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This Service Information bulletin supersedes S.I. 64 08 91 **dated December 2000.**

**NEW** designates changes to this revision

## **SUBJECT**

### **Musty Odors from Air Conditioning System**

## **MODEL**

**NEW** E38, E39, E46, E53 with IHKR and IHKA systems

## **SITUATION**

Moisture that condenses on the evaporator can provide an environment favorable to microorganisms. Mold, fungi, bacteria, and mildew may grow as a result of contamination from the outside air and cause a musty odor, particularly when air conditioner is first switched ON.

## **NEW CORRECTION**

On a customer complaint basis, clean evaporator with disinfectant using special application tool 90 88 6 641 450 (obtained through the Automatic Tool Shipment Program).

As a disinfectant that can be used to treat A/C systems, BMW recommends "Professional LYSOL Brand No-Rinse Sanitizer" manufactured by Reckitt Benckiser Inc. (1655 Valley Road, Wayne, NJ 07474). "LYSOL No-Rinse Sanitizer" is available as a 100% concentrated solution in one-gallon containers through professional cleaning supplies stores. To locate a local distributor of LYSOL Sanitizer go to web site: <http://www.reckittprofessional.com>.

To perform an evaporator cleaning, a solution with 5% concentration is sufficient (for 1 liter of disinfectant mix 50 ml of concentrated LYSOL with 950 ml of clean water).

A detailed description of cleaning procedure can be found in BMW TIS:

- Repair Instruction RA 64 51 001 – E38; E39, E53 with IHKR system; E46 with IHKA or IHKR system
- Repair instruction RA 64 51 002 – E39, E53 with IHKA system

## **IMPORTANT:**

Complaints of this nature are not caused by defects of material or workmanship, but rather by the environmental conditions in which the vehicle is operated. Consequently, there is no warranty reimbursement for labor or materials associated with disinfection of the evaporator.

## **NEW PROCEDURE**

### **Warning:**

When handling cleaning agent, observe following protection measures:

- Wear protective rubber gloves and protective goggles.
- If cleaning agent comes in contact with eyes or skin, wash immediately with lots of water.

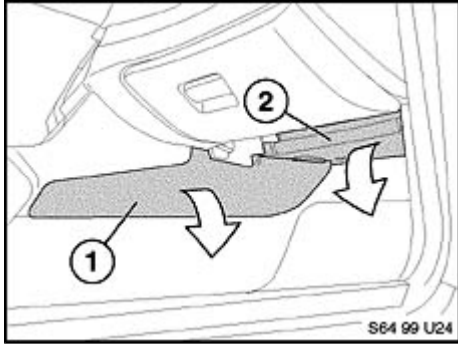
### **Important:**

To protect interior of the vehicle:

- Close all air vents,
- Cover carpet in the work area.
- Make sure that A/C condensation drains are not being clogged, so the cleaning agent can escape freely through drain openings in the transmission tunnel.

### **E39, E53 with IHKR System,**

### **E46 with IHKR or IHKA Systems:**

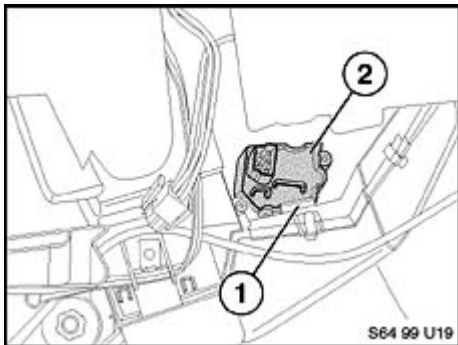


1. Remove the IHKA/IHKR final stage blower resistor:

#### **E39, E53 vehicles:**

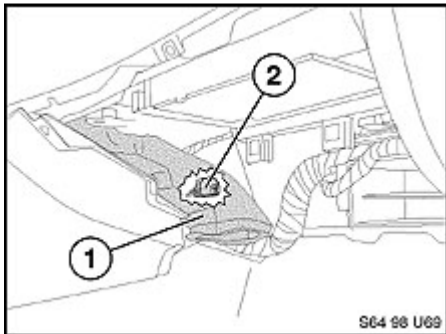
The IHKR final stage resistor is located next to the right side footwell vent duct. Remove trim panel from the right side of the oddment tray (1).

