



MODEL H7582

JUNIOR ELECTRIC GUITAR KIT

MANUAL UPDATE

This update covers improvements to this guitar since the manual was originally printed. Keep this update with your Owner's Manual for future reference. *If you have questions, contact Tech Support at (570) 546-9663 or by email at techsupport@grizzly.com.* If you cannot find the original copy of the H7582 owner's manual, you can download a copy from www.grizzly.com.

Inventory (See Manual Page 4)

The following items have been revised or added (see **Figure 1**). Refer to the full manual for the complete inventory.

REF	PART #	DESCRIPTION	QTY
20	PH7582020	Chrome Plated Screw #2 x 3/8"	2
24	PH7582024	Chrome Plated Screw #3 x 3/8"	2
38	PH7582038	Felt Disc	2
39	PH7582039	Battery Terminal	1
40	PH7582040	Ground Wire	1
41	PH7582041	Compression Spring	2
42	PH7582042	Power Switch Nut	1
43	PH7582043	Shim Washer 5mm	1
44	PH7582044	Output Jack Wire	1
45	PH7582045	Thin Hex Nut	2
46	PH7582046	Output Jack Nut	1
47	PH7582047	Brass Washer 7mm	2
48	PH7582048	Knurled Nut 6mm	1
49	PTLW13M	Int. Tooth Washer 6mm	1
50	PH7582050	Keyed Washer	1

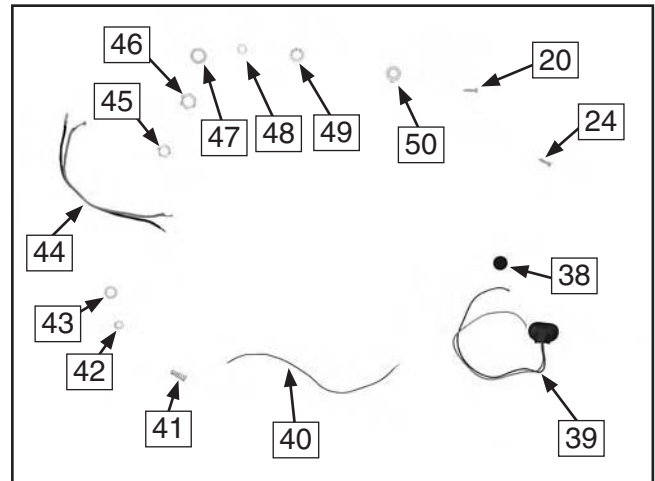


Figure 1. Additional guitar parts.

Supplies/Tools (See Manual Page 5)

The following tools and supplies have been added:

- Drill Bits: $\frac{3}{32}$ ", $\frac{1}{16}$ ", $\frac{7}{64}$ "
- Aircraft Extension Bit: $\frac{7}{64}$ "

Tuners (See Manual Page 9)

Follow **Steps 1-3**, then follow **Step 4** below, which has been revised:

- Using a $\frac{1}{16}$ " bit, drill $\frac{3}{8}$ " deep holes through the holes in the tuning head plate, and secure with the #3 x $\frac{3}{8}$ " black screws as shown in **Figure 8**.

Note: Do not drill the holes deeper than $\frac{3}{8}$ " or you could drill through the top of the head-stock.

Neck (See Manual Page 10)

The following component has been revised.

Components Needed Qty
Chrome Plated Screws #7 x 1½" 1

Follow **Step 1**, then follow the revised steps below.

2. Turn the guitar face down.
3. Insert a $\frac{3}{32}$ " drill bit through each of the neck mounting holes and mark the pilot hole locations.
4. Remove the neck, then drill $\frac{3}{4}$ " deep holes in the neck. Do not drill deeper than $\frac{3}{4}$ " or the bit could go through the top of the fretboard.
5. Place the neck in the neck pocket, place the neckplate over the neck pocket holes, and secure the neck to the guitar with #7 x 1½" chrome plated screws as shown in **Figure 2**.

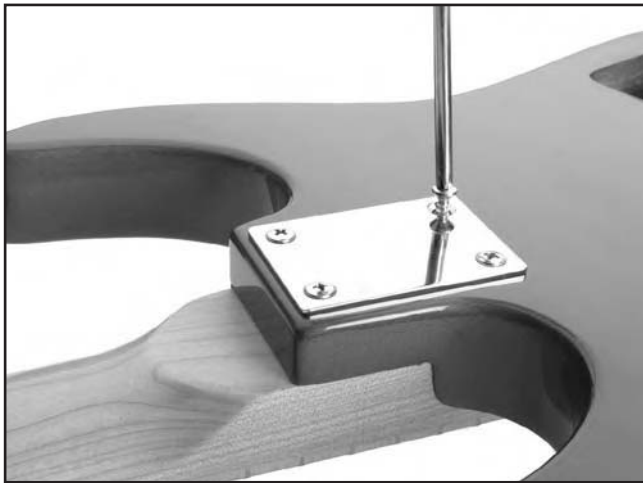


Figure 2. Neckplate installation.

6. Turn the guitar face up and place a long straightedge along the center of the fretboard and mark the center line, as shown in **Figure 3**.

Note: You may want to cover the marking location with masking tape to avoid scratching the finish.

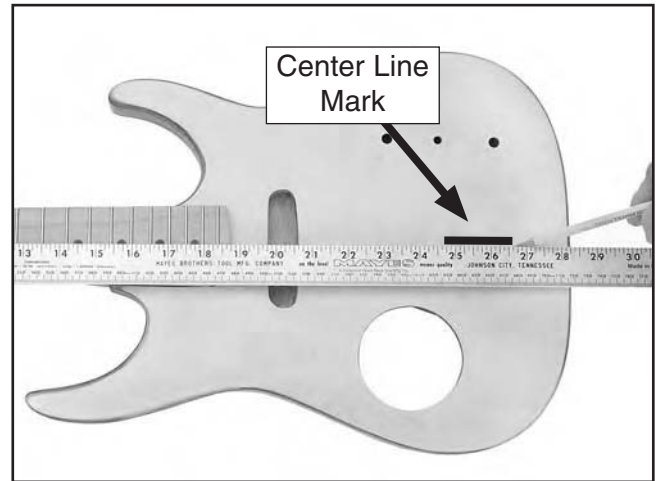


Figure 3. Marking center line.

7. Measure $25\frac{1}{16}$ " from the fretboard side of the nut to the right side of the body and draw a vertical line as shown in **Figure 4**. This line will mark the neck-facing edge of the bridge.

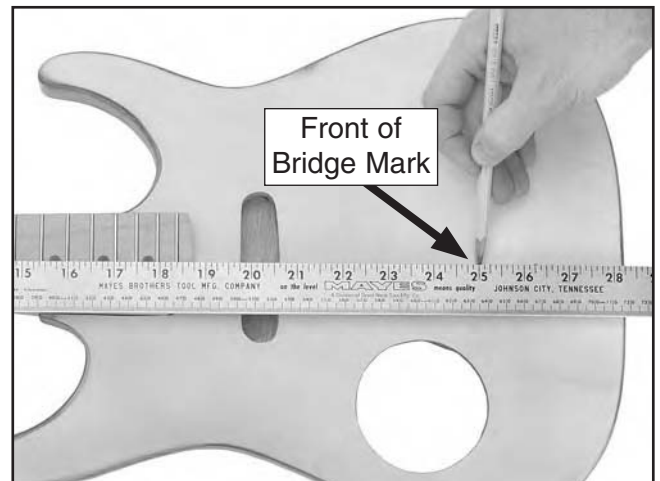


Figure 4. Marking front of bridge.



- Place the bridge on the guitar so it is parallel to the mark made in **Step 7** and perpendicular to the center line (see **Figure 5**). The center line should intersect the middle mounting hole on the bridge.

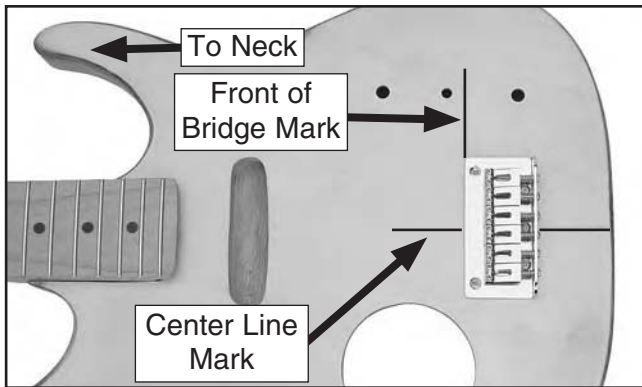


Figure 5. Bridge placement location.

- Mark the bridge mounting holes.
- Using a $\frac{7}{64}$ " bit, drill a $\frac{1}{4}$ " deep hole for the ground wire as shown in **Figure 6**.



Figure 6. Drilling ground wire pilot hole.

- Using a $\frac{7}{64}$ " aircraft extension bit, drill a shaft at a shallow angle toward the circuit board mortise as shown in **Figure 7**.

Note: If the shaft angle is not shallow enough, you could drill through the back of the body.

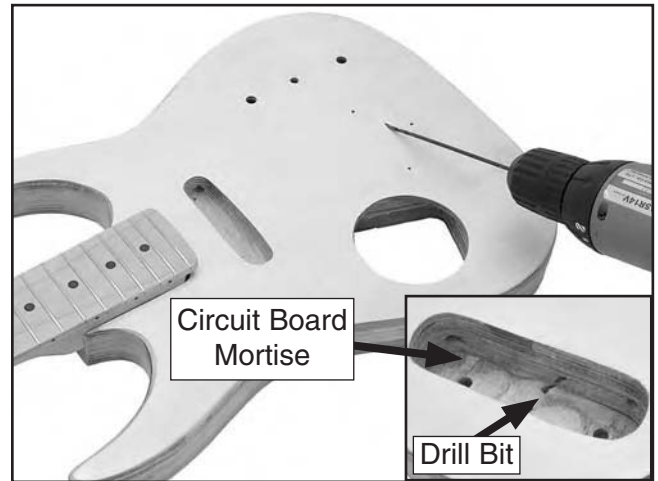


Figure 7. Drilling bridge ground wire shaft into circuit board mortise.

- Insert the black ground wire through the hole to check the fit, then remove the ground wire.

Pickup (See Manual Page 11)

To install the pickup:

- Place the guitar face-side up.
- Place the #3 x $\frac{3}{4}$ " black screws through the pickup, insert it into the pickup mortise, then use the screw tips to mark the mounting holes.
- Using a $\frac{1}{16}$ " bit, drill $\frac{1}{2}$ " deep holes for the mounting holes.
- Insert the pickup wire (**Figure 8**) through the hole in the pickup mortise and into the circuit board mortise.

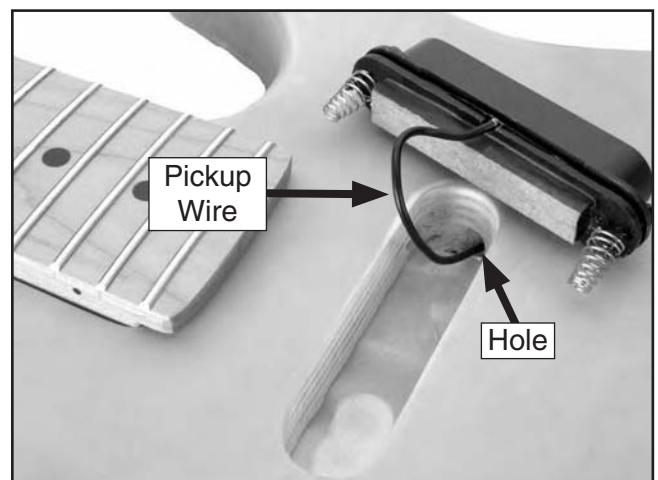


Figure 8. Pickup installation location.



5. Insert the pickup into the mortise, positioning each #3 x 3/4" black screw through a spring.
6. Secure the pickup to the guitar body with the black screws. Be careful NOT to thread the screws through the pickup wire.
7. Turn the guitar over so the back is face-side up.
8. Solder the pickup wire onto the volume control as shown on the **Wiring Diagram** on **Page 8** of this Manual Update.

