

ICF-C102/C150

SERVICE MANUAL

AEP Model

ICF-C102

US Model

Canadian Model

ICF-C150

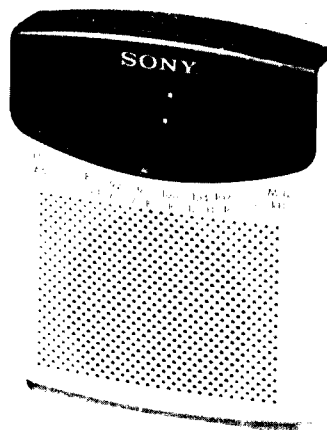


Photo : ICF-C102

SPECIFICATIONS

ICF-C102:

Frequency range

	Band	ICF-C102
Italy	FM	87.5 - 108 MHz
	AM	526.5 - 1606.5 kHz
Other countries	FM	87.6 - 107.5 MHz
	AM (MW)	531 - 1602 kHz
	LW	---

Intermediate frequency Antennas

FM: 10.7 MHz, AM: 455 kHz
FM: FM wire antenna
AM (MW)/LW: Built-in ferrite bar antenna

Speaker Power output

Approx. 6.6 cm (2⁵/₁₆ inches) dia
150 mW (at 10 % harmonic distortion)

Power requirement

	ICF-C102
Australia	240 V AC, 50 Hz
UK	---
Other countries	220-230 V AC, 50 Hz

Battery life

For the power back-up function:
9 V DC, one 6F22 battery
Approx. 80 hours, using Sony battery S-006P (U)

Dimensions

Approx. 121 × 122 × 102 mm (w/h/d)
(4⁷/₁₆ × 4⁷/₁₆ × 4¹/₁₆ inches) incl. projecting
parts and controls

Weight

Approx. 680 g (1 lb 8 oz) not incl. battery

Design and specifications subject to change without notice.

Note

This appliance conforms with EEC Directive 87/308/EEC regarding interference suppression.

FEATURES

- Dual alarm digital clock radio.
- Choice of awakening to radio alarm, buzzer alarm, or dual alarm: Alarm [A] (radio) and Alarm [B] (buzzer).
- Easy-to-read green LED display.
- Power back-up function to keep the clock operating during a power interruption, using a 6F22 battery (not supplied).
- REPEAT ALARM/SLEEP OFF bar: feather-light touch to operate, and having functions: snooze alarm, and sleep timer off.

ICF-C150:

Frequency range

FM: 87.6 - 108 MHz
AM: 530 - 1610 kHz

Antennas

FM: FM wire antenna
AM: Built-in ferrite bar antenna

Speaker

Approx. 6.6 cm (2⁵/₁₆ inches) dia.

Power output

150 mW (at 10 % harmonic distortion)

Power requirement

120 V AC, 60 Hz

For the power back-up function:

9 V DC, one 6F22 battery
Approx. 30 hours, using Sony battery
S-006P (U)

Battery life

Dimensions

Approx. 121 × 122 × 102 mm (w/h/d)
(4⁷/₁₆ × 4⁷/₁₆ × 4¹/₁₆ inches) incl. projecting
parts and controls

Weight

Approx. 680 g (1 lb 8 oz) not incl. battery

Design and specifications subject to change without notice.

FEATURES

- Dual alarm digital clock radio.
- Choice of awakening to radio alarm, buzzer alarm, or dual alarm: Alarm [A] (radio) and Alarm [B] (buzzer).
- Easy-to-read green LED display.
- Power back-up function to keep the clock, the alarm (radio and buzzer) and the radio operating during a power interruption, using a 6F22 battery (not supplied).
- REPEAT ALARM/SLEEP OFF bar: feather-light touch to operate, and having functions: snooze alarm, and sleep timer off.

