

## GRADO STEREO PHONO PICKUPS

### SPECIFICATIONS—FTR+, FTE+, FCR+, FCE+

Output—5MV @ 3.54 CMV (45 degrees)  
 Frequency Response—10-35,000 Hz  
 Channel Separation—Average 20 DB, 10-20,000 Hz  
 \*Stylus—Diamond

### SPECIFICATIONS—FTE+1, FCE+1

Output—3 MV @ 3.54 CMV—(45 degrees)  
 Frequency Response—10-50,000 Hz  
 Channel Separation—Average 20 DB, 10-30,000 Hz  
 \*Stylus—Diamond

### SPECIFICATIONS—F3E+

Output—3 MV @ 3.45 CMV—(45 degrees)  
 Frequency Response—10-55,000 Hz  
 Channel Separation—Average 25 DB, 10-30,000 Hz  
 \*Stylus—Diamond

### SPECIFICATIONS—F2+, F1+, G1+

Output—3 MV @ 3.54—(45 degrees)  
 Frequency Response—10-60,000 Hz  
 Channel Separation—Average 25 DB, 10-30,000 Hz

### SPECIFICATIONS—ALL MODELS

Input Load—10,000 Ohms or more  
 Inductance—55 millihenries  
 DC Resistance—700 Ohms  
 Mounting—1/2 inch centers  
 Pickup Weight—4.5 grams  
 \*Last letter in model designates stylus type; R=Spherical, E=Elliptical. Models F2+, F1+, G1+ utilize a special Grado stylus.

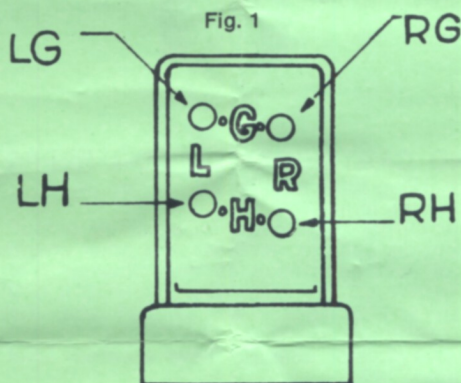
## TRACKING FORCE GUIDE

MODEL	STYLUS	TRACING FORCE
FTR+	FTR+/S	1.5 to 3 grams
FTE+	FTE+/S	
FCR+	FCR+/S	
FCE+	FCE+/S	
FTE+1	FTE+1/S	Stereo=1 Gram CD-4=1.5 Grams
FCE+1	FTE+1/S	
F3E+	F3E+/S	Anti-Skate=0
F2+	F2+/S	
F1+	F1+/S	
G1+	G1+/S	

Adjust Arm Balance (prior to adjusting tracking force) so that the stylus just barely touches the record.

## ELECTRICAL CONNECTIONS

### STEREO



#### Mono for Mono Tone Arm:

Connect both hot pins to hot lead in mono cable.  
 Connect both ground pins to ground lead in mono cable.

#### Mono for Stereo Tone Arm:

Connect both cables from tone arm to a "Y" connector cable which has two female inputs and one male output.

**CAUTION: DO NOT SOLDER CONNECTIONS DIRECTLY TO CARTRIDGE PINS. MAKE SOLDER CONNECTIONS TO CONNECTOR BEFORE SLIDING CONNECTORS ON CARTRIDGE PINS.**

## COLOR CODE FOR REPLACEMENT STYLUS

FTR+/S	Gray Plate	.5 mil Sph.	Gray Plate
FTE+/S	Gray Plate	.7x.3 mil Ell.	Two White Dots
FCR+/S	Gray Plate	.5 mil Sph.	Gray Plate
FCE+/S	Gray Plate	.7x.3 mil Ell.	Two White Dots
FTE+1/S	Gray Plate	.7x.3 mil Ell.	Two Silver Dots
FCE+1/S	Gray Plate	.7x.3 mil Ell.	Two Silver Dots
F3E+/S	Black Plate	.7x.3 mil Ell.	Black Plate
F2+/S	Black Plate	.6x.3 mil Ell.	Two White Dots
F1+/S	Black Plate	Grado Type	Two Blue Dots
G1+/S	Black Plate	Grado Type	Two Yellow Dots
78 RPM	Black Plate	2.7 mil.	Two Green Dots

Although the FTR+, FCR+, FTE+ and FCE+ have the same color code, the FC Stylus Series are selected components with closer tolerances!

