

MECHANICAL SECTION

END DOOR LOCK: The end door locks are J. L. Howard Co.'s No. 2085 Push-Pull type with built-in micro switch No. YZ-7R-QIT. See Figures 124, 125, 126 and 127.

No external adjustment of micro switch is provided. In order to adjust or exchange the switch, the lock must be removed from the door and the switch adjusted as follows:

1. Remove Pull plate assembly from interior of end door (4 screws).
2. Remove backing plate from lock case exposing mechanism.
3. Loosen hollow, hexagon top, cup point, No. 6-32 Allen Headless set screw (Cat No. M-1073, on switch lever collar).
4. Adjust switch lever collar on threaded handle shaft. Thread collar in or out to desired position. Adjustment is obtained by locating switch lever collar on shaft so that same contacts switch lever which trips micro switch in such position that "click" of switch is heard just as latching head of the lock is in a position to clear lock keeper on the door jam.
5. Reverse procedure 1 to 3, to re-assemble.

DOOR CLOSERS: Toilet door closers are Yale type RK 11, exposed type and are covered in "Instructions for Door Closer Maintenance and Overhauling" Manual, dated August 1946.

End Doors are equipped with National Pneumatic Co.'s door operators. See pages 197 to 216.

SASH UNITS: Adams and Westlake Co.'s "Adlake" Model 36 sash are used. Size of sash, glass and gaskets are shown in Figure No. 128. Method of assembling sash is shown on page 189 to page 193.

MISCELLANEOUS GLASS: The following miscellaneous glass is used in locations shown:

Wrecking tool and fire extinguisher cases - Double strength glass.
End Doors - 1/4" Laminated Safety glass, 17 x 22 3/8" - all four corners rounded with 4" radius.
Vestibule doors - 1/4" laminated Safety glass 20 7/8" x 29 7/8" all four corners rounded with 2 1/4" radius.

MIRRORS: All mirrors, excepting those on Bedroom Folding Partitions, are encased in an aluminum anodized mirror frame, Alto Manufacturing Co.'s make. This is a solid frame in which mirror is retained by eight (8) clips, two on each side, see figure 129, held in place by 2, No. 8-32 1/4" hexagon head slotted screws and 2, No. 8-32 hexagon nuts which slide in a groove in frame to desired position. Mirrors of the following sizes are used in locations shown.

Roomette doors - 1/4" M.Q.P. glass 10 3/4" x 48".
Roomette cross partition - 1/4" M.Q.P. glass 18 7/8" x 31 7/8".
Bedroom annex doors (room side) - 1/4" M.Q.P. glass 8 7/8" x 44 1/8".
Bedroom annex over wash basin - 1/4" M.Q.P. glass 23" x 27 3/8".
General toilet over wash basin - 1/4" M.Q.P. glass 15 7/8" x 27 5/8".
Bedroom folding partition 1/4" double faced safety glass 12 1/2" x 48 1/2".

RENEW VESTIBULE DOOR GLASS: Using a screw driver and starting at the joint of the inside rubber (this joint is at top of unit) pry the end out of the channel, then working with hands pull out 3" to 4" at a time until rubber is completely removed. Then lift glass out. The outside rubber will remain in place and need not be disturbed unless it requires renewal. **CAUTION:** Hold glass with one hand as work proceeds.

If outer rubber is renewed, the surface of the frame must be thoroughly cleaned and all traces of old rubber cement removed with solvent.

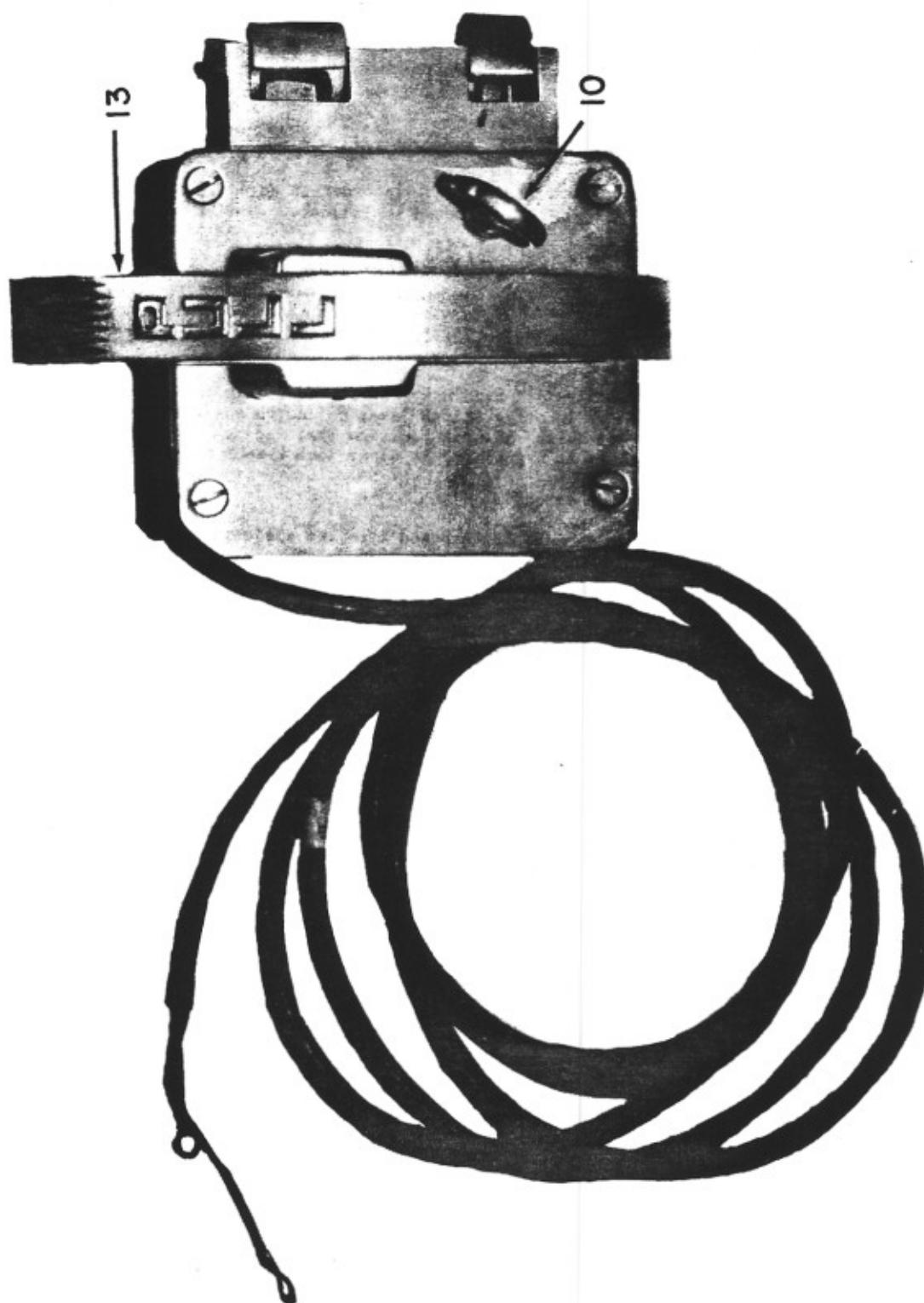
The new rubber should be cut about 3" longer than the one removed.

