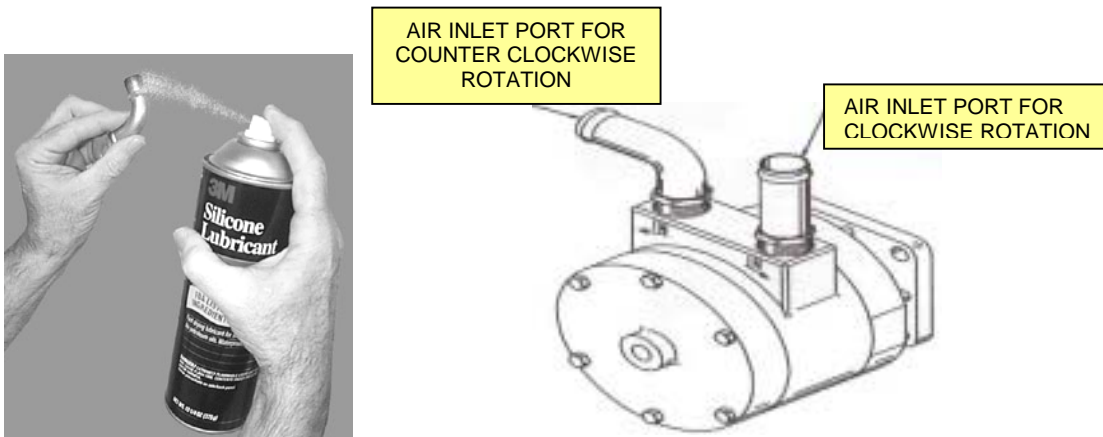

F.A.A.-P.M.A. MODEL 1U128A AND 1U128B

VACUUM PRESSURE PUMPS INSTALLATION CAUTIONS AND INFORMATION READ AND FOLLOW CAREFULLY!

REVISION 17
February 21, 2002

The following information applies to all installations when installing Sigma Tek, Inc. Model 1U128A and 1U128B Pressure/Vacuum Pump:

1. Caution: Permit no oil, grease, pipe compound or foreign material to enter internal parts of the pressure/vacuum pump. Make sure inside of pump air lines are clean of any foreign particles and residue before connecting pump air lines.
Note: Installation of new engine oil seal between the Sigma Tek, Inc. pressure/vacuum pump and engine pad is strongly recommended. Leakage at this point cannot be tolerated as premature pump failure may result. Failure to insure zero leakage of engine seal may affect warranty.
2. Install standard Sigma Tek, Inc. pressure/vacuum pump pad gasket 73A096-001 (or alternate gasket AS3491-01), which is supplied with the pump, between pump flange and engine.
3. Mount Sigma Tek, Inc. Model 1U128 pressure/vacuum pump with ports in any position for best clearance. Secure pump with approved lock washers and nuts or with plain washers and lock nuts and torque to 70 +/-5 inch pounds.
4. Spray fitting threads with 3M[®] Silicone Lubricant or equivalent.. (Figure1)



5. Install correct fittings in pump ports. (Figure 2) Use aircraft approved fittings with .500 inch I.D. These fittings may be purchased from aircraft parts suppliers. Torque fitting to 25 +/-5 foot pounds. Fittings must be aircraft approved with 3/8 NPT X1/2 I.D.
6. Exhaust overboard line must be minimum 12 inches downward.

7. Plumbing shall have a minimum of 5/8 I.D. and fittings must have a minimum I.D. of .500 inch.
8. Hose must be inspected for deterioration and must be free of carbon parts, oil, and etc. It may be necessary to replace the hose, if deteriorated.
9. Do not use vise to hold pump.
10. Sigma Tek, Inc. Pressure/Vacuum Pump Model 1U128 will replace the Sigma Tek, Inc. 1U228 and Airborne pumps Model 200CC, 200CW, 200CC9, 201/202, 205/206, 211CC, 212CW, and 211CC9 without any modification to installation except as noted in paragraph 5.

NOTE: The installation procedures (Rev. 17 dated 02/21/02) on pages 2, 3, and 4 were FAA approved on 03/08/2002. It is the installers responsibility to determine that the aircraft engine is included in the approved Eligible Engine List on pages 2,3, and 4 of this document.

**Sigma Tek-Inc.
1001 Industrial Rd.
Augusta, KS 67010
(316) 775-6373**

F.A.A. – P.M.A
INSTALLATION PROCEDURES
REVISION 17
February 21, 2002

SIGMA TEK, INC. Models 1U128A (P/N 1U128-002) and 1U128B (P/N 1U128-003, P/N 1U128-004, 1U128-005 and P/N 1U128-006) Dry Air Pressure/Vacuum Pumps are eligible for Installation on the following engines. Compatibility of the Pressure/ Vacuum pump to the air instruments/systems must be determined by the installer. When installing pumps on "T" drive, careful consideration should be given on torque value of engine and pump.

