SimCheck Airbus A300B4-200

A300 Configurator

For use with Microsoft Flight Simulator X

SIMCHECK A300B4-200: AIRCRAFT CONFIGURATOR MANUAL

CONTENTS

DISCLAIMER AND COPYRIGHT

The SimCheck A300B4-200 Aircraft Configurator should only be used with the SimCheck A300B4-200 aircraft package. It may not be uploaded separately nor may it be included with any other packages without explicit written consent from SimCheck Software or BCM bvba.

Although the calculations in the Aircraft Configurator as very accurate, the program may only be used for flight simulation purposes, it may not be used for real aviation.

INTRODUCTION

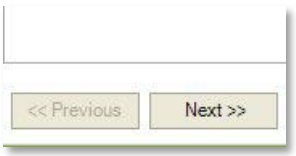
The Aircraft Configurator is an integral part of the SimCheck A300B4-200 package.

The Aircraft Configurator can be used to:

- load passengers or cargo into the aircraft
- calculate flight time to destination and alternate airport
- calculate fuel requirements
- calculate optimum and maximum initial flight level during the cruise phase of the flight
- print a professional fuel report (using html based customisable report format)

NAVIGATING IN THE AIRCRAFT CONFIGURATOR

Navigation in the Aircraft Configurator is very simple and can be done either using the <Previous> and <Next> buttons…



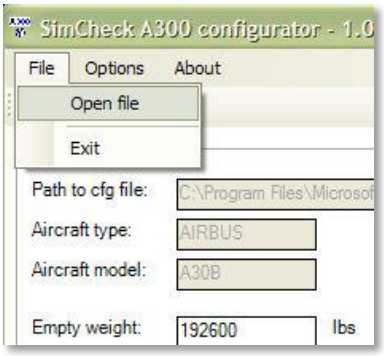
or via the icon toolbar.

LOADING AIRCRAFT DATA

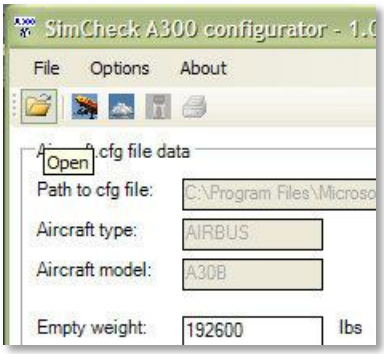
Every session with the Aircraft Configurator starts by loading an "aircraft.cfg" file.

To open an "aircraft.cfg" file:

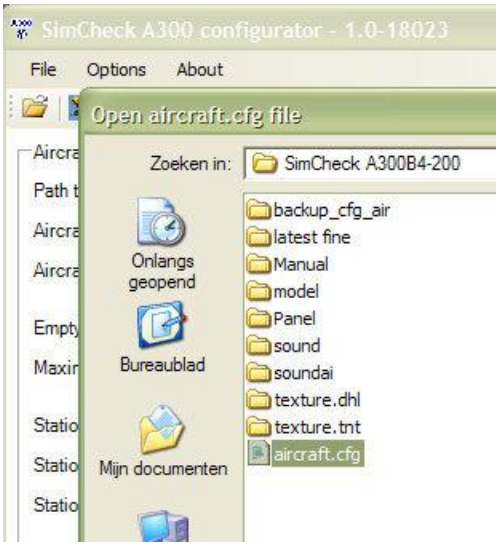
- either click on the [File]->[Open file] menu item



