TECHNICAL MANUAL

PROCEDURES FOR THE DESTRUCTION OF AVIATION GROUND SUPPORT EQUIPMENT (FSC 1700) TO PREVENT ENEMY USE

HEADQUARTERS, DEPARTMENT OF THE ARMY

14 DECEMBER 1971

WARNING PAGE

Personnel performing instructions involving operations, procedures, and practices which are included or implied in this technical manual shall observe the following instructions. Disregard of these warnings can cause serious or fatal injury to personnel.

ENGINES, GENERATORS, GROUND SERVICE UNITS OR OTHER POWER PLANTS (para 2-3). Exercise extreme care when destroying a battery to prevent electrolyte from splashing onto the skin or into the eyes of personnel.

DEMOLITION BY EXPLOSIVES (para 2-5). Destruction of equipment using explosives shall be performed in an area free from personnel to prevent injury which may be caused by flying fragments.

DEMOLITION BY BURNING (para 2.12). Exercise extreme care when using petroleum products to destroy equipment by fire, as these materials are highly flammable.

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CHAPTER 1
INTRODUCTION

Section I. GENERAL

1-1. Scope.

This manual provides procedures for the destruction of FSC 1700 ground support equipment to prevent enemy use when capture or abandonment of the equipment is imminent. The manual also lists the order of priorities for the destruction of parts of military technical equipment.

1-2. Purpose.

The purpose of this manual is to guide personnel in quick, effective and safe means of disabling or destroying equipment which is in imminent danger of capture by an enemy.

1-3. Reporting of Errors.

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Section II. PRELIMINARY CONSIDERATIONS

1-4. General.

a. When abandonment or capture of an item of equipment by an enemy is imminent, the responsible unit commander must make the decision either to destroy the equipment or to render it inoperative. If the unit commander is unavailable or unable to make a decision, a designated officer-in-charge or noncommissioned officer-in-charge must act for the commander. Based on this decision, orders are issued which cover the desired extent of destruction.

b. Whatever method of demolition is employed, it is essential to destroy the same vital parts of all like service units and all corresponding repair parts.

c. A guide to priorities for destruction of repair parts for ground support equipment is contained in table 1-1.

1-5. Repair Parts.

The same priority for destruction of repair parts of a major item necessary to render that item inoperative must be given to the destruction of similar repair parts located in storage areas.

1-6. Priorities for Destruction of Parts of Military Technical Equipment.

Table 1-1 is a list of FSC 1700 ground support equipment and related parts which are to be destroyed and the priority designation of each item.

Table 1-1. Priorities for Destruction of FSC 1700 Ground Support Equipment

EQUIPMENT	PRIORITY	PARTS
Multipurpose Aircraft Ground Service Unit	1	Carburetor, distributor and governor spinner, ignition coil, fuel pump, and generator
	2	Engine block and manifold
	3	Starter motor, regulator, and radiator

Table 1-1. Priorities for Destruction of FSC 1700 Ground Support Equipment - Continued

EQUIPMENT	PRIORITY	PARTS
	4	AC and DC electrical control panels
	5	Auxiliary control panel
	6	AC generator
	7	DC generator (1000 amperes) and auxiliary DC generator (500 amperes)
	8	Air compressor and air compressor control panel
	9	Steering mechanism and drive shaft
	10	Fuel, oil, water and electrical lines
Tractor, Aircraft Towing	1	Carburetor/fuel pump/ injector/distributor
	2	Engine block and cooling system
	3	Tires and suspension
	4	Mechanical or hydraulic system
	5	Differentials
	6	Frame
Jacks, Hydraulic Tripod and Hand	1	Pump assembly
	2	Cylinder
	3	Extension screw of ram assembly
	4	Ram assembly
	5	Tripod assembly
Engine Starter Energizer	1	Engine
	2	Starter generator
	3	Fuel tank
	4	Battery
Maintenance Platform	1	Bypass valve
	2	Hand pump
	3	Hydraulic cylinder
	4	Structure assembly
Mobile Servicing Unit	1	Fuel pump assembly, injector and governor
	2	Engine block and cooling system
	3	Hydraulic system, reservoir, starting self-propelling, and aircraft servicing
	4	Control panels
	5	AC generator
	6	DC convertors
	7	Chassis and running gear
	8	Fuel, oil, water and electrical lines
Towbar, Aircraft	1	Hooks and hollow axle pick-up pins
	2	Wheel housing
	3	Release pin and channel

Section III. DEGREE OF DAMAGE

1-7. General.

