

## A minimum set of glyph corrections needed for the 10.0 beta Mongolian code chart

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This document mainly examines the "type 1" issues (8 glyph issues, involving 7 characters) in the attached spreadsheet by Shen Yilei (沈逸磊).

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### § To be fixed for 10.0:

#### 1836 MONGOLIAN LETTER YA

~ 1836 180C third form (medial)

- Wrong since Unicode 7.0 in the code chart but correct in the StandardizedVariants.html file. Refer to the latest [StandardizedVariants.html](#) (Unicode 8.0) for the correct form.
- Should be identical to 1822 MONGOLIAN LETTER I ~ 1822 first form (final):



- The glyph mentioned above can be used directly.

#### 1846 MONGOLIAN LETTER TODO O

~ 1846 180B second form (medial)

- Wrong since Unicode 7.0 in the code chart but correct in the StandardizedVariants.html file. Refer to the latest [StandardizedVariants.html](#) (Unicode 8.0) for the correct form.
- Should look like 1848 MONGOLIAN LETTER TODO OE ~ 1848 180B second form (medial) *without* the upward tail, or a sequence of <1820 MONGOLIAN LETTER A ~ 1820 first form (medial), 1846 MONGOLIAN LETTER TODO O ~ 1846 first form (medial)>:



- A correct glyph might not exist in the font (Mongolian Baiti), but can be created according to the description above.

#### **185E MONGOLIAN LETTER SIBE I**

~ 185E 180C third form (medial)

- Wrong from the beginning (Unicode 3.2) in both the code chart and the [StandardizedVariants.html](#) file.
- Should be identical to `1873 MONGOLIAN LETTER MANCHU I ~ 1873 180D fourth form (medial)`:



- The glyph mentioned above can be used directly.

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### **§ Already fixed in the latest 10.0 draft:**

#### **1820 MONGOLIAN LETTER A**

~ 1820 180B second form (medial)

- Wrong since Unicode 9.0. Refer to the latest [StandardizedVariants.html](#) (Unicode 8.0) for the correct form.
- Should look like a sequence of `<1820 MONGOLIAN LETTER A ~ 1820 first form (medial), 1820 MONGOLIAN LETTER A ~ 1820 first form (medial)>`:



- A correct glyph should already exist in the font at the expected position.

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### **§ Typographical; not to be fixed for 10.0:**

The author considers the following two cases are typographical, therefore not urgent for 10.0 although indeed errors and should be corrected in the future (actually the glyphs of these two seem to have been somehow swapped).

#### **1832 MONGOLIAN LETTER TA**

~ 1832 180B second form (medial)

#### **1868 MONGOLIAN LETTER SIBE TA**

~ 1868 180B second form (initial)

And about the following two, although Shen Yilei is mostly concerned about the stroke endings (actually the stroke beginning in the first one is also an error), the author considers these are also typographical issues as much as the two above.

#### **186F MONGOLIAN LETTER SIBE ZA**

~ 186F 180B second form (initial)

~ 186F 180B second form (medial)

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### **§ Type 2, editorially swapped forms:**

It's believed that the current situation is because glyphs of these two forms were somehow editorially swapped.

#### **1836 MONGOLIAN LETTER YA**

~ 1836 first form (medial)

~ 1836 180B second form (medial)

- Wrong since Unicode 7.0 in the code chart but correct in the StandardizedVariants.html file. Refer to the latest [StandardizedVariants.html](#) (Unicode 8.0) for the correct forms.
- ~ 1836 first form (medial) should be identical to 1822 MONGOLIAN LETTER I ~ 1822 first form (medial), a *hookless* form:



- ~ 1836 180B second form (medial) should resemble 1836 MONGOLIAN LETTER YA ~ 1836 first form (initial), a *hooked* form:



- The glyphs mentioned above can be used directly. Or the current two glyphs in 10.0 beta can be simply swapped to meet the description above.


