

# Airworthiness Directive Schedule

## Components and Equipment

### Instruments and Automatic Pilots

24 February 2022

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- Notes**
1. This AD schedule is applicable to instruments and automatic pilots installed on aircraft.
  2. This AD schedule includes those National Airworthiness Authority (NAA) ADs applicable to instruments and automatic pilots installed on aircraft and can be obtained directly from the applicable NAA website. Hyperlinks to NAA websites are available on the CAA website at <https://www.aviation.govt.nz/aircraft/airworthiness/airworthinessdirectives/links-to-state-of-design-airworthiness-directives/>
  3. The date above indicates the amendment date of this schedule.
  4. New or amended ADs are shown with an asterisk \*
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	<b>The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at <a href="https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/">https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/</a> If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.</b> .....	16
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**DCA/INST/1 Engine Fuel Pressure Gauge Units - Overhaul**

- Applicability:** All aircraft with TA Edison gauge unit models 195 and 273 and Garwin Inc gauge unit's P/N 22-802-03 through to -14 and 22-802-022 with date stamp before 1 April 1961.
- Requirement:** Numerous failures of pressure diaphragm assemblies used in the gauge units have occurred resulting in a fire hazard and malfunction of the pressure indicated portion of the instrument.  
(FAA AD 66-7-3 refers)
- To prevent recurrences of these failures accomplish the following:
- (a) Overhaul gauge units manufactured prior to June 30, 1961, by replacing the diaphragm and capillary tube assembly P/N 45010 with a new assembly P/N 45010 in accordance with TA Edison SB No 05-75AB-1-SB.1. The new assemblies are identified by the manufacturer with a ¼ inch wide white band painted on the capillary tube adjacent to the solder joint of the tube to the diaphragm assembly. Identify gauge units overhauled in accordance with this Supplement by placing a white paint dot approximately ¼ inch in diameter, directly below the nameplate and between "fuel" and "vent" bosses on the outside of the instrument name plate.
- (b) All gauge units shall be vented overboard by means of a fuel drain line leading from the fuel pressure gauge vent connection and routed so that it will not terminate at a point where the discharge of fuel from the outlet would constitute a fire hazard or from which fumes could enter personnel compartments.
- Compliance:** Within the next 300 hours TIS.
- Effective Date:** 30 March 1966

**DCA/INST/3 & /5 Altimeters - Weston Garwin Carruth 22-374 Series – Inspection and Modification**

- Applicability:** All Weston Garwin Carruth 22-374 series altimeters not marked with a white M-1 on the back of the instrument. Altimeters may not be identified by their manufacturer's P/N but instead carry the aircraft manufacturers' P/Ns.
- The following aircraft manufacturers' P/Ns identify the Weston Garwin Carruth 22-374 series altimeter:
- |                |   |
|----------------|---|
| Cessna         | 0661011-0101, -0102, -0105, -0106, -0201, -0202, -0203, -0208 |
| Beech          | 50-380094-1, -5, -9, -13; 50-384119                           |
| Mooney         | 820010-507  |
| Aero Commander | 2850092   |
- Requirement:**
- Two separate defects may be associated with the Weston Garwin Carruth 22-374 altimeter:
    - An accumulation of tolerance that can allow the idler gear of the barometric dial to disengage from the manual drive gear.
    - A cracked or broken balance arm assembly.
  - All altimeters in service are to be inspected to ascertain whether they carry a white M-1 on the back of the instrument. Those that do not are then to be subjected to the provisions of paras 4 and 5 below.
  - Inspect and test the altimeter in accordance with Weston Instruments Inc, Weston Garwin Carruth Division product SB 00100-C. If the altimeter does not pass these tests it is to be replaced.
  - If the altimeter passes the tests above it is then to be modified in accordance with the manufacturers product SB 600-0002A.

