



# Hand Dryer Operating Instructions and Parts Manual

Surface-mounted ADA-compliant hand dryer



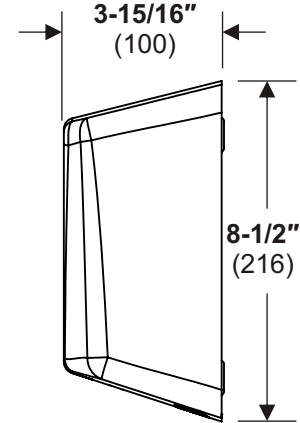
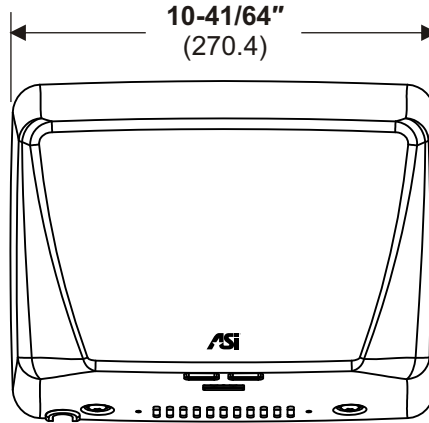
PLEASE CAREFULLY READ THROUGH THIS MANUAL BEFORE USING THE PRODUCT. OBSERVING ALL SAFETY INFORMATION, WARNINGS AND CAUTIONS WILL PROTECT YOURSELF AND OTHERS. PLEASE KEEP INSTRUCTIONS FOR FUTURE REFERENCE.



MODEL # 0199-1

MODEL # 0199-2

MODEL # 0199-3



DIM'S  
inch(mm)

Patented

## TECHNICAL SPECIFICATIONS

ITEM CATEGORY	PERFORMANCE DATA
Operating Voltage, 0199-1	120 VAC, 50/60 Hz, 1.0kW
Operating Voltage, 0199-2	240 VAC, 50/60 Hz, 1.0kW
Operating Voltage, 0199-3	277 VAC, 60 Hz, 1.0kW
Output Warm Air Volume	42 - 60 CFM {71 - 102 m <sup>3</sup> /h}, Adjustable by Owner
Output Warm Air Temp	131°F {55°C} at ambient T = 77°F {25°C}, MAX, Adjustable by Owner
Output Air Speed	102 mph (150 ft/s) [45.5 m/s {164 km/h}] - 157 mph (230 ft/s) [70 m/s {252 km/h}], Adjustable by Owner
Sound Pressure	68.9 dB-A Min @ 2m , 74.3 dB-A Max @ 2M, Adjustable by Owner
Motor Type	0.67 HP, 16 - 29 krpm, Adjustable, Brush Type, Dual Ball Bearings
Motor Thermal Protection	120 VAC, Auto Resetting Thermostat turns unit off at 275°F {135°C}
Heater Element	ON/ OFF Heating options(for 120V only); Range Adjustable by Owner, 325 - 500 W
Heater Thermal Protection	Auto Resetting Thermostat turns heater element off at 185°F {85°C}, Resets at 167°F {75°C}, Thermal cut-off at 288°F {142°C}
Drying Time	Less than 15 seconds
Standby Power	Less than 0.5W
Circuit Operation	Infrared Automatic, self adjusting
Sensor Range	Standard 6" [152 ± 20], Adjustable ; Range 4" to 8" [101 to 203]
Timing Protection	60 seconds auto shut off
Timing Duration	2 seconds delayed turn off after last sensor read
Cover Type	18 gauge {.047", [1.2]} thick drawn steel or 304 series stainless steel
Cover Finish	White epoxy on steel or Bright or Satin on stainless steel
Net Weight	8.4 lbs {3.8 kg}
Shipping Weight	9.2 lbs {4.2 kg}
Unit Size	10-41/64" W x 8-1/2" H x 3-15/16" D {270.4 x 216 x 100}



