

# OWNERS MANUAL

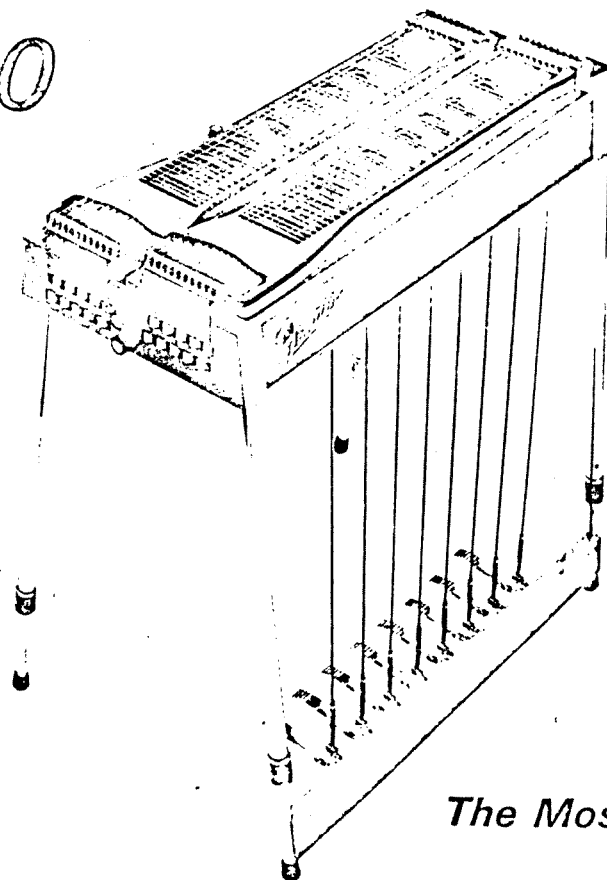
**Fender**®

CBS MUSICAL INSTRUMENTS  
1300 E. Valencia Fullerton, California 92631

**PS 210**  
**PEDAL STEEL GUITAR**

MANUAL PART NO. 025328

*PS210*



***PEDAL  
STEEL  
GUITAR***

*The Most Advanced Design  
In Its Field*

## SET-UP (cont'd)

RIGHT leg, care should be taken in assembling. Insert these two legs in the front side of the instrument. Each clamp catch should be pointed toward the other leg with the hook facing the instrument. If the hooks face the opposite direction, exchange the legs. Insert the two remaining legs.

(B) With the pedal board in an upside down position, place the pedal board flanges on each side of clamp catch on one front leg. Spread legs slightly and repeat same on other front leg. Make sure that clamp hook and clamp catch hook mate properly and turn wing one half turn clockwise to lock. (See Fig. 3)