5. Weston Garwin Carruth 22-374 series altimeters marked with a white M-1 on the back of the instrument will have been checked and found free of the tolerance defects in para 1 (a) and will also have a modified balance arm assembly incorporated. The requirements of paras 3 and 4 above are therefore not applicable to these altimeters. (FAA AD 67-26-04 refers)

**Compliance:** Altimeters in service by 31 December 1968. In stock, before fitment.

**Effective Date:** 30 November 1968

**DCA/INST/4 RC Allen Artificial Horizons Gasket Seal Deterioration - Modification**

**Applicability:** Model RCA 21 artificial horizon S/N as detailed.

**Requirement:** RC Allen Bulletin No. 1.

**Compliance:** Artificial Horizons in service - next periodic inspection.  
In stock - before fitment.

**Effective Date:** 31 July 1969

**DCA/INST/6 Altimeters - Kollsman - Modification**

**Applicability:** Types A4086910021, A4186910028 and A4186910029.

**Requirement:** FAA AD 69-24-5 requires modification of these altimeters to remove the source of a false signal.

Altimeters are to be modified in accordance with Kollsman SB 188 Rev.1 or 189. (FAA AD 69-24-5 refers)

**Compliance:** Within the next 900 hours TIS.

**Effective Date:** 31 March 1970

**DCA/INST/7A Mitchell and Piper Automatic Pilot Servo Bridle Clamps - Inspection and Modification**

**Applicability:** As detailed.

**Requirement:** To prevent slippage of servo bridle clamps and resultant binding of the control system, installations are to be inspected to ensure security of clamps and freedom from cable wear or fraying.

Servo bridle clamps Mitchell P/N 42A173 or 42A184, as applicable, are to be replaced with new servo bridle clamps Mitchell P/N 42A173-1 or 42A184-1, as applicable, in accordance with the installation instructions in Mitchell Industries SB MB-1 dated 2 November 1968 revised as Edo-Aire-Mitchell SB MB-1 dated 6 January 1970.

**Compliance:** Inspection - Within the next 25 hours TIS.

Replacement - Within the next 25 hours TIS provided that, if safety sleeves have been fitted previously in accordance with Piper SB 279 and inspection does not disclose any defects, bridle clamps need not be replaced until they are next removed or adjusted for any reason.

**Effective Date:** 30 June 1971

**DCA/INST/8**    **Cancelled – Rule Part 91, Appendix A.8 refers.**

**DCA/INST/9**    **Autopilot Computer Amplifiers - Modification**

**Applicability:**    All Aircraft Radio Corporation AF-530 and Cessna Crafted 400A autopilot computer amplifiers.

**Requirement:**    Aircraft Radio Corporation SAB 27.  
(Cessna MESL ME71-15 also refers)

**Compliance:**    Within the next 100 hours TIS.

**Effective Date:**    30 September 1971

**DCA/INST/10**    **Autopilot Actuators - Inspection**

**Applicability:**    Autopilot servo actuators type PA-500A below S/N 3000, PA-520A below S/N 2800 and PA-520B below S/N 1500.

**Requirement:**    Cessna Avionics SL AV74-3 and ARC SB .  
(FAA AD 74-08-01 refers)

**Compliance:**    Within the next 50 hours TIS.

**Effective Date:**    18 September 1974

**DCA/INST/11**    **Additional Attitude Indicator - Installation**

**Applicability:**    All turbojet aeroplanes of maximum certificated weight in excess of 5700 kg.

**Requirement:**    In addition to gyroscopic bank and pitch indicators (gyro horizon indicators) installed at each pilot station, an additional attitude indicator shall be fitted that:

1. Is powered from a source independent of the electrical generating system.
2. Continues reliable operation for a minimum of 30 minutes after total failure of the electrical generating system.
3. Operates independently of any other attitude indicating system.
4. Is operative without manual selection after total failure of the electrical generating system.
5. Is located on the instrument panel in a position acceptable to the CAA that will make it plainly visible to and usable by any pilot at his or her station, and is appropriately illuminated during such emergency operation.

*Note: The CAA may permit the carriage of a slip indicator instead of a turn and bank indicator when an additional attitude indicator usable through 360° of pitch and roll is installed in an approved manner. The standards listed in this supplement will apply to the approval of such an installation.*

**Compliance:**    By 31 December 1974

**DCA/INST/12 United Instruments Inc Altimeters - Inspection and Modification**

**Applicability:** United Instruments altimeters P/N 5932 ( ), S/N 47851 through to 69000 and P/N 5934 ( ), S/N 70000 through to 102,000, A1 through to A9999, B1 through to B9999 and C1 through to C2860. For additional identification see the AD Supplement.

