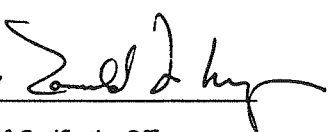
AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

MODEL A-1, A-1A, A-1B HUSKY AIRPLANE

REGISTRATION NO. N990HP
SERIAL NO. 2109

This supplement must be attached to the FAA Approved Airplane Flight Manual, dated May 30, 1996 or later FAA approved flight manual for A-1; and dated January 28, 1998 or later FAA Approved Flight Manual for A-1A and A-1B, when equipped with the Vision Microsystems VM1000 Engine Monitoring System. The information contained herein supplements the information of the basic Airplane Flight Manual.

FAA APPROVED 
Ronald May
Manager, Denver Aircraft Certification Office
Northwest Mountain Region
Federal Aviation Administration
Date August 18, 1999

AIRPLANE FLIGHT MANUAL SUPPLEMENT
VM1000 ENGINE MONITORING SYSTEM

REVISION LETTER	PAGES AFFECTED	DESCRIPTION OF CHANGES	APPROVAL AND DATE
Initial Release	All	Initial Release	Mgr. FAA Denver ACO Date: 18Aug99

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Section I Operation Limitations

F. USABLE FUEL

VM1000 fuel remaining display ('REM') is advisory only. Sight gauges are primary fuel quantity indicators.

G. MARKINGS AND PLACARDS

VM1000 circuit breaker listed as on breaker panel .

ENG
INST

Section II Normal Procedures

C. BEFORE STARTING ENGINE

7. Ensure fuel quantity has been added to VM1000 and actual fuel on board is displayed.

D. STARTING ENGINE

9. Oil Pressure ..... Oil pressure light OUT
10. Alternator Field Switch.....ON, Alternator light OUT

M. START ENGINE USING EXTERNAL BATTERY POWER (OPTIONAL GROUND POWER PLUG)

16. Oil Pressure .....Oil Pressure Light OUT
17. Alternator field switch .....ON, Alternator light OUT

Section III Emergency Procedures

I. VM1000 Digital/ Analog Display Loss

1. Check circuit breaker. If open reset circuit breaker. If circuit breaker is not open and display is not available, or if breaker does not remain closed, conduct the following procedures.

   A. Propeller control ..... Full forward
   B. Mixture .....Full rich

Note: Full use of throttle for any power setting/ manifold pressure is available.

Monitor the oil pressure and alternator annunciator lights and terminate the flight as soon as practical to correct the malfunction.

Section IV Performance Information

No Changes

Section V Loading Information

B. Standard and Optional Equipment

( ) 29. VM1000 Weight___lbs @ FS 48

Appendix A

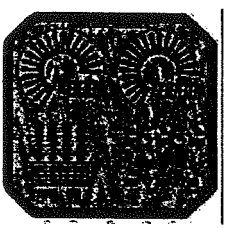
A. VM1000 system description

1. General description
2. VM1000 indicator gauges
3. Settings/initial set-up
4. Troubleshooting

A. VM1000 System

1. GENERAL DESCRIPTION

The VM1000 Engine Monitoring System replaces all of the conventional engine instruments currently found in the Husky series aircraft with a single uniformly formatted display arrangement. The VM1000 display information is presented in the same manner as other engine monitoring instrumentation, however, additional features are accessible with the VM1000 using five function buttons.



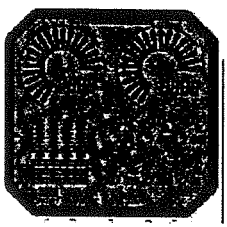
VM1000 INDICATOR

VM1000 ENGINE MANAGEMENT SYSTEM

The VM1000 Engine Management System utilizes microprocessor technology, flat panel high contrast displays and full sweep graphics to provide fast visual reference to engine operating limits and trends. The VM1000 indicator displays analog and digital Tachometer, Manifold Pressure, EGT/CHT, Fuel Temperature and Pressure, Oil Temperature and Pressure, Voltage and Amperage.

The VM1000 Engine Management System back lighting system is controlled by the aircraft rheostat.

