

THE REGIA MARINA TORPEDOMEN HANDBOOK

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In 1915, at the beginning of First World War, the torpedo was by now from nearly forty years one of the essentials weapon systems of the Regia Marina warships. Although the Italian submarine fleet was not very much developed, the torpedoes were the main armament of the minor escort warships, like destroyers and torpedo boats, but they were also normal equipment for the greater units, like battleships and cruisers.

The importance of this weapon developed the necessity of schools for torpedomen, officers and ratings that could have the necessary competence to employ it and, over all, also for the upkeep of a weapon so delicate and complex like the torpedo.

With this object in the Navy were completed theoretical studies on the torpedo general principles and also training on the weapons, but were given also handbooks to give to the torpedomen the possibility to have every time at her disposition a text to bring it on board of the units as ready use book.

It is obvious that such handbook could have many detailed illustrations and analytical explications for every type of torpedo used by Regia Marina. Addressed to this target was the Regia Marina Torpedomen Handbook (Prontuario per I siluristi della Regia Marina), spreaded on the Navy by the Torpedo Specialist School.

It is a big book, album size, of nearly 100 pages, in form of tables. The chapters are devoted to examine in a detailed way the following matters: gunlocks – warheads – plunging regulators – servo-motors – transmissions – pressure regulators/heaters – gears – torpedo runners – torpedoes – torpedo launchers – superchargers.

The evidence of necessity of such album is evident if we read her first pages were we can see that in the Regia Marina in 1915 were in service at least 18 different torpedo types, with following different characteristics and also different necessities for her care.

Some of them were old, like the following seven:

Schwartzkopf B 43/356 of 1887

Schwartzkopf B 57/356 of 1888

Schwartzkopf B 90/450 of 1896

Whitehead A 60/356 of 1900 – 92 in service

Whitehead A 62/356 of 1888 – 62 in service

Whitehead A 60/450x370 of 1893 and 1907 (some sources says that this torpedo was out of service and was replaced by mod. 1914, but it was again assigned to some units)

Whitehead A 60/450x5,025 del 1900 – 65 in service

The other 11 were these:

Whitehead A 68/450 of 1905 – 92 in service

Whitehead A 90/450 of 1906 – 207 in service

Whitehead A 95/450 of 1907 – 176 in service

These three torpedoes were air-cooled and had little differences between them:

Whitehead A 115/450x5,237 of 1910 – 98 in service

Whitehead A 110/450x5,28 of 1913 – 350 in service

Whitehead A 100/450x5,25 of 1914 – 209 in service

The following two were at heated air:

Schwartzkopf A 115/450x5,20 of 1913 – 111 in service

Schneider A 115/450x5,231 of 1913 – 119 in service

These were Whitehead modified, again at heated air:

Whitehead – San Bartolomeo A 100/450x4,83 of 1914 – 98 in service

Whitehead – San Bartolomeo A 100/450x5,203 of 1914 – 68 in service

They were variations to torpedoes, respectively A 90/450 and A 95/450

San Bartolomeo A 60/450x3,70 of 1914 – 8 in service

As we see, except the older torpedoes Schwartzkopf type, the next were nearly all Whitehead type, some with variations done by San Bartolomeo torpedo factory, near La Spezia and it was in production by few times.

When was printed the Handbook was also pointed out that was the 533 mm torpedoes were on the way to be put in service in the Navy, but their characteristics were not done because this weapon was not again embarked. We must think that the torpedoes were put in service in the Italian Navy only by 1879 and, with the next improvements, inventions and variations, they were arrived to a good quality, offensive capacity, speed and greater range, maintaining the size in the limits traced by type of weapon. Really, the diameter was changed from 356 mm to 450 mm and, only in 1914, was put in production torpedoes of 533 mm, a size that will be common in nearly all the navies only in the second world war, except French Navy and Japanese Navy.

The Italian Navy, after an initial for torpedoes of Schwartzkopf, and this German firm realized also a factory in Venice to promote the supplies for Italy, was oriented to models of Whitehead, also because the Austrian firm had put in production a factory, the Silurificio di Baia, near Naples, to assemble their weapons. More recently started the production the San Bartolomeo torpedo factory, near La Spezia, managed directly by the Italian Navy, more engaged to modify and improve the torpedoes already in service.

Following again the Handbook, the more modern torpedoes were those at heated air, namely these five:

Whitehead A 115/450x4,237: oil heater Armstrong type – torpedo drive with separate turbine – universal gunlock – gun net-cutter Whitehead type – deep regulator until 10 meters – range 1000-4000 meters – speed from 26 to 42 knots – max differences at 4000 meters +/- 20 meters

Whitehead A 110/450x5,28: projected for great ranger – oil heater Armstrong-Whitehead type – torpedo drive with separate turbine – universal gunlock, some weapons with net-cutter other not – angled – range 4000-6000 meters – speed from 25,5 to 30,5 knots – max differences at 6000 meters +/- 50 meters

Whitehead A 100/450x5,25: projected for short ranger and at high speed (good for torpedo-boats and submarines) - oil heater Armstrong-Whitehead type settled to obtain higher speed – universal gunlock or net-cutter gunlock – range 1000-2000 meters – speed from 38 to 42 knots – max differences at 2000 meters +/- 15 meters

Schwartzkopf A 115/450x5,20: oil heater Gesztesy type – torpedo drive with turbine and two jets - Whitehead gunlock of old model – range 1000-3000 meters – speed from 30 to 41 knots – max differences at 3000 meters +/- 25 meters

Schneider A 115/450x5,231: oil heater Gesztesy type – torpedo drive with separate turbine – Whitehead gunlock of old model with 3 levers – range 1000-3000 meters – speed from 29 to 41 knots – max differences at 3000 meters +/- 25 meters

As we see from this short investigation, it is clear a relative superiority of Whitehead model in comparison with the German and French torpedoes: besides the gunlock that was of a vintage model the difference at 3000 meters was superior in comparison to difference at 4000 meters of A 115 model. If we think that whether Schwartzkopf or Schneider-Creusot were obliged to get over the rivalry of a feared commercial rival, their products were inferiors and they were also obliged to use parts of their weapons bought from the Whitehead.

Also the A 100 and A 115 models used a heater modified by British firm Armstrong, but was however traced by a Whitehead model.

It is interesting, at this point, to show the assignment of torpedoes on the Italian warships, according to the model (in brackets the number of torpedoes embarked):

Schwartzkopf B 43/356 (range 400 meters and 22 knots): steamboats of Benedetto Brin (4) – Giuseppe Garibaldi (6) - Saint Bon (4) – torpedo boats White type (32)

Schwartzkopf B 57/356 without torpedo drive (range 400 meters at 24 knots): steamboats of Regina Elena (8) – San Giorgio (8) – Dante Alighieri (2) – Giulio Cesare (2) – Leonardo da Vinci (2) – Conte di Cavour (2) – Andrea Doria (2) – Duilio (2)

Schwartzkopf B 57/356 with torpedo drive (range 800 meters at 21 knots): Etna (6) – Calabria (6) – Iride (6) – Agordat (6) – Coatit (6) – 16 torpediniere Schichau type (48) – 7 torpedo boats of Thornycroft type (14)

Schwartzkopf B 90/450 (400 meters at 31 knots – 800 meters at 27 knots): Carlo Alberto (12) – Vettor Pisani (12) – Dandolo (12) – torpedo coastal battery of Santa Maria at Venice (6)

Whitehead A 60/356 (400 meters at 28 knots – 800 meters at 25,5 knots): Dardo (3) – Euro (3) – Fulmine (3) – Lampo (3) – Strale (3) – Ostro (3)

Whitehead A 62/356 (400 meters at 28 knots – 800 meters at 24 knots): Gabbiano (4) – Sparviero (4) – Avvoltoio (4) – Condore (3) – Pellicano (3)

Whitehead A 60/450x3,70 (400 meters at 28 knots – 800 meters at 25 knots): Delfino (3) – Glauco (3)

Whitehead A 60/450x5,023 (600 meters at 31 knots – 100 meters at 28,5 knots): Giuseppe Garibaldi (12) – Varese (12) – F. Ferruccio (12) – E. Filiberto (12) – Saint Bon (12)

Whitehead A 68/450 (800 meters at 34 knots – 2000 meters at 25 knots): Squalo (3) – Narvalo (3) – Otaria (3) – Tricheco (3) – Foca (3)

Whitehead A 90/450 (800 meters at 34 knots – 2000 meters at 25 knots): Benedetto Brin (6) – Regina Margherita (6) – Sirio (4) – Sagittario (4) – Spica (4) – Scorpione (4) – Serpente (4) – Saffo (4) – Alcione (4) – Ardea (4) – Albatros (4) – Airone (4) – Astore (4) – Arpia (4) – Pegaso (4) – Procione (4) – Pallade (4) – Perseo (4)

Whitehead A 95/450 (800 meters at 34 knots – 2000 meters at 26 knots): Benedetto Brin (6) – Regina Margherita (6) – Nino Bixio (9) – Marsala (9) – Quarto (6) – Libia (4) – Orione (4) – Orsa (4) – Olimpia (4) – Orfeo (4) – Cigno (4) – Cassiopea (4) – Calliope (4) – Clio (4) – Centauro (4) – Canopo (4) – Calipso (4) – Climene (4)

Whitehead A 115/450x5,237 (1000 meters at 42 knots – 2000 meters at 35 knots – 3000 meters at 29 knots – 4000 meters at 26 knots): Indomito (3) – Impavido (3) – Intrepido (3) – Impetuoso (3) – Irrequieto (3) – Insidioso (3) – Ardito (3) – Ardente (3) – Animoso (3) – Audace (3)

Whitehead A 110/450x5,28 (4000 meters at 30,5 knots – 6000 meters at 25,5 knots): Giulio Cesare (6) – Leonardo da Vinci (6) – Cavour (6) – Andrea Doria

(6) – Duilio (6) – Dante Alighieri (6) – Regina Elena (6) – Vittorio Emanuele (6)
– Roma (6) – Napoli (6) – Pisa (6) – Amalfi (6) – San Marco (6) – San Giorgio (6)
– Campania (6) – Basilicata (6)

Whitehead A 100/450x5,25 (1000 meters at 42 knots – 2000 meters at 38 knots):
torpedo boats OS from 13 to 24 (36) – AS from 25 to 32 (24) – PN from 33 to 38
(18) – RM 39 (3)

Schwartzkopf A 115/450x5,20 (1000 meters at 41 knots – 2000 meters at 36 knots
– 3000 meters at 30 knots): Alpino (4) – Fuciliere (4) – Carabinieri (4) – Pontiere
(4) – Corazziere (4) – Garibaldino (4) – Turbine (3) – Borea (3) – Nembo (3) –
Espero (3) – Aquilone (3) – Zeffiro (3)

Schneider A 115/450x5,231 (1000 meters at 41 knots – 2000 meters at 35 knots –
3000 meters at 29 knots): Giulio Cesare (3) – Leonardo da Vinci (3) – Cavour (3)
– Andrea Doria (3) – Duilio (3) – Dante Alighieri (3) – Pisa (3) – Amalfi (3) – San
Marco (3) – San Giorgio (3) – Bersagliere (4) – Granatiere (4) – Lanciere (4) –
Artigliere (4) – Ascaro (4)

Whitehead – San Bartolomeo A 100/450x4,83 (600 meters at 34 knots – 2000
meters at 25 knots): torpedo boats PN from 1 to 12 (36)

Whitehead – San Bartolomeo A 100/450x5,203 (800 meters at 34 knots – 2000
meters at 26 knots): Nautilus (3) – Medusa (3) – G. Pullino (3) – Velella (3) –
Galileo Ferraris (3) – Jantina (3) – Nereide (3) – Fisalia (3) – Argo (3) – Salpa (3)
– Zoea (3) – Jalea (3) – Atropo (3)

As we see from this list, the more modern torpedoes were assigned to more
modern warships, specially those of 42 knots were embarked to the last torpedo
boats and destroyers while the old Schwartzkopf were embarked on older
warships or nominally assigned to steamboats, old units used only for harbour
duties or as boats of major warships.

