CLEANING EQUIPMENT FRAMES BY MEANS OF COMPRESSED AIR STEP-BY-STEP OFFICES

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1. GENERAL

1.01 This section describes the method of cleaning equipment frames in step-by-step offices by means of compressed air. It also describes the method of enclosing the frames with curtains and of collecting the dust dislodged by this method of cleaning.

1.02 This section is reissued to add the KS-21231 L1 compressor to the tool list and to make other changes as required. This reissue does not affect the Equipment Test List.

1.03 The need for making circuits busy to avoid service reaction depends on the type of circuits on the frame to be cleaned and on traffic conditions. During extremely light traffic, frames may be cleaned without making the circuits busy. Careful consideration should be given to the amount of equipment made busy so as not to adversely affect service.

1.04 Before pressure cleaning an office, the duct discharge vents and outside surfaces of the ventilating system should be vacuum cleaned.

1.05 It is important to first vacuum clean or pressure clean those portions of a frame which collect the greatest quantities of dust as specified herein.

1.06 It is desirable that all equipment in a line of frames between two cross-aisles be cleaned before progressing to the next line of frames. ▶The initial frame selected for cleaning should be at one end of the lineup.◀

1.07 Consideration should be given to the direction of the air stream from ventilating ducts when determining the order in which frames are to be cleaned.

1.08 Cable runs and superstructure above the space to be enclosed by the curtains shall be cleaned with a vacuum cleaner before any pressure cleaning is done.

1.09 Reference should be made to the appropriate sections in Division 161 for information covering the compressor units and exhauster sets.

1.10 In compliance with specifications, as outlined by the Occupational Safety and Health Act (OSHA), compressed air for cleaning shall be reduced to less than 30 PSI and then shall be used only with chip guarding and personal protective equipment. ▶To meet this objective when using the KS-14758 or De Vilbiss DG-514-2 duster gun, it should be equipped with a KS-14758 L10 booster nozzle.◀

1.11 A 3/32-inch nozzle shall be used for all compressed-air cleaning.

1.12 The air nozzle shall be held as close as possible to the equipment being cleaned, except where otherwise noted, and long enough to dislodge all loose particles of dust. Quick motions result in superficial cleaning which may lead to excessive contact failures and to the necessity of cleaning more frequently.

1.13 When cleaning flat-type resistors having mica insulation, care shall be taken not to damage the insulation. When cleaning relays with covers removed, exercise care that adjustments are not affected.

1.14 Care shall be exercised not to damage or displace paper or other materials which are used on relay armatures or cores.

1.15 When cleaning apparatus where quantities of free lubricant have been applied, care shall be taken not to direct the air stream against these parts.

1.16 The curtains shall be handled with care in the switchroom to reduce the tendency for dust and lint to be released from their surfaces. Curtains should be folded so that they can be attached to the sash cords with a minimum of agitation. Loose dust shall be removed from the curtains before they are brought into the switchroom.

1.17 When curtains are dry cleaned or laundered, reflameproofing is required.

1.18 Small tears in the curtain fabric or in the exhauster filter bag shall be repaired by cementing a patch over the torn area. Material for the patches can be obtained by cutting a KS-14666 cloth to the desired size and cementing the patch to the torn area using Kuhls elastic PATCHLAST*. Instructions for using this adhesive appear on the container. Torn areas requiring a large patch shall be repaired by sewing a patch in place.

> *Note:* Since solvents used in the dry cleaning process may dissolve the adhesive, no cemented patches shall be applied immediately before the curtains are dry cleaned.

*Registered trademark of the H. B. Fred Kuhls Company.

1.19 Subscriber line registers shall not be cleaned with compressed air.

1.20 Plant and traffic registers may be pressure cleaned, but the cover caps shall not be removed.

2. SAFETY PRECAUTIONS

2.01 When glass wool filter cells are replaced in D-97067 exhauster sets, heavy leather gloves shall be worn and care shall be exercised in handling the filter cells because of the presence of glass particles. For convenience in handling, the cells should be grasped at diagonally opposite corners.

2.02 A filter respirator and goggles shall be worn as a precaution against dust and other foreign particles while working inside the curtain enclosure. Approved types are listed under Part 3 of this section.

2.03 Due to the relatively high pressure and velocity of the air from the nozzle, it is imperative that the air stream shall not be directed toward the eyes, ears, nose, or mouth, or any other portion of the body.

2.04 Compressed air shall not be employed in any manner to blow dust from hands, hair, or clothing, or to produce a cooling sensation. Failure to observe these precautions may result in serious injury.

2.05 The air hose shall be inspected periodically to insure that it is sound and strong and that couplings and connections are securely made.

