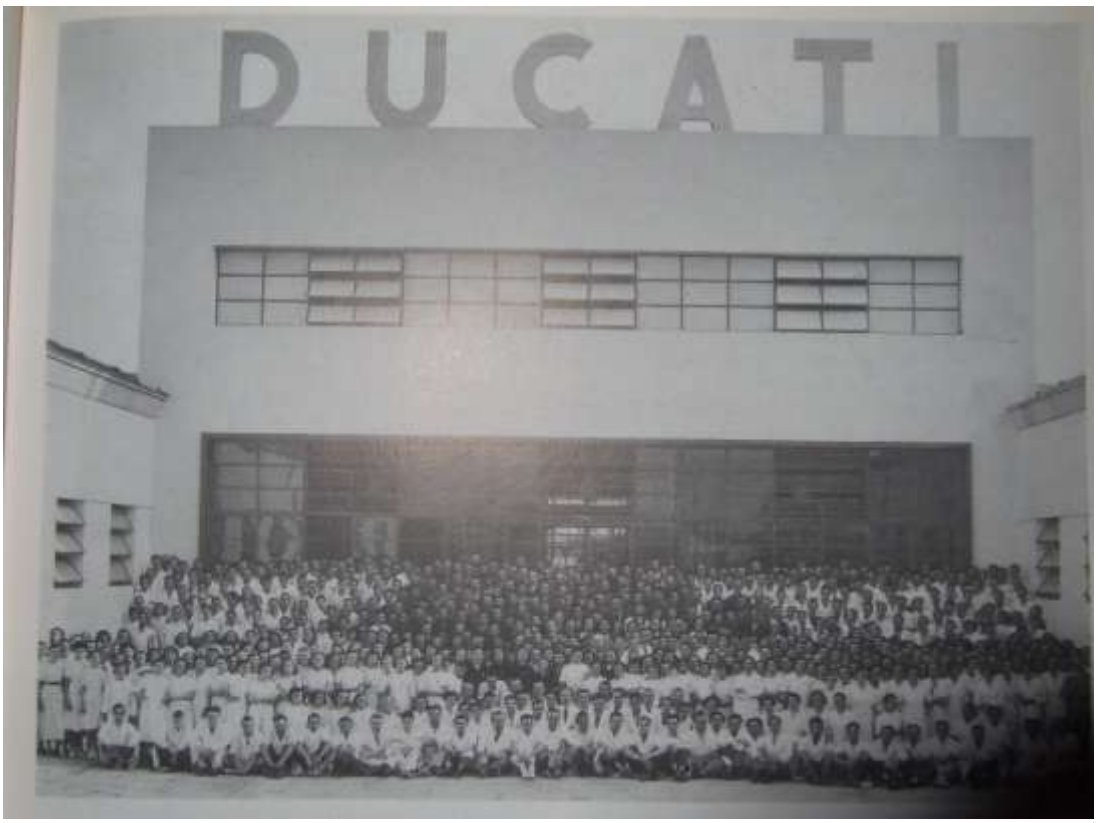
BIMAR
The little known history of the Ducati 20° inclined 10x80 binoculars
By Giuseppe Finizio
Edited by Anna Vacani

I. Brief history of Ducati works up to WW II

On 4 July 1926, the three brothers Bruno, Adriano and Marcello Cavalieri Ducati founded in Bologna, northern Italy, the Società Scientifica Radiobrevetti Ducati (SSRD). The first product was a condenser for radio-receivers named "Manens" which was exported to 45 countries in the world. In 1928 started the production of variable condensers and in 1932 followed the electrolytic condensers. All these products were based on Adriano Cavalieri Ducati's patents. Adriano was the manager of Research Division, Marcello was the Production Manager and Bruno was the General Manager (sale, advertisement, management and finance).In 1935 SSR Ducati transferred to Borgo Panigale, a village west of Bologna, in a very modern factory designed with the most advanced organization and work principles.



