Hand Dryer Operating Instructions and Parts Manual
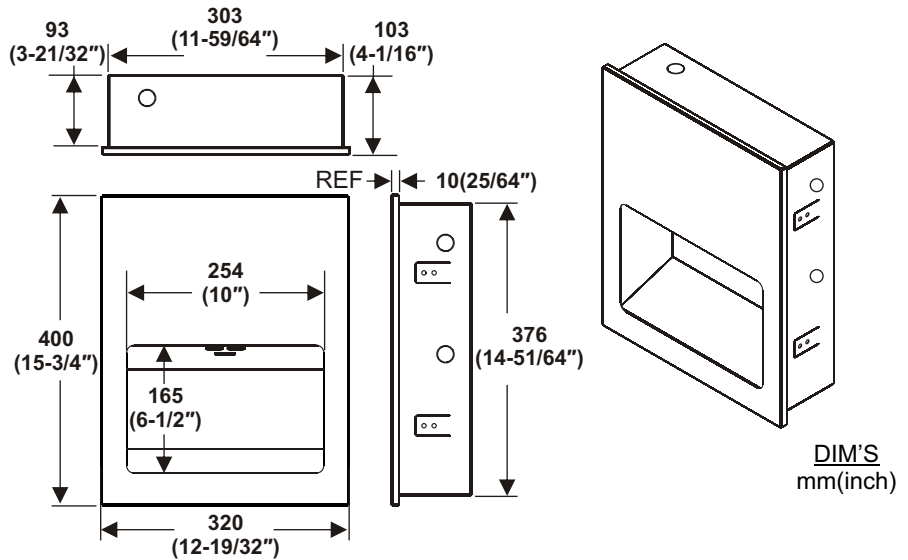### Recessed High-Speed ADA-compliant hand dryer

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.

Turbo-Tuff™

MODEL # 10-0135-2

DIM'S
mm(inch)

TECHNICAL SPECIFICATIONS

ITEM CATEGORY	PERFORMANCE DATA
Operating Voltage, 0135-2	220-240VAC, 50/60Hz, 4.2A, 1.0KW
Output Warm Air Volume	71-105m³/h [42-62CFM], adjustable by owner
Output Warm Air Temp	55°C when ambient Temp = 25°C. MAX adjustable by owner
Output Air Speed	124mph (182ft/s) [55.4m/s {199km/h}] - 184mph (270ft/s) [82.2m/s {296km/h}], adjustable by owner
Motor Type	500W, 22000-29000rpm, adjustable, brush type, dual ball bearings
Motor Thermal Protection	Auto resetting thermostat turns unit off at 95°C
Heater Element	Range adjustable by owner, 275-500 W
Heater Thermal Protection	Auto resetting thermostat turns heater element off at 85°C, resets at 75°C, thermal cut-off at 142°C
Drying Time	Less than 15 seconds
Standby Power	Less than 0.5W
Circuit Operation	Infrared automatic, self adjusting
Sensor Range	100mm to 230mm, adjustable; standard 170mm ± 20mm
Timing Protection	60 seconds auto shut off
Timing Duration	1 second delayed turn off after last sensor read
Sound Level	MIN 69.2dB-A to 69.3dB-A MAX @ 2m, adjustable by owner
Cover Type	18gauge [.047", 1.2mm] thick drawn steel or 304 series stainless steel
Cover Finish	Satin on stainless steel
Net Weight	6.6kg
Shipping Weight	8.2kg
Unit Size	320mm W x 400mm H x 103mm D [12-19/32" x 15-3/4" x 4-1/16"]
Rough Wall Opening	313mm W x 386mm H x 98mm D [12-5/16" x 15-3/16" x 3-7/8"]

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Input	Model	Motor			Heater		Total	
VAC	№	Vac	Inrush A(W)	Operating A(W)	Vac	Operating A(W)	Inrush A(W)	Operating A(W)
220	0135-2	220	2.86 (630)	1.91 (420)	220	1.91 (420)	4.77 (1050)	3.82 (840)
230	0135-2	230	2.99 (689)	2.00 (459)	230	2.00 (459)	4.99 (1148)	3.99 (918)
240	0135-2	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. Remove front panel using security wrench included in kit and retain security screws. Place cover aside with care to protect face finish until required in step 8.

