MASTER
HEAT TOOLS FOR INDUSTRY™

VT Service Manual -D Series

Models: VT-751D, VT-752D

VT-751D and VT-752D

WARNING: Disconnect heat gun power cord and allow the heat gun to cool before disassembly.
READ THE SERVICE INSTRUCTIONS CAREFULLY. FAILURE TO EXACTLY FOLLOW THE INSTRUCTIONS COULD RESULT IN PERSONAL INJURY OR DAMAGE TO YOUR HEAT GUN. ALL REPAIRS MUST BE PERFORMED BY A QUALIFIED REPAIR TECHNICIAN.

AVERTISSEMENT : Débrancher le cordon du pistolet thermique et laisser celui-ci refroidir avant de le démonter.
LIRE ATTENTIVEMENT LES INSTRUCTIONS D'ENTRETIEN. OMETTRE D'OBSERVER EXACTEMENT CES INSTRUCTIONS POURRAIT ENTRAÎNER DES BLESSURES OU ENDOMMAGER VOTRE PISTOLET THERMIQUE. SEUL UN RÉPARATEUR QUALIFIÉ PEUT EFFECTUER LES RÉPARATIONS.

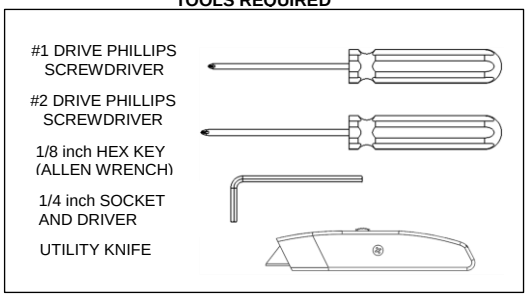
ADVERTENCIA: Desconecte el cable de la pistola térmica y deje que ésta se enfríe antes de desarmarla.
LEA CON ATENCIÓN LAS INSTRUCCIONES DE SERVICIO. EL NO SEGUIR EXACTAMENTE LAS INSTRUCCIONES PUEDE RESULTAR EN DAÑO A LA PISTOLA TÉRMICA. TODAS LAS REPARACIONES DEBEN SER REALIZADAS POR UN TÉCNICO DE REPARACIONES CALIFICADO.

Available kits

Motor Replacement- Part No's. 30073 (120V), 30074 (220-240V)
Element Connector Replacement– 30089
Switch & Bezel Kits Replacement– 30075
VT Dial, Support, & Gear Kit – Part No. 30092
Circuit Board Kits – 30093 (VT-751D, 120V), 30094 (VT-752D, 220-240V)
Cordset Replacement-– 30079 (120V 15 Amp), 30081 (220V UL/CUL)
30097 (220-240V EU), 30098 (220-240V UK)
Nozzle shield replacement 30077
Handle Replacement 30091

Do not touch nozzle until cool
Ne pas toucher la buse avant qu'elle ait refroidi
No toque la boquilla hasta que se haya enfriado

TOOLS REQUIRED



What's in the kit

MOTOR KIT:
- MOTOR, (1)
- SCREW, #6-32 x .50 LONG (2)
- SCREW, M3 x 0.5 x 10mm LONG (1)
- CABLE TIE (2)
- SHRINK TUBE (1)

DIAL, SUPPORT, & GEAR KIT:
- DIAL, VT, (1)
- SUPPORT, VT, (1)
- GEAR, VT, (1)
- NUT, HEX, #6-32, (1)
- SCREW, #6-32, (1)
- SCREW, #6-32 x .50, (2)

CIRCUIT BOARD KIT:
- CIRCUIT BOARD, (1)
- SCREW, #6-32 x .38, (2)
- SHRINK TUBE, (1)
- LABEL, MODEL, (1)

NOZZLE SHIELD KIT
- NOZZLE ASSEMBLY, (1)
- SHIELD, (1)
- SCREW, #6-32, (2)

HANDLE KIT
- HANDLE SET RT & LT (1)
- SCREWS, #6-19, (4)

ELEMENT CONNECTOR KIT:
- ELEMENT CONNECTOR ASSY (1)
- CABLE TIE (2)
- SHRINK TUBE (2)

