

SANDERS



SMOKE TECHNOLOGIES, INC.



SCSG-5A

**OPERATION AND MAINTENANCE
MANUAL**

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1.0 INTRODUCTION

The SCSG-5A is a self-contained smoke generation system designed to be mounted on a standard NATO (14") hard point, with no modifications to the aircraft.

Smoke has been used to heighten the visual impact of flight for decades. Usually smoke systems simply pump enough oil into a hot engine exhaust, reciprocating or Jet, to produce a visible plume of smoke.

With jet exhaust systems, smoke quality is generally poor due to dispersion from the high velocity exhaust. The smoke also dissipates rapidly because of high exhaust temperature. At high power settings, especially in after burner, the smoke may disappear altogether.

The SCSG-5A an airborne self-contained smoke generator was developed by Sanders Smoke Technologies, Inc. to fill the need for a smoke system that is independent of the engine influence and location. The SCSG-5A has greatly expanded the application and scope to which smoke may be used in aircraft operations.

The following definitions apply to Warnings, Cautions and Notes found throughout this manual:

Warning: Operating procedures, techniques, etc., which will result in personal injury or loss of life if not carefully followed.

Caution: Operating procedures, techniques, etc., which will result in damage to equipment if not carefully followed.

Note: An operating procedure, technique, etc., which is considered essential to emphasize.

Black vertical bars, located in the right outside margin, will highlight the location of revised information in this manual.

These state of the art smoke generators are available to you, only through Sanders Smoke Technologies, Inc. Contact us today for a no obligation quote for your aircraft.

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2.0 GENERAL DESCRIPTION

2.01 Description of Function

The Self-Contained Smoke Generator SCSG-5A is an inert smoke system designed to operate from an aircraft equipped with a standard 14-inch NATO bomb rack mount. The smoke generator is not a weapon; it only produces inert smoke.

Ease of operation is one of the special features of this system. The SCSG-5A is quick fitting and easily removed from the aircraft Bomb rack. To produce smoke the pilot presses the smoke button switch and the smoke starts immediately; the smoke stops upon the release of the switch. The smoke can be turned on and off as many times as desired until the 10 minute quantity of smoke oil is exhausted.

The SCSG-5 units have been successfully operated from 65 knots to 0.80 mach. at sea level to 15,000 feet and 9 G's. Models of the SCSG have flown for 38+ years.

2.02 Approved Aircraft

The following aircraft have been approved for flight with the SCSG series:

- Aeromacchi MB-339 & MB-326
- Agusta S211
- Boeing 747 & 727
- BA Hawk 200
- Casa 101
- McDonnell Douglas A-4
- Embraer Tucano
- Lockheed T-33 & F-16
- MBB Tornado
- MiG 17
- Pilatus PC7 & PC9
- Saab Viggen
- Sikorsky Helicopter

2.03 Servicing

Servicing the SCSG-5A between operations requires only the addition of 1 gallon of gasoline and 10 gallons of oil to obtain another 10 minutes of smoke operation.

2.04 Altitudes

The smoke system has been operated from sea level to over 30,000 feet. If starting the smoke at altitudes higher than 15,000 feet is desired, some special modifications are required.

3.0 LIMITATIONS

3.01 Declaration

Sanders Smoke Technologies, Inc. cannot accept responsibility for the satisfactory operation of equipment outside the conditions given below, without Sanders Smoke Technologies, Inc. agreement.

3.02 General

Emission of and Susceptibility to electromagnetic interference.....None established |

Exposure to Sunlight Not Effected

External Contamination.....Ram Air Inlet must be free and clear

Magnetic InfluenceNone established |

Mounting Attitude Horizontal

Mounting Method..... 14" NATO bomb rack |

Shelf Life Estimated 10 years

Ultimate LifeNot established

Water Proofness..... Spray proof

3.03 Dimensions

Overall dimensions..... 10" x 80.5"

Dry weight 55.50 (+/-2) lbs

Empty weight (1 gallon useable fuel) 61.50 (+/-2) lbs

Gross weight 136.50 (+0, -2) lbs |

CG Dry38.88 (+/- 0.5)" aft

CG Empty (1 gallon useable fuel)36.88 (+/- 0.5)" aft

CG Gross35.50 (+/- 0.5)" aft

3.04 Fuel and Oil

Preferred Fuel (2 gallons) Aviation grade gasoline fuel
(Premium automotive gasoline may be substituted)
Do not service with jet fuel (JP-4, etc.)

Preferred Smoke Oil (10 gallons)..... Shell Morlina Oil HS 10
Texaco Canopus 13
(Experimentation may show local oils available)

3.05 Operating Limitations

Acceleration.....	+/- 9G's
Altitude for Starting Unit	15,000 feet and below
Altitude while Operating	No altitude limitation established
Ambient Temperature Range.....	40° F – 120° F
Attitude Deviation during Flight	Unlimited
Electrical On/Off Switch	4mA, 28vdc, 7K ohms
Electrical Main Power.....	.10 amps, 28vdc
Minimum Starting Speed.....	100 KIAS (all altitudes)
Maximum Starting Speed.....	Sea Level to 5,000 feet – 350 KIAS 10,000 feet – 250 KIAS 15,000 feet – 150 KIAS
Maximum Smoke Speed	0.8 Mach
Maximum No Smoke Speed	Not established
Operating Time.....	approximately 10 minutes
<u>Caution:</u> Do not operate after all oil is consumed.	
Rate of Climb and Descent	Unlimited

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4.0 THEORY OF OPERATION

4.01 General

When the pilot or ground check operator initiates the command for the smoke generator to operate, by selecting the on/off switch to the ON position, a relay circuit engages, starting the smoke sequence.

With the on command, there are three functions that take place simultaneously. 28vdc electrical power is turned on to:

1. The capacitor discharge ignition system for igniter firing.
2. The fuel pump turns on, and its solenoid fuel cut off valve is opened. Combustion will start almost immediately.
3. The smoke oil pump turns on.

To stop smoke; the pilot selects the on/off switch to the OFF position; power is then turned off to all systems. The fuel solenoid valve closes; fuel pump, ignition, and the oil pump stops. The air flow is continuous in flight and keeps the combustion chamber purged and ready for the next smoke operation.

4.02 Auto Shutdown

The smoke generator is equipped with an automatic shut down feature. This feature is to protect the smoke generator from operating without smoke oil. When the smoke generator is selected ON, the smoke oil pump has 8 seconds to exceed 100 PSI and close the pressure switch to continue operating. If the oil pressure drops below 60 PSI (pressure switch opens) for 8 seconds, the system will automatically shut down. This 8 second delay is designed for the occasional pressure loss during some maneuvers; the time does not accumulate. To restart the system, if auto shutdown occurs, select the on/off switch to the OFF position and then back to the ON position.

