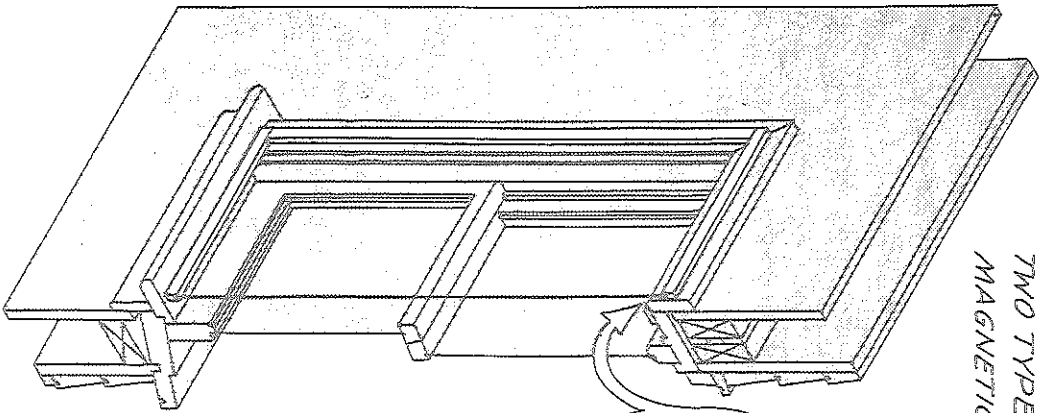
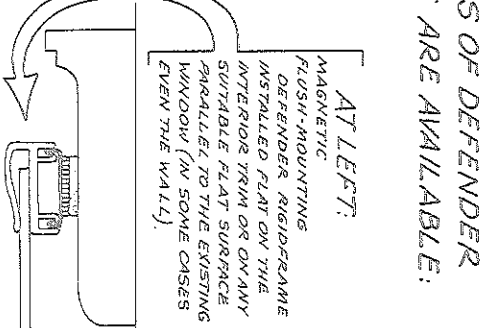


DEFENDER MAGNETIC SYSTEMS ARE DESIGNED FOR WINDOWS REQUIRING FREQUENT OPENING OR FOR EMERGENCY EXITS

TWO TYPES OF DEFENDER  
MAGNETIC ARE AVAILABLE:

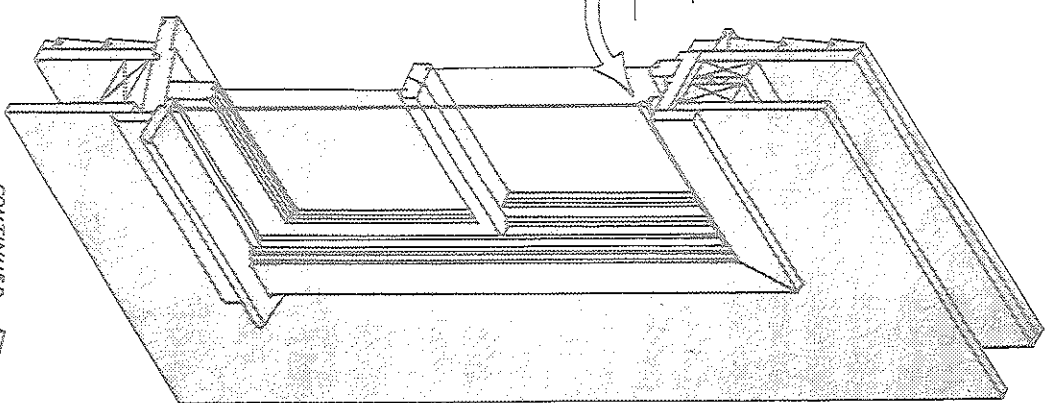


**AT LEFT:**  
MAGNETIC  
FLUSH-MOUNTING  
DEFENDER RIGIDFRAME  
INSTALLED FLAT ON THE  
INTERIOR FLAT SURFACE  
PARALLEL TO THE EXISTING  
WINDOW (IN SOME CASES  
EVEN THE WALL).



**AT RIGHT:**  
MAGNETIC IN-JAMB MOUNTING DEFENDER  
RIGIDFRAME INSTALLED BACK IN THE  
WINDOW JAMB OR ANY CONVENIENT  
FLAT SURFACE AT RIGHT-ANGLES TO  
THE EXISTING WINDOW.  
PLEXIGLAS®