2.06 A periodic check of all equipment shall be made to insure that all tools and materials are in good condition.

2.07 Compressed air used for cleaning shall be pressure regulated to less than 30 PSI.

3. LIST OF TOOLS AND MATERIALS

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
32B	Bracket (for attaching vacuum cleaner to ladder step)
KS-14410 L2 or KS-14377 L5, L6	Vacuum cleaner (or equivalent)

CODE OR SPEC NO.	DESCRIPTION
TOOLS	
KS-14426 L5	Exhauster sets (or the replaced KS-8038, KS-8430, or D-97067) (2 required)
KS-14514 L2 or	Compressor set (Manufacture Discontinued) (or the replaced KS-7491 compressor set) (See 1.10 and 2.07.)
◗KS-21231 L1	Compressor set◖
KS-20306 L11, L14	Curtains (group 1 or group 2) (1 set required)
	Note 1: The curtains covered by group 1 are for use only with frames 11 feet 6 inches high. Group 2 curtains are arranged for use with either 9-foot or 11-foot 6-inch frames.
	Note 2: A curtain extension B-122331 (6 feet by 10 inches with an enclosed length of metal chain) for curtains requiring an additional length of material below the exhauster is available. (See 4.11.)
—	Heavy leather gloves
—	Respirator, Mine Safety Appliance Co, Pittsburgh, Pa, ◗461683◖ (or equivalent)
—	Filter, Mine Safety Appliance Co, ◗457486 (package of 5) or 457485 (package of 50) as required◖
—	◗Goggles, American Optical 484B Chemical or Bausch and Lomb W90 Bal-Guard Fog Ban◖
—	◗Facelets, CM-15484 (for use with respirator)◖
—	477A or 375A make-busy tools (as required)

CODE OR SPEC NO.	DESCRIPTION
MATERIALS	
KS-14666	Cleaning cloths (unimpregnated)
KS-14668	Polishing cloths (impregnated) (identified by black tracer woven in the selvage)
—	Sash cords (2 required) (length as required)
—	2-1/2 inch pulleys (2 required)
—	Closed curtain hooks (2-1/2 inch commercial shower curtain hooks (as required)
	Open-type "S" hooks made locally from No. 6 insulated copper wire (as required)
—	Special hooks, made locally, from steel with sherardized finish, in accordance with Fig. 1 (4 required)
—	No. 6 binder clips or spring clothespins (as required)
—	1-1/4 inch wooden rods, 6 feet long (2 required) or 2- by 4-inch lumber (as required)
—	Thin fiber sheets, approximately 3 inches wide and 4 feet long (2 or more as required). Cut and bend it to fit over top angle iron of connector or selector shelves from the rear.
—	Kuhls Elastic PATCHLAST
—	Sweeping equipment as listed in Division 770 of appropriate BSPs for dustless sweeping in switchrooms

4. PREPARATION

4.01 Fasten a special hook to one end of each of the two sash cords. Attach the hooks to some convenient member of the superstructure immediately over the equipment aisles, one on each side of the line of frames to be cleaned, and if

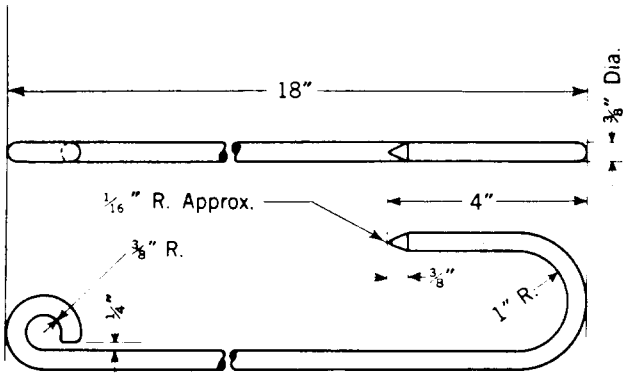


Fig. 1—Special Hooks

possible, about 2 or 3 feet beyond the end of the frame. Where the superstructure does not extend far enough, the wooden rods or lengths of 2- by 4-inch lumber will be found useful for this purpose. Fasten the sash cords so the curtains will hang in such a way as to obtain the maximum space between the curtains and the line of frames to be cleaned. (See Fig. 2.)

