










**GUIDE**

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**AXE—EMERGENCY HAND**

ARMY DRAWING NUMBER 42D8331

NAMES: Emergency hand axe
 Crash axe
 Axe—Fire, F. B. L. (British)
 Fireman's axe
 Fireman's small axe
 Fireman's hand axe

DESCRIPTION: This is similar to a fireman's hand axe. It consists of a steel head and a plastic handle which is a non-conductor of electricity up to 2000 volts.

The emergency hand axe is mounted on brackets in the airplane cabin. In the event of a crash, it is used by the pilot to chop his way out of the airplane. This type is used on large airplanes.

CHARACTERISTICS:

Weight..... $2\frac{5}{8}$ pounds
 Length..... $15\frac{5}{8}$ inches

ARMY

A. E. REFERENCE NUMBER: 45-100
 A. A. F. DRAWING NUMBER: 42D8331
 A. S. C. STOCK NUMBER: 4500-043000
 PRODUCTION STATUS: Under procurement.
 SHIPPING DATA: Shipped as a single unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 27N/1

**AXE—EMERGENCY HAND**

MANUFACTURER'S DRAWING NUMBER 680

NAMES: Emergency hand axe
 Official Boy Scout axe
 One pound, 14 inch axe
 Small axe
 Small hand axe

DESCRIPTION: This axe is better known by its commercial name, Official Boy Scout axe. It consists of a steel head and a wood handle.

The emergency hand axe is mounted on brackets in the airplane cabin. In the event of a crash, it is used by the pilot to chop his way out of the airplane. This type is used on light airplanes.

CHARACTERISTICS:

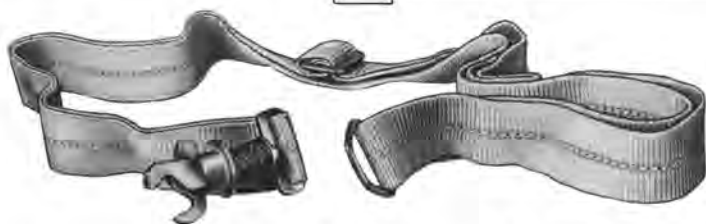
Weight..... $1\frac{11}{16}$ pounds
 Length.....14 inches

ARMY

A. E. REFERENCE NUMBER: 45-150
 MANUFACTURER'S DRAWING NUMBER:
 Fayette R. Plumb, Incorporated 680
 A. S. C. STOCK NUMBER: 4500-043100
 PRODUCTION STATUS: Under procurement.
 SHIPPING DATA: Shipped as a unit.

NAVY

There is no Navy equivalent for this item.



BELT—GUNNER'S SAFETY

ARMY TYPE A-3

NAMES: Gunner's belt
 Gunner's safety belt
 Safety belt

DESCRIPTION: The type A-3 gunner's safety belt is made of cotton webbing reinforced with nylon thread. The hardware is made of non-magnetic, heat-treated steel.

The belt is used by a gunner operating in a standing position. It forms a loop which runs through the gunner's parachute harness and around a length of pipe fastened to the floor of the airplane in front of the gunner.

CHARACTERISTICS:

Weight.....	approximately 1 pound
Width.....	approximately 1 3/4 inches
Length.....	adjustable

ARMY

A. E. REFERENCE NUMBER: 45-1700

SPECIFICATIONS:

Detail.....	94-3036-A
Superseded.....	94-3036

A. A. F. DRAWING NUMBER: 30-1334

TYPE DESIGNATION: A-3

A. S. C. STOCK NUMBER: 4500-060000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a single unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F/5



BELT—GUNNER'S SAFETY

ARMY TYPE A-4

NAMES: Gunner's belt Turret gunner's safety belt
 Gunner's safety belt Safety belt
 Turret gunner's belt

DESCRIPTION: The type A-4 gunner's safety belt is a wide belt made of heavy cotton webbing. The hardware is of heat-treated steel.

The belt is used to prevent a gunner in a ball turret from falling through the turret door if it should open or be shot away. It is suspended across and bolted on both sides of the turret door.

CHARACTERISTICS:

Weight.....	approximately 1 pound
Width.....	approximately 3 inches
Length.....	approximately 27 inches

ARMY

A. E. REFERENCE NUMBER: 45-1750

SPECIFICATIONS:

Detail.....	94-3139
Superseded.....	3139

SPECIFICATIONS:

Detail.....	94-3139
Superseded.....	3139

A. A. F. DRAWING NUMBER: 43B10547

TYPE DESIGNATION: A-4

A. S. C. STOCK NUMBER: 4500-060050

PRODUCTION STATUS: Under procurement.

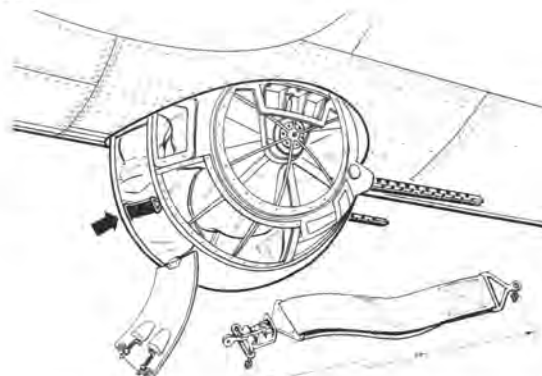
SHIPPING DATA: Shipped as a single unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F/30





BELT—PILOT'S SAFETY

NAMES: Pilot's safety belt

Safety belt



ARMY TYPE B-11

NAVY—SEE BELOW

DESCRIPTION: The Army type B-11 pilot's safety belt is made of heavy cotton webbing. The hardware is of heat-treated steel.

The belt is bolted to both sides of the pilot's seat. It is adjustable to fit over his lap and prevents him from being thrown from his seat during maneuvers.

NOTE: The type B-11 belt is identical with the B-13 belt, A. E. Reference Number 45-2400, except that the hardware on the B-13 is non-magnetic. The B-13 belt can be used in place of the B-11 belt.

CHARACTERISTICS:

Weight approximately 3 pounds 1 ounce
Width approximately 3 inches
Length adjustable to approximately 61 inches

RELATIONSHIP OF PARTS: The type B-11 safety belt is usually used in conjunction with shoulder strap, Army Drawing Number 42G4027, A. E. Reference Number 45-9425. Drawing AN7507 has been set up for this combination of safety belt and shoulder strap.

ARMY

A. E. REFERENCE NUMBER: 45-2300

SPECIFICATIONS:

Detail 94-3067
Superseded 3067-A

A. A. F. DRAWING NUMBER: 34G1646

TYPE DESIGNATION: B-11

A. S. C. STOCK NUMBER: 4500-064000

PRODUCTION STATUS: Under procurement. The type B-11 safety belt supersedes the type B-10 belt which has obsolete hardware and belt design.

SHIPPING DATA: Shipped as a complete unit.

NAVY

A. S. O. STOCK NUMBER: R37-B-2785

PROCUREMENT STATUS: Under procurement.

BRITISH

BRITISH REFERENCE NUMBER: 106F 22

ARMY TYPE B-13

DESCRIPTION: The type B-13 pilot's safety belt is made of cotton webbing. The hardware is of non-magnetic heat-treated steel.

The belt is bolted to both sides of the pilot's seat. It is adjustable to fit over his lap and prevents him from being thrown from his seat during maneuvers.

NOTE: The B-13 is identical with the B-11 belt, A. E. Reference Number 45-2300, except that the B-11 does not have non-magnetic hardware. The type B-11 belt may replace the type B-13 belt only in installations where magnetism is not a factor.

CHARACTERISTICS:

Weight approximately 3 pounds 1 ounce
Width approximately 3 inches
Length adjustable to approximately 61 inches

RELATIONSHIP OF PARTS: The B-13 safety belt is usually used with shoulder strap, Army Drawing Number 41G8725, A. E. Reference Number 45-9400.

ARMY

A. E. REFERENCE NUMBER: 45-2400

SPECIFICATIONS:

Detail 94-40372
Superseded 40372

A. A. F. DRAWING NUMBER: 42G4019

TYPE DESIGNATION: B-13

PRODUCTION STATUS: Under procurement. The B-13 safety belt supersedes the B-10 belt which has obsolete hardware and belt design.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F 31



ARMY TYPE B-10

DESCRIPTION: The Army type B-10 pilot's safety belt is made of heavy cotton webbing. The hardware is of non-magnetic heat-treated steel.

The belt attaches to both sides of pilot's seat. It is adjustable to fit over his lap and prevents the pilot from being thrown from his seat during maneuvers.

CHARACTERISTICS:

Weight approximately 4 1/4 pounds
Width approximately 5 inches
Length approximately 54 inches

ARMY

A. E. REFERENCE NUMBER: 45-2000

SPECIFICATIONS:

Detail 94-3038
Superseded 3038

A. A. F. DRAWING NUMBER: 32G295

TYPE DESIGNATION: B-10

A. S. C. STOCK NUMBER: 4500-062000

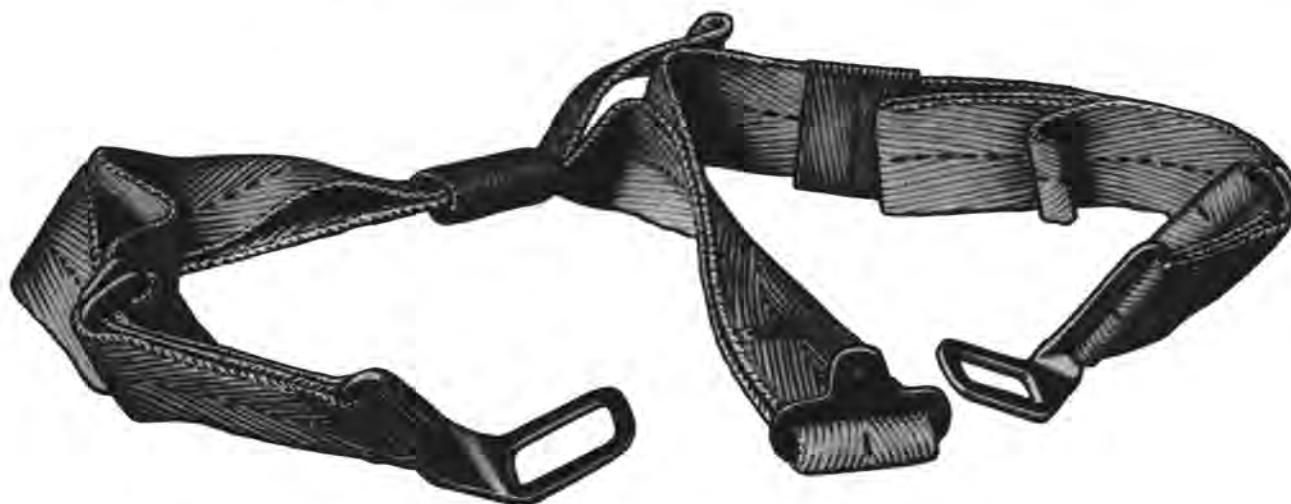
PRODUCTION STATUS: The Army type B-10 safety belt is no longer being procured. It has been superseded by the type B-11 belt, A. E. Reference Number 45-2300, and the type B-13 belt, A. E. Reference Number 45-2400, because of their superior hardware and improved belt design.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F 4



STRAP — SAFETY BELT SHOULDER

NAMES: Pilot's safety type shoulder belt
Pilot's shoulder strap
Safety belt shoulder strap

Safety shoulder strap
Shoulder strap

ARMY DRAWING NUMBER 41G8725

DESCRIPTION: This shoulder strap is made of cotton webbing reinforced with nylon thread. The hardware is of non-magnetic heat-treated steel.

The strap fits over the pilot's shoulders. One end is bolted to the back of the pilot's seat, and the other end consists of two suspender-like belts which fit over the pilot's shoulders and have metal loops which fit into the catch of the safety belt. The shoulder strap is designed to give the pilot mobility and still prevent him from striking the instrument panel in the event of a crash.

NOTE: This shoulder strap is identical with the strap made under the Army Drawing Number 42G4027, A. E. Reference Number 45-9425, except that the latter does not have non-magnetic hardware.

CHARACTERISTICS:

Weight . . . approximately 1 pound 2 ounces

Width . . . approximately 1 3/4 inches

Length . . . approximately 40 inches

RELATIONSHIP OF PARTS: This shoulder strap is always used in conjunction with the B-13 safety belt, A. E. Reference Number 45-2400.

ARMY

A. E. REFERENCE NUMBER: 45-9400
A. A. F. DRAWING NUMBER: 41G8725
A. S. C. STOCK NUMBER: 4500-865060
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F/33

ARMY DRAWING NUMBER 42G4027

DESCRIPTION: This shoulder strap is made of cotton webbing reinforced with nylon thread. The hardware is of heat-treated steel.

The strap fits over the pilot's shoulders. One end is bolted to the back of the pilot's seat, the other end consists of two suspender-like belts which fit over each shoulder, and have two metal loops which fit into the catch on the safety belt. The shoulder strap is designed to give the pilot mobility and still prevent him from being thrown against the instrument panel in the event of a crash.

NOTE: This shoulder strap is identical with the strap made under Army Drawing Number 41G-8725, A. E. Reference Number 45-9400, except that the latter has non-magnetic hardware.

CHARACTERISTICS:

Weight . . . approximately 1 pound 2 ounces

Width . . . approximately 1 3/4 inches

Length . . . approximately 40 inches

RELATIONSHIP OF PARTS: This shoulder strap is always used in conjunction with the B-11 safety belt, A. E. Reference Number 45-2300. Drawing AN7507 has been set up for this combination of safety belt and shoulder strap.

ARMY

A. E. REFERENCE NUMBER: 45-9425
A. A. F. DRAWING NUMBER: 42G4027
A. S. C. STOCK NUMBER: 4500-865400
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 106F/32



COMPUTER—AERIAL DEAD RECKONING

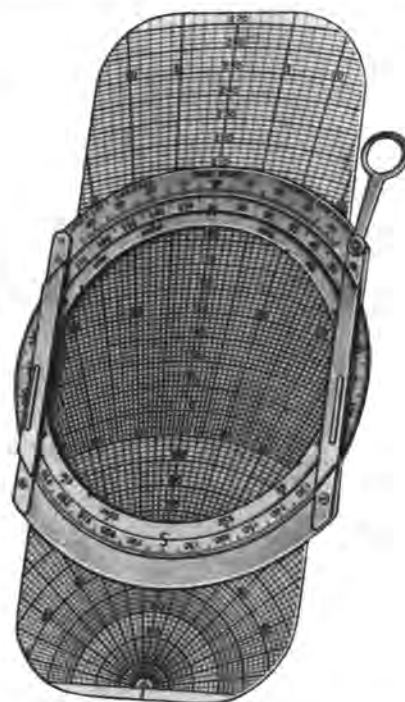
AN5835-1 FORMER ARMY TYPE E-6B FORMER NAVY TYPE AN1

NAMES: Aerial dead reckoning computer
Computer assembly—aerial dead reckoning
Dead reckoning computer
Computer—navigational—dead reckoning (Navy)
Calculator—dead reckoning

DESCRIPTION: The dead reckoning computer is designed to simplify navigational calculations. When known factors are applied to the computer, it is possible to obtain corrected air speed, altitude, and drift computations. It also has a circular slide rule equipped with a means for plotting the true compass direction on a flight, eliminating the use of the triangulation method.

The face of the computer consists of a plotting disc framed by a graduated compass rose. The plotting disc is made of transparent plastic material on which pencil lines may be drawn and erased. A slide imprinted with lines indicating speed and drift variations may be moved back and forth under the plotting disc.

The back of the computer is a plastic circular slide rule for speed-time-distance computations, with additional scales for airspeed and altitude corrections.



CHARACTERISTICS:

Markings.....	luminescent material
Weight.....	approximately $\frac{1}{4}$ pound
Dimensions of slide.....	approximately $9\frac{1}{2}$ by $3\frac{7}{8}$ inches
Overall diameter of computer.....	approximately $5\frac{3}{4}$ inches

ARMY

A. E. REFERENCE NUMBER: 45-3550

SPECIFICATIONS:

Detail.....	AN-C-74a
Superseded.....	94-27892

AN DRAWING NUMBER: AN5835

AN PART NUMBER: AN5835-1

TYPE DESIGNATION: Former Type E-6B

A. S. C. STOCK NUMBER: Refer to column 5 of the chart.

TECHNICAL ORDER NUMBER: Refer to column 6 of the chart.

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

TYPE DESIGNATION: AN5835-1 (former Navy type AN1)

SPECIFICATIONS:

Detail.....	AN-C-74a
Superseded.....	AN-C-74

AN DRAWING NUMBER: AN5835

F. S. S. C. NUMBER: 88C1120

PROCUREMENT STATUS: Under procurement.

Models are used in services as noted in column 4
A-Army, N-Navy, B-British, C-Commercial

Manufacturer	Manufacturer's Part Number	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	Army Technical Order Number	British Reference Number	Remarks
J. B. Carroll Co.	100	100	A-N-B	6200079748	05-35-9	106B/9	
The Star Watch Case Co.	E-6B-100	E-6B-100	A-N-B	6200079740	05-35-9	106B/9	
Cruver Manufacturing Co.	1150	1150	A-N-B	6200079775	05-35-9	106B/9	Metal computer
	1140	1140	A-N-B	6200079755	05-35-9	106B/9	Plastic computer
Stanley Manufacturing Co.	118	118	A-N-B	6200079785	05-35-9	106B/9	
General Luminescent Corp.	1811	1811	A-N-B	6200079788	05-35-9	106B/9	
G. Felsenthal & Sons	FAA-4	FAA-4	A-N-B		05-35-9	106B/9	Brass computer
	FAA-8	FAA-8	A-N-B	6200079745	05-35-9	106B/9	Plastic computer



CARDS AND HOLDERS

MISCELLANEOUS EQUIPMENT SECTION

CARDS—BOMBARDIER'S INSTRUMENT CALIBRATION

42G4923

NAMES: Air speed correction card
 Altimeter scale correction card
 Altimeter static pressure correction card
 Thermometer and temperature compressibility card

DESCRIPTION: These cards are lettered in fluorescent paint and the space for recording instrument correction is also fluorescent. The corrections are written in the proper spaces at the time the instrument is calibrated. The lettering and corrections are visible under reflected ultra-violet light.

The cards are inserted in a holder in the order shown on the accompanying illustration. The holder and cards are then placed in the bombardier's compartment so he can apply the corrections to his instrument readings when making bombsight calculations.

A. A. F. FORM:
 ARMY DRAWING:
 A. E. REFERENCE NUMBER:
 NAMES:

A. A. F. FORM 27-A		
ALTIMETER SCALE CORRECTION		
ALTIMETER READING	ADD	
	+20°C	-35°C
0		
100		
200		
300		
400		
500		
600		
700		
800		
900		
1000		
1100		
1200		
1300		
1400		
1500		
1600		
1700		
1800		
1900		
2000		
2100		
2200		
2300		
2400		
2500		
2600		
2700		
2800		
2900		
3000		
3100		
3200		
3300		
3400		
3500		
3600		
3700		
3800		
3900		
4000		

27-A
 42G4923-3
 45-3310
 Altimeter
 Scale
 Correction Card

A. A. F. FORM 27-B		
ALTIMETER STATIC PRESSURE CORRECTION		
IND. A. S.	ADD	
	+20°C	-35°C
120		
130		
140		
150		
160		
170		
180		
190		
200		
210		
220		
230		
240		
250		
260		
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
370		
380		
390		
400		
410		
420		

27-B
 42G4923-1
 45-3311
 Altimeter
 Static Pressure
 Correction Card

A. A. F. FORM 27-C		
AIR SPEED CORRECTION		
IND. A. S.	ADD	
	+20°C	-35°C
120		
130		
140		
150		
160		
170		
180		
190		
200		
210		
220		
230		
240		
250		
260		
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
370		
380		
390		
400		
410		
420		

27-C
 42G4923-2
 45-3312
 Air Speed
 Correction
 Card

A. A. F. FORM 27-D		
THERMOMETER CORRECTION		
TEMP. READING	ADD	
	+20°C	-35°C
30		
40		
50		
60		
70		
80		
90		
100		
110		
120		
130		
140		
150		
160		
170		
180		
190		
200		
210		
220		
230		
240		
250		
260		
270		
280		
290		
300		
310		
320		
330		
340		
350		
360		
370		
380		
390		
400		
410		
420		
430		
440		
450		

27-D
 42G4923-4
 45-3318
 Thermometer
 and Temperature
 Compressibility
 Card

RELATIONSHIP OF PARTS: Used with bombardier's instrument calibration card holder, A. E. Reference Number 45-7375.

ARMY

A. A. F. DRAWING NUMBER: 42G4923
 PRODUCTION STATUS: Under procurement.
 SHIPPING DATA: Shipped in sets of four cards per airplane.

NAVY

There is no Navy equivalent for this item.

CARD—AIRSPEED CALIBRATION

A. A. F. FORM 21E

NAMES: Airspeed calibration card

Airspeed correction card

DESCRIPTION: The airspeed calibration card is used by a pilot to show corrections in the airspeed indicator due to variations in air density or to mechanical errors in the instrument. The corrected air speed so obtained is only approximate, as it does not take into account variations of temperature and other conditions. The card is folded in half vertically and inserted in a holder on the instrument panel, so that the speeds at which the airplane normally flies are visible to the pilot.