# DEFENDER MAGNETIC STEP-BY-STEP INSTALLATION GUIDE



CONTINUED →

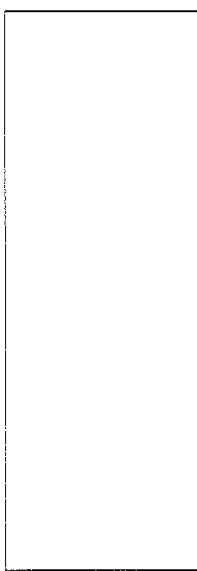
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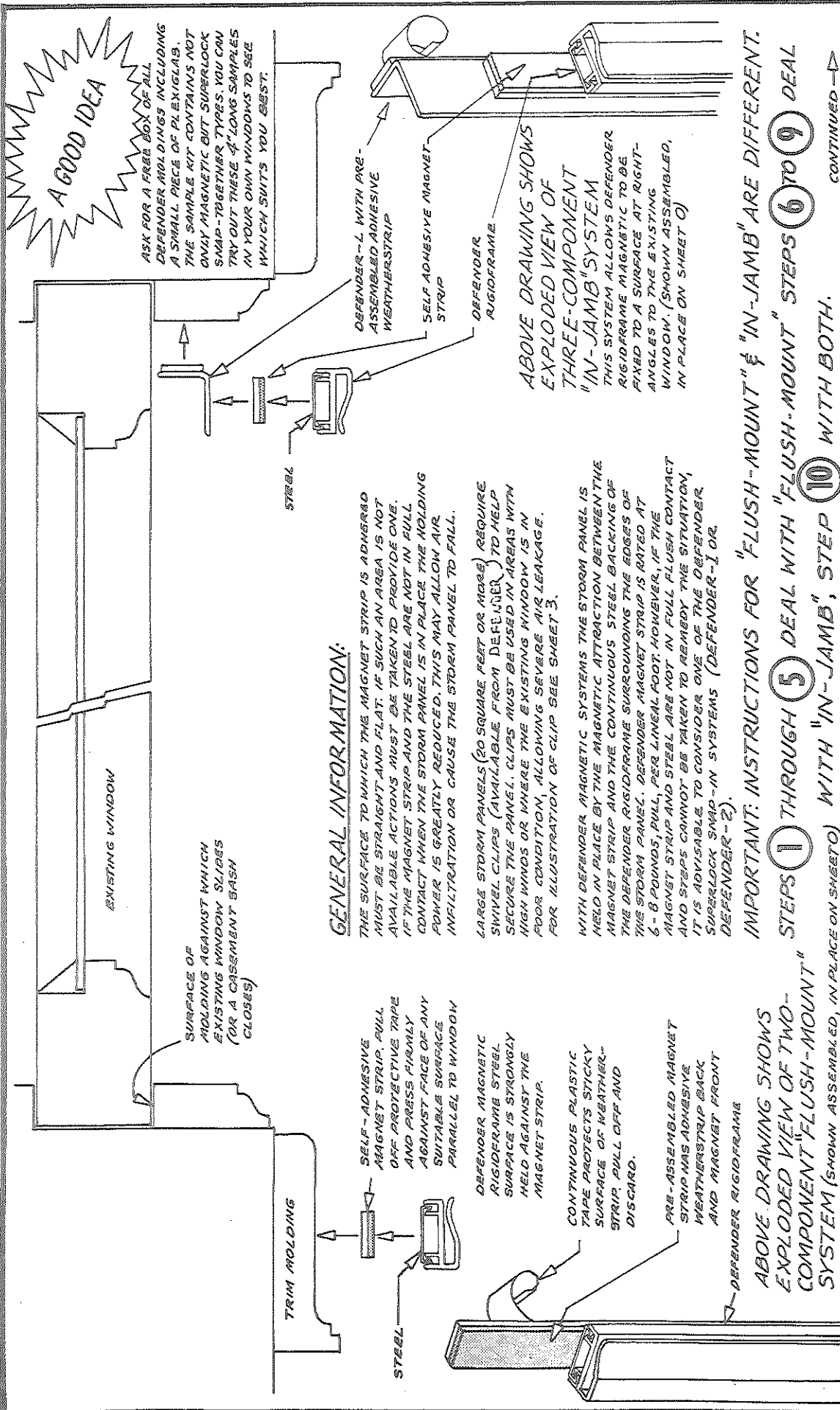
THE **Plastic** FACTORY

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Bridgeport, CT 06605  
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**A GOOD IDEA**  
 ASK FOR A FREE BOX OF ALL DEFENDER HOLDINGS INCLUDING A SMALL PIECE OF PLEXIGLAS. THE SAMPLE KIT CONTAINS NOT ONLY MAGNETIC BUT SUPERLOCK SNAP-TOGETHER TYPES, YOU CAN TRY OUT THESE 4" LONG SAMPLES IN YOUR OWN WINDOWS TO SEE WHICH SUITS YOU BEST.

**GENERAL INFORMATION:**

THE SURFACE TO WHICH THE MAGNET STRIP IS ADHERED MUST BE STRAIGHT AND FLAT. IF SUCH AN AREA IS NOT AVAILABLE ACTIONS MUST BE TAKEN TO PROVIDE ONE. IF THE MAGNET STRIP AND THE STEEL ARE NOT IN FULL CONTACT WHEN THE STORM PANEL IS IN PLACE THE HOLDING POWER IS GREATLY REDUCED. THIS MAY ALLOW AIR INFILTRATION OR CAUSE THE STORM PANEL TO FALL.

LARGE STORM PANELS (20 SQUARE FEET OR MORE) REQUIRE SWIVEL CLIPS (AVAILABLE FROM DEFENDER) TO HELP SECURE THE PANEL. CLIPS MUST BE USED IN AREAS WITH HIGH WINDS OR WHERE THE EXISTING WINDOW IS IN POOR CONDITION, ALLOWING SEVERE AIR LEAKAGE. FOR ILLUSTRATION OF CLIP SEE SHEET 3.

