



Colt Operating Instructions

Basic, Hybrid, Turbo, Twin Turbo

ID: 15347-9

Please read these instructions fully before operating your Smoke Machine!

Quick Reference

Preparation & Operation

1. Connect unit to a suitable power supply and put the Red Power switch to ON.
2. After approx. 5 minutes the Green Ready Indicator will light. FOR BEST PERFORMANCE WAIT A FURTHER 5 –10 MINUTES BEFORE OPERATING. (The unit is thermostatically controlled and can be left heating indefinitely if required).
3. Screw a full Colt canister into the machine.
4. Ensure the brass Flow Regulator Valve is fully anticlockwise (fully open).
5. To produce smoke manually depress the Black Smoke Button. Remote operation is available, see instructions for further information.
6. To stop producing smoke release the Black Smoke Button.

Note – Off Power Usage

The Colt unit incorporates a high mass steel heater block. Once pre-heated this will hold sufficient energy to produce a considerable quantity of smoke “off power” - allowing the operator to carry the unit, making smoke as required, without a trailing lead.

If using the smoke off power, the operator should monitor the smoke quality being produced. When the smoke thins and becomes “bluish” in appearance stop producing smoke and re-heat the machine until the Green Ready light comes on again.

Note – Shut Down Procedure

When finished with smoke production the Colt aerosol can be removed. The can re-seals for later use.

If the Colt was last used in the “off power” mode, we recommend connecting the unit to the power supply for 2 - 3 minutes before the unit is switched off and stored. This helps vaporise any residual chemical left in the heat exchanger chamber.

Short Form Instructions



Note:

Remote Lead and switch only supplied with Hybrid (Remote) variants



Connect the Colt Smoke Machine to the appropriate power supply (110v or 230v — check machine label)



Put the Red Power switch to on. The Red light will come on.

After approx. 4 mins the Green Ready indicator will come on and smoke can be produced, however:



FOR BEST RESULTS

We recommend you allow the Colt Smoke Machine to reach a stable temperature throughout by waiting 15 minutes from power on until you make smoke - this will give the best smoke quality



Always use the smoke can recommended for your machine!!
Screw can firmly into the Colt Smoke Machine (clockwise) to create a seal on the O ring.
Do not over-tighten



For maximum smoke output adjust flow control **fully anticlockwise**.



To make smoke
Press the Smoke Button Valve down.

To stop making smoke
Release the Smoke Button Valve

OFF POWER USE

Once hot the Colt Smoke Machine can make smoke off power for up to 2 minutes (but this can vary depending on pressure and temperature), this time reduces the longer the Colt Smoke Machine is disconnected. When the smoke produced starts to thin stop producing smoke and re heat the Colt Smoke Machine.

If you use the machine off power, we recommend that when finished the Colt smoke machine is connected to the mains for a further 5 minutes.

If using a case with close fitting foam - wait until the Colt Smoke Machine is cool to touch before packing away.

Detailed Instructions

Please read these instructions fully before operating your smoke machine

GENERAL INFORMATION

1. Colt smoke machines are designed for use only with the appropriate Colt aerosols. **DAMAGE WILL OCCUR IF ANY OTHER AEROSOL IS USED.**
2. **DO NOT COVER OR OBSTRUCT LOUVRES IN ANY WAY.** Use machine only in well ventilated areas.
3. When smoke is required to be hosed away from the machine, a suitable ducting adaptor (available from Concept) must be used. This acts as an adaptor for suitable flexible hose and also serves to remove any large droplets of fluid from the smoke that would otherwise collect in the hose. At regular intervals the ducting adaptor must be detached from the machine and emptied of fluid.
4. Normal precautions should be observed regarding the storage and use of aerosols i.e. Protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn even after use. Do not spray on a naked flame or any incandescent material.
5. Store and use the Colt in dry conditions.

PREPARATION

1. Fit suitable fused plug to mains lead (1100w = 5A fuse for 240v, 10A fuse for 110v) & (2200w = 10A fuse for 240v, 20A fuse for 110v). De-rated (1525w – 110v versions are available to special order = 15A). Contact Concept for further information.
2. Check that aerosol contains fluid. Clean top of aerosol if necessary.

