

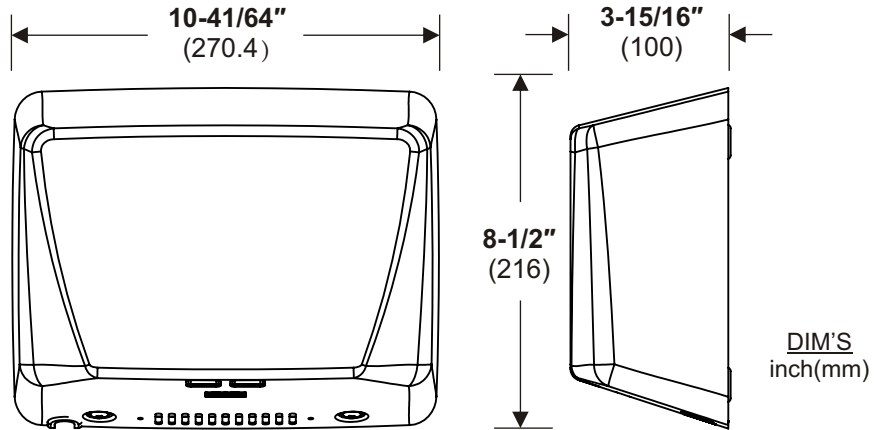


Hand Dryer Operating Instructions and Parts Manual

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

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 ³ /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} 240 VAC, Auto Resetting Thermostat turns unit off at 203°F {95°C}
Heater Element	ON/ OFF Heating options; 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 mm± 20 mm], Adjustable ; Range 4" to 8" [101 mm to 203 mm]
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 mm} 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}

Input	Model	Motor			Heater		Total	
		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 inches (610 mm) 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" (35mm) 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 inch (M6) screws at length that will ensure 1 inch (25 mm) min. stud penetration. For masonry walls use expansion bolts or anchors for Ø1/4 inch (M6) screws to ensure penetration 1/4 inch (6 mm) 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.

Installation Kit Included (find in carton)

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

Service Tool Included (with installation kit)

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



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

Recommended mounting heights

- from bottom edge of dryer above finished floor (AFF)

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

See Mounting Template & Installation Guide (MT & IG)
1207101509 (Supplied with unit)

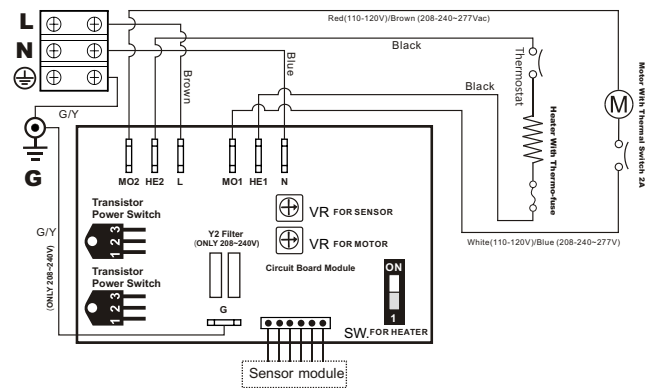
Reference **ADAAG** AFF (maximum)
Reach LIMIT (unrestricted)

All Approaches 48" (1219 mm)

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!

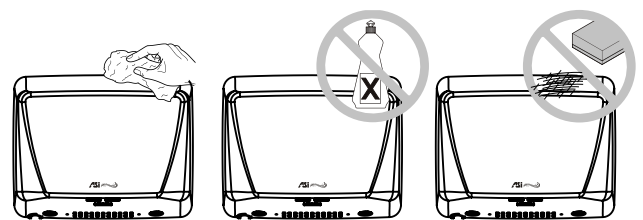
Circuit Diagram



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.



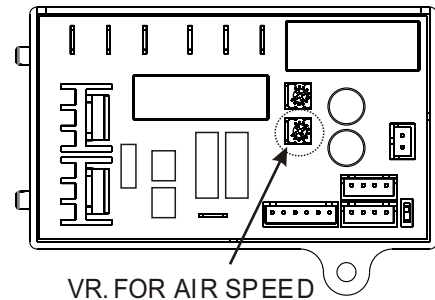
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Warranty

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.