We must come back to the Handbook, it is organized in three parts and the first
is divided in chapters where are studied the major parts of the torpedoes and also
all the weapons.

Chapter 1: study about the gunlocks, divided between 7 normal gunlocks, 3 net-
cutter gunlocks and a gun net-cutter gunlock.

Chapter 2: description of 20 warheads and similar 20 warheads for training, with
the note that are existing also buckling warheads (no more used) and trial
warheads with control instruments. The chapter studies also 4 types of fuses in
service.

Chapter 3: description of 10 types of deep controllers and hydrostatic gears.

Chapter 4: 7 types of servomotors.

Chapter 5: 11 types of movement transmitters to horizontal rudders.

Chapter 6: 11 types of steam regulators and heaters.

Chapter 7: 14 types of engines.

Chapter 9: 9 types of torpedodrives

Chapter 10: general description of 16 torpedoes with instructions upkeeping and work to do to prepare the torpedo launching. The description is very detailed, as we can see from the tables on this study, with the repetition of single parts of preceding chapters belonging to single torpedoes.

After the weapons, the second part of the Handbook studies the torpedo launchers, divided between surface launchers and underwater launchers. The first are 15 different types, with also the older “pincers” for steamboats and bow launchers for torpedo boats.

The underwater launchers described are five, but they were only for surface warships and five models of air underwater launchers for submarines don't are reported because “classified”: someone could ask the question about what person could do this maintenance and what handbook was to use.

The third section of Handbook is about the superchargers, with a preceding note explaining that these gears are produced from many different firms and then exists different models: Schwartzkopf, Whitehead, Brotherhood, San Giorgio, De Luca, Mahn, Ludwigsberg, Cerpelli. This explains the presence on Italian warships of 20 different types of superchargers.

With the torpedoes it is present also the description of other parts of the weapon: tank, pressure regulator or delayer, horizontal rudders fixing gear, valves, register lever, sinking valve, distance regulator, lubricator.

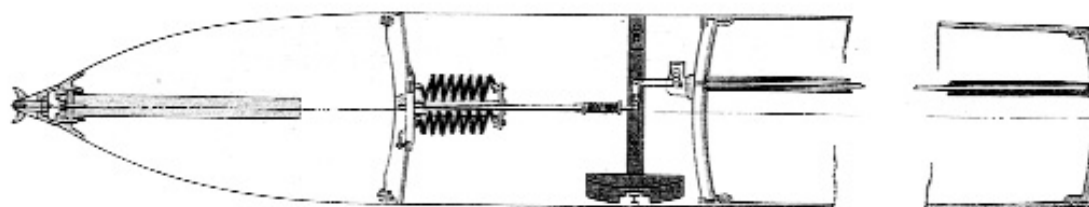
This Handbook is then a complete model of what was, in those days, the torpedo technology of Italian Navy.

At a first glance of the Handbook appears that the torpedo great majority was of Whitehead type, although other models were in service; from another point of view, if we think that the Handbook lists all the torpedoes, from the oldest to the more recent, this book is also an historical album of torpedoes that were in service from the first Eighties of XIX Century until 1915 in the Italian Navy.

The necessity to give to the specialists a good study tool and also for their work, obliged the persons that has drawn up to furnish it with hundreds of colour technical drawings that make the book, after ninety years from his compilation, a real art craft and a basic document for a compared study of torpedoes in service at the beginning of the First World War.

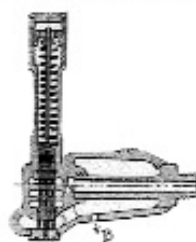
After extensive search in torpedo history I don't have found other similar handbooks: also of this copy exists very few other exemplars, none in public archives; moreover, it seems that exists only one edition, except a reprint of 1916, practically equal to 1915 edition, with few variants that, moreover, don't looked at realization of air launching torpedoes.

From another point of view, it results from this Handbook the predominance of Whitehead projecting on regards of other torpedo project studies. This fact is even more true for the Regia Marina in the years after the First World War when, with the control of Whitehead industry of Fiume (now Rijeka) and with the summing up of production in this factory and in that of Leghorn, the Italian torpedo production line will be every time the same of Whitehead.

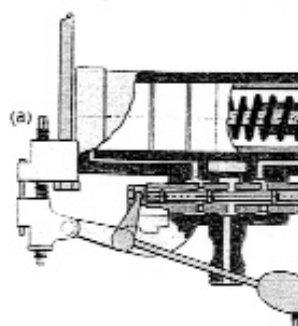


REGOLATORE DI PRESSIONE

PIATTO IDROSTATICO E PENDOLO



SERVOMOTORE

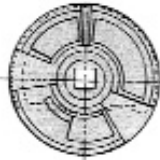




VISTA DI FRONTE
COMPARTIMENTO MACCHINA



VALVOLA DI DISTRIBUZIONE



REGOLATORE DI DISTANZA E
VALVOLA D'APPONDAMENTO

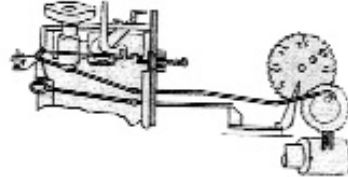
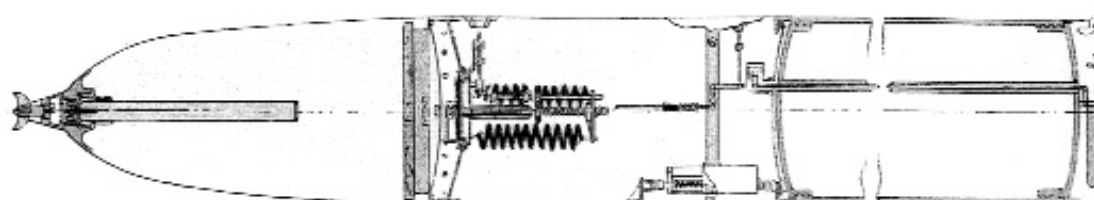


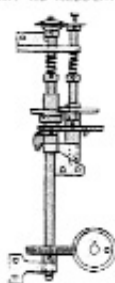
TABLE 1: Schwartzkopf B 43/356



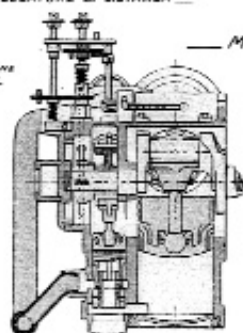
TRASMISSIONE DEL MOTO DELLA
SERINA AL REGOLATORE DI DISTANZA

— REGOLATORE DI DISTANZA —

— REGOLATORE DI PRESSIONE CON MOD.



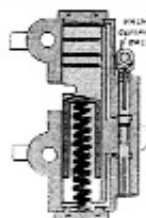
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VALVOLA
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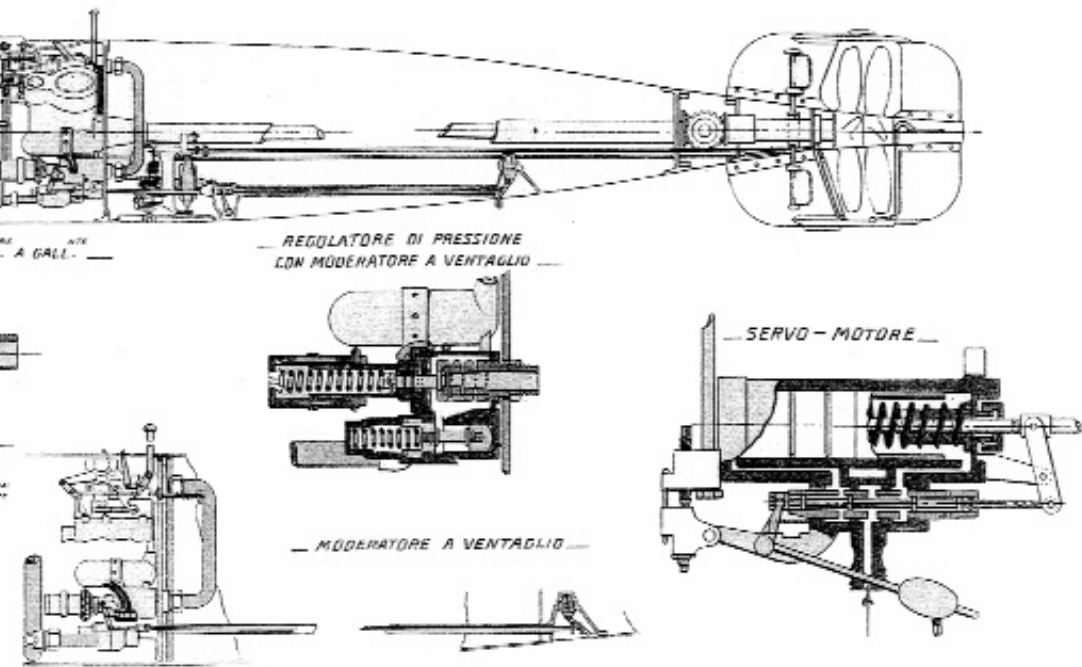
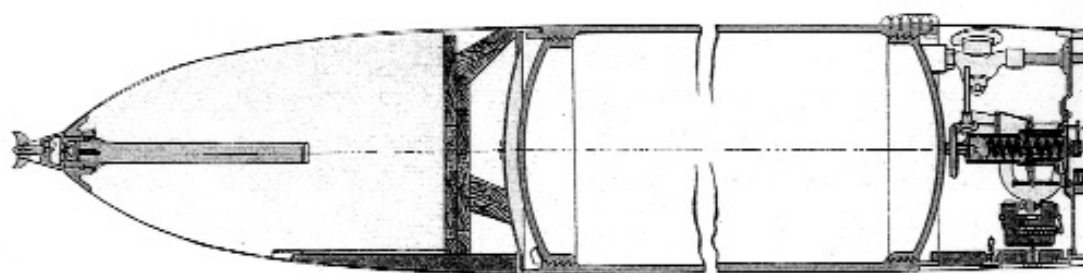
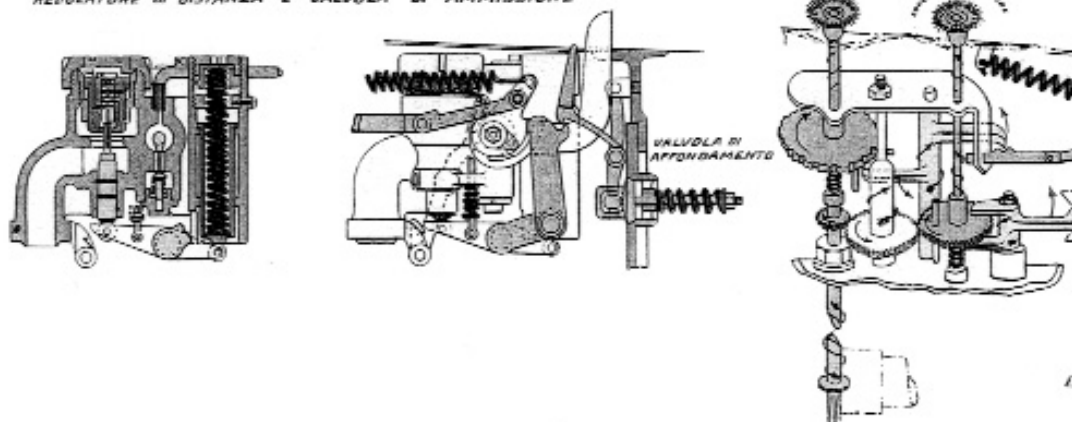