- or click on the "Open" icon on the toolbar



- navigate to the "aircraft.cfg" file you want to edit and click <Open>



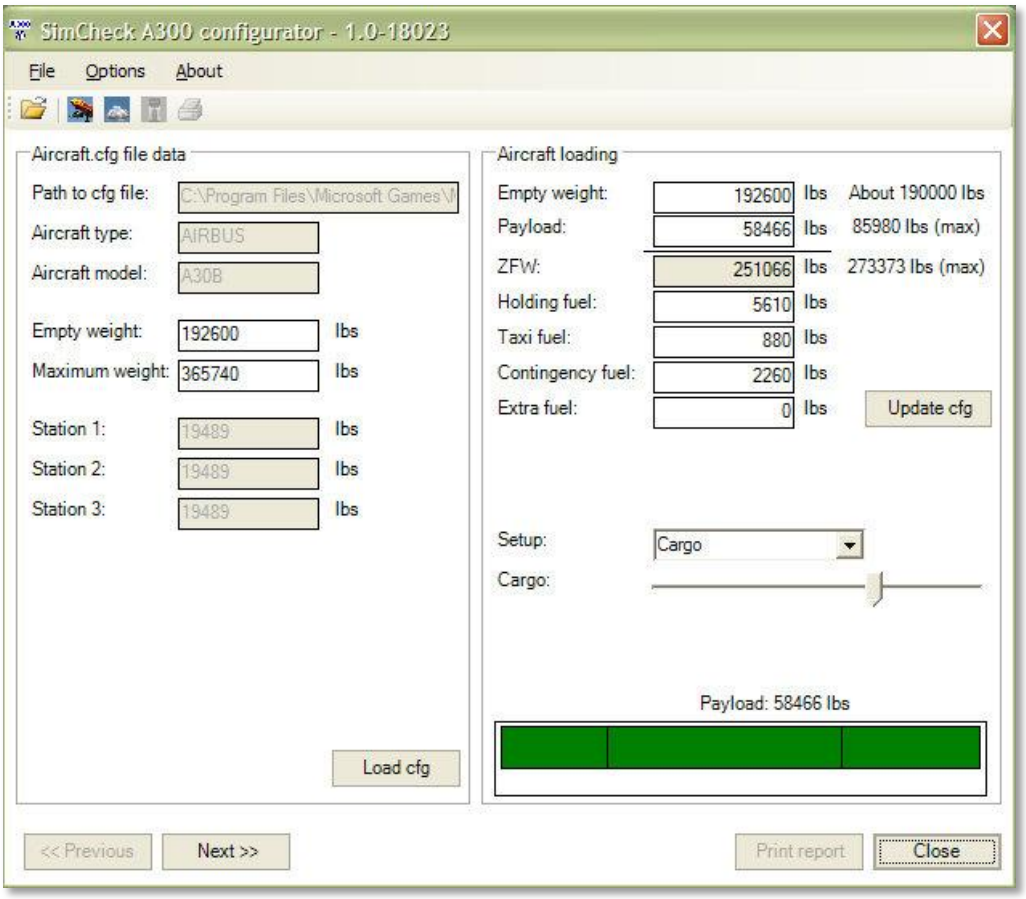
The Aircraft Configurator will now show the current data in the "aircraft.cfg" file.

Notice that the 

button and the  icon are activated, indicating that you can proceed to the next step.

AIRCRAFT LOADING PAGE

The first page of the Aircraft Configurator contains the basic weight, payload and fuel set-up data for the SimCheck A300B4-200.



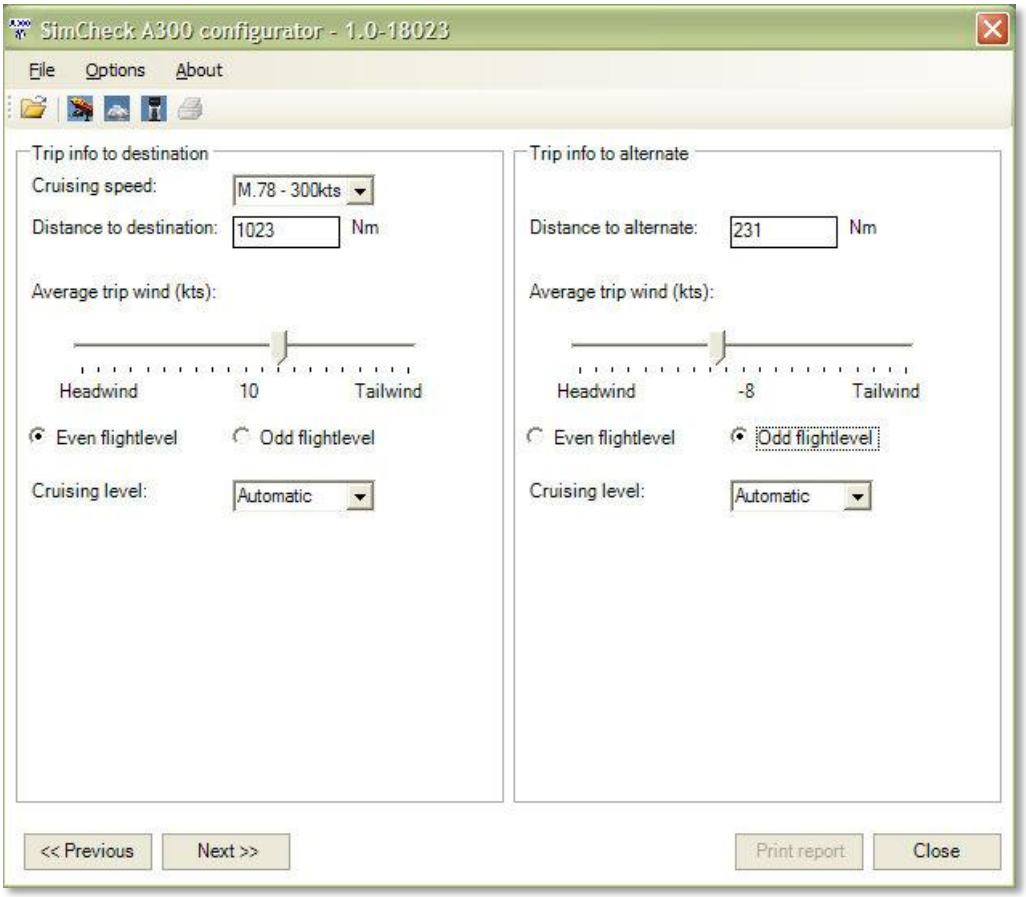
The following fields can be edited manually, to *save changes* press the <Update cfg> button, to *undo changes and reload* the original config data, press the <Load cfg> button.