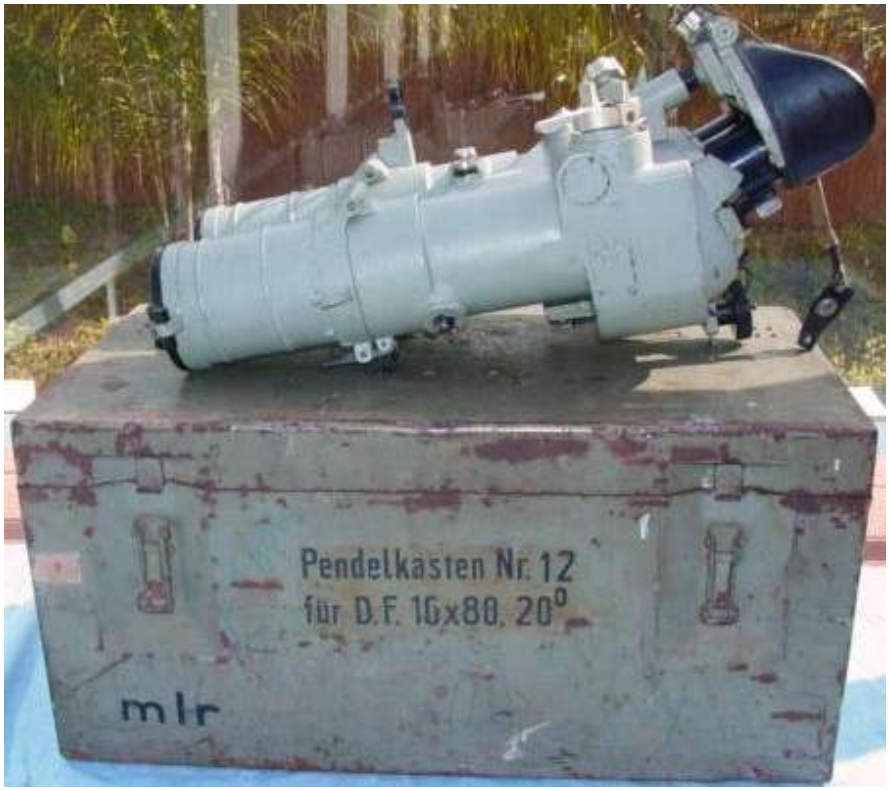
Ducati works, Borgo Panigale, spring 1939

On 16th July it was declared "auxiliary factory" to the war effort by the War Ministry. In fact the growth of the Ducati workforce was explosive: 100 in 1932, 400 in 1934, 1.500 in 1938, and 7.000 in 1940, when Italy entered W.W.2, and reached the peak of 11.000 in 1943. In 1939 the Ducati brothers

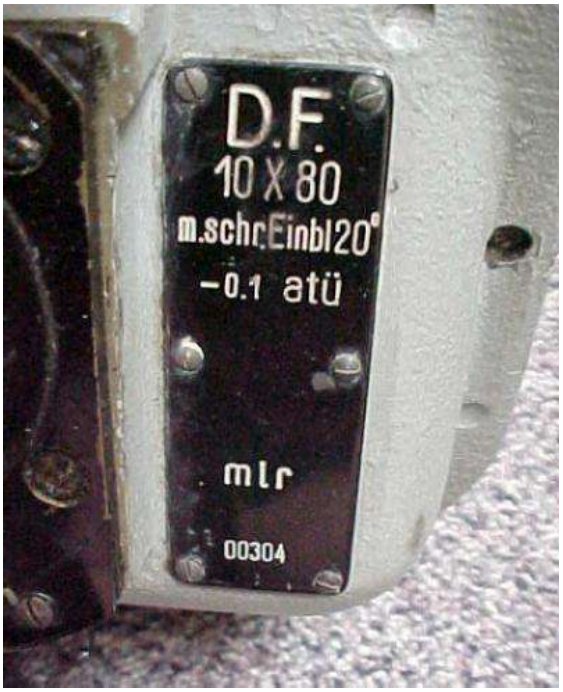
decided to create an Optical Dept to produce the little telescopes of the field photo telegraphic device named Faini-Triulzi for the Italian Army.
The Optical Dept could count on Prof Vasco Ronchi, founder and director of the National Institute of Optics located in Arcetri, Florence, and, at least in the beginning, supplies of optical parts from Officine Galileo, also in Florence.
The calculation office was entrusted to Prof. Giuliano Toraldo di Francia from the National Institute of Optics and the research work to eng. Raffaello Bruscaglioni from the San Giorgio firm of Genoa, both famous Italian researchers in optics.
We remember also eng. Silvio Guidarelli who would become manager of the Optical Dept. During the war the Ducati produced also fuses, machine-gun parts, telephones, and radiogoniometers and secretly established some laboratories called "Post" to develop products for the post-war period.

II. The BIMAR project

On 22 Feb 1942 the Ducati requested to the C.S.D. (Supreme Defence Committee) chaired by Benito Mussolini himself to enlarge the factory in Borgo Panigale to cope with Italian and German Armed Forces orders. In fact in the same period the Kriegsmarine ordered 1900 "10x80 –Geraete mit 20 Grad-Schraegeinblick" (the 20° inclined 10x80 binoculars) from the Ducati company, which named them Bimar (=BInocolo MARino or sea binoculars) in its files.