OPERATION

1. Check power switch on machine is in the OFF (0) position. Connect mains lead to machine.
2. Plug mains lead into supply.
3. Switch power switch on machine to the ON (1) position. The built in red indicator light will illuminate. After approximately 5 minutes the green temperature neon will come on, indicating that the correct working temperature has been reached and that smoke can be produced. For optimum performance, it is recommended that the machine is left for an additional 10 minutes before smoke is produced. **NOTE: Do not attempt to generate smoke until the green temperature neon has come on for the first time, otherwise damage may be caused to the machine.**
4. Looking down into the black aerosol guide tube can be seen a threaded aerosol insert. This should be checked and cleared of any foreign materials. Also check that the 'O' ring seal is in position and in good condition. Carefully align the valve on the aerosol with this insert and fix into position by turning clockwise. The aerosol should be tightly screwed into position to create an effective seal.
5. To make smoke with the Colt - press smoke button. Adjust smoke output by the output rate control (where fitted). On the Remote model, users can operate the Colt via a remote switch to produce smoke provided the machine is connected to a suitable power supply and the green ready indicator is on. On the remote version both the manual "smoke button" and a separate remote switch are fitted / supplied.
6. When smoke is no longer required, release the smoke button (Basic) or put the smoke switch (Remote) to the OFF (0) position.
7. **SHUT DOWN** – when machine is no longer required, unscrew and remove aerosol. We recommend that the power is left on for a few minutes to allow and residual chemical in the heat exchanger to vaporise, before putting the power switch on machine to the OFF (0) position, removing plug from mains supply. Allow machine to cool before storing it in warm dry conditions.

OFF POWER FACILITY

Once the Colt has reached working temperature for the first time (i.e. the green temperature neon has come on), the generator can be disconnected from the power supply and used to produce a large volume of dry smoke whilst being carried around by the operator. For optimum “off power” use ensure the Colt has been connected to the power source for 15 minutes before use. This will allow the machine’s heat exchanger time to stabilise, and will mean that the Colt can still generate smoke for up to 2 minutes at full output within a 30 minute window after disconnection.

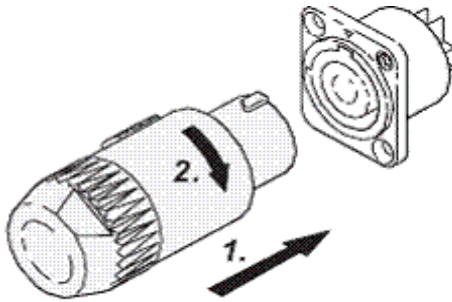
When using the Colt off power, the quality of the smoke must be carefully observed. As soon as the smoke from the Colt starts to thin and become slightly blue in colour, stop producing smoke and reconnect the machine to the power supply until working temperature is achieved once more (i.e. until the green temperature neon comes on). The Colt may then be disconnected and used in its “off power” mode again. Follow SHUT DOWN procedure in OPERATION (7)

NOTE

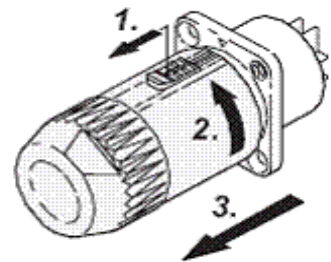
This reheating cycle is important. If it is not observed, and the Colt is not reconnected to the power supply when the smoke is seen to become thin and blue, the smoke will become wet and damage will be caused to the machine.

WIRED REMOTE CONTROL

It is important to note that the Colt’s wired remote cannot be used ‘Off Power’. As soon as power to the remote is disconnected, the solenoid valve within the machine is de-energised and automatically closes, stopping smoke production.



To engage, push together and rotate clockwise until the lock clicks.



To disengage, pull back lock, rotate anti-clockwise and part.

HEALTH AND SAFETY

Health and Safety - The smoke produced by all Colt smoke generators has been rigorously tested to ensure that in normal conditions it is non-toxic. Independent health and safety reports indicate that dense smoke concentrations can be entered without any serious health risk for short periods of time. However, we recommend that persons who are asthmatic or suffer from a respiratory complaint are not subjected to dense smoke concentrations, and the use of suitable PPE in the event of extended exposure to such environments. Should the artificial smoke be used in conjunction with live fires, where, by definition the potential for products of combustion to be formed from the fireplace would occur along with other hazards (unburnt propane etc.), breathing apparatus should be worn. Copies of independent reports on the safety aspects of Concept's smokes are available on request.

MAINTENANCE

Very little routine maintenance is required for the Colt. If this maintenance is regularly carried out, unnecessary repair bills will be avoided. A service kit from Concept is available.

NB - Remove plug from mains supply before undertaking any maintenance operations.