WITH DEFENDER MAGNETIC SYSTEMS THE STORM PANEL IS HELD IN PLACE BY THE MAGNETIC ATTRACTION BETWEEN THE MAGNET STRIP AND THE CONTINUOUS STEEL BACKING OF THE DEFENDER RIGIDFRAME SURROUNDING THE EDGES OF THE STORM PANEL. DEFENDER MAGNET STRIP IS RATED AT 6-8 POUNDS, PULL PER LINEAL FOOT. HOWEVER, IF THE MAGNET STRIP AND STEEL ARE NOT IN FULL FLUSH CONTACT AND STEPS CANNOT BE TAKEN TO REMEDY THE SITUATION, IT IS ADVISABLE TO CONSIDER ONE OF THE DEFENDER SUPERLOCK SNAP-IN SYSTEMS (DEFENDER-1 OR DEFENDER-2).

**IMPORTANT: INSTRUCTIONS FOR "FLUSH-MOUNT" & "IN-JAMB" ARE DIFFERENT. STEPS 1 THROUGH 5 DEAL WITH "FLUSH-MOUNT" STEPS 6 TO 9 DEAL WITH "IN-JAMB", STEP 10 WITH BOTH.**

ABOVE DRAWING SHOWS EXPLODED VIEW OF "IN-JAMB" SYSTEM THIS SYSTEM ALLOWS DEFENDER RIGIDFRAME MAGNETIC TO BE FIXED TO A SURFACE AT RIGHT ANGLES TO THE EXISTING WINDOW. (SHOWN ASSEMBLED, IN PLACE ON SHEET 0)

ABOVE DRAWING SHOWS EXPLODED VIEW OF TWO-COMPONENT "FLUSH-MOUNT" SYSTEM (SHOWN ASSEMBLED, IN PLACE ON SHEET 0)

CONTINUED →

**CAUTION:**  
 DEFENDER IS TO BE APPLIED TO COLD (BELOW 50°F) WINDOW FRAMES. WASH UP THE ROOMS WITH A HARD DRYER OR OTHER DEVICE TO 50°F.

SPACERS THREE IS NO WINDOW SILL. IN THIS CASE, CARRY THE MAGNET STRIP ACROSS THE BOTTOM AS SHOWN HERE.

ON WINDOWS WITH AN EXISTING SILL LESS THAN 4 1/2" WIDE, OFTEN, NO MAGNET STRIP IS PLACED ACROSS THE BOTTOM. USE THE DEFENDER SILL SHOWN FOR RIGHT. FOR USE OF DEFENDER SILL ON WINDOWS GREATER THAN 4 1/2" WIDE SEE ILLUSTRATION AT RIGHT.

**STEP 1**

MAKE SURE THAT THE FLAT SURFACE AGAINST WHICH THE DEFENDER MAGNET STRIP IS TO ADHERE IS AT LEAST 3/4" WIDE, STRAIGHT AND FLAT. ALSO, THIS SURFACE MUST BE CLEAN AND FREE OF SCALING OR FLAKING PAINT, GREASE, OR DEPOSIT FROM COOKING ETC.

**STEP 2**

CHECK TO MAKE SURE THAT SHUT HARDWARE, WINDOW BLINDS ETC. DO NOT INTERFERE WITH POSITIONING OF DEFENDER MOUNTINGS OR PLEXIGLAS. IF SHUTS ARE TO BE RELOCATED, LOW COST EXTENDERS ARE AVAILABLE AT MOST HARDWARE STORES. IF SWIVEL REMAINING CLIPS ARE TO BE USED, THESE REQUIRE ABOUT 1/2" BEYOND THE OUTSIDE EDGE OF THE DEFENDER MAGNET STRIP AND MOUNTING SPACE MUST BE ALLOWED AT THIS TIME. FOR AN ILLUSTRATION OF THE SWIVEL CLIP SEE SHEET 5.

**STEP 3**

DRAW A LIGHT, STRAIGHT PENCIL LINE (AFTER MARKING INTO ACCOUNT ABOVE CAUTIONS) AROUND THE OUTSIDE EDGE OF WHERE YOU ARE GOING TO ADHERE THE DEFENDER MAGNET STRIP.

**STEP 4**

CUT AND INSTALL THE DEFENDER MAGNET STRIP: ALWAYS MEASURE AND CUT THE MAGNET STRIP AT THE JOB SITE. USE AN EXACT KNIFE OR SCISSORS AND STRAIGHT CUT THE STRIP. PRESS THE MAGNET STRIP INTO PLACE ALONG THE PENCIL LINE BY PUSHER BACK A FEW INCHES AT A TIME. REMOVE THE CLEAR PLASTIC BACKING FROM THE ADHESIVE SURFACE OF THE STRIP. USE A SMALL WOODEN WALL PAPER ROLLER TO APPLY ADDITIONAL PRESSURE TO "SET" THE ADHESIVE. ALLOW THE ADHESIVE AN HOUR OR MORE TO SET BEFORE GOING TO NEXT STEP.