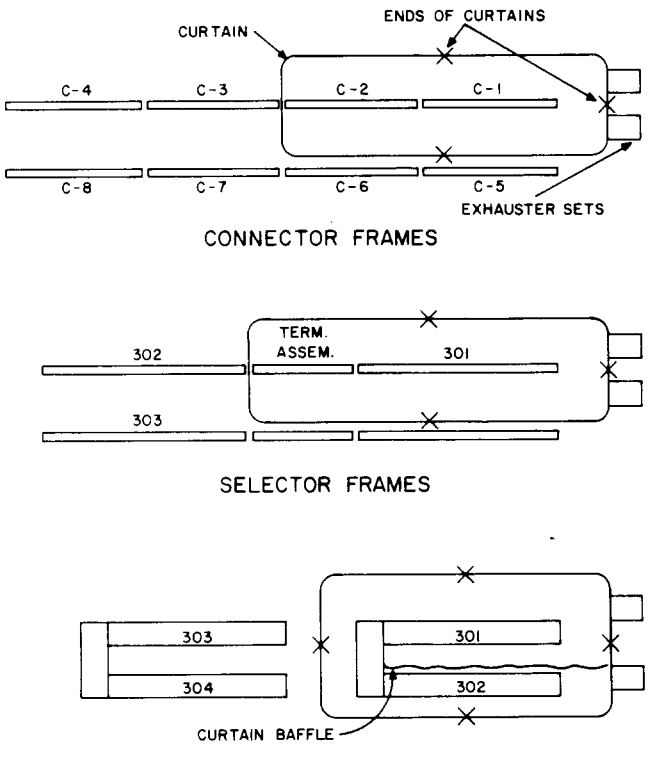


Fig. 2—Curtains in Place Around Equipment Frames to be Cleaned

4.02 Fasten a special hook to each of the two pulleys. Attach the hooks and associated pulleys at points on the superstructure or cable rack at the next end cross-aisle in the direction in which the cleaning is to progress. These points should be in approximate alignment with the points at which the sash cords were attached in 4.01.

4.03 If the distance between end cross-aisles is too great for the convenient suspension of the sash cords, the hooks and associated pulleys may be attached at some intermediate cross-aisle or frame.

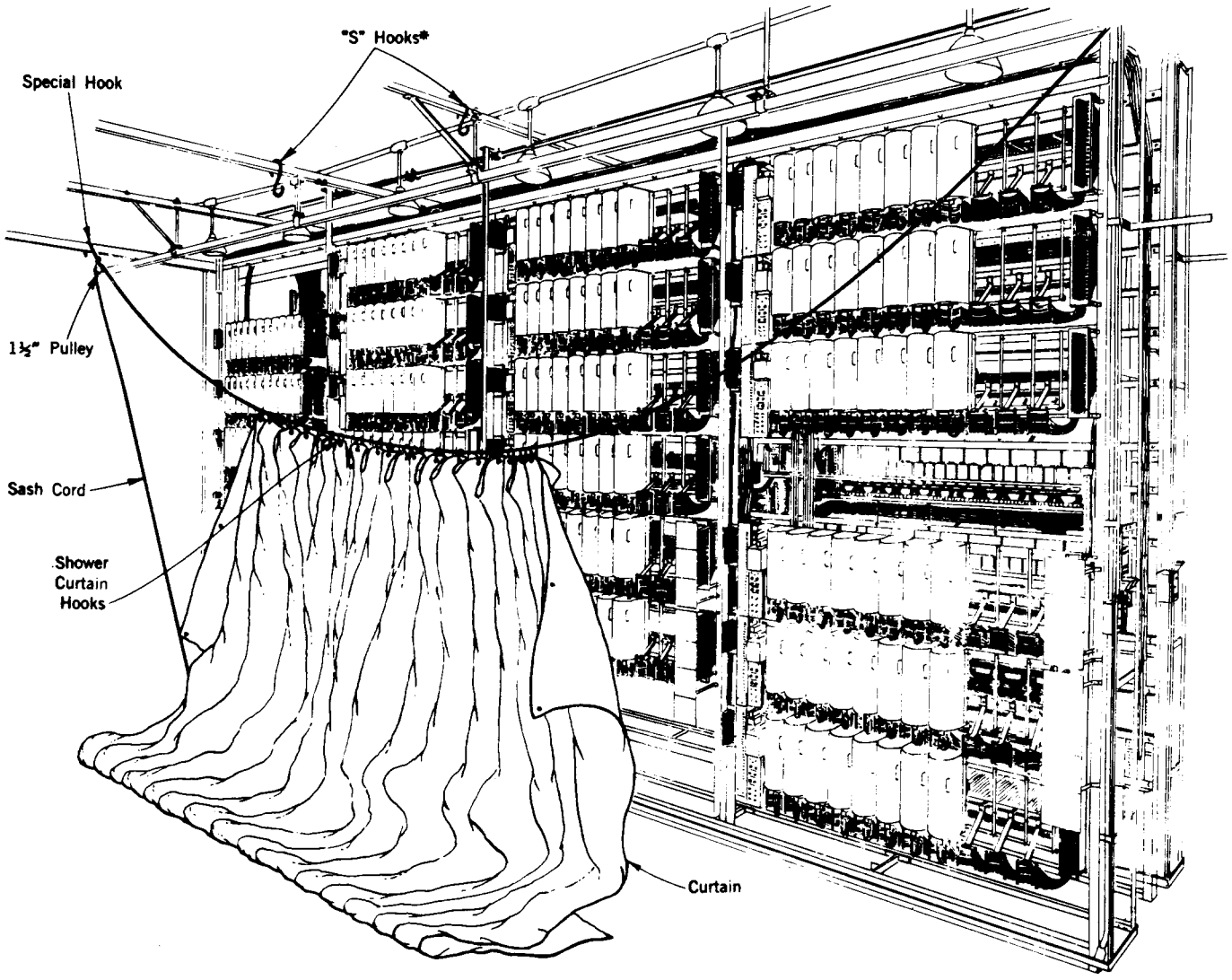
4.04 Pass the free ends of the sash cords through the pulleys, and then temporarily fasten the cord ends so that the cords will assume the position displayed in Fig. 3. Attach the curtains to the sash cords by means of shower curtain hooks connected to the eyelets in the curtains. For the 9-foot high frames (if 11-foot 6-inch curtains are employed), use the eyelets which are 2 feet 6 inches from the top of the curtains. Locate the curtains so that the openings for the two exhauster sets will be at the end opposite to the one where the cleaning will start.