1. After each use follow instructions as in OPERATION (7)
2. After each 2 hours (approx.) of smoke production, using the drill in the pin chuck (available from Concept), carefully insert the drill into the nozzle of the heat exchanger & gently drill out by hand any deposit, to a maximum depth of 25 mm.
3. If leakage occurs – check the 'O' Ring in aerosol insert for damage and replace if any sign of damage is present.
4. Periodically remove side panels and wipe away any excess smoke fluid.
5. THERMAL CUT OUT (if fitted). In the event of a fault causing overheating, the thermal cut out trips before any further damage is done. When the thermal cut out trips, all lights on the machine will go out. To check if the cut out has activated, disconnect the mains supply. Remove left hand panel and press button on the centre of thermal cut out. If it clicks the cut out has operated. By pressing this button, the thermal cut out has been reset. Monitor and try operating the machine normally. If the thermal cut out trips again consult Concept. If the cut out has not activated, check supply is live and that the plug is intact.
6. HOSING - When a ducting adaptor is used in conjunction with flexible tubing, it should be periodically emptied / cleaned. For permanent installations, the adaptor may be fitted with a drain tap. Where possible, hose runs should have a slight fall back to the adaptor. This ensures any deposits collecting in the Hose will run back and collect at the adaptor. The length of hose runs which may be used depends on rise, bends and falls in the system. If smoke collects in the machine's area, the hose run is too long - consult Concept for further advice.

FAULT FINDING

If smoke is poor or not produced at all:

- a) Check that the output rate control is not fully closed (if fitted).
- b) Check that the mains supply is live and fuse is intact. If power is live but not shown at machine, check all wiring is intact on machine.
- c) Check aerosol pressure by removing canister from machine. Check that aerosol insert is clear of any contamination, that pin and 'O' ring are in position and undamaged. Fit a new aerosol, and go through OPERATION procedure. If smoke is produced, discard the old aerosol.
- d) If no smoke is produced, check heat exchanger nozzle is clear of contamination by carefully clearing with the service kit available from Concept.
- e) If smoke is still not produced. Remove right hand side panel. Disconnect transfer tube from heat exchanger block and leave open and pointing into a container. Fit a new smoke aerosol to machine and depress smoke button. If there is a flow of fluid from the transfer tube, this indicates a blockage in the heat exchanger block. Consult Concept.
- f) If there is no flow from the transfer tube, remove heat exchanger complete, remove smoke button valve and disconnect transfer tube from valve. Blow through both ways, with air or CO² to remove any contamination, refit valve. Refit transfer tube, leaving heat exchanger end disconnected. Screw in aerosol, operate smoke button. Check for flow of fluid from open end of transfer tube, and reconnect to heat exchanger if satisfactory.

INSTALLATION WARNING

Design and installation facilities are available to meet any special requirements, from advice about simple hosing of smoke to complete automatic systems. Concept cannot accept responsibility for any damage or malfunction to or by Colt smoke machines, or any consequential damage where ducting of smoke or electrical switching or any deviation from the standard machine as supplied, is carried out by anyone other than Concept.

SERVICE

Concept recommend that the smoke generator is returned to Concept or an authorised distributor (details available from Concept) on an annual basis for cleaning, servicing and testing to ensure that the equipment and its resulting smoke remains in optimum condition.

OPTIONAL ITEM - REFILLABLE / RECHARGEABLE SMOKE CANISTER

Refillable / rechargeable smoke canisters are available on request. They can reduce carriage costs compared with pre-pressurised canisters.

The refillable / rechargeable canisters will come with the below label on the canister:

Rechargeable Smoke Aerosol

Only use the recommended Smoke Fluid
Smoke Fluid A — Colt 4 / Smoke Oil 135 — Artem