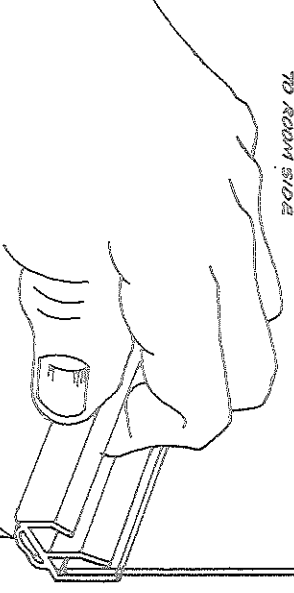
DEFENDER MAGNET STRIP CAN BE ADHESIVE APPLIED TO EXISTING SILL BY MOUNTING STRIP THIS WAY.

IF PLASTIC HOLDINGS ASSEMBLY USE OF FULL WIDTH OF DEFENDER-SILL, A GAP CAN BE LEFT AS SHOWN HERE. A BETTER JOB IS CAREFULLY TO CUT AND CYREL AWAY DIRECTION AND CLOSE GAP.

**IMPORTANT:**  
 THESE TWO FACES MUST BE IN LINE

INSTALL ALL OF THE MAGNET STRIP ON THE JOB FIRST. THIS ALLOWS THE MAGNET STRIP TO SET A LOOSE SETTING.

SILL HAS PROTRUDING LIP FOR FINGER GRASP ALLOWING GLAZING PANEL TO BE PULLED OUT TO ROOM SIDE



FLANKABLE BOTTOM OF SILL SQUARES DOWN AGAINST WINDOW SILL

**NOTE:**  
 THIS "BEAD-AIR" SPACE BETWEEN THE WINDOW GLASS AND THE DEFENDER GLAZING PROVIDES THE INSULATION VALUE. 3/4" TO 4" DEAD AIR SPACE WORKS WELL. GREATER THAN 4" IS NOT SO GOOD.

ON DEFENDER SILLS MORE THAN 4 1/2" WIDE DRILL 1/2" DIA. HOLES IN BOTTOM OF SILL 16" INTO WINDOW SILL AND INSERT A COUPLE OF 1" LONG 1/8" PLEXIGLAS RODS NEAR CENTER OF SILL

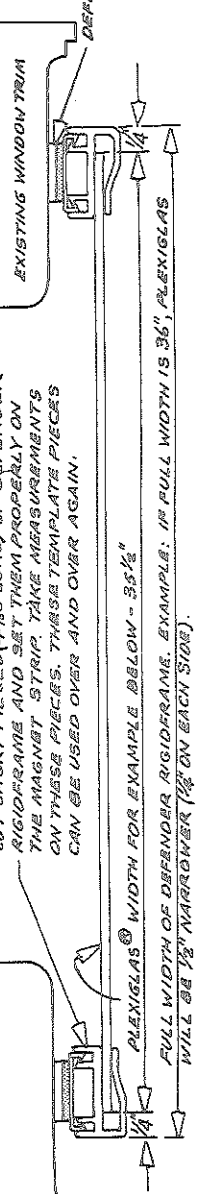
SHOWN ABOVE IS USE OF DEFENDER SILL. NOTE THAT ON THE "RUSH-MOUNT" SYSTEM THE DEFENDER SILL DOES NOT RUN ACROSS THE FULL BOTTOM OF THE GLAZING PANEL BUT STOPS AGAINST THE VERTICAL DEFENDER MAGNETIC RESISTANCE AT BOTH ENDS.

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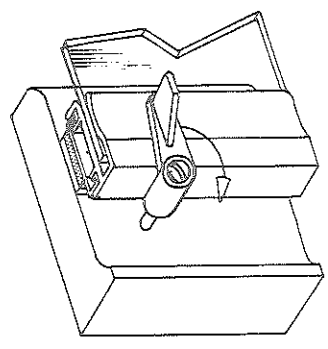
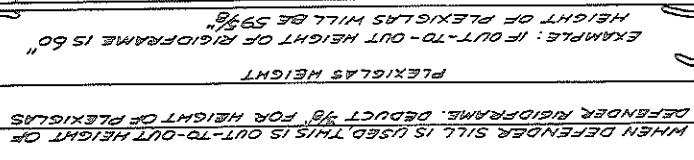
**INSTALLATION OF DEFENDER<sup>®</sup> FLUSH-MOUNT<sup>™</sup> MAGNETIC RIGIDFRAME SYSTEM (CONTINUED).**

**A HELPFUL IDEA!**

TO DO AN ACCURATE JOB AND AVOID MISTAKES CUT SHORT PIECES (1/8" LONG) OF DEFENDER RIGIDFRAME AND SET THEM PROPERLY ON THE MAGNET STRIP. TAKE MEASUREMENTS ON THESE PIECES. THESE TEMPLATE PIECES CAN BE USED OVER AND OVER AGAIN.