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5.0 PILOT'S NOTES – INFLIGHT OPERATION

5.01 General

As ram air flow is required to support combustion, we recommend that the smoke generator not be started below 100 KIAS. The maximum speed at which the smoke generator can be started changes with altitude.

Sea Level to 5,000 feet	350 KIAS
10,000 feet	250 KIAS
15,000 feet	150 KIAS

If the smoke generator does not start, try a slower airspeed; this will richen the air/fuel ratio. Also allow approximately 15 seconds between start attempts to allow the combustion chamber to clear out excess fuel. Once started the smoke generator should function to a max airspeed of .8 Mach. The smoke generator can be turned on and off as many times as desired. Once all the smoke oil is consumed (approximately 10 minutes) the smoke generator should be turned off.

5.02 Smoke Generator Start

Selecting the on/off switch to the ON position will start the smoke immediately.

Note: If auto shut off has occurred, return the on/off switch to the OFF position and then back to the ON position.

5.03 Smoke Generator Stop

Selecting the on/off switch to the OFF position will immediately stop all systems in the smoke generator.

Note: After shutting off the smoke generator a small flame (6 to 8 inches) will be visible for approximately 3 seconds.

5.04 Landing Precautions

The smoke generators should be selected OFF a minimum of 1 minute prior to landing. This allows time for the combustion chamber to purge and cool down.

We recommend that all the electrical power to the smoke generators be OFF. This guarantees that the smoke generators cannot be in the on condition.

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6.0 SAFETY PROCEDURES

6.01 Handling

The smoke generators should be clean and free of oil on the outside. They are rather heavy when loaded (136.50 lbs) and can be very slippery if wet.

6.02 Servicing

The aircraft should be grounded (earthed) when servicing the smoke generators. Because of the flammable liquids (gasoline and oil); a fire extinguisher should be available.

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7.0 MOUNTING

7.01 Pre-installation Check – Aircraft

Check that 28vdc electrical power is available.

7.02 Pre-installation Check – Smoke Generator

1. Check that all cannon plugs are secure.
2. Check that all access doors and fairing screws are in and tight.
3. Visually check that there is no damage to the smoke generator.
4. Recommend loading of smoke generator with a minimum of oil and fuel in tanks to avoid lifting an extra 81.00 lbs.

7.03 Loading Procedures

1. Smoke generator to be installed on aircraft per instructions for 14-inch bomb rack.
2. Connect 28vdc power to smoke generator.

7.04 Pre-unloading Procedures

1. Aircraft should be grounded (earthed) when draining fuel and oil from smoke generator.
2. It may be desirable, while the smoke generator is still installed on the aircraft, to remove drain plugs from the bottom of the smoke generator and drain fuel and oil, so that the smoke generator is lighter and easier to handle during unloading.

Note: Fuel drain plug has a 1/8" outside diameter (3.2mm) vent pipe attached.

Note: Removing filler plugs first will expedite draining.

3. Recommend checking smoke generator for any stray oil that may make the generator hard to handle unloading. Wipe clean.

7.05 Unloading Procedures

1. Disconnect 28vdc power.
2. Smoke generator to be removed from aircraft per instructions for 14-inch bomb rack.

8.0 SERVICING

8.01 General

Caution: Clean oil and fuel are essential; clean funnels, buckets, etc. must be used.

Caution: Do not over tighten the filler or drain plugs. Excessive tightening will cause increased wear or seizing of the plugs.

Recommended torque: filler plugs - 240 lb. in. (27Nm)
drain plugs - 50 lb. in. (6Nm).

8.02 Fuel (Gasoline)

1. Remove 3/4" pipe plug from the forward tank marked "FUEL".
2. Service with approximately 2 gallons (7.5 liters) of gasoline. Aviation grade fuel is preferred. Premium automotive gasoline may be substituted.

Caution: Do not service with jet fuel (JP-4 etc). The smoke generator will not function properly.

3. Lubricate plug with fuel resistant grease. Replace servicing plug.



8.03 Oil

1. Remove 3/4" pipe plug from the aft tank marked "SMOKE OIL".
2. Service with approximately 10 gallons (37.85 liters) of smoke oil.
3. Replace servicing plug.

9.0 GROUND TEST

9.01 General

A supply of 28vdc will be needed for a ground function check of the smoke generator.

An electrical on/off switch is needed or the aircraft systems may be used.

The smoke generator needs to be serviced with gasoline in the fuel tank (minimum 3/4 full) and sufficient oil in the oil tank (not required to be full, needing approximately 2 gallons, [7.5 liters]).

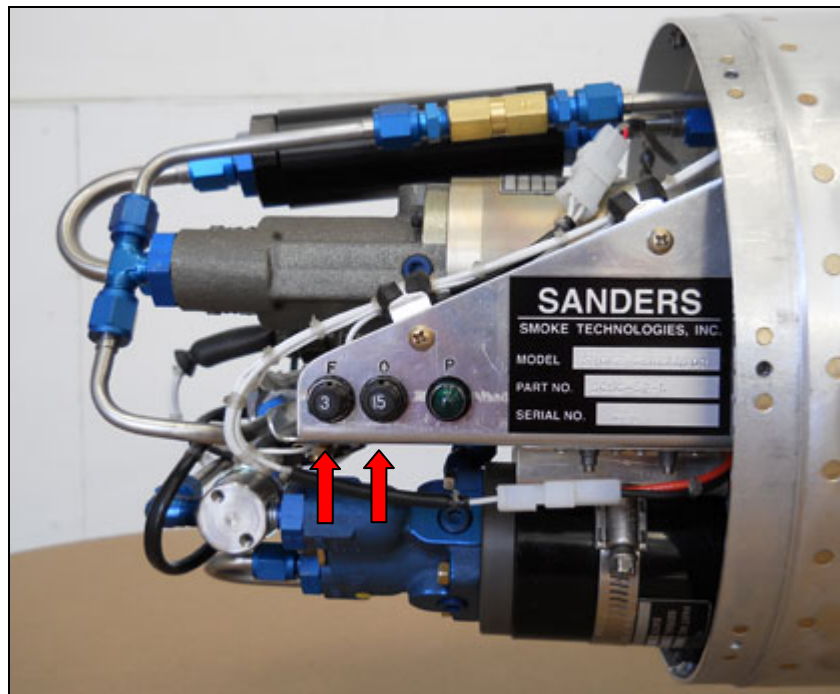
Caution: Do not operate pumps without fuel and oil.

9.02 Passive Ground Test

The following ground test is recommended before flight:

Caution: Have fire bottle available.

