Congratulations!

You are about to modernize your aircraft with the best sealing material available. The seal(s) you purchased provides you with the top of the line in rubber technology. After the seal is installed, you will immediately notice the dramatic level of noise reduction. We hope you enjoy our specialized product and thank you for allowing us to be a part of your flying world.

Aircraft Door Seals, LLC
4910 Lockheed Lane
Denton TX 76207
817-567-8020

GENERAL AND PRE-PLANNING NOTES:

1. Review ALL INSTRUCTIONS including installation drawing before beginning.
2. The seals are FAA-PMA approved and are intended to be installed on an undamaged or repaired door or fuselage having a proper factory door-to-fuselage fit. If you have a damaged door or door opening, consult your local A&P or contact our technical department before seal installation.
3. Retain the FAA-PMA Tag that is enclosed within the seal kit as it cannot be replaced.
4. Refer to all applicable and current Aircraft Maintenance Manual procedures for door removal, installation, and adjustment.
5. Temperatures must be above 59 degrees F when installing and during the initial 24 hours of seal compression with the door closed for proper seating to occur.
6. Do not use any tape on the door seal surface as it is likely to become damaged if silicone grease has not been applied.
7. Adhesive Remover - Peerco 321 adhesive remover or 3M 08984 Adhesive Cleaner may be helpful in the removal of old adhesive.
8. Adhesive Cleanup - GOO-GONE XTREME ADHESIVE REMOVER (black and red can) may be helpful in removal of new adhesive (available from Wal-Mart or most hardware stores).
9. Adhesive - 3M EC1300L or 3M Super Weather and Gasket Adhesive 08001 (yellow or black) is the recommended adhesive.

ADS1200-109: INSTRUCTIONS FOR CONTINUED AIRWORTHINESS

Aircraft Door Seals, LLC
4910 Lockheed Lane
Denton, TX 76207

Ref: Door and window seals manufactured by Aircraft door Seals, LLC under FAA PMA # PQ2126SW.

1. **INSTRUCTIONS FOR CONTINUED AIRWORTHINESS (ICA) per FAR 23.152**

   (a) The door and window seals should be cleaned with non corrosive soap and water at each 100 hour or annual inspection.

   (b) After cleaning the seal, it should have a light film of silicone grease applied to the sealing surface of each seal. Wipe any excess silicone grease from the seal after application.

   (c) During the inspection, if any tears or abrasions are found that would impair sealing, the damaged portion of the seal should be replaced or an entire new seal installed. New seal installations or repair sections are available from the manufacturer (Aircraft Door Seals LLC.) at a nominal cost.

   (d) Repairs of damaged seals require only cutting beyond the damaged area of the seal with a razor blade or Exacto knife and removing the damaged area. Cuts should be made at 90 degrees.

   (e) With the damaged seal removed, clean off all old adhesive (or the Mylar adhesive strip) from the aircraft sealing surface or channel with adhesive remover such as "Goo-Gone Xtreme Adhesive Remover" (available at Wal-Mart or most hardware stores) and install the repair section. Bond the cut ends using 3M EC1300L adhesive or Super Glue.
   CAUTION: Super glue can bond skin or cause blindness.
   Always wear protective eye protection when using Super Glue.

   (f) Future updates and revisions to the ICA (if applicable) may be found on our website www.aircraftdoorseals.com.

2. **THERE ARE NO AIRWORTHINESS LIMITATIONS**

   (a) THE AIRWORTHINESS LIMITATION SECTION IS APPROVED AND SPECIFIES MAINTENANCE REQUIRED UNDER 43.16 AND 91.403 OF THE FEDERAL AVIATION REGULATIONS, UNLESS AN ALTERNATE PROGRAM HAS BEEN FAA APPROVED.

Fitting and Adjusting the Piper Entry Door

NOTES THAT MUST BE FOLLOWED FOR A PROPER FITTING DOOR

Over the years, the eyebolts and clevis pins on the Piper entry door (door hinge system) can become worn to a point that the door will sag and not close or seal properly. It is imperative that these parts be checked for wear before proceeding. A good way to check the parts for wear is to slightly open the door and see if you can raise-up on the door. There should be no movement (or very little movement) of the door vertically. If you can lift-up on the door, the eyebolts and clevis pins are worn out and should be replaced (the tolerance when new was only 0.003 thousands). These items are not expensive, but critical to properly closing and sealing of the door. These parts are readily available from Aircraft Door Seals and are easily replaced. The eyebolts come with complete instructions for installation. **Do not** replace only the clevis pins; the eyebolts will also wear with the clevis pins and need to be replaced at the same time.

