

United States of America
Department of Transportation -- Federal Aviation Administration
Supplemental Type Certificate

Number SA489EA

This certificate issued to

Aircraft & Rotorcraft Products (ARP), Inc.
2 Middle Cross Road
Shoreham, New York 11786-1440

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 21.23/6/27 of the Civil/Federal Aviation Regulations.

Original Product -- Type Certificate Number : See Master Eligibility List - Attached

Make : Normal, Utility and Acrobatic category airplanes and
Model : helicopters equipped with engines and carburetors as described below.

Description of Type Design Change:

Installation of ARP, Inc. Carburetor Ice Detection System Model 107AP (-12, -24, -R-12, -R-24, -U-12, and -U-24 series) in single and twin engine aircraft and single engine helicopters powered by Continental, Franklin, and Lycoming type engines equipped with Precision Air-Motive (Facet or Marvel-Schebler) MA-2, MA-3, MA-3A, MA-3SPA, MA-4, MA-4-5, MA-4SPA, MA-5, MA-6, MA-6AA and HA-6 series carburetors, in accordance with ARP, Inc. Installation Kit Parts List PL107AP-INST (Rev. B), dated January 31, 2002.

Limitations and Conditions:

1. This instrument is approved as optional equipment only and flight operations should not be predicated on its use. It is used as an early warning device for detecting formation of carburetor ice in accordance with ARP, Inc. Flight Manual Supplement 107AP-SUPP (Rev. B), dated December 5, 2002.

(See continuation sheets 2-6)

This certificate and the supporting data, which is the basis for approval, shall remain in effect until surrendered, suspended, revoked or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

Date of application : November 11, 1966

Date reissued : November 21, 1997

Date of issuance : April 28, 1967

Date amended : June 25, 1968, June 11, 1971,
October 31, 1975, November 20, 1978, April 25, 1994,
November 21, 1997, December 28, 1998, December 5, 2002

By direction of the Administrator



Vito A. Pulera
(Signature)

Fob

Vito A. Pulera
Manager,
New York Aircraft Certification Office

(Title)

Supplemental Type Certificate

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Number SA489EA

Date Amended: December 5, 2002

Limitations and Conditions (Continued):

2. Inspect the ice detector sensing probe for secure fit in carburetor during annual inspection or 100 hour inspection whichever occurs first. Inspect ice detector light sensor for condition and deposits following condition of an engine backfire.
3. This approval should not be extended to other specific airplanes or helicopters of those models on which other previously approved modifications are incorporated unless it is determined that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse affect upon the airworthiness of that airplane or helicopter.
4. If holder agrees to permit another person to use this certificate to alter the product, the holder shall give the other person written evidence of that permission.

(See Continuation Sheets 3-6)

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Date Amended: December 5, 2002

TC, Make, Model (Cont'd)

STC Master Eligibility List:

Carburetor Models Eligible: MA-2, MA-3, MA-3A, MA-3SPA, MA-4, MA-4-5, MA-4SPA, MA-5, MA-6, MA-6AA and HA-6

<u>TC No.</u>	<u>Aircraft Make & Models</u>	<u>TC No.</u>	<u>Aircraft Make & Models</u>
1A1	PIPER PA-16, PA16S	2A1	MULTITECH ENGINEERING CORP. D-16, D-16A
1A2	PIPER PA-18, PA-18A, PA-18S, PA-18 "105", PA-18S "105", PA-18 "125", PA-18AS "125", PA-18S "125", PA-18 "135", PA-18A "135", PA-18S "135", PA-18AS "135", PA-18 "150", PA-18A "150", PA-18S "150", PA-18AS "150", PA-19, PA-19S	2A2	CAMAIR 480
1A3	BELLANCA 14-19, 14-19-2, 14-19-3, 14-19-3A, 17-30, 17-31, 17-31TC	2A3	MOONEY M20, M20A, M20B, M20C, M20D, M20E, M20F, M20G, M20J, M20K, M20L, M20M
1A4	PIPER PA-20, PA-20S, PA-20 "115", PA-20S "115", PA-20 "135", PA-20S "135"	2A4	TWIN COMMANDER (GULFSTREAM) 680, 680-E
1A6	PIPER PA-22, PA-22-108, PA-22-135, PA-22S-135, PA-22-150, PA-22S-150, PA-22-160, PA-22S-160	2A8	PIPER PA-25, PA-25-235, PA-25-260
1A8	AIRCRAFT ACQUISITION (HELIO) H-250, H-295, HT-295, H-391, H-391B, H-395, H-395A, (USAF U-10D), (USAF U-10B)	2A10	PIPER PA-25, PA-25-235, PA-25-260
1A9	TAYLORCRAFT (AIRCRAFT ACQUISITION) 19, F19, F21, F21A, F21B, F22, F22A, F22B, F22C	2A13	PIPER PA-28-140, PA-28-150, PA-28-160, PA-28-161, PA-28-180, PA-28-235, PA-28-236, PA-28S-160, PA-28S-180, PA-28-181
1A10	PIPER PA-23, PA-23-160, PA-23-235, PA-23-250	2H1	BELL 47J, 47J-2, 47J-2A, 47K
1A13	REVO (CONSOLIDATED AERONAUTICS) Colonial C-1, C-2, Lake LA-4, LA-4A, LA-4P	2H2	BRANTLY B-2, B-2A, B-2B
1A15	PIPER PA-24, PA-24-250, PA-24-260	2H3	BELL 47G-2A, 47G-2A-1, 47G-3B, 47G-3B-1, 47G-3B-2, 47G-4, 47G-4A, 47G-5, 47G-5A
1A21	DYNAC AEROSPACE (SL IND) Volaire 10, 10A, Aero Commander 100, 100A, 100-180	3A1	ESTUMKEDA (AERO COMMANDER) (INTERMOUNTAIN) (CALLAIR) (VOLAIRE) (MEYERS) (ROCKWELL) MAC-125C, MAC-145
		3A3	HELIO (TAYLORCRAFT) 15A, 20
		3A11	CESSNA 321
		3A12	CESSNA 172, 172A, 172B, 172C, 172D, 172E, 172F, 172G, 172H, 172I, 172K, 172L, 172M, 172N, 172P, 172Q

