MAINTENANCE MANUAL

Chase Doors
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Introduction

This manual has been prepared to assist you in maintaining your Durulite doors. It will provide information as to the identity and location of the parts involved in the door system. The major portion of this manual will deal with methods used to diagnose and repair the most common problems that might occur with years of use. We hope that you will follow our guidelines and establish a regular cleaning/lubrication/inspection program. Finally, armed with an increased familiarity of the Durulite door system and the part numbers involved, this manual will give information that will make it easier and faster to order replacement parts.

By consulting the manual when you have a problem, you should be able to determine which parts are necessary before calling the factory or your local sales representative. If a problem is encountered which is not covered in the manual or to which the solution is unclear, please call our sales department at (800) 547-6856.

Table of Contents

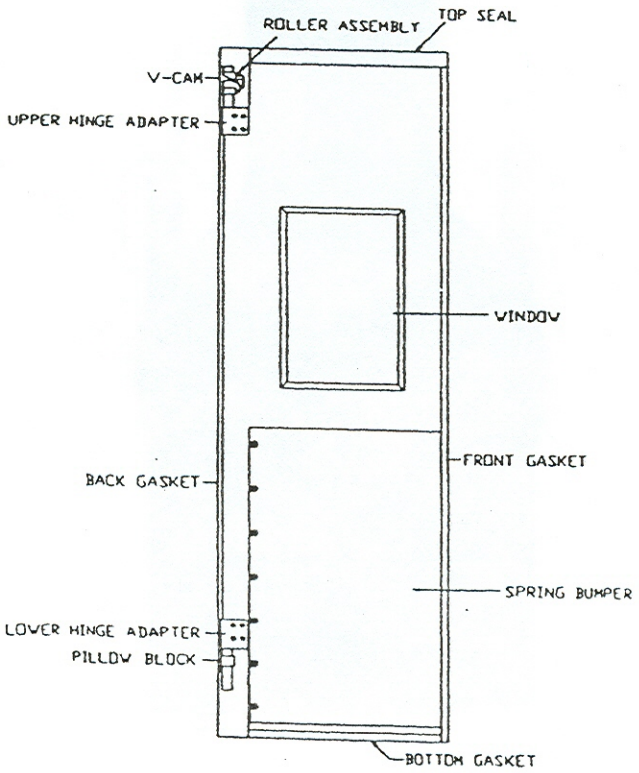
Parts List

(Most Part Numbers are noted on the part)

1) Roller Assembly	#5508-1
2) Standard V-Cam	#5561-1
St. Steel V-Cam	#5509-1
180 Degree V-Cam	
Left	#5573-1
Right	#5572-1
Low Rise V-Cam	#5587-1
3) Upper Hinge Adapter	#5510-1
4) Lower Hinge Adapter	#5510-3
Ind. Hinge Adapter	#5550-1
5) Pillow Block	#5531-1
180 Degree L & R	#5579-1
6) Lower Hinge Guards	
8-1/2" Std.	#5518
11" Ind.	#5567
11" w/base	#5576
180 Degree	——
7) Bumpers	——
Kickplates	——

8) Window	——
9) Gaskets	
Bulb	#1556
Bullnose	#1559
Weld Plate	#1560
180 Degree	#1561
1/2"	#1546
1"	#1545
1-1/4"	#1558
2"	#1535
10) Top Seal	
Standard	——
Extended	——
180 Degree	——
11) Hinge Seal	
Upper	#1542
Lower	#1536
180 Degree Upper	#1531
180 Degree Lower	#1554

Durus Door Nomenclature



Maintenance Program

A regular maintenance program is the easiest way to ensure trouble free operation of the Durulite door. Your program should include a regularly scheduled lubrication and cleaning procedure. While this is being done, the doors and seals can be inspected visually. Gaskets should be checked for cuts and tears. The top seal and hinge seals should be securely fastened and fre from worn spots or tears. The door should open and close freely. When closed the door should be centered in the opening. Double doors should also seal in the middle where gaskets touch. Bumpers or kickplates and hinge adapters can be examined for loose fasteners.