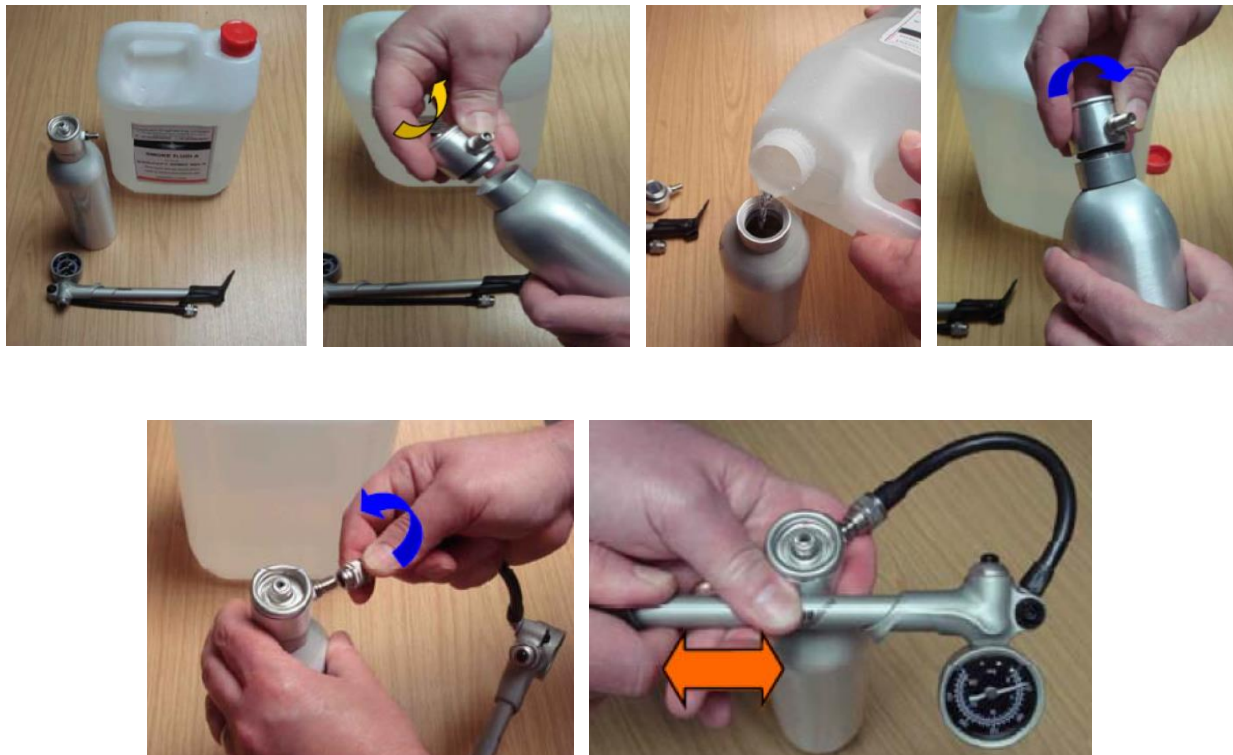
- **Unscrew Aerosol Cap**
- **Add 250 – 350 ml of the appropriate smoke fluid**
- **Dip Tubes: Colt 4 = No Dip Tube / Artem = Dip Tube**
- **Replace Aerosol Cap & screw down until the rubber seal bottoms out, continue a further 1/8th of a turn to create a seal**
- **Using the valve on the side of the Aerosol Cap pressurize the canister to 90 – 100psi (inert gas (Nitrogen / CO2 etc.) or air can be used)**
- **For best smoke quality do not exceed 100psi (6.8bar)**

When finished, hold the can upright (Colt 4) or inverted (Artem), release all pressure by depressing Schrader valve, remove aerosol cap and empty contents – refit cap but do not tighten.



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PICTORIAL INSTRUCTIONS:



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OPTIONAL ITEM - RADIO REMOTE CONTROL

If your unit is fitted with an optional radio remote, to operate the machine must be powered and be up to working temperature (green ready indicator on). The remote transmitter toggles on and off on a single button.

We recommend that the smoke generator is always kept in sight whilst operating via the radio remote control to determine its status.

Range, dependant on terrain is up to 150 – 200mtr.



Receiver
(White box on rear of smoke machine)



Transmitter
(Yellow button for smoke on / off)

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Declaration of Conformity

This document certifies that the equipment detailed below and manufactured by Concept Engineering Ltd has been manufactured, assembled and inspected in accordance with the relevant drawings, parts list and reference materials, and has been fully tested in accordance with the product specifications.

Colt Series Smoke Systems

Concept further declare that the equipment detailed above where appropriate complies with the following relevant Technical Directives and regulations and is appropriately CE marked



Applicable Equipment

Reference	Directive
2006/95/EC (73/23/EEC)	Low Voltage
87/404/EEC	Simple Pressure Vessels
2004/108/EC (89/336/EEC)	Electromagnetic Compatibility
98/37/EC	Machinery
93/68/EEC	CE Marking

Name	Title	Signature	Date
Trevor Dunnington	Technical Director		20 th January 2016



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Member of the Fire Protection Association



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