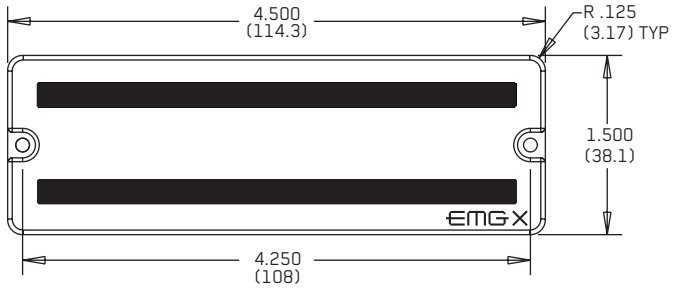
PO BOX 4394
SANTA ROSA, CA
95402 USA

P (707) 525-9941
F (707) 575-7046
EMGPICKUPS.COM

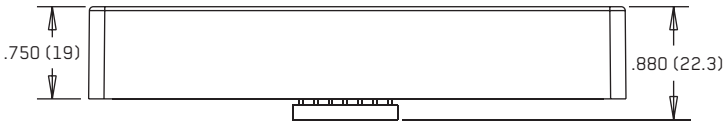
B136rE 0230-0141rD

X-SERIES

MAXIMUM RECOMMEMDED STRING WIDTH 3.75" (95.25)



.125 (3.17) DIA. MOUNTING HOLES

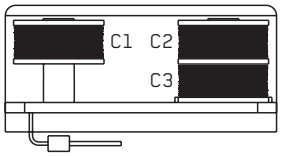


INSTALLATION INFORMATION
EMG MODEL: **45-TW-X**

SPECIFICATIONS:

MODEL:	45-TW-X	Single-Coil	Dual-Coil
Logo Color*	Copper		
Magnet Type	Alnico		
Resonant Frequency (KHz)		3.50	2.50
Output Voltage (String)		1.00	4.00
Output Voltage (Strum)		3.00	8.50
Output Noise (60 Hz)		-107	-109
Output Impedance (Kohm)		2.00	2.00
Current @9V (Microamps)	160		
Battery Life (Hours)	1500		
Maximum Supply (Volts DC)	27		

EMG-45-TW-X (SIDE VIEW)



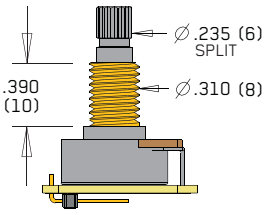
In Dual-coil mode, coils C1 and C2 are active.
In Single-coil mode, coils C2 andC3 are active.

INSTALLATION NOTES:

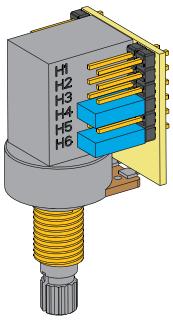
EMG-X Series Pickups are compatible with all EMG Active Pickups. They use the connector system for easy installation, avoiding the need to solder. Included with the TW-XSeries Pickups as the VLPF Active Tone Control. This means the Push/Pull Pot will not be used as a tone control. When using a selection switch, refer to the included B245 Pickup Buss Instructions for a detailed explanation of the Buss.

INCLUDED WITH EACH PICKUP:

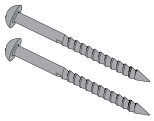
1 ACTIVE TONE CONTROL



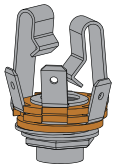
1 TW P/P SWITCH
W/POT (25K)



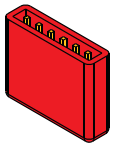
ADJUSTMENT SCREWS



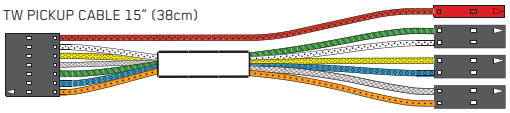
STEREO OUTPUT
JACK



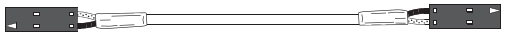
BATTERY
BUSS



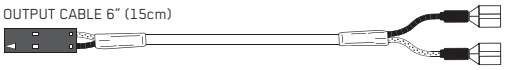
TW PICKUP CABLE 15" (38cm)



2 CONNECT CABLES 5.5" (14cm)



OUTPUT CABLE 6" (15cm)



SUPPLY CABLE 5.5" (14cm)



BATTERY CABLE 7" (18cm)



WARRANTY

All EMG Pickups and accessories are warranted for a period of two years. This warranty does not cover failure due to improper installation, abuse or damage. If upon examination the pickup is determined to be defective, a replacement will be made. Warranty replacement products are covered by this same warranty. This warranty covers only those pickups and accessories sold by authorized EMG Dealers. This warranty is not transferable.