Remove cover from underside of the glove box (2).



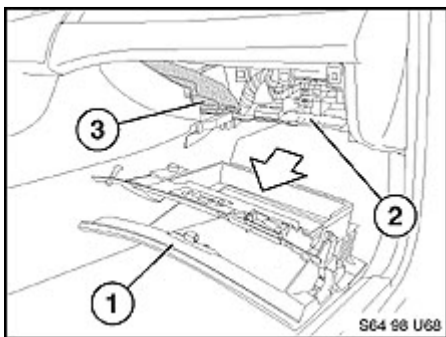
Remove the connector from the final stage resistor (2).

Press down at the securing tab at the bottom of the resistor (1), and pull the final stage resistor out of the IHKR box.

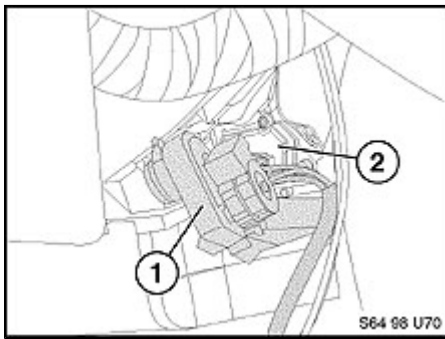


#### **E46 vehicles:**

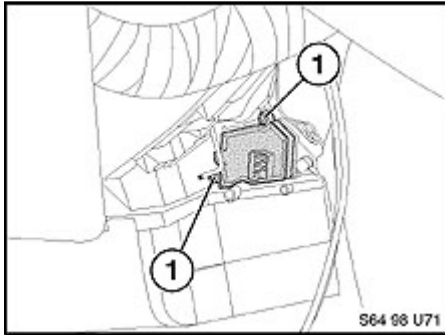
The IHKA/IHKR blower final stage resistor (2) is located behind the right side footwell vent duct (1).



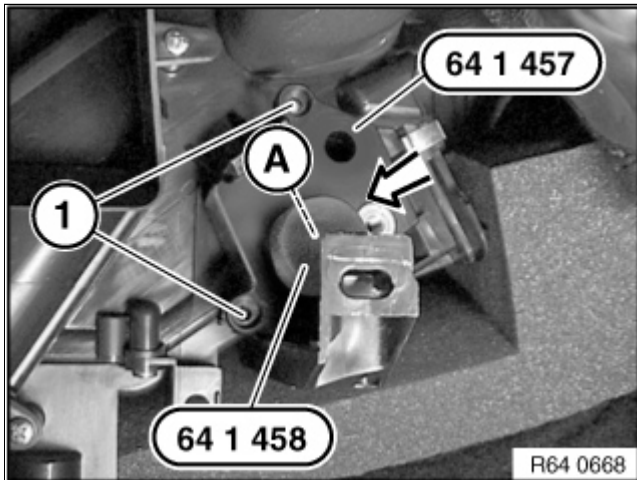
Remove the glove box (1) and rear trim panel (2) to access the area behind the duct (3).



Remove the two attaching screws from the stepper motor (1) bracket and carefully disconnect the flap rod from the stepper motor arm. Remove the stepper motor to access the final stage resistor (2).

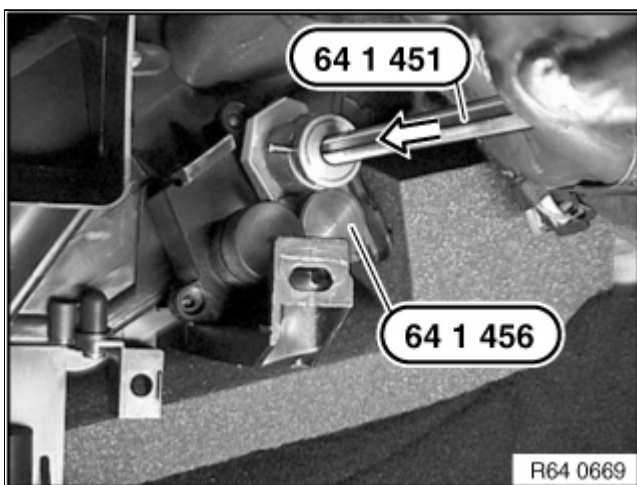


Remove the connector from the final stage resistor and the two attaching screws (1). Remove the blower final stage resistor.