SWITCH & BEZEL KIT:
- SWITCH/BEZEL/JUMPER ASSY (1)
- BARRIER, ELECTRICAL (1)

CORDSET KIT:
- CORDSET (1)
- CABLE GUARD (1)
- SCREW, #6-32 x .31 GREEN (1)
- CABLE TIE (2)
- SHRINK TUBE (1)
- CORD CLAMP, USED WITH (220 – 240 VAC) units (1)

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VT-751D and VT-752D

Figure 1

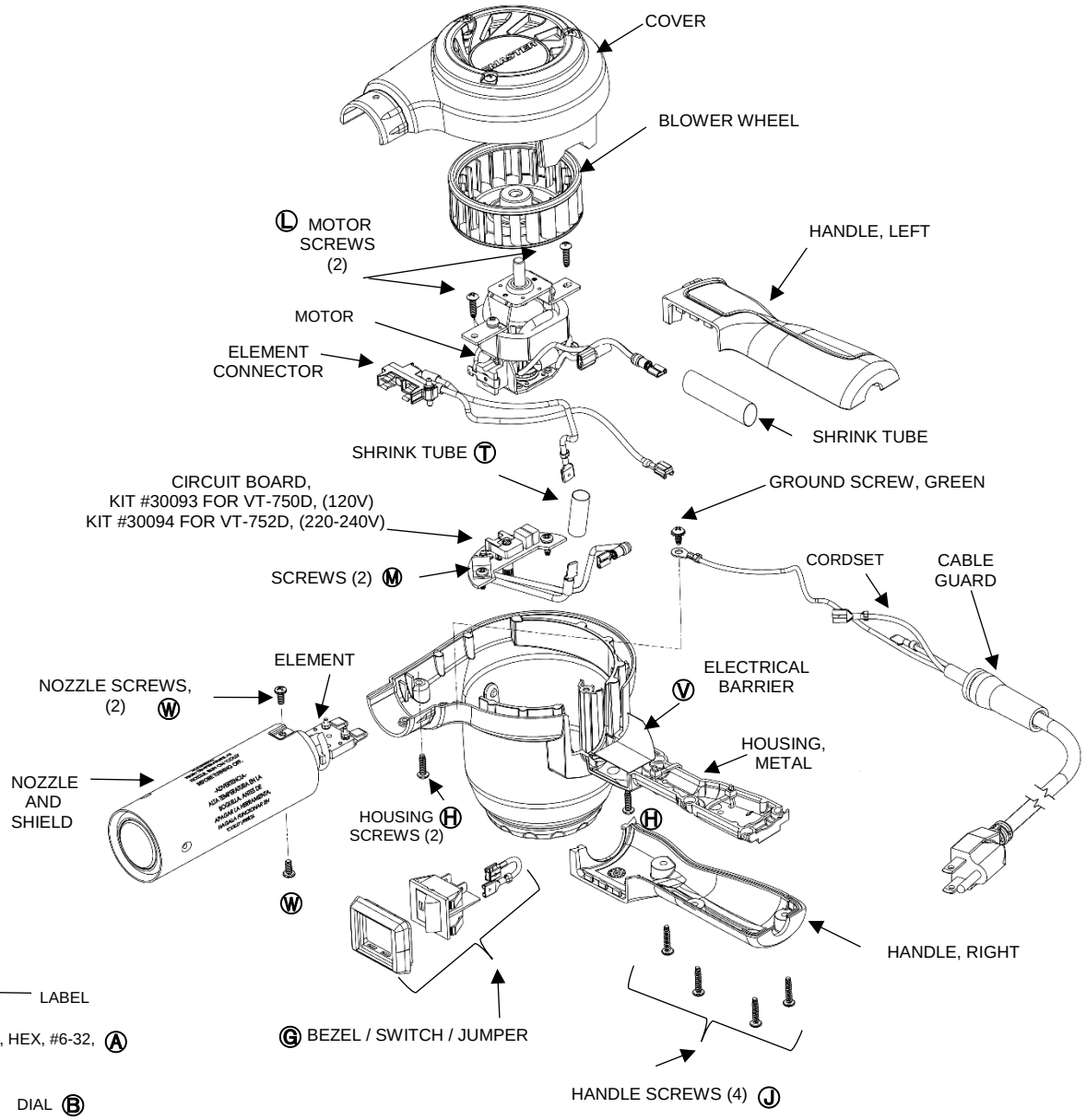
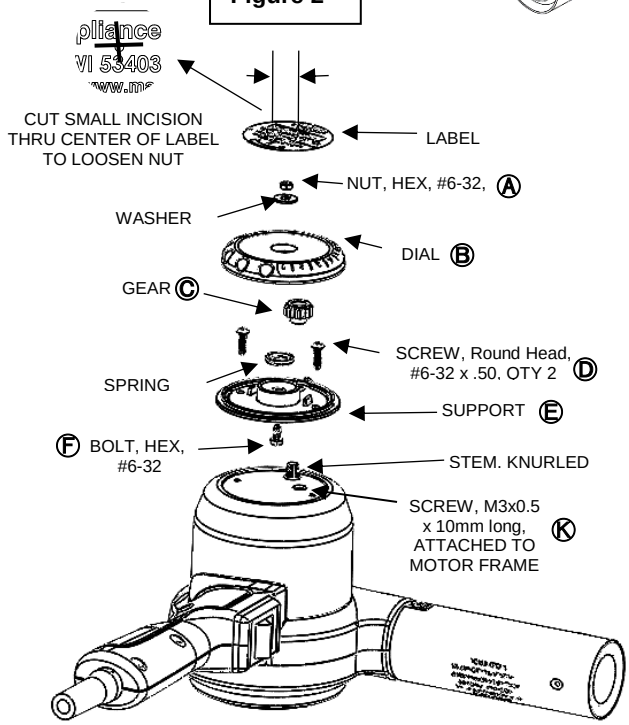


