

Ruby - Feature #21307

A way to strictly validate time input

05/03/2025 06:17 PM - mame (Yusuke Endoh)

Status:Assigned Priority:Normal Assignee:mame (Yusuke Endoh) Target version:	
Description Currently, Time.new sometimes silently rolls over invalid date/time values: Time.new(2025, 2, 29, 0, 0, 0, "+00:00") #=> 2025-03-01 00:00:00 Time.new(2025, 1, 1, 24, 0, 0, "+00:00") #=> 2025-01-02 00:00:00 Time.new(2025, 1, 1, 0, 0, 60, "+00:00") #=> 2025-01-01 00:01:00 But in other cases, it raises ArgumentError: Time.new(2025, 1, 32, 0, 0, 0, "+00:00") #=> argument out of range (ArgumentError) Time.new(2025, 1, 1, 24, 0, 1, "+00:00") #=> sec out of range (ArgumentError) Time.new(2025, 1, 1, 25, 0, 0, "+00:00") #=> hour out of range (ArgumentError) Time.new(2025, 1, 1, 0, 60, 0, "+00:00") #=> min out of range (ArgumentError) Time.new(2025, 1, 1, 0, 0, 61, "+00:00") #=> sec out of range (ArgumentError) Is this inconsistency intentional? While automatic rollover can be useful, the current behavior feels unpredictable.	
If this is by design, I would like to propose a strict version, e.g. Time.strict_new, that raises an error for any invalid value: Time.strict_new(2025, 2, 29, 0, 0, 0, "+00:00") #=> ArgumentError Right now, the only workaround is to compare the input with the resulting object, which is clunky: def time_strict_new(year, mon, day, hour, min, sec, zone) r = Time.strict_new(year, mon, day, hour, min, sec, zone) raise ArgumentError if r.year != year raise ArgumentError if r.mon != mon raise ArgumentError if r.day != day raise ArgumentError if r.hour != hour raise ArgumentError if r.min != min raise ArgumentError if r.sec != sec r end In my case, I'm writing a TOML parser and need to reject invalid datetimes like 2100-02-29T15:15:15Z. The rollover behavior gets in the way.	
Related issues: Related to Ruby - Bug #21301: Invalid Dates Accepted When Using "UTC" in Time... Open	

History

#1 - 05/07/2025 05:04 AM - mame (Yusuke Endoh)

- Related to Bug #21301: Invalid Dates Accepted When Using "UTC" in Time.new added

#2 - 05/09/2025 03:30 AM - mame (Yusuke Endoh)

Discussed at the dev meeting. This proposal was accepted as struct: true keyword argument, like

Time.new(2025, 2, 29, 0, 0, 0, "+00:00", struct: true) #=> ArgumentError

#3 - 05/09/2025 03:31 AM - mame (Yusuke Endoh)

- Status changed from Open to Assigned

- Assignee set to mame (Yusuke Endoh)

