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B.R.155B/44

INSTRUCTIONS
FOR
USE AND MAINTENANCE
OF THE
ADMIRALTY SHALLOW WATER
DIVING DRESS.

(Addendum to B.R.155/43 and B.R.155A/43)

(Used in conjunction with
Pattern 3485 Salvus; D.S.E.A. and Air.)

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**Admiralty, S.W.1.
Gunnery Branch.**

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5th May, 1944. *

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B.R. 155B/44—*Instructions for use and Maintenance of the Admiralty Shallow Water Diving Dress, used in conjunction with Pattern 3485 Salvus, D.S.E.A. and Air, 1944*, having been approved by My Lords Commissioners of the Admiralty is hereby promulgated for information and guidance.

This book is an Addendum to B.R. 155/43, *The Diving Manual*, and to B.R. 155A/43, *Handbook for Breathing Apparatus, Pattern 230*, and "*Salvus*" *Self-Contained Breathing Apparatus, Pattern 3485*, and is issued to all Ships and Establishments carrying either of these books.

By Command of Their Lordships,

H. V. Markham

To Flag Officers and Commanding
Officers of H.M. Ships and
Establishments concerned.

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INTRODUCTION.

Purpose of the Dress.

1. Its primary use is to provide protection against cold for divers using existing forms of self-contained shallow diving apparatus, such as, Pattern 3485 Salvus and D.S.E.A.

• It should enable such apparatus to be used in conditions of temperature hitherto only suitable for Helmet Divers.

2. Secondly, it is for use as an air diving dress fed from an L.P. air manifold or hand pumps, under conditions where the full service helmet dress is either not available or too cumbersome for the work in hand (*e.g.* entering manholes to flooded compartments, etc.).

First Issue of the Dress.

3. The dress will be issued complete with all necessary spares and accessories, to enable it to be used immediately with existing breathing equipment already supplied to H.M. Ships.

For ships supplied with helmet diving equipment, the dress will be issued complete with accessories to enable it to be used with Pattern 3485 Salvus, or converted to air breathing rapidly and simply (*see Appendix I*). For other ships the dress will be issued ready for use with Pattern 3485 Salvus only (or D.S.E.A., in the case of Submarines), (*see Appendix II*).

Brief Description of the Dress.

4. The dress is made from light rubberised cotton twill, and is fitted with a moulded rubber hood enclosing the head, light rubber watertight cuffs and a "skirt" for entry.

The front of the hood carries the faceplate which forms the mounting for a hinged perspex window and the mouthpiece dome.

Inside the faceplate and secured to the mouthpiece dome by the securing bolt, is attached a rubber mouthpiece, while on the outer side of the mouthpiece dome is a male thread to which the breathing apparatus is attached.

At the top of the hood is fitted a screw-down non-return relief valve. This valve will not completely shut off but is designed to allow excess air to escape from the dress.

IMPORTANT. *The dress is intended to be light and portable and must at all times be looked after and handled with care.*

For instructions as to maintenance of Salvus Pattern 3485, *see B.R.155/43 or B.R.155 A/43.*

SECTION I.

TO USE THE DRESS WITH PATTERN 3485 SALVUS. *Plate 3, Figs. 8 and 9.*

10. The rubber mouthpiece must be in place and the mouthpiece dome properly screwed up, making certain that washers are inserted. Leaks on this not only let water in, but will allow oxygen to escape into the hood and thus go to waste, at the same time causing slight discomfort to the diver.

Dressing. *Plate 1, Figs. 1, 2 and 3.*

11. The diver should always wear woollens or a service overall under the dress. Even in warm water some clothing is necessary to prevent chafe. A woollen balaclava can be worn to keep the face and head warm and clear of contact with the hood.

12. The dress is entered feet first, through the skirt, and then worked up over the body, the arms being pushed into the skirt, elbows first, one at a time, and thence into the sleeves. The upper part of the dress is then pulled over the head, and the head inserted into the hood. The window should be left open whilst dressing.

The cuffs should lie flat on the wrists without folds or wrinkles, and should form a watertight joint with comfort, without restriction of the circulation. Grey wrist bands may be worn if desired, but will be found unnecessary for most men.

The straps on the hood are left slack until the last moment before entering the water.

Sealing the Entry. *Plate 2, Figs. 4, 5 and 6.*

13. The dress is made watertight by doubling over the black skirt four inches towards the diver's body. It is then folded laterally in two-inch folds starting from one end (concertina fashion) for two-thirds of the way. The remainder is then wrapped round to form a bundle. A grey wrist band is then slipped over to hold and protect it from chafe, after which the clamp is put on and hove taut with the key provided. The whole is then tucked back inside the dress, and strapped in by means of the buckles provided on the dress (*Plate 3, Fig. 7*).