1. Remove nose cone fairing.



2. Pull out both fuel (F) and smoke oil (O) circuit breakers on the component mounting tray.
3. Select the on/off switch to the ON position. The power light should illuminate, then after 8 seconds, the power light should go out indicating the oil pressure safety switch operated.
4. Select the on/off switch to the OFF position.
5. Select the on/off switch to the ON position (you have 8 seconds to accomplish the following checks).
6. Check power light is illuminated.

7. Visually check igniter spark in combustion chamber from rear of smoke generator. Stand 3 feet (1 meter) behind the tail pipe.

For checking oil and fuel pump operation:

WARNING: Do not push both breakers in at the same time.

- a) **Momentarily** (less than one second) push in oil circuit breaker (also activates fuel solenoid valve). Listen for pump operation.
 - b) **Momentarily** (less than one second) push in fuel circuit breaker (fuel solenoid valve remains closed). Listen for pump operation.
8. After 8 seconds, system will automatically shut down. Recommend electrical power off to smoke generator. **Check power light is not illuminated.**
 9. Push in circuit breakers.
 10. Re-install nose cone fairing.

9.03 Operational Ground Test

If a preflight ground test is necessary, it is impractical to have the smoke generator produce smoke on the ground. You may simulate operation by having the fuel and oil by-pass the spray nozzles.

Caution: Have fire bottle available.

1. Remove nose cone fairing.



2. Disconnect fuel line at fuel solenoid valve.
3. Attach hose at solenoid valve to pump fuel into a container.
4. Disconnect the line to the spray nozzles at the oil pump.
5. Attach hose to outlet side of oil pump. Install a restrictor with a 1/16" (1.6mm) diameter hole to other end of hose. Place hose into a container.

Caution: The oil pump should put out 100 to 150 PSI.

Note: An open line on the oil pump will not provide sufficient pressure to close the pressure switch and the smoke generator will shut down after 8 seconds.

6. Select the on/off switch to the ON position and observe operation of fuel pump, oil pump, and ignition.

Note: Visual inspection of the ignition may be observed by standing a minimum 3 feet (1 meter) behind the tail pipe.

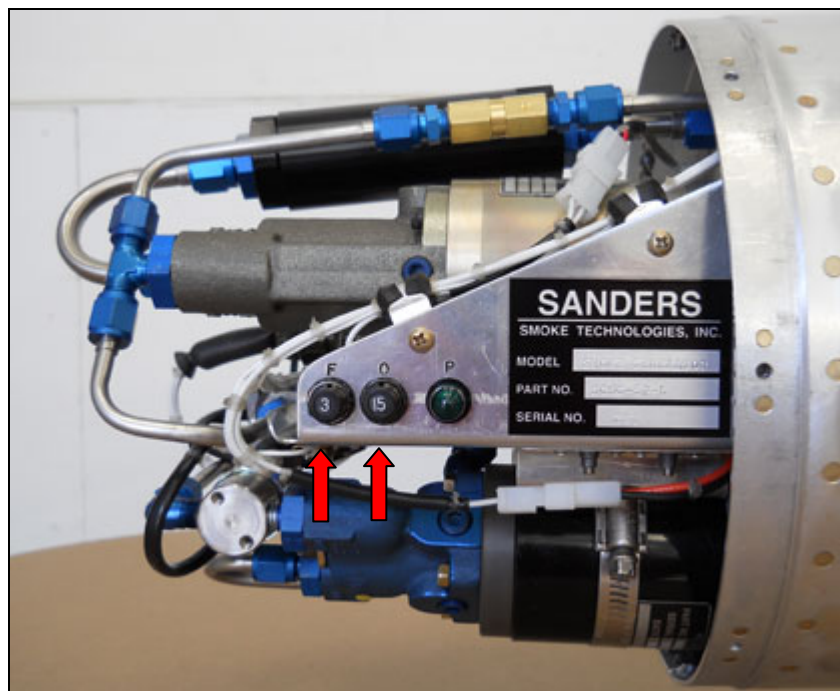
7. If all three functions are normal, re-assembly is reverse of removal procedures.
8. If ignition, fuel or oil does not function, proceed with appropriate check.

9.04 Ignition Check

Caution: Do not remove sealed access door #1 or #2. If door is removed for inspection and cleaning purposes, fuel tank sealant MIL-S-8802D will be required to reinstall the tank access door.

WARNING: Fuel and oil pump circuit breakers must be pulled out for this check.

1. Remove nose cone fairing.



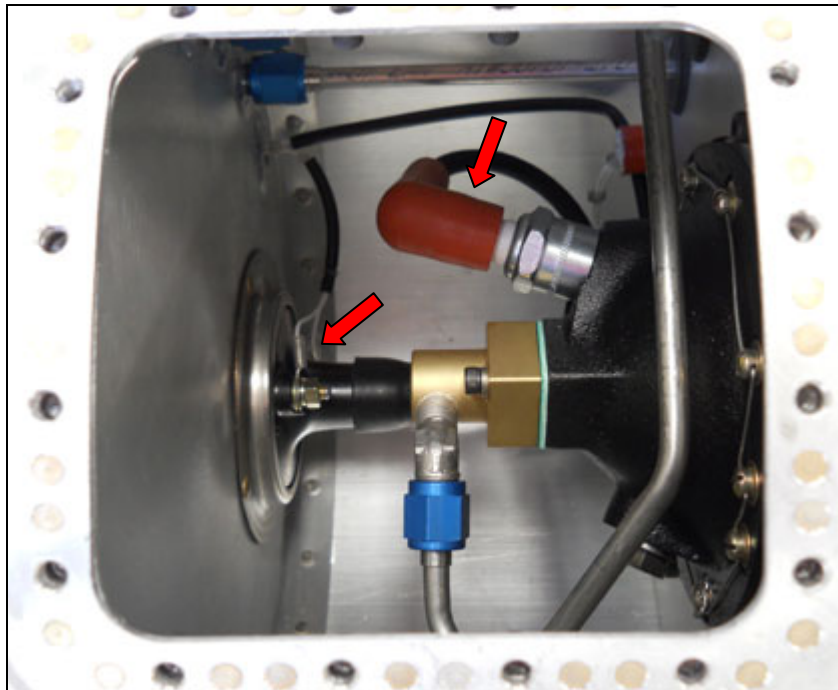
2. Pull out both fuel (F) and smoke oil (O) circuit breakers.

3. Select the on/off switch to the ON position.
Note: The system will shut off after 8 seconds due to no smoke oil pressure.
4. Visual inspection of the ignition is accomplished by standing approximately 3 feet (1 meter) behind tail pipe.
5. Select the on/off switch to the OFF position and check power light is not illuminated.
6. For re-assembly, reconnect all lines and push in circuit breakers.
7. Reinstall nose cone fairing.

