CONFIDENTIAL

Air Fed Incin

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PURCHASE DESCRIPTION

AIR-FED INCINERATOR, EMERGENCY, MODEL 1

1. SCOPE

1.1 This purchase description covers an incinerator for the emergency destruction of documents.

1.2 The purpose of this purchase description is to make certain that the Emergency Incinerator Model 1 is properly fabricated and packaged and that it will function in the desired manner.

2. APPLICABLE DRAWINGS AND PRECAUTIONS

2.1 The following drawings and precautions form a part of this purchase description:

Incinerator Assembly Parts List

Drawing No.	Description
354-100	Incinerator assembly
101	Outer shell top assembly
102	Outer shell middle assembly
103	Bottom assembly outer shell
104	Top liner assembly
105	Liner middle section assembly
106	Liner lower section assembly
107	Liner bottom cone assembly
108	Inner liner base cone assembly
109	Reflector assembly

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110	"V" band assembly
111	Basket assembly
112	Handle assembly
113	Bottom liner section assembly
114	Door assembly
115	Stack ring assembly
354-202	Butterfly assembly
203	Inspection door assembly
204	Door Channel assembly
205	Door stiffener
206	Frame
207	Frame assembly
208	Bottom plate assembly
209	Damper housing assembly
354-210	Door liner
211	Duct assembly
212	Door frame assembly
213	Firing door front panel assembly
214	Inspection door screw assembly
215	Latch assembly
216	Handle waldment
217	Clamp band assembly

354-300	Base plate
301	Stiffener
302	Stiffener
303	Side plate
304	Damper housing panel
305	Bracket
354-306	Control plate
307	Duct side
308	Duct side
309	Duct panel
310	Duct panel
311	Duct flange
312	Damper blade
313	Damper center tube
314	Damper shaft
315	Spacer
316	Collar
317	Step
318	Screw
319	Handle
320	Washer

321	Inspection door
322	Gasket
323	Channel
324	Nut
325	Shield
326	Basket Bottom
327	Basket top band
328	Hanger
329	Wedge
330	Corner fill
331	Door Frame Side
354-332	Door frame top and bottom
333	Nozzle
334	Nozzle
335	Nozzle
336	Bracket
337	Bracket
338	Washer
339	Spring retainer
354-340	Pivot bar
341	Door stiffener

342	Door stiffener
343	Door inner liner
344	Door liner flange
345	Door shield
346	Door front
347	Door basket
348	Door gasket
349	Washer
350	Cotter pin
351	Screw
352	Nut
353	Latch cam
354	Latch handle
355	Pivot block
356	Link
357	Screw
358	Washer
359	Cap screw
360	Nut
361	Cap Screw
362	Nut
363	Hinged pin

364	Nozzle
365	Pivot bar
366	Bracket
367	Hinge
368	Latch block
369	Door Frame
370	Door Frame
371	Stiffener
372	Frame
373	Frame
374	Frame
375	Handle
376	Stiffener
377	Grab rail
378	Pivot angle
379	Handle
380	Handle hub
381	Ball
382	Slide
383	Slide

354-384	Spring
385	Jam nut
386	Cover
387	Cover
388	Screw
389	Trigger rod
390	Set screw
391	Radiation shield
392	Handle
393	Screw
394	Spring
395	Spring
396	Flange gasket
397	Cap Screw
398	Sight glass
399	Gasket
400	Sight glass holder
401	Sight glass nut
402	Latch
403	Nut
404	Lock washers

354-405	Spacer
406	Central cone top section
407	Seal strip
408	Basket
409	Liner upper cone lower flange
410	Liner upper cone upper flange
411	Central cone mid section
412	Central cone bottom section
413	Central cone base ring
414	Liner middle section
415	Liner lower section
416	Liner bottom cone
417	Liner upper cone
418	Sight glass nipple
419	Sight glass nipple
420	Vent pipe ring
421	Coupling flange
422	Outer shell top ring
423	Coupling flange
424	Top ring outer shell
425	Outer shell flange
426	Outer shell top cone

354-427	Mid section outer shell
428	Bottom section outer shell
429	Inspection port ring
430	Reflector shield
431	Reflector shield
432	Reflector shield
433	Reflector shield
434	Flexible duct
435	Clamp
436	Clamp band
437	Blower
438	Duct flange gasket
439	Cap screw
440	Nut
441	Lockwasher
442	Clamp block
443	Clamp block
444	Set screw
445	Lockwasher
446	Lockwasher
447	Nut
448	Lockwasher

Eleven points should be watched particularly by the fabricator during the construction of this incinerator. These are listed below:

(1) The "V" Band Assembly shown on Drawing No. 354-110 was not detailed because it is a purchased part. Three weeks or more should be allowed for the delivery of this assembly.