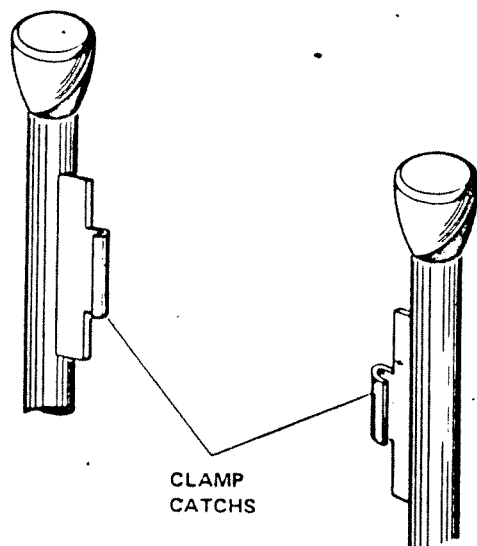


FIGURE 2

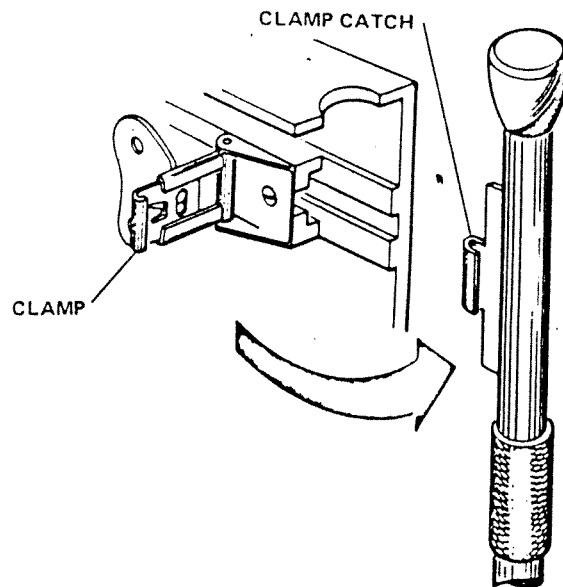


FIGURE 3

## TUNING MECHANISM

(C) The pull rods are then connected to one of the two bell crank holes located on the front of the frame. The hole nearest the edge of bell crank will provide easier pedal action, but longer stroke. Insert the hook end of the rod into the bell crank, slip the eye-bolt end over the eye-bolt bushing located on the side of each pedal. Each pull rod is numbered at the eye-bolt end for convenience, number One starting from the left side in playing position. (See Fig. 4)

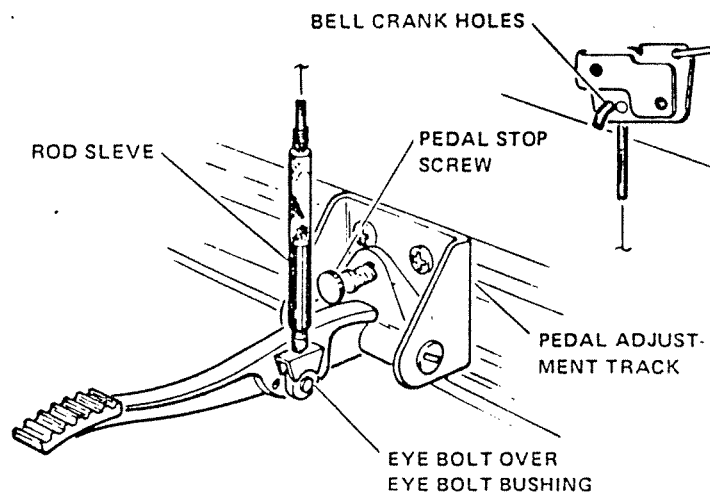


FIGURE 4

The new tuning mechanism is designed to eliminate excess string length and to provide a faster and more precise method of tuning and string changing. The tuner block (right end of instrument from playing position) must be adjusted to top before starting string installation. (See Fig. 5) The string should be threaded through the hole in the raise lever (left end of instrument). (See Fig. 6) . It is then routed through the slot in the string post. Loop the string around on side of the string post and back through the slot again. (See Fig. 7). One loop is sufficient for most strings; however, it is suggested that two loops be used on small unwound strings. The string is then looped under the screw head and upward through the string post slot. Tighten screw firmly. Pull string out of slot gently. (Do not kink.) Clip off excess string approximately half way through slot. (See Fig. 8). Sharp end should spring back into slot. Grasp tuner knob with thumb on outside of frame and any finger on the inside and tune string to pitch. Small strings on high tunings should be tuned to pitch gradually.

This procedure will seem awkward at first but will soon prove to be much faster than traditional tuning ways.