LYCOMING MODELS

O-235-A, -B, -AP, -BP, -C, -C1, -C1A, -C1B, -C1C, -C2A, -C2B, -C2C, -E1, -E1B, -E2A, -E2B, -F1, -F1B, -F2A, F2B, -G1, -G1B, -G2A, -G2B, -H2C, -J2A, -J2B, -K2A, -K2B, -K2C, -L2A, -L2C, -M1.

O-290, O-290-A, -AP, -B, -C, -CP, -D, -D2, -D2A, -D2B, -D2C

O-320-A1A, -A1B, -A2A, -A2B, -A2C, -A2D, -A3A, -A3B, -A3C, -B1A, -B1B, -B2A, B2B, -B2C, -B3A, -B3B, -B3C, -C1A, C1B, -C2A, -C2B, -C2C, -C3A, -C3B, -C3C, -D1A, -D1B, -D1C, -D1D, -D1F, -D2A, -D2B, -D2C, -D2F, -D2G, -D2H, -D2J, -D3G, -E1A, -E1B, -E1C, -E1F, -E1J, -E2A, -E2B, -E2C, -E2D, -E2F, -E2G, -E2H, -E3D, -E3H, -H1AD, -H1BD, -H2AD, -H2BD, -H3AD, -H3BD

IO-320-A1A, -A2A, -B1A, -B1B, -B1C, -B1D, -B2A, -C1A, -D1A, -D1B, -E1A, -E1B, -E2A, -E2B, -F1A

LIO-320-B1A, -C1A

AIO-320-A1A, -A1B, -A2A, -A2B, -B1B, -C1B

AEIO-320-E1A, -E1B, -E2A, -E2B

O-340-A1A, -A2A, -B1A

O-360-A1A, -A1AD, -A1C, -A1D, -A1F, -A1F6, -A1F6D, -A1G, -A1G6, -A1G6D, -A1H, -A1LD, -A2A, -A2D, -A2E, -A2F, -A2G, -A2H, -A3A, -A3AD, -A3D, -A4A, -A4AD, -A4G, -A4J, -A4K, -A4M, -A5AD, -B1A, -B1B, -B2A, -B2B, -C1A, -C1C, -C2A, -C2B, -C2C, -C2D, -C1E, -C2E, -D1A, -D2A, -D2B, -E1AD, -E1A6D, -E2AD, -E1BD, -E2BD

LO-360-A1G6D, -E1AD, -E1A6D, -E2AD, -E1BD, -E2BD

HO-360-A1A, -B1A, -B1B

IO-360-A1A, -A1B, -A1B6, -A1B6D, -A1C, -A1D, -A1D6, -A2A, -A2B, -A2C, -A3B6D, -B1A, -B1B, -B1C, -B1D, -B1E, -B1F, -B1F6, -B2F6, -B2E, -B2F, -B4A, -C1A, -C1B, -C1C, -C1C6, -C1D6, -C1E6D, -C1E6, -C1F, -D1A, -E1A, -F1A

AIO-360-A1A, -A1B, -A2A, -A2B, -B1B

HIO-360-A1A, -B1A, -B1B, -C1A, -C1B, -D1A, -E1AD, -E1BD, -F1AD

LHIO-360-C1A, -C1B

LIO-360-C1E6, -F1AD

AEIO-360-A1A, -A2A, -A1B, -A2B, -A1C, -A2C, -A1B6, -A1D, -A1E, -B1B, -B1D, -B1F, -B2F, -B4A, -B1F6, -B2F6, -B1G6, -H1A

VO-360-A1A, -A1B, -B1A

IVO-360-A1A

TIO-360-A1A, -B1B, -A3B6

TO-360-A1A6D, -C1A6D, -E1A6D, -F1A6D

LTO-360-A1A6D, -E1A6D

O-435-C, -K, O-435-K1, (ON C.C ROTATION PAD ONLY)

GO-435-C2, -C2A, -C2A2, -C2B, -C2B1, -C2B2, -C2C, -C2D, -C2E, -D1

VO-435-A1A, -A1B, -A1C, -A1D, -A1F, -B1A

LYCOMING MODELS (CONTINUED)

GSO-435-B, -B2

TVO-435-A1A, -B1A, -B1B, -C1A, -D1A, -D1B, -E1A, -F1A, -G1A, -G1B

GO-480, GO-480-A1A, -B, -B1, -B1A6, -B1B, -B1C, -B1D, -C1B6, -C1D6, -C2C6,
-C2D6, -C2E6, -C3A6, -D1A, -E1A6, -F6, -F1A6, -F2A6, -F2D6, -F3A6, -F3B6, -F4A6,
-F4B6, -G1A6, -G1B6, -G1D6, -G1H6, -G1J6, -G2D6, -G2F6