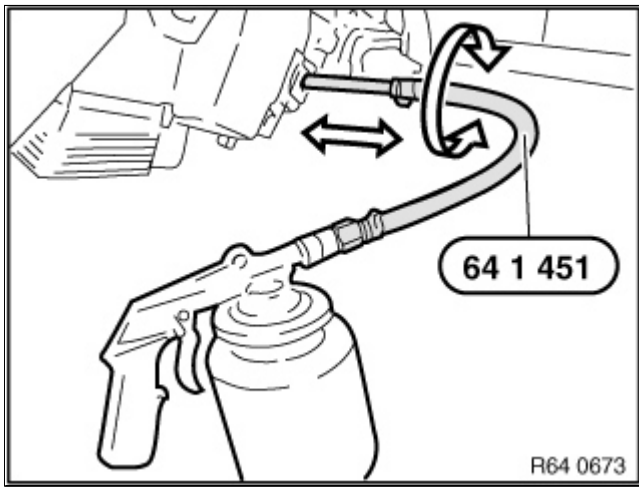
2. Install adapter for spray applicator 64 1 457 (from the Evaporator Cleaning Kit 90 88 6 641 450) into opening of previously removed final blower resistor.

**Important:** Seal off the larger of two holes (A) in the adapter 64 1 457 with the plug 64 1 458 (see illustration). Make sure the adapter for spray applicator is correctly seated in guides 1.



3. Insert spray applicator tool (64 1 451) into the adapter as shown on the illustration. Secure it to the adapter with the fixture 64 1 456. Spray applicator lance should be able to freely move back and forth (as indicated by the arrow) in the adapter 64 1 457.

4. Connect spray applicator hose to the spraying container (PN 99 00 0 002 719 provided through the Automatic Tool Shipment Program). Connect



compressed air supply to the spraying container.

**Important:**

To assure correct operation of the spraying tool, the air supply pressure used in the cleaning process should be regulated below 140 PSI (10 bar).

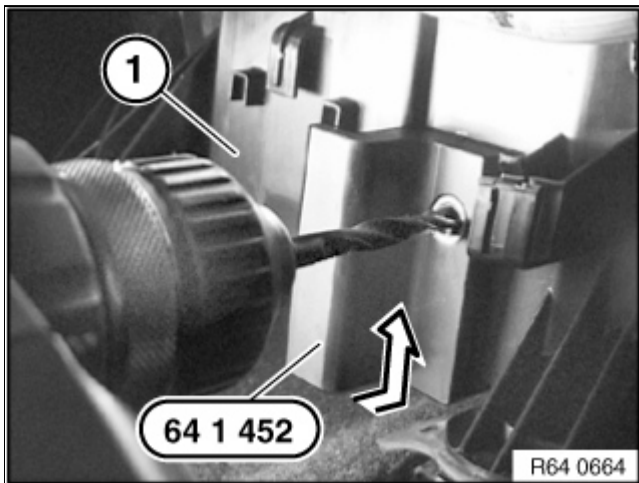
5. By moving spray applicator lance (64 1 451) back and forth and rotating at the same time as indicated on the illustration, apply a uniform amount of cleaning agent onto evaporator.

6. After completing cleaning, allow the cleaning agent to penetrate evaporator fins for approximately 5 minutes.

7. Set IHKA/IHCR controls to: footwell, fresh air, maximum blower speed, and A/C ON. Open windows and doors.

8. Run vehicle on idle for approximately 5 minutes with A/C ON to dry evaporator. In order to eliminate the last remnants of cleaning agent, repeat this drying procedure shortly before returning vehicle to the customer.