4.05 Raise the curtains in place by pulling the sash cords through the pulleys. When the curtains have been raised to their maximum height, fasten the sash cord ends to some convenient points on the framework in order to hold the curtains suspended.

4.06 A rolling ladder shall be placed within the curtain enclosure on each side of the frame to be cleaned.

4.07 Add insulated "S" hooks as necessary to prevent excessive sagging. The tops of the curtains should be as close as possible to the underside of the overhead cable racks or superstructure in order to minimize the possibility of loosened dust from escaping outside the enclosure. (See Fig. 4.)

4.08 With the curtains raised in position, as in 4.05, use the excess at the curtain ends to extend the enclosure around the frame to be cleaned. This may be done by attaching the excess by means of "S" hooks to the ladder track, other superstructure, or temporary superstructure extensions over the aisles. At the end of the closure, fasten the ends of the curtains to the channel iron uprights. Binder clips or spring clothespins may be used, or the



* NOTE: "S" Hooks are made locally of #6 Insulated Copper Wire, used to support Sash Cord when in place.

Fig. 3—Temporary Position of Curtain Before Completion of Hanging of Curtains and Installation of Exhauster Sets

ends of the curtain may be pushed into the space between the upright supports of adjacent frames. (See Fig. 4.)

4.09 Locate an exhauster set in the aisle on each side of the frame to be cleaned at the end of the curtain enclosure which has the exhaust openings. (See Fig. 2.)

4.10 It is important to attach the curtains to the frame members and exhauster sets in such a way as to reduce air leakage at these points to a minimum.

4.11 Attach the curtains to the exhauster sets with the intake side of the exhauster inside the enclosure. The drawstring should hold the curtains securely attached to the exhauster. (See Fig. 4.) The removable length of metal chain shall be in place in the hem at the bottom of the curtain centrally located below the exhauster openings in order to weight this portion of the curtain to the floor.

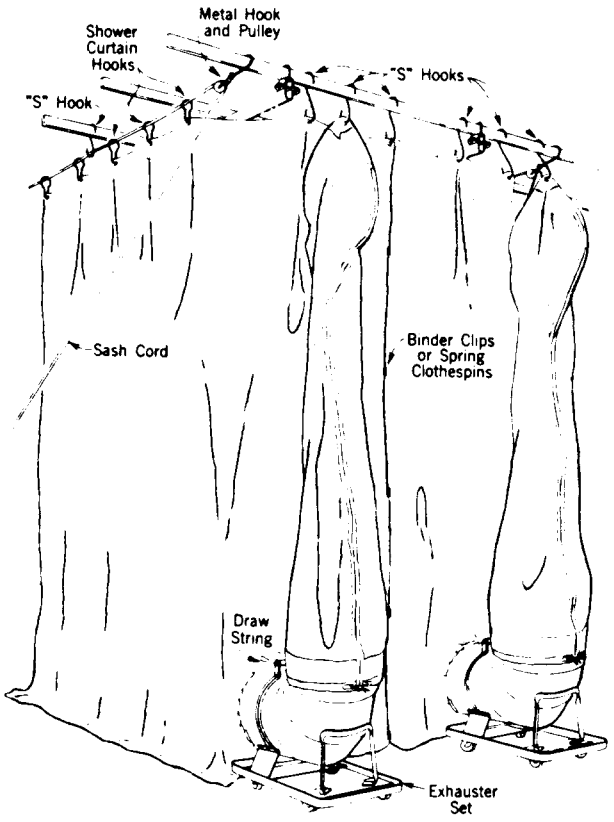


Fig. 4—Curtains With Exhauster Sets in Place

Note: Where the curtains are not sufficiently long, curtain extensions (B-122331) consisting of a strip of cloth weighted by a length of metal chain should be sewed on the curtains below the exhauster opening.