# TUNING MECHANISM (cont'd)

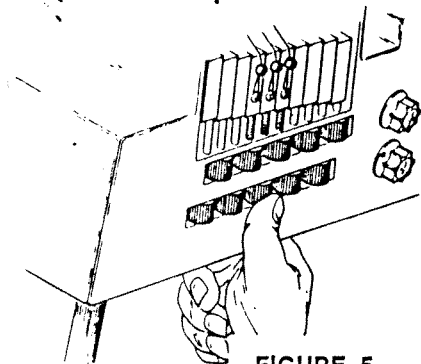


FIGURE 5

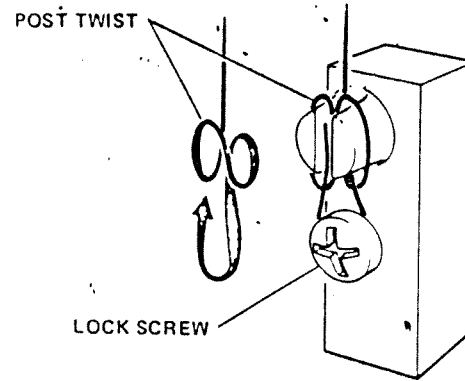


FIGURE 7

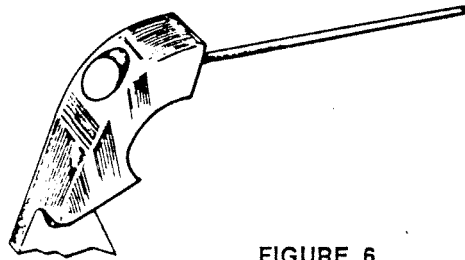


FIGURE 6

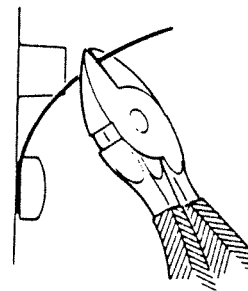


FIGURE 8

## TUNING CHANGER

The changer unit is designed for easy pedal action and quick tuning changes. Each set screw bar has twenty holes, ten for raising and ten for lowering. (See Fig. 9). The large hole is for raising and the small hole is for lowering. The extreme left pedal operates the bottom bar of each changer, depending on the position of the shift lever. Each set screw adjusts in (clockwise) to increase the amount of change and out (counter-clockwise) to decrease same. All ten strings can be operated per pedal if you so desire; however, less strings per pedal means easier action. To change a tuning, move, add or subtract screws as desired.

**CAUTION:** All adjustments listed below should be made before operating shift. When changing tunings, set up the desired tuning with pedal down. Release pedal. If strings do not return to pitch, adjust the pull bar on each end of bar outward (counter-clockwise) until strings return to pitch. If, however, a new tuning is set up and strings return to pitch but has excess play, this should be adjusted out by turning large screws in clockwise. The pull bar screws should always be turned the same amount to assure that each end hits the stop at the same time.

This instrument is equipped with lowering spring adjustment. (See Fig. 10). After all tunings and string gauge changes are made and adjusted, turn instrument upside down. The string guides are located in the bottom of the changer housing. Turn each string guide counter-clockwise until mating lever separates from nylon stop. Turn string guide clockwise until lever rests against nylon stop then add three full turns. This should complete all changer adjustments.

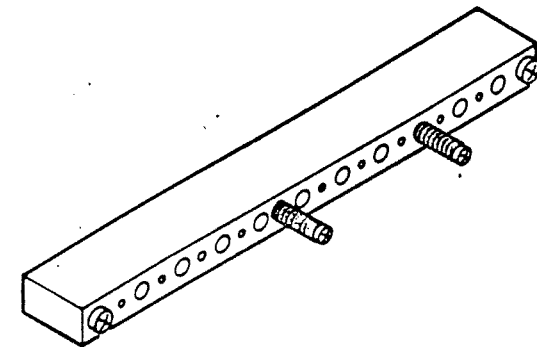


FIGURE 9

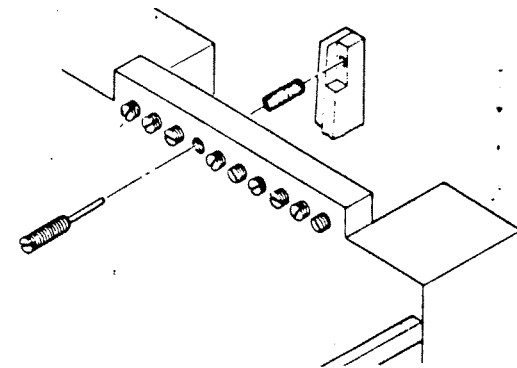


FIGURE 10

## PEDAL ADJUSTMENTS

All pedals should be checked to make sure they do not touch the floor when depressed. If a pedal needs to be raised, loosen the pedal stop screw and adjust the pull rod sleeve directly above the eye bolt. (See Fig. 4) . To lower a pedal, loosen the pull rod sleeve the desired amount and reset the stop screw.

