

ACCESSORY KIT NO. AK-109C
 (Supersedes AK-109B)

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DATE: November 21, 1973
 TITLE: GYRO ACCESSORY KIT
 MODELS AFFECTED: AA1-0001 and up, AA1A-0001 and up, AA1B-0001 and up and AA5-0001 and up.
 WEIGHT AND BALANCE CHANGE:
 AA-1, AA-1A & AA-1B
 Weight Increase: 10.55 lbs.
 Arm: Fus. Sta. 59.29
 AA-5
 10.55 lbs.
 Fus. Sta. 59.25

PARTS LIST

<u>QUANTITY</u>	<u>PART NUMBER</u>	<u>DESCRIPTION</u>
*1	**K5494-07	Horizon Gyro (R.C. Allen)
*1	***J8000-05	Directional Gyro (R.C. Allen)
1	5801007-1	Vacuum Gauge
1	211CC	Vacuum Pump (Airborne)
1	****133A4	Vacuum Regulator (Airborne)
1	*****1J7-1	Vacuum Filter (Airborne)
4	A-6	Clamp (Corbin)
2	A-14	Clamp (Corbin)
8	A-10	Clamp (Corbin)
1	AN840-4D	Adapter
1	1K8-6-8	Elbow Fitting (Airborne)
1	1K1-6-10	Elbow Fitting (Airborne)
3	1K10-4-6	Adapter (Airborne)
1	1K31-1	Adapter (Airborne)
2	405002-2	Tubing, PVC (.375 dia.-.062 wall)
1	5405002-1	Hose
1	5405002-2	Hose
1	5405002-3	Hose
1	5405002-4	Hose
1	5405002-5	Hose
1	5405002-6	Hose
7	AN515B6R8	Screw
1	AN970-10	Washer
1	MS20365-1032	Nut

* NOTE: GYROS ARE TO BE SUPPLIED WITH 1K10-4-6 ADAPTER INSTALLED.

** NOTE: ALTERNATE HORIZON GYROS - 23-501-06 (EDO-AIRE INST.)
 - 300-3CF (A.I.M. CORP.)
 - SP 7710-1-AA (STD. PRECISION)

*** NOTE: ALTERNATE DIRECTIONAL GYROS - SP-7610-1-AA (STD. PRECISION)
 - 200-5 (A.I.M. CORP.)
 - 1U262-001-1 (EDO-AIRE INST.)

**** NOTE: ALTERNATE VACUUM REGULATOR - 133A16 (AIRBORNE)

***** NOTE: ALTERNATE FILTER P/N EBG03-0003 (DONALDSON CO., INC.)

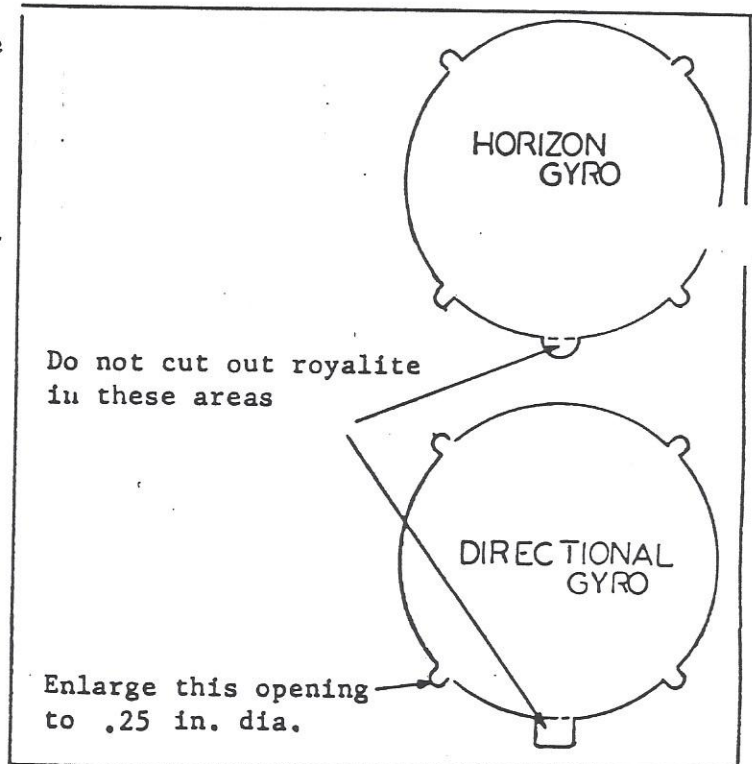
INSTALLATION INSTRUCTIONS

NOTE: THE INSTALLATION OF THIS KIT IS IDENTICAL IN ALL AIRCRAFT EXCEPT THAT THE 5405002-2 (VACUUM PUMP TO REGULATOR) HOSE MUST BE CUT TO A 17" LENGTH FOR AA-1, AA-1A AND AA-1B AIRCRAFT INSTALLATIONS.