CHARACTERISTICS:

Dimensions: Height approximately 3 inches
 Width approximately 4 inches

RELATIONSHIP OF PARTS: Used with correction card holder, A. E. Reference Number 45-7390.

ARMY

A. E. REFERENCE NUMBER: 45-3300
 TYPE DESIGNATION: A. A. F. form 21E
 TECHNICAL ORDER NUMBER: 05-20-8
 PRODUCTION STATUS: Printed by the Maintenance Data Section of Air Service Command.
 SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

CARD—PILOT'S COMPASS CORRECTION

A. A. F. FORM 57

NAMES: Pilot's compass correction card

Compass correction card

DESCRIPTION: The pilot's compass correction card is used to record adjustments in compass errors due to magnetic deviations caused by the metallic parts on an airplane or to errors within the compass itself. It is folded in half vertically, so that columns 1-2 are visible, and inserted into a holder attached to the instrument panel near the compass.

CHARACTERISTICS:

Dimensions: Height approximately 4 3/4 inches
 Width approximately 6 1/4 inches

RELATIONSHIP OF PARTS: Used with correction card holder, A. E. Reference Number 45-7390.

ARMY

A. E. REFERENCE NUMBER: 45-3350
 TYPE DESIGNATION: A. A. F. form 57
 PRODUCTION STATUS: Printed by the Maintenance Data Section of Air Service Command.
 SHIPPING DATA: Shipped as a complete unit.

NAVY There is no Navy equivalent for this item.



HOLDER—BOMBARDIER'S INSTRUMENT CALIBRATION CARD

40D8435

NAMES: Bombardier's instrument calibration card holder
Bombardier's correction card holder

DESCRIPTION: This holder is made by stitching a transparent plastic sheet to a black imitation leather backing. It is held in place in the airplane by six clips which are inserted into openings in the back of the holder.

It is used to hold four bombardier's correction cards, each of which fits into a separate section formed by stitching which runs down the face of the holder. Each section has a thumb-shaped cutout at the top, for easy removal of the cards.

CHARACTERISTICS:

Height.....approximately 6 $\frac{1}{4}$ inches
Width.....approximately 10 $\frac{7}{8}$ inches
Weight.....approximately 3 ounces

RELATIONSHIP OF PARTS: Used with bombardier's instrument calibration cards:

Altimeter scale correction card.....A. E. Reference Number 45-3310
Altimeter static pressure correction card.....A. E. Reference Number 45-3311
Airspeed correction card.....A. E. Reference Number 45-3312
Thermometer and temperature correction card.....A. E. Reference Number 45-3318

ARMY

A. E. REFERENCE NUMBER: 45-7375
A. A. F. DRAWING NUMBER: 40D8435
MANUFACTURER'S DESIGNATION: Burkhardt R-120-X
A. S. C. STOCK NUMBER: 4500-495400
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped complete with mounting clips.

NAVY

There is no Navy equivalent for this item.

HOLDER—CORRECTION CARD

ARMY TYPE A-1

NAME: Correction card holder

DESCRIPTION: This holder is made by stitching a transparent plastic sheet to an imitation leather backing. It is held in place in the airplane by two clips which are inserted into openings in the back of the holder.

It is used to hold a pilot's correction card. A thumb-shaped cutout at the top of the holder permits easy removal of the card.

CHARACTERISTICS:

Height.....approximately 3 $\frac{3}{8}$ inches
Width.....approximately 2 $\frac{3}{8}$ inches
Weight.....approximately 1 ounce

RELATIONSHIP OF PARTS: Used with:

Airspeed calibration card.....A. E. Reference Number 45-3300
Pilot's compass correction card.....A. E. Reference Number 45-3350



ARMY

A. E. REFERENCE NUMBER: 45-7390
A. A. F. DRAWING NUMBER: 42B10930 which supersedes drawing 074837
TYPE DESIGNATION: A-1 Burkhardt type R-121-X
A. S. C. STOCK NUMBER: 4500-495400
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped complete with mounting clips.

NAVY

There is no Navy equivalent for this item.



CARDS AND HOLDERS MISCELLANEOUS EQUIPMENT SECTION



FORM—FLIGHT REPORT

A. A. F. FORMS 1 AND 1A

NAME: Flight report form

DESCRIPTION: This is a book of printed forms for pilots to report forced landings. Two forms are combined in a single book:

A. A. F. Form 1. Report of forced landings due to weather or other conditions not resulting from failures or defects in the airplane.

A. A. F. Form 1A. Report of forced landings resulting from failures or defects in the airplane.

The forms are also used for recording inspections and service received by the airplane.

CHARACTERISTICS:

Height.....approximately 8 inches

Width.....approximately 11 inches

Weight.....approximately 6 ounces

RELATIONSHIP OF PARTS:

Used with flight report form holder, A. E.
Reference Number 45-7300.

ARMY

A. E. REFERENCE NUMBER: 45-6900

TYPE DESIGNATION: A. A. F. Forms 1 and 1A

PRODUCTION STATUS: Printed by the Maintenance Data section of Air Service Command.

SHIPPING DATA: Shipped as a bound book of forms.

NAVY

There is no Navy equivalent for this item.



HOLDER—FLIGHT REPORT FORM

ARMY TYPE A2

NAME: Flight report form holder

DESCRIPTION: The holder is made of wood and plywood and is screwed in any convenient place in the cabin or cockpit. It is used to hold the book containing Army flight report forms 1 and 1A. A hinged metal cap at the top of the holder keeps the book in place during flight.

CHARACTERISTICS:

Height.....approximately 12 inches

Width.....approximately 9 $\frac{3}{8}$ inches

Weight.....approximately 12 ounces

RELATIONSHIP OF PARTS:

Used with flight report forms 1 and 1A, A. E.
Reference Number 45-6900.

ARMY

A. E. REFERENCE NUMBER: 45-7300

A. A. F. DRAWING NUMBER: 0161366

TYPE DESIGNATION: A-2

A. S. C. STOCK NUMBER: 4500-488000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



HOLDER—AIRPLANE CHECK LIST

ARMY PART NUMBER 39D3922

NAVY—SEE BELOW

NAMES: Airplane check list holder
Airplane check list holder assembly

DESCRIPTION: The airplane check list holder is used to hold a sheet which contains a list of items to be checked by the pilot before take-off.

This holder is made of two transparent plastic sheets stapled together on three sides and open at the top. It is equipped with a webbed strap which passes through a slot at the top. The strap is fitted with a hook and eye so that the holder may be suspended in the cabin.

CHARACTERISTICS:

Height.....approximately 9 inches
Width.....approximately 5 $\frac{7}{8}$ inches
Weight.....approximately 3 ounces

ARMY

A. E. REFERENCE NUMBER: 45-7200

A. A. F. DRAWING NUMBER: 39D3922

A. S. C. STOCK NUMBER: 4500-492000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

PROCUREMENT STATUS: Under procurement.



CASE—AIRCRAFT DATA

ARMY PART NUMBER 36G2873

NAVY—SEE BELOW

NAMES: Aircraft data case Data case

DESCRIPTION: Flight data and charts are kept in an aircraft data case which is mounted in the cabin or cockpit of an airplane. The case, formerly made of aluminum and plastic materials, is now made of plywood. The case has a hinged cover which can be snapped shut.

CHARACTERISTICS:

Height.....approximately 10 inches
Width.....approximately 12 inches
Depth.....approximately 2 $\frac{1}{2}$ inches
Weight.....approximately 1 $\frac{1}{2}$ pounds

ARMY

A. E. REFERENCE NUMBER: 45-3360

A. A. F. DRAWING NUMBER: 36G2873

A. S. C. STOCK NUMBER: 4500-188000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

PROCUREMENT STATUS: Under procurement.

**DOME—NAVIGATOR'S OBSERVING**

ARMY SPEC. 33001

NAVY SPEC. D-29

NAMES: Navigator's observing dome

Astro dome

Navigator's astro dome

Navigator's dome

Observing dome

DESCRIPTION: The navigator's observing dome is made of molded sheet plexiglas and is equipped with a flange having twelve bolt holes for mounting on the roof of an airplane above the navigator's compartment. The center of the dome is fitted with a bolt used to support a sextant. The navigator mounts the sextant on the suspension bolt only when taking an observation.

CHARACTERISTICS:

Diameter..... approximately 22 inches

Height..... approximately 6 inches

Weight..... approximately 5 pounds

ARMY

A. E. REFERENCE NUMBER: 45-3650

SPECIFICATIONS:

Detail..... 33001

A. A. F. DRAWING NUMBER: S43G16629

A. S. C. STOCK NUMBER: 4500-373000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a single unit.

NAVY

SPECIFICATIONS:

Detail..... N. A. S. D-29

F. S. S. C. STOCK NUMBER: 88-D-200

PROCUREMENT STATUS: Under procurement.

BRITISH

BRITISH REFERENCE NUMBER: 106B/15

**DOME—NAVIGATOR'S OBSERVING**

AN5845-1

NAMES: Navigator's observing dome

Astro dome

Navigator's dome

Observing dome

DESCRIPTION: The navigator's observing dome is made of molded sheet plexiglas and is installed on airplanes having pressurized cabins to form an airtight fit. A mounting flange is reinforced by an aluminum ring and a rubber gasket, which fits into a sash provided for its installation on the cabin roof. The center of the dome is fitted with a bolt, used to support a sextant. The navigator mounts the sextant on the suspension bolt only when taking an observation.

CHARACTERISTICS:

Diameter..... approximately 22 inches

Height..... approximately 7 inches

Weight..... approximately 5½ pounds

ARMY

A. E. REFERENCE NUMBER: 45-3675

SPECIFICATIONS:

Detail..... AN-D-7

AN DRAWING NUMBER: AN5845

AN PART NUMBER: AN5845-1

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit, including gasket and reinforcing ring.

NAVY

SPECIFICATIONS:

Detail..... AN-D-7

AN DRAWING NUMBER: AN5845

AN PART NUMBER: AN5845-1

F.S.S.C. STOCK NUMBER: 88-D-195

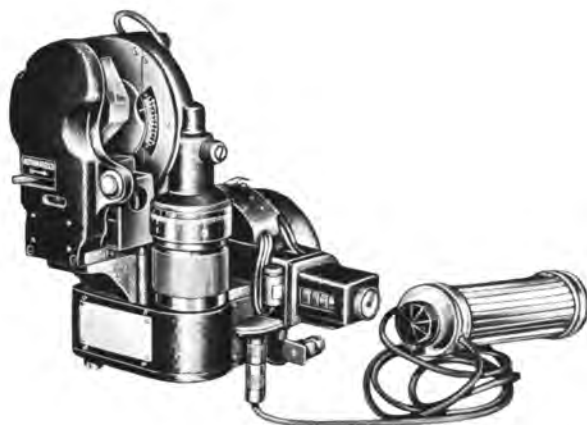
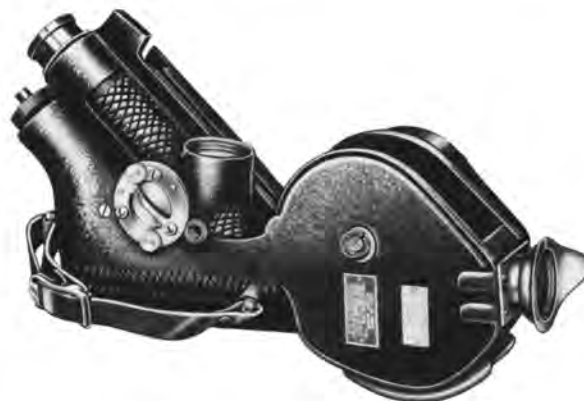
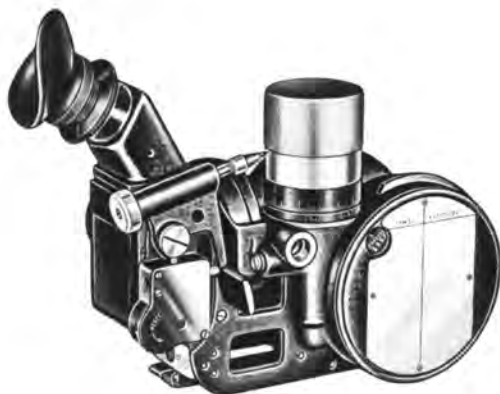
PROCUREMENT STATUS: Under procurement.



AIRCRAFT SEXTANTS

NAMES: Bubble type sextant
Octant

Sextant—aircraft—averaging bubble type



DESCRIPTION: A sextant is an instrument used by navigators to measure the altitude of the sun, stars, or other celestial bodies. From these measurements, and with the aid of an almanac, it is possible to determine the observer's position on the earth's surface.

The altitude of a celestial body is the angle formed between imaginary lines drawn from the observer to the body and to the horizon. Marine navigators use the natural horizon as a reference but, unless an airplane is flying in daylight at less than 1000 feet above sea level and visibility is good, the aerial navigator cannot use the natural horizon.

(Continued on page 139)

AIRCRAFT SEXTANTS

(Continued from page 138)

To provide a horizon reference, airplane sextants incorporate a bubble which acts as an artificial horizon. When using the bubble horizon the image of the celestial body is caused to coincide with the center of the bubble, and a recording counter, or graduated arc, enables the observer to read the altitude of the observed body above the bubble horizon. This artificial horizon is accurate only when the observer is stationary or moving at a uniform rate of speed. Accelerations in an airplane cause the bubble to be deflected from the vertical so that an error is introduced when the bubble is aligned with the celestial body for a sight or "shot." This error may be as much as one degree (equivalent to a 60-mile error in position). To reduce this error, aircraft sextants have averaging devices, and a number of

sights are taken over a one- or two-minute period. Averaging errors usually enables the navigator to find his position within 5 miles.

Various averaging devices are used, the median averager being the most common. In this type, a pencil makes a mark on a drum when a sight is taken. At the end of two minutes, the navigator sets a pointer on the center of the marks and reads the altitude. Chronometric averaging devices employ clockwork which automatically records the average altitude when the navigator follows the movements of the celestial body over a two-minute period.

Internal artificial lighting permits a sextant to be used in taking sights at night by providing an illuminated bubble.

ARMY

A. E. REFERENCE NUMBER: 45-9000

Type	Specification	Drawing Number	Part Number
Former A-12	AN-S-29	AN5852	AN5852-1
None	AN-S-28	AN5851	AN5851-1
A-10	None	See chart	See chart
A-8A	94-27914A	See chart	See chart
A-7	94-27912	See chart	See chart

PRODUCTION STATUS: Under procurement except for A-7.

SHIPPING DATA: Shipped as a unit, complete with carrying case.

NAVY

PROCUREMENT STATUS: See chart for sextants under procurement.

ALL MODELS ON THIS PAGE ARE INTERCHANGEABLE

Models are used in services as noted in column 4

A-Army, N-Navy, B-British, C-Commercial

Manufacturer	Type Designation	Manufacturer's Drawing and Part Number	Used By	Air Service Command Stock Number	Army Technical Order Number	British Reference Number	F. S. S. C.	Natural Horizon Provision	Weight	Bubble Field Illumination	Averaging Device	Battery Container	Remarks
Pioneer Instrument Division of Bendix Aviation Corp.	AN5851-1	3014-1-C	A-N-B	6200327978	05-35-22	106B/53	88-S-350	Yes	7 pounds	Dark	Chronometric	Separate	
	AN5851-1	3014-1-D	A-N-B	6200327980	05-35-22	106B/53	88-S-350	Yes	7 pounds	Dark	Chronometric	Separate	
Link Aviation Devices, Inc.	A-12	11734	A-N-B	6200330975	05-35-15	106B/152	88-S-360	No	5 3/4 pounds	Bright	Median	Integral	British Designation C-9
Fairchild Aviation Corp.	A-10	B-320-D1	A-B	6200330937	05-35-12	106B/50		No	6 pounds	Dark	Median	Separate	
Bausch & Lomb Optical Co.	A-8A	29499	A-B	6200330925	05-35-7	106B/49		Yes		Dark	Automatic (8 observations)	Integral	
Pioneer Instrument Division of Bendix Aviation Corp.	A-7	Part 3003-A Drawing PD-23431-1	A-B	6200330900	05-35-4	106B/48		Yes	6 pounds	Dark	Automatic (8 observations)	Integral	Not under procurement.
	A-7	Part 3003-B Drawing PD-23431-2	A-B	6200330905	05-35-4	106B/48		Yes	6 pounds	Dark	Automatic (8 observations)	Integral	Not under procurement.
	A-7	Part 3011-A Drawing PD-17633-1	A-B		05-35-4	106B/48		Yes	6 pounds	Dark	Automatic (8 observations)	Integral	Not under procurement.
	A-7	Part 3011-B Drawing PD-17633-2	A-B		05-35-4	106B/48		Yes	6 pounds	Dark	Automatic (8 observations)	Integral	Not under procurement.

NOTE 1. The A-12 sextant is intended for instruction purposes only, but may be used in the field if no other types are available.

(RESTRICTED)



AIRCRAFT FIRE EXTINGUISHERS

Fires in airplanes usually occur around the engine installation. Fire extinguishing systems are therefore designed chiefly to protect this area, which is divided into two zones by a metallic shield or diaphragm installed directly behind the engine cylinders. The diaphragm separates the cylinders in zone one from the engine accessories in zone two. Extinguishing material is sprayed in the accessory or second zone.

To control fires on multi-engine airplanes, a remotely operated fixed fire extinguishing system is required. In the fixed system, carbon dioxide cylinders, in which the gas has been charged under pressure, are used. Because of the gas pressure, carbon dioxide cylinders are made of steel and wound with wire in order to render them shatterproof if hit by gunfire. The carbon dioxide is discharged by opening a valve at the top of the cylinder, which is stationed in any convenient place within the fuselage. The cylinder valve is controlled by a cable attached to a pull handle mounted on the control panel within reach of the pilot. The panel also contains a selector valve, so that the flow of gas can be directed to the engine where the fire occurs. The carbon dioxide enters the second zone through the openings in a perforated tube coiled around the engine.

A single zone installation is one in which there is no separating diaphragm. In such an arrangement, the gas is discharged through a series of nozzles placed around the engine cylinders, carburetor, fuel pump, and other vital accessories. The system is extremely heavy and can be used only on multi-engine cargo airplanes where it is possible to sacrifice some payload for safety.

All fixed systems are equipped with an outboard discharge indicator. This is a red celluloid disc installed on the outside wall of an airplane. It is connected by tubing to a safety disc in the valve on the fire extinguisher. High pressures caused by excessive heat will rupture the safety disc. The discharged gas flows through the tube to the outboard discharge indicator and breaks it, indicating on visual inspection that the cylinder is empty.

The fixed system is used on some single engine airplanes. However, portable fire extinguishers are most commonly used. They are adequate only for cabin and cockpit fires. Despite this limitation, they are preferred because they conserve weight. The extinguisher is mounted conveniently in the cabin on brackets which are designed to facilitate its instant removal.

The earliest type of portable fire extinguisher, and still in service, uses carbon tetrachloride. It consists of a brass cylinder and a built-in pump. Expulsion of the carbon tetrachloride is caused by manual operation of the pump, which forces the liquid through a nozzle at the bottom of the cylinder. The carbon tetrachloride extinguisher is best for quenching wood and fabric fires and is used principally on light airplanes.

Carbon dioxide gas fire extinguishers are preferred for fuel, oil, and electric fires. Opening a valve at the top of the pressure loaded cylinder releases the gas. In one type, a discharge tube with a horn is attached to the valve. When the tube is down and parallel to the cylinder, the valve is closed. Raising the tube opens the valve and directs the stream of gas. In the latest type of carbon dioxide extinguisher, a pistol grip with a trigger control opens or closes the valve, and a discharge tube is installed which is used only to direct the discharged gas. One of the advantages of the pistol grip control is that the expelled quantity of carbon dioxide can be controlled.



EXTINGUISHER—FIRE

ARMY TYPE A-2

NAMES: Fire extinguisher

Carbon tetrachloride fire extinguisher

Hand fire extinguisher

Portable fire extinguisher

DESCRIPTION: The type A-2 fire extinguisher is a portable model using carbon tetrachloride as the extinguishing medium. The liquid is expelled by a built-in hand-operated pump.

The mounting bracket, which is furnished with the extinguisher, is installed in an accessible location on the airplane, and holds the cylinder in place by means of a spring steel strap.

CHARACTERISTICS:

Capacity.....1 quart of carbon tetrachloride

Overall length.....13½ inches

Diameter of cylinder . .3 inches

Total weight when
charged.....approximately 7 pounds

Cylinder material. . . .brass

ARMY

A. E. REFERENCE NUMBER: 45-5600

SPECIFICATIONS:

Detail.....85-2-H

Superseded.....85-2-G

TYPE DESIGNATION: A-2

A. S. C. STOCK NUMBER: Refer to column 5 of the chart.

TECHNICAL ORDER NUMBER: Refer to column 6 of the chart.

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped with mounting bracket.

NAVY

There is no Navy equivalent for this item.

