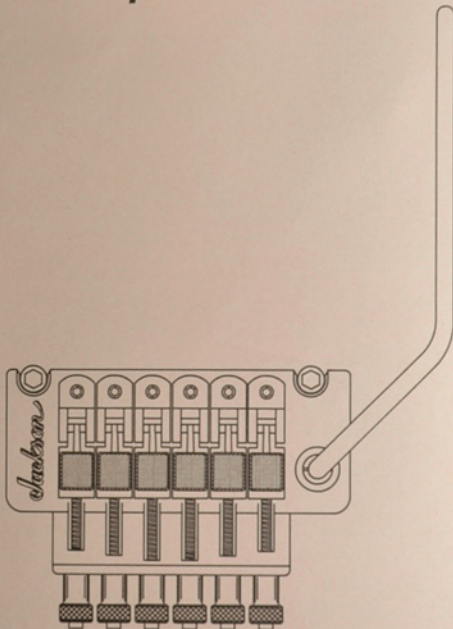


*In fact, I need one  
that's perfect.*



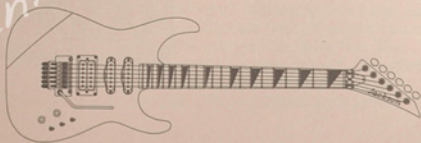
Jackson

WELCOME TO THE WORLD of Jackson Guitars, electronics, and accesories! From the superb custom guitars that have propelled so many stars to the top, to the hand-made pickups and active electronics demanded by today's knowledgeable artist, Jackson Products have maintained a reputation as the Pro's Choice of the guitar world.

**THE JACKSON TREMOLO SYSTEM** is loosely patterned after the famous suspension bridge principle first introduced in 1954. Until that point, tremolo bars had been added to guitars almost as an afterthought. The suspension bridge design completely redefined the ground rules of tremolo construction with a number of ingenious and superior advancements. So novel was the design, in fact, that it gave rise to a host of diverse "new" tremolos offering every conceivable system of gears and pulleys to bend strings with.

**AFTER THE** furor died down, the suspension design proved its superiority over competing tremolo systems by becoming the favorite of professionals and connoisseurs. Still, as the art of guitar playing refined itself, requiring ever-greater craftsmanship, the professional musician wanted more. This brought about rapid, third-generation developments in tremolo technology and inspired a race to revamp the suspension tailpiece to perfection. However, the perfect tremolo had yet to be created...

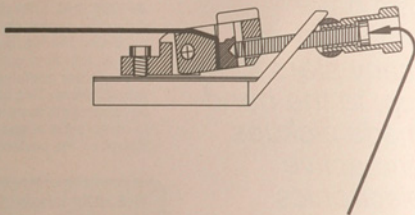
**THE NEW** Jackson Tremolo System contains a number of design improvements and features NOT available on any other brands or models. To be more accurate, the best features of all other state-of-the-art Tremolo systems have been incorporated into the Jackson System, and perfected. Additional, Jackson-exclusive refinements have also been researched, tested, and added to the basic suspension system design. These changes were brought about by musical needs, not sterile design philosophies. The result is a Power Tremolo that positively outperforms all others.



Changing strings on a locking bridge is a little bit more complicated than on a regular guitar, so take the time to get used to it. And don't be concerned about the extra few seconds it takes--the effort is well worth the benefits. Just think about the mind-wrenching noises you can make with your tremolo unit.

#### REPLACING STRINGS:

When changing strings it's advisable to change them all. Also, it's also a good idea to change strings fairly OFTEN, since your intonation and tuning depend on healthy strings. If your hands sweat a lot, or you play frequently, you will go through strings more quickly. Your only protection is to wipe the neck and strings carefully after each use with a soft cloth. Try to wipe underneath the strings too, if possible. If you use any sprays or polishes, you'll want to avoid gumming up the hardware--so don't overdo it.