The Boots.

14. The boots are strapped on as tightly as possible to prevent them from being pulled off and lost. One or two extra lead soles (one and a quarter lbs. each) may be worn inside if required.

The Weighted Belt. *Plate 5, Fig. 13.*

15. The weighted belt is made of canvas with webbing shoulder straps and fitted with nine pockets for carrying weights. This is a universal belt for use with Salvus or, with the "U" tube attached, for air diving.

Only four 7 lbs. weights will be required in the right-hand pockets, i.e., opposite side to which the Salvus is worn.

This belt is the next item to be put on and adjusted, and should be worn as high as possible.

The Lifeline.

16. This should be made onboard from 1½-inch tarred hemp, 20 fathoms long and is to be used on the diver at all times.

The lifeline is secured by a bowline around the diver's waist and stopped to the D-ring provided on the right shoulder strap of the weight belt, by a rolling hitch.

Signals.

17. Signals used are to be as laid down for Salvus in *B.R.155/43, page 134, para. 608, or B.R.155 A/43, page 5, para. 29.*

To Connect Up the Breathing Set.

18. Put the Salvus apparatus on in the usual way, lengthening the jock strap, as required, with the extension piece provided. Connect one end of the special corrugated tube (Pattern 3429) to the mouthpiece dome, and the other end to the metal column of the CO₂ canister, making certain that leather washers are inserted under each nut; screw both nuts up tight. Check that the diver can reach and operate his by-pass valve correctly. If any difficulty is experienced, the Salvus set requires either bringing more to the front or lowering. The diver should be breathing through the open window up to this stage.

To Start Breathing Oxygen from the Set.

19. The diver now puts in his mouthpiece, *i.e.*, rubber studs between the teeth, and flange between the lips and gums. The headstraps are now adjusted so that the hood and the mouthpiece are in line and comfortable.

Note :

These straps are to be pulled tight, especially the lower ones; this will prevent the hood rising above the diver's head. When under water, the diver will find that the hood is slightly lifted away from his face, thus being more comfortable. If necessary, it is quite easy for the diver to adjust his own straps whilst on the bottom.

20. The diver next clears the breathing bag of foul air by inhaling through his mouth and exhaling through his nose. The attendant now turns on the main oxygen valve, charges the breathing bag with oxygen by operating the by-pass valve, and tells the diver to flush his lungs through with oxygen, again exhaling through his nose.

After flushing through once or twice, the diver exhales completely through his nose, puts on the nose clip and carries on breathing oxygen.

21. The window should then be cleaned and treated with anti-dim compound, closed down and secured by the three wing nuts, tightened hand taut only.

Non-Return Relief Valve. *Plate 5, Fig. 14.*

22. See that the relief valve is fully screwed down; this cannot be shut right off but will still allow the valve spindle to lift and enable the excess air in the dress to escape, retaining 6 - 8 inches W.G. pressure in the hood.

The relief valve is kept screwed down the whole time whilst using Salvus and need not be touched any more.

Entering the Water.

23. The diver is now ready to enter the water. This should be done in the normal way by ladder but if no ladder is available he can jump from the boat or catamaran.

Test for Leaks.

24. When water borne, the diver leans back and the attendant examines for leaks round the window, mouthpiece dome and Salvus set, tightening up as necessary.

The Descent.

25. The diver descends the shot rope in the normal way. As he descends, he operates his by-pass valve to allow for the increase in pressure of water. The pressure of water may tend to press the face plate or cause discomfort round the side of the head, which is overcome by allowing oxygen to escape past the lips and partially inflate the hood to counter-balance the pressure.

26. At all other times the lips must be kept closely sealed over the mouthpiece, otherwise oxygen will be wasted.

27. The ears should be cleared by the swallowing method or by gently blowing against the nose clip. It is important that divers should accustom themselves to this method of clearing since there is no method of compressing the nose in this dress. It is also important that ear clearing should be carried out all the way down, starting immediately after leaving the surface.

Too rapid a rate of descent should be avoided, a maximum of 1 to 1½ feet per second being permissible.

On the Bottom.

28. Do not touch relief valve ; there is no need to adjust this once it has been screwed down on the surface.

If the hood is pressing on the face, allow a little oxygen to pass the lips into the hood, replenishing the breathing bag by gently opening and closing the by-pass valve.

Remember you are quite safe, even though the suit may get torn. Always keep the mouthpiece in and nose-clip on.

29. No bubbles or very few at periods, should appear on the surface. If excessive bubbles appear, the diver is either wasting oxygen by using his by-pass valve or the automatic relief valve on the breathing bag is faulty. The diver should be called up and the fault remedied.