Figure 2



DISASSEMBLY INSTRUCTIONS

UNPLUG HEAT GUN. TAKE NOTE OF WIRING LAYOUT.

To remove dial, gear and support (Figure 2)
NOTE: Dial, Gear, and Support must be removed to remove the circuit board and motor.

1. Cut small incision thru center of label on dial to expose the #6-32 nut Ⓐ. and washer.
2. Loosen the #6-32 nut, Ⓐ and remove the dial Ⓑ, spring and the gear Ⓒ. The nut and washer Ⓐ can remain assembled between the label and the dial.
3. Remove the two (2) round head screws Ⓓ, then remove the support Ⓔ and the hex bolt Ⓕ.

To remove cover and handle halves (Figure 1)

1. Remove two (2) nozzle mounting screws Ⓦ at the rear of the shield. If nozzle mounting screws are lost or damaged, replace only with #6-32 steel machine screws, 3/16-inch minimum length to 1/2- inch maximum length.
2. Gently pull shield from gun housing. Shield, nozzle and mica insulator may come apart as one unit. Pull element out of housing.
3. Remove (2) housing screws (#6-32 x .50) Ⓗ and remove cover.
4. Remove (4) handle screws (#6-19 x .63 long) Ⓙ and remove handles from housing.

To remove the motor (Figure 1)

1. Loosen the set screw in the blower wheel with a 1/8 hex key wrench, then remove the blower wheel from the motor. Remove screw Ⓚ from the bottom of the housing. (Figure 2).
2. Place the heat gun on a flat surface with the motor facing upward. Remove (2) outer screws Ⓛ on the top flange of the motor. Gently pull the motor straight up and out of the housing, taking care not to disconnect the white or black wire terminals. Set the motor on the outside of the housing. If wires become disconnected, see motor assembly instructions for proper wiring locations.

To disconnect electrical terminals for the motor kit, the element connector kit, and the cordset kit (not required for switch/bezel kit or circuit board kit):

1. Cut and remove the existing cable ties and shrink tube to expose the quick-connect terminals (Figure 3).
2. Disconnect the black lead wire of the motor from the switch. Disconnect the white lead wire of the motor from the piggyback terminal on the white wire from the element connector.

To remove the switch/bezel assembly:

1. Lift the switch/bezel assembly away from the handle, being careful not to break the tabs of the handle (Figure 4) . Disconnect all wires from the switch.