WARNING: Fuel and oil pump circuit breakers must be pulled out for this check.

Troubleshooting

1. If there is no ignition, a visual inspection of the igniter can be accomplished by removing access door #3 and removing igniter. If igniter is dirty, clean or replace.

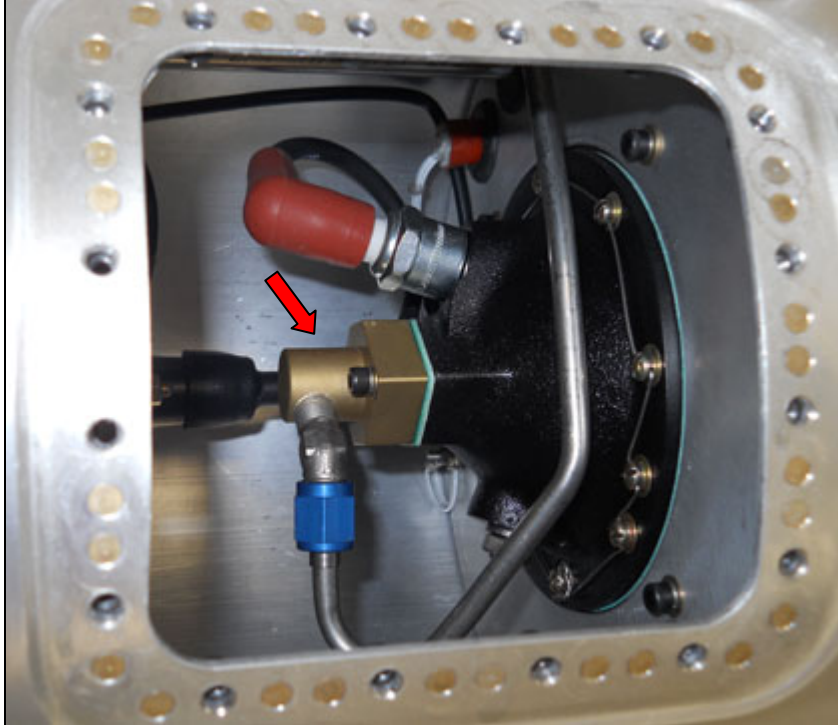


2. Check electrical connections at ignition coil and ignition cable at ignition coil and igniter.
3. Pull out oil (O) and fuel (F) circuit breakers.
4. Select the on/off switch to the ON position.
Note: The system will shut off after 8 seconds due to no smoke oil pressure.
5. If there is still no ignition, the Ignition/Control box will need to be replaced. Disconnect the Ignition/Control box cannon plug and remove the two mounting screws.

9.05 Fuel Check

WARNING: Electrical connector on oil pump must be disconnected.

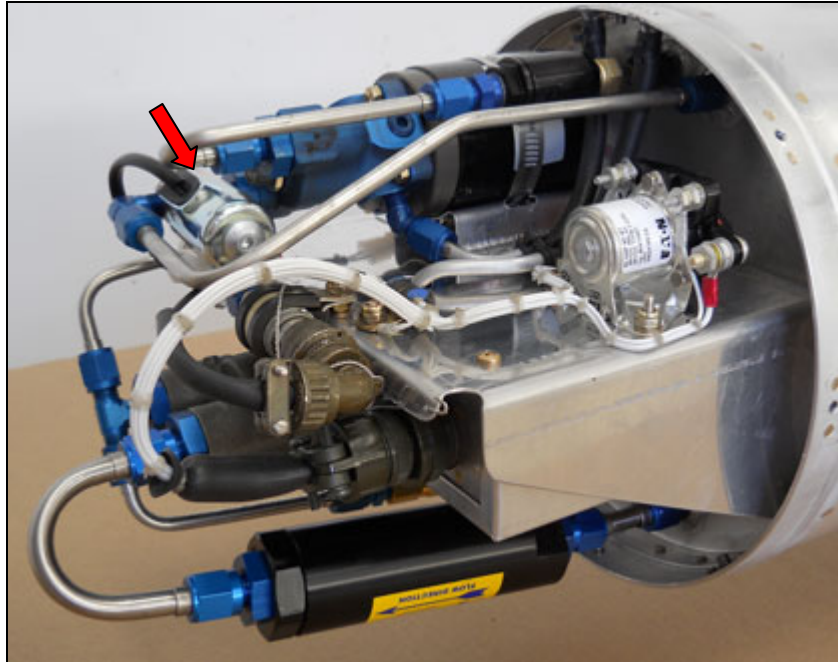
1. Remove access door #3.



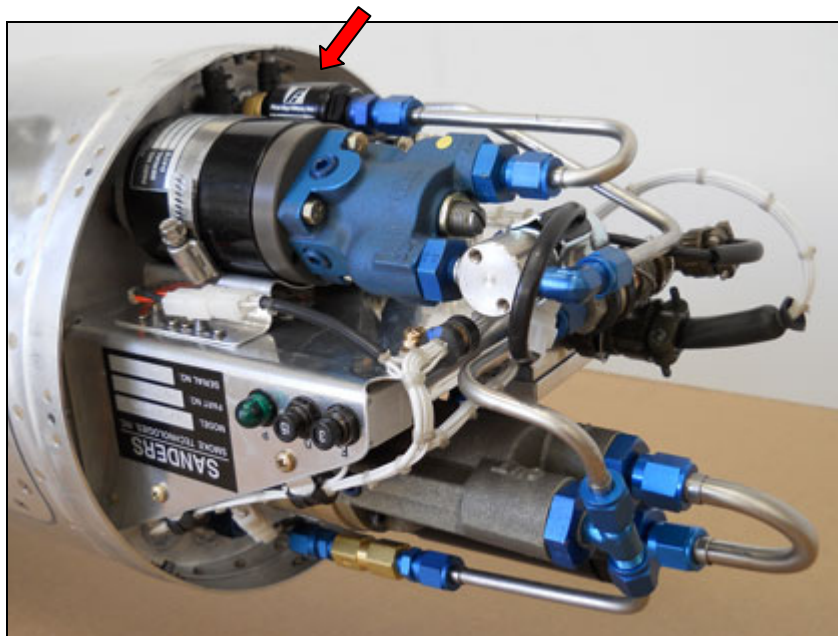
2. Disconnect line to fuel nozzle.
3. Remove two 8-32 allen cap screws and remove fuel nozzle holder.
4. Remove nozzle from holder block using 5/8" socket.
5. Inspect filter screen on nozzle for contamination.
6. Plumb fuel line overboard into a container.
7. Disconnect oil pump electrical connector.
8. Select the on/off switch to the ON position.
Note: The system will shut off after 8 seconds due to no smoke oil pressure.
9. Visually check for fuel flow.
Note: Ignition system will also be operating at this time.
10. For re-assembly, reconnect all lines and electrical connectors. Reinstall access door.