Speaker (See Manual Page 11)

To install the speaker:

Follow the revised steps below:

1. Place the speaker and mesh cover into the bottom of the speaker mortise.
2. Using a 1/16" bit, drill four 1/8" deep holes at a shallow angle slightly above the mesh cover (see **Figure 9**).



Figure 9. Drilling speaker mounting holes.

3. Secure the speaker with four #2 x 1/4" black screws (see **Figure 10**). Make sure the screws are tight enough that the speaker will not move.

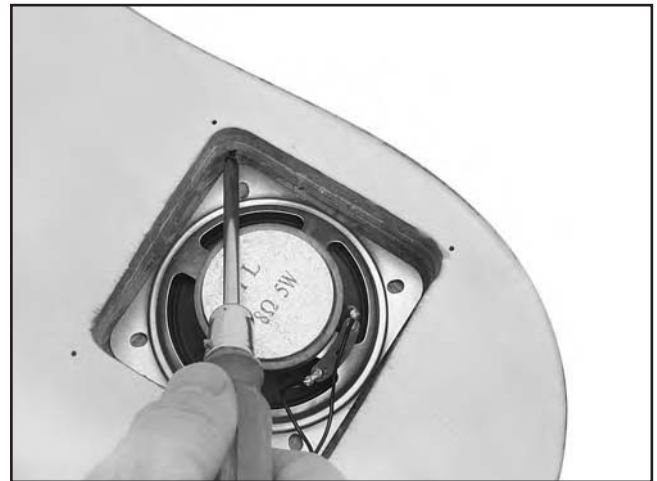


Figure 10. Fastening speaker with screws.

4. Insert the two black wires on the headphone jack through holes in the circuit board and battery case mortises (**Figure 11**) and into the speaker mortise.



Figure 11. Speaker wires in battery case mortise.

5. Solder the wires onto the speaker as shown on the **Wiring Diagram** on **Page 8** of this Manual Update.
6. Place the speaker cover on the guitar, mark the four mounting holes and, using a 1/16" bit, drill 3/16" deep holes.
7. Secure the cover with #2 x 1/4 black screws.



Battery Case (See Manual Page 12)

To install the battery case:

1. Insert the battery case wires through the plastic case, through the hole in the battery case mortise, and into the circuit board mortise.
2. Slide the battery case (**Figure 12**) into the mortise, drill holes for two #2 x 1/4" black screws using a 1/16" bit, and secure with two #2 x 1/4" black screws.



Figure 12. Installing battery case.

Headphone, AC/DC & Output Jacks (See Manual Page 12)

The following component has been revised.

Components Needed	Qty
Output Jack	1
Output Jack Wires	1

To install the headphone, AC/DC, and output jacks:

1. Solder the battery case wires onto the AC/DC jack.

2. Strip the included red and black output jack wires as needed and solder onto the output jack and volume control as shown on the **Wiring Diagram** on **Page 8** of this Manual Update.
3. Insert the headphone, AC/DC, and output jacks through the mortise in the side of the guitar, then through the jack plate (**Figure 13**).

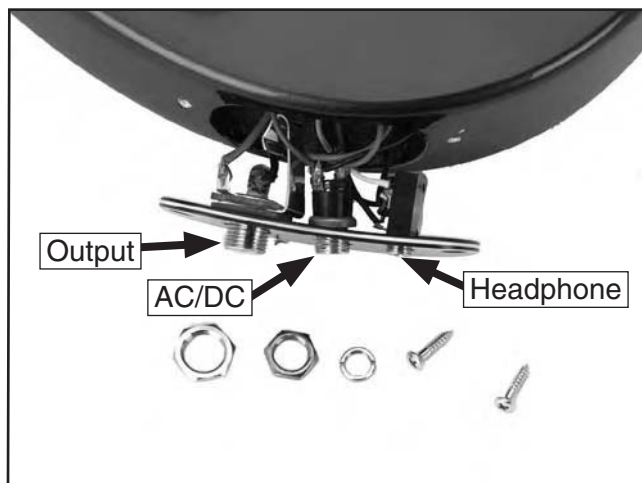


Figure 13. Inserting jacks through jack plate.

4. Fasten the jacks to the plate with the included nuts and washers.
5. Place the jack plate over the mortise, mark the mounting holes, then using a 1/16" bit, drill holes inward at a slight angle toward the mortise.
6. Secure the jack plate with the 1/2" and 3/8" #3 chrome plated screws (see **Figure 14**).



Figure 14. Securing jack plate.



Volume, Tone, & Circuit Board (See Manual Page 13)

The following component has been revised.

Components Needed	Qty
Ground Wire	1

To install the tone control, volume control and power switch:

1. Solder the black and white circuit board wires and the black ground wire onto the volume control as shown on the **Wiring Diagram** on **Page 8** of this Update.
2. Insert the volume and tone controls through the sockets on the guitar body as shown in **Figure 15**.

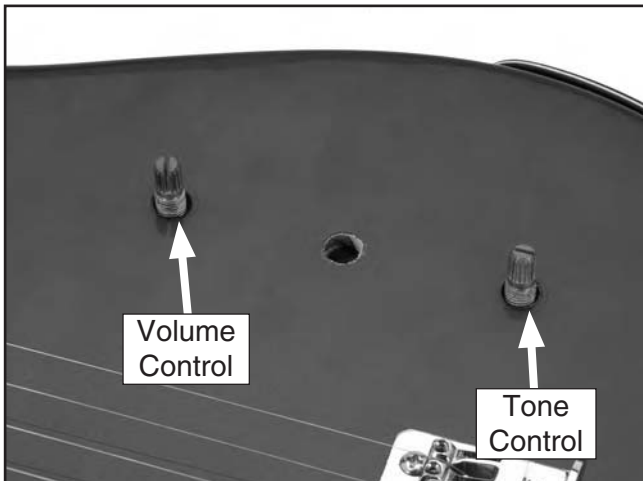


Figure 15. Installing tone and volume controls.

3. Install the included nuts and washers onto the volume and tone controls, then install the volume and tone control knobs.
4. Insert the grounding wire through the hole in the side of the circuit board mortise (see **Figure 7**).

Note: *It may help to use tweezers or pliers.*

5. Thread the wire until it protrudes through the top of the guitar body. Place a piece of masking tape over the wire to hold it temporarily.
6. Remove the hex nut and interior tooth washer from the power switch.
7. Insert the power switch, which is mounted to the circuit board, through the guitar body as shown in **Figure 16**.

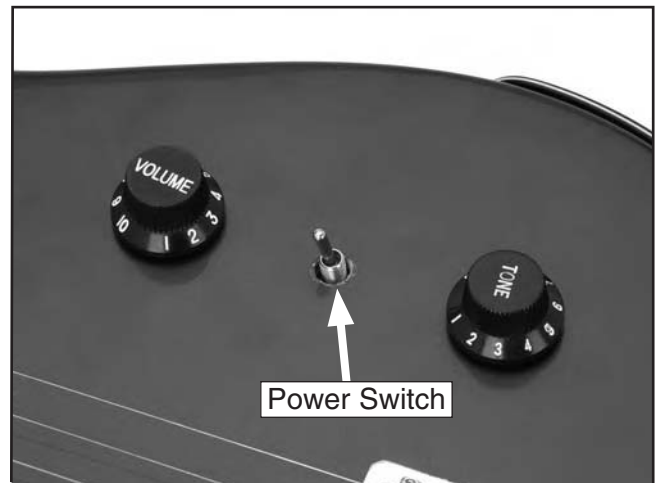


Figure 16. Installing power switch.

8. Re-install the hex nut and interior tooth washer removed earlier.

Circuit Board Cover (See Manual Page 14)

The following component has been revised.

Components Needed	Qty
Black Screws #2 x 1/4"	2

To install the circuit board cover:

1. Place the circuit board cover over the circuit board mortise (**Figure 17**), mark mounting holes, and drill pilot holes using a 1/16" bit.



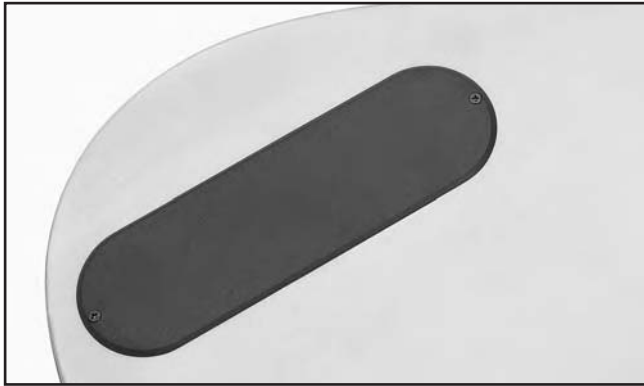


Figure 17. Circuit board cover installed.

2. Secure the cover with #2 x ¼" black screws.

Bridge (See Manual Page 14)

To attach the bridge to the guitar body:

1. Make sure the end of the grounding wire (**Figure 18**) protrudes through the angled hole (drilled earlier) to make contact with the bridge.
2. Secure the wire in the hole with rubber cement, leaving the end exposed.
3. Using a 1/16" bit, drill 3/4" deep holes for the bridge mounting holes.
4. Secure the bridge with five #4 x 3/4" chrome plated screws.

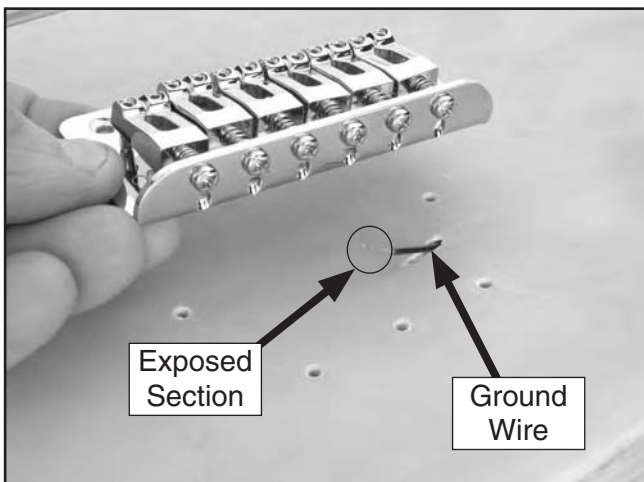


Figure 18. Bridge placement.

Strap Button (See Manual Page 15)

The following component has been revised.

Components Needed	Qty
Felt Buttons	2

To attach the strap to the guitar:

1. Using a 1/16" bit, drill holes for the strap buttons in the locations shown in **Figure 19**, then secure each strap button with a felt disc and a #4 x 3/4" chrome plated screw.



Figure 19. Strap buttons.

