A Mechanical Ventilation Checklist A — Non-Distributed

Use this checklist with **Non-Distributed Systems** such as those usually found in dwellings with **electric or hot water radiant or baseboard heating systems or** where duct systems do not distribute ventilation air.

Civic Address_____ Permit No._____

Number of Bedrooms		(A)	A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
Total Interior Volume of Dwelling	ft^3		Total volume includes heated interior joist spaces and heated crawlspaces.
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =	cfm	(B)	Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Fan

a) Exhaust Rate: Use the bedroom count from Box (A) above and Table 9.32.3.3.A. to determine Minimum Rate. Maximum Rate of 110 cfm if NAFFVA/Radon present.

The Principal Exhaust Fan will be controlled automatically with an interval timer OR run continuously.

Minimum required rate: **Interval Timer** **Continuous**

cfm (C) cfm (D)

b) Principal Fan CFM & Sone Rating:

Make_____ Model_____

cfm (E)

Box E Maximum allowed is **110 cfm** if Make-up Air Required in Step 4.

Sones: Interval _____ Continuous _____
Maximum rating: Interval Timer 1.5 Sones Continuous 1 Sone

Fan Location: _____

c) Principal Fan Duct Size: Use actual fan cfm in Box E above and Table 9.32.3.9.

Fan Duct size: _____ inches. Duct type: ___Smooth ___Flex

2. Required Kitchen and Bathroom Exhaust Fans:

Room	Fan Make & Model	Fan CFM		Duct Diameter (in) Table 9.32.3.9*	
		Code Req'd Min. @.2"W.C. per Table 9.32.3.3.B	actual Fan CFM @.2"W.C. per Manf. Rating	Smooth	Flex

* For fan capacities **exceeding** Table 9.32.3.9, follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix page 24-A.

Checklist A1

3. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) **and/or Radon Gas present in dwelling unit?**

☐ **Yes, Proceed to Step 4 & 5** ☐ **No**, Omit Steps 4 to 7.

4. Passive Make-Up Air Duct for Principal Fan: Use the Box E installed cfm and Table 9.32.3.8.

Make-up air duct diameter_____inches. Location _____

5. Exhaust Appliance present which exceeds Box B 0.5 ACH:

☐ **Yes, Proceed to Step 6.** ☐ **No** such appliance. Omit Steps 6 to 7.

6. Use **Passive Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **126 cfm or less:**

Appliance Cfm _____ **Passive Make-up Air Duct** Sized to Table 9.32.3.8: _____inches

7. Use **Active Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **more than 126 cfm.**

Make-up Air Fan required: ***Exhaust Appliance Cfm** _____

Fan Make _____ Model _____ **Fan Cfm** _____

*Must equal actual installed exhaust rate of appliance.

Duct diameter _____inches

Fan Location _____ Fan ducted to _____

A) Active Make-up Air delivered to an Unoccupied Area (not directly to room containing the appliance).

Tempering Required per 9.32.4.1.(4)(a):

Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

Transfer Grill Required: Size to Table 9.32.3.8 (or 1 sq in of gross area per 2 cfm):

Transfer grill size _____ sq. in. Location _____

Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area: Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

B) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

_____

Installer Certification: Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2006 B.C. Building Code.

Print Name_____ **2006 TECA Ventilation Certification Stamp**

Signature_____

Company_____

Phone _____

Checklist A2

B

Mechanical Ventilation Checklist B—Distributed

Previously Checklist C (per former 1998 BCBC)

This Checklist is for use with **forced air heating systems** where the heating duct system distributes ventilation air.

Civic Address_____ Permit No._____

Number of Bedrooms		(A)	A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
Total Interior Volume of Dwelling	ft^3		Total volume includes heated interior joist spaces and heated crawlspaces.
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =	cfm	(B)	Exhaust appliances exceeding .5 ACH may require make-up air.

1. Principal Fan

a) Exhaust Rate: Use the bedroom count from Box (A) above and Table 9.32.3.3.A. to determine Minimum Rate. (Maximum Rate of 110 cfm if NAFFVA/Radon present.)

Minimum required rate: **Interval Timer** **Continuous**

cfm (C) cfm (D)

b) Principal Fan CFM & Sone Rating:

Make_____ Model_____

cfm (E)

Box E Maximum allowed is **110 cfm** if Make-up Air Required in Step 4.

Sones: Interval _____ Continuous _____

Maximum allowed: Interval timer 1.5 sones Continuous 1 sone

Fan Location: _____

c) Principal Fan Duct Size: Use actual fan cfm in Box E above and Table 9.32.3.9 for Duct.

Fan Duct size: _____ inches. Duct type:___Smooth___Flex

2. Required Kitchen and Bathroom Exhaust Fans:

Room	Fan Make & Model	Fan CFM		Duct Diameter (in) Table 9.32.3.9*	
		Code Req'd Min. @.2"W.C. per Table 9.32.3.3.B	actual Fan CFM @.2"W.C. per Manf. Rating	Smooth	Flex

* For fan capacities **exceeding** Table 9.32.3.9, follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix page 24-A.