**IMPORTANT:** The pedal stop screw should not be too tight as it will actuate pedals and/or interfere with shift mechanism. When changing tunings all changes should be made at changer and excess play adjusted out on both necks before adjusting pedal stop screws.

Two holes are provided in each pedal. The hole nearest the pedal board will provide easier pedal action but longer stroke. To change leverage ratio at this point, remove screws and bushing and reassemble in the other hole.

The pedal board provides a sliding track for side to side adjustment of pedals. To relocate pedals, place instrument bottom side up. Disconnect pedal rod and raise pedal up for better access to screws. Loosen the two screws and slide pedal to desired position. Tighten screws. Pedal rods may need readjusting for new location. (See Fig. 4)

## KNEE PEDALS

This instrument is equipped with eight floor pedals and one knee pedal. Additional knee pedals can be added; however, each added knee pedal subtracts one pedal from the floor. As the knee pedals operate through the shift mechanism, the total is always nine pedals per neck.

Two holes are provided in each knee pedal. (See Fig. 11) . The hole nearest the mounting bracket will provide easier action, but longer stroke. The knee pedal must be removed from the mounting bracket while changing the eye-bolt bushing location.

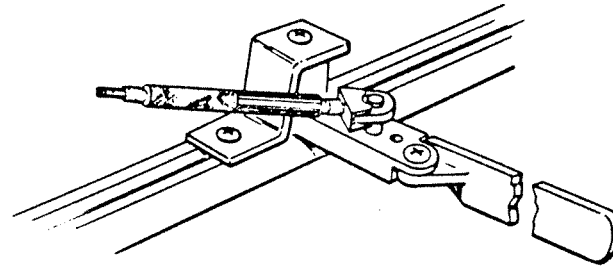
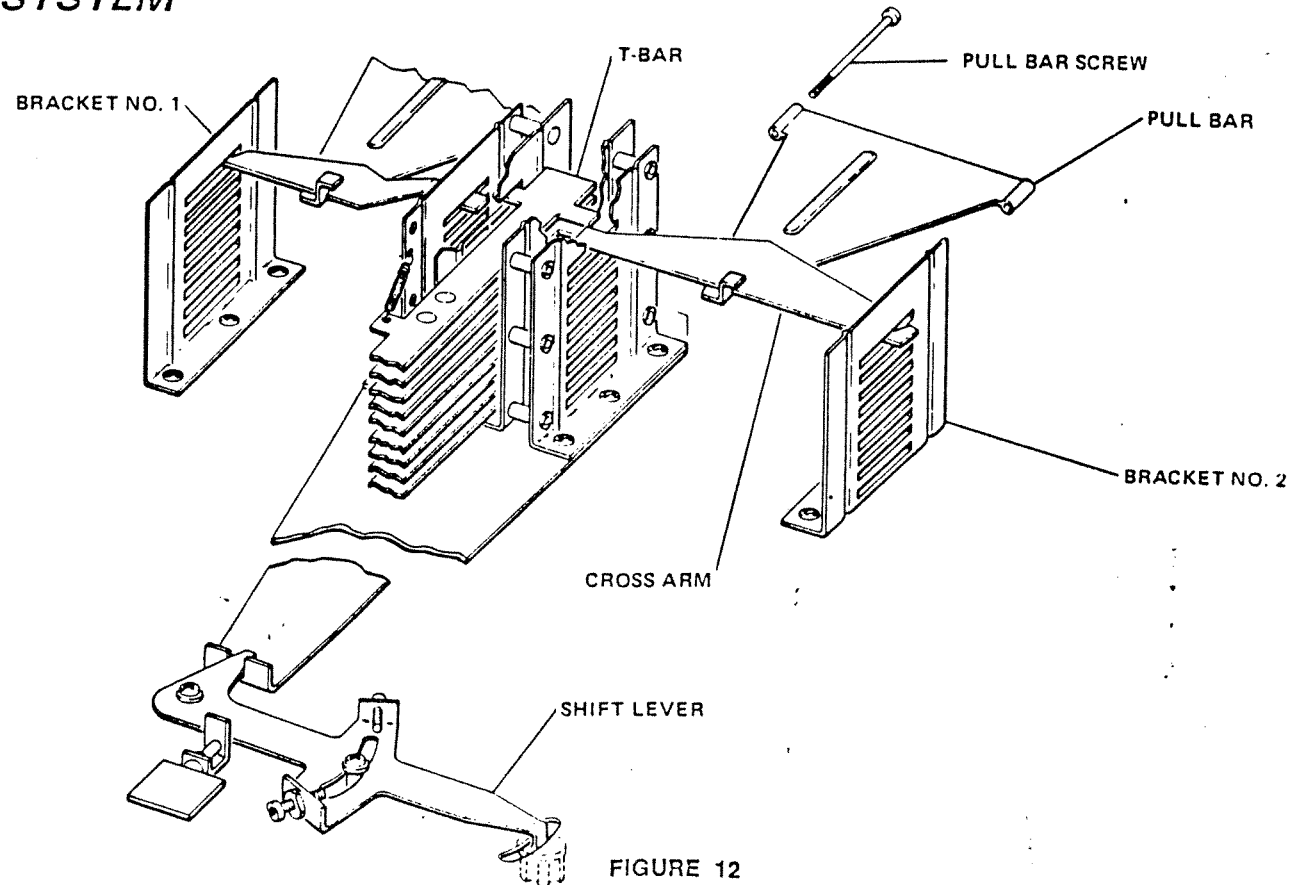