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Installation Instructions:

EMG Models: EMG-45-TW-X

General Notes:

Every attempt has been made to make this a solderless installation.
There are some instances where this is not possible;

1) If your instrument uses the long panel output jack and you had passive pickups you will need a new stereo output jack, the Switchcraft 152B is recommended. Soldering to the new jack will be required, see diagram #5 below.
2) Some instruments may already have a battery holder installed and in that case soldering may be required, see the diagram at the bottom of page 3.
3) Instruments with two pickups may need soldering to the selection switch in some installations.

Using the 45-TW-X Push-Pull Pot

The Push-Pull Pot included with the EMG-45-TW-X allows you to choose between two internal pickups, single-coil and dual-coil. The Push-Pull Pot has two seperate sections described below.

Refer to diagrams #1 and #2

1) The push-pull pot has a switch section (DPDT) that lets you choose between the single-coil sound and a dual-coil sound by pulling or pushing the pot shaft up or down. You have the option of having the single-coil sound in either the up or down position and the same for the dual-coil sound. Diagrams #1 and #2 show how to connect the 45-TW-X pickup cable to choose either option. Select the diagram that suits you and push the cable connectors onto the single line 6 pin header.
   Simply flip cable connectors 1 and 2 to change the wire order and this will choose between the two options.
   Connector 3 remains the same for either choice.

Refer to diagrams #3 and #4

2) The pot section (25KA) can be used either as a volume control for the pickup or, it can be used as the master volume for the guitar. Diagrams #3 and #4 show how to connect either opition.
   Use the dual-line 10 pin header and push the cables on and install the shunts as needed onto the labeled headers H1 thru H6.

Use diagram #3 if you have a single 45-TW-X installed in your instrument, or have two or more pickups in your instrument and want to use the pot as the volume control for the 45-TW-X Pickup.
Installing the shunts on positions H4 and H6 sends the pickup signal to the wiper of the 25K Pot, and the output of the 25K Pot is at position H1.

Diagram #4 allows you to use the 25K Pot independently of the pickup output. By taking the output of the pickup from position H5, the volume control is now available to use as a master volume with H1 and H2 being the input and/or output of the volume control. H1 and H2 positions are interchangeable.
Position H5, now the output of the pickup, would typically go to a selection switch or a pan-pot. Don't forget to install the shunt on H6.