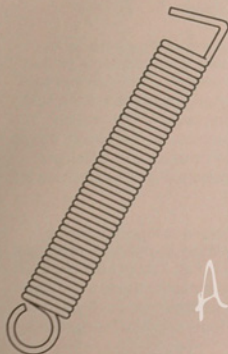
#### INSTALLING STRINGS:

- 1) loosen locknut with coin, loosen old string
- 2) loosen allen screw inside microtuner, remove string
- 3) cut ball off new string
- 4) push string into saddle
- 5) tighten allen screw in back of microtuner
- 6) bring string up to tune with tuning peg
- 7) stretch string several times and retune
- 8) tighten locknut when all strings are done and tuned
- 9) fine-tune with microtuner
- 10) play guitar

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## ADJUSTMENT:

After initial set-up, your new tremolo tailpiece should require little maintenance. As long as the Tremolo Arm Bushings are secure and the intonation is true, there is not much that will need attention.



### FIRST SET-UP:

The first set up will take the longest. It is necessary to determine certain one-time considerations before committing time to the final intonation and bridge height.

By the way, "Getting Things Ready" is a kind of ritual that's necessary for all mechanical equipment (including your mind and body) to function in perfect coordination. It's an integration of your will with an inanimate object, and applies just as much to putting batteries in your chorus as it does to changing strings. Let's call it:

### Preparation For The Act

If you get into the process, and treat it with respect, it'll serve you.

### Here are the decisions to make:

- 1) **How much** spring tension is desired? Since the spring tension determines where the bridge pieces fall, it also influences the intonation. The same is true of string gauge. The thickness of the string, since it determines the counter-tension, "counter-balances" the tension of the springs. So for the first step, it's necessary to tune the guitar more or less to pitch, using the type of string you normally play. Then decide how many springs to put in back, and how tight to make the adjustment screws that hold the Spring Claw. That should be done before making any other adjustment.
- 2) **How high** should the bridge be? The height of the strings from the fingerboard is such a personal thing that there are few comments worth making. In any case, you will find that the Jackson Tremolo System allows you to set the action exactly the way you had it before. The string height is adjusted with an allen wrench (provided), at the Bridge Anchor Bolts. If the action is raised or lowered, the guitar *MUST* be re-intoned each time.

## INTONATION:

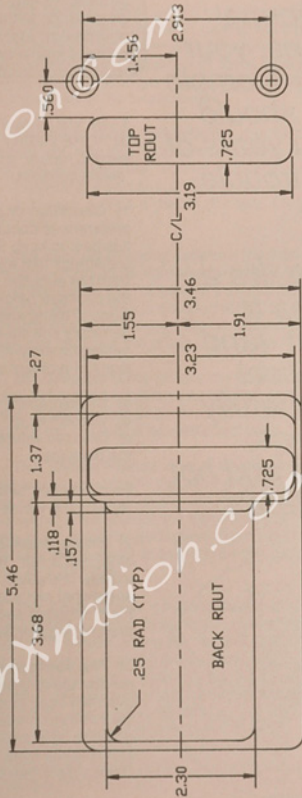
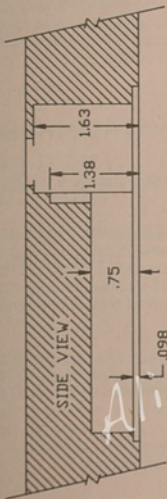
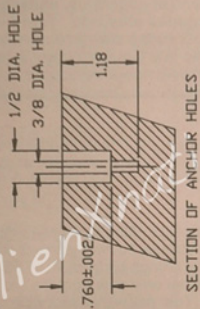
The next step is to adjust the intonation, so that you are referencing a fixed point when you adjust the pickups for the best harmonics. If you don't know how to intone a guitar, it is wise to have a professional do it.



**AFTER FIRST SET-UP**, you may not need to intone the guitar again for a good while, unless you change string gauge or adjust the action. You should, however, double-check the intonation if you change string **BRANDS**, even if the gauge is the same. For some reason, different brands of strings have different elasticity and can interact differently with the spring tension in back, influencing the position of the bridge's saddle pieces slightly. Intonation is accomplished with a small allen wrench (provided).