It should not be necessary to use the by-pass valve, once breathing is comfortable.

The Ascent.

30. As the dress is only a few lbs. negative buoyancy, this requires no exertion whatsoever.

With left hand on the shot rope, press down on relief valve spindle and pull up the first three feet. The expansion of air in the dress will now lift the diver to the surface, and the diver easing the spindle, travels up at a steady rate.

31. The diver should **not** use his by-pass valve to lift him off the bottom, as if the work entails several visits to the surface, an unnecessary wastage of oxygen ensues.

This method may be used in an emergency or if the shot rope is lost, which will enable the diver to remain afloat on the surface. The weights from the belt can also be jettisoned if required.

Important Points in Using the Dress with "Salvus."

32. (i) The diver should not weight himself too heavily, since the reserve of buoyancy, even when the dress is inflated as above, is small. Four to five 7-lbs. weights will be found quite sufficient, most men only requiring four.

(ii) It should be remembered that the dress itself is only a protective covering and it is the breathing set which enables the diver to live under water. Leaks therefore, although uncomfortable are not dangerous and the dive need not be abandoned if they occur.

Similarly, even if the dress becomes seriously torn whilst diving, provided the mouthpiece is kept firmly in, there is no immediate danger, and the surface can be reached safely.

(iii) Leaks in the breathing set are more serious, as this is not only a waste of oxygen which lessens the period of time under water, but may allow water to enter, rendering breathing difficult.

Leaks can usually be spotted by bubbles when the diver first enters the water. This should always be a routine test, and joints, etc., should be tightened as necessary before allowing the diver to carry on down.

(iv) The protective bag supplied, *Pattern* 3460, should always be worn over the breathing bag where there is any possibility of this bag becoming torn, *i.e.*, entering damaged compartments or working where any jagged obstructions are likely to be met.

TO USE THE DRESS WITH D.S.E.A.

33. The *Pattern* 3432 corrugated tube with union at one end and D.S.E.A. canister dome *Pattern* 3477 at the other, is used in place of the corrugated tube *Pattern* 3429. The method of dressing and use is the same as for *Salvus* described above.

LIMITING DEPTH FOR THE DRESS WHEN BREATHING OXYGEN.

34. To avoid the dangers of breathing oxygen under pressure, a depth of 33 feet is never to be exceeded. Recent experimental work by the Experimental Diving Unit, has shown that oxygen becomes toxic under water at any depth below 35 feet and that previous figures, based on experiments in compressed air chambers, are misleading. Furthermore, it has been demonstrated that a man's resistance to oxygen varies greatly from day to day, whilst individuals also vary considerably. The cause of this variation has not yet been established and has no direct bearing on physique or state of health. The only safe rule, therefore, is to remain in depths where oxygen toxicity has not been experienced.

Fuller information on this subject will be published shortly.

35-39.

SECTION II.

PRINCIPLE OF DIVING IN THE S.W.D. ON AIR.

40. The principle will be the same as for Gas Mask Diving, *i.e.*, a sufficiently high rate of supply must be maintained to enable the diver to breathe comfortably without relying on a reserve in the dress. This means that a supply equivalent to 4 to $4\frac{1}{2}$ cu. ft. per minute will be required, and the air must be allowed to escape by the quickest possible route to the sea. This is achieved by the construction of the relief valve.

41. Any attempt to over inflate the dress will result in the hood lifting off the face and will cause the diver to ask for less air. This in its turn may lead to inadequate ventilation and a rapid build up of CO_2 .

Instructions for Air Supply to Diver.

42. Air can be supplied either from L.P. compressors, using ship's L.P. air line, or hand pumps.

Compressors and Ship's Air Line.

43. When using L.P. compressors or ship's L.P. air line, air reservoirs must be inserted into the air system if not already fitted, to ensure a safe air supply to bring the diver to the surface should compressors fail.

Control Valve.

44. A screw-down air control valve, for controlling air to diver, suitably marked, must be used and fitted in the air line in the vicinity of the diver's attendants.

Pressure Gauge.

45. An L.P. pressure gauge should be fitted on the pressure side of the air control valve.

The above valve and gauge are to be constructed and fitted on to a portable panel, with an adaptor for connecting to air line, by ship's staff.

The whole air system is to be thoroughly blown through to ensure that all foul air and moisture is eliminated before connecting up to the diver.

Using Hand Pumps.

46. As a high rate of air supply is required (*see para. 40*), air hose must be connected to the left nozzle with *both cylinders* delivering air to the diver (*i.e.*, Waycock lever over to *ONE DIVER DEEP WATER*).