4.12 The curtains shall be free from slack at the exhauster intakes to avoid blocking the intake screens.

4.13 When cleaning double-sided frames of the 9-foot type, suspend a single curtain inside the frame, as indicated in Fig. 2, to act as a baffle and prevent blowing dust into the opposite bay.

4.14 When KS-14426 or the replaced KS-8038 or KS-8430 exhauster sets are employed, the associated filter bags shall be cleaned outside the switchroom as often as necessary to insure adequate air delivery through the bags.

4.15 When the replaced D-97067 exhauster sets are used, each exhauster unit is equipped with two filter cells. The filter cells should be installed correctly with respect to the "top" and "air-flow" markings on them. The front of the cell should be nearest the fan.

4.16 Filter cells shall be inspected periodically and changed as often as necessary to permit adequate passage of air through the filters. When the cell nearest the exhaust fan requires changing, the other cell shall be moved into its place and a new cell inserted as the rear cell. The cell removed shall be disposed of in accordance with local instructions.

4.17 Connect the exhauster sets to the 110-volt appliance outlets at the base of an equipment frame. Start each unit to insure that it operates and is exhausting air from the enclosure.

4.18 Connect the compressor motor to a 110-volt appliance outlet circuit other than that used in 4.17. To avoid overloading the line fuses when starting the motor of a replaced KS-7491 compressor which is not equipped with a magnetic unloader, proceed as follows. Operate and hold the safety valve by means of the finger ring provided. Operate the motor switch to the ON position. When the motor reaches running speed, release the safety valve ring.

4.19 No other equipment shall be connected to the appliance outlet circuit to which the compressor motor is connected. The outlet circuit in this case will require a 15-ampere fuse to carry the starting current.

Note: If fuse-blowing troubles are experienced when the circuits are fused with conventional 15-ampere fuses, the use of a 15-ampere slow-acting fuse is recommended (plug or cartridge FUSTRON* type). ***Do not use a fuse with greater than 15-ampere capacity.***

*Registered trademark of the Bussmann Manufacturing Company, Division McGraw-Edison Company.

4.20 On tankless-type compressor sets, adjust the compressor bleed valve for compressor pressure of 60 PSI. ***The installation of a pressure regulator per 1.10 will reduce cleaning pressures to the required value of 29 PSI. On tank-type compressor sets,***

adjust the discharge pressure regulator to 29 PSI and lock in place.

4.21 It is desirable to stop the compressor motor when the air nozzle is not used for an extended period.

4.22 The oil and water separators and the air storage tank, if furnished on the compressor, shall be periodically drained to remove deposits of oil or moisture. Draining shall be done at the start and finish of the cleaning operation and at each operation shift change. Draining shall be accomplished by opening the associated drain valve with the compressor off and air tank at zero gauge pressure.

4.23 If excess oil is experienced making frequent drainage necessary, consult the appropriate section for the type of compressor set being used.

5. METHOD

Frames Equipped With 197- or 198-Type Switches

5.01 Remove relay covers, except as indicated below, in accordance with the following.

(a) ***Relays Under Common Strip Covers:*** Remove the common strip covers for the complete frame, and store in a convenient location.

(b) ***Polarized Relays, B- and G-Type Relays, and Wire-Spring Type Relays:*** These relays shall be pressure cleaned with the cover or cover caps in place.

(c) ***Relays Under Individual Covers:*** Remove the individual covers for the complete frames (except in (b) above).

(d) ***Relays Under Switch Covers:*** Remove one cover, clean one switch and associated relays, and replace cover before proceeding to the next.

5.02 To clean the covers which have been removed, blow out the inside of the cover with the nozzle held approximately 6 inches away from the cover. This operation shall be done within the curtain enclosure at the end where the exhausters are located before the pressure cleaning on the frame is started and while the exhauster sets are operating. Do not direct the air stream toward the frame. Wipe the outside surfaces of the covers using a KS-14668 cloth, and store it outside the curtain enclosure in a clean location. Store in an orderly manner so no difficulty will be experienced in replacing each cover to its original location.

5.03 To avoid blowing dust under the top of switch covers, fit fiber sheets over the shelf angle iron so as to protect all the switches on the shelf being cleaned and the one directly below.

5.04 With the curtains in place and the apparatus set up, as covered in Part 4, start cleaning on the wiring side of the frame at the point farthest removed from the exhauster sets and progress in an orderly manner toward the sets.

5.05 The wiring on the top shelf shall be cleaned before progressing to the shelf below. When cleaning near the top of the frame, exercise care not to blow dust over the top of the enclosure. Clean a convenient section of the bay or frame from top to bottom before moving to the next bay or section. Where a distributing terminal assembly of a selector frame is included in the enclosure, its location with respect to the exhausters will determine whether it should be cleaned before or after the selector shelves. In Fig. 2 the distributing terminal assembly would be cleaned before the selector shelves.