3. Remove hand drying chamber using #2 Phillips screwdriver and retain screws. Place chamber aside with care to protect inside finish until required in step 7.

4. Remove two (2) mounting screws from bottom edge of chassis plate using #2 Phillips screwdriver and retain screws. Grasp motor securely and lift entire chassis slightly up & over retainer hooks welded to housing top. Place chassis aside with care to protect unit until required in step 5.

5. Install supplied plastic KO bushing (or other, not supplied) into KO to be used for cable prior to installation of cable into KO or box into RWO (Rough Wall Opening, previously prepared by others). Install wall box housing into RWO locating stub cable into any one (1) of five (5) available KO locations on sides or top of box. Using screws supplied with unit (or other types suitable to wall conditions, by others) tighten screws through adjustable mounting tabs into framing in side walls of RWO to center wall box in opening.

6. Grasp chassis & motor assembly retained in step 3 and slightly lift to place over retainer hooks on housing top to hold unit in place while driving screws. Using #2 Phillips screwdriver tighten two (2) screws also retained in step 3 through holes in bottom edge of chassis plate into threaded posts on wall box back.

7. Refer to Circuit Diagram on page 4 of this Owner's Manual to match correct wire to terminal block on motor chassis. Pull stub cable through bushing (previously installed, step 4) to allow clearance around hand drying chamber (to be installed next) and enough length to prep ends for terminal block insertion after routing through strain relief clamp on chassis. Clamp cable, prep ends of wires and insert correct wires into terminal block at locations L, N & G. Using a small flat blade screwdriver ensure each wire is properly secured with terminal block top lock screws.
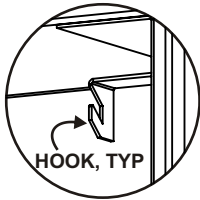   **Connections:** (see fig. 6 & refer to Circuit Diagram and see Note B)
   A. Connect the live wire (colored Brown, Red or Black) to the terminal block marked "L".
   B. Connect the neutral wire (colored Black, Blue, White or Grey) or connect the second live wire (colored Red or Orange) to the terminal 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.

8. Reinstall hand drying chamber retained in step 2 into wall box housing using #2 Phillips screw driver and screws also retained in step 2 while being careful to not pinch cable arranged to route clear around hand chamber in step 6.

9. Fasten the front panel onto the chassis box using the two (2) security screws retained in step 1 above using the security wrench. Retain wrench for any possible service access during dryer lifetime. Turn ON breaker at service panel (by others) and test dryer operation.

10. Record the unit S/N on the Registration Card and give this Owner's Manual, the Installation Guide, Registration Post Card and the security wrench to Owner or Facility Manager.
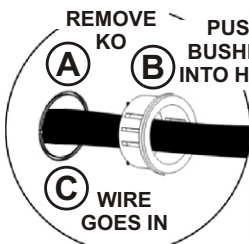
Hand Dryer
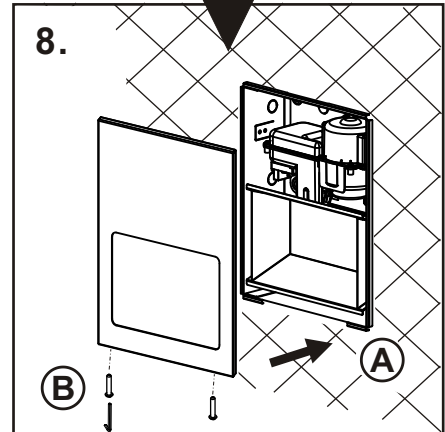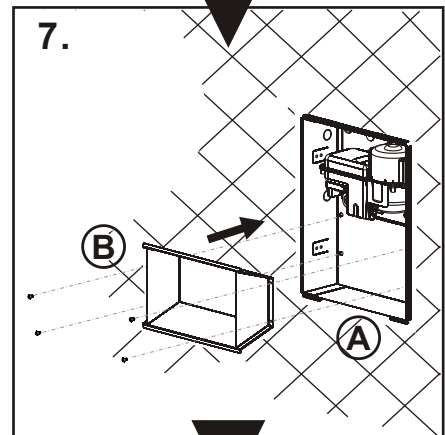**Operating Instructions and Parts Manual**
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HOOK, TYP