**Requirement:** To prevent being deprived of altimeter readings during certain aircraft operating conditions, accomplish the following:

1. Check each altimeter installed in all aircraft to determine if the altimeter is within the part number and serial number designations quoted in the applicability.

If the altimeter is within the applicability, before further flight either comply with paragraph 2 or install a placard on the instrument panel in clear view of the pilot which states:

"AIRCRAFT APPROVED FOR DAY VFR FLIGHT ONLY"

and operate the aircraft in accordance with this limitation.

2. On any altimeter which falls within the part number and serial number designations set forth in the applicability statement, either replace the altimeter with an approved replacement part, an altimeter from outside the applicable serial numbers, or modify the existing altimeter in accordance with United Instruments Inc SB No. 1.

A modified altimeter will be identified by a ¼ inch white dot painted alongside the nameplate on the back of the case. Upon compliance with this paragraph the requirements of paragraph 1 are no longer applicable.

*Note: Affected altimeters may be additionally identified as follows:*

1. United Instruments P/N 5932 ( ) altimeters may be additionally identified as TKK model LA 4 TSO C-10<sub>B</sub>. United Instrument P/N 5934 ( ) altimeters may be additionally identified as TKK model LA 7 TSO C-10<sub>B</sub>.

2. These altimeters may also be identified by various aircraft manufacturer's part numbers. Some but not all are:

*Beech: P/N 50-380094-( ), 50-384119-( ), 58-380011-( ), 58-380012-( ), 58-380041-1( ), 100-324056-( ), 169-380073*

*Cessna: P/N C661011-( ), C661071-( ), C661025-( ), C661014-( )*

*Piper: P/N 99009-( ), 450-611-( ), 450-694-( ), PS50008-( )-( ), 550-488-( ), 550-489-( ), 550-490-( ), 550-491-( ), 550-492-( ), 550-493-( ), 322-81-03, 322-81*

*Bell: P/N 206-070-263-( ), 47-711-303-( ).*

(FAA AD 74-24-13 and United Instruments Inc. SB No. 1 also refer).

**Compliance:**

1. Within the next 10 hours TIS.
2. By 30 November 1976.
3. Compliance with para 1 is not required if the aircraft has two sensitive altimeters installed. In the event of failure of one of the altimeters, where both altimeters are noted in the applicability statement, compliance with para 1 and/or 2 is required.

**Effective Date:** 9 December 1974

**DCA/INST/13 Autopilot Actuators - Inspection and Modification**

**Applicability:** Aircraft Radio Corporation PA-500A actuators S/N 6265 and below installed as part of Cessna model 300, 400 and 400A autopilot, 300, 400 or 800 IFCS, or in type G-830A yaw damper systems. Cessna aircraft models and S/Ns affected are as listed in SL AV75-10.

**Requirement:** Cessna Avionics SL AV75-10.  
(FAA AD 76-04-03 refers)

**Compliance:** 1. Inspection - within next 100 hours TIS and thereafter at intervals not exceeding 100 hours TIS until modified.  
2. Modification - By 31 March 1977.

**Effective Date:** 14 April 1976

**DCA/INST/14 Engine Driven Vacuum Pumps - Replacement**

**Applicability:** Airborne Manufacturing Company models 113A, 200CC, 200CW, 220CC, 220CW, 221CC, and 222CW with S/Ns detailed in AD Supplement.

**Requirement:** To prevent loss of vacuum pressure with the accompanying loss of directional or attitude gyro function accomplish the following:

Remove from service and replace with another serviceable approved vacuum pump all Airborne engine driven vacuum pumps manufactured prior to 1966 for which the model and serial numbers are listed below:

<u>Model</u>	<u>Year</u>	<u>Serial Numbers</u>
113A	1960	1D1 thru 12D1199
	1961	1E1 thru 12E2288
	1962	1F1 thru 12F3411
	1963	1G1 thru 12G4230
	1964	1H1 thru 12H1688
	1965	1J1 thru 12J210
200CC, 200CW	1963	5G43 thru 12G903
	1964	1H1 thru 12H5623
	1965	1J1 thru 12J9397
220CC, 220CW	1964	2H1 thru 12H680
	1965	1J1 thru 4J393
221CC, 222CW	1965	3J1 thru 12J371

Airborne Manufacturing Company SL 16, dated 29 January 1976 also pertains to this subject.