C A U T I O N

Permit no oil, grease, pipe compound, etc. to enter internal parts of dry vacuum pump or into lines or fittings. This dry pump requires no lubrication at all and is susceptible to damage due to oil or grease internally.

1. Remove cowl deck cover and upper cowl. Refer to Figure 1 and cutout holes in the instrument panel cover for the horizon gyro (K5494-07), directional gyro (J8000-05), and the vacuum gauge (5801007-1).
2. Install the horizon gyro and directional gyro with the screws (AN515B6R8). Install the vacuum gauge with hardware provided. Use Loctite #222 on screws.
3. Locate and drill the .193 dia. hole as shown on Figure 2 and install the vacuum filter (1J7-1). Secure the filter with the washer (AN970-10), and nut (MS20365-1032).
4. Locate and drill the .88 dia. hole through the firewall, cutout the insulation behind it for the vacuum regulator (133A4), and secure with the nut and washer provided.
5. Refer to Note 1 (Fig. 1), for installation of vacuum pump and install pump. Install the elbow fittings (1K1-6-10) and (1K8-6-8) in the vacuum pump as shown on Figure 1. For AA-1, AA-1A and AA-1B aircraft installations, cut 5405002-2 hose to a 17" length. Attach one end of the hose 5405002-2 to the vacuum pump elbow (1K1-6-10) and secure with the clamp (A-14).
NOTE: SLIDE THE (A-14) CLAMPS ON THE HOSE BEFORE PLACING THE HOSE ON FITTINGS. ATTACH THE OTHER END OF THE HOSE TO THE VACUUM REGULATOR (133A4).



6. Slide the (A-10) clamps on each end of the hose (5405002-5) and attach it to the vacuum regulator (See Figure 1) and secure with the (A-10) clamp. Attach the other end of the hose to the adapter (1K10-4-6) on the horizon gyro (K5494-07) and secure with (A-10) clamp.

(See Note 1)

211CC Vacuum Pump

5801007-1 Vacuum Gau

A-6 Clamp (4)

(Screws provided by Vendor)

1K31-1 Adapter
5405002-2 Hose
(Trim to 17" for AA-1, AA-1A & AA-1B installations)

405002-2
PVC Tubing (2)

K5494-07 Horizon Gyro

1K31-1 Adapter

133A4 Vacuum Regulator
A-10 Clamp (8)

1LJ7-1 Vacuum Filter
5405002-6 Hose

5405002-3 Hose

A-14 Clamp (2)

5405002-5 Hose

AN970-10 Washer
MS20365-1032 Nut

5405002-4 Hose

AN840-4D Adapter

1K10-4-6 Adapter (3)