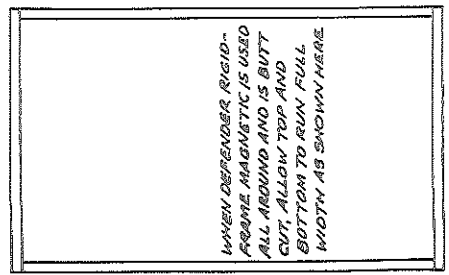
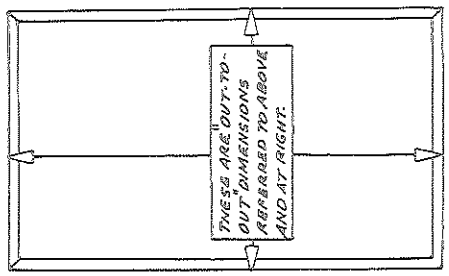
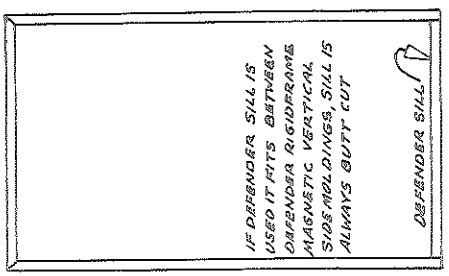


IF RIGIDFRAME IS USED ACROSS BOTTOM, USE SAME SYSTEM FOR ESTABLISHING OUT-TO-OUT HEIGHT AND SIZE OF PLEXIGLAS. IF DEFENDER SILL IS USED, SEE METHOD AT RIGHT



**SWIVEL CLIP**

AS DISCUSSED IN END PARAGRAPH UNDER "GENERAL INFORMATION" SHEET 1 AND MENTIONED IN STEP 2 SWIVEL CLIPS ARE USED ABOUT 18" APART ON THE SIDES AND TOP OF DEFENDER PANELS WHICH REST ON AN EXISTING SILL AND ON THE BOTTOM ALSO WHERE THERE IS NO EXISTING SILL. ROTATE CLIPS TO RELEASE PANEL.



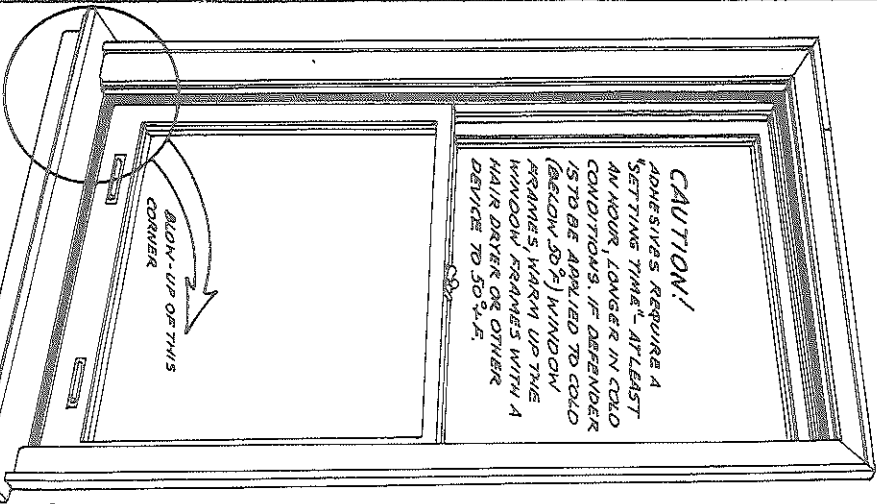
**STEP 5**

CUT DEFENDER RIGIDFRAME MAGNETIC FLUSH-MOUNT<sup>™</sup> MOLDINGS TO SIZE. IN-JAMB<sup>™</sup> INSTALLATION IS DIFFERENT AND IS TREATED SEPARATELY ON FOLLOWING SHEETS. TRANSFER MEASUREMENTS TO DEFENDER RIGIDFRAME AND CUT WITH A HACKSAW. A RADIAL ARM OR POWER MITRE SAW CAN BE USED. (CHECK WITH SAW MANUFACTURER FOR PROPER BLADE). WEAR PROTECTIVE EYE GLASSES TO PROTECT FROM STEEL AND PLASTIC FRAGMENTS. A HACKSAW SHOULD BE USED WITH A MITRE-BOX FOR ACCURATE ANGLES AND SMOOTH BUTT (STRAIGHT) CUTS. ALWAYS CUT DEFENDER MAGNETIC WITH STEEL SIDE DOWN.

**THE FOLLOWING SHEETS SHOW INSTALLATION OF DEFENDER RIDGERAME MAGNETIC MOUNTED "IN-JAMB" RATHER THAN THE "FLUSH-MOUNT" SYSTEM SHOWN ON PREVIOUS SHEETS.**

**CAUTION!**

ADHESIVES REQUIRE A SETTING TIME - AT LEAST AN HOUR, LONGER IN COOL CONDITIONS. IF DEFENDER IS TO BE APPLIED TO COLD (BELOW 50°F) WINDOW FRAMES, WARM UP THE WINDOW FRAMES WITH A HAIR DRYER OR OTHER DEVICE TO 50°F.



ON DEFENDER - L VERTICALS ASSEMBLY (STEP 8), LEAVE THE MAGNET STRIP 1/8" LONG AT BOTH ENDS. THIS WILL ALLOW KNIFE TRIMMING DURING FINAL FIT TO MAKE A GOOD JOB OF THIS JOINT.