5.06 The covers of all switches within the enclosure shall be in place while the banks and wiring are cleaned.

5.07 After the wiring side of the frame has been cleaned, proceed to the apparatus side and follow similar procedures, cleaning a convenient section of the bay or frame from the top to bottom (including terminal strips and fuse bays on frames so equipped) before moving to the next bay or section.

5.08 Where a line relay bay of a line finder frame is included in the enclosure, it should be treated as a separate vertical section. In cleaning line and cutoff relays and other relays equipped with a common cover, follow the same general procedure as for relays under the switch cover with the exception that the cleaning of the contacts need be done only with the relay in the normal position.

5.09 The nozzle should be held within 1 to 2 inches of the apparatus and moved slowly so as to direct the air stream over all the surfaces. On each switch shelf, clean the terminal strip at the end and all horizontal surfaces and switch covers.

5.10 Clean the bank multiple, the banks, wiper cords, and test jack assemblies, completing the cleaning of one switch before proceeding to the next. When cleaning the multiple, direct the air stream so that it will blow the dust through to the other side. On banks, first direct the air stream from one side of the bank and then the other side, taking care that the air stream is not deflected back into the face.

Caution: Never direct the air stream at a bank or wiper when the switch is off normal, but make a note of such switches and return to them after they have released.

5.11 After cleaning one shelf, return to the starting point directing the air stream at each switch with the nozzle held 6 to 8 inches away.

5.12 After cleaning the two sides of the frame, blow the dust from the ladders and the inside surfaces of the curtain. Direct the nozzle with a sweeping motion from top to bottom. It is desirable to allow the exhauster sets to operate for a few minutes before proceeding to clean the relays with covers removed.

5.13 Make the switch busy and clean the switch mechanism by directing the air stream toward all the coils and parts on each side of the switch ***except parts such as the ratchet teeth which have a heavy coating of lubricant.***

5.14 In cleaning the relays and switch mechanisms, start at the top shelf as before. Remove one cover, clean one switch, and replace the cover before proceeding to the next.

5.15 Clean the relays one at a time by directing the air stream over the surfaces of the relay, including the contact spring assembly. Direct the air stream at each pair of contacts while manually operating and releasing the armature of the relay several times.

5.16 While holding the cover in one hand, clean the inside and outside surfaces with compressed air. Replace the cover on the switch, and remove the make-busy tool.

Note: If inspection indicates that impacted dirt or lubricant is present on the inside of the cover after cleaning, the cover should be wiped out with a KS-14668 cloth.

5.17 After a vertical section of relays has been cleaned and before the final dusting operation, replace the relay covers in their proper location.

5.18 Before moving the curtains, clean the frame equipment, ladders, and the inside surfaces of the curtains starting at the top and, while holding the nozzle pointing slightly downward, working toward the floor. This final dusting is to remove dirt that may have settled during the cleaning and should be done on both sides of the frame.

5.19 Permit the exhauster sets to operate for about 5 minutes after completing the operations described in 5.18 so dust suspended in the air inside the enclosure will be removed before proceeding.

5.20 Move the curtains to the next frame in the line to be cleaned by pulling them along the sash cords from which they are suspended. In this operation it will be necessary to remove and relocate any auxiliary supports, such as "S" hooks, that were used to prevent the curtains from sagging.

Note: In moving the curtains, exercise care to agitate them as little as possible in order to reduce the possibility of dislodging dust that may have collected on either side.

5.21 Wipe off the flat surfaces on the frame just cleaned using an impregnated dust cloth. Then sweep the floor area around the frame using the method described in Division 700 of the appropriate BSPs on damp dustless sweeping in switchrooms.

5.22 Make a complete operation test on the switches with approved testing equipment, and repeat one or more times depending on the number of contact failures encountered. An interval

of an hour or more should elapse between test cycles.

Relay Rack Equipment, Repeaters, etc

5.23 Start on the wiring side at a point farthest from the exhausters and proceed in an orderly manner toward the sets. Clean from top to bottom one or two bays of relay rack or a shelf of ten repeaters before proceeding to the next bay.

5.24 After removing relay covers (5.01), clean the wiring forms by holding the nozzle close to the wiring and progressing slowly from one end of the form to the other. Then clean the associated skinners before proceeding to the next wiring form. On repeaters, use fiber strips placed over the shelf angles in the same manner as for 197- and 198-type switches.

5.25 When cleaning the wiring side of wire-spring type relays, point the nozzle downward over the wiring at an angle approximately 30 degrees from vertical so dust and lint will not be blown through openings in the mounting plates and on the spring and contacts of the relay.