Checklist B1

3. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) **and/or Radon Gas present in dwelling unit?**

☐ **Yes, Proceed to Step 4 & 5** ☐ **No**, Omit Steps 4 to 7.

4. Active Make-Up Air Duct for Principal Fan: Per Sec 9.32.3.8. (2) (b) (ii & iii) Install a 4"Ø outdoor air duct into the furnace return air plenum not more than 15ft (unless a flow control device is used) or less than 10ft from the furnace cabinet. In locations with winter design temperature less than –10° C, this duct must have a motorized damper interconnected with principal ventilation air fan. **Interconnect in place:** Prinicipal Fan & Furnace Blower ☐ Yes

Damper make _____ Voltage_____ & Damper (if present) ☐ Yes

5. Exhaust Appliance present which exceeds Box B 0.5 ACH:

☐ **Yes, Proceed to Step 6.** ☐ **No** such appliance. Omit Steps 6 to 7.

6. Use **Passive Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **126 cfm or less:**

Appliance Cfm _____ **Passive Make-up Air Duct** Sized to Table 9.32.3.8: _____inches

7. Use **Active Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **more than 126 cfm.**

Make-up Air Fan required: ***Exhaust Appliance Cfm** _____

Fan Make _____ Model _____ **Fan Cfm** _____

*must equal actual installed exhaust rate of appliance.

Duct diameter _____inches

Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area (not directly to room containing the appliance).

i) Tempering Required per 9.32.4.1.(4)(a):

Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) **Transfer Grill Required:** Size to Table 9.32.3.8 (or 1 sq in of gross area per 2 cfm):

Transfer grill size _____ sq. in. Location _____

iii) **Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area:** Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

_____

_____

Installer Certification: Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2006 B.C. Building Code.

Print Name_____ **2006 TECA Ventilation Certification Stamp**

Signature_____

Company_____

Phone _____

Checklist B2

C Mechanical Ventilation Checklist C—Distributed or Non-Distributed

Use this checklist when a centrally ducted exhaust ventilation systems such as an HRV (heat recovery ventilator or a CEV (central exhaust ventilator) is used to meet principal fan requirements.

Civic Address_____ Permit No._____

Number of Bedrooms		(A)	A bedroom is a room with an openable window (minimum dimensions apply), a closet and a closing interior door.
Total Interior Volume of Dwelling	ft^3		Total volume includes heated interior joist spaces and heated crawlspaces.
.5 ACH (air changes/hr) = Volume x 0.5 ÷ 60 =	cfm	(B)	Exhaust appliances exceeding .5 ACH may require make-up air.

1. Use the bedroom count from Box (A) above and Table 9.32.3.3.A. to determine the minimum Principal Exhaust Rate provided by the system.

Minimum Required Rate: cfm (C)

2. HRV or CEV **Equipment**: Make_____ Model _____

3A. HRV Capacity: CFM @.4"W.C. Box D must meet Box C Minimum Requirement. cfm (D)

3B. CEV Capacity: CFM @.4"W.C. Box E must meet Box C Minimum Requirement. cfm (E)

a) The fan must be controlled either with an interval timer or run continuously:

☐ Continuous Operation ☐ Intermittent Operation

b) The Principal Fan Rate may be set lower than its full Box E Capacity if installation is in a NAFFVA home where the principal fan cfm rate must not exceed 110 cfm per 9.32.3.3.(2). If this applies, indicate fan cfm setting in Box F.

Box F must meet Box C Minimum Requirement. cfm (F)

4. Required Kitchen and Bathroom Exhaust:

ROOM	EXHAUST RATE Required per Table 9.32.3.3.B	EXHAUST EQUIPMENT				
		Additional WALL/CEILING FANS				HRV/CEV
		Make & Model	CFM@.2" Manf. Rated	*Duct Dia (in) smooth	*Duct Dia (in) flex	Exhaust CFM
				TOTAL (Box D or E)		

* Use Table 9.32.3.9. For fan capacities **exceeding** Table 9.32.3.9, follow manufacturer's installation instructions or use good engineering practice to size duct. See *Ventilation Guidelines* Appendix pg 24-A.

Checklist C1

5. NAFFVA (Naturally Aspirated Fuel Fired Vented Appliance) **and/or Radon Gas present in dwelling unit?**

☐ **Yes, Proceed to Step 6 if CEV or Step 7 if HRV.** ☐ **No**, Omit Steps 6 to 9.

6. CEV only—Make-Up Air Duct for Principal Fan: Choose (a) or (b) and proceed to Step 7.

☐ **a) Non-Distributed system—Passive make-up air duct:** Use Box E or F installed cfm and Table 9.32.3.8.

Make-up air duct diameter_____inches. Location _____

☐ **b) Distributed system—Active Make-Up Air Duct for Principal Fan: Per Sec 9.32.3.8. (2) (b) (ii & iii)**
Install a 4"Ø outdoor air duct into the furnace return air plenum not more than 15ft (unless a flow control device is used) or less than 10ft from the furnace cabinet. In locations with winter design temperature less than –10° C, this duct must have a motorized damper interconnected with principal ventilation air fan.