To remove the circuit board:

1. Remove the #6-32 pan head screws (2 screws) Ⓜ from the top of the circuit board. (Figure 1). Remove the shrink tube over the terminals of the black wires between the circuit board and the element connector Ⓣ (Figure 5).
2. Disconnect the terminals Ⓟ. (Figure 5).
3. Disconnect the circuit board from the switch Ⓝ (Figure 5).
4. Remove the circuit board.

Figure 3

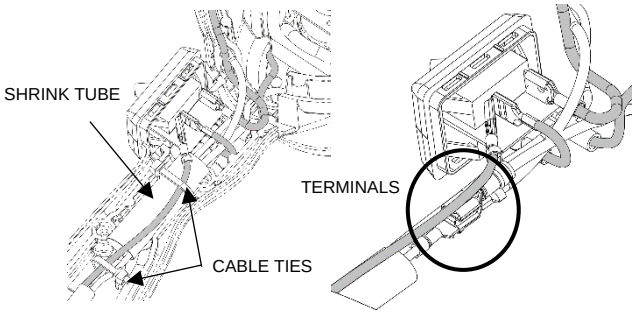


Figure 4

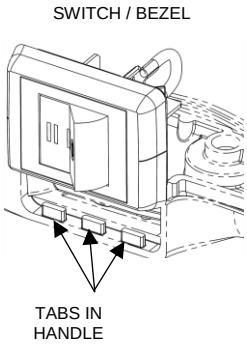
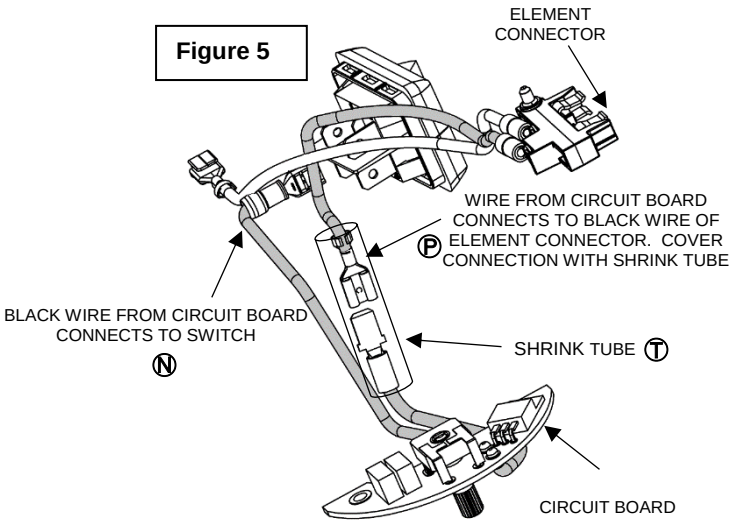


Figure 5



To remove the element connector:

1. Disconnect the black lead wire of the element connector from circuit board (Figure 5). Disconnect the white lead wire of the element connector (with piggyback terminal) from both the white wire of the motor and the white wire of the cordset (Figure 3).

To remove the cordset:

1. Remove the green ground screw located near the nozzle of the housing (Figure 1). Remove the black cordset wire from the piggyback terminal of the jumper, (Figure 6). Remove the white cordset wire from the piggyback terminal on the white wire from the element connector (Figure 3). Lift the cable guard out of the handle and remove the cordset.

INSTALLATION INSTRUCTIONS

To install the new CIRCUIT BOARD:

1. Place the circuit board into the housing with the knurled stem protruding through the hole at the bottom of the housing (Figure 7).
2. Assemble the #6-32 pan head screws Ⓜ (2 screws) to retain the circuit board, and tighten to 12 – 15 in-lbs torque (Figure 1).
3. Connect the terminal of the black wire from the new circuit board to the switch Ⓝ (Figure 8).
4. Assemble the new shrink tube Ⓣ over the black wire from the element connector (Figure 5 & 7).
5. Connect the black wire from the new circuit board to the black wire from the element holder Ⓟ. The new shrink tube Ⓣ must be positioned over the terminals (Figure 5).