**0199**

Input	Model	Motor			Heater		Total	
VAC	No	Vac	Inrush A(W)	Operating A (W)	Vac	Inrush / Operating A(W)	Inrush A(W)	Operating A(W)
110	0199-1	110	5.73 (630)	3.82 (420)	110	3.82 (420)	9.55 (1050)	7.64 (840)
115	0199-1	115	5.99 (689)	3.99 (459)	115	3.99 (459)	9.98 (1148)	7.99 (918)
120	0199-1	120	6.25 (750)	4.17 (500)	120	4.17 (500)	10.42 (1250)	8.33 (1000)
208	0199-2	208	2.71 (563)	1.81 (376)	208	1.81 (376)	4.51 (939)	3.61 (751)
220	0199-2	220	2.86 (630)	1.91 (420)	220	1.91 (420)	4.77 (1050)	3.82 (840)
230	0199-2	230	2.99 (689)	2.00 (459)	230	2.00 (459)	4.99 (1148)	3.99 (918)
240	0199-2	240	3.13 (750)	2.08 (500)	240	2.08 (500)	5.21 (1250)	4.17 (1000)
277	0199-3	240	3.13 (750)	2.08 (500)	240	2.08 (500)	5.21 (1250)	4.17 (1000)

## Installation

1. Make sure power supply breaker is switched off. Installation must be carried out in accordance with the current edition of the local wiring regulations code having jurisdiction. Installation should be performed only by a qualified electrician.
2. Place template against wall at desired height (see mounting height recommendations) and mark locations of 4 mounting holes and wire service entry at knockout (KO) location.  
**Note:** For two or more dryers, dryers should be no closer than 24" (610) on center.
3. Remove and retain 2 cover screws and cover.
4. a. **For in-wall (concealed) power supply - (See MT & IG 1207101509)**  
Provide supply wire to KO location according to local code and attach securely to chassis at KO with appropriate strain relief connector (not supplied).  
b. **For Surface Mounted Conduit (exposed) power supply -**  
Provide appropriate conduit to entry location according to local code and attach securely to chassis with correct strain relief connector (not supplied).
5. Drill four (4) holes at locations A, B, C and D of Ø5/16" (Ø8) Diameter x 1-3/8" (35) deep if using wall anchors supplied with unit. Install supplied anchors flush with wall face, or install other fastening system suitable for wall conditions (not supplied). Attach dryer to wall. For wood wall/studs use Ø1/4" (M6) screws at length that will ensure 1" (25) min. stud penetration. For masonry walls use expansion bolts or anchors for Ø1/4" (M6) screws to ensure penetration 1/4" (6) deeper than anchor. Shim if necessary to ensure base plate is flat against wall.
6. Connect supply and ground wires to terminal block where indicated or connect supply wires to terminal block where indicated and connect ground wire to base plate with ground screw.

### Connections:

- A. Connect the live wire (colored Brown, Red or Black) to the terminal block marked "L".
  - B. Connect the neutral wire (colored Black, Blue, White or Grey) or connect the second live wire (colored Red or Orange) to the terminal block marked "N".
  - C. Connect the ground wire to the terminal block marked "⊕" or to the green screw marked "⊕".  
Bare grounding (earth) wires should be sleeved with green and yellow or green tubing.  
Colors of live and neutral wires depend on voltage of supply service and requirements of Building and Electrical Code having jurisdiction.
7. Replace cover. Do not over-tighten screws.

**General safety information**

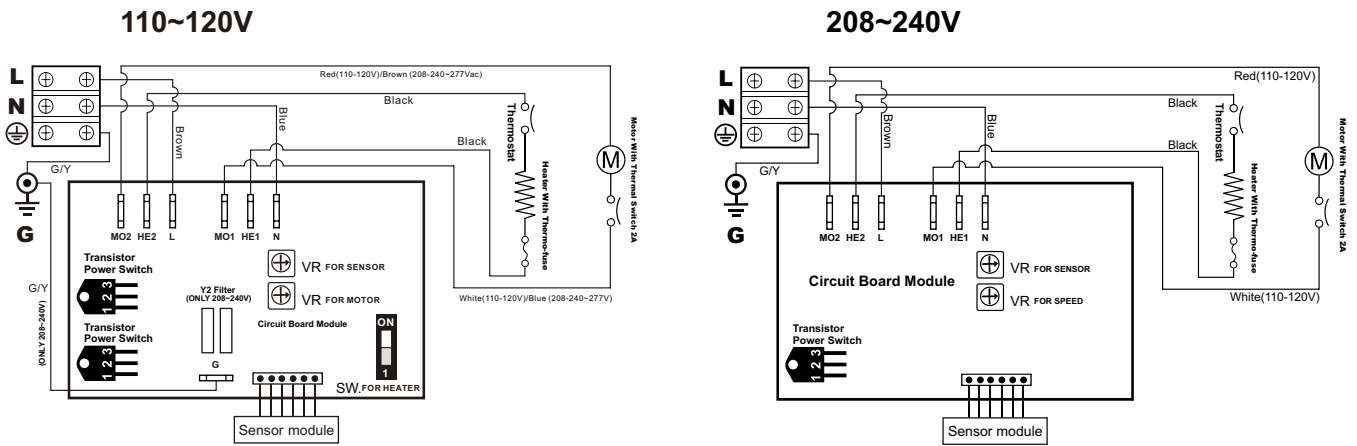
**⚠ WARNING** This product is intended for installation by a qualified service person. Use AWG NO. 12 solid conductor for wiring.