Apply rubber cement to frame and allow to dry.

Starting at approximately the center top of frame, shape the rubber around frame forcing it snugly into corners and cut it 3/8" past starting end. Then cement end forcing it into place and smooth out around frame to form a gasket.

Apply glass and inside rubber. Start end of rubber at top center forcing it into place using thumbs with a twisting motion, holding the bottom edge out. A very thin coat of glycerine applied to the glass side of the rubber will help make it slide. After forcing in the rubber the handle of a hammer can be used to completely seat rubber by sliding it across glass and tapping lightly.

Figure 124



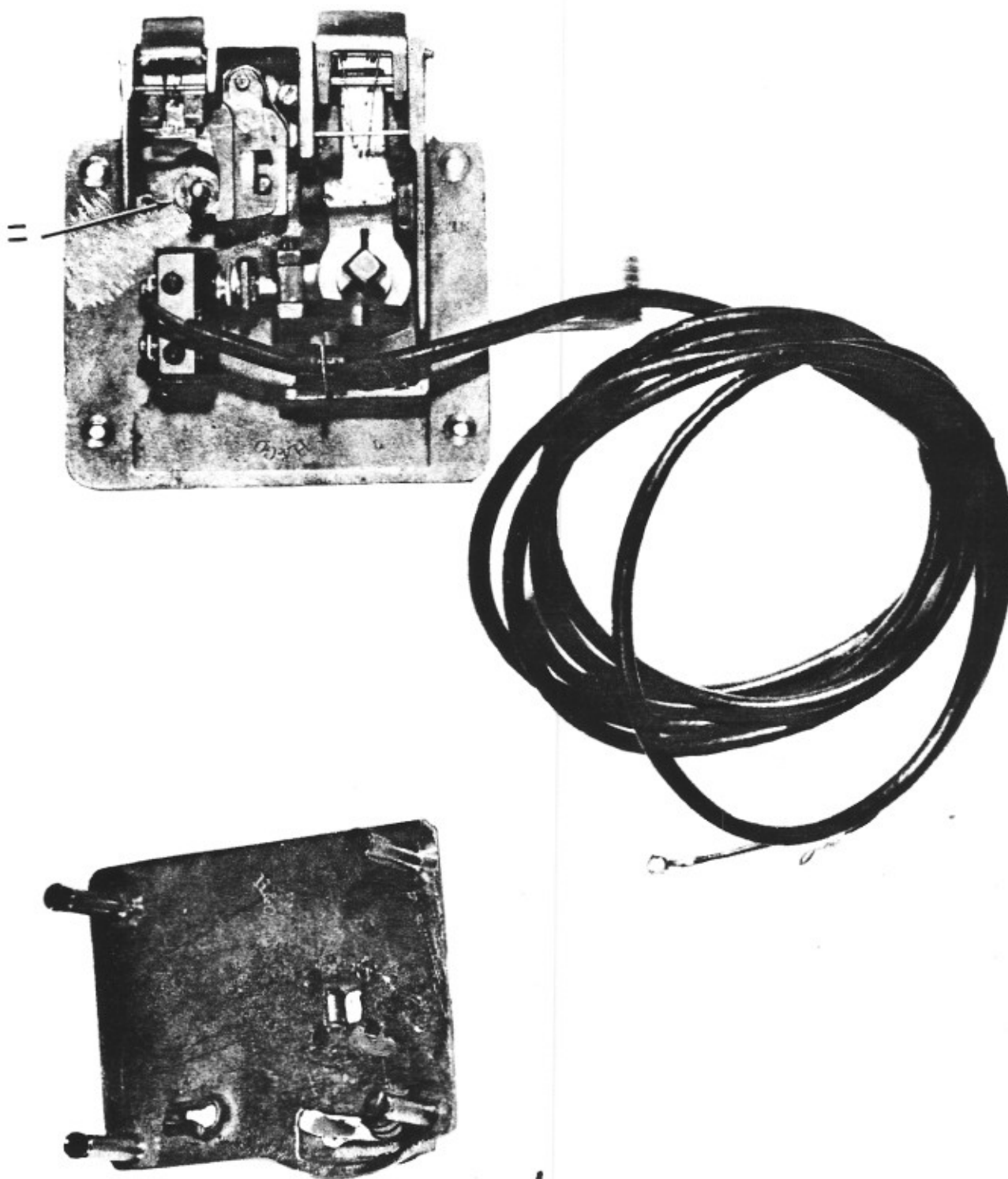
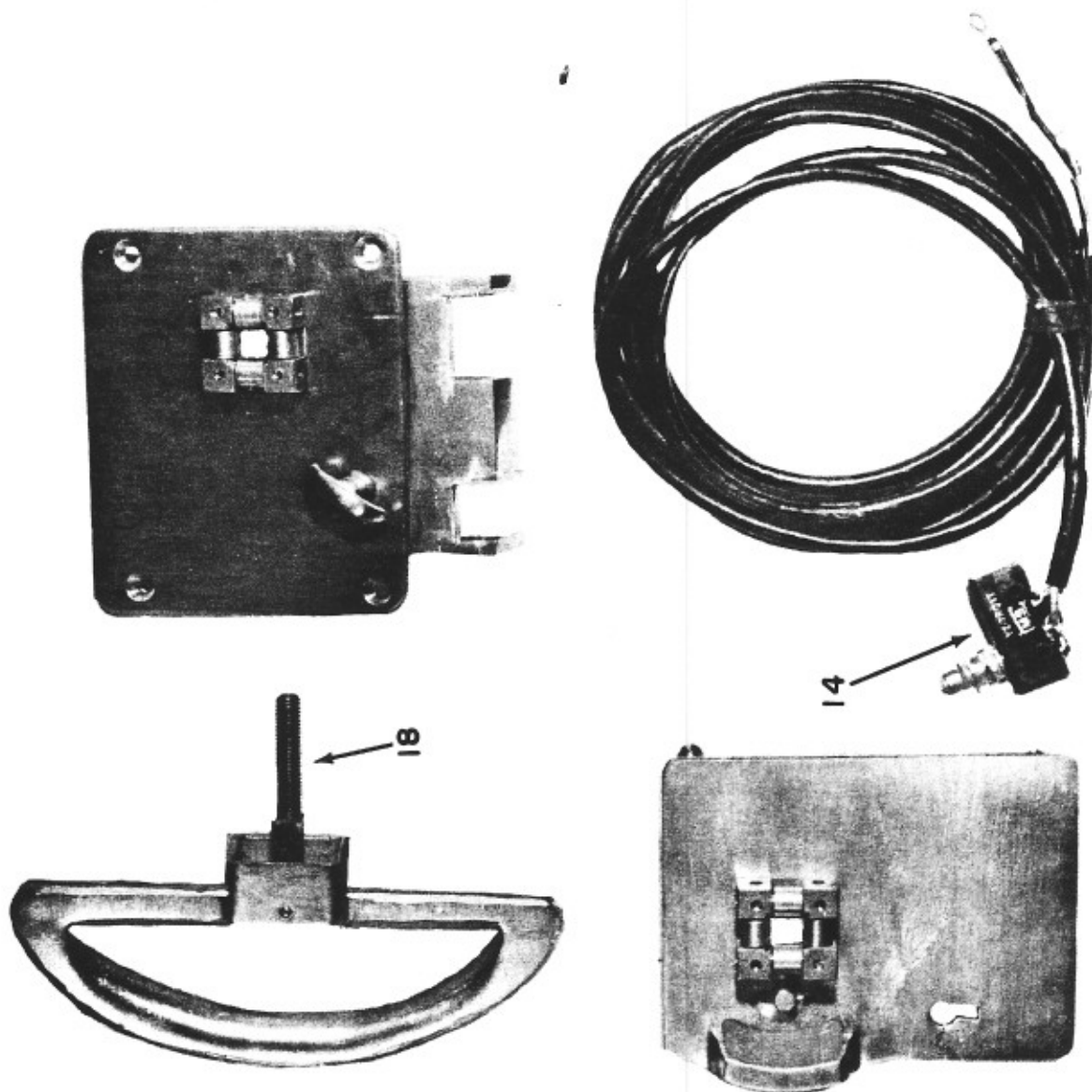
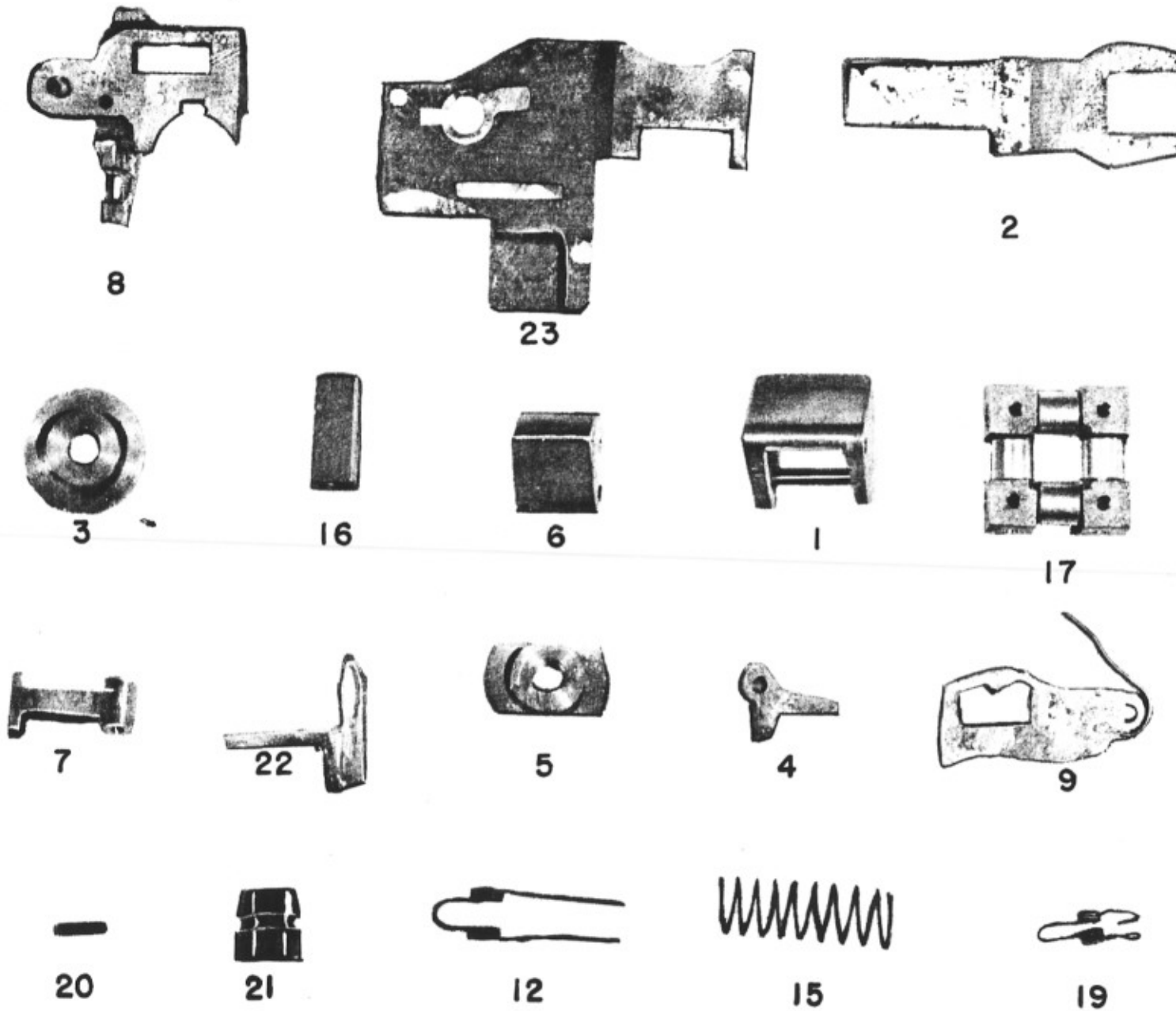


