

Electric Vibratory Box Feeder Retrofit Kit



WARNING: Allow only qualified personnel to perform the following tasks. Follow the safety instructions in this document and all other related documentation.

Description

This instruction sheet explains how to retrofit a pneumatic vibratory box feeder dolly system with a new electric vibratory box feeder.

The electric vibratory box feeder is externally powered. A junction box with a power switch connects the box feeder to its external power supply. In systems equipped with a spray gun control unit, the junction box may also supply power to the control unit.

Removing the Pneumatic Box Feeder



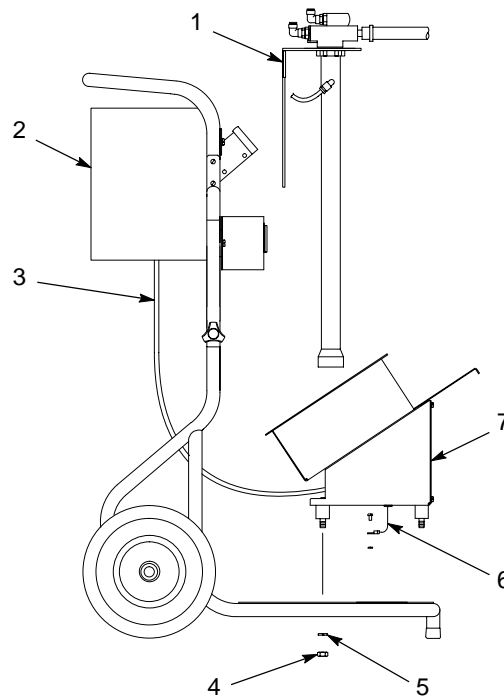
WARNING: Disconnect from power supply and relieve system pressure before performing the following tasks. Failure to observe this warning may result in personal injury.

Use the following procedure to remove the existing pneumatic box feeder from the dolly.

See Figure 1.

1. Shut down the dolly system. Refer to *Operation* in the dolly system documentation.
2. Disconnect the dolly ground cable's clamp from ground.
3. Remove the powder pump and pickup tube assembly (1) from the dolly and set it aside.
4. Remove the box of powder from the box feeder.
5. Disconnect the vibrator air tubing (3) from the gun control unit (2). If desired, place a 10-mm plug in the control unit's empty air connection.
6. Remove the hex nuts (4) and lock washers (5) securing the box feeder (7) to the dolly.
7. Remove the screw, hex nut, and lock washer securing the ground wire (6) to the dolly. Remove the pneumatic box feeder and set it aside.

Removing the Pneumatic Box Feeder *(contd)*



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Figure 1 Removing the Pneumatic Box Feeder

- | | |
|------------------------------|----------------|
| 1. Pickup tube/pump assembly | 5. Lock washer |
| 2. Gun control unit | 6. Ground wire |
| 3. Vibrator air tubing | 7. Box feeder |
| 4. Hex nut | |

Note: Typical dolly shown. Your system may appear slightly different.

Regulator/Gauge Module Adjustment

The dolly's vibrator regulator and gauge will no longer be used. Set the regulator/gauge to zero. If desired, you may also plug the regulator's output connector using a 10-mm tubing plug.

Bracket and Junction Box Location

NOTE: Do not install the junction box at this time. The junction box will be installed during the *Installing the Electric Box Feeder* procedure.

See Figure 2.

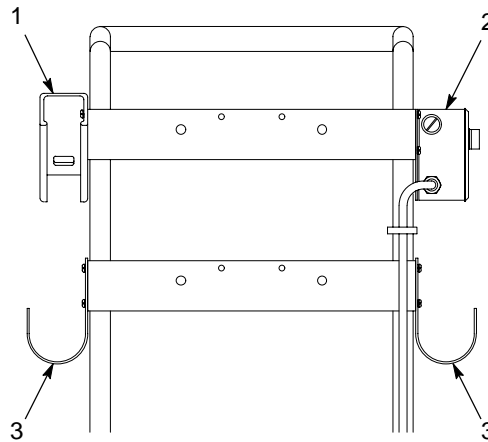
NOTE: New dolly systems have the brackets and junction box factory installed in the locations shown in Figure 2. Moving these items to more convenient locations will not affect operation.

