



## MUSICAL INSTRUMENTS

CBS MUSICAL INSTRUMENTS  
A Division of Columbia Broadcasting System, Inc.

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### FENDER/BIGSBY TREMOLO KIT

#### Installation Instructions

The Telecaster-Esquire Tremolo Kit incorporates the Fender/Bigsby Tremolo assembly for conversion of the Telecaster or Esquire Guitars to tremolo action. This tremolo action is an effect which is imparted to the tone of the instrument for added warmth and expression by variations in pitch. The kit will also give the instruments the added advantage of six individual bridge adjustments for perfect string intonation. By following the installation instructions, the appearance of the guitar will be enhanced, while adding to its outstanding performance.

#### Caution

It is recommended that only a reputable guitar or violin repair shop perform this installation due to the critical mounting requirements involved.

1. Removal of Parts (Figure 1): It will first be necessary to remove certain parts from the instrument. Some of these will be reused for installation of the tremolo kit and some will be replaced.
  - A. Remove the bridge cover and strings.
  - B. Remove the four base plate mounting screws.
  - C. Remove the three small screws which are used to adjust the pickup height and also to mount the pickup.
  - D. Remove the base plate assembly.
  
2. Base Plate Location (Figures 2, 3 & 4): Next, it is necessary to find the locations for the bridge post thimbles over which the new base plate will be mounted. These locations are critical and, therefore, care should be taken to obtain the measurements as closely as possible.
  - A. Place a piece of masking tape on the instrument body at the approximate centerline as determined visually. (Figure 3)
  - B. Determine the centerline of the instrument accurately by measuring the width of the neck at points A & B. Mark the mid-point of these widths, then place an accurate straightedge over these marks and over the masking tape. Draw the centerline on the tape.
  - C. Again using masking tape, draw a perpendicular (horizontal) line to the centerline exactly  $25 \frac{9}{16}$ " from the fret side (fingerboard side) of the fretboard nut. (Figure 4)

- D. On the perpendicular line just drawn, make a mark  $1\frac{7}{16}$ " ( $2\frac{7}{8}$ " apart) on each side of the centerline.

These are the locations for the bridge post thimble holes, and in turn, the new base plate.

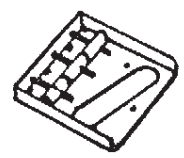
3. Thimble Hole Drilling (Figures 4 & 5): The thimble holes must be  $\frac{3}{8}$ " in diameter drilled to a depth of  $\frac{13}{16}$ ". For accuracy of hole spacing and depth, the following Procedures should be observed.
- A. Use only a bit designed for wood drilling.
  - B. Make certain that the thimble holes are exactly  $2\frac{7}{8}$ " apart. This allows the base plate to properly locate over the bridge post thimbles once they are installed. If the instrument cannot be securely clamped to a drill press, then it is suggested that a drilling jig be made from a suitable piece of hardwood of the approximated dimensions of Figure 5. The thimbles can be inserted in the jig and the base plate placed over them to check for the proper fit. Then, the jig can be carefully clamped to the instrument body and used as a guide when drilling into the instrument.
  - C. Make certain that the thimble holes are only  $\frac{13}{16}$ " deep. This is to prevent the drill from passing through the instrument body. To obtain the required depth, it will be necessary to use a drill press previously adjusted to this depth or else a drill stop attached to the bit if a hand drill is used. If it is not possible to use either of these methods, then it will be necessary to drill in small increments and take depth measurements after each step. The latter method can be improved upon by placing masking tape around the bit so that only  $\frac{13}{16}$ " is exposed.
  - D. After drilling, remove the masking tape except the portion indicating the centerline below the end of the base plate.
4. Base Plate Mounting:
- A. Insert the bridge post thimbles in the  $\frac{3}{8}$ " holes.
  - B. Place the new base plate over the bridge post thimbles.
  - C. Install the three pickup height adjusting screws making certain that they feed through the conical pickup tension springs. Do not tighten these screws for they will be adjusted after the strings have been installed.
  - D. Make a small hole at each of the five base plate mounting holes using awl or similar sharp device.
  - E. Install the five  $\frac{1}{2}$ " base plate mounting screws supplied with the kit.
  - F. Insert the bridge assembly into the bridge post thimbles with the bridge length adjusting screw heads facing toward the neck of the instrument.
5. Tremolo Assembly Location (Figure 6): Care must be taken to accurately locate the tremolo assembly in order that it operate from the exact center of the instrument facing directly forward not binding the outer strings in the forward cross-bar. Listed below are measurements all from several reference points to the forward corners of the assembly. Use all measurements indicating verticle and horizontal placement for accuracy.

