raise and lower the pitch of the instrument when fine tuning. With the arm still depressed, set all the fine tuners to the halfway point.

Individual Adjustable Saddles

The Saddles on the System III not only feature a unique stringing system (designed so that downward string pressure on the saddle is maintained throughout the tremolo action range), but also feature individual string height and intonation adjustment. Height adjustment is accomplished by using a specially designed one screw adjustable cam saddle. *(see diagram B, #3) By using the 1.5 mm hex wrench, rotate the hex screw *(see diagram B, #5) located just in front of the saddle, clockwise to raise the string and counterclockwise to lower the string. The saddles are also adjustable for individual string intonation. The cap head hex bolt *(see diagram A, #12) located at the very front of the saddle assembly can be loosened using the 2.5 hex wrench. While the bolt is loosened, the saddle assembly can be slid forward or backwards until the string is properly intonated. When the intonation is set, you just re-tighten the hex bolt.

DIAGRAM B



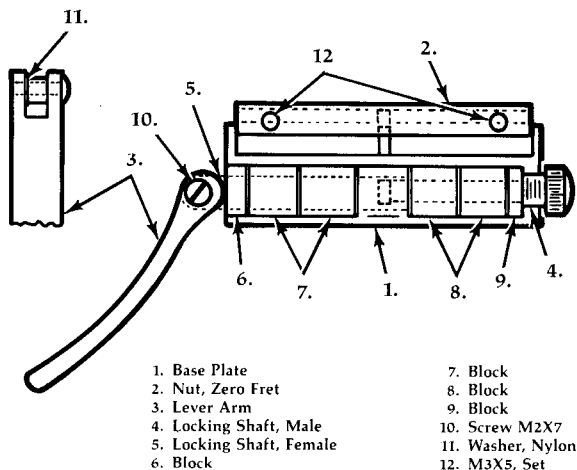
- 1. Lever Section
- 2. Pivot Section
- 3. Cam
- 4. Pin, Pivot
- 5. Screw

Height Adjustable Nut

Another unique feature found on the System III is its height adjustable nut. *(see diagram C, #2)

There are two 1.5 mm hex screws *(see diagram C, #12) located in the holes between the first and second strings and the fifth and sixth strings. By using the 1.5 hex wrench, you just rotate the hex screws clockwise to raise the nut and counterclockwise to lower the nut. *(see diagram C, #2) The

DIAGRAM C



two screw system allows you to raise or lower one side in relation to the other. The nut is held in place using a slot and pin mount so that it cannot fall out when there are no strings on the instrument.

Cam Arm Actuated String Lock

Located just behind the adjustable nut is Fender's patented side to side String Lock system. By using a cam arm *(see diagram C, #3) to open and close the vise blocks, *(see diagram C, #'s 6, 7, 8, 9) we have eliminated the need for tools for string locking. Because of its side to side locking action there is no effect on the tuning when the system is properly adjusted. The unit is also adjustable to accommodate different string gauges—simply loosen or tighten the thumb nut *(see diagram C, #4) on the left side of the system (per the instructions found under "String Lock Adjustment").

String Lock Adjustment

Caution: Do not over tighten the thumbscrew. Excessive pressure may cause string or cam arm axle breakage. If the cam arm requires an excessive amount of pressure to close, release some of the tension by loosening the thumbscrew (counter-clockwise rotation).

In order to take full advantage of the String Lock, and to ensure that you do not damage it, it is important that you read the following instructions

carefully before you attempt to adjust its tension. We have included two sets of instructions, one is slightly less complicated than the other. We recommend that you use the first method until you have familiarized yourself with the system, and have developed a feel for the tensioning of the string lock.

Method #1

With strings installed...