10x80 Ducati binos n.00304 with its metal case marked mlr. Copyrights picture Frank Doherty



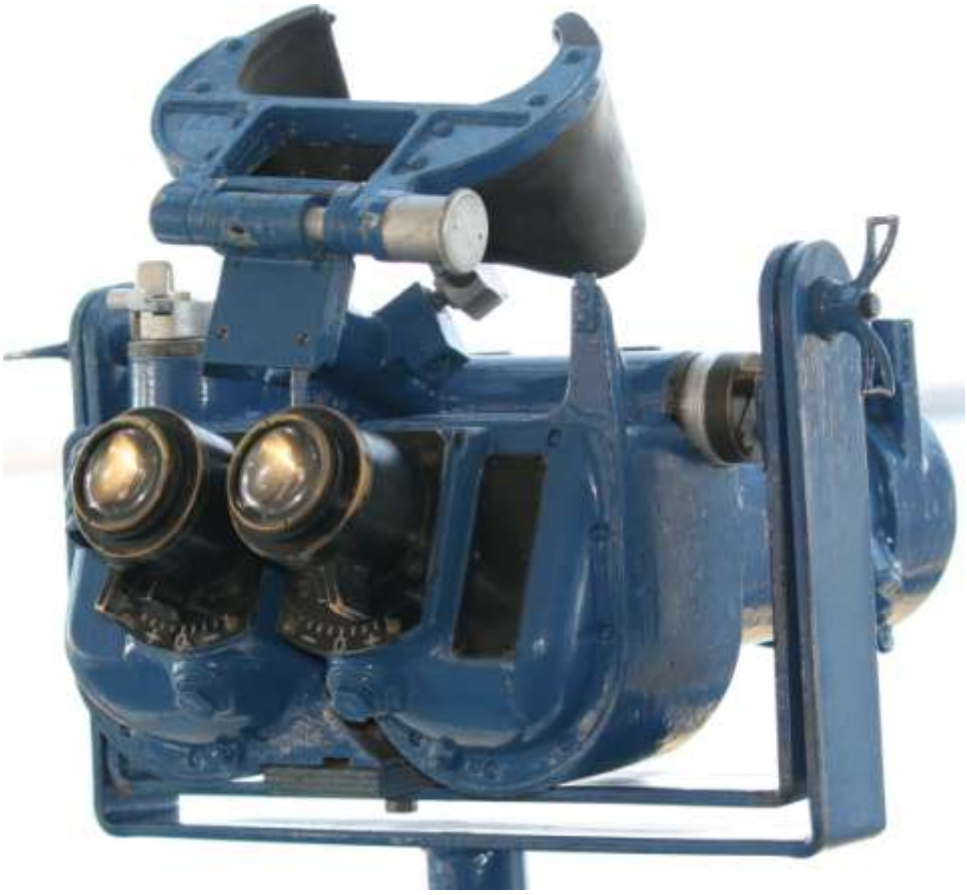
10x80 Ducati binos n.00304 mlr

These were marine binoculars designed by Zeiss which were licensed also to the Voigtlaender & Sohn A.-G Braunschweig (ddx) and later the Optische Praezisions-Werke of Warsaw (eug).
On 22 August 1942 Bruno Cavalieri Ducati wrote to the National Institute of Optics asking for professional advice from Prof Ronchi and two technicians of the National Optical Inst, eng. Mario Di Jorio and Prof. Giuseppina Bocchino, transferred to Bologna. In the afternoon of 18 Sept Marcello Cavalieri Ducati held a meeting in Bologna to set up the BIMAR production. Prof Vasco Ronchi himself was present.
On 30 Sept all the technicians who participated in the Bimar project were put under the pledge of secrecy. Soon after the Ducati Company ordered 500 optical parts for the binoculars from Schott Glass Works, then the world's leading producer of optical glass controlled by Zeiss itself.
The Ducati Optical Dept made the glass into prisms & lenses.
In the meeting of 8 Jan 1943 was established a first production calendar:

- -March 2
- -April 7
- -May 15
- -June 20
- -July 30
- -Aug. 45

- Total 119

10x80 Ducati binos n.00223 mlr - also repainted in blue. Copyrights picture Robert C. Gregory