- **Empty weight:** should be kept at 192600 lbs in most cases
- **Maximum weight:** should be kept at the default 365740 lbs in most cases
- **Payload:** value can be edited manually although we strongly suggest using the Payload slider below on the "Aircraft Loading" page
- **ZFW:** zero fuel weight, this value cannot be edit directly and is equal to Empty Weight plus Payload
- **Holding fuel:** default holding fuel for the A300B4-200 is 5640 lbs which is enough for 30 minutes holding time, if flying into congested airports or when weather delays are expected extra holding fuel can be loaded
- **Taxi fuel:** in most cases the default 880 lbs taxi fuel will be sufficient, at very congested airports or when abnormally long taxi times are expected this value can be increased to a higher value
- **Contingency fuel:** defaults to 2260 lbs (approx 10 minutes)
- **Extra fuel:** normally set to 0 lbs, in case in-flight re-dispatching is expected or when no fuel is available at the destination airport, this value can be set manually
- **Setup:** select either "Cargo", "1-class PAX", "2-class PAX" or "3-class PAX" depending on the aircraft configuration you will be using
- **Sliders:** move the sliders left or right to increase/decrease aircraft loading

If all values on the first page are checked an updated, press the <Update cfg> button to save the settings to the "aircraft.cfg" file and proceed to the next page by pressing the Next >> button or by clicking on the icon.

TRIP PAGE

The next page is the "Trip page", use this page to enter data for the trip to destination and, if available, to enter data regarding the trip to the alternate airport.



- **Cruising speed:** three options are available "M.78-300kts", "M.80-300kts", "M.82-300kts". The default and optimum cruising speed for the A300B4-200 is Mach 0.78. Mach 0.80 and Mach 0.82 are also available in case of delays. Higher Mach speeds will always result in higher fuel consumption. The "300 kts" part refers to the normal 300 kts climb and descent speeds
- **Distance to destination/alternate:** enter the ground distance to the destination, only the distance to destination value is required to proceed to the next page
- **Average trip wind (kts):** use the slider to set the average head or tailwind component for the flight
- **Even/Odd flight level:** as a general rule Eastbound or Southbound flights should use Odd flight levels, Westbound or Northbound flights should use Even flight levels.
- **Cruising level:** this will default to "Automatic", in which case the Aircraft Configurator will calculate optimum initial flight levels for the cruise. In some cases you don't have the luxury to select the optimum