2. VM1000 INDICATOR GAGES



Each of the individual VM1000 read-outs will be discussed in the following sections. Each section will list and illustrate a gage as shown above, discuss the gage functions, limits and resolutions.

MAN (MANIFOLD PRESSURE)

The Manifold Pressure System provides full sweep color range graphic analog display with 1" HG resolution for quick reference to normal, caution and red line manifold pressure during power changes.

The Manifold Pressure System comes complete with a Warning Alert activated at Manifold Pressure redline, at which time the manifold pressure display will flash until this condition is rectified.

RPM (TACHOMETER)

RPM ENGINE HOURS

The Tachometer System provides full sweep color range graphic analog display quick reference to monitor normal, caution and red line engine speed. The four place digital display with 10-rpm resolution indicates precision RPM.

Example: An initial 2400 rpm display reading combined with a slight increase in power might read 2410 rpm.

The Tachometer System comes complete with a Warning Alert, which is activated at engine RPM redline (2700rpm), at which time the RPM display will flash.

RPM ENGINE HOURS:

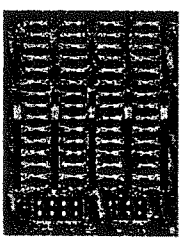
Total Engine Hours will be displayed on the rpm display when the engine is off. The digital readout displays up to 5999.9 accumulated engine hours.

RPM CHECKS:

Analog: The graphic arc resolution is 40 RPM for engine speeds up to 2000 RPM and the graphic arc resolution is 100 RPM for engine-speeds of 2000 RPM and greater.

Digital: Allow the engine time to stabilize when performing RPM checks. It is recommended to stabilize the engine for a three second minimum for each RPM check before noting the RPM change.

EGT AND CHT GAGE (EXHAUST GAS AND CYLINDER HEAD TEMPERATURE)



The 'Diamond Graph' engine analyzer system is equipped with a vertical full sweep color range bar graph analog display for quick reference to monitor normal, caution and red line Cylinder Head Temperature and Exhaust Gas Temperature conditions.

The digital EGT/CHT displays temperatures for each pair, periodically displaying the engine cylinder number (ex: 'E1' 'C1').

EGT AND CHT DIGITAL DISPLAY MODES

The initial start up mode, or default mode, is 'PEAK DISPLAY MODE'.' Alternate Display Modes can be selected as shown in TABLE 1. Select an EGT/CHT pair to display by pressing 'BUTTON 2'.

TABLE 1
EGT/CHT SELECTION

Display Mode	Cylinder. Numbers	Probes displayed
Cylinder 1 Pair	'E1' 'C1'	EGT1 & CHT1
Cylinder 2 Pair	'E2' 'C2'	EGT2 & CHT2
Cylinder 3 Pair	'E3' 'C3'	EGT3 & CHT3
Cylinder 4 Pair	'E4' 'C4'	EGT4 & CHT4
Peak Mode	'P'? 'H'?	PEAK DISPLAY MODE

VOLT AND AMP DISPLAYS

The Voltage and Amperage gages combine Analog and Digital Displays.

> NOTE; There is an external alternator annunciator light on the instrument panel, which illuminates at low voltage. Light activates at 12.5 volts or less and is connected to an independent source.

VOLT AND AMP ANALOG DISPLAYS

The Voltage and Amperage gages are full sweep color range graphic analog displays which provide quick reference to normal, caution and red line Voltage and Amperage levels. These displays also present Voltage or Amperage increases with a proportional graph size increase illustrating the parameter relationships.

The Voltage and Amperage Systems come complete with Warning Alert activated at respective redline conditions, at which time the redline display will flash until this condition is rectified. This occurs at low amperage levels of less than 2 amps or when the alternator does not produce power for the electrical system.

VOLT DIGITAL DISPLAY

The Voltage Digital readout displays 0.1 Volt resolution.

AMP DIGITAL DISPLAY

The digital readout displays amperage at 1 amp resolution.

OIL PRESSURE AND OIL TEMPERATURE DISPLAYS

The Oil Pressure and Oil Temperature gages combine Analog and Digital Displays.