BRITISH

REFERENCE NUMBERS: see chart.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manu- facturer's Model Identi- fication	Manu- facturer's Drawing Number	Used By	Air Service Command Stock Number	Army Technical Order Number	A. E. Reference Number	British Reference Number	Weight	Extinguishing Material	Remarks
Fyr-Fyter Co.	A-2	83	A-B	4500-383000	03-45B-1	45-5600	127N 111	7 pounds	Carbon tetrachloride	
Walter Kidde & Co., Inc.	A-15		A-N	4500-387050		45-6050		7½ pounds	Carbon dioxide	
	A-17	79665-A	A-B	4500-387070		45-6200	127N/113	13 pounds	Carbon dioxide	
	2TA	26295	A-B-N	4500-381922		45-6215	127N/3	7½ pounds	Carbon dioxide	Pistol grip control.
	4TB	93138	A-B-N	4500-381924		45-6225	127N/278	13 pounds	Carbon dioxide	Pistol grip control.
Kelsey-Hayes Wheel Co.	A-17		A	4500-387070		45-6200		13 pounds	Carbon dioxide	

NOTE: 1. Each type of fire extinguisher requires its own mounting brackets. When substituting one extinguisher for another, the brackets must also be changed.
2. Thirteen pound extinguishers may be used in place of the A-2 only if the weight factor can be disregarded.



EXTINGUISHER—FIRE

ARMY TYPE A-15

NAVY TYPE 1170-2

NAMES: Fire extinguisher
Carbon dioxide fire extinguisher
Hand fire extinguisher

Portable carbon dioxide
fire extinguisher
Portable fire extinguisher

DESCRIPTION: The type A-15 fire extinguisher is a portable model using carbon dioxide as the extinguishing medium. The outlet for the carbon dioxide consists of a metal tube with a horn at the end to direct the stream of gas. The tube is kept parallel to the cylinder to maintain a closed position of the gas discharge valve. Raising the tube opens the valve and releases the carbon dioxide, which has been charged into the cylinder under pressure.

The extinguisher is mounted in an accessible location on the airplane by means of a bracket and collar which is supplied with it.

CHARACTERISTICS:

Capacity of cylinder	2 1/3 pounds of carbon dioxide gas (96 cubic inches)
Overall length	13 1/4 inches
Diameter of cylinder	3 1/4 inches
Total weight when charged	7 1/3 pounds
Cylinder material	wire wound (shatterproof) steel

ARMY

A. E. REFERENCE NUMBER: 45-6050

SPECIFICATIONS:

Detail	85-13
Superseded	40242

A. A. F. DRAWING NUMBER: 35D3689

TYPE DESIGNATION: A-15

A. S. C. STOCK NUMBER: Refer to column 5 of the chart.

TECHNICAL ORDER NUMBER: Refer to column 6 of the chart.

PRODUCTION STATUS: Not under procurement for initial installation. The type A-2 is being purchased for installation on light airplanes and the type A-17, which has a greater capacity, is preferred for installation on heavier airplanes.

SHIPPING DATA: Shipped complete with mounting bracket and collar

NAVY

TYPE DESIGNATION: 1170-2

SPECIFICATIONS:

Detail	M-106b
Superseded	M-106a

N. A. F. DRAWING NUMBER: 1170

A. S. O. STOCK NUMBER: R58-E-205

PROCUREMENT STATUS: Under procurement.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manu- facturer's Model Identi- fication	Manu- facturer's Drawing Number	Used By	Air Service Command Stock Number	Army Technical Order Number	A. E. Reference Number	British Reference Number	Extinguishing Material	Weight	Remarks
Walter Kidde & Co., Inc.	A-15		A-N	4500-387050		45-6050		Carbon dioxide	7 1/3 pounds	
	A-17	79665-A	A-B	4500-387070		45-6200	127N/113	Carbon dioxide	13 pounds	
	2TA	26295	A-B-N	4500-381922		45-6215	127N/3	Carbon dioxide	7 1/3 pounds	Pistol grip control.
	4TB	93138	A-B-N	4500-381924		45-6225	127N/278	Carbon dioxide	13 pounds	Pistol grip control.
Fyr-Fyter Co.	A-2	83	A-B	4500-383000	03-45B-1	45-5600	127N/11	Carbon tetrachloride	7 pounds	
Kelsey-Hayes Wheel Co.	A-17		A	4500-387070		45-6200		Carbon dioxide	11 pounds	

NOTE: 1. Each type of fire extinguisher requires its own mounting brackets. When substituting one extinguisher for another, the brackets must also be changed.
2. Thirteen pound extinguishers may be used in place of the A-15 only if the weight factor can be disregarded.



FIRE EXTINGUISHERS MISCELLANEOUS EQUIPMENT SECTION

EXTINGUISHER—FIRE

ARMY TYPE A-17



NAMES: Fire extinguisher
Carbon dioxide fire
extinguisher

Hand fire extinguisher
Portable carbon dioxide fire extinguisher

DESCRIPTION: The type A-17 fire extinguisher is a portable model using carbon dioxide as the extinguishing medium. The outlet for the carbon dioxide consists of a metal tube with a horn at the end, to direct the stream of gas. The tube is kept parallel to the cylinder to maintain a closed position of the gas discharge valve. Raising the tube opens the valve and releases the carbon dioxide which has been charged into the cylinder under pressure.

The extinguisher is mounted in an accessible location on the airplane by means of a bracket and collar which is supplied with it.

CHARACTERISTICS:

Capacity of cylinder..... $3\frac{3}{4}$ pounds carbon dioxide gas
(147 cubic inches)
Overall length..... $18\frac{3}{4}$ inches
Diameter of cylinder..... $3\frac{1}{4}$ inches
Total weight when charged.....13 pounds
Cylinder material.....wire wound (shatterproof) steel

ARMY

A. E. REFERENCE NUMBER: 45-6200

SPECIFICATIONS:

Detail.....85-15
Superseded.....40304-A

TYPE DESIGNATION: A-17

A. S. C. STOCK NUMBER: Refer to column 5 of the chart.

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped with mounting bracket and collar.

NAVY

There is no Navy equivalent for this item.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	A. E. Reference Number	British Reference Number	Remarks
Kelsey-Hayes Wheel Co.	A-17		A	4500-387070	45-6200		
Walter Kidde & Co., Inc.	A-17	76965	A-B	4500-387070	45-6200	127N/113	
	4TB	93138	A-B-N	4500-381924	45-6225	127N/278	Identical with Army type A-17 except for pistol grip control.

NOTE: 1. The above types may be used in place of an extinguisher having a smaller capacity. Do not use an extinguisher with a capacity lower than is originally specified.



EXTINGUISHER—FIRE

WALTER KIDDE AND COMPANY TYPE 2TA

NAMES: Fire extinguisher Hand fire extinguisher
Carbon dioxide Portable carbon dioxide fire extinguisher
fire extinguisher Portable fire extinguisher

DESCRIPTION: The 2TA fire extinguisher is a portable model using carbon dioxide as the extinguishing medium. The outlet for the carbon dioxide consists of a metal tube with a horn at the end which can be raised to any desired angle to direct the stream of gas. Release of a required quantity of carbon dioxide gas is obtained by pressing the pistol grip control. This opens a valve, discharging the gas, which has been charged into the cylinder under pressure.

The extinguisher is mounted in an accessible location on the airplane by means of a bracket and collar supplied with it.

NOTE: The 2TA extinguisher has an aluminum valve. The same extinguisher, with a brass valve, would be type 2TB, and they are completely interchangeable.

CHARACTERISTICS.

Capacity of cylinder	approximately 2 $\frac{1}{3}$ pounds of carbon dioxide gas (96 cubic inches)
Overall length	approximately 13 $\frac{3}{4}$ inches
Diameter of cylinder	approximately 3 $\frac{1}{4}$ inches
Total weight when charged	approximately 7 $\frac{1}{3}$ pounds
Cylinder material	wire wound (shatterproof) steel

ARMY

A. E. REFERENCE NUMBER: 45-6215

MANUFACTURER'S DRAWING NUMBER: Walter Kidde and Company, Incorporated, Number 26295

TYPE DESIGNATION: Walter Kidde and Company, Incorporated, 2TA (known in the Army as type 2-A)

A. S. C. STOCK NUMBER: Refer to column 5 of the chart.

TECHNICAL ORDER NUMBER: Refer to column 6 of the chart.

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped with mounting bracket and collar.

NAVY

PROCUREMENT STATUS: Under procurement.

**ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British**

Manufacturer	Manu- facturer's Model Identi- fication	Manu- facturer's Drawing Number	Used By	Air Service Command Stock Number	Army Technical Order Number	A. E. Reference Number	British Reference Number	Extinguishing Material	Weight	Remarks
Walter Kidde & Co., Inc.	2TA	26295	A-N-B	4500-381922		45-6215	127N/3	Carbon dioxide	7 $\frac{1}{3}$ pounds	Pistol grip control.
	4TB	93138	A-N-B	4500-381924		45-6225	127N/278	Carbon dioxide	13 pounds	Pistol grip control.
	A-15		A-N	4500-387050		45-6050		Carbon dioxide	7 $\frac{1}{3}$ pounds	
	A-17	79665-A	A-B	4500-387070		45-6200	127N/113	Carbon dioxide	13 pounds	
Fyr-Fyter Co.	A-2	83	A-B	4500-383000	03-458-1	45-5600	127N/11	Carbon tetrachloride	7 pounds	
Kelsey-Hayes Wheel Co.	A-17		A	4500-387070		45-6200		Carbon dioxide	11 pounds	

NOTE: 1. Each type of fire extinguisher requires its own mounting brackets. When substituting one extinguisher for another, the brackets must also be changed.
2. Thirteen-pound extinguishers may be used in place of the 2TA only if the weight factor can be disregarded.



EXTINGUISHER—FIRE

WALTER KIDDE AND COMPANY TYPE 4TB

NAMES: Fire extinguisher
 Carbon dioxide fire extinguisher
 Hand fire extinguisher
 Portable carbon dioxide fire extinguisher
 Portable fire extinguisher

DESCRIPTION: The type 4TB fire extinguisher is a portable model using carbon dioxide as the extinguishing medium. The outlet for the carbon dioxide consists of a metal tube with a horn at the end which can be raised to any desired angle to direct the stream of gas. Release of a required quantity of carbon dioxide gas is obtained by pressing the pistol grip control. This opens a valve, discharging the gas, which has been charged into the cylinder under pressure.

The extinguisher is mounted in an accessible location on the airplane by means of a bracket and collar supplied with it.

CHARACTERISTICS:

Capacity of cylinder..... $3\frac{3}{8}$ pounds carbon dioxide gas (147 cubic inches)
 Overall length..... $18\frac{3}{4}$ inches
 Diameter of cylinder..... $3\frac{1}{4}$ inches
 Total weight when charged.....13 pounds
 Cylinder material.....wire wound (shatterproof) steel

ARMY

A. E. REFERENCE NUMBER: 45-6225

DRAWING NUMBER: Walter Kidde and Company, Incorporated, drawing number 93138

TYPE DESIGNATION: Walter Kidde and Company, Incorporated, type 4TB

A. S. C. STOCK NUMBER: Refer to column 5 of the chart

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped with mounting bracket and collar.

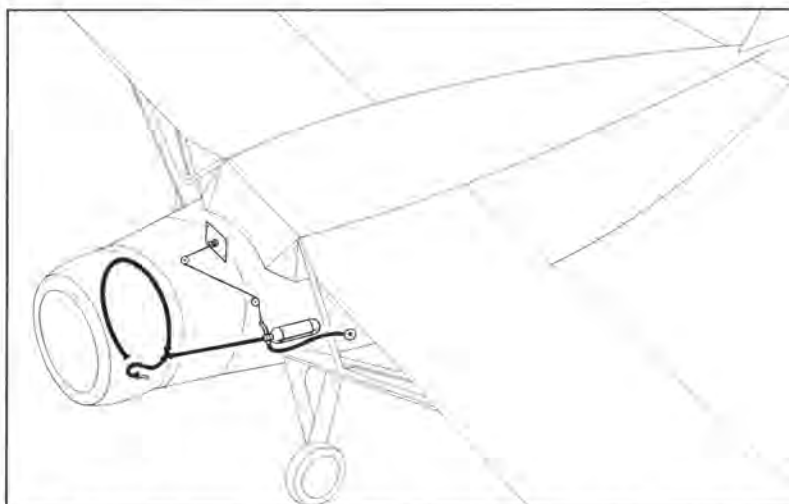
NAVY

PROCUREMENT STATUS: Under procurement.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	*Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	A. E. Reference Number	British Reference Number	Remarks
Walter Kidde & Co., Inc.	4TB	93138	A-B	4500-381924	45-6225	127N/278	
	A-17	79665	A-B	4500-387070	45-6200	127N/113	Army type A-17 identical with the 4TB except that it has no pistol grip control.
Kelsey-Hayes Wheel Co.	A-17		A	4500-387070	45-6200		Army type A-17, same as above.

NOTE: 1. The above types may be used in place of an extinguisher having a smaller capacity. Do not use an extinguisher with a capacity lower than is originally specified.



EXTINGUISHER—SINGLE DISCHARGE LINE FIRE

ARMY TYPE A-11

NAVY—SEE BELOW

NAMES: Single discharge line fire extinguisher Single discharge line fixed fire extinguisher system
 One discharge line fire extinguisher Fire extinguisher—single discharge line

DESCRIPTION: The type A-11 single discharge line fire extinguisher system uses carbon dioxide as the extinguishing medium. The complete assembly consists of:

- One cylinder of carbon dioxide.
- One perforated discharge tubing 12 feet in length.
- One control panel containing the release pull handle.
- Two pulleys for the control cable.
- One length of flexible tubing which connects the system through the engine firewall.
- One outboard discharge indicator.

This system is used on single engine airplanes where a remotely operated fire extinguisher is desired. The carbon dioxide is charged into the cylinder under pressure. Pulling the release handle, which is mounted in a location accessible to the pilot, opens the valve on the cylinder, which discharges the carbon dioxide to the perforated tubing installed around the engine.

CHARACTERISTICS OF CYLINDER:

Capacity	5 pounds carbon dioxide gas (205 cubic inches)
Overall length	13 ³ / ₄ inches
Diameter of cylinder	5 ²³ / ₆₄ inches
Total weight when charged	14 pounds
Cylinder material	wire wound (shatterproof) steel
Total weight of assembly	approximately 19 pounds

ARMY

A. E. REFERENCE NUMBER: 45-5800

SPECIFICATIONS:

General	85-8-A
Detail	85-9
Superseded	40211-A

TYPE DESIGNATION: A-11

A. S. C. STOCK NUMBER: 4500-383900

TECHNICAL ORDER NUMBER: 03-45C-1

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: The complete assembly is shipped in a single package except for the 12 foot discharge tube, which is shipped separately. Previously, the shipment was broken up in the following manner: the cylinder in one package, the discharge tube in another and the balance of the component units in a third.

NAVY

TYPE DESIGNATION: The Navy does not regard the system as a single unit but procures individual parts to be combined in any assembly required for the airplane in which it is installed.

SPECIFICATIONS:

General:	M-107c
Superseded:	M-107b

PROCUREMENT STATUS: Under procurement.

Part	N. A. F. Part Number	A. S. O. Stock Number
Cylinder	1135-5	R83-C-90700
Valve assembly and discharge indicator	310819-1	None
Control panel	214370-1	None
Pulleys	310824-1	None
Flexible hose	None	33-H-335



EXTINGUISHER—TWO DISCHARGE LINE FIRE

ARMY TYPE A-12 NAVY—SEE BELOW

NAMES: Two discharge line fire extinguisher Fire extinguisher, two discharge line
Two discharge line fixed fire extinguisher system

DESCRIPTION: The type A-12 two discharge line fire extinguisher system uses carbon dioxide as the extinguishing medium. The complete assembly consists of:

- One cylinder of carbon dioxide.
- Two lengths of perforated tubing, 12 feet in length.
- One control panel containing a release pull handle and a four-way selector valve.
- Two pulleys for the control cables.
- Two lengths of flexible tubing which connect the system through the engine firewalls.
- One outboard discharge indicator.

This system is used on twin-engine airplanes, because the engine nacelles are too remotely located for operation of a portable fire extinguisher. The carbon dioxide, which is charged into the cylinder under pressure, is released by pulling the control handle on the control panel. The flow of carbon dioxide is directed to the discharge tubing around the engine at the location of the fire by means of the selector valve mounted on the control panel.

CHARACTERISTICS OF CYLINDER:

Capacity	7 $\frac{1}{4}$ ounces of carbon dioxide gas (295 cubic inches)
Overall length	18 $\frac{1}{4}$ inches
Diameter of cylinder	6 $\frac{3}{4}$ inches
Total weight when charged	20 pounds
Cylinder material	wire wound (shatterproof) steel
Total weight of assembly	approximately 25 pounds

ARMY

A. E. REFERENCE NUMBER: 45-5900

SPECIFICATIONS:

General	85-8-A
Detail	85-10
Superseded	40212-B

A. A. F. DRAWING NUMBER: H39D2220

TYPE DESIGNATION: A-12

A. S. C. STOCK NUMBER: 4500-385000

TECHNICAL ORDER NUMBER: 03-45C-1

PRODUCTION STATUS: Under procurement

SHIPPING DATA: The complete assembly is shipped in a single package except for the 12 foot discharge tubes, which are shipped separately. Previously, the shipment was broken up in the following manner: the cylinder in one package, the discharge tubing in another and the balance of the component units in a third.

(Continued on page 148)



(Continued from page 147)

EXTINGUISHER—TWO DISCHARGE LINE FIRE

NAVY

TYPE DESIGNATION: The Navy does not regard the system as a single unit but procures individual parts to be combined in any assembly required by the airplane in which it is to be installed.

SPECIFICATIONS:

General.....M-107c
Superseded:.....M-107b

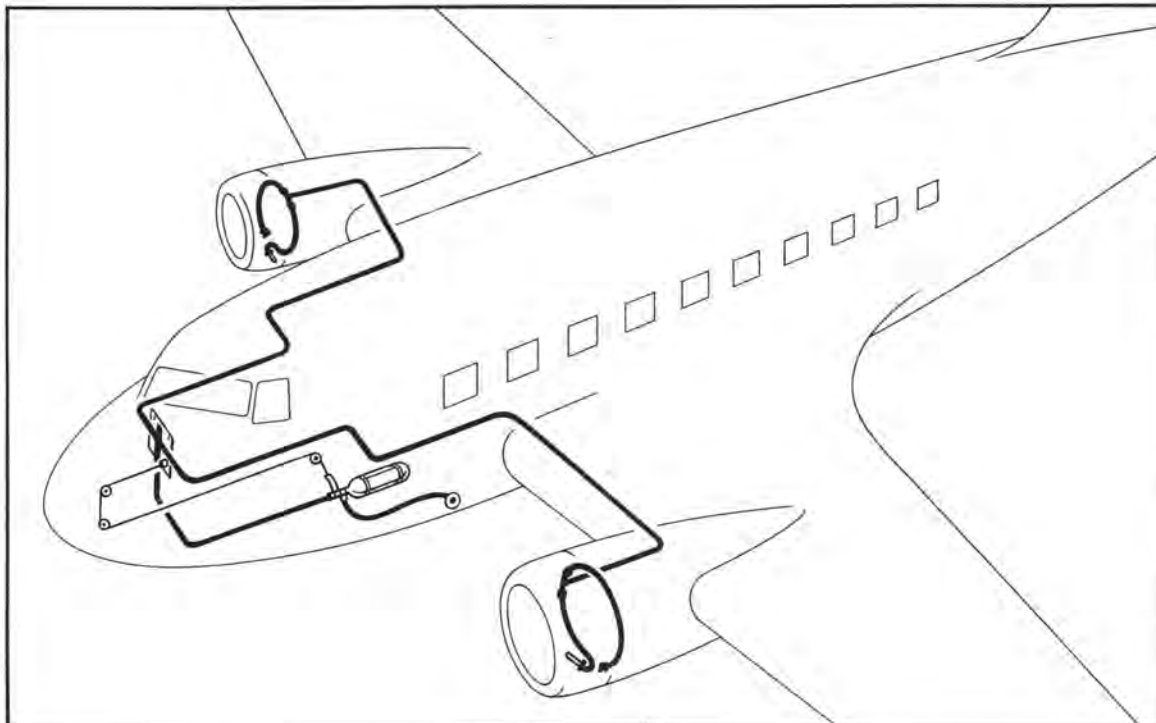
Part	N. A. F. Part Number	A. S. O. Stock Number
Cylinder	1135-6	R83-C-90750
Valve assembly and discharge indicator	310819-2	
Control panel	310823-21	
Pulleys	310824-2	
Flexible hose	None	33-H-335

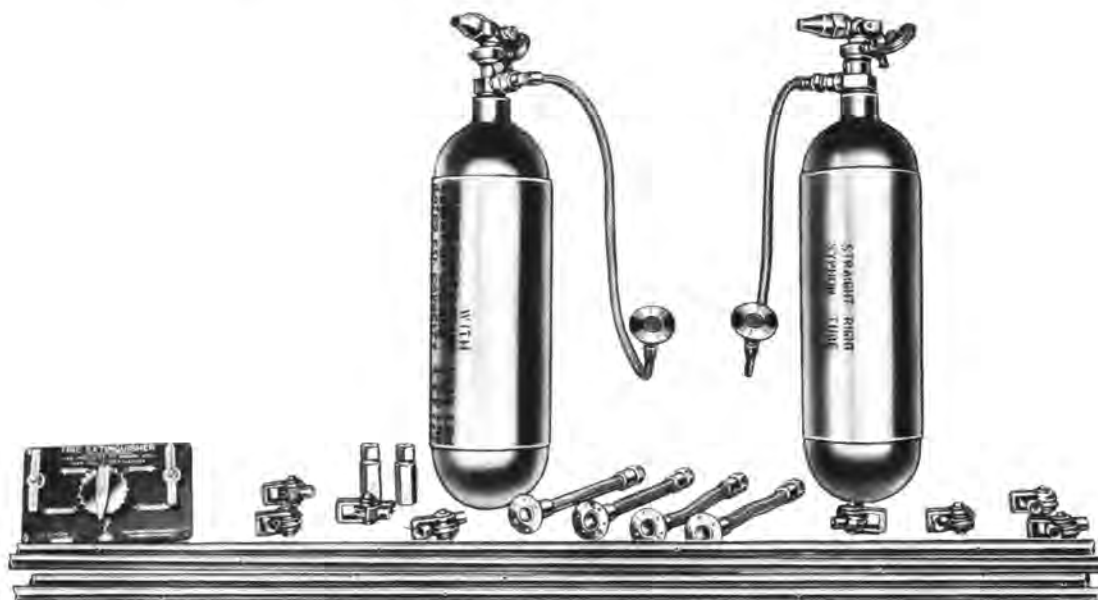
PROCUREMENT STATUS: Under procurement.