**⚠ DANGER** Failure to properly ground unit could result in severe electrical shock and/or death.

**⚠ WARNING** Disconnect power at the service breaker before installing or servicing.

**⚠ WARNING** All units must be supplied with a 3-wire service. The ground wire must be connected to the dryer's backplate.

**Circuit Diagram**



**Installation Kit Included (find in carton)**

1. Self-Threading screws 1/4" x 1-1/2" (M6 x 38) x 4 pcs
2. Metal Washer 3/8" x 7/8" x 1/16" (Ø10 x Ø22 x 1.6 thk) x 4 pcs
3. Nylon bushing x 4 pcs
4. Crimp-on terminal wire tip x 3 pcs
5. Plastic anchor Ø5/16" x 1-3/8" (Ø8 x 35) x 4 pcs

**Service Tool Included (with installation kit)**

Security hex driver 4 mm x 1 pc (5/32" pin-hex will work if tool is lost)

➤ Please unpack the unit and check the quantity of the above tool and kit.

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**Recommended mounting heights**

- from top edge of hand chamber above finished floor (AFF)

Men	50"	(1270)
Women	47"	(1194)
Children 4-7 years	35"	(889)
Children 8-10 years	39"	(991)
Children 11-13 years	43"	(1092)
Children 14-16 years	47"	(1194)
Handicaped	40"	(1016)

See Mounting Template & Installation Guide (MT & IG)

1207101509 (Supplied with unit)

Reference 2010 ADA Accessibility Standards  
AFF (maximum)

Reach LIMIT (unrestricted)

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All Approaches 48" (1219)

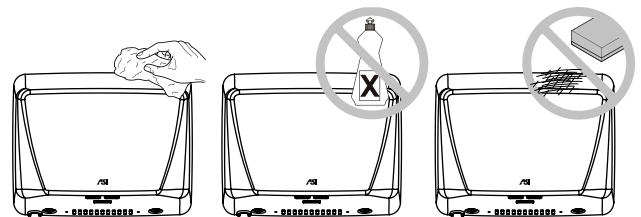
**Operation**

- Shake excess water from hands.
- Place hands under the nozzle and dryer automatically starts operation.
- Rub hands lightly and rapidly under the nozzle.
- Dryer stops when hands are removed from sensor zone or if maximum time is reached.
- Sensor Adjustment Control.  
See sensor range adjustment section on page 4  
**DO NOT OVERTURN!**

**Cleaning and Maintenance**

Periodic cleaning of the unit is recommended to ensure optimum performance.

- Disconnect the electrical supply.
- Remove the two cover-mounting screws.
- Remove the cover.
- Clean all dust lint from the interior of the dryer.
- Wipe the cover with a damp cloth and mild cleaning solution. Do not Soak. Never use abrasives to clean the cover.
- Replace the cover. Do not over tighten the screws.



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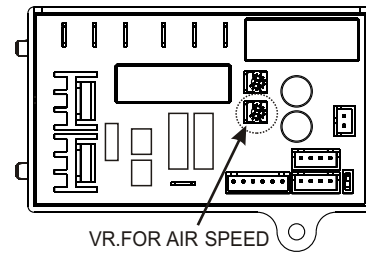
**Warranty**

All of our dryers are designed and manufactured to provide years of dependable performance. Component parts are guaranteed to be free of defects in material and workmanship for a period of **Five (5)** years from date of original invoice. This guarantee will be honored provided that the dryer is installed and maintained in accordance with the instructions. Parts damaged during the installation are the purchaser's responsibility. **ASI's** warranty covers defects exclusively, and only liability for the replacement of defective parts will be accepted. This warranty does not cover wear and tear, or misuse and abuse. Transportation, freight costs and labor are also excluded. Defective parts must be returned prepaid, accompanied by the unit serial number, to the point of purchase. This warranty is granted solely to the original purchaser of the unit and is subject to registration.