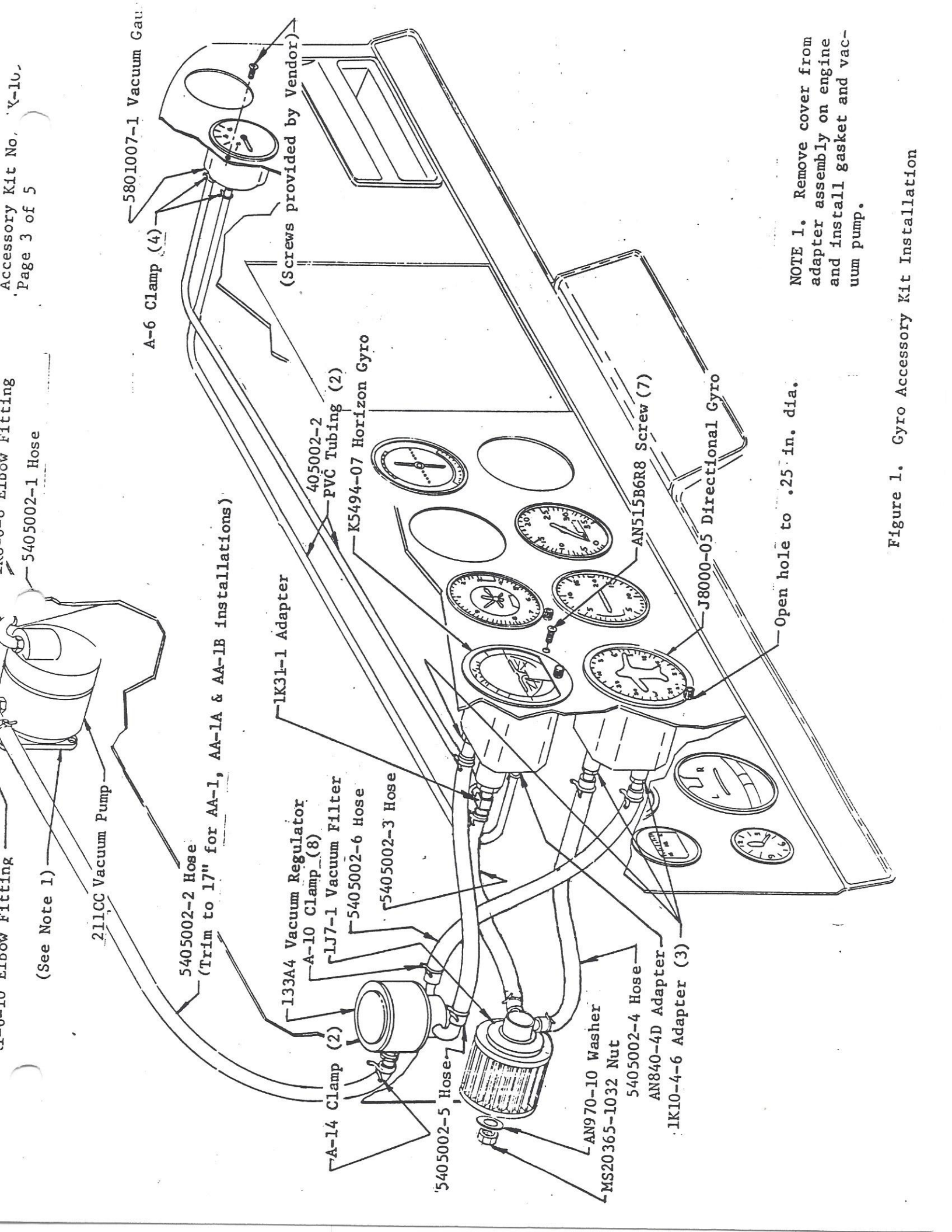
AN515B6R8 Screw (7)

J8000-05 Directional Gyro

Open hole to .25 in. dia.

NOTE 1. Remove cover from
adapter assembly on engine
and install gasket and vac-
uum pump.