(FAA AD 76-16-02 refers)

**Compliance:** Within the next 25 hours TIS.

**Effective Date:** 31 January 1977

**DCA/INST/15 Autopilot Actuator - Modification**

**Applicability:** All Cessna model 400B autopilots and IFCS systems installed in 1976 through 1978 Cessna 310, 340 and 400 series aircraft; also 1977 and 1978 model 210 series aircraft.

**Requirement:** Modify per Cessna Avionics SL 78-6.  
(FAA Emergency AD dated 11 May 1978 refers)

**Compliance:** By 31 May 1978.

**Effective Date:** 23 May 1978

*Note: Requirement notified to registered owners on effective date*

**DCA/INST/16 Engine Driven Vacuum Pumps - Removal from Service**

**Applicability:** All Airborne Aviation Corp dry air pumps supplied after 15 May 1979 having Airborne P/N 211CC, 211CC-9, 211CCFR, 212CW, 212CW-6, 242CW-4, 441CC, 441CC-7, 441CC-9, 441CC-11, 441CC-13, 441CC-17, 442CW, 442CW-4, 442CW-6, 442CW-8, OR 442CW-12 and with S/N in "5E XXX" groupings detailed in Airborne SL 22A.

**Requirement:** To preclude loss of vacuum source due to possible pump bearing failure, remove affected pumps from service and replace with pump having S/N not listed in SL 22A or, if listed, having an "A" or "2" stamped by manufacturer with black ink on periphery of body near mounting flange.  
(FAA AD 79-13-08 refers)

**Compliance:** Before further IFR flight. Aircraft may be flown under VFR conditions to base for corrective action.

**Effective Date:** 26 June 1979

*Note: Requirement notified to registered owners on effective date.*

**DCA/INST/17 Autopilot Servos - Inspection and Modification**

**Applicability:** Bendix Avionics M-4 (A,B,C,D) autopilot primary servo models 3013E, 3013F, 3013G, 3013H, 3013J and 3013K and YD-4 Yaw Damper primary servo models 3013J and 3013K having magnetic clutch P/N 717503-0001 S/N 16750 through 18396 installed, repaired or overhauled after 1 January 1979 and which do not have Mod. No. 4 embodied as defined in Bendix SBM-4D-06C; installed in, but not limited to, certain Rockwell Commander 500, 680 and 690 series; Piper Aerostar 600; Beech 95-55 series and B60; Cessna 310L, 320E, 402B and 421C, MU 2-B; EMB-110P1; Piper PA-23-250.

**Requirement:** Inspect and modify affected servos per Bendix SBM-4D-060.  
(FAA AD 81-01-06 refers)

**Compliance:** Within the next 50 hours TIS.

**Effective Date:** 6 March 1981



**DCA/INST/18 United Instruments Inc Altimeters - Inspection and Removal****Applicability:** United Instruments Altimeters.

P/N 5934, 5934A, 5934M, 5934AM, 5934P, 5934PA, 5934PM, 5934PAM, 5934D, 5934PD, 5934AD and 5934PAD with following S/Ns:

6C461 thru 6C999; 7C000 thru 7C999; 8C000 thru 8C999; 9C000 thru 9C999; 0D000 thru 0D999; 1D000 thru 1D999; 2D000 thru 2D869.

**Requirement:** To detect altimeters which could display erroneous altitude information:

1. Check installed and spare instruments for inclusion in affected P/N and S/N range.
2. If included, check altimeter by applying slight outward pull on adjustment knob while turning knob and determine that altitude indication pointers and barometric pressure dial remain synchronised.
3. If pointers and barometric dial do not move simultaneously, remove altimeter from service before further flight.
4. Regardless of results of above checks all affected altimeters must be returned to United Instruments Inc by 1 July 1986.

For more detailed information refer to FAA AD 86-05-02.