TABLE 2: Schwartzkopf B 57/356



REGOLATORE DI DISTANZA E IMMOBILIZZAZIONE

REGOLATORE DI DISTANZA E VALVOLA DI AMMISSIONE



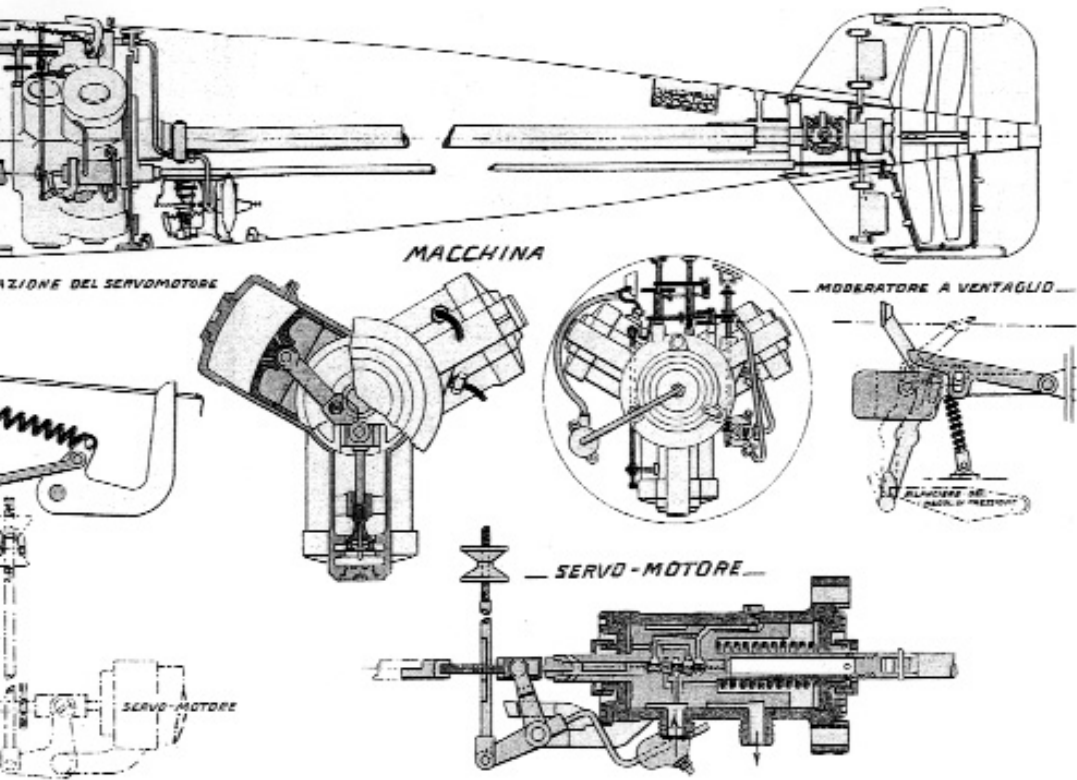
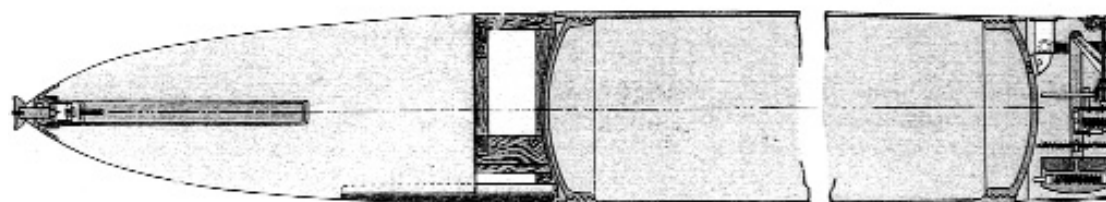
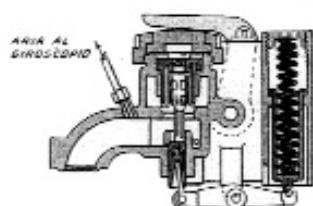


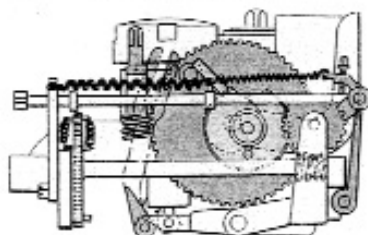
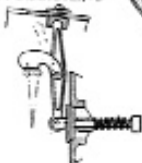
TABLE 3: Schwartzkopf B 90/450



REGOLATORE DI PRESSIONE

ARIA AL
GIROSCOPIO

GRUPPO DEI CONGEGNI

VALVOLA D'
AFFONDAMENTO

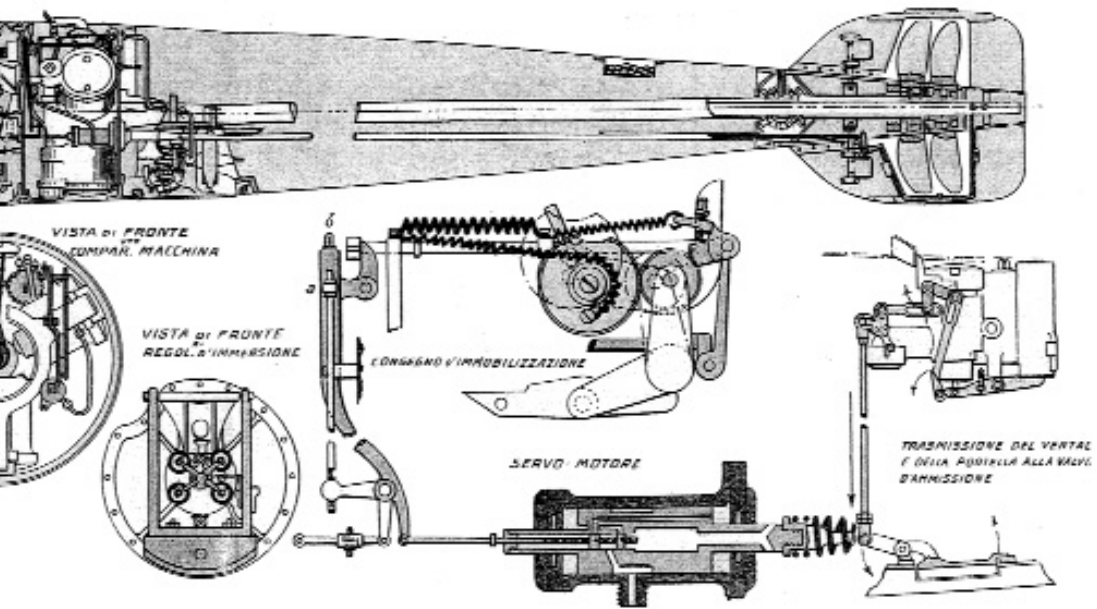
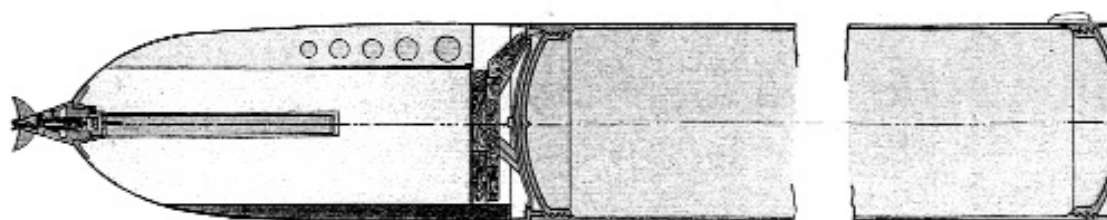
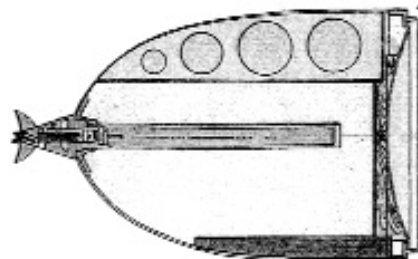


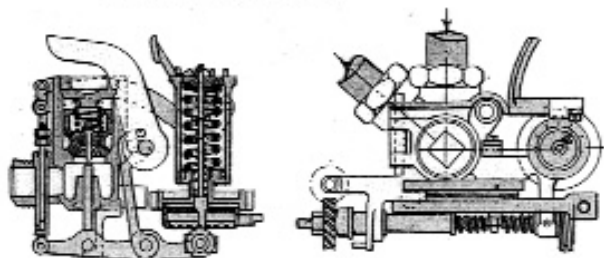
TABLE 4: Whitehead A 62/356



TESTA DI SERVIZIO DEL SILURO $\frac{A60}{450}$



GRUPPO CONGEGNI



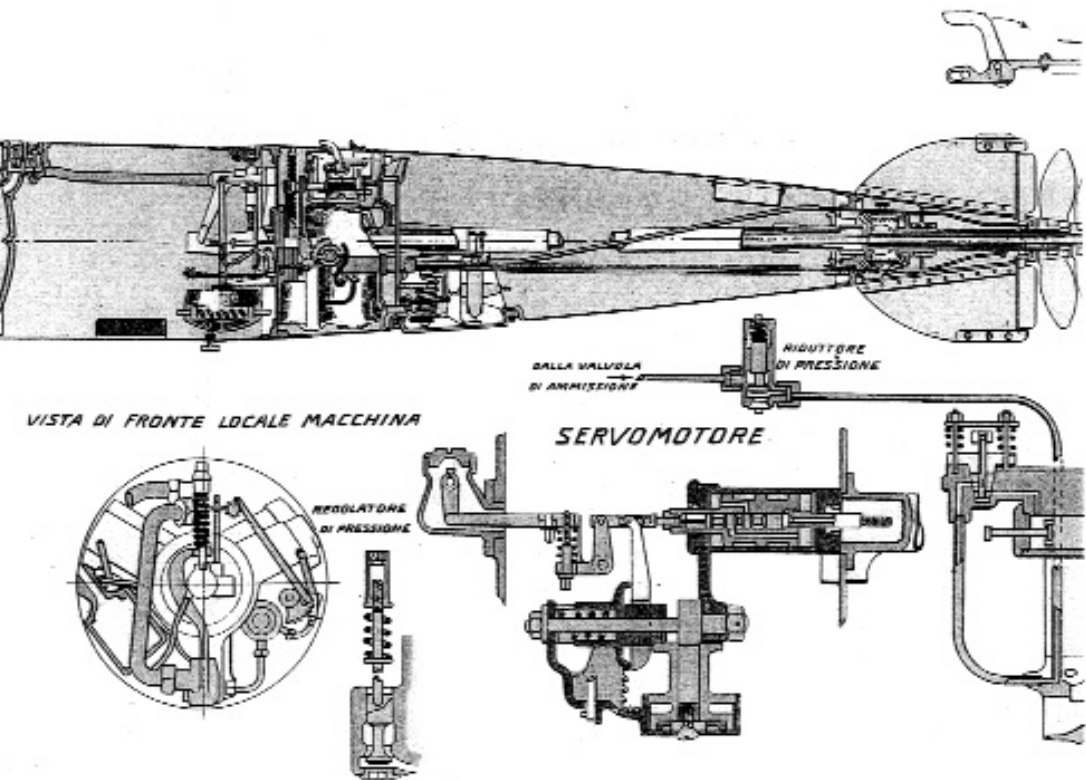
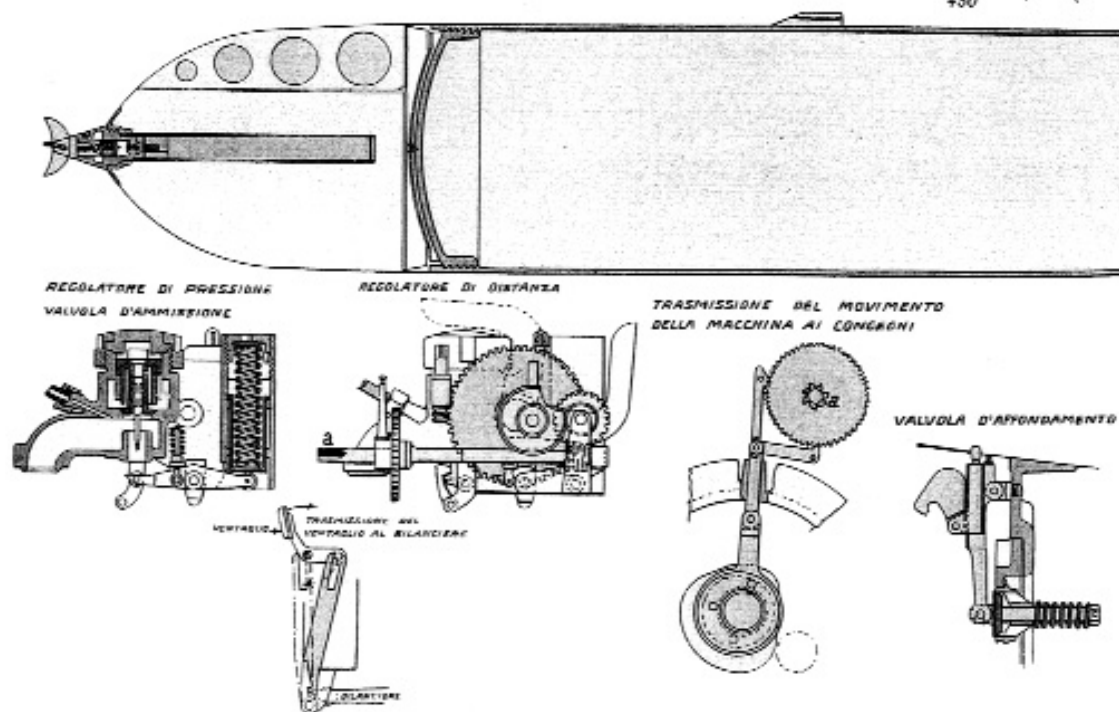