**NOTE: IF DEFENDER SILL IS USED, NO DEFENDER - L ACROSS BOTTOM.**

**6**  
STEP

MAKE SURE THAT THE SURFACE AGAINST WHICH THE DEFENDER - L IS TO BE MOUNTED IS AT LEAST 3/4" WIDE, STRAIGHT AND FLAT. ALSO, THIS SURFACE MUST BE CLEAN AND FREE FROM SCALING OR FLAKING PAINT, GREASE, OIL, DEPOSIT FROM COOKING ETC. CHECK TO BE SURE THAT PASH HARDWARE, WINDOW BLINDS ETC. DO NOT INTERFERE WITH POSITIONING OF DEFENDER HOLDINGS OR PLEXIGLASS. IF CURTAINS OR BLINDS ARE TO BE RELOCATED, LOW COST ATTENDERS ARE AVAILABLE AT MOST HARDWARE STORES.

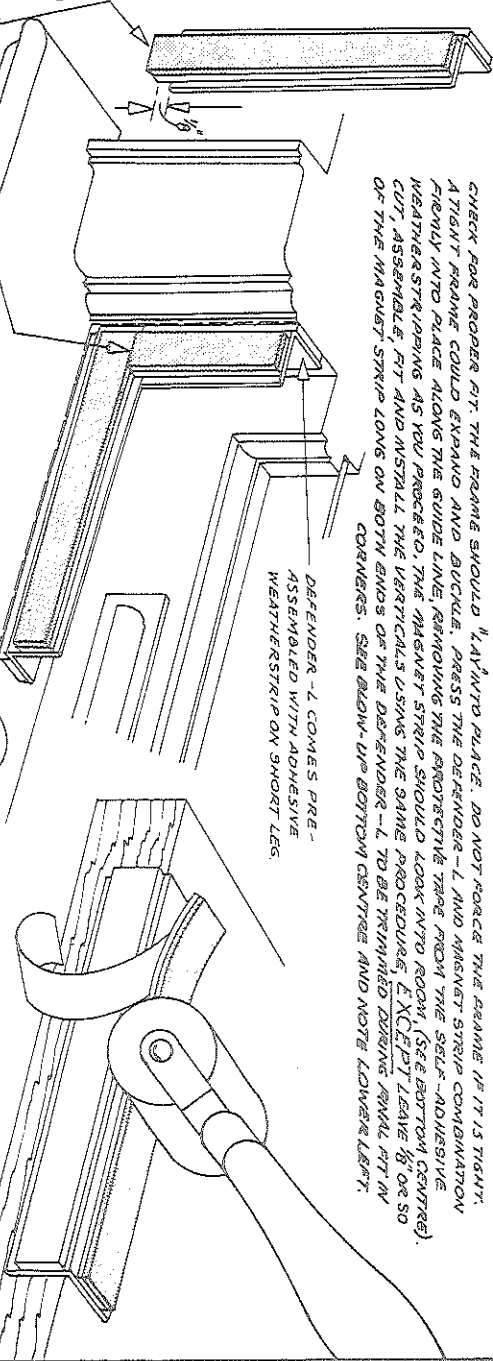
**7**  
STEP

DRAW A PENCIL LINE LIGHTLY AROUND THE JAMB AS A GUIDE FOR PLACEMENT OF DEFENDER - L (SEE BELOW CENTRE).

**8**  
STEP

THE TOP AND BOTTOM DEFENDER - L FRAMES GO ACROSS THE FULL WIDTH, THE VERTICALS FIT BETWEEN, MEASURING FOR DEFENDER - L. TAKE SIZES OF TOP AND BOTTOM (APPROXIMATELY) FIRST. CUT WITH A HACKSAW, PREFERABLY IN A MITRE BOX FOR A NICE STRAIGHT CUT. A RADIAL ARM SAW OR POWER MITRE SAW CAN BE USED. NEXT, CUT MATCHING LENGTHS OF MAGNET STRIP WITH AN EXACTO KNIFE OR SCISSORS. BOTH THE DEFENDER - L AND MAGNET STRIP ARE SQUARE CUT. MARK UP THE ENDS OF DEFENDER - L AND MAGNET STRIP. PEEL BACK THE PROTECTIVE CLEAR PLASTIC TAPE FROM THE BACK OF THE MAGNET STRIP AND ADHERE THE MAGNET STRIP ALONG THE CENTRE OF THE LONG LEG OF THE DEFENDER - L (THE LEG WITHOUT THE PRE-MOUNTED WHITE ADHESIVE WEATHERSTRIP ON IT). AFTER MAKING SURE THAT THE MAGNET STRIP IS NEATLY POSITIONED ALL ALONG THE DEFENDER - L, FURTHER "SET" THE ADHESIVE WITH A WOODEN WALL PAPER ROLLER (BOTTOM RIGHT) BY PLACING THE DEFENDER - L OVER THE EDGE OF A TABLE OR PLANK USING ROLLER AS SHOWN.