Methods of destruction used to inflict damage on ground support equipment and essential repair parts should achieve a degree of damage which makes it impossible to restore the damaged equipment to a usable condition in a combat zone by either repair or cannibalization.

1-8. Classified Equipment.

Ground support equipment which is classified must be destroyed to such a degree as to prevent duplication by the enemy or revealing the means of operation or function to the enemy.

1-9. Associated Classified Documents.

All associated classified documents, notes, instructions, drawings, parts lists, or other written material which pertains to the function, operation, maintenance, or employment of ground support equipment shall be destroyed in such a manner as to render the documentation useless to the enemy.

CHAPTER 2
METHODS OF DESTRUCTION

Section I. SELF-DESTRUCTIVE DEVICES

Built-in self-destruction devices should be set off even if the major item to which they are affixed is to be destroyed. These devices should be permitted to-do their work at least partially before incendiaries or explosives are set off, since an explosion might blow parts or classified documents to safety where the enemy might find them.

Section II. IMPROPER OPERATION

2-1. Generators, Ground Service Units, Energizers, and Towing Tractors.

a. Plug or cover all vents and openings designed to prevent over-heating.

b. Drain crankcase and radiator.

c. Remove speed governor devices and run the engine or generator wide open until internal failure occurs due to overspeed, bearing failure or warped moving parts.

d. After completing the procedures in a through c above, or if there is insufficient time, place sand, gravel, nuts, bolts, screws, broken glass or dirt into the radiator opening, oil filler tube, carburetor and fuel tank.

2-2. Hydraulically Equipped Jacks, Maintenance Platforms, Airmobile Transporters, and Service Units.

a. Drain hydraulic fluid from reservoir and pour dirt, sand, salt, or other contaminants inside reservoir.

b. Fill with water or other liquid.

c. Operate pump to circulate contaminants throughout hydraulic system.

Section III. DEMOLITION BY MECHANICAL MEANS

2-3. Generators, Ground Service Units, Energizers and Towing Tractors.

WARNING

Exercise extreme care when destroying a battery to prevent electrolyte from splashing onto the skin or into the eyes of personnel.

a. Use a sledge hammer, crowbar, pick axe or any other heavy tool to destroy the following, as applicable:

(1) Engine manifold.
(2) Starter generator.
(3) Carburetor, distributor, governor spinner and housing.
(4) Fuel pump.
(5) All AC and DC generators, control panels, and voltage regulators.
(6) Engine pulley and spark plug.
(7) Wheels, tires and tubes.
(8) Steering mechanism and drive shaft.
(9) Fuel tank.
(10) Battery.

b. Use a suitable type cutting tool to destroy the following:

(1) Fuel, oil and water lines.
(2) Cables and drive belts.
(3) Electrical wiring and wiring harnesses.
(4) Starting rope.

2-4. Hydraulically Operated Jacks, Maintenance Platforms and Airmobile Transporters.

a. Use sledge hammers or other heavy tools to destroy the pump assembly, cylinder and ram assemblies, and by-pass valve.

b. Use a suitable type cutting tool to destroy the transporter's hydraulic lines, electrical wiring, tires and tubes.