5.26 Proceed to the apparatus side. Clean the apparatus starting at the top and progress toward the bottom.

5.27 Where deposits have formed on surfaces similar to those located under the hinge point of U-type relays or other equipment, dispersion of this deposit in pressure cleaning is considered undesirable. Remove such deposits by using a KS-14668 polishing cloth or vacuum cleaner before the air is applied to either the wiring or apparatus side of the equipment.

5.28 On strips or groups of relays, from which the relay covers have been removed (5.01), carefully clean the contacts, coils, and other surfaces by downward strokes of the duster nozzle pointed directly at the end of the relay springs.

5.29 If air is directed toward the moving springs of relays, the springs may either make or break falsely, resulting in trouble indications. Caution must be exercised to direct the air stream in such a way as to not move the relay springs sufficiently to cause trouble.

5.30 When pressure cleaning relays from which covers or caps are not removed, hold the nozzle at least 6 inches from the front of the mounting plates where the cover is located and avoid directing the nozzle between two adjacent covers to prevent dirt from being blown under the covers. At the rear of the mounting plate, point the nozzle downward over the wiring so the dust and dirt will not be blown into the cover through openings in the mounting plate.

5.31 When cleaning the apparatus side of wire-spring type relays and with the nozzle tipped slightly downward and about 8 inches away from the relays, direct the nozzle over the equipment using slow horizontal strokes starting with the relays at the top of the frame farthest from the exhausters. Exercise care not to direct the nozzle in such a manner as to dislocate or blow off the plastic covers, since this might cause false contacts or displaced springs.

5.32 When cleaning rotary selectors, it is important not to dislodge or spray any excess oil or grease that may be present at the ends of the rotor brush shaft bearings onto other parts of the selector. Where excess oil is present on the selector frame, etc, it should be removed by means of a KS-14666 cloth prior to cleaning with compressed air in order to prevent spraying oil on contacting elements of the selector.

5.33 To clean rotary selectors, it is desirable to have the rotor brushes in motion. Clean by moving the air nozzle slowly across the top of the selector bank in the manner suggested by Fig. 5, exercising care that the brushes do not strike the nozzle. Then with the nozzle directed at the rotor brush shaft, move it slowly across the length of the shaft. The selector, if in motion, may then be stopped.

5.34 Clean the selector magnet coil, driving spring, frame, interrupter springs, etc. The space between the outside and inside interrupter springs should be cleaned by directing the air nozzle at this space near the insulator between the springs in order to remove dust and products of wear that may have become lodged at this location.

5.35 When one group of circuits has been cleaned, remove the make-busy plugs and proceed to the next group.

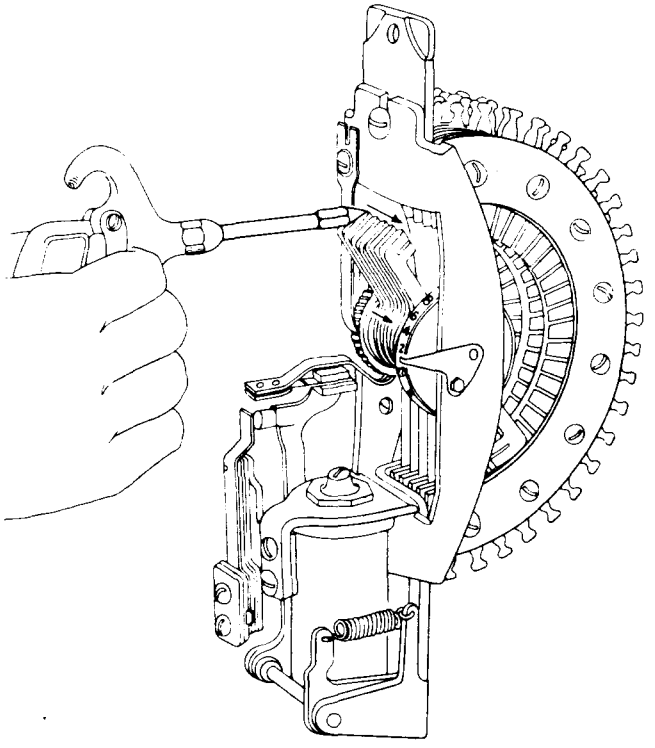


Fig. 5—206-, 209-, and Similar-Type Selectors

5.36 After all the equipment within the enclosure has been cleaned, perform the dusting operation of the ladders and curtains and allow the exhausters to run about 5 minutes, as covered in 5.18 and 5.19.

Plunger-Type Line Switch Equipment

5.37 Start at the top of the board and clean the terminal strips and other equipment details on all of the bays within the enclosure.

5.38 Next, open the doors on both sides of the bay farthest removed from the exhauster sets. Open the relay gates on both sides of the bay.

5.39 Clean the wiring forms and equipment details on the rear side of the gate. Perform the same operation on the other side of the line switch board.