(See Continuation Sheets 4-6)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

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Date Amended: December 5, 2002

STC Master Eligibility List (Cont'd):

<u>TC No.</u>	<u>Aircraft Make & Models</u>	<u>TC No.</u>	<u>Aircraft Make & Models</u>
3A13	CESSNA 182, 182A, 182B, 182C, 182D, 182E, 182F, 182G, 182H, 182J, 182K, 182L, 182M, 182N, 182P, 182Q, 182R, R182, T182, TR182	4A14	FU-24A
3A14	CESSNA 305B, 305E	4A16	MORRISEY 2000C
3A15	BEECH 35-33, 35-A33, 35-B33, 35-C33, 35-C33A, E33, E33A, E33C, F33, F33A, F33C, G33, H35, J35, K35, M35, N35, P35, S35, V35, V35A, V35B, 36, A36, A36TC, B36TC	4A19	AEROCAR I
3A16	BEECH 95, B95, B95A, D95A	4A19	AUGUSTAIR (MOUNTAINAIRE) (VARGA) 2150, 2150A, 2180
3A17	CESSNA 172RG, P172D, R172E, R172F, R172G, R172H, R172J, R172K, 175, 175A, 175B, 175C	4A29	KWAD (PINE AIR) (OAKLAND AIRMOTIVE) Super-V
3A18	PROP-JETS (INTERCEPTER) (AERO COMMANDER) (INTERMOUNTAIN) (CALLAIR) (VOLLAIRE) (MEYERS) (ROCKWELL) 200, 200A, 200B, 200C, 200D, 400	4A31	STITTS (MONOCOUCPE) SA-9A
3A19	CESSNA 150, 150A, 150B, 150C, 150D, 150E, 150F, 150G, 150H, 150J, 150K, 150L, 150M, A150K, A150L, A150M, 152, A152	5A2	CESSNA 140A
3A23	MAULE AEROSPACE Beedee M-4, M-4, M-4C, M-4S, M-4T, M-4-180C, M-4-180S, M-4-180T, M-4-210, M-4-210C, M-4-210S, M-4-210T, M-4-220, M-4-220C, M-4-220S, M-4-220T, M-5-180C, M-5-200, M-5-210C, M-5-210TC, M-T-220C, M-5-235C, M-6-180, M-6-235, M-7-235, MX-7-235, MX-7-180, MXT-7-180, MX-7-160, MXT-7-160, MX-7-180A, MXT-7-180A, MX-7-180B, M-7-235B	5A3	BEECH 45, A45, D45
4A1	ANDERSON-GREENWOOD (BELLANCA) 14	5A4	BEECH 50, B50, C50, D50, D50A, D50B, D50C, D50E, E50, H50, J50
4A11	BEECRAFT HoneyBee (HB)	5A5	CESSNA 305A, 305C, 305D, 305F
4A12	FRONTIER-AEROSPACE (FLETCHER) FU-24,	5A6	CESSNA 180, 180A, 180B, 180C, 180D, 180E, 180F, 180G, 180H, 180J, 180K
		6A1	TWIN COMMANDER (AERO COMMANDER) (ROCKWELL) 500, 500-A, 500-B, 520, 560, 560-A, 560-E
		7A11	AEROMERE Falco F.8.L
		7A13	DORNIER Do 28A-1
		7A14	SOCATA-GROUPE AEROSPATIALE (MORANE SAULNIER) Rallye Series MS880B, MS892A-150, MS892E-150, MS894A, MS894E, MS893A, MS893E, MS885
		A1CE	BEECH 19A, B19, M19A, 23, A23, A23A, A23-19, A23-24, B23, C23, A24, A24R, B24R, C24R
		A1EU	BOLKOW-APPARATEBAU GmbH Bolkow Jr.
		A1IN	PROCAER F15/B
		A2EA	AIRCRAFT ACQUISITION (HELIO) 500
		A3EA	JAMIESON J-2-L1B
		A3IN	JODEL, AVION D-140-B