1. REMOVAL OF DOOR

a. The only proper way to adjust the door is with the door seal removed. Only then will you know if the door is fitting properly. The following procedure should be done before installing a new seal.
b. Remove the screw, step bushing and washer attaching the door stop to the door sill plate.
c. Remove the cotter pins, clevis pins and washers from door hinges. Set door aside on a blanket or protective covering.

2. REINSTALLING DOOR

a. Place the door into position over the eyebolts and install the washers and clevis pins in the door hinges. Do not reconnect door stop to the door sill on the fuselage at this time.
b. Close door and secure upper latch.
c. With the door closed and latched, verify the front edge of the door is flush with the fuselage. Many times the door will not be flush, but instead will actually be fitting inside of the fuselage anywhere from 1/8 inch to 3/16 inch. It must be flush with the fuselage before you proceed.
d. If you find it not fitting flush, this may be corrected by the installation of spacers (washers) under each eyebolt which will move the upper or lower portion of the door enhancing the door fit. The washers needed are AN960-516 (thick) and AN960-516L (thin), (quantity as required) which is normally just one or two under each eyebolt. To remove the eyebolt, you must remove the door.
e. Just inside the cabin in front of the door opening, you will find a 5/16-24 nut (behind the interior trim) for the upper and lower eyebolt. Slide a 1/2 inch box wrench behind the upholstery placing it over the nut. Using a "Crescent wrench" on the eyebolt, unscrew the eyebolt CCW and remove the eyebolt. It is helpful to have a helper to place the washers on the eyebolts so you do not have to move the wrench and nut. Install one or more washers (as required) on the eyebolt(s) and reinstall the eyebolt. Do not over tighten. Just snug is sufficient
f. Reinstall the door and verify the front edge of the door fits plush with the fuselage. If not repeat steps 2e and 2f until it does fit flush.

NOTE. Many times the factory installation leaves a little to be desired. With the door fully closed, inspect the clearance between the edge of the door and outer periphery of the fuselage door opening. Many times I have found the edge of the door skin actually hitting the fuselage especially the front edge. You should have a minimum of 1/16 inch clearance. If not, file the edge of the door until it has the proper clearance

3. ADJUSTING THE DOOR

a. If the door does not fit flush with the fuselage around the entire opening, start with the adjustment of the main latch by loosening the two flat head screws and move the striker plate (in or out) as required. Re-tighten the two screws. Repeat this as necessary until the door fits flush. The door should have a 1/16 inch to 1/8 inch clearance around the entire edge of the door and fuselage. On early models (pre 1968), many times I have found the latch clevis pin bent which will prevent the door from latching properly. If it is bent, it must be replaced. Aircraft Door Seals also stocks this Latch Clevis Pin.
b. To provide the proper vertical adjustment of the door, insert the necessary washer combinations between the cabin door hinge(s), clevis pins and the fuselage eyebolts.
c. Verify that the fittings riveted to the door have not been bent. The fittings forming the portion that fits over the eyebolts should be straight.

4. ADJUSTMENT OF THE UPPER DOOR SAFETY LATCH

a. To adjust the door upper (hook) latch, remove the two screws from the latch plate on the top of the fuselage door opening.
b. Remove the plate and rotate the loop CW or CCW (a small amount of penetrating oil on the threads will help) to make necessary adjustments.
c. Replace the latch plate and secure with the two attachment screws. Re-check the fit of the door.
d. Many times the upper latch hook can become bent and actually hit the upper portion of the door opening (fuselage). The upper hook should be centered in the upper opening. If not, using locking pliers, clamp the hook at the point where there is a slight bend in the hook and slightly bend the hook until it is centered in the opening.

Caution: When bending the hook, support the hook with your thumb in the area where you are bending. This may prevent the latch from being damaged.

e. When the door is properly adjusted, there should be approximately a 1/16 to 1/8 inch gap around the outer periphery of the door between the door edge and the fuselage.
f. Insert the cotter key(s) in the clevis pins and bend the cotter key ends around the clevis pins and trim off the excess cotter key length as required.