**DETAIL `A´
FOR STEP 5**

NOTE B

3/16"
(5)

Item # 36

OPTIONAL
TERMINALS
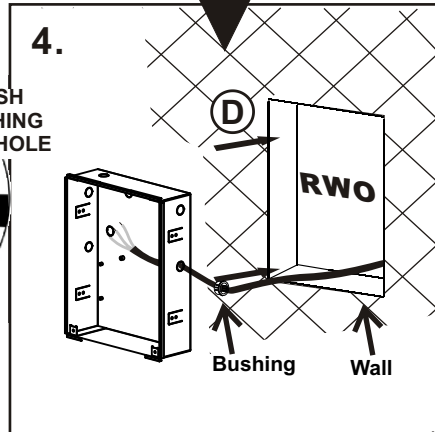FOR STRANDED
WIRE 14-16 GA
FOR STEP 6

REMOVE KO

PUSH BUSHING INTO HOLE

A B

C **WIRE GOES IN**

**DETAIL OF BUSHING IN
STEP 4 TO PUSH INTO KO**

1.

A   B

2.

A

3.

B

A

4.

D

RWO

Bushing   Wall

5.

B

A   A

**STUB
CABLE**

6.

SEE NOTE B

N L

SEE CIRCUIT
DIAGRAM IN OWNER
MANUAL 1207311534

**SLACK
CABLE**

7.

B

A

8.

B   A

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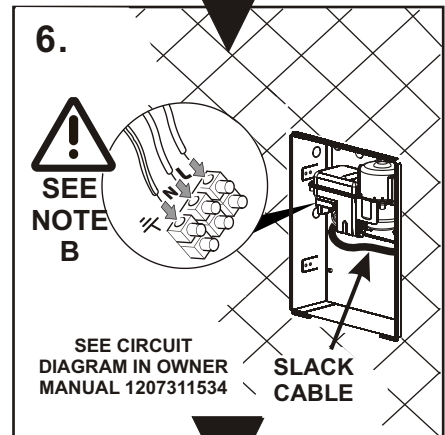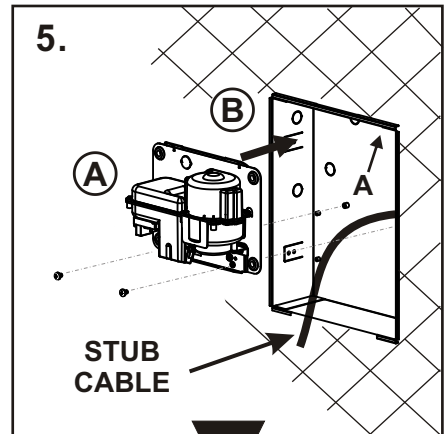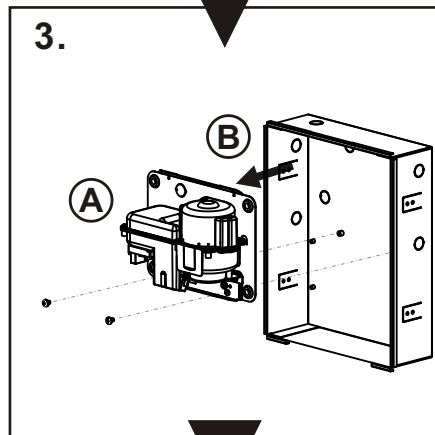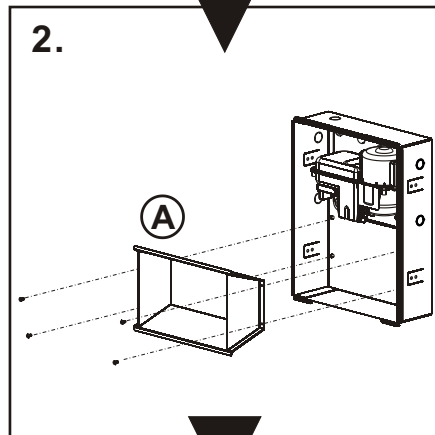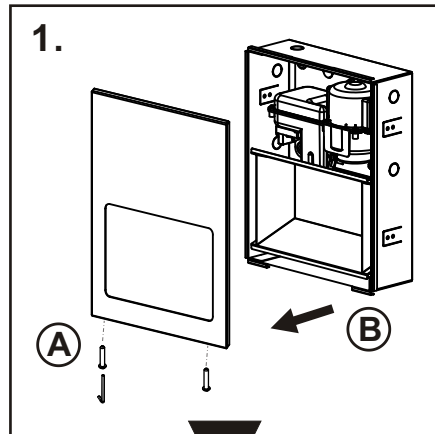
General safety information