**Compliance:** By 31 May 1986.**Effective Date:** 2 May 1986**DCA/INST/19 Engine Driven Vacuum Pumps - Removal from Service****Applicability:** All Airborne vacuum pumps with the following P/Ns and S/Ns:

Dry Air Pumps	S/Ns
214CC-13	10AA30 to 10AA36, 10AA38
242CW	10AA281 to 10AA293
441CC	9AA260 to 9AA288, 9AA291, 9AA294, 9AA295
441CC-7	9AA929 to 9AA949, 9AA953, 9AA954
442CW	9AA850 to 9AA875, 9AA880 to 9AA886, 9AA888 to 9AA903, 9AA905 to 9AA921, 9AA928, 9AA934, 9AA936, 9AA939, 9AA940, 9AA945 to 9AA952, 9AA955 to 9AA958, 9AA962 to 9AA967
442CW-4	10AA173 to 10AA179, 10AA182 to 10AA199, 10AA201, 10AA202
442CW-12	10AA356, 10AA357, 10AA386, 10AA389
Auxiliary Dry Air Pumps	
4A2-1	9AA44 to 9AA46
4A3-1	9AA56, 9AA59 to 9AA66, 9AA73, 9AA79 to 9AA82, 10AA83 to 10AA88, 10AA90 to 10AA94, 10AA96, 10AA114, 10AA126, 10AA130, 10AA131, 10AA132, 10AA138, 10AA150, 10AA154, 10AA155, 10AA159, 10AA161

**Requirement:** To preclude possible pump failure due to installation of incorrectly manufactured drive shafts, remove affected pumps from service per Airborne SL 30 and replace with pumps reworked as prescribed.

*Note: Affected pumps were not available for installation before 1 September 1985. Therefore new Airborne dry air pumps or auxiliary dry air pumps installed prior to that date are exempt from this AD. Pumps that have been reworked by Airborne will have a white date code stamped on the pump housing near the discharge port and this indicates compliance with the AD requirement.*

**Compliance:** By 30 June 1986.

**Effective Date:** 30 May 1986

#### **DCA/INST/20 In-Line Pressure Filters - Removal from Service**

**Applicability:** Rapco in-line pressure filters P/N RA-1J4-4, RA-1J4-6, and RA-1J4-7 (Lot Numbers 05597, 07797, and 12597).

**Requirement:** To prevent failure of the flight instruments during flight caused by a failed in-line pressure filter, accomplish the following:-

Remove any filter with an applicable P/N and lot number and replace with an approved filter that has a P/N and lot number not covered by this airworthiness directive.

*Note: Production of the affected filters has ceased. The affected lots were produced in February 1997 and a check of the aircraft records will give a good indication as to whether these filters have been installed.*  
(FAA AD 97-16-10 refers)

**Compliance:** By 9 August 1997

**Effective Date:** 7 August 1997

#### **DCA/INST/21 Autopilot Servo Actuator - Replacement**

**Applicability:** Bendix/King Model KSA 470 Autopilot Servo Actuators; P/N 065-0076-10 through 065-0076-15; S/N 0001 through 3081; that are installed on, but not limited to, the following aircraft;

<b>Aircraft</b>	<b>FD/AP</b>	<b>KSA 470 P/N</b>	<b>Location</b>
Fairchild SA227-AC/CC	KFC 400	065-0076-15	Roll Axis
Piper PA-42-1000	KFC 400	065-0076-15	Yaw Axis

**Requirement:** To prevent the servo actuator roll pins from becoming lodged in the output shaft clutch mechanism, and preventing this mechanism from disengaging, which could result in increased effort by the pilot to control the aircraft and possible loss of control of the affected flight control axis, accomplish the following:

Replace the autopilot servo actuator with an actuator that incorporates Mod 3 in accordance with the applicable maintenance manual. This modification changes the size of the servo actuator roll pin holes to assure that the pins do not become loose and fall out.

As of the effective date of this AD, the affected servo actuators that do not incorporate Mod 3, shall no longer be fitted to any aircraft.  
(FAA AD 98-08-20 refers)

**Compliance:** Within next 100 hours TIS.

**Effective Date:** 5 June 1998

**DCA/INST/22 Airborne Dry Air Pumps Flexible Coupling - Replacement**

**Applicability:** The following Airborne dry air pumps, conversion kits, and coupling kits, with flexible coupling, P/N B1-19-1, that have a date code resembling a clock-face on the coupling and indicating a manufacture date of either "12/97" or "5-6/98".