Troubleshooting

1. If there is no fuel flow, make sure that enough fuel is in the tank (minimum $\frac{3}{4}$ full).
2. Check that the fuel pump turns on when the on/off switch is selected to the ON position.
3. Check that the fuel solenoid valve, attached on the outlet side of the fuel pump, is energizing to allow fuel to flow.

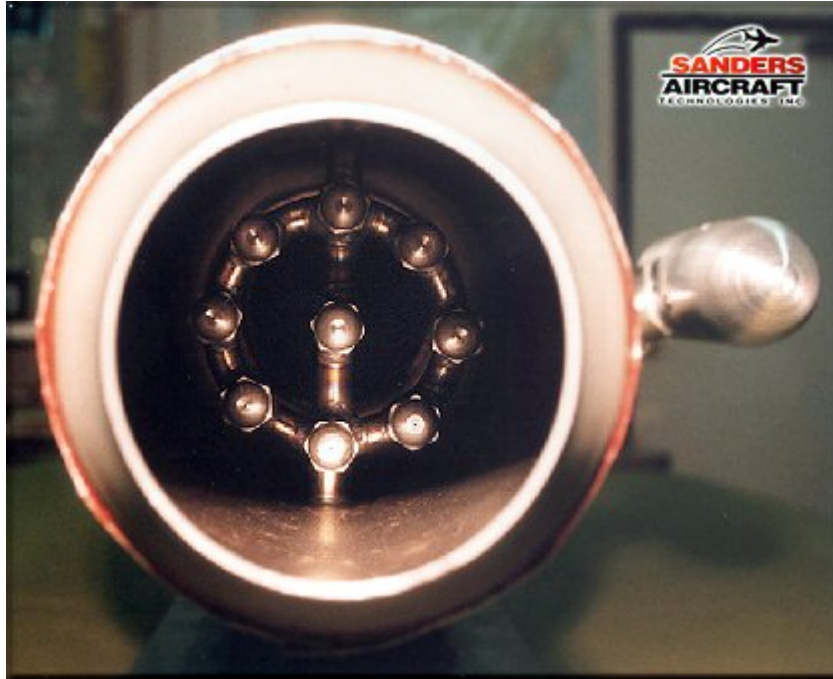


4. If the fuel pump runs and solenoid valve is energizing, but there is no fuel flow, check for clogging of the fuel pump inlet filter.



5. If fuel pump is not operational, check electrical power to the fuel pump.
 - a) If no power, check electrical wiring and Ignition/Control box.
 - b) If there is power, the replacement of the fuel pump will be necessary.

9.06 Smoke Oil Check



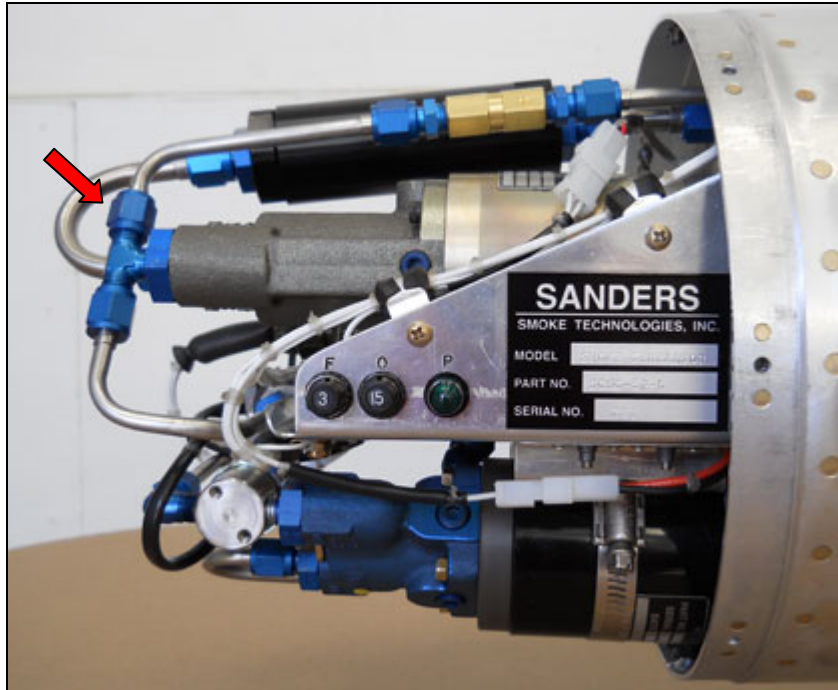
Nozzles

1. Check the oil discharge nozzles for clogging. There are 9 nozzles located inside the tail pipe, approximately 12 inches forward.
2. Remove nozzles with 5/8" socket, 18" extension.
3. Inspect and clean filter screens on nozzles.
4. Apply antiseize (MIL-A-907E or equivalent) to nozzle threads.
5. Reinstall nozzles. Recommended torque: 240 lb. in. (27Nm). Proceed with oil pump check.

Oil Pump

WARNING: Electrical connector on fuel solenoid valve must be disconnected or fuel circuit breaker pulled out for this check.

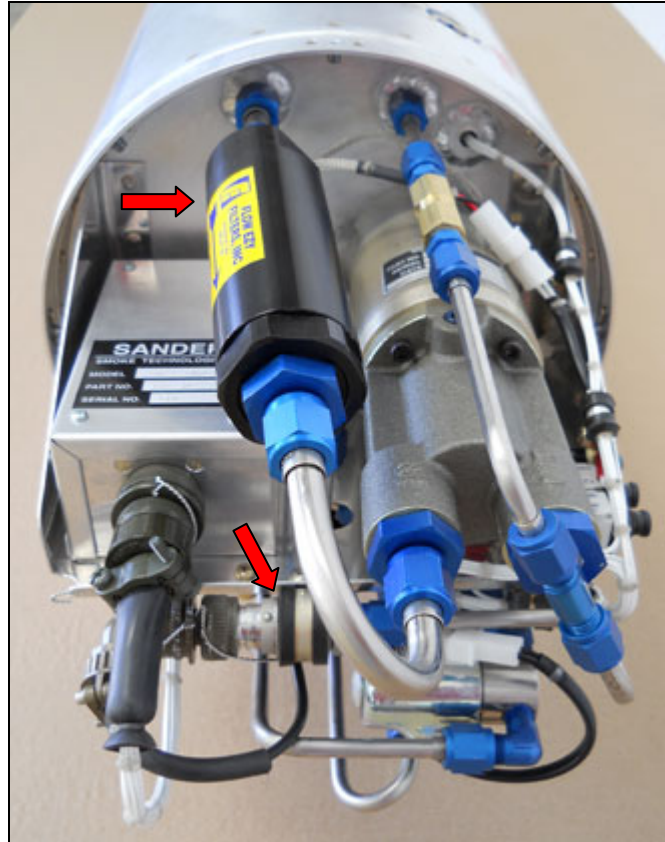
1. Remove nose cone fairing.