BRITISH

There is no British reference number for the assembly. Reference numbers are assigned to component parts only.

	Walter Kidde & Co., Inc. Part Numbers	British Reference Number
Cylinder and valve	25715	127N/1061
Control panel	19475	127N/1059
Pulleys	20400	127N/1021
Flexible hose	63460	127N/1062
Tubing	9559	127N/1008





EXTINGUISHER—FOUR DISCHARGE LINE FIRE

ARMY TYPE A-18

NAVY—SEE BELOW

NAMES: Fire extinguisher, four discharge line
Four discharge line fire extinguisher

Multi-engine fire extinguisher system
Multi-engine fixed fire extinguisher system

DESCRIPTION: The four discharge line fire extinguisher system uses carbon dioxide as the extinguishing medium. The complete assembly consists of:

- Two cylinders of carbon dioxide.
- Four lengths of perforated discharge tubing, 12 feet in length.
- One control panel containing two release pull handles and a five-way selector valve.
- Four pulleys for the control cables.
- Four lengths of flexible tubing which connect the system through the engine firewalls.
- Two check valves.
- Two outboard discharge indicators.

This system is used on four engine airplanes, because the engine nacelles are too remotely located for the operation of a portable fire extinguisher. The carbon dioxide, which is charged into the cylinder under pressure, is released by operation of the pull release handle of the cylinder which is nearest the engine where the fire has occurred. The flow of carbon dioxide is directed to the discharge tubing around the engine where the fire occurs by means of a selector valve which is part of the control panel. A check valve is installed on each of the lines leading from the cylinder to the selector valve to prevent the released carbon dioxide from flowing into the opposite cylinder.

CHARACTERISTICS OF CYLINDER:

Capacity	7 $\frac{1}{4}$ pounds carbon dioxide gas (295 cubic inches)
Overall length	18 $\frac{1}{4}$ inches
Diameter of cylinder	5 $\frac{25}{64}$ inches
Total weight when charged	20 pounds
Cylinder material	wire wound (shatterproof) steel
Total weight of assembly	approximately 55 pounds

ARMY

A. E. REFERENCE NUMBER: 45-6300

SPECIFICATIONS:

General	85-8-A
Detail	40459

A. A. F. DRAWING NUMBER: H38G5363

TYPE DESIGNATION: A-18

A. S. C. STOCK NUMBER: 4500-387080

TECHNICAL ORDER NUMBER: 03-45C-7

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: The complete assembly is shipped in a single package except for the 12 foot discharge tubes, which are shipped separately. Previously, the shipment was broken up in the following manner: the cylinders each in a separate package, the discharge tubing in another, and the balance of the component units in their own carton.

(Continued on page 150)



(Continued from page 149)

EXTINGUISHER—FOUR DISCHARGE LINE FIRE

NAVY

TYPE DESIGNATION: The Navy does not regard the system as a single unit, but procures individual parts to be combined in any assembly required by the airplane in which it is installed.

SPECIFICATIONS:

General M-107c
Superseded M-107b

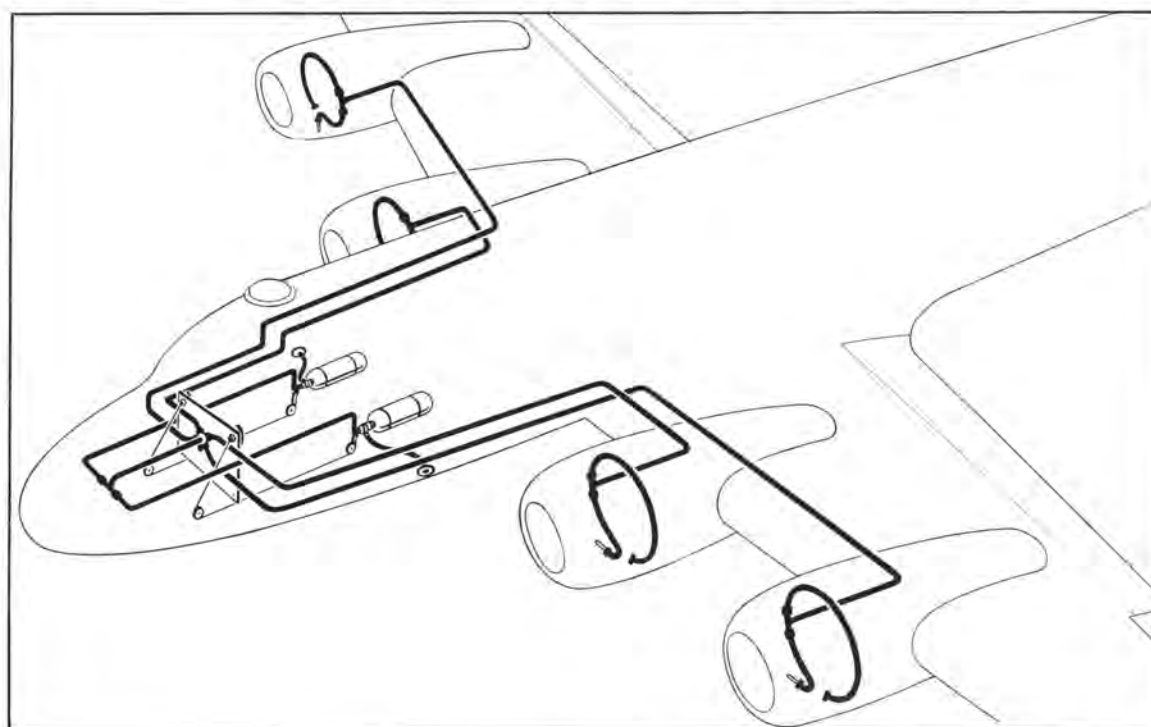
Part	N. A. F. Part Number	A. S. O. Stock Number
Cylinder	1135-6	R83-C-90750
Valve assembly and discharge indicator	310819-4	
Control panel	310823-41	
Pulleys	310824-4	
Flexible hose	None	33-H-335

PROCUREMENT STATUS: Under procurement.

BRITISH

There is no British reference number for the assembly. Reference numbers are assigned to component parts only.

Part	Walter Kidde & Co. Inc.	British Reference Number	American-LaFrance Foamite Co.	British Reference Number
Cylinder and Valve	25715	127N/1061	2CD5037	127N/271
Control Panel	63502	127N/258	2CD5016	127N/121
Pulleys	20400	127N/1021		
Flexible hose	63460	127N/1062	37B6535	127N/261
Tubing	9559	127N/1008	38A5825	127N/264
Check valves	20122	127N/257	2CD5018	127N/277





EXTINGUISHER—PRESSURE TYPE FIRE

NAMES: Pressure type fire extinguisher
C-46 fire extinguisher
C-46 fire extinguisher system

Fire extinguisher, pressure type
Pressure type fire extinguisher system

DESCRIPTION: This is a fixed type fire extinguishing system, using carbon dioxide as the extinguishing medium. The complete assembly consists of:
Eight cylinders of carbon dioxide.
Thirty-eight discharge spray nozzles.
Two name plates each with a pull handle control.
Four pulleys for the control cables.
Eight flexible tubing assemblies which connect the cylinders to the spray nozzles.
Eight manifolds.
Two outboard discharge indicators.

This fire extinguishing system is used on twin engine airplanes where the engine nacelle has been designed with only a single zone.

Four carbon dioxide cylinders are located in the rear of each of the engine nacelles. The pull handle, operated from the cabin, opens the valves of two of the cylinders. The pressure of the escaping gas opens the valves of the other two cylinders, which are connected by a tubing arrangement. The total volume of released carbon dioxide is then separated by four manifolds into the numerous spray nozzles which surround the engine and its accessories.

CHARACTERISTICS OF CYLINDER:

Capacity	5 pounds carbon dioxide gas (205 cubic inches)
Overall length	13 ³ / ₄ inches
Diameter of cylinder	5 ⁵ / ₁₆ inches
Total weight when charged	14 pounds
Cylinder material	wire wound (shatterproof) steel
Total weight of assembly	approximately 150 pounds

ARMY

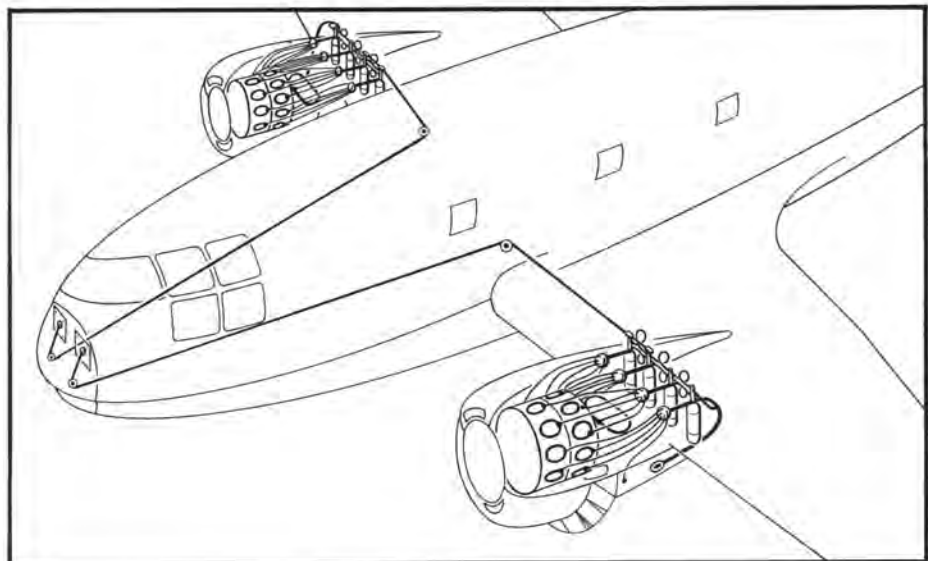
A. E. REFERENCE NUMBER: 45-6500

MANUFACTURER'S MODEL NUMBER:
Walter Kidde and pany, Incorporated,
24194.

A. S. C. STOCK NUMBER:
4500-381900

PRODUCTION STATUS:
Under procurement.

SHIPPING DATA: The cylinders are shipped in individual packages. The balance of the component units are shipped in one carton per engine.



NAVY

There is no Navy equivalent for this item.



GOGGLES—GUNNER'S

NAMES: Goggles—Polaroid All Purpose
Goggles—Polaroid Red Adapter
Goggles—Red Lens

Goggles—Red Tracer
Gunner's Goggles
Polaroid gunner's goggles

DESCRIPTION: These gunner's goggles are used for sun protection and make it possible to see tracer bullets in daylight. The polarizing dark adapter type lens is encased in a sponge rubber frame. An adjustable elastic strap is provided to hold the goggles on the gunner's head.

CHARACTERISTICS:

Dimensions approximately 7½ by 3 by 1 inches
Weight approximately 6 ounces

ARMY

A. E. REFERENCE NUMBER: 45-6950

MANUFACTURER'S DRAWING NUMBER: Polaroid Corporation—number 1006R

MANUFACTURER'S TYPE DESIGNATION: DA

A. S. C. STOCK NUMBER: 8300—343575

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



CASE—AIRPLANE MOORING

ARMY TYPE D-1

NAMES: Airplane Mooring Case
Mooring Equipment Kit

Kit—Mooring
Mooring Kit

DESCRIPTION: The D-1 airplane mooring case is made of canvas duck material, has a zipper fastener, and contains the following mooring equipment:

Item	A. A. F. Drawing No.
1 Airplane mooring bag	36G4465-1
1 Airplane mooring anchor driving rod	36B4466
18 Airplane mooring anchor arrows	36A4467
6 Airplane mooring anchor rods	36A4468
3 Airplane mooring anchor rod eye assemblies	36A4469
3 Airplane mooring ropes	33D2721
1 Airplane mooring ground breaking pin	38B3323

The anchor rods and arrows are combined to make stakes, which are driven securely into the ground. These provide a firm anchor to which an airplane may be fastened by ropes. A single case is used for one and two engine airplanes, and four cases are required for four-engine airplanes.

CHARACTERISTICS:

Dimensions, closed	approximately 28 by 8½ by 2½ inches
Dimensions, opened	approximately 28 by 16½ by 1½ inches
Weight	approximately 11 pounds

ARMY

A. E. REFERENCE NUMBER: 45-3370

SPECIFICATIONS:

Detail 40380

A. A. F. DRAWING NUMBER: 36G4465

TYPE DESIGNATION: D-1

A. S. C. STOCK NUMBER: 8200147000

TECHNICAL ORDER NUMBER: 01-1-50

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.





KIT—ARMORER MECHANIC'S

NAME: Armorer mechanic's kit

DESCRIPTION: This kit provides armorer mechanics with inspection equipment and small hand tools for use in the maintenance and repair of aircraft armament. Army Technical Order number 00-30-55 contains a complete list of the tools required for the kit.

Substitutions and omissions of items are sometimes necessary and the quantity and sizes of items will vary according to their availability at the time the kits are made up. The kit usually consists of the following items:

Mechanic's tool case

Socket wrench set including bars, handles and eleven sockets.

Box wrenches, $\frac{5}{16}$ inch to $\frac{25}{32}$ inch (eleven).

Adjustable wrenches, 4 inches and 10 inches (two).

Pliers (four); long nose, combination, curved needle nose and diagonal cutting.

Center and drive pin punches (four).

Screw drivers (six); of various lengths including an offset and a Dzus fastener.

Outside caliper, 8 inches.

Cotter pin extractor.

Round file, 10 inches.

Mechanical finger, 12 inches.

Hammer with cellulose tip, and rawhide mallet.

Pocket knife, 3-blade.

Steel rule, and 26 leaf thickness gage.

Flashlights (two), with spare batteries (twelve).

Friction tape, $\frac{3}{4}$ inch wide, $\frac{1}{2}$ pound roll.

CHARACTERISTICS:

Weight, including equipment.	approximately 28 pounds
Dimensions of case	approximately 17 $\frac{1}{4}$ by 12 by 4 inches

ARMY

A. E. REFERENCE NUMBER: 45-7560

TECHNICAL ORDER NUMBER: 00-30-55

PRODUCTION STATUS: These kits are assembled by Air Service Command.

SHIPPING DATA: Shipped as a complete unit when all equipment is available; otherwise, missing units are shipped separately.

NAVY

There is no Navy equivalent for this item.



KITS MISCELLANEOUS EQUIPMENT SECTION



KIT—CREW CHIEF'S

NAMES: Crew chief's kit

DESCRIPTION: This kit provides each crew chief with aircraft supplies, electrical and inspection equipment, fuels, lubricants, and small hand tools for the maintenance of aircraft. Army Technical Order number 00-30-45 contains a complete list of the tools required for the kit.

Substitutions and omissions of items are sometimes necessary and the quantity and sizes of items will vary according to their availability at the time the kits are made. The kit usually consists of the following items:

Mechanic's tool case.

Socket wrench set including bars, handles and twenty-two sockets.

Adjustable wrenches (five), and spark plug wrenches (two).

Open end wrenches, $\frac{3}{8}$ inch to 1 inch (fourteen).

Hose clamp wrench.

Screw drivers (seven), of various lengths including an offset and a Dzus fastener.

Chisels, $\frac{5}{16}$ inch and $\frac{1}{2}$ inch (two).

High speed twist drills, $\frac{1}{16}$ inch to $\frac{1}{4}$ inch (seven) and hand drill (one).

Cotter pin extractor.

Six inch steel rule and 26 leaf thickness gage.

Tire pressure gage, 10 to 160 pounds.

Ball peen hammer and rawhide mallet.

Files (five), and file handle.

Oiler with flexible spout (half pint).

Valve repair tool.

Valve stem fishing tool.

Flashlights (two), with spare batteries (four), and spare lamps (two).

Miscellaneous equipment such as a cleaning brush, pocket knife, cotton wiping cloth, linen thread ($\frac{1}{2}$ pound), copper tie wire (1 pound), friction tape, etc.

CHARACTERISTICS:

Weight, including equipment.....approximately 35 pounds

Dimensions of case.....approximately 17 $\frac{1}{4}$ by 12 by 4 inches

ARMY

A. E. REFERENCE NUMBER: 45-7565

TECHNICAL ORDER NUMBER 00-30-45

PRODUCTION STATUS: These kits are assembled by Air Service Command.

SHIPPING DATA: Shipped as a complete unit when all equipment is available; otherwise, missing units are shipped separately.

NAVY

TYPE DESIGNATION: There is no Navy equivalent for this item.



KIT—RADIO OPERATOR'S

NAME: Radio operator's kit

DESCRIPTION: The radio operator's kit provides radio operators with small hand tools, supplies, and replacement parts to be used in the repair and maintenance of aircraft communication equipment. Army Technical Order number 00-30-65 contains a complete list of the tools required for the kit. The replacement part assembly for the kit, such as tubes, fuses, lamps, dynamo brushes, etc., varies with the communication system on the airplane. In addition to the parts mentioned above, the following tools and supplies are included in the kit:

- Mechanic's tool case.
- Pocket knife, 3-blade.
- Pliers (four); long nose side cutting, combination, and diagonal cutting.
- Screw drivers (five).
- Adjustable wrenches, 4 and 6 inches (two).
- Copper wire, .032 inch (1 pound).
- Friction tape, 3/4 inch wide (1/2 pound roll).

CHARACTERISTICS:

Weight, including equipment.....	approximately 20 pounds
Dimensions of case.....	approximately 17 1/4 by 12 by 4 inches

ARMY

A. E. REFERENCE NUMBER: 45-7670

TECHNICAL ORDER NUMBER: 00-30-65

PRODUCTION STATUS: These kits are assembled by Air Service Command. Radio items are requisitioned from the Signal Corps.

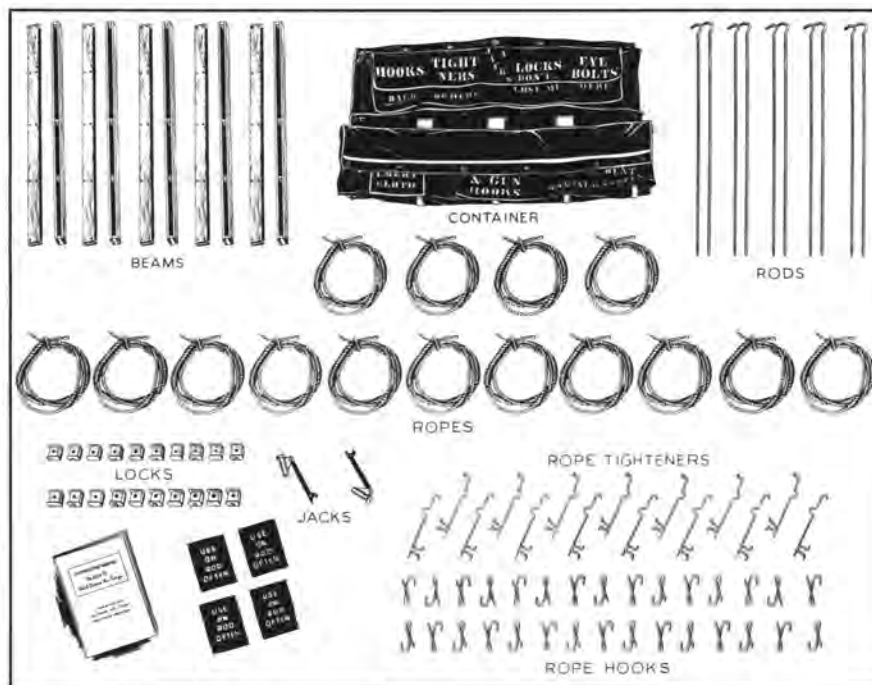
SHIPPING DATA: Shipped as a complete unit when all equipment is available; otherwise, missing units are shipped separately.

NAVY

There is no Navy equivalent for this item.



