

CANOPY LOCK/IGNITION SWITCH INSTALLATION INSTRUCTIONS
(For Glasair II, Glasair II-S, and Glasair III)

631-0195-052

NOTE: The installation procedures for the Glasair I canopy lock can be found in the Instruction Manuals.

The canopy lock option kit consists of a standard aircraft ignition switch, two matching door locks, removable locking arms for the lock bodies, two keys, installation material, and hardware. Both the ignition switch and the locks are actuated by the same key.

The lock body is installed on the inside of the canopy frame in the same area as the canopy latching mechanism. The locking arm rotates 90° between the open and closed positions. In the locked position, a slot cut by the builder in the locking arm engages the forward actuator bar post on the internal canopy latch handle.

NOTE: Before the canopy lock can be installed, the installation of the canopy latch pivot housing, the internal and external latch handles, and the forward actuator bar must be completed to the point that the exact positions of the latch components in the closed and latched condition are known.


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STEP 1 ENLARGING THE CANOPY LATCH MECHANISM ACCESS OPENING

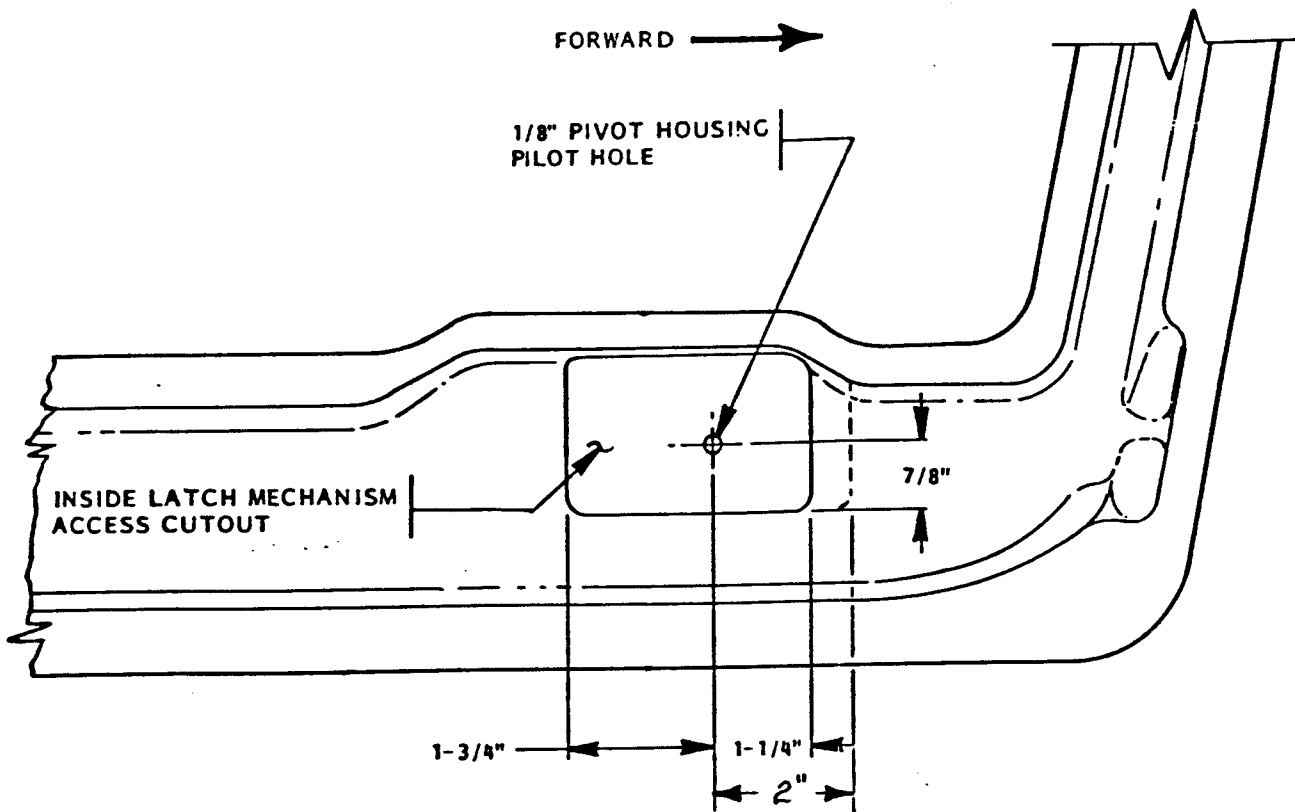



FIGURE (1)

Enlarge the canopy latch mechanism access opening by cutting an extra 3/4" from its forward end, as shown in FIGURE (1), to provide adequate clearance to install the canopy lock and lock attach plate.

NOTE: Do not enlarge the opening beyond this dimension or there may not be sufficient room to install the nutplate that secures the forward end of the canopy latch cover panel.

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STEP 2 CUTTING THE LOCK OPENING IN THE OUTSIDE CANOPY FRAME LAMINATES

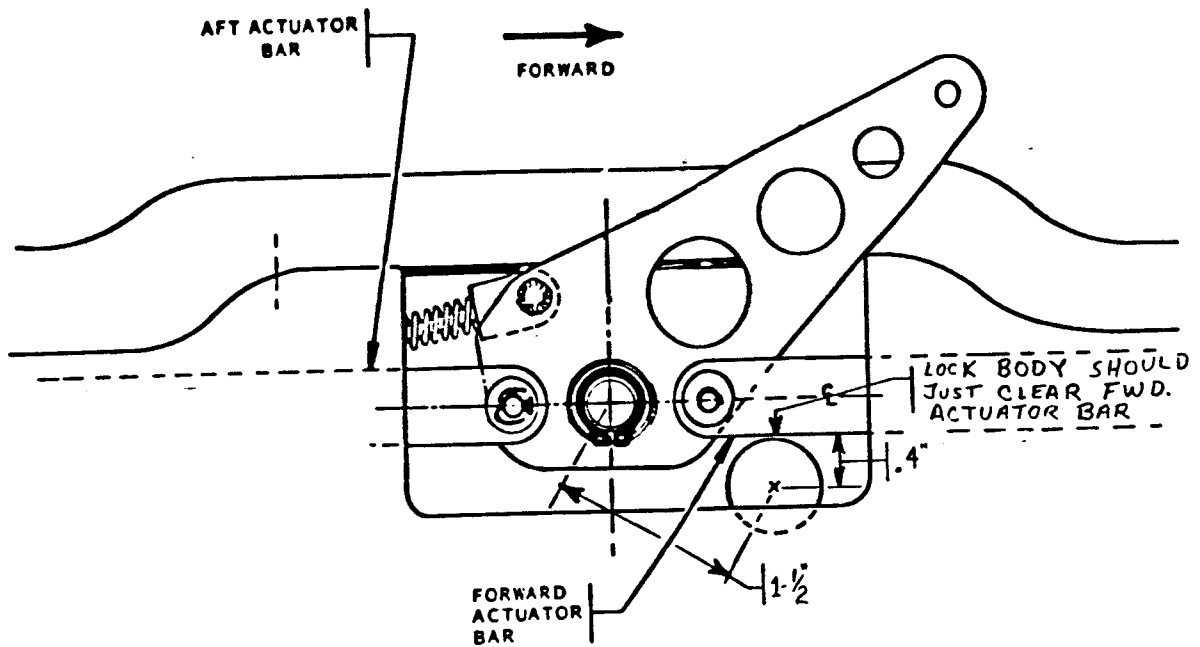


FIGURE (2)

The opening for the lock face in the outside canopy frame laminates is positioned relative to the center of the canopy latch pivot, as shown in FIGURE (2).