CHECK FOR PROPER FIT. THE FRAME SHOULD "LAY" INTO PLACE. DO NOT FORCE THE FRAME IF IT IS TIGHT. A TIGHT FRAME COULD EXPAND AND BUCKLE. PRESS THE DEFENDER - L AND MAGNET STRIP COMBINATION TIGHTLY INTO PLACE ALONG THE GUIDE LINE, REMOVING THE PROTECTIVE TAPE FROM THE SELF-ADHESIVE WEATHERSTRIPPING AS YOU PROCEED. THE MAGNET STRIP SHOULD LOCK INTO ROOM. (SEE BOTTOM CENTRE) CUT, ASSEMBLE, FIT AND INSTALL THE VERTICALS USING THE SAME PROCEDURE, EXCEPT LEAVE 1/8" OR SO OF THE MAGNET STRIP LONG ON BOTH ENDS OF THE DEFENDER - L TO BE TRIMMED DURING FINAL FIT IN CORNERS. SEE BLOW-UP BOTTOM CENTRE AND NOTE LOWER LEFT.



**NOTE:** ADDITIONAL MECHANICAL FASTENING SHOULD BE ADDED TO DEFENDER - L. SEE NEXT SHEET.

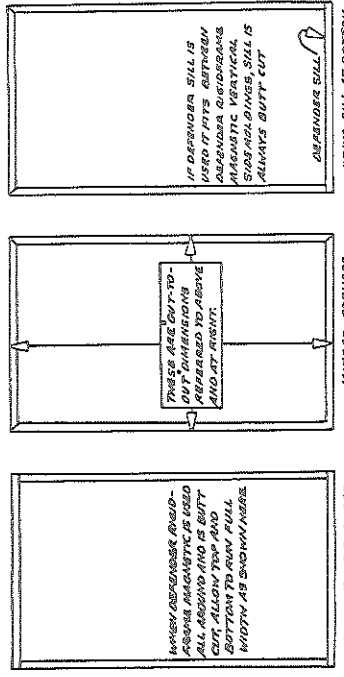
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**A HELPFUL IDEA!**

TO DO AN ACCURATE JOB, AND AVOID WASTES CUT SHORT PIECES (1/8" LONG) OF CORRUGATED PLASTIC AND METAL. USE THE MAGNET STRIP ON THESE PLACES. THESE TEMPLATE PIECES CAN BE USED OVER AND OVER AGAIN.

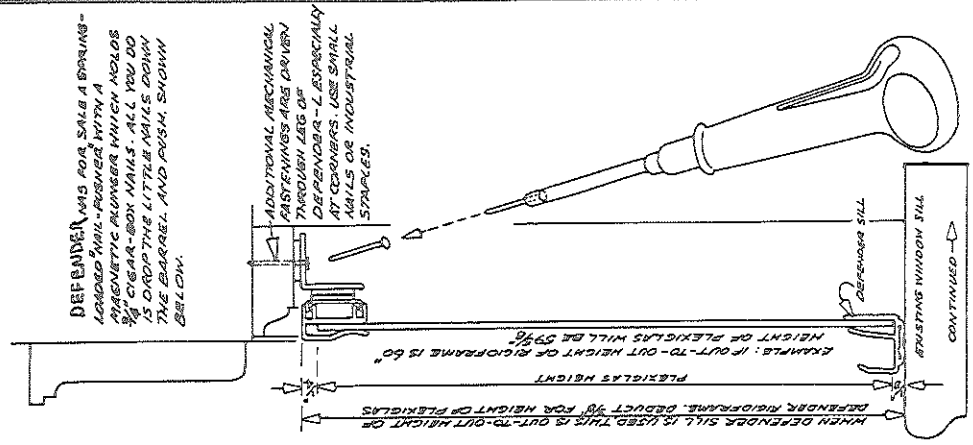


IF RIGIDFRAME IS USED ACROSS BOTTOM, USE SAME SYSTEM FOR ESTABLISHING OUT-TO-OUT HEIGHT AND SIZE OF PLEXIGLAS. IF DEFENDER SILL IS USED, SEE METHOD AT RIGHT.



AS WITH OTHER DEFENDER SYSTEMS, YOU HAVE A CHOICE OF WAYS TO CUT THE "IN-JAMB" MAGNETIC RIGIDFRAME. NOTE HOWEVER, IF DEFENDER SILL IS USED WITH THIS SYSTEM, IT MUST EXTEND ALL THE WAY ACROSS THE BOTTOM AS SHOWN AT RIGHT ABOVE.

**STEP 9**  
CUT DEFENDER RIGID FRAME MAGNETIC "IN-JAMB" RIGIDFRAMES TO SIZE. TRANSFER MEASUREMENTS TO DEFENDER RIGIDFRAME AND CUT WITH A HACKSAW. A RAOVAL RASH OR ADJMER WITRE SAW CAN BE USED. (CHECK WITH SAW MANUFACTURER FOR PROPER GRUBS). WEAR PROTECTIVE EYE GLASSES TO PROTECT FROM STEEL AND PLASTIC FRAGMENTS. A HACKSAW SHOULD BE USED WITH A MITRE-BOX FOR ACCURATE ANGLES AND SMOOTH BUTT (STRAYING) CUTS. ALWAYS CUT DEFENDER MAGNETIC WITH STEEL SIDE DOWN.