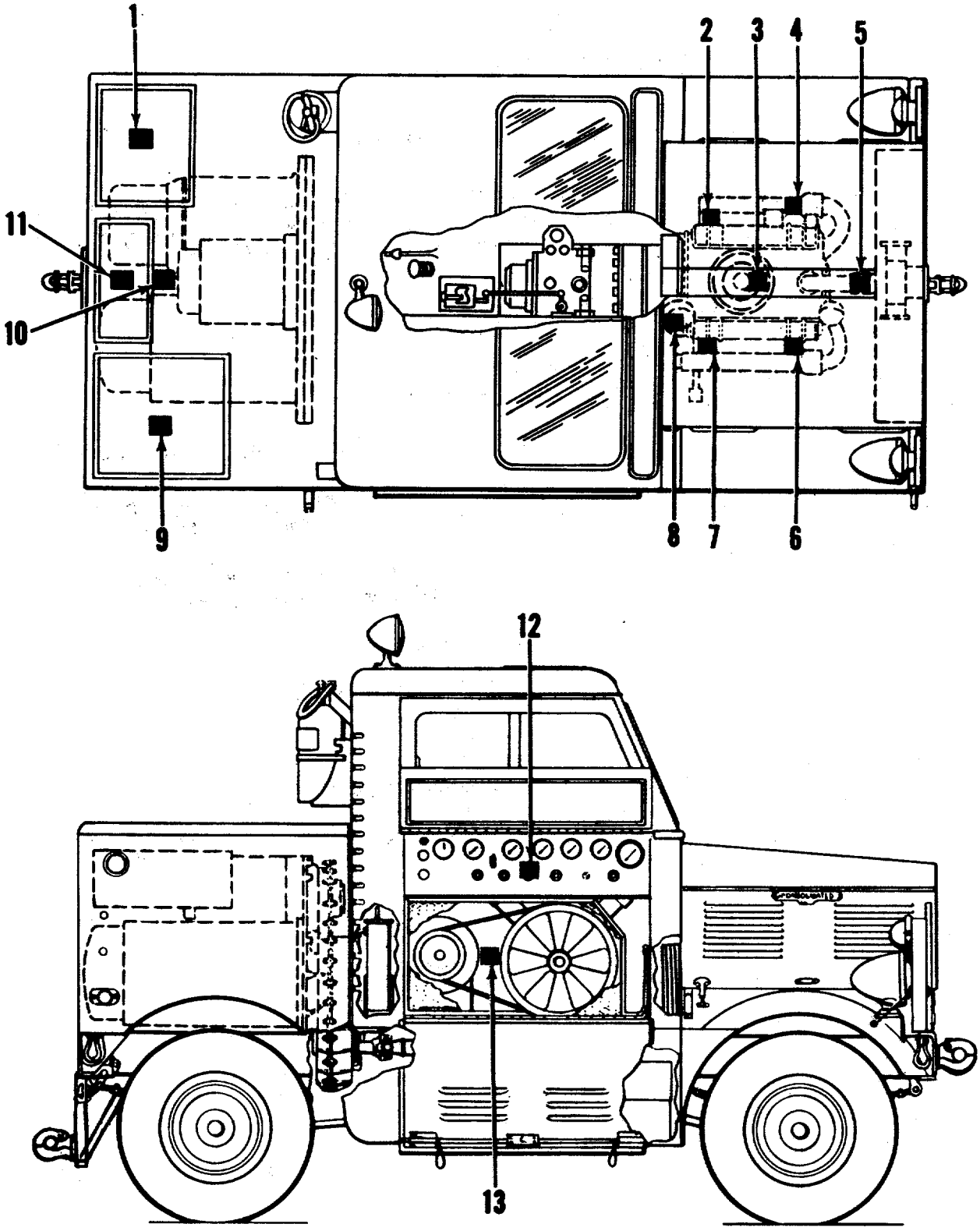

Figure 2-1. Placement of Charges on Ground Service Unit.

Key to Figure 2-1:
1. Two 1/2-pound charges behind ac generator and alerted power control panel.
2. Four 1/2-pound charges between engine exhaust manifold and cylinder head.
3. One 1/2-pound charge on carburetor.
4. One 1/2-pound charge on fuel pump.
5. Two 1/2-pound charges on top of water pump.
6. Two 1/2-pound charges between engine generator and engine block.
7. Two 1/2-pound charges between engine starter and engine block.
8. One 1/2-pound charge on distributor.
9. Two 1/2-pound charges behind dc generator and auxiliary generator control panel.
10. Four 1/2-pound charges between ac generator and dc generator.
11. Two 1/2-pound charges behind auxiliary control panel.
12. Two 1/2 pound charges behind air compressor control panel.
13. Four 1/2-pound charges between air compressor and air compressor drive motor.