TABLE 5: Whitehead A 60/450x5,025 and Whitehead A 60/356

Questo modello di siluro è esaurito ed è stato sostituito dall'A $\frac{60}{450} \times 3,70$ (1914)



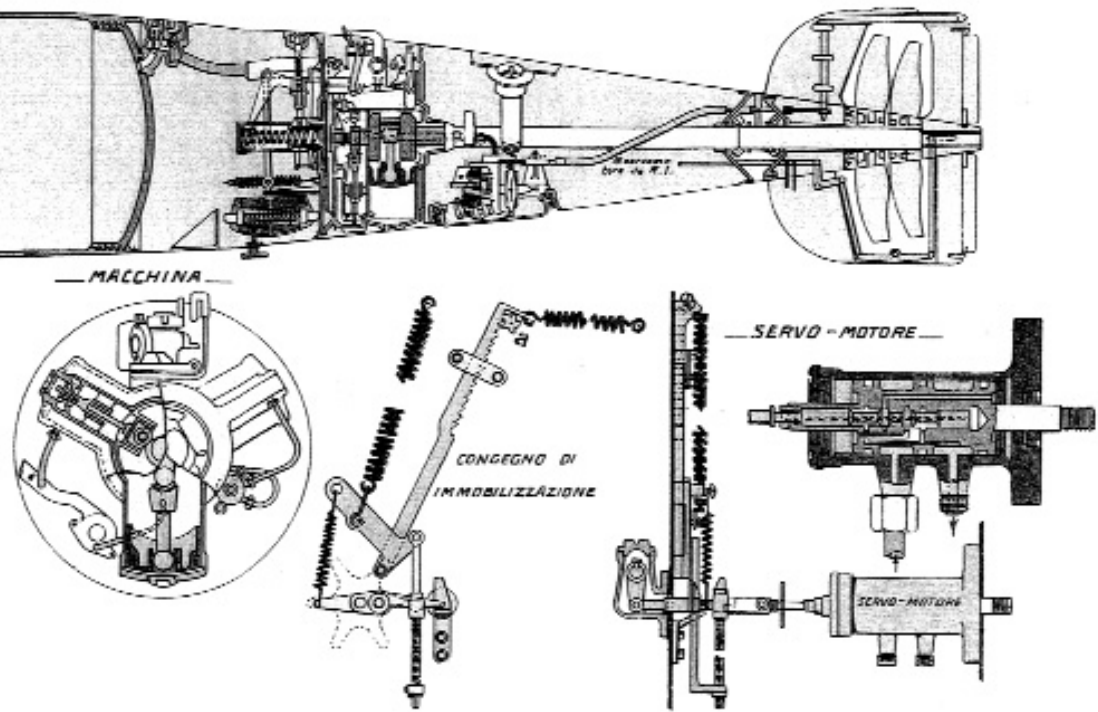
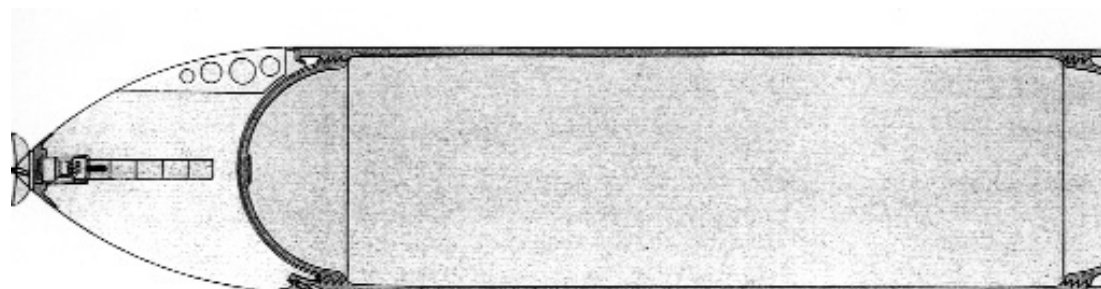
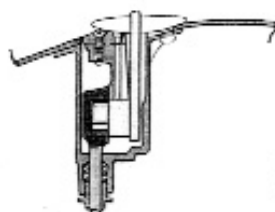
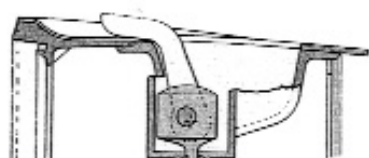


TABLE 6: Whitehead A 60/450x370

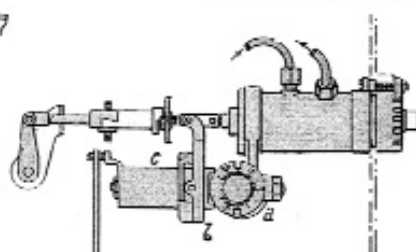


GRUPPO CONGEGNI

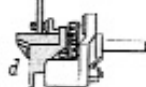
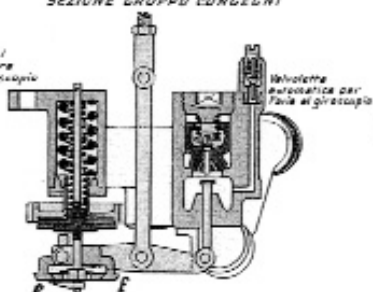
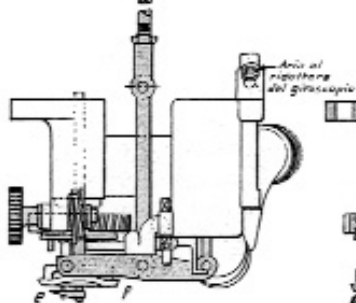
VÁLVOLA DI AMMISSIONE E REGOLAZ. DISTANZA



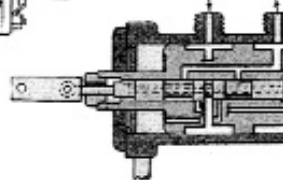
IMMOBILIZZAZIONE



SEZIONE GRUPPO CONGEGNI



SERVOMOTOR



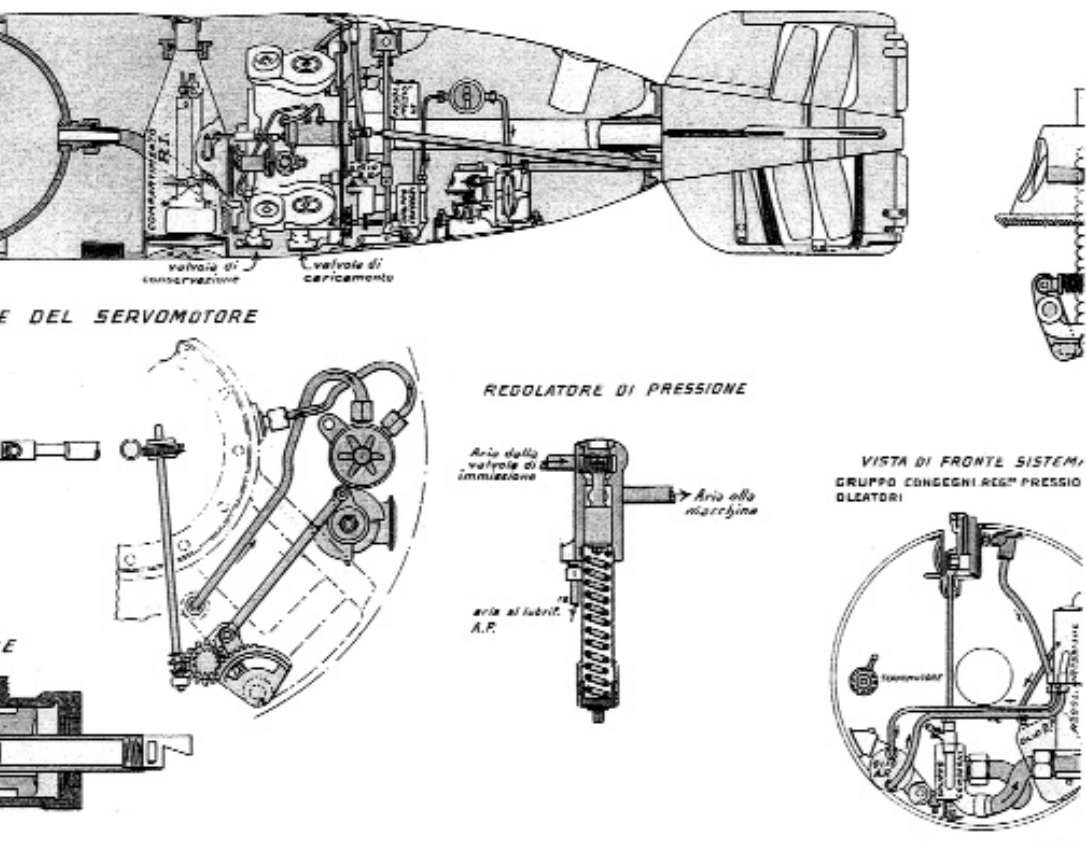
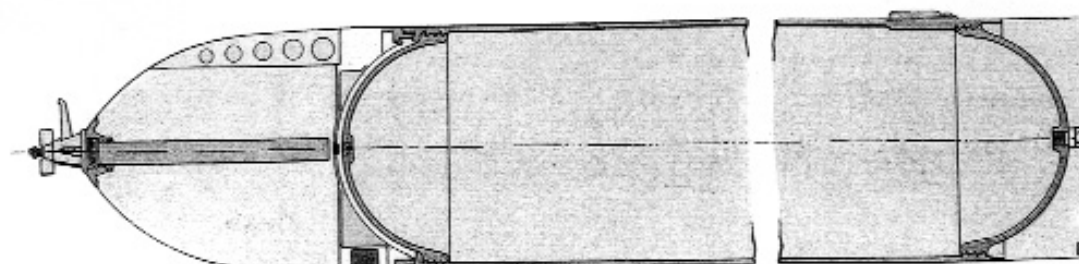
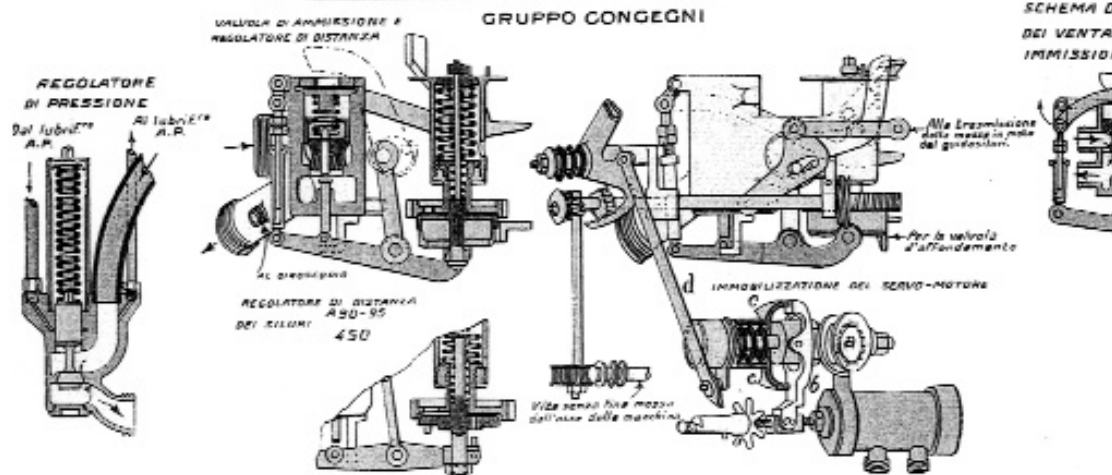