(2) When the louvers are formed, particular care must be taken to have the louvers open in the proper direction and to deburr all of the louver edges. The parts involved are: Door Inner Liner (Drawing No. 354-343); Liner Upper Cone (Drawing No. 354-417); Bottom Cone (Drawing No. 354-416); Liner Lower Section (Drawing No. 354-415); and Liner Middle Section (Drawing No. 354-414).

(3) When the Basket Top Band (Drawing No. 354-327) is tack welded to the Liner Upper Cone (Drawing No. 354-417) in the Top Liner Assembly (Drawing No. 354-104), care should be taken not to warp the Liner Upper Cone or to allow gaps to occur between the Basket Top Band and the Liner Upper Cone.

(4) When the Stiffener (Drawing No. 354-301) and Stiffener (Drawing No. 354-302) are tack welded to the Base Plate (Drawing No. 354-300) in the Bottom Plate Assembly (Drawing No. 354-208), care should be taken not to warp the Base Plate.

(5) When the Radiation Shield (Drawing No. 354-391) is tack welded to the Stiffener (Drawing No. 354-301) and Stiffener (Drawing No. 354-302) in the Bottom Plate Assembly (Drawing No. 354-208), care should be taken not to burn holes in the Radiation Shield. Likewise, care should be taken not to burn holes in the Shield (Drawing No. 354-325) when it is tack welded to the Channel (Drawing No. 354-323) in the Door Channel Assembly (Drawing No. 354-204).

(6) When the Nozzle (Drawing No. 354-364) and the Nozzle (Drawing No. 354-333) are welded into the Liner Middle Section (Drawing No. 354-414) in the Liner Middle Section Assembly (Drawing No. 354-105), it is essential that the Nozzles be aligned as shown in the assembly drawing. The proper angularity of the Nozzles is critical and important to the proper air flow.

(7) When the Reflector Assembly (Drawing No. 354-109) is inserted into the Outer Shell Middle Assembly (Drawing No. 354-102) and the Bottom Assembly Outer Shell (Drawing No. 354-103) in the Incinerator Assembly (Drawing No. 354-100), the Reflector Assembly should be collapsed enough to pass by the Firing-Door inward projection.

(8) When the two parts of the Flexible Duct (Drawing No. 354-434) are cemented together, the end of the Damper Housing Assembly (Drawing No. 354-209) should be used as a form.

(9) When the complete Inner Liner Assembly is inserted into the Outer Shell Assembly (see Item 10 below) with the Reflector Assembly installed as shown in Incinerator Assembly (Drawing No. 354-100), the notch in the Central Cone Base Ring (Drawing No. 354-413) on the Liner Bottom Section Assembly (Drawing No. 354-113) should be aligned with the proper end of the Stiffener (Drawing No. 354-301) on the Bottom Assembly Outer Shell (Drawing No. 354-103).

(10) It should be noted that the Inner Liner Assembly drawings (Nos. 354-104, 354-105, and 354-113) and the Outer Shell Assembly drawings (Nos 354-101, 354-102, and 354-103) are marked with assembly reference lines to facilitate proper orientation during assembly.

(11) During final assembly when the Outer Shell Top Assembly (Drawing No. 354-101) is placed on the Outer Shell Middle Section (Drawing No. 354-102), care should be taken to avoid damaging the Seal Strip (Drawing No. 354-407) attached to the Top Liner Assembly (Drawing No. 354-104). To minimize difficulty, tape may be used to hold the Seal Strips in place during assembly.

3. REQUIREMENTS

3.1 All materials and components used in the manufacture and assembly of the incinerator shall conform to the drawings forming a part of this purchase description.

3.2 Fabrication and Assembly

The fabricated components shall be assembled as specified in Drawing No. 354-100.

3.3 Workmanship

All work shall be performed in a neat and workmanlike manner.