WARNING: Failure to cover the terminals with shrink tubing Ⓣ could result in electrical short

To install the MOTOR:

1. Ensure the black motor wire is connected to the switch Ⓢ (Figure 8).
2. Connect the white motor wire to the piggyback terminal of the white element connector wire and white wire from cordset (Figure 3).
3. Assemble motor into housing and with (2) #6-32 x .50 long screws Ⓛ (Figure 1). Torque to 16 – 20 in-lbs.
4. Assemble (1) M3 x 0.5 Ⓚ (Figure 2) through back side of housing and into motor frame at a torque of 2-5 in-lbs. Excessive torque will warp the motor frame, resulting in reduced air flow and damage to the motor.
5. Assemble blower wheel onto shaft of motor and tighten set screw with 1/8 inch hex key. Top of blower wheel hub must be flush with top of motor shaft. Must not rub against frame of motor and must not rub against wiring (Figure 9).

To install the ELEMENT CONNECTOR:

1. Connect the black wire from the new element connector to the black wire from the circuit board Ⓟ. The new shrink tube Ⓣ must be positioned over the terminals (Figure 5).

WARNING: Failure to cover the terminals with shrink tubing Ⓣ could result in electrical short

2. Connect the white wire of the element connector to the white wires from the motor and cordset (Figure 10). Position the shrink tube over the terminal from the motor and from the cordset after the terminals are connected.

WARNING: Failure to cover the terminals with shrink tubing could result in electrical short

Figure 6

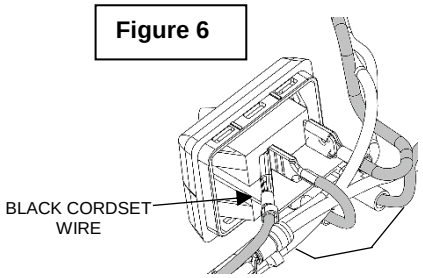


Figure 7

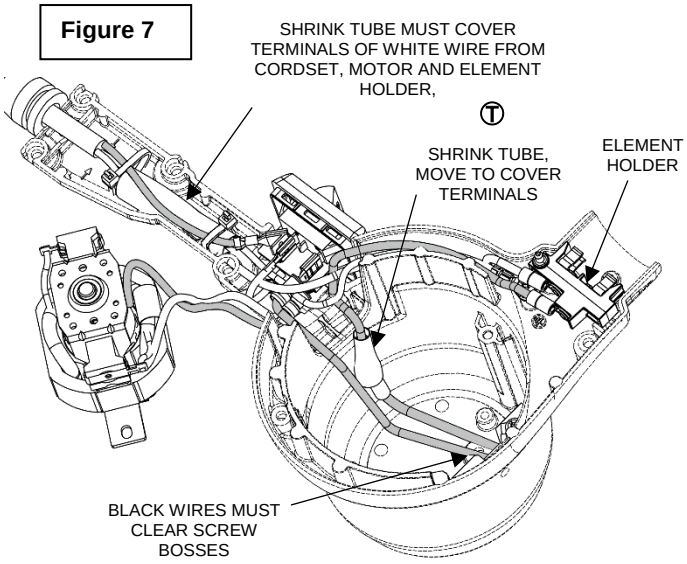


Figure 8

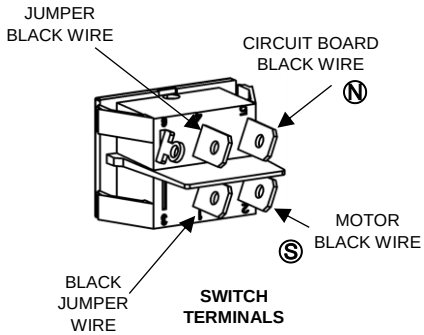
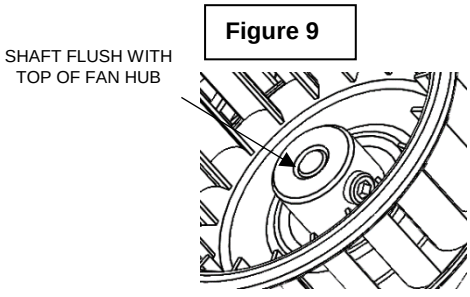


Figure 9



To install the CORDSET:

1. Install new cable ties in metal housing (Figure 11).
2. Connect the green cordset wire to the enclosure's ground post using the green screw (Figure 1).
3. Connect the black cordset wire to the jumper's piggyback terminal attached to the switch (Figure 10).
4. Connect the white cordset wire to the element connector's white wire piggyback terminal (Figure 3).
5. On 220-240V cordsets use supplied cord clamp (figure 11).