⚠ 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.

Installation Kit Included (find in carton)

1. Wall box Installation Screws (M5x25 Philips pan head self threading) x 4 pcs
2. Nylon bushing x 1 pc
3. Crimp-on terminal wire tip x 3 pcs

Service Tool Included (with installation kit)

➤ Security hex wrench 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.

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

See Installation Guide (IG) on pages 2 & 3

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

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 5
  DO NOT OVER TURN!

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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.
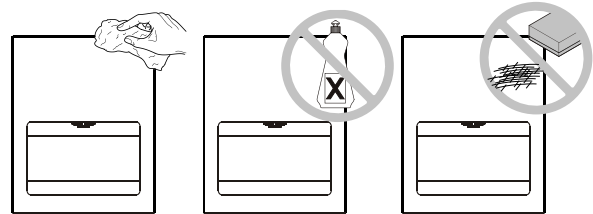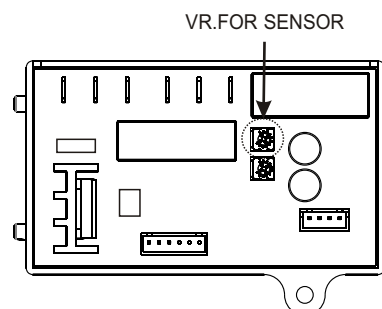
Circuit Diagram

Supply:220-240VAC, 50/60Hz
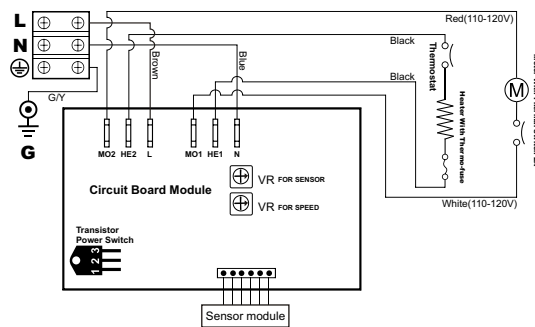
Warm air speed adjustment

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(-) ⟲.

VR.FOR AIR SPEED

Sensor range adjustment

VR.FOR SENSOR
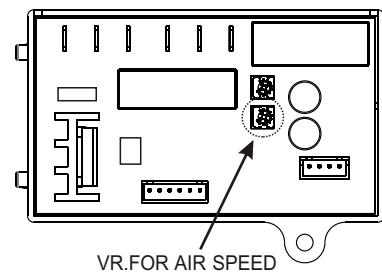
1. The range is 4" to 9" [100 mm to 230 mm], standard setting is 7" [170 mm ± 20 mm].
2. Clockwise: Increases the sensing range(+) ⟲ .
3. Counterclockwise：Decreases the sensing range(-) ⟲ .
4. **DO NOT OVERTURN!**

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 or disconnect heater element from circuit;check resistance (Ω) of element with multimeter. If Ω is off-scale infinitely large then replace element. If Ω is between 25 and 30 then check motor brushes for wear and replace them if remaining graphite is $\leqslant$ 25/64" [10mm]. If after reassembly and testing there is stil no motor function then replace motor. 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	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 air stream is low pressure and velocity	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 ($\leqslant$ 25/64" [10 mm] graphite remains) and replace them, if necessary.