Figure 125

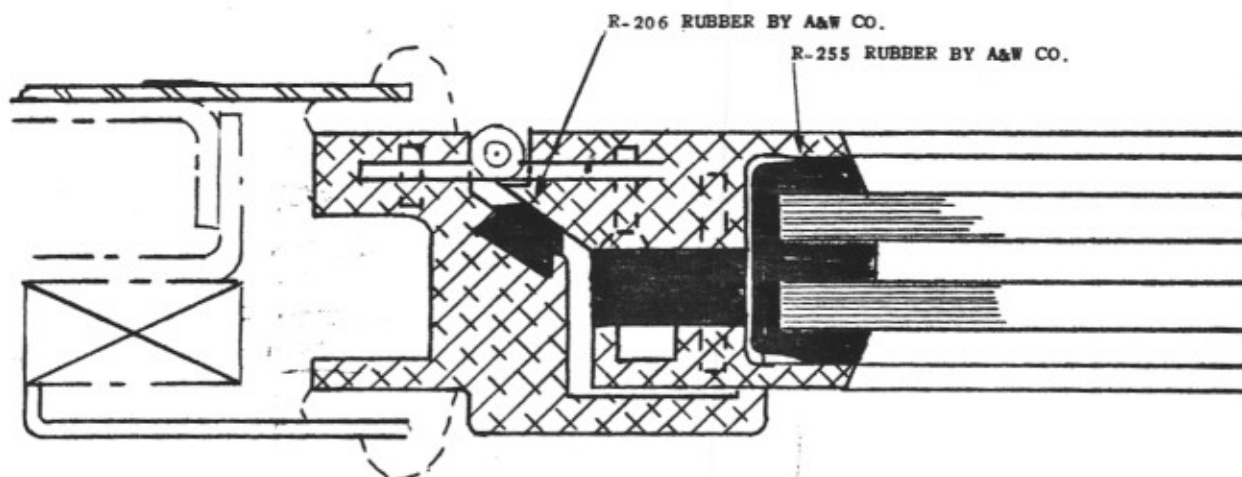
Figure 126



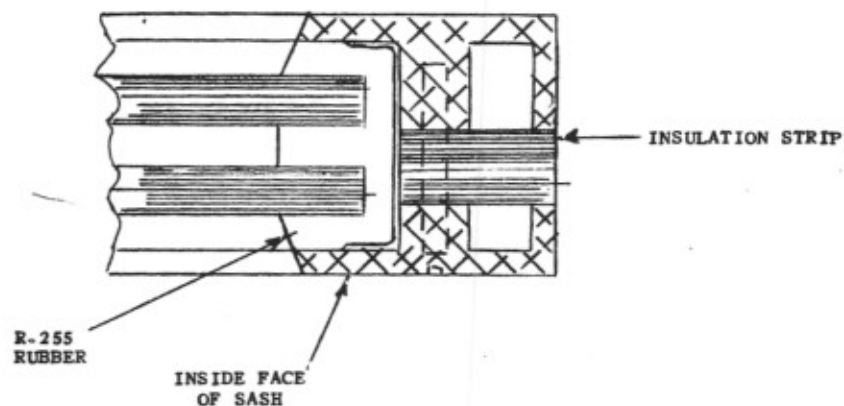


1. Main Latch Head
2. Main Latch Strap
3. Main Latch Hub
4. Switch Lever
5. Switch Lever Collar
6. Night Latch Head
7. Night Latch Connection
8. Night Latch Bolt
9. Night Latch Key Tumbler
10. Turn Knob
11. Turn Knob Hub
12. Main Spring
13. Pull Handle
14. Switch - National
Pneumatic Company
15. Push Bar Spring
16. Spindle
17. Spindle Roller Bearing
18. Spindle Shaft
19. Night Latch Spring
20. Set Screw - Headless
21. Rubber Bushing
22. Bushing Bracket
23. Plate - Cover

Figure 127



SASH WIDTH	SASH HEIGHT	GLASS WIDTH	GLASS HEIGHT
41 1/8"	22 7/8"	39 1/8"	20 7/8"



R-255 RUBBER LGT. PART NO.	SASH WIDTH	SASH HEIGHT	GLASS WIDTH	GLASS HEIGHT
118" P-196225	44"	25 3/4"	42"	23 3/4"
83" P-196310	25 1/2"	25 3/4"	23 1/2"	23 3/4"