- A. Vertical Placement:  $26 \frac{9}{16}$ " from lower edge of nut or  $8 \frac{21}{32}$ " from lower edge of last fret.
  - B. Horizontal Placement:  $1 \frac{21}{32}$ " from centerline to the outside edges of the assembly or match the mid-point of the tremolo cross-bar to the centerline.
  - C. After the assembly has been placed accurately, make a small hole in the center of each of the four assembly mounting screw holes. Remove the tape and install the assembly.
6. String Height Adjustments (Figure 6 & 7): String height normally depends upon the requirements of the individual player. It is suggested, however, that one of the neck shims included with the kit be installed in order to assure that the strings will make solid contact over the bridges. The middle size shim will generally raise the strings sufficiently, but because of personal preference or the slight difference between instruments, one of the others may be more suitable.
- A. Remove the four neck mounting screws and plate at the back of the instrument.
  - B. Remove the neck from the instrument and install the shim as required to correct the string height. Insert as far toward the body as is possible.
  - C. Replace the neck plate and neck mounting screws. Recheck the string height to make certain that the bridge adjustments will provide the correct height.
  - D. Each individual bridge section may be raised or lowered by the use of the allen wrench. In addition, the entire bridge channel may be raised or lowered with the allen wrench at either end through the adjustment holes. With these adjustments, it is possible to obtain custom playing action.
7. Final Assembly: It is recommended that new strings be installed as the old strings may tend to break at the kink produced from their original positioning.
- A. Install the strings on the posts of the vibrato assembly in such a manner that they pass over the rear retainer bar and under the front roller bar.
  - B. Adjust the three pickup height screws so that the pickup is approximately  $\frac{1}{8}$ " under the low "E" string and the remainder of the pickup parallel with the instrument. From this point, adjust to your personal preference.
8. String Length Adjustment: You will note that each bridge bar is held in place by the longitudinal screws which are used to vary their position (string length). If a string plays flat at the 12th fret when compared with the harmonic at that fret, turn the longitudinal screw counterclockwise so as to move the bridge bar toward the neck. If the note at the 12th fret is sharp when compared with the harmonic then the string length is too short and the bridge bar should be adjusted clockwise. These adjustments will be fractional and should not be necessary after originally set.