To install the SWITCH / BEZEL ASSEMBLY:

1. Connect the wires to the appropriate switch terminals per instructions above (Figure 8 &10). The black jumper wire is to wrap around the white wires from the motor and element connector, and also the green wire from the cordset. Attach the piggyback terminal of the jumper to the switch, and the other end of the jumper to the switch (Figure 10).
2. Place the electrical barrier Ⓥ between the switch and the housing.

WARNING: Failure to insulate switch & wire terminals from metal enclosure could result in electrical short

3. Align the three holes of the bezel with the three tabs in the handle and gently press the switch / bezel assembly into position as shown (Figure 4).
4. Position the shrink tube over the piggyback terminal and over the white wire terminals from the motor and from the cordset. Use cable ties to hold in place (Figure 11).

To install the HANDLES and COVER: (Figure 11)

1. Hook the left handle onto the handle portion of the metal housing.
2. Install switch bezel assembly per above.
3. Ensure the electrical barrier Ⓥ is positioned between the terminals of the switch and the housing.

WARNING: Failure to insulate switch & wire terminals from metal enclosure could result in electrical short

4. Route wires in channels (Figure 11) and chinch cable ties to hold wiring in place.
5. Align the three holes of the switch bezel with the three tabs in the handle and gently press the switch / bezel assembly into position as shown.
6. Ensure all wiring clears the screw holes of the handles and gently assemble the right handle onto the housing. Retain with #6-19 x .63 screws Ⓙ (4) (Figure 1). Tighten to 12 – 15 in-lbs torque.
7. Assemble cover onto housing and retain with housing screws, #6-32 x .50 screws, Ⓗ (2) (Figure 1). Tighten to 16 - 20 in-lbs torque.

Figure 10

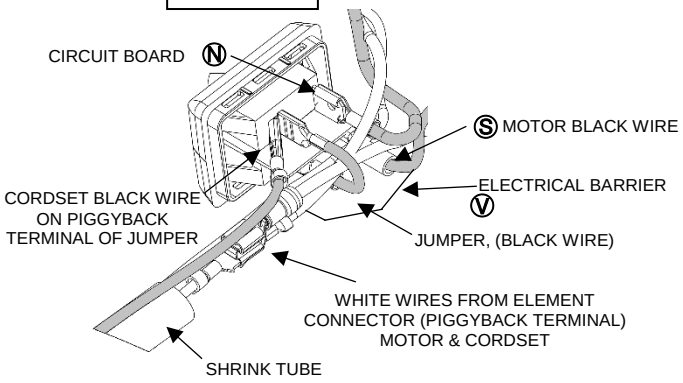
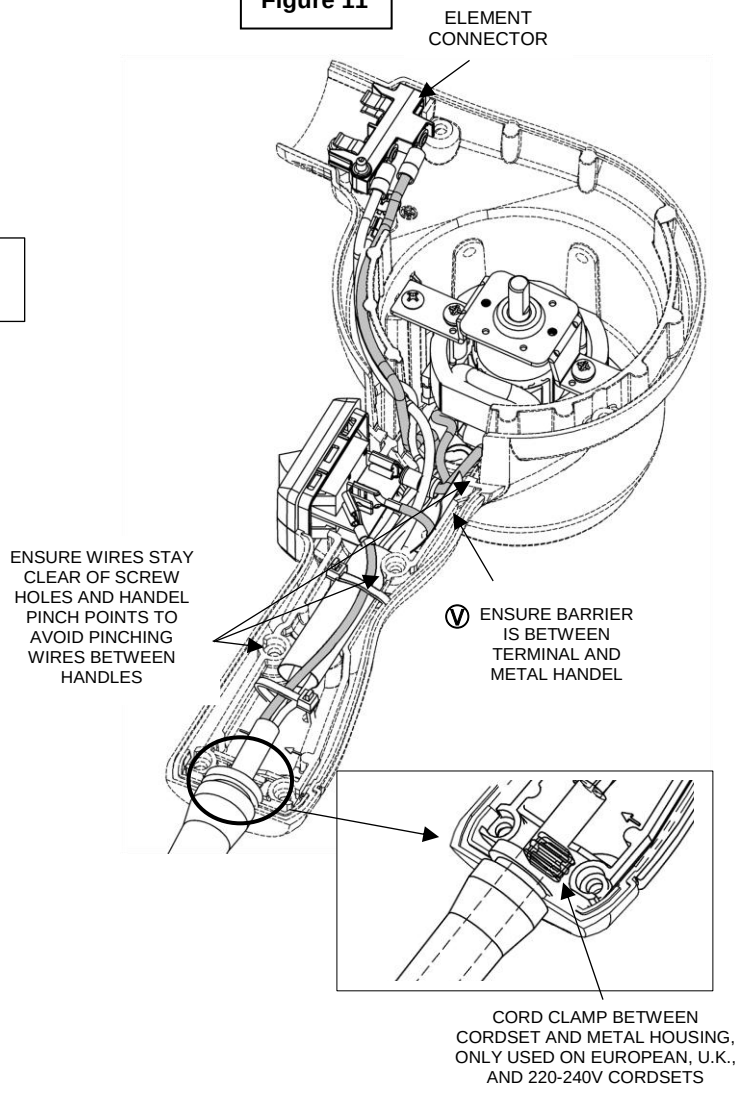