TABLE 7: San Bartolomeo A 60/450x3,70



GRUPPO CONGEGNI



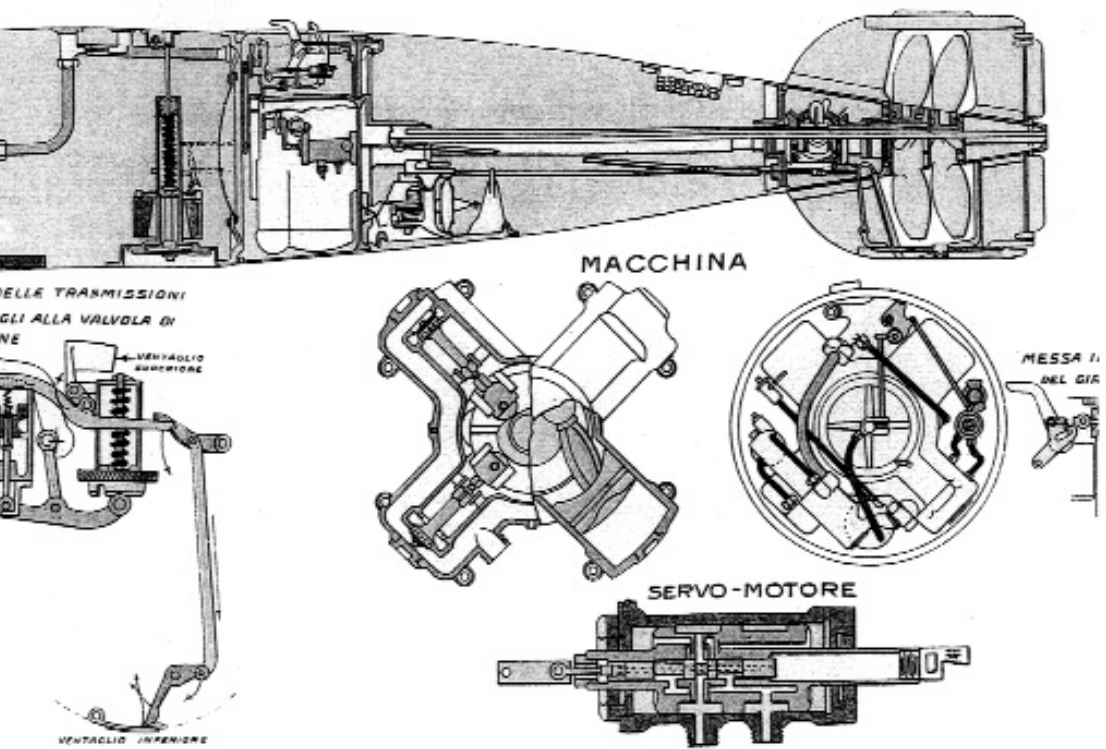
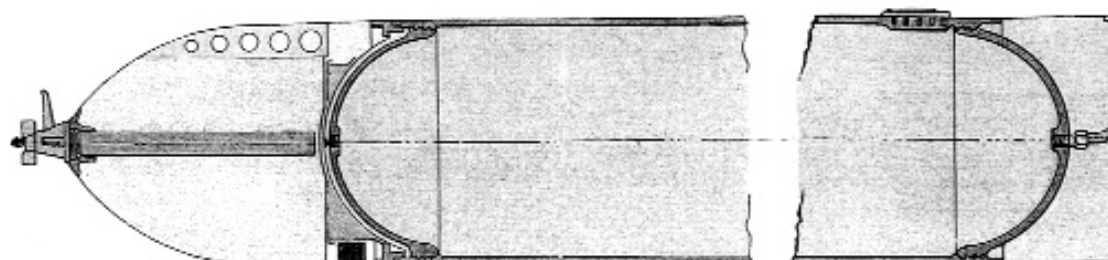


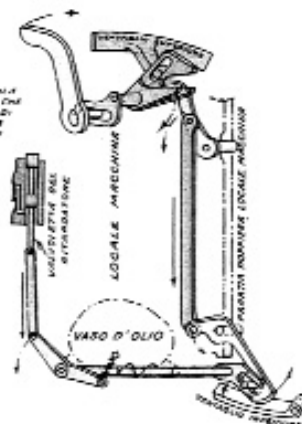
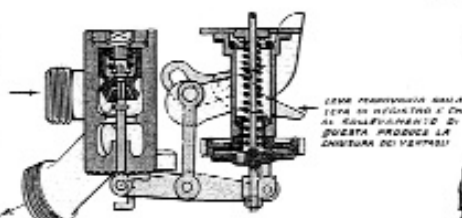
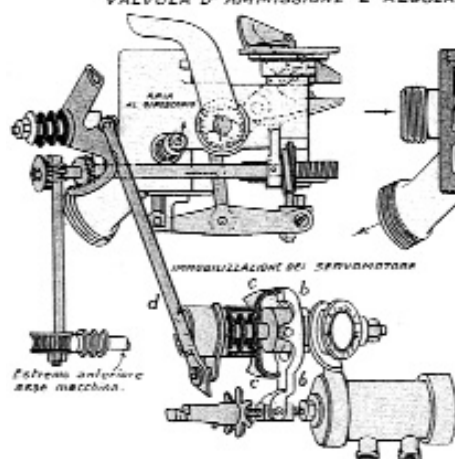
TABLE 8: Whitehead A 68/450 - A 90/450 - A 95/450



GRUPPO DEI CONGEGNI

VALVOLA D'AMMISSIONE E REGOLATORE DI DISTANZA

SCHEMA DELLE TRASMISSIONI DEI VENTAGLI AL RITARDATEUR



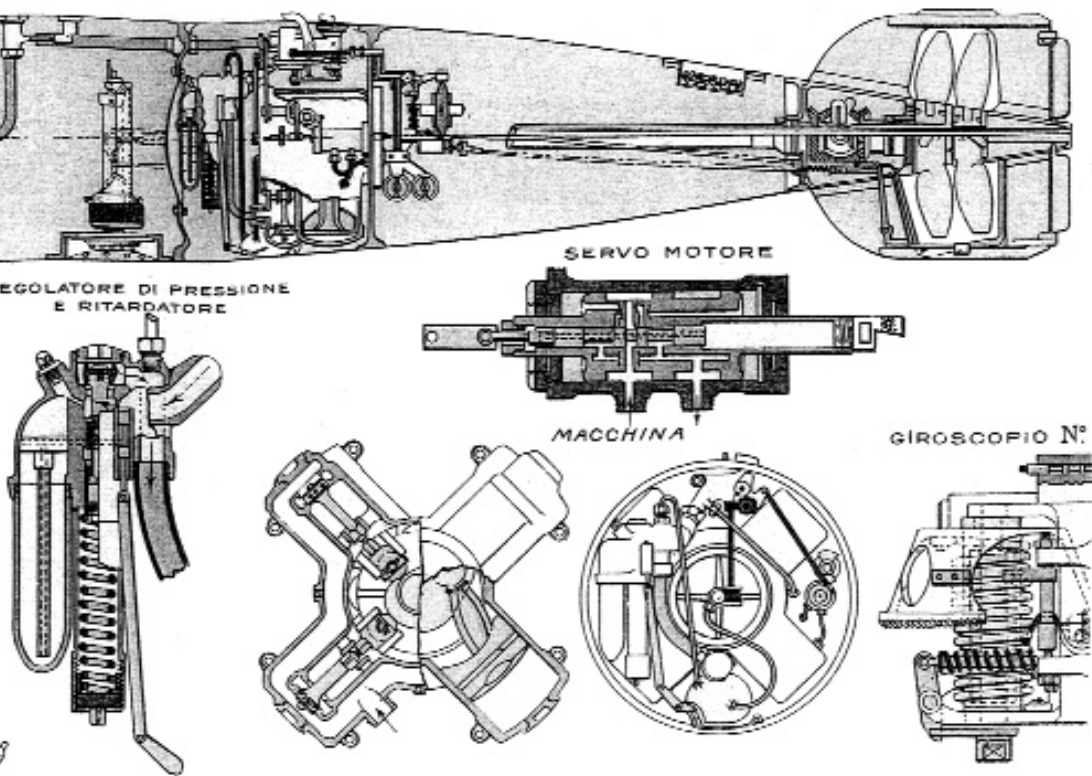
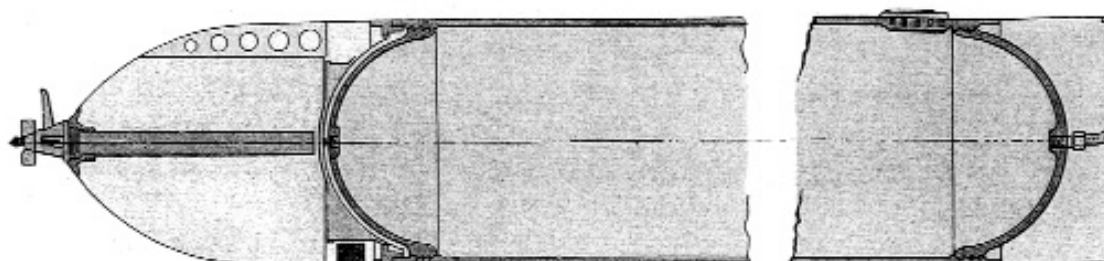
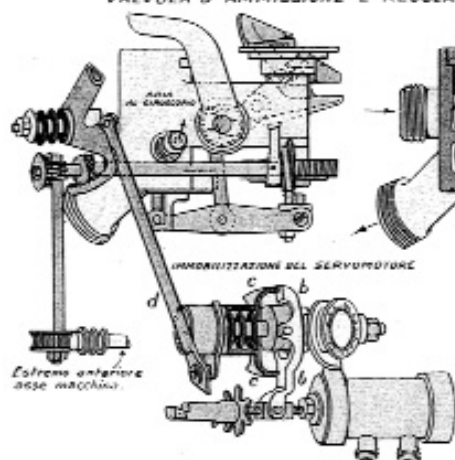