String Retainers (See Manual Page 16)

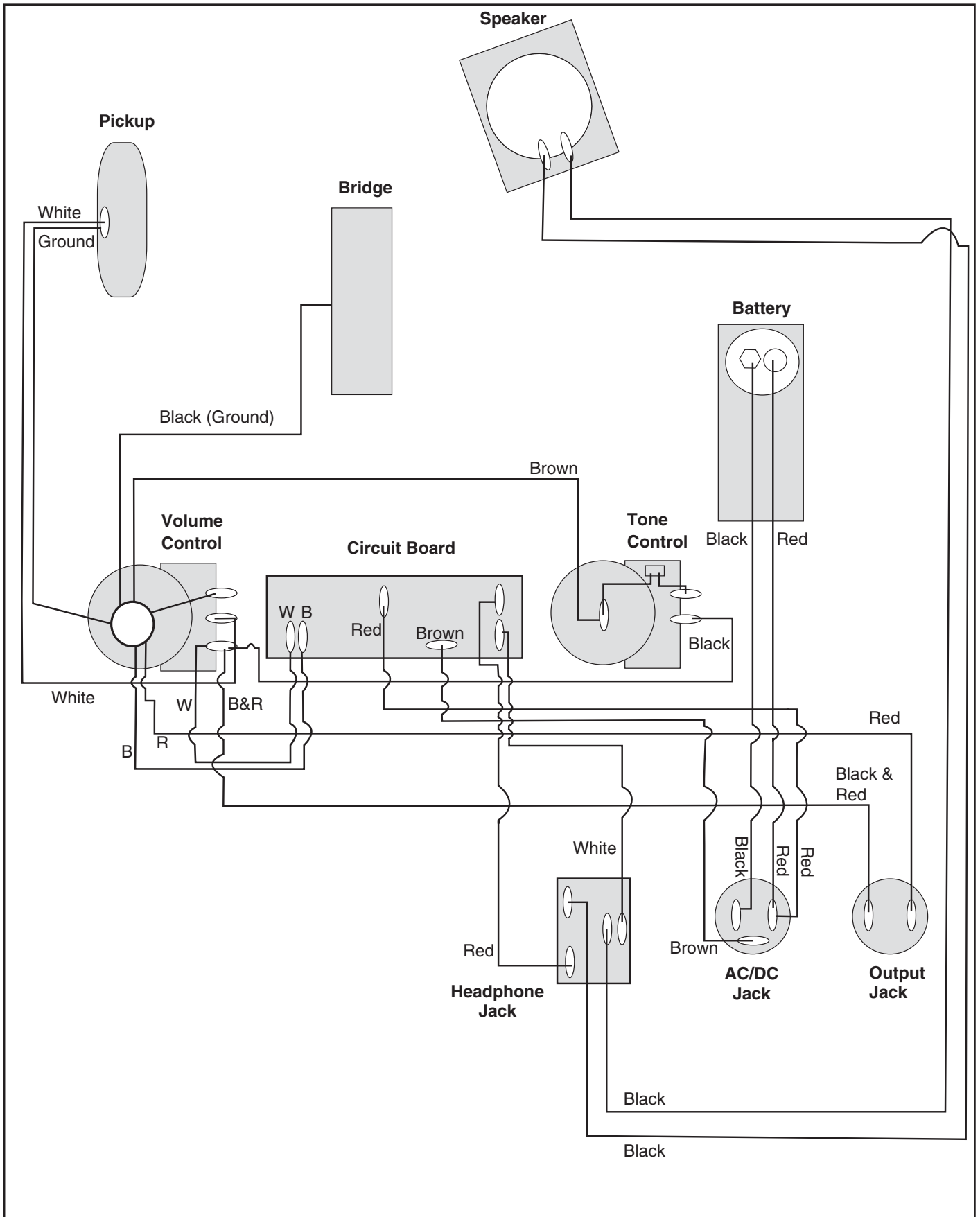
The following component has been revised.

Components Needed	Qty
Chrome Plated Screws #2 x 3/8"	2



Wiring Diagram (Manual Page 25)

The wiring diagram has been revised.





WARNING!

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemical are:

- **Lead from lead-based paints.**
- **Crystalline silica from bricks, cement and other masonry products.**
- **Arsenic and chromium from chemically-treated lumber.**

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: Work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

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SECTION 1: SAFETY

WARNING

Always wear safety glasses or goggles when operating equipment. Everyday glasses or reading glasses are not safety glasses. Be certain the safety glasses you wear meet the appropriate standards of the American National Standards Institute (ANSI).

Because there are various ways to cut and join wood, you can make substitutions for the methods stated in this plan. We try to suggest the easiest methods possible. However, only you know your skills with each piece of machinery. Never compromise your safety by using a cutting method with which you are not comfortable. Instead, find an alternative approach that will yield the same result.

WARNING

These instructions assume that you are intimately familiar with the safe operation and use of woodworking machinery and woodworking tools, and understand the techniques used to build this project. If you do not qualify for both of these criteria, **STOP building this project for your own safety.** Read and understand the owners manual for the machinery you intend to use, take a woodworking class or visit your local library for more information. Woodworking machinery and tools are inherently dangerous because they use sharp edges that can and will cause serious personal injury including amputation and death. Do not underestimate the ability of these tools and machinery to cause injury. Never operate any tool without all guards in place and always wear approved safety glasses. For your own safety, please heed this warning.



SECTION 2: INTRODUCTION

Foreword

We are proud to offer the Model H7582 Junior Electric Guitar Kit. This kit is a part of a growing Grizzly family of fine woodworking products. When assembled according to the guidelines set forth in this manual, you can expect years of enjoyment from your guitar.

We are pleased to provide this manual for the Model H7582 Junior Electric Guitar Kit. It was written to guide you through assembly, review safety considerations, and cover general information. It represents our effort to produce the best documentation possible.

Contact Info

If you have any comments regarding this manual, please write to us at the address below:

Grizzly Industrial, Inc.
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P.O. Box 2069
Bellingham, WA 98227-2069

We stand behind our products. If you have any service questions or parts requests, please call or write us at the location listed below.

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The specifications, drawings, and photographs illustrated in this manual represent the Model H7582 Junior Electric Guitar Kit as supplied when the manual was prepared. However, owing to Grizzly's policy of continuous improvement, changes may be made at any time with no obligation on the part of Grizzly. For your convenience, we always keep current Grizzly manuals available on our website at **www.grizzly.com**. Any updates to products will be reflected in these manuals as soon as they are complete. Visit our site often to check for the latest updates to this manual!



SECTION 3: PARTS INVENTORY

Inventory

REF	PART #	DESCRIPTION	QTY
1	PH7582001	Neck	1
2	PH7582002	Guitar Body	1
3	PH7582003	Pickup-Single Coil	1
4	PH7582004	Bridge	1
5	PH7582005	Speaker Cover	1
6	PH7582006	Circuit Board Cover	1
7	PH7582007	Circuit Board	1
8	PH7582008	Strap Buttons	2
9	PH7582009	Battery Case	1
10	PH7582010	Speaker Mesh Cover	1
11	PH7582011	Speaker	1
12	PH7582012	Neckplate	1
13	PH7582013	Volume Knob	1
14	PH7582014	Strings	6
15	PH7582015	Tuning Head Plate	1
16	PH7582016	Bushing $\frac{3}{32}$ " x $\frac{3}{16}$ " x $\frac{3}{32}$ "	1
17	PH7582017	Bushing $\frac{3}{32}$ " x $\frac{3}{16}$ " x $\frac{6}{32}$ "	1
18	PH7582018	Plastic Bushings	6
19	PH7582019	String Retainers	2
20	PH7582020	Silver Screw #2 x $\frac{3}{8}$ "	1
21	PH7582021	Silver Screw #2 x $\frac{1}{2}$ "	1
22	PH7582022	Black Screw #2 x $\frac{1}{4}$ "	14
23	PH7582023	Black Screw #3 x $\frac{3}{8}$ "	7
24	PH7582024	Silver Screw #3 x $\frac{1}{2}$ "	2
25	PH7582025	Black Screw #3 x $\frac{3}{4}$ "	2
26	PH7582026	Silver Screw #4 x $\frac{3}{4}$ "	7
27	PH7582027	Silver Screw #7 x $1\frac{3}{4}$ "	4
28	PH7582028	Hex Wrench 1.5 MM	1
29	PH7582029	Hex Wrench 5MM	1
30	PH7582030	AC/DC Adapter 300mA	1
31	PH7582031	Tone Knob	1
32	PH7582032	Jack Plate	1
33	PH7582033	AC/DC Adapter Jack	1
34	PH7582034	Tone Control	1

35	PH7582035	Volume Control	1
36	PH7582036	Headphone Jack	1
37	PH7582037	Output Jack	1

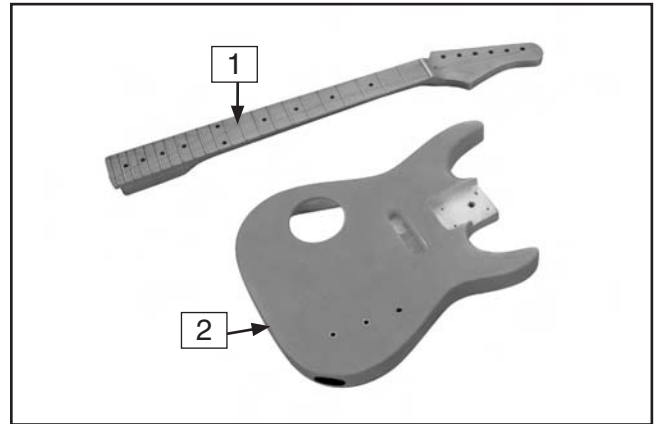


Figure 1. Boxed components.

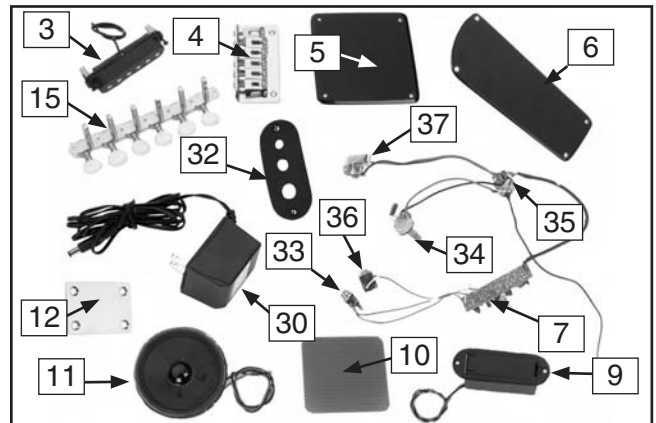


Figure 2. Guitar parts.

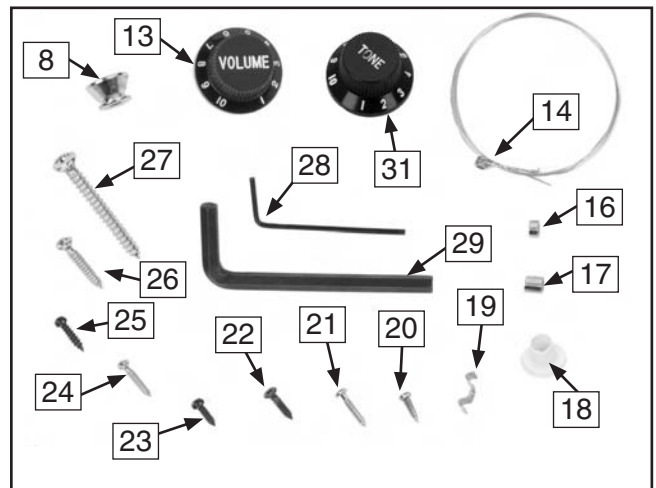


Figure 3. More guitar parts.



Supplies/Tools

The majority of the wooden components in this kit are fully machined from the factory and are ready for assembly. A small amount of sanding and finishing will need to be performed to complete your guitar.

Recommended Tools & Supplies:

- 18" Metal Straightedge with a $\frac{1}{32}$ " Resolution
- ANSI Approved Respirator
- ANSI Approved Safety Glasses
- Aluminum-Oxide Sanding Paper #220 and #320 Grit
- Wet and Dry Sanding Paper #400, #600, and #1000 Grit (Optional)
- Tweezers or Pliers
- 8, 10, 11, and 13mm Wrenches
- Flexible Sanding Block
- Phillips Screwdriver #1, #2
- Temporary Wood Neck: Approximately 1" x 2" x 16"

- Wood Screws #7 x 1½" (4)
- Drill
- Drill Bit: $\frac{5}{16}$ "
- ¼" Steel Rod, or a Coat Hanger
- Masking Tape
- Tack Cloth or Clean Soft Rag
- Spray Primer and Finish (*See Note)
- Buffing Compounds (Optional)
- Soldering Iron and Solder
- Peghead Reamer or a Round File
- Hammer
- Wooden Block: Approximately 4" x 8"
- Guitar Capo
- Feeler Gauge Set
- Wire Cutters
- Rubber Cement
- 9V Battery

Note: Use the same type of paint for primer and finish—either enamel or lacquer base. Do not use different base paints for priming or finishing or your results may not be desirable.