Section IV. DEMOLITION BY EXPLOSIVES

WARNING

Destruction of equipment using explosives shall be performed in an area free of personnel to prevent injury which may be caused by flying fragments.

2-5. General.

For information on the use of explosives to destroy equipment, refer to FM 5-25, Explosives and Demolition. Place as many charges as the time and situation permits and detonate.

2-6. Ground Service Unit.

The priorities for destruction of various components of the service unit (fig. 2-1), if complete action cannot be taken in the time available, are listed in the order shown:

a. Four 1/2-pound charges between engine exhaust manifold and the cylinder head (2).

b. Two 1/2-pound charges between the engine generator and the engine block (6), and two 1/2-pound charges between the engine starter and the engine block (7).

c. One 1/2-pound charge each on the fuel pump (4), carburetor (3) and distributor (8).

d. Two 1/2-pound charges on top of the water pump (5).

e. Four 1/2-pound charges between the AC and DC generators (10).

f. Four 1/2-pound charges between the air compressor and the compressor drive motor (13).

g. Two 1/2-pound charges behind the AC generator and the altered power control panel (1), the DC generator and auxiliary generator control panel (11), and the air compressor control panel (12).

NOTE

The above procedures may also be used, as applicable; in the destruction of towing tractors.

2-7. Generators, Starter-Energizers and Other Similar Power Plants.

a. Place one 1/2-pound charge between the cylinder and impeller housing.

b. Place one 1/2-pound charge beneath the generator or energizer.

c. Secure one 1/2-pound charge to the under side of frame assembly between the wheel assemblies.

2-8. Maintenance Platforms.

a. Fasten one 1/2-pound charge to the cylinder and ram assembly.

b. Place two 1/2-pound'charges next to the hand pump assembly.

2-9. Hydraulic Jacks.

a. Place two 1/2-pound charges at the base of cylinder and ram assembly.

b. Place two 1/2-pound charges between the pump assembly and leg (or extension).

Section V. DEMOLITION BY OTHER MEANS

2-10. Weapons Fire.

Fire on the vital components of each item of equipment with the heaviest practicable weapons available. Refer to chapter 2, section III as a guide to selection of components.

2-11. Scattering and Concealment.

Remove all readily accessible components and parts and scatter them through dense foliage, bury them in dirt or sand, or throw them in a lake, stream, or other body of water.

2-12. Burning.

WARNING

Exercise extreme care when using petroleum products to destroy equipment by fire, as these materials are highly inflammable.

a. Jacks, Maintenance Platforms, and Airmobile Transporters. Pack rags, clothing or other available combustible items under and around the vital equipment components. Saturate packing material with gasoline, oil, diesel fuel and ignite.

b. Fuel Powered Service Units, Towing Tractors, Generators and Energizers. If time is too short to follow paragraph a, proceed as follows with extreme care:

(1) Fashion a torch from newspaper, cardboard, wood or other combustible material.

(2) Open the fuel tank petcock or puncture the side or bottom with a sharp tool.

NOTE

If possible, puncture the side of the tank facing the equipment to produce maximum fuel contact with the equipment.

(3) Saturate the end of the torch with fuel.

(4) Stand back at a safe distance and ignite the torch.

(5) Hurl it at the spot where fuel is spilling onto the ground.

(6) If no torch material is available, use a fuel-saturated rope as a wick. Make sure the rope is long enough to ignite it from a safe distance.

(7) If no torch or wick material is available, fill a container with enough fuel to pour the fuel down the side and along the ground in a straight unbroken line and to ignite from a safe distance.

2-13. Submersion.

Totally submerge a unit in a body of water to provide water damage and concealment. A body of salt water will do greater damage to metal parts than submersion in a body of fresh water.