TABLE 10: Whitehead A 90/450 - A 95/450 mod. 1910

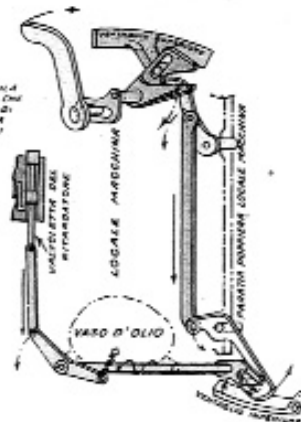


GRUPPO DEI CONGEGNI

VALVOLA D'AMMISSIONE E REGOLATORE DI DISTANZA



SCHEMA DELLE TRASMISSIONI DEI VENTAGLI AL RITARDATEORE



QUESTA TRANSMISSIONE HA LA
FUNZIONE DI REGOLARE IL
MOMENTO DI INNESCA LA
DIVERGENZA DEI VENTAGLI

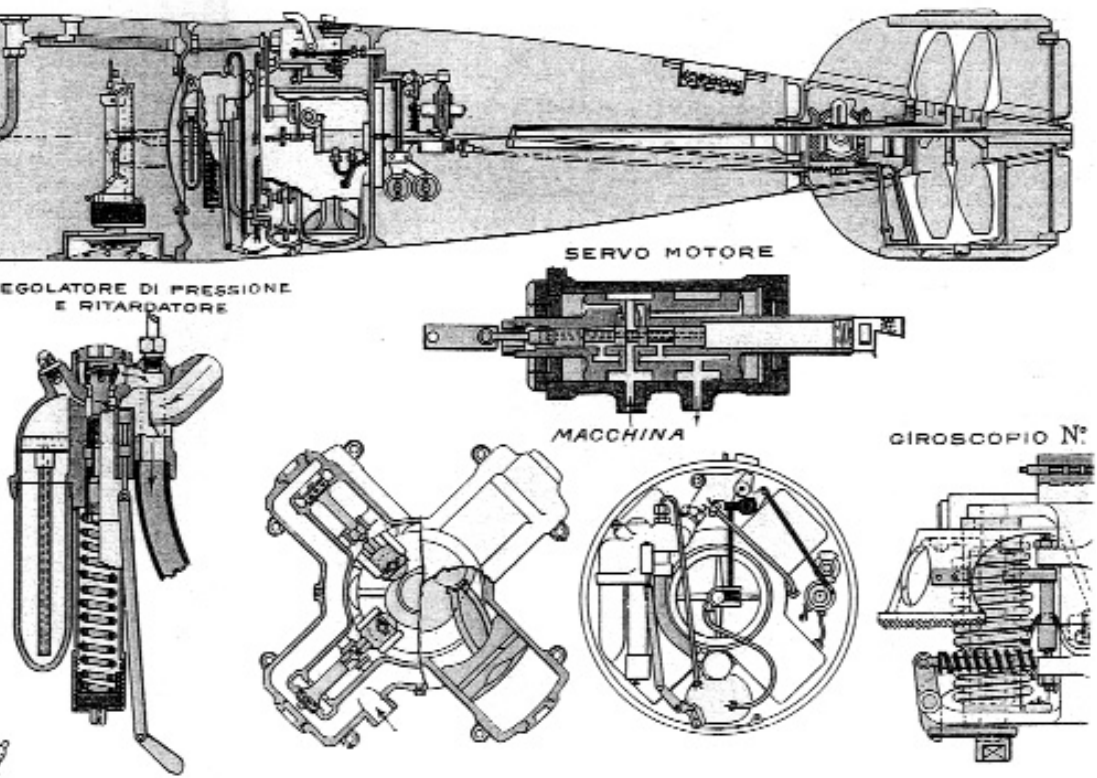
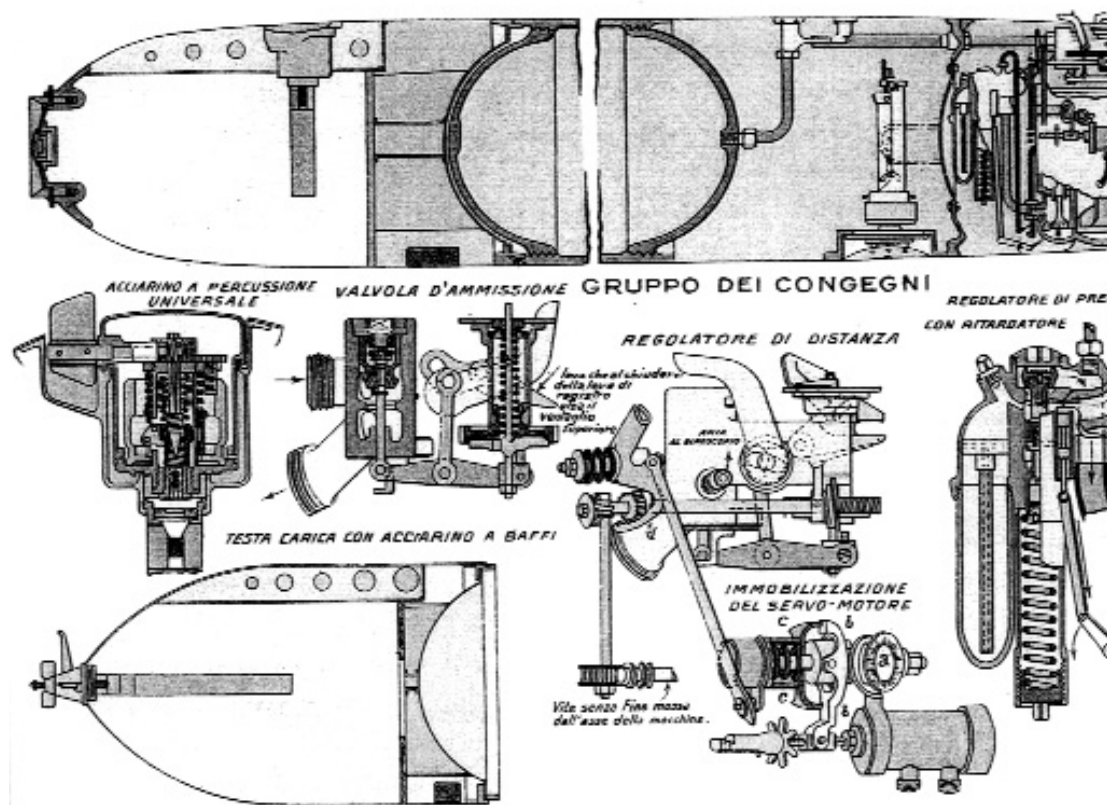


TABLE 11: San Bartolomeo A 100/450x5,203 and A 100/450x4,83



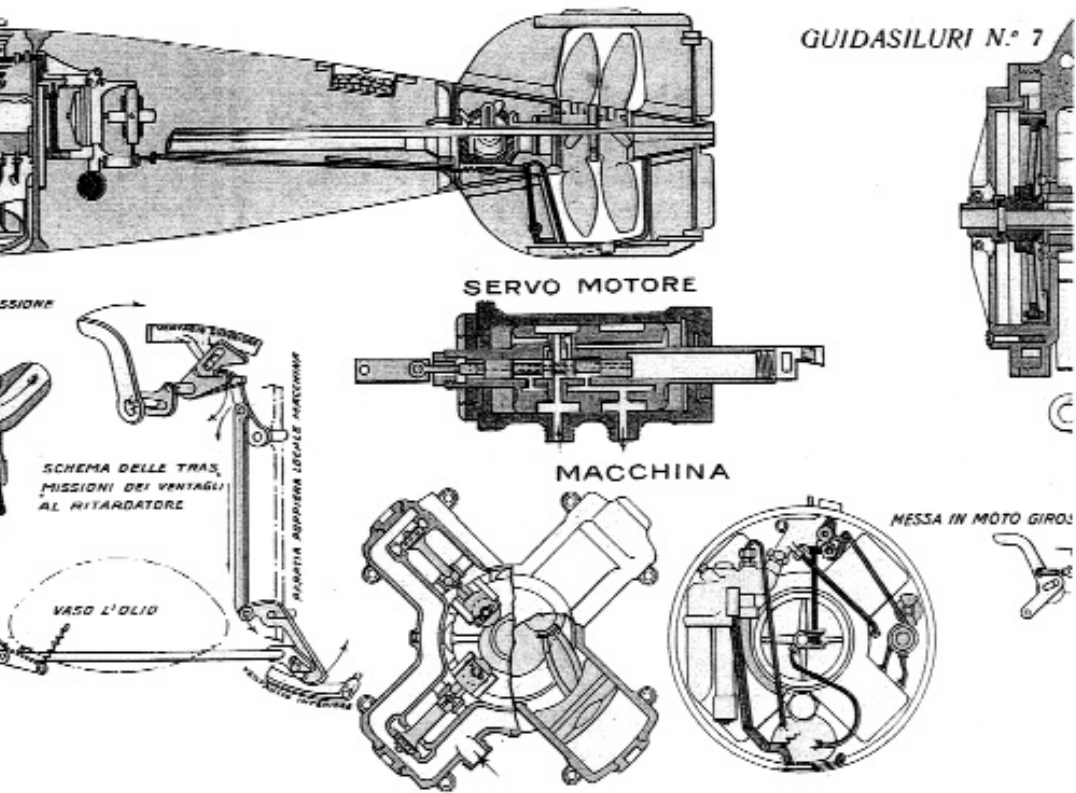
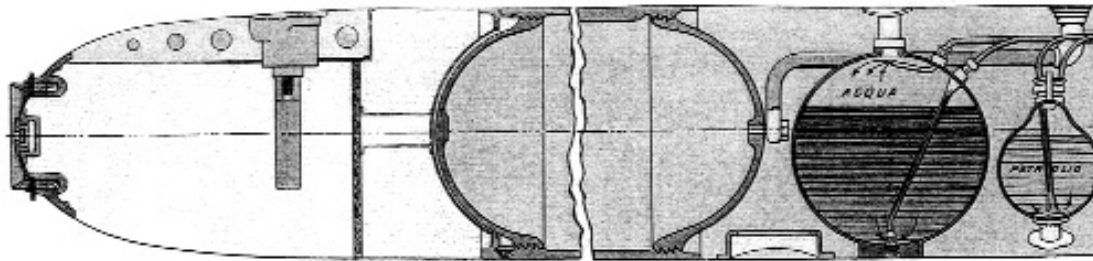


TABLE 12: Whitehead A 100/450x5,25

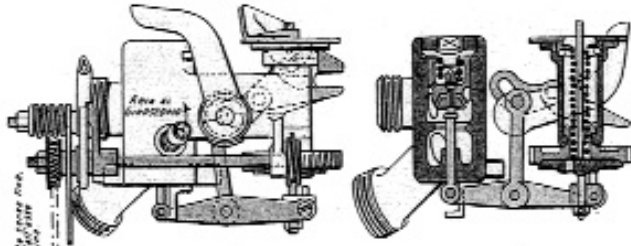


GRUPPO DEI CONGEGNI

VALVOLA D'AMMISSIONE E REGOLATORE DI DISTANZA

SCHEMA DELLA TRASMISSIONI DEI VENTAGLI AL RITARDATORE

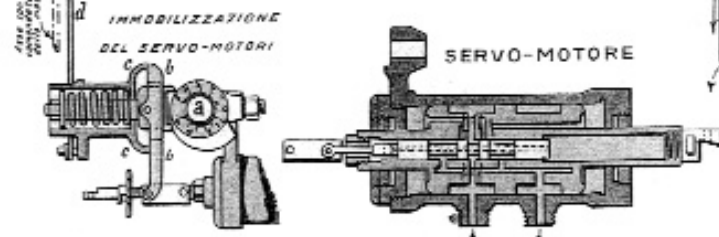
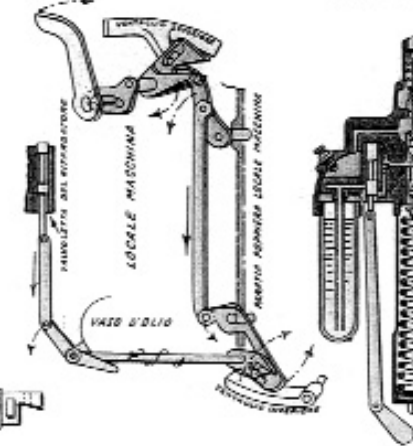
REGOLATORE E RISERVA