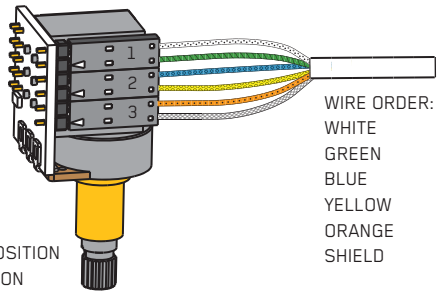


Diagram #1
HUMBUCKING ON: DOWN POSITION
SINGLE COIL ON: UP POSITION

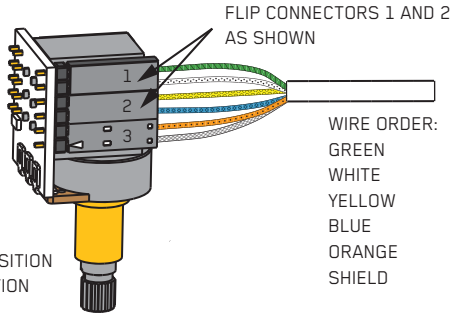


Diagram #2
SINGLE-COIL ON: DOWN POSITION
HUMBUCKING ON: UP POSITION

Diagram #3
PUSH / PULL POT USED AS
THE PICKUP VOLUME CONTROL

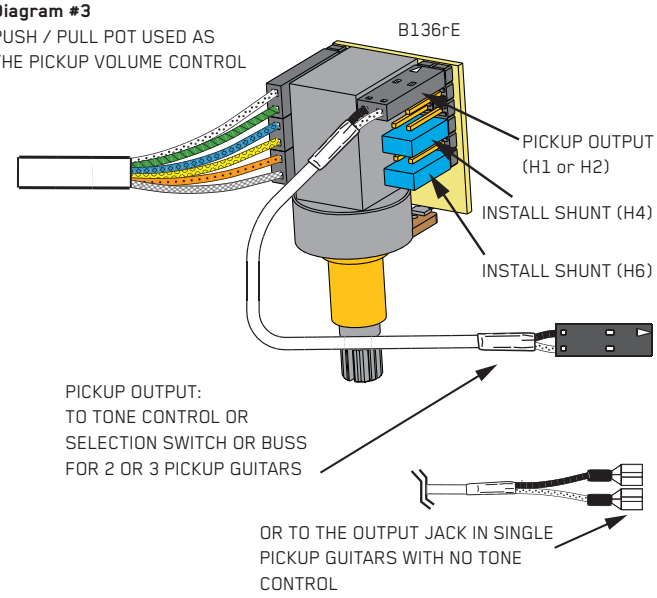


Diagram #5

Soldering to the 152B Panel Jack:

If your instrument has a long Panel Jack like the one below you will have to solder the output cable as shown.
Ground (Black) to the Sleeve
Signal (White) to the Tip
Battery Negative (Black) to the Ring

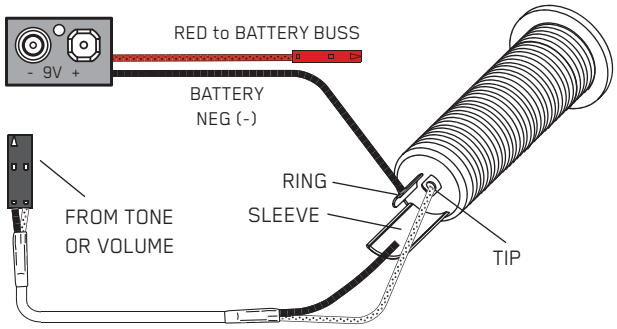
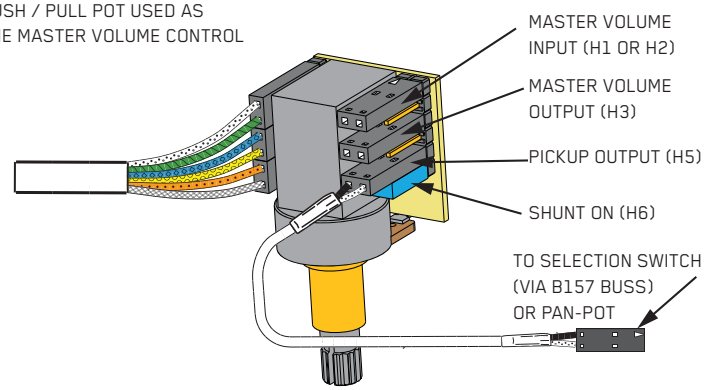


Diagram #4
PUSH / PULL POT USED AS
THE MASTER VOLUME CONTROL



Installation (One Pickup Guitars):

1) Plug the pickup cable onto the EMG Pickup header as shown in diagram #6 and route the cable to the control cavity. If the cable is too long, wind up the excess and keep it under the pickup if possible

Master Volume only.

Refer to diagram #7.

2) Plug the Pickup cable onto the push-pull pot switch section using the option chosen from diagram #1 or #2. Plug the output cable onto the H1 position of the push-pull pot section as shown in diagram #7 and be sure the shunts are installed on header positions H3 and H5. No shunts on H2 and H4. Skip to step 4.

1 TW-X with a Master Volume and VLPF Active Tone control

Refer to diagram #8.

3) Install the VLPF Active Tone included with the TW-X Pickup. Plug a coax cable from the push-pull pot to the VLPF Active Tone Control. (Note the reversed connnector on pins 1 and 2). Insert the output cable onto the Tone control as shown (Pins 3 and 4).

4) Connect the output wires to the output jack by pushing the connectors onto the jack as shown. WHITE wire to the TIP (T) contact, BLACK wire to the SLEEVE (S) contact BLACK Battery Negative wire to the RING (R) contact.

5) Using the battery buss, insert the RED wire of the pickup, the battery RED wire, and the RED wire from the VLPF onto any of the pins. Extra pins can be used for EMG Accessories.

6) Put the battery in the insulating foam piece provided and place it securely in the control cavity. We suggest that you plug in the instrument and test it before closing the control cavity.