Interconnect in place: Prinicipal Fan & Furnace Blower ☐ Yes
Damper make _____ Voltage_____ & Damper (if present) ☐ Yes

7. Exhaust Appliance present which exceeds Box B —0.5 ACH:

☐ **Yes, Proceed to Step 8.** ☐ **No** such appliance. Omit Steps 8 to 9.

8. Use **Passive Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **126 cfm or less:**

Appliance Cfm _____ **Passive Make-up Air Duct** Sized to Table 9.32.3.8: _____inches

9. Use **Active Make-up Air** for Exhaust Appliance with actual installed exhaust rate of **more than 126 cfm.**

Make-up Air Fan required: ***Exhaust Appliance Cfm** _____
Fan Make _____ Model _____ **Fan Cfm** _____
Duct diameter _____inches
*must equal actual installed exhaust rate of appliance.
Fan Location _____ Fan ducted to _____

a) Active Make-up Air delivered to an Unoccupied Area (not directly to room containing the appliance).

i) **Tempering Required per 9.32.4.1.(4)(a):**
Show calculation & describe how make-up air will be tempered to at least 34°F (1°C) before entering unoccupied area.

_____

ii) **Transfer Grill Required:** Size to Table 9.32.3.8 (or 1 sq in of gross area per 2 cfm):

Transfer grill size _____ sq. in. Location _____

iii) **Additional Tempering Required per 9.32.4.1.(4)(b) before transfer to occupied area:** Show calculation and describe how make-up air will be further tempered to at least 54°F (12°C).

_____

OR b) Active Make-up Air delivered to an Occupied Area: Tempering Required. Show calculation and describe how make-up air will be tempered to at least 54°F (12°C).

Installer Certification: Date _____

I hereby certify that the design and installation of the ventilation system complies with the 2006 B.C. Building Code.

Print Name_____ **2006 TECA Ventilation Certification Stamp**

Signature_____

Company_____

Phone _____

Checklist C2

WINTER DESIGN TEMPERATURES FOR SELECTED B.C. LOCATIONS

Coastal Climate locations (≥ –10°C) appear in **bold** type. Cold Climate locations (≤ –10°C) appear in normal type.
Use the Fahrenheit (°F) winter design temperature for calculating Duct Heater Sizes—see *Appendix*)

Location	Winter Design Temp °C	Winter Design Temp °F	Location	Winter Design Temp °C	Winter Design Temp °F
Abbotsford	**-10**	**13**	McLeod Lake	-35	-31
Agassiz	-13	7	**Masset**	**-7**	**18**
Alberni	**-5**	**22**	Merritt	-26	-15
Ashcroft	-25	-14	**Mission**	**-9**	**15**
Beaton River	-37	-35	Montrose	-17	1
Burns Lake	-30	-24	Nakusp	-24	-11
Cache Creek	-25	-14	**Nanaimo**	**-7**	**20**
Campbell River	**-7**	**18**	Nelson	-20	-5
Carmi	-24	-11	**New Westminister**	**-8**	**18**
Castlegar	-19	-2	**North Vancouver**	**-7**	**19**
Chetwynd	-35	-33	Ocean Falls	-12	9
Chilliwack	-12	10	Osoyoos	-16	3
Cloverdale	**-8**	**17**	Penticton	-16	3
Comox	**-7**	**19**	**Port Alberni**	**-5**	**22**
Courtenay	**-7**	**19**	**Port Hardy**	**-5**	**22**
Cranbrook	-27	-17	**Port McNeill**	**-5**	**22**
Crescent Valley	-20	-5	**Powell River**	**-9**	**15**
Crofton	**-6**	**21**	Prince George	-33	-31
Dawson Creek	-36	-34	Prince Rupert	-14	8
Dog Creek	-28	-19	Princeton	-27	-16
Duncan	**-6**	**21**	**Qualicum Beach**	**-7**	**19**
Elko	-28	-18	Quesnel	-33	-29
Fernie	-29	-21	Revelstoke	-26	-16
Fort Nelson	-40	-41	**Richmond**	**-7**	**19**
Fort St. John	-36	-34	Salmon Arm	-23	-10
Glacier	-27	-17	**Sandspit**	**-6**	**20**
Golden	-28	-19	**Sidney**	**-6**	**20**
Grand Forks	-20	-4	Smithers	-29	-21
Greenwood	-20	-4	Smith River	-46	-51
Haney	**-9**	**16**	Squamish	-11	12
Hope	-16	2	Stewart	-23	-10
Hundred Mile House	-28	-20	Taylor	-36	-34
Kamloops	-25	-12	Terrace	-20	-5
Kaslo	-23	-9	**Tofino**	**-2**	**27**
Kelowna	-17	0	Trail	-17	1
Kimberley	-26	-16	**Ucluelet**	**-2**	**27**
Kitimat Townsite	-16	2	**Vancouver**	**-7**	**19**
Langley	**-8**	**17**	Vernon	-20	-5
Lillooet	-23	-10	**Victoria**	**-5**	**23**
Lytton	-19	-3	Williams Lake	-31	-23
Mackenzie	-35	-32	**Youbou**	**-5**	**22**
McBride	-34	-29			