Figure 11



To install the SUPPORT, GEAR and DIAL:

1. Assemble #6-32 hex bolt Ⓕ into bottom of support Ⓔ and attach the support to housing with #6-32 x .50 inch screws Ⓓ (Figures 2).
2. Attach gear Ⓒ to knurled stem and rotate fully counter-clockwise (Figures 12).
3. Place wave spring into pocket of support Ⓔ (Figures 12).
4. Align the dial Ⓑ with the number "9" at the top and assemble onto the support Ⓔ. If needed, rotate dial left or right to mesh the teeth of the dial with the teeth of the gear (Figures 12).
5. Assemble the #6-32 nut Ⓐ and washer into the center hole of the dial. Do not over-tighten as this could cause damage to the dial and support (Figures 2).

To install element nozzle and shield: (Figures 13 & 14)

1. Gently insert new element into housing, with contacts of element contacts inserted fully into the contacts in the housing.
2. Wrap the mica insulator around coils of heater element, ensuring all coils are covered.

> ⚠ **WARNING: Failure to properly cover coils with mica insulator could result in electrical short**

3. Gently slide nozzle straight on, aligning ceramic element wings with front nozzle indents and two (2) nozzle screw holes. Slide shield over nozzle, aligning mounting holes. Install two (2) nozzle screws Ⓦ loosely until started, and then tighten.

AFTER HEAT GUN IS COMPLETELY ASSEMBLED, CONDUCT FINAL ADJUSTMENT AND TEST:

1. Plug your Master Heat Gun® into a properly rated electrical outlet.
2. Run in "Cool" mode, gently tap bottom of unit to align motor bearings unit until motor noise stabiles.
3. Switch unit to "Hot". Hot air should be blowing from nozzle.
4. Turn dial to from 1 to 9 to ensure temperature is adjusting.