Diagram #6

Insert the plug onto the 7 pin header of the pickup as shown here. Note the orientation arrow.

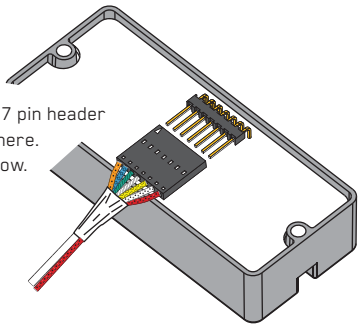


Diagram #7

One TW-X Pickup
One Master Volume Control
No Tone Control

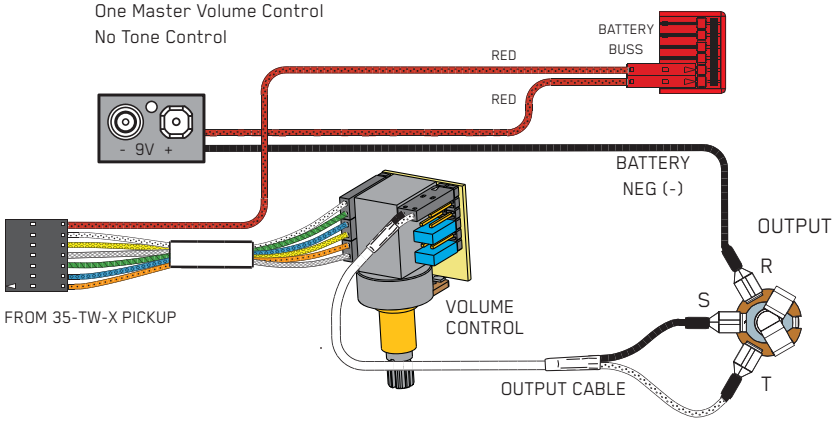


Diagram #8

One TW-X Pickup
One Volume
One Active Tone

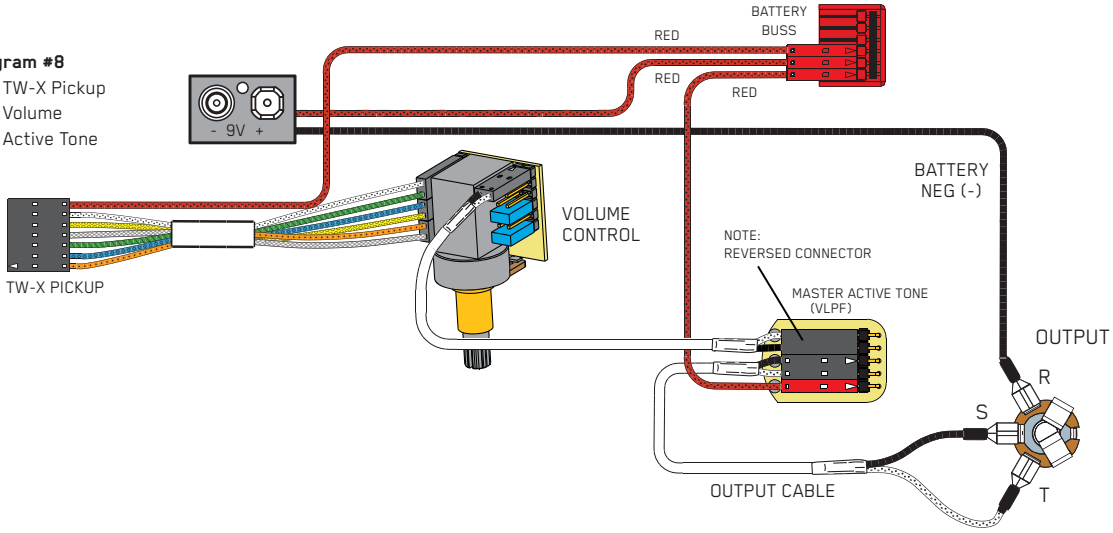


Diagram #9

If the instrument has a Battery Holder:

If your instrument has a 9 or 18 Volt battery holder you can still use the EMG Connectors to supply power to the pickups. Simply cut and strip the wires from the battery clip provided. Twist the wires together and use the shrink tubing included to cover the connections. Soldering the wires is the recommended.