**E38, E39, E53 with IHKA System:**



1. Remove carpet from the driver's side footwell/transmission tunnel to expose part of the IHKA box.

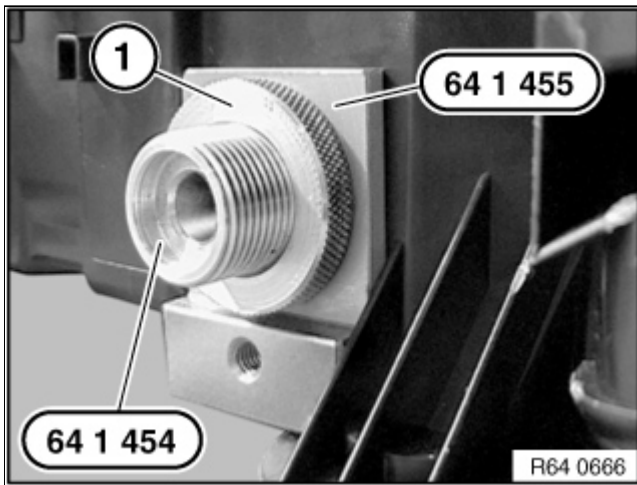
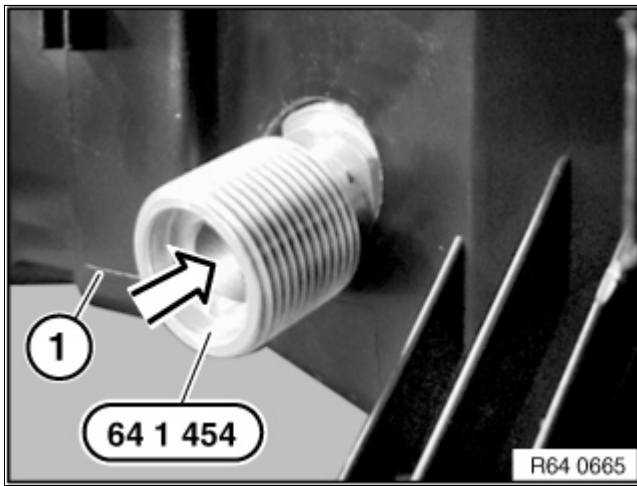
2. On E39 and E53 vehicles, place drilling template 64 1 452 (included in the Evaporator Cleaning Kit 64 1 450) on the IHKA housing (1) as shown on the illustration.

**On E38 vehicles**, drilling point would be located on the left side lower wall of the IHKA box (approximately 60 mm from the bottom edge, and 25 mm from the rear edge – the one facing interior of the vehicle)

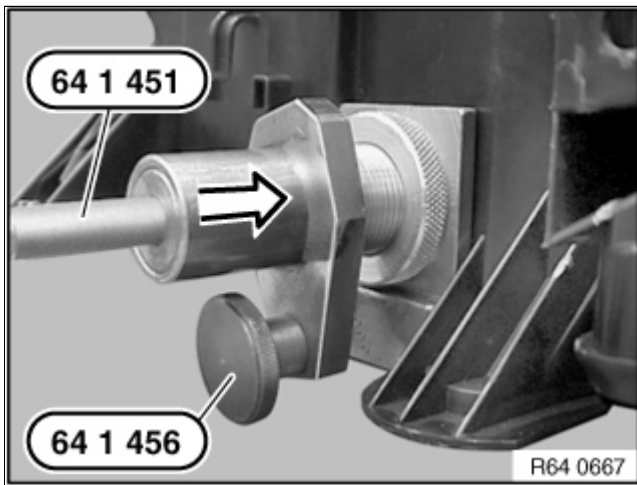
3. Using 6 mm drill bit, carefully and at very low drilling speed, drill-out hole in the side of IHKA box.

4. Remove drilling template 64 1 452, and enlarge drilled hole with center bit 64 1 453 (included in the kit) to 20 mm diameter.

5. Install aluminum guide (64 1 454) for spray applicator into drilled-out hole in IHKA box (1) as shown on the illustration.