One cylinder only delivering air should *never* be used as this would cause the diver to breathe in short gasps and be detrimental to the diver's work.

SECTION III.

TO USE THE DRESS FOR AIR DIVING.

50. Remove the mouthpiece from the face-plate by unscrewing the mouth-piece dome securing bolt. Ship the air baffle and screw dome up again ensuring washers are in place.

Dressing.

51. This is done exactly as for using the dress with "Salvus" (*see paras. 11, 12 and 13*). Wrist bands should be worn to prevent air escaping from the cuffs.

The "U" Tube. *Plate 5, Fig. 12.*

52. This is fitted on the left side of the weighted belt by means of the back plate, nuts and washers, the longer arm with the larger thread being to the front. This brings it over the diver's left hip and forms a connection for the air pipe and Pattern 3429 corrugated tube.

Weighted Belt. *Plate 5, Fig. 13.*

53. This is put on in the same way, *nine* 7 lbs. weights being used, *i.e.*, a full belt.

Connecting the Air Hose. *Plate 4, Figs. 10 and 11.*

54. *See* that leather washers are in place. Connect corrugated tube to mouthpiece dome, other end to the front (long arm) of the "U" tube.

The air hose is led down behind the diver's left shoulder, connected to the rear end of the "U" tube, and stopped to the "D" ring on the **left** shoulder strap by a rolling hitch.

Lifeline.

55. This is secured in the same way as when using "Salvus" (*see para. 16*).

Note. To prevent the weight of the air hose pulling the shoulder straps off, the two straps can be stopped together across the back.

Signals.

56. Qualified divers are to use normal diving signals as laid down in *B.R.155/43, page 35*; men qualified in "Salvus" diving, are to use the signals as laid down for "Salvus" in *B.R.155/1943, page 134, para. 608, or B.R.155 A/1943, page 5, para. 29.*

Headstraps.

57. As for "Salvus."

Non-Return Relief Valve. *Plate 5, Fig. 14.*

58. The screw-down relief valve is left fully unscrewed (open) the whole time whilst diving on air, the diver using the spindle when required.

IMPORTANT. *This dress being much lighter than the service dress, it must not be subjected to any great unbalanced internal pressure, or the seams will be strained. Under no circumstances should the air supply be stopped when diving on air.*

Entering the Water.

59. For reasons given previously, it is advisable to have the diver on the ladder with his legs in the water before the pump is started, and the window closed down. A nose clip should be worn to assist diver to clear his ears as described in *para.* 27.

Testing for Leaks.

60. As described in *para.* 24, keeping the relief valve above water.

The Descent.

61. The diver can now descend the shot rope as fast as his ears will allow, no further adjustments being necessary.

On the Bottom.

62. Leave the relief valve fully unscrewed (open). This will allow the spindle to lift to the full extent, retaining approximately 2 inch W.G. pressure in the hood to make it comfortable.

63. Should the dress get torn whilst under water, it is quite safe so long as the diver keeps in a vertical position and comes up immediately, keeping a little more air in the dress by slightly pressing down on the spindle of the relief valve.

The Ascent.

64. This is done as in a normal diving dress. When ready to leave the bottom, press down on the spindle of the relief valve, retaining a little excess air in the hood to lift the diver off the bottom.

65. As the dress is of light material and only a few pounds negative buoyancy, very little air will be required to do this. The diver should travel up at a moderate rate, controlling his ascent by working the spindle freely. It will be found that, during the ascent, as the water pressure is relieved, the expansion of air in the hood is rapid. This must be avoided by the diver releasing the spindle quickly to prevent the hood lifting above his face. There is no difficulty in doing this if the diver makes sure that the lower straps of the hood are fairly taut before leaving the bottom.

Limiting Depth for the Dress when Using Air.

66. Though trials with this dress, using air, have been carried out satisfactorily to a depth of 60 feet, a depth of 40 feet is never to be exceeded. It is only intended as a Shallow Water Dress.

67-69

SECTION IV.

MAINTENANCE OF THE DRESS.

70. Always keep the dress hung on a line or spread on battens. It must *not* be stowed folded or rolled up, or the proofing of the fabric will be ruined at the creases and the dress will become porous.

71. The ideal stowage is to pass a long batten or boathook stave, about 9 ft. long, through each sleeve and into the opposite leg, standing the dress upside down against a bulkhead. A small batten inserted into the skirt will assist ventilation.