Figure 1. Gyro Accessory Kit Installation



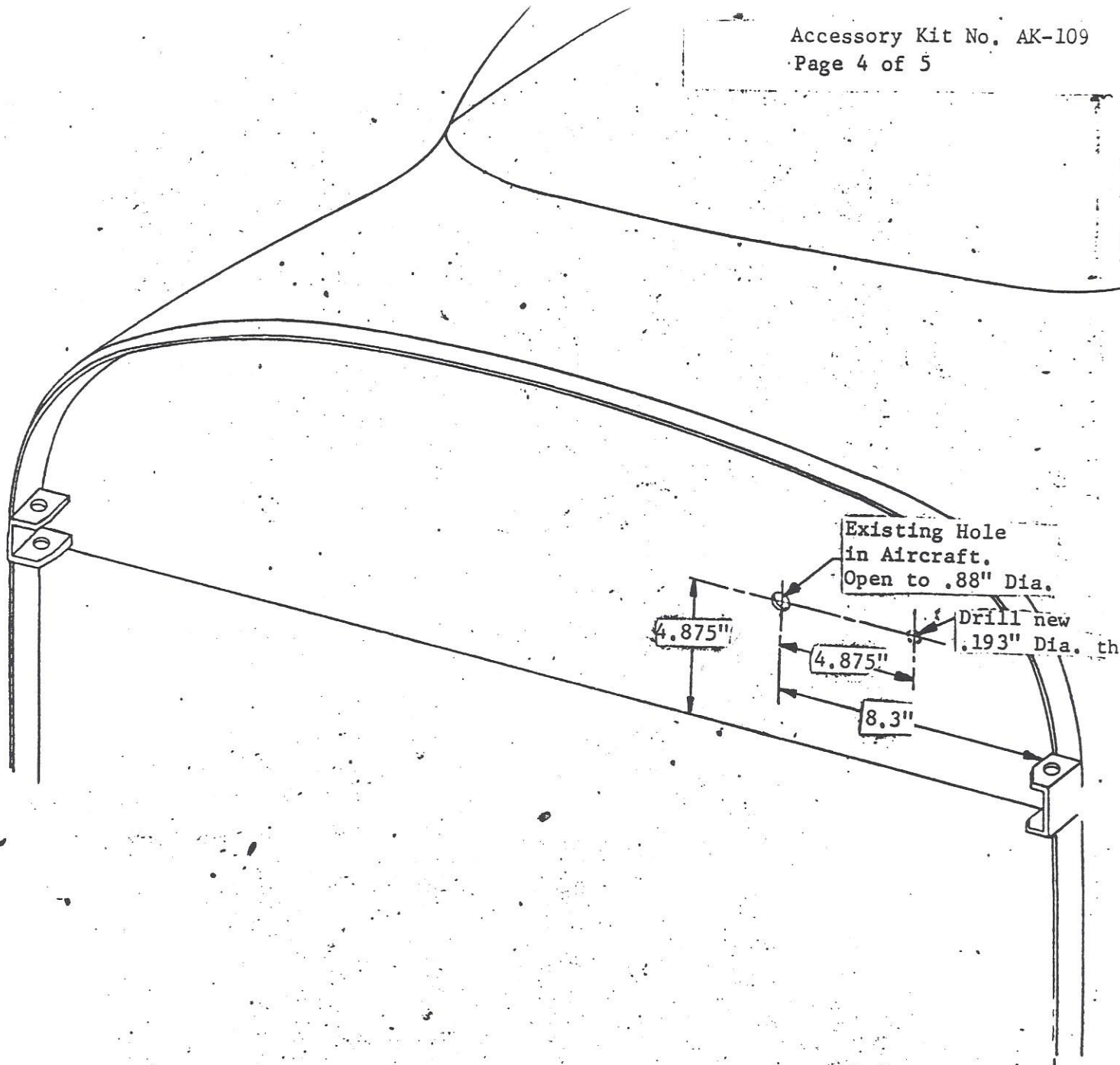


Figure 2. Gyro Accessory Kit Installation (cont'd)

7. Slide the (A-10) clamp on each end of the hose (5405002-6) and attach it to the vacuum regulator and secure with clamp. Attach the other end of hose to the adapter (1K10-4-6) on the directional gyro (J8000-05) and secure with a clamp (A-10).
8. Slide (A-10) clamp on each end of hose (5405002-4). Attach one end to vacuum filter (1J7-1) with the (A-10) clamp. Attach the other end to the adapter (1K10-4-6) on directional gyro and fasten with the (A-10) clamp.
9. Slide a (A-10) clamp on each end of hose (5405002-3). Attach one end of hose to vacuum filter and secure with a (A-10) clamp. Attach other end of hose to adapter (1K31-1) on horizon gyro (K5494-07) and secure with a (A-10) clamp.
10. Install (A-6) clamps on both 405002-2 (3/8" dia. PVC) tubes. Install ends of one hose on the "vacuum or "G" port of the vacuum gauge and the (AN840-4D) fitting in the artificial horizon respectively. Install ends of the other 405002-2 tube to the "pressure" or "vent" port of the vacuum gauge and the (1K31-1) tee adapter in the artificial horizon respectively. Secure all clamps
11. Check all lines and fittings for leakage.
12. Adjust vacuum regulator to indicate 4.6 - 5.4 inches of mercury with the engine running at 2100 - 2400 RPM. Remove safety wiring and loosen the locknut at knurled valve adjusting screw. Clockwise rotation of adjusting screw increases the suction. Tighten and safety wire locknut after proper setting is accomplished.

RLJ:pjo

GRUMMAN AMERICAN AVIATION CORPORATION

NOTE: Revision "C" is a complete revision.