1. Loosen the thumbscrew counterclockwise until the cam arm closes freely. (Cam arm is open when it is swung down towards the fretboard; cam arm is closed when it is swung up towards the headstock.)
 2. With cam arm closed, tighten thumbscrew clockwise until finger tight.
 3. Open cam arm and tighten thumbscrew clockwise approximately $3/4$ turn.
 4. Close cam arm and test for proper locking of strings by loosening the tuning key on the second string (B string) $1/2$ turn. If string does not detune, you have reached the desired tension. If string does detune, or if you notice a problem with another string, go on to Step 5.
 5. Open cam arm and tighten thumbscrew clockwise $1/4$ turn. Close cam arm and check string detuning as per Step 4. Repeat this if necessary until desired locking tension is reached.
- Remember do not over tighten.*

Method #2

1. Set cam arm at the half way point between open and closed. Move cam arm slightly towards closed position.
2. Tighten thumbscrew until it is finger tight.
3. Close cam arm. If the cam arm feels too tight to close go back to the position in Step 1 and loosen thumbscrew slightly. Test for proper locking of strings by loosening the tuning key on the second string (B string) 1/2 turn. If string does not detune, you have reached the desired tension. If string does detune, or if you notice a problem with another string, open cam arm to the position in Step 1 and tighten slightly. Repeat until string does not detune. Once again be careful not to over tighten.

Regardless of which method you use to adjust the tension, the following points will help make it easier for you to benefit from using the String Lock.

- Do not lock the String Lock until you have completed all your adjustments and/or have completely stretched the strings. All strings must be stretched out completely by repeatedly stretching and re-tuning until the tuning becomes stable (this is best done with the bridge in its locked position).
- In order to ensure that there is no effect on the tuning when you lock the String Lock it is important to have the arm set around the half

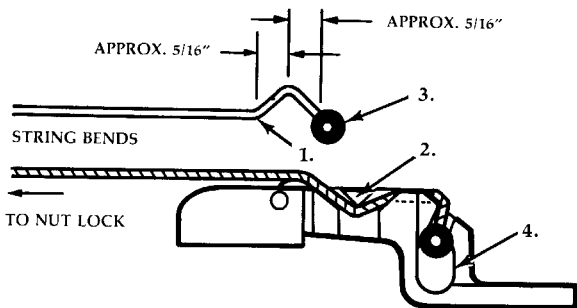
way point when you do your final tuning using the tuning machines. It should be open just enough to allow you to tune the strings. If the cam arm is opened to far this could cause movement of the string when locking — thereby disrupting the tuning.

- If by chance you happen to disassemble the string lock make certain to re-align the blocks correctly — there is only one way that the blocks can be re-inserted.

Stringing Procedures

The string receptacle portion of the bridge saddle has a unique "V" shaped block that applies downward pressure on the string right behind the saddle *(see diagram D, #2). This is located just in front of the cavity that accepts the ball or Bullet end of the string *(see diagram D, #4). The string

DIAGRAM D



itself has to have a double “V” shaped bend in it — one up straight and one inverted *(see diagram D) in order for it to seat properly. Although stringing may seem a little difficult at first, if you follow the steps listed below you will find that in a short time it becomes quite easy.

1. Place the cam arm of the String Lock in the open position.
2. Adjust the fine tuners so that they are in the full up position — this helps facilitate string insertion.
3. Lock the bridge.
4. Prebend the strings. You can do both bends as shown in Diagram D or you can simply do the one bend closest to the ball end of the string.
5. If you use the double bend method place the “1” portion of the string under the “2” portion of the saddle assembly *(see diagram D). If you use the single bend method simply slide the string under the “2” portion of the saddle assembly and pull the string towards the headstock until the bent section and the string ball come in line with the string ball cavity *(diagram D, #4).
6. Using the hex wrench on the short end of the tremolo arm push the ball or Bullet end (“3”) of the string into cavity “4”.
7. Firmly pull the string forward to temporarily lock the string. The string will not totally lock

until it is brought up to full tension during tuning. (It sometimes is easier if you have already attached the string to the tuning machine and have tightened the string slightly. This will apply some tension to the string prior to attempting Step 3. If you wish to try this method read Step 7 prior to attaching the string to the tuning machines).

8. With the cam arm on the String Lock in the open position slide the strings between the appropriate vise blocks *(see diagram C). You may have to loosen the thumbnut that adjusts the string lock tension to better facilitate this operation. Attach the strings to the appropriate tuning machine and tighten enough to take some of the slack out of the string.
9. Adjust the fine tuners back to the half way point—to ensure sufficient travel for raising and lowering the pitch of the string.
10. Tune the strings up to pitch using the tuning machines. Once again, all strings must be stretched completely to ensure that the tuning remains stable.
11. Perform any set up and/or adjustment procedures the instrument might need.
12. Follow the directions for tensioning and locking the String Lock.
13. Unlock the bridge.
14. Test the tuning by doing several dives and pulls with the tremolo—also bend a few

strings. If the tuning is greatly effected, the strings are not completely stretched. Open the cam arm to a position near the half way point, where you can tune using the tuning machines. Tune and repeat the string stretching exercise outlined earlier. Relock the String Lock and test again. Once you have stabilized the system you are ready to play — minor tuning touch ups can be done by using the fine tuners.