Figure 12

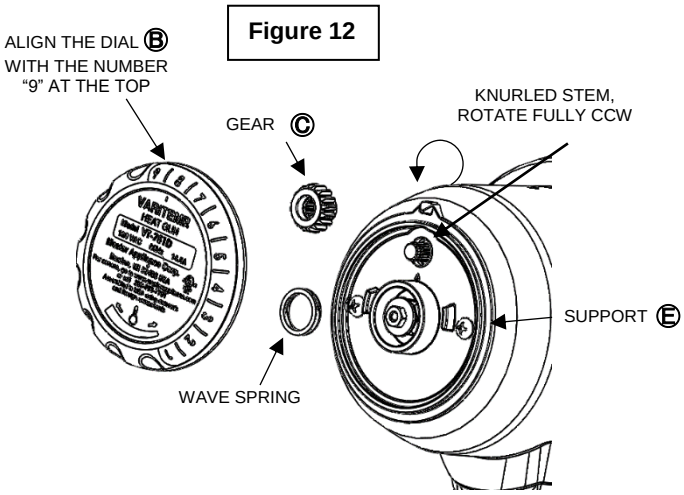


Figure 13

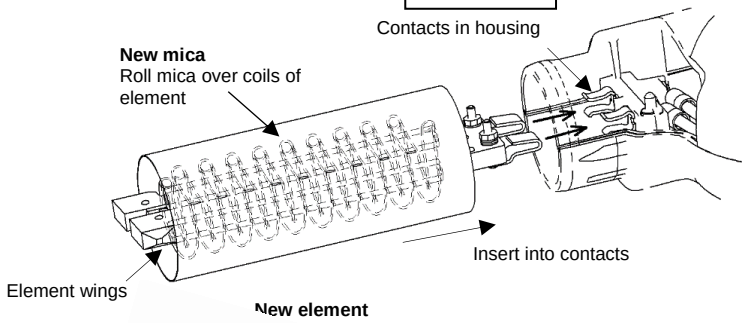
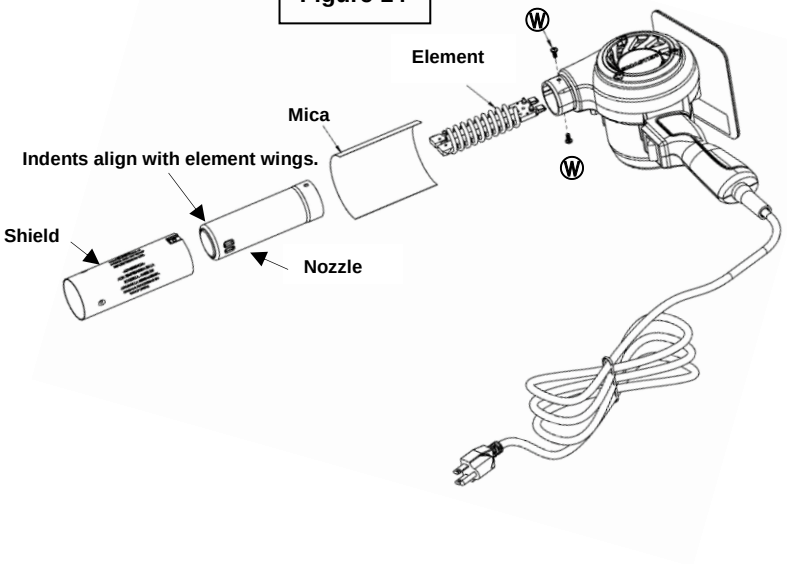


Figure 14



TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
Excessive Vibration	Motor screw not tight or missing	Recheck that all screws are present and tighten to correct torque
	Blower wheel loose or damaged	Tighten or replace blower wheel if damaged
Unusual Noise	Blower wheel not positioned correctly on motor shaft	Ensure top of motor shaft is flush with top of blower wheel hub
	Wires rubbing on blower wheel	Ensure wires are in proper position and out of way of blower wheel
Motor does not run and element does not heat	Unit is not plugged in	Plug in unit
	Outlet is non-functional	Ensure outlet is live
	Switch is not wired properly	Ensure switch is wired properly
	Switch is damaged	Test switch and replace if defective
Motor does not run but element heats	Switch is not wired properly	Ensure switch is wired properly
	Switch is damaged	Test switch and replace if defective
	Motor is damaged	Replace motor
Motor runs but no heat	Heating element not install properly	Ensure male terminals of element were fully seated in female contacts of element connector
	Heating element damaged	Check element to see if coils are open, replace if defective
	Element connector damaged	Inspect element connector to see if damaged, if damaged replace
	Element connector, circuit board or switch not wired correctly	Ensure element connector, circuit board and switch are wired properly
	Circuit board damaged	Test circuit board and replace if defective
	Switch damaged	Test switch and replace if defective
Heating element heats, but does not adjust when dial is turned	Dial and gear are not position correctly	Remove dial, turn gear fully counter clockwise, reassemble dial with the “9” aligned with pointer
	Circuit board is damaged	Test circuit board and replace if defective
Dial does not turn, or full range of movement not available	Pot stem not turned or turned fully in correct direction	Remove dial, turn gear fully counter clockwise, reassemble dial with the “9” aligned with pointer
Dial is loose	Wave spring not installed	Remove dial and ensure wave spring is present, reinstall dial