FM/AM DIGITAL CLOCK RADIO

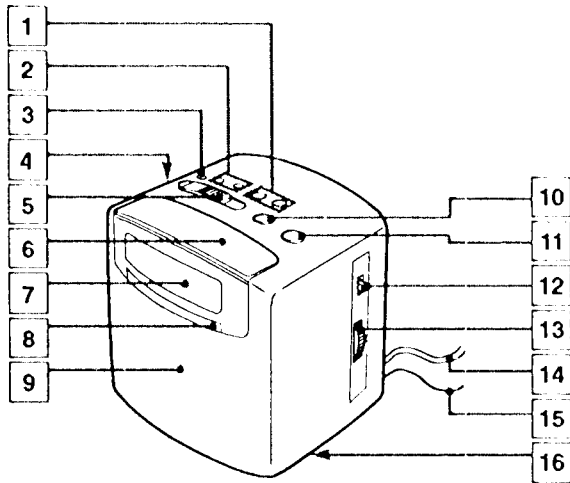
SONY



SECTION 1 GENERAL

This section is extracted from
instruction manual.

1-1. LOCATION AND FUNCTION OF CONTROLS

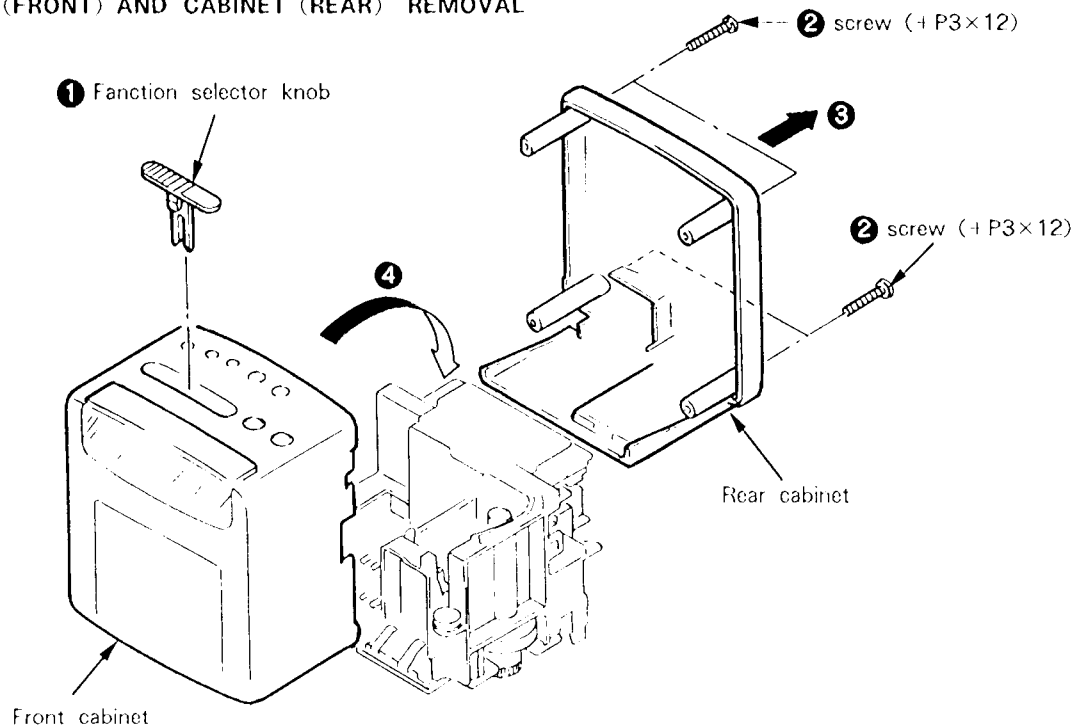


- 1 ALARM set buttons **A** RADIO, **B** BUZZER
- 2 TIME SET buttons (H/M)
- 3 CLOCK set button
- 4 VOL (volume) control (left side)
- 5 Function selector
(OFF, RADIO ON, SINGLE ALARM **A** RADIO, **B** BUZZER,
DUAL ALARM **A** RADIO, **B** BUZZER)
- 6 REPEAT ALARM/SLEEP OFF bar
- 7 Time display
- 8 Dial scale
- 9 Speaker
- 10 SLEEP button
- 11 ALARM RESET button
- 12 BAND selector (FM/AM)
- 13 TUNING control
- 14 AC power cord
- 15 FM wire antenna
- 16 Power back-up battery compartment (bottom)

SECTION 2 DISASSEMBLY

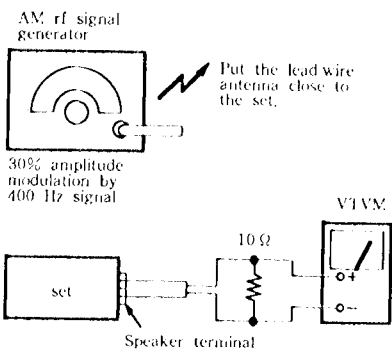
Note : Follow the disassembly procedure in the numerical order given.