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<u>TC No.</u>	<u>Aircraft Make & Models</u>	<u>TC No.</u>	<u>Aircraft Make & Models</u>
A3PC	C.ITOH AIRCRAFT N-62	A17EU	PILATUS BRITTEN-NORMAN BN-2, BN-2A, BN-2A-6, BN-2A-8, BN-2A-9, BN-2A-27, BN-2B-21, BN-2B-26
A3SO	PIPER PA-32-260	A18SO	PIPER PA-38-112
A4EU	REIMS AVIATION (CESSNA) F172F, F172G, F172H, F172K, F172L, F172M, F172N	A21CE	AMERICAN CHAMPION (BELLANCA) (CHAMPION) 8GCBC
A4IN	JODEL, AVION DR-1050	A22EU	BRITISH AEROSPACE (BEAGLE) B.121 Series 1, 2, 3
A4PC	FUJI HEAVY INDUSTRIES FA-200-160, FA-200-180AO	A22NM	WHITE INTERNATIONAL (AVIAT, INC.) (CHRISTEN) A-1
A4WE	AIRCRAFT PARTS & DEVELOPMENT (AERO COMMANDER) (INTERMOUNTAIN) (CALLAIR) (VOLAIRE) (MEYERS) (ROCKWELL) A-9A	A27EU	MESSERSCHMITT-BOLKOW-BLOHM GmbH BO-209-150FV, BO-209-150RV, BO-209-150FF
A5IN	KWAD (PINE AIR) Super-V	A29CE	BEECH 76
A7EA	FOUND BROTHERS FBA-2C	A29EU	BRITTEN-NORMAN BN-2A MK.III
A9CE	CESSNA 188, 188A, 188B, A188, A188A, A188B, T188C	A30CE	BEECH 77
A9EU	AGUSTA S.p.A. (SIAI-MARCHETTI) S.205-18F, S.205-18/R, S.205-22/R, S.208, S.208A	A34EU	FLUG-ZEUGWERKE AG (FFA) AS 202/15 "Bravo"
A10EA	SIAI-MARCHETTI F.260, F.260B, F.260C, F.260D, SF.260B, SF.260C	A-153	AEROSPATIALE TB9, TB10
A11EA	AMERICAN GENERAL AIRCRAFT (GRUMMAN AMERICAN AVIATION) AA-1, AA-1A, AA-1B, AA-1C	A-306	MASSOPUST, DAN & DIANN (EAA AIR MUSEUM FOUNDATION) (STITS) (MONOCOUCPE) 90, 90A, 90AF, 90AF-100, 90AL-115
A11IN	AERODIFUSION Jodel D-1190S	A-643	TAYLORCRAFT (AIRCRAFT ACQUISITION) A
A11SO	GULFSTREAM AEROSPACE (ROCKWELL) 111	A-691	PIPER J3C-40, J3C-50, J3C-50S, J3C-65, J3C-65S, PA-11, PA-11S
A11SW	ANDERSON-GREENWOOD (BELLANCA) 51, 51A	A-692	PIPER J3F-50, J3F-50S, J3F-60, J3F-60S, J3F-65, J3F-65S
A12IN	SUD AVIATION (GARDAN) GY.80-150, GY.80-160, GY.80-180	A-694	LUSCOMBE AIRCRAFT 8, 8A, 8B, 8C, 8D, 8E, 8F, T-8F
A13CE	CESSNA 177, 177A, 177B	A-696	TAYLORCRAFT (AIRCRAFT ACQUISITION) BC, BCS, BC-65, BCS-65, BC12-65, BSC12-65, BC12-D, BCS12-D, BC12-D1, BCS12-D1, BC12D-85, BCS12D-85, BC12D-4-85, BCS12D-4-85
A13EU	REIMS AVIATION (CESSNA) F150G, F150H, F150J, F150K, FA150K, F150L, FA150L, FRA150L, F152	A-698	PIPER J3L, J3L-S, J3L-65, J3L-65S
A14IN	JODEL, AVION 150	A-699	TAYLORCRAFT BF, BF-60, BFS, BFS-60, BF-65, BF12-65
A15EA	BOHICA (SCHWEIZER) (TEAL) (THURSTON) TSC-1A, TSC-1A1, TSC-1A2		
A16EA	AMERICAN GENERAL AIRCRAFT (GULFSTREAM AEROSPACE) (ROCKWELL) AA-5, AA-5A, AA-5B, AG-5B		