# 1 OLD PARTS TO BE RE-MOVED & DISCARDED



BRIDGE COVER



BASE PLATE

## 3

CENTER-LINE LOCATION

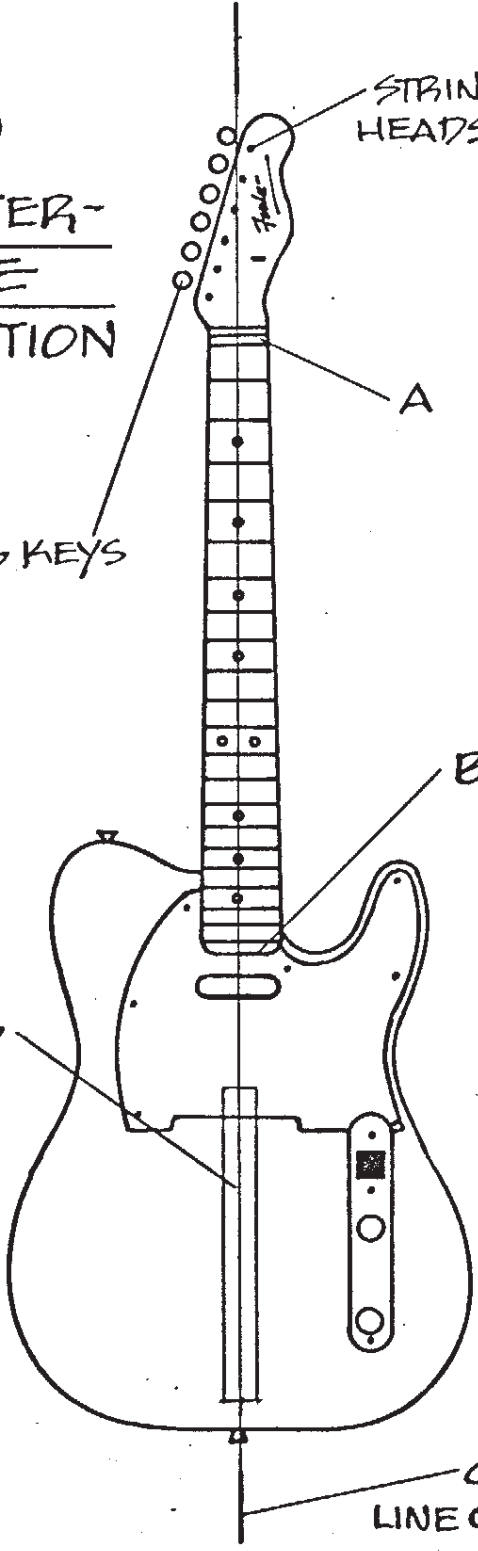
ADJUSTING KEYS

STRING HEADS

A

B

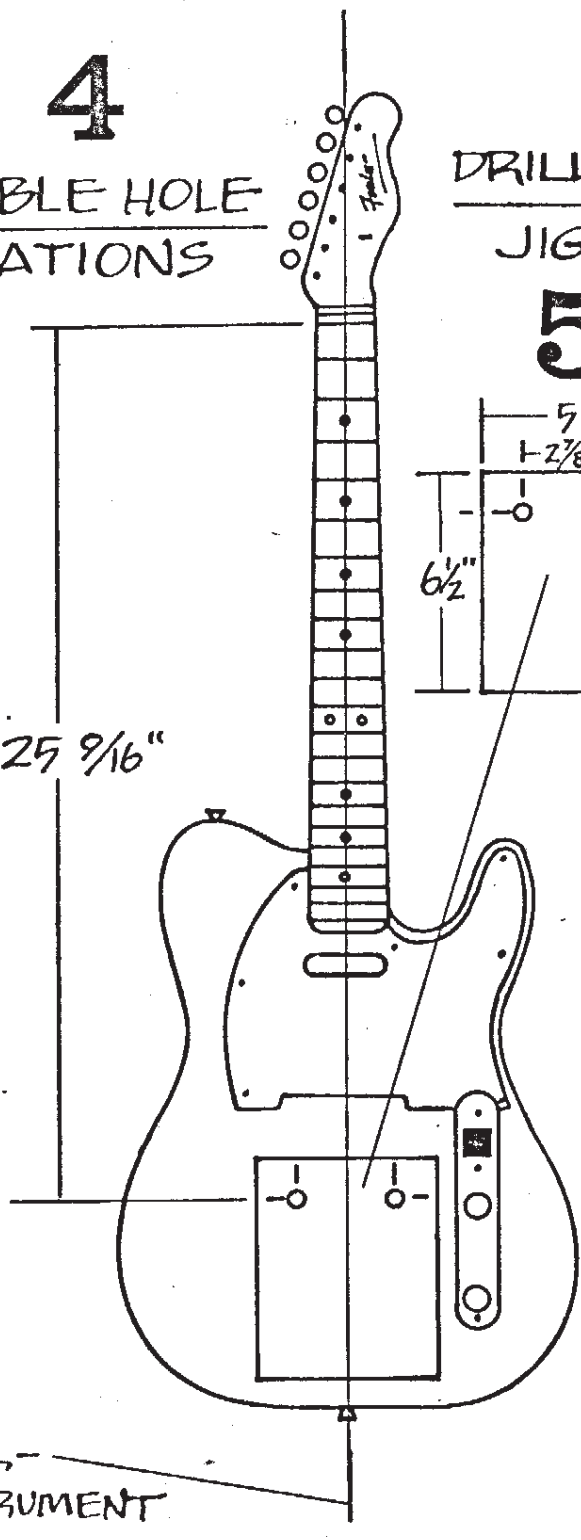
MASKING TAPE



## 4

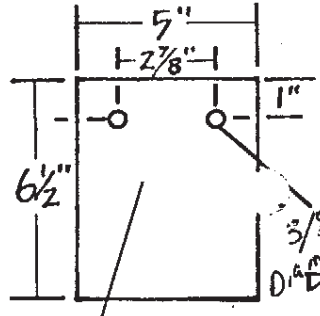
THIMBLE HOLE LOCATIONS

25 9/16"