2-1. CABINET (FRONT) AND CABINET (REAR) REMOVAL



SECTION 3 ADJUSTMENTS

[AM]



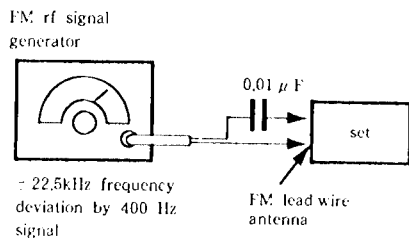
AM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L6	CT-4
520 kHz	1,650 kHz

AM IF ALIGNMENT
Adjust for a maximum reading on VTVM
T1
455 kHz

AM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L3	CT-1
780 kHz	1,360 kHz

[FM]

BAND selector : FM

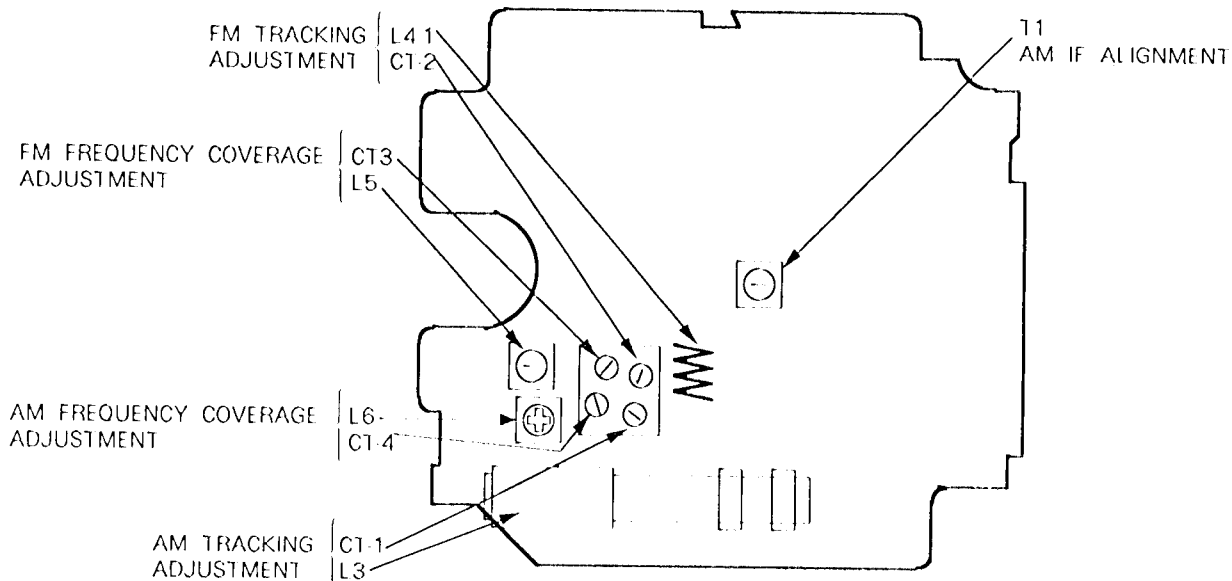


FM FREQUENCY COVERAGE ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L5	CT-3
87.35 MHz	107.9 MHz

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM	
L4-1	CT-2
87.35 MHz	107.9 MHz

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.

ADJUSTMENT PARTS LOCATION DIAGRAM (RADIO Board)



CLOCK

SECTION 6 ELECTRICAL PARTS LIST

NOTE:

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- XX, -X mean standardized parts, so they may have some difference from the original one.
- RESISTORS
All resistors are in ohms
METAL: Metal-film resistor
METAL OXIDE: Metal oxide-film resistor
F: nonflammable

- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- SEMICONDUCTORS
In each case, u: μ , for example:
uA.....: μ A....., uPA.....: μ PA.....
uPB.....: μ PB....., uPC.....: μ PC.....
uPD.....: μ PD.....
- CAPACITORS
uF: μ F
- COILS
uH: μ H

The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

When indicating parts by reference number, please include the board.