Identification

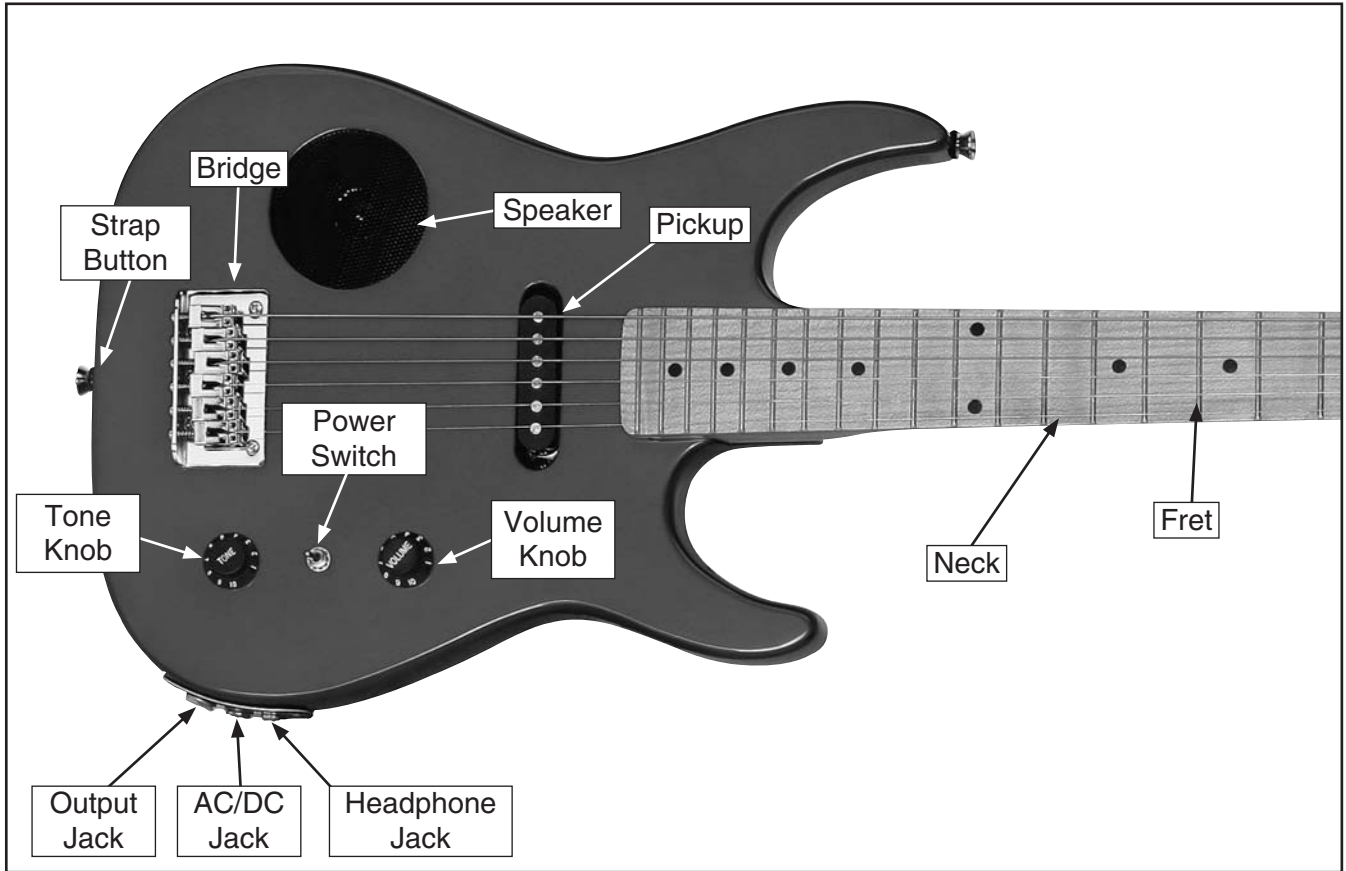


Figure 4. Model H7582 controls.

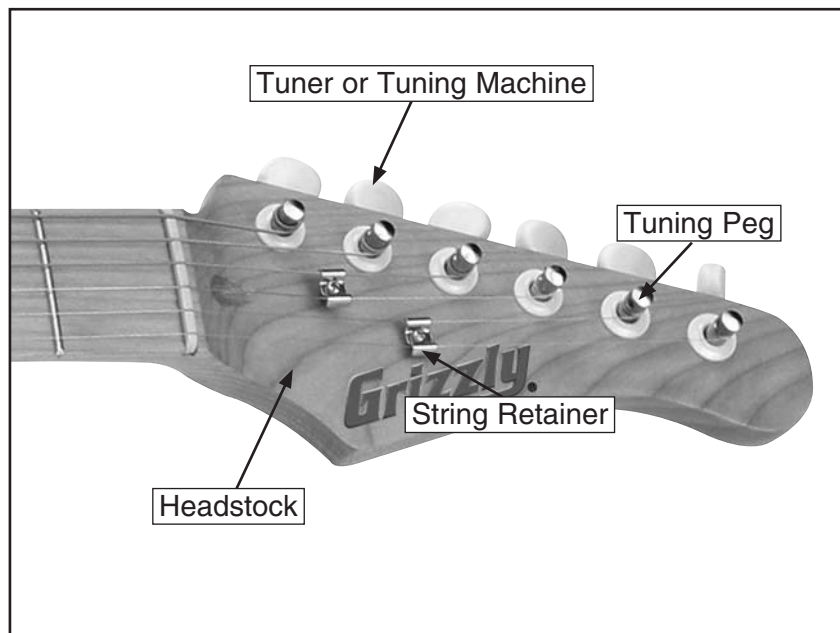


Figure 5. Model H7582 headstock features.



SECTION 4: ASSEMBLY

Sanding the Body

Components Needed	Qty
Guitar Body	1

The guitar body has been rough sanded at the factory, but it is up to you to do the final sanding before the finish is applied. To get a good finish, the body should be sanded with a series of sandpaper grits up to #320 grit.

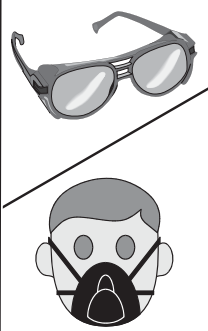
To sand the guitar body:

1. **Wear an ANSI-approved respirator and safety glasses when sanding!**
2. Use a flexible sanding block with #220 grit sanding paper to sand the entire guitar body and lightly round over the outside edges of the body. **DO NOT** round over the neck pocket or the body cavities.
3. Apply a coat of spray primer according to the primer manufacturer's instructions.
4. When the primer is dry, use #320 grit sandpaper for final sanding. **DO NOT** sand through the primer to the bare wood.

Finishing the Body

Components Needed	Qty
Guitar Body	1
Temporary Wood Neck	1
Wood Screws #7 x 1½"	4

Solid color finishes are available through hardware stores, auto paint suppliers or luthier supply catalogs. Finish materials and books on finishing instruments can be ordered through Grizzly Industrial. Painting an instrument is a difficult process with many options. If you are unsure of your skills, you can research finishing techniques and practice on scraps, or have a professional paint it for you.

	WARNING Most finishes are hazardous to your health. Wear a NIOSH/OSHA approved respirator with particulate and gas/vapor filters, safety glasses, rubber gloves, and work in a well ventilated area when finishing.
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To finish the guitar body:

1. Mask off the neck pocket. Press the masking tape tight against the edges of the pocket so the finish does not seep under the tape.
2. Fasten four wood screws through the neck pocket holes into a scrap piece of wood about 1" x 2" x 16". This will be used as a handle when spraying finish.
3. Drill a hole in the end of the handle for hanging from a hook.



4. Wipe the entire guitar body with a tack cloth or a soft clean rag to remove any dust.
5. Thread the hook through the temporary handle and hang the body in the finish room.
6. Apply several thin coats of the finish, following the manufacturer's instructions. Multiple thin coats usually produce a better quality finish than one heavy coat.
7. Allow to dry according to the manufacturer's instructions.

Note: *Depending upon the type of finish used and environmental factors, drying time will vary.*

To achieve an extremely high gloss finish with lacquer, follow these optional steps:

8. Sand the entire body with #400 grit wet and dry sandpaper after at least three coats of finish have been applied. DO NOT sand through the finish—be especially careful on the edges.
9. Apply more finish, sanding between coats, until the finish is the desired thickness.
10. Allow to dry according to the manufacturer's instructions.

Note: *Depending upon the type of finish used and environmental factors, drying time will vary. Sometimes it may take up to a month for the finish to reach its full hardness.*

11. Wet sand the finish using #600 grit wet/dry sandpaper on a sanding block, followed with #1000 grit sandpaper.
12. You may buff the finish by hand or with a buffer, starting with a medium polish and working up to a high gloss polish.

Note: *If using a buffing machine, be extremely careful to avoid going through the finish, especially on the edges.*

NOTICE

Dust particles suspended in the air will settle on wet finishes, causing less than satisfactory results. To avoid this problem:

- **Leave the finish room undisturbed for 24 hours prior to applying the finish.**
- **Avoid making unnecessary movements upon entering the finish room.**
- **Apply the finish to the guitar parts and immediately leave the finish room.**
- **DO NOT return to the room until the specified drying time has elapsed.**



Tuners

Components Needed	Qty
Guitar Neck	1
Bushings.....	6
Tuning Head Plate.....	1
Black Screws #3 x 3/8"	7
Wooden Block	1
Hammer.....	1
Peghead Reamer or a Round File (Optional) ...	1

The tuning head plate consists of six machine heads on a metal plate. The machine heads are attached to the headstock with bushings and small screws.

To install the tuners:

1. Place the six bushings into the holes on the face of the headstock (**Figure 6**). The holes may need to be widened with a peghead reamer or a round file. DO NOT widen the holes too much—the bushings should fit snugly.



Figure 6. Installing plastic bushings on headstock.

2. Place a wooden block on the bushings and lightly tap the block with a hammer (**Figure 7**) until the bushings are seated against the face of the headstock.

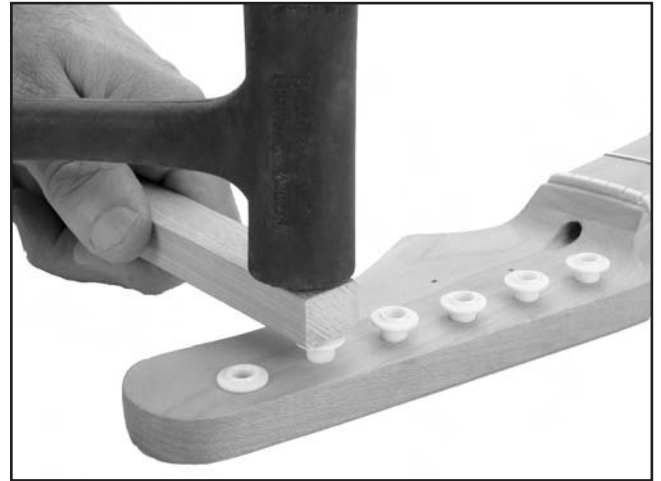


Figure 7. Seating bushings.

3. Slide the machine heads through the bushings from the back face of the headstock.
4. Align the tuning head plate over the mounting holes and secure with #3 x 3/8" black screws as shown in **Figure 8**.

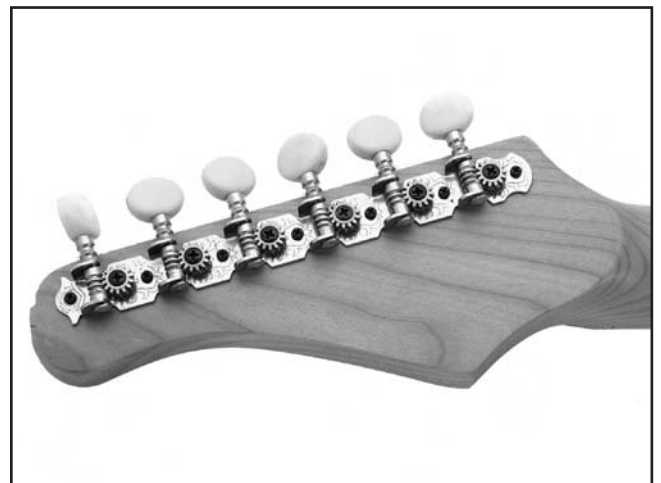


Figure 8. Tuning head plate installed correctly.



Neck

Components Needed	Qty
Guitar Neck	1
Guitar Body	1
Neckplate.....	1
Silver Screws #7 x 1/4"	4

The neck is pre-finished and is ready to install.