*Asse con vite senza fine
per il motore della
macchina*

*IMMOBILIZZAZIONE
DEL SERVO-MOTORI*

SERVO-MOTORE



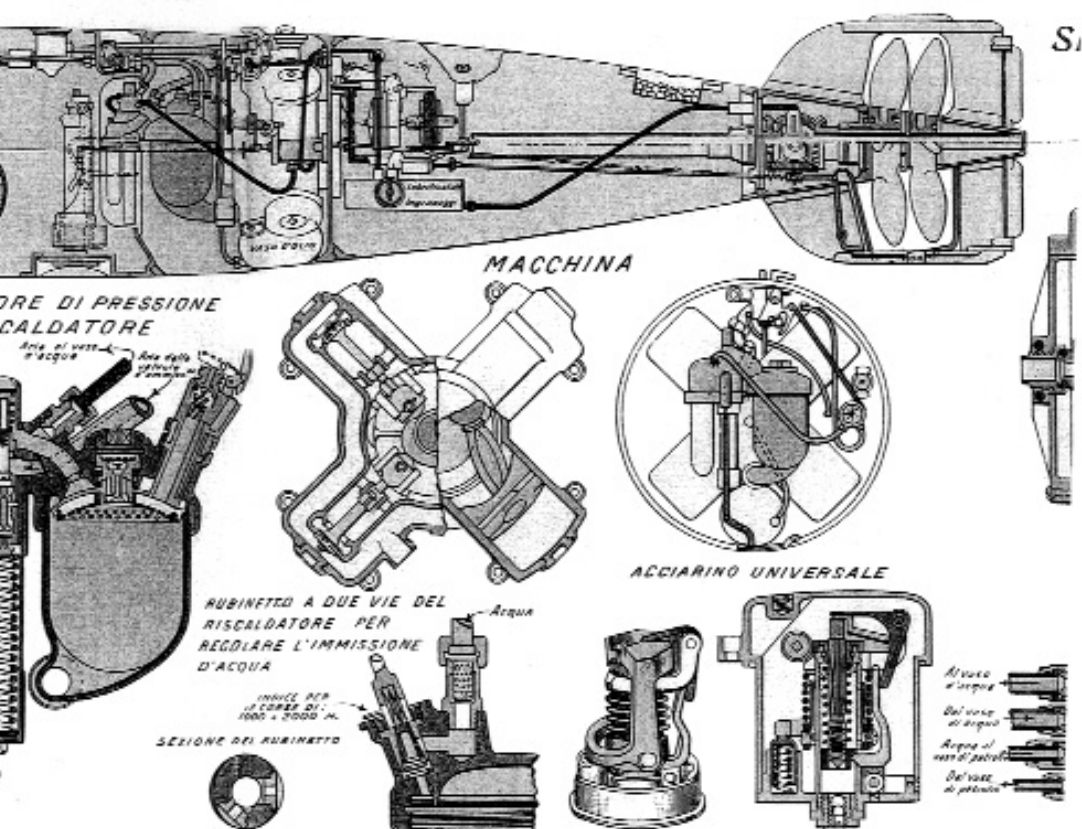
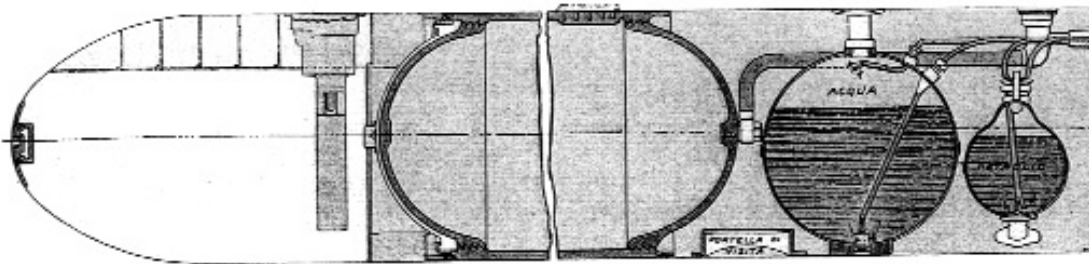


TABLE 13: Whitehead A 110/450x5,28

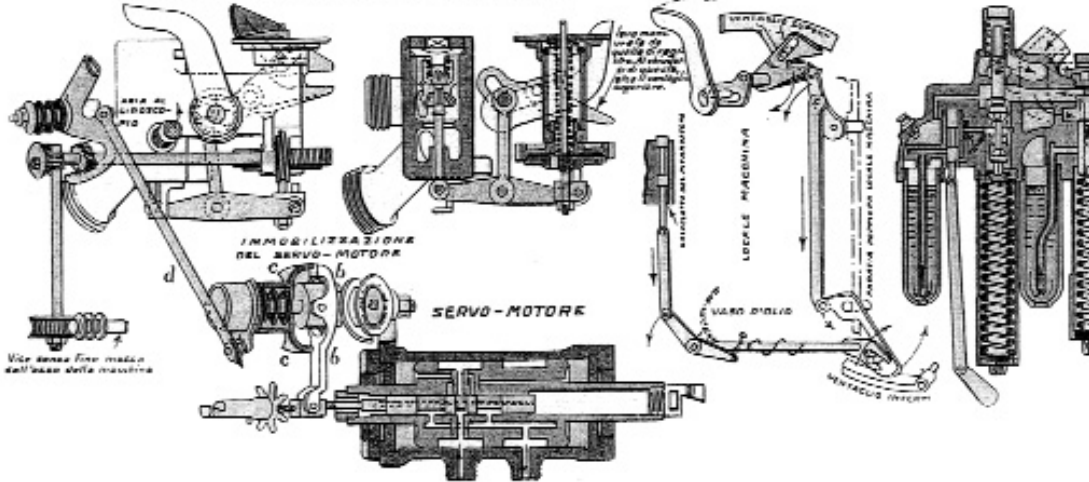


GRUPPO DEI CONGEGNI

VALVOLA D'AMMISSIONE E REGOLATORE DI DISTANZA

SCHEMA DELLE TRASMISSIONI
DEI VENTAGLI AL RITARDATEORE

REGOLATORI DI PRES.



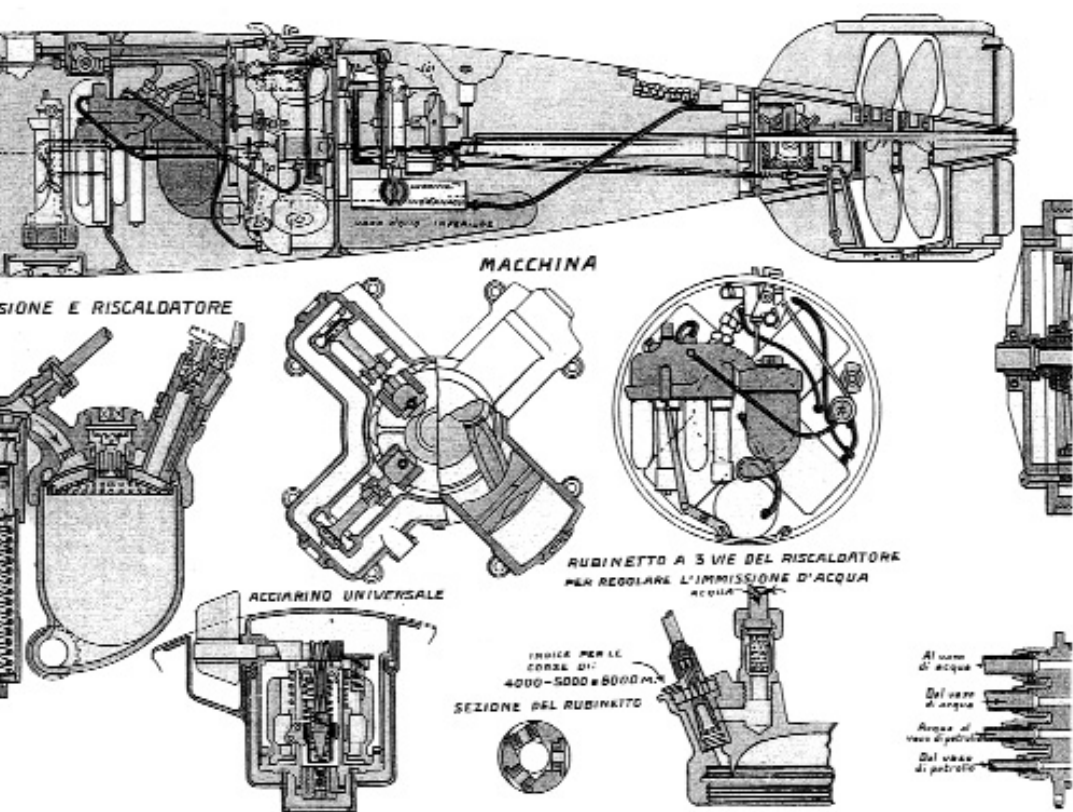
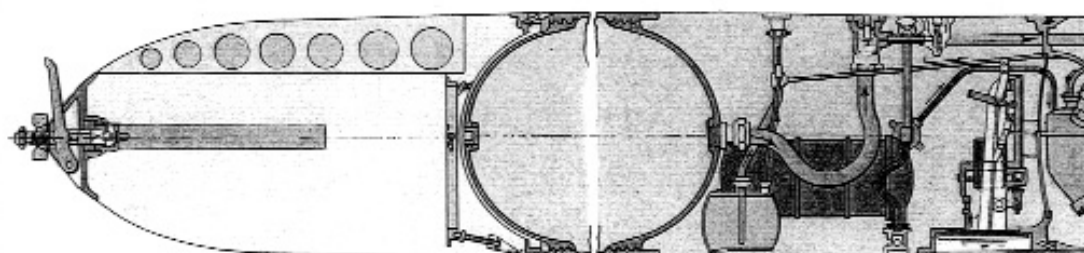
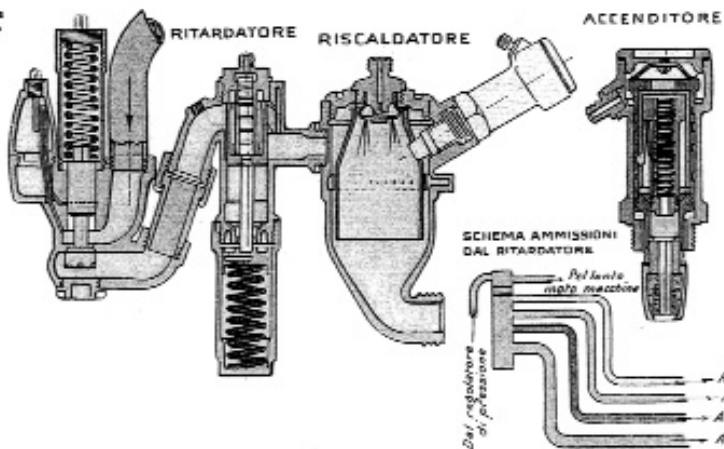
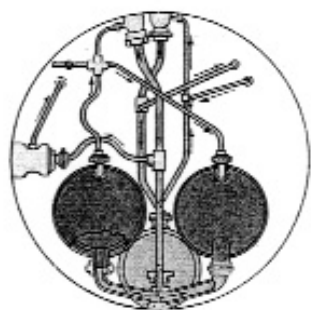


TABLE 14: Schneider A 115/450x5,231



SEZIONE TRASVERSALE DEL
COMPARTIMENTO REGOLAT. D'IMMERS.