FIGURE 11

# SHIFT SYSTEM





## SHIFT SYSTEM

The shift lever transfers all pedals, including knee pedal, from one neck to the other. (See Fig. 12). It also operates switch (SW-1) which changes pickups accordingly. A second switch (SW-2) is provided as a bypass switch to turn both necks on at once regardless of position of shift lever.

When operating shift lever, make sure it is to the extreme right or left before pushing pedals.

### CAUTION

**Do not operate shift while pushing pedals as this could cause misalignment.**

The shift lever and shift assembly is properly aligned at the factory and should need no further adjustment; however, adjustments are provided should they be needed for any purpose. No attempt should be made to adjust shift mechanism unless a thorough understanding of the system is obtained.

Two adjustment screws and lock nuts are provided on the shift lever to adjust the amount of movement of the shift assembly. Care should be used as too much movement will allow the cross arms to drop out of slots. When shift assembly is operating one neck "T" bar should pass cross arm of opposite neck with minimum clearance. Outer brackets Nos. 1 and 2 can also be moved in or out. These brackets should not move far enough to allow pull bar screws to touch sides of holes as this will create unnecessary friction.

## PARTIAL PARTS LIST

DESCRIPTION	PART NO.
LEG ASSEMBLY R. FRONT.....	016897
LEG ASSEMBLY L. FRONT.....	016905
LEG ASSEMBLY REAR.....	016913
PULL ROD ASSEMBLY #1.....	016780
PULL ROD ASSEMBLY #2.....	016806
PULL ROD ASSEMBLY #3.....	016814
PULL ROD ASSEMBLY #4.....	016822
PULL ROD ASSEMBLY #5.....	016830
PULL ROD ASSEMBLY #6.....	016848
PULL ROD ASSEMBLY #7.....	016855
PULL ROD ASSEMBLY #8.....	016833
TUNER ASSEMBLY.....	015360
PICKUP CORE ASSEMBLY.....	015451
BAR-ADJUSTMENT SCREW.....	015881
COVER-PICKUP.....	015808
BELL CRANK ROD #1.....	015709
BELL CRANK ROD #2.....	015691
BELL CRANK ROD #3.....	015675
BELL CRANK ROD #4.....	015667
BELL CRANK ROD #5.....	015659
BELL CRANK ROD #6.....	015642
BELL CRANK ROD #7.....	015634
BELL CRANK ROD #8.....	015626
GUIDE SPRING.....	017010
HOOK-BELL CRANK ROD.....	015618
KNOB-SHIFT LEVER.....	010060
KNOB-TUNER.....	016970
SCREW-TUNING 4-48 x 1.....	017051
SCREW-PULL BAR 6-32 x 2½.....	017069
KNOB-VOLUME-TONE.....	010061
CONTROL-VOLUME-TONE.....	015461
PEDAL ASSEMBLY.....	015154
CLAMP-PEDAL BOARD.....	015501

Note: All parts must be purchased through an authorized Fender Dealer or Service Center. C.B.S. Musical Instruments cannot accept orders direct from the consumer.