NOTE: There is an oil pressure light on the instrument panel that illuminates at a pressure of 25 psi or less that is attached to an independent source.

OIL PRESSURE AND OIL TEMPERATURE ANALOG DISPLAYS

The Oil Pressure and Temperature gages are full sweep color range analog displays which provide quick reference to normal, caution and red line Oil Pressure and Temperature measurements respectively. Oil temperature ranges are caution range from 40°F to 100°F. Normal range is 100°F to 244°F. Red line is at 245°F

OIL PRESSURE DIGITAL DISPLAY

The digital display indicates 1-PSI increments to a maximum of 99 PSI. Oil pressure markings are as follows, red line at 25 psi, caution from 26 to 60 psi, normal or green arc is 60 to 90 psi, caution from 90 to 99 psi and red line at 100 psi.

OIL TEMPERATURE DIGITAL DISPLAY

The Oil Temperature Digital Display indicates Temperatures in 1° F increments with a maximum display capability of 300° F.

NOTE: A constant temperature reading of 26° F or 317° F indicates a transducer failure. Monitor CHT and oil pressure to determine oil temperature trend and service immediately.

FUEL PRESSURE AND FUEL FLOW DISPLAYS

The Fuel Pressure and Fuel Flow indicators combine Analog and Digital Displays.

FUEL PRESSURE AND FUEL FLOW ANALOG DISPLAYS

The Fuel Pressure and Fuel Flow gages are full sweep color range analog displays.

FUEL PRESSURE DIGITAL DISPLAY

The Fuel Pressure Digital Display shows fuel pressure form 0 to 5 psi. 0 to ½ psi is caution; ½ psi to 4 psi is green and 4 to 5 psi caution and red line at 5 psi

FUEL FLOW DIGITAL DISPLAY

The Fuel Flow Digital Display presents gallons per hour in 0.1 increments.

FUEL FLOW MODES

The initial start up mode, or default mode, is 'FUEL FLOW'.
To view and/or select an alternate Display Mode, as shown below, press 'BUTTON 4'.

'REM' - Fuel remaining onboard
'BRN' - Fuel burned since last power-up
'HRS' - Hours of fuel remaining
'ADD' - Add fuel to computer memory.

The different modes will be indicated in black letters below the words 'FUEL FLOW' on the VM1000 display:

'REM' - Digitally displays total gallons of fuel remaining in 0.1 gallons increments. This mode is ONLY usable, if the computer's memory has been updated with fuel information corresponding to the actual aircraft usable fuel and has always had the computer operational when fuel is being burned. The graphic display is discontinued during this mode.

'HRS' - Digitally displays calculated Hours of Fuel remaining in 0.1 hour increments. The Fuel remaining is determined as a function of the current Flow Rate and current Fuel Total. The graphic display is discontinued during this mode.

NOTE: The 'HRS' mode will be INACCURATE if either of the following two conditions occur.

(1) The ADD FUEL was not used correctly for refueling and/or
(2) The system was not operating continually during fuel consumption.

'BRN' - Digitally displays gallons of fuel used in 0.1-gallon increments. The graphic display is discontinued during this mode.

'ADD' - This mode allows you to add fuel to the fuel computers 'electronic tank' after fuel has physically been added to the aircraft's fuel tank(s). The graphic display is discontinued during this mode.

ADDING FUEL TO THE VM1000 SYSTEM

The ADD Fuel System feature allows the operator to 'ADD' fuel according to how much has been pumped into the tank(s). The operator is not required to calculate the new total fuel level after adding fuel. The ADD Fuel system does it for you when you follow STEPS 1 through 3 of this Section to 'ADD' fuel to the computer:

********** WARNING **********
IMPROPER USE OF THIS FEATURE WILL CAUSE INCORRECT FUEL 'REM' AND 'HRS' INFORMATION. COMPLETE UNDERSTANING OF THE FUEL SYSTEM IS ESSENTIAL PRIOR TO USE DURING FLIGHT.
****

STEP 1: Press 'BUTTON 4' until the 'ADD' indicator activates.