72. The following routine must be carried out, after each dive :—

- (i) Remove the mouthpiece, by unscrewing the mouthpiece dome securing bolt and removing the mouthpiece through the window or skirt, and disinfect with a weak solution of Dettol, T.C.P., or similar disinfectant.
- (ii) Hose down the dress lightly with fresh water and wipe off the metal face-piece.
- (iii) Wash the weight belt and boots in fresh water, removing all mud.
- (iv) Detect and repair any leaks reported.
- (v) If the dress is being used frequently, the inside of the hood should be sponged out after each dive with a *weak* solution of disinfectant and allowed to dry.

No man with any affliction of the skin should be allowed to use this dress.

To Detect Leaks.

73. Lay the dress out on the deck, face up. Secure the skirt with the clamp, shut the window and blank off the cuffs with wooden plugs, milk tins, or beer bottles.

Connect the special testing adaptor (Pattern 3443) to the mouthpiece dome and screw relief valve right down.

A connection to connect testing adaptor to air line or oxygen bottle, is to be made onboard by ship's staff.

Inflate the dress to about 1 lb. pressure from an oxygen bottle or L.P. air supply. Go over the suspected area with soapy water, mark the leak with chalk or indelible pencil. Deflate the dress, allow to dry, then patch.

Patching Instructions.

74. Clean the damaged part very carefully with a clean rag lightly dipped in naphtha and then allow to dry. Rub a good even thick coating of rubber solution on the damaged part and allow to get tacky, *i.e.*, so that the fingers will just not stick. Apply a thin coating of solution to the patch, allow to get tacky and apply to the damaged part, making sure that no air bubbles are trapped under the patch. Then roll out flat.

To Change a Cuff.

75. Remove tape from the top of cuff inside and out, take off torn cuff and clean off old solution with a rubber stick on a piece of diver's twill, using the rubber side for cleaning. A little naphtha may be used carefully. Turn the sleeve inside out and place a shaped chock of wood into the sleeve protruding sufficiently to take the cuff; tie the sleeve above the chock to prevent movement. Put cuff on the chock to overlap sleeve three-quarters of an inch, turn back cuff overlap, solution overlap and sleeve three-quarters of an inch, allow to get tacky, stick down and roll, carefully watching not to get pleats.

Cut two 1-inch strips of twill sufficient to go round cuff and overlap one

inch. Solution rubber side and joint of sleeve, allow to get tacky, stick one strip over joint and roll. Turn sleeve right side and stick second strip over the joint, finally rolling.

The Face Plate.

76. This is an important part of the dress which should be kept free of verdigris to prevent deterioration of the hood at the joint and the rubber washers.

The Perspex Window.

77. Should be protected from damage, as a scratched window cannot be satisfactorily anti-dimmed. A damaged window can be replaced complete with new frame, or a new Perspex fitted. Should the window develop leaks, the rubber washer should be renewed. If this is not effective, it is possible that the frame is distorted and should be renewed.

The Mouthpiece Dome and Washers.

78. Should be carefully looked after, the washers renewed as necessary. There are two washers outside the face-plate, which if they leak, will not only admit water to the mouth but allow it to enter the Protosorb of the breathing set or into the hood when air diving. These are :—

- (i) Fibre washer under the head of the securing bolt.
- (ii) Rubber washer at the seating of the dome on the face-plate.

79. The flange of the rubber mouthpiece which secures it to its fitting also forms the joint between it and the inside of the face-plate. To avoid loss of oxygen, this should be watched carefully for wear. If oxygen appears to escape unduly, the corrugated tube, on which the mouthpiece is mounted, should be examined for leaks.

Transporting the Dress.

80. When the dress is stowed or being transported, the window should be shut and a piece of rag tied round the thread of the mouthpiece dome to protect it.

Never allow the headpiece to trail on the ground or knock against obstructions.

The Relief Valve.

81. This should require little attention, but should it leak when the dress is used with Salvus, the seating should be examined for dirt, hairs or fluff from the diver's woollens, which may have become lodged under the diaphragm.

If this is not effective, the diaphragm should be renewed and care taken to see that it is properly held in place by the securing ring.

82. Another cause is a weak or broken spring which should be renewed if necessary. When fitting a new spring it should not be compressed or stretched unduly as this will alter its setting.

The correct setting of the spring should be 2-inch water gauge pressure when the valve is fully unscrewed to 6-8 inches water gauge pressure when fully screwed down.

83. Should the valve be damaged by knocking against obstacles under water, a new valve complete (Pattern 3452) can be drawn from the Naval Stores.

It is bound into the flange on top of the hood by a whipping and finally bound over with tape on completion.

Anti-Dimming the Window.

84. Wash off with fresh water and treat with gas mask anti-dimming compound.

APPENDIX I.