## TUNING CHART PS 210

### INSIDE NECK

STRING	BASIC TUNING	INSIDE NECK PEDALS								
		1	2	3	4	5	6	7	8	KNEE PEDAL
12- 1	G									
14- 2	E		F					E <sup>b</sup>		
17- 3	C				D		B			B
22- 4	A	B			B					B <sup>b</sup>
24- 5	G		F <sup>#</sup>							
26- 6	E			E <sup>b</sup>				E <sup>b</sup>		F
30- 7	C					C <sup>#</sup>				B
30- 8	A	B								B <sup>b</sup>
32- 9	F		F <sup>#</sup>		E					G
60- 10	C		D		A					

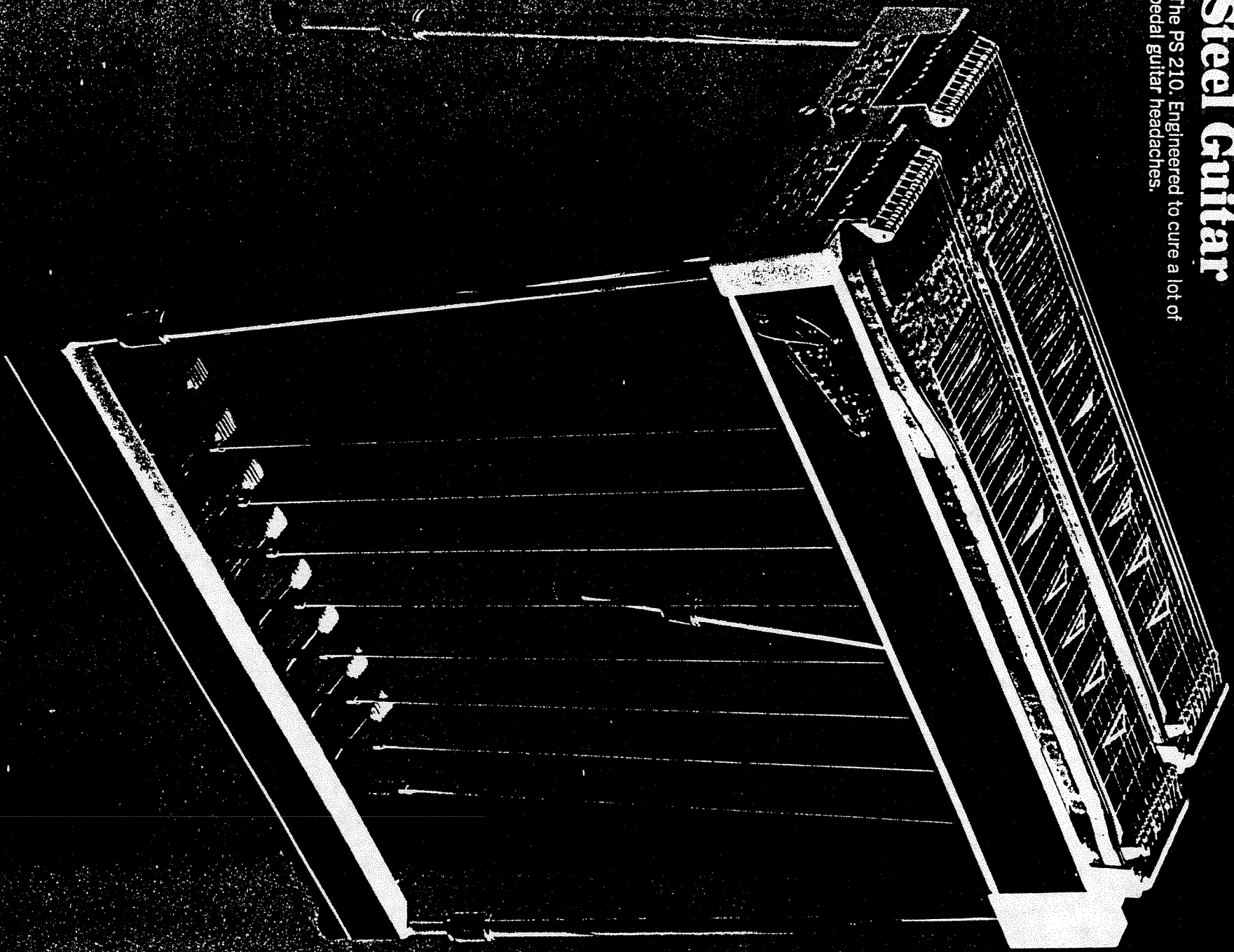
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### OUTSIDE NECK