## GUARANTEE

The Grado stereo pickups are guaranteed to be free from mechanical or electrical factory defects for a period of one year from the date of purchase or 18 months from the date of factory shipment providing all the enclosed instructions have been complied with.

All warranty repairs are to be performed at Grado Laboratories. Shipping costs to Grado Laboratories are to be paid by the Consumer. Warranty repair parts, labor and return shipment to Consumer will be paid by Grado Laboratories.

The above guarantee does not include stylus wear and does not include stylus damage due to abuse or mishandling.

A new replacement stylus assembly may be purchased from your dealer.

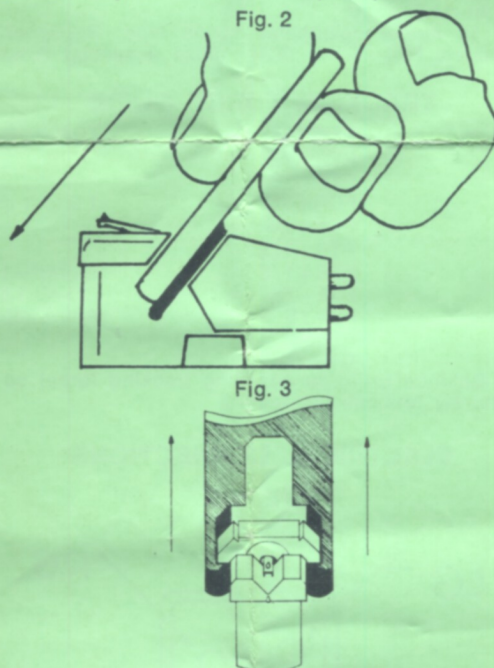
## CONSUMER REPLACEABLE STYLUS

Follow instructions carefully to avoid damage!

To remove the stylus assembly use the special tool supplied with your Grado pickup.

The tool has hooks with a backing plate behind each hook, extending 1/8 inch longer than the hooks.

Lay the flat of the backplate extension flush against the rear of the stylus plate. Push down on the tool until it seats with a click as in Fig. 2. With the hooks of the tool engaging the stylus plate as in Fig. 3 pull the tool in the direction of the arrow until the stylus assembly is clear of the pickup.



## ADJUSTING CARTRIDGE FOR CD-4 REPRODUCTION

- 1—Set tracking force at exactly 1 1/2 Grams.
- 2—Set anti skate at "0".
- 3—Adjust carrier level control for maximum output.

Some controls operate clockwise and other counter clockwise.

To be sure of your adjustment do the following:

**READ THE INSTRUCTION FOR YOUR DEMODULATOR AND SET CARRIER LEVEL FOR MAXIMUM DO NOT USE THE CD-4 ADJUSTMENT DISC!!**

If your demodulator does not have a carrier level adjustment, ignore procedure #3.

- 4—Adjust separation control 1/2 to 3/4 open.
- 5—Adjust your loudspeaker for equal output using your 4

amplifier volume controls. A mono record is excellent for this adjustment.

You are now ready for superb CD-4 playback.

The Grado CD-4 super stereo pickups are capable of 4 channel reproduction equal to 15 ips four channel discrete tape.

Unfortunately records, demodulators and pickups are in an evolutionary stage for CD-4 and one must not expect an absolutely perfect reproduction at all times. You may experience an occasional splat, fuzzy sound or down right occasional intermittent distortion. One band of music may be excellent and the next band may be bad. As the records and demodulators become better so will these occasional annoyances decrease. GRADO is constantly striding to upgrade their product quality regarding CD-4. As improvements are achieved, they will be made available to the public as quickly as possible. These people already owning GRADO CD-4 pickups will be given special consideration regarding price for modification of their units to the state of the art. Any further questions may be directed to GRADO LABS.

## PIONEER UNITS—CARRIER LEVEL ADJUSTMENT

While playing the inner band of a CD-4 record adjust carrier level until CD-4 light goes out. Turn adjust control until CD-4 light goes on again, continue turning in the same direction for two additional click stops. Continue as above starting at Number 4.

**GRADO LABORATORIES, INC.**

4614 Seventh Avenue

Brooklyn, N. Y. 11220