There are four bracket locations on the dolly frame. All four locations have the same mounting hole pattern. If any of these items is not in the desired location, remove the screws, lock washers, and hex nuts securing it to the dolly frame and move it to its desired location.

Refer to Table 1 for a description of where the brackets and electrical junction box are typically located.

Table 1 Bracket and Junction Box Locations

Item	Description	Location on Dolly Frame
1	Gun bracket	Top left-hand side
2	Electrical junction box	Top right-hand side
3	Hose/cable brackets (2)	Bottom left- or right-hand side



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Figure 2 Bracket and Junction Box Location

- | | |
|----------------------------|-----------------------|
| 1. Gun bracket | 3. Hose/cable bracket |
| 2. Electrical junction box | |

Installing the Electric Box Feeder

Use the following procedure to install the electric box feeder onto the dolly.

Hardware Installation

See Figure 3.

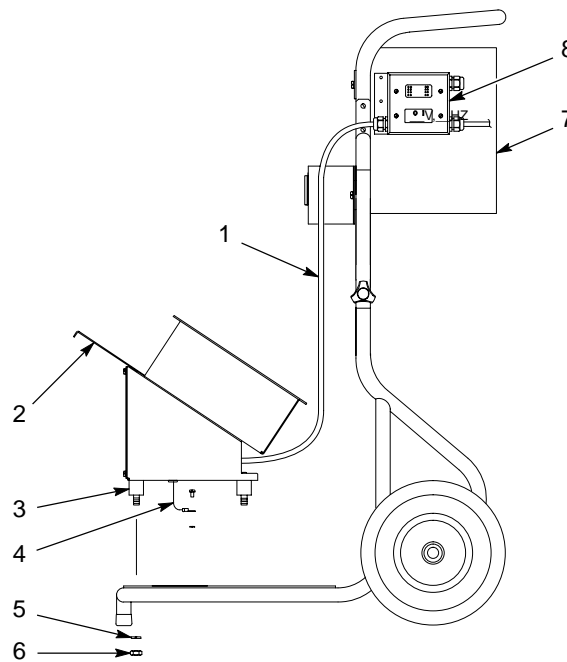
1. Secure the ground wire (4) to the small hole in the center of the dolly platform using the screw, hex nut, and lock washer.
2. Set the electric box feeder (2) onto the dolly, lining up the vibration isolator studs (3) with the hole pattern in the dolly platform.

Hardware Installation *(contd)*

3. Secure the box feeder to the dolly platform using the supplied hex nuts (6) and lock washers (5).
4. Install the junction box (8) to the dolly frame using the screws and lock washers.
5. Secure the vibrator power cable (1) to the dolly frame using the supplied cable ties.

NOTE: Disregard the following step if your dolly system has a dual regulator/gauge module instead of a gun control unit.