**Warm air speed adjustment** For 110~120V Circuit Board Module

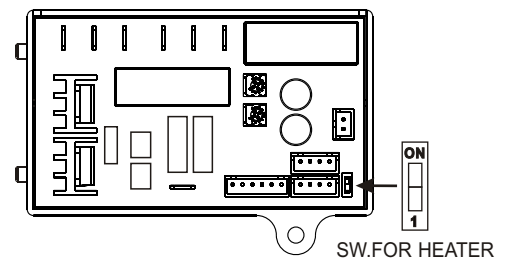
1. Switch off the power, loosen the cover screws and remove the cover.
2. Use small Philips head screwdriver or plastic flat blade probe to gently turn VR shaft. Turn clock-wise [CW] to increase power to maximum (+) ↻, turn counterclockwise [CCW] to reduce power as required (-) ↻.

**3. DO NOT OVERTURN!**



**Heater Element Switch ON/ OFF** For 110~120V Circuit Board Module

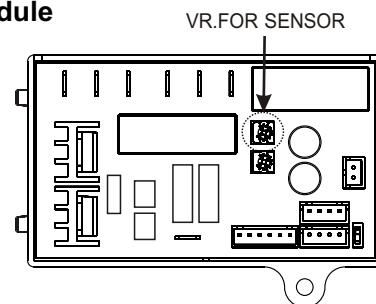
1. Switch off the power, loosen the cover screws and remove the cover.
2. Adjust the heater switch on the PCB with a small plastic or wood flat blade probe.
  - 2-1. Slide the switch to "ON" : Enables heater on.
  - 2-2. Slide the switch to "1" : Disables heater.



**Sensor range adjustment** For ALL Circuit Board Module

1. The range is 2" to 6" [51 to 152], standard setting is 5-19/32" [140 ± 10].
2. Turn CW: Increases the sensing range (+) ↻.
3. Turn CCW: Decreases the sensing range (-) ↻.

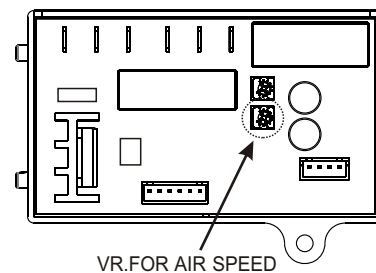
**4. DO NOT OVERTURN!**



**Warm air speed adjustment** For 208~240V, 277V Circuit Board Module

1. Switch off the power, loosen the cover screws and remove the cover.
2. Use small Philips head screwdriver or plastic flat blade probe to gently turn VR shaft. Turn CW to increase power to maximum (+) ↻, turn CCW to reduce power as required (-) ↻.