FIRST OUTFIT FOR USE WITH PATTERN 3485 SALVUS OR AIR DIVING, INCLUDING SPARES AND TOOLS.*(i.e., Ships supplied with Diving Gear.)*

PERMANENT OR CONSUMABLE	PATTERN NO.	DESCRIPTION OF STORES.	QUANTITY.
P	3420	Admiralty Shallow Water Diving Dress, comprising dress, face-plate, hinged window, mouth piece dome, mouthpiece with 5 corrugation tube and relief valve complete	1
P	3421	Belt, canvas for weights, complete with braces	1
C	3423	Weights, curved " D " 7 lbs.	9
P	3424	U-tube, for connecting air hose, complete with bolts, nuts, spring washers and back plate	1
P	3425*	Shoes, weighted	1 pair.
C	3427	Soles, shoe, lead, 1¼ lbs.	4
C	3428	Baffles air, for mouthpiece fitting	2
C	3429	Corrugated tube, or Salvus mouth-piece to canisters with union nut each end	1
P	3430	Clamp, for securing skirt	2
C	3431	Extension piece, webbing 15 inches long for jock strap of Salvus	1
C	3433	Perspex front window, drilled	1
C	3434	Washers, rubber, for front window with holes	1
C	3435	Eye bolts, with wing nuts and pins for front window	1 set.
C	3436	Washers, rubber, for mouthpiece dome fitting	2
C	3438	Washers, leather for union nuts	6
C	3439	Mouthpiece, rubber, with 5 corrugation tube	1

APPENDIX I.—*continued.***First Outfit for use with Pattern 3485 Salvus or Air Diving, including Spares and Tools.—*continued.****(i.e., Ships supplied with Diving Gear.)*

PERMANANT OR CONSUMABLE.	PATTERN NO.	DESCRIPTION OF STORES.	QUANTITY.
C	3440	Bolts, securing mouthpiece dome fitting with nut and fibre washer	1
C	3441	Keys, skirt clamp	2
C	3442	Nuts, skirt clamp	2
P	3443	Adaptor, for testing dress with Schrader valve	1
C	3445	Black rubber sheet for skirt ...	$\frac{1}{4}$ yard.
C	3446	Medal brand rubber solution ...	1 tube or tin.
C	3447	Nuts and spring washers for "U" tube	1 pair.
C	3451	Buckles, head straps	2
C	3455	Washer, rubber, frame, front window	1
C	3456	Diaphragms, relief valve	2
C	3457	Springs, relief valve	1
C	3459	Key, removing relief valve retaining ring	1
C	3460	Protective bag for "Salvus" breathing bag	1
C	42	Twill, repairing	$\frac{1}{2}$ yard.
C	25A	Rings, wrist I.R. grey	2 pairs.

APPENDIX II.

**FIRST OUTFIT FOR USE WITH PATTERN 3485 SALVUS ONLY,
INCLUDING SPARES AND TOOLS.***(i.e., Ships not supplied with Diving Gear.)*

PERMANANT OR CONSUMABLE.	PATTERN NO.	DESCRIPTION OF STORES.	QUANTITY.
P	3420	Admiralty Shallow Water Diving Dress, comprising dress, face-plate, hinged window, mouth-piece dome, I.R. mouthpiece with 5 corrugation tube and relief valve complete	1
P	3421	Belt, canvas for weights complete with braces	1
C	3423	Weights, curved, " D " 7 lbs.	4
P	3425	Shoes weighted	1 pair.
C	3427	Soles, shoe lead 1½ lbs.	4
C	3429	Corrugated tube, for Salvus mouth-piece to canister with union nuts each end	1
P	3430	Clamps for securing skirt	2
C	3431	Extension piece, webbing 15 inches long for jock strap of Salvus	1
C	3433	Perspex front window, drilled	1
C	3434	Washers, rubber frame for front window with holes	1
C	3435	Eye bolts, with wing nuts and pins for front window... ..	1 set.
C	3436	Washers, rubber for mouthpiece dome fitting	2
C	3438	Washers, leather for union nuts	6
C	3439	Mouthpiece, rubber with 5 corrugation tube	1
C	3440	Bolts, securing mouthpiece dome fitting with nut and fibre washer	1
C	3441	Keys, skirt clamp	2
C	3442	Nuts, skirt clamp	2

APPENDIX II.—*continued.***First Outfit for use with Pattern 3485 Salvus only, including Spares and Tools.—*continued.****(i.e., Ships not supplied with Diving Gear.)*