6. Connect the gun control unit's (7) power cable to the junction box. Refer to *Wiring Diagrams* for more information.



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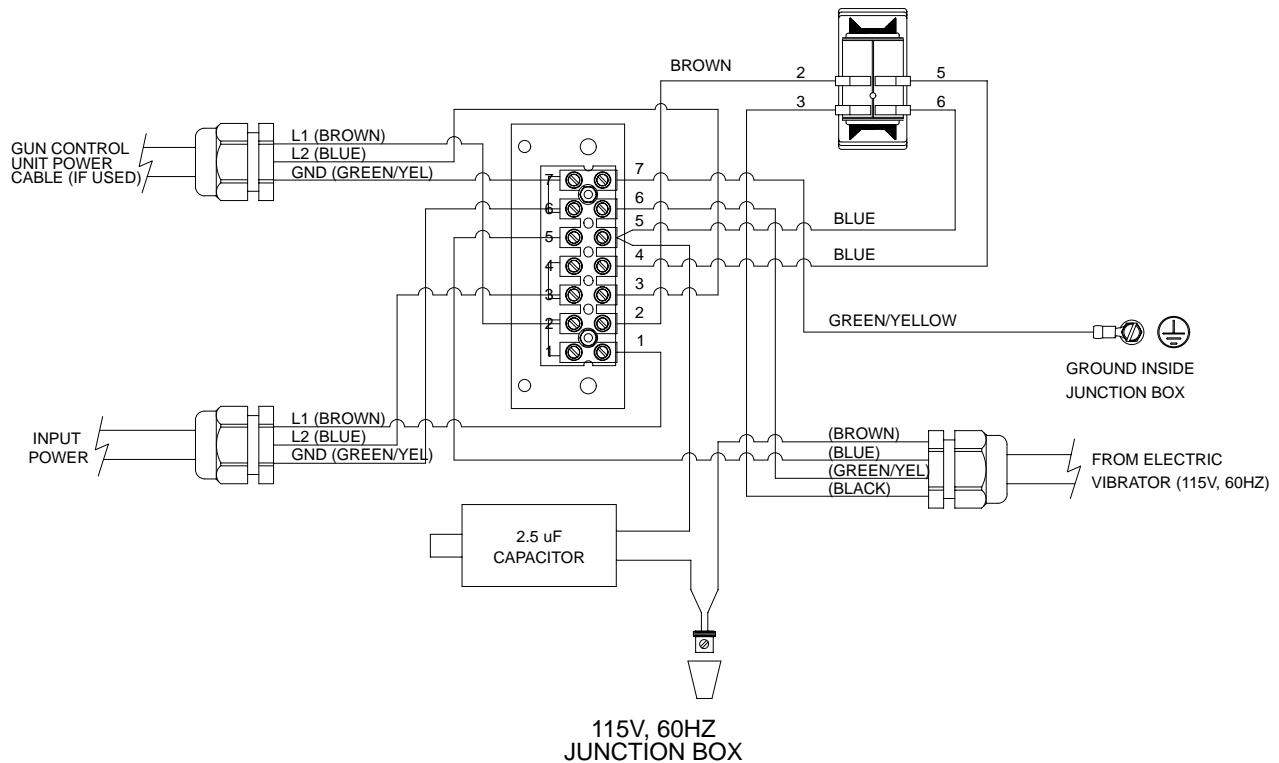
Figure 3 Installing the Electric Box Feeder

- | | |
|-----------------------|---------------------|
| 1. Vibrator cable | 5. Lock washer |
| 2. Box feeder | 6. Hex nut |
| 3. Vibration isolator | 7. Gun control unit |
| 4. Ground wire | 8. Junction box |