To attach the neck to the guitar body:

1. Place the neck into the neck pocket (**Figure 9**). If the neck does not fit into the pocket, lightly sand the high points on the neck until it fits.



Figure 9. Neck installation.

2. Place the neckplate over the neck pocket holes and thread four #7 x 1/4" silver screws (**Figure 10**) through the guitar into the neck. DO NOT use glue, since you may want to remove the neck for maintenance and tune-ups.

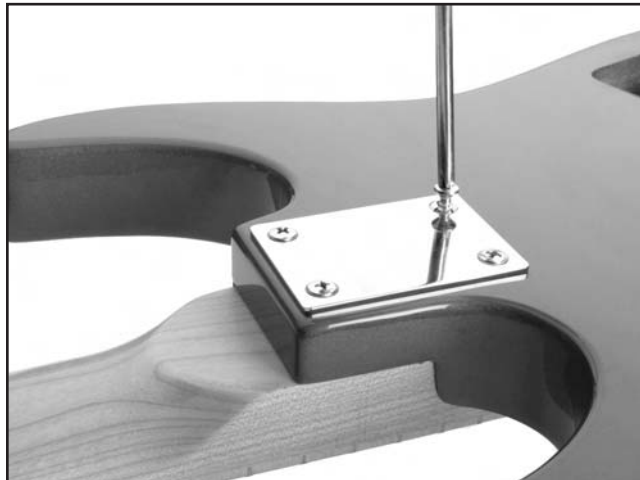


Figure 10. Neckplate installation.



Electronics

Components Needed	Qty
Guitar.....	1
Black Screws #3 x 3/4"	2
Black Screws #2 x 1/4"	6
Silver Screws #3 x 1/2"	2
Circuit Board.....	1
Pickup.....	1
Speaker	1
Battery Case.....	1
Jack Plate.....	1

After the pickup, battery case, and speaker are installed, solder them onto the jacks and the circuit board.

Pickup

The pickup is installed onto the front of the guitar.

To install the pickup:

1. Place the guitar face-side up.
2. Insert the pickup wire (**Figure 11**) through the hole in the pickup mortise and into the circuit board mortise.

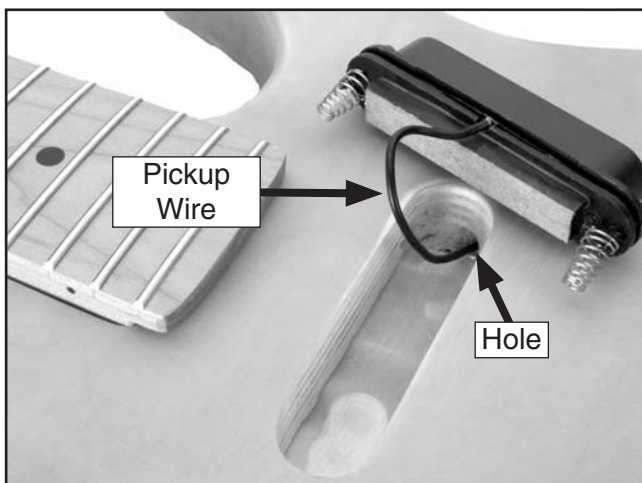


Figure 11. Pickup installation location.

3. Insert the pickup into the mortise, positioning both of the #3 x 3/4" black screws through a spring.

4. Secure the pickup to the guitar body with the black screws. Be careful NOT to thread the screws through the pickup wire.
5. Turn the guitar over so the back is face-side up.
6. Solder the pickup wire onto the volume control as shown on the **Wiring Diagram** on **Page 23** and the **Electrical Components** photos on **Page 24**.

Speaker

To install the speaker:

1. Place the speaker mesh cover in the bottom of the speaker mortise
2. Align holes on the speaker with holes in the mortise and fasten the four #2 x 1/4" black screws.
3. Insert the two black wires on the headphone jack through holes in the circuit board mortise and battery case (**Figure 12**) and into the speaker mortise.



Figure 12. Speaker wires in battery case mortise.

4. Solder the speaker wires onto the speaker as shown on the **Wiring Diagram** on **Page 23** and the **Electrical Components** photos on **Page 24**.



Battery Case

To install the battery case:

1. Insert the battery case wires through the left hole in the battery case mortise and into the circuit board mortise.
2. Slide the battery case (**Figure 13**) into the mortise and secure with two #2 x 1/4" black screws.



Figure 13. Installing battery case.

Headphone, AC/DC & Output Jacks

To install the headphone, AC/DC, and output jacks:

1. Remove the hex nuts and washers from the headphone, AC/DC, and output jacks.
2. Solder the battery wires onto the AC/DC jack as shown on the **Wiring Diagram** on **Page 23** and the **Electrical Components** photos on **Page 24**.
3. Insert the headphone, AC/DC, and output jacks out through the hole in the side of the guitar, then through the jack plate (**Figure 14**).

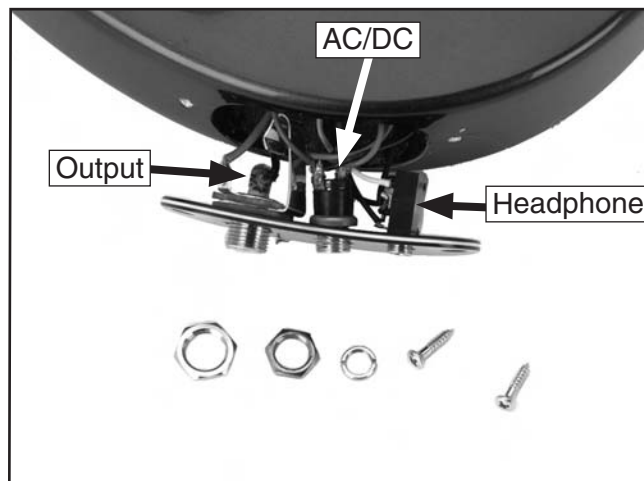


Figure 14. Inserting jacks through jack plate.

4. Reinstall the nuts and washers removed in **Step 1**, using an 11 and 13mm wrench, then fasten the jack plate to the guitar with the two #3 x 1/2" silver screws (**Figure 15**).



Figure 15. Securing jack plate.



Volume, Tone & Circuit Board

To install the tone control, volume control, and power switch:

1. Remove hex nuts, flat washers, and interior tooth washers from the volume control, tone control, and power switch. Note the location of each of the nuts and washers. This will make it easier to reinstall the components.
2. Insert the volume and tone controls through flat washers and then into the sockets on the guitar body as shown in **Figure 16**.

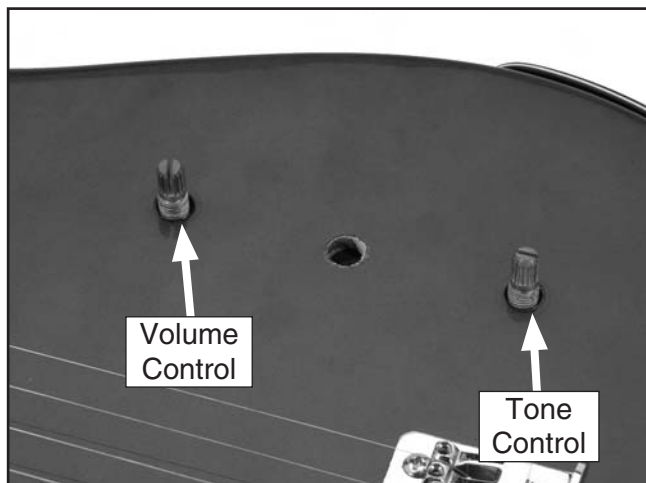


Figure 16. Installing tone and volume controls.

3. Using a 10mm wrench, reinstall the nuts and washers removed in **Step 1** and install the volume and tone control knobs.
4. Insert the grounding wire through the hole in the side of the circuit board mortise (**Figure 17**).

Note: *It may help to use tweezers or pliers.*

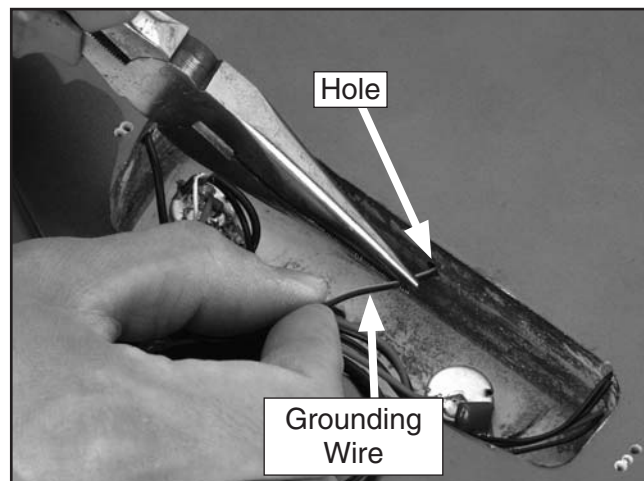


Figure 17. Installing ground wire into side hole.

5. Thread the wire until it protrudes through the top of the guitar body. Place a piece of masking tape over the wire to hold it temporarily.
6. Insert the power switch, which is mounted to the circuit board, through the guitar body, as shown in **Figure 18**.

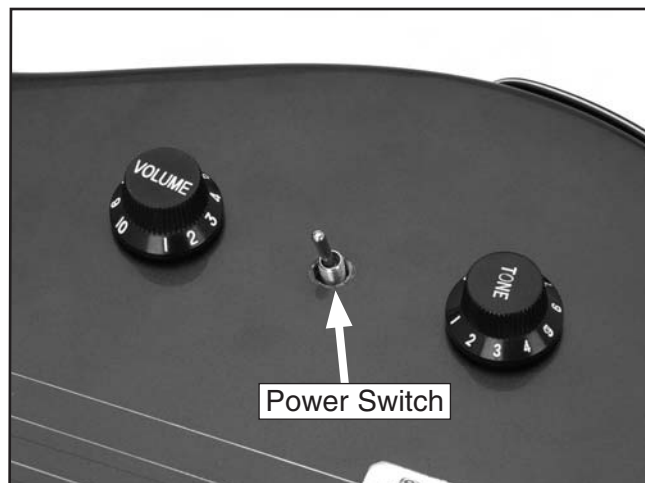


Figure 18. Installing power switch.

7. Reinstall the hex nut and interior tooth washer removed earlier.



Covers

Components Needed	Qty
Guitar.....	1
Black Screws #2 x 1/4"	8
Circuit Board Cover.....	1
Speaker Cover	1

To install the speaker and circuit board covers:

1. Place the circuit board and the speaker covers over the mounting holes (**Figure 19**) and secure each cover with four #2 x 1/4" black screws.



Figure 19. Covers secured.

Bridge

Components Needed	Qty
Guitar.....	1
Bridge	1
Silver Screws #4 x 3/4"	5

For the guitar to be grounded correctly, a section of exposed grounding wire must contact the bottom of the bridge.

To attach the bridge to the guitar body:

1. Make sure the end of the grounding wire fits snugly in the hole shown in **Figure 20**. The exposed wires should protrude past the hole enough to contact the bridge.
2. Secure the wire insulation in the hole with rubber cement, leaving the end exposed.
3. Align the mounting holes on the guitar and bridge (**Figure 20**) and secure over the ground wire with five #4 x 3/4" silver screws.

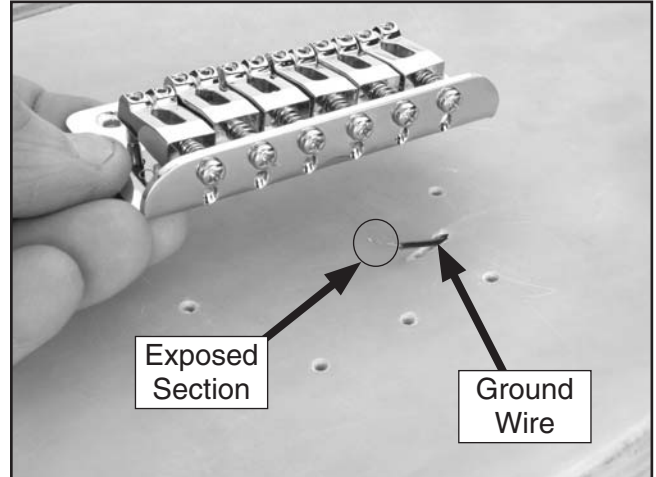


Figure 20. Bridge placement.