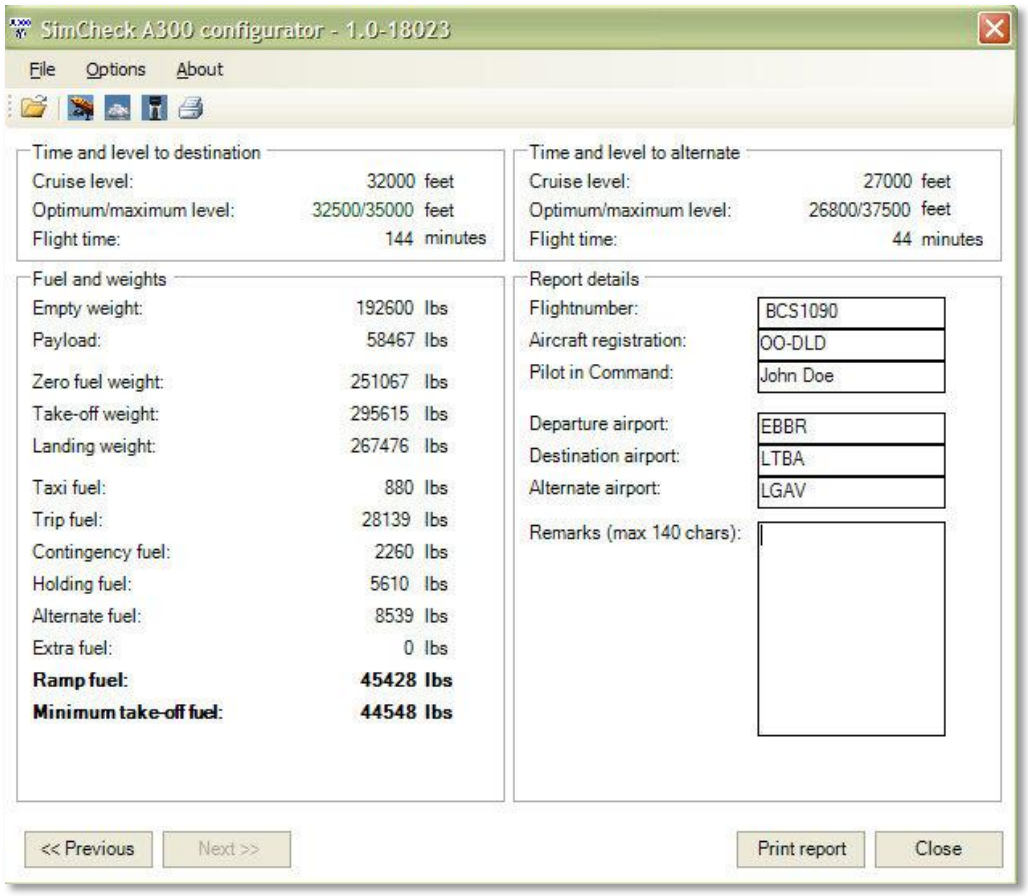
flight level in which case the flight level can be selected from the dropdown list

If all values on the trip page are checked an updated, press the Next >> button or the  icon to proceed to the calculations page.

CALCULATIONS PAGE

The calculations page contains the calculated optimum and maximum cruising levels, flight time data and fuel loading data. The "Report details" section allows you to enter extra data to be printed on the fuel report (see below).

It is important to note that the cruise levels suggested by the program are almost the initial cruise levels. As the aircraft uses fuel and becomes lighter higher optimum levels may become available.



- **Cruise level:** this is either the suggested cruise level (if "Automatic" was selected on the previous page) or the selected cruise level. If "automatic" was selected, this will be the closest even or odd level to the optimum level.
- **Optimum/maximum level:** the optimum cruise level based on weight and distance to the destination airport (for short trips this can be quite low) and the maximum level possible based on the aircraft weight.
- **Flight time:** the flight time based on the selected cruise Mach speed. This includes climb and descent.
- **Empty weight/payload:** the same values as entered on the first page.
- **Zero fuel weight:** the aircraft empty weight plus payload.
- **Take-off weight:** zero fuel weight plus take-off fuel.
- **Landing weight:** take-off weight minus weight of fuel used during the flight.

- **Taxi fuel:** as entered on the first page.
- **Trip fuel:** calculated trip fuel based on distance, wind, cruising level and cruise speed using standard atmosphere conditions.
- **Contingency/holding fuel:** as entered on the first page.
- **Alternate fuel:** fuel required to fly from the destination to the alternate airport taking.
- **Extra fuel:** as entered on the first page.
- **Ramp fuel:** this is the actual amount of fuel that should be loaded.
- **Minimum take-off fuel:** ramp fuel minus taxi fuel.