6. Attach plate for spray applicator (64 1 455) to the guide 64 1 454, as shown on the illustration and secure with knurled nut (1).

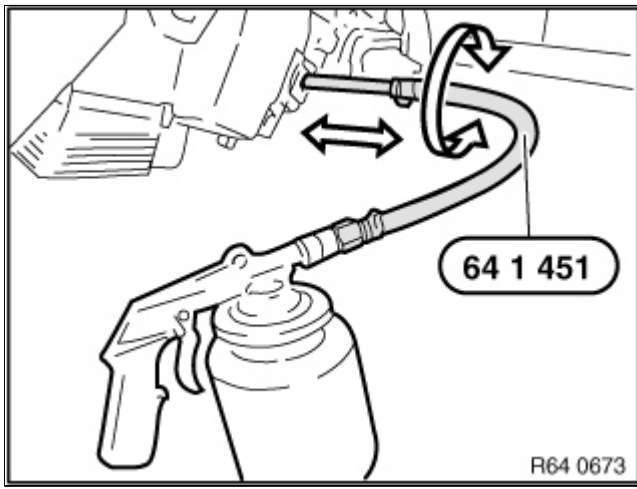


7. Insert spray applicator tool (64 1 451) into the guide 64 1 454 as shown on the illustration. Secure it to the plate with the fixture 64 1 456. Spray applicator lance should be able to freely move back and forth (as indicated by the arrow) in the guide 64 1 454.

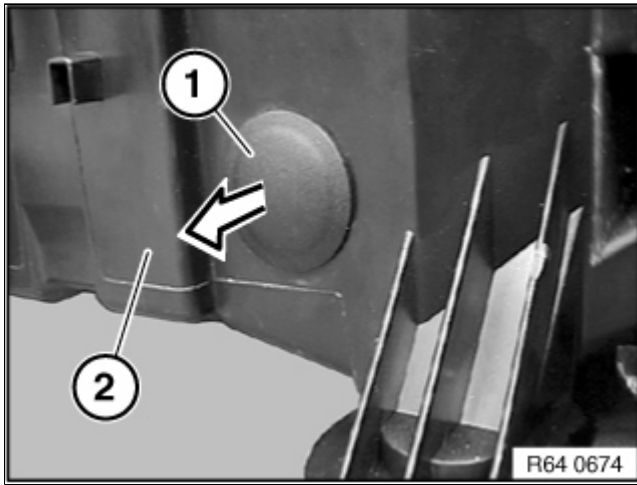
8. Connect spray applicator hose to the spraying container (PN 99 00 0 002 719 provided through the Automatic Tool Shipment Program). Connect compressed air supply to the spraying container.

**Important:**

To assure correct operation of the spraying tool, the air supply pressure used in the cleaning process should be regulated below 140 PSI (10 bar).



9. By moving spray applicator lance (64 1 451) back and forth and rotating at the same time as indicated on the illustration, apply a uniform amount of cleaning agent onto evaporator.



10. After completing cleaning and removing cleaning tool, seal drilled opening with blind plug PN 51 71 1 964 810 (1).

11. After completing cleaning, allow the cleaning agent to penetrate evaporator fins for approximately 5 minutes.

12. Set IHKA/IHKB controls to: footwell, fresh air, maximum blower speed, and A/C ON. Open windows and doors.

13. Run vehicle on idle for approximately 5 minutes with A/C ON, to dry evaporator. In order to eliminate the last remnants of cleaning agent, repeat this drying procedure shortly before returning vehicle to the customer.

#### PARTS INFORMATION

Part Number	Description	Quantity
51 71 1 964 810	Blind plug (20 mm diameter)	1
90 88 6 641 450	Evaporator Cleaning Kit	1
99 00 0 002 719	Spraying container	1

#### WARRANTY INFORMATION

Complaints of this nature are not caused by defects of material or workmanship, but rather by the environmental conditions in which the vehicle is operated. Consequently, there is no warranty reimbursement for labor or materials associated with disinfection of the evaporator.