Description

The *ISAAC Coach™* is an indicator on the tablet that appears when driving.

It assists the driver in real time in using the right amount of engine power according to the driving conditions.

The driving conditions are affected by the following:

– load
– slope
– shape and type of trailer (aerodynamics)
– wind, temperature, rain, and snow
– rolling resistance and mechanical resistance.

The driving conditions are derived from the 40 parameters sampled 100 times per second by the ISAAC solution.

The *ISAAC Coach™* gives a result out of 100 recorded on the Performance Scorecard at the end of a driving segment.

It indicates how well the driver followed the *ISAAC Coach™* recommendations.

Since the *ISAAC Coach™* recommendations take into account the driving conditions, the result given by the *ISAAC Coach™* is fair for the driver regardless of the truck, load, road, weather and traffic.


Safety First!

Drivers are the first judge of driving conditions. They must always put safety ahead of the *ISAAC Coach™* recommendations. For example, if the use of maximum engine power is needed on a highway access ramp for safety reasons but the *ISAAC Coach™* does not recommend it, drivers must prioritize its use. Doing so will not affect their *ISAAC Coach™* result.

The ISAAC Coach™ Indicators

- The *ISAAC Coach™* green circles indicate if the engine power used is adequate for the driving conditions.

- The more the circles fill out, the closer the driver is to the maximum engine power to use for the conditions.

- The yellow color indicates that the driver is about to exceed the maximum engine power to use for the conditions.
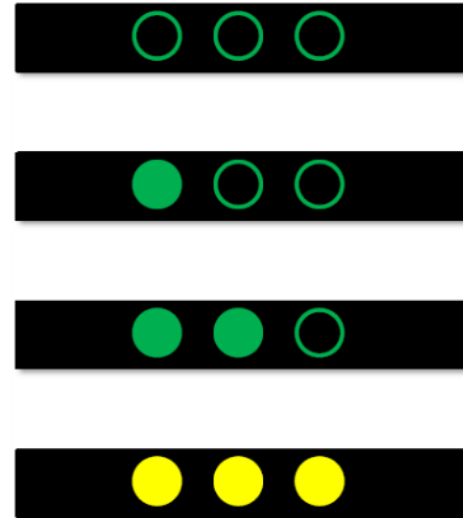

Driving practices to improve

If words in red (accel., shift, cruise) replace the circles, they serve as a reminder of the action to take to return to an adequate power use for the conditions.

Note that only the red indicators reduce the results given by the *ISAAC Coach™.*

- Reminder to release the accelerator pedal when the driver exceeds the maximum engine power to use for eco-driving.

- Reminder to upshift.

- Reminder to deactivate cruise control when conditions are not optimal for its use.
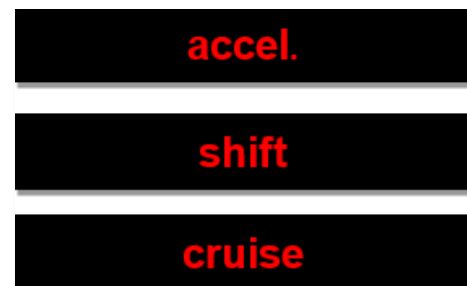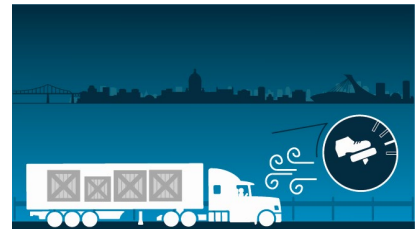
Example of a trip following the ISAAC Coach™ recommendations

On flat terrain, the **ISAAC Coach^{TM}** allows the driver to press on the accelerator pedal up to a certain point, considering the road conditions and the load weight.

With headwind, the **ISAAC Coach^{TM}** allows the driver to press the accelerator pedal further than if there is no headwind.

Driving uphill, the **ISAAC Coach^{TM}** allows the driver to press the accelerator pedal further than when driving on flat terrain.

On the contrary, driving downhill, the **ISAAC Coach^{TM}** allows the driver to press the accelerator less than when driving on flat terrain.
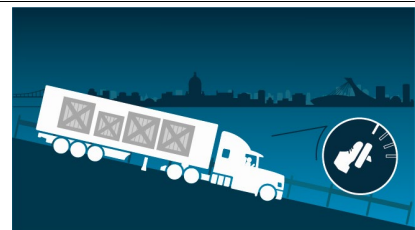
If the truck has a lightened load, the **ISAAC Coach^{TM}** allows the driver to press on the accelerator pedal less than if the truck had a full load.