Figure 128
SASH DETAIL

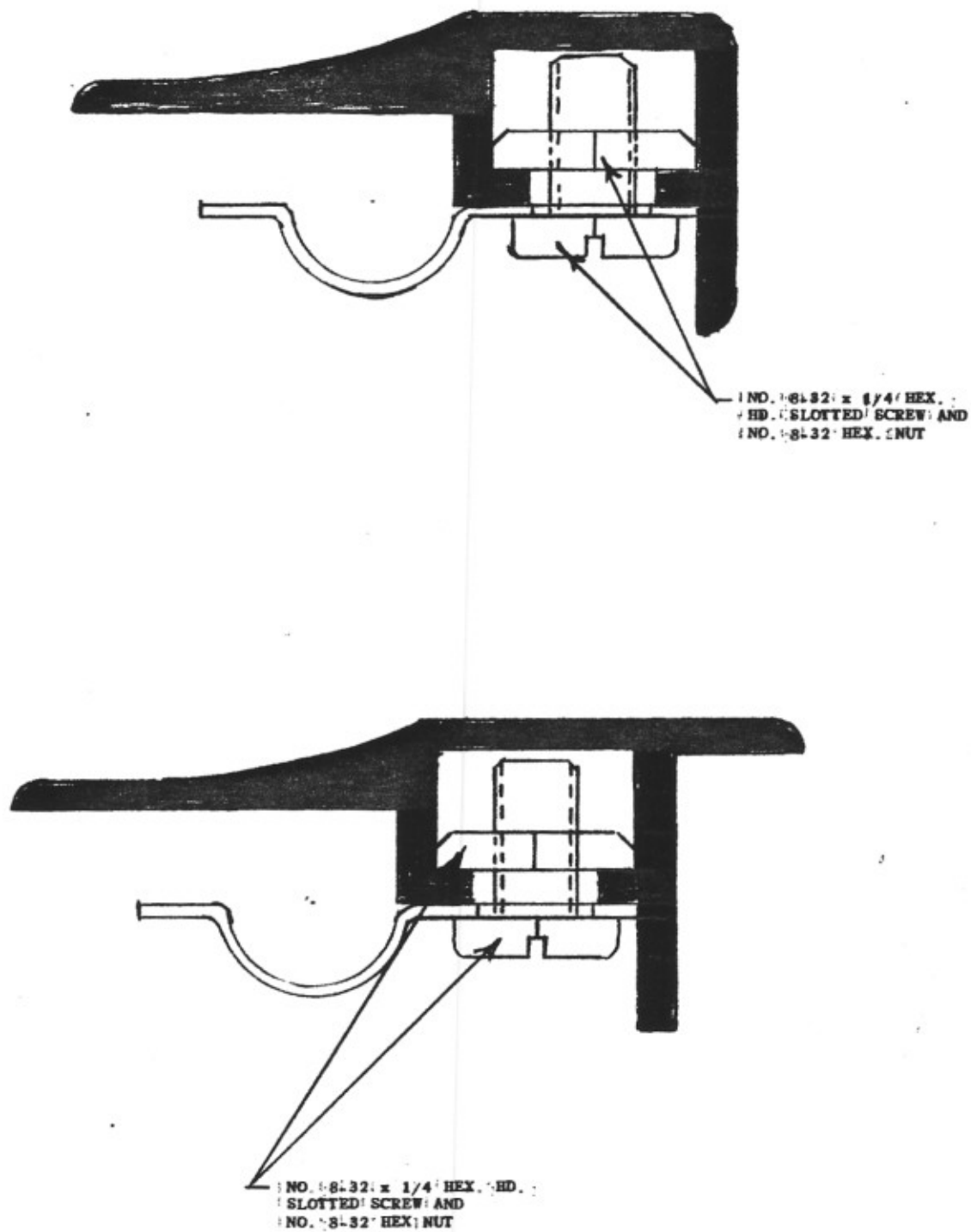


Figure 129

NOTES

SASH UNIT - BREATHER AND FILTER ASSEMBLY
TYPE 17

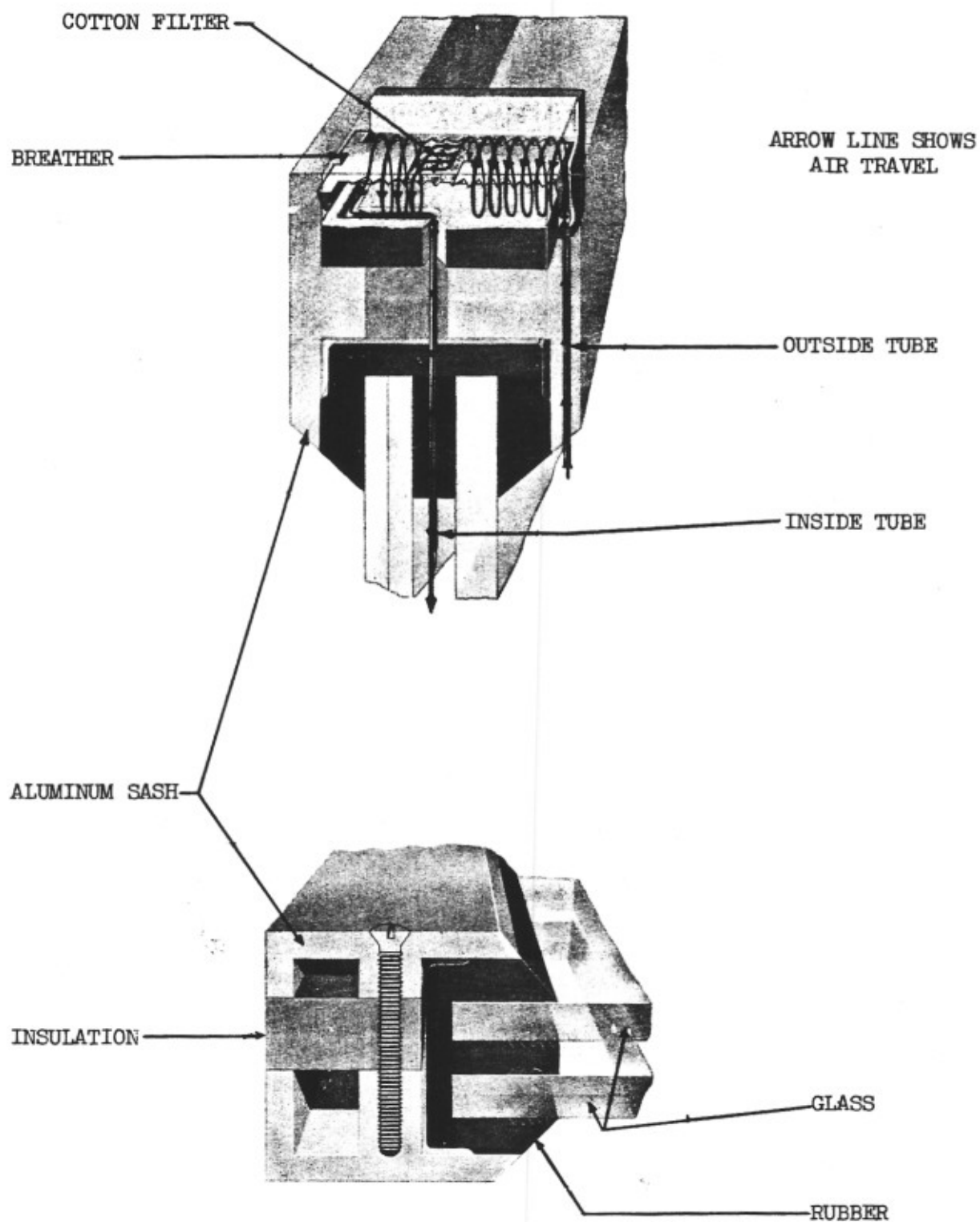
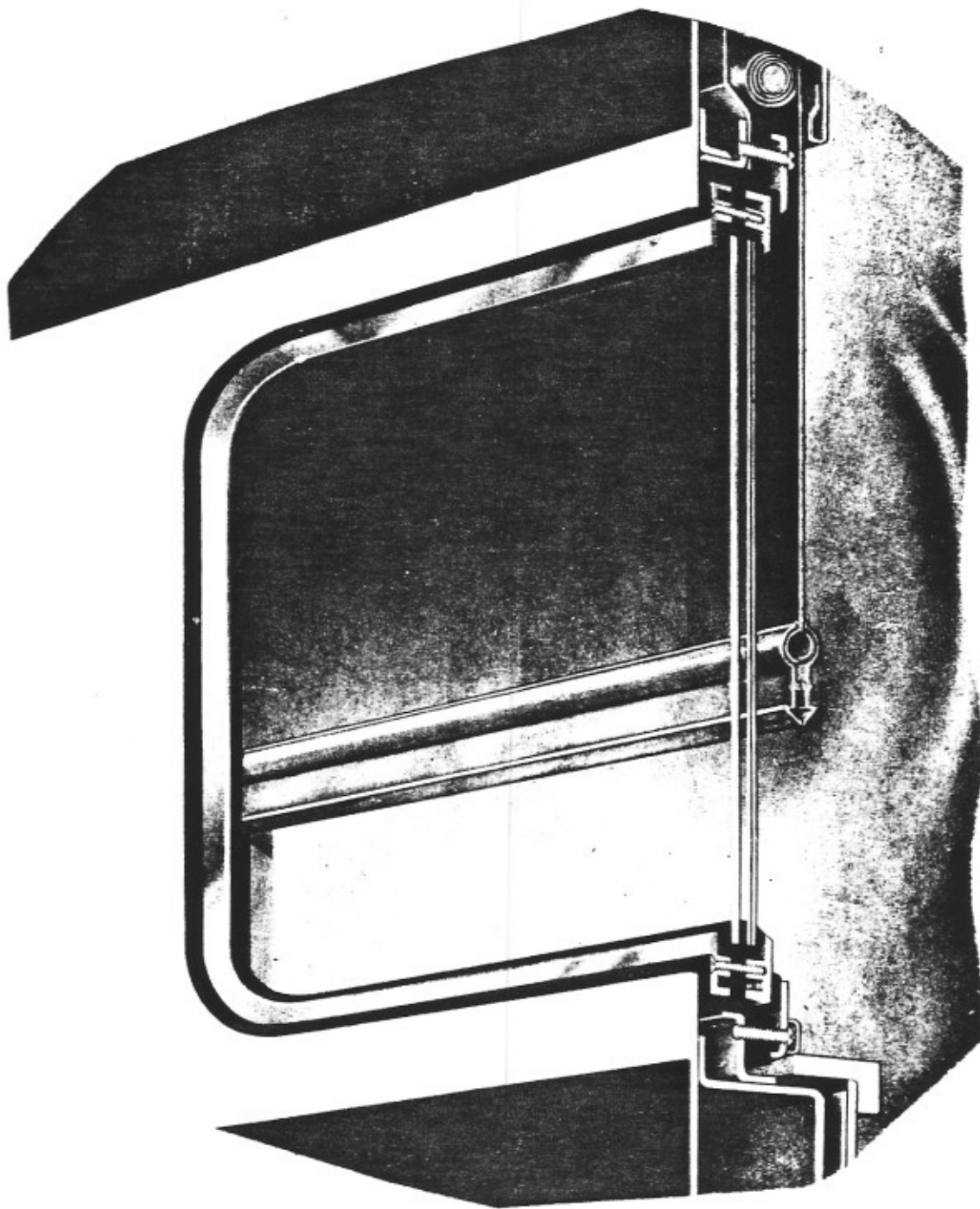


Figure 130



TYPICAL APPLICATION OF ADAMS & WESTLAKE MODEL 36 GLASS UNIT

Figure 131

GLASS APPLICATION

Due to the fact that after the glass has been installed in the ADLAKE Model 36 double glazed sash unit it is not possible to do further cleaning on the two inside faces, it is desirable that care be taken to see they are perfectly clean before being assembled. Experience has shown that it is well to watch the following:

- A. That the table or bench on which the glass is to be cleaned is free from particles of metal or other substances which may scratch it. A piece of clean cloth or felt will serve the purpose.
- B. The cleaning compound should be of such a nature that it will not scratch or mar the glass, such as whiting.
- C. The cloths used for cleaning should be clean and free from dirt or particles that may scratch the surface of the glass.
- D. The glass should be cleaned on both sides in order to be sure the inside face is perfectly clean before it is assembled into the unit.
- E. Set the glass on edge and carefully inspect to be sure it is free from finger-marks, streaks, smudge-spots, etc. If any show up remove them before assembly into the unit. Be careful to handle the glass in such a way that it will not become finger-marked after cleaning. With this in mind proceed with the following:
 1. Remove unit from opening in car.
 2. Lay flat on table or bench with face of unit showing screw heads on upper side. (See Figure 132)

