

EXTRACT FROM

ITALY  
Ch. II/3/e/3b  
8.10.42

(b) APPROACH ROADS FROM SWITZERLAND

- (1) MARTIGNY - BOURG-SAINT-PIERRE - GRAND SAINT-BERNARD PASS (8,110 ft.)  
- AOSTA - IVREA - CHIVASSO - TORINO - Total 201 kms.

Commencing from MARTIGNY situated at an altitude of 1,562 ft. the road rises in the next 18 kms. to 2,920 ft. and 13 kms. further on passes through BOURG-SAINT-PIERRE (5,348 ft.). Continuing with a maximum gradient of 1 in 8 the GRAND SAINT-BERNARD SUMMIT is reached in another 13 kms. this pass being fairly easy and usually obstructed by snow from mid October to late June. Adequate double carriage width is maintained throughout with a hard core surface, the road descending to CASTA (1,913 ft.) lying 77 kms. from MARTIGNY. The Swiss-Italian frontier is situated just beyond the pass summit.

Between AOSTA and IVREA, a distance of 69 kms, the AOSTA Valley is followed, whilst from the latter town to TURIN - 55 kms. - the road pursues a slightly undulating and winding course for the first 19 kms. thence onwards being straight and level.

8 kms. beyond ARE, viz. 30 kms. from IVREA, there is an entrance to the MILAN-TURIN AUTOSTRADA and the remaining distance to the latter city can be covered by this special motorway although the ordinary public road is wide and perfectly satisfactory.

(It is of interest to mention that a well-surfaced easy double traffic road runs from TURIN to CUNEO, a distance of 86 kms., across an agricultural plain. Wide approaches from France via the LARGHE and TENDA Passes.)

- (2) BRIG (BRIGUE) - SIMPLON PASS (6,594 ft) - DOMODOSSOLA - STRESA - ARONA - SESTO-CALENDE - GALLARATE - MILAN (MILANO) - Total 190 kms.

This route is undoubtedly the most important link between Switzerland and Italy, but needless to say it has been strongly fortified. Leaving BRIG the SIMPLON PASS ascent commences immediately by an easy road of adequate double traffic width tarred at first and later surfaced with hard cored water-bound macadam.

Several rock tunnels occur before the summit and the Swiss-Italian Frontier is crossed 20 kms. beyond that point. At no time does the gradient exceed 1 in 10.

In normal seasons the pass becomes snow bound towards the end of October and remains so until about May 20th, traffic being entrained during the closed season from BRIG to DOMODOSSOLA through the SIMPLON Tunnel.

This latter town lies 63 kms. from BRIG and onwards to ARONA, a further 60 kms., the road is level following the Ossolo Valley having a modern tarred surface with adequate width for all classes of double traffic. The last 28 kms. lie along the western shore of Lake MAGGIORE which is followed to SESTO-CALENDE from which point there is an alternative route to MILAN by AUTOSTRADA.



- (3) BELLINZONA - LOCARNO - GRAVELLONA - STRESA - ARONA - NOVARA -  
VERVELLI - ALESSANDRIA - Total 249 kms.

This route which corresponds in part with No.2 above follows the west bank of Lake MAGGIORE from LOCARNO onward, and has a good modern surface with adequate double traffic width although somewhat restricted through villages.

Continuing due south from ARONA it pursues a straight and level course across open country passing under the TURIN-MILAN AUTOSTRADA just before NOVARA and continuing by a fine modern highway to VERCELLI.

The final stage thence to ALESSANDRIA - distance of 55 kms. - also lies over a fast level road, but whilst width is adequate, it is less than the preceding stretch from NOVARA.

This route should offer no difficulty to any form of M.T. but it should be realised that to reach BELLINZONA, its starting point, either the SAINT GOTTHARD, LUKMANIER or SAN BERNARDINO PASS would have to be negotiated.

- (4) BELLINZONA, MONTE CENERE PASS (1,814 ft.) - LUGANO (909 ft.) -  
CHIASSO - COMO - MILANO - Total 105 kms.

The first stage of this route, viz BELLINZONA-COMO is quite easy, the MONTE CENERE PASS being open throughout the year whence there is a long descent to LUGANO lying at an altitude of 909 ft. Subsequently the road follows the lake of that name. Gradients never exceed 1 in 9 and the Swiss-Italian Frontier is crossed at CHIASSO, 7 kms. before COMO.

For the second stage either AUTOSTRADA or public road can be used, both crossing open level countryside.

Tarred surfaces are found the whole way except through villages where, in some cases, narrow streets are a drawback to continuous heavy traffic.

It has been reported that the road between LUGANO and CHIASSO is being improved.

The remarks made in Route 3 above concerning the approaches to BELLINZONA apply equally to this line of communication.

- (5) LUGANO - GANDRIA - PIANO-PORLEZZA - MENAGGIO - Total 28 kms.

From LUGANO to PORLEZZA this road runs along the northern bank of Lake LUGANO and subsequently passes through hills to Lake COMO.

The route is of minor importance, restricted width, and has an ordinary water-bound macadam surface which although even is dusty. Its only value from a military standpoint would be as a transverse link between Route 4 above and Route 6.

- (6) SPLUGEN (4,790 ft.) - SPLUGEN PASS (6,945 ft.) - CHIAVENNA - COLICO -  
LECCO - USMATE - MILAN - Total 162 kms.