PERMANANT OR CONSUMABLE.	PATTERN NO.	DESCRIPTION OF STORES.	QUANTITY.
P	3443	Adaptor, for testing dress with Schrader valve	1
C	3445	Black rubber sheet for skirt ...	$\frac{1}{4}$ yard.
C	3446	Medal brand, rubber solution	1 tube or tin.
C	3451	Buckles, head strap	2
C	3455	Washers, rubber, frame front window	1
C	3456	Diaphragms, relief valve	2
C	3457	Springs, relief valve	1
C	3459	Key removing relief valve retaining ring	1
C	3460	Protective bag for "Salvus" breathing bag	1
C	42	Twill, repairing	$\frac{1}{2}$ yard.
C	25A	Rings, wrist I.R. grey	2 pairs.
P	110	Knife, improved	1
P	112	Case, knife for, brass, improved ...	1

SUBMARINES ONLY:—*As Appendix II and add*

PERMANANT OR CONSUMABLE.	PATTERN NO.	DESCRIPTION OF STORES.	QUANTITY.
C	3432	Corrugated rube for D.S.E.A. with union nut one end and D.S.E.A. canister dome at other end ...	1
		and delete	
C	3429	Corrugated rube, for Salvus mouth-piece to canister with union nut each end	1
C	3460	Protective bag for "Salvus" breathing bag	1

APPENDIX III.

Stores not mentioned in Appendices Nos. 1 and 2 but which can be demanded for repairs.

Component Parts.

PERMANANT OR CONSUMABLE.	PATTERN NO.	DESCRIPTION OF STORES.
C	3448	Screws securing perspex window to frame.
P	3449	Frame, front window complete with perspex, less hinge screws.
P	3450	Mouthpiece dome, complete with bolt, nut, fibre washer and back plate.
P	3452	Relief valve, screw down complete
C	3454	Hinge screws, front window, complete with springs and nuts.
C	3458	Cuffs, rubber.

FIRST THREE STAGES OF DRESSING

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PLATE I

RUBBER
SKIRT



FIG. 1



FIG. 2

RUBBER
SKIRT



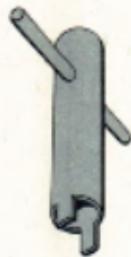
RUBBER
HOOD

FIG. 3

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FIG. 4



KEY, SKIRT CLAMP

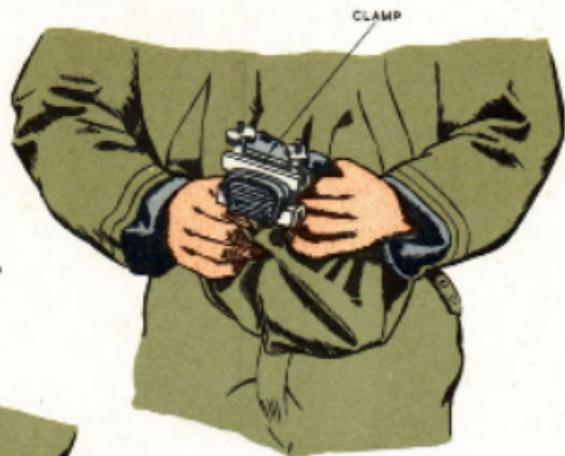


FIG. 5



FIG. 6

SKIRT TURNED IN, SUIT BUCKLED.