STRING	BASIC TUNING	OUTSIDE NECK PEDALS								
		1	2	3	4	5	6	7	8	KNEE PEDAL
15- 1	F <sup>#</sup>									
16- 2	D <sup>#</sup>	D								C <sup>#</sup>
10- 3	G <sup>#</sup>			A						
13- 4	E				F <sup>#</sup>	F				E <sup>b</sup>
13- 5	B		C <sup>#</sup>		C <sup>#</sup>			B <sup>b</sup>		
22- 6	G <sup>#</sup>			A				G		A
26- 7	F <sup>#</sup>					F				
30- 8	E									E <sup>b</sup>
32- 9	D						C <sup>#</sup>		C <sup>#</sup>	
35- 10	B		C <sup>#</sup>							

**Fender's  
New Pedal  
Steel Guitar**

The PS 210. Engineered to cure a lot of  
pedal guitar headaches.



# Fender's New Pedal Steel Guitar

The PS 210. Extensively researched and engineered with the musician in mind, it features 10 breakthroughs that you've all been waiting for:

1. The new tuning mechanism offers precise tuning as the pressure is always applied in one direction. A string can be lowered to pitch without adjusting out play as is required with a geared key. Intonation can be tuned with the right hand while holding a chord with the left. Excess string length, which vibrates and cancels from the fundamental is eliminated, allowing much greater sustain. The mechanism, also, allows the instrument to be 9 inches shorter.

Strings can be changed faster and easier.

2. The changer unit operates without the use of pins or shafts. Friction is virtually eliminated.

1 to 10 strings can be activated per pedal. To change or add to a tuning, simply move or add screws on the adjustment screw lean as required. Pedal tunings can be changed in less than one minute per string.

Each string can be raised or lowered to as many positions as there are pedals, depending on the elasticity of the string. The changer unit is located on the left of the player, with a minimum angle and roller bridges, to insure perfect intonation and eliminate string breakage.

3. Nine pedals are offered, eight on the floor and one knee lever. All nine pedals, plus pick up are sluffed from one neck to the other with a simple, but trouble free lever; an additional switch is provided to turn both necks on regardless of lever position.

4. An all new linkage system is used, eliminating cables, pins, shafts, and pulleys, to minimize friction.

5. A new pick up is offered with wider frequency response and more power.

6. Body is aluminum construction. Combined with the new pick-up they produce a tone never achieved before.

7. The neck, made of solid curly maple, also controls the distance from bridge to nut. This controls de-tuning effect caused by temperature change.