Note: Where line switches and connectors are mounted on opposite sides of the same bay, first clean the apparatus side of the connectors in the same manner as described for 197- and 198-type switch frames.

5.40 Close the relay gates and starting at the top of the bay clean the relays, resistors, and 25-point rotary switches with the associated banks when provided.

5.41 Next, clean each line switch and bank associated with one master switch position, working from the top toward the bottom of the bay.

Caution: Do not direct air stream at a line switch that has entered the bank but make a note of the switch number and clean at a later time when it is not busy. Do not direct the air stream at the master switch governor.

5.42 After cleaning the line switches on both sides of the bay, close the doors and proceed to the next bay. An extra curtain should be threaded through the framework of the board to serve as a baffle between the bay just cleaned and the one to be cleaned next.

5.43 After all the equipment within the enclosure has been cleaned, wipe the frames with a KS-14668 polishing cloth and perform the dusting operations on the ladders and curtains. The nozzle shall be held some distance away from the curtains. Allow the exhausters to run about 5 minutes before moving the cleaning equipment to the next group of bays.

Note: In moving the curtains, exercise care to agitate them as little as possible in order to reduce the possibility of dislodging dust that may have collected on either side. Also use care so as not to damage the curtain.

6. SUMMARY OF WORK OPERATIONS

6.01 This summary is provided for ready reference to facilitate review of the pressure cleaning operation without referring to the entire section. All cleaning shall be done with compressed air, pressure regulated to less than 30 PSI, using a 3/32-inch nozzle.

METHOD	REFERENCE
A. All Equipment	
1. Vacuum clean cable runs and superstructure above the curtained enclosure.	Par. 1.08
B. Equipment Frames and Switches	
1. Remove relay covers.	Par. 5.01
2. Clean relay covers.	Par. 5.02
3. Place fibre protection as required.	Par. 5.03
4. Pressure clean wiring side first.	Par. 5.04
a. Start from point farthest from exhausters.	
b. Pressure clean from top down.	Par. 5.05
c. All switch covers in place.	Par. 5.06
5. Pressure clean apparatus side.	Par. 5.07
a. Start from point farthest from exhausters.	
b. Pressure clean from top down.	
c. Clean terminal strips and fuse bays on frames so equipped.	
d. Treat line relay bay as separate vertical section.	Par. 5.08
e. Clean bank multiple banks, wiper cords, and test jack assemblies.	Par. 5.10
6. Clean enclosure.	Par. 5.12
a. Inside of curtain.	
b. Ladders.	
7. Clean relays and switch mechanism..	Par. 5.13
a. Make switch busy to clean switch mechanism.	
b. One cover off at one time.	Par. 5.14
c. Clean relays one at a time.	Par. 5.15
d. Replace relay covers.	Par. 5.17
8. Before moving curtains.	Par. 5.18
a. Final dusting.	
b. Frame equipment ladders and curtains.	
c. Permit exhauster to operate 5 minutes.	Par. 5.19
9. Move curtains.	Par. 5.20
a. Exercise care.	
b. Wipe flat surfaces of equipment just cleaned.	Par. 5.21
c. Sweep floor area.	BSP H51.104
10. Test switches.	Par. 5.22
C. Relay Equipment, Repeaters, etc	
1. Remove relay covers.	Par. 5.24
2. Start on wiring side.	Par. 5.24
a. Clean forms, then skinners.	
b. Clean from top down.	
c. Reduce compressor pressure when cleaning wire-spring type relays.	Par. 5.25
3. Pressure clean apparatus side.	Par. 5.26
a. Top to bottom.	
b. Polarized relays, B-, G-, and wire-spring type relays.	Par. 5.30
c. Reduce pressure on compressor when cleaning wire-spring type relays.	Par. 5.31
D. Rotary Selectors	
1. Rotor brushes in motion.	Par. 5.33
a. Clean bank and rotor brushes.	
2. Clean frame, coil, interrupter springs, etc.	
3. Clean curtained enclosure.	Par. 5.36
E. Plunger-Type Line Switch Equipment	

METHOD	REFERENCE
1. Start at top.	Par. 5.37
a. Clean terminal strips and details.	
2. Open relay gates and doors.	Par. 5.38
3. Clean wiring forms rear side of one gate.	Par. 5.39
a. Repeat on rear side of other gate.	
4. Close relay gates.	Par. 5.40
a. Clean relays, resistors, and 25-point rotary switch and banks when provided.	
5. Clean each line switch and bank.	Par. 5.41
6. Close doors and proceed to next bay.	Par. 5.42
a. Provide baffle between the bay just cleaned and the one to be cleaned next.	
7. Cleaning completed in enclosure.	Par. 5.43
a. Perform dusting operation of curtains and enclosure.	
b. Permit exhausters to operate for about 5 minutes.	