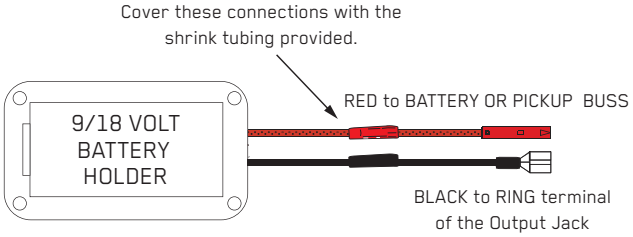
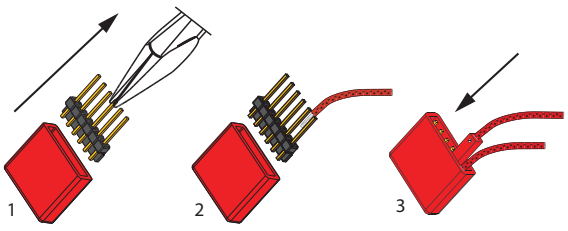


Diagram #10

Soldering to the battery buss:

If your instrument has an older EMG Pickup you can solder the pickup RED wire to the buss. Simply use some needle nose pliers, pull out the V+ header and solder the RED Wire from the pickup(s) to any of the pins and then re-insert the header into the housing.



Solder the RED wire from the Battery Holder and/or pickups and re-insert the Header into the insulation cover

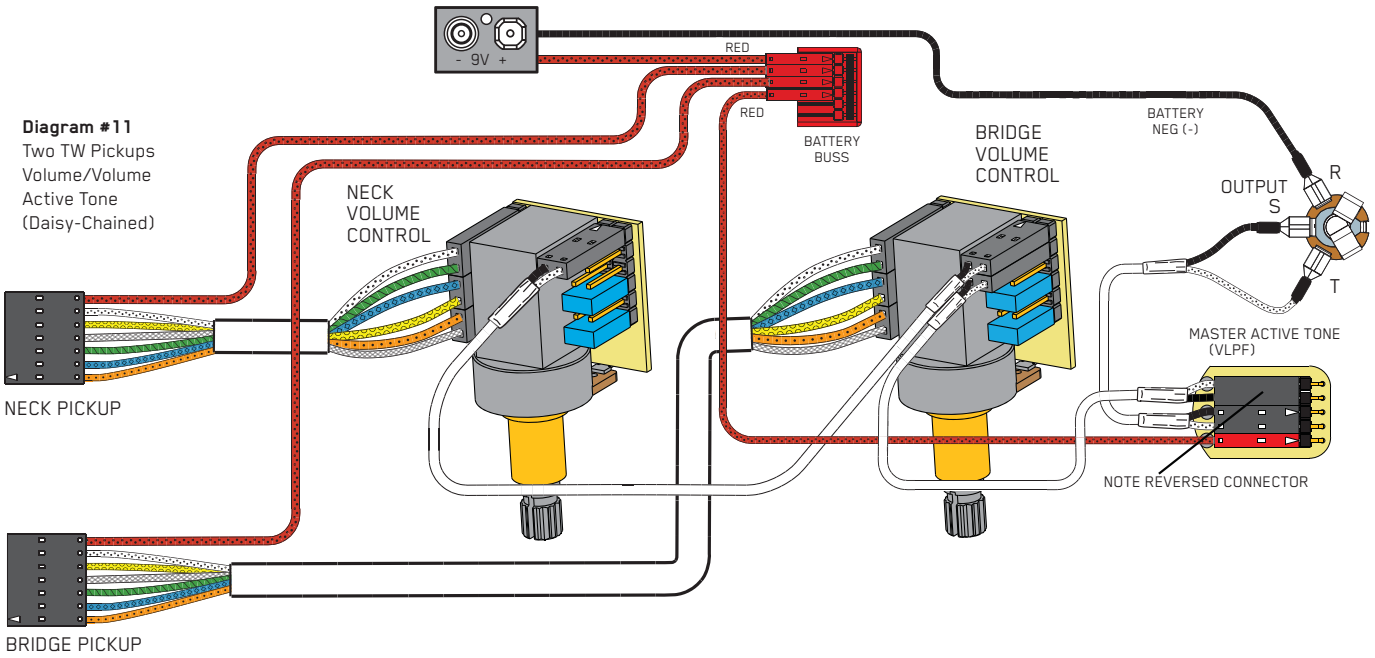


Diagram #11
Two TW Pickups
Volume/Volume
Active Tone
(Daisy-Chained)

If your instrument has a selection switch:
In the diagram below the EMG B245 Pickup Buss is used for instruments that have 2 pickups and a 3 position selection switch. If you have a selection switch and want your installation to remain solderless, you'll need a B245 Buss.
Either send an e-mail to: sales@emgpickups.com
or call: 800 821-1446 to get the buss.