Ref. No.	Part No.	Description	Remark	Ref. No.	Part No.	Description	Remark
*	1-640-577-11	CLOCK BOARD *****				< RESISTOR >	
	3-371-133-01	FRAME, BUTTON		R14	1-216-081-00	METAL CHIP 22K 5%	1/10W
		< CAPACITOR >		R15	1-216-027-00	METAL CHIP 120 5%	1/10W (ICF-C102)
C36	1-163-031-11	CERAMIC CHIP 0.01uF	50V	R15	1-216-295-00	METAL CHIP 0 5%	1/10W (ICF-C150)
C41	1-163-019-00	CERAMIC CHIP 0.0068uF	10% 50V	R17	1-216-097-00	METAL CHIP 100K 5%	1/10W
C43	1-124-120-11	ELECT 220uF	20% 25V	R18	1-216-101-00	METAL CHIP 150K 5%	1/10W (ICF-C102)
C44	1-126-163-11	ELECT 4.7uF	20% 50V	R18	1-216-099-00	METAL CHIP 120K 5%	1/10W (ICF-C150)
C45	1-126-163-11	ELECT 4.7uF	20% 50V	R20	1-216-073-00	METAL CHIP 10K 5%	1/10W
C46	1-163-031-11	CERAMIC CHIP 0.01uF	50V	R22	1-216-027-00	METAL CHIP 120 5%	1/10W
		< CONNECTOR >		R23	1-216-049-00	METAL CHIP 1K 5%	1/10W
* CN2	1-563-463-11	SOCKET, CONNECTOR 6P		R24	1-216-049-00	METAL CHIP 1K 5%	1/10W
		< DIODE >		R25	1-216-049-00	METAL CHIP 1K 5%	1/10W
D8	8-719-800-76	DIODE 1SS226		R26	1-216-073-00	METAL CHIP 10K 5%	1/10W
D9	8-719-800-76	DIODE 1SS226		R28	1-216-295-00	METAL CHIP 0 5%	1/10W
D10	8-719-800-76	DIODE 1SS226		R29	1-216-295-00	METAL CHIP 0 5%	1/10W
D11	8-719-800-76	DIODE 1SS226		R30	1-216-295-00	METAL CHIP 0 5%	1/10W (ICF-C102)
D12	8-719-800-76	DIODE 1SS226		R31	1-216-295-00	METAL CHIP 0 5%	1/10W (ICF-C102)
D13	8-719-800-76	DIODE 1SS226		R32	1-216-295-00	METAL CHIP 0 5%	1/10W (ICF-C150)
D14	8-719-800-76	DIODE 1SS226		R33	1-216-295-00	METAL CHIP 0 5%	1/10W (ICF-C102)
D15	8-719-800-76	DIODE 1SS226		R34	1-216-296-00	METAL CHIP 0 5%	1/8W (ICF-C102)
D16	8-719-800-76	DIODE 1SS226		R35	1-216-296-00	METAL CHIP 0 5%	1/8W
D17	8-719-800-76	DIODE 1SS226		R36	1-216-296-00	METAL CHIP 0 5%	1/8W
D18	8-719-800-76	DIODE 1SS226		R37	1-216-296-00	METAL CHIP 0 5%	1/8W
D20	1-809-494-11	DIODE SHF-2482-11TB (ICF-C150)		R38	1-216-296-00	METAL CHIP 0 5%	1/8W
		< IC >		R39	1-216-296-00	METAL CHIP 0 5%	1/8W
IC2	8-759-822-81	IC LM8365DH					
		< TRANSISTOR >					
Q4	8-729-900-61	TRANSISTOR D1A114ES					
Q5	8-729-119-78	TRANSISTOR 2SC2785-HFE					

CLOCK	RADIO
-------	-------

Ref.No.	Part No.	Description	Remark
R42	1-216-295-00	METAL CHIP 0 5% 1/10W	
R43	1-216-295-00	METAL CHIP 0 5% 1/10W	