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### § Type 3, missing isolate forms:


These four isolate forms should've been in the code chart due to the exactly same reason why U+1824 MONGOLIAN LETTER U and U+1826 MONGOLIAN LETTER UE has their first form (isolate) explicitly listed.

Vowel letters of the Mongolian script have true isolate forms therefore existence of these forms are even more significant than the "type 3" isolate forms of consonant letters.


#### 185D MONGOLIAN LETTER SIBE E

~ 185D  first form (isolate)


#### 185E MONGOLIAN LETTER SIBE I

~ 185E  first form (isolate)

#### 1861 MONGOLIAN LETTER SIBE U

~ 1861  first form (isolate)

#### 1873 MONGOLIAN LETTER MANCHU I

~ 1873  first form (isolate)

The four needed glyphs are identical to the *representative glyphs* of U+1821 MONGOLIAN LETTER E, U+1822 MONGOLIAN LETTER I, U+1825 MONGOLIAN LETTER OE, U+1822 MONGOLIAN LETTER I, respectively.

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### § Appendix:

#### List of editorial errors in the Mongolian code chart of U10beta

- Creator: SHEN Yilei (沈逸磊)
- Email: 917514182@qq.com
- Date: 2017-05-12
- Acknowledgement: Many thanks go to Dr. ZHENG Weizhe (郑维喆) for his comments. All errors are mine.

Additional notes from Shen Yilei:

As for Type 4&5: Admittedly it is important to expose the problems in the present standard for Mongolian, but it is not the correct way to postulate new variants for the undefined slots based largely on personal judgments rather than a warranted resolution. Otherwise one may ask why should only those unsanctioned variants be recognized but not some others, say, initial and final for U+180A NIRUGU. As far as I can see, the only correct way to expose the problems is to leave the present standard as it was.

As for Type 3: The hidden logic behind the U10beta code chart, in my interpretation, is that all positional variants shall be listed somewhere. For U+1820-1823, the first isolates are identical with the representative glyphs, hence reasonably omitted; but for U+1824, the representative glyph is identical with the first INITIAL rather than ISOLATE, resulting to the explicit listing of otherwise implicit first isolates. The Type 3 problems are the omissions of dedicated first isolates, which are expected to be explicitly listed in a consistent logic.

In general, the code chart is not expected to give more information beyond the agreed-upon resolution (substantially equivalent to TR170 except for a few minor editorial errors and later amendments) of the present standard for Mongolian, which constitutes a de facto amendment. In this sense Type 4&5 problems are obviously errors. Type 3 problems are errors in that they unexpectedly imply the absence of some first isolates, and the readers are, at best, at risk of having a reading contradicting the resolution that the omitted variants are deleted. On the contrary, Type 6 problems are by no means wrong because they are systematically left out; but it is desired for these first isolates identical with the representative glyphs to be listed explicitly, to preclude the current idiosyncrasies in implementing these forms in the industry from happening again partially owing to the unclear specification in the code chart.