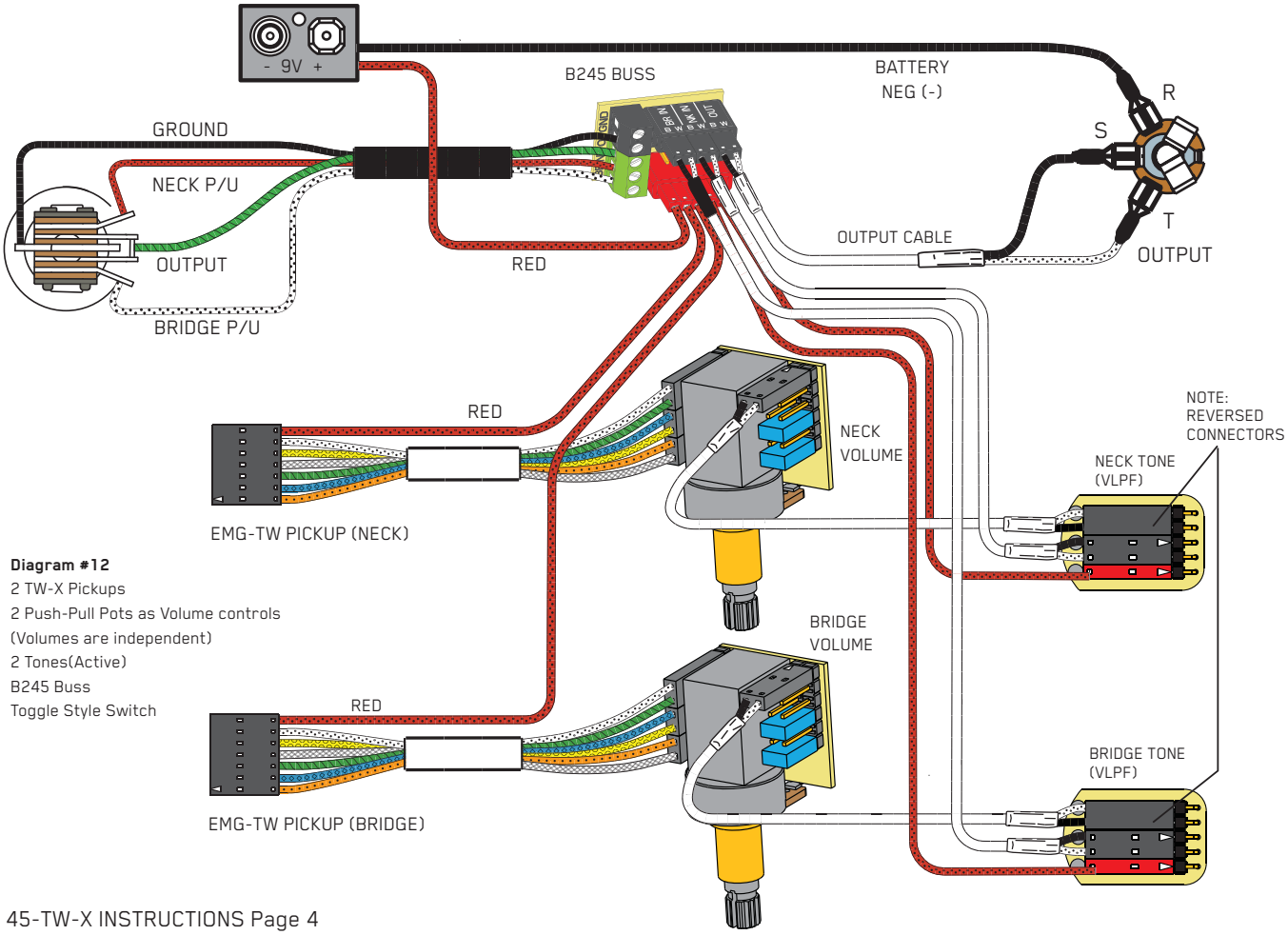


Diagram #12
2 TW-X Pickups
2 Push-Pull Pots as Volume controls
(Volumes are independent)
2 Tones(Active)
B245 Buss
Toggle Style Switch