System II Tremolo

This is a fine tremolo system designed for those players who desire the improved stability of a string locking system but want the “vintage” feel of a more compact unit.

Tremolo Arm

While the bridge does not have the locking feature found on the System III, and does not have the adjusting tools in the arm, the arm does snap in and out of its receiver, and is torque adjustable for arm swing. The arm swing is best adjusted by utilizing the bridge balancing rod system (the same as found on the System III). This system eliminates the cover plate on the back of the guitar, and makes it extremely easy to adjust the spring to string tension. Access to the system is the 2.5 mm hex head screw located underneath the strap button on the bottom side of the instrument. Use the hex wrench supplied with the instrument and rotate the rod clockwise, until the string tension

pulls the bridge off the body—do this until you can easily put an open end wrench on the nut found on the arm receiver shaft. Place another wrench carefully on the portion of the receiver shaft located on the top side of the bridge. While holding one firmly, tighten or loosen the other nut, until you've attained the desired arm swing.

Individual Adjustable Saddles

The saddle assemblies used on the System II feature a unique stringing system, like that found on the System III—designed so that downward string pressure on the saddle is maintained throughout the tremolo action range. They also feature individual string height and intonation adjustment. Height adjustment is accomplished by adjusting the two hex screws located slightly behind the saddle. By using the 1.5 mm hex wrench, rotate the hex screws clockwise to raise the string and counterclockwise to lower the string. The saddles are also adjustable for individual string intonation. You will also notice that one of the bridge height screws on each saddle has a "V" point and is located in a "V" groove. This stops the saddles from moving from side to side. The slot head intonation adjusting bolts are accessible through the holes in the rear of the bridge plate. Turn them clockwise if the intonation is sharp and counterclockwise if the intonation is flat.

Height Adjustable Nut and Cam Actuated String Lock

The System II tremolo uses the same patented string locking system and adjustable nut as the System III. All set up and adjustment procedures are the same for both systems. Since the System II bridge does not have fine tuners it is even more important that you follow these directions carefully for optimum trouble free operation.

Stringing Procedure

The strings are installed in a similar fashion to the System III, however pre-bending the strings is not necessary. The ball of the string is first placed in the keyway slot located in the opening in the bridge plate. Pull the string over the first pin on the bridge saddle assembly (pin closest to the rear of the bridge). While holding the string somewhat taught push it under the second pin (located closest to the bridge saddle). Guide the string over the top of the hardened steel saddle and run it through the nut to the tuning machine as explained in the stringing section for the System III. An alternative method is to connect the string to the tuning machine prior to pushing it under the second pin. Slightly tighten the string allowing enough slack so that you can push the string under the pin (try using the short end of the tremolo arm to help accomplish this). Tune to pitch following all the instructions listed under the System III.

System I Tremolo

The System I features a fine tuning floating bridge with two knife edge pivots, height adjustable pivot posts, roller saddles, and snap-in torque adjustable arm. It also comes supplied with a three section screw actuated locking nut.

Stringing

Prior to stringing your guitar, set the fine tuners on the bridge to the mid-way point. This will not only ease string insertion (through fine tuner tongues and upper bridge plate), but it will also allow sufficient tuning range both up and down in pitch. When this is complete, insert the strings through the back bridge cover into the holes in the bridge sustain block. Be sure that the strings pass through the holes in the fine tuning tongues before emerging from the top of the bridge plate. This will ensure the fine tuners are functional. Pull each string into its own roller slot and into the locking nut as described below.

System I Nut Lock

The System I Nut Lock has three sections, each of which locks two strings in a vise-like manner with vertical pressure (in playing position), between the bottom of the lock blocks and the main frame of the nut lock.

When stringing the guitar, loosen the nut lock assembly by turning the hex screws counterclockwise with the wrench provided; thread the strings

through the nut lock, making sure each string is on the correct side of the locking screw and install them on the tuning machines. Tune the guitar to pitch, being sure to completely stretch all strings; the nut lock is then locked by tightening the three hex cap screws in clockwise direction.