Section VI. TRAINING

All personnel involved in the operation, maintenance or storage of FSC 1700 ground support equipment should receive thorough training in the destruction of this type of equipment. Simulated destruction using all of the methods listed above, should be included in the training program. It must be emphasized in training that demolition operations are usually necessitated by critical situations when time available for carrying out destruction is limited. For this reason, it is necessary that operation, maintenance and storage personnel be thoroughly familiar with all methods of destruction of equipment and be able to carry out demolition instructions with reference to this or any other publication.

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The Metric System and Equivalents

Linear Measure

1 centimeter = 10 millimeters = .39 inch
1 decimeter = 10 centimeters = 3.94 inches
1 meter = 10 decimeters = 39.37 inches
1 dekameter = 10 meters = 32.8 feet
1 hectometer = 10 dekameters = 328.08 feet
1 kilometer = 10 hectometers = 3,280.8 feet

Weights

1 centigram = 10 milligrams = .15 grain
1 decigram = 10 centigrams = 1.54 grains
1 gram = 10 decigram = .035 ounce
1 decagram = 10 grams = .35 ounce
1 hectogram = 10 decagrams = 3.52 ounces
1 kilogram = 10 hectograms = 2.2 pounds
1 quintal = 100 kilograms = 220.46 pounds
1 metric ton = 10 quintals = 1.1 short tons

Liquid Measure

1 centiliter = 10 milliters = .34 fl. ounce
1 deciliter = 10 centiliters = 3.38 fl. ounces
1 liter = 10 deciliters = 33.81 fl. ounces
1 dekaliter = 10 liters = 2.64 gallons
1 hectoliter = 10 dekaliters = 26.42 gallons
1 kiloliter = 10 hectoliters = 264.18 gallons

Square Measure

1 sq. centimeter = 100 sq. millimeters = .155 sq. inch
1 sq. decimeter = 100 sq. centimeters = 15.5 sq. inches
1 sq. meter (centare) = 100 sq. decimeters = 10.76 sq. feet
1 sq. dekameter (are) = 100 sq. meters = 1,076.4 sq. feet
1 sq. hectometer (hectare) = 100 sq. dekameters = 2.47 acres
1 sq. kilometer = 100 sq. hectometers = .386 sq. mile

Cubic Measure

1 cu. centimeter = 1000 cu. millimeters = .06 cu. inch
1 cu. decimeter = 1000 cu. centimeters = 61.02 cu. inches
1 cu. meter = 1000 cu. decimeters = 35.31 cu. feet

Approximate Conversion Factors

To change	*To*	*Multiply by*	*To change*	*To*	*Multiply by*
inches	centimeters	2.540	ounce-inches	Newton-meters	.007062
feet	meters	.305	centimeters	inches	.394
yards	meters	.914	meters	feet	3.280
miles	kilometers	1.609	meters	yards	1.094
square inches	square centimeters	6.451	kilometers	miles	.621
square feet	square meters	.093	square centimeters	square inches	.155
square yards	square meters	.836	square meters	square feet	10.764
square miles	square kilometers	2.590	square meters	square yards	1.196
acres	square hectometers	.405	square kilometers	square miles	.386
cubic feet	cubic meters	.028	square hectometers	acres	2.471
cubic yards	cubic meters	.765	cubic meters	cubic feet	35.315
fluid ounces	milliliters	29,573	cubic meters	cubic yards	1.308
pints	liters	.473	milliliters	fluid ounces	.034
quarts	liters	.946	liters	pints	2.113
gallons	liters	3.785	liters	quarts	1.057
ounces	grams	28.349	liters	gallons	.264
pounds	kilograms	.454	grams	ounces	.035
short tons	metric tons	.907	kilograms	pounds	2.205
pound-feet	Newton-meters	1.356	metric tons	short tons	1.102
pound-inches	Newton-meters	.11296			

Temperature (Exact)

°F	Fahrenheit temperature	5/9 (after subtracting 32)	Celsius temperature	°C

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