code point	char name	type	description	error history	request	comment
1820	A	1	wrong glyph for second medial	since U9.0.0	revert	see StandardizedVariants.html for the correct glyph
1832	TA	1	deformed glyph for second medial	since U7.0.0 (code chart)	revert	see StandardizedVariants.html for the correct glyph
1836	YA	1	deformed glyph for third medial	since U7.0.0 (code chart)	revert	see StandardizedVariants.html for the correct glyph
1846	TODD O	1	wrong glyph for second medial	since U7.0.0 (code chart)	revert	see StandardizedVariants.html for the correct glyph
185E	SIBE I	1	deformed glyph for third medial	from the beginning (U3.2.0)	fix	should be identical with U+1832's fourth medial as of U9.0.0
1868	SIBE TA	1	deformed glyph for second initial	from the beginning (U3.2.0)	fix	should be identical with U+1832's first initial as of U9.0.0
186F	SIBE ZA	1	deformed glyph for second initial and second medial	since U7.0.0 (code chart)	revert	see StandardizedVariants.html for the correct glyph
1836	YA	2	swapped glyphs for first medial and second medial	since U7.0.0 (code chart)	revert	see StandardizedVariants.html for the correct glyph
182C	QA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
182D	GA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
184E	TODD GA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
185D	SIBE E	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	evidently omitted
185E	SIBE I	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	evidently omitted
1861	SIBE U	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	evidently omitted
1863	SIBE KA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
1864	SIBE GA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
1865	SIBE HA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
1873	MANCHU I	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	evidently omitted
1874	MANCHU KA	3	omitted first isolate (different from the representative glyph)	since U7.0.0 (code chart)	add	possibly subject to future deletion
1807	sibe syllable boundary marker	4	unsanctioned positional variant	new error	delete	
180A	nirugu	4	unsanctioned positional variant	new error	delete	
1841	ZHI	4	unsanctioned positional variants	new error	delete	
1842	CHI	4	unsanctioned positional variants	new error	delete	
1858	TODD GAA	4	unsanctioned positional variants	new error	delete	
185A	TODD JIA	4	unsanctioned positional variants	new error	delete	
185B	TODD NIA	4	unsanctioned positional variants	new error	delete	
186C	SIBE GAA	4	unsanctioned positional variants	new error	delete	
186D	SIBE HAA	4	unsanctioned positional variants	new error	delete	
1870	SIBE RAA	4	unsanctioned positional variants	new error	delete	
188C	ALI GALI TTA	4	unsanctioned positional variants	new error	delete	
188D	ALI GALI TTHA	4	unsanctioned positional variants	new error	delete	
188E	ALI GALI DDA	4	unsanctioned positional variants	new error	delete	
188F	ALI GALI NNA	4	unsanctioned positional variants	new error	delete	
1890	ALI GALI TA	4	unsanctioned positional variants	new error	delete	
1891	ALI GALI DA	4	unsanctioned positional variants	new error	delete	
1892	ALI GALI PA	4	unsanctioned positional variants	new error	delete	
1893	ALI GALI PHA	4	unsanctioned positional variants	new error	delete	
1895	ALI GALI ZHA	4	unsanctioned positional variants	new error	delete	
1897	ALI GALI AH	4	unsanctioned positional variants	new error	delete	
1898	TODD ALI GALI TA	4	unsanctioned positional variants	new error	delete	
1899	TODD ALI GALI ZHA	4	unsanctioned positional variants	new error	delete	
18A0	MANCHU ALI GALI TA	4	unsanctioned positional variants	new error	delete	
18A6	ALI GALI HALF U	4	unsanctioned positional variants	new error	delete	
18A7	ALI GALI HALF YA	4	unsanctioned positional variants	new error	delete	
18A8	MANCHU ALI GALI BHA	4	unsanctioned positional variants	new error	delete	
1829	ANG	5	unsanctioned first initial	new error	delete	evidently ungrounded
182C	QA	5	unsanctioned first final	since U9.0.0	delete	possibly grounded yet unsanctioned
1836	YA	5	unsanctioned first final	since U9.0.0	delete	possibly grounded yet unsanctioned
1840	LHA	5	unsanctioned first final	new error	delete	evidently ungrounded
1843	TODD LONG VOWEL SIGN	5	unsanctioned first initial	new error	delete	evidently ungrounded
1844	TODD E	5	unsanctioned first final	since U9.0.0	delete	possibly grounded yet unsanctioned