**3. DO NOT OVERTURN!**



**Diagnostics and Remedies**

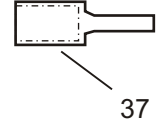
Symptom	Corrective Actions for Initial Installation Failures
If the dryer will not run	First ensure that the breaker supplying the dryer is operational. If it is, disconnect the power and remove the dryer cover. Taking suitable precautions to avoid shock hazard, reconnect the power and check for Voltage at the terminal block. Verify that connections are made correctly.
The dryer cycles by itself or runs constantly	Ensure that there is no obstruction on or in front of the IR sensor. Clean any dirt or debris off the sensor lens. If problem persists, replace sensor.
The dryer makes a loud noise and does not run for a complete cycle	Ensure that the supply Voltage is correct. Dryer will make a loud humming noise if the input Voltage is too high. Verify Voltage requirement on unit rating label and correct supply as required. If CBM has been damaged, replace CBM, IR sensor module.
The dryer runs but air stream is low pressure and/or low velocity	Ensure that the supply Voltage is correct. Dryer will run weakly if the input Voltage is too low. Verify Voltage requirement on unit rating label and correct supply as required.
Symptom	Corrective Actions for In-Service Failures
If the dryer will not run	First ensure that the breaker supplying the dryer is operational. If it is, disconnect the power and remove the dryer cover. Replace the CBM and IR sensor module. Taking suitable precautions to avoid shock hazard, reconnect the power and check for Voltage at the terminal block.
The IR sensor only "sees" close range objects	For 208~240 V and 277 V: Disconnect power from unit; disconnect heater element from circuit; check resistance ( $\Omega$ ) of element with multimeter. If $\Omega$ is off-scale infinitely large then replace element. If $\Omega$ is between 25 and 30 then check motor brushes for wear and replace them if remaining graphite is $\leq 25/64"$ [10]. If after reassembly and testing there is still no motor function then replace motor.
The heater gets hot but no air stream is produced	Ensure that there is no obstruction on or in front of the IR sensor. Clean any dirt or debris off the sensor lens. Check VR for sensor range setting, If problem persists, disconnect the power and remove the dryer cover and replace CBM, IR sensor module.
The dryer only blows cold air during a full cycle	Disconnect the power. Remove the dryer cover. Check VR for speed setting Disassemble the blower- motor/ fan housing. Replace the fan motor. Reassemble.
The air stream is low pressure and velocity	Disconnect the power. Remove the dryer cover and check/ ensure heater SW is ON. Disassemble the blower-motor/fan housing. Test the thermostat for open circuit. Check the heater element for signs of burning or breakage. Damaged element must be replaced.
	Check the output nozzle for obstructions. If none are present, disconnect the power. Remove the dryer cover. Remove any dust/lint buildup from intake vent slots. Check VR for speed setting. Disassemble the blower-motor/fan housing. Check the motor brushes for worn condition ( $\leq 25/64"$ [10] graphite remains) and replace them, if necessary.

### Repair parts list

Key	Part #	Description	Qty	Key	Part #	Description	Qty
1	A0245	Blower housing - Upper	1	25	-	Self threading screw 1/4"x1-1/2", philips pan head	4
2	A0168	Motor rubber - Upper	1	26	-	Screw M4x10, philips pan head	2
3	A0246	Motor brushes	2	27	-	Self threading screw M4x10, philips pan head	8
4		Motor	1	28	-	Screw M3x16, philips pan head	2
	A0247	0.67HP@120Vac		29	-	Screw M4x10, philips pan head with external tooth lock washer	1
5		Heater assembly	1	30	-	Screw M5x8, philips pan head with external tooth lock washer	2
	A0249	500W@120Vac, 28.8Ω		31	-	Screw M5x10, philips pan head	2
6	A0251	Motor rubber - Lower	1	32	-	Wires Harness (Not Shown)	1
7	A0252	Blower housing - Lower	1	33	A0124	L-Wrench	1
8	A0001	Rubber grommet -Base	4	34	A0276	CBM terminal legend label	1
9	A0028	Metal washer	4	35		Rating label	1
10	A0029	Nylon bushing	4		A0264	0199-1	
11	A0253	Base plate	1		A0265	0199-2	
12	A0011	Grounding screw with cup washer	1		A0266	0199-3	
13	A0133	Mylar shield with LNG marked	1	36		Caution Branch Circuit label	1
14	A0183	Nylon cable clamp	1		A0267	15A - 120Vac	
15	A0010	Terminal block	1		A0268	8A - 240Vac/ 277Vac	
16	A0254	Blower mounting bracket	1	37	A0242	Crimp-on wire tips for terminal block	3
17		Circuit Board Module (CBM)	1	38	A0269	Plastic wall anchor 5/16" DIA x 1-3/8" long (Ø8 x 35)	4
	A0321	110-120Vac					
	A0430	208-240Vac					
	A0431	277Vac					
18	A0258	Sensor bracket	1				
19	A0259	Sensor module	1				
20		Label, Circuit Diagram	1				
	A0260	110-120Vac					
	A0432	208-240Vac/ 277Vac					
21		Cover	1				
	A0261	Steel - Epoxy enamel					
	A0262	Stainless steel - Bright					
	A0263	Stainless steel - Satin					
22		CAUTION label	1				
23	A0099	Security hex cap head 1/4"-20 x 5/8" screw with lock washer	2				
24	A0176	Cable protector	1				

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**Optional Terminals**  
 (Provided in kit)



Use AWG 16-14(MAX)  
 (See MT & IG 1207101509)