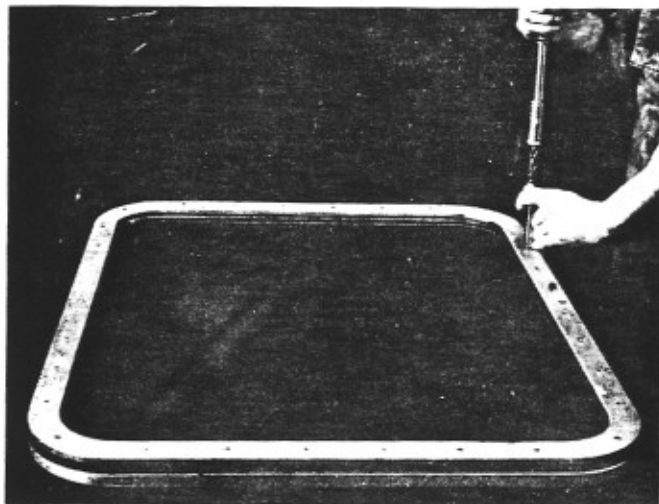


Figure 132

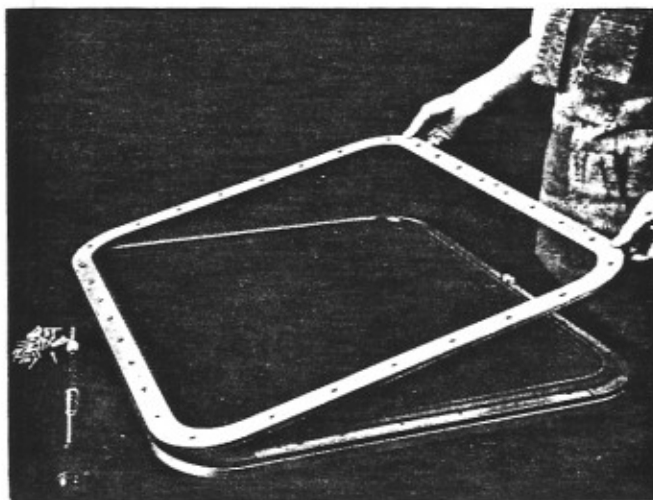


Figure 133

3. Remove all screws except the screw cap of the breather
4. Lift off upper half of frame. (See Figure 133)

5. Remove glass assembly (glass, rubber and breather) from lower half of frame. (See Figure 134)
6. If one of the lights of glass is undamaged mark it with crayon or chalk to show point at which breather is applied.

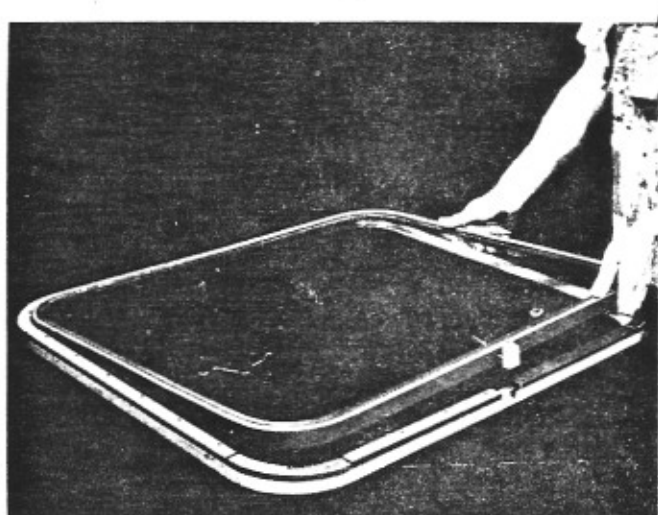


Figure 134

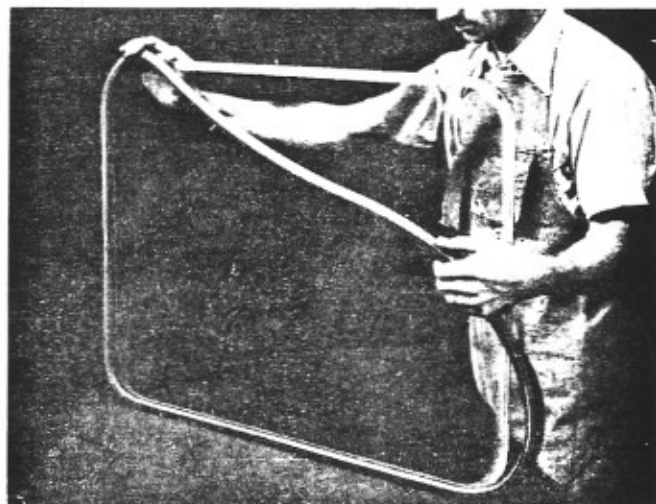


Figure 135

7. Remove rubber from glass but do not remove breather from rubber. (See Figure 135)

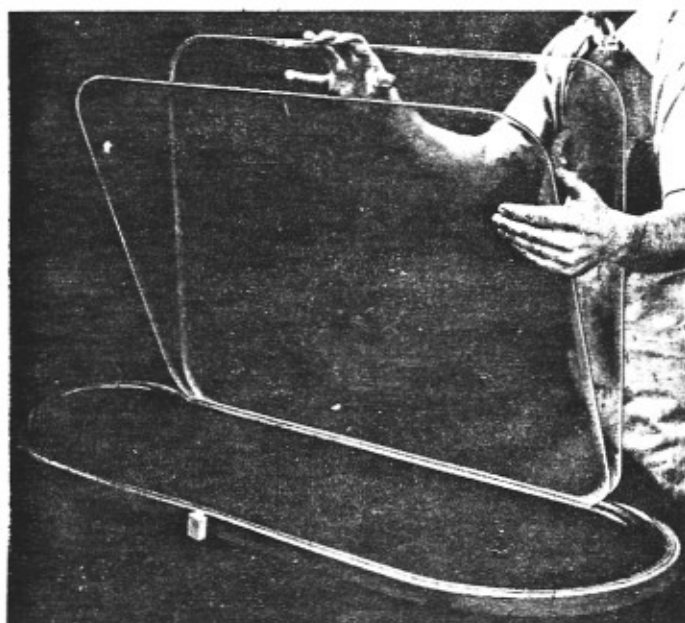


Figure 136

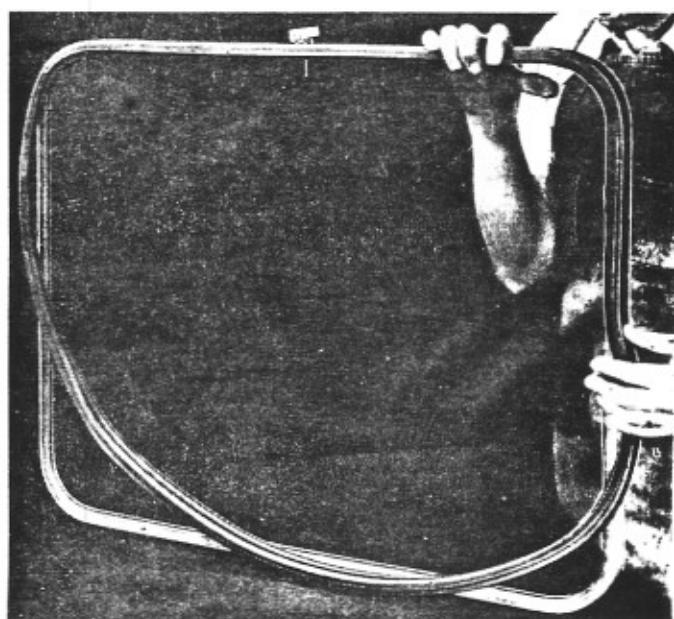


Figure 137

8. Clean both lights of glass, particularly on the faces that go toward each other. Be sure no lint, dust, finger-marks or smudge-spots are left on glass, for when sealed in unit they can not be removed.
9. Clean rubber to be sure no dirt has adhered to it. If the rubber shows any damage or is torn replace it with a new one.
10. Stand the two lights of glass on edge with cleaned faces toward each other and with spot marked for breather location on upper edge. (See Figure 136)