PRINTED REPORT

The fuel report is generated in html and can be found here "{Flight simulator X path}\A300B4\Templates\flightnumber.htm" where "flightnumber" is the flight number specified on the calculations page (see previous paragraph).

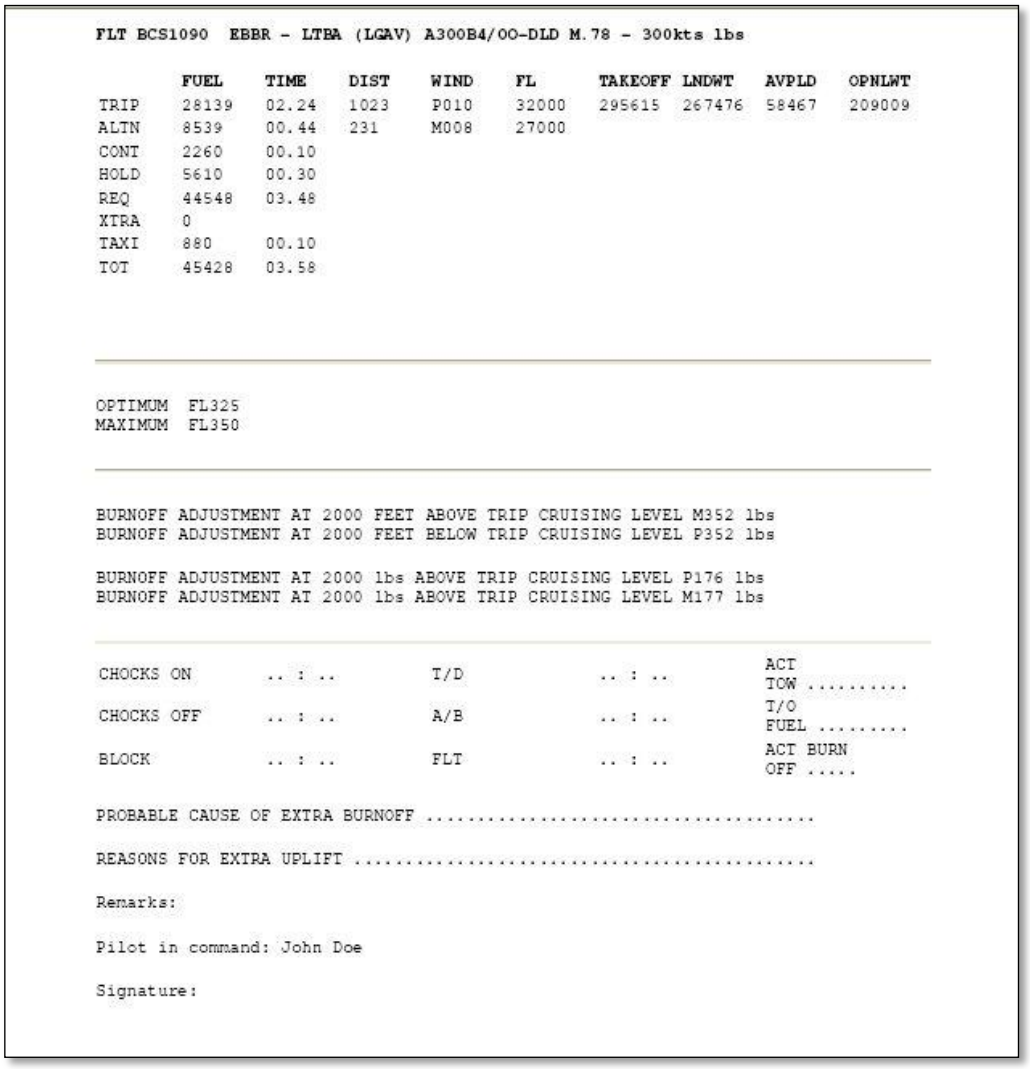
The "default.htm" template is used to create the fuel report and can be found in the same directory as specified in the previous paragraph. In the options menu a different template can be selected though.