REGOLATORE DI PRESSIONE



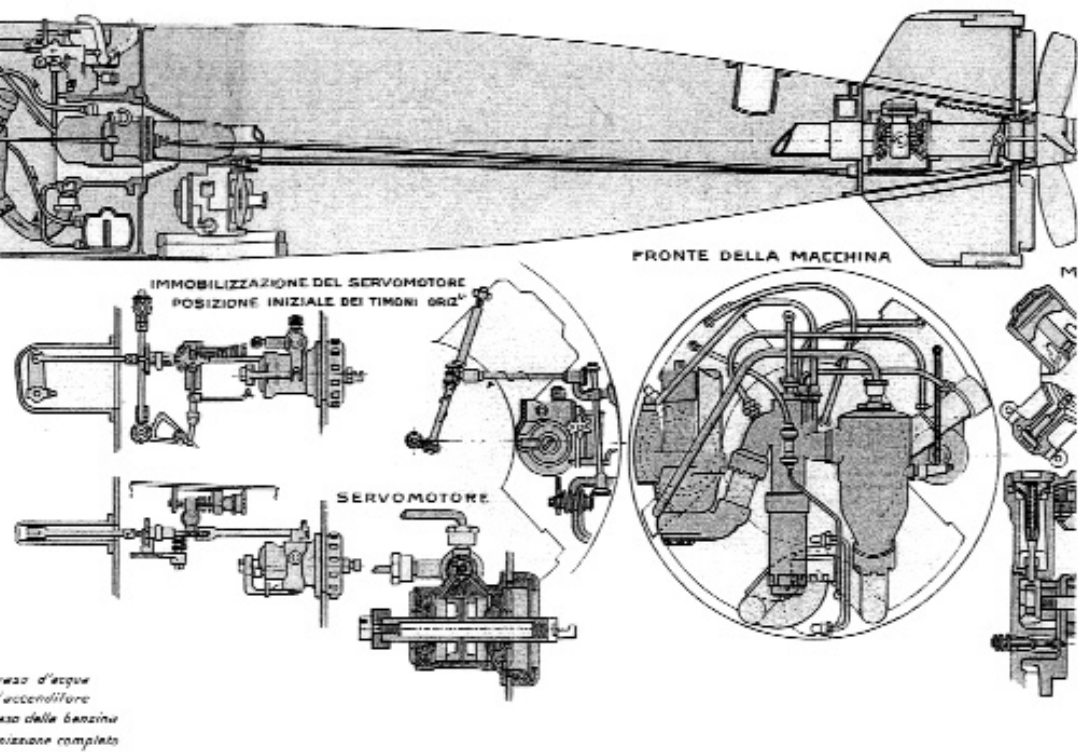
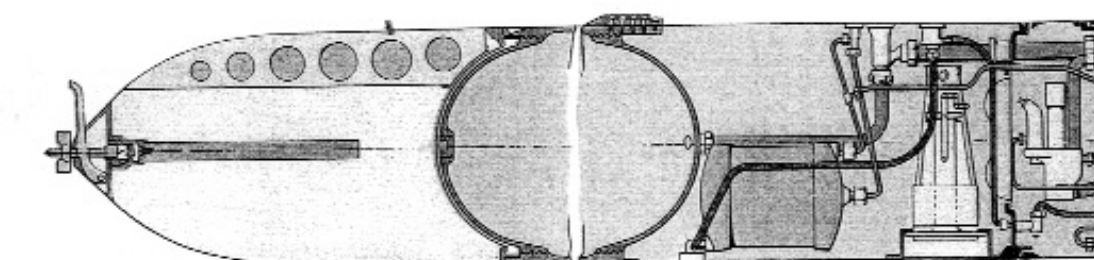
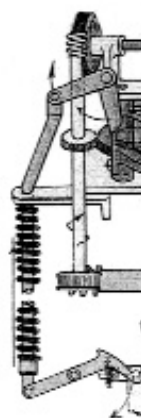
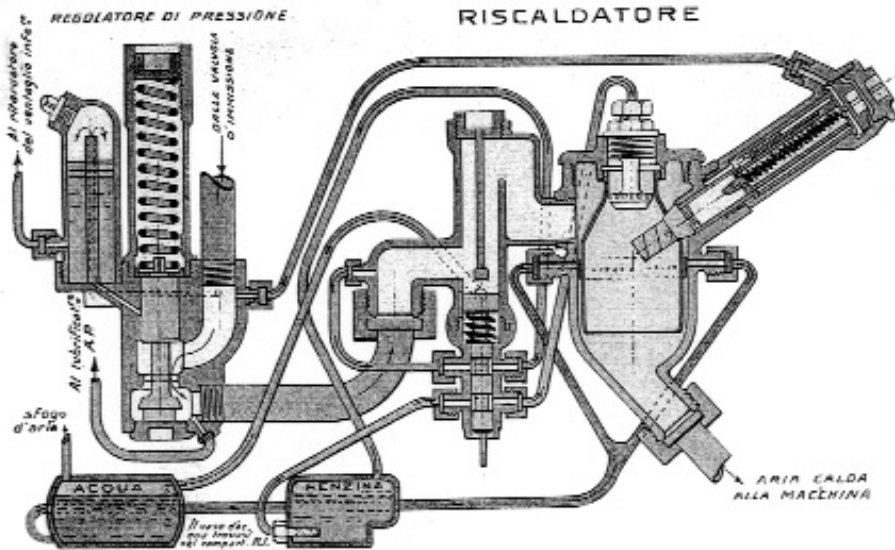


TABLE 15: Schwartzkopf A 115/450x5,20



REGOLATORE DI PRESSIONE

RISCALDATORE

REGOLATORE
CONGEGNO DI IM-
VALVOLA DI

*Sažetak***PRIRUČNIK REGIA MARINA TORPEDOMEN***Achille Rastelli*

Godine 1915., na početku Prvoga svjetskog rata, torpedo je već gotovo četrdeset godina bio poznat kao vitalni sustav naoružanja ratnih brodova Regia Marine. Iako talijanska podmornička flota nije bila osobito razvijena, torpedo je bio glavno naoružanje manjih eskortnih ratnih brodova poput razarača ili torpednih čamaca, a bio je i dio uobičajene opreme za veće plovne jedinice poput bojnih brodova i krstarica.

Važnost ovog oružja razvila je i potrebu za obukom torpedista, časnika i mornara koji moraju imati određena znanja za rukovanje torpedom i prije svega za održavanje takvoga osjetljivog i složenog oružja kao što je torpedo.

O toj su temi u ratnoj mornarici napravljene teoretske studije o općim principima torpeda, o obuci uz oružje; torpedistima su podijeljeni priručnici kako bi u svako doba i u svakoj prigodi imali na raspolaganju spreman tekst.

Jasno je da takav priručnik mora sadržavati brojne detaljne ilustracije i analitička objašnjenja za svaki tip torpeda kojim se koristi Regia Marina. Tako je nastao priručnik za torpediste Regia Marina Torpedomen Handbook (*Prontuario per i siluristi della Regia Marina*) koji su pripadnici ratne mornarice dobili u Školi za stručnjake za torpeda.

Bila je to velika knjiga, poput albuma, s gotovo stotinu stranica u obliku tablica. Poglavlja detaljno govore o: zatvaračima – bojnoj glavi – regulatorima uranjanja – servomotorima – prijenosu – regulatorima tlaka/grijačima – zupčanicima – torpednim stazama – torpedima – torpednim lanserima – superpunjačima.

Nužnost postojanja takva albuma vidi se već nakon čitanja prve stranice gdje se može vidjeti da je Regia Marina 1915. godine imala u pogonu 18 različitih tipova torpeda, različitih karakteristika i različitih uputa za održavanje i rukovanje.

Na prvi pogled čini se da je većina torpeda zastupljenih u priručniku bila Whiteheadova tipa, iako je bilo i drugih modela u službi; s druge pak strane, ako mislimo da priručnik sadrži baš sva torpeda, od najstarijeg do zadnjeg, ta je knjiga povijesni album torpeda primijenjenih od početka osamdesetih godina 19. stoljeća do 1915. u talijanskoj ratnoj mornarici.

Potreba da se stručnjacima dade dobar priručnik za učenje i rad, obvezuje ljude koji su ga pripremili da ga opreme stotinama tehničkih nacрта u boji što knjigu devedeset godina nakon njezina nastanka čini pravim umjetničkim obrtom i temeljnim dokumentom za usporedno učenje o torpedu koji se koristi od početka Prvoga svjetskog rata.

Nakon opsežnog prekapanja po povijesti torpeda, nisam pronašao druge slične priručnike: uz to, ima vrlo malo primjeraka ovoga priručnika od kojih niti jedan nije pohranjen u državnim arhivima i, konačno, čini se da postoji samo jedno izdanje, osim reprinta iz 1916. koji je praktično isti kao i izdanje iz 1915., uz nekoliko varijacija koje ne spominju realizaciju torpeda lansiranih zrakom.

S druge strane, iz priručnika proizlazi premoć Whiteheadovih projekata u odnosu na druge projektne studije torpeda. Ta se činjenica to više odnosi na Regia Marinu u godinama nakon Prvoga svjetskog rata kada se, uz nadzor Whiteheadove industrije u Rijeci (tada Fiume) i uz sažimanje proizvodnje u toj tvornici i onoj u Leghornu, proizvodna linija talijanskog torpeda gotovo uvijek poklapa s Whiteheadovom.

Abstract

THE REGIA MARINA TORPEDOMEN HANDBOOK

Achille Rastelli

In 1915, at the beginning of First World War, the torpedo was by now from nearly forty years one of the essentials weapon systems of the Regia Marina warships. Although the Italian submarine fleet was not very much developed, the torpedoes were the main armament of the minor escort warships, like destroyers and torpedo boats, but they were also normal equipment for the greater units, like battleships and cruisers.

The importance of this weapon developed the necessity of schools for torpedomen, officers and ratings that could have the necessary competence to employ it and, over all, also for the upkeeping of a weapon so delicate and complex like the torpedo.

With this object in the Navy were completed theoretical studies on the torpedo general principles and also training on the weapons, but were given also handbooks to give to the torpedomen the possibility to have every time at her disposition a text to bring it on board of the units as ready use book.

It is obvious that such handbook could have many detailed illustrations and analytical explications for every type of torpedo used by Regia Marina. Addressed to this target was the Regia Marina Torpedomen Handbook (Prontuario per I siluristi della Regia Marina), spreaded on the Navy by the Torpedo Specialist School.

It was a big book, album size, of nearly 100 pages, in form of tables. The chapters are devoted to examine in a detailed way the following matters: gunlocks – warheads – plunging regulators – servo-motors – transmissions – pressure regulators/heaters – gears – torpedo runners – torpedoes – torpedo launchers – superchargers.

The evidence of necessity of such album is evident if we read her first pages were we can see that in the Regia Marina in 1915 were in service at least 18 different torpedo types, with following different characteristics and also different necessities for her care.

At a first glance of the Handbook appears that the torpedo great majority was of Whitehead type, although other models were in service; from another point of view, if we think that the Handbook lists all the torpedoes, from the oldest to the more recent, this book is also an historical album of torpedoes that were in service from the first Eighties of XIX Century until 1915 in the Italian Navy.

The necessity to give to the specialists a good study tool and also for their work, obliged the persons that has drawn up to furnish it with hundreds of colour technical drawings that make the book, after ninety years from his compilation, a real art craft and a basic document for a compared study of torpedoes in service at the beginning of the First World War.

After extensive search in torpedo history I don't have found other similar handbooks: also of this copy exists very few other exemplars, none in public archives; moreover, it seems that exists only one edition, except a reprint of 1916, practically equal to 1915 edition, with few variants that, moreover, don't looked at realization of air launching torpedoes.

From another point of view, it results from this Handbook the predominance of Whitehead projecting on regards of other torpedo project studies. This fact is even more true for the Regia Marina in the years after the First World War when, with the control of Whitehead industry of Fiume (now Rijeka) and with the summing up of production in this factory and in that of Leghorn, the Italian torpedo production line will be every time the same of Whitehead.

The study will be have also nearly 12 reproductions of torpedoes from the Repertorio.