4. SPARE PARTS

The following spare parts shall be packaged as a spare parts kit:

Drawing No.	Description	Number
354-110	"V" band assembly	1
354-111	Basket assembly	1
354-217	Clamp band assembly	2
354-329	Wedge	4
354-347	Door gasket	2
354-348	Door gasket	2
354-350	Cotter pin	8
354-357	Screw	24

354-396	Flange gasket	45 feet
354-397	Cap screw	24
354-398	Sight glass	2
354-399	Gasket	4
354-403	Nut	24
354-404	Lock washer	24
354-434	Flexible duct	1
354-438	Duct flange gasket	1
354-447	Nut	24
354-448	Lock washer	24

In addition, one 3-ounce tube of No. 1 Permatex Form-A-Gasket, or its equivalent, shall be provided for use in cementing the Door Gaskets (Drawing Nos. 354-347 and 354-348) to the Door Assembly as indicated on Drawing No. 354-114.

Also, one spare thermocouple assembly shall be provided (as described in the list of changes and additions dated March 1, 1960).

5. ASSEMBLY

5.1 The parts of the emergency incinerator, Model 1, shall be assembled according to Drawing No. 354-100. All dimensions of the incinerator shall be in accordance with the drawings.

6. SAMPLING, INSPECTION, AND TEST PROCEDURES

6.1 Lot

A lot shall consist of the incinerators produced by one manufacturer, from the same materials, and under essentially the same fabricating conditions. The inspection lot for non-destructive inspection shall be designated by the inspector.

6.2 Inspection

6.2.1 Components

The inspector shall ascertain that all materials and components of the incinerator are the same as those specified in their respective drawings.

6.2.2 Marking

The inspector shall inspect the marking for compliance with instructions.

7. TESTS

7.1 Functioning Tests

Each Incinerator Assembly (Drawing No. 354-100) shall be subjected to separate functioning tests prior to acceptance. Proper functioning of one Incinerator Assembly shall not constitute a basis for over-all acceptance of the entire lot.

Functioning tests shall be conducted in two parts: (1) cold air-flow tests, and (2) paper-burning test.

7.1.1 Cold Air-Flow Tests

Each Incinerator Assembly, with Blower (Drawing No. 354-437), shall be connected temporarily to an electrical outlet providing 220-volt, 60-cycle, 3-phase current. The Manometer shall be filled with water (with or without dye) and connected by the Rubber Tubing to the Pressure Tap Fitting attached to the Bottom Assembly Outer Shell (Drawing No. 354-103). The cold air-flow tests shall be made while the incinerator Assembly is empty, in order (1) to check for leaks at the gasketed joints, and (2) to measure the plenum-chamber pressure, which is an indication of the overall satisfactory condition of the flow passages such as the louvers in the Top Liner Assembly (Drawing No. 354-104), the Liner Middle Section Assembly (Drawing No. 354-105), and the Liner Bottom Section Assembly (Drawing No. 354-113); the Nozzles (Drawing Nos. 354-333, 354-334, and 354-335); and the Flexible Duct (Drawing No. 354-434) and the

damper, comprised of the Damper Housing Assembly (Drawing No. 354-209), the Butterfly Assembly (Drawing No. 354-202), the Damper Shaft (Drawing No. 354-314), and a few minor parts.

To check for leaks, the Blower shall be turned on and the damper opened by moving the Handle Assembly (Drawing No. 354-112) to the "Operating" position on the Control Plate (Drawing No. 354-306). The inspector shall then check for air leaks at each of the gasketed joints of the Incinerator Assembly. Initially, the inspector shall check for air leakage by passing his bare hand along each gasketed joint. Leakage thus detected shall be judged excessive if the flame from a lighted "paper book" match is extinguished when held within a 1-inch distance of the source of leakage. Excessive leakage of air at any of the gasketed joints shall be corrected by appropriate measures before the cold airflow testing is continued.

To measure the plenum-chamber pressure, the Blower shall be turned on and the damper set at the "Operating" position as described above. Under these conditions, the internal air pressure in the lower plenum chamber, as indicated by the Manometer, shall be between

6.0 and 7.0 inches of water. If the pressure is not within this range, the inspector shall examine all air-flow passages, as described above, to determine the cause. Any errors or defects stemming from the manufacture of the Incinerator Assembly that contribute to internal pressures outside the range of 6.0 to 7.0 inches of water shall be corrected by the manufacturer. The measurement of the plenum-chamber pressure shall then be re-run before proceeding with the paper-burning test.