STEP 2: Press 'BUTTON 3' to add ten-gallon increments.
Press 'BUTTON 5' to add one gallon increments.
Continue to press Button 3 and Button 5 until the Fuel ADD EQUALS the fuel added to the fuel tank(s).

NOTE: **TOPPING TANKS:**
Press 'BUTTON 3' until the number entered exceeds the tank(s) 52 gal. capacity. The system will equalize at the programmed full tank volume.

STEP 3: Input errors can be automatically canceled by the "ADD" mode after a 20 second pause occurs. When correct fuel has been added from steps 1 and 2; press 'BUTTON 4'. The added fuel will be added to the remaining fuel 'REM' total. Verify new total by pressing 'BUTTON 4' until the 'REM' fuel is displayed.

CAUTION: There is no direct connection to the aircraft's fuel quantity system by the VM1000 therefore sight gauges are primary for fuel quantity indication.

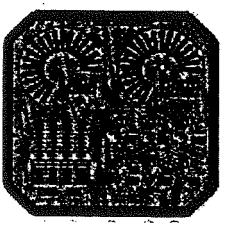
3. SETTINGS / INITIAL SET-UP

VM1000 Graphic Display Modes

The VM1000 Indicator operation can be set for either a Sweep Mode or a Pointer Mode.

1) Sweep Mode - Graphic display is a continuous sweep of pointers.
2) Pointer Mode - Graphic display is a single needle type pointer.

To determine operation mode; select between one of the graphic sweep display modes by holding 'BUTTON 3' while initiating the VM1000 system until the indicator displays engine parameters. Release Button 3 and Repeat Button 3 again to try alternate operating mode.



1 2 3 4 5

BUTTON 1: 'SELECT EGT GRAPHIC MODES'
BUTTON 2: 'SELECT EGT & CHT DIGITAL MODES'
BUTTON 3: 'SELECT 'AUTOTRACK' ON / OFF'
BUTTON 4: 'SELECT FUEL COMPUTER MODES'
BUTTON 5: 'SELECT FLIGHT DATA RECORDER INFORMATION'

'AUTOTRACK' SYSTEM OPERATION

The "AUTOTRACK" continually monitors engine parameters for deviations.

HOW TO INITIALIZE 'AUTOTRACK'

STEP 1: STABILIZE the aircraft.
Set power and mixture condition.
Allow the engine time to stabilize
(i.e. engine temps and pressures, etc..)

STEP 2: Press 'BUTTON 3'.
The "AUTOTRACK" indicator will activate in the display and the system will begin tracking the engine's performance.

TO CANCEL 'AUTOTRACK'

Press 'BUTTON 3'

'AUTOTRACK' ALERT INDICATORS

As an engine parameter deviates beyond the initial set point, the system will flash the corresponding graphic display and the 'AUTOTRACK' indicator.

'AUTOTRACK' ALERT TERMINATION

To terminate an alert, return the engine parameter to its initial value or simply press 'BUTTON 3' to shut off the 'AUTOTRACK' system.

HOW TO USE 'FLIGHT DATA RECORDER'

STEP 1: Press 'BUTTON 5'.
View flight minimums (i.e., lowest fuel pressure, voltage, amperage, etc.).
RPM digital display will indicate actual flight hours in tenths.

STEP 2: Press 'BUTTON 5' again.
View flight maximums (i.e., max. CHT, max. Oil Temp, max. RPM)

STEP 3: Press 'BUTTON 5' again.
The Flight Data Recorder is shut off. The recorder data will automatically shut off in approximately 20 seconds if the button is not pressed.

4. TROUBLESHOOTING

System Display Care and Maintenance

The indicators require no scheduled care or maintenance. However, they may need to be cleaned periodically.

> **Caution: Diaper flannel is recommended to clean displays.**
> Paper towels and tissues have a high abrasive content, which will damage the displays.

To clean indicators, remove surface dust and abrasives by blowing on the indicator face or brushing with a soft bristle brush. Fog the indicator with your breath and gently rub the indicator.

> **Caution: Never use any solvents or cleaning fluids on the indicators.**

Indicator service should comply with the associated system installation manual and be serviced by an authorized service representative.