DRILLING JIG

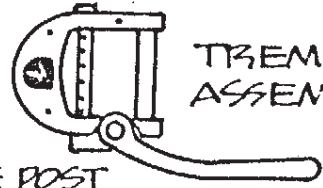
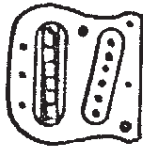
## 5



CENTER-LINE OF INSTRUMENT

2

TREMOLO  
KIT  
PARTS

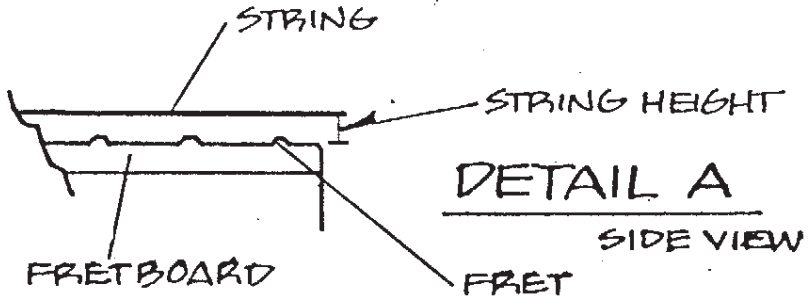
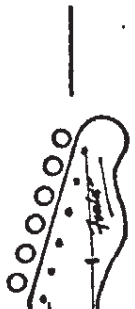