Our recommendation for lubrication and cleaning are as follows:

Hinge System

Apply light oil or all purpose grease to ramp of v-cam biannually.

Door Panel and Gaskets:

Wash door panel and gaskets with detergent, either sponged or sprayed on. Dishwashing detergent, mixed with water 1/50, works well. For dirtier areas, commercial cleaners can be used. On white, yellow, or sand colored doors, bleach can be used to remove difficult stains. In areas where greasy or extremely dirty conditions are encountered, it may be necessary to use a steam pressure wash (use detergent). Rinse thoroughly. Dry and apply a plastic treatment, such as ARMOR-ALL, to the panel and gaskets.

Window Cleaning

Wash the window area with a mild soap and dry with a soft cloth. **Do not use solvents, bleach or petroleum products on windows.**

Trouble Shooting and Repair

As with any product designed for impact, the Durulite door will suffer some wear and tear over years of use. We have developed a trouble shooting procedure to help identify the most common problems and repair directions to assist in returning the door to operational condition. It is important in following the trouble shooting procedures, that accurate measurements be taken when needed.

Trouble Shooting Procedure

General Problems

I. Doors will not swing properly.

A. Lubricate top and bottom hinge adapter shafts.

B. If still a problem, loosen v-cam and pillow block fasteners on return and cycle doors 90 degrees in both directions to align hardware. Retighten fasteners.

II. Gaskets binding or rubbing.

A. Lower gasket binding?
Roller assembly may be loose. Adjust height and tighten both upper socket head cap screws (see roller assembly, page 4)

B. Back gasket binding?
Jamb may not be a flat surface between the v-cam and pillow block. Place 1/8" shims behind the v-cam and pillow block or split the back gasket vertically.

III. Doors do not seal at center.

A. Check alignment of doors with centerline of header.
If not aligned, readjust per directions for roller assembly (page 4).

B. Check plumb of hardware on both sides. Adjust pillow block to correct out of plumb and establish seal at center.

Roller Assembly

The roller assembly contains the only moving part of the entire Durulite door system. In combination with the v-cam and upper hinge adapter, the roller assembly carries the full weight of the door panel, is used to align the door in the centerline of the opening, and to adjust the height at which the door panel is hung. If the roller assembly is not lubricated well, wear will increase and ease of operation will decline. If the socket head cap screws are not as tight as possible, the roller assembly can slip on the hinge adapter shaft. In situations where the roller assembly continuously works loose, the roller assembly can be permanently fixed to the upper hinge adapter shaft by means of a split pin. All industrial doors and doors equipped with a spring assist are supplied with a pin for this purpose. If it becomes necessary to install a new roller assembly on a previously pinned hinge post, a new hole must be drilled approximately 3/8" higher and 15 degrees away from the previous hole. Refer to drilling and installing instructions.

If during inspection the door moves 1" or more (2" or more on large panels) before it begins to rise, you will need to order a complete new roller assembly, Part #5508-1.

Roller Assembly Replacement

Place the roller assembly over the hinge adapter shaft until **the end of the shaft is flush with the top of the roller assembly.** Align roller assembly center with door centerline. Tighten the upper socket head cap screw on the roller assembly with the allen wrench provided.

Aligning and Sealing

1. In and out (Swing) adjustment

a. Slip a 7/8" diameter pipe under the door. Loosen upper cap screw on roller assembly.
b. Align top of door panel with centerline of header.
c. Seat roller on roller assembly on lowest possible position on v-cam.
d. Retighten cap screw securely and remove the 7/8" diameter pipe.

2. Up and down adjustment.

Applies to full gasketed doors only.