- 1) **The guitar should** be strung with fresh, stretched strings of your usual gauge. Loosen the Locking Nut completely, so the string can be tuned with the tuning peg.
- 2) **Loosen the hex** nut in front of the Saddle Piece slightly, so there is still friction.
- 3) **Using a tuning** strobe (preferred) or tuning meter, tune the string to pitch, open.
- 3) **Now strike** a touch-harmonic on the same string at the octave, in order to check the discrepancy between the open note and the octave. The harmonic is your "real" tuning, so retune the string.
- 4) **From here on**, your goal is to compare the touch-harmonic at the twelfth fret with the fretted note on the same fret. You should only press the fret down as hard as you do when you actually play, and you should hold the neck in the normal playing position. It's entirely possible to intone a guitar perfectly on the bench, only to discover it is unplayable! This precaution particularly applies to older, broken-in guitars of soft woods such as mahogany.
- 5) **If the fretted** note is sharp in comparison to the harmonic, the Saddle Piece must be moved further from the neck. If the fretted note is flat, it must be moved closer. At times, you should compare these two notes with the open note to see if all three match. If you must compromise slightly, you should sacrifice the open note and not the fretted octave.

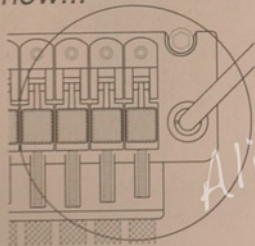
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## CARE & USE:

Under normal conditions, your Jackson Tremolo System should give you years of faithful, trouble-free use.

However, it's a good idea to inspect it (and other critical parts) carefully before gigs, sessions and hot dates! Here's how...



### SPOT CHECK:

As with all mechanical apparatus, occasionally something may require attention. You don't want to go onstage without being sure you can trust your equipment; just as you wouldn't enter a car race without knowing the wheels were tight.

There are a few things you or your roadie should look at BEFORE EVERY GIG! This spot-check should become second nature, as it can keep you sounding good and feeling confident.

1) **Condition of strings.** Musicians have different preferences about strings, but with state-of-the-art bridges it is best to keep the strings fairly fresh. **FRESH STRINGS** are strings that are not only new from the store, but new from the supplier. You are within your rights to look inside the package before you buy, to see if the strings show signs of being shelved for too long. The larger stores generally sell strings in such volume that your chances of getting recently-made ones are somewhat better. Telltale signs of problem strings include:

- a) Discoloration
- b) Uneven wrap
- c) Creases where the string was pressing against itself in the package.

As mentioned before, if you change a string you should replace the whole set.

2) **String break-in.** Brand new strings need to be stretched a little, to prevent them from going out of tune initially. However, the degree to which this happens is somewhat mythical. It is far more important to make sure the strings are securely anchored at both ends, and there are no snags or dents.

3) **The string should** slide smoothly at the nut. Since the narrow space between the nut and Locking Nut is the only potential snag in a system such as this; make doubly sure the nut has no sharp edges to catch the string. A little graphite from an ordinary pencil, preferably a soft one, can lubricate the slots in the nut quite effectively. Just "draw" it in the slots when changing strings.

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## PREVENTITIVE MAINTENANCE:

A professional guitarist will automatically and unconsciously run through the whole procedure outlined in these pages, every time he or she plans to do any serious creative work. If you know it though, wiggling a few key parts and doing a quick visual check is usually sufficient to disclose any problems.