Data Processor Unit Care and Maintenance

The Data Processor Unit requires no scheduled care or maintenance except for a battery memory pack. This pack has an estimated life of 7 to 10 years and must be replaced every 5 years or earlier if the battery fails to hold charge. Loss of charge is indicated by loss of engine total time (RPM display indicates 0 when engine is off) or loss of fuel quantity data entered from a previous flight. If the pack loses charge, then 'Initial System Set-up' is required. Service should comply with the associated system installation manual and be serviced by an authorized service representative.

Transducer Inline Resettable Fuses

The EGT and CHT transducer leads incorporate permanently installed Polyswitch resettable fuses (polyfuse). These polyfuses protect the VM1000 intenal power supply in case of a transducer lead fault. A transducer lead fault will cause loss of display for the affected cylinder. To reset the polyfuse power must be removed from the system, either by turning off and resetting the ENG INST circuit breaker or turning off master power. Failure of the polyfuse to reset indicates a continuous fault. The system should be serviced per the Supplemental Instructions for Continued Airworthiness for the VM1000 as soon as practical in the event of a continuous or intermittent transducer fault.

FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

MODELS A-1, 1-1A, A-1B HUSKY AIRPLANES

REGISTRATION NO. N990HP

SERIAL NO. 2109

This supplement must be attached to the FAA Approved Airplane Flight Manual for Model A-1, dated May 1, 1987 or later FAA Approved Airplane Flight Manual; and FAA Approved Airplane Flight Manual for Models A-1A or A-1B, dated January 28,1998 or later FAA Approved Airplane Flight Manual, when Aft Stowage Compartment is installed in accordance with Aviat Aircraft Inc. Master drawing list No. 96-00-00, Revision E, dated 4/19/2000 or later approved revision. The information contained herein supplements the information in the basic Airplane Flight Manuals.

FAA APPROVED Carrie Sumner

Carrie Sumner
Small Airplane Program Manager
Denver Aircraft Certification Office
Federal Aviation Administration

Date: April 18, 2000
Revised: April 28, 2000

AIRPLANE FLIGHT MANUAL SUPPLEMENT

MODELS A-1, A-1A, A-1B HUSKY AIRPLANES WITH AFT STOWAGE COMPARTMENT

REVISION LETTER	PAGES AFFECTED	DESCRIPTION OF CHANGES	APPROVAL AND DATES
Initial Release	All	Initial Release	Carrie Sumner Small Airplane Program Mgr. FAA Denver ACO Date: April 18, 2000
A	1,4,5	Corrected master drawing list reference. Removal of split weight provision.	 Small Airplane Program Mgr. FAA Denver ACO Date: April 28, 2000

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SECTION I OPERATING LIMITATIONS

C. WEIGHT

Aft stowage compartment maximum weight.....30 lbs

G. MARKINGS AND PLACARDS

On aft stowage compartment walls:

MAX COMPARTMENT WEIGHT
30 LBS

SECURE STOWAGE
FLOOR FASTENERS
BEFORE FLIGHT

SECTION II NORMAL PROCEDURES

B. PRE-FLIGHT

1. Visually check aircraft for

g. Secure stowage floor fasteners Before flight
h. Baggage is secured
i. Secure stowage battery access door

SECTION III EMERGENCY PROCEDURES

NO CHANGE

SECTION IV PERFORMANCE INFORMATION

NO CHANGE

SECTION V LOADING INFORMATION

A. WEIGHT & BALANCE

5. DETERMINING AIRPLANE WEIGHT & C.G.

ITEM	WEIGHT	ARM	MOMENT
EQUIPPED WEIGHT EMPTY			
FUEL 7.5GAL MIN		84.0	
PILOT WEIGHT		72.5	
PASSENGER WEIGHT		99.0	
BAGGAGE CABIN 50 LBS MAX		120.0	
AFT STOWAGE Front 30 LBS MAX Middle Back		131.6 146.3 176.7	
TOTAL			

B. STANDARD & OPTIONAL EQUIPMENT LIST

( ) 29. AFT STOWAGE KIT ...Weight____lbs@FS_____