Strap Button

Components Needed	Qty
Guitar.....	1
Silver Screws #4 x 3/4"	2
Strap Buttons.....	2

The strap buttons are positioned on the guitar as shown in **Figure 21**.

To attach the strap buttons to the guitar:

1. Locate the mounting holes.
2. Secure the strap buttons with two #4 x 3/4" silver screws.



Figure 21. Strap buttons.

Winding Strings

Components Needed	Qty
Guitar.....	1
Strings	6

The correct position of the guitar strings is shown in **Figure 22**. The thin High E string is called the "1st" string and the thick Low E string is called the "6th" string.

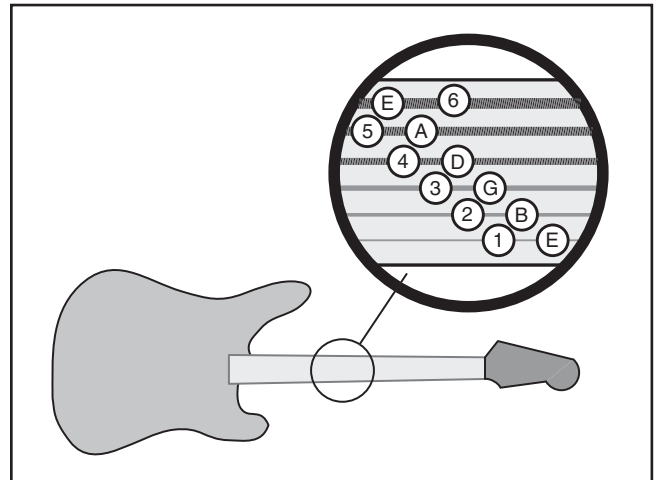


Figure 22. Correct string locations.

To install the guitar strings:

1. Slide the 1st string through the corresponding hole in the bridge (**Figure 23**).

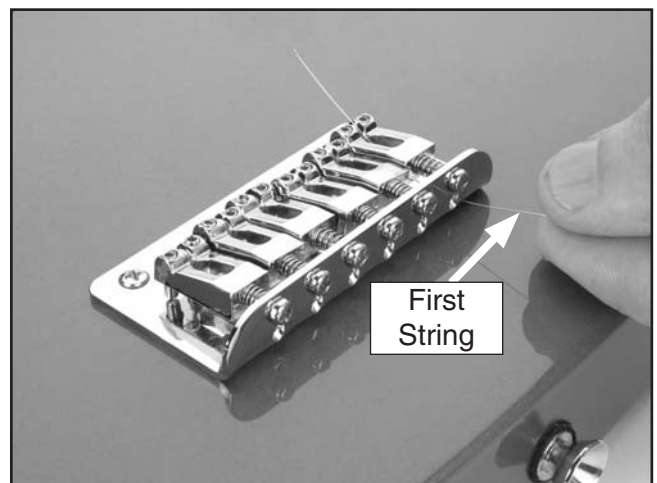


Figure 23. Installing 1st string.



2. Guide the string through the bridge, over the saddle, over the nut, and through the hole in the corresponding tuner.

3. Allow only enough slack in the string for 2 or 3 rotations around the tuner.

Note: *If too much slack is allowed, then the string could wind off the machine head after many successive rotations. If not enough slack is allowed, then the string may not hold the winding tension.*

4. Bend the string at a right angle across the edge of the machine head.

5. Rotate the tuners until the string just begins to hold the winding tension, as shown in **Figure 24**.

Note: *DO NOT tighten the strings beyond the initial tensioning at this time. Final tensioning should be completed during the string tuning process.*

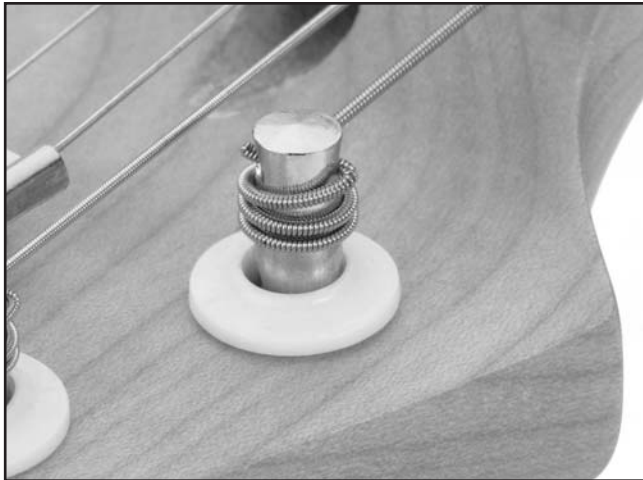


Figure 24. String wrapped around tuner.

6. Repeat the above process for the remaining strings.

String Retainers

Components Needed	Qty
Guitar	1
Retainers	2
Silver Screw #2 x 1/2"	1
Silver Screw #2 x 3/8"	1
Bushings	2

One string retainer mounts between the 1st and 2nd strings, and the other string retainer mounts between the 3rd and 4th strings (**Figure 25**).

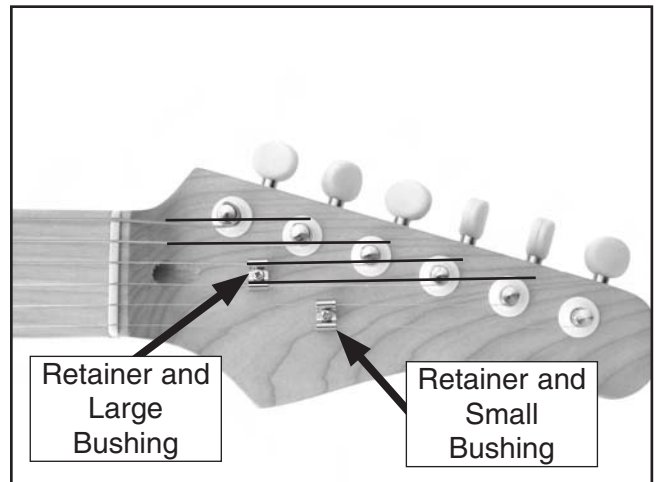


Figure 25. String retainer locations.

To install the string retainers:

1. Slide a #2 x 1/2" silver screw through a retainer and large bushing, and fasten it to the front hole on the headstock (**Figure 25**).
2. Slide a #2 x 3/8" silver screw through a retainer and small bushing, and fasten it to the back hole on the headstock (**Figure 25**).



SECTION 5: SET UP

General

Guitar set up is an art that requires skill, patience and experience. If you have the patience, you can acquire the skill and experience. If you don't have the patience, you may want to have your guitar set up by a qualified guitar technician.

This section on set up is a general overview of set up practices. We highly recommend that you research more in-depth methods. Books on setting up electric guitars can be ordered through Grizzly Industrial, luthier supply catalogs, or may be available through your local library.

Neck Adjustment

Tools Needed	Qty
Metal Straightedge 18"	1
Hex Wrench 5mm.....	1
Feeler Gauge Set	1
Phillips Head Screwdriver.....	1

The guitar neck was adjusted perfectly straight before it was packaged; however, the moisture content of wood acclimates to the humidity of the surrounding environment. This characteristic results in movement of the wood components with regards to alignment. It is not uncommon for the neck to require adjustment several times each year, especially in regions where the seasonal climate changes are more drastic.

To adjust the bow of the guitar neck:

1. Tighten the strings to playing tension.
2. Place a straightedge from the 1st fret to the 17th. Measure any gaps between the straightedge and the frets with the feeler gauge.

—If the neck is flat, or bowed up .012" or less, the neck is set up correctly.

—If the gap is greater than .012", or if the neck bows away from the straightedge, continue to **Step 3**.

3. Remove the strings from the neck and the neck from the guitar body.
4. Turn the truss rod nut in the base of the neck (**Figure 26**) counterclockwise with a 5mm hex wrench to release tension on the neck. Retighten until the nut begins to grab.



Figure 26. Truss rod nut location.

5. To flatten a back bow, turn the truss rod nut a ¼ turn clockwise. To correct an up bow, turn the nut a ¼ turn counterclockwise.
6. Restring the guitar and recheck the neck with the straightedge. Use wire cutters to cut off excess string.

—If the neck is correctly adjusted, go to the next section.

—Return to **Step 3** for further adjustment.



String Height

Tools Needed	Qty
Hex Wrench 1.5mm	1
Guitar Capo	1
Metal Straightedge	1

Correct string height is crucial for maximizing the playability of your electric guitar. The string height is the distance between the top face of the fret and the bottom face of the string (**Figure 27**).

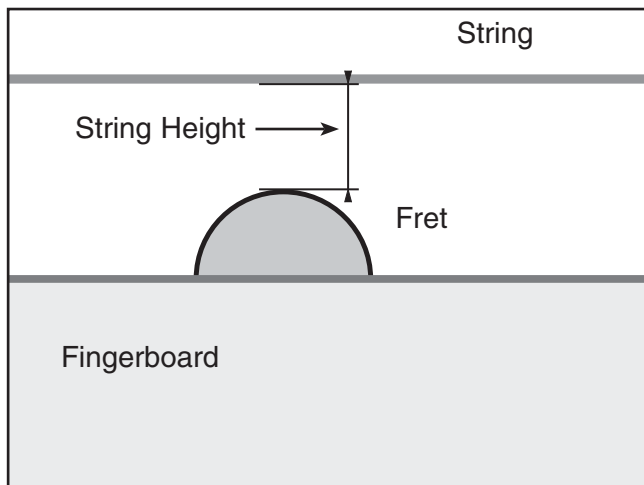


Figure 27. String height measurement.

To adjust the string height:

1. Place a capo on the 1st fret and measure the string height above the 17th fret as shown in **Figure 27**.
2. Use a 1.5mm hex wrench to adjust the saddle height (**Figure 28**) until each string is $\frac{1}{16}$ " above the 17th fret.

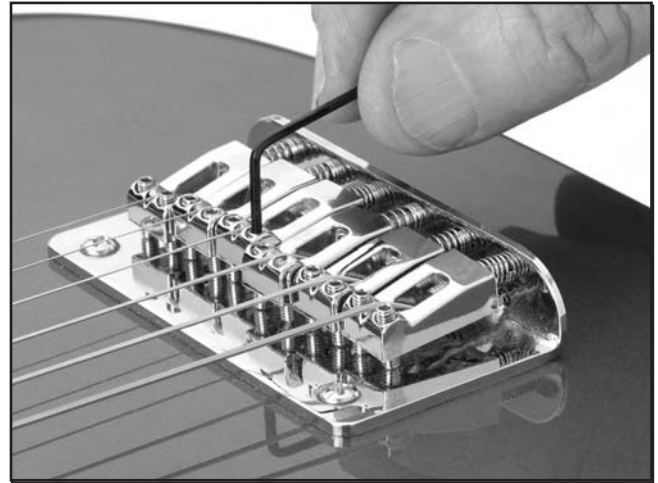


Figure 28. Adjusting string height.

3. Remove the capo.



Pickup Height

Tools Needed	Qty
Metal Straightedge	1
Phillips Head Screwdriver.....	1

Pickup height can have a dramatic effect on the audio output signal. The closer the strings are to the pickup, the higher the audio output signal will be. If the strings are too close, distortion is caused by magnetic interference from the electronic components.

To measure the string height at the pickup:

1. Measure the height of the 1st and 6th strings at the pickup while the strings are “fretted” at the 22nd fret (**Figure 29**).