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Repair parts list

Key	Part #	Description	Qty	Key	Part #	Description	Qty
1	A0245	Blower housing - Upper	1	20		Rating label	1
2	A0168	Motor rubber - Upper	1		A0393	10-0135-2	
3	A0246	Motor brushes	2	21	A0274	Dry hand chamber	1
4		Motor	1	22	A0363	Security hex screw	2
	A0247	500W@120Vac		23	A0364	Recessed box	1
5		Heater assembly	1	24	-	Screw M4x10, philips pan head	2
	A0249	500W@120Vac,28.8Ω		25	-	Self threading screw M4x10, philips pan head	8
6	A0251	Motor rubber - Lower	1				
7	A0252	Blower housing - Lower	1	26	-	Screw M3x16,philips pan head	2
8	A0001	Rubber grommet -Base	4	27	-	Screw M4x10,philips pan head with external tooth lock washer	1
9	A0253	Base plate	1				
10	A0011	Grounding screw with cup washer	1	28	-	Screw M5x8,philips pan head with external tooth lock washer	4
11	A0133	Mylar shield with LNG marked	1				
12	A0183	Nylon cable clamp	1	29	-	Screw M5x10,philips pan head	2
13	A0010	Terminal block	1	30	-	Wires Harness (Not Shown)	1
14	A0254	Blower mounting bracket	1	31	A0124	Security hex wrench	1
15		Circuit Board Module (CBM)	1	32	A0276	CBM terminal legend label	1
	A0430	220-240Vac		33		Caution Branch Circuit label	1
16	A0258	Sensor bracket	1		A0268	8.0A- 240Vac	
17	A0259	Sensor module	1	36	A0242	Crimp-on wire tips for terminal block	3
18	A0433	Label, Circuit Diagram	1	37	A0277	Bushing, Nylon blk, KO	1
19	A0392	Cover, Stainless steel - Satin	1	38	-	Screw M3x8,philips pan head	2
				39	-	Screw M4x8,philips pan head	4
				40	-	Hex nut,M4	2

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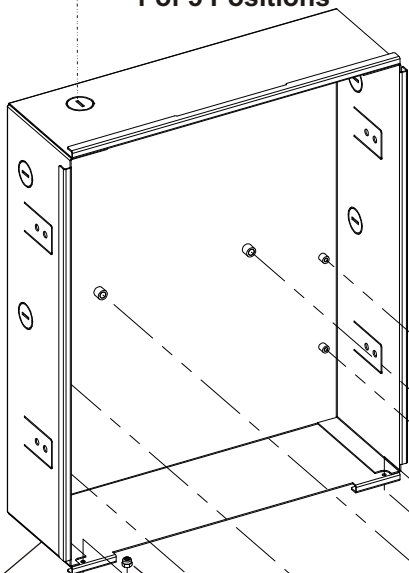www.asijdmacdonald.com.au
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Assembly Diagram

Tool Req'd
(Provided in kit)

Security hex wrench
Item 31

SEE INSTALLATION STEPS

37 (Provided in kit)
**Typical Location
1 of 5 Positions**

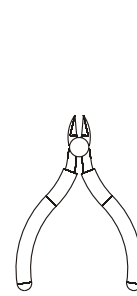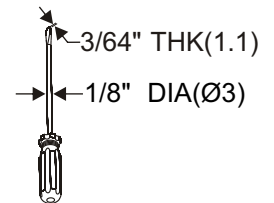### Tools Req'd (Not provided)

Wire cutter

Philips #1/ #2

Crimp tool

Flat blade

3/64" THK(1.1)

1/8" DIA(Ø3)

Optional Terminals
(Provided in kit)

36

Use AWG 16-14(MAX)