TREMOLO  
ASSEMBLY

BASE PLATE / BRIDGE / BRIDGE POST  
THIMBLES

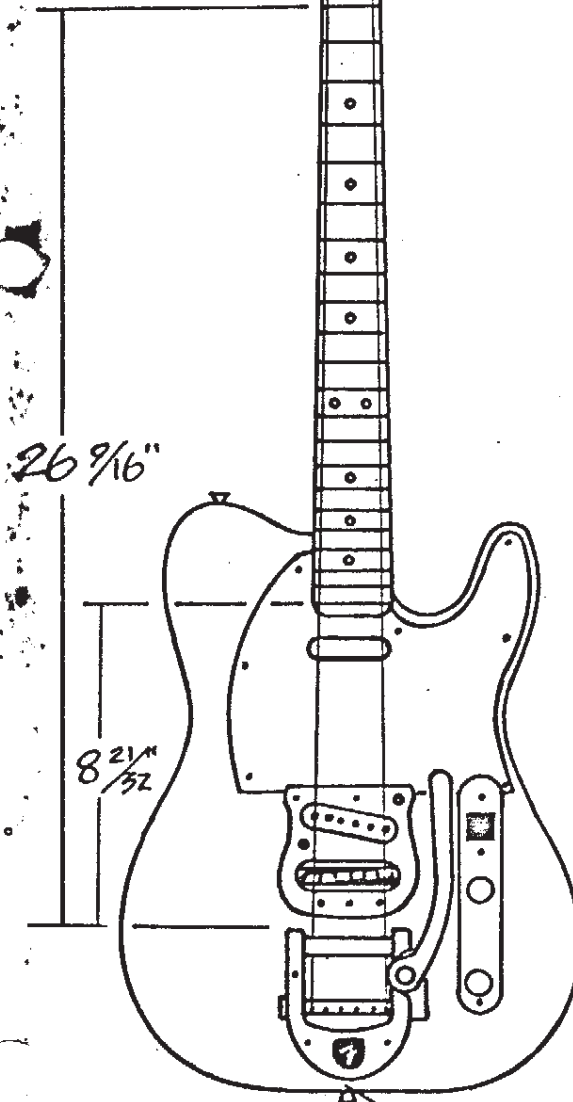
6

TREMOLO  
LOCATION



DETAIL A

SIDE VIEW

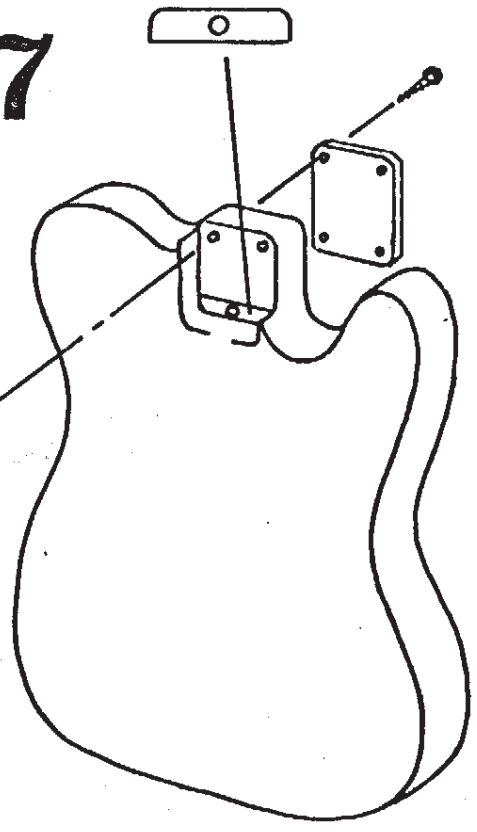
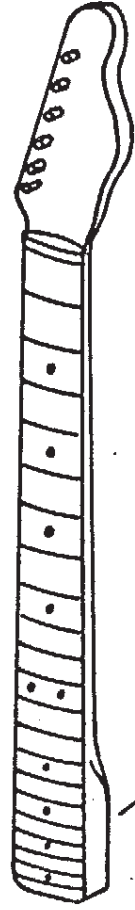


26 9/16"

8 21/32"

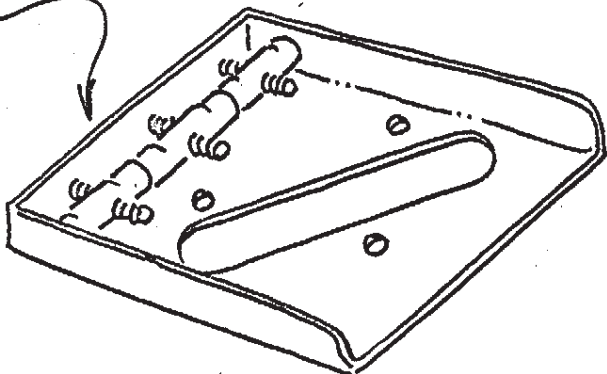
NECK SHIM LOCATION

7



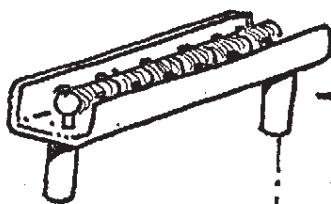
1/8" SPACING

ORIGINAL  
BASE PLATE...  
P/N 010330

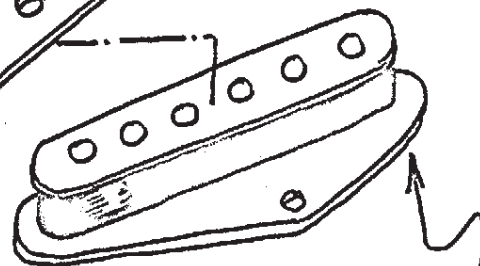
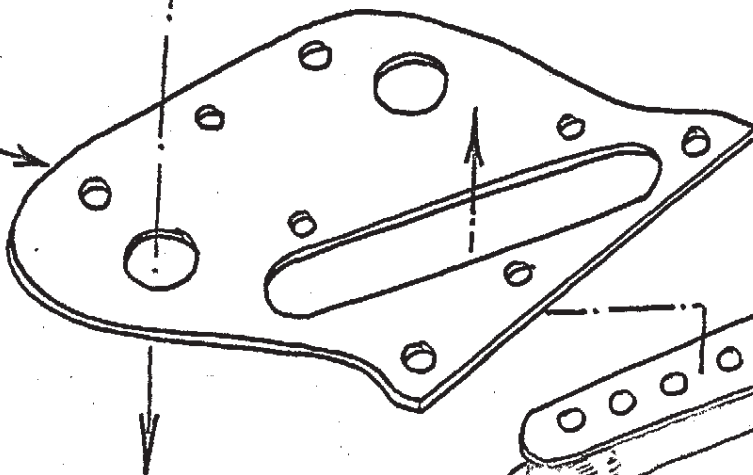


...TO BE REMOVED  
& DISCARDED.