< SWITCH >

SW3	1-572-198-11	SWITCH, KEY BOARD (H TIME)	
SW4	1-572-198-11	SWITCH, KEY BOARD (SET-M)	
SW5	1-572-198-11	SWITCH, KEY BOARD (ALARM(B BUZZER))	
SW6	1-572-198-11	SWITCH, KEY BOARD (CLOCK)	
SW7	1-572-198-11	SWITCH, KEY BOARD (ALARM(A RADIO))	
SW8	1-572-198-11	SWITCH, KEY BOARD (SLEEP)	
SW9	1-572-198-11	SWITCH, KEY BOARD (ALARM RESET)	
SW10	1-572-872-11	SWITCH, SLIDE (FUNCTION SELECTOR)	
SW11	1-572-198-11	SWITCH, KEY BOARD (SNOOZE)	

A-3661-374-A RADIO BOARD, COMPLETE (ICF-C102)

A-3661-384-A RADIO BOARD, COMPLETE (ICF-C150)

△	1-555-795-00	CORD, POWER (ICF-C102)	
△	1-558-566-21	CORD, POWER (ICF-C150)	

3-364-941-11	SCREW (+B) (2.6X5), NYLOK
3-371-118-01	KNOB (V)
3-371-118-11	KNOB (V)
3-371-121-01	GEAR (VC)

< CAPACITOR >

C1	1-163-105-00	CERAMIC CHIP 33PF	5%	50V
C2	1-163-101-00	CERAMIC CHIP 22PF	5%	50V
C3	1-163-092-00	CERAMIC CHIP 9PF		50V
C4	1-163-093-00	CERAMIC CHIP 10PF	5%	50V
C5	1-163-086-00	CERAMIC CHIP 3PF		50V
C7	1-163-102-00	CERAMIC CHIP 24PF	5%	50V (ICF-C150)
C7	1-163-104-00	CERAMIC CHIP 30PF	5%	50V (ICF-C102)
C8	1-163-104-00	CERAMIC CHIP 30PF	5%	50V (ICF-C102)
C8	1-163-362-11	CERAMIC CHIP 24PF	5%	50V (ICF-C150)
C9	1-163-089-00	CERAMIC CHIP 6PF		50V
C10	1-164-232-11	CERAMIC CHIP 0.01uF		50V
C11	1-124-907-11	ELECT 10uF	20%	50V
C13	1-163-031-11	CERAMIC CHIP 0.01uF		50V
C14	1-164-346-11	CERAMIC CHIP 1uF		16V
C16	1-163-117-00	CERAMIC CHIP 100PF	5%	50V
C17	1-164-232-11	CERAMIC CHIP 0.01uF		50V

Ref.No.	Part No.	Description	Remark
C18	1-124-927-11	ELECT 4.7uF	20% 100V
C19	1-124-907-11	ELECT 10uF	20% 50V
C21	1-163-037-11	CERAMIC CHIP 0.022uF	10% 25V
C22	1-164-005-11	CERAMIC CHIP 0.47uF	25V
C23	1-124-907-11	ELECT 10uF	20% 50V
C24	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C25	1-126-925-11	ELECT 470uF	20% 10V
C26	1-164-004-11	CERAMIC CHIP 0.1uF	10% 25V
C28	1-126-176-11	ELECT 220uF	20% 10V
C29	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C30	1-124-907-11	ELECT 10uF	20% 50V
C31	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C32	1-163-031-11	CERAMIC CHIP 0.01uF	50V
C34	1-126-925-11	ELECT 470uF	20% 10V
C35	1-124-443-00	ELECT 100uF	20% 10V
C47	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C48	1-163-117-00	CERAMIC CHIP 100PF	5% 50V
C49	1-164-232-11	CERAMIC CHIP 0.01uF	50V

< FILTER >

CF1	1-577-072-11	FILTER, CERAMIC (455kHz)	
CF2	1-567-097-61	FILTER, CERAMIC (10.7MHz)	
CF3	1-567-097-61	FILTER, CERAMIC (10.7MHz)	