Remember...do not lock the nut lock until you have completed all your adjustments and/or have completely stretched the strings. All strings must be stretched out completely by repeatedly stretching and re-tuning until the tuning becomes stable. For best results, set the vise locks so that the strings are almost locked, leaving only enough space to tune using the tuning machines. This ensures a minimal change in tuning when locked.

Test the string by doing several dives and pulls with the tremolo—also bend a few strings. If the tuning is greatly affected, the strings are not completely stretched. Unlock the nut lock, tune and repeat the string stretching exercise outlined earlier. Re-lock the nut lock and test again. Once you have stabilized the system you are ready to play. Minor tuning touch-up can be done by using the fine tuners on the bridge.

TRUSS ROD, ACTION, AND INTONATION ADJUSTMENTS

Because of travel effects, changes in string gauges, climatic conditions, and differences in playing styles, you might have need to adjust your Fender

guitar. If it becomes necessary, the following procedure outlines the standards set at the factory.

To make these adjustments, you will need the following:

- 1 — 2.5mm Allen Wrench (supplied)
- 1 — 1/8" Allen Wrench (supplied)
- 1 — 1.5mm Allen Wrench (supplied)
- 1 — Capo
- 1 — Feeler Gauge
- 1 — 6" Mechanic's ruler (with 1/64" increments) (15.2 cm)

1. Tuning

Tune the instrument to standard pitch.

2. Adjust Neck Curvature (Truss Rod)

Each Fender guitar is carefully adjusted at the factory. The truss rod and string height are set for optimum action and playability with regular gauge strings.

Under normal tension, the neck should have a slightly concave curvature. By creating a counter-acting force, the truss rod prevents the neck from bending excessively under the stress placed on it by the strings. The tension on the rod is adjustable so the correct curvature can be achieved by regulating the neck's resistance to string tension.

To check the truss rod setting, tune the guitar to playing pitch. Install a capo at the first fret, depress the 6th string at the fret where the neck joins the body. Using a feeler gauge, check the gap

between the bottom of the 6th string and the top of the 8th fret. The recommended string clearance should be approximately .010".

If an adjustment is necessary, insert the wrench (supplied) into the truss rod adjustment hole. Rotate it gently until you feel it engage in the hex socket.

If the neck is too concave, turn the wrench clockwise. If it is too straight or convex, turn the wrench counterclockwise while periodically checking the gap with the feeler gauge.

Periodically re-check tuning for standard pitch.

Caution: If extreme resistance is felt while adjusting in either direction, or if the neck has a convex bow that remains when the truss rod nut is loosened (Note: the nut should not be left loose, but should have at least a quarter turn.), DO NOT continue adjusting. Take the instrument to the nearest authorized Fender dealer or service center for inspection.

3. Set Bridge Height

The recommended string clearance at the 12th fret (measured by the distance between the bottom of the string and the top of the fret) is:

Strings 1-4: $5/64"$ (2mm) $\pm 1/64"$ (.4mm)

Strings 5-6: $3/32"$ (2.4mm) $\pm 1/64"$ (.4mm)

The above dimensions are the factory recommended settings only. The optimum height adjustment varies from player to player due to

differences in technique, playing styles, string gauges, etc. The instrument should be adjusted so that it provides you the ultimate in playing content.

System III

On System III each saddle is individually adjusted by using the single set screw located directly in front of the saddle. Clockwise raises and counterclockwise lowers.

System II

On System II each saddle is individually adjusted by using the two set screws located on the front of the saddle. Clockwise raises and counterclockwise lowers. Be sure both height adjustment screws of each bridge saddle rest firmly against the bridge plate. Also be sure each saddle is parallel to the bridge plate after adjustment.

System I

On System I the overall height of the bridge is set by adjusting the two pivot posts, one on each side of the bridge. This is done by using a wide tipped blade screwdriver placed in the slot section of the post, rotating counterclockwise to raise and clockwise to lower. Individual string height is not offered on the System I; however, the pivot post adjustment is more than sufficient due to the radiused bridge plate which matches the curvature of the fretboard.