3. Carefully open door and tighten lower cap screw as tight as possible.

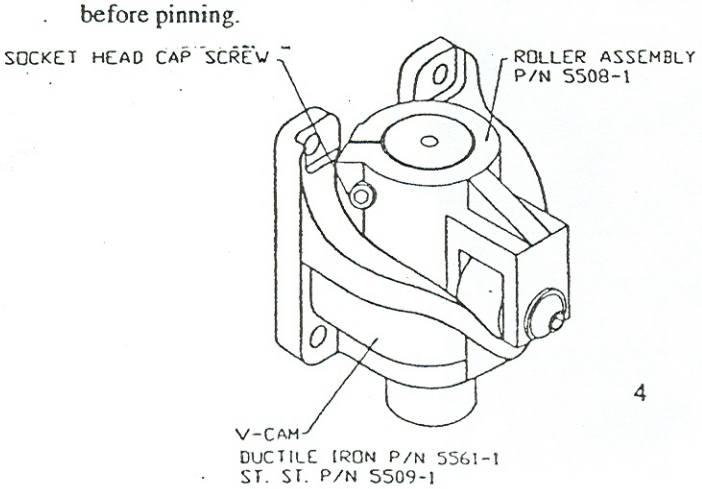
Without altering swing adjustment, loosen upper cap screw slightly and raise or lower door until bottom gasket just comes in contact with the finished floor. Tighten upper cap screw as tight as possible.

Pinning the Roller

Note: This procedure will permanently fix the doors in their operational arc, the doors must be in exact adjustment prior to drilling.

Drilling and Installing

1. At the punch mark on the roller casting drill a 5/16" diameter hole parallel to the socket head cap screws through the roller casting and the center of the hinge post.
2. Drive the 5/16" roll pin through the roller casting and hinge adapter shaft.
3. Clean all shavings and foreign material from the v-cam and roller assembly.
4. Check the alignment of the second (unpinned) door with the pinned door and make any necessary adjustments before pinning.



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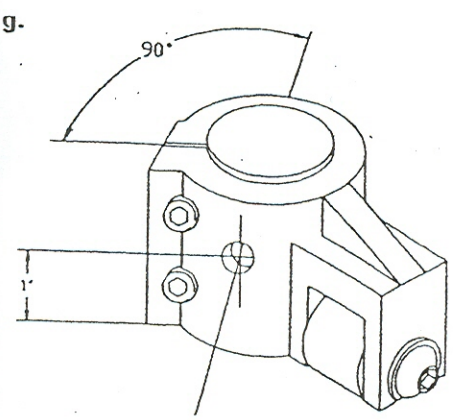


Gaskets

Gaskets are the most commonly damaged part of the Durulite door. Since they are located on the edge of the door, they may become cut, torn or otherwise damaged through normal use. Gaskets are also used to fit and seal doors in odd sized openings and can be changed for this purpose. When ordering a new gasket, it is necessary to have the overall height and width measurements of the door opening.

Gasket Replacement

1. Removal of old gasket.

Look under wing of gasket to find crimp marks in the aluminum extrusion. Use a large flat blade screwdriver to spread the extrusion slightly so gasket can be removed.

For back edge gaskets:

After spreading extrusion, grasp gasket in the middle of its length and pull straight out from door.

For leading edge and bottom gaskets:

After spreading extrusion, pry out one end of the gasket with a screwdriver. Grasp the gasket and pull out the full length of gasket.

Note:

To replace bottom gasket, door should be removed from opening as follows:

Remove hinge seal and lower hinge guard.

Remove (4) v-cam fasteners. Remove (3) pillow block fasteners. Loosen the remaining pillow block fastener and remove spring assist if one is installed. Remove door from pillow block and lay on flat surface to remove and replace gasket.

To re-hang door reverse procedure and realign panel.

2. Preparation of extrusion for new gasket.

Remove all crimp marks in extrusion using two wide flat tools such as chisels. This will spread the extrusion slightly. Lubricate the extrusion with WD-40 or a similar lubricant.

3. Insertion of new gasket.

Back edge gasket.

Measure the distance between the hinge adapters and add 1". Cut the new gasket to this length. Spray the ball and shank portion of the gasket with WD-40 on both sides for the full length. Push the ball into the aluminum extrusion starting at one hinge adapter. Compress the gasket lengthwise as you go.

When the gasket is fully inserted there should be wrinkles in the bulb portion of the gasket. These will disappear as the gasket relaxes with use.