10x80 Ducati binos n.00223 mlr; Copyrights picture Robert C. Gregory

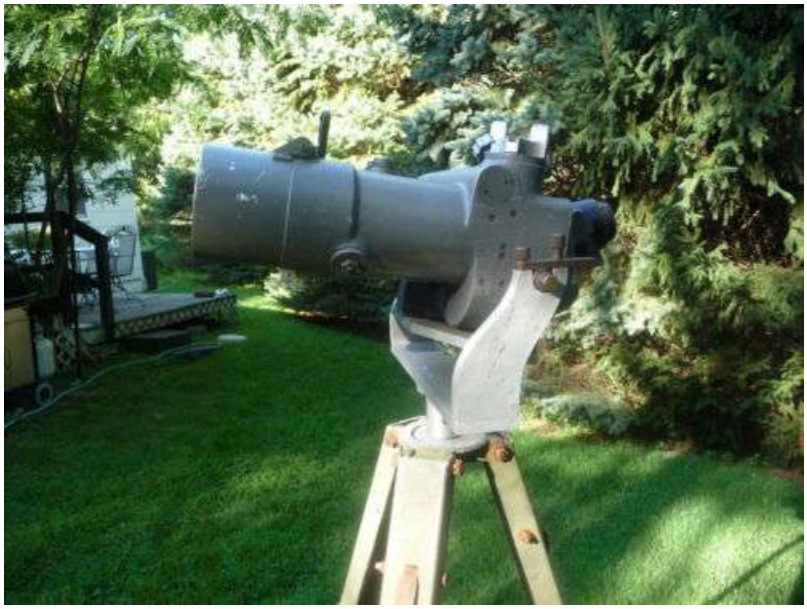
10x80 Ducati binos n.00223- mlr repainted in blue; Copyrights picture Robert C. Gregory

Prof Ronchi led a mission to the Zeiss factory to present the first binocular sample between 20 and 27 May 1943 (a first mission had visited Zeiss in early 1942). A Capt Klau of the OKM (=Oberkommando der Marine) accompanied them. On 3 June Marcello Cavalieri Ducati complimented Prof Ronchi for "the first BIMAR passed the testing in Jena".
Another 5 Bimar were delivered to the Kriegsmarine on 20 July. After the Italian armistice of 8 Sept 1943 the Ducati firm remained in the territory controlled by the fascist puppet government of the RSI (Italian Social Republic).
In fact the German armed forces subjugated the Italian industry for their purpose and the BIMAR production continued unabated.

Anyway, from a letter sent from Bruno Cavalieri Ducati to Prof Ronchi dated 20 Jan 1944 we can realize that there were some difficulties in the shipping of the binoculars to Zeiss factory for testing. A batch of Bimar had reached Jena damaged due to enemy aircraft attack and Mr Ducati thought that it was better that the binoculars were tested by an OKM team directly at the factory in Bologna and so avoid a long and dangerous trips by truck to Jena.

On 1 March 1944 Ducati workers went on strike in protest and on midday of 12 October, 38 B-24 heavy bombers of the USAAF 455th Bombing Group dropped 374 x 500 GP bombs on the Ducati factory in Borgo Panigale and destroyed it.
However, the production of BIMARs did not stop since the Optical Dept had been previously moved to the village of Crespellano, further west of Bologna.

In fact on 10 March 1945 Bruno Ducati wrote to Prof Ronchi: "…we also, besides continuing production of the Bimar…." 450 10x80 binoculars were effectively delivered to the Kriegsmarine (we know the binoculars numbered 00170, 00208, 00223, 00304, and 00306), but many more were in storage at Crespellano at the end of the war.