Drill a #30 hole through the outside canopy frame laminates centered $1\frac{1}{2}$ " from the center of the latch pivot and $.4$ " below the lowest edge of the forward actuator bar (when the bar is in the latched position), as shown in FIGURE (2). Drill the hole from the inside out.

Use a $\frac{3}{4}$ " hole saw to enlarge the #30 pilot hole, and then radius the inside surface of the $\frac{3}{4}$ " hole to accommodate the rounded contour of the lock face, as shown by Flag #1 in FIGURE (4).

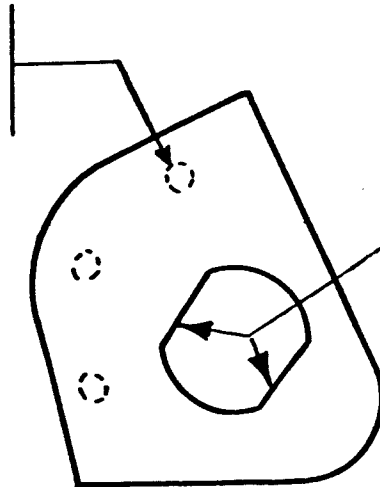
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STEP 4 FABRICATING THE LOCK BODY ATTACH PLATE

APPROXIMATE
LOCATION OF
SECURING RIVETS

UP
FORWARD



NOTE ORIENTATION
OF FLATS TO
PREVENT LOCK
BODY ROTATION

LOCK BODY ATTACH PLATE
FABRICATE (2)
.063 2024 T3 ALUMINUM

FIGURE (3)

To position the lock face flush with the exterior surface of the canopy frame, the lock body must be mounted to an attach plate which is then secured to the inside surface of the canopy frame. The attach plate can be fabricated either from the supplied .063" 2024-T3 aluminum sheet or from a 6-layer precured laminate. The aluminum mounting plate requires either countersunk screws or rivets to secure it to the canopy frame. The precured laminate plate can be permanently bonded to the inside of the canopy frame.

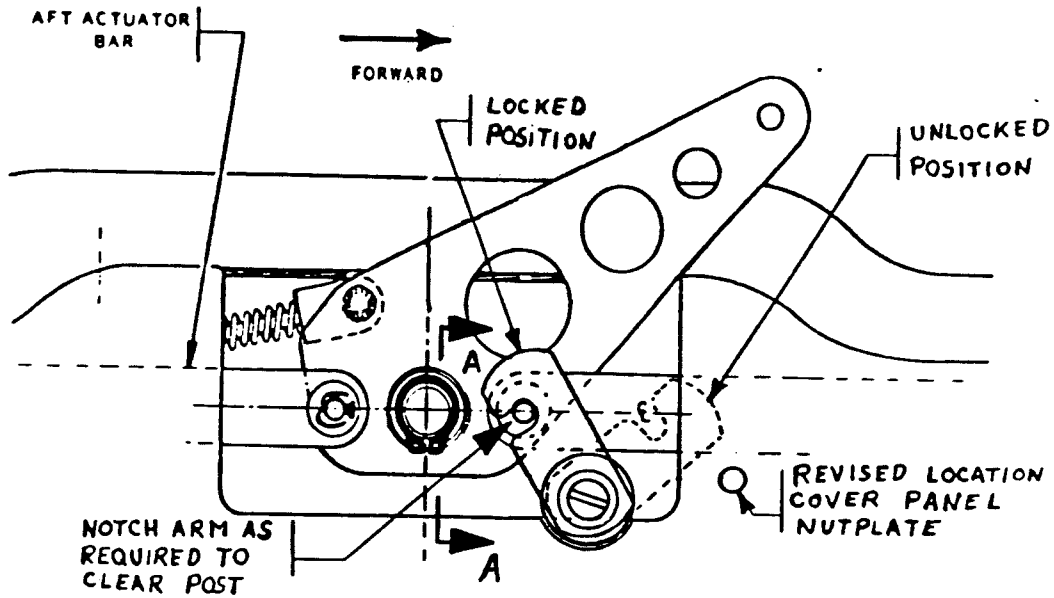
Fabricate the lock mounting plate, using the template provided in FIGURE (3).