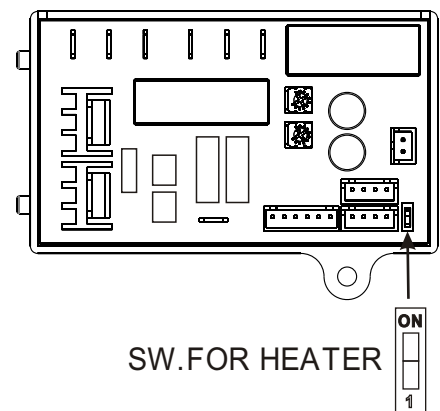
Warm air speed adjustment

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 turn VR shaft. Clock-wise [CW] to increase power to maximum (+) ↻, turn tool gently [CCW] to reduce power as required (-) ↻.



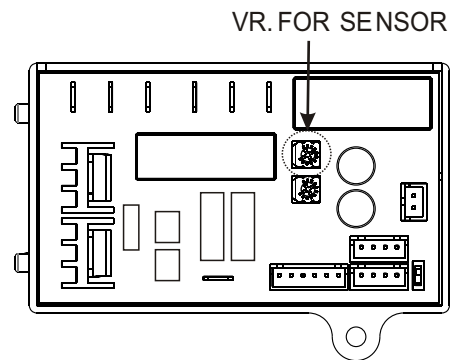
Heater Element Switch ON/ OFF

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

1. The range is 4" to 10" [100 mm to 250 mm], standard setting is 6" [170 mm ± 20 mm]
2. Clockwise: Increases the sensing range(+) ↻
3. Counterclockwise: Decreases the sensing range(-) ↻
4. DO NOT OVERTURN!



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.*



Diagnostics and Remedies

Symptom
If the dryer will not run
The dryer cycles by itself or runs constantly
The dryer makes a loud noise and does not run for a complete cycle
The dryer runs but air stream is low pressure and/or low velocity

Corrective Actions for Initial Installation Failures
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.
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.
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.
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
If the dryer will not run
The IR sensor only “sees” close range objects
The heater gets hot but no air stream is produced
The dryer only blows cold air during a full cycle
The air stream is low pressure and velocity

Corrective Actions for In-Service Failures
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.
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.
Disconnect the power. Remove the dryer cover. Check VR for speed setting Disassemble the blower- motor/ fan housing. Replace the fan motor. Reassemble.
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 ($\leq 1\text{-}3/16\text{''}$ [30 mm] 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
	A0248	0.67HP@240Vac		30	-	Screw M5x8, philips pan head with external tooth lock washer	2
5		Heater assembly	1	31	-	Screw M5x10, philips pan head	2
	A0249	500W@120Vac, 28.8Ω		32	-	Wires Harness (Not Shown)	1
	A0250	500W@240Vac, 115.2Ω		33	A0124	L-Wrench	1
6	A0251	Motor rubber - Lower	1	34	A0276	CBM terminal legend label	1
7	A0252	Blower housing - Lower	1	35		Rating label	1
8	A0001	Rubber grommet -Base	4		A0264	0199-1	
9	A0028	Metal washer	4		A0265	0199-2	
10	A0029	Nylon bushing	4		A0266	0199-3	
11	A0253	Base plate	1	36		Caution Branch Circuit label	1
12	A0011	Grounding screw with cup washer	1		A0267	15A- 120Vac	
13	A0133	Mylar shield with LNG marked	1		A0268	8.0A- 240Vac/ 277Vac	
14	A0183	Nylon cable clamp	1	37	A0242	Crimp-on wire tips for terminal block	3
15	A0010	Terminal block	1	38	A0269	Plastic wall anchor 5/16" DIA x 1-3/8" long (Ø8 x 35)	4
16	A0254	Blower mounting bracket	1				
17		Circuit Board Module (CBM)	1				
	A0321	110-120Vac v4.0					
	A0322	208-240Vac v4.0					
	A0323	277Vac v4.0					
18	A0258	Sensor bracket	1				
19	A0259	Sensor module	1				
20	A0260	Label, Circuit Diagram	1				
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				

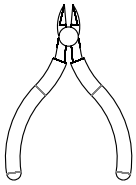
Assembly Diagram

Tools Req'd (Provided in kit)

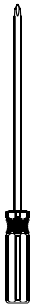


L-Wrench
Item 33

Tools Req'd (Not provided)