- 4) **The Locking Nut** should be tight, and the strings centered properly under the Locking Nut's plates. Any deviation from the center will cause uneven pressure on the nut, improper articulation of notes, and buzzing. It's almost impossible to get this wrong, though, unless things are tightened in the wrong order.
- 5) **The string must** be inside the groove on the Saddle Pieces, and securely mounted or it will fly loose. The chances of misaligning a string in this type of bridge are nonexistent; but you should check the alignment nevertheless, just as a matter of habit. On some bridges it is crucial.
- 6) **The section of** string between the Locking Nut and tuning peg should be tightened correctly. That means the string should be in tune even if the Locking Nut is not clamped down. This is double protection if the Locking Nut comes loose during a gig. Don't be lax with the tuning pegs just because the string is locked at the nut.
- 7) **The Tremolo Arm** should move smoothly from left to right, with a moderate amount of drag, and stay where you put it. If the tension becomes insufficient, it is time to replace the bushings, as described later.
- 8) **The Saddle Pieces** should be intoned correctly, and tightened in place with the allen setscrew on top. If this hex screw is slightly loose, just enough to give a little once in a while, it will disrupt the functioning of the entire tremolo assembly. If you're getting weird tuning problems, check the saddles to make sure they're tight. **DO NOT OVERTIGHTEN!**
- 9) **The Knife Edges** on the tailpiece should seat securely in the Bridge Anchor Bolts that connect to the body of the guitar. The point where the Knife Edge touches the bolt must be clean, and the bridge should be reasonably level so it tracks straight. Since this is the most vulnerable area of the entire assembly and determines the accuracy of the sound, it's a good idea to inspect this critical mechanical connection periodically for signs of wear. The Knife Edges are not replaceable; but if they are excessively worn, they can be filed smooth again. This should only be done by a qualified professional.



## TREMOLO ARM BUSHINGS:

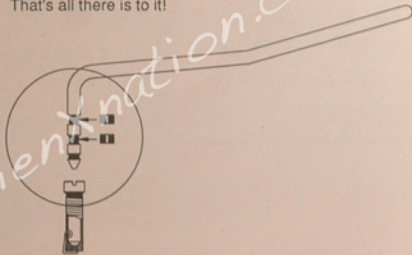
Eventually, the Tremolo Arm may begin to feel a little loose in its socket. That does NOT mean there is anything wrong with the unit. When that happens, it's just a sign that the bushings are becoming worn and must be replaced with the ones provided.

**THE MECHANICAL TOLERANCES** for perfect tremolo bar drag are so critical that guitarists have devoted the better portion of their careers trying to achieve it. On older tremolo systems, complicated home-made arrangements of nylon washers, thread and rubber cement were often the only way to achieve tremolo ecstasy. Even then, a connecting screw could come loose after a particularly vigorous solo, leading many guitarists to take drastic measures bordering on fetishism.

**If nothing else**, it's bad news to worry about the bar staying put, when you must rely on it so much. The Jackson Tremolo Bar utilizes two nylon bushings that are literally a snap to replace.

### REPLACEMENT OF THE BUSHINGS:

- 1) Remove the Tremolo Arm from its spring-loaded socket.
- 2) Look for the two dark-colored nylon rings on the yoke that goes inside the socket. Those are the bushings.
- 3) Look for a small gap somewhere in the circumference of the bushing. That's where you pry it loose.
- 4) Hold the bar in one hand and press one end of the bushing securely against the metal with your thumb.
- 5) With the other hand (a fingernail or guitar pick will work just fine) pry the bushing up around the metal to remove it. The bushing will give easily.
- 6) Place a new bushing in each metal slot, by bending the ends of the bushing outwards and snapping it in place. That's all there is to it!



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APPENDIX:

**INSTALLATION  
GUIDELINES:**

*Installing a suspension tremolo is a very exact procedure and should be left to a seasoned, expert guitar doctor. It is definitely NOT for the Do-It-Yourselfer! Your goal should be to find a person who has the right qualifications.*

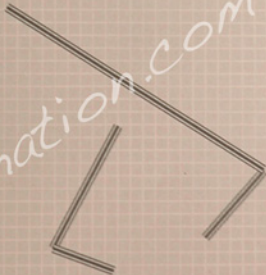
**HOW TO FIND AN INSTALLER:**

Ask around to get some names. You should interview them carefully, and ask to see samples of their work. Don't be shy to describe your exact needs, playing style, and budget. Bear in mind that the relationship you develop with this person will continue long after your guitar comes home from the hospital. You will be relying on their expertise every time you play it.

