

DH106s Aircraft Dependencies

Version 1.04

Revisions from 1.03 marked **yellow**.

Included functions:

Soundsets:

- AI-20 turboprop	aircraft_ai20.snd.lua
- Rolls-Royce Dart turboprop	aircraft_dart.snd.lua
- Generic turboprop	aircraft_turboprop.snd.lua
- Heavy radial	aircraft_bigradial.snd.lua
- Straight-pipe jet:	aircraft_straightpipejet.snd.lua
- Low bypass jet:	aircraft_lowbypassjet.snd.lua

New animation triggers:

- *aircraft_liftoff*: will trigger the associated animation when the aircraft is lifting off.
- *aircraft_touchdown*: will trigger the associated animation when the aircraft is touching down. To be used for lift dumpers, reversers and similar systems.
- *cowl_flap*: intended for cowl flaps on piston engines. This is a three-position trigger that will yield 0.5 for taxi-out and takeoff, 1 for landing and taxi-in and 0 for cruise and approach. It takes an .ani of 4000ms length; the dh106_cowlflap.ani provides an opening angle of 25° maximum; the cowl flaps should be modelled in a corresponding closed state if this .ani is desired to be used.
- *intake_bypass*: intended for blow-in doors at jet engine air inlets like those on the JT3D on B707 or early JT9D on 747. It will calculate the doors position in real time based on current power setting and percentage of maximum speed; both values are automatically pulled from the associated model. 0 is closed, 1500 is fully open. Use a corresponding custom .ani with a suitable opening angle.
- *landing_light_selector*: intended for realistic switching of landing lights. This trigger will be at value 1 during takeoff, approach and landing only and at value 0 in all other situations. To be directly paired with dh106_light_switch.ani that will use value 1 as scale 1, 1, 1 and value 0 as scale 0, 0, 0.
- *mixture_lever*: intended for piston engine mixture levers. It will be at full forward position 0 during taxi, takeoff and landing and slightly leaned at position 1000 during climb, cruise and approach. A further addition that has the lever fully pulled back can be added using the vanilla *open_doors* and *close_doors* triggers.
- *outboard_props_on*: Like the vanilla *props_on* but active in all conditions except for taxi-in.
- *outboard_props_off*: Like the vanilla *props_off* but forced active during taxi-in.
- *outboard_props_blurred_on*: Like vanilla *props_blurred_on*, but inactive during taxi-in.
- *outboard_props_blurred_off*: Like vanilla *props_blurred_off*, but forced active during taxi-in.
- *outboard_props_stopped*: active only during taxi-in, to be used on the non-blurred propeller mesh and paired with dh106_switch_on.ani.
- *outboard_props_slow*: will have the associated .ani played at 1/20 speed during taxi-in. Can be used with any propeller .ani, preferably the same that is used for the running propeller.

These six triggers are intended for **shutting down engines during taxi-in:**

Instead of the props_on or props_off triggers, use the corresponding outboard_props ones. Additionally, use a third trigger outboard_props_slow or outboard_props_off on the non-blurred propeller meshes that will have the part either turn slowly or switched off when the aircraft is taxiing in. For this trigger, use the same .ani You used for the outboard_prop_on trigger.

- *retractable_lights*: intended for retractable landing lights. This trigger will yield 3500 for taxi-out, takeoff, approach and landing, and 0 for cruise and taxi-in. As the lights actions vary by type, no corresponding .ani is included. Use one with length 3500ms and starting at the retracted position.

- *retractable_taxilights*: intended for retractable taxi lights. Differing from the retractable_lights trigger, it will show 3500 also during taxi-in. Also here, no corresponding .ani is included; use one with length 3500ms and starting at the retracted position.

- *strobe_selector*: intended for realistic switching of strobe lights. This trigger will yield a value of 1 during takeoff, flight, approach and landing, and 0 when on the ground/off the runway. To be paired with dh106_light_switch.ani.

- *throttle_lever*: intended for dynamically calculating the position of a throttle/power lever. This trigger will be at position 0 when at idle and at position 3000 when at full throttle with the values automatically taken from the associated model. A suitable .ani is not included as the throttle lever action and movement range is rather variable between types (push-pull types on some pistons, levers on others).

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Blurred propellers:

Their range has been greatly extended. A propeller will always be shown as blurred when the following conditions are fulfilled:

- Blurred Props available AND either of the following:
- Power setting above 5% OR
- Aircraft altitude is above 500m AND the aircraft is not on the ground (to cater for possible high-altitude airports)

Included .anis:

dh106_beacon_long.ani: intended for beacons with a long flashing time. Replaces the vanilla beacon_lights.ani.

dh106_cowlflaps.ani: intended for cowl flaps. A movement from 0 to 25° about the Y axis within 2 seconds is contained.

dh106_light_switch.ani: to toggle parts off or on. Scales a part to 0, 0, 0 at time 0 and to 1, 1, 1 at time 1. Can be used with light triggers like landing_light_selector.

dh106_prop_left_on.ani: intended for counterclockwise spinning propellers. Replaces the vanilla props_on.ani and props_blurred_on.ani.

dh106_prop_left_slow.ani: a ccw.turning propeller .ani at 1/20 speed.

dh106_strobe_lights_single.ani: intended for single-flash strobes as used on nearly all non-Airbus aircraft. Replaces the vanilla *strobe_lights.ani*.

dh106_strobe_switch.ani: equal to *dh106_light_switch.ani* and obsolete.

dh106_switch_off.ani: intended to scale a part to 0, 0, 0 without inherent toggle function.

dh106_switch_on.ani: intended to scale a part to 1, 1, 1 without inherent toggle function.

Smoke effects:

- Shut down engines via the *outboard_props* .anis can also have their smoke automatically removed. Let the respective smoke emitters IDs of these engines contain the trigger "shutdown" to have the transformer automatically kill the emitters when the outboard propellers are shut down.

- All smoke is removed when engine power is below 8%. This will result in smoother smoke effects during descent and also cause the smoke to be gone when the aircraft is parked at the bay.

- Smoke has been completely revised. The formerly straying emitters have been tamed.

- Contrails are now possible to be scripted and will be automatically activated when the aircraft is above 600m altitude, which is a good cruising altitude for longer distances in the game. They require separate emitters that contain the trigger "ctrail" in their individual ID to be found by the transformator.

To achieve a realistic condensation pattern, use an alpha pattern similar to this:

```
alphaOverLifeTime = {  
  curve = {  
    { easing = "Linear", time = 0, value = 0, },  
    { easing = "Linear", time = .1, value = 0.01, },  
    { easing = "Linear", time = .2, value = .4, },  
    { easing = "Linear", time = .8, value = .4, },  
    { easing = "Linear", time = 1, value = 0, },  
  },  
},
```

This will result in smooth condensation of the hot exhaust a little behind the engine and some fading out after the lifetime has expired.

To be amended as required.