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STC Master Eligibility List (Cont'd):

<u>TC No.</u>	<u>Aircraft Make & Models</u>	<u>TC No.</u>	<u>Aircraft Make & Models</u>
A-700	TAYLORCRAFT BL, BL-65, BL12-65, BLS-65, BLS12-65	A-761	7GCBA, 7GCBC, 7HC, 7JC, 7KC, 7KCAB, (L-16A), (L-16B)
A-702	AERONCA 50L, 50-LA, 65-LA, 65-LB	A-766	AMERICAN CHAMPION (BELLANCA) (TRYTEK) (AERONCA) 11AC, S11AC, 11BC, S11BC
A-703	PIPER J4, J4A, J4A-S	A-767	SWIFT MUSEUM FOUNDATION (GLOBE) GC-1A, GC-1B
A-706	FAIRCHILD 24R46A	A-767	UNIVAR (STINSON) 108, 108-1, 108-2, 108-3, 108-5
A-715	McCLISH (FUNK) B75L, B85C	A-768	CESSNA 120, 140
A-718	UNIVAIR (AEROSTAR AIRCRAFT) (FORNEY) (ALON) (MOONEY)(ERCO)415-C, 415-CD	A-769	SKY ENTERPRISES (STOL/CORP.) (REPUBLIC) RC 3
A-720	RANKIN, JOE (PORTERFIELD) CP-55, CP-65, LP-65, FP-65, CS-65	A-773	BELLANCA 14-13, 14-13-2, 14-13-3, 14-13-3W
A-724	FAIRCHILD M-62A-3, M-62A-4, (Army PT-26)	A-777	BEECH 35, A35, B35, C35, D35, E35, F35, G35, 35R
A-725	PIPER J5A, J5B, J5A-80, J5C, AE-1, HE-1	A-780	PIPER PA-12, PA-12S
A-728	AERONCA 50-TC, 50-TL, 60-TF, 65-TC, 65-TF, 65-TL, 65-TAC, 65-TAF, 65-TAL, YO-58	A-782	J. THOMPSON ENTERPRISE (NAVION) Navion B, Navion D
A-729	COMMONWEALTH (REARWIN) 175, 180, 180F, 185, 190F	A-787	UNIVAIR (AEROSTAR AIRCRAFT) (FORNEY) (ALON) (MOONEY) (ERCO) 415-D, E, F-1, F-1A, G, A-2, A2-A, M10
A-730	SUPERIOR (CULVER) LFA	A-792	ALL AMERICAN 10A
A-734	GULFSTREAM AEROSPACE G44, G44A, Scan Type 30	A-794	SPINKS INDUSTRIES (RAWDON) T1
A-737	ARCTIC AIRCRAFT (INTERSTATE) (CALLAIR) S-1A, S-1A-65F, S1-A-85F, S1-A-90F	A-796	AMERICAN CHAMPION (BELLANCA) (TRYTEK) (AERONCA) 11CC, S11CC
A-740	PIPER J4E	A-797	PIPER PA-14
A-746	TAYLORCRAFT DC-65, DF-65, DCO-65, DL-65	A-799	CESSNA 170, 170A, 170B
A-751	AERONCA 0-58A, 0-58B, SO-58B	A-800	PIPER PA-15
A-754	ARCTIC AIRCRAFT (INTERSTATE) (CALLAIR) S-1B1, S-1B2	A-801	KEARNS E.S. (EMIGH) Trojan A-2
A-758	AIRCRAFT PARTS & DEVELOPMENT (AERO COMMANDER) (INTERMOUNTAIN) (CALLAIR) (VOLAIRE) (MEYERS) (ROCKWELL) A, A-2, A-3, A-4, A-5, A-6, A-7, A-9, A-5T, A-7T, A-9B	A-802	AERONCA 15AC, S15AC
A-759	AMERICAN CHAMPION (BELLANCA) (CHAMPION) (AERONCA) 7AC, 7ACA, S7AC, 7BCM, 7CCM, S7CCM 7DC, S7DC, 7EC, S7EC, 7ECA, 7FC, 7GC, 7GCA, 7GCAA, 7GCB,	A-803	MOONEY M-18C, M-18C55, M-18L, M-18LA
		A-804	LAND-AIR (KETTLES) (TEMCO) (LUSCOMBE) 11A
		A-805	PIPER PA-17
		A-813	PIAGGIO P.136-L, P.136-L1, P.136-L2
		H-1	BELL 47, 47B, 47B3, 47D, 47D1, 47G, 47G-2, 47H-1

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