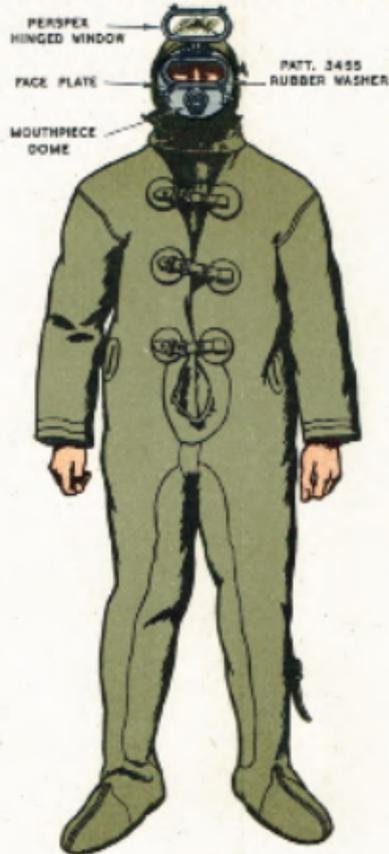


FIG. 7

FRONT VIEW WITH SALVUS www.mcdoa.org.uk

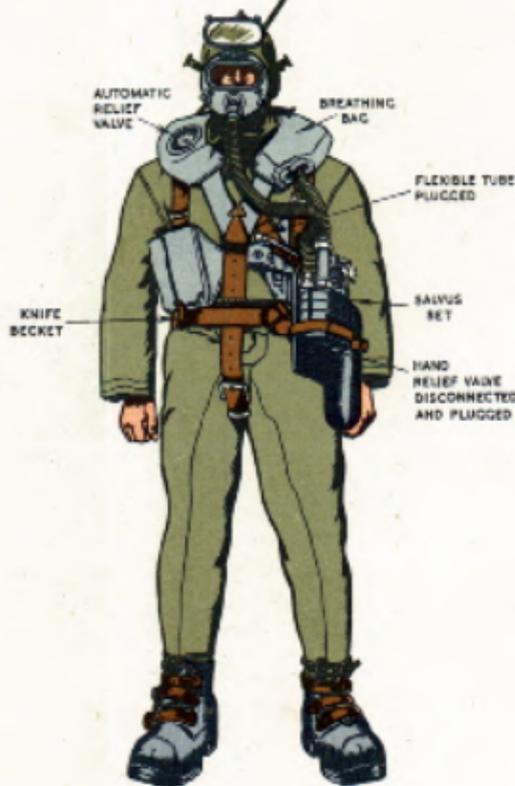


FIG. 8

SIDE VIEW WITH SALVUS PLATE 3



FIG. 9

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FRONT AND SIDE VIEWS ON AIR

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PLATE 4



FIG. 10

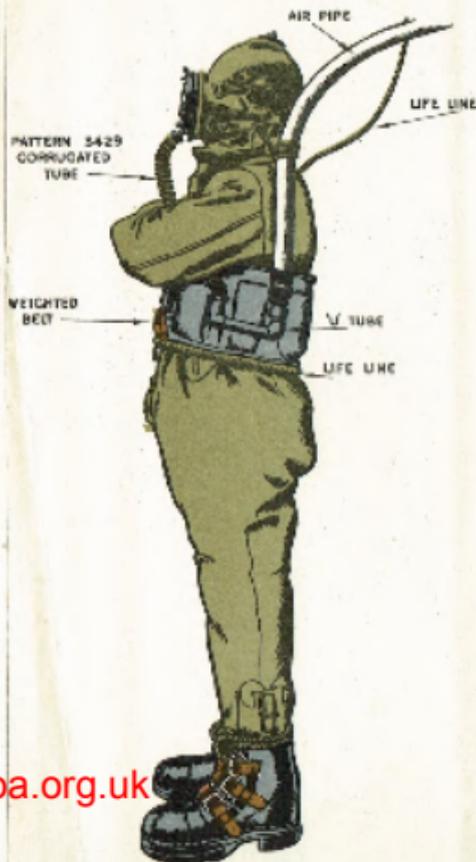
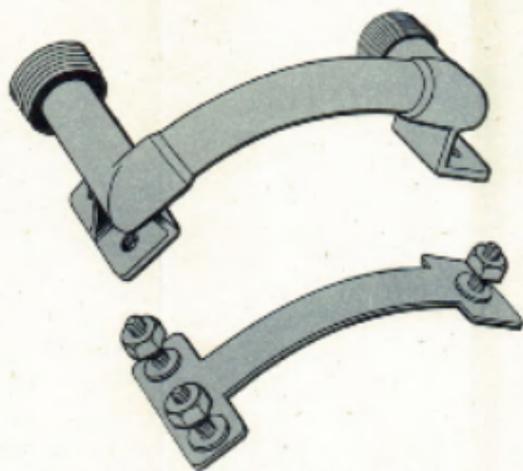


FIG. 11

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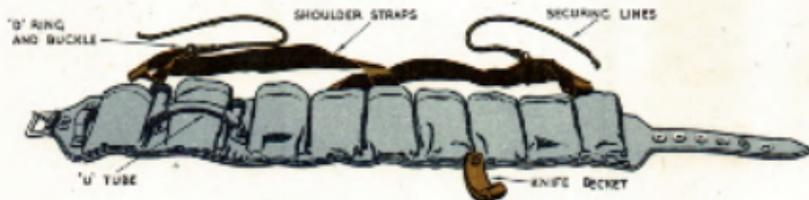


'U' TUBE AND BACK PLATE

FIG 12

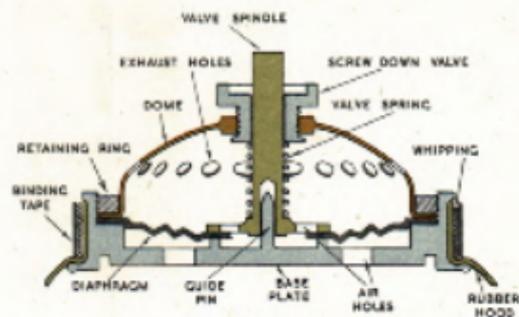


KEY, REMOVING,
RETAINING RING



WEIGHTED BELT

FIG 13



RELIEF VALVE

FIG. 14

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