KITS MISCELLANEOUS EQUIPMENT SECTION



KIT—AIR CARGO MOORING

NAMES: Air cargo mooring kit
Cargo tie-down kit

Skyloader kit
Tie-down kit

ARMY TYPE	R-1	R-2	R-3
ARMY SPECIFICATION	40649	40650	40651
ARMY DRAWING	43A21984	43A21986	43A21988
A. E. REFERENCE NUMBER	45-7675	45-7676	45-7677
COMPONENT UNITS IN KIT	1 container 30 hooks 15 tighteners 15 ropes 1 rope hanger 1 manual	1 container 30 hooks 15 tighteners 15 ropes 20 rods 20 locks 10 beams 1 rope hanger 1 manual 2 jacks 1 emery cloth	1 container 30 hooks 15 tighteners 15 ropes 30 rods 30 locks 15 beams 1 rope hanger 1 manual 3 jacks 1 emery cloth

DESCRIPTION: Air cargo mooring kits are used in cargo airplanes to securely tie down packages, jeeps, machinery and other air freight. Cargo may be secured either with ropes as described in Paragraph (a) or by the use of beams as indicated in Paragraph (b).

(a) Ropes are wound around the rope hooks held by metal rings on the floor of the airplane. After the rope is fastened over the cargo, slack is taken up by twisting the rope tightly with the tightener.

(b) Beams are placed over the cargo. The rods are inserted through the beams with the hooked ends attached to the floor rings. The locks are slipped over the rods at the top and are tightened in place by forcing them down over the beams with a jack. Lifting a small catch on the side of the lock loosens the entire assembly.

ARMY

A. E. REFERENCE NUMBER: See description.

SPECIFICATIONS:

General See description
Detail See description
Superseded See description

AN OR A. A. F. DRAWING NUMBER: See description

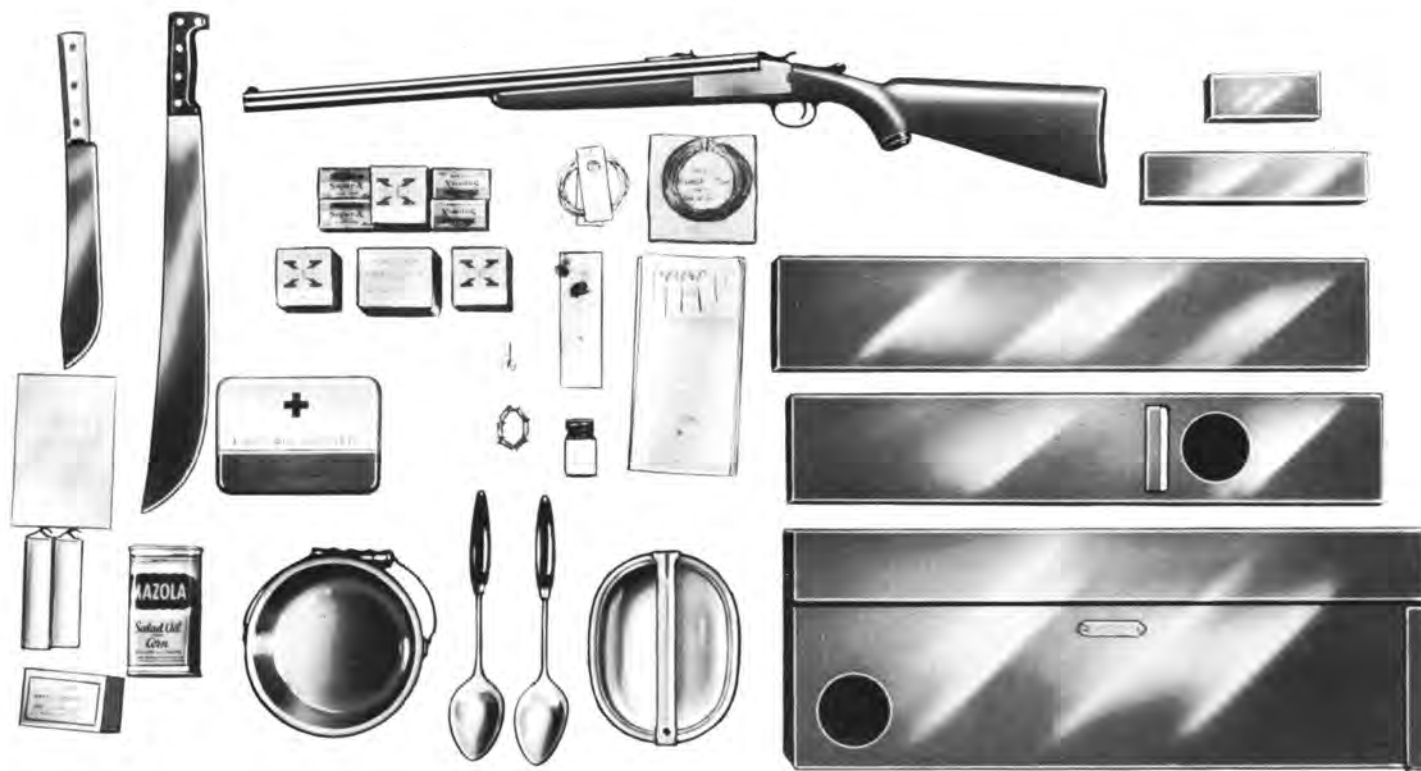
TYPE DESIGNATION: See description

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Each kit shipped as a single unit.

NAVY

There is no Navy equivalent for this item.



KIT—EMERGENCY SUSTENANCE

ARMY TYPE E-2

NAMES: Emergency sustenance kit
Kit—emergency sustenance (Implements)

DESCRIPTION: The emergency sustenance kit provides hunting, fishing, and cooking implements for aircraft personnel. It is made of metal, has a canvas duck covering, and contains the following items:

- Combination gun and rifle, with 12 boxes of ammunition
- Cooking utensils including spoons and a 10-inch butcher knife
- Container of safety matches
- Generator-operated flashlight and wax candles
- Cooking oil (one pint)
- Fishing tackle, including hooks, bait, lures, sinkers, etc.
- Sheathed knife
- Kit of beacon flares
- First aid kit

CHARACTERISTICS:

Weight including implements.....	approximately 28 pounds
Dimensions.....	approximately 27½ by 10½ by 10½ inches

ARMY

A. E. REFERENCE NUMBER: 45-7700

SPECIFICATIONS:

Detail.....	94-40422
Superseded.....	40422

A. A. F. DRAWING NUMBER: 41K6996

TYPE DESIGNATION: E-2

A. S. C. STOCK NUMBER: 8300-559200

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



PLATE—AIRPLANE AND ENGINE DATA NAME

ARMY DRAWING 0153316-10

NAMES: Airplane and engine data name plate
Name plate—airplane and engine data
Plate—name, airplane and engine data

DESCRIPTION: This is a metal or plastic plate with blank space provided for the serial number of an airplane or engine and the date of its acceptance by the Army. The stamped letters are enameled white against a black background. The plate with the engine data is screwed on the engine; the aircraft data plate is mounted in the cabin or cockpit.

CHARACTERISTICS:

Height.....approximately 2 $\frac{3}{4}$ inches
Width.....approximately 2 inches
Weight.....approximately 5 ounces

ARMY

A. E. REFERENCE NUMBER: 45-8000
A. A. F. DRAWING NUMBER: 0153316-10
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



PLATE—RADIO CALL

ARMY DRAWING 0153316-16

NAME: Radio call plate

DESCRIPTION: This is a metal or plastic plate, black enameled, with a blank space provided for the call number which is the radio identification for an airplane. It is screwed on the radio equipment for permanent identification. The letters are coated with fluorescent paint.

CHARACTERISTICS:

Height.....approximately $\frac{5}{8}$ inch
Width.....approximately 1 $\frac{1}{2}$ inches
Weight.....approximately 2 ounces

ARMY

A. E. REFERENCE NUMBER: 45-8030
A. A. F. DRAWING NUMBER: 0153316-16
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

**PLATE — WEDGE****ARMY DRAWING 42B3523**

NAMES: Wedge plate
Wedge plate mount for Astro-compass
Astro-compass wedge plate mount

DESCRIPTION: This is a metal plate tapered to form a wedge. Both of the side edges are beveled. When bolted to an airplane, the widest part of the wedge is at the bottom and the beveled face is turned to the wall.

The wedge plate serves as a mount for an astro-compass, used for celestial navigation, and for an intervalometer, which is used in aerial photography to time the intervals between photographic exposures.

ARMY

A. E. REFERENCE NUMBER: 45-8220

A. A. F. DRAWING NUMBER: 42B3523

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

BRITISH

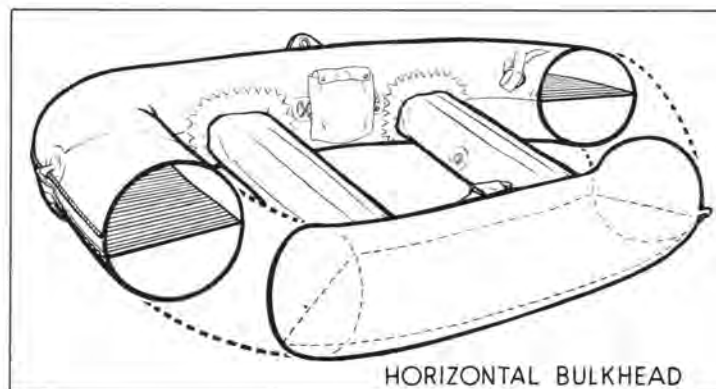
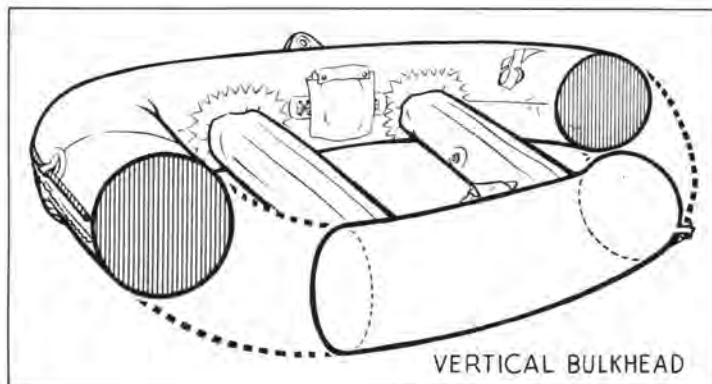
REFERENCE NUMBER: 14A/540



LIFE RAFTS

LIFE RAFTS provide a means of staying afloat for flyers whose airplanes are forced down over sea areas. The raft, called a dinghy by the British, is essentially an encircling pneumatic tube supporting a fabric platform. Rafts of various shapes and sizes are used in all the British and American services, but the functions and methods of handling are generally similar for all types of rafts.

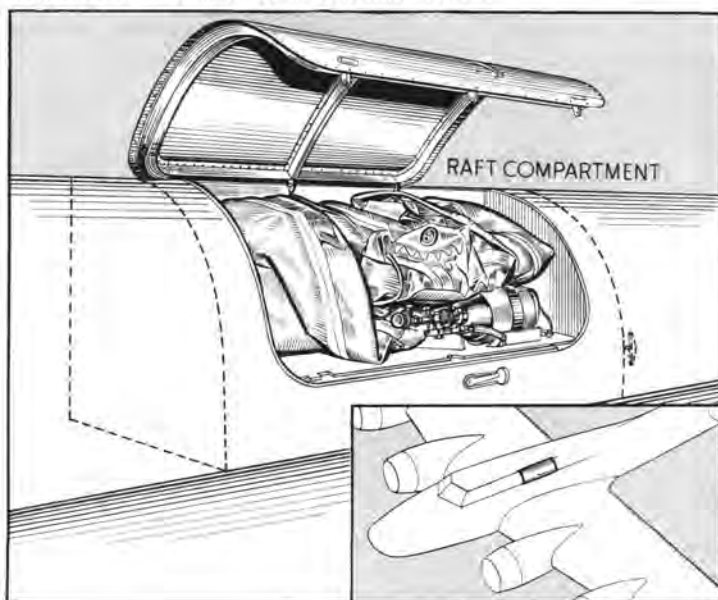
Previously, the flotation tube around the raft had a fabric casing and an inner bladder. The bladder type construction is superseded by one made entirely of rubberized fabric without an inner tube. Internal diaphragms, called bulkheads, divide the flotation tube into two chambers. The early type bulkheads were vertical. Bulkheads are now horizontal, dividing the raft into a lower and upper chamber, so that if one of the chambers is seriously damaged the other will support the raft.



The raft can be inflated in a few seconds by releasing into the chambers carbon dioxide gas from a cylinder which is attached to the raft. When the cylinder valve is opened, the gas is discharged directly into a manifold and distributed between the two chambers. In its deflated form it occupies little space on an airplane.

The cylinder valves on Army and Navy rafts are controlled by a pull cable release. Some Navy and British rafts have an immersion switch for opening the valve. This switch has a series of plate elements which, upon contact with water, creates an electrical current between the plates, firing a cartridge which generates sufficient pressure to open the inflation cylinder valve. For emergency use the valve also has a manually operated cable control. On one-man rafts the valve has a built-in hand control.

Life rafts have been designed to accommodate the following number of men: one, two, five, and seven to ten men. An airplane having a crew of three men or less is provided with one-man rafts for each crew member. The two-man raft is now obsolete and is no longer being procured. An airplane with a crew of four or more is equipped with the proper number of five-man or seven-man rafts.



One-man rafts with their accessories are mounted into parachute type packs attached to a parachute harness, or are kept on the pilot's seat. Cargo airplanes and bombers used by the Army and British have compartments built into the plane to store five-man rafts. Each compartment has a door on the outside of the airplane, through which the raft is ejected in an emergency. In Army airplanes the pull cable release which opens the valve on the inflation cylinder also opens the door of the compartment at the same time. In British airplanes, opening the raft compartment merely ejects the raft, which inflates when the immersion switch contacts water. Some airplanes equipped with five-man rafts have no built-in compartments; in such cases the raft with its accessories is packed in a carrying case and stowed away in the airplane. Navy rafts are kept in carrying cases. The pull cable release, however, extends beyond the case. Inflation of the raft breaks open the case, which is held together by snap fasteners.

(Continued on page 162)



(Continued from page 161)

LIFE RAFT ACCESSORIES

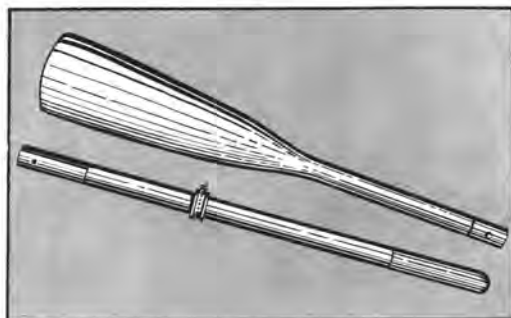
In addition to the inflation cylinder, life rafts are equipped with a variety of items which help reduce the hardships likely to be encountered, and to assist the occupants to reach safety. This equipment is packed in pockets and containers in the deflated raft and varies in accordance with the requirements of the Army, Navy, and British air forces. However, all rafts are provided with the material for signalling, nourishment, protection, and propulsion. Although subject to change at any time, the following is a typical list of accessories:

CARBON DIOXIDE CYLINDER



For inflation of the raft. It is strapped or laced to the raft and is connected to a manifold. The cylinders are made of steel and are wound with wire to render them shatterproof if hit by gunfire. Specification AN-C-73.

OARS



For rowing. They come in two pieces. If the raft is equipped with a sail, one oar can serve as a mast, and another acts as a rudder. Army oars are made of wood and Navy oars are made of aluminum.

- A. S. O. Stock Number R83-0-4000, 4-foot oars.
 - A. S. O. Stock Number R83-0-4010, 5-foot oars.
 - A. S. O. Stock Number R83-0-4020, 6-foot oars.
 - A. S. C. Stock Number 4500-618000, 4½-foot oars.
- Navy specification M-162.



HAND PADDLES

Used in one-man life rafts, strap to the hands and are used instead of oars.

BAILING BUCKET

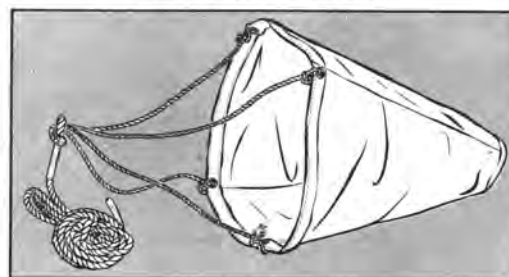
(Known to the British as a "bailer") to bail water from the raft and serve as a drinking cup.

A. S. O. Stock Number R42-C-22775, for one-man rafts.

A. S. C. Stock Number 4500-113250.



SEA ANCHOR



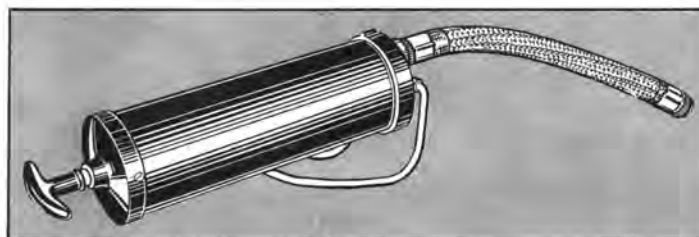
(Known to the British as a "drogue".) This is a funnel-shaped canvas device, which, when tied to the raft and dropped into the water, will steady the raft in a relatively fixed position and keep the bow turned into the wind.

A. S. O. Stock Number R6-A-1950, for one-man rafts.

HAND PUMP

To reinflate a raft which is losing its buoyancy due to air leakage. A valve fitting is built into the raft to accommodate the pump. The British use a bellows type pump known as a "topping-up bellows" which serves the same purpose.

A. S. C. Stock Number 4500-705000.



(Continued on page 163)



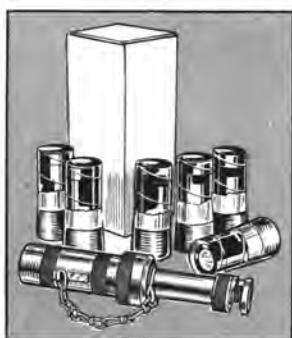
(Continued from page 162)

LIFE RAFT ACCESSORIES

PYROTECHNIC PISTOL



Used by the Army for distress signals. It is packed in a kit containing six flares.
Ordnance type M-8.



SIGNAL KIT

Used by the Navy for distress signals. This is a small hand projector packed in a waterproof box containing six Very cartridges individually protected in plastic tubes. The Navy also uses smoke grenades which are clamped to an oar.

A. S. O. Stock Number R83-C-44600, holding clamp for grenades.

A. S. O. Stock Number R83-G-770100, Ordnance type M-8 smoke grenades.



SEA MARKER

Can of fluorescein dye which, when poured into the water around the raft, forms a bright yellow patch covering about 50 square yards.

This area can be seen from the air for considerable distances. The dye particles cling together in the water for about 1½ hours in a rough sea, and for longer periods in a calm sea.

Specification AN-S-10.

A. S. C. Stock Number 7300-379000.

A. S. O. Stock Number R83-M-160500.

FLOATING FLASHLIGHT

A one-cell waterproof flashlight. The battery container pulls out, leaving an air space which enables the flashlight to float. The Navy uses a pin-on type flashlight.

Army type A-7.

Specification 32410.



EMERGENCY SIGNALLING MIRROR



An aluminum plated reflector for signalling, having cross hairs in the center of the mirror for directing the beam.

Army specification 40653.

Army Drawing Number 43B21574.

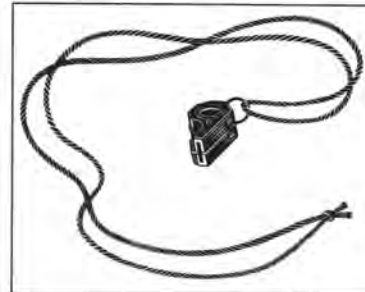
A. S. O. Stock Number R83-R-20500.

Navy specification M-3Q.

WHISTLE

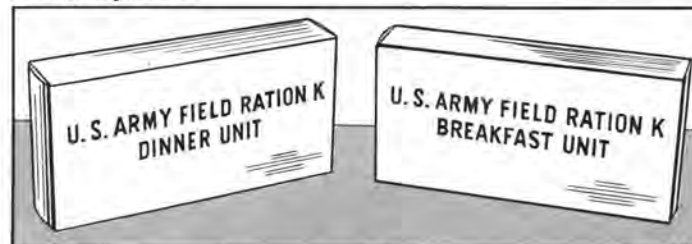
(Known commercially as a police whistle.) It is provided with a 36-inch cord. Its sound can be heard for about 1000 feet.

A. S. O. Stock Number R42-W-24000.



RATION KITS

Sealed packages of food which are selected for their high concentration of food value. There are two types: breakfast and dinner kit. About two days' supply is furnished for each person.



Army type "K", field rations.

Navy specification M-539.

A. S. O. Stock Number R56-R-6125.



DRINKING WATER

An 11-ounce can of distilled drinking water

Specification AN-W-5a.

A. S. O. Stock Number R51-W-135.

(Continued on page 164)



(Continued from page 163)

LIFE RAFT ACCESSORIES



FISHING KIT

Contains a variety of fishing lines, fish hooks, lures, a small hand net, a fish knife, and instructions for their use. This kit is intended to supplement the food supply aboard the raft and to

provide a means of supplying fresh liquid which can be pressed from raw fish. (Known commercially as the Pinchot-Lerner fishing kit.)

A. S. O. Stock Number R37-K-300.
Navy specification M-554.

FISH SPEAR



Attached to the handle section of an oar to form a device for catching fish.

PAULIN

(7 feet by 11 feet), a rubberized fabric cloth colored yellow on one side and blue on the other. It is used principally as a cover to protect the raft occupants from sun and rain. The yellow side is used to attract friendly airplanes. The blue side is used as a camouflage when enemy aircraft are in the vicinity.