< CONNECTOR >

* CN1	1-506-980-11	PIN, CONNECTOR 6P	
-------	--------------	-------------------	--

< CAP, VARIABLE >

CV1	1-151-628-11	CAP, VARIABLE	
-----	--------------	---------------	--

< DIODE >

D3	8-719-200-02	DIODE 10E2	
D4	8-719-200-02	DIODE 10E2	
D5	8-719-800-76	DIODE 1SS226	
D7	8-719-800-76	DIODE 1SS226	

< IC >

IC1	8-752-035-29	IC CXA1019S	
-----	--------------	-------------	--

< COIL >

L3	1-402-413-21	ANTENNA, FERRITE ROD (MW)	
L4	1-428-223-11	COIL, AIR-CORE (ICF-C102)	
L5	1-406-425-11	COIL (ICF-C102)	
L5	1-428-163-11	COIL, AIR-CORE (ICF-C150)	
L6	1-406-028-00	COIL, OSC (MW)	

Note:
The components identified by mark △ or dotted line with mark △ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque △ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.

RADIO

Ref. No.	Part No.	Description	Remark
< TRANSISTOR >			
Q1	8-729-119-76	TRANSISTOR 2SA933S-QRT	
Q2	8-729-100-13	TRANSISTOR 2SC2001	
Q3	8-729-119-76	TRANSISTOR 2SA933S-QRT (ICF-C150)	
< RESISTOR >			
R2	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R3	1-216-061-00	METAL CHIP 3.3K 5% 1/10W (ICF-C150)	
R5	1-216-013-00	METAL CHIP 33 5% 1/10W	
R7	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R8	1-216-071-00	METAL CHIP 8.2K 5% 1/10W	
R9	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R10	1-216-097-00	METAL CHIP 100K 5% 1/10W	
R11	1-216-057-00	METAL CHIP 2.2K 5% 1/10W	
R12	1-216-037-00	METAL CHIP 330 5% 1/10W	
R13	1-216-049-00	METAL CHIP 1K 5% 1/10W	
R16	1-216-097-00	METAL CHIP 0 5% 1/10W (ICF-C150)	
R16	1-216-295-00	METAL CHIP 0 5% 1/10W (ICF-C102)	
R44	1-216-295-00	METAL CHIP 0 5% 1/10W	
R45	1-216-295-00	METAL CHIP 0 5% 1/10W	
R46	1-216-296-00	METAL CHIP 0 5% 1/8W	
R47	1-216-296-00	METAL CHIP 0 5% 1/8W	
R48	1-216-296-00	METAL CHIP 0 5% 1/8W	
< VARIABLE RESISTOR >			
RV1	1-241-586-11	RES. VAR. CARBON 50K(VOLUME)	
< SWITCH >			
S1	1-571-478-11	SWITCH, SLIDE(BAND)	
< TRANSFORMER >			
T1	1-404-341-00	TRANSFORMER, IF	
△T2	1-450-547-11	TRANSFORMER, POWER (ICF-C150)	
△T2	1-450-549-11	TRANSFORMER, POWER (ICF-C102)	
< TERMINAL >			
* TM1	1-535-771-11	TERMINAL	
* TM2	1-535-771-11	TERMINAL	

Ref. No.	Part No.	Description	Remark
MISCELLANEOUS *****			
SP1	1-503-082-00	SPEAKER	

ACCESSORIES & PACKING MATERIALS *****			
*	3-371-060-01	CUSHION	
*	3-371-288-01	INDIVIDUAL CARTON (ICF-C150:US)	
*	3-372-284-01	INDIVIDUAL CARTON (ICF-C102)	
*	3-373-872-01	INDIVIDUAL CARTON (ICF-C150:Canadian)	
	3-753-801-11	MANUAL, INSTRUCTION (ICF-C102) (ENGLISH, FRENCH, GERMAN, DUTCH, ITALIAN)	
	3-753-801-21	MANUAL, INSTRUCTION (ENGLISH) (ICF-C150:US)	
	3-753-801-31	MANUAL, INSTRUCTION (FRENCH) (ICF-C150:Canadian)	

HARDWARE LIST

- #1 7-685-648-79 SCREW +P 3X12 TYPE2 NON SLIT
- #2 7-685-650-79 SCREW +P 3X16 TYPE2 NON SLIT

Note:
The components identified by mark Δ or dotted line with mark Δ are critical for safety. Replace only with part number specified.

Note:
Les composants identifiés par une marque Δ sont critiques pour la sécurité. Ne les remplacer que par une pièce portant le numéro spécifié.