Commencing from SPLUGEN at an altitude of 4,790 ft. the first 39 kms. of this route to CHIAVENNA are characterised by a number of hairpin bends with many rock tunnels and built-up-winter galleries. The SPLUGEN PASS has a maximum gradient of 1 in 10 and is usually obstructed by snow from Mid October to early June.

Width becomes somewhat restricted in parts but generally speaking a double traffic flow could be maintained without difficulty.

The CHIAVENNA - LECCO section of 70 kms. at first skirts Lake NEZZOLA then crosses the marshy plain of SPAGNA subsequently following the east bank of Lakes COMO and LECCO.

20 kms. beyond CHIAVENNA, however, there is a fork and by taking the right hand road an alternative route is available running along the west bank of Lake COMO via MENAGGIO (vide route 5) and COMO town (vide route 4).

The road now under consideration is slightly more direct, however, and has the advantage of greater width with less built-up area to traverse. It is tarred throughout.

The final section from LECCO to MILAN aggregates 60 kms. and for the first few miles runs along Lake GARIATE and the River ADDA. MONZA, an important industrial centre, approximately 20 kms. north of MILAN can be by-passed.

Except for its early stages through Swiss territory this route is perfectly straightforward and carries heavy commercial traffic under normal conditions.

- (7) SILVAPIANA (5,958 ft.) - MALOJA PASS (5,943 ft) - CASACCIA (4,790 ft.) - BORGONOVO (3,442 ft) - CASTASEGNA - VILLA-DI-CHIAVENNA (2,051 ft) - CHIAVENNA (1,083 ft.) - Total 43 kms.

The altitudes quoted above serve to show the mountainous nature of this route and its rise and fall.

The MALOJA PASS, although sinuous, has easy corners and under normal conditions it is kept open by means of a snow plough throughout the winter.

Nevertheless gradients of 1 in 9 are frequent and surface conditions cannot be considered good as regards the Swiss section which is characterised by stretches of water-bound macadam. From the Italian Frontier at CASTASEGNA onward however, there is a good asphalt road descending easily to CHIAVENNA.

(It is of importance to realize that SILVAPIANA, the starting point of this route, can only be reached by negotiating the JULIER, ALBULA or FLUELA PASS, all formidable mountain roads, the first of which under normal conditions is kept open artificially throughout the winter by snow plough.)

- (8) SAMADEN - BERNINA PASS (7,644 ft) - CAMPOCOLOGNO - TRESENDA - Total 67 kms.

The Pass included in this route is obstructed by snow from mid October to late May.



The corners are somewhat abrupt but gradients are no steeper than 1 in 12. The road has a satisfactory hard cored surface and maintains sufficient width for two lines of traffic. From POSCHIAVO onward a river valley is followed preceded by a section skirting Lake POSCHIAVO, and once over the frontier into Italy tar makes its appearance, the final 9 kms. being quite satisfactory.

(9) ZERNEZ - OFEN PASS (summit 7,070 ft.) - SANTA MARIA - UMBRAIL PASS (summit 8,241 ft.) - BORMIO - TIRANO - TRESENDA - SONDRIO - LECCO - Total 218 kms.

The initial 49 kms. of this route in Swiss territory embrace two major mountain passes both being liable to obstruction by snow from late October to late June. They are well graded, never exceeding 1 in 9, but the road is narrow and would offer difficulty to military convoys.

Further more the famous STELVIO PASS is joined 4 kms. from its summit and the descent of this pass, although of adequate width, has a large number of hairpin bends.

The 101 kms from TRESENDA to LECCO follow the river ADDA Valley at first, later skirting Lakes COMO and LECCO. This section is, of course, perfectly straightforward and has a good modern surface throughout, whilst also being capable of taking two-way traffic.

Generally speaking the OFEN and UMBRAIL PASSES preclude any general use of this route for heavy lorries.

(10) ZERNEZ (4,911 ft) - OFEN PASS (7,070 ft) - SANTA-MARIA-IM-MUNSTERTHAL - TUBRE SLUDERNO - SPONDIGNA - Total 59 kms.

This route in common with No. 9 above entails the crossing of the OFEN PASS with its narrow carriageway and 1 in 9 gradient.

Crossing the Italian Frontier at TUBRE the road turns north east to SLUDERNO avoiding the STELVIO PASS and mention of the link cannot therefore be omitted. Surface conditions are by no means good, however, and here again only light vehicles could be used especially having regard to the many hairpin bends which necessitate short wheel-base and good lock.

(11) ZERNEZ (4,911 ft) - OFEN PASS (7,070 ft) - SANTA-MARIA-IM-MUNSTERTHAL - UMBRAIL PASS (8,241 ft) - SANTA-MARIA (8,153 ft) - STELVIO PASS (9,042 ft) - TRAFIO (5,079 ft) - SPONDIGNA - Total 80 kms.

This route in common with Nos. 9 and 10 includes the OFEN PASS crossing in addition the UMBRAIL and STELVIO PASSES, the former being snow-bound from mid October to Late June, whilst the latter which is the second highest mountain road in Europe has a slightly longer obstruction period.

No military importance can be attached to the route although the STELVIO PASS with its 48 hairpin bends has an easy gradient and adequate double traffic width throughout.

On the other hand, however, motor cars, motor cycle combinations and solo machines could use this line of communication during the summer months although the STELVIO summit is never entirely snow free and great care would have to be exercised.