PAULIN



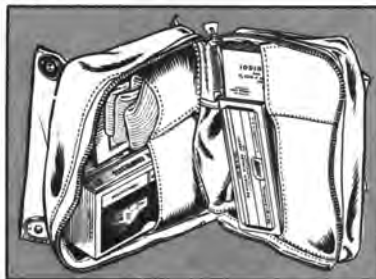
(5 feet 8 inches by 6 feet 4 inches), same as the larger except that it has a small pocket at one end which fits over an upright oar to form a sail. It is also used to collect rain for

drinking water. The Navy uses a 5-foot square paulin.

A. S. O. Stock Number R83-C-76950.
Navy specification M-551.

AERONAUTICAL FIRST AID KIT

For use on five-man or larger rafts; a compact canvas zipper-bound kit containing a supply of first aid and medical equipment.



FIRST AID KIT

For use on one-man rafts; contains five waterproof packages of first aid supplies bound together in a paper wrapper.

A. S. O. Stock Number R57-K-8525.

Navy specification 57-K-0366.



PNEUMATIC RAFT REPAIR KIT



To repair damages in life rafts. Similar to the commercial tire repair kit. Contains a sheet of rubber, a bottle of rubber cement, a metal scraper, pliers, and a pair of scissors.

A. S. O. Stock Number R83-K-710150.
Navy specification M-3Q.

COMPASS AND MATCH HOLDER



Plastic cylinder, waterproof holder for matches having a compass on the outer side of the cover.

Specification AN-C-101
Drawing AN5731.

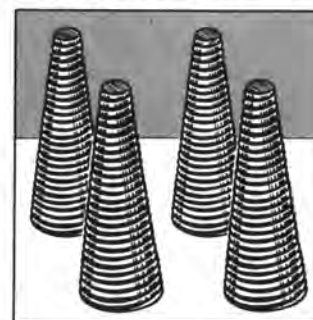
A. S. O. Stock Number R37-C-2500.

BULLET HOLE REPAIR PLUGS

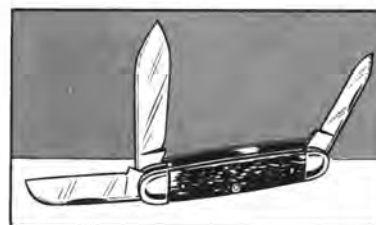
Tapered pieces of wood which can be forced into bullet holes in the raft to stop leakage.

A. S. O. Stock Number R83-P-408500.

Navy specification M-3Q.



KNIFE

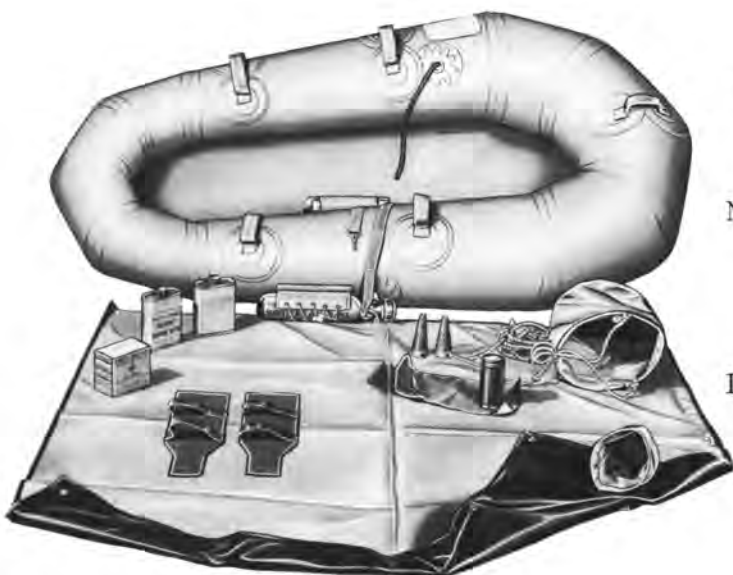


Three-bladed knife. (Known commercially as the Boy Scout knife.)

A. S. O. Stock Number R41-K-365.

A. S. C. Stock Number 7900-473900.

Navy drawing 1156-1



RAFT ONE MAN PARACHUTE TYPE PNEUMATIC LIFE

AN6520-1

NAMES: One man parachute type pneumatic life raft
 Life raft
 One man life raft
 One man pneumatic raft
 Parachute type life raft
 Pneumatic life raft

DESCRIPTION: This life raft consists of a fabric floor cemented to a rubberized fabric flotation tube which is divided into two compartments by horizontal bulkheads.

The raft fits into a parachute pack which can be stowed on the pilot's seat or fastened to his parachute harness. It contains a rubber tube which is used for oral reinflation if the raft loses its buoyancy.

IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with hand operated valve
 One sea anchor
 One bailing cup
 One pair of hand paddles
 One can of drinking water

First aid kit
 One pneumatic raft repair kit
 One set of bullet-hole plugs
 Sail
 Three foot cotton cord
 One can of sea marker

CHARACTERISTICS:

Raft capacity	approximately 250 pounds (1 person)
Total weight, with accessories	approximately 16 pounds
Raft dimensions, inflated	approximately 66 inches in length
Dimensions of parachute pack case	approximately 15 ¹ / ₈ by 14 ¹ / ₈ by 3 ³ / ₈ inches
Cylinder capacity	approximately ³ / ₄ pound carbon dioxide (30.5 cubic inches)

ARMY

A. E. REFERENCE NUMBER: 45-8275

SPECIFICATIONS:

Detail.....AN-R-2a
 Superseded.....AN-R-2

AN DRAWING NUMBER: AN6520

AN PART NUMBER: AN6520-1

A. S. C. STOCK NUMBER: 6600-660450

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped complete with accessories.

NAVY

TYPE DESIGNATION: AN6520-1

SPECIFICATIONS:

General.....M-3Q
 Detail.....AN-R-2A
 Superseded.....AN-R-2

AN DRAWING NUMBER: AN6520

A. S. O. STOCK NUMBER: R83-R-15650

TECHNICAL NOTE NUMBER: 1-43

PROCUREMENT STATUS: Under procurement.



BRITISH

BRITISH REFERENCE NUMBER: 127C/81



RAFT — LIFE

ARMY TYPE B-3



NAMES: Life raft
 Pneumatic raft
 Two-man life raft

DESCRIPTION: The B-3 life raft consists of a fabric floor cemented to a flotation tube which contains an inner rubber bladder. The flotation tube is divided into two compartments by vertical bulkheads.

The B-3 raft has two accessory containers in the center of each of the side walls and one container on the floor of the raft. It is equipped with oarlocks to facilitate rowing.

This raft is used largely on two-place attack bombers and reconnaissance airplanes. Occasionally it is installed on heavier airplanes to supplement five-man rafts. It is stowed in a carrying case which can be placed in any convenient location in the airplane.

IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with pull cable release	Emergency rations
One pair of oars	Drinking water
One hand pump	One sea anchor
One pyrotechnic pistol and six flares	One bailing cup
One pneumatic raft repair kit	One set of wood bullet-hole repair plugs

CHARACTERISTICS:

Raft capacity.....	approximately 500 pounds (2 persons)
Raft weight, empty.....	approximately 18 pounds
Total weight, with accessories.....	approximately 34 pounds
Raft dimensions, inflated.....	approximately 78 inches long by 40 inches wide
Dimensions of carrying case.....	approximately 12 by 12 by 32 inches
Cylinder capacity.....	approximately 1 1/4 pounds carbon dioxide (57 cubic inches)

ARMY

A. E. REFERENCE NUMBER: 45-8350

SPECIFICATIONS:

General.....	94-40234
Detail.....	94-40235-C
Superseded.....	94-40235-B

TYPE DESIGNATION: B-3

A. S. C. STOCK NUMBER: 6600-662500

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Not under procurement for initial installation. Superseded by and interchangeable with the B-4 raft, A. E. Reference Number 45-8375, because bladder-type rafts are obsolete.

SHIPPING DATA: Shipped complete with accessories.

NAVY

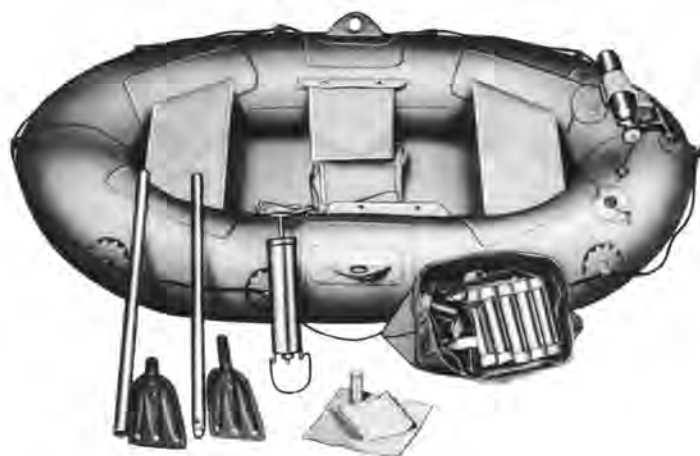
TYPE DESIGNATION: There is no Navy equivalent for this item.

BRITISH

BRITISH REFERENCE NUMBER: 127C/16



LIFE RAFTS MISCELLANEOUS EQUIPMENT SECTION



RAFT—LIFE

ARMY TYPE B-4
NAVY TYPE S MARK II

NAMES: Life raft
Pneumatic raft
Two-man life raft

DESCRIPTION: The B-4 raft consists of a fabric floor cemented to a rubberized fabric flotation tube which is divided into two compartments by horizontal bulkheads. The Navy raft is similar except that the front comes to a point.

This raft has two accessory containers in the center of each of the side walls and one on the floor of the raft. It is equipped with oarlocks to facilitate rowing.

The B-4 raft is used largely on two-place attack bombers and reconnaissance airplanes.

Occasionally it is installed on heavier airplanes to supplement five-man rafts. It is stowed in a carrying case which can be placed in any convenient location in the airplane.

IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with pull cable release. One pyrotechnic pistol and six flares. One hand pump. One pneumatic raft repair kit. One pair of oars, 4 feet. Knife. Whistle. Match holder with compass	Ration kits. Drinking water. One sea anchor. One bailing cup. One set of wood bullet-hole repair plugs. Signalling mirror. Fishing kit. Fish spear (Navy). Pyrotechnic signalling kit.
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CHARACTERISTICS:

Raft capacity	approximately 500 pounds (2 persons)
Raft weight, empty	approximately 18 pounds
Total weight, with accessories	approximately 34 pounds
Raft dimensions, inflated	approximately 78 inches long by 42 inches wide
Dimensions of carrying case	approximately 12 by 12 by 32 inches.
Cylinder capacity	approximately 1 1/4 pounds carbon dioxide (57 cubic inches)

ARMY

A. E. REFERENCE NUMBER: 45-8375

SPECIFICATIONS:

General 40418
Detail 40419

TYPE DESIGNATION: B-4

A. S. C. STOCK NUMBER: 6600-662600

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Not under procurement for initial installation. Supersedes and is interchangeable with the B-3 raft, A. E. Reference Number 45-8350, because of the change from bladder type rafts. The A-3, four-man raft, A. E. Reference Number 45-8325, is being used in preference to the two-man raft.

SHIPPING DATA: Shipped complete with accessories.

NAVY

TYPE DESIGNATION: Type S Mark II

SPECIFICATIONS:

General M-3Q
Superseded M-3P

F. S. S. C. STOCK NUMBER: R83-R-15510

TECHNICAL NOTE NUMBER: 6-43

PROCUREMENT STATUS: Under procurement

BRITISH

REFERENCE NUMBER: 127C/72



LIFE RAFTS MISCELLANEOUS EQUIPMENT SECTION



CHARACTERISTICS:

Raft capacity approximately 1000 pounds
(4 to 5 persons)
Raft weight, empty approximately 27 pounds
Total weight, with
accessories approximately 50 pounds
Raft dimensions,
inflated approximately 9 feet long
by 5 feet wide
Dimensions of carry-
ing case approximately 13 by 13 by
36 inches
Cylinder capacity approximately 3 1/4 pounds
carbon dioxide (147 cubic
inches)

ARMY

A. E. REFERENCE NUMBER: 45-8300

SPECIFICATIONS:

General 94-40234
Detail 94-40240-B
Superseded 94-40240-A

TYPE DESIGNATION: A-2

A.S.C. STOCK NUMBER: 6600-661000

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Not under procurement for initial installation. Superseded and interchangeable with type A-3 raft, A. E. Reference Number 45-8325, because bladder-type rafts are obsolete.

SHIPPING DATA: Shipped complete with accessories.

NAVY

There is no Navy equivalent for this item.

BRITISH

REFERENCE NUMBER: 127C/3



RAFT—LIFE ARMY TYPE A-2

NAMES: Life raft
Pneumatic life raft
Pneumatic raft

DESCRIPTION: The A-2 life raft consists of a fabric floor cemented to a flotation tube which contains an inner rubber bladder. The flotation tube is divided into two compartments by vertical bulkheads.

Four accessory pockets are arranged along the inner wall of the raft. It is equipped with oarlocks to facilitate rowing.

This raft is used on bomber and cargo airplanes equipped with compartments for its automatic ejection. The cable which opens the inflation valve also opens the escape door on the outside wall of the airplane to release the raft. On airplanes without a built-in compartment, the raft is stowed in a carrying case.



IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with pull cable release
Three cans of sea marker
One floating flashlight
One paulin, 7 by 11 feet
One paulin, 5 feet eight inches by 6 feet four inches
Two fishing kits
Nine boxes of type K ration kits
Seven cans of drinking water
One Boy Scout knife
One signalling mirror
One match box with compass
One police whistle
One first aid aeronautical kit
One pyrotechnic pistol with five distress signals
Three 54-inch oars
One hand pump
One pneumatic raft repair kit
One bailing bucket
Four wood bullet-hole repair plugs
Forty feet of cord
One package sunburn lotion



RAFT—LIFE

ARMY TYPE A-3 NAVY TYPE S MARK IV

NAMES: Life raft
Five-man life raft
Multi-place life raft
Pneumatic life raft
Pneumatic raft

DESCRIPTION: The A-3 life raft consists of a fabric floor cemented to a rubberized fabric flotation tube divided into two compartments by horizontal bulkheads. The Navy raft is similar, except that the front end comes to a point.

The raft has two accessory pockets in the forward end, and an accessory container held by straps which are attached to the center of the raft floor. An oarlock in the rear is provided for an oar when used as a rudder. An attachment in front serves to hold an oar upright when used as a mast.

The E-2 raft is used in bomber and cargo airplanes equipped with compartments for its automatic ejection. The cable which opens the inflation valve also opens the escape door on the outside wall of the airplane to release the raft. On Army airplanes without a built-in compartment, the raft is stowed in a carrying case. On all Navy airplanes the raft is stored in a carrying case.



IT CONTAINS THE FOLLOWING ACCESSORIES:

- One carbon dioxide inflation cylinder with pull cable release
- Three cans of sea marker
- One flashlight
- One paulin, 7 by 11 feet (Army)
- One paulin, used as a sail
- One police whistle
- One first aid aeronautical kit
- One pyrotechnic signal kit
- Three oars
- Two fishing kits
- One fish spear (Navy)
- Ration kits
- Drinking water
- One Boy Scout knife
- One signalling mirror
- One match box with compass
- One hand pump
- One pneumatic raft repair kit
- One bailing bucket
- Four wood bullet-hole repair plugs
- Forty feet of cord
- One package sunburn lotion (Army)

CHARACTERISTICS:

Raft capacity	approximately 1000 pounds (4 to 5 persons)
Raft weight, empty	approximately 36 pounds
Total weight, with accessories	approximately 65 pounds
Raft dimensions, inflated	approximately 9 feet 2 inches long by 5 feet wide
Dimensions of carrying case	approximately 16 by 16 by 36 inches
Cylinder capacity	approximately 3 1/4 pounds carbon dioxide (147 cubic inches)

ARMY

A. E. REFERENCE NUMBER: 45-8325

SPECIFICATIONS:

General	94-40280
Detail	94-40420
Superseded	40420-A

TYPE DESIGNATION: A-3

A.S.C. STOCK NUMBER: 6600-661100

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Under procurement. The A-3 raft supersedes and is interchangeable with the A-2 raft, A. E. Reference Number 45-8300, because of the change from bladder type rafts with vertical bulkheads.

SHIPPING DATA: Shipped complete with accessories.

NAVY

TYPE DESIGNATION: Type S Mark IV

SPECIFICATIONS:

General	M-3Q
Superseded	M-3P

A.S.O. STOCK NUMBER: R83-R-15530

TECHNICAL NOTE NUMBER: 6-43

PROCUREMENT STATUS: Under procurement.

BRITISH

REFERENCE NUMBER: 127C 64





RAFT—LIFE

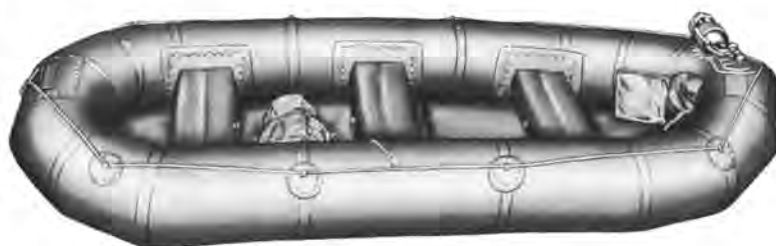
ARMY TYPE E-2 NAVY TYPE S MARK VII

NAMES: Life raft
Multi-place life raft
Pneumatic life raft
Seven-man life raft

DESCRIPTION: The E-2 life raft consists of a fabric floor cemented to a rubberized fabric flotation tube divided into two compartments by horizontal bulkheads. The Navy raft is similar except that the front end comes to a point.

The raft has two accessory pockets in the forward end, and an accessory container held by straps which are attached to the center of the raft floor. An oarlock in the rear is provided for an oar, when used as a rudder. An attachment in front serves to hold an oar upright when used as a mast.

The E-2 raft is used on bomber and cargo airplanes equipped with compartments for its automatic ejection. The cable which opens the inflation valve also opens the escape door on the outside wall of the airplane to release the raft. On Army airplanes without a built-in compartment, the raft is stowed in a carrying case. On all Navy airplanes the raft is stored in a carrying case.



IT CONTAINS THE FOLLOWING ACCESSORIES:

- One carbon dioxide inflation cylinder with pull cable release
- Three cans of sea marker
- One flashlight
- One paulin, 7 by 11 feet
- One paulin, used as a sail
- One police whistle
- One first aid aeronautical kit
- One match box with compass
- One pyrotechnic signal kit
- Three oars
- Two fishing kits
- One fish spear (Navy)
- Ration kits
- Drinking water
- One Boy Scout knife
- One signalling mirror
- One hand pump
- One pneumatic raft repair kit
- One bailing bucket
- Four wood bullet-hole repair plugs
- Forty feet of cord
- One package sunburn lotion (Army)

CHARACTERISTICS:

Raft capacity approximately 2500 pounds
(6 to 7 persons)
Raft weight, empty approximately 55 pounds.
Total weight, with accessories approximately 105 pounds
Raft dimensions, inflated approximately 12 feet long by 5 feet 8 inches wide
Dimensions of carrying case approximately 36 inches by 19 inches
Capacity of cylinder approximately 5 pounds carbon dioxide

ARMY

A. E. REFERENCE NUMBER: 45-8415

SPECIFICATIONS:

General 04-40280
Detail 40618

TYPE DESIGNATION: E-2

TECHNICAL ORDER NUMBER: 04-15-2

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped complete with accessories.

NAVY

TYPE DESIGNATION: Type S Mark VII

SPECIFICATIONS:

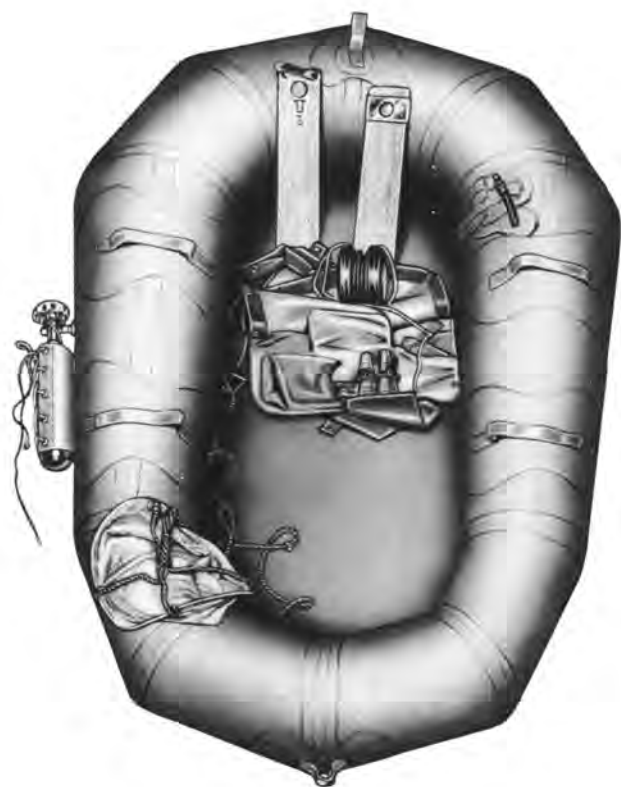
General M-3Q
Superseded M-3P

A. S. O. STOCK NUMBER: R83-R-15570

TECHNICAL NOTE NUMBER: 6-43

PROCUREMENT STATUS: Under procurement.