11. Apply rubber to glass, placing breather at point marked on glass. (See Figure 137) Caution: It is important that the replacement glass has the same dimensions (length, width & thickness) as the piece it replaces or a loose seal will result. Glass should be without sharp edges to avoid cutting rubber. Be sure the breather screw-cap will face toward the inside of the car. Start to apply at breather and work both ways across top, then down both sides, after which reverse position of glass and complete across bottom. Go over again to make sure rubber is all the way on.

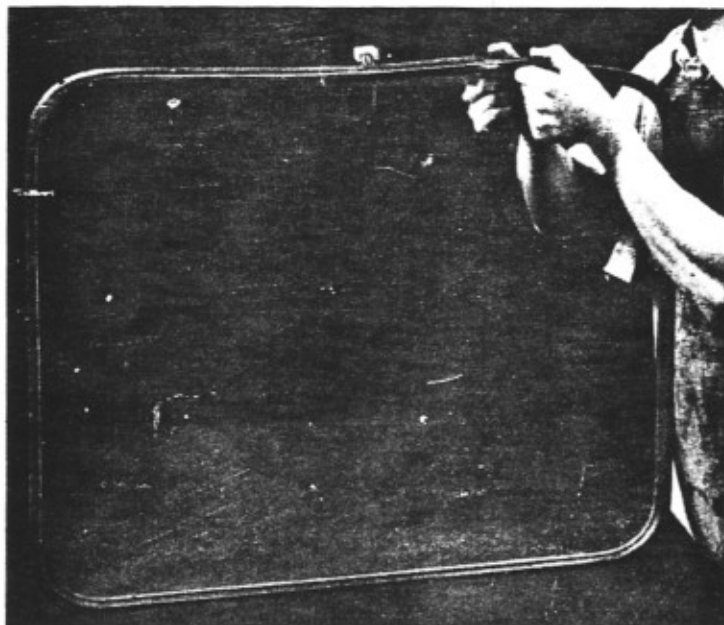


Figure 138

12. After rubber is applied check to see that breather is correctly located. If not lift rubber from top edge of glass and firmly pull until it is. (See Figure 138) Then work rubber down sides and across bottom to make even application.
13. Place glass and rubber assembly back in metal frame. See Figure 134. See that breather is located in center of notch cut in frame. It is important there be no binding of breather and that it is free on all sides.
14. Replace upper half of metal frame.
15. Replace all screws and tighten so there is equal pressure on all four sides of unit. Go around two or three times to be sure all screws are turned up tight. (See Figure 132)
16. When placing unit in the car opening see that it is so set that breather is located at the top with the screw-cap toward the inside of the car and the tube toward the outside.
17. If a hose is used to test the water tightness of the unit after application to car, see that the breather tube is covered so as to prevent water being forced into it.

BED MECHANISM

BEDROOM (N) UPPER BERTH: Upper berth as shown in Figure 139 is counter balanced at each end by a pair of cables and a torsion type spring as shown in Figure 140. After the foot of the bed has been pulled down and fastened with the hold down rod, the head of the bed is pulled down and is guided by two "V" shaped tracks, one on each side of the head of the bed.

To renew cable proceed as follows:

1. Remove section of bunkline concealing springs.
2. Remove cap screws holding cable clamp on drum. See Figure 141 for details. (Opposite cable will hold spring tension).
3. Remove cap screws holding cable clamp on mattress carrier and remove old cable.
4. Thread new cable over drum, through slot, and clamp in place. (Cable must be sawed exactly 7' 11" for hallway end of bed).
5. Clamp cable to mattress carrier in a manner to evenly distribute the weight of the mattress carrier between the two cables.
6. Test operation. Raise end of bed having new cable to half-way position and note tension on each cable. If a pair of cables is replaced on one end of the bed, test to see that a slight tension remains on the spring when mattress carrier is in the full up position.
7. Re-apply bunkline panel.

To replace a spring proceed as follows:

1. Remove section of bunkline covering spring.
2. If spring is not broken, apply locking pin through holes in drum and mounting bracket.
3. Remove cable clamps on mattress carrier.
4. Remove spring assembly by removing mounting bolts.
5. Remove shaft nut and pulley. See Figure 141.
6. Remove bearing housing and spring anchor.
7. Insert new spring.
8. Re-assemble spring assembly.
9. Apply 1/2 turn tension to spring and apply locking pin.
10. Wind cables around drums.
11. Re-apply spring assembly to mounting recess.
12. Pull cables after removing locking pin until 1/2 turn of cable remains on drum and re-apply locking pin.
13. Clamp cable ends to mattress carrier - cables taut - mattress carrier level.
14. Remove locking pin and test operation. A slight tension should be maintained on springs when bed is in the full up position with its normal load.
15. Re-apply bunkline panel.

Bed latch mechanism is the conventional lever and rod type and is exposed when the mattress and springs are removed.

ROOMETTE BEDS: Roomette bed mechanism is similar to those of roomettes now in service. Mattresses are not interchangeable with those in conventional roomettes. Mattress size is 74" x 32" x 4 1/2".

STEPS AND TRAP DOORS: The steps and trap doors are similar in operation to the type applied to previous lightweight cars. Arrangement of pivot assembly and instructions for adjustment are shown on Figure No. 142. The trap door lock as shown on Figure No. 143 is used. The step treads are steel, Kass safety type, by Morton Co. In addition to the vestibule curtain, a horizontal trainline curtain is provided.