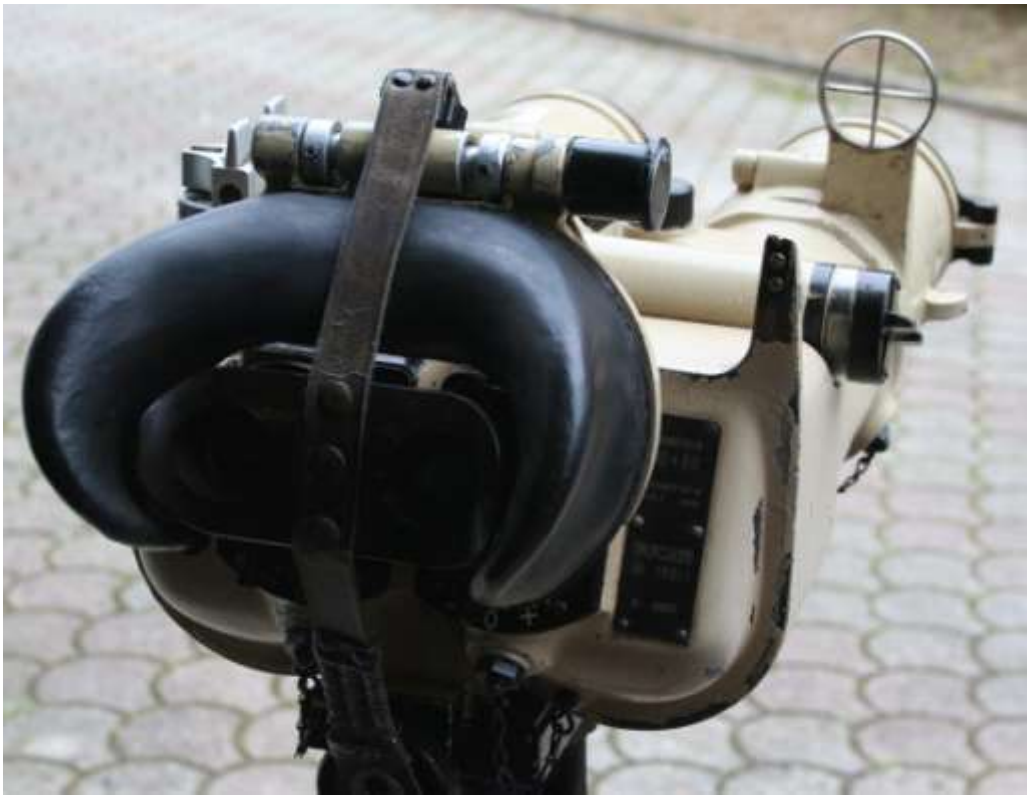
BIMAR mlr n.00170

BIMAR mlr n.00170

The binoculars built during the war were not marked Ducati but mlr[1], the secret code assigned to this manufacturer by the German Army Ordnance Department.

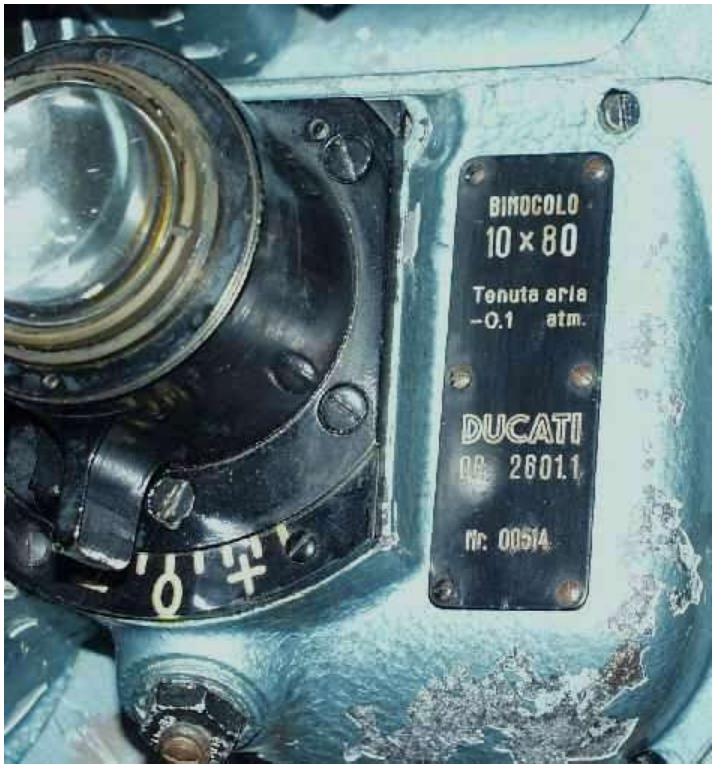
III. The post-war period

The BIMAR history does not stop with the end of the war in 1945. In fact a few binoculars were assembled from parts in storage and sold on the civilian market in the period 1947-1953. Unfortunately, we do not know how many binoculars were built after the war since official Ducati production numbers and statistics are not available (we know the binoculars numbered 00514, 00536 and 00617).



DUCATI 10x80 n.00617

Post war 10x80 Ducati binos n. 00514



Post war 10x80 Ducati binos n. 00514

Other optical instruments produced in this period included the microcamera Sogno and a cine-projector .
In 1949, after some years of financial and political turmoil which shook the Ducati factory to their foundations, the Ducati brothers lost the financial and managing control of their business.
In 1953 the Optical Dept was shut down with the discharge of eng. Bruscaglioni who moved to the optical firm Salmoiraghi of Milan and the 960 employees. Prof Toraldo di Francia, eng Guidarelli and several technicians resigned.
In the following years, after a lot of property changing, Ducati began producing the well-known racing motorbikes.

Bibliography

Unpublished sources
-Archivio Storico Stato Maggiore Esercito, Rome, Comitato Superiore di Difesa, Files F.16/12
-Papers of Vasco Ronchi, Archivio di Stato, Florence, files VR 34/6, VR 36/2 and VR 37/1

Books
--Aldo Berselli, "I protagonisti dello sviluppo industriale" (pp.138-146) and Fabio Gobbo and Claudio Pasini "Una industrializzazione compiuta", in "Bologna 1937-1987, Cinquant'anni di vita economica", Bologna,1987,pp.168-175.
-Bruno Cavalieri Ducati, "Storia della Ducati", Bologna,1991,pp.81,89,191 and 194.
-Lutz Klinkhammer, "L'occupazione tedesca in Italia,1943-1945", Torino, 1993, pp.218-219
-Gastone Mazzanti, "Obiettivo Bologna-Open the doors: bombs away", Bologna, 2001, pp.208-215
-Hans Seeger, "Fernglaeser und Fernrohre in Heer, Luftwaffe und Marine", Hamburg 2002, pp.350 and 357.