DINGHY—ONE MAN

BRITISH TYPE K

NAMES:

One-man dinghy	One man parachute type life raft
Life raft	Parachute type life raft
One-man life raft	Pneumatic life raft

DESCRIPTION: This British type K, one-man dinghy, is almost identical in appearance and construction to the American one-man life raft, AN6520-1. It is contained in a parachute pack which can either be placed on the pilot's seat or fastened to his parachute harness.

The inflation cylinder has a built-in hand valve. The raft is equipped with a tube for either oral inflation, or inflation with a bellows-type pump, which is included among its accessories.

CHARACTERISTICS:

Dinghy capacity.....	approximately 250 pounds (1 person)
Total weight, with accessories.....	approximately 16 pounds
Dinghy dimensions, inflated.....	approximately 66 inches
Dinghy in parachute pack, deflated.....	approximately 15 by 14 by 3½ inches
Cylinder capacity.....	approximately 10¾ ounces carbon dioxide

ARMY

A. E. REFERENCE NUMBER: 45-3660

PRODUCTION STATUS: The complete dinghy is manufactured in England and is shipped here for installation on aircraft intended for delivery to Great Britain.

SHIPPING DATA: Shipped complete with accessories.

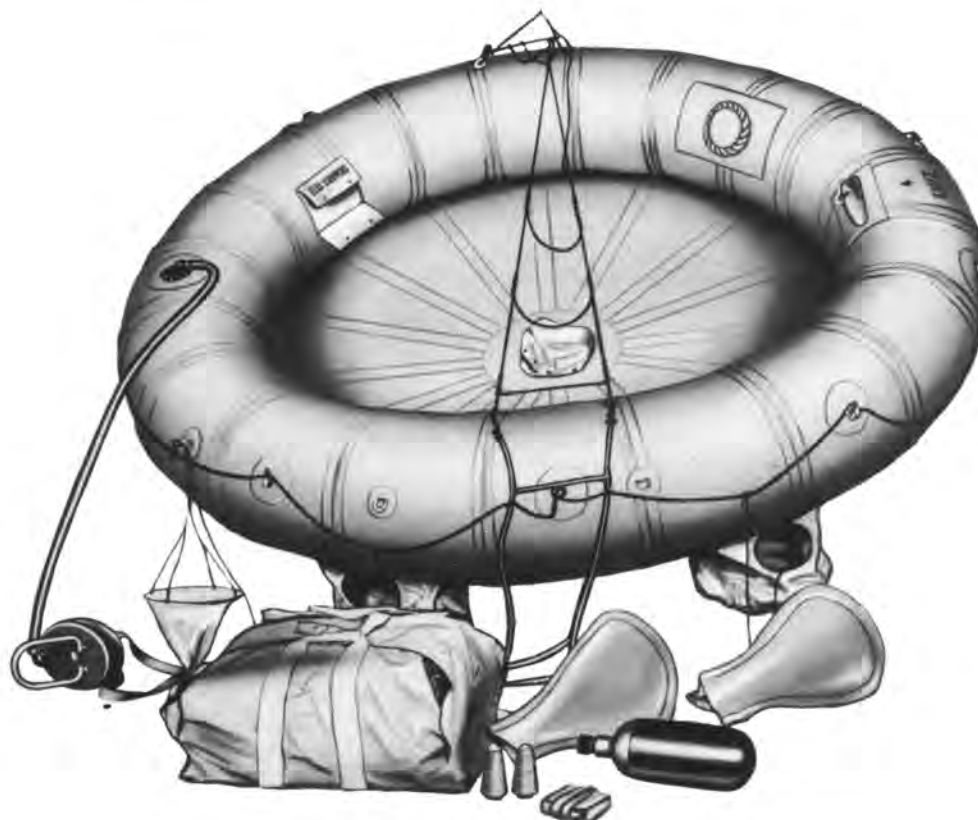
BRITISH

REFERENCE NUMBER: This raft in seat pack 27C/1921.
 This raft in back pack 27C/1922.

IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with hand valve
 Topping-up bellows
 Bailing cup, called "bailer"
 Sea anchor, called "drogue"
 Two rubber bullet-hole plugs, called "leak stoppers"
 Sail
 Rations





DINGHY

BRITISH TYPE H MARK III

NAMES: Collapsible dinghy
Life raft

Pneumatic life raft
Pneumatic raft

DESCRIPTION: The British type H mark III life raft is circular in shape and the flotation tube is constructed with vertical bulkheads.

In an airplane the raft is stowed in a built-in compartment which provides for its automatic ejection. It inflates when the immersion switch which opens the cylinder valve makes contact with the sea water.

IT CONTAINS THE FOLLOWING ACCESSORIES:

One carbon dioxide inflation cylinder with immersion switch
Bellows type pump, called "topping-up bellows"
One can of sea marker
Sea anchor, called "drogue"
Bailing cup, called "bailer"
Signal pistol and flares

Glove-type paddles
Two rubber bullet-hole plugs, called "leak stoppers"
One pneumatic raft repair kit
Knife
Emergency rations
First aid kit

CHARACTERISTICS:

Raft capacity	5 persons
Raft diameter	approximately 8 feet
Cylinder capacity	approximately 3 $\frac{2}{3}$ pounds carbon dioxide

ARMY

A. E. REFERENCE NUMBER: 45-3640

PRODUCTION STATUS: The complete dinghy is manufactured in England and is shipped here for installation on aircraft intended for delivery to Great Britain.

SHIPPING DATA: Shipped complete with accessories.

BRITISH

REFERENCE NUMBER: 27C/1879

**CHARACTERISTICS:**

Raft capacity approximately 900 pounds
 (5 persons)
 Raft weight, empty approximately 43 pounds
 Total weight, with
 accessories approximately 82 pounds
 Raft dimensions,
 inflated approximately 10 feet long
 by 5 feet wide
 Dimensions of carry-
 ing case approximately 14 by 14 by
 34 inches
 Cylinder capacity approximately 3 1/4 pounds
 carbon dioxide

ARMY

A. E. REFERENCE NUMBER: 45-3635

PRODUCTION STATUS: Under procurement.
 Manufactured according to Navy specification
 M-3Q, with slight modifications, for installation
 on aircraft intended for delivery to Great Britain.

SHIPPING DATA: Shipped complete with acces-
 sories.

NAVY

TYPE DESIGNATION: Mark IV type A.

SPECIFICATIONS:

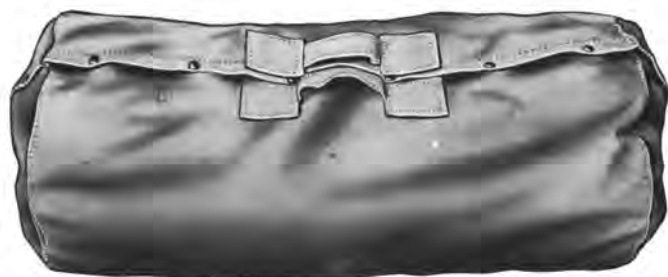
General M-3Q
 Superseded M-3P

TECHNICAL NOTE NUMBER: 6-43 54-42

PROCUREMENT STATUS: Not procured for ini-
 tial installation because the automatic inflation
 raft is obsolete.

BRITISH

REFERENCE NUMBER: 127C/4

**DINGHY****NAVY TYPE MARK IV TYPE A**

NAMES: Collapsible dinghy
 Life raft
 Pneumatic life raft
 Pneumatic raft

DESCRIPTION: The Navy Mark IV type A dinghy is shaped like a life boat. The flota-
 tion tube is made of rubberized fabric with
 horizontal bulkheads. This life raft does
 not have an inner bladder.

In an airplane, the raft is stowed in a
 built-in compartment which provides for its
 automatic ejection. It inflates when the
 immersion switch which opens the cylinder
 valve makes contact with the sea water.

**IT CONTAINS THE FOLLOWING ACCES-
 SORIES:**

One carbon dioxide inflation cylinder with immer-
 sion switch
 One pair of oars
 One hand pump
 Two sails, 56 inches square
 One fishing kit
 Compass
 Equipment for firing smoke grenades
 Boy Scout knife
 Reflector for signalling
 Whistle
 Pneumatic raft repair kit
 Four sets of wood bullet-hole repair plugs
 First aid kit
 Emergency rations
 Drinking water
 One can of sea marker
 Twenty-five foot cord

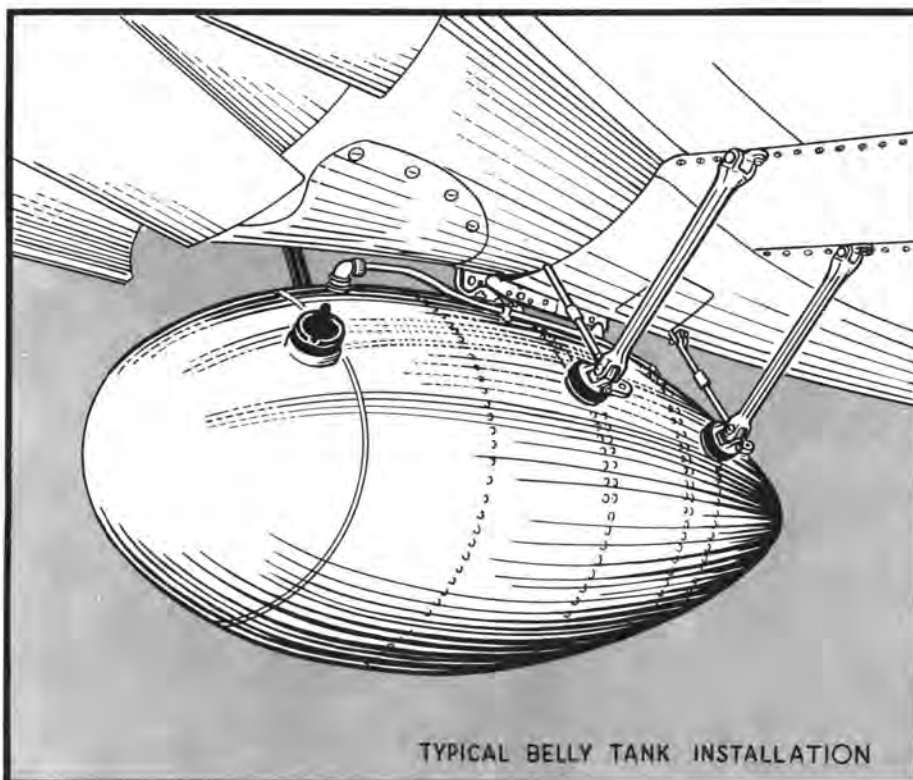


AUXILIARY FUEL TANKS

Auxiliary fuel tanks are used to increase the normal operating range of an airplane in cases where a loss in speed or maneuverability is not an appreciable factor.

Some auxiliary tanks, known as droppable tanks, are streamlined to minimize drag, and are slung externally to enable the pilot to release the tank upon going into combat or in case of emergency. In such cases, usually on fighter aircraft, the tank or tanks are supported on bomb shackles installed on wing or fuselage bomb racks. Droppable tanks may be made of steel, aluminum, plywood, or a combination of these materials, and are usually not bullet-proof.

Auxiliary tanks on bombers are usually installed internally on bomb shackles in the airplane bomb bay. These tanks are made of steel or aluminum or are of what is known as "bullet-proof" construction. Such tanks are not actually bullet-proof but are so constructed as to be self-sealing after penetration, so as to prevent loss of fuel and the escape of dangerous vapor, which might constitute a hazard. The self-sealing type of tank varies in construction details, depending upon the manufacturer, but essentially consists of an inner layer of synthetic rubber backed by alternate layers of rubber and cord fabric forming a bag contained in a non-metallic shell. The synthetic rubber liner is gasoline resistant and leak-tight. When struck by a projectile, the rubber layers come in contact with gasoline, which causes them to swell and seal the puncture. The cord fabric and non-metallic shell provide the necessary strength and rigidity to carry the load of fuel and to withstand the destructive effect of gunfire. Self-sealing tanks are repairable after being subjected to gunfire.





TANK—175 GALLON DROPPABLE FUEL

NAMES: 175 gallon droppable fuel tank
 175 gallon auxiliary fuel tank
 175 gallon combat extension jettisonable tank

DESCRIPTION: This droppable fuel tank is used to increase the normal maximum range of an airplane. It was designed for installation on the P-39 airplane. One tank is installed under the fuselage on bomb shackles and is dropped in the same manner as bombs. Welded low carbon steel sheeting is used in the construction of these wedge shaped tanks.

CHARACTERISTICS:

Dimensions approximately 6 feet 8 inches long by 3 feet 6 inches wide tapering 2 feet deep at the forward end to 3 inches at the rear

Weight approximately 155 pounds

Capacity approximately 175 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9455
 PRODUCTION STATUS: Under procurement.
 SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	A. E. Reference Number	Construction	Remarks
Mackenzie Muffler Co.	300A	300A	A	45-9455	Low carbon steel sheeting	
Motors Metal Manufacturing Co.	1934	1934	A	45-9480	Low carbon steel sheeting	Can also be installed on P-63



TANK—175 GALLON DROPPABLE FUEL

NAMES: 175 gallon droppable fuel tank
 175 gallon auxiliary fuel tank
 175 gallon combat extension jettisonable tank

DESCRIPTION: This droppable fuel tank is used to increase the normal maximum range of an airplane. It was designed for installation on the P-39 and P-63 airplanes. One tank is installed under the fuselage, on bomb shackles, and is dropped in the same manner as bombs. Welded low carbon steel sheeting is used in the construction of these wedge shaped tanks.

CHARACTERISTICS:

Dimensions	approximately 6 feet long by 3 feet 6 inches wide tapering 2 feet deep at the forward end to 7 inches at the rear.
Weight	approximately 150 pounds
Capacity	approximately 175 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9480
MANUFACTURER'S DRAWING NUMBER: Motors Metal Manufacturing Company 1934
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



TANK — 300 GALLON DROPPABLE FUEL

NAMES: 300 gallon droppable fuel tank
 300 gallon auxiliary fuel tank
 300 gallon combat extension jettisonable tank

DESCRIPTION: This droppable fuel tank is used to increase the normal maximum range of an airplane. It was designed for external installation on the P-38 airplane. Usually one tank is suspended from the bomb shackles under each wing and is dropped in the same manner as bombs. Aluminum or plywood is used in the construction of these tanks, the seams of the aluminum type being flush welded.

CHARACTERISTICS:

Dimensions	approximately 13 by 3 by 3 feet
Weight	approximately 140 pounds
Capacity	approximately 300 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9465
 MANUFACTURER'S DRAWING NUMBER: Lockheed Aviation Corporation 194645
 A. S. C. STOCK NUMBER: 0112-194645
 PRODUCTION STATUS: Under procurement.
 SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



TANK—250 GALLON BOMB BAY METAL

NAMES: 250 gallon bomb bay metal tank
Auxiliary bomb bay metal tank
Bomb bay metal tank

Bomb bay metal (250 gallon) tank
Rear bomb bay auxiliary fuel tank

DESCRIPTION: The bomb bay metal fuel tank is used to increase the normal maximum range of an airplane. It was designed for installation on the B-26 airplane. Usually one tank is installed in each side of the front bomb bay, on bomb shackles, and is dropped in the same manner as bombs. The tank is made of duralumin with a fitting for a liquidometer (fuel gage).

CHARACTERISTICS:

Dimensions approximately 67 by 47 by 22 inches
Weight approximately 125 pounds
Capacity approximately 250 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9470

A. S. C. STOCK NUMBER: 0121-SK-17886

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

**ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British**

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	A. E. Reference Number	Construction	Remarks
Glenn L. Martin Aviation Corp.	SK-17886	R-262791 R-262792	A	0121-SK-17886	45-9470	Duralumin	
Goodyear Tire & Rubber Co.	2F1-6-2476	2F1-6-2476	A	0121-2F1-6-2476	45-9500	Rubber and fiber	Capacity—260 gallons.
Motors Metal Manufacturing Co.	1847	1847	A	0121-1847	45-9475	Low carbon steel sheeting	



TANK—250 GALLON BOMB BAY METAL

NAMES: 250 gallon bomb bay metal tank
Rear bomb bay auxiliary fuel tank
Auxiliary bomb bay metal tank

DESCRIPTION: The bomb bay metal fuel tank is used to increase the normal maximum range of an airplane. It was designed for installation in the B-26 airplane. Usually, one tank is installed in each side of the front bomb bay, on bomb shackles, and is dropped in the same manner as bombs.

Silver-soldered low carbon steel sheeting is used in the construction of these rectangular tanks.

CHARACTERISTICS:

Dimensions	approximately 67 by 47 by 22 inches
Weight	approximately 157 pounds
Capacity	approximately 250 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9475
A. S. C. STOCK NUMBER: 0121-1847
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	A. E. Reference Number	Construction	Remarks
Motors Metal Manufacturing Co.	1847	1847	A	0121-1847	45-9475	Low carbon steel sheeting	
Glenn L. Martin Aviation Corp.	SK-17886	R-262791 R-262792	A	0121-SK-17886	45-9470	Duralumin	
Goodyear Tire & Rubber Co.	2F1-6-2476	2F1-6-2476	A	0121-2F1-6-2476	45-9500	Rubber and fiber	Capacity—260 gallons.



TANK—260 GALLON BOMB BAY NON-METALLIC SELF SEALING

NAMES: 260 gallon bomb bay non-metallic self sealing tank
Bomb bay fuel tank
Bomb bay self sealing tank

DESCRIPTION: The bomb bay non-metallic self-sealing fuel tank is used to increase the normal maximum range of an airplane. It was designed for installation on the B-26 airplane. Usually one tank is installed in each side of the front bomb bay on bomb shackles, and is dropped in the same manner as bombs. The tank is rectangular and is lined with a synthetic rubber liner.

CHARACTERISTICS:

Dimensions	approximately 75 by 45 by 23 inches
Weight	approximately 272 pounds
Capacity	approximately 260 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9500

SPECIFICATIONS:

Detail	28419-C
Superseded	28419-B

MANUFACTURER'S DRAWING NUMBER: Goodyear Tire & Rubber Company 2F1-6-2476

A. S. C. STOCK NUMBER: 0121-2F1-6-2476

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	A. E. Reference Number	Construction	Remarks
Goodyear Tire & Rubber Co.	2F1-6-2476	2F1-6-2476	A	0121-2F1-6-2476	45-9500	Rubber and fiber	
Glenn L. Martin Aviation Corp.	SK-17886	R-262791 R-262792	A	0121-SK-17886	45-9470	Duralumin	Capacity—250 gallons.
Motors Metal Manufacturing Co.	1847	1847	A	0121-1847	45-9475	Low carbon steel sheeting	Capacity—250 gallons.



TANK—400 GALLON BOMB BAY NON-METALLIC SELF SEALING

NAMES: 400 gallon bomb bay non-metallic self-sealing tank
Bomb bay fuel tank
Bomb bay fuel cell
Bomb bay self-sealing tank

DESCRIPTION: The bomb bay non-metallic self-sealing fuel tank is used to increase the range of the B-24 airplane. It is installed on the front and rear bomb bays and is mounted as a fixed installation. This tank is lined with synthetic rubber. It is rectangular and is shaped to fit the contour of the airplane.

CHARACTERISTICS:

Dimensions.....approximately 76 by 58 by 26 inches
Weight.....approximately 365 pounds
Capacity.....approximately 400 gallons

ARMY

A. E. REFERENCE NUMBER: 45-9525

SPECIFICATIONS:

Detail.....28419-C
Superseded.....28419-B

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

ALL MODELS BELOW ARE INTERCHANGEABLE
Models are used in services as noted in column 4
A-Army, N-Navy, B-British

Manufacturer	Manufacturer's Model Identification	Manufacturer's Drawing Number	Used By	Air Service Command Stock Number	Material Made of
Goodyear Tire & Rubber Co.	B-24	2F1-6-2031	A	0102-2F1-6-2031	Rubber and fiber
B. F. Goodrich Co.	B-24	E-275	A	0102-E-275	Rubber and fiber



GLIDER TOWLINES

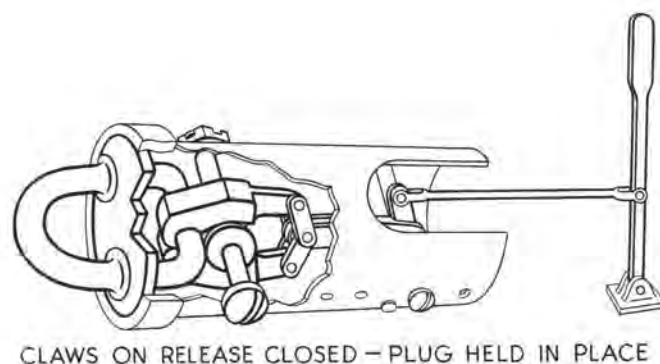
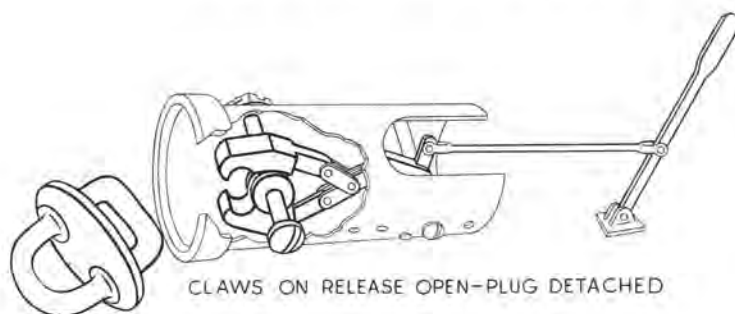
An airplane tows a glider or gliders by means of a towline assembly consisting of nylon rope with thimbles and rings, release plugs, swing links, and release mechanisms on the airplane and glider.