Wiring Diagrams

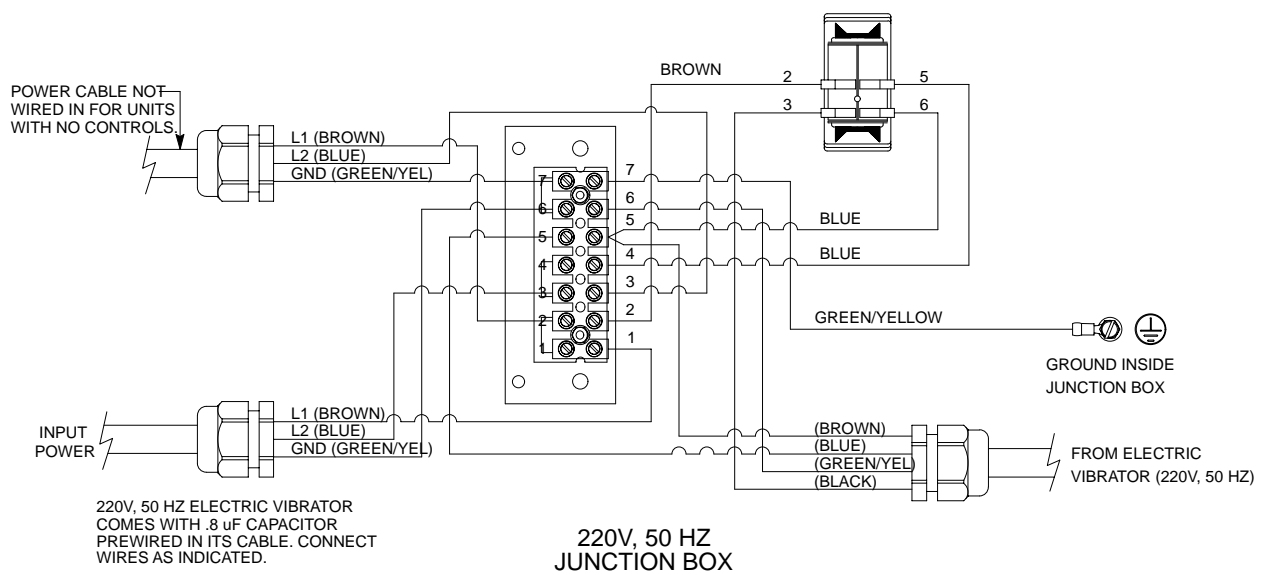
See Figures 4 and 5.

Use the following wiring diagrams to connect the controller power cable to the box feeder junction box.



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Figure 4 115 V, 60 Hz Box Feeder Junction Box Wiring Diagram



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Figure 5 220 V, 50 Hz Box Feeder Junction Box Wiring Diagram

Operation



WARNING: All conductive equipment in the spray area must be connected to a true earth ground. Ungrounded, or poorly grounded equipment used in a powder spray area can become electrically charged. This charge can deliver a severe shock, or create sparks hot enough to cause a fire or explosion.

Use the following procedures to operate the dolly system using the electric vibratory box feeder.

Startup

1. Make sure that the box feeder to dolly frame ground wire and dolly ground cable are properly connected. The dolly ground cable clamp must be connected to a true earth ground.
2. Install a box of powder on the box feeder.
3. Turn the power switch on the junction box to the on position.

NOTE: If you will not be spraying powder for more than five minutes, shut off the vibrator motor.

4. Start the atomizing and flow rate air to the pump, test the spray pattern, and adjust air pressures until you obtain the desired flow rate and spray pattern.

NOTE: The pickup tube will gravity-feed into the box as the powder level decreases. The pickup tube has a vented inner passage to prevent powder from clogging the intake, but damp powder can cause problems.

Shutdown

1. Turn the power switch on the junction box to the off position.
2. Shut down the other system components using the procedures given in the gun, controller, pump, and booth manuals.
3. If you do not use the entire box of powder before shutting down for the day, remove the pickup tube from the box and reseal the bag.