SPECIAL NOTE: It is not uncommon for the forward top edge of the door to not fit totally flush with the top edge of the fuselage. This condition was due to the variables in the assembly process of the door. Many times maintainers have found it necessary to adjust the fit of this portion of the door by slightly bending the door upper edge. This procedure should not damage the door and has been done by the factory for years. *It must not be done with the door installed.* It is best done with the door laying flat on a blanket and manually massaging the upper portion of the door (with you knee just below the window) slightly until you are satisfied with the fit.

5. INSTALLATION OF THE DOOR SEAL.

a. We certainly hope you will be installing one of our door seals (www.aircraftdoorseals.com), but regardless of whose seal you decide to use, you now know before any seal is installed that the door is adjusted properly.

If you have any questions, please feel free to contact us at sales@aircraftdoorseals.com or at 817-567-8020.

P301-1/23 PIPER FRONT DOOR SEAL INSTALLATION INSTRUCTIONS

(Review the enclosed Fitting and Adjusting the Piper Entry Door and all Instructions)

General Note: The old seals may be removed with the door installed on the aircraft. We have found that due to the ease of removing the door, it is much easier to remove the door to make this installation. Refer to the Piper maintenance manual for the door removal and installation.

1. REMOVAL OF THE OLD SEALS

a. Using a putty knife, gasket scraper or similar tool, pry a section of the seal away from the door edge until you have a piece large enough to hold onto and remove the seal. Using a stiff brush (similar to a wire tooth brush) and adhesive remover, remove all the old adhesive from the door. In some areas where the seal is very old it may be necessary to use a heat gun to aid in the removal.

CAUTION: ***Do not use the heat gun when the adhesive remover is wet due to the possibility of a flash fire from the heat gun.***

b. Be sure to remove as much of the old adhesive as you can from around the door. We recommend using adhesive remover for this effort. It may take additional mechanical steps to remove the traces of old adhesive

c. Before you get started with the new seal installation you must make sure the surface where the seal fits is free of any loose paint. When finished, wipe the entire surface with a suitable solvent to remove any oil or contamination. Make sure it's dry before commencing with the seal installation.

NOTE: ON LATE MODEL PA32 and PA34 aircraft, Piper installed a hard rubber extrusion around the outer periphery of the door opening to aid in sealing the original seal they installed on the door. This extrusion will interfere with the new seal installation and must be removed. It has no functional benefit in sealing the door with the new seal installed.

2. INSTALLING NEW SEAL(S)

a. Using 3-M brand EC1300L, 3M Super Weather and Gasket Adhesive 08001adhesive, brush a coat of adhesive on the outer surface of the edge around the entire periphery of the door with and allow the adhesive to completely dry.

b. Remove the door seal P/N: ADS1200-301-1 or -23 as applicable from the shipping bag and apply a coat of adhesive to approximately eight to ten inches the back side (only on the thick flat portion only) of the seal and immediately place the seal onto the door. Continue to apply the adhesive in these short segments until you have returned to the starting point.

NOTE: ***The thick edge of the seal must be installed near the door edge (1/32" from the edge is ideal for the bottom of the door).*** **Caution should be exercised when attaching the seal to the bottom edge of the door to make sure that the upper portion of the seal clears the edge of the fuselage when closing.**

WARNING: WHEN INSTALLING THE SEAL, DO NOT STRETCH THE SEAL AROUND THE CORNERS OF THE DOOR.