Leading edge and bottom gaskets.

Lubricate the ball and shank portion of the new gasket with WD-40. Push the gasket ball first into the extrusion, leaving approximately 1" projecting out of the end of the door.

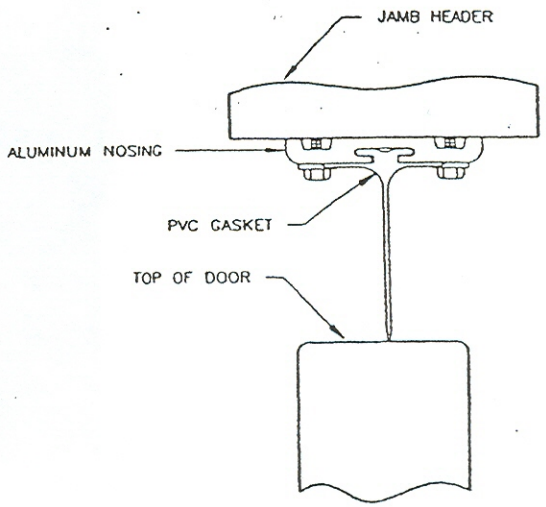
Compress the gasket lengthwise as you go until the gasket is fully inserted.

4. Re-crimping extrusion.

To lock the gasket in place, insert a screwdriver blade under the wing of the gasket by hitting the handle of the screw driver with a hammer. Do this at both ends of the extrusion and a few times in the middle on taller doors.

5. Trimming gaskets.

When bottom and leading edge gaskets are installed, use a razor knife or heavy scissors to cut off ends of the gaskets square and flush. Wipe all gaskets with Armor All or a similar vinyl coating.



Top Seals

Top seals are used to seal the gap between the Durulite door and the jamb header against air and dust infiltration. When ordering top seals it is necessary to know the opening size and the size of the gap between the top of the door and the header. It is also important to know the type of hardware the doors are equipped with. The 90 x 90 degree top seal consists of 2-1/4" wide aluminum nosing and an extruded PVC top seal gasket.

Hinge Seals

Hinge seals provide an improved seal and a more finished appearance at the hinge areas of the Durulite door. The most commonly used types of hinge seals on the Durulite door are:

1. **The 90 x 90 degree upper hinge seal** is made of flexible black PVC. It is attached to a steel backer plate that shares a hole pattern with and mounts behind the v-cam.

   Installation - Drawing A

   If you are replacing an old style hinge seal you will have to place a backer plate behind the v-cam. This is done as follows:

   Remove old hinge seal.
   On standard height openings, lift the door vertically until you can place a piece of 2" x 4' under the door. (1" thick wood on short openings.)
   Remove the (4) v-cam fasteners and slide the backer plate behind the v-cam so that the hole patterns match.
   Insert screws through the v-cam and backer plate and reattach v-cam to jamb.
   To attach hinge seal, peel paper from double face tape on hinge seal. With hinge seal position skirt side down and with top of seal flush with header, attach to backer plate with #10 x 1/2" tek fasteners.

2. **The 90 x 90 degree lower hinge seal** is made of flexible reinforced nylon inserted into two black aluminum mounting strips. A solid riser (part #1548) and a foam strip attached to the seal are used to provide a rigid structure and improved seal at the lower hinge notch.