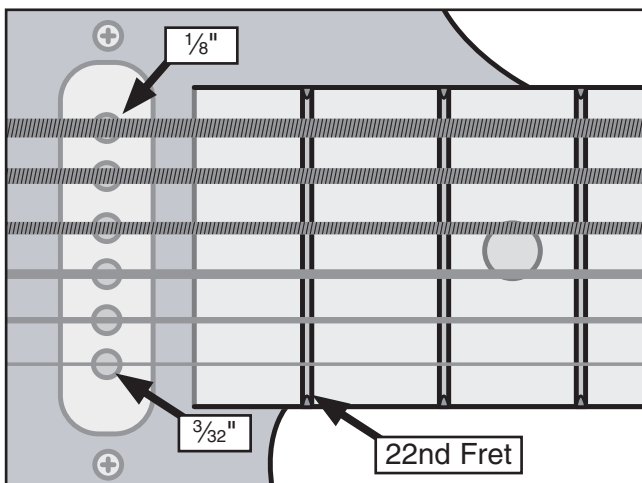


Figure 29. String heights over the pickup.

2. With a Phillips head screwdriver, adjust the screws on each side of the pickup until the 1st string is $\frac{3}{32}$ " above the pickup and the 6th string is $\frac{1}{8}$ " above the pickup.

Setting Intonation

Tools Needed	Qty
Phillips Head Screwdriver.....	1

Setting the intonation adjusts the length of the string to correct for flatness/sharpness on each string. This is a simple process that takes a lot of trial and error.

To set the intonation:

1. Lightly touch and then release the 1st string directly above the twelfth fret as you pluck the string to play a harmonic note.
2. Now pluck the string while holding it fretted at the twelfth fret. If this note is sharper than the note played in **Step 1**, move the saddle away from the neck by turning the Phillips head screw (**Figure 30**) clockwise. If this note is flat in comparison, move the saddle toward the neck.

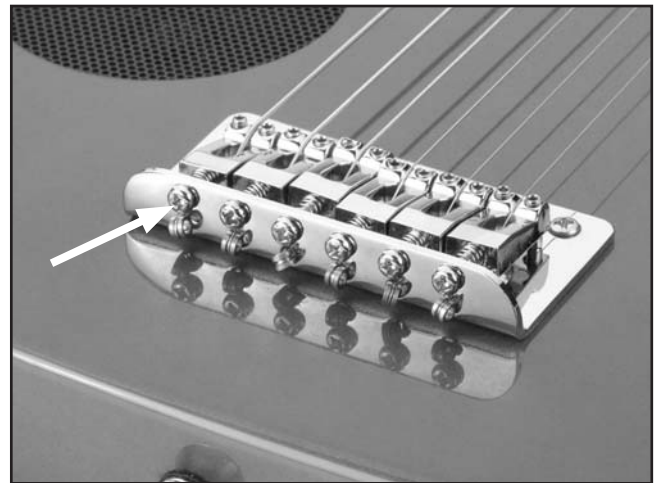


Figure 30. Saddle adjustment location.

Note: This can also be done with an electronic tuner by tuning the harmonic note to be exactly in tune and then adjusting the saddle until the note played in **Step 2** is also in tune.

3. Repeat **Steps 1–2** until the string is in tune. Repeat the process for the rest of the strings.



Tuning

Tuning is an important guitar concept. If the guitar is not in tune, the resulting sound is unpleasant. These instructions explain how to tune by ear. You can also tune using an electronic tuner such as the Grizzly H3097 Chromatic Tuner shown on **Page 21**.

To tune the guitar:

1. Install a 9V battery into the battery case.
2. Play a Low E pitch on a piano, a tuning fork, or an electronic computer file.
3. Play an open (non-fretted) 6th string (**Figure 31**) and adjust the tuner to match the Low E.

Note: *Always tune up. If the string is tuned high, loosen the string to lower the pitch, then tune the string up to the correct note.*

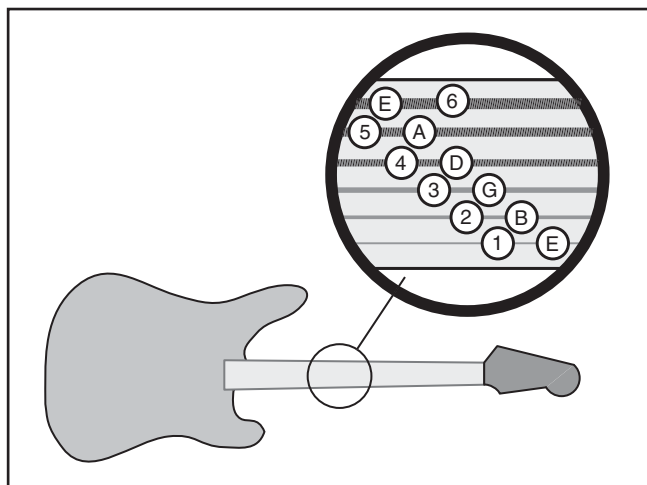


Figure 31. Standard tuning.

4. Tune the 5th string by playing the 6th string while it is being pressed (fretted) at the 5th fret, and then play the open 5th string. Adjust the 5th string tuner until the notes match.
5. Perform the same tuning steps on the 4th and 3rd strings.
6. When tuning the 2nd string, fret the 3rd string at the 4th fret instead of the 5th fret.
7. Tune the 1st string in the same manner as the 6th, 5th, 4th, and 3rd strings.

Basic Guitar Care

Use a clean, lint-free cotton cloth to wipe your guitar on a regular basis. Never use paper towels.

If you plan to store the guitar for several months, remove the battery, loosen the strings a little, and store in a place where the guitar will not experience temperature or humidity extremes.



SECTION 6: REFERENCE INFO

Accessories

- H2499—Small Half-Mask Respirator
- H3631—Medium Half-Mask Respirator
- H3632—Large Half-Mask Respirator
- H3633—Disposable Cartridge Filter Pair
- H3635—Disposable Cartridge Filter Pair

This lightweight elastomeric facepiece has cradle suspension, easy adjust headstraps and low profile for greater field of vision and compatibility with normal use of glasses or goggles. Purchase cartridges separately depending upon intended application.

H3633 protects against organic vapor, sulfur dioxide, hydrogen chloride and chlorine. H3635 protects against all particulate aerosols.



Figure 32. Half-mask respirator and disposable cartridge filters.

- G7984—Face Shield
- H1298—Dust Sealed Safety Glasses
- H1300—UV Blocking, Clear Safety Glasses
- H2347—Uvex® Spitfire Safety Glasses
- H0736—Shop Fox® Safety Glasses

Safety Glasses are essential to every shop. If you already have a pair, buy extras for visitors or employees. You can't be too careful when it comes to shop safety!



Figure 33. Our most popular safety glasses.

H3097—Chromatic Tuner

An absolute must for any guitar player, this tuner allows you to tune your acoustic or electric guitar dead on. Includes 9V battery.



Figure 34. Model H3097 Chromatic Tuner.

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- H5750—Vinyl Washcoat/Sealer, 1 Qt
- H5751—Nitrocellulose Lacquer, Gloss, 1 Qt
- H5752—Nitrocellulose Lacquer, Gloss, 1 Gal
- H5753—Nitrocellulose Lacquer, Satin, 1 Qt
- H5754—Nitrocellulose Lacquer, Satin, 1 Gal
- H5755—Retarder for Lacquer, 1 Qt

McFadden's nitrocellulose lacquer is the leading lacquer used by custom guitar builders. It sprays and buffs really well and is capable of giving you a finish that looks "wet."



Figure 35. Model H5750-59 McFadden's Lacquers and Fillers.

- H0818—Fine Prepolishing Paste, 1.85 lb
- H4873—Medium Prepolish Liquid, 1 Qt
- H0821—High Gloss Polishing Liquid, 1 Qt

Menzerna professional polishing compounds will remove any fine scratches from the finish and give your instrument the incredibly high gloss finish that you are looking for.



Figure 36. Menzerna polishing compounds.

- H3900—Clear Lacquer, Dead Flat, 13 Oz
- H3901—Clear Lacquer, Flat, 13 Oz
- H3902—Clear Lacquer, Gloss, 13 Oz
- H3903—Clear Lacquer, Satin, 13 Oz

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- H3936—Top Coat Lacquer, Gloss, 13 Oz
- H3937—Top Coat Lacquer, Satin, 13 Oz
- H3938—Top Coat Lacquer, Sealer, 13 Oz

Behlen Master Lacquer Top Coat is an alcohol and water resistant, high solid nitrocellulose lacquer. Use to seal and protect Behlen solvent based stains and other Master Aerosols.

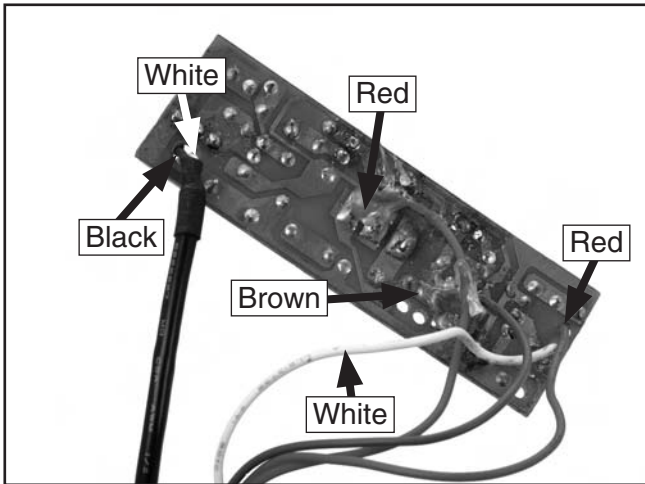


Figure 37. Behlen clear and top coat lacquers.

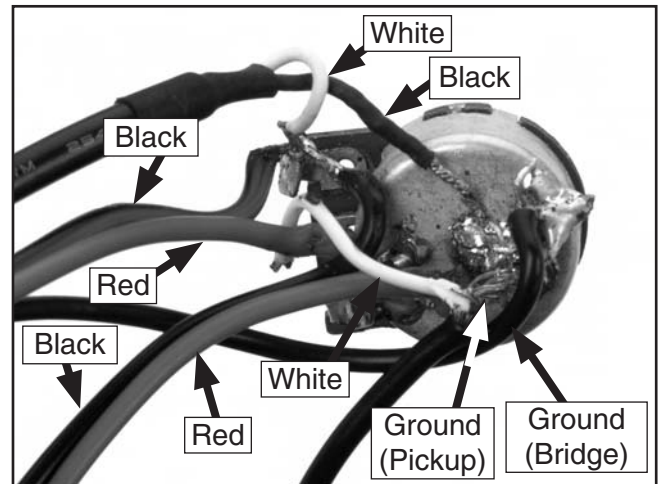
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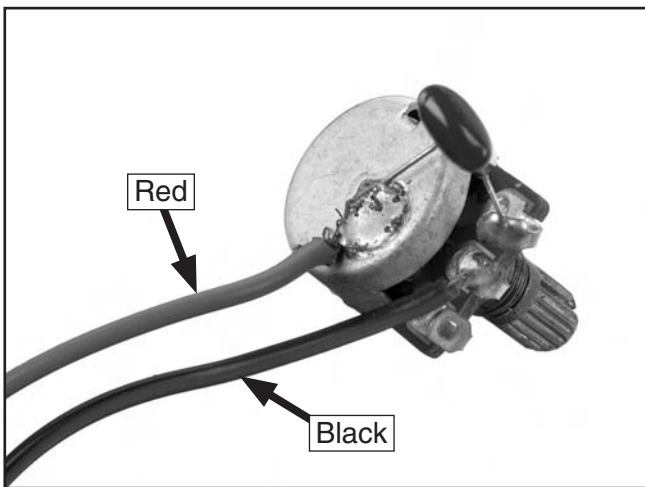
Electrical Components