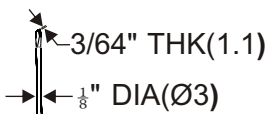
Wire cutter



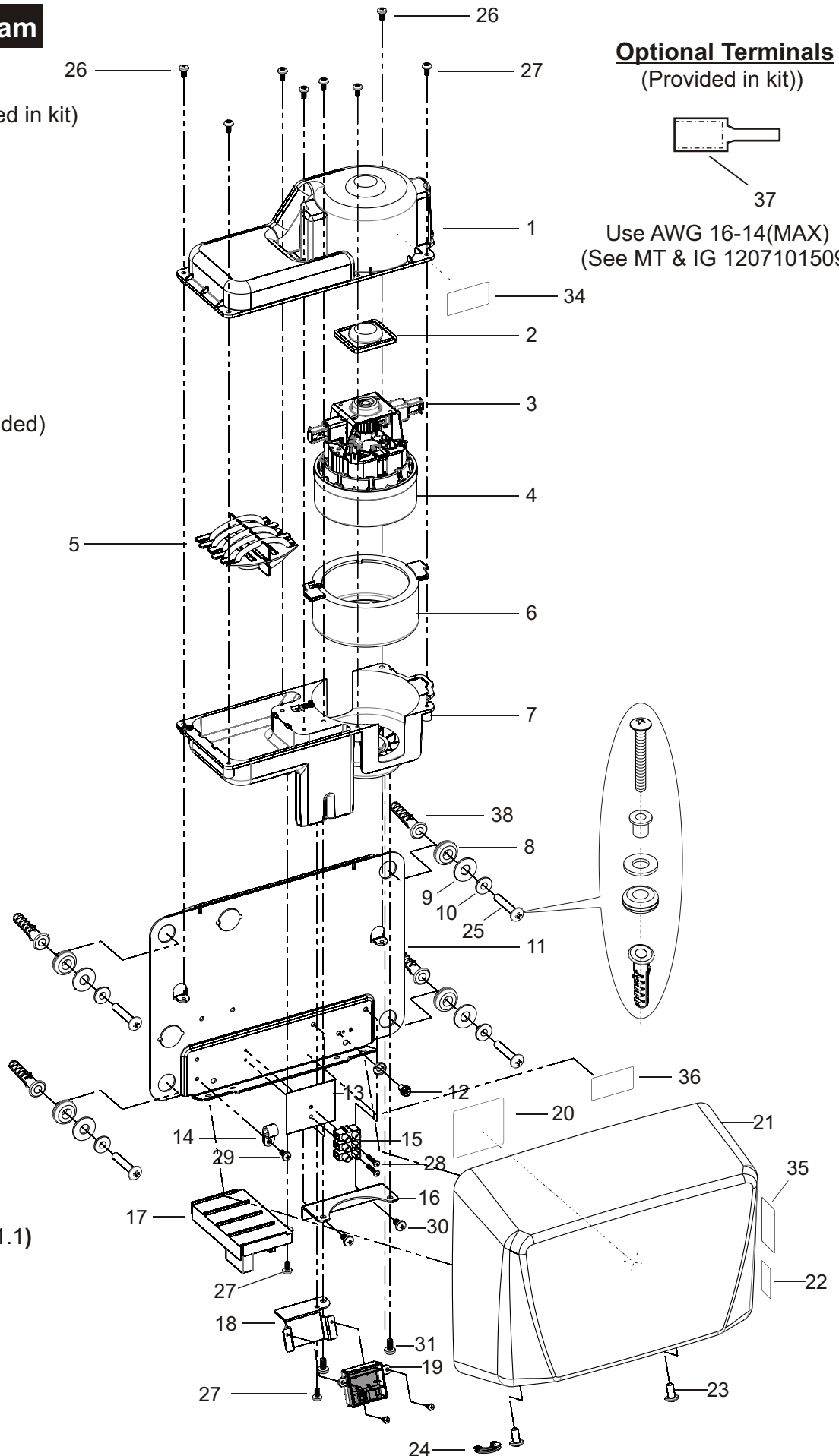
Phillips #1/ #2



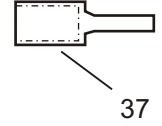
Crimp tool



Flat blade



Optional Terminals (Provided in kit)



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