   Installation - Drawing B

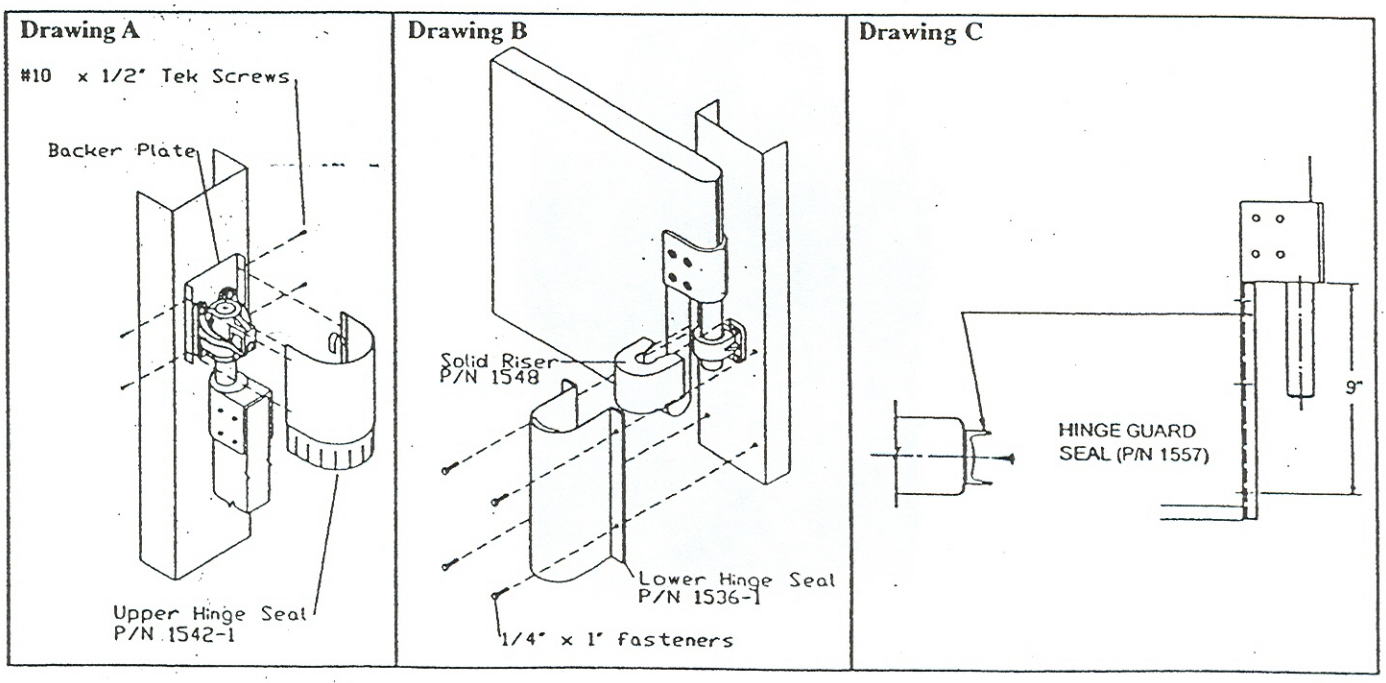
   Snap solid riser open side down onto hinge post between pillow block and hinge adapter. Slide seal between door and solid riser when door is closed. With bottom of seal approximately 1/4" above finished floor line, place seal around riser (do not pull tight) and attach to jamb with tape. Check door function in both directions. Drill pilot holes with 1/8" drill bit. Attach to jamb with 1/4" x 1" tek screws.

Lower Door Sweep

The lower door sweep attaches to the lower notch area of the door and provides a seal between the door and the lower hinge guard.

Installation - Drawing C

Position lower door sweep on notch area of door as shown. Install lower fastener 9" from top of sweep. Install additional fasteners as needed.



Spring Bumpers and Kickplates

The Durulite spring bumper is made in a teardrop shape of the same material as the door, crosslinked polyethylene. When the bumper is installed on the door it is compressed slightly from end to end. This causes the bumper to bow outward and act like a spring on impact. When the bumper is contacted by a load, the energy of impact is transferred into opening force, causing the doors to literally spring open.

Kickplates can be made of polyethylene or stainless steel and are applied flat to the surface of the door. They provide abrasion resistance and are used in situations where for reasons of space or style, Durulite spring bumpers cannot be used.

When ordering Durulite spring bumpers or kickplates, it is necessary to know the serial number of the door. In addition, the height of the bumpers or kickplates and the width of the opening must be measured. Do not measure the length of the bumper.