7.1.2 Paper-Burning Test

The paper-burning test shall consist of burning 500 pounds of selected paper during a period of 2 hours. Prior to the burning test, the Thermocouple shall be inserted into the fitting on the stack; the bead of the Thermocouple shall be located at the center of the stack. The Temperature-Indicating Instrument (Sim-Ply-Trol) shall then be properly connected to the Thermocouple with the Extension Lead Wire.

A supply of reasonably dry paper shall be obtained and used for the burning test. Typical paper from discarded

office files, such as Bond and onionskin typing paper, file cards, and file folders (excluding newspapers or telephone books) shall be considered suitable.

At the beginning of the burning test, the Door Assembly (Drawing No. 354-114) shall be opened and 50 pounds of mixed papers shall be loaded into the Incinerator Assembly. A few crumpled sheets of paper shall be ignited and scattered over the paper charged; the Door Assembly shall be closed and the Blower turned on. During the first 3 to 5 minutes, the Handle Assembly shall be advanced gradually from the "Closed" to the "Operating" position on the Control Plate while the inspector observes the progress of ignition. When ignition is well established, intermittent feeding of 15-pound batches of paper shall be started. Each of the thirty 15-pound batches shall be fed by (1) quickly moving the Handle Assembly to the "Closed" position; (2) opening the Door Assembly; (3) charging the paper; (4) closing the Door Assembly; and (5) moving the Handle Assembly quickly to the "1/2 Open" position (third notch), and then gradually to the "Operating" position (fifth notch), so as to avoid suddenly reaching excessive stack-gas temperatures above

1800 F. Successive batches shall be fed at intervals of about 3 minutes, or less, depending on the rate of burning; the pile of paper in the incinerator shall not be allowed to decrease below the initial level (corresponding to the first 50 pounds) or to increase above a level approximately 6 inches below the bottom of the loading opening in the Liner Middle Section Assembly.

Near the end of the burning test, the slow burning residue shall be stirred once by manual poking, to obtain more rapid and complete burnout. If observation indicates that burning has stopped, any unburned paper or char shall be re-ignited once and the burning continued at low air flow (with the Handle Assembly at the "1/4 Open" or "1/2 Open" position) for final burnout.

7.2 Results of the burning test shall be considered satisfactory by the inspector and each Incinerator Assembly shall be acceptable if the following conditions are achieved:

(1) Incineration of 500 pounds of paper shall be completed in 2 hours.

(2) The residual charred paper, excluding the ash which remains at the end of the 2-hour test period, shall not exceed 1-1/2 pounds in weight.

(3) Any pieces of charred or raw paper carried out in the stack gases shall be no larger than that which would pass freely through the mesh openings of the Basket Assembly (Drawing No. 354-111).

(4) All movable parts associated with the loading door, that is, with the Door Assembly, Frame Assembly (Drawing No. 354-207), and Latch Assembly (Drawing No. 354-215), and with the damper, that is, with the Damper Housing Assembly, the Butterfly Assembly, and the Damper Shaft, shall function properly, as intended.

If any one of the above conditions is not met during the test, the malfunction which is attributable to improper fabrication, assembly, and/or workmanship shall form the basis for rejection. Rejection shall not preclude the manufacturer from correcting the conditions which form the basis of rejection, and from re-working a rejected part to remedy such defects for resubmission to inspection and test. However, all units and parts so reworked shall be so indicated to the inspector.

8. FINISH

The components shall be treated in accordance with the instructions on their respective drawings, prior to assembly. Regardless

of the drawings, the fabricator shall be responsible that the respective parts fit together properly for its intended functioning.

9. PREPARATION FOR DELIVERY

Each incinerator shall be clean, painted and suitably prepared for delivery FOB Washington, D. C.

Painting shall be accomplished with Aluminum Heat Resisting Silicone Paint (MIL-P-1427 6A).

10. MARKINGS

Markings will be in accordance with requirements as specified in purchase order or contract. Each incinerator shall have the following painted across the front above the door: "Turn Air Off Before Opening Door." In addition, the words "On" and "Off" shall be painted on the top of the air duct beside the handle.