4. Adjusting Spring Tension (Bridge/String Balance)

System III

Instructions for adjusting the spring tension on the System III tremolo bridge is explained earlier in this manual under the features section explaining the use of the tremolo arm and its role in the bridge locking.

System II

The spring adjusting system is identical to the one used on the System III tremolo. Since the System II has no bridge lock, a spacer block must be used for the setup. The block should be approximately $5/32"$ (4mm) thick and of a material that will not mar the finish (such as a soft wood). Depress the tremolo arm so as to raise the back of the bridge. Place the $5/32"$ (4mm) spacer block between the bridge and body. Tune the guitar to pitch. The bridge must stay tight against the block. If it begins to lift at this stage, rotate the bridge balance rod (hex nut adjuster located slightly under the strap button on the bottom of the guitar), counterclockwise until you can bring it to pitch without lifting. At this stage, completely stretch all the strings (sometimes it can be helpful to hold the bridge down with one hand while stretching the strings with the other). With strings to pitch, depress the tremolo arm to raise the bridge and remove the spacer block. This will cause your tuning to raise in pitch. Now using your tuning source (preferably an electronic tuner),

rotate the balance rod clockwise until the strings return to pitch. Your system is now in balance and any further tuning can be done using the tuning keys and lever action nut. Remember to have nut lock open just enough to tune. If cam arm is open all the way when you tune, it will be thrown out of tune when you lock.

System I

The System I tremolo utilizes a block in the setup just as the System II used above. The spring adjustment system is identical to a Vintage style system (two Phillips head wood screws drawing a claw back and forth with one end of the springs [3 to 5] attached while the other end is attached to the bridge sustain block). First, remove the six screws that hold the back tremolo plate in position and remove plate. The tremolo arm should be depressed so as to raise the back of the bridge, place the 5/32" (4mm) spacer block between the bridge and the body. Allow bridge to return back to body, trapping the block. Tune guitar up to pitch. If bridge raises and fails to trap block, tighten the two claw screws clockwise until spring pressure will trap the block with the strings all tuned to pitch. Stretch all strings out completely (sometimes it helps to hold the bridge down with one hand while stretching the strings with the other). Now remove the spacer block by depressing the tremolo arm. The pitch of the strings should now be raised. Using your tuning source (preferably an electronic tuner) and a Phillips tip screwdriver, turn the

screws which adjust the claw, counterclockwise, until the strings return to pitch. This should raise your bridge and return the bridge to the proper balance point. Do any final tuning adjustments on the fine tuners on the bridge.

5. Set Pickup Height

The pickups on your Fender guitar are fully adjustable for height. Adjustments are made by turning the Pickup Adjustment Screws located at each end of the pickups. Humbucking pickups also have individually adjustable pole pieces.

Depress all strings at the highest fret. Check the distance from the bottom of the 1st and 6th strings to the top of the pole piece. The measurement should be as follows:

1st string: $1/16''$ (1.6mm)

6th string: $3/32''$ (2.4mm)

Pickups mounted on the pickguard are adjusted in the following manner: to raise the pickup, turn the adjustment screws clockwise; to lower it, turn the screws counterclockwise. On models having the pickups mounted directly on the body, turn the adjustment screws counterclockwise to raise the pickup and clockwise to lower it. The recommended $3/32''$ (2.4mm) string clearance is measured between the pickup and the 1st and 6th strings when fretted at the last fret on the fingerboard.

Note: Pickups set too close to the strings can cause false tones and loss of sustain due to magnetic pull on the strings.

6. Check for Fret Rattles

With the instrument plugged into your amplifier and the pickup selector switch set to the neck pickup position, pick in the area between the neck and bridge pickups. Play each fret position, holding the pick parallel to the plane of the body, to determine that the strings do not buzz or rattle against successively higher frets.

Bend the first and second strings up one hole tone in pitch at the 12th, 15th and 17th frets. The notes should ring true, without choking off.

Due to differences in playing styles and picking techniques, action settings that produce no string rattle for one player may rattle when another player plays the instrument. If you have followed all the adjustment procedures listed and set the string action at the recommended setting, but are still experiencing fret rattle, you may require slightly higher than normal settings to accommodate your style of playing. If you still experience difficulties, take the guitar to an authorized Fender dealer or service center.