This situation is when drivers' abilities are required the most, as they must exercise control when accelerating.
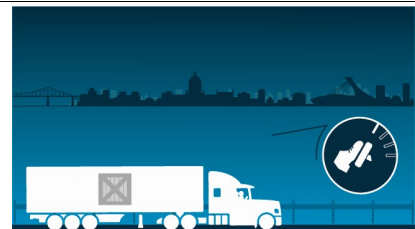
When its use is not optimal, for example when driving up or down a hill, the **ISAAC Coach^{TM}** could indicate to deactivate the cruise control.
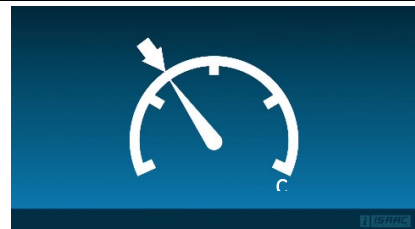
ISAAC Coach™ Scenarios

Scenario 1: going uphill

- The *ISAAC Coach™* lets the driver use engine power and rev up the engine when needed.
- The driver must anticipate changes and quickly adjust his driving according to the terrain and road conditions.

On flat terrain, the gas pedal must be slightly pressed to respect the *ISAAC Coach™*'s recommendations.	When the slope is steeper, the throttle can be pushed down much further to get the necessary power. However, the *ISAAC Coach™* remains green.	When the ground is flat again, the driver must be ready to quickly release the gas pedal. If the gas pedal is not released, the *ISAAC Coach™* reminds the driver by displaying "accel.".	If the recommendations are followed and the gas pedal is released, the indicator returns to green.

Scenario 2: going downhill

- When going downhill, the *ISAAC Coach™* knows the driver can gain speed using the slope instead of engine power.
- When the driver completely releases the accelerator, the *ISAAC Coach™* always shows 3 empty circles.
- When the engine brake is used, the *ISAAC Coach™* is turned off.

On flat terrain, the gas pedal must be slightly pressed to respect the *ISAAC Coach™*'s recommendations.	On a downward slope, the gas pedal must be released further since the slope helps the truck gain speed.	With the accelerator completely released, the *ISAAC Coach™* always shows 3 empty circles. *The ISAAC Coach™ does not consider this situation as coasting.	When the engine brake is used, the *ISAAC Coach™* is turned off and does not affect the result. The *ISAAC Coach™* never penalizes a driver in this situation. *The ISAAC Coach™ does not consider this situation as coasting.

*See the ISAAC Coach™ coasting scenario

Scenario 3: coasting

- The *ISAAC Coach™* encourages the driver to let the truck slow down on its own.
- This is considered a bonus because good behavior is replaced by excellent behavior.
- Releasing the gas pedal when going downhill is not considered coasting but rather a means to prevent excessive speed.
- Note that the *ISAAC Coach™* is turned off over 105 km/h.

When approaching a highway exit or any other low speed zone, the driver can keep using the accelerator or cruise control in accordance with the *ISAAC Coach™* recommendations and achieve good fuel economy.	When the truck reaches the slower zone, the brakes must be used to reduce the speed.
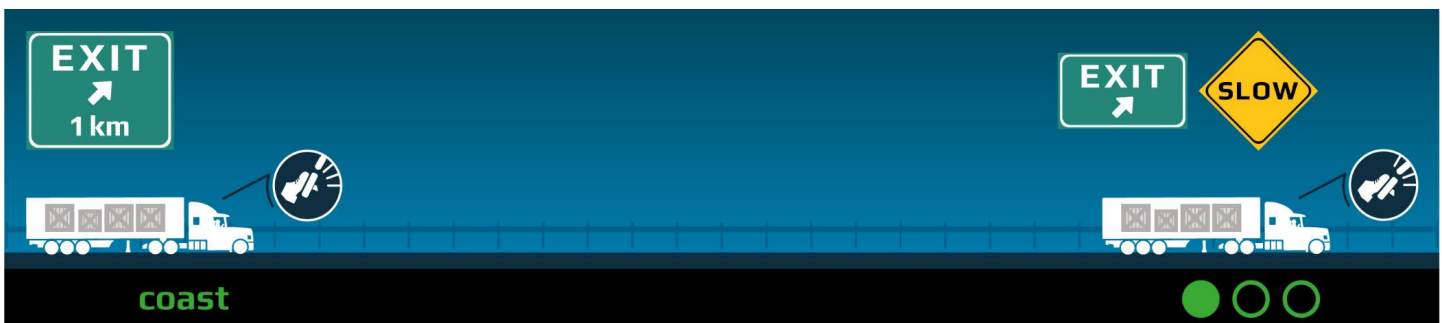
When approaching a highway exit or any other low speed zone, the driver can release the gas pedal to coast and use no fuel which is better than the fuel economy previously shown.	When the truck reaches the slower zone, it is already at the right speed and the brakes do not need to be used.