

TMC

The TMC file is an Aerofly FS 2 [text file](#) that contains the general description of an aircraft such as the name as shown in the aircraft selection menu, the description text in several languages and some values describing how large, how fast, how heavy the aircraft can be and which aircraft category it belongs to. The actual speed, mass and behavior of the physics are defined in the [tmd file](#).

A different kind of tmc file is the [model.tmc](#), which defines how the 3D model and textures are to be converted, e.g. the texture resolution for each quality setting.

Example File

(copy from A320)

```
<[file][][]
  <[object][][]
    <[int][Version][210]>
    <[vec32array][ContactSpheres][ (-3.054 3.745 -4.13 0.6305) (-3.054
-3.745 -4.13 0.6305) (9.217 0.00 -4.13 0.3815) ]>
    <[string8][DisplayName][A320]>
    <[string8][DescriptionTextEN][The medium-range jet airliner Airbus
A320 entered service in 1988. It is the first model of the A320 family,
whose members differ in fuselage length mainly. The shortest family member
is the A318, the longest is the A321. The A320 has a maximum take-off weight
of 170000 lb and can carry a maximum of 180 passengers. The A320 was the
first commercial airliner that used a digital fly-by-wire control system.
The mechanical connection between the flight controls and control surfaces
is replaced by a combination of sidesticks, flight control computers and
actuators. The cockpit features digital instrument displays for all flight
and engine data, analog instruments are provided as a backup only.]>
    <[string8][DescriptionTextDE][Das Mittelstreckenflugzeug Airbus A320
ist seit 1988 im Einsatz. Es ist das Basismodell einer Reihe von Modellen,
die sich vor allem durch die Rumpflänge unterscheiden. Kleinstes Modell ist
die A318, größtes Modell die A321. Die A320 hat ein Abfluggewicht von bis zu
78000 kg und kann maximal 180 Passagiere befördern. Mit der A320 wurde das
Fly-By-Wire System bei zivilen Flugzeugen eingeführt. Der Pilot steuert
dabei nicht über ein Ruderhorn mit direkter Verbindung zu den Rudern,
sondern indirekt über Aktuatoren die wiederum von einem sogenannten
Sidestick gesteuert werden. Auch im Cockpit wurde nahezu komplett auf neue
Technik gesetzt.]>
    <[string8][DescriptionTextFR][L'avion de ligne moyen-courrier Airbus
A320 est entré en service en 1988. Il est le premier modèle de la famille
A320, dont les différents membres se distinguent principalement par la
taille de leur fuselage. Le plus court est le A318, le plus long est le
A321. Le A320 a une masse maximale au décollage de 78000 kg et peut
transporter jusqu'à 180 passagers. Le A320 fut le premier avion de ligne
commercial à utiliser des commandes de vol électriques. La connexion
```

mécanique entre les commandes de vol et les surfaces de contrôle est remplacée par une combinaison de mini-manches, d'ordinateurs et d'actuateurs.]>

<[string8][DescriptionTextJP][中距離旅客機のAirbus（エアバス）A320は1988年から運行を開始。同機はとりわけ胴体長に違いを持つシリーズの基本モデルである。最小モデルはA318機、最大モデルはA321機。A320機は7万8千kgまでの離陸重量で、最大180人の旅客を輸送できる。フライバイワイヤシステムはA320機で初めて民間航空機に導入された。パイロットはその際、直接ラダーに接続しているラダーホーンを介してではなく、間接的に、更にいわゆるサイドスティックによって制御されるアクチュエータを介し、制御を行う。コックピットもほぼ完全に新技術が導入されている。全てのデータとインフォメーションはモニターに表示され、アナログ機器はバックアップとして備え付けられているのみである。]>