Durulite Bumper Installation

1. Check contents of package:
   - Bumpers
   - Threaded steel inserts (P/N 5521)
   - Bumper screws with washers
   - Template
   - Pipe adjuster
   - Hex key - 3/16"

2. Remove door from opening. Align the template with the bottom and leading edge of the door per the instructions on the template. Transfer the hole pattern to the door with an awl or center punch. **Do Not Allow The Template To Move While Transferring The Hole Pattern.**

3. Drill the mounting insert holes with a sharp 3 1/64" diameter drill bit. We recommend drilling the mounting insert holes in the door using a drill press. If the mounting insert holes are drilled with hand held tools, be sure to drill as perpendicular to the door centerline as possible.

4. Drive in the threaded steel mounting inserts smooth end first. The knurl on the other end will keep the insert from turning while installing screws.

5. Mount one bumper on the door, running the screws in **finger tight.** Insert the screws in the holes **under the rolled section first.** Working from one end to the other allows you to flex the bumper to line up the holes. To set the holes in the flat end or "tail" of the bumper so that they will line up with the inserts, it is necessary to bow the bumper away from the door slightly. One method of doing this is to insert one or more awls through the mounting holes in the bumper and into the inserts in the door. The awls can then be used as a lever to compress the bumper and align the holes.

6. Repeat step 5 on the far side of the door with the other bumper. After both bumpers are mounted, tighten all fasteners. Hex head screws require a 7/16" socket or open end wrench. Button head screws on kickplates require a 5/32" hex key.

Windows

There are several sizes of windows. As each panel has its own size, the width of the door opening must be known when ordering replacements. Replacement windows can, in most cases, be installed using a #1 square driver.

Window Installation

Make sure new window fits the opening. Peel backing from double face tape. Peel plastic or paper covering from the taped side of the window. **On double pane windows be careful not to get finger prints on the inside of the window.** Set the window in place and peel the covering from the exposed side. Fit trim pieces to the opening. If trim is too long, carefully cut one end at an exact 45 degree angle so that it fits easily, but firmly, in place.

After all four trim pieces fit, screw them in place with the screws provided. Setting the corners first, making sure they fit tightly together works best. Please note that it is **not necessary to pre-drill** the screw holes through the polycarbonate window.

Spring Assist

The spring assist is used to increase the amount of pressure required to open the doors. It is used where there is a wind condition or where a difference in pressure exists across the opening and the doors are not staying closed. It should be noted that the spring increases the load on and may shorten the life of the roller assembly. The spring assist is recommended only where absolutely necessary. If spring assists are used on your installation, it is recommended that the roller assemblies be inspected weekly.

Installation
(perform steps 1 and 2 before door is hung)

1. Insert threaded shaft into lower hinge adapter until jamb nut is bottomed out.
2. Give jamb nut a half turn to lock in place.

Hang Door

3. Slide washer over shaft.
4. Slide spring over shaft (it may be necessary to raise door panel to do this.)
5. Thread adjustment washer on threaded shaft and tighten until desired closing action is obtained.
   Spring coils must not touch when door is in the open position.
   Overtightening the spring assist will cause severe damage to your roller assembly.
6. Place open end wrenches on the threaded adjustment washer and the jamb nut. Turn one against the other to lock the adjustment washer in place.

Ordering

Determine what part you need by using the trouble shooting guide and repair instructions. Find the part number. The Durulite door is molded in a number of common sizes and then fitted to specific openings by varying the sizes of the gaskets and seals or combining panel sizes. For this reason we need to know the height and width of the opening to get you the proper parts.

If you are unsure of what is wrong, take these measurements before calling the factory:

Width of opening at top and bottom.
Height of opening at right and left jambs.
Squareness (top corners to opposite bottom corners).
Plumb jamb faces. Use a 6" level or a plumb bob.
Distance from top panels to header.
Overlap of leading edge gaskets.

The door serial number will assist us in processing your order.

To determine right and left hand panels, face the doors from the side the window trim is mounted on. From this view the door on your right is the right hand panel and the door on the left is the left hand panel. If you have double pane windows, face the side from which you can read the serial number.

Contact the Durus Division sales dept. to order parts and to determine shipping arrangements.