184A	TODD ANG	5	unsanctioned first initial	new error	delete	evidently ungrounded
1851	TODD DA	5	unsanctioned first medial	new error	delete	possibly grounded yet unsanctioned
1855	TODD YA	5	unsanctioned first final	new error	delete	evidently ungrounded
185F	SIBE IY	5	unsanctioned first initial	new error	delete	evidently ungrounded
1862	SIBE ANG	5	unsanctioned first initial	new error	delete	evidently ungrounded
1864	SIBE GA	5	unsanctioned first final	new error	delete	evidently ungrounded
1865	SIBE HA	5	unsanctioned first final	new error	delete	evidently ungrounded
1866	SIBE PA	5	unsanctioned first final	new error	delete	evidently ungrounded
1869	SIBE DA	5	unsanctioned first final	since U9.0.0	delete	evidently ungrounded
186A	SIBE JA	5	unsanctioned first final	new error	delete	evidently ungrounded
186B	SIBE FA	5	unsanctioned first final	new error	delete	evidently ungrounded
186E	SIBE TSA	5	unsanctioned first final	new error	delete	evidently ungrounded
186F	SIBE ZA	5	unsanctioned first final	since U9.0.0	delete	possibly grounded yet unsanctioned
1871	SIBE CHA	5	unsanctioned first final	new error	delete	evidently ungrounded
1872	SIBE ZHA	5	unsanctioned first final	new error	delete	evidently ungrounded
1876	MANCHU FA	5	unsanctioned first final	since U9.0.0	delete	evidently ungrounded
1877	MANCHU ZHA	5	unsanctioned first final	new error	delete	evidently ungrounded
1887	ALI GALI A	5	unsanctioned first initial and first medial	since U9.0.0	delete	evidently ungrounded
1888	ALI GALI I	5	unsanctioned first initial and first medial	since U9.0.0	delete	possibly grounded yet unsanctioned
1889	ALI GALI KA	5	unsanctioned first medial and first final	new error	delete	possibly grounded yet unsanctioned
188A	ALI GALI NGA	5	unsanctioned first final	since U9.0.0	delete	evidently ungrounded
188B	ALI GALI CA	5	unsanctioned first final	new error	delete	evidently ungrounded
1894	ALI GALI SSA	5	unsanctioned first final	new error	delete	evidently ungrounded
1896	ALI GALI ZA	5	unsanctioned first final	new error	delete	evidently ungrounded
189A	MANCHU ALI GALI GHA	5	unsanctioned first final	new error	delete	evidently ungrounded
189B	MANCHU ALI GALI NGA	5	unsanctioned first final	new error	delete	evidently ungrounded
189C	MANCHU ALI GALI CA	5	unsanctioned first final	new error	delete	evidently ungrounded
189D	MANCHU ALI GALI JHA	5	unsanctioned first final	new error	delete	evidently ungrounded
189E	MANCHU ALI GALI TTA	5	unsanctioned first final	new error	delete	evidently ungrounded
189F	MANCHU ALI GALI DDHA	5	unsanctioned first final	new error	delete	evidently ungrounded
18A1	MANCHU ALI GALI DHA	5	unsanctioned first final	new error	delete	evidently ungrounded
18A2	MANCHU ALI GALI SSA	5	unsanctioned first final	new error	delete	evidently ungrounded
18A3	MANCHU ALI GALI CYA	5	unsanctioned first final	new error	delete	evidently ungrounded
18A4	MANCHU ALI GALI ZHA	5	unsanctioned first final	new error	delete	evidently ungrounded
18A5	MANCHU ALI GALI ZA	5	unsanctioned first final	new error	delete	evidently ungrounded
18AA	MANCHU ALI GALI LHA	5	unsanctioned first final	new error	delete	evidently ungrounded
1820	A	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1821	E	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1822	I	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1823	O	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1825	OE	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1827	EE	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1845	TODD I	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1846	TODD O	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1847	TODD U	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1848	TODD OE	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1849	TODD UE	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1860	SIBE UE	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1880	ALI GALI ANUSVARA ONE	6	implicit first form (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1881	ALI GALI VISARGA ONE	6	implicit first form (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1887	ALI GALI A	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1888	ALI GALI I	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	
1889	ALI GALI KA	6	implicit first isolate (identical with the representative glyph)	from the beginning (U3.2.0)	add	possibly subject to future deletion