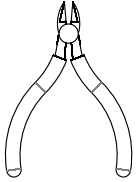
## Assembly Diagram

**Tools Req'd** (Provided in kit)

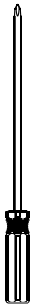


L-Wrench  
 Item 33

**Tools Req'd** (Not provided)



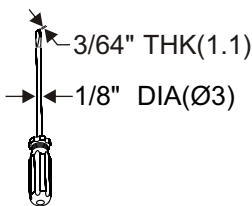
Wire cutter



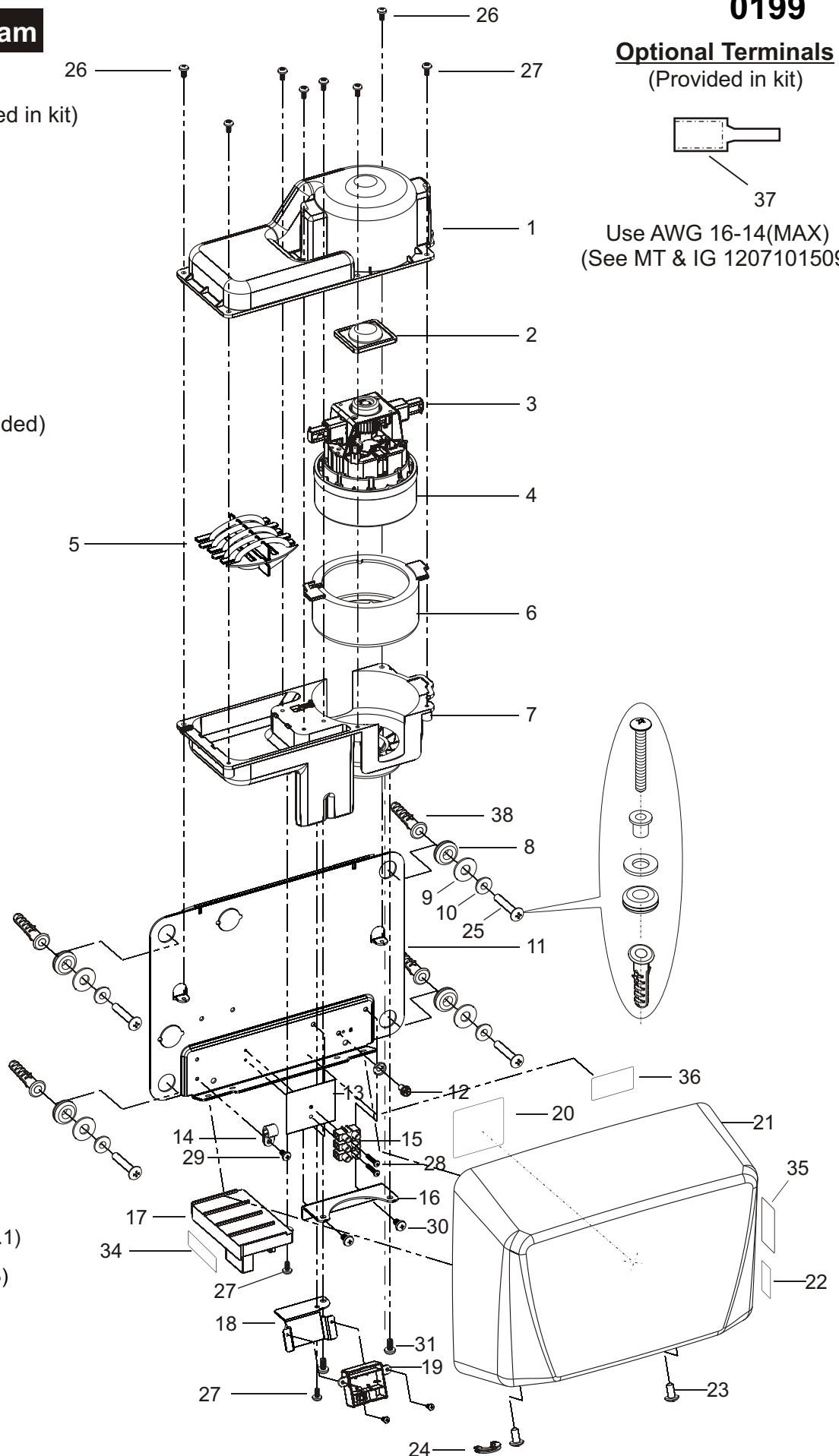
Phillips #1/ #2



Crimp tool



Flat blade



Patented