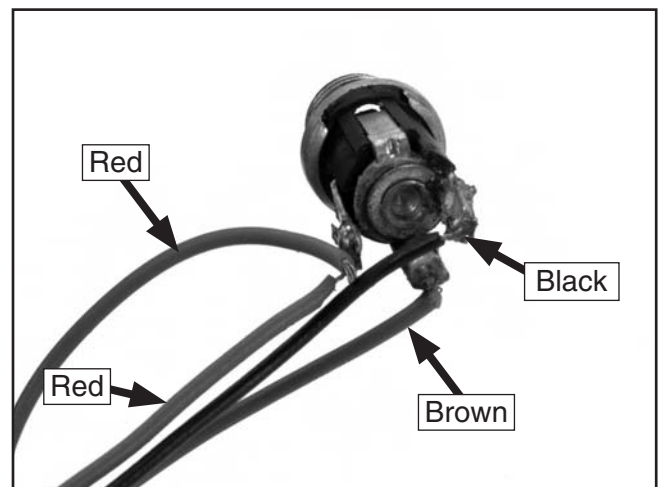
Circuit Board Wiring



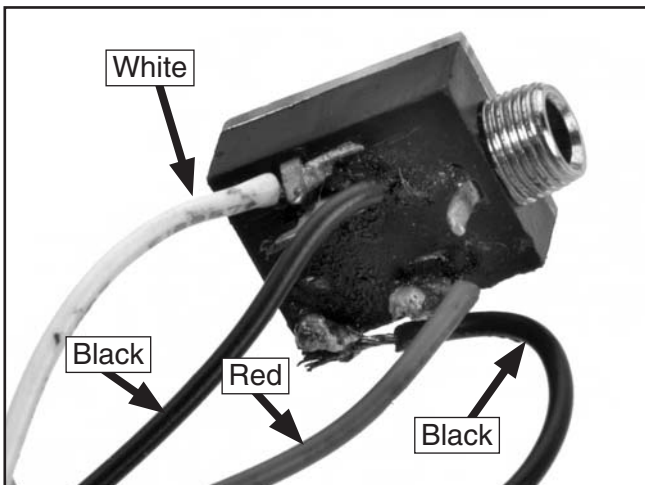
Volume Control Wiring



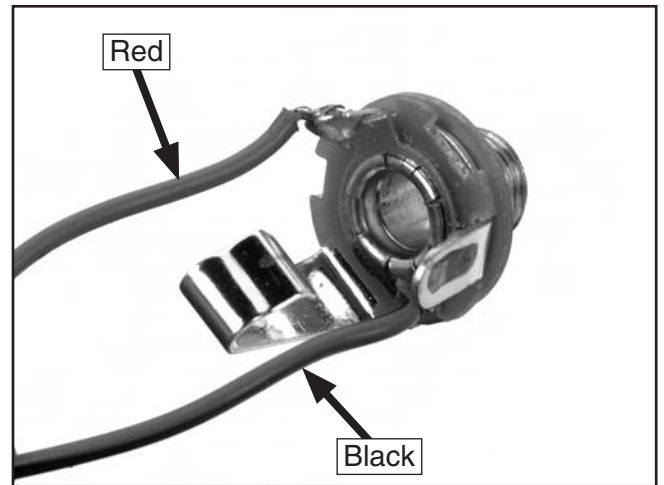
Tone Control Wiring



AC/DC Adapter Jack Wiring



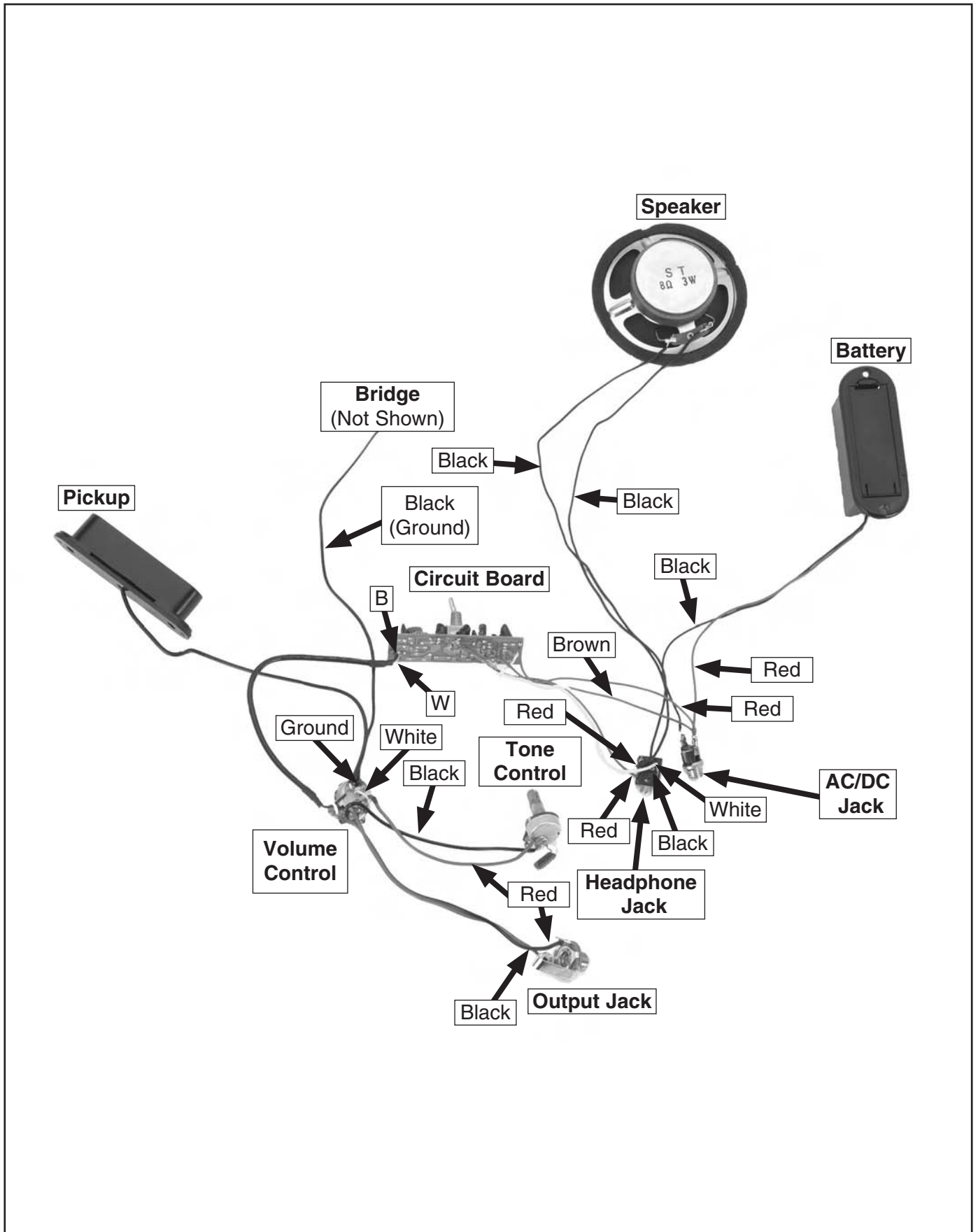
Headphone Jack Wiring



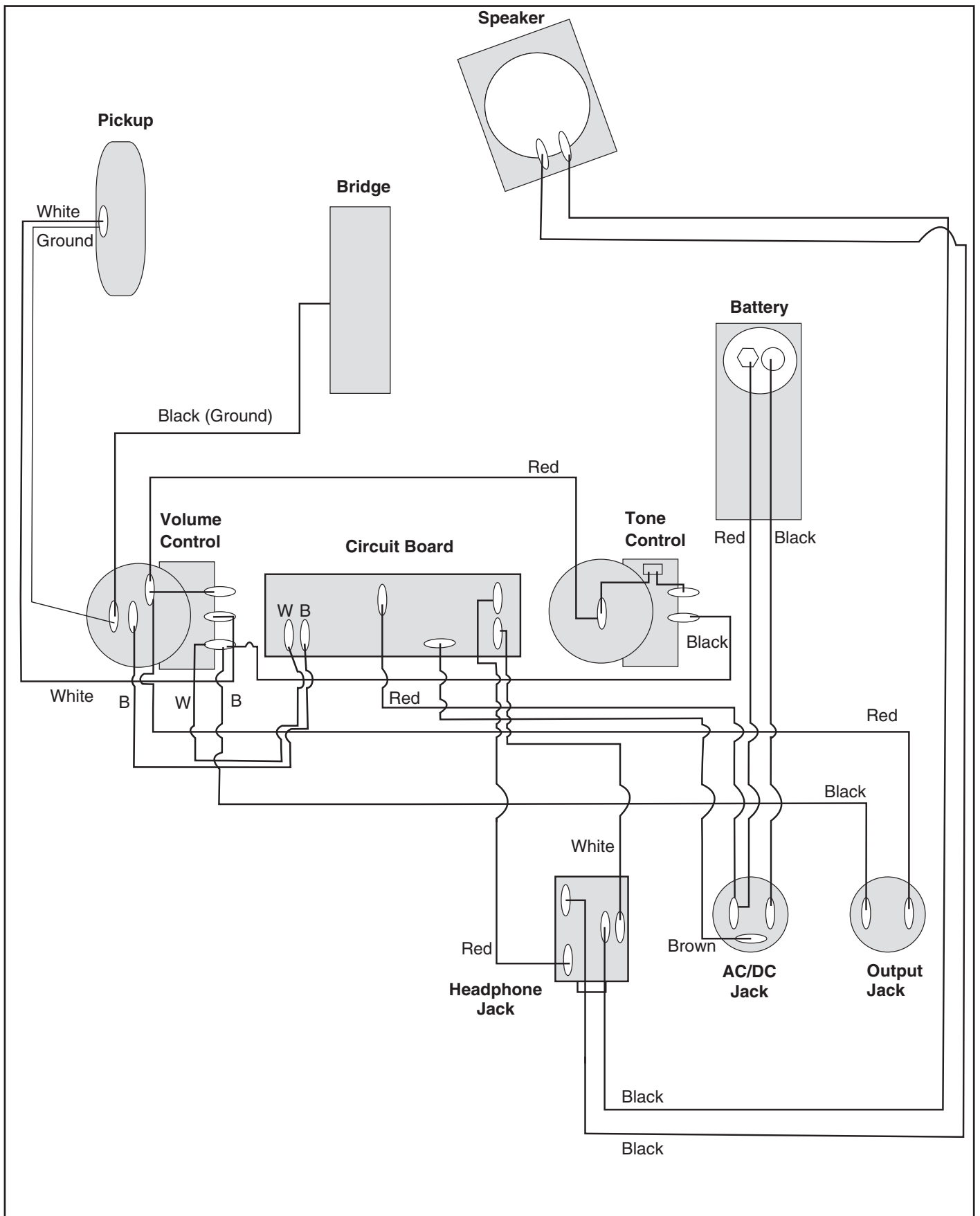
Output Jack Wiring



Electrical Components



Wiring Diagram



WARRANTY AND RETURNS

Grizzly Industrial, Inc. warrants every product it sells for a period of **1 year** to the original purchaser from the date of purchase. This warranty does not apply to defects due directly or indirectly to misuse, abuse, negligence, accidents, repairs or alterations or lack of maintenance. This is Grizzly's sole written warranty and any and all warranties that may be implied by law, including any merchantability or fitness, for any particular purpose, are hereby limited to the duration of this written warranty. We do not warrant or represent that the merchandise complies with the provisions of any law or acts unless the manufacturer so warrants. In no event shall Grizzly's liability under this warranty exceed the purchase price paid for the product and any legal actions brought against Grizzly shall be tried in the State of Washington, County of Whatcom.

We shall in no event be liable for death, injuries to persons or property or for incidental, contingent, special, or consequential damages arising from the use of our products.

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The manufacturers reserve the right to change specifications at any time because they constantly strive to achieve better quality equipment. We make every effort to ensure that our products meet high quality and durability standards and we hope you never need to use this warranty.

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<input type="checkbox"/> Journal of Light Cont.	<input type="checkbox"/> Projects in Metal	<input type="checkbox"/> Woodwork
<input type="checkbox"/> Live Steam	<input type="checkbox"/> RC Modeler	<input type="checkbox"/> Woodworker West
<input type="checkbox"/> Model Airplane News	<input type="checkbox"/> Rifle	<input type="checkbox"/> Woodworker's Journal
<input type="checkbox"/> Modeltec	<input type="checkbox"/> Shop Notes	<input type="checkbox"/> Other: _____
<input type="checkbox"/> Old House Journal	<input type="checkbox"/> Shotgun News	

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 \$50,000-\$59,000 \$60,000-\$69,000 \$70,000+

4. What is your age group?

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 50-59 60-69 70+

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