**PARTS:**

Your Jackson Tremolo System is a precision instrument with a variety of moving parts. You should become familiar with it. If it's not installed yet, take the time to compare the parts in the box with the parts list on the last page. Keep a special eye out for the tiny screws that attach the Locking Nut to the guitar. Don't drop them in your shag carpet! The same is true of the replacement bushings for the Tremolo Arm. Those should be stored in a safe place until needed.

*Two small allen wrenches* are supplied with the bridge. One adjusts the action, and the other is used to adjust the intonation and change the strings. Set these valuable tools aside, preferably in a small container in your guitar case.



## TREMOLO SYSTEM PARTS LIST:

NO.	QTY.	DESCRIPTION
XTR-101	1	BRIDGE PLATE
XTR-102	1	TREMOLO ARM
XTR-103	1	SUSTAIN BLOCK
XTR-104	1	FINGER SPRING
XTR-105	1	FINGER SPRING SUPPORT
XTR-106	6	SADDLES
XTR-107	2	SADDLE SUPPORTS
XTR-108	6	SADDLE PINS
XTR-109	6	FINE TUNING KNOBS
XTR-110	6	STRING LOCKS
XTR-111	6	FINE TUNING SLIDES
XTR-112	2	TREMOLO ARM BUSHINGS
XTR-113	1	TREMOLO ARM HOUSING
XTR-114	1	TREMOLO ARM HOUSING LOCK NUT
XTR-115	1	MACH. SCREW-M3x.5-6H PHILIPS
XTR-116	2	HEIGHT ADJUST STUDS
XTR-117	1	ARMLOCK SPRING
XTR-118	3	EXPANSION SPRINGS
XTR-119	1	TREMOLO SPRING ADJ. CLAW
XTR-120	2	STRING LOCK BOLTS- M4x.7-6G, 33.6 LONG HEX
XTR-121	2	STRING LOCK BOLTS- M4x.7-6G, 37 LONG HEX
XTR-122	2	STRING LOCK BOLTS- M4x.7-6G, 35.5 LONG HEX
XTR-123	3	SCREWS, SOCKET FLAT HEAD M5x.3-6G, 13 LONG HEX
XTR-124	6	SCREWS, SOCKET HEAD M3x.5-6H, 9 LONG HEX
XTR-125	6	HEX NUTS, M3x.5-6H
XTR-126	2	SCREWS, M4x44.5, OVAL HEAD PHILIPS
XTR-127	3	SCREWS, M4x.7-6Gx.9, SLOT DRIVE, BIG FILSTER HEAD
XTR-128	4	SCREWS, M2-SHEET METAL
XTR-129	1	STRING HOUSING
XTR-130	3	STRING ELEVATORS
XTR-131	2	BODY INSERTS

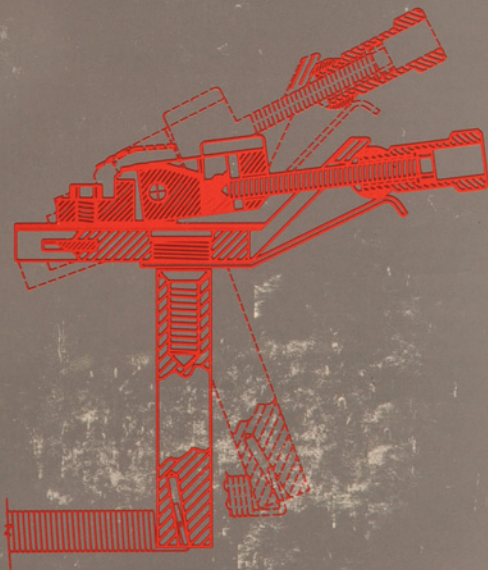
Of course, most of this stuff will already be assembled.

JACKSON/CHARVEL, INC., 4452 Airport Drive, Ontario, CA 91761  
714-986-8999; FAX #714-983-6903

[charvelparts.com](http://charvelparts.com)

Charvel Parts & Vintage Guitars

*I need a tremolo  
system that is  
fast, accurate  
and reliable...*



*Jackson*

[AlienXnation.com](http://AlienXnation.com)