These flexible couplings may be incorporated on, but not limited to the following:

Item	P/N	S/N
Dry Air Pump	211CC	2AP1 through 10AP319
Dry Air Pump	211CC-9	1AP1 through 2AP5
Dry Air Pump	E211CC	11AN543 through 11AN642 and 2AP1 through 7AP442
Dry Air Pump	212CW	2AP1 through 7AP286
Dry Air Pump	E212CW	1AP1 through 7AP492
Dry Air Pump	215CC	12AN719 through 12AN940 and 1AP1 through 9AP3510
Dry Air Pump	215CC-9	2AP1 through 7AP95
Dry Air Pump	216CW	12AN521 through 12AN660 and 1AP1 through 10AP2695
Conversion Kit	300-1	4AP120 through 4AP122 and 8AP256 through 8AP258
Conversion Kit	300-2	2AP30 through 2AP43, 4AP134, 4AP136, and 4AP137
Conversion Kit	300-3	1AP1 through 1AP3
Coupling Kit (see Note 1 below)	350	1AP through 9AP and N/A

**Note 1:** *Some of the P/N 350 coupling kits incorporated S/N 1AP through 9AP, while others were marked with "N/A" in the S/N block.*

**Note 2:** *Affected flexible couplings were shipped from Parker Hannifin between 1 Jan 1998, and 13 Oct 1998. Dry air pumps, conversion kits, or coupling kits that were installed or modified prior to 1 Jan 1998, would not incorporate the affected coupling.*

**Requirement:** To prevent failure of the dry air pump caused by a defective flexible coupling, which could result in loss of attitude and direction references during IFR operations, accomplish the following:

Replace any affected flexible coupling with P/N B1-7-3 flexible coupling (part of Parker Hannifin flexible coupling kit, Airborne P/N 350) per Parker Hannifin Airborne SL 48, dated October 20, 1998. If replacement parts have been ordered, but are not available, accomplish the following:

- (1) Operate the aircraft in VFR conditions only;
- (2) Operate the aircraft during daytime hours only; and
- (3) When parts become available, replace the coupling prior to further flight.

As of the receipt of this priority letter AD, no person shall install on any aircraft or engine, any of the affected Airborne dry air pumps, conversion kits, and coupling kits, with flexible coupling, P/N B1-19-1, that have a date code resembling a clock-face on the coupling and indicating a manufacture date of either "12/97" or "5-6/98". (FAA AD 98-23-01 refers)

**Compliance:** By 7 November 1998.

**Effective Date:** 5 November 1998

**DCA/INST/23 Precise Flight Inc Standby Vacuum Systems – Inspections and Flight Manual Amendment**

**Applicability:** Precise Flight Inc, Model SVS III standby vacuum systems installed per the following supplemental type certificates (STC) SA2160NM, SA2161NM, SA2162NM, SA2163NM, SA2164NM, SA2166NM, SA2167NM, SA2168NM, or SA2683NM. These standby vacuum systems may also have been installed on aircraft before importation to New Zealand by field approval (FAA form 337).

**Requirement:** To prevent failure or malfunction of the standby vacuum system and to provide operating procedures for the pilot regarding the use and limitations of this system, accomplish the following:

1. Insert the Appendix to FAA AD 99-24-10 into the AFM, including installing all placards specified in the AD Appendix.

Alternatively, for aircraft with the affected standby vacuum system installed in accordance with the STCs, incorporate the applicable Precise Flight, Inc. Aircraft Flight Manual Supplement (AFMS) for Standby Vacuum Systems into the Aircraft Flight Manual, including installing all placards specified in these AFMS's.

Applicable STC	AFMS Date
SA2160NM	May 7, 1998
SA2161NM	August 6, 1998
SA2162NM	August 6, 1998
SA2163NM	August 6, 1998
SA2164NM	August 6, 1998
SA2166NM	August 6, 1998
SA2167NM	August 6, 1998
SA2168NM	August 6, 1998
SA2683NM	August 6, 1998

The applicable Aircraft Flight Manual Supplement must be obtained from Precise Flight, Inc.

2. Within the next 12 calendar months after the effective date of this AD, and thereafter at intervals specified in the following paragraphs, inspect the push-pull cable, vacuum lines, saddle fittings, and shuttle valve for correct installation and damage (wear, chafing, deterioration, etc.). Accomplish these inspections per Precise Flight Instructions for Continued Airworthiness (Section 3.3 of Installation Report No. 50050), Revision 25, dated August 26, 1996.