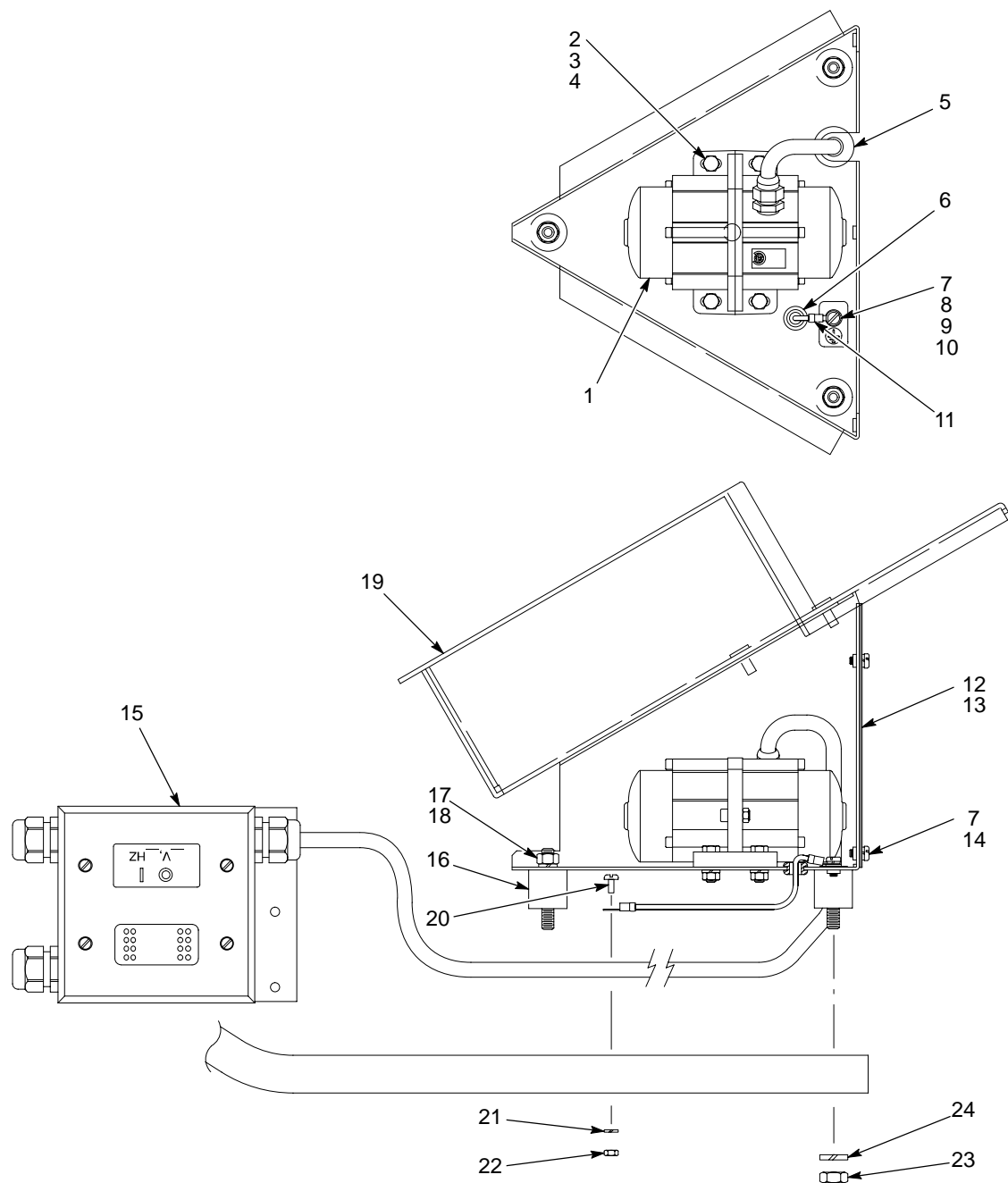
Parts

Electric Vibratory Box Feeder

See Figure 6.