8. Both pedals and knee lever are mounted on a sliding track, easily adjusted from side to side to the spacing desired.

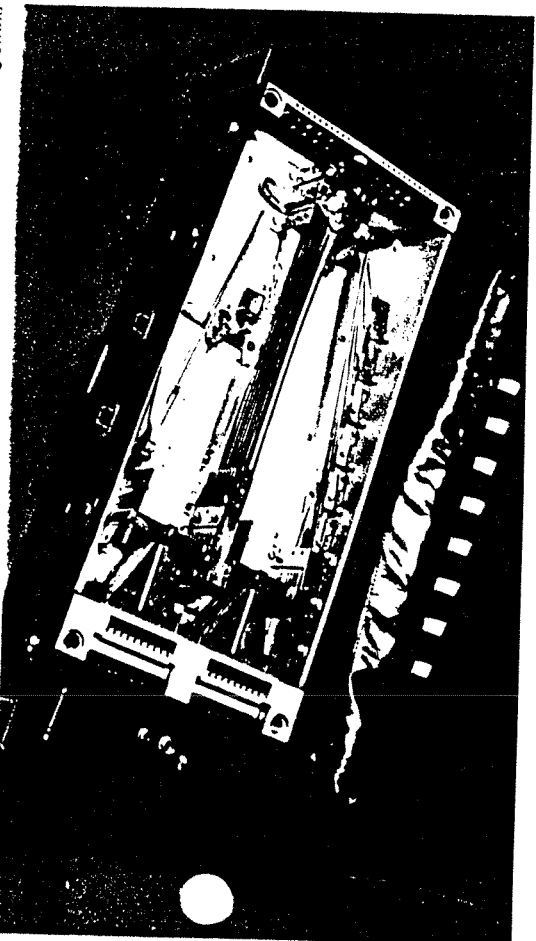
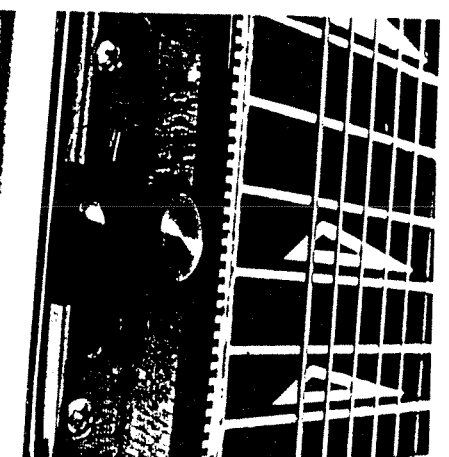
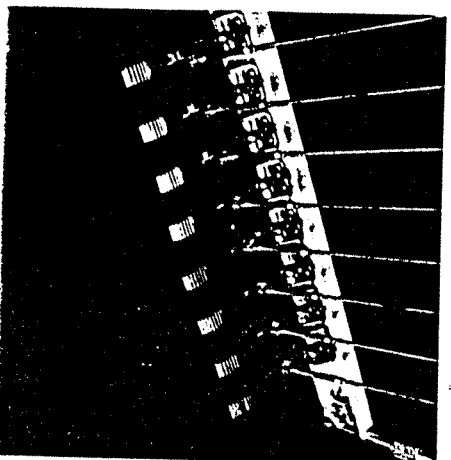
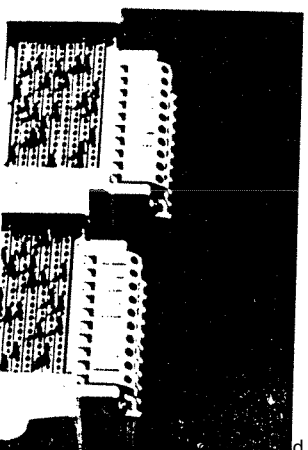
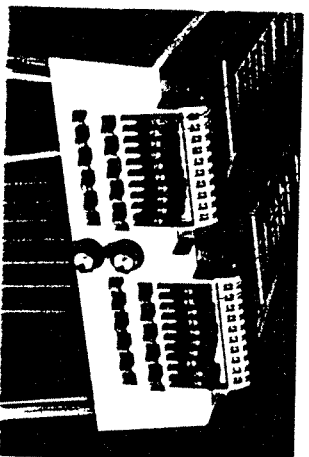
9. Thumb screws mounted on pedals to adjust out all excess play in linkage.

10. New quick clamp latches on pedal board for faster set up time.

23 1/2" scale, 123 1/2" wide, 27 1/2" long. And it weighs 65 pounds, including the case and legs. Volume pedal is optional. Extra knee levers available.

Walnut hurl effect. Packed in a single, rugged carrying case, it can be unpacked, assembled and ready to play in less than 3 minutes.

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