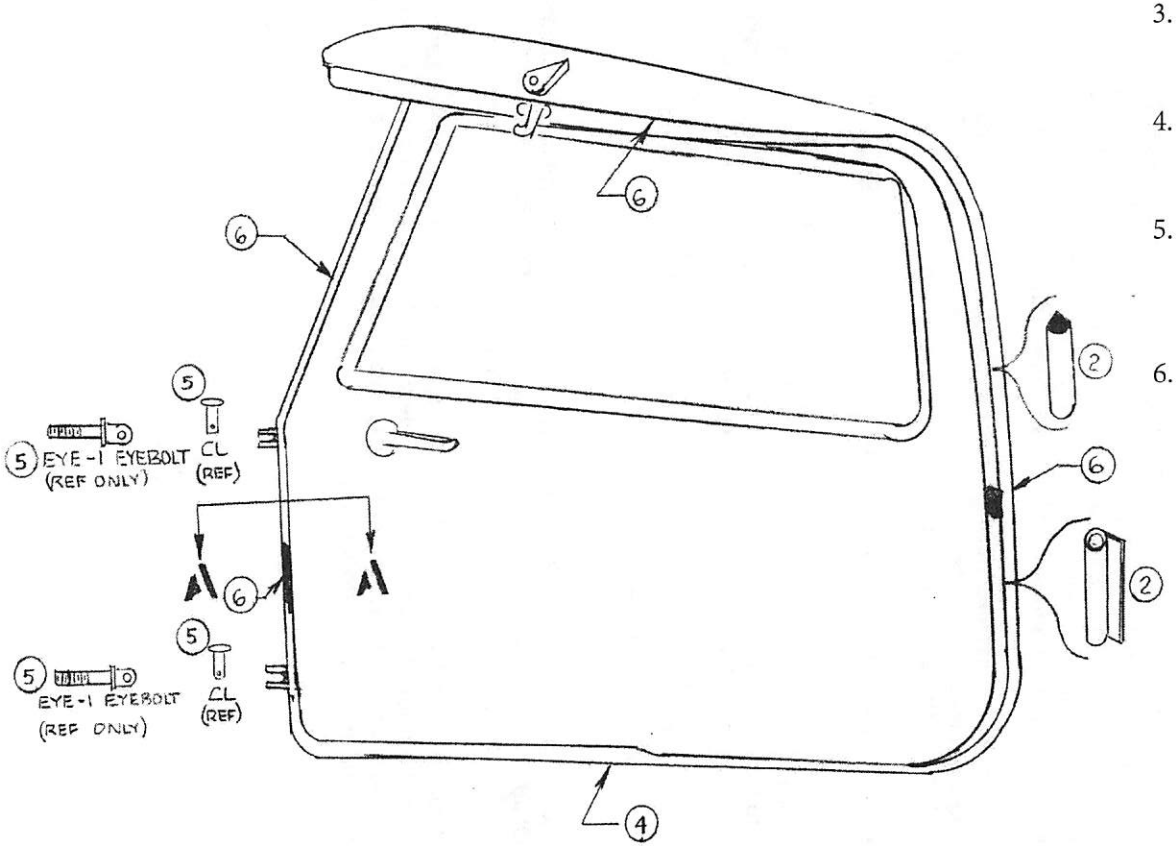
c. Start the seal installation at the bottom of the door (at the approximate center). Continue with the installation until you returned to the starting point. Make sure you keep the adhesive on the seal wet during the installation to insure that the new seal does not bond to the door out of position. Trim off any excess seal material with a straight edge razor blade (1/8 inch longer than needed). Brush a coat of adhesive on the two ends and bond the two ends together.

d. Using the enclosed small packet of seal lube (silicone grease), wipe a light film of lube over the entire seal installation. Remove any excess lube with a dry cloth. It is recommended the seal lube be used on the seal once a year to preserve the natural sealing ability of this special rubber compound.

3. Log Book Entry

a. Upon completion of the door seal installation, a log book entry will need to be recorded. The following is recommended: *Removed entry door seal and installed new FAA-PMA door seal P/N ADS1200-301-1 (or ADS1200-301-23), in accordance with manufacturer's instructions. The FAA- PMA tag may be found in the aircraft log book or aircraft records.*

Please note that after you have the seal installed, the door will initially require more effort than you may have experienced in the past to close the door. This is due to the special rubber compound that will enable the new seal to compress and form fit to the contour of the door. After a few days you will find the door easy to close and seal perfectly and may require minor readjustment of the latch striker plate.



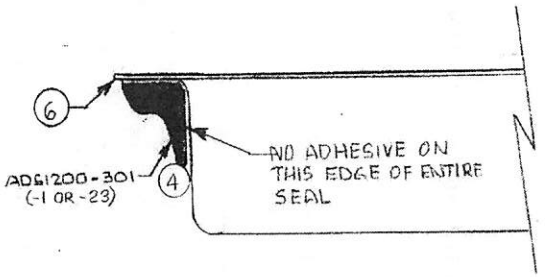
2. This installation replaces Piper seals P/N 189139 (was 78741-2) and 19063-02.

3. This installation drawing must be used in conjunction with installation instructions ADS1200-301A.

4. Seal on bottom portion of the door must be installed so the smaller edge of the seal clears the fuselage edge when closed.

5. It is highly recommended to install new clevis pins and eyebolts when replacing the door seal. Parts are available from Aircraft Door Seals.

6. Excluding the bottom edge of the door, the remaining portion of the seal must be installed no closer than 1/16 in from the edge of the door.



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