2. Disconnect oil pressure line to spray nozzles at the oil pump.
3. Plumb oil line overboard, install a restrictor with a 1/16" (1.6mm) diameter hole, place hose into a container.

Note: An open line on the oil pump will not provide sufficient pressure to close the pressure switch and the smoke generator will shut down after 8 seconds.
4. Disconnect electrical connector on fuel solenoid valve or pull out fuel pump circuit breaker.
5. Select the on/off switch to the ON position.
6. Visually check for oil flow. If the smoke generator runs for 8 seconds and then shuts down, the oil pump may not have sufficient pressure to close the pressure switch (minimum 100 PSI).

7. Inspect the oil pump inlet filter for obstructions. Clean filter if necessary.



8. If the system still shuts down, install a pressure gauge on the oil line. If the pump pressure is less than 100 PSI, the oil pump should be replaced. If the pump pressure is 100 PSI or greater, the pressure switch or the Ignition/Control box will need to be replaced.
9. Turn off all power to smoke generator.
10. For re-assembly, reconnect all lines and cannon plugs. Reinstall tail cone fairing.

Troubleshooting

1. If there is no oil flow, make sure that enough oil is in the tank (approximately 2 gallons [7.5 liters]).
2. Check to see if oil pump is running.
3. If oil pump is not operational, check for electrical power to oil pump.
 - a) If no power, replace the Ignition/Control box.
 - b) If there is power, replace the oil pump.

9.07 Ram Air Regulator



This is the only adjustable item on the smoke generator, however no adjustment should be required. If necessary, for maintenance reasons, it is set with 7 turns pre-load on the relief valve spring.

9.08 Automatic Shut down

This feature consists of two components: the Ignition/Control box and the pressure switch. When the smoke generator is switched on, the smoke oil pump has 8 seconds to come up in pressure and close the pressure switch. If at any time the oil pressure drops below 60 PSI (pressure switch opens) for 8 seconds or more, the smoke generator will shut down.

Troubleshooting

1. The smoke generator will not turn on. Replace the Ignition/Control box. This is accomplished by removing the nose cone, disconnect the cannon plug and remove two mounting screws.
2. The smoke generator switches on for 8 seconds and then shuts off. Check to be sure that there is sufficient pressure from the oil pump to close the pressure switch (minimum 100 PSI). See Oil Pump Troubleshooting. If the switch is closing, then the Ignition/Control box will need to be replaced. If the switch does not close at 100 PSI minimum, it will need to be replaced. Disconnect the cannon plug and the oil pressure line. Remove the adel mounting clamp. For replacement, reverse removal procedures.

9.09 Component Replacement

Ignition/Control Box



1. Remove nose cone fairing.
2. Remove cannon plug and two 8-32 screws in the bottom of the mounting plate.
3. For replacement, reverse removal procedures.
4. If defective, return the Ignition/Control box to Sanders Smoke Technologies, Inc. for repair.

Fuel Pump

1. Remove nose cone fairing.
2. Remove fuel lines and electrical connectors.
3. Loosen screw clamp holding fuel pump to mounting bracket.
4. For replacement, reverse removal procedures.

Oil Pump

1. Remove nose cone.
2. Remove the oil lines and the electrical connector.
3. Remove four 1/4-20 screws on bottom of the mounting plate.

Note: Fuel pump and mounting bracket must be removed for access to ¼ 20 screws.

4. For replacement, reverse removal procedures.

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Ignition Coil

The ignition coil is mounted in the aft bulkhead of the oil tank. It is not a field service item. If it is determined to be defective, return the smoke generator to Sanders Smoke Technologies, Inc. for repair.

Igniter

1. Remove access door #3.
2. Remove ignition lead and extract igniter.
3. For replacement, reverse removal procedures.

Combustion Chamber

1. Remove stainless clamp attaching the combustion chamber to the tail cone.
2. Remove tail cone.
3. Disconnect oil line at the spray nozzles.
4. Remove air regulator.
5. Remove access door #3.
6. Disconnect and remove fuel line.
7. Remove the nozzle holder from the combustion head (two 8-32 allen cap screws).
8. Disconnect spark plug wire and remove igniter.
9. Extract combustion chamber through tail of the smoke generator.
10. For replacement, reverse removal procedures.

Oil Spray Nozzles

1. There are 9 nozzles located inside the combustion chamber, approximately 12 inches forward.
2. Remove the nozzles using a 5/8" socket and an 18" extension.
3. For replacement, apply antiseize (MIL-A-907E or equivalent) to nozzle threads. Recommended torque: 240 in lbs (27Nm).

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10.0 RECOMMENDED MAINTENANCE

10.01 External Inspection

Recommended after every flight: Check for damage to nose cone fairing, loose screws and rivets, fluid leaks, air inlet and regulator clear. Check fuel and oil vents are clear. Check that the stencils indicating the operating points and warning message (if any) are not faded.

10.02 Fuel and Oil Filters

Cleaning pump filters with available solvent is recommended every 20 flights under normal conditions. Do not over torque fittings.

10.03 Fuel and Oil Nozzle Filters

Cleaning nozzle filters with available solvent is recommended every 20 flights under normal conditions. Do not over torque fittings.

Note: Apply antiseize (MIL-A-907E or equivalent) to oil nozzle threads.
Recommended: torque: 240 in lbs (27Nm).

10.04 Lubrication

Fuel and oil filler plug threads should be lubricated with fuel resistant grease after servicing.

10.05 Internal Inspection

Every 20 flights remove nose cone fairing, tail cone fairing and door #3. Inspect smoke generator for fluid leaks, unusual stains, loose fittings and fasteners. Inspect fuel and oil pumps for contamination and operation. Clean and repair as necessary.

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11.0 COMPONENTS (MAJOR) LIFE CYCLE

11.01 Fuel Pump

Life expectancy exceeds normal use of the smoke generator. Leakage from the fuel seal drain would indicate deterioration of O-rings on seal. If this happens, replace pump.

11.02 Oil Pump

Life expectancy exceeds normal use of the smoke generator. Leakage from the oil seal drain would indicate deterioration of O-rings on seal. If this happens, replace pump.