- a) Reinspect the push-pull cable, vacuum lines, and saddle fittings at intervals not to exceed 12 calendar months; and
- b) Reinspect the shuttle valve at intervals not to exceed 24 calendar months.

Prior to further flight after each inspection correct any discrepancy found; conduct a function test of the vacuum system and assure proper function per Precise Flight Instructions for Continued Airworthiness.  
(FAA AD 99-24-10 refers)

- Compliance:**
1. By 29 February 2000.
  2. Compliance is required at the times specified within part 2 of the requirement.

**Effective Date:** 27 January 2000

**DCA/INST/24 Honeywell KC 225 AFCS – Inspection and Modification**

**Applicability:** Honeywell KC 225 automatic flight control systems (AFCS), P/N 065-00183-0101, 065-00183-0201, 065-00183-0301, 065-00183-0401, 065-00183-0501, 065-00183-0601, 065-00183-2501, 065-00183-2601, 065-00183-2701, 065-00183-2801, 065-00183-2901 and 065-00183-3001, all S/Ns.

This AFCS may be installed in, but not limited to the following aircraft;  
 Aerostar PA-60-700P,  
 Cessna 208 and 208B,  
 Commander 114B and 114TC,  
 Mooney M20M and M20R,  
 Piper PA-34-220T and PA-46-350P,  
 Raytheon (Beech) 58, 95-55, 95-C55, A36, B36TC, D55, and E55,  
 SOCATA TB20 and TB21.

**Requirement:** To prevent an undesirable autotrim command, aircraft deviation from the selected altitude, or autopilot disconnection without warning, which could result in loss of control of the aircraft, accomplish the following:

1. Inspect the AFCS per Honeywell Installation Bulletin 472 Alert Rev 1, to determine the currently installed computer modifications (Mods). These modifications are indicated on the AFCS S/N tag. If no Mods are installed or at least Mods 1, 2, and 3 are installed, no further action is required by this AD.

If only Mods 1 and/or 2 are incorporated, prior to further flight, accomplish the following:

(i) Deactivate the KC 225 AFCS per Bulletin 472 Alert Rev 1, by pulling and banding the autopilot circuit breaker(s) to prevent operation of the KC 225 AFCS in flight; and

(ii) Fabricate a placard that indicates the KC 225 AFCS is inoperative, and install this placard on the instrument panel within the pilot's clear view. The placard should use letters of at least 0.10-inch in height and contain the following words:

KC 225 AFCS INOPERATIVE

2. As an alternative to paragraphs 1(i) and (ii) of this AD for the KC 225 AFCS with only Mods 1 and/or 2 installed, accomplish either of the following to return the KC 225 AFCS to operation:

(i) Return the AFCS to the Honeywell Service Center for modification to install Mod 1, 2, and 3 (or higher ) levels and then reinstall the AFCS; or

(ii) Contact Honeywell Product Support for a warranty replacement KC 225 AFCS that contains Mod 1, 2, and 3 (or higher) levels and then reinstall the AFCS.  
 (FAA AD 2001-10-09 refers)

**Compliance:** 1. Within the next 10 hours TIS.  
 2. At any time as terminating action for this AD.

**Effective Date:** 28 June 2001

**DCA/INST/25 Precise Flight, Inc. Standby Vacuum Systems – Flight Manual Amendment**

**Applicability:** Precise Flight Inc. Model SVS I and SVS IA Standby Vacuum Systems (SVS).

These standby vacuum systems may be installed on, but not limited to Beech models C23, A24, B24R, 35, V35, V35B, F33A, 36, 77 series aircraft, Cessna models 150 series, 172 series, 185 series, A188 series, 206 aircraft and Piper models PA-18A, PA-22 series and PA-28-235 aircraft.

**Requirement:** To prevent failure or malfunction of the SVS during IFR flight, that can lead to pilot disorientation and loss of control of the aircraft, accomplish the following:

1. Amend the AFM by incorporating the Manual Valve Standby Vacuum System AFM Supplement dated 4 February 2000.
2. Install placards per the Manual Valve Standby Vacuum System AFM Supplement dated 4 February 2000.
3. Install the Standby Vacuum System Model VI Upgrade Kit, per the Precise Flight Inc. Installation Report 08074, dated 7 January 2000.