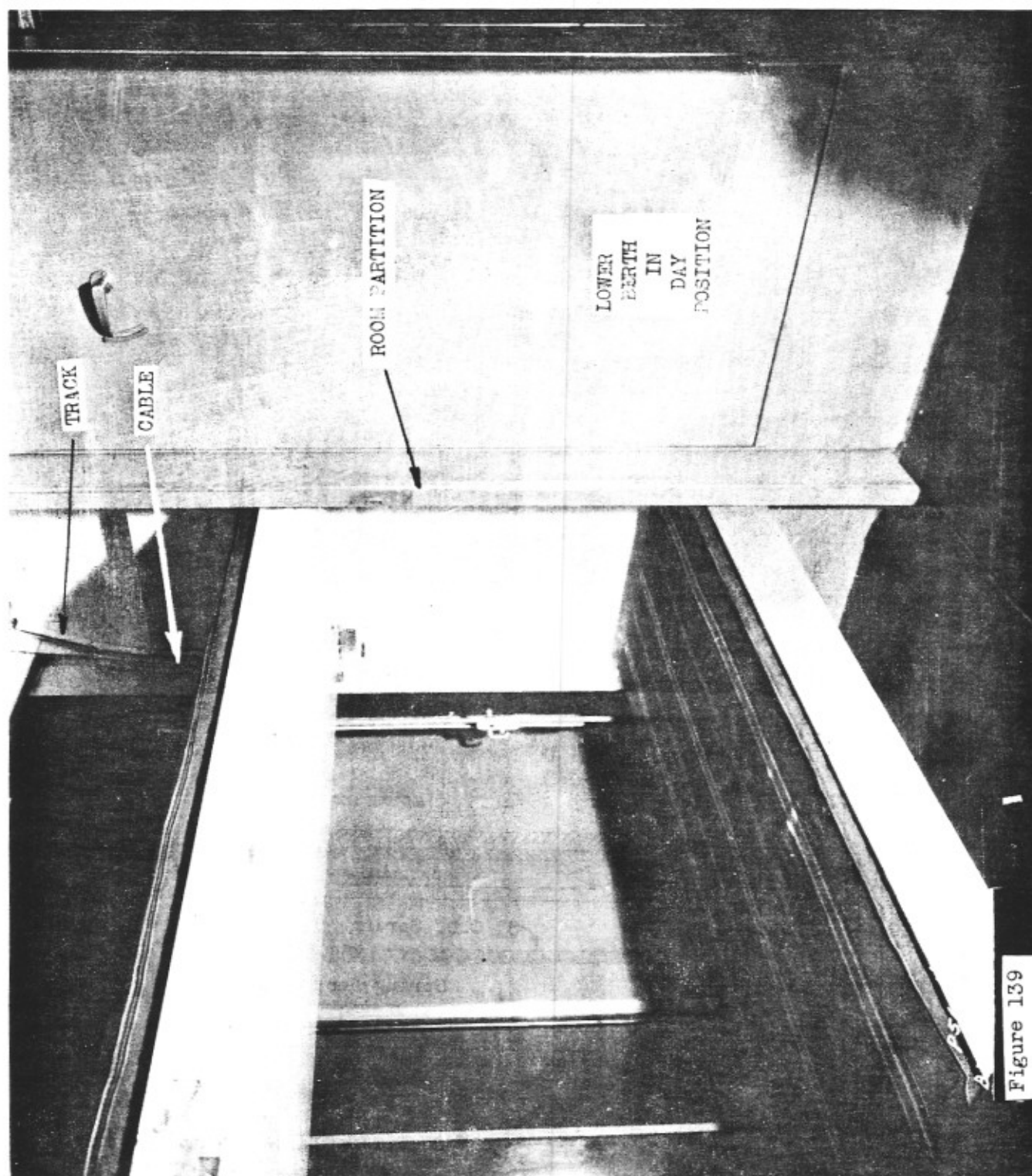
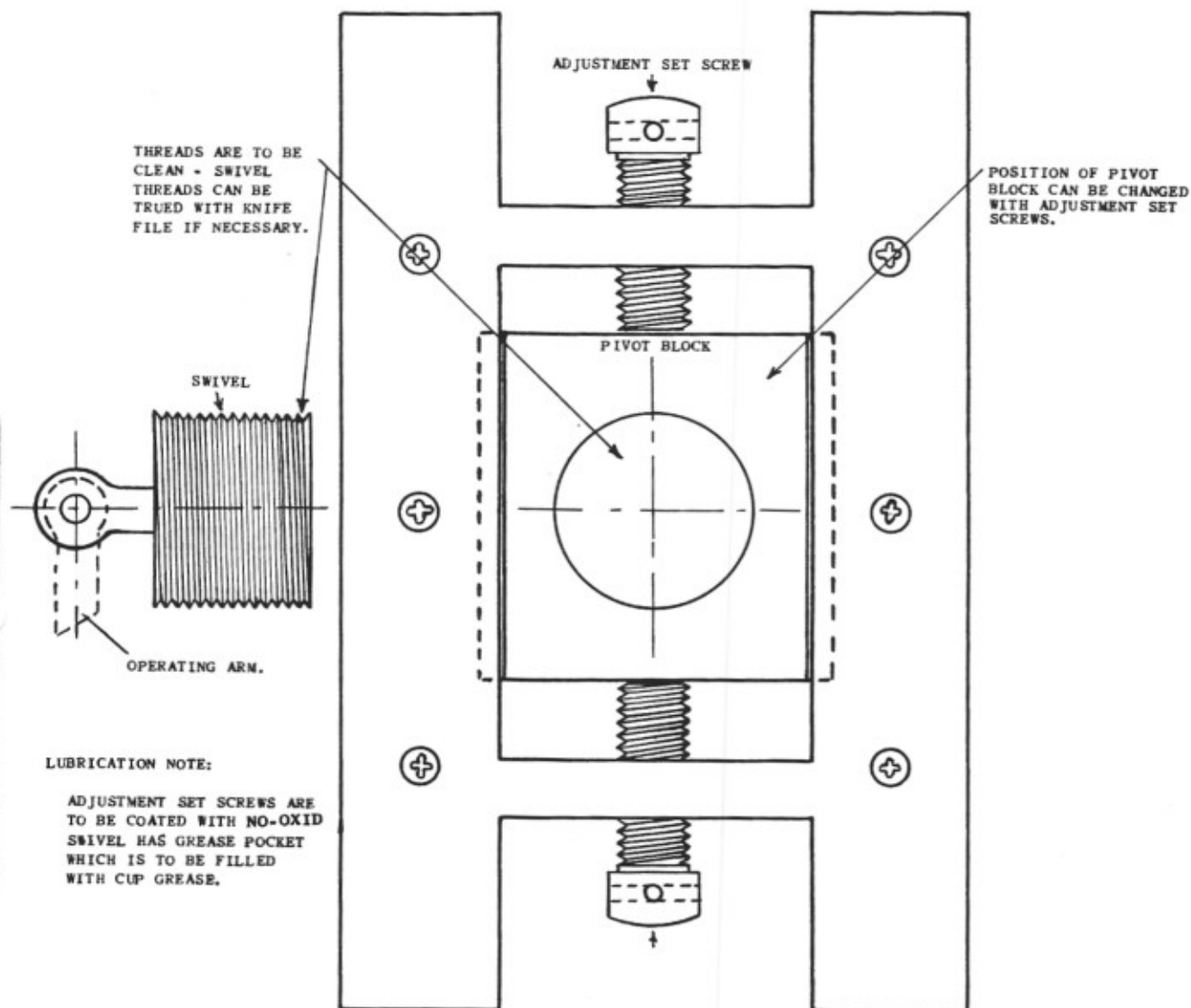


Figure 139



NOTE: STEP PIVOTS ARE ADJUSTABLE FOR ELEVATION BY ADJUSTMENT BOLTS ON PIVOT CASTING(SEE FIGURE 282 FOR DETAILS)

ADJUSTMENT ARRANGEMENT FOR TRAP DOOR AND FOLDING STEP LEVER

Figure 142-A