11.03 Igniter

Should be removed and inspected approximately every twenty flight operations. With cleaning, the igniter should be good for several hundred flights.

11.04 Ignition/Control Box

This is a solid state Ignition/Control box, requiring no service. If it fails, return the Ignition/Control box to Sanders Smoke Technologies, Inc. for repair. No life cycle established.

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12.0 STORAGE

12.01 Long Term Inactivity

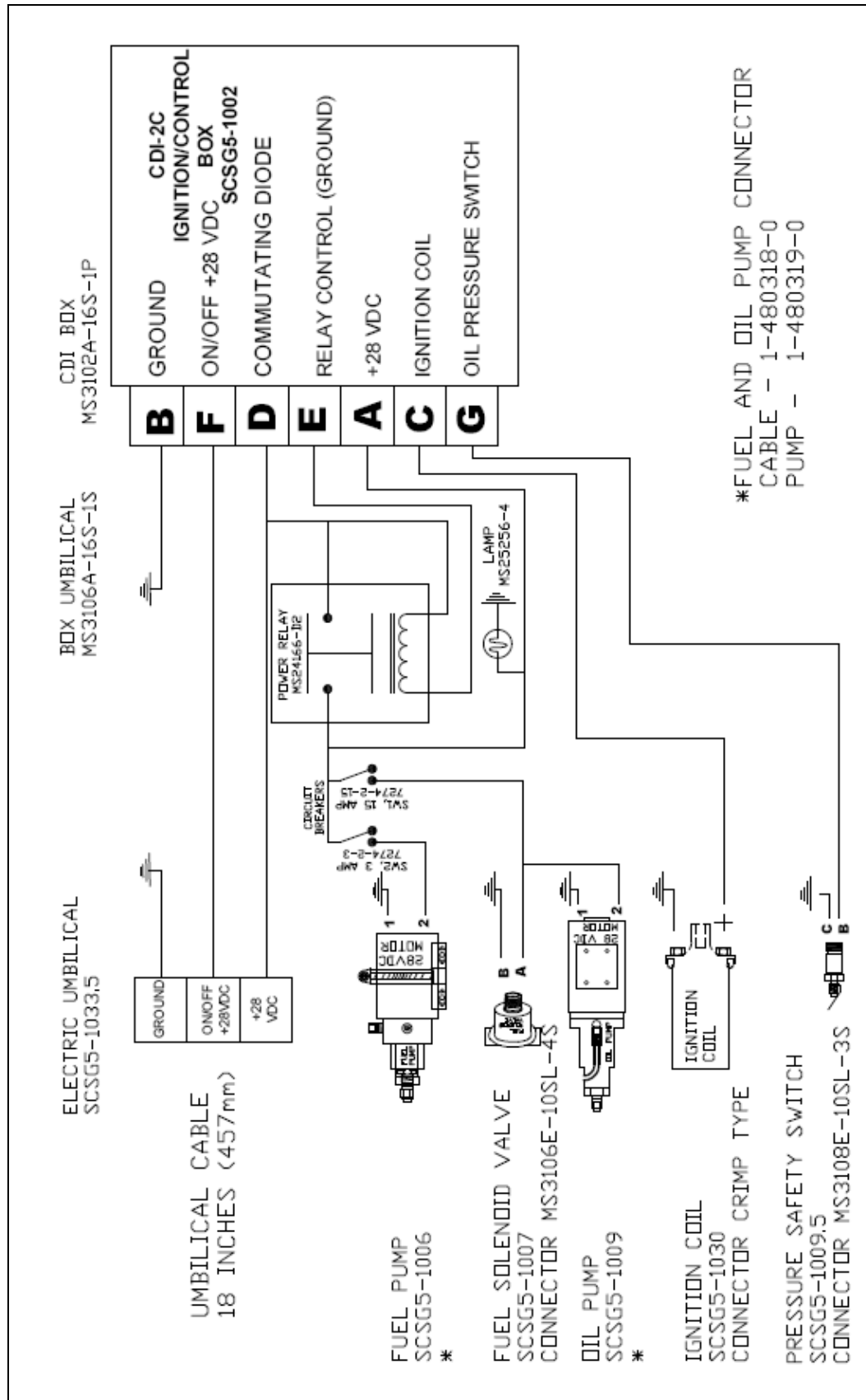
1. Drain fuel and oil tanks.
2. Store in original shipping containers.
3. Store in clean, dry, indoor storage.