Photographs have been provided by Bard Didrikson, Frank Doherty, Carlo Rossi and Robert Gregory. We are grateful for their assistance.

Appendix

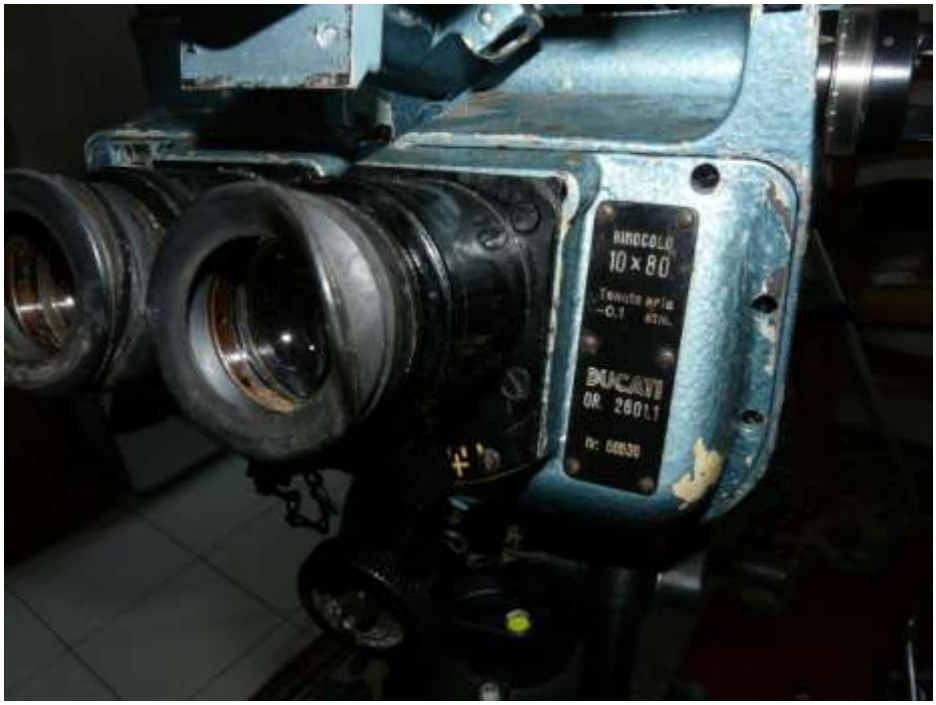
A short restoration history of Ducati 10 x 80 number 00536 in pictures, by Carlo Rossi and edited and described by Anna Vacani

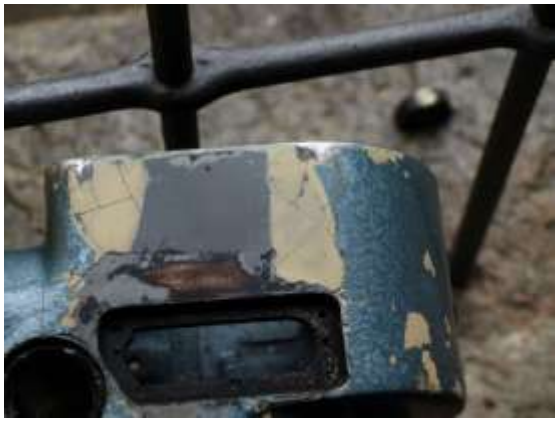
Carlo Rossi an Italian collector and enthusiast of Ducati binocular has been sent a history of a restoration of his binocular. The history is told in the pictures.

Carlo Rossi has written: *„I found this magnificent Bimar in Palermo – Sicily. The Bimar was in use in a civil ship that was dismantled. I decided to restore it as it was in bad conditions. I have entrusted the task to* ***Luca Mazzoleni****, the best optical specialist in Italy. The original metallic box has the following serial number: 655"*