IGO-480-A1A6, -A1B6

GSO-480-A1A6, -A1C6, -A2A6, -B1A6, -B1B6, -B1C6, -B1E6, -B1F6, -B1G6, -B1J6,
-B2C6, -B2D6, -B1B3, -B2G6, -B2H6

IGSO-480-A1A6, -A1B6, -A1C6, -A1D6, -A1E6, -A1F6, -A1G6

O-540-A1A, -A1A5, -A1B5, -A1C5, -A1D, -A1D5, -A2B, -A3D5, -A4A5, -A4B5, -A4C5,
-A4D5, -B1A5, -B1B5, -B1D5, -B2A5, -B2B5, -B2C5, -B4A5, -B4B5, -D1A5,
-E4A5, -E4B5, -E4C5, -F1A5, -F1B5, -G1A5, -G2A5, -H1A5, -H2A5, -H1A5D,
-H2A5D, -H1B5D, -H2B5D, -J1A5D, -J2A5D, -J1B5D, -J2B5D, -J3A5D, J1C5D,
-J2C5D, -J1D5D, -J2D5D, -J3C5D, -L3C5D

IO-540-A1A5, -B1A5, -B1B5, -B1C5, -C1B5, -C1C5, -C2C, -C4B5, -C4C5, -D4A5, -D4B5,
-D4C5, -E1A5, -E1B5, -E1C5, -G1A5, -G1B5, -G1C5, -G1D5, -G1E5, -G1F5,
-J4A5, -K1A5, -K1A5D, -K1B5, -K1B5D, -K1C5, -K1D5, -K1E5, -K1E5D, -K1F5,
-K1F5D, -K1G5, -K1G5D, -K1H5, -K1J5, -K1J5D, -L1A5, -M1A5, -M2A5D,
-N1A5, -P1A5, -R1A5, -S1A5, -T4A5D, -T4B5D, -U1A5D, -U1B5D

HIO-540-A1A

AEIO-540-D4A5, -D4B5, -D4C5

IGO-540-A1A, -A1B, -A1C, -B1A, -B1B, -B1C

IGSO-540-A1A, -A1C, -A1D, -A1E, -A1F, -A1H, -B1A, -B1C

IVO-540-A1A

VO-540-A1A, -A2A, -B1A, -B1B, -B1B3, -B1C, -B1D, -B1E, -B1F, -B1H3, -B2A, -B2C,
-B2D, -B2E, -B2G, -C1A, -C1B, -C1C3, -C2A, -C2B, -C2C

TIO-540-A1A, -A1B, -A2A, -A2B, -A1C, -A2C, -C1A, -E1A, -F2BD, -G1A, -H1A, -J2BD,
-K1AD, -N2BD, -R2AD, -S1AD

LTIO-540-F2BD, -J2BD, -K1AD, -N2BD, -R2AD

TVO-540-A1A

TIVO-540-A2A

TIGO-541-B1A, -C1A, -D1A, -E1A, -G1AD

TIO-541-A1A, -E1A4, -E1B4, -E1C4, -E1D4

C.M.C. MODELS

O-200-A, -B, -C

E-225-2, -4, -8, -9

6-285-A, -B, -C

O-300-D, -E

GO-300-A, -B, -C, -F, GO-300-D, -E (ON OPTIONAL PAD ONLY)

IO-346-A, -B

IO-360-B, -J, -K, -JB, -KB, -IO-360-C, -CB, -G, -GB (ON OPTIONAL PAD ONLY)

TSIO-360-A, -AB, -C (ON OPTIONAL PAD ONLY)

LTSIO-360-E, -EB

C.M.C. MODELS (CONTINUED)

O-470-A, -B, -B-C1, -E, -G, -G-C1, -H, -J, -K, -K-C1, -L, -L-C1, -M, -M-C1, -N, -P, -R, -S,
-T, -U

IO-470-A, -C, -D, -E, -F, -G, -H, -J, -K, -L, -LO, -M, -N, -P, -R, -S, -T, -U, V, VO

LIO-470-A

TSIO-470-B, -C, -D

IO-520-A, -B, -BA, -BB, -C, -CB, -D, -E, -F, -J, -K, -L, -M, -MB, -N, -NB

TSIO-520-A, -B, -C, -D, -E, -F, -G, -H, -J, -K, -L, -M, -N, -P, -R, -BB, -DB, -EB, -JB, -KB,
-LB, -NB, -T, -U, -UB, -VB, -WB

GTSIO-520-D, -E, -F, -H, -K, -L, -M, -N (ON RIGHT OPTIONAL PAD ONLY)