Install the lock body to the plate using the nut provide with the lock. Verify that the plate will allow the lock to fit within the canopy frame while clearing the forward actuator bar when the bar is in the latched position.


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STEP 5 FINAL INSTALLATION AND RIGGING OF THE DOOR LOCK



MAINTAIN $\frac{1}{16}$ "
CLEARANCE BETWEEN
LOCK ARM AND FWD.
ACTUATOR BAR

TRIM POTTING
MIXTURE AS REQ
TO INSTALL LOCK

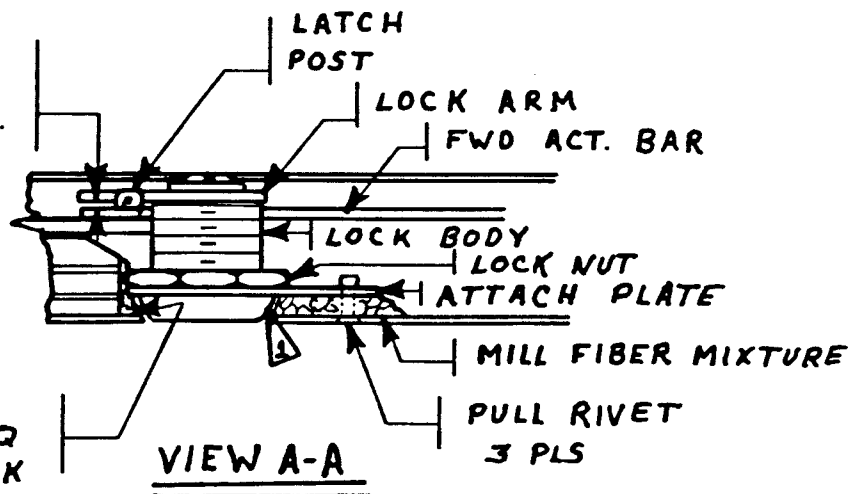


FIGURE (4)

Install the canopy latch door lock. Cut a slot in the locking arm that tightly engages the forward actuator bar post on the internal latch handle when the latch is in the closed position, as shown in FIGURE (4). The locking arm must rotate in a plane parallel to the forward actuator bar to prevent contact.

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Use a mill-fiber/resin mixture as a shim-filler between the lock mounting plate and the inside of the canopy frame. Spread the mixture on the mounting plate and install the mounting plate in the canopy frame. Press the lock and mounting plate down into the frame (squeezing out excess mixture) until the locking arm has approximately 1/16" clearance from the actuator bar, as shown in FIGURE (4). Let cure.

If an aluminum mounting plate has been used, secure it with (3) 700-0420-001 countersunk pull rivets. Countersink the rivet heads slightly deep so that body filler can be used to hide them. If preferred, either AN426 rivets or screws can be used to mount the attach plate to the canopy frame.

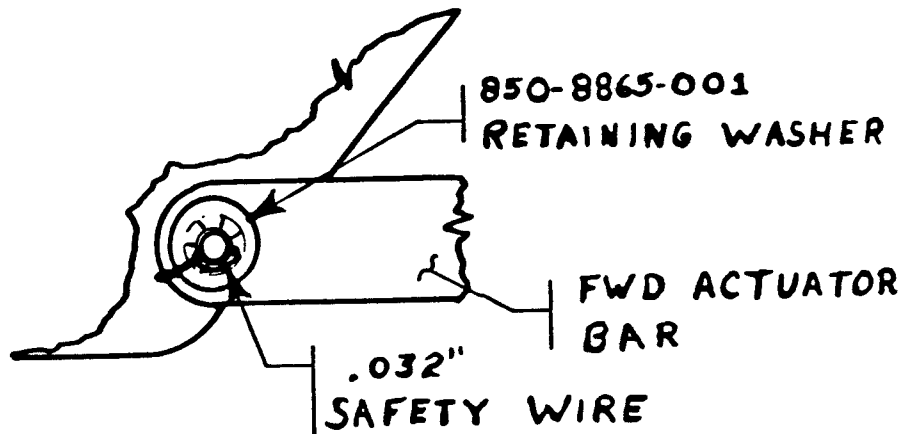


FIGURE (5)