Item	Part	Description	Quantity	Note
—	1005708	KIT, feeder, box, 115 V 60 Hz	1	
—	1005709	KIT, feeder, box, 220 V 50 Hz	1	A
1	1005702	• VIBRATOR, electrical, 115 V, 60 Hz	1	
1	1005703	• VIBRATOR, electrical, 220 V, 50 Hz	1	A
2	982129	• SCREW, hex head, machined, M6 x 16, zinc	4	
3	983409	• WASHER, lock, m, split, M6, steel, zinc	4	
4	984703	• NUT, hex, M6, steel, zinc	4	
5	900707	• GROMMET, rubber, 0.500-in. ID x 0.063-in. OD	1	
6	900728	• GROMMET, rubber, 0.312-in. ID x 0.625-in. OD	1	
7	983401	• WASHER, lock, m, split, M5	6	
8	982136	• SCREW, pan head, slotted, M5 x 16, brass	1	
9	983021	• WASHER, flat, e, 0.203 x 0.406 x 0.040 in., brass	1	
10	240674	• TAG, ground	1	
11	152233	• JUMPER, ground, box feeder, vibratory	1	
12	152275	• PLATE, cover	1	
13	242654	• GASKET, cabinet	1	
14	982000	• SCREW, pan head, slotted, M5 x 10, zinc	5	
15	-----	• BOX, junction	1	B
16	152237	• ISOLATOR, vibration, $\frac{5}{16}$ -18 x 0.56 in.	3	
17	983150	• WASHER, lock, e, split, $\frac{5}{16}$ in.	3	
18	984140	• NUT, hex, regular, $\frac{5}{16}$ -18 in.	3	
19	152273	• BASE, box holder	1	
20	982244	• SCREW, pan head, slotted, M5 x 35, zinc	2	
21	983401	• WASHER, lock, m, split, M5, steel, zinc	2	
22	984706	• NUT, hex, M5, steel, zinc	2	
23	984140	• NUT, hex, regular, $\frac{5}{16}$ -18, steel, zinc	3	
24	983150	• WASHER, lock, e, split, $\frac{5}{16}$, steel, nickel	3	
NOTE A: This vibrator will not operate at 220 V, 60 Hz.				
B: Refer to <i>Junction Box</i> for a breakdown of the parts included in this assembly.				

Electric Vibratory Box Feeder (contd)



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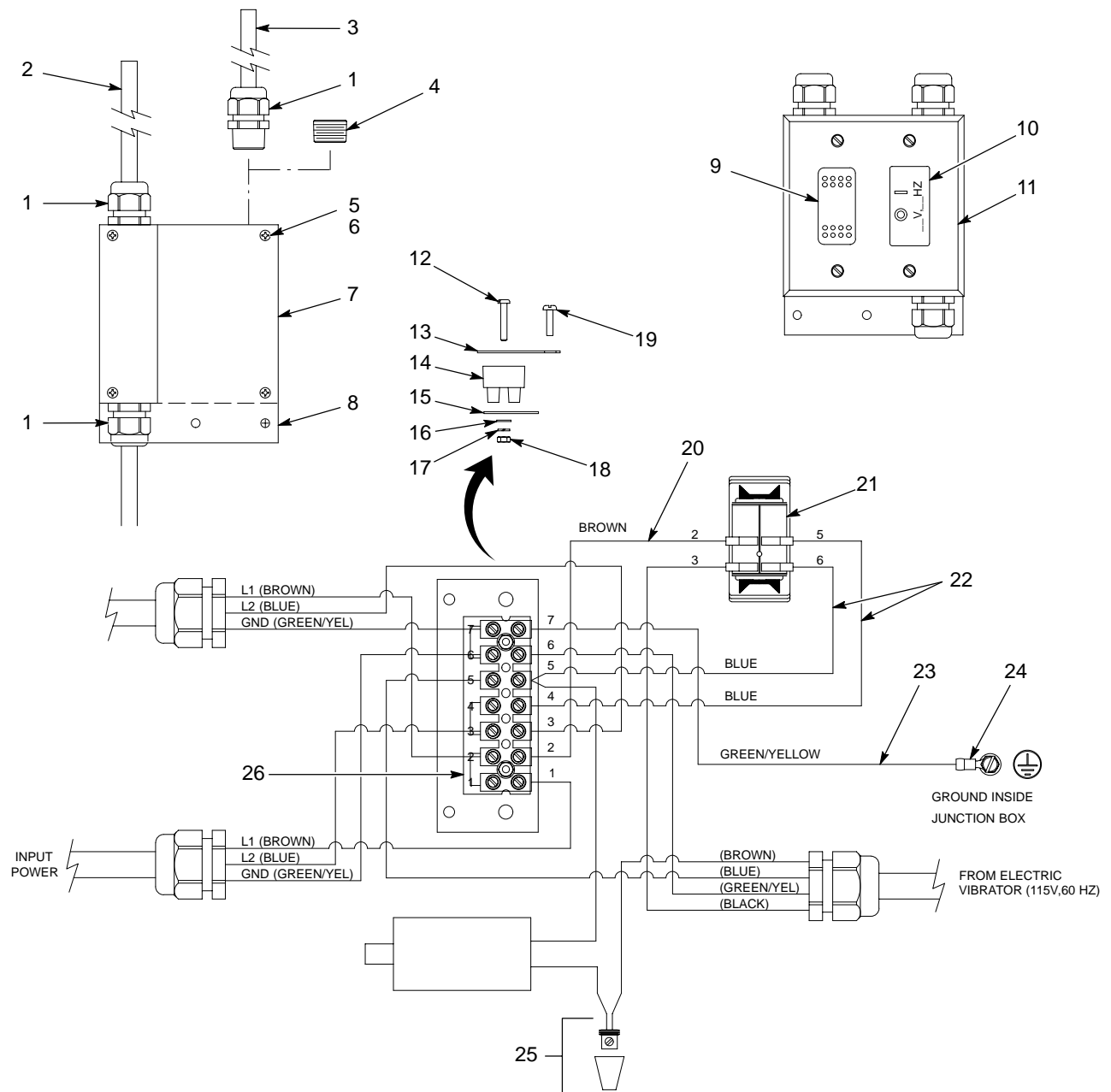
Figure 6 Electric Vibratory Box Feeder

