2.2.4.5.2.6.4 Encoding as "Track Angle/Heading" Form

When the "A/G STATE" field is set to "2" the "East Velocity or Track Angle/Heading" component **shall** assume the "Track Angle/Heading" format indicated in Table 2-27. Heading **shall** be encoded if available; ~~if not available~~otherwise Track Angle **shall** be encoded, if available.

Table 2-27: "Track Angle/Heading" Format

Byte 14		Byte 15								Byte 16
Bit 7	Bit 8	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8	Bit 1
TA/H Type		(MSB)			**--Track Angle/Heading--**					(LSB)

a. The Track Angle/Heading Type ("TA/H Type") is a 2-bit subfield (bit 7 and 8 of byte 14) that **shall** be used to distinguish Track Angle from Heading as shown in Table 2-28.

Table 2-28: "Track Angle/Heading Type" Encoding

Coding	Meaning
00	Data Not Available
01	True Track Angle
10	Magnetic Heading
11	True Heading

b. The "Track Angle/Heading" subfield is a 9-bit (bit 1 of byte 15 through bit 1 of byte 16) subfield that **shall** be used to report the Track Angle or Heading of the ADS-B Transmitting Subsystem as shown in Table 2-29.

Table 2-29: "Track Angle/Heading" Encoding

Coding $_{MSB}$(binary)$_{LSB}$	Coding (decimal)	Meaning
0 0000 0000	0	Track Angle/Heading is ZERO
0 0000 0001	1	Track Angle/Heading = 0.703125 degrees
0 0000 0010	2	Track Angle/Heading = 1.406250 degrees
0 0000 0011	3	Track Angle/Heading = 2.109375 degrees
…	…	…
1 1111 1110	510	Track Angle/Heading = 358.593750 degrees
1 1111 1111	511	Track Angle/Heading = 359.296875 degrees

Note: *Raw data used to establish the "Track Angle/Heading" subfield will normally have more resolution (i.e., more bits) than that required by the "Track Angle/Heading" subfield. When converting such data to the "Track Angle/Heading" subfield, the accuracy of the data shall be maintained such that it is not worse than +/- ½ LSB where the LSB is that of the "Track Angle/Heading" subfield.*

If either the Track Angle/Heading Type or the Track Angle/Heading Inputs are "unavailable" for the "Data Lifetime" value listed for these inputs in Table 2-64, then the "Track Angle/Heading Type" and the "Track Angle/Heading" subfields **shall** default to values of ALL ZEROs.

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