Safety the forward actuator bar to the post on the internal latch handle using an 850-8865-001 retaining washer and .032" safety wire, as shown in FIGURE (5).

To reinstall the interior latch mechanism cover, reposition the forward cover attach nutplate, as shown in FIGURE (4).

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IGNITION SWITCH INSTALLATION

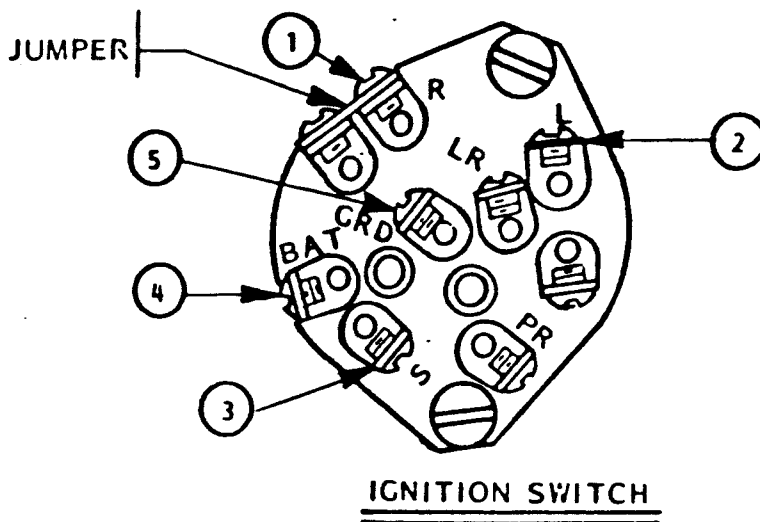


FIGURE (6)

- A. Use SHIELDED wire on all connections and ground to the nearest ground (-) bus.
- B. Terminal 1 must have a jumper installed when a RETARD BREAKER MAG (impulse coupled) is used for the left mag only.
- C. Connect wire from RIGHT MAG to terminal 1.
Connect wire from LEFT MAG to terminal 2.
Connect wire from STARTER SOLENOID to terminal 3.
Connect wire from POSITIVE terminal of the positive (+) bus to terminal 4.
Connect wire from terminal 5 to the nearest ground (-) bus.

NOTE: Aircraft magnetos are either impulse coupled or non-impulse coupled. On many engines, such as the engines installed in all our factory Glasairs, one magneto will be impulse coupled and the other will not be.

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The impulse mag produces a hot, late spark, while the non-impulse mag produces an advanced spark. This is very important to know if you attempt to hand prop any airplane. Since the advanced spark can produce ignition before top dead center, the propeller can kick back very suddenly with enough force to injure your hands and arms. The pilot/operator should know which magneto is the impulse coupled one (usually the left magneto) and turn the ignition (mag) switch to the left mag only, NOT BOTH. Turning the non-impulse mag off will reduce the risk of prop kickback. In any event, be prepared and never wrap your fingertips around the trailing edge of the prop blade when hand propping.

NOTE: The impulse magneto is usually the one with the spacer underneath it, but check the part number to be sure. During engine starting, flyweights engage stop pins, holding the magneto until the engine has rotated beyond the normal firing position. Rotation of the engine winds a heavy clock-like spring which is released at the proper time, spinning the magneto to produce a hot, late spark.

Engines with starters should have the ignition switch wired so that the impulse mag is the only one hot in the start position. Kickback can damage the starter as well.

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