Nylon rope is used because it is light in weight and is elastic and tough. In towing more than one glider, individual towlines are of unequal length to minimize the possibility of flight collisions. Where the rope has a small diameter, as used in towing two- or three-place gliders, three lengths are provided. In larger diameters, as used in towing 9- and 15-place gliders, a long rope is cumbersome; therefore, one or more shorter extensions are added to a towline to vary the lengths, for towing two or three gliders from a single airplane. When multiple towlines are used they are connected to the airplane by a single lead rope.

Both ends of a towline, as supplied by the manufacturer, are fitted with a metal thimble and ring. Ropes for replacement of worn or damaged towlines are supplied without these fittings. For multiple towing, the various lengths of towline are connected by a swing link. This is a metal fitting shaped like a figure 8 and pivoted in the center. The ends open easily for attachment, and remain locked under tension of tow.

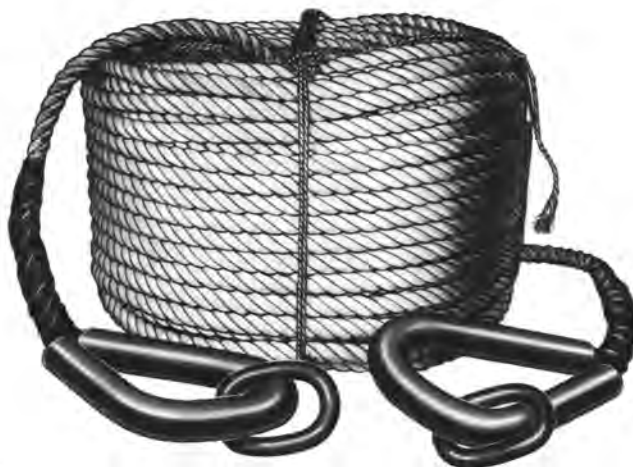
A glider is released from the towing airplane by the glider pilot. After releasing a glider, the airplane continues its flight and drops the towline where it may be recovered.

The release mechanism consists of a barrel-shaped fitting with a pair of claws at one end. The claws are operated by a lever at the pilot's end of the fitting. In towing, the claws clamp on one end of a release plug, the other end of which is attached to the towline by a swing link. Opening of the claws releases the plug and drops the towline.





GLIDER TOWLINES MISCELLANEOUS EQUIPMENT SECTION



TOWLINES — GLIDER

NAMES: Glider towlines
Glider rope assemblies
Glider ropes
Glider towline assemblies

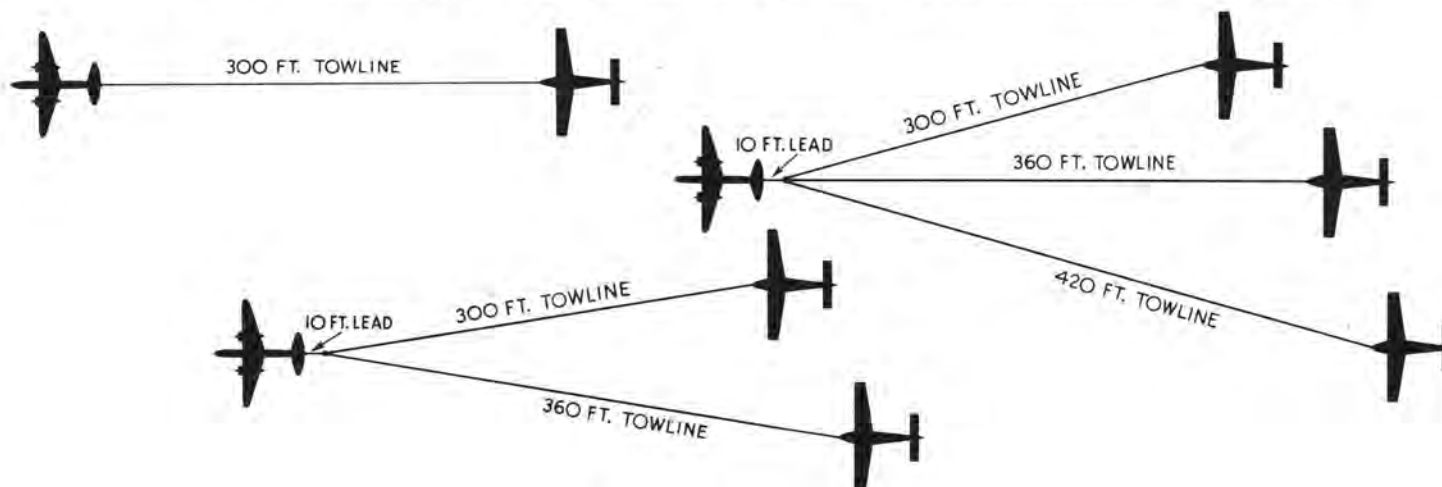
Glider tows
Rope assembly—for gliders
Towline assembly

Diameter of Rope (Inches)	A. E. Reference Number	A. S. C. Stock Number	Approx. Length (Feet)	Approx. Weight (Pounds)	Description and Use of Towline	Type and Capacity of Glider	Part	End Fittings A. E. Reference Number
1/4	45-8661	4500-742100	300	10½	Single towline	Training, 2- or 3-place	Thimble Ring	45-8664 45-8665
	45-8662	4500-742125	360	12	When towing two gliders. Other glider has 300-foot towline. Both towlines attached to 10-foot lead.			
	45-8663	4500-742150	420	13¼	When towing three gliders. Other gliders have 300 and 360-foot towlines respectively. All towlines attached to 10-foot lead.			
	45-8666		10	4¼	Lead line for multiple towing			
1/2	45-8672		350	36	Single towline	Cargo, 9-place	Thimble Links	45-8673 45-8684 and 45-8675
	45-8671		75	14	Extension lines. Added to 350-foot towlines for multiple towing.	Cargo, 9-place	Thimble Link	
	45-8670		15	9	Lead line for multiple towing			
	11/16	45-8682	4500-742125	350	57	Single towline	Cargo, 15-place	
45-8681		4500-742275	75	18½	Extension lines. Added to 350-foot towlines for multiple towing.			
45-8680			15	10	Lead line for multiple towing			

DESCRIPTION: A glider towline connects a glider or gliders to an airplane. It consists of a nylon rope with a metal thimble and link at each end, which are attached to the release mechanism and which may be released by either the airplane or the glider, or both.

For multiple towing, varying towline lengths are used to prevent the gliders from colliding. The individual lines are connected to a single 10 or 15-foot lead line which connects to the release on the airplane. Thus an airplane must release all gliders simultaneously in case of necessity while each glider may be released individually from the glider end.

In the 1/4 inch type for towing two- and three-place training gliders, three different lengths are provided.



(Continued on page 184)



GLIDER TOWLINES MISCELLANEOUS EQUIPMENT SECTION

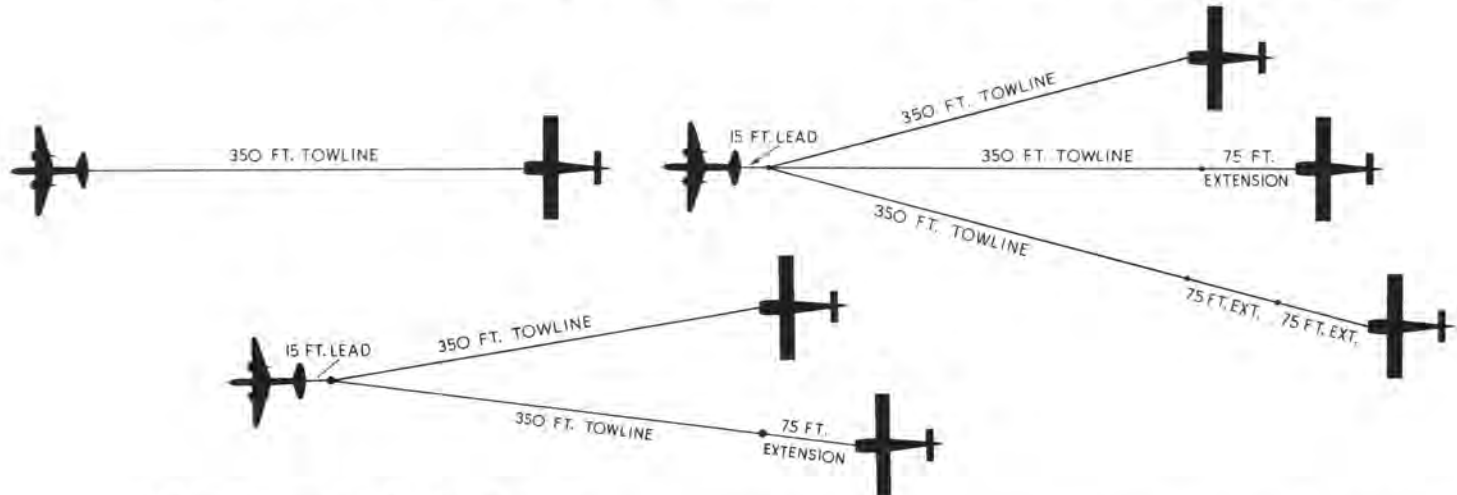
(Continued from page 183)

TOWLINES — GLIDER

For the multiple towing of cargo gliders 75-foot extensions are added to the 350-foot towlines as necessary to space the gliders in the $\frac{1}{2}$ inch and $\frac{11}{16}$ inch ropes.

For towing two gliders, a 75-foot extension is connected on one of the towlines, providing a 425-foot towline for the second glider.

For towing three gliders, a 75-foot extension is connected on one of the towlines, providing a 425-foot towline for the second glider, and two 75-foot extensions are connected to one of the towlines, providing a 500-foot towline for the third glider. In this manner, the middle glider is spaced 75 feet behind the first glider and 75 feet ahead of the rear glider.



RELATIONSHIP OF PARTS: Used with:

$\frac{1}{4}$ inch swing link, A. E. Reference Number 45-7715 (for $\frac{1}{4}$ inch diameter towlines) or $\frac{3}{4}$ inch swing link, A. E. Reference Number 45-7710 (for $\frac{1}{2}$ and $\frac{11}{16}$ inch diameter and two release plugs, A. E. Reference Number 45-8230, one glider release, A. E. Reference Number 45-8525 and one airplane release, A. E. Reference Number 45-8500.

ARMY

A. E. REFERENCE NUMBER: See chart.

SPECIFICATIONS:

General

A. A. F. DRAWING NUMBER: 43D537, for nine-place glider 16130
43D536, for fifteen-place glider 43D538, for two-place glider

A. S. C. STOCK NUMBER: See chart.

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped complete with end fittings.

NAVY

There is no Navy equivalent for this item.

ROPE — NYLON

NAMES: Nylon rope,
Nylon glider rope
Replacement nylon rope

DESCRIPTION: These nylon ropes are used as replacements for worn or damaged glider towlines. They are supplied without the thimbles and links which must be attached to their ends before use. The ropes are cut to length by the manufacturer.

RELATIONSHIP OF PARTS: Used with metal thimbles and rings as described in Glider Towlines.

ARMY

A. E. REFERENCE NUMBER: See chart.

SPECIFICATIONS: General 16130

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped cut to indicated standard lengths.

Diameter of Rope (Inches)	A. E. Reference Number	Approx. Length (Feet)	Approx. Weight (Pounds)	To be used as	Type and Capacity of Glider
$\frac{1}{4}$	45-8600	300	6 $\frac{1}{2}$	Towline	Training, 2- or 3-place
	45-8605	360	8	Towline	
	45-8610	420	9 $\frac{1}{4}$	Towline	
	45-8615	10	$\frac{1}{4}$	Lead line	
$\frac{1}{2}$	45-8625	350	28	Towline	Cargo, 9-place
	45-8630	75	6	Towline extension	
	45-8635	15	1	Lead line	
$\frac{11}{16}$	45-8650	350	14	Towline	Cargo, 15-place
	45-8655	75	10 $\frac{1}{2}$	Towline extension	
	45-8660	15	2	Lead line	



GLIDER TOWLINES MISCELLANEOUS EQUIPMENT SECTION



ARMY DRAWING 43D1644



ARMY DRAWING 43A1786

LINK — SWING

NAMES: Swing link

Link

Link assembly—glider towline swing

Link—commercial swing

DESCRIPTION: The swing link is a forged steel connector used at the ends of a towline from an airplane to a fifteen-place or nine-place glider. One swing link connects the towline to the release plug at the glider, while another link is used to connect the other end of the towline to the towing airplane. It may also be used to connect towlines when one line of sufficient length is not available. The link is shaped like a figure 8, divided in two parts through the vertical center line, with diagonal cuts at the top and bottom of the loops. It is pivoted by a bronze pin at the center, permitting the halves of the link to be swung open for the insertion of the looped end of the towline. Tension of the towline holds the link closed.

CHARACTERISTICS:

Thickness.....approximately $\frac{3}{4}$ inch
Overall length.....approximately $4\frac{7}{8}$ inches
Overall width.....approximately $2\frac{19}{32}$ inches
Inner diameter..... $1\frac{1}{8}$ inches maximum
Weight.....approximately 1 pound 6 ounces

ARMY

A. E. REFERENCE NUMBER: 45-7710

A. A. F. DRAWING NUMBER: 43D1644

A. S. C. STOCK NUMBER: 4500-539000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.

CHARACTERISTICS

Thickness.....approximately $\frac{1}{4}$ inch
Overall length.....approximately $1\frac{29}{32}$ inches
Overall width.....approximately $\frac{15}{16}$ inch
Inner diameter..... $\frac{3}{8}$ inch maximum
Weight.....approximately $1\frac{1}{2}$ ounces

ARMY

A. E. REFERENCE NUMBER: 45-7715

A. A. F. DRAWING NUMBER: 43A1786

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



PLUG — RELEASE

ARMY DRAWING 42D8750

NAMES: Release plug

Plug assembly—airplane aerial towing release
for $\frac{3}{8}$ inch rope

DESCRIPTION: The release plug, which fits into one end of the release assembly, connects the swing link and towline to the aerial towing release assembly. It consists of a steel bar welded to a circular steel plate in the form of two loops. The plate acts as a plug when inserted in the cylindrical end of the release assembly. Actuation of the release assembly allows the release plug to pull out of the release, freeing the glider from the towline.

CHARACTERISTICS:

Dimensions.....approximately $3\frac{5}{8}$ by $3\frac{5}{8}$
by $3\frac{3}{4}$ inches
Weight.....approximately 1 pound 4
ounces

RELATIONSHIP OF PARTS: Used with:

Glider aerial towing release, A. E. Reference Number 45-8525, and airplane aerial towing release, A. E. Reference Number 45-8500.

ARMY

A. E. REFERENCE NUMBER: 45-8230

A. A. F. DRAWING NUMBER: 42D8750

A. S. C. STOCK NUMBER: 4500-677300

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



RELEASE—AIRPLANE AERIAL TOWING

ARMY PART 42G1205-2

NAMES: Airplane aerial towing release
Release
Release—airplane
Release—airplane towing

DESCRIPTION: The airplane aerial towing release is used to disconnect a glider towline from an airplane. It is contained in a metal cylinder, the rear end having a pair of claws which hold one loop of a release plug. The claws are opened by means of a flexible cable from the front end of the cylinder, thereby releasing the plug to which the towline is attached. The flexible cable is operated from a lever in the airplane cockpit.

CHARACTERISTICS:

Dimensions approximately 15¼ by 3¾ by 4⅞ inches

Weight approximately 9 pounds 11 ounces

RELATIONSHIP OF PARTS: Used with:
Release plug, A. E. Reference Number 45-8230.

ARMY

A. E. REFERENCE NUMBER: 45-8500
A. A. F. DRAWING NUMBER: 42G1205
A. S. C. STOCK NUMBER: 4500-722550
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



RELEASE—GLIDER AERIAL TOWING

ARMY PART 42G1205-3

NAMES: Glider aerial towing release
Release
Release—glider
Release—glider towing

DESCRIPTION: The glider aerial towing release is used to disconnect a towline from a glider. It is contained in a metal cylinder, the front end of which has a pair of claws which hold a release plug. The claws are opened by a flexible cable from the rear end of the cylinder, thereby releasing the plug to which the towline is attached. The flexible cable is operated from a lever in the glider cockpit.

CHARACTERISTICS:

Dimensions approximately 10⅞ by 3¾ by 3¾ inches

Weight approximately 8 pounds 4 ounces

RELATIONSHIP OF PARTS: Used with:
Release Plug, A. E. Reference Number 45-8230

ARMY

A. E. REFERENCE NUMBER: 45-8525
A. A. F. DRAWING NUMBER: 42G1205
A. S. C. STOCK NUMBER: 4500-722600
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

NAVY

There is no Navy equivalent for this item.



HORN—PILOT'S RELIEF TUBE

ARMY DRAWING NUMBER 42A6504

NAMES: Pilot's relief tube horn Relief tube horn, pilot's
Flyer's relief tube horn

DESCRIPTION: The pilot's relief tube horn is made of plastic material, and is used to provide portable urinal facilities for members of a flight crew.

RELATIONSHIP OF PARTS: The horn is mounted on either an horizontal bracket, A. E. Reference Number 45-2900, or a vertical bracket, A. E. Reference Number 45-3200. It is connected by rubber tubing to a venturi, A. E. Reference Number 45-9800. When two horns are used in a single assembly, it is necessary to install a tee fitting, A. E. Reference Number 45-9600.

ARMY

A. E. REFERENCE Number: 45-7400

A. A. F. DRAWING NUMBER: 42A6504,
which supersedes 33A4739

A. S. C. STOCK NUMBER: 4500-503800

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a single unit.

BRITISH

BRITISH REFERENCE NUMBER: 127H/4



VENTURI—PILOT'S RELIEF TUBE

ARMY DRAWING NUMBER 41A9177

NAMES: Relief tube venturi, pilot's
Pilot's relief tube venturi
Flyer's relief tube venturi

DESCRIPTION: This metal venturi-shaped fitting is used to create a suction to draw the urine from the pilot's relief horn, through tubing, to the atmosphere.

RELATIONSHIP OF PARTS: Used with:
Pilot's relief horn, A. E. Reference Number 45-7400.
When there are two horns, the pilot's relief tube tee, A. E. Reference Number 45-9600, is installed between the horns and the venturi.

ARMY

A. E. REFERENCE NUMBER: 45-9800

A. A. F. DRAWING NUMBER: 41A9177

A. S. C. STOCK NUMBER: 4500-966000

PRODUCTION STATUS: Under procurement.

SHIPPING DATA: Shipped as a single unit.

BRITISH

BRITISH REFERENCE NUMBER: 127H/45



BRACKET—PILOT'S RELIEF TUBE HORIZONTAL

ARMY DRAWING NUMBER 33B4741

NAMES: Pilot's relief tube horizontal bracket
Flyer's relief tube horizontal bracket
Relief tube bracket

DESCRIPTION: The metal bracket is installed in an airplane to hold the pilot's relief tube in a horizontal position.

RELATIONSHIP OF PARTS: Used with:
Pilot's relief tube, A. E. Reference Number 45-7400.

ARMY

A. E. REFERENCE NUMBER: 45-2900
A. A. F. DRAWING NUMBER: 33B4741
A. S. C. STOCK NUMBER: 4500-105000
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

BRITISH

BRITISH REFERENCE NUMBER: 127H/42



BRACKET—PILOT'S RELIEF TUBE VERTICAL

ARMY DRAWING NUMBER 39B3425

NAMES: Pilot's relief tube vertical bracket
Flyer's relief tube vertical bracket
Relief tube bracket

DESCRIPTION: The metal bracket is installed in an airplane and is used to hold the pilot's relief tube in a vertical position.

RELATIONSHIP OF PARTS: Used with:
Pilot's relief tube, A. E. Reference Number 45-7400.

ARMY

A. E. REFERENCE NUMBER: 45-3200
A. A. F. DRAWING NUMBER: 39B3425
A. S. C. STOCK NUMBER: 4500-106000
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a complete unit.

BRITISH

BRITISH REFERENCE NUMBER:
127H/102



TEE—PILOT'S RELIEF TUBE

ARMY DRAWING NUMBER 33A4924

NAMES: Relief tube tee, pilot's
Pilot's relief tube tee
Flyer's relief tube tee

DESCRIPTION: This metal tee-shaped fitting is used to connect two pilot's relief horns to a single venturi.

RELATIONSHIP OF PARTS: Used with:
Relief horn, A. E. Reference Number 45-7400, and venturi, A. E. Reference Number 45-9800.

ARMY

A. E. REFERENCE NUMBER: 45-9600
A. A. F. DRAWING NUMBER: 33A4924
A. S. C. STOCK NUMBER: 4500-898000
PRODUCTION STATUS: Under procurement.
SHIPPING DATA: Shipped as a single unit.

BRITISH

BRITISH REFERENCE NUMBER:
127H/103