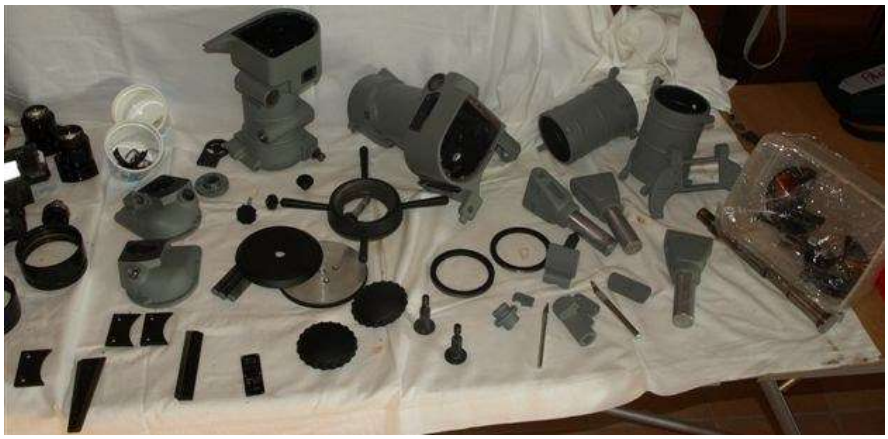
Copyrights of all pictures Carlo Rossi

When the binocular was found, it looked as we see in these pictures:

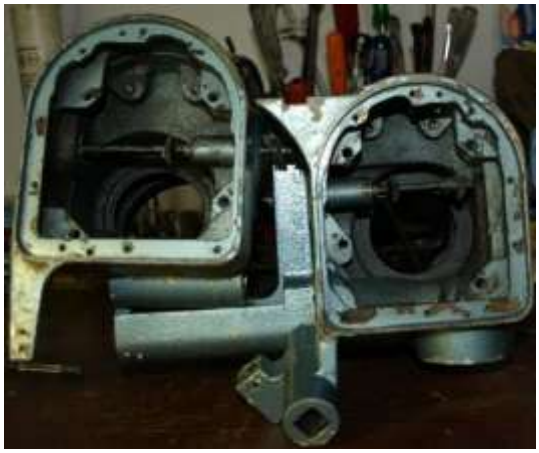




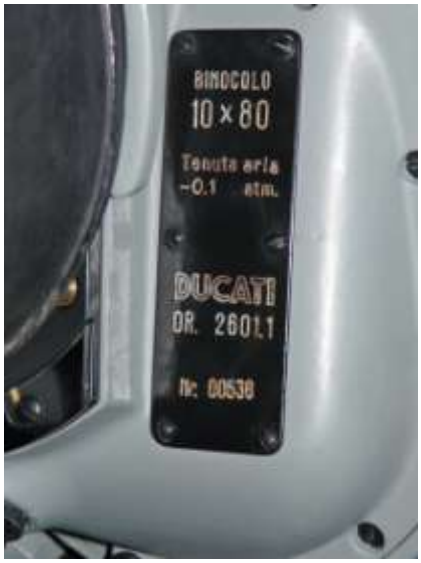

The binocular was sent for restoration and has been pull apart into the smallest elements.



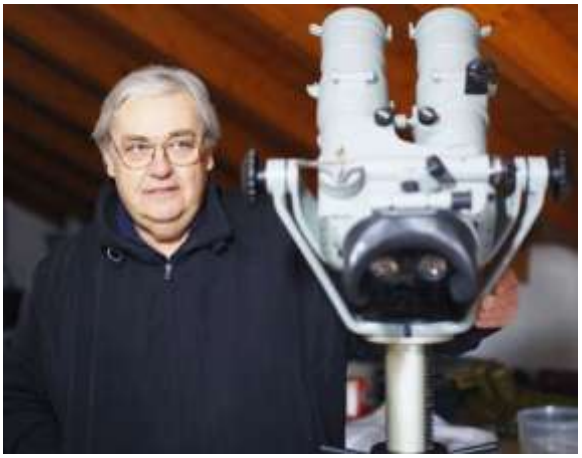
The optic parts had needed the restoration as well.



