

A pictorial review of the Orfina/Porsche-Design "MILITARY" chronograph and it's many dial variations

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i. introduction

after doing some digging and research i've accumulated some notes, observations and visual-aids depicting the range of dial variants of the orfina/porsche-design lemania 5100 powered "MILITARY" chronograph ref 7177, including actual-issued, quasi-issued, non-issued, and civilian variants. many thanks to the knowledgeable folks of the [Military Watch Resource \(MWR\) Forum](#); without their insight and experience and generosity, projects like these would not be possible!

if you'd like a self-contained version of this project, [click here to download this page in PDF format](#).

note: i have chosen to NOT address the BUND-issued variants manufactured by arctos/tengler, nor the similarly designed civilian example by sinn; this article focuses exclusively on those variants with orfina/porsche-design affiliation.

ii. observations

- **MILITARY you say?** Despite the "MILITARY" branding on the dial, the orfina/porsche-design watch upon which the "MILITARY" chronograph is based was available over-the-counter for retail purchase first. references suggest that the design was originated by porsche-design in the '70s and focused on motorsport. subsequently there was some interest in this design from at least one military organization (NATO HQ Brussels or the British Royal Navy) for issue, which is where the "MILITARY" branding originated. it is reasonable to assume that the "MILITARY" dial printing was added to capitalize on this potential military application.
- **BASELINE:** all of these "MILITARY" variants have the following text printed on the dial: "MILITARY" and "PORSCHE DESIGN" and the circular red "3H" logo. in addition, they all have the "7177" ref# on the caseback along with other engravings. i'm going to call this combination of printing and engraving the "baseline" configuration found on the non-issued "military" variants.
- **BUND:** the BUND variant is the only one to be officially issued by a military service ("BUND" is short for "Bundeswehr" -- the German Federal Defense Force). the BUND dial does not have any special dial printing beyond that found on the "baseline" configuration noted above. however, the caseback DOES have "BUND" and an appropriate NSN engraving. there are two (2) NSNs found on the BUND variant: the initial NSN is 6645-12-182-1763, and the second one is 6645-12-194-8642. some examples are "double-struck" meaning the initial NSN is lined-out, and the second NSN added. presumably this occurred at some maintenance event during it's lifetime, a sure sign that such a double-struck example actually saw service! the BUND-issued variant DOES NOT have the "7177" ref# engraving on the caseback. notably, the second NSN is shared with the BUND-issued variants manufactured by Arctos and Tengler, which are not covered in this article.
- **QUASI-ISSUED:** the quasi-issued variants have an informal affiliation with an organization from the following list:
 - NATO
 - Royal Navy
 - Swiss Air Force
 - UAE Air Force
 - US Air Force
 - Venezuelan Ministry of Defense (MoD)

all of these quasi-issued variants feature the 3 elements noted above on the "baseline" dial plus dial printing and/or caseback engraving unique to each. the casebacks for all of these quasi-issued variants are identical to the "baseline" caseback described above, except for the Venezuelan MoD -- that caseback includes an "EJERCITO DE VENEZUELA" engraving.
- **CASES:** all variants have been found in both natural stainless-steel and a dark coated finish. the dark finish is commonly referred to as "PVD" (as i have in this article), but in fact the coating is not PVD. there appear to have been 2 different processes used for this finish: an electro-chemical process called "passivation" that creates a durable protective oxide layer on the underlying metal, and a less durable and thicker painted or powder-coated finish.
- **HANDS:** for the central chronograph-minutes hand, most "MILITARY" variants have an orange-tipped "airplane" pointer, whereas most "civilian" variants have a white-tipped "stick-and-ball" pointer. there appear to be variations, which may or may not be the way they came out of the factory.
- **CHAPTER-RING:** most BUND-issued, quasi-issued, and non-issued "MILITARY" variants have a 12-hr chapter ring, while most non-military civilian variants have a tachymetric chapter ring. there appear to be variations, which may or may not be the way they came out of the factory.
- **CRYSTAL:** the crystal is flat sapphire. some examples have an anti-reflective coating.
- **CROWN:** the crown is signed with the "PD" logo.
- **CIVILIAN:** while not discussed at length in this project, as noted earlier the "civilian" variant preceded the "military" variants. in general, the civilian variants have the following features/characteristics:
 - "7176" ref# on the caseback along with other engravings similar to the baseline "military" variants
 - stylized "PD" logo on the dial
 - tachymetric bezel
 - white-tipped "stick-and-ball" pointer on the central chronograph-minutes hand

iii. here are images of the "baseline" dial configuration, both regular and PVD cases, and the associated caseback engravings:

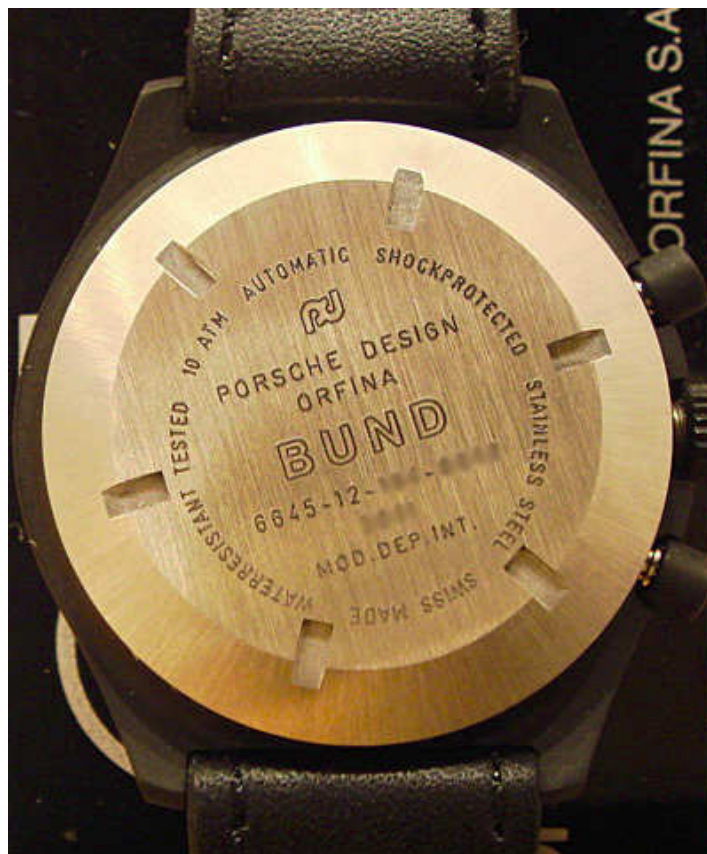




iv. here are images of the BUND-issued variant, both regular and PVD cases. note how there is nothing special about the dial compared to the "baseline" dial. in addition, both there are 2 casebacks which show the added BUND and NSN engravings (one example was double-struck w/ an updated NSN and the second is a later example with the newer NSN only), and show the absence of the "7177" ref#:







v. here are images of the quasi-issued variants. again, they all feature the same 3 main elements as the "baseline" dial, in addition to some unique printing for each unique affiliated organization:

NATO - this particular variant features a unique gray PVD coating:



GAJ
© 2001

BRITISH ROYAL NAVY:



SWISS MILITARY - this particular variant features a unique olive-drab PVD coating:



UAE AIR FORCE - these are interesting in having PVD-treated crown and pushers. the last variant is a very rare gold-plated example, reportedly only 25 of these were made:



www.watches.co.uk



US AIR FORCE - it has been reported that these were commissioned by the [23rd tactical fighter group AKA "The Flying Tigers"](#), which traces it's lineage to the [1st American Volunteer Group - the original "Flying Tigers"](#):





VENEZUELAN MINISTRY OF DEFENSE - these examples feature unique "EJERCITO DE VENEZUELA" caseback engraving. this particular dial features the additional printing "by ORFINA":
(example in first image from the author's personal collection)





vi. here are images of additional non-issued "MILITARY" variants:

PORSCHÉ-DESIGN LOGO - instead of the words, this one features the "PD" logo:



ORFINA SWISS - this one features the additional printing "by ORFINA" along with a swiss shield:



ORFINA MK-II - this one features the additional printing "by ORFINA" along with "MILITARY MK II" and two stars, a relocated red "3H" logo, and a tachymetric ring with red print:

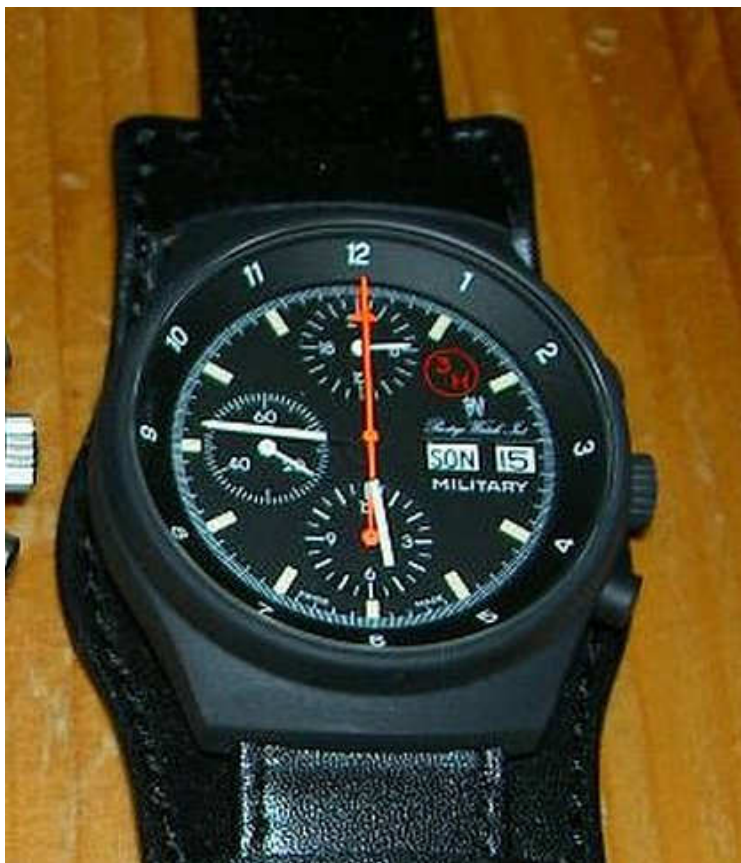


vii. for comparison purposes, here are some "civilian" variants - note the tachymetric chapter ring and "PD" logo and white-tipped "stick-and-ball" chronograph-minute pointer. of note, the caseback is essentially the same as the "baseline" caseback, except the ref# is 7176:





viii. here are a couple related "curiosities": Orfina offered the same design under the "Prestige Watch International" brand after the Orfina/PD partnership ended, including both "military" and "civilian" variants.





ix. lastly, here are 2 published references:

the first is from Konrad Knirim's fantastic book, *Military Timepieces -- 150 Years Watches and Clocks of German Forces* ([the book is available here](#)):



the second is from Wesolowski's excellent book, *The Concise Guide to Military Timepieces 1880-1990* ([the book is available here](#)):

In the 1970s the designers at Porsche produced a classic chronograph wristwatch aimed at the world of motorsport. Subsequently NATO expressed their interest in what was considered to be not only a rugged and dependable timepiece, but also a status symbol for the officers and select personnel who would be issued with one. NATO agreed a contract with the manufacturers and the Porsche "Military" chronograph was launched, differing only cosmetically from the original commercial design. Both models used the same 17 jewel Lemania movement, which was housed in a stainless steel case. The case, complete with the metal bracelet, was made non-reflective by a chemical process which turned the watch black. At this time the Royal Navy were also considering the purchase of Porsche chronographs, and a small batch were obtained for evaluation; these were marked "ROYAL NAVY" on the dial. A red circular symbol containing the letters "3H" was also printed on the dial, identifying the use of the element Tritium.

This marking conformed to military specification concerning the use of a radioactive source in the manufacture of the product; it stood for "Hydrogen 3", having a radioactive half-life of 12.5 years. For this batch commercial grade stainless steel watch cases, with an attractive satin finish, were used. Although these watches proved to be popular they exceeded the Royal Navy's requirements and regrettably proved to be too costly for the Senior Service's comparatively tight budget. However, news of this successful military timepiece was soon spreading, and orders for the Porsche chronograph were placed by the Swiss Army, the United Arab Emirates Air Force and the US 23rd Tactical Fighter Wing - the

"Flying Tigers". The illustration is taken from the original user's instruction/specification sheet which accompanies the military chronograph wristwatch.
Value £450-£650 (NATO), £800-£900 (RN)