DEFENDER HAS FOR SALE A SPRING-LOADED "NAIL-PULLER" WITH A MAGNETIC PULLER WHICH HOLDS 3/4" CHESS-BOX NAILS. ALL YOU DO IS DROP THE LITTLE NAILS DOWN THE BARREL AND PUSH, SHOWN BELOW.

ADDITIONAL MECHANICAL FASTENINGS ARE DESIGN THROUGH LEG OF DEFENDER - L ESPECIALLY AT CORNERS. USE SMALL NAILS OR INDUSTRIAL STAPLES.

PLEXIGLAS HEIGHT  
DEFENDER RIGIDFRAME. DEDUCT 7/8" FOR HEIGHT OF PLEXIGLAS  
EXAMPLE: IF OUT-TO-OUT HEIGHT OF RIGIDFRAME IS 60"  
HEIGHT OF PLEXIGLAS WILL BE 59 1/8"

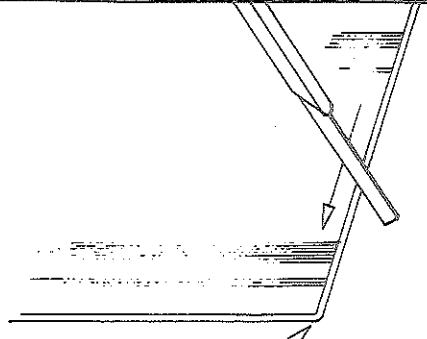
SILL HAS PROTRUDING LIP FOR FINGER GRIP TO HOLD SILL SQUARE DOWN TO ROOM EDGE

ALIGN BOTTOM OF SILL SQUARES DOWN AGAINST WINDOW SILL

CONTINUED

**STEP 10**

**THIS STEP APPLIES TO BOTH THE DEFENDER RIGIDFRAME MAGNETIC 'FLUSH-MOUNT' AND THE 'IN-JAMB' SYSTEMS**  
**FITTING THE PLEXIGLAS® TO THE RIGIDFRAME AND SETTING THE FRAME AGAINST THE MAGNET STRIP.**



PLEXIGLAS COMES WITH THIN PROTECTIVE SKINS OF POLYETHYLENE (USUALLY TAPE) ON BOTH SURFACES. AT TIME OF USE THESE PROTECTIVE FILMS ARE PEELLED OFF AND DISCARDED. BEFORE YOU REMOVE EITHER OF THESE FILMS (USUALLY CALLED 'POLYMASKING') TRY THE GLAZING PANEL IN THE OPENING FOR WHICH IT HAS BEEN CUT TO MAKE SURE IT FITS.

REMOVE THE PLEXIGLAS GLAZING PANEL BY SMOOTHING THE EDGES. THIS WILL MAKE IT EASIER TO SLIP THE RIGIDFRAME ONTO THE PANEL AND WILL REMOVE THE LINGERING OF THE PANEL DURING THE REACTION. AT A LATER DATE DUE TO EXPANSION AND CONTRACTION. SMOOTH THE PANEL EDGES BY USING AN EXACTO KNIFE OR SANDPAPER. ALSO, ROUND THE CORNERS SLIGHTLY WITH SANDPAPER.

PEEL BACK 3" or 4" OF THE POLYMASKING FILM FROM BOTH FACES AND ALL EDGES OF THE PLEXIGLAS GLAZING PANEL. GENTLY TAP THE FRAME ONTO THE PANEL. PLACE THE RIGIDFRAME AGAINST THE MAGNET STRIP. ADJUSTMENTS, IF NECESSARY, CAN BE MADE TO THE FRAME OR PLEXIGLAS AT THIS TIME. USE A RUBBER Mallet AND A WOOD BLOCK TO TAP THE FRAME INTO PROPER ALIGNMENT, IF NECESSARY, AT THIS TIME.

GENTLY PEEL OFF THE REMAINING POLYMASKING FROM BOTH FACES OF THE PLEXIGLAS. DO NOT RIP OFF THE MASKING QUICKLY! THE RESULTING SURFACES SHOULD BE IMMEDIATELY CLEAN. IF A FEW FINGER MARKS HAVE HAPPENED THEY CAN BE REMOVED WITH ANTI-STATIC CLEANER IF SURVIVAL CLIPS ARE TO BE INSTALLED ON 'FLUSH-MOUNT' PANELS, DO SO AT THIS TIME.

**ABOUT PANEL THICKNESS:**

- WINDOWS FROM 1 TO 20 SQUARE FEET - USE .013" THICK (A LITTLE OVER 1/8")
- WINDOWS FROM 20 TO 40 SQUARE FEET - USE .15" THICK (BETWEEN 1/8" AND 1/4")
- WINDOWS FROM 41 SQUARE FEET AND UP - USE .125" THICK OR .181" (1/2") WILL ACCEPT PLEXIGLAS FROM 1/8" TO THROUGH .187" (3/16") THICK

**DEFENDER CAN BE INSTALLED ON ALUMINUM FRAMES-**

USE OF A DRILL WITH RIVETS OR SELF-TAPPING SCREWS IS RECOMMENDED. RIVETS ARE OBTAINABLE IN COLOURS TO MATCH THE FRAME.