BRIDGE ASSB'Y  
P/N 038810



BASE PLATE  
P/N 092353



LEAD PICK-UP  
P/N 034728

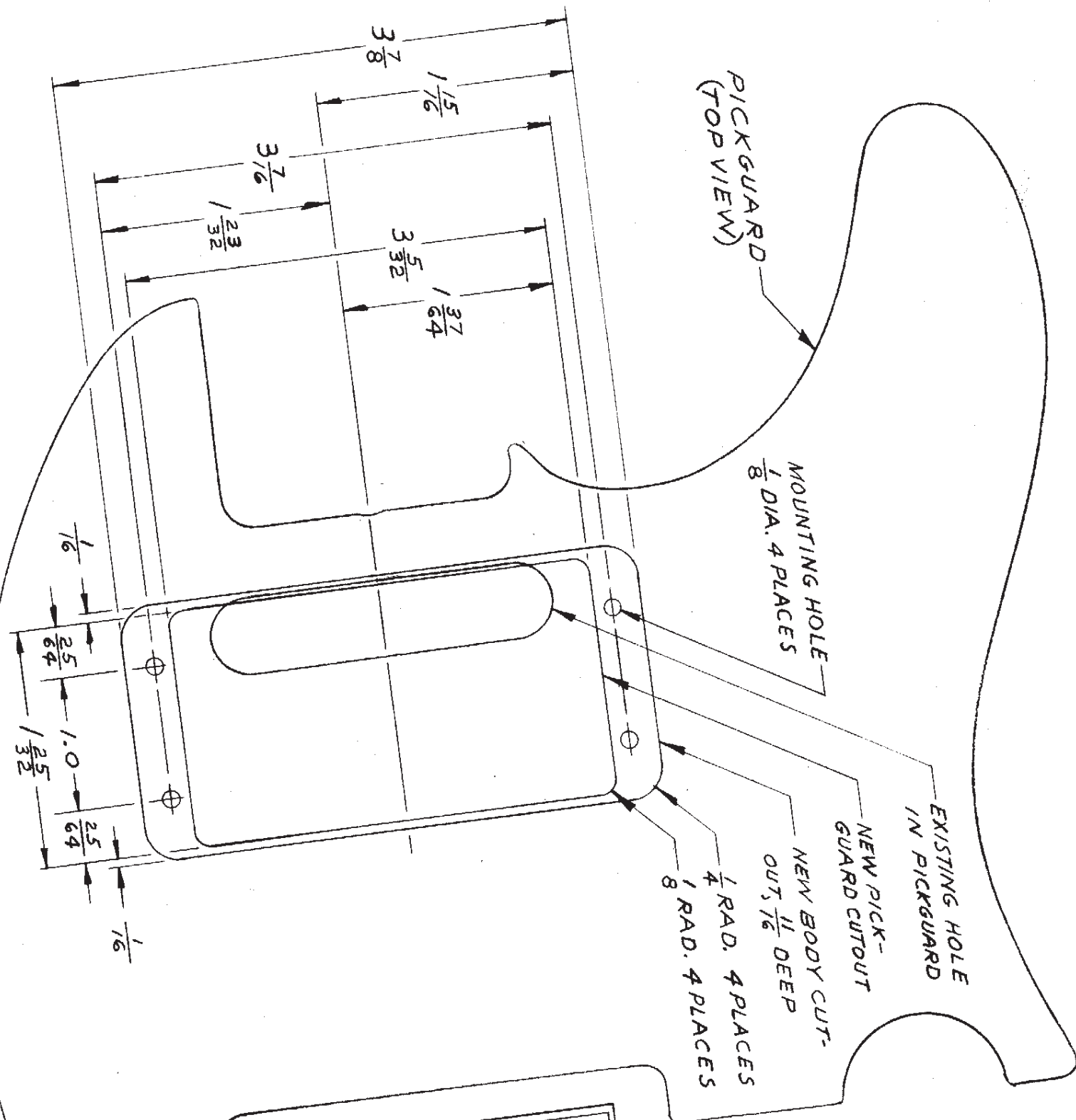
SYNCHRO-SOUND  
YUMA, ARIZONA

DVN: MCCAUL

DWG. No: 1000.0

DATE: 6 MAY '71

SHEET 1 OF 1



FENDER HUM-BUCKING PICK-UP (GUITAR) - INSTALLATION LAYOUT  
 C-6B  
 F