<[string8][DescriptionTextES][El avión Airbus A320 de gama media entró en servicio en 1988. Este fue el primer modelo de la familia A320, cuyos miembros se diferencian principalmente en la longitud del fuselaje. El miembro más pequeño de la familia es el A318 y, el más largo, el A321. El A320 tiene un peso máximo de despegue de 77 toneladas y puede transportar a un máximo de 180 pasajeros. Fue el primer avión comercial en emplear un sistema de control digital de pilotaje «fly-by-wire» (sistema de control eléctrico). La conexión mecánica entre los controles de vuelo y las superficies de control se reemplaza por una combinación de palancas de control lateral, ordenadores de vuelo y actuadores.]>

```
<[float64][WingSpan][34.1]>
<[float64][Mass][73500.0]>
<[float64][MinimumSpeed]      [ 54.0]>
<[float64][ApproachSpeed]     [ 73.0]>
<[float64][CruiseSpeed]      [154.3]>
<[float64][MaximumSpeed]     [180.1]>
<[float64][CruiseMachNumber] [0.78]>
<[float64][MaximumMachNumber][0.85]>
<[tmvector2d][FlapSpeedRange] [ 61.7 118.3 ]>
<[tmvector2d][NormalSpeedRange] [ 72.0 128.6 ]>
<[tmvector2d][CautionSpeedRange][ 128.6 180.1 ]>
<[float64][MaximumAltitude][12000.0]>
<[float64][CruiseAltitude] [ 9753.6]> // FL 320
<[float64][QSpan][34.1]>
<[float64][QMass][78000.0]>
<[float64][QSpeed][233.33]>
<[float64][QPower][0.0]>
<[float64][QThrust][2*118000.0]>
<[float64][QRange][6150000.0]>
<[float64][QRatio][0.0]>
<[float64][QBuild][6000]>
<[float64][QVirgin][1987]>
<[tmvector2d][FlapSettings][ (0.0 0.0) (0.25 1.0) (0.5 2.0) (0.75
3.0) (1.0 4.0) ]>
<[string8][FlapQualifier][discrete]>
<[bool][Airplane][true]>
<[bool][Jet][true]>
<[bool][Flaps][true]>
<[bool][Retracts][true]>
<[bool][Helicopter][false]>
```

```
<[bool][Glider][false]>
<[bool][ThrustReverse][true]>
<[bool][AutoThrottle][true]>
<[string8][Pilot][pilot_andy]>
>
>
```

Content Description

Version

Whenever there are significant changes that would render an aircraft incompatible with the latest version of Aerofly the version number is increased. Any aircraft that is not yet updated to be compatible automatically is shown as not compatible with the version and the user cannot select that aircraft from the selection menu. This ensures that, after an update to the Aerofly FS 2 base, any old aircraft is attempted to load.

DisplayName

The `DisplayName` attribute sets the aircraft name that is shown in the aircraft selection menu. You may include spaces and special characters.

DescriptionText

The attributes `DescriptionTextDE`, `DescriptionTextEN`, `DescriptionTextES`, `DescriptionTextFR` and `DescriptionTextJP` define the aircraft description text that is shown inside the Aerofly aircraft selection menu. They are selected depending on the user's language setting. If a text for a certain language is not defined the aerofly replaces it with the English description text, so if you don't know all languages it's possible to remove these lines.

Initialization

The `ContactSpheres` is a list of 3D vectors (x,y,z) and a size (radius) that define the attitude of the aircraft when the simulation places it onto the ground. The lower the z value (3rd value) the higher up the aircraft is placed.

WingSpan and Mass

`WingSpan` and `Mass` are used internally to have an idea of the overall dimensions and mass of the aircraft.

Category Flags

Airplane, Helicopter, Glider, Jet, ... are all tags that help Aerofly categorize the aircraft.

Speeds

MinimumSpeed defines the speed at which an aircraft is initialized when quick lift up is activated or when the aircraft is switched in the middle of the flight (it checks whether the speed is between MinimumSpeed and MaximumSpeed)

The other speeds are used for the calculation of the route parameters and for the flight information at the top of the screen.

Qs

All parameters starting with a Q should be thought of as values from a quartet game, where it lists all kinds of attributes of an aircraft like year the virgin flight QVirgin, the total number of aircraft built QBuild, glide ratio for gliders QRatio as well as self-explanatory values for mass, thrust or power, speed and mass.

Flap Info

For the internal logic, e.g. which flap to select when you change from one aircraft to another mid-flight the flap input (ranging from 0 to 1) is mapped to either a flap setting (qualifier discrete) or to a flap angle (qualifier empty).

The FlapSettings is a map of 2d positions with the first value representing the flap input (e.g. 0.0, 0.25, 0.5, 0.75, 1.0) and the second value representing the selected flap position (e.g. 0.0 = up, 1.0 = conf.1, 2.0 = conf.2, 3.0 = conf.3, 4.0 = full or 0.0 = up, 0.08726 = flap 5 degrees, 0.69808 = flap 40 degrees)

Pilot

Defines which pilot model should be used for the human_graphics animation.

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