

.animation Format

This page will be an approximate breakdown on the current known information on the `.animation` file format. Used in modern Diesel games such as Payday 2, Payday: The Heist, and RAID: World War II.

A key thing to note is this format is compressed using level 6 zlib compression and must be uncompressed before parsing, and compressed once again after any changes. The uncompressed file size is appended to the end of this data.

Headers

Main File Header

- Unknown - (32 Bit) - Almost always `85 CC 83 08`.
- Unknown - (64 Bit) - Almost always just `00 00 00 00 00 00 00 00`.
- File Size - (32 Bit Unsigned Integer)
- Animation Length in Seconds - (32 Bit Float)

Object Names Header

- Number of Object Names - (32 Bit Unsigned Integer)
- Offset for Object Names - (32 Bit Unsigned Integer)

Unknowns Header

- Number of Unknowns - (32 Bit Unsigned Integer)
- Offset for Unknowns - (32 Bit Unsigned Integer)

Event Triggers Header

- Number of Event Triggers - (32 Bit Unsigned Integer)
- Offset for Event Triggers - (32 Bit Unsigned Integer)

Object Positions Header

- Number of Object Positions - (32 Bit Unsigned Integer)
- Offset for Object Positions - (32 Bit Unsigned Integer)

Object Rotations Header

- Number of Object Rotations - (32 Bit Unsigned Integer)
 - Offset for Object Rotations - (32 Bit Unsigned Integer)
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Object Names

“ Note: The order of these matches up to Object Positions and Object Rotations.

STARTING AT (*Offset for Object Names*) **FOR EACH** (*Number of Object Names*)

- Offset of Object Name - (32 Bit Unsigned Integer)
 - **GOTO** (*Offset of Object Name*)
 - Object Name - (String terminated with a null character.)
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Unknowns

STARTING AT (*Offset for Unknowns*) **FOR EACH** (*Number of Unknowns*)

- This hasn't actually shown up in any files I've seen, so no idea about the format or even the size.
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Event Triggers

STARTING AT (*Offset for Event Triggers*) **FOR EACH** (*Number of Event Triggers*)

- Percentage of Animation Length - (32 Bit Float)
 - Offset of Event Trigger Name - (32 Bit Unsigned Integer)
 - **GOTO** (*Offset of Event Name*)
 - Event Trigger Name - (String terminated with a null character.)
-

Object Positions

“ Note: The order of these matches up to Object Names and Object Rotations. Positions are relative to the objects parent object.

STARTING AT (*Offset for Object Positions*) **FOR EACH** (*Number of Object Positions*)

- Position Format - (32 Bit) - Almost always `E0 86 C6 1D` or `B2 CF 96 11`.
- Offset of Object Position - (32 Bit Unsigned Integer)
- **GOTO** (*Offset of Object Position*)
- Unknown - (32 Bit) - Almost always just `00 00 00 00`.
- Number of Positions - (32 Bit Unsigned Integer)
- Offset of Positions - (32 Bit Unsigned Integer) - This almost always just points to the next 4 bytes.
- **STARTING AT** (*Offset for Object Positions*) **FOR EACH** (*Number of Object Positions*)
 - **IF** (*Position Format*) **IS** `E0 86 C6 1D`
 - Time in Seconds - (32 Bit Float)
 - X Coordinate - (16 Bit Unsigned Short) (Quantized value -10m to 10m)
 - Y Coordinate - (16 Bit Unsigned Short) (Quantized value -10m to 10m)
 - Z Coordinate - (16 Bit Unsigned Short) (Quantized value -10m to 10m)
 - Unknown - (16 Bit) - Almost always just `00 00`.
 - **IF** (*Position Format*) **IS** `B2 CF 96 11`
 - Time in Seconds - (32 Bit Float)
 - X Coordinate - (32 Bit Float)
 - Y Coordinate - (32 Bit Float)
 - Z Coordinate - (32 Bit Float)
 - Unknown - (32 Bit) - Almost always just `00 00 00 00`.

Object Rotations

“ Note: The order of these matches up to Object Names and Object Positions. Rotations are relative to the objects parent object.

STARTING AT (*Offset for Object Rotations*) **FOR EACH** (*Number of Object Rotations*)

- Rotation Format - (32 Bit) - Almost always `B6 92 FB 9D` or `5C B8 EC 96`.
- Offset of Object Rotation - (32 Bit Unsigned Integer)
- **GOTO** (*Offset of Object Rotation*)

- Unknown - (32 Bit) - Almost always just 00 00 00 00.
- Number of Rotations - (32 Bit Unsigned Integer)
- Offset of Rotations - (32 Bit Unsigned Integer) - This almost always just points to the next 4 bytes.
- **STARTING AT** (*Offset for Object Positions*) **FOR EACH** (*Number of Object Positions*)
 - **IF** (*Rotation Format*) **IS** B6 92 FB 9D
 - Time in Seconds - (32 Bit Float)
 - X Coordinate - (32 Bit Float)
 - Y Coordinate - (32 Bit Float)
 - Z Coordinate - (32 Bit Float)
 - W Coordinate - (32 Bit Float).
 - **IF** (*Rotation Format*) **IS** 5C B8 EC 96
 - Time in Seconds - (32 Bit Float)
 - X - (8 Bit) - (Fixed Point???)
 - Y - (8 Bit) - (Fixed Point???)
 - Z - (8 Bit) - (Fixed Point???)
 - W - (8 Bit) - (Fixed Point???)
 - **IF** (*Rotation Format*) **IS** BA 69 1A E9
 - Time in Seconds - (32 Bit Float)
 - X Coordinate - (32 Bit Float)
 - Y Coordinate - (32 Bit Float)
 - Z Coordinate - (32 Bit Float)
 - W Coordinate - (32 Bit Float)
 - Unknown - (32 Bit) - Almost always just 00 00 00 00.

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