State Preset TMD / Configuration

The tmd preset files are usually identified with a suffix like '_clean.tmd', '_takeoff.tmd' and '_landing.tmd'. A preset file is loaded after the main aircraft tmd file when the aircraft is placed onto the runway, set into final approach or somewhere on the map in the air. The preset is then loaded and all of its contents overwrites the default values of the (main) .tmd file. This way when the user selects the air start, the gear can already be retracted and the flaps are already set to up even if the gear or flaps where down before the location on the map was changed.

It is recommended to pay attention when the presets are created, it does not look good if the gear lever moves into position only after the aircraft was moved up in the air or if half of the cockpit switches change their status in the first brief moment. Especially slow elements like the gear position or flap position should be added to these preset files so that the aircraft doesn't fall from the sky on final approach or that the user has to wait for the flaps to extend when he/she wants to take off.

Not providing a preset for a particular initialization method is possible, then the Aerofly just won't change any default parameter of the .tmd file. Some simpler aircraft might not need a preset for all of the different for all initialization modes.

Example

```
<[file][][]
    <[modelmanager][][]
        <[pointer_list_tmuniverse][DynamicObjects][]

            // set flaps full
            <[input_default][FlapsInput][0]
                <[float64][Value][1.0]>
            >
            <[servoclassic][FlapPosition][0]
                <[float64][Position][0.61087]>
            >
            <[servoclassic][SlatPosition][0]
                <[float64][Position][0.47123]>
            >
        >
    >
>
```

Takeoff

The takeoff configuration (aircraftname_takeoff.tmd) is the state of the aircraft reached just before the throttle is advanced for takeoff. Aim for a typical configuration used in every day flights on a long hard surface runway. The goal is to just advance the throttle to takeoff power and takeoff, not a single button (except maybe TOGA button for autothrottle) should be pressed to achieve a takeoff.

- The engine should be running
- Pitch trim set for takeoff with a slight nose down tendency for following cruise flights (or otherwise users have to trim a lot)
- Rudder and aileron trim set for cruise conditions (not for takeoff, rather have it more neutral)
- Flaps are set for takeoff
- Spoilers armed for takeoff if needed
- Navigation source should be FMS
- Autopilot set for takeoff, A/THR can be armed.
- Takeoff configuration for all systems

As programmed in the default tmd the parking brake should already be off, the mixture advanced, throttle at idle, gear down. There is no need to repeat this in the configuration file.

Clean

The clean configuration (aircraftname_clean.tmd) is loaded when you move your aircraft on the map in the location dialog.

- The engine should be running
- Throttle, Mixture, Propeller-Speed should be set for cruise
- Pitch trim should be set for trimmed out level flight
- Gear and Flaps should be up
- Cruise configuration on all systems should be set
- Navigation source should be FMS
- Autopilot set for cruise, A/THR can be armed or already engaged.

Landing

The landing configuration (aircraftname_landing.tmd) is loaded when the aircraft is set to the approach on the location dialog on the extended centerline of a runway. The aircraft is completely ready for landing, no switch or dial has to be adjusted.

- The engine should be running
- Throttle, Mixture, Propeller-Speed should be set for landing, throttle should be at a position where no immediate action is required
- Pitch trim set for final approach, ideally no trimming needed to hit the runway
- Gear down
- Flaps should be at a typical landing configuration, they don't have to be full. If less than full flaps is used then all systems have to be set for that (no EGPWS warning should be triggered by this, performance values should match)
- Navigation source should be ILS
- Autopilot set for landing, A/THR can be armed or already engaged.

These are potential future configurations but it might be done differently, too.

Cold and Dark

As of 2019-07-07 there is no cold and dark configuration file yet. We recommend waiting for that to arrive to stay consistent with default aircraft. Changing the default tmd to be cold and dark may work but it could also cause significant issues later on and will require you to update your aircraft.

The cold and dark state is the state when the aircraft is completely off before any power is applied to the aircraft.

- The engine should be off
- Parking brake off, chocks in place
- Flaps up
- Chocks/Tie downs can be in place or off
- External power can be plugged in but not turned on in the cockpit yet.
- All systems in an off state, all electrical buses powered down to avoid and initial flickering
- Fuel might be empty
- Batteries should be charged
- All systems should be in a usable state, not damaged.

Turn Around

As of 2019-07-07 there is no turn around state file yet.

The turn around state skips all of the initial system boot up, as if the aircraft was just parked and everyone deboarded and the next scheduled flight is being prepared.

- The engine should be off
- Parking brake off, chocks in place
- Flaps up
- Inertial Reference Units are on and initialized
- Fuel should be in the process of getting filled up.
- Boarding should be in progress.
- Flight plan should not be filled in yet.
- System state should be set for safe ground operations to take place.

Ready for Push and Start

As of 2019-07-07 there is no state for this.

The ready for push and start state bypasses all of the time consuming tasks during pre flight.

- The engine should be off
- Parking brake on, chocks removed, push back truck connected
- Flaps up
- Fueling is completed
- Boarding is completed
- Flight plan is loaded and all performance values entered
- Autopilot is prepared (e.g. flight directors turned on and prepared for takeoff)
- System in "before start" state.

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Last update: **2019/07/07 18:09**