For optimum results, these adjustments should be made when the strings are in new condition. Tune the guitar. With the pickup selector switch set to the neck pickup position and the tone and volume controls at the maximum settings. Check the intonation of each string with an electronic tuner by playing the open string harmonic at the 12th fret and comparing this note with the note produced by fretting the string at the 12th fret. The pitch should be the same + or - 1 cent (1/100th

of a semitone). If the fretted note is sharp, the string must be lengthened by moving the saddle back; if the fretted note is flat, the string must be shortened by moving the saddle forward. After each adjustment, retune and repeat this test until both notes produce the same pitch. The procedures for doing this are as follows:

System III

Detune the string in question. Loosen the Allen-head cap screw that holds the bridge saddle in place. Manually move the saddle to compensate for sharpness or flatness. Lock the capscrew, retune and check intonation again. Repeat these steps on each string until proper intonation has been achieved.

System II

Adjust the slot screw at the end of the bridge clockwise to lengthen the string and counterclockwise to shorten, depending on whether the string is sharp or flat in relation to the open 12th fret harmonic. Retune and retest after each adjustment.

System I

Loosen the Allen-head cap screw that locks the bridge saddle in place. Adjust the Phillips head screw at the end of the bridge clockwise to lengthen the string and counterclockwise to shorten, depending on whether the string is sharp or flat in relation to the 12th fret harmonic. Retune and retest each adjustment. To lock bridge saddle

after all adjustments are made, turn Allen head cap screw clockwise until tight. After the cap screw is locked, tighten the intonation adjusting screw to assure it doesn't become loose and rattle.

NECK ANGLE ADJUSTMENT

The Fender instruments feature 4-bolt neck angle adjustment for adjusting the pitch of the neck to the body. Fender instruments are designed using almost no neck angle. They are adjusted at the factory to maximize the adjustment features of the bridge section.

You can custom adjust the neck angle to change the height of the strings from the body surface. This requires readjusting the bridge height to accommodate your playing style.

If you wish to increase or decrease the amount of neck angle, be sure to check the height of the bridge saddles to ensure they are not already at the extreme limits of adjustment. They will determine how much neck angle you can have. You cannot increase or decrease the neck angle beyond the adjustment range of the bridge saddles.

To adjust the neck angle, loosen the four neck mounting screws. The two screws nearest the edge of the body should be loosened about 1/4 turn each. The two screws located toward the center of the body should be loosened approximately 2 turns.

Insert the special 1/8" Allen Wrench (supplied with the instrument) into the hole in the neck mounting plate. Rotate the wrench, gently, until

you feel it engage in the hex head slot. Turn the wrench clockwise if you wish to increase the amount of neck angle; turn it counterclockwise if you wish to decrease the amount of neck angle.

After the adjustment is complete, re-tighten the four neck screws in the proper sequence; the two furthest from the neck angle adjustment hole, then the two closest to the hole, being careful not to over tighten. The screws should be tightened until they are seated, but should not be forced. Overtightening can cause the screw to strip out the corresponding threads in the neck. If the neck angle does not require any tilt, after tightening the four anchoring screws, be sure to turn the Allen screw clockwise until you feel resistance. This will prevent the Allen screw from causing unwanted vibrations.

CARE OF YOUR GUITAR

Your new Fender guitar is precision made to give you many years of satisfaction. A few simple maintenance procedures will help you keep your instrument playing like new.

After you have finished playing, thoroughly wipe the entire guitar, including the strings, with a clean, soft cloth. Regular cleaning with Fender Polish is recommended.

Avoid exposing the guitar to any chemical or substance that might mar the finish, or to direct sunlight or other sources of excessive heat, humidity or shock.

Caution: It is important to avoid sudden changes in temperature, since this causes the wood to expand at a different rate than the finish, which may result in checking. While this condition does not affect the tone, it does mar the appearance.

Let the instrument warm up in its own case. Then, open the case slowly allowing warm air to enter gradually. After the instrument is removed, leave the case open so it too can warm up thoroughly.

String tension should be reduced during shipping to avoid possible damage.

Dirty, corroded or worn strings cause loss of sustain, loss of treble frequencies, and faulty intonation. Fresh strings add to the enjoyment and tonal qualities of your guitar. Change them often, using Fender strings.

If your guitar needs repair work, refer all such work to your Authorized Fender Dealer whose trained personnel and complete service facilities will assure your satisfaction.



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