Junction Box

See Figure 7.

Item	Part	Description	Quantity	Note
—	-----	BOX, junction, with controls	1	
—	-----	BOX, junction, without controls	1	
1	972808	• CONNECTOR, strain relief, 1/2-in. NPT	3	
2	140794	• CABLE, SO, 16/3, 90D, black, blue-brown-green/yellow	1	
3	130629	• CABLE, power, 5 wire, 6.5 ft, female	1	A
4	973431	• PLUG, pipe, socket, standard, 1/2, zinc	1	B
5	981058	• SCREW, fillister, recessed, tap, 8-32 x 0.500 in., zinc	4	
6	983111	• WASHER, lock, e, split, #8, steel, zinc	4	
7	1005779	• PANEL, switch	1	
8	140997	• BOX, electric, square, 5 1/2-in. NPT	1	
9	322404	• SWITCH, rocker, DPST, dust tight	1	
10	-----	• LABEL, switch	1	
11	1005880	• PLATE, cover, rocker switch	1	
12	982169	• SCREW, pan head, M3 x 16	2	
13	1005979	• MARKER, terminal block, 7 station	1	
14	1005997	• BLOCK, terminal, 7 station	1	
15	1005991	• PLATE, mounting, terminal block	1	
16	983411	• WASHER, flat, m, narrow, M3	2	
17	983400	• WASHER, lock, m, split, M3	2	
18	984700	• NUT, hex, M3	2	
19	981031	• SCREW, flat, 6-32 x 3/8	2	
20	931295	• WIRE, vinyl, 14 AWG, brown	AR	
21	1005977	• TERMINAL, push on, 90, flag, 16/14, fully insulated	4	
22	931259	• WIRE, vinyl, 14 AWG, blue	AR	
23	931191	• WIRE, vinyl, 14 AWG, green/yellow	AR	
24	933047	• TERMINAL, ring tong, 16/14, fully insulated	1	
25	939220	• CONNECTOR, wire, set screw	1	
26	933630	• JUMPER, comb type, 2 pole, 10 mm	3	
NOTE A: Use these parts only with powder spray systems that have a gun control unit.				
B: Use these parts only with powder feed systems that do not have a gun control unit.				
AR: As Required				

Junction Box (contd)



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Figure 7 Junction Box

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