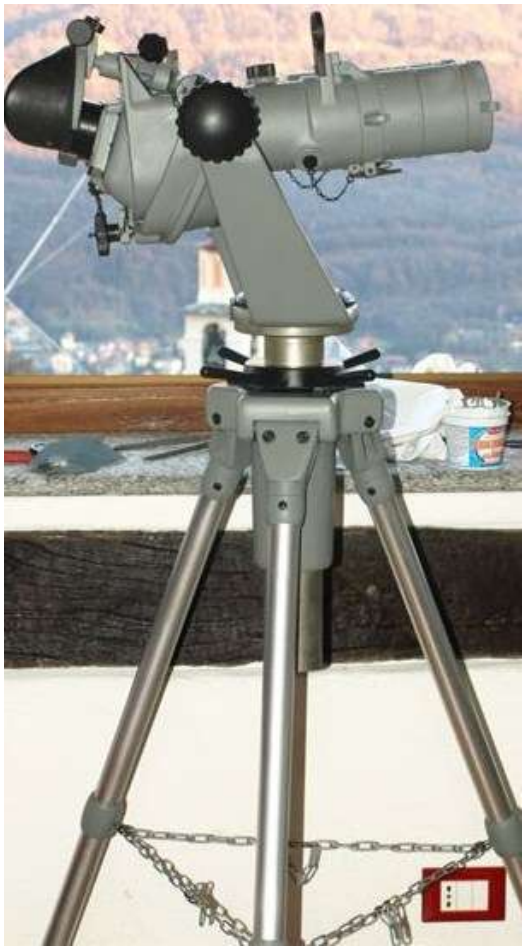
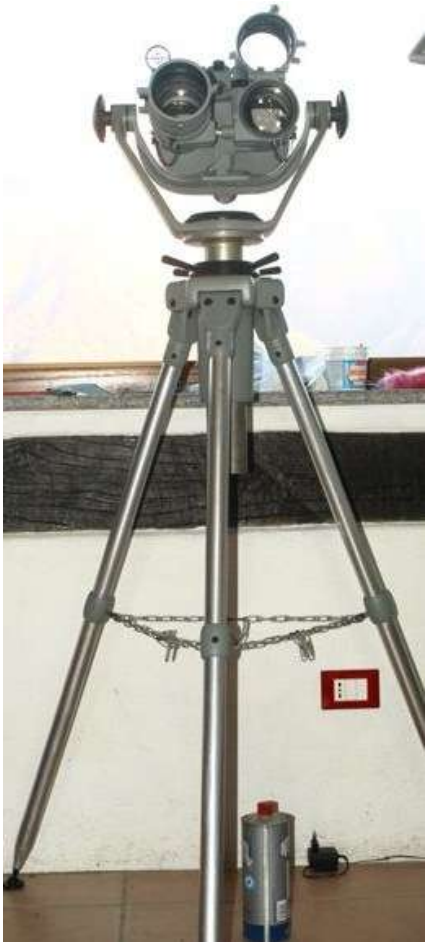
All details were restored.



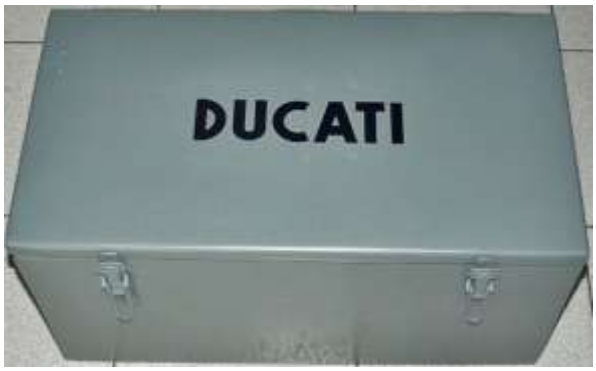
The binocular was assembled and has been assessed by a “good eye” and by a very proud binocular owner.

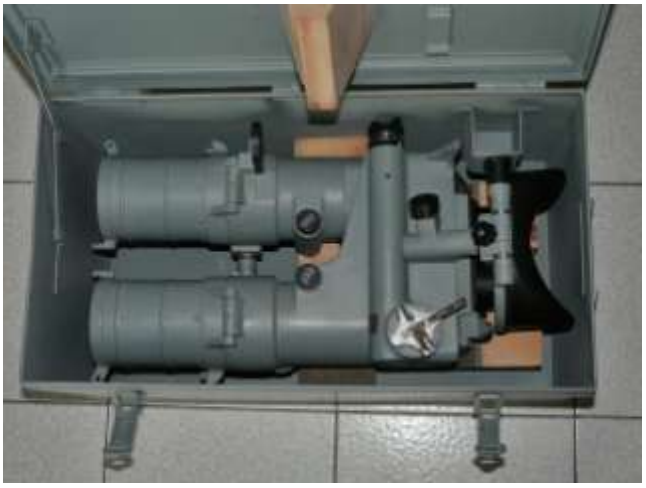



Carlo Rossi with the restored binocular

The binocular has been packed into a restored original box.





It is a good history of the binocular, when it was returned to its original beauty. How often the history of some remarkable binoculars is destroyed without any possibility to reconstruction to its originality.

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[1] *mlr – Ducati, Societa Scentifica Radio Brevetti Ducati, Bologna* - Liste der Fertigungskennzeichen für Waffen, Munition und Gerät (Nach Buchstabengruppen geordnet) Berlin 1944 Gedruck im Oberkommando des Heeres. Originalgetreuer Nachdruck, herausgegeben von Karl R.Pawlas, Publizistisches Archiv für Militär- und Waffenwesen. Nürnberg 1977 (ISBN 3 – 88088 – 214 – 2). ['List of Manufacturer's Marks for Arms, Ammunition and Implements' that had been edited in 1940 to 1945 as a secret publication by the Supreme Command of the Army (Chief of the Army Armament and Commander of the Reserve Army) Army Ordnance Department Wa Z 2.]