13.0 SERVICEABLE PARTS LIST

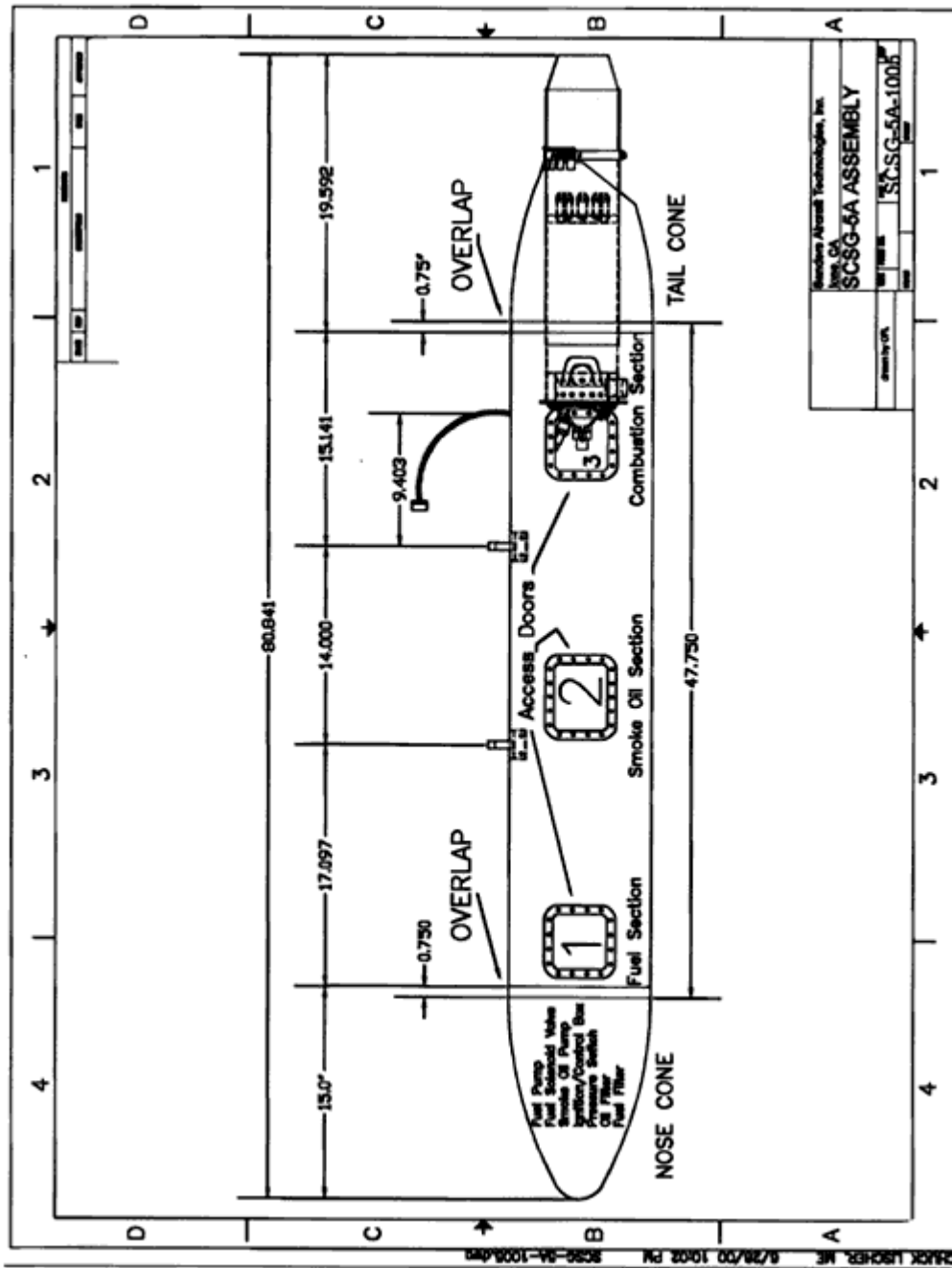
13.01 Parts List

Item	Part No.
1. Ignition/Control Box	CDI-2C
2. Fuel Nozzle	10.50 70 PLP
3. Fuel Pump	A8136-B
4. Fuel Solenoid Valve	20CC02PV4B2B
5. Oil Nozzle	4.00 45 PLP
6. Oil Pump	B5034-B
7. Pressure Switch	7G1139
8. Relay	MS24166-D2
9. Igniter	J99
10. Oil Filter	6ILA-03S-25
11. Oil Filter Element	8504-05
12. Fuel Filter	ILA-02-74BK
13. Fuel Filter Element	6180-02
14. Access Door Screw	MS24694-5
15. Fairing Screw	AN526C-832R8

14.0 ELECTRICAL BLOCK DIAGRAM



15.0 SCGC-5A ASSEMBLY



16.0 SCSG-5A PARTS LIST

List of Components		
ZONE 1 (electrical)		
SCSG5-1000	Tube Body	10"OD, 0.125" 6061 T6
SCSG5-1001	Nose Cone Fairing	Spun 2024 T4
SCSG5-1002	Electrical Box	CDI-2C
SCSG5-1004	Power Relay	MS24166-D2
SCSG5-1005	Fuel Filter	ILA-02-74BK
SCSG5-1005E	Fuel Filter Element	6180-02
SCSG5-1006	Fuel Pump and Motor	Weldon A8136-B
SCSG5-1007.5	Fuel Solenoid Valve	20CC02PV4B2B
SCSG5-1008	Fuel Pump Mount	.040" 2024 T3, SS clamp
SCSG5-1009	Oil Pump and Motor and Mount	Weldon B5034-B
SCSG5-1010	Oil Filter	6ILA-03S-25
SCSG5-1011	Fuel and Oil Pump Circuit Breakers	Klixon 7274-2 3 and 15
SCSG5-1012	Power Light	MS25256-4
ZONE 2 (liquids)		
SCSG5-1013	Bulkhead #1	.050" 6061 T6
SCSG5-1014	Filler Plug Receptacle	7075 T6, 3/8", 3/4" pt
SCSG5-1015	Filler Plug, Fuel	Steel
SCSG5-1016	Drain Plug Receptacle	1/4" 7075 T6, 1/8" pt
SCSG5-1017	Fuel Drain/Air Vent	1/8"OD 304SS
SCSG5-1018	Access Door #1, fuel	.050" 2024 T3, fuel tank
SCSG5-1019	Bulkhead #2	.050" 6061 T6
SCSG5-1020	Flop Tube Mount	.050" 6061 T6
SCSG5-1021	Flop Tube Assembly, Oil	SS braided hose, lead wt
SCSG5-1022	Filler Plug Receptacle	7075 T6, 3/8", 3/4" pt
SCSG5-1023	Filler Plug, Oil	Steel
SCSG5-1024	Access Door #2, Oil	.050"2024 T3, oil tank
SCSG5-1025	FWD Attach Hangar	4130 steel
SCSG5-1026	Drain Plug Receptacle	1/4" 7075 T6, 1/8" pt
SCSG5-1027	Drain Plug , Oil	Steel
SCSG5-1028	AFT Attach Hangar	4130 steel

List of Components		
ZONE 3 (ignition)		
SCSG5-1029	Bulkhead #3	.050" 6061 T6
SCSG5-1030	Ignition Coil	AC Delco
SCSG5-1031	Ignition Coil Mount	.032" spun SS
SCSG5-1032	Ignition Lead	AC Delco
SCSG5-1033	Access Door #3	.050" 2024 T3
SCSG5-1034	Combustion Chamber Head	Cast iron
SCSG5-1035	Igniter	J99
SCSG5-1036	Ground Probe	304 SS
SCSG5-1037L	Fuel Nozzle Block	Brass
SCSG5-1037R	Fuel Nozzle Block	Brass
SCSG5-1038	Fuel Nozzle	Monarch 10.50 70 PLP
ZONE 4 (combustion)		
SCSG5-1039	Bulkhead #4	.050" 6061 T6
SCSG5-1040L	Combustion Chamber	Assembly, RA 309 SS
SCSG5-1040R	Combustion Chamber	Assembly, RA 309 SS
SCSG5-1041	Air Regulator	Assembly, 2024 T3
SCSG5-1042	Vent, Air Scoop	.032" 2024 T3
SCSG5-1043	Oil Nozzle	Monarch 4.00 45 PLP
SCSG5-1044	Heat Shield, HS-1	Insulation blanket, SS
SCSG5-1045	Aft Fairing Assembly	Spun 2024 T4
SCSG5-1046	Oil Nozzle Holder	SS, welded
SCSG5-1047	Aft fairing bracket	Stainless steel
SCSG5-1048	Aft fairing clamp	Stainless steel
<ul style="list-style-type: none"> • L – Used in left wing SGSC-5A • R – Used in right wing SGSC-5A 		

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