Here is a list of codes that can be used in the html template:

#FlightNumber	flight number entered on the calculations page
#Departure	departure airport entered on the calculations page
#Destination	destination airport name entered on the calculations page
#Alternate	alternate airport name entered on the calculations page
#Registration	aircraft registration entered on the calculations page
#CruiseSpeed	cruise speed regimen selected on the trip page
#Weight	weight units specified on the "Options" page
#TripFuel	fuel required for the trip to the destination
#TripTime	time to destination in hours and minutes
#TripDist	ground distance to destination
#TripWind	average wind to destination
#TripFL	calculated or selected initial cruise level to destination
#TripTO	take-off weight
#TripLDW	landing weight
#TripPLD	payload weight
#TripLDG	landing weight minus payload
#AltFuel	fuel to alternate destination
#AltTime	time to alternate destination
#AltDist	distance to alternate destination
#AltWind	average wind to alternate destination
#AltFL	calculated or selected cruise level to alternate destination
#ContFuel	contingency fuel
#ContTime	contingency time
#HoldFuel	holding fuel
#HoldTime	holding time

#ReqFuel	required fuel for the flight
#ReqTime	total time of the flight including diversion and holding
#ExtFuel	extra fuel
#TxiFuel	taxi fuel
#TxiTime	taxi time
#TotFuel	total fuel including taxi and extra fuel
#TotTime	total time including taxi and extra time
#OptLevel	optimum cruising level for the trip to destination
#MaxLevel	maximum cruising level for the trip to destination
#AdjAbove	burnoff adjustment for the trip at 2000 feet above the optimum cruising level
#AdjBelow	burnoff adjustment for the trip at 2000 feet below the optimum cruising level
#AdjHeavy	burnoff adjustment for the trip at 2000 lbs extra weight
#AdjLight	burnoff adjustment for the trip at 2000 lbs lower weight
#Remarks	remarks as entered on the calculations page
#PIC	pilot in command name as specified on the calculations page

The default report template should look like the one displayed below (we used CutePDF to print to pdf file format).



FLT BCS1090 EBBR - LTBA (LGAV) A300B4/OO-DLD M.78 - 300kts lbs

	FUEL	TIME	DIST	WIND	FL	TAKEOFF	LNDWT	AVPLD	OPNLWT
TRIP	28139	02.24	1023	P010	32000	295615	267476	58467	209009
ALTN	8539	00.44	231	M008	27000				
CONT	2260	00.10							
HOLD	5610	00.30							
REQ	44548	03.48							
XTRA	0								
TAXI	880	00.10							
TOT	45428	03.58							

OPTIMUM FL325
MAXIMUM FL350

BURNOFF ADJUSTMENT AT 2000 FEET ABOVE TRIP CRUISING LEVEL M352 lbs
BURNOFF ADJUSTMENT AT 2000 FEET BELOW TRIP CRUISING LEVEL P352 lbs

BURNOFF ADJUSTMENT AT 2000 lbs ABOVE TRIP CRUISING LEVEL P176 lbs
BURNOFF ADJUSTMENT AT 2000 lbs ABOVE TRIP CRUISING LEVEL M177 lbs

CHOCKS ON	.. : ..	T/D	.. : ..	ACT TOW .....
CHOCKS OFF	.. : ..	A/B	.. : ..	T/O FUEL .....
BLOCK	.. : ..	FLT	.. : ..	ACT BURN OFF .....

PROBABLE CAUSE OF EXTRA BURNOFF .....

REASONS FOR EXTRA UPLIFT .....

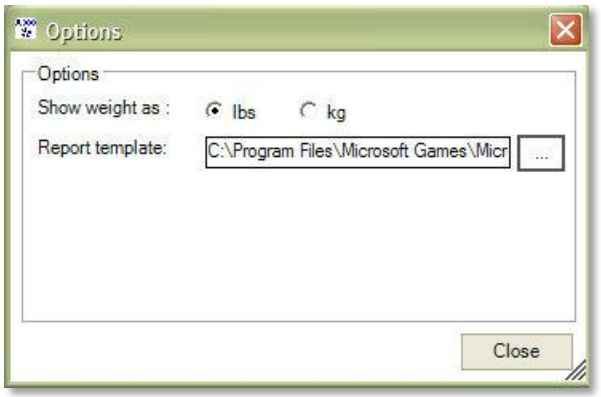
Remarks:

Pilot in command: John Doe

Signature:

OPTIONS DIALOG

In the options dialog you can set which weight reference will be used in the program: kg or lbs. You can also use the options page to set the path to the html template that will be used to create the fuel report.



TRADEMARK

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