**Note:** Do not install any model SVS I or SVS IA standby vacuum systems unless requirements 1, 2 and 3 of this AD have been accomplished, per the Precise Flight Inc. Installation Report 08074 (Standby Vacuum System Model VI Upgrade Kit, dated 7 January 2000).  
(FAA AD 2005-11-05 refers)

**Compliance:** 1. & 2. By 31 August 2005, unless already accomplished.  
3. By 28 July 2006, unless already accomplished.

**Effective Date:** 28 July 2005

**DCA/INST/26 Aero Advantage ADV200 Vacuum Pumps - Replacement**

**Applicability:** Model ADV200 vacuum pumps P/Ns ADV211CC and ADV212CW.

These vacuum pumps can be installed under supplemental type certificate number SA10126SC, and may be installed on, but not limited to Cessna aircraft, Maule aircraft, Mooney aircraft, Piper aircraft, Raytheon aircraft and Socata aircraft.

**Requirement:** To prevent vacuum pump failure or malfunction during instrument flight rules (IFR) flight that could lead to loss of flight instruments critical for flight and subsequent pilot disorientation, accomplish the following:

1. Replace Aero Advantage ADV200 vacuum pumps P/Ns ADV211CC and ADV212CW, with a manufacturer approved vacuum pump that is not an Aero Advantage ADV200 series pump.
2. If you choose not to use the Aero Advantage vacuum pump monitoring system, per STC SA10126SC, then do the following:
  - a) Remove the Aircraft Flight Manual Supplement (AFMS) for STC SA10126SC and the placard for the vacuum pump monitoring system.
  - b) Complete the appropriate logbook entry to show that STC SA10126SC is no longer embodied.
3. If you choose to retain the Aero Advantage vacuum pump monitoring system, per STC SA10126SC, then do the following:
  - a) Connect the replacement vacuum pump to the vacuum pump monitoring system, per Phoenix Group Service Bulletin No. 05-01, dated 22 November 2005.

- b) Make the following notation to the front of the AFMS for STC SA10126SC:  
"The Aero Advantage vacuum pump was removed to comply with AD DCA/INST/26, and this AFMS now gives instructions for the operation of the vacuum pump monitoring system with a replacement vacuum pump."
- c) Attach a copy of SB No. 05-01 to the AFMS for STC SA10126SC.

(FAA AD 2006-03-08 refers)

**Note:** Do not install any Aero Advantage ADV200 series vacuum pumps P/Ns ADV211CC or ADV212CW.

**Compliance:**

1. Within 100 hours TIS or by 30 March 2007, whichever occurs sooner, unless already accomplished.
2. & 3. Prior to further flight, after replacing the vacuum pump.

**Effective Date:** 30 March 2006

The State of Design ADs listed below are available directly from the National Airworthiness Authority (NAA) websites. Links to NAA websites are available on the CAA website at <https://www.aviation.govt.nz/aircraft/airworthiness/airworthiness-directives/links-to-state-of-design-airworthiness-directives/>

If additional NZ ADs need to be issued when an unsafe condition is found to exist in an aircraft or aeronautical product in NZ, they will be added to the list below.

**2017-04-06 United Instruments 5934 series Altimeters – Inspection**

**Effective Date:** 7 April 2017

**\* 2022-03-15 Garmin G3X Touch Electronic Flight Instrument System – Inspection**

**Applicability:** All aircraft with a S/N listed in table 1 of paragraph (c) of FAA AD 2022-03-15, fitted with:

Garmin G3X Touch Electronic Flight Instrument System under Supplemental Type Certificate (STC) No. SA01899WI, installed in accordance with Master Drawing List (MDL) Document No. 005-01320-00, Revision 9 or earlier, interfaced with a Garmin Engine Adapter GEA 24 connected to resistive fuel probes; or

Fitted with a Garmin GI 275 Multi-Function Display under STC No. SA02658SE, installed in accordance with MDL Revision 9 or earlier, interfaced with a Garmin Engine Adapter GEA 24 connected to resistive fuel probes.

**Note:** Garmin Mandatory STC Service Bulletin No. 2134, Revision A, and Garmin Mandatory STC Service Bulletin No. 2135, Revision A, both dated 23 April 2021, contain information to determine if an aircraft has a resistive probe interface.

**Effective Date:** 21 March 2022